

# SERVICE

BETRIEBSSYSTEM

SYS  
BASIC  
BDOS  
SCP

BILDUNGSCOMPUTER  
robotron A5105

*Listings*

VEB ROBOTRON-MESSELEKTRONIK >OTTO SCHÖN< DRESDEN  
Lingnerallee 3, Postfach 211, Dresden, DDR-8012

Elektronische Aufbereitung: Volker Pohlens  
<https://hc-ddr.hucki.net/wiki/doku.php/homecomputer/bic>

# Listing Bildungscomputer BIC A5105

## Version 2.01

### Inhaltsverzeichnis

Speicheraufteilung .....	3
Zusammensetzung der ROMs .....	3
BICSYS 0000-22FF .....	4
BIC1 2300-7FFF .....	118
DSE1 4000-63FF .....	362
DSE2 6400-77FF .....	476
SCPROM2 7800-7FFF .....	545
SCPROM1 8000-9EFF .....	566
SYMRAM E600-FFFF .....	675

## Speicheraufteilung

Der Hauptspeicher des BICs ist in 4 SLOTS eingeteilt, die jeweils 64 KBytes Speicher im Adressbereich von 0H bis FFFFH umfassen. Der Adressbereich von 64 KBytes wird in 4 PAGES von je 16 KBytes eingeteilt. Zur Speicherumschaltung dient der E/A-Port mit der Adresse **A8H**.

	<b>RBASIC Slot 0</b>	<b>Modul DSE Slot 1</b>	<b>SCPX Slot 2</b>	<b>Modul CCG Slot 3</b>
<b>FFFF</b>	n.n.	frei f. Modul	RAM	frei f. Modul
<b>C000</b>	n.n. ----- scprom N120	frei f. Modul	RAM	frei f. Modul
<b>8000</b>	bicmc N021	dsemc D47+D46	RAM	frei f. Modul
<b>4000</b>	bicmc N021	frei f. Modul	RAM	frei f. Modul
<b>0000</b>				

Erforderliche Speicheraufteilung für Arbeit des BDOS:

```
Disk-BASIC: FFFF
| Bank 2 (RAM) : System-RAM + BASIC-Anwenderspeicher
8000
| Bank 1 oder 3 (ROM) : ROM-BDOS
4000
| Bank 0 (ROM) : BASIC-Treiber
0000
```

```
SCP: FFFF
| Bank 2 (RAM) : System-RAM mit BIOS-Sprungleiste
C000
| Bank 0 (ROM) : SCP-ROM (CCP, Treiber-Teile ...)
(Sonderserie Bank 1 oder 3)
8000
| Bank 1 oder 3 (ROM) : ROM-BDOS
4000
| Bank 2 (RAM) : SCP-RAM (0 - 0FFh)
0000
```

Erforderliche Speicher-Aufteilung für SCP-Dienstprogramme:

```
FFFF
| Bank 2 (RAM)
8000
| Bank 2 (RAM)
4000
| Bank 2 (RAM)
0000
```

## Zusammensetzung der ROMs

```
bicmc = bic_N021.bin = BICSYS + BIC1 (0000-22FF, 2300-7FFF)
scprom = bic_N120.bin = SCPROM1 (8000-9EFF)
dsemc = dse32.bin = DSE1 + DSE2 + SCPROM2 (4000-63FF, 6420-77FF, 7880-7FFF)
```

# BICSYS 0000-22FF

Z80ASM SuperFast Relocating Macro Assembler  
BICSYS Z80

Z80ASM 1.30 Page 1

```

1          ;*****
2          ;
3          ;Rahmenfile fuer Uebersetzung ROM-BIOS BIC A 5105
4          ;Stand: 28.03.89
5          ;File: BICSYS.S
6          ;
7          ;*****
8          ;
9          INCLUDEORG.Z80
1         A;*****
1         A;Symbol. Vereinbarung aller ORG's
2         A;Stand: 22.11.89
3         A;File: ORG.S
4         A;-----
5         2300 ABIC1 EQU    2300H    ;R-BASIC (Busch)
6         A;
7         6420 ADSE2 EQU    6420H    ;Floppy-Treiber (Ludewig,Loeber)
8         7880 ADSE3 EQU    7880H    ;Bildteil SCP (Gaertner)
9         A      ;BIOS,Disk (Ludewig)
10        8000 ASCPPROM EQU    08000H ;Erweiterung SCP-ROM
11        A;
12        E606 ABDOSCP EQU    0E606H ;Achtung: XX06H !!!
13        A      ;RAM fuer BDOS nur in SCP
14        A      ;RAM fuer SCP-ROM-Treiber
15        E880 ADSK1RA EQU    0E880H ;Disk-RAM 1 (Busch,Kersten)
16        EA27 ADSK2RA EQU    0EA27H ;Disk-RAM 2 (Ludewig,Loeber)
17        F235 ASYSRAM EQU    0F235H ;Grund-RAM
18        A;
19        BFF9 APLOT EQU    0C000H-7;Plotteranschluss
20        A;*****
21        INCLUDE KONF.Z80
22        A;*****
23        A;Steuerfile fuer Test am K4-Muster
24        A;Stand: 30.09.88
25        0000 AZDS EQU    0
26        0000 ACGG EQU    0
27        0001 AK4 EQU    1
28        A;*****
29        ;
30        0000 ORG    0
31        INCLUDEBICLUD.Z80
32        A;*****
33        A;
34        A;ROM-BETRIEBSSYSTEM FUER BIC A5105
35        A;
36        A;Teil: Initialisierung, Drucker und allgemeine UP
37        A;
38        A;STAND: 17.05.89 / LUDEWIG
39        A;
40        A;*****
41        A;
42        A;Externals
43        A    EXTERNAL JCPSTX,JTCHAR,JTYPTS,JBAINI
44        A    EXTERNAL CHRO98,ERDEVI,TCHAR0
45        A    EXTERNAL ZG
46        A;Globals
47        A    GLOBAL INKEY, RDRIPU, OUTASC, PRTOUT, PRSTA, PRTREI
48        A;*****

```

```

18      A;
19      A;Vereinbarungen
20      A;=====
21      0080  ACTC0 EQU    80H
22      0081  ACTC1 EQU    CTC0+1
23      0082  ACTC2 EQU    CTC0+2
24      0083  ACTC3 EQU    CTC0+3
25      0001  A    COND   K4
26      0080  ACTCVT EQU    CTC0    ;Vorteiler (K4)
27      0082  ACTCIR EQU    CTC2    ;20 ms IR (K4)
28      A    ENDC
29      A; -----
30      0090  ADPIOA EQU    90H
31      0092  AKPIOA EQU    DPIOA+2;
32      0091  ADPIOB EQU    DPIOA+1;Versch. E/A
33      0093  AKPIOB EQU    DPIOA+3;
34      A;
35      0001  ATXD EQU    1    ;TxD-Bit
36      0004  ACTS EQU    4    ;CTS-Bit
37      A; -----
38      00A8  APPIA EQU    0A8H ;Bankumschaltung
39      00A9  APPIB EQU    0A9H ;Eing. Zeilenleitungen
40      00AA  APPIC EQU    0AAH ;Ausg. Bit 0-3: Spaltennr.
41      A    ; Keyclick,Diode,Kassette,Motor
42      00AB  APPIM EQU    0ABH ;Bitmanipulation Port C
43      A; -----
44      0050  ADCTC0 EQU    50H ;DSE-CTC
45      0062  ADKPIOA EQU    62H ;DSE-SIO Kdo Port A
46      A; -----
47      000D  ACR EQU    0DH   ;Carriage return
48      000A  ALF EQU    0AH   ;Line feed
49      A;*****
50 0000 F3 ARESET: di
51 0001 C3 019B A jp SPEKO ;SPEicherKOnfiguration
52      A;
53 0004 0000# A DEFW ZG ;ZeichenGenerator
54 0006 0B27 A DEFW INJOY
55 0008 C3 0000# A JP JCPSTX
56 000B 00 A DEFB 0
57 000C C3 021F A jp LREB ;Long REad Byte
58 000F 00 A DEFB 0
59 0010 C3 0000# A JP JTCHAR
60 0013 00 A DEFB 0
61 0014 C3 022C A jp LWRB ;Long WRite Byte
62 0017 00 A DEFB 0
63 0018 C3 035D A jp CHAR0 ;CHARacterOut
64 001B 00 A DEFB 0
65 001C C3 0251 A JP L3CALL ;Long-3-CALL
66 001F 00 A DEFB 0
67 0020 C3 0351 A jp CPREG ;ComPare REGister
68 0023 00 A DEFB 0
69 0024 C3 0266 A jp BANKUM ;BANKUMschaltung
70 0027 00 A DEFB 0
71 0028 C3 0000# A JP JTYPTS
72 002B 13A1 A DEFW 13A1H ;Format Datumseingabe
73 002D C3 1304 A JP REZEMU ;REad ZEichenMUster
74 0030 C3 023F A jp L2CALL ;Long-2-CALL
75 0033 C3 0000# A JP TCHAR0

```

```
76 0036 FC81      A   DEFW  NACALL
77 0038 C3 0400    A   JP    RST38 ;RST38 (absturz)
78 003B C3 08DF    A   jp   MJINI ;MUSikINIt
79 003E C3 1186    A   jp   FTINI ;FTastenINIt
80 0041 C3 1FCE    A   JP    VDP COM ;VDP in COMmandoMode
81 0044 C3 1FCE    A   jp   VDP DAM ;VDP in DATenMode
82 0047 C3 1FCE    A   JP    PRGVDP ;PRoG VDP
83 004A C3 1368    A   JP    RDVRM ;RaeD Video-RaM
84 004D C3 1374    A   JP    WRTVRM ;WRiTe Video-RaM
85 0050 C3 1FCE    A   JP    VDPREM ;VDP in REAdMode
86 0053 C3 1FCE    A   JP    VDPWRM ;VDP in WRiteMode
87 0056 C3 12EC    A   JP    OUTBCA ;OUT BC-mal A-register
88 0059 C3 1291    A   jp   INBCDE ;IN BC-mal nach DE-adresse
89 005C C3 12C9    A   jp   OTBCDE ;OuT BC-mal von DE-adresse
90 005F C3 0E48    A   jp   SELSCR ;SElect SCReen
91 0062 C3 1FCE    A   jp   PR7VDP ;PRog reg7 VDP
92 0065 00        A   DEFB  0
93 0066 C3 0341    A   jp   NMI
94 0069 C3 21D8    A   jp   SPRRES ;SPRiteRESet
95 006C C3 13CE    A   JP    SSCR0 ;Set SCReen0
96 006F C3 13D1    A   JP    SSCR1 ;Set SCReen 1
97 0072 C3 13D4    A   JP    SSCR2
98 0075 C3 13D7    A   JP    SSCR3
99 0078 C3 1FCE    A   JP    VDPSC0 ;VDP prog SCReen0
100 007B C3 1FCE    A   JP    VDPSC1
101 007E C3 1FCE    A   JP    VDPSC2
102 0081 C3 1FCE    A   JP    VDPSC3
103 0084 C3 1FCE    A   jp   GSPRAD ;Get SPRiteADresse
104 0087 C3 1FCE    A   jp   GSPRAT ;Get SPRiteATtribut
105 008A C3 1FCE    A   JP    TESPRM ;TESt SPRiteMode
106 008D C3 17CC    A   jp   TXTGSC ;TeXT in GrafikSCReen
107 0090 C3 08EC    A   jp   MUINIT ;MUSikINIT
108 0093 C3 0AF7    A   JP    MUOTAE ;MUSikOuT A=regnr E=kdo
109 0096 C3 1FCE    A   jp   INPPSG ;INPut vom PSG
110 0099 C3 081D    A   jp   MUZELV ;MUSikZELlen Verwalten
111 009C C3 FD06    A   jp   ICONST ;INKEY
112 009F C3 FD09    A   jp   ICONIN ;RDRIPU, ReAd RIngPUffer
113 00A2 C3 FD0C    A   jp   ICONOUT ;OUTASC, OUT A-reg to SCReen
114 00A5 C3 0299    A   JP    PRTREI ;PRinterTREIber
115 00A8 C3 FD2D    A   JP    ILISTST ;PRSTA ,PRinterSTatus
116 00AB C3 1272    A   JP    CHRTST ;CHaRacterTeST
117 00AE C3 1CA6    A   jp   EDI1
118 00B1 C3 1CBC    A   jp   EDI2
119 00B4 C3 1CB3    A   jp   GETST ;GET STring
120 00B7 C3 049D    A   JP    DSTPTS ;Direkter SToPTeSt
121 00BA C3 0426    A   JP    STPTST ;SToPTeST
122 00BD C3 0ABD    A   jp   BREAK
123 00C0 C3 0AC6    A   jp   BEEP
124 00C3 C3 16EF    A   jp   ZCLS ;Z-flagabh. CLS
125 00C6 C3 1263    A   jp   CRSPOS ;CuRSorPOS
126 00C9 C3 1200    A   jp   BKEYAN ;Bedingte KEYANzeige
127 00CC C3 11F2    A   jp   KEYOFF
128 00CF C3 1206    A   JP    KEYON
129 00D2 C3 13B2    A   JP    LATXTM ;screen to LAsT TeXTMode
130 00D5 C3 0B09    A   jp   GSTICK ;Get STICK
131 00D8 C3 0B74    A   jp   GSTRIG ;Get STRIG
132 00DB C3 0BBA    A   jp   GPAD ;Get PAD
133 00DE C3 0BBD    A   jp   GPD L ;Get PDL
```

```
134 00E1 C3 0C46 A jp INVT ;INput VorTon
135 00E4 C3 0C9B A jp INBYTE ;INput BYTE
136 00E7 C3 0BCC A JP MOFF ;Motor OFF
137 00EA C3 0BD4 A jp OUTVT ;OUTput VorTon
138 00ED C3 0BFC A jp OUTBYT ;OUTput BYTe
139 00F0 C3 0BC0 A jp WMOFF ;Wait and Motor OFF
140 00F3 C3 0B97 A jp MOTST ;MOTorSTeuerung
141 00F6 C3 08BA A jp MU1D ;MUSik-1-Dummy
142 00F9 C3 0861 A jp MUPUW ;MUSikPUffer Write
143 00FC C3 19D2 A JP APRGT1 ;Adr Punkt RiGhT 1
144 00FF C3 1A0D A jp APLFT1 ;Adr Punkt LeFT 1
145 0102 C3 1A49 A jp APUP10 ;Adr Punkt UP 1
146 0105 C3 1A24 A jp APUP ;Adr Punkt UP
147 0108 C3 1A6A A jp APDWN1 ;Adr Punt DoWN 1
148 010B C3 1A55 A JP APDWN ;Adr Punkt DoWN
149 010E C3 1854 A JP TPPOS ;Test PunktPOStion
150 0111 C3 188F A jp MKPMA ;MaKe PunktMusterAdr
151 0114 C3 18E8 A JP LDPMA ;LoaD PunktMusterAdr
152 0117 C3 18EF A JP STPMA ;STore PunktMusterAdr
153 011A C3 1947 A jp STAINK ;STore Akt INK
154 011D C3 18F6 A JP GPOINT ;Get POINT
155 0120 C3 1998 A JP SPOINT ;Set POINT
156 0123 C3 1AF1 A jp FILL ;FILL
157 0126 C3 1BC8 A jp LDELLI ;LoaD ELLIpsenparam
158 0129 C3 1BD0 A jp PAIUP1 ;PAInt-UP 1
159 012C C3 1BD7 A jp PAIUP2 ;PAInt-UP 2
160 012F C3 1C3C A jp PAIUP3 ;PAInt-UP 3
161 0132 C3 0961 A jp CAPLED ;CAPsLED bedienen
162 0135 C3 09A5 A jp KEYCLK ;KEYCLiCK neg
163 0138 C3 0270 A jp DBAABF ;Direkte BANkABFrage
164 013B C3 0273 A jp DBAUM ;Direkte BANkUMSchaltung
165 013E C3 1FCE A jp STAVDP ;STatus VDP
166 0141 C3 0BAB A jp DTMAFB ;Direkte TastenMatrixABFrage
167 0144 C3 0357 A jp DUMMY1
168 0147 C3 035A A jp DUMMY2
169 014A C3 0346 A jp TAFCB ;Test Akt FCB
170 014D C3 FD0F A JP ILIST ;PRTOUT;PRinTerOUTput
171 0150 C3 0847 A jp MUR1 ;MUSikRechnung 1
172 0153 C3 084B A jp MUR2
173 0156 C3 0493 A jp LORIPU ;LOeschen RIngPUffer
174 0159 C3 0239 A JP L1CALL ;Long-1-CALL
175 A; -----
176 015C C3 1191 A JP VFTINI ;neue Spruenge
177 015F C3 174D A JP RDMOD
178 0162 C3 177D A JP WRMOD
179 0165 C3 10B6 A JP SETBOR
180 0168 C3 0DD7 A JP BSINIT
181 016B C3 1259 A JP TGRASC
182 016E C3 10C9 A JP SETPAL
183 0171 C3 10C0 A JP SETPAP
184 0174 C3 13C4 A JP KOMSCR
185 0177 C3 1306 A JP WRZEMU
186 017A C3 1FD5 A JP PUTSPR
187 017D C3 138C A JP MONTV
188 0180 C3 05DD A JP GETA35
189 0183 C3 0A7C A JP RIPUZI
190 0186 C3 095A A JP CAPSB
191 0189 F266 A DEFW ZLLAST
```

```
192 018B F746      A   DEFW   FKEY1
193 018D F297      A   DEFW   SCHRIP
194 018F FC09      A   DEFW   STCSSW
195 0191 FC19      A   DEFW   CAPSSW
196 0193 FD40      A   DEFW   IRT
197 0195 C3 0B01   A   JP     WAITBC
198 0198 C3 1020   A   JP     REMASK
199
200              A;*****
201              A;SPEicherKOnfiguration bestimmen (02D7H)
202              A;
203              A;IN:  DI
204              A;OUT: DI / SP undefiniert !!
205 019B 3E 66      ASPEK0:      LD     A,66H           ;PIO B programmieren
206 019D D3 91      A   OUT    (DPIOB),A
207 019F 3E CF      A   LD     A,0CFH           ; Bit-EA
208 01A1 D3 93      A   OUT    (KPIOB),A
209 01A3 3E 99      A   LD     A,99H           ; Bit 7,4,3,0=Eingang
210 01A5 D3 93      A   OUT    (KPIOB),A
211 01A7 3E 07      A   LD     A,7             ; DI, keine Maske
212 01A9 D3 93      A   OUT    (KPIOB),A
213 01AB 3E 66      A   LD     A,66H           ; 1.Ausgabe
214 01AD D3 91      A   OUT    (DPIOB),A
215              A; -----
216 01AF 3E 82      A   ld     a,82H           ;PPI Port A,C: Out
217 01B1 D3 AB      A   out    (PPIM),a        ; Port B: In
218 01B3 3E A0      ASPEK10:    ld     a,0a0h        ;0H,4000H auf Bank 0
219 01B5 D3 A8      A   out    (PPIA),a        ; 8000H,C000H auf Bank 2
220 01B7 3E 50      A   ld     a,50H           ;Motor aus,Tape aus
221 01B9 D3 AA      A   out    (PPIC),a        ; CAP-LED aus,Keyclick an
222              A; -----
223 01BB 3E 03      A   LD     A,3             ;Software-RESET (DI) fuer
224 01BD D3 92      A   OUT    (KPIOA),A
225 01BF D3 81      A   OUT    (CTC1),A
226 01C1 D3 83      A   OUT    (CTC3),A
227              A;
228 01C3 D3 50      A   OUT    (DCTC0),A      ; nicht benutzte
229 01C5 D3 51      A   OUT    (DCTC0+1),A
230 01C7 D3 52      A   OUT    (DCTC0+2),A
231 01C9 D3 53      A   OUT    (DCTC0+3),A
232 01CB D3 62      A   OUT    (DKPIOA),A
233 01CD D3 63      A   OUT    (DKPIOA+1),A  ; EA-Kanaele
234              A; -----
235 01CF ED 5E      A   im     2
236 01D1 21 FD40   A   LD     HL,IRT
237 01D4 7C        A   LD     A,H
238 01D5 ED 47      A   LD     I,A             ;I-Reg laden
239              A; -----
240 01D7 7D        A   LD     A,L             ;CTC:IR-Vektor
241 01D8 D3 80      A   OUT    (CTC0),A
242 01DA 3E 07      A   LD     A,7             ;DI,Zeitgeber
243 01DC D3 80      A   OUT    (CTCVT),A
244 01DE 3E 2B      A   LD     A,43
245 01E0 D3 80      A   OUT    (CTCVT),A
246 01E2 3E C7      A   LD     A,0C7H          ;EI,Zaehler
247 01E4 D3 82      A   OUT    (CTCIR),A
248 01E6 3E 6D      A   LD     A,109           ;20 ms
249 01E8 D3 82      A   OUT    (CTCIR),A
```



```

250 A; -----
251 01EA 3E 18 A LD A,18H ;DSE-SIO
252 01EC D3 6A A OUT (6AH),A ; RESET Kanal A (LAN)
253 01EE D3 6B A OUT (6BH),A ; Kanal B (Plotter)
254 01F0 3E 02 A LD A,2
255 01F2 D3 6B A OUT (6BH),A
256 01F4 21 FD50 A LD HL,SIOVEK
257 01F7 7D A LD A,L
258 01F8 D3 6B A OUT (6BH),A ; IR-Vektor
259 A; -----
260 01FA 3E 01 A ld a,1
261 01FC D3 58 A out (58h),a ;DSE 8000h fuer Sonderserie
262 A; -----
263 01FE 01 0B4A A ld bc,XIRSY1-LREUP-1
264 0201 11 F236 A ld de,LREUP+1
265 0204 21 F235 A ld hl,LREUP
266 0207 36 00 A ld (hl),0 ;LREUP...XIRSY1-1
267 0209 ED B0 A ldir ; mit 00H laden
268 A; -----
269 020B 21 0405 A LD HL,YIRSYS ;IR-Rahmen in RAM kopieren
270 020E 11 FCD6 A LD DE,RIRSYS
271 0211 01 0021 A LD BC,STPTST-YIRSYS
272 0214 ED B0 A LDIR
273 A; -----
274 0216 21 FCD6 A LD HL,RIRSYS
275 0219 22 FD44 A LD (IRT+(CTCIR-80H)*2),HL ;IRT laden
276 021C C3 0000# A jpb JBAINI
277 A;*****
278 A;Long REad Byte (01B6H)
279 A;
280 A;IN: A=Banknr. (Bit 7=0, Bit 1,0=Banknr.)
281 A; HL=Speicheradresse
282 A;OUT: A=Byte
283 A;REG: AF, BC, DE
284 A;
285 021F CD 0276 ALREB: call MABAUM
286 0222 DB A8 A in a,(PPIA)
287 0224 57 A ld d,a ;D= Istbank
288 0225 A1 A and c
289 0226 B0 A or b ;A= Zielbank
290 0227 CD F235 A call LREUP
291 022A 7B A ld a,e ;A=E= Byte
292 022B C9 A ret
293 A; -----
294 A; (F380H)
295 A;LREUP: OUT (PPIA),A ;Bank umschalten
296 A; LD E,(HL) ;Byte lesen
297 A; JR LWRUP1
298 A;*****
299 A;Long WRite Byte (01D1H)
300 A;
301 A;IN: A=Banknr. (Bit 7=0, Bit 1,0=Banknr.)
302 A; HL=Speicheradresse
303 A; E=Byte
304 A;OUT:
305 A;REG: AF, BC, D
306 A;
307 022C D5 ALWRB: push de ;Byte retten

```

```
308 022D CD 0276 A call MABAUM
309 0230 D1 A pop de ;Byte zur
310 0231 DB A8 A in a,(PPIA)
311 0233 57 A ld d,a ;D= Istbank
312 0234 A1 A and c
313 0235 B0 A or b ;A= Zielbank
314 0236 C3 F23A A jpl LWRUP ;RET
315 A;-----
316 A; (F385H)
317 A;LWRUP: OUT (PPIA),A ;Bank umschalten
318 A; LD (HL),E ;Byte schreiben
319 A;LWRUP1:LD A,D
320 A; OUT (PPIA),A ;Bank rueckschalten
321 A; RET
322 A;*****
323 A;Long 1 CALL (01FFH)
324 A;
325 A;IN: (BASUB)= Banknr. (Bit 7=0, Bit 1,0=Banknr.)
326 A; IX=Speicheradresse
327 A;OUT: DI !
328 A;REG: ALLE !
329 A;
330 0239 FD 2A FC6F AL1CALL: ld iy,(BASUB-1)
331 023D 18 12 A jr L3CALL
332 A;*****
333 A;Long 2 CALL (0205H)
334 A;
335 A;IN: 3 Byte nach Aufruf: Banknr. (Bit 7=0, Bit 1,0=Banknr.)
336 A; Speicheradresse
337 A;OUT: Retadr=Retadr+3 / DI !
338 A;REG: ALLE !
339 A;
340 023F E3 AL2CALL: ex (sp),hl
341 0240 F5 A push af
342 0241 D5 A push de
343 0242 7E A ld a,(hl)
344 0243 F5 A push af
345 0244 FD E1 A pop iy ;H(IY)= Zielbank
346 0246 23 A inc hl
347 0247 5E A ld e,(hl)
348 0248 23 A inc hl
349 0249 56 A ld d,(hl)
350 024A 23 A inc hl
351 024B D5 A push de
352 024C DD E1 A pop ix ;IX= Adr
353 024E D1 A pop de
354 024F F1 A pop af
355 0250 E3 A ex (sp),hl;Retadr+3 in Stack
356 A;*****
357 A;Long 3 CALL (0217H)
358 A;
359 A;IN: H(IY)=Banknr. (Bit 7=0, Bit 1,0=Banknr.)
360 A; IX=Speicheradresse
361 A;OUT: DI !
362 A;REG: ALLE !
363 A;
364 0251 F3 AL3CALL: DI
365 0252 D9 A exx ;BC' - HL'
```

```

366 0253 08      A    ex    af,af' ;AF'
367                A; -----
368 0254 FD E5   A    push  iy
369 0256 F1      A    pop   af      ;A'= Zielbank
370 0257 DD E5   A    push  ix
371 0259 E1      A    pop   hl      ;HL'= Adr
372 025A CD 0276 A    call  MABAUM
373                A; -----
374 025D DB A8   A    in    a,(PPIA)
375 025F F5      A    push  af      ;Istbank im Stack
376 0260 A1      A    and   c
377 0261 B0      A    or    b
378 0262 D9      A    exx   ;BC - HL
379 0263 C3 F241 A    jp    LCAUP
380                A;-----
381                A; (F38CH)
382                A;LCAUP:    OUT    (PPIA),A ;Bank umschalten
383                A;    EX    AF,AF' ;AF
384                A;    CALL  LCAUP1
385                A;    EX    AF,AF' ;AF'
386                A;    POP   AF
387                A;    OUT    (PPIA),A ;Bank rueckschalten
388                A;    EX    AF,AF' ;AF
389                A;    RET
390                A;
391                A;LCAUP1:JP  (IX) ;(F398H)
392                A;*****
393                A;BANKUMschaltung (025EH)
394                A;
395                A;IN: A=Banknr. (Bit 7=0, Bit 1,0=Banknr.)
396                A;    HL=Speicheradresse
397                A;OUT:
398                A;REG: Alle
399                A;
400 0266 CD 0276 ABANKUM:  call  MABAUM
401 0269 DB A8   A    in    a,(PPIA)
402 026B A1      A    and   c
403 026C B0      A    or    b
404 026D D3 A8   A    out   (PPIA),a ;Bank umschalten
405 026F C9      A    ret
406                A;*****
407                A;Direkte BankABfrage (144CH)
408                A;
409 0270 DB A8   ADBAABF:  in    a,(PPIA) ;A=akt. Bankkonfiguration
410 0272 C9      A    ret
411                A;*****
412                A;Direkte BankUMschaltung (144FH)
413                A;
414 0273 D3 A8   ADBAUM:   out   (PPIA),a ;Soll-Bankkonfiguration
415 0275 C9      A    ret
416                A;*****
417                A;MASken fuer BANKUMschaltung ermitteln (027EH)
418                A;IN: A=Zielbank / HL=Adr
419                A;OUT: A,HL unveraendert / B,C = Masken
420                A;REG: D,E
421                A;
422 0276 F5      AMABAUM:  push  af
423 0277 7C      A    ld    a,h

```

```
424 0278 07      A    rlca
425 0279 07      A    rlca
426 027A E6 03    A    and    3
427 027C 5F      A    ld     e,a
428 027D 3E C0    A    ld     a,0C0H
429 027F 07      AMABA10:  rlca
430 0280 07      A    rlca
431 0281 1D      A    dec    e
432 0282 F2 027F    A    jp     p,MABA10
433 0285 5F      A    ld     e,a
434 0286 2F      A    cpl
435 0287 4F      A    ld     c,a
436 0288 F1      A    pop    af
437 0289 F5      A    push   af
438 028A E6 03    A    and    3
439 028C 3C      A    inc    a
440 028D 47      A    ld     b,a
441 028E 3E AB    A    ld     a,-55H
442 0290 C6 55    AMABA20:  add     a,55H
443 0292 10 FC    A    djnz   MABA20
444 0294 57      A    ld     d,a
445 0295 A3      A    and    e
446 0296 47      A    ld     b,a
447 0297 F1      A    pop    af
448 0298 C9      A    ret
449          A;*****
450          A;PRinterTREIber (085DH)
451          A;
452          A;IN: A:Zeichen
453          A;OUT: NC=Ausgabe i.O. / A=Zeichen / EI !
454          A;      C=Abbruch mit STOP / (LPTPOS)=0 / A=Zeichen / EI !
455          A;REG: F
456          A;
457 0299 CD FE0D  APRTREI:  call    XPRTRE ;(0FFB6H)
458 029C F5      A    push   af
459          A; -----
460 029D CD 02BD  APTR2     CALL    PRSTA ;Status mit CTRL-STOP-Abfrage
461 02A0 38 0A    A    JR     C,PRTR6
462 02A2 28 F9    A    jr     z,PRTR2
463          A; -----
464 02A4 F1      A    pop    af
465 02A5 F5      APTR4:    push   af
466 02A6 CD 02D1  A    call   V24OUT ;Zeichenausgabe (DI/EI!)
467 02A9 F1      A    pop    af
468 02AA A7      A    and    a ;CY=0
469 02AB C9      A    ret
470          A;-----
471 02AC AF      APTR6     xor    a
472 02AD 32 F2DC  A    ld     (LPTPOS),a
473 02B0 3E 0D    A    ld     a,CR
474 02B2 CD 02D1  A    call   V24OUT
475 02B5 3E 0A    A    ld     a,LF
476 02B7 CD 02D1  A    call   V24OUT
477 02BA F1      A    pop    af
478 02BB 37      A    scf                ;Fehler-->CY=1
479 02BC C9      A    ret
480          A;*****
481          A;PRinterSTatus (0884H)
```

```
482          A;
483          A;IN: -
484          A;OUT: NC,NZ = bereit / NC,Z oder C,Z = nicht bereit
485          A;      C,NZ = gibt es nicht!!
486          A;REG AF
487          A;
488 02BD CD FE12 APRSTA:      call  XPRSTA          ;(0FFBBH)
489          A; -----
490 02C0 CD 049D A      call  DSTPTS          ;STOP-Tastenabfrage
491 02C3 30 05  A      JR      NC,PRST3
492 02C5 28 03  A      JR      Z,PRST3
493 02C7 AF      A      XOR      A          ;Z: nicht bereit
494 02C8 37      A      SCF          ;C: Abbruch mit CTRL-STOP
495 02C9 C9      A      RET
496          A; -----
497 02CA DB 91  APRST3      in      a,(DPIOB)
498 02CC EE 10  A      XOR      1 SHL CTS          ;CTS-BIT neg
499 02CE CB 67  A      BIT      CTS,A          ;Z/NZ: nicht bereit / bereit
500 02D0 C9      A      ret          ;NC: kein CTRL-STOP
501          A;*****
502          A;V24-OUTput
503          A;
504          A;IN: A=Zeichen
505          A;OUT: EI !
506          A;REG: AF
507          A;
508 02D1 CD FE1F AV24OUT:      CALL    XV240U
509 02D4 C5      A      PUSH   BC
510 02D5 D5      A      PUSH   DE
511 02D6 E5      A      PUSH   HL
512          A;-----
513 02D7 16 FF  A      LD      D,0FFH ;Stop- u. Paritaetsbit in D
514 02D9 06 09  A      LD      B,9      ;Bitanzahl
515 02DB 2A F2AF A      LD      HL,(V24F0) ;L=V24F0
516 02DE CB 65  A      BIT      4,L
517 02E0 28 01  A      JR      Z,V24010
518          A; -----
519 02E2 04      A      INC      B          ;2 Stopbit
520          A;-----
521 02E3 CB 75  AV24010:      BIT      6,L
522 02E5 28 17  A      JR      Z,V24020
523          A; -----
524 02E7 04      A      INC      B          ;mit Paritaet
525 02E8 CB 7D  A      BIT      7,L
526 02EA 20 02  A      JR      NZ,V24013
527 02EC E6 7F  A      AND      7FH      ;nur 7 Datenbit
528 02EE CB 6D  AV24013:      BIT      5,L      ;Sollparitaet gerade?
529 02F0 28 06  A      JR      Z,V24016 ; Ja-->
530          A;
531 02F2 A7      A      AND      A          ;Istparitaet bilden
532 02F3 E2 02FC A      JP      PO,V24018 ; Istparitaet ungerade-->
533 02F6 18 06  A      JR      V24020 ; Istparitaet gerade-->
534          A;
535 02F8 A7      AV24016:      AND      A          ;Istparitaet bilden
536 02F9 E2 02FE A      JP      PO,V24020 ; Istparitaet ungerade-->
537 02FC CB 82  AV24018:      RES      0,D      ; Paritaetsbit in D = 0
538          A;-----
539 02FE 5F      AV24020:      LD      E,A
```

```

540 02FF CB 23      A   SLA   E       ;Startbit anfüegen
541 0301 CB 7D      A   BIT   7,L
542 0303 28 03      A   JR    Z,V24030
543                A; -----
544 0305 CB 12      A   RL    D       ;8. Datenbit
545 0307 04         A   INC   B
546                A;-----
547 0308 7D         AV24030: LD     A,L
548 0309 21 0001    A   LD    HL,1    ;ZK fuer 19200 Baud
549 030C E6 07      A   AND   7
550 030E 28 04      A   JR    Z,V24040
551 0310 29         AV24035: ADD   HL,HL ;ZK=ZK*2
552 0311 3D         A   DEC   A
553 0312 20 FC      A   JR    NZ,V24035
554                A;-----
555 0314 F3         AV24040: DI     ;DI
556 0315 DB 91      A   IN   A,(DPIOB) ;PIO ruecklesen
557                A; -----
558 0317 1F         AV24045: RRA
559 0318 1F         A   RRA
560 0319 CB 1A      A   RR    D
561 031B CB 1B      A   RR    E
562 031D 17         A   RLA
563 031E 17         A   RLA
564 031F D3 91      A   OUT  (DPIOB),A ;Bitweise Ausgabe
565                A; -----
566 0321 E5         A   PUSH HL      ;Mod. 1. Durchlauf
567 0322 BE         A   CP   (HL)
568 0323 18 09      A   JR    V24055
569 0325 DD E3      AV24050: EX   (SP),IX;Zeitschleife
570 0327 DD E3      A   EX  (SP),IX
571 0329 DD E3      A   EX  (SP),IX
572 032B DD E3      A   EX  (SP),IX
573 032D 00         A   NOP
574 032E DD E3      AV24055: EX   (SP),IX
575 0330 DD E3      A   EX  (SP),IX
576 0332 2B         A   DEC  HL
577 0333 4F         A   LD   C,A
578 0334 7C         A   LD   A,H
579 0335 B5         A   OR   L
580 0336 79         A   LD   A,C
581 0337 20 EC      A   JR    NZ,V24050
582                A; -----
583 0339 E1         A   POP  HL
584 033A 10 DB      A   DJNZ V24045 ;naechstes Bit
585                A;-----
586 033C E1         A   POP  HL
587 033D D1         A   POP  DE
588 033E C1         A   POP  BC
589 033F FB         A   EI           ;EI
590 0340 C9         A   RET
591                A;*****
592                A; (1398H)
593 0341 CD FDB8    ANMI: call XNMI ;(0FDD6H)
594 0344 ED 45      A   retn
595                A;*****
596                A;Test Aktueller FCB (145FH)
597                A;

```

```

598      A;OUT:Z: (ACTFCB)=0 / NZ: (ACTFCB)<>0
599      A;REG: AF
600      A;
601 0346 CD FDBD  ATAFCB:      call  XTAFCB ;(0FEDFH)
602 0349 E5      A      push   hl
603 034A 2A F72B  A      ld     hl,(ACTFCB)
604 034D 7D      A      ld     a,l
605 034E B4      A      or     h
606 034F E1      A      pop   hl
607 0350 C9      A      ret
608      A;*****
609      A;ComPare REGISTER hl und de (146AH)
610      A;
611      A;OUT: HL,DE unveraendert / Flags entspr Vergleich
612      A;REG: AF
613      A;
614 0351 7C      ACPREG:      ld     a,h
615 0352 92      A      sub   d
616 0353 C0      A      ret   nz
617 0354 7D      A      ld   a,l
618 0355 93      A      sub   e
619 0356 C9      A      ret
620      A;*****
621      A;(148AH)
622 0357 C3 FDC2  ADUMMY1:     JP     XDUMM1 ;(0FFA7H)
623      A;*****
624      A;(148EH)
625 035A C3 FDC7  ADUMMY2:     JP     XDUMM2 ;(0FFACH)
626      A;*****
627      A;CHARacter Output (1B45H)
628      A;
629      A;IN: A=Zeichen
630      A;OUT: A=Zeichen
631      A;REG: F, IX
632      A;
633 035D F5      ACHAR0:     PUSH  AF
634 035E CD FDCC  A      CALL  XCHRO
635      A;-----
636 0361 CD 0346  A      CALL  TAFCB ;Conout ueber FCB?
637 0364 28 08    A      JR    Z,CHAR02 ; Nein-->
638 0366 F1      A      POP  AF
639 0367 DD 21 0000#A LD     IX,CHRO98
640 036B C3 0239  A      JP    L1CALL
641      A;-----
642 036E 3A F2DD  ACHAR02:    LD     A,(PTORSC)
643 0371 B7      A      OR    A ;Screen?
644 0372 20 04    A      JR    NZ,CHAR04 ; Nein-->
645 0374 F1      A      pop  af
646 0375 C3 FD0C  A      jp   ICONOUT;SCREEN-Ausgabe
647      A;-----
648 0378 F1      ACHAR04    POP  AF ;Printer
649 0379 C3 FD0F  A      JP    ILIST
650      A;*****
651      A;PRinTerOUTput (1B63H)
652      A;
653      A;IN: A=Zeichen
654      A;OUT: BASIC:      NC: Ausgabe i.O. / A=Zeichen / EI !
655      A;      bei CTRL-STOP: hart zu ERDEVI / EI !

```

```

656      A;      SCP:  NC: Ausgabe i.O. / A=Zeichen / EI!
657      A;      C : Abbruch mit CTRL-STOP / A=Zeichen / EI!
658      A;REG: F
659      A;      HL (nur im SCP)
660      A;
661 037C CD FE17  APRTOUT:  CALL  XPRTOU
662 037F E5      A   PUSH  HL
663 0380 F5      A   PUSH  AF
664      A;=====
665 0381 2A F2DE  A   LD    HL,(DRUTYP) ;L=DRUTYP
666 0384 3A FF91  A   LD    A,(BSKENN)
667 0387 67      A   LD    H,A      ;H=BSKENN
668 0388 F1      A   POP   AF
669 0389 F5      A   PUSH  AF
670 038A CB 65   A   BIT   4,L      ;mit Steuerzeichenauswertung?
671 038C 20 61   A   JR    NZ,PRT060 ; Nein-->
672      A;=====
673 038E FE 09   A   cp    9
674 0390 20 10   A   jr    nz,PRT020
675      A;-----
676 0392 3E 20   APRT010: ld    a,20H      ;TAB in
677 0394 CD 037C A   call  PRTOUT
678 0397 38 59   A   JR    C,PRT065
679 0399 3A F2DC A   ld    a,(LPTPOS)
680 039C E6 07   A   and  7
681 039E 20 F2   A   jr    nz,PRT010 ; SPC wandeln
682 03A0 18 50   A   JR    PRT065 ;RET (NC)
683      A;=====
684 03A2 D6 0D   APRT020: sub   CR      ;CR?
685 03A4 28 0A   A   jr    z,PRT030 ; Ja (A=0)-->
686      A;-----
687 03A6 38 0B   A   jr    c,PRT040 ;andere Steuerzeichen?
688 03A8 FE 13   A   cp    13H
689 03AA 38 07   A   jr    c,PRT040 ; Ja-->
690      A;-----
691 03AC 3A F2DC A   ld    a,(LPTPOS)
692 03AF 3C      A   inc  a      ;Zeichenzaehler ink
693 03B0 32 F2DC APRT030  ld    (LPTPOS),a
694      A;=====
695 03B3 F1      APRT040  POP   AF
696 03B4 F5      A   PUSH  AF
697      A;-----
698 03B5 CB 6D   A   BIT   5,L      ;Linker Rand?
699 03B7 28 0B   A   JR    Z,PRT042 ; Nein-->
700      A;-----
701 03B9 FE 0D   A   CP    0DH
702 03BB 20 07   A   JR    NZ,PRT042
703      A;
704 03BD CD 0299  A   CALL  PRTREI ;Ausgabe CR
705 03C0 38 30   A   JR    C,PRT065
706 03C2 18 CE   A   JR    PRT010 ; +linker Rand
707      A;=====
708 03C4 CB 4C   APRT042  BIT   1,H      ;SCP?
709 03C6 20 1F   A   JR    NZ,PRT055 ; Ja-->
710      A;-----
711 03C8 CB 5D   A   BIT   3,L      ;IBM-Drucker?
712 03CA 20 10   A   jr    nz,PRT045 ; Nein-->
713      A;-----

```



```

714 03CC CD 1272 A call CHTST ;2.Grapbyte-40H,
715 03CF 38 1E A jr c,PRT060 ; sonst unveraend
716 03D1 3E 1B A ld a,1bh ;GCH-->ESC ^
717 03D3 CD 0299 A call PRTREI
718 03D6 38 1A A jr c,PRT065
719 03D8 3E 5E A ld a,'^'
720 03DA 18 13 A jr PRT060
721 A;=====
722 03DC CD 1272 APRT045 call CHTST
723 03DF 30 11 A jr nc,PRT065 ;GCH-->RET
724 03E1 28 04 A jr z,PRT055 ; sonst-->
725 03E3 3E 2A APRT050 ld a,'*' ; 2.Graphbyte
726 03E5 18 08 A jr PRT060 ; wandeln in Stern
727 A;-----
728 03E7 CB 55 APRT055 BIT 2,L
729 03E9 28 04 A JR Z,PRT060 ;EPSON-->
730 03EB FE 80 A CP 80H
731 03ED 30 F4 A JR NC,PRT050 ;sonst >80H in Stern
732 A;=====
733 03EF CD 0299 APRT060: call PRTREI
734 A; -----
735 03F2 E1 APRT065 POP HL
736 03F3 7C A LD A,H
737 03F4 E1 A POP HL
738 03F5 CD FE1C A CALL XPRT02 ;RET bei SCP
739 03F8 D0 A ret nc ;OK-->RET
740 A; =====
741 03F9 DD 21 0000#A ld ix,ERDEVI
742 03FD C3 0239 A jpb L1CALL ;Fehler
743 A;*****
744 A;RST38 = absturz oder break
745 A;
746 0400 CD FE3D ARST38: CALL XRST38
747 0403 F3 A DI
748 0404 76 A HALT
749 A;*****
16 INCLUDEBICLUE.Z80
1 A;*****
2 A;Tastatur- Spielhebel- Kassetten- u. Musik- Treiber
3 A;BEEP ueber Kanal A
4 A;27.06.89
5 A;Bearbeiter: Luetzner
6 A;*****
7 A;
8 A external STOP1
9 A;
10 A;*****
11 A global IRSYS,SYS06,SYS19,SOTB,SOTB10,FTB,FTB6
12 A global CAPSB,STOPB,HOMEB,RIPUZI,CTRIPU
13 A global STB,STB2,LORIPU,INKEY,RDRIPU,RDRIP1,GETA35
14 A global YSLDIF
15 A;*****
16 0405 ED 73 FCD3 AYIRSYS ld (IRSPL2),sp
17 0409 31 FCD3 A ld sp,IRSPL2
18 040C F5 A push af
19 040D DB A8 A in a,(PPIA)
20 040F 32 FCD5 A ld (H1PPIA),a
21 0412 3E A0 A ld a,0A0h

```

```
22      0413      AYSL0T      equ    $-1
23 0414 D3 A8      A      out      (PPIA),a
24 0416 CD 04E1   A      call     IRSYS      ;Tastatur-IR ausfuehren
25 0419 3A FCD5   A      ld       a,(H1PPIA)
26 041C D3 A8      A      out      (PPIA),a
27 041E F1        A      pop      af
28 041F ED 7B FCD3 A      ld       sp,(IRSPL2)
29 0423 FB        A      ei
30 0424 ED 4D      A      reti
31      A;-----
32      000E      AYSLDIF     equ    YSL0T-YIRSYS
33      A;-----
34      A;SToPTeST
35      A;
36      A;IN: HL=
37      A;
38 0426 3A FA8D   ASTPTST     ld       a,(STOPFL)
39 0429 A7            A      and      a
40 042A C0        A      ret     nz      ;Stop aus-->RET
41      A;-----
42 042B E5        A      push     hl
43 042C 21 FC09   A      ld       hl,STCSSW
44 042F F3        A      di
45 0430 7E        A      ld       a,(hl)
46 0431 36 00     A      ld       (hl),0
47 0433 E1        A      pop      hl
48 0434 FB        A      ei
49 0435 A7            A      and      a
50 0436 C8        A      ret     z      ;kein Stop-->RET
51      A;-----
52 0437 FE 03     A      cp      3      ;CTRL-STOP?
53 0439 28 1C     A      jr      z,STPT20 ; Ja-->STPT20
54      A;-----
55 043B E5        A      push     hl
56 043C D5        A      push     de
57 043D C5        A      push     bc
58 043E CD 1528   A      call     KUSEZ     ;Bed. Kursoranz
59 0441 21 FC09   A      ld       hl,STCSSW
60 0444 F3        ASTPT15     di
61 0445 7E        A      ld       a,(hl)
62 0446 36 00     A      ld       (hl),0
63 0448 FB        A      ei
64 0449 A7            A      and      a
65 044A 28 F8     A      jr      z,STPT15   ;Warten auf 2. STOP
66 044C F5        A      push     af
67 044D CD 1544   A      call     KUREZ     ;Bed. Kursorloe
68 0450 F1        A      pop      af
69 0451 C1        A      pop      bc
70 0452 D1        A      pop      de
71 0453 E1        A      pop      hl
72 0454 FE 03     A      cp      3      ;CTRL-STOP?
73 0456 C0        A      ret     nz      ; Nein-->RET
74      A;=====
75 0457 E5        ASTPT20     push     hl      ;CTRL-STOP-Beh
76 0458 CD 0493   A      call     LORIPU     ;Loe Ringpuff
77 045B CD 047F   A      call     TSTPIR     ;Test Stop-IR
78 045E 30 0A     A      jr      nc,STPT30 ;kein IR-->STPT30
79      A;-----
```

```

80 0460 21 FBD8 A ld hl,STOPSW
81 0463 F3 A di
82 0464 CD 077F A call IRAMN ;IR anmelden
83 0467 FB A ei
84 0468 E1 A pop hl
85 0469 C9 A ret
86 A;-----
87 046A CD 13B2 ASTPT30 call LATXTM
88 046D 3A FC70 A ld a,(BASUB)
89 0470 26 40 A ld h,40H
90 0472 CD 0266 A call BANKUM ;BASIC zuschalten
91 0475 E1 A pop hl ;HL unveraendert
92 0476 AF A xor a
93 0477 ED 7B F577 A ld sp,(HELPSP)
94 047B C5 A push bc ;Masken Bankum
95 047C C3 0000# A jnp STOP1
96 A;*****
97 A;Test StOptasten-IR
98 A;
99 A;OUT: CY=1: IR
100 047F 3A FBD8 ATSTPIR ld a,(STOPSW)
101 0482 0F A rrca
102 0483 D0 A ret nc
103 A;-----
104 0484 2A FBD9 A ld hl,(STOPAD)
105 0487 7C A ld a,h
106 0488 B5 A or l
107 0489 C8 A ret z
108 A;-----
109 048A 2A F2E2 A ld hl,(ACTZN)
110 048D 23 A inc hl
111 048E 7C A ld a,h
112 048F B5 A or l
113 0490 C8 A ret z
114 A;-----
115 0491 37 A scf ;CY=1-->IR
116 0492 C9 A ret
117 A;*****
118 A;LOeschen RIngPUffer
119 A;
120 0493 2A F297 ALORIPU ld hl,(SCHRIP)
121 0496 22 F299 A ld (LESRIP),hl
122 0499 CD FD9F A call XRDRP2 ;SCP - Statuspufferzeile
123 A; loeschen
124 049C C9 A ret
125 A;*****
126 A;Direkter StOptasten-TeSt
127 A;
128 A;OUT: CY=1: CTRL-STOP
129 A;
130 049D DB AA ADSTPTS in a,(PPIC)
131 049F E6 F0 A and 0F0H
132 04A1 F6 06 A or 6
133 04A3 D3 AA A out (PPIC),a
134 04A5 E3 A EX (SP),HL
135 04A6 E3 A EX (SP),HL
136 04A7 DB A9 A in a,(PPIB)
137 04A9 E6 04 A and 4 ;CTRL ?

```

```

138 04AB C0      A      ret      nz      ;nein
139              A;-----
140 04AC DB AA   A      in      a,(PPIC)
141 04AE 3C      A      inc      a
142 04AF D3 AA   A      out     (PPIC),a
143 04B1 E3      A      EX      (SP),HL
144 04B2 E3      A      EX      (SP),HL
145 04B3 DB A9   A      in      a,(PPIB)
146 04B5 E6 10   A      and     10h      ;STOP
147 04B7 20 0A   A      jr      nz,DSTPT1      ;nein
148              A;-----
149 04B9 3A FAD7  A      ld      a,(LTMSTP)
150 04BC E6 EF   A      and     0EFh      ;STOP eintr.
151 04BE 32 FAD7  A      ld      (LTMSTP),a
152 04C1 18 0F   A      jr      DSTPT2
153              A;-----
154 04C3 DB AA   ADSTPT1 in      a,(PPIC)
155 04C5 E6 F0   A      and     0F0h
156 04C7 F6 03   A      or      3
157 04C9 D3 AA   A      out     (PPIC),a
158 04CB E3      A      EX      (SP),HL
159 04CC E3      A      EX      (SP),HL
160 04CD DB A9   A      in      a,(PPIB)
161 04CF E6 01   A      and     1          ;C ?
162 04D1 C0      A      ret      nz      ;nein
163              A;-----
164 04D2 E5      ADSTPT2 push    hl
165 04D3 2A F297 A      ld      hl,(SCHRIP)
166 04D6 22 F299 A      ld      (LES RIP),hl ;Ringpuff loeschen
167 04D9 E1      A      pop     hl
168 04DA 3E 13   A      ld      a,19        ;Tastatur entprellen
169 04DC 32 F296 A      ld      (TSTPRZ),a
170 04DF 37      A      scf
171 04E0 C9      A      ret
172              A;*****
173 04E1 E5      AIRSYS  push    hl
174 04E2 D5      A      push   de
175 04E3 C5      A      push   bc
176 04E4 D9      A      exx
177 04E5 08      A      ex      af,af'
178 04E6 E5      A      push   hl
179 04E7 D5      A      push   de
180 04E8 C5      A      push   bc
181 04E9 F5      A      push   af
182 04EA FD E5   A      push   iy
183 04EC DD E5   A      push   ix
184              A;-----
185 04EE CD FD80  A      call   XIRSY1 ;0FD9AH
186              A;-----
187 04F1 FB      A      ei
188 04F2 CD FD8F  A      call   XIRSY2 ;0FD9FH
189              A;-----
190 04F5 2A FC10  A      ld      hl,(DAUER)
191 04F8 2B      A      dec     hl
192 04F9 7C      A      ld      a,h
193 04FA B5      A      or      l
194 04FB 20 09   A      jr      nz,SYS05
195              A;-----

```

```
196 04FD 21 FBED A ld hl,INTVSW
197 0500 CD 077F A call IRAMN ;IR: Time
198 0503 2A FC0E A ld hl,(VAIVAL)
199 A; -----
200 0506 22 FC10 ASYS05 ld (DAUER),hl
201 A;-----
202 0509 2A FC0C ASYS06 ld hl,(VATIME)
203 050C 23 A inc hl
204 050D 22 FC0C A ld (VATIME),hl ;Time-Variable+1
205 A;-----
206 0510 3A FA1C A ld a,(MUKAFL) ;Tonerzeugung fuer
207 0513 4F A ld c,a
208 0514 AF A xor a
209 0515 CB 19 ASYS10 rr c
210 0517 F5 A push af
211 0518 C5 A push bc
212 0519 DC 0794 A call c,MUERZI
213 051C C1 A pop bc
214 051D F1 A pop af
215 051E 3C A inc a
216 051F FE 03 A cp 3 ; alle 3 Kanaele
217 0521 38 F2 A jr c,SYS10
218 A;-----
219 0523 21 F295 A ld hl,TSTIRZ
220 0526 35 A dec (hl)
221 0527 20 65 A jr nz,SYS15
222 A;=====
223 0529 36 02 A ld (hl),2
224 A;-----
225 052B CD FD94 A call XIRSY4 ;SCP: PC=SYS19
226 A; -----
227 052E CD 0B27 A call INJOY
228 0531 E6 F0 A and 0F0H ;nur Schussauswertung
229 0533 47 A ld b,a
230 0534 CD 0B45 A call INKSTA
231 0537 E6 01 A and 1 ;Space ?
232 0539 78 A ld a,b
233 053A 28 02 A jr z,SYS30
234 053C F6 01 A or 1 ;nein
235 053E 4F ASYS30 ld c,a ;Bit 0: Space-Taste
236 A ;Bit 4-7: Aktionstasten
237 A; -----
238 053F 21 F286 A ld hl,HSTRIG
239 0542 AE A xor (hl)
240 0543 A6 A and (hl) ;Bit i,A=1 bei 1/0-Flanke
241 0544 71 A ld (hl),c
242 0545 4F A ld c,a
243 A; -----
244 0546 0F A rrca
245 0547 21 FBDE A ld hl,SRG0SW
246 054A DC 077F A call c,IRAMN ;IR: Space-Taste
247 A; -----
248 054D CB 11 A rl c
249 054F 21 FBE4 A ld hl,SRG2SW
250 0552 DC 077F A call c,IRAMN ;IR: Joy2 Aktionstaste1
251 A; -----
252 0555 CB 11 A rl c
253 0557 21 FBEA A ld hl,SRG4SW
```

```
254 055A DC 077F A call c,IRAMN ;IR: Joy2 Aktionstaste2
255 A; -----
256 055D CB 11 A rl c
257 055F 21 FBE1 A ld hl,SRG1SW
258 0562 DC 077F A call c,IRAMN ;IR: Joy1 Aktionstaste1
259 A; -----
260 0565 CB 11 A rl c
261 0567 21 FBE7 A ld hl,SRG3SW
262 056A DC 077F A call c,IRAMN ;IR: Joy1 Aktionstaste2
263 A;=====
264 056D AF ASYS19 xor a
265 056E 32 FACF A ld (KCLK1T),a
266 A;-----
267 0571 CD 059C A call GETAST ;Abfrage Tastenmatrix
268 0574 20 18 A jr nz,SYS15 ;noch Zeichen im Ringpuffer -->Ende
269 A;-----
270 0576 21 F296 A ld hl,TSTPRZ ;Repeatzaehler=0 ?
271 0579 35 A dec (hl)
272 057A 20 12 A jr nz,SYS15 ; Nein-->Ende
273 A; -----
274 057C 36 01 A ld (hl),1
275 057E 21 FAD0 A ld hl,LTAMAT
276 0581 11 FAD1 A ld de,LTAMAT+1
277 0584 01 0008 A ld bc,8
278 0587 36 FF A ld (hl),0FFH
279 0589 ED B0 A ldir ;LTAMAT loeschen
280 058B CD 05C9 A call GETA25 ;Erneute Tastenabfrage
281 A;=====
282 058E DD E1 ASYS15 pop ix
283 0590 FD E1 A pop iy
284 0592 F1 A pop af
285 0593 C1 A pop bc
286 0594 D1 A pop de
287 0595 E1 A pop hl
288 0596 08 A ex af,af'
289 0597 D9 A exx
290 0598 C1 A pop bc
291 0599 D1 A pop de
292 059A E1 A pop hl
293 059B C9 A ret
294 A;*****
295 A;GEt TASTaturbelegung
296 A;
297 059C DB AA AGETAST in a,(PPIC)
298 059E E6 F0 A and 0F0H
299 05A0 4F A ld c,a
300 05A1 06 09 A ld b,9 ;Spaltenanzahl
301 05A3 21 FAD9 A ld hl,ATAMAT ;aktuelle Tastenmatrix
302 05A6 79 AGETA05 ld a,c
303 05A7 D3 AA A out (PPIC),a
304 05A9 E3 A ex (sp),hl
305 05AA E3 A ex (sp),hl
306 05AB DB A9 A in a,(PIB)
307 05AD 77 A ld (hl),a ;akt. Tastenbelegung fuer Spalte c
308 05AE 0C A inc c
309 05AF 23 A inc hl
310 05B0 10 F4 A djnz GETA05
311 A; -----
```

```
312 05B2 CD FDA7 A call XGETA5 ;Test auf unerfuelle STOP-Anforderung
313 A;-----
314 05B5 11 FAD9 AGETA10 ld de,ATAMAT
315 05B8 06 09 A ld b,9
316 05BA 1B AGETA15 dec de ;akt Tastenbelgg =
317 05BB 2B A dec hl ; letzte - " -
318 05BC 1A A ld a,(de)
319 05BD BE A cp (hl)
320 05BE 20 04 A jr nz,GETA20 ; Nein-->GETA20
321 05C0 10 F8 A djnz GETA15
322 05C2 18 05 A jr GETA25
323 A;-----
324 05C4 3E 13 AGETA20 ld a,19 ;Repeatzaehler
325 05C6 32 F296 A ld (TSTPRZ),a; laden
326 A;-----
327 05C9 06 09 AGETA25 ld b,9
328 05CB 21 FAD0 A ld hl,LTAMAT ;alte Tastenbelegg.
329 05CE 11 FAD9 A ld de,ATAMAT ;akt. "--
330 05D1 1A AGETA30 ld a,(de)
331 05D2 4F A ld c,a
332 05D3 AE A xor (hl) ;Bit i,A=1, wenn Taste gedr
333 05D4 A6 A and (hl) ; (d.h. Bit i,(HL) mit 1/0-Flanke)
334 05D5 71 A ld (hl),c
335 05D6 C4 0604 A call nz,TASTV ;Behandlung d.gedr. Taste(n)
336 05D9 13 A inc de
337 05DA 23 A inc hl
338 05DB 10 F4 A djnz GETA30
339 A;=====
340 05DD 2A F299 AGETA35 ld hl,(LES RIP) ;Lesezeiger
341 05E0 3A F297 A ld a,(SCH RIP)
342 05E3 95 A sub l ;Zeichen im Ringpuffer
343 05E4 C9 A ret ;NZ: Ja
344 A;*****
345 A;
346 A;Out: NZ ,wenn Zeichen im Buffer
347 A;
348 05E5 FB AINKEY ei
349 05E6 E5 A push hl
350 05E7 D5 A push de
351 05E8 C5 A push bc
352 05E9 CD 1254 A call TGRASV ;Grafikscreen ?
353 05EC 30 0F A jr nc,INKEY2 ; ja
354 A;-----
355 05EE 3A FAC3 A ld a,(FTSHI)
356 05F1 21 FADF A ld hl,ASTAMT
357 05F4 AE A xor (hl)
358 05F5 21 F285 A ld hl,FKTANZ
359 05F8 A6 A and (hl)
360 05F9 0F A rrca
361 05FA DC 1206 A call c,KEYON
362 A;-----
363 05FD CD 05DD AINKEY2 call GETA35
364 0600 C1 A pop bc
365 0601 D1 A pop de
366 0602 E1 A pop hl
367 0603 C9 A ret
368 A;*****
369 A;TASTaturVerteiler
```

```

370          A;IN: Bit i,A: Zeile der gedr Taste
371          A;          B: 9-Spalte - " -
372          A;
373 0604 E5    ATASTV      push   hl
374 0605 D5    A          push   de
375 0606 C5    A          push   bc
376 0607 F5    A          push   af
377 0608 3E 09 A          ld     a,9
378 060A 90    A          sub    b
379 060B 87    A          add    a,a
380 060C 87    A          add    a,a
381 060D 87    A          add    a,a
382 060E 4F    A          ld     c,a ;8*Spalte(0-8)
383 060F 06 08 A          ld     b,8
384 0611 F1    A          pop    af ;Zeile
385 0612 1F    ATASTV2    rra
386 0613 C5    A          push   bc
387 0614 F5    A          push   af
388 0615 DC 0A42 A          call   c,JPCDE
389 0618 F1    A          pop    af
390 0619 C1    A          pop    bc
391 061A 0C    A          inc    c
392 061B 10 F5 A          djnz  TASTV2
393 061D C3 1404 A          jp     POP2
394          A;*****
395          A;TastenCOdeTabelle
396          A;
397 0620 30 31 32 33ATACOT defm   '0123456789' ;ohne Sondertaste
398 062A 3C    A          defb   3Ch   ;< oder mit CTRL
399 062B 2B    A          defb   2Bh   ;+ (A=0)
400 062C 94    A          defb   94h   ;oe
401 062D 84    A          defb   84h   ;ae
402 062E 81    A          defb   81h   ;ue
403 062F 23    A          defb   23h   ;#
404 0630 27    A          defb   27h   ;?
405 0631 3F    A          defb   3Fh   ;,
406 0632 2C    A          defb   2Ch   ;.
407 0633 2E    A          defb   2Eh   ;-
408 0634 2D    A          defb   2Dh   ;-
409 0635 00    A          defb   0
410 0636 61 62 63 64A defm   'abcdefghijklm'
411 0643 6E 6F 70 71A defm   'nopqrstuvwxyz'
412          A;-----
413 0650 3D    A          defb   3Dh   ;= mit SHIFT
414 0651 21    A          defb   21h   ;! oder CTRL SHIFT
415 0652 22    A          defb   22h   ;" (A=1)
416 0653 5C    A          defb   5Ch   ;\
417 0654 24    A          defb   24h   ;$
418 0655 25    A          defb   25h   ;%
419 0656 26    A          defb   26h   ;&
420 0657 2F    A          defb   2Fh   ;/
421 0658 28    A          defb   28h   ;(
422 0659 29    A          defb   29h   ;)
423 065A 3E    A          defb   3Eh   ;>
424 065B 2A    A          defb   2Ah   ;*
425 065C 99    A          defb   99h   ;OE
426 065D 8E    A          defb   8Eh   ;AE
427 065E 9A    A          defb   9Ah   ;UE

```



```
428 065F 5E      A   defb  5Eh   ;^
429 0660 60      A   defb  60h
430 0661 E1      A   defb  0E1h
431 0662 3B      A   defb  3Bh   ;;
432 0663 3A      A   defb  3Ah   ;;
433 0664 5F      A   defb  5Fh   ;_
434 0665 00      A   defb  0
435 0666 41 42 43 44A defm  'ABCDEFGHIIJKLM'
436 0673 4E 4F 50 51A defm  'NOPQRSTUVWXYZ'
437                A;-----
438 0680 09      A   defb  9h     ; mit GRAPH
439 0681 AC      A   defb  0ACh  ; (A=2)
440 0682 AB      A   defb  0ABh
441 0683 12      A   defb  12h
442 0684 AA      A   defb  0AAh
443 0685 16      A   defb  16h
444 0686 F4      A   defb  0F4h
445 0687 1D      A   defb  1Dh
446 0688 EC      A   defb  0ECh
447 0689 FA      A   defb  0FAh
448 068A AE      A   defb  0AEh
449 068B F1      A   defb  0F1h
450 068C 06      A   defb  6
451 068D 05      A   defb  5
452 068E 01      A   defb  1
453 068F 0F      A   defb  0Fh
454 0690 00      A   defb  0
455 0691 0D      A   defb  0Dh
456 0692 B0      A   defb  0B0h
457 0693 FB      A   defb  0FBh
458 0694 17      A   defb  017h
459 0695 00      A   defb  0
460 0696 C7      A   defb  0C7h
461 0697 C8      A   defb  0C8h
462 0698 BD      A   defb  0BDh
463 0699 B6      A   defb  0B6h
464 069A B7      A   defb  0B7h
465 069B DD      A   defb  0DDh
466 069C DF      A   defb  0DFh
467 069D CC      A   defb  0CCh
468 069E CB      A   defb  0CBh
469 069F CE      A   defb  0CEh
470 06A0 B9      A   defb  0B9h
471 06A1 B1      A   defb  0B1h
472 06A2 BC      A   defb  0BCh
473 06A3 CA      A   defb  0CAh
474 06A4 BB      A   defb  0BBh
475 06A5 0B      A   defb  0Bh
476 06A6 D6      A   defb  0D6h
477 06A7 10      A   defb  10h
478 06A8 D7      A   defb  0D7h
479 06A9 1F      A   defb  1Fh
480 06AA C9      A   defb  0C9h
481 06AB DB      A   defb  0DBh
482 06AC D2      A   defb  0D2h
483 06AD D0      A   defb  0D0h
484 06AE D3      A   defb  0D3h
485 06AF BA      A   defb  0BAh
```

```

486          A;-----
487 06B0 0A   A   defb  0Ah   ; mit SHIFT GRAPH
488 06B1 EF   A   defb  0EFh  ;   (A=3)
489 06B2 FD   A   defb  0FDh
490 06B3 FC   A   defb  0FCh
491 06B4 A9   A   defb  0A9h
492 06B5 F6   A   defb  0F6h
493 06B6 F5   A   defb  0F5h
494 06B7 F8   A   defb  0F8h
495 06B8 F9   A   defb  0F9h
496 06B9 08   A   defb   8h
497 06BA AF   A   defb  0AFh
498 06BB FE   A   defb  0FEh
499 06BC 04   A   defb   4
500 06BD 03   A   defb   3
501 06BE 02   A   defb   2
502 06BF 7E   A   defb  7Eh
503 06C0 00   A   defb   0
504 06C1 0E   A   defb  0Eh
505 06C2 C4   A   defb  0C4h
506 06C3 F7   A   defb  0F7h
507 06C4 F0   A   defb  0F0h
508 06C5 00   A   defb   0
509 06C6 C6   A   defb  0C6h
510 06C7 C0   A   defb  0C0h
511 06C8 BE   A   defb  0BEh
512 06C9 B5   A   defb  0B5h
513 06CA B8   A   defb  0B8h
514 06CB DE   A   defb  0DEh
515 06CC DC   A   defb  0DCh
516 06CD C3   A   defb  0C3h
517 06CE C2   A   defb  0C2h
518 06CF C5   A   defb  0C5h
519 06D0 B4   A   defb  0B4h
520 06D1 B2   A   defb  0B2h
521 06D2 D9   A   defb  0D9h
522 06D3 C1   A   defb  0C1h
523 06D4 BF   A   defb  0BFh
524 06D5 0C   A   defb  0Ch
525 06D6 D5   A   defb  0D5h
526 06D7 11   A   defb  11h
527 06D8 D8   A   defb  0D8h
528 06D9 1E   A   defb  01Eh
529 06DA DA   A   defb  0DAh
530 06DB B3   A   defb  0B3h
531 06DC D1   A   defb  0D1h
532 06DD CF   A   defb  0CFh
533 06DE D4   A   defb  0D4h
534 06DF CD   A   defb  0CDh
535          A;-----
536 06E0 EB   A   defb  0EBh  ; mit ALT
537 06E1 00   A   defb   0   ;   (A=4)
538 06E2 40   A   defb  40h
539 06E3 15   A   defb  15h
540 06E4 87   A   defb  87h
541 06E5 EE   A   defb  0EEh
542 06E6 E7   A   defb  0E7h
543 06E7 07   A   defb   7h

```

```

544 06E8 5B      A      defb   5Bh
545 06E9 5D      A      defb   5Dh
546 06EA F3      A      defb   0F3h
547 06EB 00      A      defb   0
548 06EC 00      A      defb   0
549 06ED 00      A      defb   0
550 06EE ED      A      defb   0EDh
551 06EF E5      A      defb   0E5h
552 06F0 00      A      defb   0
553 06F1 E9      A      defb   0E9h
554 06F2 86      A      defb   86h
555 06F3 A6      A      defb   0A6h
556 06F4 A7      A      defb   0A7h
557 06F5 00      A      defb   0
558 06F6 E0      A      defb   0E0h
559 06F7 97      A      defb   97h
560 06F8 8D      A      defb   8Dh
561 06F9 8B      A      defb   8Bh
562 06FA 8C      A      defb   8Ch
563 06FB 9F      A      defb   9Fh
564 06FC 98      A      defb   98h
565 06FD 00      A      defb   0
566 06FE A1      A      defb   0A1h
567 06FF 91      A      defb   91h
568 0700 00      A      defb   0
569 0701 00      A      defb   0
570 0702 E6      A      defb   0E6h
571 0703 A4      A      defb   0A4h
572 0704 A2      A      defb   0A2h
573 0705 A3      A      defb   0A3h
574 0706 83      A      defb   83h
575 0707 93      A      defb   93h
576 0708 89      A      defb   89h
577 0709 96      A      defb   96h
578 070A 82      A      defb   82h
579 070B 95      A      defb   95h
580 070C 88      A      defb   88h
581 070D 8A      A      defb   8Ah
582 070E 85      A      defb   85h
583 070F A0      A      defb   0A0h
584                A;-----
585 0710 13      A      defb   13h      ; mit SHIFT ALT
586 0711 AD      A      defb   0ADh      ; (A=5)
587 0712 9E      A      defb   9Eh
588 0713 9C      A      defb   9Ch
589 0714 80      A      defb   80h
590 0715 14      A      defb   14h
591 0716 E2      A      defb   0E2h
592 0717 9B      A      defb   9Bh
593 0718 7B      A      defb   7Bh
594 0719 7D      A      defb   7Dh
595 071A F2      A      defb   0F2H
596 071B EA      A      defb   0EAh
597 071C 00      A      defb   0
598 071D 7C      A      defb   7Ch
599 071E E8      A      defb   0E8h
600 071F E4      A      defb   0E4h
601 0720 00      A      defb   0

```

```

602 0721 A8      A      defb  0A8h
603 0722 8F      A      defb  8Fh
604 0723 00      A      defb  0
605 0724 00      A      defb  0
606 0725 00      A      defb  0
607 0726 00      A      defb  0
608 0727 00      A      defb  0
609 0728 00      A      defb  0
610 0729 1A      A      defb  1Ah
611 072A 18      A      defb  18h
612 072B 00      A      defb  0
613 072C 00      A      defb  0
614 072D 00      A      defb  0
615 072E 00      A      defb  0
616 072F 92      A      defb  92h
617 0730 00      A      defb  0
618 0731 00      A      defb  0
619 0732 00      A      defb  0
620 0733 A5      A      defb  0A5h
621 0734 00      A      defb  0
622 0735 E3      A      defb  0E3h
623 0736 1C      A      defb  1Ch
624 0737 00      A      defb  0
625 0738 1B      A      defb  1Bh
626 0739 00      A      defb  0
627 073A 90      A      defb  90h
628 073B 00      A      defb  0
629 073C 00      A      defb  0
630 073D 19      A      defb  19h
631 073E 9D      A      defb  9Dh
632 073F 00      A      defb  0
633          A;*****
634          A;FunktionsTasten-Behandlung
635          A;
636          A;IN: C = Tastencode (35H...39H)
637          A;OUT: bei SHIFT: C = C+5
638          A;
639 0740 3E 37    AFTB ld    a,37H ;F5..F1
640 0742 91      A      sub    c      ;in
641 0743 C6 37      A      add    a,37H ;F1..F5
642 0745 4F      A      ld    c,a   ;WANDELN
643 0746 3A FADF  A      ld    a,(ASTAMT)
644 0749 0F      A      rrca
645 074A 38 04    A      jr    c,FTB2
646 074C 79      A      ld    a,c
647 074D C6 05    A      add    a,5
648 074F 4F      A      ld    c,a
649 0750 59      AFTB2 ld    e,c   ;C=35H(F1)...3EH(F10)
650 0751 16 00    A      ld    d,0
651          A;-----
652 0753 CD FD98  A      call   XFTB  ;SCP: PC:= FTB6
653          A;-----
654 0756 21 FA8F  A      ld    hl,FIRERL-35H ;Kann FTaste
655 0759 19      A      add    hl,de
656 075A 7E      A      ld    a,(hl)
657 075B A7          A      and    a      ; IR ausloesen?
658 075C 20 13    A      jr    nz,FIRANM ; JA-->
659          A;-----

```

```
660 075E EB      AFTB6 ex    de,hl
661 075F 29      A   add    hl,hl
662 0760 29      A   add    hl,hl
663 0761 29      A   add    hl,hl
664 0762 29      A   add    hl,hl ;HL=DE*10H
665 0763 11 F3F6 A   ld     de,FKEY1-350H
666 0766 19      A   add    hl,de
667 0767 EB      A   ex     de,hl ;DE=Adr ZK fuer FTaste
668
A;-----
669 0768 1A      AFTB8 ld     a,(de)
670 0769 A7      A   and    a      ;Endezeichen?
671 076A C8      A   ret    z      ; Ja-->RET
672 076B CD 097D A   call   CTRIPU ;ZK in Ringpuffer
673 076E 13      A   inc    de
674 076F 18 F7    A   jr     FTB8
675
A;*****
676
A;Funktionstasten-IR-ANmeldung
677
A;
678 0771 2A F2E2 AFIRANM   ld     hl,(ACTZN)
679 0774 23      A   inc    hl
680 0775 7C      A   ld     a,h
681 0776 B5      A   or     l      ;Direktmode?
682 0777 28 E5    A   jr     z,FTB6 ; Ja-->
683
A;-----
684 0779 21 FB1B A   ld     hl,KEY1SW-3*35H
685 077C 19      A   add    hl,de
686 077D 19      A   add    hl,de
687 077E 19      A   add    hl,de ;HL=KEY1SW...KEY10S
688
A;*****
689
A;IR-ANmeldung
690
A;
691
A;IN: HL = IR-Steuerbyte
692
A;
693 077F 7E      AIRAMN   ld     a,(hl)
694 0780 E6 01    A   and    1      ;IR ON gewesen?
695 0782 C8      A   ret    z      ; Nein-->RET
696
A;-----
697 0783 7E      A   ld     a,(hl)
698 0784 F6 04    A   or     4      ;IR STOP gewesen?
699 0786 BE      A   cp    (hl)
700 0787 C8      A   ret    z      ; Ja-->RET
701
A;-----
702 0788 77      A   ld     (hl),a ;IR STOP
703 0789 EE 05    A   xor    5
704 078B C0      A   ret    nz
705
A;-----
706 078C 3A FACE A   ld     a,(IRVAN) ;je IR-Quelle
707 078F 3C      A   inc    a      ;einmalige
708 0790 32 FACE A   ld     (IRVAN),a ;Anmeldung
709 0793 C9      A   ret
710
A;
711
A;*****
712
A;MUsikerzeugung im Interrupt
713
A;
714
A;IN: A=SVG-Kanal (0..2)
715
A;
716 0794 47      AMUERZI  ld     b,a
717 0795 CD 0847 A   call   MUR1
```

```
718 A;-----
719 0798 2B A dec hl ;Dekr 2 Byte in (HL-2)
720 0799 56 A ld d,(hl)
721 079A 2B A dec hl
722 079B 5E A ld e,(hl)
723 079C 1B A dec de
724 079D 73 A ld (hl),e
725 079E 23 A inc hl
726 079F 72 A ld (hl),d
727 A;-----
728 07A0 7A A ld a,d ;Ergebnis=0?
729 07A1 B3 A or e
730 07A2 C0 A ret nz ; Nein-->RET
731 A;-----
732 07A3 78 A ld a,b
733 07A4 32 FA1B A ld (HEMUKA),a
734 07A7 CD 083B A call MUREAD
735 07AA FE FF A cp 0FFH
736 07AC 28 5B A jr z,MUER40
737 A;-----
738 07AE 57 A ld d,a
739 07AF E6 E0 A and 0E0H
740 07B1 07 A rlca
741 07B2 07 A rlca
742 07B3 07 A rlca
743 07B4 4F A ld c,a
744 07B5 7A A ld a,d
745 07B6 E6 1F A and 1FH
746 07B8 77 A ld (hl),a
747 A;-----
748 07B9 CD 083B A call MUREAD
749 07BC 2B A dec hl
750 07BD 77 A ld (hl),a
751 07BE 0C A inc c
752 A;=====
753 07BF 0D AMUER10 dec c
754 07C0 C8 A ret z ;C=0-->RET
755 A;-----
756 07C1 CD 083B A call MUREAD
757 07C4 57 A ld d,a
758 07C5 E6 C0 A and 0C0H
759 07C7 20 11 A jr nz,MUER20
760 A;-----
761 07C9 CD 083B A call MUREAD
762 07CC 5F A ld e,a
763 07CD 78 A ld a,b
764 07CE 07 A rlca
765 07CF CD 0AF7 A call MUOTAE ;Frequenz
766 A;-----
767 07D2 3C A inc a
768 07D3 5A A ld e,d
769 07D4 CD 0AF7 A call MUOTAE ; an SVG
770 07D7 0D A dec c
771 07D8 18 E5 A jr MUER10
772 A;=====
773 07DA 67 AMUER20 ld h,a
774 07DB E6 80 A and 80H
775 07DD 28 0F A jr z,MUER30
```

```

776 A;-----
777 07DF 5A A ld e,d
778 07E0 78 A ld a,b
779 07E1 C6 08 A add a,8
780 07E3 CD 0AF7 A call MUOTAE ;Lautstaerke an SVG
781 A;-----
782 07E6 7B A ld a,e
783 07E7 E6 10 A and 10H
784 07E9 3E 0D A ld a,0DH
785 07EB C4 0AF7 A call nz,MUOTAE ;Huellkurve an SVG
786 A;-----
787 07EE 7C AMUER30 ld a,h
788 07EF E6 40 A and 40H
789 07F1 28 CC A jr z,MUER10
790 A;-----
791 07F3 CD 083B A call MUREAD
792 07F6 57 A ld d,a
793 07F7 CD 083B A call MUREAD
794 07FA 5F A ld e,a
795 07FB 3E 0B A ld a,0BH
796 07FD CD 0AF7 A call MUOTAE ;Periode der
797 A;-----
798 0800 3C A inc a
799 0801 5A A ld e,d
800 0802 CD 0AF7 A call MUOTAE ; Huellkurve an SVG
801 0805 0D A dec c
802 0806 0D A dec c
803 0807 18 B6 A jr MUER10
804 A;=====
805 0809 78 AMUER40 ld a,b
806 080A C6 08 A add a,8
807 080C 1E 00 A ld e,0
808 080E CD 0AF7 A call MUOTAE ;Lautstaerke=0
809 A;-----
810 0811 04 A inc b
811 0812 21 FA1C A ld hl,MUKAFL
812 0815 AF A xor a
813 0816 37 A scf
814 A;-----
815 0817 17 AMUER50 rla
816 0818 10 FD A djnz MUER50
817 081A A6 A and (hl)
818 081B AE A xor (hl) ;Res i,(HL), i=Kanalnr.
819 081C 77 A ld (hl),a
820 A;*****
821 A;MUsikZELlen Verwalten
822 A;
823 081D 3A FA1C AMUZELV ld a,(MUKAFL)
824 0820 B7 A or a
825 0821 C0 A ret nz
826 A;-----
827 0822 21 FA1D A ld hl,MUHLP
828 0825 7E A ld a,(hl)
829 0826 B7 A or a
830 0827 C8 A ret z
831 A;-----
832 0828 35 A dec (hl)
833 0829 21 0001 A ld hl,1

```

```
834 082C 22 FA1E A ld (MULA0),hl
835 082F 22 FA43 A ld (MULA1),hl
836 0832 22 FA68 A ld (MULA2),hl
837 0835 3E 07 A ld a,7
838 0837 32 FA1C A ld (MUKAFL),a
839 083A C9 A ret
840 A;*****
841 A;MUsik READ
842 A;
843 083B 3A FA1B AMUREAD ld a,(HEMUKA)
844 083E E5 A push hl
845 083F D5 A push de
846 0840 C5 A push bc
847 0841 CD 087C A call MUPUR
848 0844 C3 1404 A jp POP2
849 A;*****
850 A;MUsikRechnung 1
851 A;
852 A;IN: A=SVG-Kanal
853 A;
854 0847 2E 02 AMUR1 ld l,2
855 0849 18 03 A jr MUR3
856 A;*****
857 A;MUsikRechnung 2
858 A;
859 A;IN: L= ?
860 A;
861 084B 3A FA15 AMUR2 ld a,(MUKA)
862 A;*****
863 A;MUsikRechnung 3
864 A;
865 A;IN: A=SVG-Kanal / L= ?
866 A;OUT:HL=MULA0+L+25H*A
867 A;
868 084E D5 AMUR3 push de
869 084F 11 FA1E A ld de,MULA0
870 0852 26 00 A ld h,0
871 0854 19 A add hl,de
872 0855 B7 A or a
873 0856 28 07 A jr z,MUR34
874 0858 11 0025 A ld de,25H
875 085B 19 AMUR32 add hl,de
876 085C 3D A dec a
877 085D 20 FC A jr nz,MUR32
878 085F D1 AMUR34 pop de
879 0860 C9 A ret
880 A;*****
881 A;MUsikPUffer Write
882 A;
883 A;IN: A=SVG-Kanal / E=Musikbyte
884 A;
885 0861 CD 08C9 AMUPUW call MUPUKR
886 0864 78 A ld a,b
887 0865 3C A inc a
888 0866 23 A inc hl
889 0867 A6 A and (hl)
890 0868 B9 A cp c
891 0869 C8 A ret z ;Puffer voll (?)
```



```
892          A;-----
893 086A E5    A    push   hl
894 086B 2B    A    dec     hl
895 086C 2B    A    dec     hl
896 086D 2B    A    dec     hl
897 086E E3    A    ex      (sp),hl
898 086F 23    A    inc     hl
899 0870 4F    A    ld      c,a
900 0871 7E    A    ld      a,(hl)
901 0872 23    A    inc     hl
902 0873 66    A    ld      h,(hl)
903 0874 6F    A    ld      l,a
904 0875 06 00 A    ld      b,0
905 0877 09    A    add     hl,bc
906 0878 73    A    ld      (hl),e ;Musikbyte abspeichern
907 0879 E1    A    pop     hl
908 087A 71    A    ld      (hl),c
909 087B C9    A    ret
910          A;*****
911          A;MUSikPUffer Read
912          A;
913          A;IN: A=SVG-Kanal
914          A;OUT:A=
915          A; HL=
916          A;
917 087C CD 08C9 AMUPUR      call   MUPUKR
918 087F 36 00    A    ld      (hl),0
919 0881 20 1D    A    jr      nz,MUPUR2
920          A;-----
921 0883 79    A    ld      a,c
922 0884 B8    A    cp      b
923 0885 C8    A    ret     z      ;Pufferende (Z=1)
924          A;-----
925 0886 23    A    inc     hl
926 0887 3C    A    inc     a
927 0888 A6    A    and     (hl)
928 0889 2B    A    dec     hl
929 088A 2B    A    dec     hl
930 088B E5    A    push   hl
931 088C 23    A    inc     hl
932 088D 23    A    inc     hl
933 088E 23    A    inc     hl
934 088F 4F    A    ld      c,a
935 0890 7E    A    ld      a,(hl)
936 0891 23    A    inc     hl
937 0892 66    A    ld      h,(hl)
938 0893 6F    A    ld      l,a
939 0894 06 00 A    ld      b,0
940 0896 09    A    add     hl,bc
941 0897 7E    A    ld      a,(hl)
942 0898 E1    A    pop     hl
943 0899 71    A    ld      (hl),c
944 089A B7    A    or      a
945 089B C0    A    ret     nz      ;RET (Z=0)
946          A;-----
947 089C 3C    A    inc     a
948 089D 3E 00 A    ld      a,0
949 089F C9    A    ret
```

```

950          A;-----
951 08A0 4F  AMUPUR2      ld      c,a
952 08A1 06 00 A      ld      b,0
953 08A3 21 F84D A      ld      hl,MUPU0-5      ;F970
954 08A6 09  A      add     hl,bc
955 08A7 7E  A      ld      a,(hl)
956 08A8 C9  A      ret
957          A;*****
958          A;MUsikPUfferKopf Initialisieren
959          A;
960          A;IN: A=SVG-Kanal / B=7FH / DE=MUPU0/1/2
961          A;
962 08A9 C5  AMUPUKI      push     bc
963 08AA CD 08D3 A      call    MUR4
964 08AD 70  A      ld      (hl),b
965 08AE 23  A      inc     hl
966 08AF 70  A      ld      (hl),b
967 08B0 23  A      inc     hl
968 08B1 70  A      ld      (hl),b
969 08B2 23  A      inc     hl
970 08B3 F1  A      pop     af
971 08B4 77  A      ld      (hl),a
972 08B5 23  A      inc     hl
973 08B6 73  A      ld      (hl),e
974 08B7 23  A      inc     hl
975 08B8 72  A      ld      (hl),d
976 08B9 C9  A      ret
977          A;*****
978          A;MUsik-1-Dummy
979          A;
980          A;IN: A=SVG-Kanal
981          A;OUT:HL=
982          A;
983 08BA CD 08C9 AMU1D call    MUPUKR
984 08BD 78  A      ld      a,b
985 08BE 3C  A      inc     a
986 08BF 23  A      inc     hl
987 08C0 A6  A      and     (hl)
988 08C1 47  A      ld      b,a
989 08C2 79  A      ld      a,c
990 08C3 90  A      sub     b
991 08C4 A6  A      and     (hl)
992 08C5 6F  A      ld      l,a
993 08C6 26 00 A      ld      h,0
994 08C8 C9  A      ret
995          A;*****
996          A;MUsikPUfferKopf Read
997          A;
998          A;IN: A=SVG-Kanal
999          A;OUT:HL=MUPUK0/1/2+2
1000         A;      B=(MUPUK0/1/2)
1001         A;      C=(MUPUK0/1/2+1)
1002         A;      A=(MUPUK0/1/2+2)
1003         A;      F entsprechend OR A
1004         A;
1005 08C9 CD 08D3 AMUPUKR      call    MUR4
1006 08CC 46  A      ld      b,(hl)
1007 08CD 23  A      inc     hl

```

```

1008 08CE 4E      A    ld    c,(hl)
1009 08CF 23      A    inc   hl
1010 08D0 7E      A    ld    a,(hl)
1011 08D1 B7      A    or    a
1012 08D2 C9      A    ret
1013          A;*****
1014          A;MusikRechnung 4
1015          A;
1016          A;IN: A=SVG-Kanal
1017          A;OUT:HL=MUPUK0/1/2 / B=0
1018          A;
1019 08D3 07      AMUR4 rlca
1020 08D4 47      A    ld    b,a
1021 08D5 07      A    rlca
1022 08D6 80      A    add   a,b
1023 08D7 4F      A    ld    c,a
1024 08D8 06 00   A    ld    b,0
1025 08DA 2A F292  A    ld    hl,(AMUPUK)
1026 08DD 09      A    add   hl,bc
1027 08DE C9      A    ret
1028          A;*****
1029 08DF 3E 07     AMUINI ld    a,7
1030 08E1 1E 07   A    ld    e,7 ;alle Kanale ein
1031 08E3 CD 0AF7  A    call  MUOTAE
1032          A; -----
1033 08E6 3E 0B   A    ld    a,11
1034 08E8 5F      A    ld    e,a
1035 08E9 CD 0AF7  A    call  MUOTAE
1036          A; -----
1037          A;
1038 08EC E5      AMUINIT push hl
1039 08ED D5      A    push de
1040 08EE C5      A    push bc
1041 08EF F5      A    push af
1042 08F0 21 FA1C  A    ld    hl,MUKAFL
1043 08F3 06 71   A    ld    b,3*37+2
1044 08F5 AF      A    xor   a
1045 08F6 77      AMUIN02 ld    (hl),a
1046 08F7 23      A    inc   hl
1047 08F8 10 FC   A    djnz  MUIN02
1048          A; -----
1049 08FA 11 F852  A    ld    de,MUPU0
1050 08FD 06 7F   A    ld    b,7Fh
1051 08FF 21 0080  A    ld    hl,80h
1052 0902 E5      AMUIN04 push hl
1053 0903 D5      A    push de
1054 0904 C5      A    push bc
1055 0905 F5      A    push af
1056 0906 CD 08A9  A    call  MUPUKI
1057          A; -----
1058 0909 F1      A    pop   af ;Kanalnr.
1059 090A C6 08   A    add   a,8
1060 090C 1E 00   A    ld    e,0 ;Lautstaerke=0 -> aus
1061 090E CD 0AF7  A    call  MUOTAE
1062 0911 D6 08   A    sub   8
1063 0913 F5      A    push  af
1064          A; -----
1065 0914 2E 0F   A    ld    l,0Fh

```

```

1066 0916 CD 084E A call MUR3 ;DE=MUKOP0/1/2
1067 0919 EB A ex de,hl
1068 091A 21 0937 A ld hl,MUINTB
1069 091D 01 0006 A ld bc,6
1070 0920 ED B0 A ldir
1071 A;-----
1072 0922 F1 A pop af
1073 0923 C1 A pop bc
1074 0924 E1 A pop hl
1075 0925 D1 A pop de ;Reihenfolge getauscht !
1076 0926 19 A add hl,de
1077 0927 EB A ex de,hl ;DE+=80h, HL=80h
1078 A;-----
1079 0928 3C A inc a
1080 0929 FE 03 A cp 3
1081 092B 38 D5 A jr c,MUIN04 ;naechsten Kanal
1082 A;-----
1083 092D 3E 07 A ld a,7
1084 092F 1E 07 A ld e,7
1085 0931 CD 0AF7 A call MUOTAE
1086 A;-----
1087 0934 C3 1403 A jp POP1
1088 A;=====
1089 0937 04 AMUINTB defb 4
1090 0938 04 A defb 4
1091 0939 78 A defb 78h
1092 093A 88 A defb 88h
1093 093B FF A defb 0FFh
1094 093C 00 A defb 0
1095 A;
1096 A;*****
1097 A;HOME-Behandlung
1098 A;
1099 093D 3A FADF AHOMEB ld a,(ASTAMT)
1100 0940 0F A rrca ;mit SHIFT?
1101 0941 3E 0C A ld a,0CH ; Ja: A=0CH (CLS)
1102 0943 30 04 A jr nc,HOMEB2
1103 A;-----
1104 0945 21 F2AE A ld hl,HOMECO; Nein (HOME)
1105 0948 9E A sbc a,(HL) ; RBASIC: A=0BH
1106 A; SCP : A=1
1107 A;-----
1108 0949 18 0D AHOMEB2 jr STB4
1109 A;*****
1110 A;SonderTasten-Behandlung
1111 A;
1112 A;IN: A= Tastencode (>2FH)
1113 A;
1114 094B CD FD85 ASTB call XSTB ;0FDD1H
1115 A;-----
1116 094E 5F A ld e,a
1117 094F 16 00 A ld d,0
1118 0951 21 0A24 A ld hl,STACOT-30H
1119 0954 19 ASTB2 add hl,de ;Zeichencode lesen
1120 0955 7E A ld a,(hl)
1121 0956 A7 A and a
1122 0957 C8 A ret z
1123 0958 18 23 ASTB4 jr CTRIPU

```

```

1124      A;*****
1125      A;CAPS-Behandlung
1126      A;
1127 095A 21 FC19 ACAPSB      ld      hl,CAPSSW
1128 095D 7E      A      ld      a,(hl)
1129 095E 2F      A      cpl
1130 095F 77      A      ld      (hl),a
1131 0960 2F      A      cpl
1132      A;*****
1133      A;CAPs-LED bedienen
1134      A;
1135      A;IN: A = 0 : LED ein
1136      A;      1 :      aus
1137      A;
1138 0961 A7      ACAPLED      and      a
1139 0962 3E 0C      A      ld      a,0CH
1140 0964 28 01      A      jr      z,CAPL5
1141 0966 3C      A      inc      a
1142 0967 D3 AB      ACAPL5      out      (PPIM),a
1143 0969 C9      A      ret
1144      A;*****
1145      A;STOP-Behandlung
1146      A;
1147 096A 3A FADF      ASTOPB      ld      a,(ASTAMT)
1148 096D 0F      A      rrca
1149 096E 0F      A      rrca
1150 096F 0F      A      rrca
1151 0970 3E 03      A      ld      a,3      ;CTRL-STOP: A=3 (NC)
1152 0972 30 01      A      jr      nc,STOPB2
1153 0974 3C      A      inc      a      ;nur STOP: A=4 (CY)
1154 0975 32 FC09      ASTOPB2     ld      (STCSSW),a
1155      A; -----
1156 0978 CD FD9C      A      call     XSTOPB
1157      A; -----
1158 097B 38 12      A      jr      c,TKCLK
1159      A;*****
1160      A;Character To RIngPUffer
1161      A;
1162 097D 2A F297      ACTRIPU     ld      hl,(SCHRIP)
1163 0980 77      A      ld      (hl),a
1164 0981 CD 0A7C      A      call     RIPUZI ;Zeiger erhoehen
1165 0984 3A F299      A      ld      a,(LES RIP)
1166 0987 BD      A      cp      l
1167 0988 C8      A      ret      z
1168 0989 22 F297      A      ld      (SCHRIP),hl
1169      A; -----
1170 098C CD FD9F      A      call     XRDRP2
1171      A;*****
1172      A;Test KeyClick
1173      A;
1174 098F 3A F284      ATKCLK      ld      a,(KCLKSW)
1175 0992 A7      A      and      a
1176 0993 C8      A      ret      z
1177      A; -----
1178 0994 3A FACF      A      ld      a,(KCLK1T) ;bei mehreren
1179 0997 A7      A      and      a      ; gedrueckten Tasten
1180 0998 C0      A      ret      nz      ; nur 1 Click !!
1181      A; -----

```

```
1182 0999 3E 0F      A    ld    a,0FH ;A=15: Keyclick on
1183 099B 32 FACF    A    ld    (KCLK1T),a
1184 099E D3 AB      A    out   (PPIM),a
1185                A;-----
1186 09A0 3E 0A      A    ld    a,0AH ;Warten
1187 09A2 3D          A    ATKCLK2 dec a
1188 09A3 20 FD      A    A    jr    nz,TKCLK2
1189                A;*****
1190                A;KEYCLiCK negieren
1191                A;
1192                A;IN: A=0 : Click off
1193                A;    <>0:    on
1194                A;
1195 09A5 A7            A    AKEYCLK and a
1196 09A6 3E 0E      A    ld    a,0EH
1197 09A8 28 01      A    jr    z,KEYCL2
1198 09AA 3C          A    inc   a
1199 09AB D3 AB      A    AKEYCL2 out (PPIM),a
1200 09AD C9          A    ret
1201                A;*****
1202                A;SOnstige TastenBehandlung
1203                A;
1204                A;IN: C=Tastencode (<30H)
1205                A;
1206 09AE 3A FADF    A    ASOTB ld    a,(ASTAMT)
1207 09B1 5F          A    ld    e,a
1208 09B2 1F          A    rra
1209 09B3 1F          A    rra
1210 09B4 1F          A    rra
1211 09B5 F5          A    push  af ;CTRL gedrueckt: CY=0
1212                A;-----
1213 09B6 7B          A    ld    a,e
1214 09B7 2F          A    cpl
1215                A;-----
1216 09B8 CD FDA5    A    A    call  XSOTB1 ;SCP: or a / ret ,d.h. CY=0
1217                A;-----
1218 09BB 30 14      A    jr    nc,SOTB10 ;A=0 : CTRL
1219                A ;A=1 : CTRL u SHIFT
1220                A;-----
1221 09BD E6 01      A    and   1 ;Shift
1222 09BF CB 63      A    bit   4,e ;ALT?
1223 09C1 20 04      A    jr    nz,SOTB06
1224                A; -----
1225 09C3 F6 04      A    or    4
1226 09C5 18 0C      A    jr    SOTB20
1227                A; -----
1228 09C7 5F          A    ASOTB06 ld    e,a
1229 09C8 3A FAE0    A    ld    a,(ASTAMT+1)
1230 09CB 2F          A    cpl
1231 09CC E6 04      A    and   4 ;GRAPH
1232 09CE 0F          A    rrca
1233 09CF B3          A    or    e ;+ Shift
1234                A;*****
1235                A; rra
1236                A; rra
1237                A; rlca
1238                A; and 3
1239                A; bit 1,a
```

```

1240      A;   jr      nz,SOTB20 ;A=2 : GRAPH
1241      A;                               ;A=3 : GRAPH u SHIFT
1242      A;-----
1243      A;   bit      4,e
1244      A;   jr      nz,SOTB20 ;A=0 : nur Taste
1245      A;                               ;A=1 : SHIFT
1246      A;-----
1247      A;   or       4      ;A=4 : ALT
1248      A;                               ;A=5 : ALT u SHIFT
1249 09D0 11      A   DEFB   11H   ;LD DE,1E6H
1250 09D1 E6 01   ASOTB10  AND    1    ; - " -
1251      A;=====
1252 09D3 5F      ASOTB20   ld     e,a
1253 09D4 87      A   add    a,a
1254 09D5 83      A   add    a,e
1255 09D6 87      A   add    a,a
1256 09D7 87      A   add    a,a
1257 09D8 87      A   add    a,a
1258 09D9 87      A   add    a,a
1259 09DA 5F      A   ld     e,a
1260 09DB 16 00   A   ld     d,0    ;DE=30H*A
1261      A;-----
1262 09DD 21 0620  A   ld     hl,TACOT
1263 09E0 19      A   add    hl,de
1264 09E1 42      A   ld     b,d    ;B=0
1265 09E2 09      A   add    hl,bc
1266      A;-----
1267 09E3 7E      A   ld     a,(hl)
1268      A;-----
1269 09E4 21 FFD3  A   ld     hl,SZFLAG
1270 09E7 34      A   inc    (hl)
1271 09E8 35      A   dec    (hl)
1272 09E9 28 0E   A   jr     z,SOTB24 ;sz u. ? normal
1273      A;-----
1274 09EB FE 3F   A   cp     3Fh    ;a='?' ?
1275 09ED 20 04   A   jr     nz,SOTB22
1276      A;-----
1277 09EF 3E E1   A   ld     a,0E1h ; ja: ? -> sz
1278 09F1 18 06   A   jr     SOTB24
1279      A;-----
1280 09F3 FE E1   ASOTB22:  cp     0E1h ;a='sz' ?
1281 09F5 20 02   A   jr     nz,SOTB24
1282      A;-----
1283 09F7 3E 3F   A   ld     a,3Fh  ; ja: sz -> ?
1284      A;-----
1285 09F9 21 FC19 ASOTB24:  ld     hl,CAPSSW
1286 09FC 34      A   inc    (hl)
1287 09FD 35      A   dec    (hl)
1288 09FE 28 19   A   jr     z,SOTB30
1289      A;-----
1290 0A00 FE 61   A   cp     'a'
1291 0A02 38 08   A   jr     c,SOTB25
1292 0A04 FE 7B   A   cp     'z'+1
1293 0A06 30 04   A   jr     nc,SOTB25
1294      A;-----
1295 0A08 E6 DF   A   and    0DFh ;klein -> gross
1296 0A0A 18 0D   A   jr     SOTB30
1297      A;-----

```

```

1298 0A0C 0E 08      ASOTB25      ld      c,GUMLT-KUMLT
1299 0A0E 21 0A73    A      ld      hl,GUMLT-1
1300 0A11 ED B9      A      cpdr
1301 0A13 20 04      A      jr      nz,SOTB30
1302                                     A;-----
1303 0A15 0E 09      A      ld      c,GUMLT-KUMLT+1
1304 0A17 09        A      add     hl,bc
1305 0A18 7E        A      ld      a,(hl)
1306                                     A;-----
1307 0A19 CD FDAA    ASOTB30      call   XSOTB2
1308                                     A;-----
1309 0A1C 5F        A      ld      e,a
1310 0A1D F1        A      pop    af      ;CTRL-> CY=0
1311 0A1E 7B        A      ld      a,e
1312 0A1F 3C        A      inc    a
1313 0A20 3D        A      dec    a
1314 0A21 C8        A      ret    z
1315                                     A;-----
1316 0A22 38 0F      A      jr      c,SOTB40      ;ohne CTRL
1317                                     A;-----
1318 0A24 E6 DF      A      and    0DFH
1319 0A26 D6 40      A      sub    40H
1320 0A28 FE 20      A      cp     20H
1321 0A2A D0        A      ret    nc      ;ungueltige CTRL-Kombination
1322                                     A;-----
1323 0A2B FE 03      A      cp     3
1324 0A2D CA 0975    A      jp     z,STOPB2      ;^C = ^STOP
1325                                     A;-----
1326 0A30 C3 097D    ASOTB38      jp     CTRIPU
1327                                     A;
1328 0A33 FE 20      ASOTB40      cp     20h
1329 0A35 30 F9      A      jr      nc,SOTB38
1330 0A37 F5        A      push   af      ;2-Byte-Grafikzeichen
1331 0A38 3E 01      A      ld     a,1      ;GCH
1332 0A3A CD 097D    A      call   CTRIPU
1333 0A3D F1        A      pop    af
1334 0A3E C6 40      A      add    a,40h
1335 0A40 18 EE      A      jr     SOTB38
1336                                     A;*****
1337                                     A;JmP, wenn Cy-flag gesetzt nach (DE)
1338                                     A;
1339                                     A;IN: C=phys. Tastencode (0..71)
1340                                     A;OUT: Ansprung entsprechendes Tastenbehandlungs-Programm
1341                                     A;
1342 0A42 79        AJPCDE      ld     a,c
1343 0A43 21 0D24    A      ld     hl,TABET
1344                                     A;-----
1345 0A46 CD FD8A    A      call   XJPCDE ;0FDCCH
1346                                     A; SCP: hl=TABET2
1347                                     A;-----
1348 0A49 BE        AJPCDE2     cp     (hl)
1349 0A4A 23        A      inc    hl
1350 0A4B 5E        A      ld     e,(hl) ;Low-Teil
1351 0A4C 23        A      inc    hl
1352 0A4D 56        A      ld     d,(hl)
1353 0A4E 23        A      inc    hl
1354 0A4F D5        A      push   de      ;C<Tabellenwert?
1355 0A50 D8        A      ret    c      ; Ja-->Ansprung UP

```



```
1356 0A51 D1      A    pop    de
1357 0A52 18 F5   A    jr     JPCDE2
1358             A;*****
1359             A;SonderTasten-CODETabelle
1360             A;
1361 0A54 00       ASTACOT    defb    0      ;SHIFT
1362 0A55 1B       A    defb   1bh     ;ESC(CTRL)
1363 0A56 00       A    defb    0      ;CTRL(GRAPH)
1364 0A57 00       A    defb    0      ;CAPS
1365 0A58 00       A    defb    0      ;ALT
1366 0A59 00       A    defb    0      ;F1
1367 0A5A 00       A    defb    0      ;F2
1368 0A5B 00       A    defb    0      ;F3
1369 0A5C 00       A    defb    0      ;F4
1370 0A5D 00       A    defb    0      ;F5
1371 0A5E 00       A    defb    0      ;GRAPH(ESC)
1372 0A5F 00       A    defb    0      ;TAB
1373 0A60 00       A    defb    0      ;STOP
1374 0A61 00       A    defb    0      ;BS
1375 0A62 00       A    defb    0      ;SELECT
1376 0A63 0D       A    defb   0Dh     ;RETURN
1377 0A64 20       A    defb   20h     ;SPACE
1378 0A65 00       A    defb    0      ;HOME
1379 0A66 12       A    defb   12h     ;INS
1380 0A67 7F       A    defb   7Fh     ;DEL
1381 0A68 1D       A    defb   1Dh     ;<-
1382 0A69 1E       A    defb   1Eh     ;^
1383 0A6A 1F       A    defb   1Fh     ;v
1384 0A6B 1C       A    defb   1Ch     ;->
1385             A;*****
1386             A;
1387 0A6C 82       AKUMLT    defb    82h
1388 0A6D 84       A    defb   84h     ;mit ALT und
1389 0A6E 94       A    defb   94h
1390 0A6F 81       A    defb   81h
1391 0A70 A4       A    defb   0A4h    ;Umlaute klein
1392 0A71 86       A    defb   86h
1393 0A72 87       A    defb   87h
1394 0A73 91       A    defb   91h
1395             A;*****
1396             A;Grossbuchstaben - UMLautTabelle
1397             A;
1398 0A74 90       AGUMLT    defb    90h
1399 0A75 8E       A    defb   8Eh
1400 0A76 99       A    defb   99h
1401 0A77 9A       A    defb   9Ah
1402 0A78 A5       A    defb   0A5h
1403 0A79 8F       A    defb   8Fh
1404 0A7A 80       A    defb   80h
1405 0A7B 92       A    defb   92h
1406             A;*****
1407             A;RINGPUfferZeiger Inkrementieren
1408             A;
1409             A;IN: Zeigerwert in HL
1410             A;
1411 0A7C 23       ARIPUZI    inc     hl
1412 0A7D 7D       A    ld     a,l
1413 0A7E FE 0A   A    cp     (RINGPU+40) AND 0FFH
```

```
1414 0A80 C0      A    ret    nz
1415 0A81 21 FAE2  A    ld     hl,RINGPU
1416 0A84 C9      A    ret
1417             A;*****
1418             A;ReaD RIngPUffer
1419             A;
1420             A;OUT: A=Zeichenkode
1421             A;
1422 0A85 E5      ARDRIPU    push  hl
1423 0A86 D5      A    push  de
1424 0A87 C5      A    push  bc
1425             A;-----
1426 0A88 CD FDEA  ARDRIP1    call  XRDR11
1427 0A8B CD 05E5  A    call  INKEY ;Zeichen im Puffer?
1428 0A8E 20 0E   A    jr    nz,RDRIP4 ; Ja-->
1429             A;-----
1430 0A90 CD 1528  A    call  KUSEZ
1431 0A93 CD FDEF  ARDRIP2    call  XRDR12
1432 0A96 CD 05E5  A    call  INKEY
1433 0A99 28 F8   A    jr    z,RDRIP2 ;Warten auf Zeichen
1434 0A9B CD 1544  A    call  KUREZ
1435             A;-----
1436 0A9E 21 FC09  ARDRIP4    ld     hl,STCSSW
1437 0AA1 7E      A    ld     a,(hl)
1438 0AA2 FE 04   A    cp    4 ;CTRL-STOP gedrueckt?
1439 0AA4 20 02   A    jr    nz,RDRIP6 ; Ja-->
1440 0AA6 36 00   A    ld     (hl),0 ;Schalter loeschen
1441             A;-----
1442 0AA8 2A F299  ARDRIP6    ld     hl,(LES RIP)
1443             A; -----
1444 0AAB CD FDA2  A    call  XRDRP4 ;falls Stop-Monitor aktiv war -> RDRIP1
1445             A; -----
1446 0AAE 4E      A    ld     c,(hl) ;Zeichen lesen
1447 0AAF CD 0A7C  A    call  RIPUZI
1448 0AB2 22 F299  A    ld     (LES RIP),hl
1449             A; -----
1450 0AB5 CD FD9F  A    call  XRDRP2 ;aktual. Statuszeile
1451             A; -----
1452 0AB8 FB      A    ei
1453 0AB9 79      A    ld     a,c
1454 0ABA C3 1404  A    jp    POP2
1455             A;*****
1456             A;BREAK
1457             A;
1458             A;OUT: Bei CTRL-STOP: Rueckkehr ins BASIC mit
1459             A;                HL=0 (Fehlercode o Zeilenr)
1460             A;
1461 0ABD E5      ABREAK    push  hl
1462 0ABE 21 0000  A    ld     hl,0
1463 0AC1 CD 0426  A    call  STPTST
1464 0AC4 E1      A    pop   hl
1465 0AC5 C9      A    ret
1466             A;*****
1467             A;BEEPausgabe (Version 2.00 ueber Kanal C mit Low-Frequ.= 55h)
1468             A;
1469 0AC6 3E 00   ABEEP ld   a,0
1470 0AC8 1E 80   A    ld     e,80h ;Bit 6=0 wegen moegl. SVG-Probleme
1471 0ACA CD 0AF7  A    call  MUOTAE
```

```

1472 0ACD 1E 00      A   ld     e,0
1473 0ACF 3C         A   inc     a
1474 0AD0 CD 0AF7    A   call   MUOTAE
1475 0AD3 1E 01      A   ld     e,1      ;Kanal A
1476 0AD5 3E 07      A   ld     a,7
1477 0AD7 CD 0AF7    A   call   MUOTAE
1478 0ADA 1E 07      A   ld     e,7
1479 0ADC 3E 08      A   ld     a,8      ;Lautstaerke 7 fuer A
1480 0ADE CD 0AF7    A   call   MUOTAE
1481 0AE1 01 07D0    A   ld     bc,07D0h
1482 0AE4 CD 0B01    A   call   WAITBC
1483 0AE7 1E 00      A   ld     e,0
1484 0AE9 3E 08      A   ld     a,8      ;Ton aus
1485 0AEB CD 0AF7    A   call   MUOTAE
1486 0AEE 3A FF91    A   LD     A,(BSKENN)
1487 0AF1 CB 4F         A   BIT    1,A
1488 0AF3 C0         A   RET    NZ      ;SCP -> RET
1489 0AF4 C3 08EC    A   JP     MUINIT
1490
1491                A;*****
1492                A;MUsik Out To A mit parameter E
1493 0AF7 F3         AMUOTAE      di
1494 0AF8 D3 A0      A   out    (0A0h),a      ;Reg. anwaehlen
1495 0AFA F5         A   push   af
1496 0AFB 7B         A   ld     a,e          ;Parameter
1497 0AFC D3 A1      A   out    (0A1h),a
1498 0AFE F1         A   pop    af
1499 0AFF FB         A   ei
1500 0B00 C9         A   ret
1501                A;*****
1502                A;WAIT BC-mal
1503                A;
1504 0B01 0B        AWAITBC      dec     bc
1505 0B02 E3         A   ex     (sp),hl
1506 0B03 E3         A   ex     (sp),hl
1507 0B04 78         A   ld     a,b
1508 0B05 B1         A   or     c
1509 0B06 20 F9     A   jr     nz,WAITBC
1510 0B08 C9         A   ret
1511                A;*****
1512                A;Get STICK      Richtungsabfrage
1513                A;
1514                A;IN: A=0 :Tastatur / =1: Joy 1 / = 2: Joy 2
1515                A;OUT:A=Joycode (1..8)
1516                A;   A=0 ,keine Betaetigung
1517                A;
1518 0B09 3D         AGSTICK      dec     a
1519 0B0A FA 0B1B    A   jp     m,STICK4
1520                A;-----
1521 0B0D CD 0B27    A   call   INJOY ;Bit 0-3,A: Richtung
1522 0B10 21 0B54    A   ld     hl,JOYCT
1523 0B13 E6 0F      ASTICK2      and    0FH
1524 0B15 5F         A   ld     e,a
1525 0B16 16 00     A   ld     d,0
1526 0B18 19         A   add    hl,de
1527 0B19 7E         A   ld     a,(hl)
1528 0B1A C9         A   ret
1529                A;=====

```

```
1530 0B1B CD 0B45 ASTICK4 call INKSTA ;Abfrage Cursortasten
1531 0B1E 0F A rrca
1532 0B1F 0F A rrca
1533 0B20 0F A rrca
1534 0B21 0F A rrca
1535 0B22 21 0B64 A ld hl,KSCT
1536 0B25 18 EC A jr STICK2
1537 A;*****
1538 A;INput JOYstick
1539 A;
1540 A;IN: A=0/1: Joy 1/2
1541 A;OUT:Bit 0-3,A: Richtung
1542 A; 4-5,A: Aktionstasten Joy 1
1543 A; 6-7,A: -#- 2
1544 A;
1545 0B27 E6 01 AINJOY and 1
1546 0B29 47 A ld b,a
1547 0B2A F3 A di
1548 0B2B DB 91 A in a,(DPIOB) ;Bit 5,A =0 Joy1 aktiv
1549 0B2D E6 9F A and 9FH ;Bit 6,A =0 Tastatur aus
1550 0B2F 05 A dec b
1551 0B30 FA 0B35 A jp m,INJOY1
1552 0B33 F6 20 A or 20H ;Bit 5,A =1 Joy2 aktiv
1553 0B35 D3 91 AINJOY1 out (DPIOB),a
1554 0B37 3E 00 A ld a,0 ;8 Takte
1555 0B39 DB A9 A in a,(PPIB)
1556 0B3B F5 A push af
1557 0B3C DB 91 A in a,(DPIOB)
1558 0B3E F6 40 A or 40H ;Tastatur ein
1559 0B40 D3 91 A out (DPIOB),a
1560 0B42 F1 A pop af
1561 0B43 FB A ei
1562 0B44 C9 A ret
1563 A;*****
1564 A;INput KurSor-Tasten
1565 A;
1566 A;OUT: A=Tastencode fuer Cursor- und Space-Tasten
1567 A;
1568 0B45 F3 AINKSTA di
1569 0B46 DB AA A in a,(PPIC)
1570 0B48 E6 F0 A and 0F0H
1571 0B4A C6 08 A add a,8
1572 0B4C D3 AA A out (PPIC),a
1573 0B4E E3 A ex (sp),hl
1574 0B4F E3 A ex (sp),hl
1575 0B50 DB A9 A in a,(PPIB)
1576 0B52 FB A ei
1577 0B53 C9 A ret
1578 A;*****
1579 A;JOYCode-Tabelle
1580 A;
1581 0B54 00 AJOYCT defb 0
1582 0B55 05 A defb 5
1583 0B56 01 A defb 1
1584 0B57 00 A defb 0
1585 0B58 07 A defb 7
1586 0B59 06 A defb 6
1587 0B5A 08 A defb 8
```

```
1588 0B5B 07      A   defb   7
1589 0B5C 03      A   defb   3
1590 0B5D 04      A   defb   4
1591 0B5E 02      A   defb   2
1592 0B5F 03      A   defb   3
1593 0B60 00      A   defb   0
1594 0B61 05      A   defb   5
1595 0B62 01      A   defb   1
1596 0B63 00      A   defb   0
1597                A;*****
1598                A;KurSorCode-Tabelle
1599                A;
1600 0B64 00      AKSCT defb   0
1601 0B65 03      A   defb   3
1602 0B66 05      A   defb   5
1603 0B67 04      A   defb   4
1604 0B68 01      A   defb   1
1605 0B69 02      A   defb   2
1606 0B6A 00      A   defb   0
1607 0B6B 03      A   defb   3
1608 0B6C 07      A   defb   7
1609 0B6D 00      A   defb   0
1610 0B6E 06      A   defb   6
1611 0B6F 05      A   defb   5
1612 0B70 08      A   defb   8
1613 0B71 01      A   defb   1
1614 0B72 07      A   defb   7
1615 0B73 00      A   defb   0
1616                A;*****
1617                A;Get STRIG   Abfrage Aktionstaste (A)
1618                A;
1619                A;IN: A=0 : Tastatur (Space)
1620                A;      1 : Joy 1 Knopf 1
1621                A;      2 : Joy 2 Knopf 1
1622                A;      3 : Joy 1 Knopf 2
1623                A;      4 : Joy 2 Knopf 2
1624                A;
1625                A;OUT:A=0 : Aktionstaste (A) nicht gedrueckt
1626                A;      A=FF: sonst
1627                A;
1628 0B74 3D      AGSTRIG   dec   a
1629 0B75 FA 0B8C A   jp     m,STRIG6
1630 0B78 F5      A   push  af
1631 0B79 01 0B93 A   ld    bc,MASKT
1632 0B7C 81      A   add   a,c
1633 0B7D 4F      A   ld    c,a
1634 0B7E 30 01  A   jr    nc,STRIG1
1635 0B80 04      A   inc   b
1636 0B81 0A      ASTRIG1 ld   a,(bc)
1637 0B82 4F      A   ld    c,a ;Maske fuer Aktionstaste
1638 0B83 F1      A   pop   af
1639 0B84 CD 0B27 A   call  INJOY
1640 0B87 A1      A   and   c
1641 0B88 D6 01  ASTRIG4 sub   1
1642 0B8A 9F      A   sbc   a,a
1643 0B8B C9      A   ret
1644 0B8C CD 0B45 ASTRIG6 call  INKSTA
1645 0B8F E6 01  A   and   1
```

```

1646 0B91 18 F5      A    jr      STRIG4
1647                A;-----
1648 0B93 20        AMASKT    defb  20H
1649 0B94 80        A    defb  80H
1650 0B95 10        A    defb  10H
1651 0B96 40        A    defb  40H
1652                A;*****
1653                A;MOTor-Steuerung Kassette
1654                A;
1655                A;IN: A=0 : Aus / =1 : Ein / =FF: Negieren
1656                A;
1657 0B97 A7          AMOTST    and    a
1658 0B98 FA 0BA5    A    jp      m,MOTST6
1659 0B9B 20 03    AMOTST2   jr      nz,MOTST4
1660 0B9D 3E 09    A    ld      a,9
1661 0B9F C2          A    defb  0c2h ;JP NZ,83EH
1662 0BA0 3E 08    AMOTST4   ld      a,8 ; - " -
1663 0BA2 D3 AB    A    out    (PPIM),a
1664 0BA4 C9          A    ret
1665 0BA5 DB AA    AMOTST6   in      a,(PPIC)
1666 0BA7 E6 10    A    and    10H
1667 0BA9 18 F0    A    jr      MOTST2
1668                A;*****
1669                A;Direkte TastenMAtrix-ABFrage
1670                A;
1671                A;IN: A=Spaltenbelegung
1672                A;OUT:A=Zeilenbelegung
1673                A;
1674 0BAB 4F          ADTMABF   ld      c,a
1675 0BAC F3          A    di
1676 0BAD DB AA    A    in      a,(PPIC)
1677 0BAF E6 F0    A    and    0F0H
1678 0BB1 81          A    add    a,c
1679 0BB2 D3 AA    A    out    (PPIC),a
1680 0BB4 E3          A    EX    (SP),HL
1681 0BB5 E3          A    EX    (SP),HL
1682 0BB6 DB A9    A    in      a,(PPIB)
1683 0BB8 FB          A    ei
1684 0BB9 C9          A    ret
1685                A;*****
1686 0BBA 3E FF    AGPAD ld    a,0FFh;nichts gedrueckt
1687 0BBC C9          A    ret
1688 0BBD 3E FF    AGPDL ld    a,0FFh
1689 0BBF C9          A    ret
1690                A;*****
1691                A;Wait und Motor OFF
1692                A;
1693                A;OUT: EI !
1694                A;
1695 0BC0 C5          AWMOFF   push   bc
1696 0BC1 F5          A    push  af
1697 0BC2 01 0000    A    ld    bc,0
1698 0BC5 0B          AWMOFF2  dec    bc
1699 0BC6 78          A    ld    a,b
1700 0BC7 B1          A    or    c
1701 0BC8 20 FB    A    jr      nz,WMOFF2
1702 0BCA F1          A    pop   af
1703 0BCB C1          A    pop   bc

```

```

1704      A;*****
1705      A;Motor OFF
1706      A;
1707      A;OUT: EI !
1708      A;
1709 0BCC F5      AMOFF push  af
1710 0BCD 3E 09   A   ld    a,9
1711 0BCF D3 AB   A   out   (PPIM),a
1712 0BD1 F1      A   pop   af
1713 0BD2 FB      A   ei
1714 0BD3 C9      A   ret
1715      A;*****
1716      A;OUTPUT VorTon
1717      A;
1718      A;IN: A=0 : Kurzer / <>0 : langer Vorton
1719      A;
1720 0BD4 B7      AOUTVT      or    a
1721 0BD5 F5      A   push  af
1722      A;-----
1723 0BD6 3E 08   A   ld    a,8
1724 0BD8 D3 AB   A   out   (PPIM),a      ;Motor on
1725      A;-----
1726 0BDA 21 0000 A   ld    hl,0
1727 0BDD 2B      AOUTVT2    dec   hl
1728 0BDE 7C      A   ld    a,h
1729 0BDF B5      A   or    l
1730 0BE0 20 FB   A   jr    nz,OUTVT2      ;warten
1731      A;-----
1732 0BE2 F1      A   pop   af
1733 0BE3 3A F2A9 A   ld    a,(VOTOL)
1734 0BE6 28 02   A   jr    z,OUTVT4      ;-->kuzer VT
1735 0BE8 87      A   add   a,a
1736 0BE9 87      A   add   a,a      ;langer VT
1737      A;-----
1738 0BEA 47      AOUTVT4    ld    b,a
1739 0BEB 0E 00   A   ld    c,0      ;BC=A*256
1740 0BED F3      A   di
1741 0BEE CD 0C30 AOUTVT6    call  OTHIFR
1742 0BF1 CD 0C22 A   call  OT0BI2 ;UP=RET
1743 0BF4 0B      A   dec   bc
1744 0BF5 78      A   ld    a,b
1745 0BF6 B1      A   or    c
1746 0BF7 20 F5   A   jr    nz,OUTVT6
1747 0BF9 C3 049D A   jp    DSTPTS
1748      A;*****
1749      A;OUTPUT BYTE
1750      A;
1751      A;IN: A=Byte
1752      A;
1753 0BFC 2A F2A5 AOUTBYT    ld    hl,(NUBIFR)
1754 0BFF F5      A   push  af
1755      A;-----
1756 0C00 7D      A   ld    a,l
1757 0C01 D6 0E   A   sub   0EH      ;Korrektur Low-Zeit
1758 0C03 6F      A   ld    l,a
1759 0C04 CD 0C33 A   call  OTPER      ;Startbit ausgeben
1760      A;-----
1761 0C07 F1      A   pop   af

```

```
1762 0C08 06 08      A    ld      b,8
1763 0C0A 0F          AOUTBY2    rrca
1764 0C0B DC 0C23      A    call    c,OT1BI;Bit 0...7
1765 0C0E D4 0C1C      A    call    nc,OT0BI
1766 0C11 10 F7      A    djnz    OUTBY2
1767                A;-----
1768 0C13 CD 0C23      A    call    OT1BI ;2 Stopbits
1769 0C16 CD 0C23      A    call    OT1BI ;ausgeben
1770 0C19 C3 049D      A    jp     DSTPTS
1771                A;*****
1772                A;OuTput 0-BIT
1773                A;
1774                A;1 Periode der niedrigen Frequenz
1775                A;
1776 0C1C 2A F2A5      AOT0BI    ld     hl,(NUBIFR)
1777 0C1F CD 0C33      A    call    OTPER
1778 0C22 C9          AOT0BI2   ret
1779                A;*****
1780                A;OuTput 1-BIT
1781                A;
1782                A;2 Perioden der hohen Frequenz
1783                A;
1784 0C23 CD 0C30      AOT1BI    call   OTHIFR
1785 0C26 E3          A    ex     (sp),hl;60 Takte
1786 0C27 E3          A    ex     (sp),hl
1787 0C28 00          A    nop
1788 0C29 00          A    nop
1789 0C2A 00          A    nop
1790 0C2B 00          A    nop          ; warten
1791 0C2C CD 0C30      A    call    OTHIFR
1792 0C2F C9          A    ret
1793                A;*****
1794                A;OuTput HIGH-Frequenz
1795                A;
1796 0C30 2A F2A7      AOTHIFR   ld     hl,(EIBIFR)
1797                A;*****
1798                A;OuTput 1 PERiode
1799                A;
1800                A;IN: L=LOW-Zeit / H=HIGH-Zeit
1801                A;
1802 0C33 F5          AOTPER    push   af
1803 0C34 2D          AOTPER2   dec    l      ;16*L Takte Low
1804 0C35 C2 0C34      A    jp     nz,OTPER2
1805                A;-----
1806 0C38 3E 0B      A    ld     a,0BH
1807 0C3A D3 AB      A    out    (PPIM),a ;Ausgabe High
1808 0C3C 25          AOTPER4   dec    h      ;16*H Takte High
1809 0C3D C2 0C3C      A    jp     nz,OTPER4
1810                A;-----
1811 0C40 3E 0A      A    ld     a,0AH
1812 0C42 D3 AB      A    out    (PPIM),a ;Ausgabe Low
1813 0C44 F1          A    pop    af
1814 0C45 C9          A    ret
1815                A;*****
1816                A;INput VorTon
1817                A;
1818 0C46 3E 08      AINVT    ld     a,8      ;Motor on
1819 0C48 D3 AB      A    out    (PPIM),a
```



```
1820 0C4A F3      A    di          ;DI !
1821             A;-----
1822 0C4B 21 0457 AINVT10    ld    hl,1111 ;1111 Perioden einlesen
1823             A;-----
1824 0C4E 51      AINVT20    ld    d,c      ;D=letzte Periode
1825 0C4F CD 0D13 A    call    TBPD2 ;Periodendauer auszaehlen
1826 0C52 D8      A    ret     c      ;CTRL-STOP-->RET
1827             A;-----
1828 0C53 79      A    ld     a,c      ;A=jetzige Periode
1829 0C54 FE DE   A    cp     222     ;Absoluttoleranz
1830 0C56 30 F3   A    jr     nc,INVT10 ; 5<=A<222?
1831 0C58 FE 05   A    cp     5
1832 0C5A 38 EF   A    jr     c,INVT10 ; Nein-->
1833             A;-----
1834 0C5C 92      A    sub    d
1835 0C5D 30 02   A    jr     nc,INVT30
1836 0C5F 2F      A    cpl
1837 0C60 3C      A    inc    a
1838 0C61 FE 04   AINVT30    cp     4      ;Gleichlauf
1839 0C63 30 E6   A    jr     nc,INVT10 ; ABS(A-D)<=4?
1840             A;-----
1841 0C65 2B      A    dec    hl      ; ja
1842 0C66 7C      A    ld     a,h
1843 0C67 B5      A    or     l
1844 0C68 20 E4   A    jr     nz,INVT20
1845             A;-----
1846 0C6A 21 0000 A    ld     hl,0
1847 0C6D 45      A    ld     b,l
1848 0C6E 55      A    ld     d,l
1849             A;-----
1850 0C6F CD 0D13 AINVT40    call    TBPD2 ;256 Perioden zum
1851 0C72 D8      A    ret     c      ;Erkennen der
1852 0C73 09      A    add    hl,bc   ;Baud-Rate lesen
1853 0C74 15      A    dec    d
1854 0C75 C2 0C6F A    jp     nz,INVT40
1855             A;-----
1856 0C78 01 06AE A    ld     bc,1710
1857 0C7B 09      A    add    hl,bc
1858 0C7C 7C      A    ld     a,h
1859 0C7D 1F      A    rra
1860 0C7E E6 7F   A    and    7FH     ;a=h/2
1861 0C80 57      A    ld     d,a
1862 0C81 29      A    add    hl,hl
1863 0C82 7C      A    ld     a,h
1864 0C83 92      A    sub    d
1865 0C84 57      A    ld     d,a
1866 0C85 D6 06   A    sub    6      ;Mindestperiodendauer
1867 0C87 32 FC12 A    ld     (VKAIN1),a; fuer Startbit
1868             A;-----
1869 0C8A 7A      A    ld     a,d
1870 0C8B 87      A    add    a,a
1871 0C8C 06 00   A    ld     b,0
1872             A;-----
1873 0C8E D6 03   AINVT50    sub    3
1874 0C90 04      A    inc    b
1875 0C91 30 FB   A    jr     nc,INVT50
1876             A;-----
1877 0C93 78      A    ld     a,b
```

```
1878 0C94 D6 03 A sub 3 ;Zeitfensterbreite
1879 0C96 32 FC13 A ld (VKAIN2),a ;zum Flankenzaehlen
1880 A;-----
1881 0C99 B7 A or a ;CY=0
1882 0C9A C9 A ret
1883 A;*****
1884 A;INput BYTE
1885 A;
1886 A;OUT: A=Byte
1887 A;
1888 0C9B 3A FC12 AINBYTE ld a,(VKAIN1)
1889 0C9E 57 A ld d,a
1890 A;-----
1891 0C9F CD 049D AINBY2 call DSTPTS
1892 0CA2 D8 A ret c ; CTRL-Stop
1893 0CA3 DB 91 A in a,(DPIOB)
1894 0CA5 07 A rlca
1895 0CA6 30 F7 A jr nc,INBY2 ;Warten auf High
1896 A;-----
1897 0CA8 CD 049D AINBY4 call DSTPTS
1898 0CAB D8 A ret c
1899 0CAC DB 91 A in a,(DPIOB)
1900 0CAE 07 A rlca
1901 0CAF 38 F7 A jr c,INBY4 ;Warten auf Low
1902 A;=====
1903 0CB1 1E 00 A ld e,0 ;Startbit mit Low beginnend
1904 0CB3 CD 0CFE A call TBPD1 ;Halbperiode auszaehlen
1905 0CB6 41 AINBY6 ld b,c ;Zaehlwert
1906 0CB7 CD 0CFE A call TBPD1
1907 0CBA D8 A ret c ;CTRL-Stop
1908 0CBB 78 A ld a,b
1909 0CBC 81 A add a,c ;zulaessige Startbitperiodendauer ?
1910 0CBD DA 0CB6 A jp c,INBY6 ;nein - zu gross
1911 0CC0 BA A cp d
1912 0CC1 38 F3 A jr c,INBY6 ;nein - zu klein
1913 A;-----
1914 0CC3 2E 08 A ld l,8 ;8 Datenbit
1915 0CC5 CD 0CE2 AINBY8 call TBFLZ ;Flanken im Zeitfenster zaehlen
1916 0CC8 FE 04 A cp 4
1917 0CCA 3F A ccf
1918 0CCB D8 A ret c
1919 0CCC FE 02 A cp 2 ;2-3 Flanken -> 1-Bit
1920 0CCE 3F A ccf ;0-1 -#- -> 0-Bit
1921 0CCF CB 1A A rr d ;Byte aufbauen
1922 0CD1 79 A ld a,c
1923 0CD2 0F A rrca
1924 0CD3 D4 0D02 A call nc,TBPD12 ;auf 1.bzw. 3. Flanke warten
1925 0CD6 CD 0CFE A call TBPD1 ;auf letzte Flanke warten
1926 0CD9 2D A dec l
1927 0CDA C2 0CC5 A jp nz,INBY8
1928 A;-----
1929 0CDD CD 049D A call DSTPTS
1930 0CE0 7A A ld a,d ;Byte
1931 0CE1 C9 A ret
1932 A;*****
1933 A;TonBand-FLankenanzahl
1934 A;
1935 A;IN: E=Maske fuer Flanke
```

```

1936          A;OUT:A=Flankenzahl
1937          A;   E=/E ,nach jeder Flanke
1938          A;
1939 0CE2 3A FC13  ATBFLZ      ld      a,(VKAIN2)
1940 0CE5 47          A      ld      b,a      ;B=Zaehlzeit
1941 0CE6 0E 00      A      ld      c,0      ;C=Zaehler
1942          A;-----
1943 0CE8 DB 91      ATBFLZ2     in      a,(DPIOB)
1944 0CEA AB          A      xor     e      ;war Flanke ?
1945 0CEB F2 0CF6    A      jp      p,TBFLZ4 ; nein
1946          A;-----
1947 0CEE 7B          A      ld      a,e      ; ja
1948 0CEF 2F          A      cpl
1949 0CF0 5F          A      ld      e,a      ;E=/E
1950          A      ;-----
1951 0CF1 0C          A      inc     c
1952 0CF2 10 F4      A      djnz   TBFLZ2
1953          A;-----
1954 0CF4 79          A      ld      a,c
1955 0CF5 C9          A      ret
1956          A;=====
1957 0CF6 00          ATBFLZ4     nop                ;Zeitschleife
1958 0CF7 00          A      nop
1959 0CF8 00          A      nop
1960 0CF9 00          A      nop
1961 0CFA 10 EC      A      djnz   TBFLZ2
1962          A;-----
1963 0CFC 79          A      ld      a,c
1964 0CFD C9          A      ret
1965          A;*****
1966          A;TonBand-PeriodenDauer 1
1967          A;
1968 0CFE CD 049D    ATBPD1     call   DSTPTS
1969 0D01 D8          A      ret     c
1970          A;*****
1971          A;TonBand-PeriodenDauer 12
1972          A;
1973 0D02 0E 00      ATBPD12    ld      c,0      ;Anfangsstand Zaehler
1974          A;*****
1975          A;TonBand-PeriodenDauer
1976          A;
1977          A;IN: C=Anfangsstand Zaehler
1978          A;   E=Maske fuer Flanke
1979          A;OUT:C=Zaehlergebnis
1980          A;   E=/E wenn Flanke kam
1981          A;
1982 0D04 0C          ATBPD14     inc     c
1983 0D05 28 0A      A      jr      z,TBPD16 ;Uberlauf-->
1984 0D07 DB 91      A      in      a,(DPIOB)
1985 0D09 AB          A      xor     e
1986 0D0A F2 0D04    A      jp      p,TBPD14 ;Warten auf Flanke
1987          A;-----
1988 0D0D 7B          A      ld      a,e
1989 0D0E 2F          A      cpl
1990 0D0F 5F          A      ld      e,a      ;E=/E
1991 0D10 C9          A      ret
1992          A;-----
1993 0D11 0D          ATBPD16     dec     c
    
```

```

1994 0D12 C9      A      ret
1995             A;*****
1996             A;TonBand-PeriodenDauer2
1997             A;
1998             A;OUT:C=Periodendauer
1999             A;
2000 0D13 CD 049D ATBPD2      call  DSTPTS
2001 0D16 D8      A      ret      c      ;CTRL-Stop
2002 0D17 DB 91   A      in      a,(DPIOB)
2003 0D19 07      A      rlca
2004 0D1A 38 F7   A      jr      c,TBPD2 ;Warten auf low
2005             A;-----
2006 0D1C 1E 00   A      ld      e,0      ;Zaehlen
2007 0D1E CD 0D02 A      call  TBPD12 ; Low- u.
2008 0D21 C3 0D04 A      jp      TBPD14 ; High-Zeit
2009             A;*****
2010             A;TastenBEehandlungs-Tabelle
2011             A;
2012 0D24 30      ATABET      DEFB  30H
2013 0D25 09AE   A      DEFW  SOTB
2014 0D27 33     A      DEFB  33H
2015 0D28 094B   A      DEFW  STB
2016 0D2A 34     A      DEFB  34H
2017 0D2B 095A   A      DEFW  CAPSB
2018 0D2D 35     A      DEFB  35H
2019 0D2E 094B   A      DEFW  STB
2020 0D30 3A     A      DEFB  3AH
2021 0D31 0740   A      DEFW  FTB
2022 0D33 3C     A      DEFB  3CH
2023 0D34 094B   A      DEFW  STB
2024 0D36 3D     A      DEFB  3DH
2025 0D37 096A   A      DEFW  STOPB
2026 0D39 41     A      DEFB  41H
2027 0D3A 094B   A      DEFW  STB
2028 0D3C 42     A      DEFB  42H
2029 0D3D 093D   A      DEFW  HOMEB
2030 0D3F FF     A      DEFB  0FFH
2031 0D40 094B   A      DEFW  STB
2032             A;*****
18             INCLUDE BICGAE.Z80
1             A;*****
2             A;Betriebssystem BIC Teil: Bildausgabe
3             A;Bearbeiter: Gaertner EEM
4             A;
5             A; STAND: 23.05.89
6             A; FILE: BICGAE.S
7             A;
8             A;-----
9             A      global CURSS
10            A      global CURSRD
11            A      global JPVER5
12            A      global VHOME
13            A      global BEEP
14            A      global KULIFS
15            A      global VLF
16            A      global CLSTSC
17            A      global VCR
18            A      global CSCRFK

```

```

19      A      global KUREFS
20      A      global CLINFK
21      A      global CLIN
22      A      global KUHO
23      A      global ESC
24      A      global WRZEMU
25      A      global REZEMU
26      A      global AOUTI4
27      A      global AOUTI5
28      A      global SAZLSP
29      A      global ESCF7
30      A      global POP0
31      A      global DEL
32      A      global TGRASC
33      A      global VFTIN2
34      A      global VFTIN6
35      A      global WRMOD
36      A      global FULL
37      A      global STWIND
38      A      global SELSCR
39      A      global KEYON
40      A      global KEYOFF
41      A      external      ERINT
42      A;*****
43      A;Adressen Videobereiche fuer F-Tastenbelegung
44      A;
45      FF40    AVFKEY1      equ      0FF40h
46      FF90    AVFKEY6      equ      0FF90h
47      A;*****
48      0001    A      COND    ZDS OR K4
49      0098    AFLAGR      EQU      98H
50      A      ENDC
51      0000    A      COND    CGG
52      A      ENDC
53      0098    APARAP      EQU      FLAGR
54      0099    AREADP      EQU      FLAGR+1
55      0099    ACOMNP      EQU      READP
56      009C    AVISDAT     EQU      FLAGR+4
57      009D    AVISMOD     EQU      VISDAT+1
58      009E    AVISADD     EQU      VISMOD+1
59      A;-----
60      0000    AVRESET     EQU      0
61      004C    AFIGS EQU    4CH
62      0049    ACURS EQU    49H
63      00E0    ACURD EQU    0E0H
64      0047    APITCH     EQU      47H
65      006F    AVSYNC     EQU      6FH
66      0046    AZOOM EQU    46H
67      0070    APRAM EQU    70H
68      006B    ASTART     EQU      6BH
69      004B    ACCHAR     EQU      4BH
70      00A0    ARDATWO    EQU      0A0H
71      0020    AWDATWO    EQU      20H
72      004A    AMASK EQU    4AH
73      000E    ASYNC EQU    0EH
74      A;*****
75      A; Initialisierungswerte der VIS-Register
76      0D42    00    AVISIW      defb    0      ;Reg.0 Normalmodus
77

```

```
78 0D43 66      A   defb   66h   ;Reg.6 Pal.farbe 3
79 0D44 54      A   defb   54h   ;Reg.5 Pal.farbe 2
80 0D45 42      A   defb   42h   ;Reg.4 Pal.farbe 1
81 0D46 30      A   defb   30h   ;Reg.3 Paperfarbe schwarz
82 0D47 20      A   defb   20h   ;Reg.2 Borderfarbe schwarz
83 0D48 12      A   defb   12h   ;Reg.1 40 Zeichen,ZG-Manipulation aus
84              A;-----
85              A;Synchronisationsparameter
86 0D49 0E      ABS400A   DEFB   SYNC   ;40 Zeichen pro Zeile 200 FS-Zeilen
87 0D4A 08      A   DEFB   8
88 0D4B 14      A   DEFB   14H
89 0D4C 26      A   DEFB   26H
90 0D4D C1      A   DEFB   0C1H
91 0D4E 13      A   DEFB   13H
92 0D4F 0C      A   DEFB   0CH
93 0D50 29      A   DEFB   29H
94 0D51 C8      A   DEFB   0C8H
95 0D52 A4      A   DEFB   0A4H
96 0D53 47      A   DEFB   PITCH
97 0D54 01      A   DEFB   1
98 0D55 28      A   DEFB   40
99 0D56 4B      A   DEFB   CCHAR   ;1 Zeile = 8 FS-Zeilen
100 0D57 03     A   DEFB   3       ;Kursor stehend 1.bis 8. FS-Zeile
101 0D58 87     AINICHR  DEFB   87H
102 0D59 A0      A   DEFB   0A0H
103 0D5A 39     A   DEFB   39H
104 0D5B 6F     A   DEFB   VSYNC   ;GDC in Mastermode
105 0D5C 00     A   DEFB   0
106 0D5D 46     A   DEFB   ZOOM    ;ZOOM ist 0
107 0D5E 01     A   DEFB   1
108 0D5F 00     A   DEFB   0
109 0D60 70     A   DEFB   PRAM    ;Bildbereich 1 ab Adresse 0 , 200 FS-Zeilen
110 0D61 04     A   DEFB   4
111 0D62 0000   A   DEFW   0
112 0D64 80     A   DEFB   80H
113 0D65 0C     A   DEFB   0CH
114 0D66 49     A   DEFB   CURS    ;Kursor auf Adresse 0
115 0D67 03     A   DEFB   3
116 0D68 0000   A   DEFW   0
117 0D6A 00     A   DEFB   0
118 0D6B 4A     A   DEFB   MASK    ;Maske FFFF alle Bits beschreiben
119 0D6C 02     A   DEFB   2
120 0D6D FFFF   A   DEFW   0FFFFH
121 0D6F 4C     A   DEFB   FIGS    ;Screibrichtung 2 Anzahl 4000H-1 (Textbereich)
122 0D70 03     A   DEFB   3
123 0D71 02     A   DEFB   2
124 0D72 3FFF   A   DEFW   3FFFH
125 0D74 20     A   DEFB   WDATWO  ;Schreiben SPACE,gelb auf schwarz
126 0D75 02     A   DEFB   2
127 0D76 20     A   DEFB   20H
128 0D77 06     A   DEFB   6
129 0D78 4C     A   DEFB   FIGS    ;s.o. (1.Grafikbereich)
130 0D79 03     A   DEFB   3
131 0D7A 02     A   DEFB   2
132 0D7B 3FFF   A   DEFW   03FFFH
133 0D7D 20     A   DEFB   WDATWO  ;Schreiben Farbe 0 (Paper)
134 0D7E 02     A   DEFB   2
135 0D7F 0000   A   DEFW   0
```

```

136 0D81 4C      A   DEFB   FIGS   ;s.o. (2.Grafikbereich)
137 0D82 03      A   DEFB   3
138 0D83 02      A   DEFB   2
139 0D84 3FFF    A   DEFW   03FFFF
140 0D86 20      A   DEFB   WDATWO ;s.o.
141 0D87 02      A   DEFB   2
142 0D88 0000    A   DEFW   0
143 0D8A 4C      A   DEFB   FIGS   ;s.o. (3.Grafikbereich)
144 0D8B 03      A   DEFB   3
145 0D8C 02      A   DEFB   2
146 0D8D 3FFF    A   DEFW   03FFFF
147 0D8F 20      A   DEFB   WDATWO ;s.o.
148 0D90 02      A   DEFB   2
149 0D91 0000    A   DEFW   0
150 0D93 49      A   DEFB   CURS   ;Kursor auf Adresse 0
151 0D94 03      A   DEFB   3
152 0D95 0000    A   DEFW   0
153 0D97 00      A   DEFB   0
154 0D98 4A      A   DEFB   MASK   ;s.o.
155 0D99 02      A   DEFB   2
156 0D9A FFFF    A   DEFW   0FFFFH
157 0D9C 6B      A   DEFB   START  ;GDC in Anzeigemodus
158 0D9D 00      A   DEFB   0
159
A;*****
160
A;Initialisierungswerte RAM fuer 40 Zeichenmodus
161
A;
162 0D9E 01      ABPA1IW   defb   1
163 0D9F 28      A   defb   40
164 0DA0 01      A   defb   1
165 0DA1 19      A   defb   25
166 0DA2 01      A   defb   1
167 0DA3 01      A   defb   1
168 0DA4 0E      A   defb   14
169 0DA5 0028    A   defw   40
170
A;
171
A;Initialisierungswerte RAM fuer 80 Zeichenmodus
172
A;
173 0DA7 01      ABPA2IW   defb   1
174 0DA8 50      A   defb   80
175 0DA9 01      A   defb   1
176 0DAA 19      A   defb   25
177 0DAB 01      A   defb   1
178 0DAC 01      A   defb   1
179 0DAD 38      A   defb   56
180 0DAE 0050    A   defw   80
181
A;
182
A;*****
183
A;Synchronisationsparameter fuer verschiedene Modi
184 0DB0 26      AISYBE1   defb   26h
185 0DB1 C1      A   defb   0C1h
186 0DB2 13      A   defb   13h
187 0DB3 0C      A   defb   0Ch
188
A;-----
189 0DB4 4E      A   defb   4Eh
190 0DB5 C3      A   defb   0C3h
191 0DB6 27      A   defb   27h
192 0DB7 19      A   defb   19h
193
A;-----

```

```
194 0DB8 26      A   defb   26h
195 0DB9 C1      A   defb   0C1h
196 0DBA 13      A   defb   13h
197 0DBB 0A      A   defb   0Ah
198             A;-----
199 0DBC 4E      A   defb   4Eh
200 0DBD C3      A   defb   0C3h
201 0DBE 2B      A   defb   2Bh
202 0DBF 14      A   defb   14h
203             A;-----
204 0DC0 14      AISYBE2      defb   14h
205 0DC1 FA      A   defb   0FAh
206 0DC2 2C      A   defb   2Ch
207             A;-----
208 0DC3 29      AISYBE3      defb   29h
209 0DC4 C8      A   defb   0C8h
210 0DC5 A4      A   defb   0A4h
211             A;-----
212 0DC6 00      ACHRSTD      defb   0       ;Initwert fuer SZFLAG
213 0DC7 09      A           defb   09       ;Init.werte fuer Zeichen und Cursor
214 0DC8 07      A   defb   07
215 0DC9 A0      A   defb   0A0h
216 0DCA 84      A   defb   84h
217 0DCB 39      A   defb   39h
218             A;-----
219             A;UP zum Test Slot mit ZG
220 0DCC D3 A8    AINZGUP      out   (PPIA),a
221 0DCE ED 5B 0010#A ld   de,(ZG+10h)
222 0DD2 21 7F3E A   ld   hl,7F3Eh
223 0DD5 E7      A   rst   20h   ;CPREG
224 0DD6 C9      A   ret
225             A;Initialisierung Bilschirmanzeige
226             A;-----
227 0DD7 CD FDF4 ABSINIT      call  XBSINI
228 0DDA F3      A   di
229 0ddb 3E 90    A   ld   a,90h       ;SCP-ROM zuschalten
230 0DDD CD 0DCC A   call  INZGUP
231 0DE0 28 0B    A   jr   z,BSINI1
232 0DE2 3E 80    A   ld   a,80h
233 0DE4 CD 0DCC A   call  INZGUP
234 0DE7 28 04    A   jr   z,BSINI1
235 0DE9 3E B0    A   ld   a,0B0h
236 0DEB D3 A8    A   out  (PPIA),a
237 0DED 21 0000# ABSINI1      LD   HL,ZG       ;ZG LADEN
238 0DF0 0E 9C    A   LD   C,VISDAT
239 0DF2 3E 13    A   LD   A,13H
240 0DF4 D3 9D    A   OUT  (VISM0D),A   ;ZG-MANIPULATION EIN
241 0DF6 AF      A   XOR  A           ;ZAEHLER 256
242 0DF7 D3 9E    AINITZG      OUT  (VISADD),A   ;ZG-ADRESSE
243 0DF9 06 08    A   LD   B,8
244 0DFB ED B3    A   OTIR
245 0DFD 3C      A   INC  A
246 0DFE 20 F7    A   JR   NZ,INITZG
247 0E00 3E A0    A   ld   a,0A0h       ;SCP-ROM abschalten
248 0E02 D3 A8    A   out  (PPIA),a
249             A;-----
250 0E04 0C      AINIVIS      INC   C           ;VIS PROGAMMIEREN
251 0E05 21 0D42 A   LD   HL,VISIW
```



```
252 0E08 06 07      A    LD      B,BS400A-VISIW
253 0E0A ED B3      A    OTIR
254 0E0C 2B        A    dec     hl
255 0E0D 7E        A    ld      a,(hl)
256 0E0E 32 FC20   A    ld      (VIREG1),a
257                A;-----
258 0E11 21 0D4A   AINIGDC LD      HL,BS400A+1 ;Synchronisationsparameter
259 0E14 E5        A    push   hl
260 0E15 1E 13    A    LD      E,19 ;ANZAHL DER KOMMANDOS
261 0E17 AF        A    XOR     A
262 0E18 D3 99    A    out    (COMNP),a ;VRESET
263 0E1A CD 0E3B  A    CALL   IGDCU3
264 0E1D FB        A    EI
265 0E1E E1        A    pop    hl
266 0E1F 2B        A    dec     hl
267 0E20 11 F2C5  A    ld      de,SYNBER
268 0E23 01 0012  A    ld      bc,18
269 0E26 ED B0    A    ldir
270 0E28 01 0006  A    ld      bc,6 ;Initial. Zeichen- und Cursorwerte
271 0E2B 11 FFD3  A    ld      de,SZFLAG ;und SZFLAG
272 0E2E 21 0DC6  A    ld      hl,CHRSTD
273 0E31 ED B0    A    ldir
274 0E33 C3 171B  A    jp     CLSTS3 ;ZLSTAT INIT.
275                A;-----
276                A; GDC-KOMMANDOS ABARBEITEN
277                A; IN: HL ADR.SPEICHEN KOMMANDOS UND PARAMETER
278                A; E ANZAHL DER KOMMANDOS
279                A;
280 0E36 7E        AIGDCU0 LD      A,(HL) ;Kommandobyte in A
281 0E37 CD 1F8F   AIGDCU1 CALL   COMND ;Kommando an GDC
282 0E3A 23        A    INC    HL
283 0E3B 46        AIGDCU3 LD      B,(HL) ;Anzahl der Parameter in B
284 0E3C 23        A    INC    HL
285 0E3D 05        A    DEC    B
286 0E3E 04        A    INC    B
287 0E3F 28 03    A    JR     Z,IGDCU2 ;keine Parameter
288 0E41 CD 1F9D   A    CALL   PARAM0 ;Parameter an GDC
289 0E44 1D        AIGDCU2 DEC    E ;Anzahl der Kommandos -1
290 0E45 20 EF    A    JR     NZ,IGDCU0
291 0E47 C9        A    RET     ;alle Kommandos fertig
292                A;*****
293                A; SELEct SCReen
294                A; IN: bc Screennr./seite aktiv
295                A; de Screennr./seite visuell
296                A; OUT af s=m FC-ERROR s=p i.o.
297                A;-----
298 0E48 F3        ASELSCR di
299 0E49 CD 1259   A    call   TGRASC
300 0E4C DC 102D  A    call   c,TXRET ;Parameter Textmodus retten
301 0E4F D5        A    push   de
302 0E50 50        A    ld      d,b
303 0E51 59        A    ld      e,c
304 0E52 CD 1020   A    call   REMASK ;Maske auf 0FFFFh
305 0E55 2A F272  A    ld      hl,(PAGEAK)
306 0E58 E7        A    rst    20h
307 0E59 28 45    A    jr     z,SELSC6 ;aktive Seite bleibt
308 0E5B EB        A    ex     de,hl
309 0E5C 22 F272  A    ld      (PAGEAK),hl
```

```
310 0E5F 7C      A      ld      a,h
311 0E60 F5      A      push   af
312 0E61 21 0FB9 A      ld      hl,SCAKTA-2
313 0E64 0E 07   A      ld      c,7
314 0E66 CD 1451 A      call   JPVER5      ;Routine fuer Aktiven Screen anspringen
315           A;-----
316           A; Speicherbereich loeschen, falls in
317           A; anderem Modus verwendet
318 0E69 F1      A      pop    af
319 0E6A FE 04   A      cp     4
320 0E6C 28 32   A      jr     z,SELSC6      ;Plotter
321 0E6E E6 F7   A      and   0F7h      ; 8,9 --> 0,1
322 0E70 F5      A      push   af
323 0E71 21 F7F4 A      ld      hl,TBXT      ;Tabelle der Statusbytes fuer Textseiten
324 0E74 FE 02   A      cp     2
325 0E76 38 03   A      jr     c,SELSC2
326 0E78 21 F804 A      ld      hl,TBXT+16      ;          -"- fuer Grafikseiten
327 0E7B E6 01   ASELSC2 and   1      ; Modus 0,2 oder 1,3,5 ?
328 0E7D 06 00   A      ld      b,0
329 0E7F 3A F272 A      ld      a,(PAGEAK)
330 0E82 28 16   A      jr     z,SELSC5
331 0E84 CB 27   A      sla   a      ;Modus 1,3,5 Seitenzahl*2
332 0E86 4F     A      ld      c,a      ;bc: Seitenzahl*2
333 0E87 09     A      add   hl,bc
334 0E88 F1      A      pop    af      ;a: aktueller Modus
335 0E89 BE     A      cp     (hl)
336 0E8A 28 08   A      jr     z,SELSC4      ;Modus stimmt
337 0E8C 77     A      ld      (hl),a      ;neuen Modus laden
338 0E8D 23     A      inc   hl      ;naechster Speicherbereich
339 0E8E 77     ASELSC3 ld      (hl),a      ;neuen Modus laden
340 0E8F CD 16F6 A      call  CLSASC
341 0E92 18 0C   A      jr     SELSC6      ;fertig
342 0E94 23     ASELSC4 inc   hl      ;naechster Speicherbereich
343 0E95 BE     A      cp     (hl)
344 0E96 20 F6   A      jr     nz,SELSC3      ;2. Bereich stimmt nicht
345 0E98 18 06   A      jr     SELSC6      ;Modus stimmt ->fertig
346 0E9A 4F     ASELSC5 ld      c,a      ;Modus 0,2
347 0E9B 09     A      add   hl,bc
348 0E9C F1      A      pop    af      ;a: aktueller Modus
349 0E9D BE     A      cp     (hl)
350 0E9E 20 EE   A      jr     nz,SELSC3      ;Modus stimmt nicht
351           A;-----
352           A; visuellen Modus und Seite einstellen
353 0EA0 D1     ASELSC6 pop    de
354 0EA1 2A F270 A      ld      hl,(PAGEVI)
355 0EA4 E7      A      rst   20h
356 0EA5 CA 0F9D A      jp     z,SELSC9      ;visuelle Seite bleibt
357 0EA8 EB     A      ex    de,hl
358 0EA9 22 F270 A      ld      (PAGEVI),hl
359 0EAC DB 98   ASELSC7 in    a,(FLAGR)      ;warten auf Vertikalsynchronisation
360 0EAE E6 20   A      and   20h
361 0EB0 20 FA   A      jr     nz,SELSC7
362 0EB2 DB 98   ASEL71  in    a,(FLAGR)
363 0EB4 E6 20   A      and   20h
364 0EB6 28 FA   A      jr     z,SELS71
365 0EB8 7C     A      ld      a,h
366 0EB9 BA     A      cp     d
367 0EBA CA 0F98 A      jp     z,SELSC8      ;Modus bleibt nur Seite aendern
```

```
368 0EBD 3E 0C      A    ld    a,0Ch          ;Bildschirm dunkel
369 0EBF CD 1F8F    A    call  COMND
370 0EC2 7C        A    ld    a,h
371                          A;-----Routine fuer visuellen Modus
372                          A;                               IN: a Modus
373 0EC3 F5        ASCREVI  push  af
374 0EC4 11 F2C8    A    ld    de,SYNBER+3
375 0EC7 01 0004    A    ld    bc,4
376 0ECA 21 0DB0    A    ld    hl,ISYBE1
377 0ECD 1F        A    rra
378 0ECE F5        A    push  af
379 0ECF 3E 12     A    ld    a,12h
380 0ED1 30 03     A    jr    nc,SCREV0      ;40 Zeichen
381 0ED3 09        A    add   hl,bc          ;80 Zeichen
382 0ED4 3D        A    dec   a
383 0ED5 3D        A    dec   a
384 0ED6 D3 9D     ASCREV0  out    (VISMOD),a      ;Frequenz vom VIS einstellen
385 0ED8 32 FC20    A    ld    (VIREG1),a
386 0EDB 3A FC1A    A    ld    a,(MONSW)
387 0EDE A7          A    and   a
388 0EDF 28 02     A    jr    z,SCREV1      ;TV
389 0EE1 09        A    add   hl,bc
390 0EE2 09        A    add   hl,bc          ;Monitor
391 0EE3 ED B0     ASCREV1  ldir
392 0EE5 F1        A    pop  af
393 0EE6 3E 50     A    ld    a,80          ;PITCH-Parameter
394 0EE8 38 01     A    jr    c,SCREV2
395 0EEA 0F        A    rrca          ;40 Zeichen
396 0EEB 32 F2D1    ASCREV2  ld    (SYNBER+12),a
397 0EEE F1        A    pop  af            ;a : visueller Modus
398 0EEF CD 125C    A    call  TGRAS1        ;Modus-Test
399 0EF2 21 F2D4    A    ld    hl,PCHAR
400 0EF5 30 21     A    jr    nc,SCREV4      ;Grafik-Modus
401 0EF7 E6 08     A    and   8            ;Test auf Abstand
402 0EF9 F5        A    push  af
403 0EFA CD 1259    A    call  TGRASC        ;Grafikmodus aktiv
404 0EFD 3E 00     A    ld    a,0
405 0EFF 30 08     A    jr    nc,SCREV3      ;Kursor immer aus
406 0F01 3A FC17    A    ld    a,(CURSW)
407 0F04 A7          A    and   a
408 0F05 28 02     A    jr    z,SCREV3      ;Kursor aus
409 0F07 3E 80     A    ld    a,80h        ;Kursor ein
410 0F09 77        ASCREV3  ld    (hl),a
411 0F0A F1        A    pop  af
412 0F0B 28 1F     A    jr    z,SCREV6
413 0F0D 3A FFD4    A    ld    a,(CURS00)    ;mit Abstand
414 0F10 B6        A    or   (hl)
415 0F11 E5        A    push  hl
416 0F12 21 0DC0    A    ld    hl,ISYBE2      ;Parameter mit Abstand
417 0F15 E3        A    ex   (sp),hl
418 0F16 18 1D     A    jr    SCREV7
419 0F18 FE 05     ASCREV4  cp    5
420 0F1A 3E 01     A    ld    a,1          ;Hochaufloesend
421 0F1C 20 01     A    jr    nz,SCREV5
422 0F1E 3C        A    inc  a            ;Multicolor
423 0F1F F5        ASCREV5  push  af
424 0F20 AF        A    xor  a
425 0F21 77        A    ld    (hl),a      ;PCHAR laden
```

```
426 0F22 23      A    inc    hl
427 0F23 77      A    ld     (hl),a
428 0F24 23      A    inc    hl
429 0F25 77      A    ld     (hl),a
430 0F26 21 0DC3  A    ld     hl,ISYBE3      ;Parameter Grafik
431 0F29 F1        A    pop    af
432 0F2A 18 20     A    jr     SCREV9
433 0F2C 3A FFD5   ASCREV6 ld     a,(CURSO1)      ;ohne Abstand
434 0F2F B6          A    or     (hl)
435 0F30 E5          A    push   hl
436 0F31 21 0DC3  A    ld     hl,ISYBE3      ;Parameter ohne Abstand
437 0F34 E3          A    ex     (sp),hl
438 0F35 77      ASCREV7 ld     (hl),a          ;1. PCHAR-Parameter
439 0F36 23      A    inc    hl
440 0F37 3A FFD6   A    ld     a,(CURSO2)
441 0F3A 77      A    ld     (hl),a
442 0F3B 3A FC18   A    ld     a,(CURGK)
443 0F3E A7            A    and    a
444 0F3F 28 04     A    jr     z,SCREV8      ;Normalkursor
445 0F41 3A FFD7   A    ld     a,(CURSO3)
446 0F44 77      A    ld     (hl),a          ;Kleinkursor blinkend
447 0F45 23      ASCREV8 inc    hl
448 0F46 3A FFD8   A    ld     a,(CURSO4)
449 0F49 77      A    ld     (hl),a
450 0F4A E1        A    pop    hl
451 0F4B AF        A    xor    a          ;Textmodus
452 0F4C D3 9D     ASCREV9 out    (VISM0D),a      ;VIS-Register 0
453 0F4E 32 FC1F   A    ld     (VIREG0),a
454 0F51 01 0003  A    ld     bc,3
455 0F54 ED B0     A    ldir           ;Parameter laden ab SYNBER+7
456 0F56 21 F2C5  A    ld     hl,SYNBER
457 0F59 1E 03     A    ld     e,3
458 0F5B CD 0E36  A    call   IGDCU0      ;1. 3 Synchr.befehle ausgeben
459                A;-----
460 0F5E 2A F270   ASCREVSX ld     hl,(PAGEVI)
461 0F61 7C        A    ld     a,h
462 0F62 CD 125C   A    call   TGRAS1
463 0F65 F5        A    push   af
464 0F66 D4 1073  A    call   nc,GVRMBE      ;Grafik
465 0F69 F1        A    pop    af
466 0F6A F5        A    push   af
467 0F6B DC 105E  A    call   c,VRAMBE      ;Text Anf.adr. BWS berechnen
468 0F6E 22 F26C  A    ld     (VVRAM),hl
469 0F71 22 F2B5  A    ld     (PPARAM),hl
470 0F74 21 F2B7  A    ld     hl,PPARAM+2
471 0F77 F1        A    pop    af
472 0F78 FE 08     A    cp     8
473 0F7A 38 07     A    jr     c,SCREVSX
474 0F7C 36 A0     A    ld     (hl),0a0h
475 0F7E 23      A    inc    hl
476 0F7F 36 0F     A    ld     (hl),0fh      ;250 Bildschirmzeilen
477 0F81 18 05     A    jr     SCREVSZ
478 0F83 36 80     ASCREVSX ld     (hl),80h
479 0F85 23      A    inc    hl
480 0F86 36 0C     A    ld     (hl),0ch      ;200 Bildschirmzeilen
481 0F88 06 04     ASCREVSZ ld     b,4
482 0F8A CD 1F95  A    call   PARAM2
483 0F8D 3E 0D     A    ld     a,0Dh          ;Bildschirm hell
```

```
484 0F8F CD 1F8F A call COMND
485 0F92 CD 1191 A call VFTINI ;F-Tasten initialisieren
486 0F95 C3 1200 A jp BKEYAN
487 A;-----
488 0F98 CD 0F9D ASELSC8 call SELSC9 ;Kursuorbehandlung
489 0F9B 18 C1 A jr SCREVS
490 A;-----
491 A; Kursor stellen, wenn nur aktive Seite anders
492 0F9D CD 1259 ASELSC9 call TGRASC
493 0FA0 30 0D A jr nc,SELSCA ;Grafik Kursor immer aus
494 0FA2 3A FC17 A ld a,(CURSW) ;Text Kursor entsprechen Kursorschalter
495 0FA5 A7 A and a
496 0FA6 28 07 A jr z,SELSCA ;Kursor aus
497 0FA8 3A F2D4 A ld a,(PCHAR) ;Kursor ein
498 0FAB F6 80 A or 80h
499 0FAD 18 05 A jr SELSCB
500 0FAF 3A F2D4 ASELSCA ld a,(PCHAR)
501 0FB2 E6 7F A and 7Fh
502 0FB4 32 F2D4 ASELSCB ld (PCHAR),a
503 0FB7 E5 A push hl
504 0FB8 C3 156E A jp KURES3
505 A;-----
506 0FBB 00 ASCAKTA defb 0 ;Tabelle der Ansprungadressen fuer Routinen
507 0FBC 0FF1 A defw SCREA0 ;bei aktivem Screen
508 0FBE 01 A defb 1
509 0FBF 0FF6 A defw SCREA1
510 0FC1 02 A defb 2
511 0FC2 1088 A defw SCREA2
512 0FC4 03 A defb 3
513 0FC5 1093 A defw SCREA3
514 0FC7 05 A defb 5
515 0FC8 107D A defw SCREA5
516 0FCA 08 A defb 8
517 0FCB 0FF1 A defw SCREA0
518 0FCD 09 A defb 9
519 0FCE 0FF6 A defw SCREA1
520 A;*****
521 A;Umschaltung Monitor <--> TV
522 0FD0 3A FC1A AMONCTR ld a,(MONSW)
523 0FD3 EE 01 A xor 1
524 0FD5 32 FC1A A ld (MONSW),a
525 0FD8 2A F270 A ld hl,(PAGEVI)
526 0FDB 16 04 A ld d,4
527 0FDD C3 0EAC A jp SELSC7
528 A;***** aktive Seite einstellen
529 0FE0 21 0D9E ASCREU0 ld hl,BPA1IW ;Bildparameter 40 Zeichen
530 0FE3 18 03 A jr SCREU7
531 0FE5 21 0DA7 ASCREU1 ld hl,BPA2IW ;Bildparameter 80 Zeichen
532 0FE8 11 F263 ASCREU7 ld de,SPFIRS
533 0FEB 01 0009 A ld bc,9
534 0FEE ED B0 A ldir
535 0FF0 C9 A ret
536 A;-----
537 0FF1 CD 0FE0 ASCREA0 call SCREU0
538 0FF4 18 03 A jr SCREA7
539 0FF6 CD 0FE5 ASCREA1 call SCREU1
540 0FF9 2A F2D7 ASCREA7 ld hl,(PATXAK) ;h SCRNTX
541 0FFC BC A cp h
```

```
542 0FFD F5      A      push   af
543 0FFE 21 F266  A      ld      hl,ZLLAST
544 1001 3A F285  A      ld      a,(FKTANZ) ; 0 - keyoff -1 - keyon
545 1004 86      A      add     a,(hl) ; +25 standard
546 1005 77      A      ld      (hl),a
547 1006 2A F272  ASCREA8 ld     hl,(PAGEAK) ;letzten Textmodus
548 1009 2C      A      inc     l
549 100A 2D      A      dec     l
550 100B 20 03     A      jr     nz,SCREA9 ;nur wenn Seite 0
551 100D 22 F2D7  A      ld      (PATXAK),hl ;merken
552 1010 CD 105E  ASCREA9 call  VRAMBE
553 1013 22 F26E  A      ld      (AVRAM),hl
554 1016 CD 1786  A      call   CURSS ;Kursor auf Bildanfang
555 1019 CD 1020  A      call   REMASK
556 101C F1      A      pop     af
557 101D 28 29     A      jr     z,TXLAD ;alter Textscr. wieder aktiv
558 101F C9      A      ret
559
A;-----
560 1020 21 FFFF  AREMASK ld     hl,0FFFFH
561 1023 22 F2B5  A      ld      (PPARAM),hl
562 1026 06 02     A      ld      b,2
563 1028 3E 4A     A      ld      a,MASK
564 102A C3 1F97  A      jp     PARAM3 ;Maske fuer Text auf FFFF
565
A;-----
566
A;zeilenstatus u. kursorpos. fuer TeXtmodus (seite 0) RETten
567 102D 3A F272  ATXRET ld     a,(PAGEAK)
568 1030 A7      A      and     a
569 1031 C0      A      ret     nz ;nicht Kommandoseite
570 1032 C5      A      push   bc
571 1033 D5      A      push   de
572 1034 2A F267  A      ld      hl,(CRSZL)
573 1037 22 F2D9  A      ld      (CRSTX),hl
574 103A 21 FA8E  A      ld      hl,ZLSTAT
575 103D 11 FAA7  A      ld      de,ZLSTTX
576 1040 01 0019  A      ld      bc,25
577 1043 ED B0     A      ldir
578 1045 D1      A      pop     de
579 1046 C1      A      pop     bc
580 1047 C9      A      ret
581
A;-----
582
A;zeilenstatus u. kursorpos. fuer TeXtmodus (seite 0) LADen
583 1048 3A F272  ATXLAD ld     a,(PAGEAK)
584 104B A7      A      and     a
585 104C C0      A      ret     nz ;nicht Seite 0
586 104D 21 FAA7  A      ld      hl,ZLSTTX
587 1050 11 FA8E  A      ld      de,ZLSTAT
588 1053 01 0019  A      ld      bc,25
589 1056 ED B0     A      ldir
590 1058 2A F2D9  A      ld      hl,(CRSTX)
591 105B C3 15AD  A      jp     SAZLSP ;Kursor auf alte Position
592
A;-----
593 105E 45      AVRAMBE ld     b,l ; b Seitennr.
594 105F 7C      A      ld      a,h ; c Screennr.
595 1060 21 0000  A      ld      hl,0
596 1063 11 0400  A      ld      de,400h
597 1066 04      AVRAMB0 inc     b
598 1067 05      A      dec     b
599 1068 C8      A      ret     z ; Seite 0
```

```
600 1069 EB      A      ex      de,hl
601 106A 1F      A      rra
602 106B 30 01     A      jr      nc,VRAMB1
603 106D 29      A      add     hl,hl ;Screen 1 bzw. 3,5
604 106E EB      AVRAMB1    ex      de,hl
605 106F 19      AVRAMB2    add     hl,de
606 1070 10 FD     A      djnz    VRAMB2
607 1072 C9      A      ret
608
A;*****:
609 1073 45      AGVRMBE    ld      b,l ;l Seitennr.
610 1074 7C      A      ld      a,h ;h Screennr.
611 1075 21 4000  A      ld      hl,4000h ;Anfang Grafik-RAM
612 1078 11 2000  A      ld      de,2000h
613 107B 18 E9     A      jr      VRAMB0
614
A;*****:
615 107D 21 0140  ASCREA5    ld      hl,320
616 1080 22 F27E  A      ld      (PVIEW2),hl
617 1083 21 0050  A      ld      hl,80
618 1086 18 14     A      jr      SCREA4
619 1088 21 0140  ASCREA2    ld      hl,320
620 108B 22 F27E  A      ld      (PVIEW2),hl
621 108E 21 0028  A      ld      hl,40
622 1091 18 09     A      jr      SCREA4
623 1093 21 0280  ASCREA3    ld      hl,640
624 1096 22 F27E  A      ld      (PVIEW2),hl
625 1099 21 0050  A      ld      hl,80
626 109C 22 F26A  ASCREA4    ld      (WIDTH),hl
627 109F 2A F272  A      ld      hl,(PAGEAK)
628 10A2 CD 1073  A      call   GVRMBE
629 10A5 22 F26E  A      ld      (AVRAM),hl
630
A;-----
631 10A8 CD 1786  AREGRKU    call   CURSS ;Grafikkursor links unten
632 10AB 06 14     A      ld      b,20
633 10AD 21 FC2D  A      ld      hl,XALT
634 10B0 36 00     AREGRK1    ld      (hl),0
635 10B2 23      A      inc     hl
636 10B3 10 FB     A      djnz    REGRK1
637 10B5 C9      A      ret
638
A;-----
639
A;SET BORderfarbe
640
A;
641 10B6 E6 0F     ASETBOR    and     0Fh
642 10B8 F6 20     A      or      20h ;VIS-Register 2
643 10BA 32 FC21  A      ld      (VIREG2),a
644 10BD D3 9D     ASETB01    out     (VIMOD),a
645 10BF C9      A      ret
646
A;-----
647
A;SET PAPERfarbe
648
A;
649 10C0 E6 0F     ASETPAP    and     0Fh
650 10C2 F6 30     A      or      30h ;VIS-Register 3
651 10C4 32 FC22  A      ld      (VIREG3),a
652 10C7 18 F4     A      jr      SETB01
653
A;-----
654
A;SET PALette
655
A;
656 10C9 E5      ASETPAL    push    hl
657 10CA 21 F274  A      ld      hl,PAL11
```

```

658 10CD 1F      A    rra
659 10CE 30 03   A    jr    nc,SETPA1      ;gerade --> Pal.1
660 10D0 21 F277 A    ld    hl,PAL21      ;ungerade --> Pal.2
661 10D3 06 03   ASETPA1 ld    b,3
662 10D5 0E 9D   A    ld    c,VISMOD
663 10D7 ED B3   A    otir
664 10D9 D5      A    push  de
665 10DA 2B      A    dec   hl
666 10DB 01 0003 A    ld    bc,3
667 10DE 11 FC25 A    ld    de,VIREG6
668 10E1 ED B8   A    lddr                      ;Palette merken
669 10E3 D1      A    pop   de
670 10E4 E1      A    pop   hl
671 10E5 C9      A    ret
672      A;-----
673 10E6 73 63 72 65ASTFTAT defm  'screen '
674 10ED 0000    A    defw  0
675 10EF 0000    A    defw  0
676 10F1 0000    A    defw  0
677 10F3 0000    A    defw  0
678 10F5 00      A    defb  0
679      A;
680 10F6 15      A    defb  15h
681 10F7 61 75 74 6FA defm  'auto '
682 10FC 0000    A    defw  0
683 10FE 0000    A    defw  0
684 1100 0000    A    defw  0
685 1102 0000    A    defw  0
686 1104 0000    A    defw  0
687      A;
688 1106 15      A    defb  15h
689 1107 6C 6F 61 64A defm  'load"'
690 110C 0000    A    defw  0
691 110E 0000    A    defw  0
692 1110 0000    A    defw  0
693 1112 0000    A    defw  0
694 1114 0000    A    defw  0
695      A;
696 1116 15      A    defb  15h
697 1117 6C 69 73 74A defm  'list '
698 111C 0000    A    defw  0
699 111E 0000    A    defw  0
700 1120 0000    A    defw  0
701 1122 0000    A    defw  0
702 1124 0000    A    defw  0
703      A;
704 1126 15      A    defb  15h
705 1127 72 75 6E   A    defm  'run'
706 112A 0D      A    defb  0Dh
707 112B 00      A    defb  0
708 112C 0000    A    defw  0
709 112E 0000    A    defw  0
710 1130 0000    A    defw  0
711 1132 0000    A    defw  0
712 1134 0000    A    defw  0
713      A;
714 1136 15      A    defb  15h
715 1137 63 6F 6C 6FA defm  'color 6,0,0 '

```



```
716 1143 0D      A      defb  0Dh
717 1144 0000    A      defw   0
718                A;
719 1146 15      A      defb  15h
720 1147 66 69 6C 65A defm  'files'
721 114C 0D      A      defb  0Dh
722 114D 00      A      defb  0
723 114E 0000    A      defw   0
724 1150 0000    A      defw   0
725 1152 0000    A      defw   0
726 1154 0000    A      defw   0
727                A;
728 1156 15      A      defb  15h
729 1157 73 61 76 65A defm  'save"'
730 115C 0000    A      defw   0
731 115E 0000    A      defw   0
732 1160 0000    A      defw   0
733 1162 0000    A      defw   0
734 1164 0000    A      defw   0
735                A;
736 1166 15      A      defb  15h
737 1167 6C 69 73 74A defm  'list.'
738 116C 0D      A      defb  0Dh
739 116D 1E      A      defb  1Eh
740 116E 1E      A      defb  1Eh
741 116F 00      A      defb  0
742 1170 0000    A      defw   0
743 1172 0000    A      defw   0
744 1174 0000    A      defw   0
745                A;
746 1176 15      A      defb  15h
747 1177 72 75 6E   A      defm  'run'
748 117A 0000    A      defw   0
749 117C 0000    A      defw   0
750 117E 0000    A      defw   0
751 1180 0000    A      defw   0
752 1182 0000    A      defw   0
753 1184 0000    A      defw   0
754                A;-----
755                A;FunktionsTasten INItialisierung
756                A;
757 1186 01 00A0   AFTINI      ld      bc,160
758 1189 11 F746   A      ld      de,FKEY1
759 118C 21 10E6   A      ld      hl,STFTAT
760 118F ED B0     A      ldir
761                A;-----
762                A;Videobereich fuer FTasten INItialisieren
763                A;
764 1191 CD 1797   AVFTINI     call   CURSRD
765 1194 E5         A      push   hl
766 1195 06 07     A      ld      b,7
767 1197 3A F271   A      ld      a,(SCRNRV)
768 119A 0F         A      rrca
769 119B 30 02     A      jr      nc,VFTIN1      ;40 Zeichen Screen
770 119D CB 10     A      rl      b              ;80 Zeichen Screen
771 119F 0E 05     AVFTIN1    ld      c,5              ;5 F-Tasten
772 11A1 C5         A      push   bc
773 11A2 21 FF40   A      ld      hl,VFKEY1      ;Videobereich 1
```

```
774 11A5 11 F746 A ld de,FKEY1
775 11A8 CD 11BA A call VFTIN2
776 11AB C1 A pop bc
777 11AC 21 FF90 A ld hl,VFKEY6 ;Videobereich 2
778 11AF 11 F796 A ld de,FKEY6
779 11B2 CD 11BA A call VFTIN2
780 11B5 E1 A pop hl
781 11B6 CD 1786 A call CURSS
782 11B9 C9 A ret
783 A;-----
784 11BA CD 1786 AVFTIN2 call CURSS ;Kursor auf Anfang Videobereich
785 11BD D5 A push de
786 11BE C5 A push bc
787 11BF EB A ex de,hl
788 11C0 CD FDB3 AVFTIN7 call XVFTIN
789 11C3 CD 177D AVFTIN3 call WRMOD
790 11C6 7E AVFTIN4 ld a,(hl)
791 11C7 23 A inc hl
792 11C8 CD 1272 A call CHRTST
793 11CB 30 F9 A jr nc,VFTIN4 ;GCH
794 11CD 20 05 A jr nz,VFTIN5 ;2. Grafikbyte
795 11CF FE 20 A cp 20h
796 11D1 30 01 A jr nc,VFTIN5 ;kein Steuerzeichen
797 11D3 AF A xor a
798 11D4 D3 98 AVFTIN5 out (PARAP),a
799 11D6 CD 1FA7 A call FULL
800 11D9 3A F291 A ld a,(ACTCOL)
801 11DC D3 98 A out (PARAP),a
802 11DE 10 E3 A djnz VFTIN3
803 11E0 0E 00 AVFTIN6 ld c,0 ;Leerzeichen
804 11E2 47 A ld b,a ;Farbcode
805 11E3 CD 1772 A call CHRTS0 ;F-Taste mit 0 abschliessen
806 11E6 C1 A pop bc
807 11E7 E1 A pop hl
808 11E8 0D A dec c
809 11E9 C8 A ret z ;5 F-Tasten fertig
810 11EA 11 0010 A ld de,16
811 11ED 19 A add hl,de
812 11EE E5 A push hl
813 11EF C5 A push bc
814 11F0 18 CE A jr VFTIN7
815 A;-----
816 A;KEYanzeige OFF
817 A;
818 11F2 CD FDD6 AKEYOFF call XKEYOF
819 11F5 E5 A push hl
820 11F6 AF A xor a
821 11F7 CD 1251 A call SFATGS ;Test Grafikscreen
822 11FA F3 A di
823 11FB CD 0F5E A call SCREVS ;nein
824 11FE E1 A pop hl
825 11FF C9 A ret
826 A;-----
827 A;Bedingte KEYanzeige
828 A;
829 1200 3A F285 ABKEYAN ld a,(FKTANZ)
830 1203 A7 A and a
831 1204 28 49 A jr z,KEYON4
```

```
832          A;-----
833          A;KEYanzeige ON
834          A;
835 1206 CD FDD1 AKEYON      call   XKEYON
836 1209 F3      A      di
837 120A 3E FF   A      ld    a,0FFh
838 120C CD 1251 A      call  SFATGS
839 120F D0      A      ret   nc    ;Grafikscreen
840 1210 E5      A      push  hl
841 1211 2A F26C A      ld    hl,(VVRAM)
842 1214 22 F2B5 A      ld    (PPARAM),hl ;Bildbereich 1
843 1217 21 F2B7 A      ld    hl,PPARAM+2
844 121A 3A F271 A      ld    a,(SCRNRV)
845 121D FE 08   A      cp    8
846 121F 38 07   A      jr    c,KEYON1    ;Screen 0 und 1
847 1221 36 00   A      ld    (hl),0
848 1223 23      A      inc   hl
849 1224 36 0F   A      ld    (hl),0Fh    ;240 FS-Zeilen
850 1226 18 05   A      jr    KEYON2
851 1228 36 00   AKEYON1  ld    (hl),0
852 122A 23      A      inc   hl
853 122B 36 0C   A      ld    (hl),0Ch    ;192 FS-Zeilen
854 122D 3A FADF AKEYON2  ld    a,(ASTAMT)
855 1230 0F      A      rrca
856 1231 11 FF40 A      ld    de,VFKEY1
857 1234 3E 01   A      ld    a,1          ;kein Shift
858 1236 38 04   A      jr    c,KEYON3
859 1238 11 FF90 A      ld    de,VFKEY6
860 123B AF      A      xor   a          ;Shift
861 123C 32 FAC3 AKEYON3  ld    (FTSHI),a
862 123F 23      A      inc   hl          ;2.Bildbereich
863 1240 73      A      ld    (hl),e
864 1241 23      A      inc   hl
865 1242 72      A      ld    (hl),d    ;Anfangsadr. entsprechend Shift-Taste
866 1243 23      A      inc   hl
867 1244 36 A0   A      ld    (hl),0A0h
868 1246 23      A      inc   hl
869 1247 36 00   A      ld    (hl),0    ;10 FS-Zeilen
870 1249 06 08   A      ld    b,8
871 124B CD 1F95 A      call  PARAM2
872 124E E1      A      pop   hl
873 124F FB      AKEYON4  ei
874 1250 C9      A      ret
875          A;-----
876          A;Set FktAnz und Test GrafikScreen
877          A;IN : A 0/FF
878          A;
879 1251 32 F285 ASFATGS  ld    (FKTANZ),a
880 1254 3A F271 ATGRASV  ld    a,(SCRNRV)
881 1257 18 03   A      jr    TGRAS1
882          A;-----
883          A;Test ,ob Grafik-Bs
884          A; OUT: NC Grafik (2,3,4,5)
885 1259 3A F273 ATGRASC  ld    a,(SCRNRA)
886 125C FE 02   ATGRAS1  cp    2
887 125E D8      A      ret   c          ;0,1
888 125F FE 06   A      cp    6
889 1261 3F      A      ccf
```

```
890 1262 C9      A      ret
891             A;*****
892             A;KURSOR POSITIONIEREN
893             A; IN: HL SPALTE,ZEILE
894             A;
895 1263 3E 1B    A      ACRSPOS      LD      A,1BH
896 1265 DF      A      rst      18h
897 1266 3E 59    A      LD      A,59H
898 1268 DF      A      rst      18h
899 1269 7D      A      LD      A,L
900 126A C6 1F    A      ADD     A,1FH
901 126C DF      A      rst      18h
902 126D 7C      A      LD      A,H
903 126E C6 1F    A      ADD     A,1FH
904 1270 DF      A      rst      18h
905 1271 C9      A      RET
906             A;*****
907             A;CHaRacterTeST
908             A;
909             A;IN: A:Zeichen
910             A;OUT: NC/ Z, wenn A=GCH (01H)
911             A;      C/NZ, wenn A=2.Grafbyte und A=A-40H
912             A;      NC/NZ, sonst
913             A;
914 1272 E5      ACHRTST      push   hl
915 1273 F5      A      push   af
916 1274 21 FC14 A      ld      hl,GCHSW
917 1277 AF      A      xor     a
918 1278 BE      A      cp     (hl)
919 1279 77      A      ld     (hl),a
920 127A 28 0D    A      jr     z,CHRT6
921 127C F1      A      pop    af
922 127D D6 40    A      sub    40H
923 127F FE 20    A      cp     20H
924 1281 38 04    A      jr     c,CHRT4
925 1283 C6 40    A      add    a,40H
926 1285 BF      ACHRT2      cp     a
927 1286 37      A      scf
928 1287 E1      ACHRT4      pop    hl
929 1288 C9      A      ret
930 1289 F1      ACHRT6      pop    af
931 128A FE 01    A      cp     1
932 128C 20 F7    A      jr     nz,CHRT2
933 128E 77      A      ld     (hl),a
934 128F E1      A      pop    hl
935 1290 C9      A      ret
936             A;*****
937             A;INput BC-mal zeichen aus bws in DE ff.
938             A;
939             A; in: hl bwsadresse bc anzahl(max.127) de zielpuffer
940             A;
941             A;-----
942 1291 41      AINBCDE      ld     b,c
943 1292 0E 98    A      ld     c,PARAP
944 1294 DB 98    AINBC1      in     a,(FLAGR)
945 1296 E6 04    A      and    4      ;FIFO leer ?
946 1298 28 FA    A      jr     z,INBC1 ;nein
947 129A 3E 49    A      ld     a,CURS  ;ja
```

```
948 129C D3 99      A    out    (COMNP),a
949 129E ED 69      A    out    (c),l
950 12A0 ED 61      A    out    (c),h          ;Kursor setzen
951 12A2 3E 4C      A    ld     a,FIGS
952 12A4 D3 99      A    out    (COMNP),a
953 12A6 3E 02      A    ld     a,2          ;Richtung 2
954 12A8 D3 98      A    out    (PARAP),a
955 12AA ED 41      A    out    (c),b
956 12AC AF         A    xor    a
957 12AD D3 98      A    out    (PARAP),a    ;Anzahl an GDC
958 12AF CB 20      A    sla   b          ;Anzahl*2
959 12B1 0E 99      A    ld     c,READP
960 12B3 EB         A    ex    de,hl       ;Zieladresse in hl
961 12B4 DB 98      AINBC2    in     a,(FLAGR)
962 12B6 E6 04      A    and   4          ;FIFO leer - bereit fuer Leserichtung ?
963 12B8 28 FA      A    jr    z,INBC2    ;nein
964 12BA 3E A0      A    ld     a,RDATWO
965 12BC D3 99      A    out    (COMNP),a
966 12BE DB 98      AINBC3    in     a,(FLAGR)
967 12C0 E6 01      A    and   1          ;Daten bereit ?
968 12C2 28 FA      A    jr    z,INBC3    ;nein
969 12C4 ED A2      A    ini
970 12C6 20 F6      A    jr    nz,INBC3   ;weitere Bytes lesen
971 12C8 C9         A    ret
972                A;-----
973                A; OuT BC-mal zeichen an bws aus quellpuffer DE
974                A;
975                A; in: hl bws-adresse bc anzahl(max.127) de quellpuffer
976                A;
977                A;-----
978 12C9 DB 98      AOTBCDE   in     a,(FLAGR)    ;FIFO leer ?
979 12CB E6 04      A    and   4
980 12CD 28 FA      A    jr    z,OTBCDE   ;nein
981 12CF 3E 49      A    ld     a,CURS
982 12D1 D3 99      A    out    (COMNP),a
983 12D3 41         A    ld     b,c
984 12D4 0E 98      A    ld     c,PARAP
985 12D6 ED 69      A    out    (c),l
986 12D8 ED 61      A    out    (c),h
987 12DA EB         A    ex    de,hl
988 12DB CB 20      A    sla   b          ;Anzahl*2
989 12DD 3E 20      A    ld     a,WDATWO
990 12DF D3 99      A    out    (COMNP),a
991 12E1 DB 98      AOTBC1    in     a,(FLAGR)
992 12E3 E6 02      A    and   2          ;FIFO voll ?
993 12E5 20 FA      A    jr    nz,OTBC1   ;ja
994 12E7 ED A3      A    outi
995 12E9 20 F6      A    jr    nz,OTBC1   ;weitere Bytes
996 12EB C9         A    ret
997                A;-----
998                A; OuT BC-mal Zeichen aus
999                A; IN: bc Anzahl (max 127)
1000               A;    a Zeichen
1001               A;    hl Adresse VIDEO-RAM
1002 12EC 41         AOUTBCA   ld     b,c
1003 12ED 4F         A    ld     c,a
1004 12EE CD 1786    A    call  CURSS
1005 12F1 CB 20      A    sla   b
```

```

1006 12F3 3E 20      A    ld      a,WDATWO
1007 12F5 CD 1F8F    A    call    COMND
1008 12F8 DB 98      AOUTBC1 in      a,(FLAGR)
1009 12FA E6 02      A    and     2
1010 12FC 20 FA      A    jr      nz,OUTBC1
1011 12FE 79         A    ld      a,c
1012 12FF D3 98      A    out     (PARAP),a
1013 1301 10 F5      A    djnz   OUTBC1
1014 1303 C9         A    ret
1015                A;*****
1016                A;REad ZEichenMUster
1017                A;
1018 1304 4F         AREZEMU    ld      c,a
1019 1305 3E         A    defb   3eh
1020 1306 AF         AWRZEMU    xor     a
1021 1307 F5         A    push   af
1022 1308 F3         A    di
1023 1309 DB 98      AREZEM0    in      a,(FLAGR)
1024 130B E6 20      A    and     20h
1025 130D 28 FA      A    jr      z,REZEM0
1026 130F 3A FC20    A    ld      a,(VIREG1)
1027 1312 F6 01      A    or      1          ;ZG-Manipulation ein
1028 1314 D3 9D      A    out     (VISM0D),a
1029 1316 79         A    ld      a,c
1030 1317 D3 9E      A    out     (VISADD),a
1031 1319 F1         A    pop    af
1032 131A B7         A    or      a
1033 131B 06 08      A    ld      b,8
1034 131D 20 06      A    jr      nz,REZEM1
1035 131F 0E 9C      A    ld      c,VISDAT
1036 1321 ED B3      A    otir
1037 1323 18 09      A    jr      ZEMU2
1038 1325 11 FBAA    AREZEM1    ld      de,ZEIPUF
1039 1328 DB 9C      AREZEM2    in      a,(VISDAT)
1040 132A 12         A    ld      (de),a
1041 132B 13         A    inc    de
1042 132C 10 FA      A    djnz   REZEM2
1043 132E 3A FC20    AZEMU2     ld      a,(VIREG1)
1044 1331 D3 9D      A    out     (VISM0D),a
1045 1333 FB         A    ei
1046 1334 C9         A    ret
1047                A;*****
1048                A;Get CHAracter Address
1049                A;
1050                A; in : HL spalte/zeile
1051                A; out: HL bws-adresse      de uv
1052                A;-----
1053 1335 25         AGCHAD     dec     h
1054 1336 2D         A    dec     l
1055 1337 06 00      A    ld      b,0
1056 1339 4C         A    ld      c,h          ;BC Spalte-1
1057 133A C5         A    push   bc
1058 133B 60         A    ld      h,b          ;HL Zeile-1
1059 133C 3A F273    A    ld      a,(SCRNRA)
1060 133F 1F         A    rra
1061 1340 30 01      A    jr      nc,GCHAD1
1062 1342 29         A    add    hl,hl
1063 1343 29         AGCHAD1    add    hl,hl
    
```

```
1064 1344 29      A      add      hl,hl
1065 1345 29      A      add      hl,hl
1066 1346 4D      A      ld       c,l
1067 1347 44      A      ld       b,h
1068 1348 29      A      add      hl,hl
1069 1349 29      A      add      hl,hl
1070 134A 09      A      add      hl,bc
1071 134B C1      A      pop      bc
1072 134C 09      A      add      hl,bc
1073 134D ED 4B F26E A      ld       bc,(AVRAM)
1074 1351 09      A      add      hl,bc
1075 1352 C9      A      ret
1076              A;-----
1077              A; Get Line ATtribut und ADresse
1078              A;
1079              A; in: l zeile
1080              A; out: a attribut de adresse
1081              A;
1082              A;-----
1083 1353 E5      AGLATAD      push    hl
1084 1354 11 FA8D A      ld       de,ZLSTAT-1
1085 1357 26 00    A      ld       h,0
1086 1359 19      A      add      hl,de
1087 135A 7E      A      ld       a,(hl)
1088 135B EB      A      ex       de,hl
1089 135C E1      A      pop      hl
1090 135D A7      A      and      a
1091 135E C9      A      ret
1092              A;-----
1093 135F 3E      ASEZL defb   3eh
1094 1360 AF      AREZL defb   0afh
1095              A;-----
1096 1361 F5      ASLIAT      push    af
1097 1362 CD 1353 A      call    GLATAD
1098 1365 F1      A      pop      af
1099 1366 12      A      ld       (de),a
1100 1367 C9      A      ret
1101              A;-----
1102              A;ReaD from VideoRaM
1103              A;in: hl VRAMAdresse
1104              A;out: b Farbcode c=a Zeichencode hl,de uv
1105 1368 D5      ARDVRM      push    de
1106 1369 11 1371 A      ld       de,RDVRM1
1107 136C D5      A      push    de
1108 136D E5      A      push    hl
1109 136E C3 1729 A      jp      CHRAS1
1110 1371 D1      ARDVRM1    pop     de
1111 1372 FB      A      ei
1112 1373 C9      A      ret
1113              A;-----
1114              A;WRite To VideoRaM
1115              A;in: hl VRAMAdresse b Farbcode c Zeichencode
1116              A;out: hl,de uv
1117 1374 4F      AWRTVRM      ld     c,a
1118 1375 D5      AWRTVR1      push   de
1119 1376 E5      A      push    hl
1120 1377 CD 1797 A      call    CURSRD
1121 137A E3      A      ex     (sp),hl
```

```
1122 137B 11 1384 A ld de,WRTVR2 ;Ruecksprungadr. kellern
1123 137E D5 A push de
1124 137F E5 A push hl
1125 1380 C5 A push bc
1126 1381 C3 1760 A jp CHRTS1
1127 1384 E3 AWRTVR2 ex (sp),hl
1128 1385 CD 1786 A call CURSS
1129 1388 E1 A pop hl
1130 1389 D1 A pop de
1131 138A FB A ei
1132 138B C9 A ret
1133 A;-----
1134 A;Einstellung Monitor- oder TV-Modus
1135 A;
1136 138C F5 AMONTV push af ;a=0 von SCP a=0FFh von RBASIC
1137 138D 3A F726 A ld a,(SLCTRL)
1138 1390 FE 94 A cp 94h ;alter VIS !!!!!!!!!!!!!!!
1139 1392 06 00 A ld b,0
1140 1394 CA 1399 A jp z,MONTV4
1141 1397 06 08 A ld b,8
1142 1399 DB 78 AMONTV4 in a,(78h) ;Adressbyte fuer Vernetzung (DSE-typisch)
1143 139B E6 80 A and 80h
1144 139D 28 03 A jr z,MONTV1
1145 139F AF A xor a ;a=0
1146 13A0 18 01 A jr MONTV2 ;DSE nicht angeschlossen -> TV-Modus
1147 13A2 3C AMONTV1 inc a ;a=1
1148 13A3 32 FC1A AMONTV2 ld (MONSW),a ;Monitormodus
1149 13A6 F1 A pop af
1150 13A7 A7 A and a
1151 13A8 20 01 A jr nz,MONTV3 ;RBASIC ->SCREEN0/8
1152 13AA 04 A inc b ;SCP -> SCREEN1/9
1153 13AB 50 AMONTV3 ld d,b
1154 13AC 0E 00 A ld c,0
1155 13AE 59 A ld e,c
1156 13AF C3 0E48 A jp SELSCR
1157 A;-----
1158 A;LAsT TeXTModus einstellen
1159 13B2 CD 1259 ALATXTM call TGRASC
1160 13B5 D8 A ret c ;bereits Textscreen eingestellt
1161 13B6 ED 4B F2D7 A ld bc,(PATXAK)
1162 13BA ED 5B F270 A ld de,(PAGEVI)
1163 13BE CD FDF9 A call XLATXM
1164 13C1 C3 0E48 ALATXT1 jp SELSCR
1165 A;-----
1166 A;KOMmandoSCReen einstellen (letzter textmodus seite 0)
1167 13C4 3A F2D8 AKOMSCR ld a,(SCRNTX)
1168 13C7 47 A ld b,a
1169 13C8 57 A ld d,a
1170 13C9 0E 00 A ld c,0
1171 13CB 59 A ld e,c
1172 13CC 18 F3 A jr LATXT1
1173 A;-----
1174 A;Screen entsprechend Ansprungadr. Seite 0
1175 13CE 3E 00 ASSCR0 ld a,0
1176 13D0 01 A defb 1
1177 13D1 3E 01 ASSCR1 ld a,1
1178 13D3 01 A defb 1
1179 13D4 3E 02 ASSCR2 ld a,2
```



```

1180 13D6 01      A   defb   1
1181 13D7 3E 03    ASSCR3   ld     a,3
1182 13D9 01      A   defb   1
1183 13DA 3E 08    ASSCR8   ld     a,8
1184 13DC 01      A   defb   1
1185 13DD 3E 09    ASSCR9   ld     a,9
1186 13DF 47      A   ld     b,a
1187 13E0 57      A   ld     d,a
1188 13E1 0E 00     A   ld     c,0
1189 13E3 59      A   ld     e,c
1190 13E4 CD 0E48   A   call  SELSCR
1191 13E7 C3 16F6     A   jp     CLSASC
1192
1193             A;*****
1194             A;OUTput A-reg in SScreen
1195 13EA F3      AOUTASC   di
1196 13EB E5      A   push  hl
1197 13EC D5      A   push  de
1198 13ED C5      A   push  bc
1199 13EE F5      A   push  af
1200 13EF CD FDFE   A   call  XOUASC
1201
1202             A;-----
1202 13F2 CD 1259   A   call  TGRASC
1203 13F5 30 0C     A   jr     nc,POP1
1204
1205             A;-----
1205 13F7 F1      A   pop   af
1206 13F8 F5      A   push  af
1207 13F9 CD 1409   A   call  AOUTIK
1208
1209             A;-----
1209 13FC 3A F268   APOP0 ld     a,(CRSSP)
1210 13FF 3D      A   dec   a
1211 1400 32 F527   A   ld     (CRSSPI),a
1212
1213             A;-----
1213 1403 F1      APOP1 pop  af
1214 1404 C1      APOP2 pop  bc
1215 1405 D1      A   pop  de
1216 1406 E1      A   pop  hl
1217 1407 FB      A   ei
1218 1408 C9      A   ret
1219
1220             A;*****
1220             A;A-reg-OUTput und Inc Cursor
1221
1222 1409 CD 1272   AAOUTIK   call  CHTST
1223 140C D0      A   ret   nc ;A=GCH-->RET
1224
1225             A;-----
1225 140D 4F      A   ld   c,a
1226 140E 20 0D   A   jr   nz,AOUTI5 ;A=2.Grafbyte-->
1227
1228             A;-----
1228 1410 21 FC15   A   ld   hl,ESCSW
1229 1413 7E      A   ld   a,(hl)
1230 1414 A7      A   and  a ;ESC-Folge?
1231 1415 C2 14CD   A   jp   nz,ESCFB ;Ja-->
1232
1233             A;-----
1233 1418 79      A   ld   a,c
1234 1419 FE 20   AAOUTST   cp    20H ;Steuerzeichen?
1235 141B 38 2F   A   jr   c,JPVER ; Ja-->JPVER
1236
1237             A;-----
1237 141D 2A F267   AAOUTI5   ld   hl,(CRSZL) ;HL=Spalte/Zeile
    
```

```

1238 1420 FE 7F      A    cp      7FH
1239 1422 CA 169F    A    jp      z,DEL ;A=DEL-->DEL
1240                A;-----
1241 1425 3A F291    AAOUTI4     LD      A,(ACTCOL)
1242 1428 47          A    LD      B,A
1243 1429 CD 1772    A    call    CHRST0
1244 142C 3A F264    A    LD      A,(SPLAST)
1245 142F BC         A    CP      H
1246 1430 28 05     A    JR      Z,AOUTI6
1247 1432 24        A    INC     H
1248 1433 22 F267    A    LD      (CRSZL),HL
1249 1436 C9        A    RET
1250                A;-----
1251 1437 CD 1360    AAOUTI6     call    REZL ;ZEILENSTATUS 0 -- FORTSETZUNG
1252 143A 3A F263    A    ld      a,(SPFIRS)
1253 143D 67          A    ld      h,a ;Spalte=1
1254 143E CD 15A5    AVLF call    KURU
1255 1441 C0         A    ret     nz ;Kein Bildende-->RET
1256                A;-----
1257 1442 CD 15AD    A    call    SAZLSP
1258 1445 3A F265    A    ld      a,(ZLFIRS)
1259 1448 6F          A    ld      l,a
1260 1449 C3 15EA    A    jp      BIHORO
1261                A;*****
1262                A;JP-VERteiler
1263                A;
1264                A;IN: A:Byte
1265                A;OUT: NC/NZ/M, wenn nicht gefunden
1266                A;      NC/ Z/P, wenn UP abgearbeitet
1267                A;
1268 144C 21 1465    AJPVER     ld      hl,VT1-2 ;Tabadr in HL
1269 144F 0E 0E     A    ld      c,0EH ;Tablaenge in C
1270                A;-----
1271 1451 23          AJPVER5     inc     hl
1272 1452 23          A    inc     hl
1273 1453 A7            A    and     a
1274 1454 0D          A    dec     c ;Tabende?
1275 1455 F8          A    ret     m ; Ja-->RET
1276                A;-----
1277 1456 BE          A    cp      (hl) ;Gefunden?
1278 1457 23          A    inc     hl
1279 1458 20 F7      A    jr      nz,JPVER5 ; Nein-->
1280                A;-----
1281 145A 4E          A    ld      c,(hl)
1282 145B 23          A    inc     hl
1283 145C 46          A    ld      b,(hl) ;BC=UP-Adr
1284 145D 2A F267    A    ld      hl,(CRSZL) ;HL=Spalte/Zeile
1285 1460 CD 1465    A    call    JPBC
1286 1463 AF          A    xor     a
1287 1464 C9        A    ret
1288                A;-----
1289 1465 C5          AJPBC push    bc
1290 1466 C9        A    ret     ;JP (BC)
1291                A;*****
1292 1467 07          AVT1  DEFB   7
1293 1468 0AC6       A    DEFW   BEEP
1294 146A 08          A    DEFB   8
1295 146B 1585       A    DEFW   KULIFS
    
```

```

1296 146D 09      A   DEFB   9
1297 146E 15BD    A   DEFW   TAB
1298 1470 0A      A   DEFB   0AH
1299 1471 143E    A   DEFW   VLF
1300 1473 0B      A   DEFB   0BH
1301 1474 15DD    A   DEFW   VHOME
1302 1476 0C      A   DEFB   0CH
1303 1477 16FC    A   DEFW   CLSTSC
1304 1479 0D      A   DEFB   0DH
1305 147A 15E1    A   DEFW   VCR
1306 147C 1B      A   DEFB   1BH
1307 147D 14C7    A   DEFW   ESC
1308 147F 1C      A   DEFB   1CH
1309 1480 159D    A   DEFW   KUREFS
1310 1482 1D      A   DEFB   1DH
1311 1483 1585    A   DEFW   KULIFS
1312 1485 1E      A   DEFB   1EH
1313 1486 158D    A   DEFW   KUHO
1314 1488 1F      A   DEFB   1FH
1315 1489 15A5    A   DEFW   KURU
1316 148B 17      A   DEFB   17H
1317 148C 15CB    A   DEFW   STWIND
1318 148E 18      A   DEFB   18H
1319 148F 0FD0    A   DEFW   MONCTR
1320                A;*****
1321 1491 6A      AESCT DEFB   6AH
1322 1492 16FC    A   DEFW   CLSTSC
1323 1494 45      A   DEFB   45H
1324 1495 16FC    A   DEFW   CLSTSC
1325 1497 4B      A   DEFB   4BH
1326 1498 16B5    A   DEFW   CLINFK
1327 149A 4A      A   DEFB   4AH
1328 149B 16DF    A   DEFW   CSCRFK
1329 149D 6C      A   DEFB   6CH
1330 149E 16B1    A   DEFW   CLIN
1331 14A0 4C      A   DEFB   4CH
1332 14A1 1643    A   DEFW   INSZL
1333 14A3 4D      A   DEFB   4DH
1334 14A4 15E7    A   DEFW   DELZL
1335 14A6 59      A   DEFB   59H
1336 14A7 14C4    A   DEFW   ESCGY
1337 14A9 41      A   DEFB   41H
1338 14AA 158D    A   DEFW   KUHO
1339 14AC 42      A   DEFB   42H
1340 14AD 15A5    A   DEFW   KURU
1341 14AF 43      A   DEFB   43H
1342 14B0 157D    A   DEFW   KUREFL
1343 14B2 44      A   DEFB   44H
1344 14B3 1595    A   DEFW   KULIFL
1345 14B5 48      A   DEFB   48H
1346 14B6 15DD    A   DEFW   VHOME
1347 14B8 78      A   DEFB   78H
1348 14B9 14BE    A   DEFW   ESCX
1349 14BB 79      A   DEFB   79H
1350 14BC 14C1    A   DEFW   ESKY
1351                A;*****
1352 14BE 3E 01    AESCX ld   a,1
1353 14C0 01      A   DEFB   1
    
```

```

1354 14C1 3E      AESCKY      DEFB      3EH
1355 14C2 02      A          DEFB      2
1356 14C3 01      A          DEFB      1
1357 14C4 3E      AESCGY      DEFB      3EH
1358 14C5 04      A          DEFB      4
1359 14C6 01      A          DEFB      1
1360 14C7 3E      AESC        DEFB      3EH
1361 14C8 FF      A          DEFB      0FFH
1362 14C9 32 FC15    A          ld        (ESCSW),a
1363 14CC C9      A          ret
1364          A;-----
1365          A;ESCX      LD A,1
1366          A; LD      BC,23EH
1367          A;ESC1     LD      BC,43EH
1368          A;ESC2     LD      BC,0FF3EH
1369          A;ESC3     LD      (ESCSW),A
1370          A; RET
1371          A;ESCKY    LD      A,2
1372          A; JR     ESC1
1373          A;ESCGY    LD      A,4
1374          A; JR     ESC2
1375          A;ESC LD  A,0FFH
1376          A; JR     ESC3
1377          A;*****
1378          A;ESCAPEfolge-Behandlung
1379          A;
1380          A;IN: HL:ESCSW / C:Zeichen nach ESC /A:Steuerbyte (1,2,3,4,FF)
1381          A;
1382 14CD F2 14DB    AESCFB      jp      p,ESCF1 ;ESC x/Y/y-->ESCF1
1383          A;-----
1384 14D0 36 00    A          ld        (hl),0
1385 14D2 79      A          ld        a,c
1386 14D3 21 148F  A          ld        hl,ESCT-2
1387 14D6 0E 0F    A          ld        c,15
1388 14D8 C3 1451    A          jp      JPVER5
1389          A;-----
1390 14DB 3D      AESCF1      dec     a
1391 14DC 28 27    A          jr      z,ESCF3
1392          A;-----
1393 14DE 3D      A          dec     a
1394 14DF 28 2E    A          jr      z,ESCF4
1395          A;-----
1396 14E1 3D      A          dec     a
1397 14E2 77      A          ld        (hl),a
1398 14E3 3A F264  A          ld        a,(SPLAST)
1399 14E6 11 F268  A          ld        de,CRSSP
1400 14E9 F5      A          push   af
1401 14EA 28 06    A          jr      z,ESCF2
1402          A;-----
1403 14EC 36 03    A          ld        (hl),3 ;ESC Y Zeile
1404 14EE 3A F266  A          ld        a,(ZLLAST)
1405 14F1 1B      A          dec     de
1406          A;-----
1407 14F2 47      AESCF2      ld      b,a ;ESC Y Zeile Spalte
1408 14F3 79      A          ld      a,c
1409 14F4 D6 20    A          sub    20H
1410 14F6 B8      A          cp     b
1411 14F7 3C      A          inc    a
    
```

```
1412 14F8 12      A    ld      (de),a
1413 14F9 38 02   A    jr      c,ESCF2A
1414             A; -----
1415 14FB 78      A    ld      a,b
1416 14FC 12      A    ld      (de),a ;Begrenzung auf Bild
1417 14FD F1      AESCF2A pop   af
1418 14FE C0      A    ret     nz
1419 14FF 2A F267  A    ld      hl,(CRSZL)
1420 1502 C3 15AD  A    jp      SAZLSP
1421             A;=====
1422 1505 77      AESCF3     ld      (hl),a
1423 1506 79      A    ld      a,c
1424 1507 D6 34   A    sub     34H
1425 1509 28 0B   A    jr      z,ESCF5 ;ESC x 4-->Grosskursor
1426 150B 3D      A    dec     a
1427 150C 28 10   A    jr      z,ESCF7 ;ESC x 5-->Kursor ein
1428 150E C9      A    ret
1429 150F 77      AESCF4     ld      (hl),a
1430 1510 79      A    ld      a,c
1431 1511 D6 34   A    sub     34H
1432 1513 20 06   A    jr      nz,ESCF6 ;ESC y 5-->Kursor aus
1433 1515 3C      A    inc     a ;ESC y 4-->Kleinkursor
1434 1516 32 FC18 AESCF5     ld      (CURGK),a
1435 1519 18 06   A    jr      ESCF8
1436 151B 3D      AESCF6     dec     a
1437 151C C0      A    ret     nz
1438 151D 3C      A    inc     a
1439 151E 32 FC17 AESCF7     ld      (CURSW),a
1440 1521 CD 152F AESCF8     call    KUSENZ
1441 1524 CD 1544 A    call    KUREZ
1442 1527 C9      A    ret
1443             A;*****
1444             A;KUsor SETzen, wenn cursw=Zero
1445             A;
1446 1528 3A FC17 AKUSEZ     ld      a,(CURSW)
1447 152B A7      A    and     a
1448 152C C0      A    ret     nz
1449 152D 18 05   A    jr      KUSE
1450             A;*****
1451             A;Kursor SETzen, wenn cursw=Not Zero
1452             A;
1453 152F 3A FC17 AKUSENZ    ld      a,(CURSW)
1454 1532 A7      A    and     a
1455 1533 C8      A    ret     z
1456             A;-----
1457 1534 CD FE03 AKUSE call  XKUSE
1458 1537 CD 1254 A    call    TGRASV
1459 153A D0      A    ret     nc ;Grafik
1460 153B E5      A    push    hl
1461 153C 21 F2D4 A    ld      hl,PCHAR
1462 153F 7E      A    ld      a,(hl)
1463 1540 F6 80   A    or      80h
1464 1542 18 1A   A    jr      KURES1
1465             A;*****
1466             A;Kursor REset, wenn cursw=Zero
1467             A;
1468 1544 3A FC17 AKUREZ     ld      a,(CURSW)
1469 1547 A7      A    and     a
```

```
1470 1548 C0      A    ret    nz
1471 1549 18 05   A    jr     KURES
1472             A;*****
1473             A;Kursor REset, wenn cursw=Not Zero
1474             A;
1475 154B 3A FC17  AKURENZ    ld     a,(CURSW)
1476 154E A7           A    and    a
1477 154F C8           A    ret    z
1478             A;-----
1479 1550 CD FE08  AKURES     call   XKURES
1480 1553 CD 1254  A    call   TGRASV
1481 1556 D0           A    ret    nc           ;Grafik
1482 1557 E5           A    push   hl
1483 1558 21 F2D4  A    ld     hl,PCHAR
1484 155B 7E           A    ld     a,(hl)
1485 155C E6 7F   A    and    7fh
1486 155E 77           AKURES1    ld     (hl),a
1487 155F 23           A    inc    hl
1488 1560 3A FFD6  A    ld     a,(CURSO2)
1489 1563 77           A    ld     (hl),a
1490 1564 3A FC18  A    ld     a,(CURGK)
1491 1567 B7           A    or     a
1492 1568 28 04   A    jr     z,KURES3
1493 156A 3A FFD7  A    ld     a,(CURSO3)
1494 156D 77           A    ld     (hl),a
1495 156E 3E 4B   AKURES3    ld     a,CCHAR
1496 1570 CD 1F8F  A    call   COMND
1497 1573 06 03   A    ld     b,3
1498 1575 21 F2D4  A    ld     hl,PCHAR
1499 1578 CD 1F9D  A    call   PARAM0
1500 157B E1           A    pop    hl
1501 157C C9           A    ret
1502             A;*****
1503             A;Kursor REchts For Line
1504             A;
1505 157D 3A F264  AKUREFL    ld     a,(SPLAST)
1506 1580 BC           A    cp     h           ;Zeilenende?
1507 1581 C8           A    ret    z           ;Ja-->RET
1508 1582 24           A    inc    h           ;Spalte+1
1509 1583 18 28   A    jr     SAZLSP
1510             A;*****
1511             A;Kursor LInks For Screen
1512             A;
1513 1585 CD 1595  AKULIFS    call   KULIFL
1514 1588 C0           A    ret    nz           ;kein Zeilenanf-->RET
1515 1589 3A F264  A    ld     a,(SPLAST)
1516 158C 67           A    ld     h,a           ;Spalte=Zeilenende
1517             A;*****
1518             A; Kursor HOch
1519 158D 3A F265  AKUHO LD   A,(ZLFIRS)
1520 1590 BD           A    cp     l
1521 1591 C8           A    ret    z           ;Bildanf-->RET
1522 1592 2D           A    dec    l
1523 1593 18 18   A    jr     SAZLSP
1524             A;*****
1525             A;Kursor LInks For Line
1526 1595 3A F263  AKULIFL    ld     a,(SPFIRS)           ;1.spalte
1527 1598 BC           A    cp     h
```

```

1528 1599 C8      A   ret   z           ;zeilenanfang
1529 159A 25      A   dec   h
1530 159B 18 10   A   jr    SAZLSP
1531           A;*****
1532           A;Kursor REchts For Screen
1533           A;
1534 159D CD 157D  AKUREFS   call   KUREFL
1535 15A0 C0      A   ret   nz          ;kein Zeilende-->RET
1536 15A1 3A F263  A   ld   a,(SPFIRS)
1537 15A4 67      A   ld   h,a          ;1.Spalte
1538           A;*****
1539           A;Kursor RUnter
1540           A;
1541 15A5 3A F266  AKURU ld   a,(ZLLAST)
1542 15A8 BD      A   cp   l
1543 15A9 C8      A   ret   z           ;letzte Zeile-->RET
1544 15AA 38 0D   A   jr   c,KURU1
1545 15AC 2C      A   inc  l
1546           A;-----
1547 15AD 22 F267  ASAZLSP   ld    (CRSZL),hl ;SAve Zeile/SPalte
1548 15B0 F5      A   push af
1549 15B1 CD 1335  A   call GCHAD
1550 15B4 CD 1786  A   call CURSS
1551 15B7 F1      A   pop  af
1552 15B8 C9      A   ret
1553           A;=====
1554 15B9 2D      AKURU1   dec   l
1555 15BA AF      A   xor  a
1556 15BB 18 F0   A   jr   SAZLSP
1557           A;*****
1558           A;TABulatorbehandlung
1559           A;
1560 15BD 3E 20   ATAB ld   a,' '
1561 15BF CD 1409  A   call AOUTIK
1562 15C2 3A F268  A   ld   a,(CRSSP)
1563 15C5 3D      A   dec  a
1564 15C6 E6 07   A   and  7
1565 15C8 20 F3   A   jr   nz,TAB
1566 15CA C9      A   ret
1567           A;*****
1568           A;Standard-WINDOW setzen
1569           A;
1570 15CB 3A F273  ASTWIND   ld    a,(SCRNRA)
1571 15CE 1F      A   rra
1572 15CF D4 0FE0  A   call nc,SCREU0
1573 15D2 DC 0FE5  A   call c,SCREU1
1574 15D5 21 F266  A   ld   hl,ZLLAST
1575 15D8 3A F285  A   ld   a,(FKTANZ)
1576 15DB 86      A   add  a,(hl)
1577 15DC 77      A   ld   (hl),a
1578           A;*****
1579           A;kursor an HOME-position
1580           A;
1581 15DD 3A F265  AVHOME   ld    a,(ZLFIRS)
1582 15E0 6F      A   ld   l,a
1583           A;*****
1584           A;CR-behandlung
1585           A;
    
```

```

1586 15E1 3A F263 AVCR ld a,(SPFIRS) ;1. spalte
1587 15E4 67 A ld h,a
1588 15E5 18 C6 A jr SAZLSP
1589 A;*****
1590 A;DELeTe ZeiLe (mit Bild nachrollen)
1591 A;
1592 15E7 CD 15E1 ADELZL call VCR
1593 A;*****
1594 A;Bild HOch ROLlen
1595 A;
1596 15EA 3A F266 ABIHORO ld a,(ZLLAST)
1597 15ED 95 A sub l
1598 15EE D8 A ret c ;Zeile zu gross-->RET
1599 15EF CA 163B A jp z,BIHOR2 ;Letzte Zeile
1600 A;-----
1601 15F2 F5 A push af
1602 15F3 E5 A push hl
1603 15F4 4F A ld c,a
1604 15F5 06 00 A ld b,0
1605 15F7 CD 1353 A call GLATAD
1606 15FA 6B A ld l,e
1607 15FB 62 A ld h,d
1608 15FC 23 A inc hl
1609 15FD ED B0 A ldir ;Zeilenattribute umsp
1610 A;-----
1611 15FF 50 A ld d,b ;d=0
1612 1600 21 FAC0 A ld hl,CUPOVO
1613 1603 35 A dec (hl)
1614 1604 C5 A push bc
1615 1605 CD 154B A call KURENZ
1616 1608 C1 A pop bc
1617 1609 E1 A pop hl
1618 160A 3A F263 A ld a,(SPFIRS)
1619 160D 67 A ld h,a
1620 160E 3A F264 A ld a,(SPLAST)
1621 1611 94 A sub h
1622 1612 3C A inc a
1623 1613 5F A ld e,a ;DE zeilenlaenge
1624 A ;HL zeile/spalte 1.zeichen
1625 1614 CD 1335 A call GCHAD ;HL adresse 1.zeichen
1626 1617 C1 A pop bc
1627 1618 C5 ABIHOR1 push bc
1628 1619 D5 A push de
1629 161A E5 A push hl
1630 161B 42 A ld b,d
1631 161C 4B A ld c,e
1632 161D C5 A push bc
1633 161E ED 5B F26A A ld de,(WIDTH)
1634 1622 19 A add hl,de
1635 1623 E5 A push hl
1636 1624 11 FB0A A ld de,ZEILPU
1637 1627 CD 1291 A call INBCDE
1638 162A 11 FB0A A ld de,ZEILPU
1639 162D E1 A pop hl
1640 162E C1 A pop bc
1641 162F E3 A ex (sp),hl
1642 1630 CD 12C9 A call OTBCDE
1643 1633 E1 A pop hl
    
```



```

1644 1634 D1      A      pop      de
1645 1635 C1      A      pop      bc
1646 1636 10 E0   A      djnz     BIHOR1
1647          A; -----
1648 1638 CD 152F  A      call     KUSENZ
1649 163B 3A F266  ABIHOR2 ld      a,(ZLLAST)
1650 163E 6F      A      ld      l,a
1651 163F CD 16B1  A      call     CLIN ;Letzte Zeile loeschen
1652 1642 C9      A      ret
1653          A;*****
1654          A;INSert ZeiLe
1655          A;
1656 1643 CD 15E1  AINSZL      call     VCR
1657          A;*****
1658 1646 E5      ABIRURO      push    hl
1659 1647 3A F266  A      ld      a,(ZLLAST)
1660 164A 67      A      ld      h,a
1661 164B 95      A      sub     l
1662 164C D8      A      ret     c
1663 164D 28 4B   A      jr     z,BIRUR2
1664 164F 6C      A      ld      l,h
1665 1650 F5      A      push   af
1666 1651 E5      A      push   hl
1667          A;-----
1668 1652 4F      A      ld      c,a
1669 1653 06 00   A      ld      b,0
1670 1655 CD 1353  A      call   GLATAD
1671 1658 6B      A      ld      l,e
1672 1659 62      A      ld      h,d
1673 165A E5      A      push   hl
1674 165B 2B      A      dec    hl
1675 165C ED B8   A      lddr
1676          A;-----
1677 165E E1      A      pop     hl
1678 165F 74      A      ld      (hl),h
1679 1660 50      A      ld      d,b
1680 1661 C5      A      push   bc
1681 1662 CD 154B  A      call   KURENZ
1682 1665 C1      A      pop     bc
1683 1666 E1      A      pop     hl
1684 1667 3A F263  A      ld      a,(SPFIRS)
1685 166A 67      A      ld      h,a
1686 166B 3A F264  A      ld      a,(SPLAST)
1687 166E 94      A      sub     h
1688 166F 3C      A      inc    a
1689 1670 5F      A      ld      e,a
1690 1671 CD 1335  A      call   GCHAD
1691 1674 C1      A      pop     bc
1692          A;-----
1693 1675 C5      ABIRUR1      push   bc
1694 1676 D5      A      push   de
1695 1677 E5      A      push   hl
1696 1678 42      A      ld      b,d
1697 1679 4B      A      ld      c,e
1698 167A C5      A      push   bc
1699 167B AF      A      xor    a
1700 167C ED 5B F26A  A      ld      de,(WIDTH)
1701 1680 ED 52      A      sbc    hl,de

```

```

1702 1682 E5      A      push  hl
1703 1683 11 FB0A A      ld      de,ZEILPU
1704 1686 CD 1291 A      call   INBCDE
1705 1689 11 FB0A A      ld      de,ZEILPU
1706 168C E1      A      pop   hl
1707 168D C1      A      pop   bc
1708 168E E3      A      ex    (sp),hl
1709 168F CD 12C9 A      call   OTBCDE
1710 1692 E1      A      pop   hl
1711 1693 D1      A      pop   de
1712 1694 C1      A      pop   bc
1713 1695 10 DE   A      djnz  BIRUR1
1714 1697 CD 152F A      call   KUSENZ
1715 169A E1      ABIRUR2 pop   hl
1716 169B CD 16B1 A      call   CLIN
1717 169E C9      A      ret
1718          A;*****
1719          A;DElete zeichen
1720          A;
1721 169F E5      ADEL  push  hl
1722 16A0 CD 1585 A      call   KULIFS
1723 16A3 E1      A      pop   hl
1724 16A4 C8      A      ret   z
1725 16A5 0E 20   A      ld    c,' '
1726 16A7 3A F291 A      ld    a,(ACTCOL)
1727 16AA 47      A      ld    b,a
1728 16AB CD 1772 A      call   CHRTS0
1729 16AE C3 1585 A      jp    KULIFS
1730          A;*****
1731          A;Clear LINE
1732          A;
1733 16B1 3A F263 ACLIN ld    a,(SPFIRS)
1734 16B4 67      A      ld    h,a
1735          A;-----
1736          A; in: hl spalte/zeile
1737          A;-----
1738 16B5 E5      ACLINFK push  hl
1739 16B6 CD 135F A      call   SEZL
1740 16B9 3A F264 A      ld    a,(SPLAST)
1741 16BC 94      A      sub   h
1742 16BD 06 00   A      ld    b,0
1743 16BF 4F      A      ld    c,a
1744 16C0 CD 1FB9 A      call   PFIGS
1745 16C3 CD 1335 A      call   GCHAD
1746 16C6 E5      A      push  hl
1747 16C7 CD 1786 A      call   CURSS
1748 16CA CD 177D A      call   WRMOD
1749 16CD 3E 20   A      ld    a,20h      ;leerzeichen
1750 16CF D3 98      A      out  (PARAP),a
1751 16D1 3A F291 A      ld    a,(ACTCOL)
1752 16D4 CD 1FA7 A      call   FULL
1753 16D7 D3 98      A      out  (PARAP),a
1754 16D9 E1      A      pop   hl
1755 16DA CD 1786 A      call   CURSS
1756 16DD E1      A      pop   hl
1757 16DE C9      A      ret
1758          A;*****
1759          A;Clear SCReen From Kursor
    
```

```
1760 A;
1761 16DF CD 16B5 ACSCRFK call CLINFK ;Loeschen akt. Zeile
1762 16E2 3A F266 A ld a,(ZLLAST)
1763 16E5 BD A cp l
1764 16E6 D8 A ret c
1765 16E7 C8 A ret z ;Bildende-->RET
1766 A;-----
1767 16E8 3A F263 A ld a,(SPFIRS)
1768 16EB 67 A ld h,a ;1.spalte
1769 16EC 2C A inc l ;Zeile+1
1770 16ED 18 F0 A jr CSCRFK
1771 A;*****
1772 16EF C0 AZCLS ret nz
1773 16F0 E5 A push hl
1774 16F1 CD 16F6 A call CLSASC
1775 16F4 E1 A pop hl
1776 16F5 C9 A ret
1777 A;-----
1778 16F6 CD 1259 ACLSASC call TGRASC
1779 16F9 D2 1A78 A jp nc,GCLS;Grafik-CLS
1780 A;-----
1781 16FC CD 154B ACLSTSC call KURENZ
1782 16FF 3A F265 A ld a,(ZLFIRS)
1783 1702 6F A ld l,a
1784 1703 CD 16B1 ACLSTS1 call CLIN
1785 1706 2C A inc l
1786 1707 3A F266 A ld a,(ZLLAST)
1787 170A BD A cp l
1788 170B 30 F6 A jr nc,CLSTS1
1789 170D 3A FF91 A ld a,(BSKENN)
1790 1710 CB 4F A BIT 1,A
1791 1712 CC 1191 A call z,VFTINI ;bei SCP nicht
1792 1715 CD 15DD A call VHOME
1793 1718 CD 152F A call KUSENZ
1794 171B 21 FA8E ACLSTS3 ld hl,ZLSTAT
1795 171E 06 19 A ld b,25
1796 1720 70 ACLSTS2 ld (hl),b
1797 1721 23 A inc hl
1798 1722 10 FC A djnz CLSTS2
1799 1724 C9 A ret
1800 A;-----
1801 A; CHRASC EINGABE ZEICHEN VOM BWS
1802 A;
1803 A; IN HL SPALTE,ZEILE
1804 A; OUT: A=C=ZEICHEN ACTCOL FARBCODE
1805 A; B=FARBCODE
1806 A;
1807 A;-----
1808 1725 E5 ACHRASC PUSH HL
1809 1726 CD 1335 A CALL GCHAD
1810 1729 E5 ACHRAS1 push hl
1811 172A CD 1797 A call CURSRD
1812 172D E3 A ex (sp),hl
1813 172E CD 1786 A CALL CURSS
1814 1731 01 0001 A ld bc,1
1815 1734 CD 1FB9 A call PFIGS
1816 1737 CD 174D A CALL RDMOD
1817 173A DB 99 A IN A,(READP)
```

```
1818 173C F5      A   PUSH   AF
1819 173D CD 1FB0  A   CALL   READY
1820 1740 DB 99    A   IN     A,(READP)
1821 1742 67      A   ld     h,a
1822 1743 F1      A   POP    AF
1823 1744 6F      A   ld     l,a
1824 1745 E3      A   ex     (sp),hl
1825 1746 CD 1786  A   call   CURSS
1826 1749 C1      A   pop    bc
1827 174A 79      A   ld     a,c
1828 174B E1      A   POP    HL
1829 174C C9      A   RET
1830             A;-----
1831 174D DB 98    ARDMOD   in     a,(FLAGR)
1832 174F E6 04    A   and   4      ;FIFO leer ?
1833 1751 28 FA    A   jr    z,RDMOD
1834 1753 3E A0    A   ld   a,RDATWO
1835 1755 D3 99    A   out  (COMNP),a
1836 1757 CD 1FB0  A   CALL   READY
1837 175A C9      A   RET
1838             A;-----
1839             A; CHRTSC   AUSGABE ZEICHEN IN BWS
1840             A;
1841             A; IN: C ZEICHEN           HL SPALTE,ZEILE
1842             A;   B FARBCODE
1843             A;-----
1844 175B E5      ACHRTSC   push   hl
1845 175C C5      A   push  bc
1846 175D CD 1335  A   CALL   GCHAD
1847 1760 DB 98    ACHRTS1   in     a,(FLAGR)      ;FIFO leer ?
1848 1762 E6 04    A   and   4
1849 1764 28 FA    A   jr    z,CHRTS1      ;nein
1850 1766 3E 49    A   ld   a,CURS        ;ja ... Cursor setzen
1851 1768 D3 99    A   out  (COMNP),a
1852 176A 7D      A   ld   a,l
1853 176B D3 98    A   out  (PARAP),a
1854 176D 7C      A   ld   a,h
1855 176E D3 98    A   out  (PARAP),a
1856 1770 C1      A   pop  bc
1857 1771 E1      A   pop  hl
1858 1772 3E 20    ACHRTS0   ld     a,WDATWO
1859 1774 D3 99    A   out  (COMNP),a
1860 1776 79      A   ld   a,c
1861 1777 D3 98    A   out  (PARAP),a      ;AUSGABE ZEICHENCODE
1862 1779 78      A   ld   a,b
1863 177A D3 98    A   out  (PARAP),a      ;AUSGABE FARBCODE
1864 177C C9      A   ret
1865             A;-----
1866             A; WRMOD   VORBEREITUNG WORTAUSGABE AN GDC
1867             A;
1868 177D 3E 20    AWRMOD   LD     A,WDATWO
1869 177F CD 1F8F  A   CALL   COMND
1870 1782 CD 1FA7  A   CALL   FULL
1871 1785 C9      A   RET
1872             A;-----
1873             A; kursor setzen
1874             A;
1875             A; in: hl kursoradresse
```

```

1876          A; out: bc,de,hl uv
1877          A;-----
1878 1786 DB 98 ACURSS      in      a,(FLAGR)      ;FIFO leer ?
1879 1788 E6 04 A      and      4
1880 178A 28 FA A      jr      z,CURSS ;nein
1881 178C 3E 49 A      ld      a,CURS
1882 178E D3 99 A      out     (COMNP),a
1883 1790 7D      A      ld      a,l
1884 1791 D3 98 A      out     (PARAP),a
1885 1793 7C      A      ld      a,h
1886 1794 D3 98 A      out     (PARAP),a
1887 1796 C9      A      ret
1888          A;-----
1889          A; kursuradresse lesen
1890          A;
1891          A; out: hl kursoradresse
1892          A;
1893          A;-----
1894 1797 DB 98 ACURSRD     in      a,(FLAGR)
1895 1799 E6 04 A      and      4 ;FIFO leer ?
1896 179B 28 FA A      jr      z,CURSRD
1897 179D 3E E0 A      ld      a,CURD
1898 179F D3 99 A      out     (COMNP),a
1899 17A1 DB 98 ACURSR1     in      a,(FLAGR)      ;Daten im FIFO ?
1900 17A3 E6 01 A      and      1
1901 17A5 28 FA A      jr      z,CURSR1      ;nein
1902 17A7 DB 99 A      in      a,(READP)
1903 17A9 6F      A      ld      l,a
1904 17AA DB 98 ACURSR2     in      a,(FLAGR)      ;Daten im FIFO ?
1905 17AC E6 01 A      and      1
1906 17AE 28 FA A      jr      z,CURSR2      ;nein
1907 17B0 DB 99 A      in      a,(READP)
1908 17B2 67      A      ld      h,a
1909 17B3 DB 98 ACURSR3     in      a,(FLAGR)      ;Daten im FIFO ?
1910 17B5 E6 01 A      and      1
1911 17B7 28 FA A      jr      z,CURSR3      ;nein
1912 17B9 DB 99 A      in      a,(READP)      ;3.Byte wegwerfen
1913 17BB DB 98 ACURSR4     in      a,(FLAGR)      ;Daten im FIFO ?
1914 17BD E6 01 A      and      1
1915 17BF 28 FA A      jr      z,CURSR4      ;nein
1916 17C1 DB 99 A      in      a,(READP)      ;4.Byte wegwerfen
1917 17C3 DB 98 ACURSR5     in      a,(FLAGR)      ;Daten im FIFO ?
1918 17C5 E6 01 A      and      1
1919 17C7 28 FA A      jr      z,CURSR5      ;nein
1920 17C9 DB 99 A      in      a,(READP)      ;5.Byte wegwerfen
1921 17CB C9      A      ret
1922          A;*****
1923          A; Grafikroutinen
1924          A;
1925          A;
1926 17CC E5      ATXTGSC     push    hl
1927 17CD D5      A      push    de
1928 17CE C5      A      push    bc
1929 17CF F5      A      push    af
1930 17D0 CD 1272 A      call   CHRTST
1931 17D3 30 58 A      jr      nc,TXTG75
1932 17D5 20 08 A      jr      nz,TXTG10
1933 17D7 FE 0D A      cp      0DH
    
```

```

1934 17D9 28 55      A   jr      z,TXTG80
1935 17DB FE 20      A   cp      20H
1936 17DD 38 4E      A   jr      c,TXTG75
1937
1938 17DF CD 1304    ATXTG10    call  REZEMU
1939 17E2 2A FC2F    A   ld      hl,(YALT)
1940 17E5 EB              A   ex
1941 17E6 ED 4B FC2D A   ld      bc,(XALT)
1942 17EA CD 1854    A   call   TPPOS
1943 17ED 30 3E      A   jr      nc,TXTG75
1944 17EF CD 188F    A   call   MKPMA
1945 17F2 11 FBB1    A   ld      de,ZEIPUF+7
1946 17F5 0E 08      A   ld      c,8
1947 17F7 06 08      ATXTG20    ld      b,8
1948 17F9 CD 18E8    A   call   LDPMA
1949 17FC E5              A   push   hl
1950 17FD F5              A   push   af
1951 17FE 1A              A   ld      a,(de)
1952 17FF 0F          ATXTG30    rrca
1953 1800 F5              A   push   af
1954 1801 DC 1998    A   call   c,SPOINT
1955 1804 CD 19A4    A   call   APRGT
1956 1807 E1              A   pop    hl
1957 1808 38 04      A   jr      c,TXTG40
1958 180A E5              A   push   hl
1959 180B F1              A   pop    af
1960 180C 10 F1      A   djnz   TXTG30
1961 180E F1          ATXTG40    pop     af
1962 180F E1              A   pop    hl
1963 1810 CD 18EF    A   call   STPMA
1964 1813 CD 1A55    A   call   APDWN
1965 1816 38 04      A   jr      c,TXTG50
1966 1818 1B              A   dec    de
1967 1819 0D              A   dec    c
1968 181A 20 DB      A   jr      nz,TXTG20
1969 181C 2A FC2D    ATXTG50    ld      hl,(XALT)
1970 181F 11 0008    A   ld      de,8
1971 1822 19          A   add    hl,de
1972 1823 ED 5B F27E A   ld      de,(PVIEW2)
1973 1827 E7              A   rst    20h
1974 1828 30 06      A   jr      nc,TXTG80
1975 182A 22 FC2D    A   ld      (XALT),hl
1976 182D C3 1403    ATXTG75    jp      POP1
1977
1978 1830 AF          ATXTG80    xor     a      ;CY=0
1979 1831 2A F27C    A   ld      hl,(PVIEW1)
1980 1834 22 FC2D    A   ld      (XALT),hl
1981 1837 2A FC2F    A   ld      hl,(YALT)
1982 183A 11 0008    A   ld      de,8
1983 183D ED 52          A   sbc    hl,de
1984 183F ED 5B F280    A   ld      de,(PVIEW3)
1985 1843 E7              A   rst    20h
1986 1844 ED 5B F282    A   ld      de,(PVIEW4)
1987 1848 38 03      A   jr      c,TXTG85
1988 184A E7              A   rst    20h
1989 184B 38 02      A   jr      c,TXTG90
1990 184D EB          ATXTG85    ex     de,hl
1991 184E 2B          A   dec    hl

```

```
1992 184F 22 FC2F ATXTG90 ld (YALT),hl
1993 1852 18 D9 A jr TXTG75
1994 A;*****
1995 A;Test PunktPOsition
1996 A;
1997 A;IN: DE=log. Zeile / BC=log. Spalte
1998 A;OUT:
1999 A;
2000 1854 E5 ATPPOS push hl
2001 1855 C5 A push bc
2002 1856 06 01 A ld b,1
2003 1858 EB A ex de,hl
2004 1859 7C A ld a,h
2005 185A 87 A add a,a
2006 185B 30 05 A jr nc,TPPOS1
2007 185D 21 0000 A ld hl,0
2008 1860 18 09 A jr TPOS2
2009 1862 ED 5B F282 ATPPOS1 ld de,(PVIEW4) ;Standard 200
2010 1866 E7 A rst 20h
2011 1867 38 04 A jr c,TPPOS3
2012 1869 EB A ex de,hl
2013 186A 2B A dec hl
2014 186B 06 00 ATPOS2 ld b,0
2015 186D E3 ATPPOS3 ex (sp),hl
2016 186E 7C A ld a,h
2017 186F 87 A add a,a
2018 1870 30 05 A jr nc,TPPOS4
2019 1872 21 0000 A ld hl,0
2020 1875 18 09 A jr TPPOS5
2021 1877 ED 5B F27E ATPPOS4 ld de,(PVIEW2) ;Standard 320
2022 187B E7 A rst 20h
2023 187C 38 04 A jr c,TPPOS6
2024 187E EB A ex de,hl
2025 187F 2B A dec hl
2026 1880 06 00 ATPPOS5 ld b,0
2027 1882 D1 ATPPOS6 pop de
2028 1883 78 A ld a,b
2029 1884 0F A rrca
2030 1885 44 A ld b,h
2031 1886 4D A ld c,l
2032 1887 E1 A pop hl
2033 1888 C9 A ret
2034 A;*****
2035 A;Test SChreen 2 oder 3
2036 A;
2037 A;OUT: Z = Screen 2
2038 A; NZ = 3
2039 A;
2040 1889 3A F273 ATSC23 ld a,(SCRNRA)
2041 188C D6 02 A sub 2
2042 188E C9 A ret
2043 A;*****
2044 A;MaKe PunktMaske und punktAdresse
2045 A;
2046 A;IN: BC=X-Koordinate / DE=Y-Koordinate
2047 A;
2048 188F C5 AMKPMA push bc
2049 1890 AF A xor a
```

```

2050 1891 21 00C7 A      ld      hl,199
2051 1894 ED 52   A      sbc     hl,de
2052 1896 EB     A      ex      de,hl
2053 1897 3A F273 A      ld      a,(SCRNRA)
2054 189A FE 05   A      cp      5
2055 189C 79     A      ld      a,c
2056 189D 28 0D   A      jr      z,MKPMA2
2057 189F 21 18DC A      ld      hl,MKPMAT
2058 18A2 E6 07   A      and     7
2059 18A4 C1     A      pop     bc
2060 18A5 CB 38   A      srl     b
2061 18A7 CB 19   A      rr      c
2062 18A9 C5     A      push    bc
2063 18AA 18 05   A      jr      MKPMA3
2064 18AC 21 18E4 AMKPMA2 ld      hl,MKPMT5
2065 18AF E6 03   A      and     3
2066 18B1 4F     AMKPMA3 ld      c,a
2067 18B2 06 00 A      ld      b,0
2068 18B4 09     A      add     hl,bc
2069 18B5 7E     A      ld      a,(hl)
2070 18B6 32 F7F3 A      ld      (POIMA),a
2071      A;-----
2072 18B9 EB     A      ex      de,hl
2073 18BA 3A F273 A      ld      a,(SCRNRA)
2074 18BD 0F     A      rrca
2075 18BE 30 01   A      jr      nc,MKPMA1
2076 18C0 29     A      add     hl,hl
2077 18C1 29     AMKPMA1 add     hl,hl
2078 18C2 29     A      add     hl,hl
2079 18C3 29     A      add     hl,hl
2080 18C4 54     A      ld      d,h
2081 18C5 5D     A      ld      e,l
2082 18C6 29     A      add     hl,hl
2083 18C7 29     A      add     hl,hl
2084 18C8 19     A      add     hl,de
2085 18C9 C1     A      pop     bc
2086 18CA CB 38   A      srl     b
2087 18CC CB 19   A      rr      c
2088 18CE CB 38   A      srl     b
2089 18D0 CB 19   A      rr      c
2090 18D2 09     A      add     hl,bc
2091 18D3 ED 4B F26E A      ld      bc,(AVRAM)
2092 18D7 09     A      add     hl,bc
2093 18D8 22 F7F1 A      ld      (POIADR),hl
2094 18DB C9     A      ret
2095      A;=====
2096 18DC 01     AMKPMAT defb   1
2097 18DD 02     A      defb   2
2098 18DE 04     A      defb   4
2099 18DF 08     A      defb   8
2100 18E0 10     A      defb  10h
2101 18E1 20     A      defb  20h
2102 18E2 40     A      defb  40h
2103 18E3 80     A      defb  80h
2104      A;-----
2105 18E4 11     AMKPMT5 defb  11h
2106 18E5 22     A      defb  22h
2107 18E6 44     A      defb  44h

```



```

2108 18E7 88      A   defb   88h
2109             A;*****
2110             A;LoaD PunktMASke und punktAdresse
2111             A;
2112 18E8 3A F7F3  ALDPMA      ld    a,(POIMA)
2113 18EB 2A F7F1  A   ld      hl,(POIADR)
2114 18EE C9      A   ret
2115             A;*****
2116             A;Store PunktMASke und punktAdresse
2117             A;
2118 18EF 32 F7F3  ASTPMA      ld    (POIMA),a
2119 18F2 22 F7F1  A   ld      (POIADR),hl
2120 18F5 C9      A   ret
2121             A;*****
2122             A;Get POINT
2123             A;
2124 18F6 C5      AGPOINT     push  bc
2125 18F7 D5      A   push   de
2126 18F8 E5      A   push   hl
2127 18F9 CD 18E8  A   call  LDPMA
2128 18FC F5      A   push   af
2129 18FD CD 1368  A   call  RDVRM
2130 1900 3A F273  A   ld      a,(SCRNRA)
2131 1903 FE 05    A   cp     5
2132 1905 28 11   A   jr     z,GPOIN3
2133 1907 F1      A   pop    af           ;Screen2,3
2134 1908 F5      A   push   af
2135 1909 A1      A   and    c
2136 190A 28 02   A   jr     z,GPOIN1
2137 190C 3E 01   A   ld     a,1
2138 190E 4F      AGPOIN1     ld     c,a
2139 190F F1      A   pop    af
2140 1910 A0      A   and    b
2141 1911 28 02   A   jr     z,GPOIN2
2142 1913 3E 02   A   ld     a,2
2143 1915 B1      AGPOIN2     or     c
2144 1916 18 2B   A   jr     GPOIN8
2145             A;-----
2146 1918 F1      AGPOIN3     pop    af           ;Screen5
2147 1919 F5      A   push   af           ;a: Punktmaske
2148 191A 1E 00   A   ld     e,0
2149 191C A1      A   and    c
2150 191D 28 0D   A   jr     z,GPOIN5     ; im Lowbyte kein Farbanteil
2151 191F 4F      A   ld     c,a
2152 1920 E6 F0   A   and    0F0h         ; Test 1. Halbbyte
2153 1922 28 07   A   jr     z,GPOIN4     ; Kein Farbanteil
2154 1924 1C      A   inc    e
2155 1925 1C      A   inc    e           ; Farbe +2
2156 1926 79      A   ld     a,c
2157 1927 E6 0F   A   and    0Fh         ; Test 2. Halbbyte
2158 1929 28 01   A   jr     z,GPOIN5     ; kein Farbanteil
2159 192B 1C      AGPOIN4     inc    e           ; Farbe +1
2160 192C F1      AGPOIN5     pop    af           ; a: Punktmaske
2161 192D A0      A   and    b
2162 192E 28 12   A   jr     z,GPOIN7     ; im Highbyte kein Farbanteil
2163 1930 47      A   ld     b,a
2164 1931 E6 F0   A   and    0F0h         ; Test 1.Halbbyte
2165 1933 28 09   A   jr     z,GPOIN6     ; kein Farb anteil

```

```
2166 1935 3E 08      A   ld     a,8
2167 1937 83          A   add    a,e
2168 1938 5F          A   ld     e,a           ; Farbe +8
2169 1939 78          A   ld     a,b
2170 193A E6 0F      A   and    0Fh         ; Test 2.Halbyte
2171 193C 28 04      A   jr     z,GPOIN7    ; kein Farbanteil
2172 193E 3E 04      AGPOIN6 ld     a,4
2173 1940 83          A   add    a,e
2174 1941 5F          A   ld     e,a           ;Farbe +4
2175 1942 7B          AGPOIN7 ld     a,e
2176 1943 E1          AGPOIN8 pop    hl
2177 1944 D1          A   pop   de
2178 1945 C1          A   pop   bc
2179 1946 C9          A   ret
2180          A;*****
2181          A;STore Akt INK
2182          A;
2183 1947 32 F287     ASTAINK   ld     (ACTINK),a
2184 194A E5          ASTAIN3   push   hl
2185 194B 21 F27A     A   ld     hl,PALCOL
2186 194E F5          ASTAIN0   push   af
2187 194F 3A F273     A   ld     a,(SCRNRA)
2188 1952 FE 05      A   cp     5
2189 1954 28 1F      A   jr     z,STAIN5
2190          A;-----
2191 1956 F1          A   pop   af           ;a: Farbe
2192 1957 FE 04      A   cp     4           ;fuer Screen2,3 testen
2193 1959 30 27      A   jr     nc,STAIN6   ;>3 falsch
2194 195B C5          A   push  bc
2195 195C 01 0000     A   ld     bc,0
2196 195F B7          A   or     a
2197 1960 28 08      A   jr     z,STAIN1    ;Farbe 0 (Hintergrund)
2198 1962 05          A   dec   b           ;b=FF
2199 1963 FE 02      A   cp     2
2200 1965 28 03      A   jr     z,STAIN1    ;Farbe 2
2201 1967 38 07      A   jr     c,STAIN2    ;Farbe 1
2202 1969 48          A   ld     c,b         ;Farbe 3
2203 196A 71          ASTAIN1   ld     (hl),c
2204 196B 23          A   inc   hl
2205 196C 70          A   ld     (hl),b
2206 196D C1          A   pop   bc
2207 196E E1          A   pop   hl
2208 196F C9          A   ret
2209 1970 04          ASTAIN2   inc     b           ;b=0
2210 1971 0D          A   dec   c           ;c=FF
2211 1972 3F          A   ccf
2212 1973 18 F5      A   jr     STAIN1
2213          A;-----
2214 1975 F1          ASTAIN5   pop    af
2215 1976 FE 10      A   cp     16         ;Screen5
2216 1978 30 08      A   jr     nc,STAIN6
2217 197A CD 1985     A   call  STAIN7
2218 197D 23          A   inc   hl         ;Highbyte der Farbkodierung
2219 197E CD 1985     A   call  STAIN7
2220 1981 37          A   scf
2221 1982 3F          ASTAIN6   ccf
2222 1983 E1          A   pop   hl
2223 1984 C9          A   ret
```

```

2224                A;-----UP zur Farbauswertung
2225 1985 1F        ASTAIN7      rra                ; Bit 0 blau oder Bit 2 rot
2226 1986 36 00    A   ld        (hl),0
2227 1988 30 02    A   jr        nc,STAIN8        ;nicht gesetzt
2228 198A 36 0F    A   ld        (hl),0Fh
2229 198C 1F        ASTAIN8      rra                ; Bit 1 gruen oder Bit 3 hell
2230 198D F5       A   push     af
2231 198E 3E 00    A   ld        a,0
2232 1990 30 02    A   jr        nc,STAIN9        ;nicht gesetzt
2233 1992 3E F0    A   ld        a,0F0h
2234 1994 B6       ASTAIN9      or         (hl)
2235 1995 77       A   ld        (hl),a
2236 1996 F1       A   pop      af
2237 1997 C9       A   ret
2238                A;*****
2239                A;Set POINT
2240                A;
2241 1998 E5       ASPOINT      push     hl
2242 1999 3A F7F3   A   ld        a,(POIMA)
2243 199C 2A F7F1   A   ld        hl,(POIADR)
2244 199F CD 1B9F   A   call     SPINA
2245 19A2 E1       A   pop      hl
2246 19A3 C9       A   ret
2247                A;*****
2248 19A4 E5       AAPRGT       push     hl
2249 19A5 D5       A   push     de
2250 19A6 CD 18E8   A   call     LDPMA
2251 19A9 07       A   rlca
2252 19AA 30 6D    A   jr        nc,APLFT3
2253 19AC 3A F273   A   ld        a,(SCRNRA)
2254 19AF FE 05    A   cp        5
2255 19B1 1E 11    A   ld        e,11h
2256 19B3 28 02    A   jr        z,APRGT3
2257 19B5 1E 01    A   ld        e,1
2258 19B7 23       AAPRGT3      inc      hl
2259 19B8 7D       A   ld        a,l
2260 19B9 E6 07    A   and      7
2261 19BB 7B       A   ld        a,e
2262 19BC 20 58    A   jr        nz,APLFT2
2263 19BE E5       A   push     hl
2264 19BF ED 5B F26E A   ld        de,(AVRAM)
2265 19C3 ED 52    A   sbc     hl,de
2266 19C5 ED 5B F26A A   ld        de,(WIDTH)
2267 19C9 ED 52    AAPRGT2     sbc     hl,de
2268 19CB 28 53    A   jr        z,APUP1
2269 19CD 30 FA    A   jr        nc,APRGT2
2270 19CF E1       A   pop      hl
2271 19D0 18 44    A   jr        APLFT2
2272                A;*****
2273 19D2 E5       AAPRGT1     push     hl
2274 19D3 D5       A   push     de
2275 19D4 CD 18E8   A   call     LDPMA
2276 19D7 07       A   rlca
2277 19D8 30 3F    A   jr        nc,APLFT3
2278 19DA 23       A   inc      hl
2279 19DB 18 39    A   jr        APLFT2
2280                A;*****
2281 19DD E5       AAPLFT     push     hl
    
```

```

2282 19DE D5      A   push  de
2283 19DF CD 18E8  A   call  LDPMA
2284 19E2 0F      A   rrca
2285 19E3 30 34    A   jr    nc,APLFT3
2286 19E5 3A F273  A   ld   a,(SCRNRA)
2287 19E8 FE 05    A   cp   5
2288 19EA 1E 88    A   ld   e,88h
2289 19EC 28 02    A   jr    z,APLFT6
2290 19EE 1E 80    A   ld   e,80h
2291 19F0 7D      AAPLFT6 ld   a,l
2292 19F1 E6 07    A   and  7
2293 19F3 7B      A   ld   a,e
2294 19F4 20 14    A   jr    nz,APLFT5
2295 19F6 E5      A   push hl
2296 19F7 ED 5B F26E A   ld   de,(AVRAM)
2297 19FB ED 52    A   sbc  hl,de
2298 19FD 28 21    A   jr    z,APUP1
2299 19FF ED 5B F26A A   ld   de,(WIDTH)
2300 1A03 ED 52    AAPLFT4 sbc  hl,de
2301 1A05 28 19    A   jr    z,APUP1
2302 1A07 30 FA    A   jr    nc,APLFT4
2303 1A09 E1      A   pop  hl
2304 1A0A 2B      AAPLFT5 dec  hl
2305 1A0B 18 09    A   jr    APLFT2
2306                A;*****
2307 1A0D E5      AAPLFT1 push hl
2308 1A0E D5      A   push  de
2309 1A0F CD 18E8  A   call  LDPMA
2310 1A12 0F      A   rrca
2311 1A13 30 04    A   jr    nc,APLFT3
2312 1A15 2B      A   dec  hl
2313 1A16 22 F7F1  AAPLFT2 ld   (POIADR),hl
2314 1A19 32 F7F3  AAPLFT3 ld   (POIMA),a
2315 1A1C A7      A   and  a
2316 1A1D D1      A   pop  de
2317 1A1E E1      A   pop  hl
2318 1A1F C9      A   ret
2319                A;*****
2320 1A20 E1      AAPUP1  pop  hl
2321 1A21 37      A   scf
2322 1A22 18 22    A   jr    APUP4
2323                A;*****
2324 1A24 E5      AAPUP  push hl
2325 1A25 D5      A   push  de
2326 1A26 CD 1889  A   call  TSC23
2327 1A29 11 1F40  A   ld   de,8000
2328 1A2C 28 03    A   jr    z,APUP2
2329 1A2E 11 3E80  A   ld   de,16000
2330 1A31 2A F26E  AAPUP2 ld   hl,(AVRAM)
2331 1A34 19      A   add  hl,de
2332 1A35 E5      A   push hl
2333 1A36 2A F7F1  A   ld   hl,(POIADR)
2334 1A39 ED 5B F26A A   ld   de,(WIDTH)
2335 1A3D 19      A   add  hl,de
2336 1A3E D1      A   pop  de
2337 1A3F E7      A   rst  20h
2338 1A40 3F      A   ccf
2339 1A41 38 03    A   jr    c,APUP4
    
```

```

2340 1A43 22 F7F1 AAPUP3 ld (POIADR),hl
2341 1A46 D1 AAPUP4 pop de
2342 1A47 E1 A pop hl
2343 1A48 C9 A ret
2344 A;*****
2345 1A49 E5 AAPUP10 push hl
2346 1A4A D5 A push de
2347 1A4B 2A F7F1 A ld hl,(POIADR)
2348 1A4E ED 5B F26A A ld de,(WIDTH)
2349 1A52 19 A add hl,de
2350 1A53 18 EE A jr APUP3
2351 A;*****
2352 1A55 E5 AAPDWN push hl
2353 1A56 D5 A push de
2354 1A57 2A F7F1 A ld hl,(POIADR)
2355 1A5A ED 5B F26A A ld de,(WIDTH)
2356 1A5E AF A xor a
2357 1A5F ED 52 A sbc hl,de
2358 1A61 ED 5B F26E A ld de,(AVRAM)
2359 1A65 E7 A rst 20h
2360 1A66 38 DE A jr c,APUP4
2361 1A68 18 D9 A jr APUP3
2362 A;*****
2363 1A6A E5 AAPDWN1 push hl
2364 1A6B D5 A push de
2365 1A6C 2A F7F1 A ld hl,(POIADR)
2366 1A6F ED 5B F26A A ld de,(WIDTH)
2367 1A73 AF A xor a
2368 1A74 ED 52 A sbc hl,de
2369 1A76 18 CB A jr APUP3
2370 A;*****
2371 1A78 2A F26E AGCLS ld hl,(AVRAM)
2372 1A7B E5 A push hl
2373 1A7C CD 1786 A call CURSS
2374 1A7F CD 1020 A call REMASK
2375 1A82 01 1F40 A ld bc,1F40h
2376 1A85 3A F273 A ld a,(SCRNRA)
2377 1A88 F5 A push af
2378 1A89 0F A rrca
2379 1A8A 30 03 A jr nc,GCLS1
2380 1A8C 01 3F40 A ld bc,3F40h
2381 1A8F CD 1FB9 AGCLS1 call PFIGS
2382 1A92 CD 177D A call WRMOD
2383 1A95 F1 A pop af
2384 1A96 FE 05 A cp 5
2385 1A98 28 15 A jr z,GCLS3
2386 1A9A AF A xor a
2387 1A9B D3 98 A out (PARAP),a
2388 1A9D CD 1FA7 A call FULL
2389 1AA0 D3 98 A out (PARAP),a
2390 1AA2 E1 AGCLS4 pop hl
2391 1AA3 CD 10A8 A call REGRKU
2392 A;-----
2393 1AA6 21 1964 A ld hl,6500 ;Warteschleife fuer GDC
2394 1AA9 2B AGCLS2 dec hl
2395 1AAA 7C A ld a,h
2396 1AAB B5 A or l
2397 1AAC 20 FB A jr nz,GCLS2
    
```

```

2398 1AAE C9      A      ret
2399             A;-----
2400 1AAF 3A F289 AGCLS3      ld      a,(PAPER)
2401 1AB2 CD 194A A      call   STAIN3
2402 1AB5 3A F27A A      ld      a,(PALCOL)
2403 1AB8 D3 98   A      out    (PARAP),a
2404 1ABA CD 1FA7 A      call   FULL
2405 1ABD 3A F27B A      ld      a,(PALCOL+1)
2406 1AC0 D3 98   A      out    (PARAP),a
2407 1AC2 18 DE   A      jr     GCLS4
2408             A;*****
2409             A;FILL
2410             A;
2411 1AC4 DB 98   AFILLUP     in      a,(FLAGR)      ;neue Version
2412 1AC6 E6 04   A      and    4          ;FIFO leer ?
2413 1AC8 28 FA   A      jr     z,FILLUP
2414 1ACA 3E 49   A      ld      a,CURS
2415 1ACC D3 99   A      out    (COMNP),a
2416 1ACE 7D     A      ld      a,l
2417 1ACF D3 98   A      out    (PARAP),a
2418 1AD1 7C     A      ld      a,h
2419 1AD2 D3 98   A      out    (PARAP),a      ;Kursor setzen
2420 1AD4 3E 4A   A      ld      a,MASK
2421 1AD6 D3 99   A      out    (COMNP),a
2422 1AD8 3E FF   A      ld      a,0FFh
2423 1ADA D3 98   A      out    (PARAP),a
2424 1ADC D3 98   A      out    (PARAP),a      ;Maske auf FFFF
2425 1ADE 09     A      add    hl,bc
2426 1ADF 0B     A      dec    bc
2427 1AE0 3E 4C   A      ld      a,FIGS
2428 1AE2 D3 99   A      out    (COMNP),a
2429 1AE4 3E 02   A      ld      a,2
2430 1AE6 D3 98   A      out    (PARAP),a      ;Richtung 2
2431 1AE8 79     A      ld      a,c
2432 1AE9 D3 98   A      out    (PARAP),a
2433 1AEB 78     A      ld      a,b
2434 1AEC D3 98   A      out    (PARAP),a      ;Anzahl bc
2435 1AEE C3 1BB9 A      jp     SPINA2
2436             A;-----
2437 1AF1 3A F273 AFILL ld      a,(SCRNRA)
2438 1AF4 FE 05   A      cp     5
2439 1AF6 20 5A   A      jr     nz,FILL0
2440 1AF8 E5     AFILS5     push   hl
2441 1AF9 CD 18E8 A      call   LDPMA
2442 1AFC E3     A      ex     (sp),hl
2443 1AFD 0F     A      rrca
2444 1AFE 38 1C   A      jr     c,FILS52
2445 1B00 07     A      rlca
2446 1B01 01 FFFF A      ld      bc,-1
2447 1B04 F5     A      push  af
2448 1B05 09     AFILS51   add    hl,bc
2449 1B06 30 37   A      jr     nc,FILS55
2450 1B08 07     A      rlca
2451 1B09 30 FA   A      jr     nc,FILS51
2452 1B0B F1     A      pop   af
2453 1B0C E6 0F   A      and    0Fh
2454 1B0E 3D     A      dec    a
2455 1B0F 2F     A      cpl
    
```

```
2456 1B10 5F      A    ld      e,a
2457 1B11 07      A    rlca
2458 1B12 07      A    rlca
2459 1B13 07      A    rlca
2460 1B14 07      A    rlca
2461 1B15 A3      A    and     e
2462 1B16 E3      A    ex     (sp),hl
2463 1B17 CD 1B9F  A    call   SPINA
2464 1B1A 23      A    inc    hl
2465 1B1B E3      A    ex     (sp),hl
2466 1B1C 7D      AFILS52  ld      a,l
2467 1B1D E6 03    A    and     3
2468 1B1F 5F      A    ld      e,a
2469 1B20 7D      A    ld      a,l
2470 1B21 CB 0C    A    rrc    h
2471 1B23 1F      A    rra
2472 1B24 CB 0C    A    rrc    h
2473 1B26 1F      A    rra
2474 1B27 B7      A    or     a
2475 1B28 E1      A    pop    hl
2476 1B29 4F      A    ld      c,a
2477 1B2A 06 00    A    ld      b,0
2478 1B2C 50      A    ld      d,b
2479 1B2D 28 03    A    jr     z,FILS54
2480 1B2F CD 1AC4  A    call   FILLUP
2481 1B32 1D      AFILS54  dec     e
2482 1B33 F8      A    ret    m
2483 1B34 E5      A    push   hl
2484 1B35 21 1B3C  A    ld      hl,FILTS5
2485 1B38 19      A    add    hl,de
2486 1B39 7E      A    ld      a,(hl)
2487 1B3A 18 62    A    jr     FILL6
2488
A;=====
2489 1B3C 11      AFILTS5  defb    11h
2490 1B3D 33      A    defb    33h
2491 1B3E 77      A    defb    77h
2492
A;=====
2493 1B3F E6 F0    AFILS55  and     0F0h
2494 1B41 3D      A    dec    a
2495 1B42 47      A    ld     b,a
2496 1B43 F1      A    pop    af
2497 1B44 E6 F0    A    and     0F0h
2498 1B46 3D      A    dec    a
2499 1B47 2F      A    cpl
2500 1B48 A0      A    and     b
2501 1B49 F5      A    push   af
2502 1B4A 07      A    rlca
2503 1B4B 07      A    rlca
2504 1B4C 07      A    rlca
2505 1B4D 07      A    rlca
2506 1B4E C1      A    pop    bc
2507 1B4F B0      A    or     b
2508 1B50 18 4C    A    jr     FILL6
2509
A;-----
2510 1B52 E5      AFILL0   push   hl
2511 1B53 CD 18E8  A    call   LDPMA
2512 1B56 E3      A    ex     (sp),hl
2513 1B57 0F      A    rrca
```

```

2514 1B58 38 14      A   jr      c,FILL2
2515 1B5A 07         A   rlca
2516 1B5B 01 FFFF    A   ld      bc,-1
2517 1B5E F5         A   push   af
2518 1B5F 09         AFILL1  add     hl,bc
2519 1B60 30 36      A   jr      nc,FILL5
2520 1B62 07         A   rlca
2521 1B63 30 FA      A   jr      nc,FILL1
2522 1B65 F1         A   pop    af
2523 1B66 3D         A   dec    a
2524 1B67 2F         A   cpl
2525 1B68 E3         A   ex     (sp),hl
2526 1B69 CD 1B9F    A   call   SPINA
2527 1B6C 23         A   inc    hl
2528 1B6D E3         A   ex     (sp),hl
2529 1B6E 7D         AFILL2  ld      a,l
2530 1B6F E6 07      A   and    7
2531 1B71 5F         A   ld     e,a
2532 1B72 7D         A   ld     a,l
2533 1B73 CB 0C      A   rrc    h
2534 1B75 1F         A   rra
2535 1B76 CB 0C      A   rrc    h
2536 1B78 1F         A   rra
2537 1B79 CB 0C      A   rrc    h
2538 1B7B 1F         A   rra
2539 1B7C B7         A   or     a
2540 1B7D E1         A   pop    hl
2541 1B7E 4F         A   ld     c,a
2542 1B7F 06 00      A   ld     b,0
2543 1B81 50         A   ld     d,b
2544 1B82 28 03      A   jr      z,FILL4
2545 1B84 CD 1AC4    A   call   FILLUP
2546 1B87 1D         AFILL4  dec     e
2547 1B88 F8         A   ret    m
2548 1B89 E5         A   push   hl
2549 1B8A 21 1B91    A   ld     hl,FILLT
2550 1B8D 19         A   add    hl,de
2551 1B8E 7E         A   ld     a,(hl)
2552 1B8F 18 0D      A   jr      FILL6
2553                A;=====
2554 1B91 01         AFILLT  defb    1
2555 1B92 03         A   defb   3
2556 1B93 07         A   defb   7
2557 1B94 0F         A   defb  0Fh
2558 1B95 1F         A   defb  1Fh
2559 1B96 3F         A   defb  3Fh
2560 1B97 7F         A   defb  7Fh
2561                A;=====
2562 1B98 3D         AFILL5  dec     a
2563 1B99 47         A   ld     b,a
2564 1B9A F1         A   pop    af
2565 1B9B 3D         A   dec    a
2566 1B9C 2F         A   cpl
2567 1B9D A0         A   and    b
2568 1B9E E1         AFILL6  pop     hl
2569                A;*****
2570                A;Set Punkt IN A
2571                A;IN: a POIMA  hl POIADR  PALCOL ,+1
    
```



```

2572          A;OUT: hl bc de :uv
2573          A;
2574 1B9F F5    ASPINA      push  af
2575 1BA0 DB 98 ASPINA1     in    a,(FLAGR)
2576 1BA2 E6 04 A      and    4          ;FIFO leer ?
2577 1BA4 28 FA A      jr     z,SPINA1     ;nein
2578 1BA6 3E 49 A      ld     a,CURS        ;ja
2579 1BA8 D3 99 A      out   (COMNP),a
2580 1BAA 7D    A      ld     a,l
2581 1BAB D3 98 A      out   (PARAP),a
2582 1BAD 7C    A      ld     a,h
2583 1BAE D3 98 A      out   (PARAP),a     ;Kursor auf Adr. POIADR
2584 1BB0 3E 4A A      ld     a,MASK
2585 1BB2 D3 99 A      out   (COMNP),a
2586 1BB4 F1    A      pop   af
2587 1BB5 D3 98 A      out   (PARAP),a
2588 1BB7 D3 98 A      out   (PARAP),a     ;Maske setzen auf POIMA
2589 1BB9 3E 20 ASPINA2     ld    a,WDATWO
2590 1BBB D3 99 A      out   (COMNP),a
2591 1BBD 3A F27A A      ld    a,(PALCOL)
2592 1BC0 D3 98 A      out   (PARAP),a
2593 1BC2 3A F27B A      ld    a,(PALCOL+1)
2594 1BC5 D3 98 A      out   (PARAP),a     ;Farbwort schreiben
2595 1BC7 C9    A      ret
2596          A;*****
2597          A;LoaD ELLipsenparameter
2598          A;
2599 1BC8 2A F2AA ALDELLI    ld    hl,(ELLIX)
2600 1BCB EB    A      ex    de,hl
2601 1BCC 2A F2AC A      ld    hl,(ELLIY)
2602 1BCF C9    A      ret
2603          A;*****
2604          A;PAInt-UP 1
2605          A;
2606 1BD0 E5    APAIUP1   push  hl
2607 1BD1 21 FC27 A      ld    hl,PARAND
2608 1BD4 C3 194E A      jp    STAIN0
2609          A;*****
2610          A;PAInt-UP 2
2611          A;
2612 1BD7 78    APAIUP2   ld    a,b
2613 1BD8 32 F72D A      ld    (AUTSTL),a
2614 1BDB AF    A      xor   a
2615 1BDC 67    A      ld    h,a
2616 1BDD 6F    A      ld    l,a
2617 1BDE 4F    A      ld    c,a
2618 1BDF 32 F730 A      ld    (PAIHL2),a
2619 1BE2 3A FC27 A      ld    a,(PARAND)
2620 1BE5 CD 1C7C APAIU21   call PAIU5
2621 1BE8 20 0E A      jr    nz,PAIU22
2622 1BEA 1B    A      dec  de
2623 1BEB 7A    A      ld    a,d
2624 1BEC B3    A      or   e
2625 1BED 4F    A      ld    c,a
2626 1BEE C8    A      ret  z
2627 1BEF CD 19A4 A      call APRGT
2628 1BF2 30 F1 A      jr    nc,PAIU21
2629 1BF4 11 0000 A      ld    de,0
    
```

```

2630 1BF7 C9      A      ret
2631             A;-----
2632 1BF8 CD 1C65 APAIU22      call  PAIU4
2633 1BFB D5      A      push  de
2634 1BFC CD 18E8 A      call  LDPMA
2635 1BFF 22 F81F A      ld    (HLPPA1),hl
2636 1C02 32 F821 A      ld    (HLPPA2),a
2637 1C05 11 0000 A      ld    de,0
2638 1C08 13      APAI23      inc  de
2639 1C09 CD 19A4 A      call  APRGT
2640 1C0C 38 0A   A      jr    c,PAI24
2641 1C0E CD 1C7C A      call  PAIU5
2642 1C11 28 05   A      jr    z,PAI24
2643 1C13 CD 1C65 A      call  PAIU4
2644 1C16 18 F0   A      jr    PAI23
2645             A;-----
2646 1C18 D5      APAI24      push  de
2647 1C19 CD 18E8 A      call  LDPMA
2648 1C1C E5      A      push  hl
2649 1C1D F5      A      push  af
2650 1C1E 2A F81F A      ld    hl,(HLPPA1)
2651 1C21 3A F821 A      ld    a,(HLPPA2)
2652 1C24 CD 18EF A      call  STPMA
2653 1C27 EB      A      ex    de,hl
2654 1C28 22 F72E A      ld    (PAIHL1),hl
2655 1C2B 3A F72D A      ld    a,(AUTSTL)
2656 1C2E A7      A      and  a
2657 1C2F C4 1AF1 A      call  nz,FILL
2658 1C32 F1      A      pop  af
2659 1C33 E1      A      pop  hl
2660 1C34 CD 18EF A      call  STPMA
2661 1C37 E1      A      pop  hl
2662 1C38 D1      A      pop  de
2663 1C39 C3 1C60 A      jp    PAIU34
2664             A;*****
2665 1C3C AF      APAIUP3      xor  a
2666 1C3D 67      A      ld    h,a
2667 1C3E 6F      A      ld    l,a
2668 1C3F 4F      A      ld    c,a
2669 1C40 32 F730 A      ld    (PAIHL2),a
2670 1C43 CD 19DD APAIU31      call  APLFT
2671 1C46 38 0E   A      jr    c,PAIU33
2672 1C48 CD 1C7C A      call  PAIU5
2673 1C4B 28 06   A      jr    z,PAIU32
2674 1C4D CD 1C65 A      call  PAIU4
2675 1C50 23      A      inc  hl
2676 1C51 18 F0   A      jr    PAIU31
2677             A;-----
2678 1C53 CD 19D2 APAIU32      call  APRGT1
2679 1C56 E5      APAIU33      push  hl
2680 1C57 ED 5B F72E A      ld    de,(PAIHL1)
2681 1C5B 19      A      add  hl,de
2682 1C5C CD 1AF1 A      call  FILL
2683 1C5F E1      A      pop  hl
2684 1C60 3A F730 APAIU34      ld    a,(PAIHL2)
2685 1C63 4F      A      ld    c,a
2686 1C64 C9      A      ret
2687             A;*****
    
```

```

2688      A;in: bc Farbe aktueller Punkt
2689 1C65 D5      APAIU4      push   de
2690 1C66 3A F7F3 A      ld      a,(POIMA)
2691 1C69 5F      A      ld      e,a
2692 1C6A 3A F27A A      ld      a,(PALCOL)
2693 1C6D A9      A      xor      c
2694 1C6E A3      A      and     e
2695 1C6F 20 05    A      jr      nz,PAIU41
2696 1C71 3A F27B A      ld      a,(PALCOL+1)
2697 1C74 A8      A      xor      b
2698 1C75 A3      A      and     e
2699 1C76 D1      APAIU41     pop    de
2700 1C77 C8      A      ret      z      ;gleich Malfarbe -> (PAIHL2) bleibt 0
2701 1C78 32 F730 A      ld      (PAIHL2),a ;a<>0
2702 1C7B C9      A      ret
2703      A;-----
2704      A;in: POIMA, POIADR
2705      A;out: z-Flag
2706 1C7C D5      APAIU5      push   de
2707 1C7D E5      A      push   hl
2708 1C7E CD 18E8   A      call  LDPMA
2709 1C81 5F      A      ld      e,a      ;e: POIMA
2710 1C82 CD 1786   A      call  CURSS
2711 1C85 01 0001  A      ld      bc,1
2712 1C88 CD 1FB9   A      call  PFIGS ;1 Wort lesen
2713 1C8B CD 174D   A      call  RDMOD
2714 1C8E DB 99    A      in      a,(READP)
2715 1C90 4F      A      ld      c,a
2716 1C91 21 FC27  A      ld      hl,PARAND
2717 1C94 AE      A      xor      (hl)
2718 1C95 A3      A      and     e      ;akt.Farbe XOR Randfarbe AND Punktmaske Lowbyte
2719 1C96 F5      A      push   af
2720 1C97 CD 1FB0   A      call  READY
2721 1C9A F1      A      pop    af
2722 1C9B DB 99    A      in      a,(READP)
2723 1C9D 47      A      ld      b,a
2724 1C9E 20 03    A      jr      nz,PAIU51
2725 1CA0 23      A      inc    hl
2726 1CA1 AE      A      xor      (hl)
2727 1CA2 A3      A      and     e      ;akt.Farbe XOR Randfarbe AND Punktmaske Highbyte
2728 1CA3 E1      APAIU51     pop    hl
2729 1CA4 D1      A      pop    de
2730 1CA5 C9      A      ret
2731      A;*****
2732      A; Screeneditor
2733      A;
2734      A;
2735      A;EDIt 1
2736      A;
2737 1CA6 CD FDD8   AEDI1 call  XEDI1
2738 1CA9 3A F570   A      ld      a,(AUTOFL) ;AUTO?
2739 1CAC A7      A      and     a      ; Ja-->
2740 1CAD 20 0D    A      jr      nz,EDI2
2741      A;-----
2742 1CAF 2E 00    A      ld      l,0      ;L=Zeile=0
2743 1CB1 18 14    A      jr      EDI22
2744      A;*****
2745      A;GET STring
    
```

```
2746 A;
2747 1CB3 CD FDE5 AGETST call XGETST
2748 1CB6 3E 3F A ld a,'?'
2749 1CB8 DF A rst 18h
2750 1CB9 3E 20 A ld a,' ' ;Ausgabe "? "
2751 1CBB DF A rst 18h
2752 A;*****
2753 1CBC CD FDE0 AEDI2 call XEDI2
2754 1CBF 2A F267 A ld hl,(CRSZL) ;HL=Spalte/Zeile
2755 A;-----
2756 1CC2 2D A dec l ;vorherige Zeile als
2757 1CC3 C4 135F A call nz,SEZL ; Endezeile
2758 1CC6 2C A inc l
2759 A;-----
2760 1CC7 22 FAC0 AEDI22 ld (CUPOVO),hl ;Kursor vor Eingabe
2761 1CCA AF A xor a
2762 1CCB 32 FC09 A ld (STCSSW),a ;(CTRL-)STOP loeschen
2763 A;-----
2764 1CCE CD FD09 AEDI24 call ICONIN ;A=Zeichen
2765 1CD1 21 1D19 A ld hl,SECRET-2
2766 1CD4 0E 0B A ld c,11
2767 1CD6 CD 1451 A call JPVER5 ;Steuerzeichenauswertung
2768 A ; C/NZ:CR,STOP-IR
2769 A ; C/ Z:CTRL-STOP
2770 A ; NC/ Z:STZ
2771 A ; NC/NZ:kein STZ
2772 A;-----
2773 1CD9 F5 A push af
2774 1CDA C4 1CE6 A call nz,AOUT ;Zeichenausgabe
2775 1CDD F1 A pop af
2776 1CDE 30 EE A jr nc,EDI24
2777 A;-----
2778 1CE0 21 F423 A ld hl,HEDIBU ;Weiter nach CR,CTRL-STOP
2779 A ; (Stackmanipulation)
2780 1CE3 C8 A ret z
2781 A;-----
2782 1CE4 3F A ccf
2783 1CE5 C9 AEDI26 ret
2784 A;*****
2785 A;A-register-OUTPUT
2786 A;
2787 A;IN: A=Zeichen
2788 A;
2789 1CE6 F5 AAOUT push af
2790 1CE7 FE 09 A cp 9
2791 1CE9 20 0F A jr nz,AOUT4
2792 A;-----
2793 1CEB F1 A pop af ;TAB in
2794 1CEC 3E 20 AAOUT2 ld a,' '
2795 1CEE CD 1CE6 A call AOUT
2796 1CF1 3A F268 A ld a,(CRSSP)
2797 1CF4 3D A dec a
2798 1CF5 E6 07 A and 7
2799 1CF7 20 F3 A jr nz,AOUT2
2800 1CF9 C9 A ret ; SPC wandeln
2801 A;=====
2802 1CFA F1 AAOUT4 pop af
2803 1CFB 21 FC16 A ld hl,INSSW
```

```

2804          A; -----
2805 1CFE FE 01 A   cp    1      ;GCH?
2806 1D00 28 0B A   jr    z,AOUT6; Ja-->
2807          A; -----
2808 1D02 FE 20 A   cp    20H    ;Steuerzeichen?
2809 1D04 38 09 A   jr    c,RIMAO; Ja-->
2810          A;-----
2811 1D06 F5   A   push  af
2812 1D07 7E   A   ld    a,(hl) ;Insertmode?
2813 1D08 A7   A   and   a
2814 1D09 C4 1DD3 A  call  nz,ESLR ; Ja-->Verschieben
2815 1D0C F1   A   pop   af
2816          A;-----
2817 1D0D DF   AAOUT6  rst    18h  ;Ausgabe
2818 1D0E C9   A   ret
2819          A;*****
2820          A;Reset InsertMode A-register Output
2821          A;
2822          A;IN: HL=INSSW
2823          A;   A=Zeichen
2824          A;
2825 1D0F 36 00 ARIMAO   ld    (hl),0
2826 1D11 DF   A   rst    18h
2827 1D12 3E   A   defb  3eh    ; - / LD A,3EH
2828          A;*****
2829          A;SET InsertMode (Kleinkursor)
2830          A;
2831 1D13 3E   ASETIM  defb  3eh    ;LD A,0AFH / - " -
2832          A;*****
2833          A;RESet InsertMode (Grosskursor)
2834          A;
2835 1D14 AF   ARSIM   defb  0afh    ;- " - / XOR A
2836          A; -----
2837 1D15 32 FC18 A   ld    (CURGK),a ;Gross-/Kleinkursor
2838 1D18 C3 152F A   jp    KUSENZ ;bed.Kursorset.
2839          A;*****
2840          A;SCReen-Editor-Tabelle
2841          A;
2842 1D1B 08   ASCRET  DEFB   8
2843 1D1C 1E51 A   DEFW  EBS
2844 1D1E 12   A   DEFB  12H
2845 1D1F 1DC6 A   DEFW  EINMO
2846 1D21 1B   A   DEFB  1BH
2847 1D22 1CE5 A   DEFW  EDI26
2848 1D24 02   A   DEFB  2
2849 1D25 1F12 A   DEFW  LTNW
2850 1D27 06   A   DEFB  6
2851 1D28 1EFC A   DEFW  RTNW
2852 1D2A 0E   A   DEFB  0EH
2853 1D2B 1ED7 A   DEFW  RTLE
2854 1D2D 05   A   DEFB  5
2855 1D2E 1EB5 A   DEFW  DTLE
2856 1D30 03   A   DEFB  3
2857 1D31 1DA7 A   DEFW  ECTSP
2858 1D33 0D   A   DEFB  0DH
2859 1D34 1D3C A   DEFW  ECR
2860 1D36 15   A   DEFB  15H
2861 1D37 1EAD A   DEFW  ECLLN
    
```

```
2862 1D39 7F      A   DEFB   7FH
2863 1D3A 1E3E    A   DEFW   EDEL
2864             A;*****
2865             A;Edit-CR
2866             A;
2867             A;IN: H=Spalte / L=Zeile
2868             A;
2869 1D3C CD 1F75  AECR call  GCPVO ;veraendert HL !
2870             A;-----
2871             A
2872             A
2873 1D3F 3A F570  A   ld     a,(AUTOFL)
2874 1D42 A7         A   and    a ;AUTO?
2875 1D43 28 04   A   jr     z,ECR10
2876 1D45 3A F263 A   ld     a,(SPFIRS)
2877 1D48 67      A   ld     h,a
2878             A;-----
2879 1D49 CD 154B  AECR10 call  KURENZ ;Korsor loe.
2880             A;=====
2881 1D4C 11 F424  A   ld     de,EDIBUF
2882 1D4F 06 FE    A   ld     b,254 ;Lanege
2883 1D51 2D      A   dec    l ;Zeile-1
2884             A;-----
2885 1D52 2C      AECR20 inc    l ;Zeile+1
2886             A;=====
2887 1D53 D5      AECR30 push  de
2888 1D54 C5      A   push  bc
2889 1D55 CD 1725 A   call  CHRASC ;Zeichen aus BWSP
2890 1D58 C1      A   pop   bc
2891 1D59 D1      A   pop   de
2892             A;-----
2893 1D5A A7         A   and    a ;Zeichen=0?
2894 1D5B 28 14   A   jr     z,ECR50; Ja-->
2895             A;-----
2896 1D5D FE 20   A   cp    20H ;Grafikzeichen?
2897 1D5F 30 0B   A   jr     nc,ECR40 ; Nein-->
2898             A;=====
2899 1D61 05      A   dec    b ;Puffer voll?
2900 1D62 28 1F   A   jr     z,ECR60; Ja-->
2901             A;-----
2902 1D64 4F      A   ld     c,a
2903 1D65 3E 01   A   ld     a,1
2904 1D67 12      A   ld     (de),a ;GCH abspeichern
2905 1D68 13      A   inc    de
2906             A;-----
2907 1D69 79      A   ld     a,c ;Kodekorrektur
2908 1D6A C6 40   A   add    a,40H ; Grafikzeichen
2909             A;=====
2910 1D6C 12      AECR40 ld     (de),a ;Zeichen abspeichern
2911 1D6D 13      A   inc    de
2912 1D6E 05      A   dec    b ;Puffer voll?
2913 1D6F 28 12   A   jr     z,ECR60; Ja-->
2914             A;=====
2915 1D71 24      AECR50 inc    h ;Spalte+1
2916 1D72 3A F264 A   ld     a,(SPLAST)
2917 1D75 BC      A   cp    h ;Zeilenende?
2918 1D76 30 DB   A   jr     nc,ECR30 ; Nein-->
2919             A;-----
```

```
2920 1D78 D5      A      push  de
2921 1D79 CD 1353  A      call  GLATAD ;Endzeile?
2922 1D7C D1      A      pop   de
2923 1D7D 3A F263   A      ld   a,(SPFIRS) ;(Spalte 1)
2924 1D80 67      A      ld   h,a
2925 1D81 28 CF    A      jr   z,ECR20; Nein-->
2926             A;=====
2927 1D83 1B      AECR60      dec   de
2928 1D84 1A      A      ld   a,(de) ;SPC am Pufferende
2929 1D85 FE 20    A      cp   ' '
2930 1D87 28 FA    A      jr   z,ECR60; abschneiden
2931             A;-----
2932 1D89 D5      A      push  de
2933 1D8A CD 152F  A      call  KUSENZ ;Kursor set.
2934 1D8D D1      A      pop   de
2935             A;-----
2936 1D8E 13      A      inc   de
2937 1D8F AF      A      xor   a      ;Endekennzeichen
2938 1D90 12      A      ld   (de),a ; in Puffer
2939             A;=====
2940 1D91 3E 0D    AECR70      ld   a,0DH ;CR
2941 1D93 A7      A      and  a      ;Z=0 (NZ) bei CR !!
2942             A;-----
2943 1D94 F5      AECR80      push  af      ;Flags speichern
2944             A;-----
2945 1D95 CD 135F  A      call  SEZL  ;Endzeile markieren
2946 1D98 CD 1263  A      call  CRSPOS;Kursor positionieren
2947 1D9B 3E 0A    A      ld   a,0Ah
2948 1D9D DF      A      rst  18h  ;Ausgabe LF
2949 1D9E AF      A      xor   a
2950 1D9F 32 FC16  A      ld   (INSSW),a ;Grosskursor
2951             A;-----
2952 1DA2 F1      A      pop  af      ;Flags wie oben !
2953 1DA3 37      A      scf          ;CY=1
2954 1DA4 E1      A      pop  hl      ;Stackmanipulation !!
2955 1DA5 C9      A      ret
2956             A;*****
2957             A;Edit-Ctrl-StoP
2958             A;
2959             A;IN: H=Spalte / L=Zeile
2960             A;
2961 1DA6 2C      AECTSP2     inc   l      ;Zeile+1
2962             A;=====
2963 1DA7 CD 1353  AECTSP      call  GLATAD ;Endzeile?
2964 1DAA 28 FA    A      jr   z,ECTSP2 ; Nein-->
2965             A;-----
2966 1DAC CD 1D14  A      call  RESIM ;Res INS-mode
2967 1DAF AF      A      xor   a
2968 1DB0 32 F424  A      ld   (EDIBUF),a ;Puffer loeschen
2969 1DB3 3A F263  A      ld   a,(SPFIRS) ;1.spalte
2970 1DB6 67      A      ld   h,a
2971 1DB7 E5      A      push  hl
2972             A; call  MUINIT ;PSG init
2973             A;-----
2974 1DB8 CD 047F  A      call  TSTPIR ;STOP-IR?
2975 1DBB E1      A      pop  hl
2976 1DBC 38 D3    A      jr   c,ECR70; Ja-->
2977             A;-----
```

```
2978 1DBE 3A FA8D A ld a,(STOPFL)
2979 1DC1 A7 A and a ;Stop ein?
2980 1DC2 20 CD A jr nz,ECR70 ; Nein-->
2981 A;-----
2982 1DC4 18 CE A jr ECR80 ;sonst ( NC/Z !!)
2983 A;*****
2984 A;Edit-INsertM0de
2985 A;
2986 1DC6 21 FC16 AEINMO ld hl,INSSW
2987 1DC9 7E A ld a,(hl)
2988 1DCA EE FF A xor 0FFH ;Switch negieren
2989 1DCC 77 A ld (hl),a
2990 1DCD CA 1D14 A jp z,RESIM;=0-->Reset
2991 1DD0 C3 1D13 A jp SETIM ;<0-->Set
2992 A;*****
2993 A;Edit Shift Line Right
2994 A;
2995 1DD3 CD 154B AESLR call KURENZ
2996 A;=====
2997 1DD6 2A F267 A ld hl,(CRSZL) ;HL=Spalte/Zeile
2998 1DD9 3A F291 A ld a,(ACTCOL)
2999 1DDC 47 A ld b,a
3000 1DDD 0E 20 A ld c,' ' ;C=neues Zeichen
3001 1DDF E5 AESLR10 push hl
3002 A;=====
3003 1DE0 C5 AESLR20 push bc ;neu Zei in Stack
3004 1DE1 CD 1725 A call CHRASC ;C=alt Zei aus BWSP
3005 1DE4 D1 A pop de ;E=neu Zei
3006 1DE5 C5 A push bc ;alt Zei in Stack
3007 1DE6 4B A ld c,e ;C=neu Zei
3008 1DE7 42 A ld b,d
3009 1DE8 CD 175B A call CHRTSC ;neu Zei in BWSP
3010 1DEB C1 A pop bc ;C=alt Zei
3011 A;-----
3012 1DEC 3A F264 A ld a,(SPLAST)
3013 1DEF 24 A inc h ;Spalte+1
3014 1DF0 BC A cp h ;Zeilenende?
3015 1DF1 30 ED A jr nc,ESLR20 ; Nein-->
3016 A;-----
3017 1DF3 E1 A pop hl
3018 1DF4 CD 1353 A call GLATAD ;Endzeile?
3019 1DF7 28 3E A jr z,ESLR70 ; Nein-->
3020 A;-----
3021 1DF9 79 A ld a,c
3022 1DFA FE 20 A cp ' ' ;alt Zei=SPC?
3023 1DFC F5 A push af ;Flags in Stack
3024 1DFD 20 10 A jr nz,ESLR30 ; Nein-->
3025 A;-----
3026 1DFF 3A F264 A ld a,(SPLAST)
3027 1E02 BC A cp h ;letztes Zeichen auf Zeile?
3028 1E03 28 0A A jr z,ESLR30 ; Ja-->
3029 A;-----
3030 1E05 F1 A pop af
3031 1E06 2A F267 AESLR25 ld hl,(CRSZL)
3032 1E09 CD 15AD A call SAZLSP
3033 1E0C C3 152F A jp KUSENZ ;-->Ende !!
3034 A;=====
3035 1E0F CD 1360 AESLR30 call REZL ;Reset Endzeile
```



```
3036 1E12 2C      A   inc   l       ;Zeile+1
3037 1E13 C5      A   push  bc      ;alt Zei in Stack
3038 1E14 E5      A   push  hl
3039 1E15 3A F266 A   ld    a,(ZLLAST)
3040 1E18 BD      A   cp    l       ;Bildende?
3041 1E19 38 05   A   jr    c,ESLR40 ; Ja-->
3042             A;-----
3043 1E1B CD 1646 A   call  BIRURO ;Restbild runterrollen
3044 1E1E 18 11   A   jr    ESLR60
3045             A;-----
3046 1E20 21 F267 AESLR40 ld    hl,CRSZL
3047 1E23 35      A   dec   (hl)   ;Zeile-1
3048 1E24 20 01   A   jr    nz,ESLR50
3049 1E26 34      A   inc   (hl)   ;bei 0-->Zeile+1
3050 1E27 3A F265 AESLR50 ld    a,(ZLFIRS)
3051 1E2A 6F      A   ld    l,a
3052 1E2B CD 15EA A   call  BIHORO ;Bild hochrollen
3053 1E2E E1      A   pop   hl
3054 1E2F 2D      A   dec   l       ;Zeile-1
3055 1E30 E5      A   push  hl
3056             A;-----
3057 1E31 E1      AESLR60 pop   hl
3058 1E32 C1      A   pop   bc      ;C=alt Zei
3059 1E33 F1      A   pop   af      ;Flags
3060 1E34 28 D0   A   jr    z,ESLR25 ; SPC-->
3061 1E36 2D      A   dec   l       ;Zeile-1
3062             A;-----
3063 1E37 2C      AESLR70 inc   l       ;Zeile+1
3064 1E38 3A F263 A   ld    a,(SPFIRS) ;1.SPALTE
3065 1E3B 67      A   ld    h,a
3066 1E3C 18 A1   A   jr    ESLR10 ;alt Zei-->neu Zei
3067             A;*****
3068             A;Edit-DElete
3069             A;
3070 1E3E 3A F264 AEDEL ld    a,(SPLAST)
3071 1E41 BC      A   cp    h       ;Zeilenende?
3072 1E42 20 07   A   jr    nz,EDEL2 ; Nein-->
3073             A;-----
3074 1E44 CD 1353 A   call  GLATAD ;Endzeile?
3075 1E47 E5      A   push  hl
3076 1E48 20 3E   A   jr    nz,EBS50 ; Ja-->
3077 1E4A E1      A   pop   hl
3078             A;-----
3079 1E4B 3E 1C   AEDEL2 ld    a,1CH ;Kursor rechts MIT HC-TASTATUR SONST 1CH
3080 1E4D DF      A   rst   18h
3081 1E4E 2A F267 A   ld    hl,(CRSZL) ;HL=Spalte/Zeile
3082             A;*****
3083             A;Edit-BackSpace
3084             A;
3085             A;IN: H=Spalte / L=Zeile
3086             A;
3087 1E51 CD 154B AEBS call  KURENZ ;Kursor loe.
3088             A;-----
3089 1E54 3A F263 A   ld    a,(SPFIRS)
3090 1E57 BC      A   cp    h
3091 1E58 20 14   A   jr    nz,EBS20 ;kein Zeilenanfang
3092 1E5A E5      A   push  hl
3093 1E5B 3A F265 A   ld    a,(ZLFIRS)
```

```

3094 1E5E BD      A    cp    l
3095 1E5F 28 0B   A    jr    z,EBS10 ; Bildanfang-->
3096 1E61 2D      A    dec    l
3097 1E62 3A F264 A    ld    a,(SPLAST)
3098 1E65 67      A    ld    h,a      ;letzte Spalte
3099 1E66 CD 1353 A    call  GLATAD ;Endzeile?
3100 1E69 20 01   A    jr    nz,EBS10 ; Ja-->
3101 1E6B E3      A    ex    (sp),hl
3102 1E6C E1      AEBS10 pop    hl
3103 1E6D 24      A    inc    h
3104 1E6E 25      AEBS20 dec    h
3105 1E6F E5      A    push   hl
3106                A;-----
3107 1E70 3A F264 AEBS30 ld    a,(SPLAST)
3108 1E73 BC      A    cp    h      ;Zeilenende?
3109 1E74 28 12   A    jr    z,EBS50 ; Ja-->
3110                A;-----
3111 1E76 24      A    inc    h      ;Rest der Zeile
3112 1E77 CD 1725 AEBS40 call  CHRASC
3113 1E7A 25      A    dec    h
3114 1E7B CD 175B A    call  CHTSC
3115 1E7E 24      A    inc    h
3116 1E7F 24      A    inc    h      ; ranruecken
3117 1E80 3A F264 A    ld    a,(SPLAST)
3118 1E83 3C      A    inc    a
3119 1E84 BC      A    cp    h
3120 1E85 20 F0   A    jr    nz,EBS40
3121                A;-----
3122 1E87 25      A    dec    h
3123 1E88 0E 20   AEBS50 ld    c,' '
3124 1E8A 3A F291 A    ld    a,(ACTCOL)
3125 1E8D 47      A    ld    b,a
3126 1E8E CD 175B A    call  CHTSC ;SPC anfüegen
3127                A;-----
3128 1E91 CD 1353 A    call  GLATAD ;Endzeile?
3129 1E94 28 07   A    jr    z,EBS60;nein
3130 1E96 E1      A    pop    hl
3131 1E97 CD 15AD A    call  SAZLSP ;ja ENDE
3132 1E9A C3 152F A    jp    KUSENZ
3133                A;=====
3134 1E9D E5      AEBS60 push   hl      ;Kursorpos retten
3135 1E9E 2C      A    inc    l      ;1.Zeichen der
3136 1E9F 3A F263 A    ld    a,(SPFIRS)
3137 1EA2 67      A    ld    h,a
3138 1EA3 CD 1725 A    call  CHRASC ; auf letztes Zeichen
3139 1EA6 E3      A    ex    (sp),hl
3140 1EA7 CD 175B A    call  CHTSC ; der alten Zeile
3141 1EAA E1      A    pop    hl      ;Kursor auf 1.Zei neue Zeile
3142 1EAB 18 C3   A    jr    EBS30
3143                A;*****
3144                A;Edit-Clear-Line
3145                A;
3146                A;IN: H=Spalte / L=Zeile
3147                A;
3148 1EAD CD 154B AECLLN call  KURENZ ;Kursor loe
3149 1EB0 CD 1F75 A    call  GCPVO ;Kursor an
3150 1EB3 18 05   A    jr    DTLE1
3151                A;*****
    
```

```

3152      A;Delete from kursor to LineEnd
3153      A;
3154      A;IN: H=Spalte / L=Zeile
3155      A;
3156 1EB5 E5      ADTLE push   hl
3157 1EB6 CD 154B A      call   KURENZ ;Kursor loe
3158 1EB9 E1      A      pop    hl
3159      A;-----
3160 1EBA E5      ADTLE1      push   hl
3161 1EBB CD 1353 ADTLE2      call   GLATAD
3162 1EBE F5      A      push   af
3163 1EBF CD 16B5 A      call   CLINFK ;Clear Line From Kursor
3164 1EC2 F1      A      pop    af
3165 1EC3 20 07   A      jr     nz,DTLE3 ;Endzeile-->
3166      A; -----
3167 1EC5 3A F263 A      ld     a,(SPFIRS)
3168 1EC8 67      A      ld     h,a      ;naechste
3169 1EC9 2C      A      inc    l      ; Zeile
3170 1ECA 18 EF   A      jr     DTLE2
3171 1ECC E1      ADTLE3      pop    hl
3172 1ECD CD 15AD ADTLE4      call   SAZLSP
3173 1ED0 AF      ADTLE5      xor    a
3174 1ED1 32 FC16 A      ld     (INSSW),a
3175 1ED4 C3 1D14 A      jp     RESIM ;Res INS-Mode
3176      A;*****
3177      A;kursor Right To LineEnd
3178      A;
3179 1ED7 CD 154B ARTLE call   KURENZ
3180 1EDA 2A F267 A      ld     hl,(CRSZL) ;HL=Spalte/Zeile
3181 1EDD 2D      A      dec    l
3182      A;-----
3183 1EDE 2C      ARTLE2      inc    l      ;Zeile+1
3184 1EDF CD 1353 A      call   GLATAD ;Endzeile?
3185 1EE2 28 FA   A      jr     z,RTLE2 ; Nein-->
3186      A;-----
3187 1EE4 3A F264 A      ld     a,(SPLAST)
3188 1EE7 67      A      ld     h,a
3189 1EE8 24      A      inc    h      ;Letzte Spalte +1
3190      A; -----
3191 1EE9 25      ARTLE4      dec    h      ;Spalte-1
3192 1EEA 28 0E   A      jr     z,RTLE6;Zeilenanfang-->
3193 1EEC CD 1725 A      call   CHRASC
3194 1EEF FE 20   A      cp     ' ' ;SPC?
3195 1EF1 28 F6   A      jr     z,RTLE4; Ja-->
3196      A;-----
3197 1EF3 3A F264 A      ld     a,(SPLAST)
3198 1EF6 BC      A      cp     h
3199 1EF7 28 01   A      jr     z,RTLE6
3200 1EF9 24      A      inc    h
3201 1EFA 18 D1   ARTLE6      jr     DTLE4
3202      A;*****
3203      A;kursor Right To New Word
3204      A;
3205 1EFC CD 154B ARTNW call   KURENZ ;Kursor loe
3206 1EFF CD 1F38 A      call   ZTKL ;Kursor links
3207      A;-----
3208 1F02 CD 1F28 ARTNW2      call   ZTKR ;Zeichentest
3209 1F05 28 C6   A      jr     z,DTLE4 ;Bildende-->

```

```
3210 1F07 38 F9      A   jr      c,RTNW2 ;kein Trennzeichen-->
3211                A;-----
3212 1F09 CD 1F28     ARTNW4      call   ZTKR  ;Zeichentest
3213 1F0C 28 BF      A   jr      z,DTLE4 ;Bildende-->
3214 1F0E 30 F9      A   jr      nc,RTNW4 ;Trennzeichen-->
3215                A;-----
3216 1F10 18 BB      A   jr      DTLE4
3217                A;*****
3218                A;kursor Left To New Word
3219                A;
3220 1F12 CD 154B     ALTNW call   KURENZ
3221                A;-----
3222 1F15 CD 1F38     ALTNW2      call   ZTKL
3223 1F18 28 B3      A   jr      z,DTLE4;Bildanfang-->
3224 1F1A 30 F9      A   jr      nc,LTNW2 ;Trennzeichen-->
3225                A;-----
3226 1F1C CD 1F38     ALTNW4      call   ZTKL
3227 1F1F 28 AC      A   jr      z,DTLE4;Bildanfang-->
3228 1F21 38 F9      A   jr      c,LTNW4 ;kein Trennzeichen-->
3229                A;-----
3230 1F23 CD 159D     A   call   KUREFS
3231 1F26 18 A8      A   jr      DTLE5
3232                A;*****
3233                A;ZeichenTest ab Kursor+1 nach Rechts
3234                A;
3235                A;OUT: Z: Bildende
3236                A;   NZ/NC: Trennzeichen
3237                A;   NZ/CY: kein Trennzeichen
3238                A;
3239 1F28 2A F267     AZTKR ld     hl,(CRSZL) ;HL=Spalte/Zeile
3240 1F2B CD 159D     A   call   KUREFS
3241                A;-----
3242 1F2E 3A F266     A   ld     a,(ZLLAST)
3243 1F31 5F          A   ld     e,a
3244 1F32 3A F264     A   ld     a,(SPLAST)
3245 1F35 57          A   ld     d,a   ;DE=Sollkursor
3246 1F36 18 0E      A   jr      ZTKL2  ; (Bildende)
3247                A;*****
3248                A;ZeichenTest ab Kursor-1 nach Links
3249                A;
3250                A;OUT: Z: Bildanfang
3251                A;   NZ/NC: Trennzeichen
3252                A;   NZ/CY: kein Trennzeichen
3253                A;
3254 1F38 2A F267     AZTKL ld     hl,(CRSZL) ;HL=Spalte/Zeile
3255 1F3B CD 1585     A   call   KULIFS
3256 1F3E 3A F263     A   ld     a,(SPFIRS)
3257 1F41 57          A   ld     d,a
3258 1F42 3A F265     A   ld     a,(ZLFIRS)
3259 1F45 5F          A   ld     e,a   ; DE SOLLKURSOR
3260                A;=====
3261 1F46 2A F267     AZTKL2      ld     hl,(CRSZL)   ;Istkursor
3262 1F49 E7          A   rst    20h
3263 1F4A C8          A   ret    z        ;RET (Z), wenn gleich
3264                A;-----
3265 1F4B 11 1F71     A   ld     de,ZTKL4 ;Ret-Adr
3266 1F4E D5          A   push  de        ; in Stack
3267 1F4F CD 1725     A   call  CHRASC ;Zeichen in A
```

```

3268
3269 1F52 FE 30 A;=====
A cp 30H
3270 1F54 3F A ccf
3271 1F55 D0 A ret nc ;sonst-->RET (NC)
3272 1F56 FE 3A A cp 3AH
3273 1F58 D8 A ret c ;Zahl-->RET (CY)
3274 A;-----
3275 1F59 FE 41 A cp 41H
3276 1F5B 3F A ccf
3277 1F5C D0 A ret nc ;sonst-->RET (NC)
3278 1F5D FE 5B A cp 5BH
3279 1F5F D8 A ret c ;Grossbuchstabe-->RET (CY)
3280 A;-----
3281 1F60 FE 61 A cp 61H
3282 1F62 3F A ccf
3283 1F63 D0 A ret nc ;sonst-->RET (NC)
3284 1F64 FE 7B A cp 7BH
3285 1F66 D8 A ret c ;Kleinbuchstabe-->RET (CY)
3286 A;-----
3287 1F67 FE 86 A cp 86H
3288 1F69 3F A ccf
3289 1F6A D0 A ret nc ;sonst-->RET (NC)
3290 1F6B FE A0 A cp 0A0H
3291 1F6D D8 A ret c ;86H..A0H-->RET (CY)
3292 A;-----
3293 1F6E FE A6 A cp 0A6H
3294 1F70 3F A ccf ;>=A6H-->RET (CY)
3295 A;=====
3296 1F71 3E 00 AZTKL4 ld a,0
3297 1F73 3C A inc a ;NZ
3298 1F74 C9 A ret
3299 A;*****
3300 A;Get CursorPosition V0r eingabe
3301 A;
3302 A;IN: HL=Spalte/Zeile (aktuell)
3303 A;OUT:HL=Spalte/Zeile (ab Eingabebeginn)
3304 A;
3305 1F75 3A F265 AGCPV0 LD A,(ZLFIRS)
3306 1F78 BD A CP L
3307 1F79 28 07 A jr z,GCPV02 ; Bildanfang-->
3308 A;-----
3309 1F7B 2D A DEC L
3310 1F7C CD 1353 A call GLATAD ;Endzeile?
3311 1F7F 28 F4 A JR Z,GCPV0;NEIN
3312 A;-----
3313 1F81 2C AGCPV01 inc l ;Zeile+1
3314 1F82 3A FAC0 AGCPV02 ld a,(CUPOVO) ;Kursor noch
3315 1F85 BD A cp l ; in selber Zeile?
3316 1F86 3A F263 A ld a,(SPFIRS)
3317 1F89 67 A ld h,a
3318 1F8A C0 A ret nz ; Nein-->RET
3319 A;-----
3320 1F8B 2A FAC0 A ld hl,(CUPOVO) ;HL=alte Kursorposition
3321 1F8E C9 A ret
3322 A;*****
3323 A;-----
3324 1F8F CD 1FA7 ACOMND call FULL
3325 1F92 D3 99 A out (COMNP),a
    
```

```

3326 1F94 C9      A      ret
3327              A;-----
3328 1F95 3E 70   APARAM2      ld      a,PRAM
3329 1F97 CD 1F8F  APARAM3      call   COMND
3330 1F9A 21 F2B5  APARAM      ld      hl,PPARAM
3331 1F9D 0E 98    APARAM0      ld      c,PARAP
3332 1F9F CD 1FA7  APARAM1      call   FULL
3333 1FA2 ED A3    A      outi
3334 1FA4 20 F9   A      jr      nz,PARAM1
3335 1FA6 C9      A      ret
3336              A;-----
3337 1FA7 F5      AFULL push   af
3338 1FA8 DB 98   AFULL1      in      a,(FLAGR)
3339 1FAA E6 02   A      and    2
3340 1FAC 20 FA   A      jr      nz,FULL1
3341 1FAE F1      A      pop   af
3342 1FAF C9      A      ret
3343              A;-----
3344 1FB0 F5      AREADY      push   af
3345 1FB1 DB 98   AREADY1     in      a,(FLAGR)
3346 1FB3 E6 01   A      and    1
3347 1FB5 28 FA   A      jr      z,READY1
3348 1FB7 F1      A      pop   af
3349 1FB8 C9      A      ret
3350              A;-----
3351              A;FIGS-Parameter ausgeben
3352              A;IN: bc Anzahl
3353              A;OUT: bc,de,hl uv
3354 1FB9 DB 98   APFIGS      in      a,(FLAGR)
3355 1FBB E6 04   A      and    4          ;FIFO leer?
3356 1FBD 28 FA   A      jr      z,PFIGS
3357 1FBF 3E 4C   A      ld      a,FIGS
3358 1FC1 D3 99   A      out   (COMNP),a
3359 1FC3 3E 02   A      ld      a,2
3360 1FC5 D3 98   A      out   (PARAP),a      ;Richtung
3361 1FC7 79     A      ld      a,c
3362 1FC8 D3 98   A      out   (PARAP),a
3363 1FCA 78     A      ld      a,b
3364 1FCB D3 98   A      out   (PARAP),a      ;Anzahl
3365 1FCD C9      A      ret
3366              A;=====
3367 1FCE          AINPPSG
3368 1FCE          AVDPCOM
3369 1FCE          AVDPDAM
3370 1FCE          APRGVDP
3371 1FCE          APR7VDP
3372 1FCE          AVDPSC0
3373 1FCE          AVDPSC1
3374 1FCE          AVDPSC2
3375 1FCE          AVDPSC3
3376 1FCE          AGSPRAD
3377 1FCE          AGSPRAT
3378 1FCE          ATESPRM
3379 1FCE          ASTAVDP
3380 1FCE          AVDPWRM
3381 1FCE DD 21 0000#AVDPREM      ld      ix,ERINT
3382 1FD2 C3 0239  A      jp      L1CALL
          20          INCLUDESPRITE.Z80
    
```

```

1          A;*****
2          A;PUT SPRite 8*8 Pixel in Bildspeicher setzen
3          A;          alten BS-Inhalt retten
4          A;
5          A; IN: a Nummer des Sprite
6          A;      bc x-Koordinate
7          A;      de y-Koordinate
8          A;
9          A; Stand: 10.04.89
10         A;
11         A;-----
12 1FD5 F5  APUTSPR      push  af
13 1FD6 21 FF93 A      ld      hl,SPRT0
14 1FD9 3C    A      inc      a
15 1FDA 3D    APUSP1     dec      a
16 1FDB CA 1FE3 A      jp      z,PUSP2
17 1FDE 23    A      inc      hl
18 1FDF 23    A      inc      hl
19 1FE0 C3 1FDA A      jp      PUSP1
20 1FE3 E5    APUSP2     push   hl
21 1FE4 DD E1  A      pop     ix      ;Zeiger auf akt.Sprite
22 1FE6 DD 7E 30 A      ld      a,(ix+48)
23 1FE9 DD B6 31 A      or      (ix+49);Test,ob Sprite definiert
24 1FEC 37    A      scf
25 1FED C8    A      ret      z      ;nicht definiert -> CY=1
26 1FEE F3    A      di
27 1FEF 7E    A      ld      a,(hl)
28 1FF0 B7    A      or      a      ;Test POIMA*
29 1FF1 C4 2163 A      call   nz,RUECK      ;R}ckschreiben alter Hintergrund
30 1FF4 CD 1854 A      call   TPPOS      ;neue Koordinate testen
31 1FF7 D2 200C A      jp      nc,PUSP3      ;ausserhalb
32 1FFA C5    A      push   bc
33 1FFB D5    A      push   de
34 1FFC CD 188F A      call   MKPMA
35 1FFF 11 0007 A      ld      de,7
36 2002 E1    A      pop     hl
37 2003 19    A      add     hl,de
38 2004 EB    A      ex      de,hl      ;de=de+7
39 2005 C1    A      pop     bc
40 2006 09    A      add     hl,bc
41 2007 44    A      ld      b,h
42 2008 4D    A      ld      c,l      ;bc=bc+7
43 2009 CD 1854 A      call   TPPOS      ;rechte obere Ecke
44 200C DD 72 00 APUSP3     ld      (ix),d      ;(POIMA*)=0
45 200F D2 215F A      jp      nc,PUSPFE      ;fertig
46 2012 DD 73 01 A      ld      (ix+1),e      ;y+7
47 2015 DD 71 10 A      ld      (ix+16),c
48 2018 DD 70 11 A      ld      (ix+17),b      ;x+7
49 201B F1    A      pop     af
50 201C F5    A      push   af
51 201D DD E5  A      push   ix
52 201F 57    A      ld      d,a      ;Z{hler f}r h|here Priorit{t
53         A
54         A      ;-----
55         A      ;Test, ob Sprite mit h|herer Priorit{t vorhanden
56         A      ;wenn ja, dann aktuelles Sprite nicht setzen
57         A      ;-----
57 2020 14    A      inc      d
58 2021 15    APUSP4     dec      d

```

```
59 2022 CA 205D A jp z,PUSP5
60 2025 DD 2B A dec ix
61 2027 DD 2B A dec ix ;Zeiger auf Daten n{chstes Sprite
62 2029 DD 7E 00 A ld a,(ix) ;Test (POIMA*)
63 202C A7 A and a
64 202D CA 2021 A jp z,PUSP4;Sprite ist nicht gesetzt
65 2030 DD 7E 01 A ld a,(ix+1)
66 2033 93 A sub e ;y-Koordinate
67 2034 D2 2039 A jp nc,PUSP42
68 2037 ED 44 A neg
69 2039 E6 F8 APUSP42 and 0F8h ;max 15 Pixel Abstand
70 203B C2 2021 A jp nz,PUSP4 ;nein
71 203E DD 6E 10 A ld l,(ix+16)
72 2041 DD 66 11 A ld h,(ix+17) ;x-Koordinate
73 2044 ED 42 A sbc hl,bc ;max 15 Pixel Abstand
74 2046 D2 2050 A jp nc,PUSP41
75 2049 7C A ld a,h
76 204A 2F A cpl
77 204B 67 A ld h,a
78 204C 7D A ld a,l
79 204D 2F A cpl
80 204E 6F A ld l,a
81 204F 23 A inc hl ;Zweierkomplement hl
82 2050 7D APUSP41 ld a,l
83 2051 E6 F8 A and 0F8h
84 2053 B4 A or h
85 2054 C2 2021 A jp nz,PUSP4 ;nein
86 2057 E1 A pop hl ;getroffen -> Sprite nicht setzen
87 2058 F1 A pop af
88 2059 FB A ei
89 205A C3 21C3 A jp KOLLI
90 A ;-----
91 205D DD E1 APUSP5 pop ix
92 205F F1 A pop af
93 2060 DD E5 A push ix
94 2062 F6 F8 A or 0F8H
95 2064 2F A cpl
96 2065 57 A ld d,a ;d=7-a Z{hler niedrigere Priorit{t
97 A ;-----
98 A ;Test, ob Sprite mit niedrigerer Priorit{t vorhanden
99 A ;wenn ja, dann dieses Sprite l|schen
100 A ;-----
101 2066 AF A xor a
102 2067 32 F682 A ld (HSWAP),a ;Hilfszelle Z{hlen niedere Sprites
103 206A 14 A inc d
104 206B 15 APUSP6 dec d
105 206C CA 20B0 A jp z,PUSP7;keine niederen Sprites mehr
106 206F DD 23 A inc ix
107 2071 DD 23 A inc ix ;Zeiger auf n{chsten niederes Spite
108 2073 DD 7E 00 A ld a,(ix)
109 2076 A7 A and a ;Test, ob Sprite gesetzt
110 2077 CA 206B A jp z,PUSP6;nein
111 207A DD 7E 01 A ld a,(ix+1) ;y-Koordinate
112 207D 93 A sub e ;max 15 Pixel Abstand
113 207E D2 2083 A jp nc,PUSP62
114 2081 ED 44 A neg
115 2083 E6 F8 APUSP62 and 0F8h
116 2085 C2 206B A jp nz,PUSP6 ;nein
```



```
117 2088 DD 6E 10 A ld l,(ix+16)
118 208B DD 66 11 A ld h,(ix+17)
119 208E ED 42 A sbc hl,bc
120 2090 D2 209A A jp nc,PUSP61
121 2093 7C A ld a,h
122 2094 2F A cpl
123 2095 67 A ld h,a
124 2096 7D A ld a,l
125 2097 2F A cpl
126 2098 6F A ld l,a
127 2099 23 A inc hl ;Zweierkomplement hl
128 209A 7D APUSP61 ld a,l ;x-Koordinate
129 209B E6 F8 A and 0F8h ;max 15 Pixel Abstand
130 209D B4 A or h
131 209E C2 206B A jp nz,PUSP6 ;nein
132 20A1 DD E5 A push ix ;getroffen
133 20A3 E1 A pop hl
134 20A4 7E A ld a,(hl) ;POIMA*
135 20A5 36 00 A ld (hl),0
136 20A7 CD 2163 A call RUECK ;Sprite wegnehmen
137 20AA CD 21BA A call BKOLLI ;bedingte Kollisionsanzeige
138 20AD C3 206B A jp PUSP6 ;n{chstes Sprite
139 A ;-----
140 20B0 DD E1 APUSP7 pop ix ;Zeiger akt. Sprite regenerieren
141 20B2 3A F7F3 A ld a,(POIMA)
142 20B5 DD 77 00 A ld (ix),a ;POIMA* aktual.
143 20B8 ED 5B F7F1 A ld de,(POIADR)
144 20BC DD 73 20 A ld (ix+32),e
145 20BF DD 72 21 A ld (ix+33),d ;POIADR* aktual.
146 20C2 DD 6E 30 A ld l,(ix+48)
147 20C5 DD 66 31 A ld h,(ix+49) ;hl Zeiger auf Hintergrundpuffer
148 A ;-----
149 A ;Hintergrund speichern
150 A ;-----
151 20C8 01 0398 A ld bc,398h;b=3 3 Spalten c=98h PARAP
152 20CB C5 APUSP8 push bc
153 20CC 3E 49 A ld a,CURS
154 20CE D3 99 A out (COMNP),a
155 20D0 ED 59 A out (c),e
156 20D2 ED 51 A out (c),d
157 A ;-----
158 20D4 3E 4C A ld a,FIGS
159 20D6 D3 99 A out (COMNP),a
160 20D8 3E 04 A ld a,4
161 20DA D3 98 A out (PARAP),a
162 20DC 87 A add a,a ;a=8 Anzahl
163 20DD D3 98 A out (PARAP),a
164 20DF AF A xor a
165 20E0 D3 98 A out (PARAP),a
166 A ;-----
167 20E2 01 1099 A ld bc,1099h ;b=16 Zahhler c=99h Portnr.
168 20E5 DB 98 APUSP9 in a,(FLAGR) ;Test vor READ
169 20E7 E6 04 A and 4
170 20E9 28 FA A jrz,PUSP9
171 20EB 3E A0 A ld a,RDATWO
172 20ED D3 99 A out (COMNP),a
173 20EF DB 98 APUSP10 in a,(FLAGR) ;Test,ob gelesen
174 20F1 E6 01 A and 1
```

```
175 20F3 28 FA      A    jr      z,PUSP10
176 20F5 ED A2      A    ini
177 20F7 C2 20EF    A    jp      nz,PUSP10
178 20FA 13         A    inc     de
179 20FB C1         A    pop     bc
180 20FC 10 CD      A    djnz   PUSP8 ;noch nicht alle Spalten
181                A    ;-----
182 20FE 3E 4C      A    ld      a,FIGS ;Schreibrichtung r}ckstellen
183 2100 D3 99      A    out    (COMNP),a
184 2102 3E 02      A    ld      a,2
185 2104 D3 98      A    out    (PARAP),a
186 2106 AF         A    xor     a
187 2107 D3 98      A    out    (PARAP),a
188 2109 D3 98      A    out    (PARAP),a
189                A;-----
190                A;Sprite entsprechend POIMA in VRAM schreiben
191                A;IN: hl Zeiger auf Spritepuffer
192                A;-----
193 210B 3A F7F3    A    ld      a,(POIMA)
194 210E 11 0018    A    ld      de,24
195 2111 0F         APUSP11   rrca
196 2112 DA 2119    A    jp      c,PUSP12
197 2115 19         A    add    hl,de ;Zeiger auf n{chste Spritestellung
198 2116 C3 2111    A    jp      PUSP11
199 2119 EB         APUSP12   ex     de,hl ;de Quellpuffer
200 211A 01 0898    A    ld      bc,898h;b Z{hler 8 Zeilen c Portadr.
201 211D 2A F7F1    A    ld      hl,(POIADR)
202                A    ;-----
203 2120 DB 98      APUSSY1   in     a,(FLAGR)
204 2122 E6 20      A    and    20h
205 2124 C2 2120    A    jp      nz,PUSSY1
206 2127 DB 98      APUSSY2   in     a,(FLAGR)
207 2129 E6 20      A    and    20h
208 212B CA 2127    A    jp      z,PUSSY2
209                A    ;-----
210 212E C5         APUSP13   push   bc
211 212F 3E 49      A    ld      a,CURS
212 2131 D3 99      A    out    (COMNP),a
213 2133 ED 69      A    out    (c),l
214 2135 ED 61      A    out    (c),h
215 2137 AF         A    xor     a
216 2138 01 0050    A    ld      bc,80
217 213B ED 42      A    sbc    hl,bc
218 213D E5         A    push   hl ;Kursor n{chste Zeile kellern
219 213E 01 0398    A    ld      bc,398h;b Z{hler 3 Spalten c Portadr.
220 2141 2A F27A    A    ld      hl,(PALCOL)
221 2144 3E 4A      APUSP14   ld     a,MASK
222 2146 D3 99      A    out    (COMNP),a
223 2148 1A         A    ld      a,(de) ;aktuelle Maske
224 2149 13         A    inc     de
225 214A D3 98      A    out    (PARAP),a
226 214C D3 98      A    out    (PARAP),a
227 214E 3E 20      A    ld      a,WDATWO
228 2150 D3 99      A    out    (COMNP),a
229 2152 ED 69      A    out    (c),l
230 2154 ED 61      A    out    (c),h
231 2156 10 EC      A    djnz   PUSP14 ;noch nicht 3 Spalten
232 2158 E1         A    pop     hl
```

```
233 2159 C1      A    pop    bc
234 215A 10 D2    A    djnz   PUSP13 ;noch nicht alle 8 Zeilen
235 215C AF      A    xor    a      ;cY=0
236 215D FB      A    ei
237 215E C9      A    ret                    ;fertig geschrieben
238 215F F1      APUSPFE    pop    af
239 2160 AF      A    xor    a      ;CY=0
240 2161 FB      A    ei
241 2162 C9      A    ret                    ;fertig ohne Schreiben
242          A;-----
243          A;3 mal 8 Worte entsprechend POIMA in den Bildspeicher schreiben
244          A;IN : hl POIADR de Zeiger auf Quellpuffer a POIMA
245          A;-----
246 2163 C5      ARUECK      push   bc
247 2164 D5      A    push   de
248 2165 E6 0F    A    and    0Fh
249 2167 3D      A    dec    a
250 2168 2F      A    cpl
251 2169 47      A    ld     b,a
252 216A 0F      A    rrca
253 216B 0F      A    rrca
254 216C 0F      A    rrca
255 216D 0F      A    rrca
256 216E A0      A    and    b
257 216F 47      A    ld     b,a
258 2170 2F      A    cpl
259 2171 F5      A    push   af
260 2172 C5      A    push   bc
261 2173 01 0010  A    ld     bc,16
262 2176 09      A    add    hl,bc
263 2177 09      A    add    hl,bc ;hl Zeiger auf POIADR*
264 2178 5E      A    ld     e,(hl)
265 2179 23      A    inc    hl
266 217A 56      A    ld     d,(hl)
267 217B 09      A    add    hl,bc ;hl Zeiger auf Highbyte der Spriteadresse
268 217C 7E      A    ld     a,(hl)
269 217D 2B      A    dec    hl
270 217E 6E      A    ld     l,(hl)
271 217F 67      A    ld     h,a ;hl Quelle de Zeiger in VRAM
272 2180 3E 4C    A    ld     a,FIGS
273 2182 D3 99    A    out    (COMNP),a
274 2184 3E 04    A    ld     a,4 ;Richtung ^
275 2186 D3 98    A    out    (PARAP),a
276 2188 AF      A    xor    a
277 2189 D3 98    A    out    (PARAP),a
278 218B D3 98    A    out    (PARAP),a ;Anzahl -1 = 0
279 218D C1      A    pop    bc
280 218E 0E 98    A    ld     c,PARAP
281 2190 CD 21A0  A    call   RUECK2 ;Spalte 1 mit MASKE schreiben
282 2193 06 FF    A    ld     b,0FFh
283 2195 CD 21A0  A    call   RUECK2 ;Spalte 2 mit Maske FF schreiben
284 2198 F1      A    pop    af
285 2199 CD 219F  A    call   RUECK1 ;Spalte 3 mit NMASKE schreiben
286 219C D1      A    pop    de
287 219D C1      A    pop    bc
288 219E C9      A    ret
289          A;-----
290          A;1 mal 8 Worte senkrecht in den Bildspeicher schreiben
```

```

291          A;IN: a Maske de POIADR hl Zeiger in Quellpuffer
292          A;OUT: de POIADR+1 hl Zeiger in Quellpuffer
293          A;
294 219F 47   ARUECK1      ld      b,a
295 21A0 3E 49 ARUECK2      ld      a,CURS
296 21A2 D3 99 A      out      (COMNP),a
297 21A4 ED 59 A      out      (c),e
298 21A6 ED 51 A      out      (c),d
299 21A8 3E 4A A      ld      a,MASK
300 21AA D3 99 A      out      (COMNP),a
301 21AC ED 41 A      out      (c),b
302 21AE ED 41 A      out      (c),b
303 21B0 06 10 A      ld      b,16
304 21B2 3E 20 A      ld      a,WDATWO
305 21B4 D3 99 A      out      (COMNP),a      ;hl Quellpuffer
306 21B6 ED B3 A      otir
307 21B8 13   A      inc      de      ;POIADR +1
308 21B9 C9   A      ret
309          A;=====
310          A;Kollisionsanmeldung
311          A;-----
312 21BA 3A F682 ABKOLLI      ld      a,(HSWAP)
313 21BD A7   A      and      a
314 21BE C0   A      ret      nz      ;Spriteinterrupt bereits angemeldet
315 21BF 3C   A      inc      a
316 21C0 32 F682 A      ld      (HSWAP),a
317 21C3 21 FBDB AKOLLI      ld      hl,SPRISW
318 21C6 7E   A      ld      a,(hl)
319 21C7 E6 01 A      and      1      ;IR ON gewesen?
320 21C9 C8   A      ret      z      ;nein
321 21CA 7E   A      ld      a,(hl)
322 21CB F6 04 A      or      4      ;IR STOP gewesen?
323 21CD BE   A      cp      (hl)
324 21CE C8   A      ret      z      ;ja
325 21CF 77   A      ld      (hl),a ;IR STOP
326 21D0 EE 05 A      xor      5
327 21D2 C0   A      ret      nz
328 21D3 21 FACE A      ld      hl,IRVAN
329 21D6 34   A      inc      (hl) ;Anmeldung hochzaehlen
330 21D7 C9   A      ret
331          A;=====
332          A;SPRiteRESet
333          A;-----
334 21D8 21 FF93 ASPRES      ld      hl,SPRT0
335 21DB 06 40 A      ld      b,64
336 21DD AF   A      xor      a
337 21DE 77   ASPRE1      ld      (hl),a
338 21DF 23   A      inc      hl
339 21E0 10 FC A      djnz     SPRRE1
340 21E2 C9   A      ret
341          A;-----
21          ;
22          0000      COND      $ GT BIC1
24          ENDC
25          ;
27          0000      RSOLO      EQU      0
28          0000      DSE EQU      0
29          0000      DSE1RA     EQU      0
    
```

```
30      0000      DSE2RA      EQU      0
31      0000      SCP EQU      0
```

# BIC1 2300-7FFF

```

1          ;*****
2          ;Rahmenfile fuer Uebersetzung (Kassetten-) BASIC
3          ;File: BIC1.S
4          ;Stand: 28.03.89
5          ;*****
6          INCLUDEORG.Z80
1          A;*****
2          A;Symbol. Vereinbarung aller ORG's
3          A;Stand: 22.11.89
4          A;File: ORG.S
5          A;-----
6          2300 ABIC1 EQU    2300H ;R-BASIC (Busch)
7          A;
8          6420 ADSE2 EQU    6420H ;Floppy-Treiber (Ludewig,Loeber)
9          7880 ADSE3 EQU    7880H ;Bildteil SCP (Gaertner)
10         A          ;BIOS,Disk (Ludewig)
11         8000 ASCPROM EQU    08000H ;Erweiterung SCP-ROM
12         A;
13         E606 ABDOSCP EQU    0E606H ;Achtung: XX06H !!!
14         A          ;RAM fuer BDOS nur in SCP
15         A          ;RAM fuer SCP-ROM-Treiber
16         E880 ADSK1RA EQU    0E880H ;Disk-RAM 1 (Busch,Kersten)
17         EA27 ADSK2RA EQU    0EA27H ;Disk-RAM 2 (Ludewig,Loeber)
18         F235 ASYSRAM EQU    0F235H ;Grund-RAM
19         A;
20         BFF9 APLOT EQU    0C000H-7;Plotteranschluss
21         A;*****
7          ;
8          2300          org    BIC1
9          ;
11         INCLUDEBASIC.Z80
1          A;=====
2          A; ROM-BASIC
3          A; File: BASIC.S
4          A; Stand: 27.06.89
5          A;=====
183        A.LIST
184        A;=====
185 2300 C3 7CCA AJBAINI      jp      INIT
186 2303 C3 555D AJCPSTX      jp      CPSTX0
187 2306 C3 464F AJTCHAR      jp      TCHAR0
188 2309 C3 5568 AJTYPTS      jp      TYPTS0
189        A;
190 230C 21 F70D ASUB8 ld      hl,AC2
191 230F 7E          A      ld      a,(hl)
192 2310 B7          A      or      a
193 2311 C8          A      ret     z
194 2312 EE 80      A      xor     80H
195 2314 77          A      ld      (hl),a
196 2315 18 09      A      jr      ADD81
197        A;
198 2317 CD 2B6F    AADD80      call    HLAC2T
199 231A 21 F70D    AADD8 ld      hl,AC2
200 231D 7E          A      ld      a,(hl)
201 231E B7          A      or      a
202 231F C8          A      ret     z
203 2320 E6 7F      AADD81      and     7FH
204 2322 47          A      ld      b,a

```

```
205 2323 11 F6BC A ld de,AC1
206 2326 1A A ld a,(de)
207 2327 B7 A or a
208 2328 CA 2B85 A jp z,AC21T
209 232B E6 7F A and 7FH
210 232D 90 A sub b
211 232E 30 11 A jr nc,ADD83
212 2330 2F A cpl
213 2331 3C A inc a
214 2332 F5 A push af
215 2333 E5 A push hl
216 2334 06 08 A ld b,8
217 2336 1A AADD82 ld a,(de)
218 2337 4E A ld c,(hl)
219 2338 77 A ld (hl),a
220 2339 79 A ld a,c
221 233A 12 A ld (de),a
222 233B 13 A inc de
223 233C 23 A inc hl
224 233D 10 F7 A djnz ADD82
225 233F E1 A pop hl
226 2340 F1 A pop af
227 2341 FE 10 AADD83 cp 10H
228 2343 D0 A ret nc
229 2344 F5 A push af
230 2345 AF A xor a
231 2346 32 F6C4 A ld (ARIBU),a
232 2349 32 F715 A ld (HLPCNV),a
233 234C 21 F70E A ld hl,AC2+1
234 234F F1 A pop af
235 2350 CD 2423 A call ADD80
236 2353 21 F70D A ld hl,AC2
237 2356 3A F6BC A ld a,(AC1)
238 2359 AE A xor (hl)
239 235A FA 2377 A jp m,ADD84
240 235D 3A F715 A ld a,(HLPCNV)
241 2360 32 F6C4 A ld (ARIBU),a
242 2363 CD 23D9 A call ADD8E
243 2366 D2 23BC A jp nc,ADD8B
244 2369 EB A ex de,hl
245 236A 7E A ld a,(hl)
246 236B 34 A inc (hl)
247 236C AE A xor (hl)
248 236D FA 4068 A jp m,EROV
249 2370 CD 245B A call ADD8S
250 2373 CB E6 A set 4,(hl)
251 2375 18 45 A jr ADD8B
252 2377 CD 23EB AADD84 call ADD8H
253 237A 21 F6BD AADD85 ld hl,AC1+1
254 237D 01 0800 A ld bc,800H
255 2380 7E AADD86 ld a,(hl)
256 2381 B7 A or a
257 2382 20 08 A jr nz,ADD87
258 2384 23 A inc hl
259 2385 0D A dec c
260 2386 0D A dec c
261 2387 10 F7 A djnz ADD86
262 2389 C3 2AFD A jp NULAC1
```

```
263 238C E6 F0      AADD87      and    0F0H    ;PLUSTOK
264 238E 20 06      A    jr      nz,ADD88
265 2390 E5          A    push   hl
266 2391 CD 2417   A    call   ADD8L
267 2394 E1          A    pop    hl
268 2395 0D          A    dec    c
269 2396 3E 08     AADD88     ld     a,8
270 2398 90          A    sub    b
271 2399 28 12     A    jr      z,ADD8A
272 239B F5          A    push   af
273 239C C5          A    push   bc
274 239D 48          A    ld     c,b
275 239E 11 F6BD   A    ld     de,AC1+1
276 23A1 06 00     A    ld     b,0
277 23A3 ED B0     A    ldir
278 23A5 C1          A    pop    bc
279 23A6 F1          A    pop    af
280 23A7 47          A    ld     b,a
281 23A8 AF          A    xor    a
282 23A9 12     AADD89     ld     (de),a
283 23AA 13          A    inc    de
284 23AB 10 FC     A    djnz   ADD89
285 23AD 79     AADD8A     ld     a,c
286 23AE B7          A    or     a
287 23AF 28 0B     A    jr      z,ADD8B
288 23B1 21 F6BC   A    ld     hl,AC1
289 23B4 46          A    ld     b,(hl)
290 23B5 86          A    add    a,(hl)
291 23B6 77          A    ld     (hl),a
292 23B7 A8          A    xor    b
293 23B8 FA 4068   A    jp     m,EROV
294 23BB C8          A    ret
295 23BC 21 F6C4   AADD8B     ld     hl,ARIBU
296 23BF 06 07     A    ld     b,7
297 23C1 7E     AADD8C     ld     a,(hl)
298 23C2 FE 50     A    cp     'P'
299 23C4 D8          A    ret    c
300 23C5 2B          A    dec    hl
301 23C6 AF          A    xor    a
302 23C7 37          A    scf
303 23C8 8E     AADD8D     adc    a,(hl)
304 23C9 27          A    daa
305 23CA 77          A    ld     (hl),a
306 23CB D0          A    ret    nc
307 23CC 2B          A    dec    hl
308 23CD 10 F9     A    djnz   ADD8D
309 23CF 7E          A    ld     a,(hl)
310 23D0 34          A    inc    (hl)
311 23D1 AE          A    xor    (hl)
312 23D2 FA 4068   A    jp     m,EROV
313 23D5 23          A    inc    hl
314 23D6 36 10     A    ld     (hl),10H
315 23D8 C9          A    ret
316 23D9 21 F714   AADD8E     ld     hl,AC2+7
317 23DC 11 F6C3   A    ld     de,AC1+7
318 23DF 06 07     A    ld     b,7
319 23E1 AF          AADD8F     xor    a
320 23E2 1A     AADD8G     ld     a,(de)
```



```
321 23E3 8E      A   adc   a,(hl)
322 23E4 27      A   daa
323 23E5 12      A   ld    (de),a
324 23E6 1B      A   dec   de
325 23E7 2B      A   dec   hl
326 23E8 10 F8     A   djnz  ADD8G
327 23EA C9      A   ret
328 23EB 21 F715   AADD8H   ld     hl,HLPCNV
329 23EE 7E      A   ld    a,(hl)
330 23EF FE 50     A   cp    'P'
331 23F1 20 01     A   jr    nz,ADD8I
332 23F3 34      A   inc   (hl)
333 23F4 11 F6C4   AADD8I   ld     de,ARIBU
334 23F7 06 08     A   ld    b,8
335 23F9 AF      A   xor   a
336 23FA 1A      AADD8J   ld     a,(de)
337 23FB 9E      A   sbc   a,(hl)
338 23FC 27      A   daa
339 23FD 12      A   ld    (de),a
340 23FE 1B      A   dec   de
341 23FF 2B      A   dec   hl
342 2400 10 F8     A   djnz  ADD8J
343 2402 D0      A   ret   nc
344 2403 EB      A   ex    de,hl
345 2404 7E      A   ld    a,(hl)
346 2405 EE 80     A   xor   80H
347 2407 77      A   ld    (hl),a
348 2408 21 F6C4   A   ld    hl,ARIBU
349 240B 06 08     A   ld    b,8
350 240D AF      A   xor   a
351 240E 3E 00     AADD8K   ld     a,0
352 2410 9E      A   sbc   a,(hl)
353 2411 27      A   daa
354 2412 77      A   ld    (hl),a
355 2413 2B      A   dec   hl
356 2414 10 F8     A   djnz  ADD8K
357 2416 C9      A   ret
358 2417 21 F6C4   AADD8L   ld     hl,ARIBU
359 241A C5      AADD8M   push  bc
360 241B AF      A   xor   a
361 241C ED 6F     AADD8N   rld
362 241E 2B      A   dec   hl
363 241F 10 FB     A   djnz  ADD8N
364 2421 C1      A   pop  bc
365 2422 C9      A   ret
366 2423 B7      AADD8O   or     a
367 2424 1F      A   rra
368 2425 F5      A   push  af
369 2426 B7      A   or    a
370 2427 CA 2462   A   jp    z,ADD8U
371 242A F5      A   push  af
372 242B 2F      A   cpl
373 242C 3C      A   inc   a
374 242D 4F      A   ld    c,a
375 242E 06 FF     A   ld    b,0FFH
376 2430 11 0007   A   ld    de,7
377 2433 19      A   add   hl,de
378 2434 54      A   ld    d,h
```

```
379 2435 5D      A    ld     e,l
380 2436 09      A    add    hl,bc
381 2437 3E 08    A    ld     a,8
382 2439 81      A    add    a,c
383 243A 4F      A    ld     c,a
384 243B C5      A    push   bc
385 243C 06 00    A    ld     b,0
386 243E ED B8  A    lddr
387 2440 C1      A    pop    bc
388 2441 F1      A    pop    af
389 2442 23      A    inc    hl
390 2443 13      A    inc    de
391 2444 D5      A    push   de
392 2445 47      A    ld     b,a
393 2446 AF      A    xor    a
394 2447 77      AADD8P  ld     (hl),a
395 2448 23      A    inc    hl
396 2449 10 FC    A    djnz  ADD8P
397 244B E1      A    pop    hl
398 244C F1      A    pop    af
399 244D D0      A    ret    nc
400 244E 79      A    ld     a,c
401 244F E5      AADD8Q  push   hl
402 2450 C5      A    push   bc
403 2451 47      A    ld     b,a
404 2452 AF      A    xor    a
405 2453 ED 67  AADD8R  rrd
406 2455 23      A    inc    hl
407 2456 10 FB    A    djnz  ADD8R
408 2458 C1      A    pop    bc
409 2459 E1      A    pop    hl
410 245A C9      A    ret
411 245B 21 F6BD  AADD8S  ld     hl,AC1+1
412 245E 3E 08    AADD8T  ld     a,8
413 2460 18 ED    A    jr     ADD8Q
414 2462 F1      AADD8U  pop    af
415 2463 D0      A    ret    nc
416 2464 18 F8  A    jr     ADD8T
417      A;
418 2466 CD 2AF1 AMLT8 call TVORZ
419 2469 C8      A    ret    z
420 246A 3A F70D  A    ld     a,(AC2)
421 246D B7      A    or     a
422 246E CA 2AFD  A    jp     z,NULAC1
423 2471 47      A    ld     b,a
424 2472 21 F6BC  A    ld     hl,AC1
425 2475 AE      A    xor   (hl)
426 2476 E6 80    A    and   80H
427 2478 4F      A    ld     c,a
428 2479 CB B8  A    res   7,b
429 247B 7E      A    ld     a,(hl)
430 247C E6 7F    A    and   7FH
431 247E 80      A    add   a,b
432 247F 47      A    ld     b,a
433 2480 36 00    A    ld     (hl),0
434 2482 E6 C0    A    and   0C0H
435 2484 C8      A    ret    z
436 2485 FE C0    A    cp   0C0H
```

```
437 2487 20 03      A    jr      nz,MLT81
438 2489 C3 4068    A    jp      EROV
439 248C 78        AMLT81    ld      a,b
440 248D C6 40      A    add    a,'@'
441 248F E6 7F      A    and    7FH
442 2491 C8        A    ret    z
443 2492 B1        A    or     c
444 2493 2B      A    dec    hl
445 2494 77      A    ld     (hl),a
446 2495 11 F70B  A    ld     de,HLPRND+7
447 2498 01 0008  A    ld     bc,8
448 249B 21 F6C3  A    ld     hl,AC1+7
449 249E D5        A    push   de
450 249F ED B8    A    lddr
451 24A1 23      A    inc    hl
452 24A2 AF      A    xor    a
453 24A3 06 08    A    ld     b,8
454 24A5 77      AMLT82    ld      (hl),a
455 24A6 23      A    inc    hl
456 24A7 10 FC    A    djnz   MLT82
457 24A9 D1        A    pop    de
458 24AA 01 2503  A    ld     bc,MLT8A
459 24AD C5        A    push   bc
460 24AE CD 250A  AMLT83    call   MLT8B
461 24B1 E5        A    push   hl
462 24B2 01 0008  A    ld     bc,8
463 24B5 EB      A    ex     de,hl
464 24B6 ED B8    A    lddr
465 24B8 EB      A    ex     de,hl
466 24B9 21 F703  A    ld     hl,ARIBU+3FH
467 24BC 06 08    A    ld     b,8
468 24BE CD 23E1  A    call  ADD8F
469 24C1 D1        A    pop    de
470 24C2 CD 250A  A    call  MLT8B
471 24C5 0E 07    A    ld     c,7
472 24C7 11 F714  A    ld     de,AC2+7
473 24CA 1A      AMLT84    ld      a,(de)
474 24CB B7      A    or     a
475 24CC 20 04    A    jr     nz,MLT85
476 24CE 1B      A    dec    de
477 24CF 0D      A    dec    c
478 24D0 18 F8    A    jr     MLT84
479 24D2 1A      AMLT85    ld      a,(de)
480 24D3 1B      A    dec    de
481 24D4 D5        A    push   de
482 24D5 21 F6D3  A    ld     hl,ARIBU+15
483 24D8 87      AMLT86    add    a,a
484 24D9 38 08    A    jr     c,MLT88
485 24DB 28 14    A    jr     z,MLT89
486 24DD 11 0008  AMLT87    ld     de,8
487 24E0 19      A    add    hl,de
488 24E1 18 F5    A    jr     MLT86
489 24E3 F5      AMLT88    push   af
490 24E4 06 08    A    ld     b,8
491 24E6 11 F6C3  A    ld     de,AC1+7
492 24E9 E5        A    push   hl
493 24EA CD 23E1  A    call  ADD8F
494 24ED E1      A    pop    hl
```

```
495 24EE F1      A    pop    af
496 24EF 18 EC    A    jr     MLT87
497 24F1 06 0F    AMLT89 ld     b,0FH
498 24F3 11 F6CA  A    ld     de,ARIBU+6
499 24F6 21 F6CB  A    ld     hl,ARIBU+7
500 24F9 CD 2B7E  A    call  NLDDR
501 24FC 36 00    A    ld     (hl),0
502 24FE D1      A    pop    de
503 24FF 0D      A    dec    c
504 2500 20 D0    A    jr     nz,MLT85
505 2502 C9      A    ret
506 2503 2B      AMLT8A dec    hl
507 2504 7E      A    ld     a,(hl)
508 2505 23      A    inc    hl
509 2506 77      A    ld     (hl),a
510 2507 C3 237A  A    jp     ADD85
511 250A 21 FFF8  AMLT8B ld     hl,-8
512 250D 19      A    add    hl,de
513 250E 0E 03    A    ld     c,3
514 2510 06 08    AMLT8C ld     b,8
515 2512 B7      A    or     a
516 2513 1A      AMLT8D ld     a,(de)
517 2514 8F      A    adc    a,a
518 2515 27      A    daa
519 2516 77      A    ld     (hl),a
520 2517 2B      A    dec    hl
521 2518 1B      A    dec    de
522 2519 10 F8    A    djnz  MLT8D
523 251B 0D      A    dec    c
524 251C 20 F2    A    jr     nz,MLT8C
525 251E C9      A    ret
526      A;
527 251F 3A F70D  ADIV8 ld     a,(AC2)
528 2522 B7      A    or     a
529 2523 CA 4059  A    jp     z,ERD0
530 2526 47      A    ld     b,a
531 2527 21 F6BC  A    ld     hl,AC1
532 252A 7E      A    ld     a,(hl)
533 252B B7      A    or     a
534 252C CA 2AFD  A    jp     z,NULAC1
535 252F A8      A    xor    b
536 2530 E6 80    A    and   80H
537 2532 4F      A    ld     c,a
538 2533 CB B8  A    res   7,b
539 2535 7E      A    ld     a,(hl)
540 2536 E6 7F    A    and   7FH
541 2538 90      A    sub    b
542 2539 47      A    ld     b,a
543 253A 1F      A    rra
544 253B A8      A    xor    b
545 253C E6 40    A    and   'a'
546 253E 36 00    A    ld     (hl),0
547 2540 28 07    A    jr     z,DIV82
548 2542 78      A    ld     a,b
549 2543 E6 80    A    and   80H
550 2545 C0      A    ret    nz
551 2546 C3 4068  ADIV81 jp     EROV
552 2549 78      ADIV82 ld     a,b
```

```
553 254A C6 41      A   add    a,'A'
554 254C E6 7F      A   and    7FH
555 254E 77        A   ld     (hl),a
556 254F 28 F5      A   jr     z,DIV81
557 2551 B1            A   or     c
558 2552 36 00      A   ld     (hl),0
559 2554 2B        A   dec    hl
560 2555 77        A   ld     (hl),a
561 2556 11 F6C3    A   ld     de,AC1+7
562 2559 21 F714    A   ld     hl,AC2+7
563 255C 06 07      A   ld     b,7
564 255E AF        A   xor    a
565 255F BE        ADIV83  cp     (hl)
566 2560 20 04      A   jr     nz,DIV84
567 2562 1B        A   dec    de
568 2563 2B        A   dec    hl
569 2564 10 F9      A   djnz  DIV83
570 2566 22 F6B8    ADIV84  ld     (HARI2),hl
571 2569 EB        A   ex     de,hl
572 256A 22 F6B6    A   ld     (HARI1),hl
573 256D 78        A   ld     a,b
574 256E 32 F6BA    A   ld     (HARI3),a
575 2571 21 F704    A   ld     hl,HLPKND
576 2574 06 0F      ADIV85  ld     b,0FH
577 2576 E5        ADIV86  push   hl
578 2577 C5        A   push  bc
579 2578 2A F6B8    A   ld     hl,(HARI2)
580 257B EB        A   ex     de,hl
581 257C 2A F6B6    A   ld     hl,(HARI1)
582 257F 3A F6BA    A   ld     a,(HARI3)
583 2582 0E FF      A   ld     c,0FFH
584 2584 0C        ADIV87  inc    c
585 2585 47        A   ld     b,a
586 2586 E5        A   push  hl
587 2587 D5        A   push  de
588 2588 AF        A   xor    a
589 2589 EB        A   ex     de,hl
590 258A 1A        ADIV88  ld     a,(de)
591 258B 9E        A   sbc   a,(hl)
592 258C 27        A   daa
593 258D 12        A   ld     (de),a
594 258E 2B        A   dec    hl
595 258F 1B        A   dec    de
596 2590 10 F8      A   djnz  DIV88
597 2592 1A        A   ld     a,(de)
598 2593 98        A   sbc   a,b
599 2594 12        A   ld     (de),a
600 2595 D1        A   pop   de
601 2596 E1        A   pop   hl
602 2597 3A F6BA    A   ld     a,(HARI3)
603 259A 30 E8      A   jr     nc,DIV87
604 259C 47        A   ld     b,a
605 259D EB        A   ex     de,hl
606 259E CD 23E1    A   call  ADD8F
607 25A1 30 02      A   jr     nc,DIV89
608 25A3 EB        A   ex     de,hl
609 25A4 34        A   inc   (hl)
610 25A5 79        ADIV89  ld     a,c
```

```
611 25A6 C1      A    pop    bc
612 25A7 4F      A    ld     c,a
613 25A8 C5      A    push   bc
614 25A9 CB 38    A    srl    b
615 25AB 04      A    inc    b
616 25AC 58      A    ld     e,b
617 25AD 16 00    A    ld     d,0
618 25AF 21 F6BB  A    ld     hl,AC1-1
619 25B2 19      A    add    hl,de
620 25B3 CD 241A  A    call  ADD8M
621 25B6 C1      A    pop    bc
622 25B7 E1      A    pop    hl
623 25B8 78      A    ld     a,b
624 25B9 0C      A    inc    c
625 25BA 0D      A    dec    c
626 25BB 20 36    A    jr     nz,DIV8E
627 25BD FE 0F    A    cp     0FH
628 25BF 28 23    A    jr     z,DIV8D
629 25C1 0F      A    rrca
630 25C2 07      A    rlca
631 25C3 30 2E    A    jr     nc,DIV8E
632 25C5 C5      A    push   bc
633 25C6 E5      A    push   hl
634 25C7 21 F6BC  A    ld     hl,AC1
635 25CA 06 08    A    ld     b,8
636 25CC AF      A    xor    a
637 25CD BE      ADIV8A  cp     (hl)
638 25CE 20 0F    A    jr     nz,DIV8C
639 25D0 23      A    inc    hl
640 25D1 10 FA    A    djnz  DIV8A
641 25D3 E1      A    pop    hl
642 25D4 C1      A    pop    bc
643 25D5 CB 38    A    srl    b
644 25D7 04      A    inc    b
645 25D8 AF      A    xor    a
646 25D9 77      ADIV8B  ld     (hl),a
647 25DA 23      A    inc    hl
648 25DB 10 FC    A    djnz  DIV8B
649 25DD 18 26    A    jr     DIV8H
650 25DF E1      ADIV8C  pop    hl
651 25E0 C1      A    pop    bc
652 25E1 78      A    ld     a,b
653 25E2 18 0F    A    jr     DIV8E
654 25E4 3A F6BB  ADIV8D  ld     a,(HDIV)
655 25E7 5F      A    ld     e,a
656 25E8 3D      A    dec    a
657 25E9 32 F6BB  A    ld     (HDIV),a
658 25EC AB      A    xor    e
659 25ED F2 2574  A    jp     p,DIV85
660 25F0 C3 2AFD  A    jp     NULAC1
661 25F3 1F      ADIV8E  rra
662 25F4 79      A    ld     a,c
663 25F5 38 05    A    jr     c,DIV8F
664 25F7 B6      A    or     (hl)
665 25F8 77      A    ld     (hl),a
666 25F9 23      A    inc    hl
667 25FA 18 05    A    jr     DIV8G
668 25FC 87      ADIV8F  add    a,a
```

```
669 25FD 87      A    add    a,a
670 25FE 87      A    add    a,a
671 25FF 87      A    add    a,a
672 2600 77      A    ld     (hl),a
673 2601 05      ADIV8G dec    b
674 2602 C2 2576   A    jp     nz,DIV86
675 2605 21 F6C4   ADIV8H ld     hl,ARIBU
676 2608 11 F70B   A    ld     de,HLPND+7
677 260B 06 08     A    ld     b,8
678 260D CD 2B7E   A    call   NLDDR
679 2610 C3 2503   A    jp     MLT8A
680                A;
681 2613 21 29E3   ACOS  ld     hl,KP1591
682 2616 CD 28BB   A    call   MLT8HL
683 2619 3A F6BC   A    ld     a,(AC1)
684 261C E6 7F       A    and    7FH
685 261E 32 F6BC   A    ld     (AC1),a
686 2621 21 29A3   A    ld     hl,KP25
687 2624 CD 28B2   A    call   SUB8HL
688 2627 CD 2B0D   A    call   ABS2
689 262A 18 06     A    jr     SIN1
690                A;
691 262C 21 29E3   ASIN  ld     hl,KP1591
692 262F CD 28BB   A    call   MLT8HL
693 2632 3A F6BC   ASIN1 ld    a,(AC1)
694 2635 B7         A    or     a
695 2636 FC 2900   A    call   m,HIRO2
696 2639 CD 294C   A    call   AC1ST
697 263C CD 2D4F   A    call   INT
698 263F CD 28CD   A    call   AC1AC2
699 2642 CD 2961   A    call   STAC1
700 2645 CD 230C   A    call   SUB8
701 2648 3A F6BC   A    ld     a,(AC1)
702 264B FE 40     A    cp     'a'
703 264D DA 2675   A    jp     c,SIN3
704 2650 3A F6BD   A    ld     a,(AC1+1)
705 2653 FE 25     A    cp     '%'
706 2655 DA 2675   A    jp     c,SIN3
707 2658 FE 75     A    cp     'u' ;KLEIN U
708 265A D2 266C   A    jp     nc,SIN2
709 265D CD 28CD   A    call   AC1AC2
710 2660 21 2991   A    ld     hl,KP5
711 2663 CD 28DC   A    call   IHLAC1
712 2666 CD 230C   A    call   SUB8
713 2669 C3 2675   A    jp     SIN3
714 266C 21 299B   ASIN2 ld    hl,K1
715 266F CD 28D0   A    call   IHLAC2
716 2672 CD 230C   A    call   SUB8
717 2675 21 2A6F   ASIN3 ld    hl,KT4
718 2678 C3 2908   A    jp     HIRO3
719                A;
720 267B CD 294C   ATAN  call   AC1ST
721 267E CD 2613   A    call   COS
722 2681 CD 28EF   A    call   HIRO1
723 2684 CD 262C   A    call   SIN
724 2687 CD 295C   A    call   STAC2
725 268A 3A F70D   A    ld     a,(AC2)
726 268D B7         A    or     a
```

```
727 268E C2 251F A jp nz,DIV8
728 2691 C3 4068 A jp EROV
729 A;
730 2694 3A F6BC AATN ld a,(AC1)
731 2697 B7 A or a
732 2698 C8 A ret z
733 2699 FC 2900 A call m,HIRO2
734 269C FE 41 A cp 'A'
735 269E DA 26BC A jp c,ATN1
736 26A1 CD 28CD A call AC1AC2
737 26A4 21 299B A ld hl,K1
738 26A7 CD 28DC A call IHLAC1
739 26AA CD 251F A call DIV8
740 26AD CD 26BC A call ATN1
741 26B0 CD 28CD A call AC1AC2
742 26B3 21 29C3 A ld hl,K1P570
743 26B6 CD 28DC A call IHLAC1
744 26B9 C3 230C A jp SUB8
745 26BC 21 29CB AATN1 ld hl,KP2679
746 26BF CD 28C7 A call VGL8HL
747 26C2 FA 26EC A jp m,ATN2
748 26C5 CD 294C A call AC1ST
749 26C8 21 29D3 A ld hl,K1P732
750 26CB CD 28AC A call ADD8HL
751 26CE CD 28EF A call HIRO1
752 26D1 21 29D3 A ld hl,K1P732
753 26D4 CD 28BB A call MLT8HL
754 26D7 21 299B A ld hl,K1
755 26DA CD 28B2 A call SUB8HL
756 26DD CD 295C A call STAC2
757 26E0 CD 251F A call DIV8
758 26E3 CD 26EC A call ATN2
759 26E6 21 29DB A ld hl,KP5235
760 26E9 C3 28AC A jp ADD8HL
761 26EC 21 2AB0 AATN2 ld hl,KTB5
762 26EF C3 2908 A jp HIRO3
763 A;
764 26F2 CD 2AF1 ALOG call TVORZ
765 26F5 FA 4740 A jp m,ERFC
766 26F8 CA 4740 A jp z,ERFC
767 26FB 21 F6BC A ld hl,AC1
768 26FE 7E A ld a,(hl)
769 26FF F5 A push af
770 2700 36 41 A ld (hl),41H
771 2702 21 29AB A ld hl,K3P162
772 2705 CD 28C7 A call VGL8HL
773 2708 FA 2712 A jp m,LOG1
774 270B F1 A pop af
775 270C 3C A inc a
776 270D F5 A push af
777 270E 21 F6BC A ld hl,AC1
778 2711 35 A dec (hl)
779 2712 F1 ALOG1 pop af
780 2713 32 F563 A ld (HARI4),a
781 2716 CD 294C A call AC1ST
782 2719 21 299B A ld hl,K1
783 271C CD 28AC A call ADD8HL
784 271F CD 28EF A call HIRO1
```



```
785 2722 21 299B A ld hl,K1
786 2725 CD 28B2 A call SUB8HL
787 2728 CD 295C A call STAC2
788 272B CD 251F A call DIV8
789 272E CD 294C A call AC1ST
790 2731 CD 28B8 A call MLT8A1
791 2734 CD 294C A call AC1ST
792 2737 CD 294C A call AC1ST
793 273A 21 2A46 A ld hl,KTB3
794 273D CD 2923 A call HIR05
795 2740 CD 28EF A call HIR01
796 2743 21 2A25 A ld hl,KTB2
797 2746 CD 2923 A call HIR05
798 2749 CD 295C A call STAC2
799 274C CD 251F A call DIV8
800 274F CD 295C A call STAC2
801 2752 CD 2466 A call MLT8
802 2755 21 29B3 A ld hl,KP8685
803 2758 CD 28AC A call ADD8HL
804 275B CD 295C A call STAC2
805 275E CD 2466 A call MLT8
806 2761 CD 294C A call AC1ST
807 2764 3A F563 A ld a,(HARI4)
808 2767 D6 41 A sub 'A'
809 2769 6F A ld l,a
810 276A 87 A add a,a
811 276B 9F A sbc a,a
812 276C 67 A ld h,a
813 276D CD 2C4B A call CV4BC1
814 2770 CD 2CC2 A call CDBL1
815 2773 CD 295C A call STAC2
816 2776 CD 231A A call ADD8
817 2779 21 29BB A ld hl,K2P302
818 277C C3 28BB A jp MLT8HL
819 A;
820 277F CD 2AF1 ASQR call TVORZ
821 2782 C8 A ret z
822 2783 FA 4740 A jp m,ERFC
823 2786 CD 28CD A call AC1AC2
824 2789 3A F6BC A ld a,(AC1)
825 278C B7 A or a
826 278D 1F A rra
827 278E CE 20 A adc a,' '
828 2790 32 F70D A ld (AC2),a
829 2793 3A F6BD A ld a,(AC1+1)
830 2796 B7 A or a
831 2797 0F A rrca
832 2798 B7 A or a
833 2799 0F A rrca
834 279A E6 33 A and '3'
835 279C C6 10 A add a,10H
836 279E 32 F70E A ld (AC2+1),a
837 27A1 3E 07 A ld a,7
838 27A3 32 F563 ASQR1 ld (HARI4),a
839 27A6 CD 294C A call AC1ST
840 27A9 CD 2947 A call AC2ST
841 27AC CD 251F A call DIV8
842 27AF CD 295C A call STAC2
```

```
843 27B2 CD 231A A call ADD8
844 27B5 21 2991 A ld hl,KP5
845 27B8 CD 28BB A call MLT8HL
846 27BB CD 28CD A call AC1AC2
847 27BE CD 2961 A call STAC1
848 27C1 3A F563 A ld a,(HARI4)
849 27C4 3D A dec a
850 27C5 20 DC A jr nz,SQR1
851 27C7 C3 28D9 A jp AC2AC1
852 A;
853 27CA 21 2989 AEXP ld hl,KP4342
854 27CD CD 28BB A call MLT8HL
855 27D0 CD 294C A call AC1ST
856 27D3 CD 2C0A A call CINT
857 27D6 7D A ld a,l
858 27D7 17 A rla
859 27D8 9F A sbc a,a
860 27D9 BC A cp h
861 27DA 28 14 A jr z,EXP2
862 27DC 7C A ld a,h
863 27DD B7 A or a
864 27DE F2 27ED A jp p,EXP1
865 27E1 CD 2CCF A call CDBL2
866 27E4 CD 2961 A call STAC1
867 27E7 21 2993 A ld hl,K0
868 27EA C3 28DC A jp IHLAC1
869 27ED C3 4068 AEXP1 jp EROV
870 27F0 22 F563 AEXP2 ld (HARI4),hl
871 27F3 CD 2CBA A call CDBL
872 27F6 CD 28CD A call AC1AC2
873 27F9 CD 2961 A call STAC1
874 27FC CD 230C A call SUB8
875 27FF 21 2991 A ld hl,KP5
876 2802 CD 28C7 A call VGL8HL
877 2805 F5 A push af
878 2806 28 08 A jr z,EXP3
879 2808 38 06 A jr c,EXP3
880 280A 21 2991 A ld hl,KP5
881 280D CD 28B2 A call SUB8HL
882 2810 CD 294C AEXP3 call AC1ST
883 2813 21 2A0C A ld hl,KTb1
884 2816 CD 2908 A call HIRO3
885 2819 CD 28EF A call HIRO1
886 281C 21 29EB A ld hl,KTb0
887 281F CD 291A A call HIRO4
888 2822 CD 295C A call STAC2
889 2825 CD 2947 A call AC2ST
890 2828 CD 294C A call AC1ST
891 282B CD 230C A call SUB8
892 282E 21 F704 A ld hl,HLPbND
893 2831 CD 28E7 A call AC1IHL
894 2834 CD 295C A call STAC2
895 2837 CD 2961 A call STAC1
896 283A CD 231A A call ADD8
897 283D 21 F704 A ld hl,HLPbND
898 2840 CD 28D0 A call IHLAC2
899 2843 CD 251F A call DIV8
900 2846 F1 A pop af
```

```

901 2847 38 08      A   jr      c,EXP4
902 2849 28 06      A   jr      z,EXP4
903 284B 21 29AB    A   ld      hl,K3P162
904 284E CD 28BB    A   call   MLT8HL
905 2851 3A F563    AEXP4 ld      a,(HARI4)
906 2854 21 F6BC    A   ld      hl,AC1
907 2857 4E         A   ld      c,(hl)
908 2858 86         A   add     a,(hl)
909 2859 77         A   ld      (hl),a
910 285A A9         A   xor     c
911 285B F0         A   ret     p
912 285C C3 4068    A   jp      EROV
913                A;
914 285F CD 2AF1    ARND  call   TVORZ
915 2862 21 F71D    A   ld      hl,LSTRND
916 2865 28 2E      A   jr      z,RND1
917 2867 FC 28E7    A   call   m,AC1IHL
918 286A 21 F704    A   ld      hl,HLPRND
919 286D 11 F71D    A   ld      de,LSTRND
920 2870 CD 28EA    A   call   IDEIHL
921 2873 21 2979    A   ld      hl,KRND1
922 2876 CD 28D0    A   call   IHLAC2
923 2879 21 2971    A   ld      hl,KRND0
924 287C CD 28DC    A   call   IHLAC1
925 287F 11 F70B    A   ld      de,HLPRND+7
926 2882 CD 24AE    A   call   MLT83
927 2885 11 F6C4    A   ld      de,ARIBU
928 2888 21 F71E    A   ld      hl,LSTRND+1
929 288B 06 07      A   ld      b,7
930 288D CD 2B77    A   call   NLDIR
931 2890 21 F71D    A   ld      hl,LSTRND
932 2893 36 00      A   ld      (hl),0
933 2895 CD 28DC    ARND1 call   IHLAC1
934 2898 21 F6BC    A   ld      hl,AC1
935 289B 36 40      A   ld      (hl),'@'
936 289D AF         A   xor     a
937 289E 32 F6C4    A   ld      (ARIBU),a
938 28A1 C3 237A      A   jp      ADD85
939 28A4 11 2981    ARND2 ld      de,KRND2
940 28A7 21 F71D    A   ld      hl,LSTRND
941 28AA 18 3E      A   jr      IDEIHL
942                A;
943 28AC CD 28D0    AADD8HL call   IHLAC2
944 28AF C3 231A      A   jp      ADD8
945 28B2 CD 28D0    ASUB8HL call   IHLAC2
946 28B5 C3 230C      A   jp      SUB8
947 28B8 21 F6BC    AMLT8A1 ld      hl,AC1
948 28BB CD 28D0    AMLT8HL call   IHLAC2
949 28BE C3 2466      A   jp      MLT8
950 28C1 CD 28D0    ADIV8HL call   IHLAC2
951 28C4 C3 251F      A   jp      DIV8
952 28C7 CD 28D0    AVGL8HL call   IHLAC2
953 28CA C3 2BDC      A   jp      VGL8
954 28CD 21 F6BC      AAC1AC2 ld      hl,AC1
955 28D0 11 F70D      AIHLAC2 ld      de,AC2
956 28D3 EB         AIHLIDE ex      de,hl
957 28D4 CD 28EA    A   call   IDEIHL
958 28D7 EB         A   ex     de,hl

```

HILFROUTINEN RECHNEN,UMLAD,VGL

```
959 28D8 C9      A      ret
960 28D9 21 F70D AAC2AC1    ld      hl,AC2
961 28DC 11 F6BC AIHLAC1    ld      de,AC1
962 28DF 18 F2      A      jr      IHLIDE
963 28E1 CD 2C4B AAC1LRN    call   CV4BC1
964 28E4 21 F71D A      ld      hl,LSTRND
965 28E7 11 F6BC AAC1IHL    ld      de,AC1
966 28EA 06 08     AIDEIHL    ld      b,8
967 28EC C3 2B77 A      jp      NLDIR
968 28EF E1      AHIRO1    pop     hl
969 28F0 22 F68B A      ld      (HLPPTR),hl
970 28F3 CD 295C A      call   STAC2
971 28F6 CD 294C A      call   AC1ST
972 28F9 CD 28D9 A      call   AC2AC1
973 28FC 2A F68B A      ld      hl,(HLPPTR)
974 28FF E9      A      jp      (hl)
975 2900 CD 2B0D AHIRO2    call   ABS2
976 2903 21 2B0D A      ld      hl,ABS2
977 2906 E3      A      ex     (sp),hl
978 2907 E9      A      jp      (hl)
979 2908 22 F68B AHIRO3    ld      (HLPPTR),hl
980 290B CD 294C A      call   AC1ST
981 290E 2A F68B A      ld      hl,(HLPPTR)
982 2911 CD 291A A      call   HIR04
983 2914 CD 295C A      call   STAC2
984 2917 C3 2466 A      jp      MLT8
985 291A 22 F68B AHIRO4    ld      (HLPPTR),hl
986 291D CD 28B8 A      call   MLT8A1
987 2920 2A F68B A      ld      hl,(HLPPTR)
988 2923 7E      AHIRO5    ld      a,(hl)
989 2924 F5      A      push   af
990 2925 23      A      inc   hl
991 2926 E5      A      push   hl
992 2927 21 F68B A      ld      hl,HLPPTR
993 292A CD 28E7 A      call   AC1IHL
994 292D E1      A      pop    hl
995 292E CD 28DC A      call   IHLAC1
996 2931 F1      AHIRO6    pop     af
997 2932 3D      A      dec   a
998 2933 C8      A      ret   z
999 2934 F5      A      push   af
1000 2935 E5      A      push   hl
1001 2936 21 F68B A      ld      hl,HLPPTR
1002 2939 CD 28BB A      call   MLT8HL
1003 293C E1      A      pop    hl
1004 293D CD 28D0 A      call   IHLAC2
1005 2940 E5      A      push   hl
1006 2941 CD 231A A      call   ADD8
1007 2944 E1      A      pop    hl
1008 2945 18 EA   A      jr      HIR06
1009 2947 21 F714 AAC2ST    ld      hl,AC2+7
1010 294A 18 03   A      jr      AC1ST1
1011 294C 21 F6C3 AAC1ST    ld      hl,AC1+7
1012 294F 3E 04   AAC1ST1   ld      a,4
1013 2951 D1      A      pop    de
1014 2952 46     AAC1ST2   ld      b,(hl)
1015 2953 2B      A      dec   hl
1016 2954 4E     A      ld    c,(hl)
```

```

1017 2955 2B      A    dec    hl
1018 2956 C5      A    push   bc
1019 2957 3D      A    dec    a
1020 2958 20 F8    A    jr     nz,AC1ST2
1021 295A EB      A    ex     de,hl
1022 295B E9      A    jp     (hl)
1023 295C 21 F70D   ASTAC2 ld     hl,AC2
1024 295F 18 03    A    jr     STAC11
1025 2961 21 F6BC   ASTAC1 ld     hl,AC1
1026 2964 3E 04    ASTAC11 ld    a,4
1027 2966 D1      A    pop    de
1028 2967 C1      ASTAC12 pop   bc
1029 2968 71      A    ld     (hl),c
1030 2969 23      A    inc    hl
1031 296A 70      A    ld     (hl),b
1032 296B 23      A    inc    hl
1033 296C 3D      A    dec    a
1034 296D 20 F8    A    jr     nz,STAC12
1035 296F EB      A    ex     de,hl
1036 2970 E9      A    jp     (hl)
1037                A;
1038 2971 00      AKRND0 defb  0          BCD-KONSTANTEN
1039 2972 14      A    defb  14h
1040 2973 38      A    defb  38h ;`8`
1041 2974 98      A    defb  98h
1042 2975 20      A    defb  20h
1043 2976 42      A    defb  42h ;`B`
1044 2977 08      A    defb  8h
1045 2978 21      A    defb  21h ;`!`
1046 2979 00      AKRND1 defb  0
1047 297A 21      A    defb  21h ;`!`
1048 297B 13      A    defb  13h
1049 297C 24      A    defb  24h ;`$`
1050 297D 86      A    defb  86h
1051 297E 54      A    defb  54h ;`T`
1052 297F 05      A    defb  5h
1053 2980 19      A    defb  19h
1054 2981 00      AKRND2 defb  0
1055 2982 40      A    defb  40h ;`@`
1056 2983 64      A    defb  64h ;`d`
1057 2984 96      A    defb  96h
1058 2985 51      A    defb  51h ;`Q`
1059 2986 37      A    defb  37h ;`7`
1060 2987 23      A    defb  23h ;`#`
1061 2988 58      A    defb  58h ;`X`
1062 2989 40      AKP4342 defb  40h ;`@`
1063 298A 43      A    defb  43h ;`C`
1064 298B 42      A    defb  42h ;`B`
1065 298C 94      A    defb  94h
1066 298D 48      A    defb  48h ;`H`
1067 298E 19      A    defb  19h
1068 298F 03      A    defb  3h
1069 2990 24      A    defb  24h ;`$`
1070 2991 40      AKP5 defb  40h ;`@`
1071 2992 50      A    defb  50h ;`P`
1072 2993 00      AK0  defb  0
1073 2994 00      A    defb  0
1074 2995 00      A    defb  0
    
```

```

1075 2996 00      A      defb  0
1076 2997 00      A      defb  0
1077 2998 00      A      defb  0
1078 2999 00      A      defb  0
1079 299A 00      A      defb  0
1080 299B 41      AK1    defb  41h  ;`A`
1081 299C 10      A      defb  10h
1082 299D 00      A      defb  0
1083 299E 00      A      defb  0
1084 299F 00      A      defb  0
1085 29A0 00      A      defb  0
1086 29A1 00      A      defb  0
1087 29A2 00      A      defb  0
1088 29A3 40      AKP25 defb  40h  ;`@`
1089 29A4 25      A      defb  25h  ;`%`
1090 29A5 00      A      defb  0
1091 29A6 00      A      defb  0
1092 29A7 00      A      defb  0
1093 29A8 00      A      defb  0
1094 29A9 00      A      defb  0
1095 29AA 00      A      defb  0
1096 29AB 41      AK3P162 defb  41h  ;`A`
1097 29AC 31      A      defb  31h  ;`1`
1098 29AD 62      A      defb  62h  ;`b`
1099 29AE 27      A      defb  27h  ;`'`
1100 29AF 76      A      defb  76h  ;`v`
1101 29B0 60      A      defb  60h  ;``
1102 29B1 16      A      defb  16h
1103 29B2 84      A      defb  84h
1104 29B3 40      AKP8685 defb  40h  ;`@`
1105 29B4 86      A      defb  86h
1106 29B5 85      A      defb  85h
1107 29B6 88      A      defb  88h
1108 29B7 96      A      defb  96h
1109 29B8 38      A      defb  38h  ;`8`
1110 29B9 06      A      defb  6h
1111 29BA 50      A      defb  50h  ;`P`
1112 29BB 41      AK2P302 defb  41h  ;`A`
1113 29BC 23      A      defb  23h  ;`#`
1114 29BD 02      A      defb  2h
1115 29BE 58      A      defb  58h  ;`X`
1116 29BF 50      A      defb  50h  ;`P`
1117 29C0 92      A      defb  92h
1118 29C1 99      A      defb  99h
1119 29C2 40      A      defb  40h  ;`@`
1120 29C3 41      AK1P570 defb  41h  ;`A`
1121 29C4 15      A      defb  15h
1122 29C5 70      A      defb  70h  ;`p`
1123 29C6 79      A      defb  79h  ;`y`
1124 29C7 63      A      defb  63h  ;`c`
1125 29C8 26      A      defb  26h  ;`&`
1126 29C9 79      A      defb  79h  ;`y`
1127 29CA 49      A      defb  49h  ;`I`
1128 29CB 40      AKP2679 defb  40h  ;`@`
1129 29CC 26      A      defb  26h  ;`&`
1130 29CD 79      A      defb  79h  ;`y`
1131 29CE 49      A      defb  49h  ;`I`
1132 29CF 19      A      defb  19h
    
```

```

1133 29D0 24      A      defb  24h      ;`$`
1134 29D1 31      A      defb  31h      ;`1`
1135 29D2 12      A      defb  12h
1136 29D3 41      AK1P732 defb  41h      ;`A`
1137 29D4 17      A      defb  17h
1138 29D5 32      A      defb  32h      ;`2`
1139 29D6 05      A      defb  5h
1140 29D7 08      A      defb  8h
1141 29D8 07      A      defb  7h
1142 29D9 56      A      defb  56h     ;`V`
1143 29DA 89      A      defb  89h
1144 29DB 40      AKP5235 defb  40h     ;`a`
1145 29DC 52      A      defb  52h     ;`R`
1146 29DD 35      A      defb  35h     ;`5`
1147 29DE 98      A      defb  98h
1148 29DF 77      A      defb  77h     ;`w`
1149 29E0 55      A      defb  55h     ;`U`
1150 29E1 98      A      defb  98h
1151 29E2 30      A      defb  30h     ;`0`
1152 29E3 40      AKP1591 defb  40h     ;`a`
1153 29E4 15      A      defb  15h
1154 29E5 91      A      defb  91h
1155 29E6 54      A      defb  54h     ;`T`
1156 29E7 94      A      defb  94h
1157 29E8 30      A      defb  30h     ;`0`
1158 29E9 91      A      defb  91h
1159 29EA 90      A      defb  90h
1160 29EB 04      AKTB0  defb  4h
1161 29EC 41      A      defb  41h     ;`A`
1162 29ED 10      A      defb  10h
1163 29EE 00      A      defb  0
1164 29EF 00      A      defb  0
1165 29F0 00      A      defb  0
1166 29F1 00      A      defb  0
1167 29F2 00      A      defb  0
1168 29F3 00      A      defb  0
1169 29F4 43      A      defb  43h     ;`C`
1170 29F5 15      A      defb  15h
1171 29F6 93      A      defb  93h
1172 29F7 74      A      defb  74h     ;`t`
1173 29F8 15      A      defb  15h
1174 29F9 23      A      defb  23h     ;`#`
1175 29FA 60      A      defb  60h     ;`~`
1176 29FB 31      A      defb  31h     ;`1`
1177 29FC 44      A      defb  44h     ;`D`
1178 29FD 27      A      defb  27h     ;`'`
1179 29FE 09      A      defb  9h
1180 29FF 31      A      defb  31h     ;`1`
1181 2A00 69      A      defb  69h     ;`i`
1182 2A01 40      A      defb  40h     ;`a`
1183 2A02 85      A      defb  85h
1184 2A03 16      A      defb  16h
1185 2A04 44      A      defb  44h     ;`D`
1186 2A05 44      A      defb  44h     ;`D`
1187 2A06 97      A      defb  97h
1188 2A07 63      A      defb  63h     ;`c`
1189 2A08 35      A      defb  35h     ;`5`
1190 2A09 57      A      defb  57h     ;`W`
    
```

```
1191 2A0A 40      A      defb  40h      ;`a`
1192 2A0B 58      A      defb  58h      ;`X`
1193 2A0C 03      AKTB1 defb  3h
1194 2A0D 42      A      defb  42h      ;`B`
1195 2A0E 18      A      defb  18h
1196 2A0F 31      A      defb  31h      ;`1`
1197 2A10 23      A      defb  23h      ;`#`
1198 2A11 60      A      defb  60h      ;``
1199 2A12 15      A      defb  15h
1200 2A13 92      A      defb  92h
1201 2A14 75      A      defb  75h      ;`u`
1202 2A15 43      A      defb  43h      ;`C`
1203 2A16 83      A      defb  83h
1204 2A17 14      A      defb  14h
1205 2A18 06      A      defb  6h
1206 2A19 72      A      defb  72h      ;`r`
1207 2A1A 12      A      defb  12h
1208 2A1B 93      A      defb  93h
1209 2A1C 71      A      defb  71h      ;`q`
1210 2A1D 44      A      defb  44h      ;`D`
1211 2A1E 51      A      defb  51h      ;`Q`
1212 2A1F 78      A      defb  78h      ;`x`
1213 2A20 09      A      defb  9h
1214 2A21 19      A      defb  19h
1215 2A22 91      A      defb  91h
1216 2A23 51      A      defb  51h      ;`Q`
1217 2A24 62      A      defb  62h      ;`b`
1218 2A25 04      AKTB2 defb  4h
1219 2A26 C0      A      defb  0C0h
1220 2A27 71      A      defb  71h      ;`q`
1221 2A28 43      A      defb  43h      ;`C`
1222 2A29 33      A      defb  33h      ;`3`
1223 2A2A 82      A      defb  82h
1224 2A2B 15      A      defb  15h
1225 2A2C 32      A      defb  32h      ;`2`
1226 2A2D 26      A      defb  26h      ;`&`
1227 2A2E 41      A      defb  41h      ;`A`
1228 2A2F 62      A      defb  62h      ;`b`
1229 2A30 50      A      defb  50h      ;`P`
1230 2A31 36      A      defb  36h      ;`6`
1231 2A32 51      A      defb  51h      ;`Q`
1232 2A33 12      A      defb  12h
1233 2A34 79      A      defb  79h      ;`y`
1234 2A35 08      A      defb  8h
1235 2A36 C2      A      defb  0C2h
1236 2A37 13      A      defb  13h
1237 2A38 68      A      defb  68h      ;`h`
1238 2A39 23      A      defb  23h      ;`#`
1239 2A3A 70      A      defb  70h      ;`p`
1240 2A3B 24      A      defb  24h      ;`$`
1241 2A3C 15      A      defb  15h
1242 2A3D 03      A      defb  3h
1243 2A3E 41      A      defb  41h      ;`A`
1244 2A3F 85      A      defb  85h
1245 2A40 16      A      defb  16h
1246 2A41 73      A      defb  73h      ;`s`
1247 2A42 19      A      defb  19h
1248 2A43 87      A      defb  87h
```



```

1249 2A44 23      A      defb  23h      ;`#`
1250 2A45 89      A      defb  89h
1251 2A46 05      AKTB3 defb  5h
1252 2A47 41      A      defb  41h      ;`A`
1253 2A48 10      A      defb  10h
1254 2A49 00      A      defb  0
1255 2A4A 00      A      defb  0
1256 2A4B 00      A      defb  0
1257 2A4C 00      A      defb  0
1258 2A4D 00      A      defb  0
1259 2A4E 00      A      defb  0
1260 2A4F C2      A      defb  0C2h
1261 2A50 13      A      defb  13h
1262 2A51 21      A      defb  21h      ;`!`
1263 2A52 04      A      defb  4h
1264 2A53 78      A      defb  78h      ;`x`
1265 2A54 35      A      defb  35h      ;`5`
1266 2A55 01      A      defb  1
1267 2A56 56      A      defb  56h      ;`V`
1268 2A57 42      A      defb  42h      ;`B`
1269 2A58 47      A      defb  47h      ;`G`
1270 2A59 92      A      defb  92h
1271 2A5A 52      A      defb  52h      ;`R`
1272 2A5B 56      A      defb  56h      ;`V`
1273 2A5C 04      A      defb  4h
1274 2A5D 38      A      defb  38h      ;`8`
1275 2A5E 73      A      defb  73h      ;`s`
1276 2A5F C2      A      defb  0C2h
1277 2A60 64      A      defb  64h      ;`d`
1278 2A61 90      A      defb  90h
1279 2A62 66      A      defb  66h      ;`f`
1280 2A63 82      A      defb  82h
1281 2A64 74      A      defb  74h      ;`t`
1282 2A65 09      A      defb  9h
1283 2A66 43      A      defb  43h      ;`C`
1284 2A67 42      A      defb  42h      ;`B`
1285 2A68 29      A      defb  29h      ;`)`
1286 2A69 41      A      defb  41h      ;`A`
1287 2A6A 57      A      defb  57h      ;`W`
1288 2A6B 50      A      defb  50h      ;`P`
1289 2A6C 17      A      defb  17h
1290 2A6D 23      A      defb  23h      ;`#`
1291 2A6E 23      A      defb  23h      ;`#`
1292 2A6F 08      AKTB4 defb  8h
1293 2A70 C0      A      defb  0C0h
1294 2A71 69      A      defb  69h      ;`i`
1295 2A72 21      A      defb  21h      ;`!`
1296 2A73 56      A      defb  56h      ;`V`
1297 2A74 92      A      defb  92h
1298 2A75 29      A      defb  29h      ;`)`
1299 2A76 18      A      defb  18h
1300 2A77 09      A      defb  9h
1301 2A78 41      A      defb  41h      ;`A`
1302 2A79 38      A      defb  38h      ;`8`
1303 2A7A 17      A      defb  17h
1304 2A7B 28      A      defb  28h      ;`( `
1305 2A7C 86      A      defb  86h
1306 2A7D 38      A      defb  38h      ;`8`
    
```

```

1307 2A7E 57      A      defb  57h      ;`W`
1308 2A7F 71      A      defb  71h      ;`q`
1309 2A80 C2      A      defb  0C2h
1310 2A81 15      A      defb  15h
1311 2A82 09      A      defb  9h
1312 2A83 44      A      defb  44h      ;`D`
1313 2A84 99      A      defb  99h
1314 2A85 47      A      defb  47h      ;`G`
1315 2A86 48      A      defb  48h      ;`H`
1316 2A87 01      A      defb  1
1317 2A88 42      A      defb  42h      ;`B`
1318 2A89 42      A      defb  42h      ;`B`
1319 2A8A 05      A      defb  5h
1320 2A8B 86      A      defb  86h
1321 2A8C 89      A      defb  89h
1322 2A8D 66      A      defb  66h      ;`f`
1323 2A8E 73      A      defb  73h      ;`s`
1324 2A8F 55      A      defb  55h      ;`U`
1325 2A90 C2      A      defb  0C2h
1326 2A91 76      A      defb  76h      ;`v`
1327 2A92 70      A      defb  70h      ;`p`
1328 2A93 58      A      defb  58h      ;`X`
1329 2A94 59      A      defb  59h      ;`Y`
1330 2A95 68      A      defb  68h      ;`h`
1331 2A96 32      A      defb  32h      ;`2`
1332 2A97 91      A      defb  91h
1333 2A98 42      A      defb  42h      ;`B`
1334 2A99 81      A      defb  81h
1335 2A9A 60      A      defb  60h      ;``
1336 2A9B 52      A      defb  52h      ;`R`
1337 2A9C 49      A      defb  49h      ;`I`
1338 2A9D 27      A      defb  27h      ;`'`
1339 2A9E 55      A      defb  55h      ;`U`
1340 2A9F 13      A      defb  13h
1341 2AA0 C2      A      defb  0C2h
1342 2AA1 41      A      defb  41h      ;`A`
1343 2AA2 34      A      defb  34h      ;`4`
1344 2AA3 17      A      defb  17h
1345 2AA4 02      A      defb  2h
1346 2AA5 24      A      defb  24h      ;`$`
1347 2AA6 03      A      defb  3h
1348 2AA7 98      A      defb  98h
1349 2AA8 41      A      defb  41h      ;`A`
1350 2AA9 62      A      defb  62h      ;`b`
1351 2AAA 83      A      defb  83h
1352 2AAB 18      A      defb  18h
1353 2AAC 53      A      defb  53h      ;`S`
1354 2AAD 07      A      defb  7h
1355 2AAE 17      A      defb  17h
1356 2AAF 96      A      defb  96h
1357 2AB0 08      AKTB5 defb  8h
1358 2AB1 BF      A      defb  0BFh
1359 2AB2 52      A      defb  52h      ;`R`
1360 2AB3 08      A      defb  8h
1361 2AB4 69      A      defb  69h      ;`i`
1362 2AB5 39      A      defb  39h      ;`9`
1363 2AB6 04      A      defb  4h
1364 2AB7 00      A      defb  0
    
```

```

1365 2AB8 00      A      defb  0
1366 2AB9 3F      A      defb  3Fh ;`?`
1367 2ABA 75      A      defb  75h ;`u`
1368 2ABB 30      A      defb  30h ;`0`
1369 2ABC 71      A      defb  71h ;`q`
1370 2ABD 49      A      defb  49h ;`I`
1371 2ABE 13      A      defb  13h
1372 2ABF 48      A      defb  48h ;`H`
1373 2AC0 00      A      defb  0
1374 2AC1 BF      A      defb  0BFh
1375 2AC2 90      A      defb  90h
1376 2AC3 81      A      defb  81h
1377 2AC4 34      A      defb  34h ;`4`
1378 2AC5 32      A      defb  32h ;`2`
1379 2AC6 24      A      defb  24h ;`$`
1380 2AC7 70      A      defb  70h ;`p`
1381 2AC8 50      A      defb  50h ;`P`
1382 2AC9 40      A      defb  40h ;`@`
1383 2ACA 11      A      defb  11h
1384 2ACB 11      A      defb  11h
1385 2ACC 07      A      defb  7h
1386 2ACD 94      A      defb  94h
1387 2ACE 18      A      defb  18h
1388 2ACF 40      A      defb  40h ;`@`
1389 2AD0 29      A      defb  29h ;`)`
1390 2AD1 C0      A      defb  0C0h
1391 2AD2 14      A      defb  14h
1392 2AD3 28      A      defb  28h ;`(`
1393 2AD4 57      A      defb  57h ;`W`
1394 2AD5 08      A      defb  8h
1395 2AD6 55      A      defb  55h ;`U`
1396 2AD7 48      A      defb  48h ;`H`
1397 2AD8 84      A      defb  84h
1398 2AD9 40      A      defb  40h ;`@`
1399 2ADA 19      A      defb  19h
1400 2ADB 99      A      defb  99h
1401 2ADC 99      A      defb  99h
1402 2ADD 99      A      defb  99h
1403 2ADE 94      A      defb  94h
1404 2ADF 89      A      defb  89h
1405 2AE0 67      A      defb  67h ;`g`
1406 2AE1 C0      A      defb  0C0h
1407 2AE2 33      A      defb  33h ;`3`
1408 2AE3 33      A      defb  33h ;`3`
1409 2AE4 33      A      defb  33h ;`3`
1410 2AE5 33      A      defb  33h ;`3`
1411 2AE6 33      A      defb  33h ;`3`
1412 2AE7 31      A      defb  31h ;`1`
1413 2AE8 60      A      defb  60h ;``
1414 2AE9 41      A      defb  41h ;`A`
1415 2AEA 10      A      defb  10h
1416 2AEB 00      A      defb  0
1417 2AEC 00      A      defb  0
1418 2AED 00      A      defb  0
1419 2AEE 00      A      defb  0
1420 2AEF 00      A      defb  0
1421 2AF0 00      A      defb  0
1422                A;
  
```

```
1423 2AF1 3A F6BC  ATVORZ      ld      a,(AC1)
1424 2AF4 B7          A      or      a
1425 2AF5 C8          A      ret     z
1426 2AF6 FE          A      defb   0FEH ; cp  '/'
1427 2AF7 2F          ATVORZ1    cpl
1428 2AF8 17          ATVORZ2    rla
1429 2AF9 9F          ATVORZ3    sbc      a,a
1430 2AFA C0          A      ret     nz
1431 2AFB 3C          A      inc     a
1432 2AFC C9          A      ret
1433          A;
1434 2AFD AF          ANULAC1    xor     a          ;(AC1)=0
1435 2AFE 32 F6BC    A      ld      (AC1),a
1436 2B01 C9          A      ret
1437          A;
1438 2B02 CD 2B21    AABS_ call  SGN2
1439 2B05 F0          A      ret     p
1440 2B06 EF          AABS1 rst   TYPTST
1441 2B07 FA 2EAB    A      jp      m,ABSINT
1442 2B0A CA 406E    A      jp      z,ERTM
1443 2B0D 21 F6BC    AABS2 ld    hl,AC1
1444 2B10 7E          A      ld      a,(hl)
1445 2B11 B7          A      or      a
1446 2B12 C8          A      ret     z
1447 2B13 EE 80     A      xor     80H
1448 2B15 77          A      ld      (hl),a
1449 2B16 C9          A      ret
1450          A;
1451 2B17 CD 2B21    ASGN call   SGN2
1452 2B1A 6F          ASGN1 ld    l,a
1453 2B1B 17          A      rla
1454 2B1C 9F          A      sbc     a,a
1455 2B1D 67          A      ld      h,a
1456 2B1E C3 2C19    A      jp      CINT1
1457 2B21 EF          ASGN2 rst   TYPTST
1458 2B22 CA 406E    A      jp      z,ERTM
1459 2B25 F2 2AF1    A      jp      p,TVORZ
1460 2B28 2A F6BE    A      ld      hl,(AC1INT)
1461 2B2B 7C          ASGN3 ld    a,h
1462 2B2C B5          A      or      l
1463 2B2D C8          A      ret     z
1464 2B2E 7C          A      ld      a,h
1465 2B2F 18 C7     A      jr      TVORZ2
1466          A;
1467 2B31 EB          AAC1SST    ex      de,hl
1468 2B32 2A F6BE    A      ld      hl,(AC1INT)
1469 2B35 E3          A      ex      (sp),hl
1470 2B36 E5          A      push   hl
1471 2B37 2A F6BC    A      ld      hl,(AC1)
1472 2B3A E3          A      ex      (sp),hl
1473 2B3B E5          A      push   hl
1474 2B3C EB          A      ex      de,hl
1475 2B3D C9          A      ret
1476 2B3E CD 2B5F    AHLAC1R    call   HLEDCB
1477 2B41 EB          ABCDAC1    ex      de,hl
1478 2B42 22 F6BE    A      ld      (AC1INT),hl
1479 2B45 60          A      ld      h,b
1480 2B46 69          A      ld      l,c
```

```
1481 2B47 22 F6BC A ld (AC1),hl
1482 2B4A EB A ex de,hl
1483 2B4B C9 A ret
1484 2B4C 2A F6BE AAC1BCD ld hl,(AC1INT)
1485 2B4F EB A ex de,hl
1486 2B50 2A F6BC A ld hl,(AC1)
1487 2B53 4D A ld c,l
1488 2B54 44 A ld b,h
1489 2B55 C9 A ret
1490 2B56 4E AHLCBED ld c,(hl)
1491 2B57 23 A inc hl
1492 2B58 46 A ld b,(hl)
1493 2B59 23 A inc hl
1494 2B5A 5E A ld e,(hl)
1495 2B5B 23 A inc hl
1496 2B5C 56 A ld d,(hl)
1497 2B5D 23 A inc hl
1498 2B5E C9 A ret
1499 2B5F 5E AHLEDCB ld e,(hl)
1500 2B60 23 A inc hl
1501 2B61 56 AHLDCB ld d,(hl)
1502 2B62 23 A inc hl
1503 2B63 4E A ld c,(hl)
1504 2B64 23 A inc hl
1505 2B65 46 A ld b,(hl)
1506 2B66 23 AINCHL inc hl
1507 2B67 C9 A ret
1508 2B68 11 F6BC AHLAC1S ld de,AC1
1509 2B6B 06 04 A ld b,4
1510 2B6D 18 08 A jr NLDIR
1511 2B6F 11 F70D AHLAC2T ld de,AC2
1512 2B72 EB ALDIRT ex de,hl
1513 2B73 3A F529 ANLDIRT ld a,(TYP)
1514 2B76 47 A ld b,a
1515 2B77 1A ANLDIR ld a,(de)
1516 2B78 77 A ld (hl),a
1517 2B79 13 A inc de
1518 2B7A 23 A inc hl
1519 2B7B 10 FA A djnz NLDIR
1520 2B7D C9 A ret
1521 2B7E 1A ANLDDR ld a,(de)
1522 2B7F 77 A ld (hl),a
1523 2B80 1B A dec de
1524 2B81 2B A dec hl
1525 2B82 10 FA A djnz NLDDR
1526 2B84 C9 A ret
1527 2B85 21 F70D AAC21T ld hl,AC2
1528 2B88 11 2B72 AHLAC1T ld de,LDIRT
1529 2B8B 18 06 A jr AC1HL1
1530 2B8D 21 F70D AAC12T ld hl,AC2
1531 2B90 11 2B73 AAC1HLT ld de,NLDIRT
1532 2B93 D5 AAC1HL1 push de
1533 2B94 11 F6BC A ld de,AC1
1534 2B97 3A F529 A ld a,(TYP)
1535 2B9A FE 04 A cp 4
1536 2B9C D0 A ret nc
1537 2B9D 11 F6BE A ld de,AC1INT
1538 2BA0 C9 A ret
```

```

1539          A;
1540 2BA1 79      AVGL4 ld      a,c
1541 2BA2 B7      A      or      a
1542 2BA3 CA 2AF1 A      jp      z,TVORZ
1543 2BA6 21 2AF7 A      ld      hl,TVORZ1
1544 2BA9 E5      A      push   hl
1545 2BAA CD 2AF1 A      call   TVORZ
1546 2BAD 79      A      ld      a,c
1547 2BAE C8      A      ret      z
1548 2BAF 21 F6BC A      ld      hl,AC1
1549 2BB2 AE      A      xor      (hl)
1550 2BB3 79      A      ld      a,c
1551 2BB4 F8      A      ret      m
1552 2BB5 CD 2BBB A      call   VGL41
1553 2BB8 1F      A      rra
1554 2BB9 A9      A      xor      c
1555 2BBA C9      A      ret
1556 2BBB 79      AVGL41 ld      a,c
1557 2BBC BE      A      cp      (hl)
1558 2BBD C0      A      ret      nz
1559 2BBE 23      A      inc     hl
1560 2BBF 78      A      ld      a,b
1561 2BC0 BE      A      cp      (hl)
1562 2BC1 C0      A      ret      nz
1563 2BC2 23      A      inc     hl
1564 2BC3 7B      A      ld      a,e
1565 2BC4 BE      A      cp      (hl)
1566 2BC5 C0      A      ret      nz
1567 2BC6 23      A      inc     hl
1568 2BC7 7A      A      ld      a,d
1569 2BC8 96      A      sub     (hl)
1570 2BC9 C0      A      ret      nz
1571 2BCA E1      A      pop     hl
1572 2BCB E1      A      pop     hl
1573 2BCC C9      A      ret
1574 2BCD 7A      AVGL2 ld      a,d
1575 2BCE AC      A      xor      h
1576 2BCF 7C      A      ld      a,h
1577 2BD0 FA 2AF8 A      jp      m,TVORZ2
1578 2BD3 BA      A      cp      d
1579 2BD4 20 03    A      jr      nz,VGL21
1580 2BD6 7D      A      ld      a,l
1581 2BD7 93      A      sub     e
1582 2BD8 C8      A      ret      z
1583 2BD9 C3 2AF9 AVGL21 jp      TVORZ3
1584          A;
1585 2BDC 11 F70D AVGL8 ld      de,AC2
1586 2BDF 1A      A      ld      a,(de)
1587 2BE0 B7      A      or      a
1588 2BE1 CA 2AF1 A      jp      z,TVORZ
1589 2BE4 21 2AF7 A      ld      hl,TVORZ1
1590 2BE7 E5      A      push   hl
1591 2BE8 CD 2AF1 A      call   TVORZ
1592 2BEB 1A      A      ld      a,(de)
1593 2BEC 4F      A      ld      c,a
1594 2BED C8      A      ret      z
1595 2BEE 21 F6BC A      ld      hl,AC1
1596 2BF1 AE      A      xor      (hl)

```

```
1597 2BF2 79      A   ld   a,c
1598 2BF3 F8      A   ret   m
1599 2BF4 06 08    A   ld   b,8
1600 2BF6 1A      AVGL81 ld   a,(de)
1601 2BF7 96      A   sub  (hl)
1602 2BF8 20 06    A   jr   nz,VGL82
1603 2BFA 13      A   inc  de
1604 2BFB 23      A   inc  hl
1605 2BFC 10 F8    A   djnz VGL81
1606 2BFE C1      A   pop  bc
1607 2BFF C9      A   ret
1608 2C00 1F      AVGL82 rra
1609 2C01 A9      A   xor  c
1610 2C02 C9      A   ret
1611 2C03 CD 2BDC  AVGL80 call VGL8
1612 2C06 C2 2AF7  A   jp   nz,TVORZ1
1613 2C09 C9      A   ret
1614          A;
1615 2C0A EF      ACINT rst  TYPTST
1616 2C0B 2A F6BE  A   ld   hl,(AC1INT)
1617 2C0E F8      A   ret   m
1618 2C0F CA 406E  A   jp   z,ERTM
1619 2C12 CD 2CDD  A   call CVINT
1620 2C15 DA 4068  A   jp   c,EROV
1621 2C18 EB      A   ex   de,hl
1622 2C19 22 F6BE  ACINT1 ld   (AC1INT),hl
1623 2C1C 3E 02    ACINT2 ld   a,2
1624 2C1E 32 F529  ACINT3 ld   (TYP),a
1625 2C21 C9      A   ret
1626 2C22 01 32C5  ACINT4 ld   bc,32C5H
1627 2C25 11 8076  A   ld   de,8076H
1628 2C28 CD 2BA1  A   call VGL4
1629 2C2B C0      A   ret   nz
1630 2C2C 21 8000  A   ld   hl,8000H
1631 2C2F D1      ACINT5 pop  de
1632 2C30 18 E7    A   jr   CINT1
1633          A;
1634 2C32 EF      ACSNG rst  TYPTST
1635 2C33 E0      A   ret   po
1636 2C34 FA 2C48  A   jp   m,CV4BCD
1637 2C37 CA 406E  A   jp   z,ERTM
1638 2C3A CD 2CD3  A   call CDBL3
1639 2C3D CD 33D2  A   call PTAC1E
1640 2C40 23      A   inc  hl
1641 2C41 78      A   ld   a,b
1642 2C42 B7      A   or   a
1643 2C43 1F      A   rra
1644 2C44 47      A   ld   b,a
1645 2C45 C3 23C1  A   jp   ADD8C
1646          A;
1647 2C48 2A F6BE  ACV4BCD ld   hl,(AC1INT)
1648 2C4B 7C      ACV4BC1 ld   a,h
1649 2C4C B7      ACV4BC2 or   a
1650 2C4D F5      A   push af
1651 2C4E FC 2EA1  A   call m,MHLAC1
1652 2C51 CD 2CD3  A   call CDBL3
1653 2C54 EB      A   ex   de,hl
1654 2C55 21 0000  A   ld   hl,0
```

```
1655 2C58 22 F6BC A ld (AC1),hl
1656 2C5B 22 F6BE A ld (AC1INT),hl
1657 2C5E 7A A ld a,d
1658 2C5F B3 A or e
1659 2C60 CA 68B7 A jp z,TSTZK2
1660 2C63 01 0500 A ld bc,500H
1661 2C66 21 F6BD A ld hl,AC1+1
1662 2C69 E5 A push hl
1663 2C6A 21 2CB0 A ld hl,TDEZPM
1664 2C6D 3E FF ACV4BC3 ld a,0FFH
1665 2C6F D5 A push de
1666 2C70 5E A ld e,(hl)
1667 2C71 23 A inc hl
1668 2C72 56 A ld d,(hl)
1669 2C73 23 A inc hl
1670 2C74 E3 A ex (sp),hl
1671 2C75 C5 A push bc
1672 2C76 44 ACV4BC4 ld b,h
1673 2C77 4D A ld c,l
1674 2C78 19 A add hl,de
1675 2C79 3C A inc a
1676 2C7A 38 FA A jr c,CV4BC4
1677 2C7C 60 A ld h,b
1678 2C7D 69 A ld l,c
1679 2C7E C1 A pop bc
1680 2C7F D1 A pop de
1681 2C80 EB A ex de,hl
1682 2C81 0C A inc c
1683 2C82 0D A dec c
1684 2C83 20 0B A jr nz,CV4BC5
1685 2C85 B7 A or a
1686 2C86 28 1C A jr z,CV4BC8
1687 2C88 F5 A push af
1688 2C89 3E 40 A ld a,'@'
1689 2C8B 80 A add a,b
1690 2C8C 32 F6BC A ld (AC1),a
1691 2C8F F1 A pop af
1692 2C90 0C ACV4BC5 inc c
1693 2C91 E3 A ex (sp),hl
1694 2C92 F5 A push af
1695 2C93 79 A ld a,c
1696 2C94 1F A rra
1697 2C95 30 08 A jr nc,CV4BC6
1698 2C97 F1 A pop af
1699 2C98 87 A add a,a
1700 2C99 87 A add a,a
1701 2C9A 87 A add a,a
1702 2C9B 87 A add a,a
1703 2C9C 77 A ld (hl),a
1704 2C9D 18 04 A jr CV4BC7
1705 2C9F F1 ACV4BC6 pop af
1706 2CA0 B6 A or (hl)
1707 2CA1 77 A ld (hl),a
1708 2CA2 23 A inc hl
1709 2CA3 E3 ACV4BC7 ex (sp),hl
1710 2CA4 7A ACV4BC8 ld a,d
1711 2CA5 B3 A or e
1712 2CA6 28 02 A jr z,CV4BC9
```



```
1713 2CA8 10 C3      A   djnz   CV4BC3
1714 2CAA E1         ACV4BC9   pop    hl
1715 2CAB F1         A   pop    af
1716 2CAC F0         A   ret    p
1717 2CAD C3 2B0D     A   jp     ABS2
1718                A;
1719 2CB0 D8F0     ATDEZPM   defw   -10000
1720 2CB2 FC18     A   defw   -1000
1721 2CB4 FF9C     A   defw   -100
1722 2CB6 FFF6     A   defw   -10
1723 2CB8 FFFF     A   defw   -1
1724                A;
1725 2CBA EF         ACDBL rst  TYPTST
1726 2CBB D0         A   ret    nc
1727 2CBC CA 406E     A   jp     z,ERTM
1728 2CBF FC 2C48     A   call   m,CV4BCD
1729 2CC2 21 0000     ACDBL1   ld     hl,0
1730 2CC5 22 F6C0     A   ld     (AC1+4),hl
1731 2CC8 22 F6C2     A   ld     (AC1+6),hl
1732 2CCB 7C         A   ld     a,h
1733 2CCC 32 F6C4     A   ld     (ARIBU),a
1734 2CCF 3E 08     ACDBL2   ld     a,8
1735 2CD1 18 02     A   jr     CDBL4
1736 2CD3 3E 04     ACDBL3   ld     a,4
1737 2CD5 C3 2C1E     ACDBL4   jp     CINT3
1738                A;
1739 2CD8 EF         ATYSTR?  rst    TYPTST
1740 2CD9 C8         A   ret    z
1741 2CDA C3 406E     A   jp     ERTM
1742                A;
1743 2CDD 21 2D3A     ACVINT   ld     hl,SCF_
1744 2CE0 E5         A   push   hl
1745 2CE1 21 F6BC     A   ld     hl,AC1
1746 2CE4 7E         A   ld     a,(hl)
1747 2CE5 E6 7F     A   and    7FH
1748 2CE7 FE 46     A   cp    'F'
1749 2CE9 D0         A   ret    nc
1750 2CEA D6 41     A   sub    'A'
1751 2CEC 30 06     A   jr     nc,CVINT1
1752 2CEE B7         A   or    a
1753 2CEF D1         A   pop    de
1754 2CF0 11 0000     A   ld     de,0
1755 2CF3 C9         A   ret
1756 2CF4 3C         ACVINT1  inc    a
1757 2CF5 47         A   ld     b,a
1758 2CF6 11 0000     A   ld     de,0
1759 2CF9 4A         A   ld     c,d
1760 2CFA 23         A   inc   hl
1761 2CFB 79         ACVINT2  ld     a,c
1762 2CFC 0C         A   inc   c
1763 2CFD 1F         A   rra
1764 2CFE 7E         A   ld     a,(hl)
1765 2CFF 38 06     A   jr     c,CVINT3
1766 2D01 1F         A   rra
1767 2D02 1F         A   rra
1768 2D03 1F         A   rra
1769 2D04 1F         A   rra
1770 2D05 18 01     A   jr     CVINT4
```

```

1771 2D07 23          ACVINT3   inc    hl
1772 2D08 E6 0F      ACVINT4   and    0FH
1773 2D0A 22 F6B6   A      ld    (HARI1),hl
1774 2D0D 62          A      ld    h,d
1775 2D0E 6B          A      ld    l,e
1776 2D0F 29          A      add   hl,hl
1777 2D10 D8          A      ret   c
1778 2D11 29          A      add   hl,hl
1779 2D12 D8          A      ret   c
1780 2D13 19          A      add   hl,de
1781 2D14 D8          A      ret   c
1782 2D15 29          A      add   hl,hl
1783 2D16 D8          A      ret   c
1784 2D17 5F          A      ld    e,a
1785 2D18 16 00      A      ld    d,0
1786 2D1A 19          A      add   hl,de
1787 2D1B D8          A      ret   c
1788 2D1C EB          A      ex   de,hl
1789 2D1D 2A F6B6   A      ld    hl,(HARI1)
1790 2D20 10 D9      A      djnz  CVINT2
1791 2D22 21 8000    A      ld    hl,8000H
1792 2D25 E7          A      rst  CPREG
1793 2D26 3A F6BC   A      ld    a,(AC1)
1794 2D29 D8          A      ret   c
1795 2D2A 28 0A      A      jr   z,CVINT5
1796 2D2C E1          A      pop  hl
1797 2D2D B7          A      or   a
1798 2D2E F0          A      ret  p
1799 2D2F EB          A      ex  de,hl
1800 2D30 CD 2EA1   A      call MHLAC1
1801 2D33 EB          A      ex  de,hl
1802 2D34 B7          A      or   a
1803 2D35 C9          A      ret
1804 2D36 B7          ACVINT5   or    a
1805 2D37 F0          A      ret  p
1806 2D38 E1          A      pop  hl
1807 2D39 C9          A      ret
1808                A;
1809 2D3A 37          ASCF_ scf
1810 2D3B C9          A      ret
1811                A;
1812 2D3C 0B          ADECBBC   dec   bc
1813 2D3D C9          A      ret
1814                A;
1815 2D3E EF          AFIX  rst  TYPTST
1816 2D3F F8          A      ret  m
1817 2D40 CD 2AF1   A      call TVORZ
1818 2D43 F2 2D4F   A      jp   p,INT
1819 2D46 CD 2B0D   A      call ABS2
1820 2D49 CD 2D4F   A      call INT
1821 2D4C C3 2B06   A      jp   ABS1
1822                A;
1823 2D4F EF          AINT  rst  TYPTST
1824 2D50 F8          A      ret  m
1825 2D51 21 F6C4   AINT0 ld   hl,ARIBU
1826 2D54 0E 0E      A      ld   c,0EH
1827 2D56 30 08      A      jr   nc,INT1
1828 2D58 CA 40E      A      jp   z,ERTM
    
```

```
1829 2D5B 21 F6C0 A ld hl,AC1+4
1830 2D5E 0E 06 A ld c,6
1831 2D60 3A F6BC AINT1 ld a,(AC1)
1832 2D63 B7 A or a
1833 2D64 FA 2D80 A jp m,INT3
1834 2D67 E6 7F A and 7FH
1835 2D69 D6 41 A sub 'A'
1836 2D6B DA 2AFD A jp c,NULAC1
1837 2D6E 3C A inc a
1838 2D6F 91 A sub c
1839 2D70 D0 A ret nc
1840 2D71 2F A cpl
1841 2D72 3C A inc a
1842 2D73 47 A ld b,a
1843 2D74 2B AINT2 dec hl
1844 2D75 7E A ld a,(hl)
1845 2D76 E6 F0 A and 0F0H ;PLUSTOK
1846 2D78 77 A ld (hl),a
1847 2D79 05 A dec b
1848 2D7A C8 A ret z
1849 2D7B AF A xor a
1850 2D7C 77 A ld (hl),a
1851 2D7D 10 F5 A djnz INT2
1852 2D7F C9 A ret
1853 2D80 E6 7F AINT3 and 7FH
1854 2D82 D6 41 A sub 'A'
1855 2D84 30 06 A jr nc,INT4
1856 2D86 21 FFFF A ld hl,-1
1857 2D89 C3 2C19 A jp CINT1
1858 2D8C 3C AINT4 inc a
1859 2D8D 91 A sub c
1860 2D8E D0 A ret nc
1861 2D8F 2F A cpl
1862 2D90 3C A inc a
1863 2D91 47 A ld b,a
1864 2D92 1E 00 A ld e,0
1865 2D94 2B AINT5 dec hl
1866 2D95 7E A ld a,(hl)
1867 2D96 57 A ld d,a
1868 2D97 E6 F0 A and 0F0H ;PLUSTOK
1869 2D99 77 A ld (hl),a
1870 2D9A BA A cp d
1871 2D9B 28 01 A jrz,INT6
1872 2D9D 1C A inc e
1873 2D9E 05 AINT6 dec b
1874 2D9F 28 08 A jrz,INT8
1875 2DA1 AF A xor a
1876 2DA2 77 A ld (hl),a
1877 2DA3 BA A cp d
1878 2DA4 28 01 A jrz,INT7
1879 2DA6 1C A inc e
1880 2DA7 10 EB AINT7 djnz INT5
1881 2DA9 1C AINT8 inc e
1882 2DAA 1D A dec e
1883 2DAB C8 A ret z
1884 2DAC 79 A ld a,c
1885 2DAD FE 06 A cp 6
1886 2DAF 01 10C1 A ld bc,10C1H
```

```
1887 2DB2 11 0000 A ld de,0
1888 2DB5 CA 2ECE A jp z,ADD4
1889 2DB8 EB A ex de,hl
1890 2DB9 22 F713 A ld (AC2+6),hl
1891 2DBC 22 F711 A ld (AC2+4),hl
1892 2DBF 22 F70F A ld (AC2INT),hl
1893 2DC2 60 A ld h,b
1894 2DC3 69 A ld l,c
1895 2DC4 22 F70D A ld (AC2),hl
1896 2DC7 C3 231A A jp ADD8
1897 A;
1898 2DCA E5 ADIMLEN push hl
1899 2DCB 21 0000 A ld hl,0
1900 2DCE 78 A ld a,b
1901 2DCF B1 A or c
1902 2DD0 28 12 A jr z,DIMLE3
1903 2DD2 3E 10 A ld a,10H
1904 2DD4 29 ADIMLE1 add hl,hl
1905 2DD5 DA 6229 A jp c,DIM27
1906 2DD8 EB A ex de,hl
1907 2DD9 29 A add hl,hl
1908 2DDA EB A ex de,hl
1909 2ddb 30 04 A jr nc,DIMLE2
1910 2DDD 09 A add hl,bc
1911 2DDE DA 6229 A jp c,DIM27
1912 2DE1 3D ADIMLE2 dec a
1913 2DE2 20 F0 A jr nz,DIMLE1
1914 2DE4 EB ADIMLE3 ex de,hl
1915 2DE5 E1 A pop hl
1916 2DE6 C9 A ret
1917 A; ARITHMETIK INTEGER
1918 2DE7 7C ASUBI ld a,h
1919 2DE8 17 A rla
1920 2DE9 9F A sbc a,a
1921 2DEA 47 A ld b,a
1922 2DEB CD 2EA1 A call MHLAC1
1923 2DEE 79 A ld a,c
1924 2DEF 98 A sbc a,b
1925 2DF0 18 03 A jr ADDI1
1926 A;
1927 2DF2 7C AADDI ld a,h
1928 2DF3 17 A rla
1929 2DF4 9F A sbc a,a
1930 2DF5 47 AADDI1 ld b,a
1931 2DF6 E5 A push hl
1932 2DF7 7A A ld a,d
1933 2DF8 17 A rla
1934 2DF9 9F A sbc a,a
1935 2DFA 19 A add hl,de
1936 2DFB 88 A adc a,b
1937 2DFC 0F A rrca
1938 2DFD AC A xor h
1939 2DFE F2 2C2F A jp p,CINT5
1940 2E01 C5 A push bc
1941 2E02 EB A ex de,hl
1942 2E03 CD 2C4B A call CV4BC1
1943 2E06 F1 A pop af
1944 2E07 E1 A pop hl
```

```
1945 2E08 CD 2B31 A call AC1SST
1946 2E0B CD 2C4B A call CV4BC1
1947 2E0E C1 A pop bc
1948 2E0F D1 A pop de
1949 2E10 C3 2ECE A jp ADD4
1950 A;
1951 2E13 7C AMLTI1 ld a,h
1952 2E14 B5 A or l
1953 2E15 CA 2C19 A jp z,CINT1
1954 2E18 E5 A push hl
1955 2E19 D5 A push de
1956 2E1A CD 2E95 A call DIV164
1957 2E1D C5 A push bc
1958 2E1E 44 A ld b,h
1959 2E1F 4D A ld c,l
1960 2E20 21 0000 A ld hl,0
1961 2E23 3E 10 A ld a,10H
1962 2E25 29 AMLTI1 add hl,hl
1963 2E26 38 1F A jr c,MLTI5
1964 2E28 EB A ex de,hl
1965 2E29 29 A add hl,hl
1966 2E2A EB A ex de,hl
1967 2E2B 30 03 A jr nc,MLTI2
1968 2E2D 09 A add hl,bc
1969 2E2E 38 17 A jr c,MLTI5
1970 2E30 3D AMLTI2 dec a
1971 2E31 20 F2 A jr nz,MLTI1
1972 2E33 C1 A pop bc
1973 2E34 D1 A pop de
1974 2E35 7C AMLTI3 ld a,h
1975 2E36 B7 A or a
1976 2E37 FA 2E3F A jp m,MLTI4
1977 2E3A D1 A pop de
1978 2E3B 78 A ld a,b
1979 2E3C C3 2E9D A jp DIV166
1980 2E3F EE 80 AMLTI4 xor 80H
1981 2E41 B5 A or l
1982 2E42 28 14 A jr z,MLTI7
1983 2E44 EB A ex de,hl
1984 2E45 18 02 A jr MLTI6
1985 2E47 C1 AMLTI5 pop bc
1986 2E48 E1 A pop hl
1987 2E49 CD 2C4B AMLTI6 call CV4BC1
1988 2E4C E1 A pop hl
1989 2E4D CD 2B31 A call AC1SST
1990 2E50 CD 2C4B A call CV4BC1
1991 2E53 C1 A pop bc
1992 2E54 D1 A pop de
1993 2E55 C3 2EDC A jp MLT4
1994 2E58 78 AMLTI7 ld a,b
1995 2E59 B7 A or a
1996 2E5A C1 A pop bc
1997 2E5B FA 2C19 A jp m,CINT1
1998 2E5E D5 A push de
1999 2E5F CD 2C4B A call CV4BC1
2000 2E62 D1 A pop de
2001 2E63 C3 2B0D A jp ABS2
2002 A;
```

```

2003 2E66 7C          ADIV16      ld      a,h
2004 2E67 B5          A      or      l
2005 2E68 CA 4059    A      jp      z,ERD0
2006 2E6B CD 2E95    A      call    DIV164
2007 2E6E C5          A      push    bc
2008 2E6F EB          A      ex      de,hl
2009 2E70 CD 2EA1    A      call    MHLAC1
2010 2E73 44          A      ld      b,h
2011 2E74 4D          A      ld      c,l
2012 2E75 21 0000    A      ld      hl,0
2013 2E78 3E 11      A      ld      a,11H
2014 2E7A B7          A      or      a
2015 2E7B 18 09      A      jr      DIV163
2016 2E7D E5          ADIV161    push    hl
2017 2E7E 09          A      add     hl,bc
2018 2E7F 30 04      A      jr      nc,DIV162
2019 2E81 33          A      inc     sp
2020 2E82 33          A      inc     sp
2021 2E83 37          A      scf
2022 2E84 30          A      defb   30H ; jr   nc,L?31E7
2023 2E85 E1          ADIV162    pop     hl
2024 2E86 CB 13      ADIV163    rl      e
2025 2E88 CB 12      A      rl      d
2026 2E8A ED 6A      A      adc     hl,hl
2027 2E8C 3D          A      dec     a
2028 2E8D 20 EE      A      jr      nz,DIV161
2029 2E8F EB          A      ex      de,hl
2030 2E90 C1          A      pop     bc
2031 2E91 D5          A      push   de
2032 2E92 C3 2E35    A      jp      MLTI3
2033 2E95 7C          ADIV164    ld      a,h
2034 2E96 AA          A      xor     d
2035 2E97 47          A      ld      b,a
2036 2E98 CD 2E9C    A      call    DIV165
2037 2E9B EB          A      ex      de,hl
2038 2E9C 7C          ADIV165    ld      a,h
2039 2E9D B7          ADIV166    or      a
2040 2E9E F2 2C19    A      jp      p,CINT1
2041 2EA1 AF          AMHLAC1    xor     a
2042 2EA2 4F          A      ld      c,a
2043 2EA3 95          A      sub     l
2044 2EA4 6F          A      ld      l,a
2045 2EA5 79          A      ld      a,c
2046 2EA6 9C          A      sbc     a,h
2047 2EA7 67          A      ld      h,a
2048 2EA8 C3 2C19    A      jp      CINT1
2049 2EAB 2A F6BE    AABSINT    ld      hl,(AC1INT)
2050 2EAE CD 2EA1    A      call    MHLAC1
2051 2EB1 7C          A      ld      a,h
2052 2EB2 EE 80      A      xor     80H
2053 2EB4 B5          A      or      l
2054 2EB5 C0          A      ret     nz
2055 2EB6 AF          ACV4BC0    xor     a
2056 2EB7 C3 2C4C    A      jp      CV4BC2
2057 2EBA D5          ADIV167    push    de
2058 2EBB CD 2E66    A      call    DIV16
2059 2EBE AF          A      xor     a
2060 2EBF 82          A      add     a,d
    
```

```
2061 2EC0 1F      A   rra
2062 2EC1 67      A   ld   h,a
2063 2EC2 7B      A   ld   a,e
2064 2EC3 1F      A   rra
2065 2EC4 6F      A   ld   l,a
2066 2EC5 CD 2C1C  A   call CINT2
2067 2EC8 F1      A   pop  af
2068 2EC9 18 D2   A   jr   DIV166
2069          A;
2070 2ECB CD 2B5F  AADD40 call HLEDCB
2071 2ECE CD 2F00  AADD4 call BCDAC2
2072 2ED1 CD 2CC2  A   call CDBL1
2073 2ED4 C3 231A  A   jp   ADD8
2074          A;
2075 2ED7 CD 2B0D  ASUB4 call ABS2
2076 2EDA 18 F2   A   jr   ADD4
2077          A;
2078 2EDC CD 2F00  AMLT4 call BCDAC2
2079 2EDF CD 2CC2  A   call CDBL1
2080 2EE2 C3 2466  A   jp   MLT8
2081          A;
2082 2EE5 C1      ADIV40 pop  bc
2083 2EE6 D1      A   pop  de
2084 2EE7 2A F6BE ADIV4 ld   hl,(AC1INT)
2085 2EEA EB      A   ex   de,hl
2086 2EEB 22 F6BE A   ld   (AC1INT),hl
2087 2EEE C5      A   push bc
2088 2EEF 2A F6BC A   ld   hl,(AC1)
2089 2EF2 E3      A   ex   (sp),hl
2090 2EF3 22 F6BC A   ld   (AC1),hl
2091 2EF6 C1      A   pop  bc
2092 2EF7 CD 2F00  A   call BCDAC2
2093 2EFA CD 2CC2  A   call CDBL1
2094 2EFD C3 251F  A   jp   DIV8
2095          A;
2096 2F00 EB      ABCDAC2 ex   de,hl
2097 2F01 22 F70F A   ld   (AC2INT),hl
2098 2F04 60      A   ld   h,b
2099 2F05 69      A   ld   l,c
2100 2F06 22 F70D A   ld   (AC2),hl
2101 2F09 21 0000 A   ld   hl,0
2102 2F0C 22 F711 A   ld   (AC2+4),hl
2103 2F0F 22 F713 A   ld   (AC2+6),hl
2104 2F12 C9      A   ret
2105 2F13 3D      ADECA dec  a
2106 2F14 C9      A   ret
2107 2F15 2B      ABDECHL dec  hl
2108 2F16 C9      A   ret
2109 2F17 E1      APOPHL pop  hl
2110 2F18 C9      A   ret
2111          A;
2112 2F19 EB      AEIKO ex   de,hl
2113 2F1A 01 00FF  A   ld   bc,0FFH
2114 2F1D 60      A   ld   h,b
2115 2F1E 68      A   ld   l,b
2116 2F1F CD 2C19  A   call CINT1
2117 2F22 EB      A   ex   de,hl
2118 2F23 7E      A   ld   a,(hl)
```

ARITHMETIKB 4 BYTES

EINGABEKONVERTIERUNG

```
2119 2F24 FE 26      A    cp      'G'
2120 2F26 CA 4E92     A    jp      z,SNAL44
2121 2F29 FE 2D      A    cp      '-'
2122 2F2B F5         A    push   af
2123 2F2C 28 05      A    jr      z,EIK01
2124 2F2E FE 2B      A    cp      '+'
2125 2F30 28 01      A    jr      z,EIK01
2126 2F32 2B        A    dec     hl
2127 2F33 D7          AEIK01   rst      TCHAR
2128 2F34 DA 3006     A    jp      c,EIK021
2129 2F37 FE 2E      A    cp      '.'
2130 2F39 CA 2FCF     A    jp      z,EIK015
2131 2F3C FE 65      A    cp      'e'      ;KLEIN E
2132 2F3E 28 02      A    jr      z,EIK02
2133 2F40 FE 45      A    cp      'E'
2134 2F42 20 1A     AEIK02   jr      nz,EIK05
2135 2F44 E5         A    push   hl
2136 2F45 D7          A    rst      TCHAR
2137 2F46 FE 6C      A    cp      'l'      ;KLEIN L
2138 2F48 28 0A      A    jr      z,EIK03
2139 2F4A FE 4C      A    cp      'L'
2140 2F4C 28 06      A    jr      z,EIK03
2141 2F4E FE 71      A    cp      'q'      ;KLEIN Q
2142 2F50 28 02      A    jr      z,EIK03
2143 2F52 FE 51      A    cp      'Q'
2144 2F54 E1          AEIK03   pop     hl
2145 2F55 28 06      A    jr      z,EIK04
2146 2F57 EF          A    rst      TYPTST
2147 2F58 30 1B     A    jr      nc,EIK06
2148 2F5A AF          A    xor     a
2149 2F5B 18 19     A    jr      EIK07
2150 2F5D 7E          AEIK04   ld      a,(hl)
2151 2F5E FE 25     AEIK05   cp      '%'
2152 2F60 CA 2FE2     A    jp      z,EIK017
2153 2F63 FE 23      A    cp      '#'
2154 2F65 CA 2FF0     A    jp      z,EIK018
2155 2F68 FE 21      A    cp      '!'
2156 2F6A CA 2FF1     A    jp      z,EIK019
2157 2F6D FE 64      A    cp      'd'      ;KLEIN D
2158 2F6F 28 04      A    jr      z,EIK06
2159 2F71 FE 44      A    cp      'D'
2160 2F73 20 29     A    jr      nz,EIK011
2161 2F75 B7          AEIK06   or      a
2162 2F76 CD 2FF7     AEIK07   call   EIK020
2163 2F79 D7          A    rst      TCHAR
2164 2F7A D5          A    push   de
2165 2F7B 16 00     A    ld      d,0
2166 2F7D CD 4F21     A    call   SNAL55
2167 2F80 4A        A    ld      c,d
2168 2F81 D1          A    pop     de
2169 2F82 D7          AEIK08   rst      TCHAR
2170 2F83 30 13     A    jr      nc,EIK010
2171 2F85 7B        A    ld      a,e
2172 2F86 FE 0C      A    cp      0CH
2173 2F88 30 0A     A    jr      nc,EIK09
2174 2F8A 07        A    rlca
2175 2F8B 07        A    rlca
2176 2F8C 83        A    add     a,e
```



```
2177 2F8D 07      A    rlca
2178 2F8E 86      A    add    a,(hl)
2179 2F8F D6 30    A    sub    '0'
2180 2F91 5F      A    ld     e,a
2181 2F92 18 EE    A    jr     EIK08
2182 2F94 1E 80    AEIK09  ld     e,80H
2183 2F96 18 EA    A    jr     EIK08
2184 2F98 0C      AEIK010 inc    c
2185 2F99 20 03    A    jr     nz,EIK011
2186 2F9B AF      A    xor    a
2187 2F9C 93      A    sub    e
2188 2F9D 5F      A    ld     e,a
2189 2F9E EF      AEIK011 rst     TYPTST
2190 2F9F FA 2FB4  A    jp     m,EIK012
2191 2FA2 3A F6BC  A    ld     a,(AC1)
2192 2FA5 B7      A    or     a
2193 2FA6 28 0C    A    jr     z,EIK012
2194 2FA8 7A      A    ld     a,d
2195 2FA9 90      A    sub    b
2196 2FAA 83      A    add    a,e
2197 2FAB C6 40    A    add    a,'@'
2198 2FAD 32 F6BC  A    ld     (AC1),a
2199 2FB0 B7      A    or     a
2200 2FB1 FC 2FCC  A    call  m,EIK014
2201 2FB4 F1      AEIK012 pop    af
2202 2FB5 E5      A    push  hl
2203 2FB6 CC 2B06  A    call  z,ABS1
2204 2FB9 EF      A    rst     TYPTST
2205 2FBA 30 0B    A    jr     nc,EIK013
2206 2FBC E1      A    pop    hl
2207 2FBD E8      A    ret    pe
2208 2FBE E5      A    push  hl
2209 2FBF 21 2F17  A    ld     hl,POPHL
2210 2FC2 E5      A    push  hl
2211 2FC3 CD 2C22  A    call  CINT4
2212 2FC6 C9      A    ret
2213 2FC7 CD 23BC  AEIK013 call  ADD8B
2214 2FCA E1      A    pop    hl
2215 2FCB C9      A    ret
2216 2FCC C3 4068  AEIK014 jp     EROV
2217 2FCF EF      AEIK015 rst     TYPTST
2218 2FD0 0C      A    inc    c
2219 2FD1 20 CB    A    jr     nz,EIK011
2220 2FD3 30 0A    A    jr     nc,EIK016
2221 2FD5 CD 2FF7  A    call  EIK020
2222 2FD8 3A F6BC  A    ld     a,(AC1)
2223 2FDB B7      A    or     a
2224 2FDC 20 01    A    jr     nz,EIK016
2225 2FDE 57      A    ld     d,a
2226 2FDF C3 2F33  AEIK016 jp     EIK01
2227 2FE2 D7      AEIK017 rst     TCHAR
2228 2FE3 F1      A    pop    af
2229 2FE4 E5      A    push  hl
2230 2FE5 21 2F17  A    ld     hl,POPHL
2231 2FE8 E5      A    push  hl
2232 2FE9 21 2C0A  A    ld     hl,CINT
2233 2FEC E5      A    push  hl
2234 2FED F5      A    push  af
```

```

2235 2FEE 18 AE      A      jr      EIK011
2236 2FF0 B7        AEIK018    or      a
2237 2FF1 CD 2FF7   AEIK019    call   EIK020
2238 2FF4 D7        A      rst      TCHAR
2239 2FF5 18 A7     A      jr      EIK011
2240 2FF7 E5        AEIK020    push   hl
2241 2FF8 D5        A      push   de
2242 2FF9 C5        A      push   bc
2243 2FFA F5        A      push   af
2244 2FFB CC 2C32   A      call   z,CSNG
2245 2FFE F1        A      pop    af
2246 2FFF C4 2CBA   A      call   nz,CDBL
2247 3002 C1        A      pop    bc
2248 3003 D1        A      pop    de
2249 3004 E1        A      pop    hl
2250 3005 C9        A      ret
2251 3006 D6 30    AEIK021    sub    '0'
2252 3008 C2 3013   A      jp     nz,EIK022
2253 300B B1        A      or     c
2254 300C CA 3013   A      jp     z,EIK022
2255 300F A2        A      and   d
2256 3010 CA 2F33   A      jp     z,EIK01
2257 3013 14        AEIK022    inc   d
2258 3014 7A        A      ld    a,d
2259 3015 FE 07    A      cp    7
2260 3017 20 04    A      jr     nz,EIK023
2261 3019 B7        A      or     a
2262 301A CD 2FF7   A      call   EIK020
2263 301D D5        AEIK023    push   de
2264 301E 78        A      ld    a,b
2265 301F 81        A      add   a,c
2266 3020 3C        A      inc   a
2267 3021 47        A      ld    b,a
2268 3022 C5        A      push   bc
2269 3023 E5        A      push   hl
2270 3024 7E        A      ld    a,(hl)
2271 3025 D6 30    A      sub    '0'
2272 3027 F5        A      push   af
2273 3028 EF        A      rst      TYPTST
2274 3029 F2 3051   A      jp     p,EIK027
2275 302C 2A F6BE   A      ld    hl,(AC1INT)
2276 302F 11 0CCD   A      ld    de,0CCDH
2277 3032 E7        A      rst      CPREG
2278 3033 30 19    A      jr     nc,EIK026
2279 3035 54        A      ld    d,h
2280 3036 5D        A      ld    e,l
2281 3037 29        A      add   hl,hl
2282 3038 29        A      add   hl,hl
2283 3039 19        A      add   hl,de
2284 303A 29        A      add   hl,hl
2285 303B F1        A      pop   af
2286 303C 4F        A      ld    c,a
2287 303D 09        A      add   hl,bc
2288 303E 7C        A      ld    a,h
2289 303F B7        A      or     a
2290 3040 FA 304C   A      jp     m,EIK025
2291 3043 22 F6BE   A      ld    (AC1INT),hl
2292 3046 E1        AEIK024    pop   hl
    
```

```
2293 3047 C1      A    pop    bc
2294 3048 D1      A    pop    de
2295 3049 C3 2F33  A    jp     EIK01
2296 304C 79      AEIK025 ld     a,c
2297 304D F5      A    push   af
2298 304E CD 2C48 AEIK026 call  CV4BCD
2299 3051 F1      AEIK027 pop    af
2300 3052 E1      A    pop    hl
2301 3053 C1      A    pop    bc
2302 3054 D1      A    pop    de
2303 3055 20 0C   A    jr     nz,EIK028
2304 3057 3A F6BC A    ld     a,(AC1)
2305 305A B7      A    or     a
2306 305B 3E 00   A    ld     a,0
2307 305D 20 04   A    jr     nz,EIK028
2308 305F 57      A    ld     d,a
2309 3060 C3 2F33  A    jp     EIK01
2310 3063 D5      AEIK028 push   de
2311 3064 C5      A    push   bc
2312 3065 E5      A    push   hl
2313 3066 F5      A    push   af
2314 3067 21 F6BC A    ld     hl,AC1
2315 306A 36 01   A    ld     (hl),1
2316 306C 7A      A    ld     a,d
2317 306D FE 10   A    cp    10H
2318 306F 38 03   A    jr     c,EIK029
2319 3071 F1      A    pop    af
2320 3072 18 D2   A    jr     EIK024
2321 3074 3C      AEIK029 inc    a
2322 3075 B7      A    or     a
2323 3076 1F      A    rra
2324 3077 06 00   A    ld     b,0
2325 3079 4F      A    ld     c,a
2326 307A 09      A    add   hl,bc
2327 307B F1      A    pop    af
2328 307C 4F      A    ld     c,a
2329 307D 7A      A    ld     a,d
2330 307E 1F      A    rra
2331 307F 79      A    ld     a,c
2332 3080 30 04   A    jr     nc,EIK030
2333 3082 87      A    add   a,a
2334 3083 87      A    add   a,a
2335 3084 87      A    add   a,a
2336 3085 87      A    add   a,a
2337 3086 B6      AEIK030 or     (hl)
2338 3087 77      A    ld     (hl),a
2339 3088 18 BC   A    jr     EIK024
2340      A;
2341 308A E5      AAUINZN push   hl
2342 308B 21 3C3D A    ld     hl,IN_
2343 308E CD 6888 A    call  OUTZK1
2344 3091 E1      A    pop    hl
2345 3092 01 6887 AAUZN ld     bc,OUTZK
2346 3095 C5      A    push   bc
2347 3096 CD 2C19 AAUZN1 call  CINT1
2348 3099 AF      A    xor   a
2349 309A 32 F563 A    ld     (HARI4),a
2350 309D 21 F68C A    ld     hl,HLPTR+1
```

```
2351 30A0 36 20      A   ld   (hl),' '
2352 30A2 B6         A   or   (hl)
2353 30A3 18 1C      A   jr   AUK03
2354                A;
2355 30A5 AF         AAUK0 xor  a
2356 30A6 CD 33DF    AAUK01 call  AUKOU1
2357 30A9 E6 08      A   and  8
2358 30AB 28 02      A   jr   z,AUK02
2359 30AD 36 2B      A   ld   (hl),'+'
2360 30AF EB         AAUK02 ex   de,hl
2361 30B0 CD 2B21    A   call SGN2
2362 30B3 EB         A   ex   de,hl
2363 30B4 F2 30C1    A   jp   p,AUK03
2364 30B7 36 2D      A   ld   (hl),'-'
2365 30B9 C5         A   push bc
2366 30BA E5         A   push hl
2367 30BB CD 2B06    A   call ABS1
2368 30BE E1         A   pop  hl
2369 30BF C1         A   pop  bc
2370 30C0 B4         A   or   h
2371 30C1 23         AAUK03 inc  hl
2372 30C2 36 30      A   ld   (hl),'0'
2373 30C4 3A F563    A   ld   a,(HARI4)
2374 30C7 57         A   ld   d,a
2375 30C8 17         A   rla
2376 30C9 3A F529    A   ld   a,(TYP)
2377 30CC DA 3177    A   jp   c,AUK017
2378 30CF CA 316F    A   jp   z,AUK015
2379 30D2 FE 04      A   cp   4
2380 30D4 D2 3121    A   jp   nc,AUK09
2381 30D7 01 0000    A   ld   bc,0
2382 30DA CD 335B    A   call AUK058
2383 30DD 21 F68C    AAUK04 ld   hl,HLPPTR+1
2384 30E0 46         A   ld   b,(hl)
2385 30E1 0E 20      A   ld   c,' '
2386 30E3 3A F563    A   ld   a,(HARI4)
2387 30E6 5F         A   ld   e,a
2388 30E7 E6 20      A   and  ' '
2389 30E9 28 0C      A   jr   z,AUK05
2390 30EB 78         A   ld   a,b
2391 30EC B9         A   cp   c
2392 30ED 0E 2A      A   ld   c,'*'
2393 30EF 20 06      A   jr   nz,AUK05
2394 30F1 7B         A   ld   a,e
2395 30F2 E6 04      A   and  4
2396 30F4 20 01      A   jr   nz,AUK05
2397 30F6 41         A   ld   b,c
2398 30F7 71         AAUK05 ld   (hl),c
2399 30F8 D7         A   rst  TCHAR
2400 30F9 28 14      A   jr   z,AUK06
2401 30FB FE 45      A   cp   'E'
2402 30FD 28 10      A   jr   z,AUK06
2403 30FF FE 44      A   cp   'D'
2404 3101 28 0C      A   jr   z,AUK06
2405 3103 FE 30      A   cp   '0'
2406 3105 28 F0      A   jr   z,AUK05
2407 3107 FE 2C      A   cp   ','
2408 3109 28 EC      A   jr   z,AUK05
```

```
2409 310B FE 2E      A    cp      '.'
2410 310D 20 03      A    jr      nz,AUK07
2411 310F 2B        AAUK06      dec    hl
2412 3110 36 30      A    ld      (hl),'0'
2413 3112 7B        AAUK07      ld     a,e
2414 3113 E6 10      A    and     10H
2415 3115 28 03      A    jr      z,AUK08
2416 3117 2B        A    dec     hl
2417 3118 36 4D      A    ld      (hl),'M'
2418 311A 7B        AAUK08      ld     a,e
2419 311B E6 04      A    and     4
2420 311D C0          A    ret
2421 311E 2B        A    dec     hl
2422 311F 70          A    ld      (hl),b
2423 3120 C9          A    ret
2424 3121 E5        AAUK09      push   hl
2425 3122 CD 33D2    A    call   PTAC1E
2426 3125 50          A    ld      d,b
2427 3126 14          A    inc     d
2428 3127 01 0300    A    ld      bc,300H
2429 312A 3A F6BC    A    ld      a,(AC1)
2430 312D D6 3F      A    sub     '?'
2431 312F 38 08      A    jr      c,AUK010
2432 3131 14          A    inc     d
2433 3132 BA          A    cp      d
2434 3133 30 04      A    jr      nc,AUK010
2435 3135 3C          A    inc     a
2436 3136 47          A    ld      b,a
2437 3137 3E 02      A    ld      a,2
2438 3139 D6 02      AAUK010     sub    2
2439 313B E1          A    pop    hl
2440 313C F5          A    push   af
2441 313D CD 330E    A    call   AUK048
2442 3140 36 30      A    ld      (hl),'0'
2443 3142 CC 2B66    A    call   z,INCHL
2444 3145 CD 3333    A    call   AUK054
2445 3148 2B        AAUK011     dec    hl
2446 3149 7E          A    ld      a,(hl)
2447 314A FE 30      A    cp      '0'
2448 314C 28 FA      A    jr      z,AUK011
2449 314E FE 2E      A    cp      '.'
2450 3150 C4 2B66    A    call   nz,INCHL
2451 3153 F1          A    pop    af
2452 3154 28 1A      A    jr      z,AUK016
2453 3156 36 45      AAUK012     ld     (hl),'E'
2454 3158 23          A    inc     hl
2455 3159 36 2B      A    ld      (hl),'+'
2456 315B F2 3162    A    jp     p,AUK013
2457 315E 36 2D      A    ld      (hl),'-'
2458 3160 2F          A    cpl
2459 3161 3C          A    inc     a
2460 3162 06 2F      AAUK013     ld     b,'/'
2461 3164 04          AAUK014     inc    b
2462 3165 D6 0A      A    sub     0AH
2463 3167 30 FB      A    jr      nc,AUK014
2464 3169 C6 3A      A    add     a,':'
2465 316B 23          A    inc     hl
2466 316C 70          A    ld      (hl),b
```

```
2467 316D 23      A   inc   hl
2468 316E 77      A   ld    (hl),a
2469 316F 23      AAUK015  inc   hl
2470 3170 36 00      AAUK016  ld    (hl),0
2471 3172 EB      A   ex    de,hl
2472 3173 21 F68C  A   ld    hl,HLPPTR+1
2473 3176 C9      A   ret
2474 3177 23      AAUK017  inc   hl
2475 3178 C5      A   push  bc
2476 3179 FE 04      A   cp    4
2477 317B 7A      A   ld    a,d
2478 317C D2 31E6  A   jp    nc,AUK027
2479 317F 1F      A   rra
2480 3180 DA 326F  A   jp    c,AUK034
2481 3183 01 0603  A   ld    bc,603H
2482 3186 CD 3306  A   call  AUK047
2483 3189 D1      A   pop   de
2484 318A 7A      A   ld    a,d
2485 318B D6 05      A   sub   5
2486 318D F4 32E6  A   call  p,AUK040
2487 3190 CD 335B  A   call  AUK058
2488 3193 7B      AAUK018  ld    a,e
2489 3194 B7      A   or    a
2490 3195 CC 2F15  A   call  z,BDECHL
2491 3198 3D      A   dec   a
2492 3199 F4 32E6  A   call  p,AUK040
2493 319C E5      AAUK019  push  hl
2494 319D CD 30DD  A   call  AUK04
2495 31A0 E1      A   pop   hl
2496 31A1 28 02      A   jr    z,AUK020
2497 31A3 70      A   ld    (hl),b
2498 31A4 23      A   inc   hl
2499 31A5 36 00      AAUK020  ld    (hl),0
2500 31A7 21 F68B  A   ld    hl,HLPPTR
2501 31AA 23      AAUK021  inc   hl
2502 31AB 3A F582  AAUK022  ld    a,(HELPMO)
2503 31AE 95      A   sub   l
2504 31AF 92      A   sub   d
2505 31B0 C8      A   ret   z
2506 31B1 7E      A   ld    a,(hl)
2507 31B2 FE 20      A   cp    ' '
2508 31B4 28 F4      A   jr    z,AUK021
2509 31B6 FE 2A      A   cp    '*'
2510 31B8 28 F0      A   jr    z,AUK021
2511 31BA 2B      A   dec   hl
2512 31BB E5      A   push  hl
2513 31BC F5      AAUK023  push  af
2514 31BD 01 31BC  A   ld    bc,AUK023
2515 31C0 C5      A   push  bc
2516 31C1 D7      A   rst  TCHAR
2517 31C2 FE 2D      A   cp    '-'
2518 31C4 C8      A   ret   z
2519 31C5 FE 2B      A   cp    '+'
2520 31C7 C8      A   ret   z
2521 31C8 FE 9C      A   cp    9CH ;OUTTOK
2522 31CA C8      A   ret   z
2523 31CB C1      A   pop   bc
2524 31CC FE 30      A   cp    '0'
```

```
2525 31CE 20 0F      A   jr      nz,AUK026
2526 31D0 23        A   inc     hl
2527 31D1 D7        A   rst     TCHAR
2528 31D2 30 0B      A   jr      nc,AUK026
2529 31D4 2B        A   dec     hl
2530 31D5 18 02      A   jr      AUK025
2531 31D7 2B        AAUK024   dec     hl
2532 31D8 77        A   ld     (hl),a
2533 31D9 F1        AAUK025   pop     af
2534 31DA 28 FB      A   jr      z,AUK024
2535 31DC C1        A   pop     bc
2536 31DD 18 CC      A   jr      AUK022
2537 31DF F1        AAUK026   pop     af
2538 31E0 28 FD      A   jr      z,AUK026
2539 31E2 E1        A   pop     hl
2540 31E3 36 25      A   ld     (hl),'%'
2541 31E5 C9        A   ret
2542 31E6 E5        AAUK027   push    hl
2543 31E7 1F        A   rra
2544 31E8 DA 3275    A   jp     c,AUK035
2545 31EB CD 33D2    A   call   PTAC1E
2546 31EE 50        A   ld     d,b
2547 31EF 3A F6BC   A   ld     a,(AC1)
2548 31F2 D6 4F      A   sub    '0'
2549 31F4 38 0B      A   jr      c,AUK028
2550 31F6 E1        A   pop     hl
2551 31F7 C1        A   pop     bc
2552 31F8 CD 30A5    A   call   AUK0
2553 31FB 21 F68B   A   ld     hl,HLPPTR
2554 31FE 36 25      A   ld     (hl),'%'
2555 3200 C9        A   ret
2556 3201 CD 2AF1    AAUK028   call   TVORZ
2557 3204 C4 3422    A   call   nz,AUKOU5
2558 3207 E1        A   pop     hl
2559 3208 C1        A   pop     bc
2560 3209 FA 3226    A   jp     m,AUK029
2561 320C C5        A   push   bc
2562 320D 5F        A   ld     e,a
2563 320E 78        A   ld     a,b
2564 320F 92        A   sub    d
2565 3210 93        A   sub    e
2566 3211 F4 32E6    A   call   p,AUK040
2567 3214 CD 32FA    A   call   AUK045
2568 3217 CD 3333    A   call   AUK054
2569 321A B3        A   or     e
2570 321B C4 32F4    A   call   nz,AUK044
2571 321E B3        A   or     e
2572 321F C4 3320    A   call   nz,AUK050
2573 3222 D1        A   pop     de
2574 3223 C3 3193    A   jp     AUK018
2575 3226 5F        AAUK029   ld     e,a
2576 3227 79        A   ld     a,c
2577 3228 B7        A   or     a
2578 3229 C4 2F13    A   call   nz,DECA
2579 322C 83        A   add    a,e
2580 322D FA 3231    A   jp     m,AUK030
2581 3230 AF        A   xor    a
2582 3231 C5        AAUK030   push   bc
```

```
2583 3232 F5      A      push  af
2584 3233 FC 33FB  A      call  m,AUKOU2
2585 3236 C1      A      pop   bc
2586 3237 7B      A      ld    a,e
2587 3238 90      A      sub  b
2588 3239 C1      A      pop  bc
2589 323A 5F      A      ld   e,a
2590 323B 82      A      add  a,d
2591 323C 78      A      ld   a,b
2592 323D FA 324B  A      jp   m,AUKO31
2593 3240 92      A      sub  d
2594 3241 93      A      sub  e
2595 3242 F4 32E6  A      call p,AUKO40
2596 3245 C5      A      push bc
2597 3246 CD 32FA  A      call AUKO45
2598 3249 18 11   A      jr   AUKO32
2599 324B CD 32E6  AAUKO31 call  AUKO40
2600 324E 79      A      ld   a,c
2601 324F CD 3323  A      call AUKO52
2602 3252 4F      A      ld   c,a
2603 3253 AF      A      xor  a
2604 3254 92      A      sub  d
2605 3255 93      A      sub  e
2606 3256 CD 32E6  A      call AUKO40
2607 3259 C5      A      push bc
2608 325A 47      A      ld   b,a
2609 325B 4F      A      ld   c,a
2610 325C CD 3333  AAUKO32 call  AUKO54
2611 325F C1      A      pop  bc
2612 3260 B1      A      or   c
2613 3261 20 03   A      jr   nz,AUKO33
2614 3263 2A F582  A      ld   hl,(HELPM0)
2615 3266 83      AAUKO33 add  a,e
2616 3267 3D      A      dec  a
2617 3268 F4 32E6  A      call p,AUKO40
2618 326B 50      A      ld   d,b
2619 326C C3 319C  A      jp   AUKO19
2620 326F E5      AAUKO34 push hl
2621 3270 D5      A      push de
2622 3271 CD 2C48  A      call CV4BCD
2623 3274 D1      A      pop  de
2624 3275 CD 33D2  AAUKO35 call  PTAC1E
2625 3278 58      A      ld   e,b
2626 3279 CD 2AF1  A      call TVORZ
2627 327C F5      A      push af
2628 327D C4 3422  A      call nz,AUKOU5
2629 3280 F1      A      pop  af
2630 3281 E1      A      pop  hl
2631 3282 C1      A      pop  bc
2632 3283 F5      A      push af
2633 3284 79      A      ld   a,c
2634 3285 B7      A      or   a
2635 3286 F5      A      push af
2636 3287 C4 2F13  A      call nz,DECA
2637 328A 80      A      add  a,b
2638 328B 4F      A      ld   c,a
2639 328C 7A      A      ld   a,d
2640 328D E6 04   A      and  4
```



```
2641 328F FE 01      A    cp      1
2642 3291 9F          A    sbc     a,a
2643 3292 57          A    ld      d,a
2644 3293 81          A    add     a,c
2645 3294 4F          A    ld      c,a
2646 3295 93          A    sub     e
2647 3296 F5          A    push    af
2648 3297 F2 32A8      A    jp      p,AUK036
2649 329A CD 33FB      A    call    AUK0U2
2650 329D 20 09      A    jr      nz,AUK036
2651 329F E5          A    push    hl
2652 32A0 CD 245B      A    call    ADD8S
2653 32A3 21 F6BC      A    ld      hl,AC1
2654 32A6 34          A    inc     (hl)
2655 32A7 E1          A    pop     hl
2656 32A8 F1          AAUK036    pop     af
2657 32A9 C5          A    push    bc
2658 32AA F5          A    push    af
2659 32AB FA 32AF      A    jp      m,AUK037
2660 32AE AF          A    xor     a
2661 32AF 2F          AAUK037    cpl
2662 32B0 3C          A    inc     a
2663 32B1 80          A    add     a,b
2664 32B2 3C          A    inc     a
2665 32B3 82          A    add     a,d
2666 32B4 47          A    ld      b,a
2667 32B5 0E 00      A    ld      c,0
2668 32B7 CC 330E      A    call    z,AUK048
2669 32BA CD 3333      A    call    AUK054
2670 32BD F1          A    pop     af
2671 32BE F4 32EE      A    call    p,AUK042
2672 32C1 CD 3320      A    call    AUK050
2673 32C4 C1          A    pop     bc
2674 32C5 F1          A    pop     af
2675 32C6 20 0C      A    jr      nz,AUK038
2676 32C8 CD 2F15      A    call    BDECHL
2677 32CB 7E          A    ld      a,(hl)
2678 32CC FE 2E      A    cp     '.'
2679 32CE C4 2B66      A    call    nz,INCHL
2680 32D1 22 F582      A    ld     (HELPMO),hl
2681 32D4 F1          AAUK038    pop     af
2682 32D5 3A F6BC      A    ld     a,(AC1)
2683 32D8 28 03      A    jr      z,AUK039
2684 32DA 83          A    add     a,e
2685 32DB 90          A    sub     b
2686 32DC 92          A    sub     d
2687 32DD C5          AAUK039    push    bc
2688 32DE CD 3156      A    call    AUK012
2689 32E1 EB          A    ex     de,hl
2690 32E2 D1          A    pop     de
2691 32E3 C3 319C      A    jp     AUK019
2692 32E6 B7          AAUK040    or     a
2693 32E7 C8          AAUK041    ret    z
2694 32E8 3D          A    dec     a
2695 32E9 36 30      A    ld     (hl),'0'
2696 32EB 23          A    inc     hl
2697 32EC 18 F9      A    jr     AUK041
2698 32EE 20 04      AAUK042    jr     nz,AUK044
```

```
2699 32F0 C8          AAUK043    ret      z
2700 32F1 CD 3320    A      call  AUK050
2701 32F4 36 30     AAUK044    ld      (hl),'0'
2702 32F6 23          A      inc   hl
2703 32F7 3D          A      dec   a
2704 32F8 18 F6     A      jr    AUK043
2705 32FA 7B          AAUK045    ld      a,e
2706 32FB 82          A      add  a,d
2707 32FC 3C          A      inc  a
2708 32FD 47          A      ld   b,a
2709 32FE 3C          A      inc  a
2710 32FF D6 03     AAUK046    sub     3
2711 3301 30 FC     A      jr    nc,AUK046
2712 3303 C6 05     A      add  a,5h
2713 3305 4F          A      ld   c,a
2714 3306 3A F563   AAUK047    ld      a,(HARI4)
2715 3309 E6 40     A      and  'a'
2716 330B C0          A      ret  nz
2717 330C 4F          A      ld   c,a
2718 330D C9          A      ret
2719 330E 05          AAUK048    dec    b
2720 330F F2 3321    A      jp    p,AUK051
2721 3312 22 F582   A      ld   (HELPMO),hl
2722 3315 36 2E     A      ld   (hl),'.'
2723 3317 23          AAUK049    inc   hl
2724 3318 36 30     A      ld   (hl),'0'
2725 331A 04          A      inc  b
2726 331B 48          A      ld   c,b
2727 331C 20 F9     A      jr    nz,AUK049
2728 331E 23          A      inc  hl
2729 331F C9          A      ret
2730 3320 05          AAUK050    dec    b
2731 3321 20 08     AAUK051    jr    nz,AUK053
2732 3323 36 2E     AAUK052    ld   (hl),'.'
2733 3325 22 F582   A      ld   (HELPMO),hl
2734 3328 23          A      inc  hl
2735 3329 48          A      ld   c,b
2736 332A C9          A      ret
2737 332B 0D          AAUK053    dec    c
2738 332C C0          A      ret  nz
2739 332D 36 2C     A      ld   (hl),'.'
2740 332F 23          A      inc  hl
2741 3330 0E 03     A      ld   c,3
2742 3332 C9          A      ret
2743 3333 D5          AAUK054    push  de
2744 3334 E5          A      push hl
2745 3335 C5          A      push bc
2746 3336 CD 33D2   A      call PTAC1E
2747 3339 78          A      ld   a,b
2748 333A C1          A      pop  bc
2749 333B E1          A      pop  hl
2750 333C 11 F6BD   A      ld   de,AC1+1
2751 333F 37          A      scf
2752 3340 F5          AAUK055    push  af
2753 3341 CD 3320    A      call  AUK050
2754 3344 1A          A      ld   a,(de)
2755 3345 30 06     A      jr    nc,AUK065
2756 3347 1F          A      rra
```

```
2757 3348 1F      A    rra
2758 3349 1F      A    rra
2759 334A 1F      A    rra
2760 334B 18 01    A    jr      AUK057
2761 334D 13      AAUK065  inc    de
2762 334E E6 0F    AAUK057  and   0FH
2763 3350 C6 30    A    add    a,'0'
2764 3352 77      A    ld    (hl),a
2765 3353 23      A    inc    hl
2766 3354 F1      A    pop   af
2767 3355 3D      A    dec   a
2768 3356 3F      A    ccf
2769 3357 20 E7    A    jr    nz,AUK055
2770 3359 18 2F    A    jr    AUK061
2771 335B D5      AAUK058  push  de
2772 335C 11 3390  A    ld    de,TDEZPP
2773 335F 3E 05    A    ld    a,5
2774 3361 CD 3320 AAUK059  call  AUK050
2775 3364 C5      A    push  bc
2776 3365 F5      A    push  af
2777 3366 E5      A    push  hl
2778 3367 EB      A    ex    de,hl
2779 3368 4E      A    ld    c,(hl)
2780 3369 23      A    inc   hl
2781 336A 46      A    ld    b,(hl)
2782 336B C5      A    push  bc
2783 336C 23      A    inc   hl
2784 336D E3      A    ex    (sp),hl
2785 336E EB      A    ex    de,hl
2786 336F 2A F6BE  A    ld    hl,(AC1INT)
2787 3372 06 2F    A    ld    b,'/'
2788 3374 04      AAUK060  inc   b
2789 3375 7D      A    ld    a,l
2790 3376 93      A    sub   e
2791 3377 6F      A    ld    l,a
2792 3378 7C      A    ld    a,h
2793 3379 9A      A    sbc  a,d
2794 337A 67      A    ld    h,a
2795 337B 30 F7    A    jr    nc,AUK060
2796 337D 19      A    add  hl,de
2797 337E 22 F6BE  A    ld    (AC1INT),hl
2798 3381 D1      A    pop  de
2799 3382 E1      A    pop  hl
2800 3383 70      A    ld    (hl),b
2801 3384 23      A    inc   hl
2802 3385 F1      A    pop  af
2803 3386 C1      A    pop  bc
2804 3387 3D      A    dec  a
2805 3388 20 D7    A    jr    nz,AUK059
2806 338A CD 3320 AAUK061  call  AUK050
2807 338D 77      A    ld    (hl),a
2808 338E D1      A    pop  de
2809 338F C9      A    ret
2810      A;
2811 3390 2710  ATDEZPP  defw  10000
2812 3392 03E8  A    defw 1000
2813 3394 0064  A    defw 100
2814 3396 000A  A    defw 10
```

```
2815 3398 0001      A   defw   1
2816              A;
2817 339A 06 01     AAUBIN      ld     b,1
2818 339C 18 06     A     jr     AUHEX1
2819 339E 06 03     AAUOKT      ld     b,3
2820 33A0 18 02     A     jr     AUHEX1
2821 33A2 06 04     AAUHEX      ld     b,4
2822 33A4 C5         AAUHEX1     push   bc
2823 33A5 CD 5410   A     call   ADDRREC
2824 33A8 11 F69C   A     ld     de,AUKOBU+15
2825 33AB AF         A     xor    a
2826 33AC 12         A     ld     (de),a
2827 33AD C1         A     pop    bc
2828 33AE 4F         A     ld     c,a
2829 33AF C5         AAUHEX2     push   bc
2830 33B0 1B         A     dec    de
2831 33B1 A7         AAUHEX3     and    a
2832 33B2 7C         A     ld     a,h
2833 33B3 1F         A     rra
2834 33B4 67         A     ld     h,a
2835 33B5 7D         A     ld     a,l
2836 33B6 1F         A     rra
2837 33B7 6F         A     ld     l,a
2838 33B8 79         A     ld     a,c
2839 33B9 1F         A     rra
2840 33BA 4F         A     ld     c,a
2841 33BB 10 F4     A     djnz  AUHEX3
2842 33BD C1         A     pop    bc
2843 33BE C5         A     push   bc
2844 33BF 07         AAUHEX4     rlca
2845 33C0 10 FD     A     djnz  AUHEX4
2846 33C2 C6 30     A     add   a,'0'
2847 33C4 FE 3A     A     cp    ':'
2848 33C6 38 02     A     jr     c,AUHEX5
2849 33C8 C6 07     A     add   a,7
2850 33CA 12         AAUHEX5     ld     (de),a
2851 33CB C1         A     pop    bc
2852 33CC 7D         A     ld     a,l
2853 33CD B4         A     or    h
2854 33CE 20 DF     A     jr     nz,AUHEX2
2855 33D0 EB         A     ex    de,hl
2856 33D1 C9         A     ret
2857 33D2 EF       APTAC1E     rst    TYPTST
2858 33D3 21 F6C3   A     ld     hl,AC1+7
2859 33D6 06 0E     A     ld     b,0EH
2860 33D8 D0         A     ret    nc
2861 33D9 21 F6BF   A     ld     hl,AC1+3
2862 33DC 06 06     A     ld     b,6
2863 33DE C9         A     ret
2864 33DF 32 F563   AAUKOU1     ld     (HARI4),a
2865 33E2 F5         A     push  af
2866 33E3 C5         A     push  bc
2867 33E4 D5         A     push  de
2868 33E5 CD 2CBA   A     call  CDBL
2869 33E8 21 2993   A     ld     hl,K0
2870 33EB 3A F6BC   A     ld     a,(AC1)
2871 33EE A7         A     and   a
2872 33EF CC 28DC     A     call  z,IHLAC1
```

```
2873 33F2 D1      A    pop    de
2874 33F3 C1      A    pop    bc
2875 33F4 F1      A    pop    af
2876 33F5 21 F68C  A    ld     hl,HLPPTR+1
2877 33F8 36 20    A    ld     (hl),' '
2878 33FA C9      A    ret
2879 33FB E5      AAUKOU2  push   hl
2880 33FC D5      A    push   de
2881 33FD C5      A    push   bc
2882 33FE F5      A    push   af
2883 33FF 2F      A    cpl
2884 3400 3C      A    inc    a
2885 3401 5F      A    ld     e,a
2886 3402 3E 01    A    ld     a,1
2887 3404 CA 341C  A    jp     z,AUKOU4
2888 3407 CD 33D2  A    call  PTAC1E
2889 340A E5      A    push   hl
2890 340B CD 245B  AAUKOU3  call   ADD8S
2891 340E 1D      A    dec    e
2892 340F 20 FA    A    jr     nz,AUKOU3
2893 3411 E1      A    pop    hl
2894 3412 23      A    inc    hl
2895 3413 78      A    ld     a,b
2896 3414 0F      A    rrca
2897 3415 47      A    ld     b,a
2898 3416 CD 23C1  A    call  ADD8C
2899 3419 CD 3434  A    call  AUKOU6
2900 341C C1      AAUKOU4  pop    bc
2901 341D 80      A    add    a,b
2902 341E C1      A    pop    bc
2903 341F D1      A    pop    de
2904 3420 E1      A    pop    hl
2905 3421 C9      A    ret
2906 3422 C5      AAUKOU5  push   bc
2907 3423 E5      A    push   hl
2908 3424 CD 33D2  A    call  PTAC1E
2909 3427 3A F6BC  A    ld     a,(AC1)
2910 342A D6 40    A    sub   'a'
2911 342C 90      A    sub   b
2912 342D 32 F6BC  A    ld     (AC1),a
2913 3430 E1      A    pop    hl
2914 3431 C1      A    pop    bc
2915 3432 B7      A    or     a
2916 3433 C9      A    ret
2917 3434 C5      AAUKOU6  push   bc
2918 3435 CD 33D2  A    call  PTAC1E
2919 3438 7E      AAUKOU7  ld     a,(hl)
2920 3439 E6 0F    A    and   0FH
2921 343B 20 08    A    jr     nz,AUKOU8
2922 343D 05      A    dec    b
2923 343E 7E      A    ld     a,(hl)
2924 343F B7      A    or     a
2925 3440 20 03    A    jr     nz,AUKOU8
2926 3442 2B      A    dec    hl
2927 3443 10 F3    A    djnz  AUKOU7
2928 3445 78      AAUKOU8  ld     a,b
2929 3446 C1      A    pop    bc
2930 3447 C9      A    ret
```

```
2931                                     A;
2932 3448 CD 2F00 APOT4 call BCDAC2
2933 344B CD 2CC2 A call CDBL1
2934 344E CD 2947 A call AC2ST
2935 3451 CD 28EF A call HIRO1
2936 3454 CD 295C A call STAC2
2937                                     A;
2938 3457 3A F70D APOT8 ld a,(AC2)
2939 345A B7 A or a
2940 345B CA 34C3 A jp z,POTI1
2941 345E 67 A ld h,a
2942 345F 3A F6BC A ld a,(AC1)
2943 3462 B7 A or a
2944 3463 CA 34CD A jp z,POTI3
2945 3466 CD 294C A call AC1ST
2946 3469 CD 359A A call POTIUUP
2947 346C 38 3C A jr c,POT82
2948 346E EB A ex de,hl
2949 346F 22 F565 A ld (HARI5),hl
2950 3472 CD 2CCF A call CDBL2
2951 3475 CD 295C A call STAC2
2952 3478 CD 359A A call POTIUUP
2953 347B CD 2CCF A call CDBL2
2954 347E 2A F565 A ld hl,(HARI5)
2955 3481 D2 34DA A jp nc,POTI6
2956 3484 3A F70D A ld a,(AC2)
2957 3487 F5 A push af
2958 3488 E5 A push hl
2959 3489 CD 28D9 A call AC2AC1
2960 348C 21 F68B A ld hl,HLPPTR
2961 348F CD 28E7 A call AC1IHL
2962 3492 21 299B A ld hl,K1
2963 3495 CD 28DC A call IHLAC1
2964 3498 E1 A pop hl
2965 3499 7C A ld a,h
2966 349A B7 A or a
2967 349B F5 A push af
2968 349C F2 34A6 A jp p,POT81
2969 349F AF A xor a
2970 34A0 4F A ld c,a
2971 34A1 95 A sub l
2972 34A2 6F A ld l,a
2973 34A3 79 A ld a,c
2974 34A4 9C A sbc a,h
2975 34A5 67 A ld h,a
2976 34A6 E5 APOT81 push hl
2977 34A7 C3 3514 A jp POTI9
2978 34AA CD 2CCF APOT82 call CDBL2
2979 34AD CD 28D9 A call AC2AC1
2980 34B0 CD 28EF A call HIRO1
2981 34B3 CD 26F2 A call LOG
2982 34B6 CD 295C A call STAC2
2983 34B9 CD 2466 A call MLT8
2984 34BC C3 27CA A jp EXP
2985                                     A;
2986 34BF 7C APOTI ld a,h
2987 34C0 B5 A or l
2988 34C1 20 06 A jr nz,POTI2
```

```
2989 34C3 21 0001 APOTI1 ld hl,1
2990 34C6 C3 34D7 A jp POTI5
2991 34C9 7A APOTI2 ld a,d
2992 34CA B3 A or e
2993 34CB 20 0D A jr nz,POTI6
2994 34CD 7C APOTI3 ld a,h
2995 34CE 17 A rla
2996 34CF 30 03 A jr nc,POTI4
2997 34D1 C3 4059 A jp ERD0
2998 34D4 21 0000 APOTI4 ld hl,0
2999 34D7 C3 2C19 APOTI5 jp CINT1
3000 34DA 22 F565 APOTI6 ld (HARI5),hl
3001 34DD D5 A push de
3002 34DE 7C A ld a,h
3003 34DF B7 A or a
3004 34E0 F5 A push af
3005 34E1 FC 2EA1 A call m,MHLAC1
3006 34E4 44 A ld b,h
3007 34E5 4D A ld c,l
3008 34E6 21 0001 A ld hl,1
3009 34E9 B7 APOTI7 or a
3010 34EA 78 A ld a,b
3011 34EB 1F A rra
3012 34EC 47 A ld b,a
3013 34ED 79 A ld a,c
3014 34EE 1F A rra
3015 34EF 4F A ld c,a
3016 34F0 30 05 A jr nc,POTI8
3017 34F2 CD 358D A call MLTITS
3018 34F5 20 4C A jr nz,POTI11
3019 34F7 78 APOTI8 ld a,b
3020 34F8 B1 A or c
3021 34F9 28 63 A jr z,POTI12
3022 34FB E5 A push hl
3023 34FC 62 A ld h,d
3024 34FD 6B A ld l,e
3025 34FE CD 358D A call MLTITS
3026 3501 EB A ex de,hl
3027 3502 E1 A pop hl
3028 3503 28 E4 A jr z,POTI7
3029 3505 C5 A push bc
3030 3506 E5 A push hl
3031 3507 21 F68B A ld hl,HLPPTR
3032 350A CD 28E7 A call AC1IHL
3033 350D E1 A pop hl
3034 350E CD 2C4B A call CV4BC1
3035 3511 CD 2CC2 A call CDBL1
3036 3514 C1 APOTI9 pop bc
3037 3515 78 A ld a,b
3038 3516 B7 A or a
3039 3517 1F A rra
3040 3518 47 A ld b,a
3041 3519 79 A ld a,c
3042 351A 1F A rra
3043 351B 4F A ld c,a
3044 351C 30 08 A jr nc,POTI10
3045 351E C5 A push bc
3046 351F 21 F68B A ld hl,HLPPTR
```

```
3047 3522 CD 28BB A call MLT8HL
3048 3525 C1 A pop bc
3049 3526 78 APOTI10 ld a,b
3050 3527 B1 A or c
3051 3528 28 34 A jr z,POTI12
3052 352A C5 A push bc
3053 352B CD 294C A call AC1ST
3054 352E 21 F68B A ld hl,HLPPTR
3055 3531 E5 A push hl
3056 3532 CD 28DC A call IHLAC1
3057 3535 E1 A pop hl
3058 3536 E5 A push hl
3059 3537 CD 28BB A call MLT8HL
3060 353A E1 A pop hl
3061 353B CD 28E7 A call AC1IHL
3062 353E CD 2961 A call STAC1
3063 3541 18 D1 A jr POTI9
3064 3543 C5 APOTI11 push bc
3065 3544 D5 A push de
3066 3545 CD 2CBA A call CDBL
3067 3548 CD 28CD A call AC1AC2
3068 354B E1 A pop hl
3069 354C CD 2C4B A call CV4BC1
3070 354F CD 2CC2 A call CDBL1
3071 3552 21 F68B A ld hl,HLPPTR
3072 3555 CD 28E7 A call AC1IHL
3073 3558 CD 28D9 A call AC2AC1
3074 355B C1 A pop bc
3075 355C 18 C8 A jr POTI10
3076 355E F1 APOTI12 pop af
3077 355F C1 A pop bc
3078 3560 F0 A ret p
3079 3561 3A F529 A ld a,(TYP)
3080 3564 FE 02 A cp 2
3081 3566 20 08 A jr nz,POTI13
3082 3568 C5 A push bc
3083 3569 CD 2C4B A call CV4BC1
3084 356C CD 2CC2 A call CDBL1
3085 356F C1 A pop bc
3086 3570 3A F6BC APOTI13 ld a,(AC1)
3087 3573 B7 A or a
3088 3574 20 0B A jr nz,POTI14
3089 3576 2A F565 A ld hl,(HARI5)
3090 3579 B4 A or h
3091 357A F0 A ret p
3092 357B 7D A ld a,l
3093 357C 0F A rrca b
3094 357D A0 A and b
3095 357E C3 4068 A jp EROV
3096 3581 CD 28CD APOTI14 call AC1AC2
3097 3584 21 299B A ld hl,K1
3098 3587 CD 28DC A call IHLAC1
3099 358A C3 251F A jp DIV8
3100 358D C5 AMLTITS push bc
3101 358E D5 A push de
3102 358F CD 2E13 A call MLTI
3103 3592 3A F529 A ld a,(TYP)
3104 3595 FE 02 A cp 2
```



```

3105 3597 D1      A    pop    de
3106 3598 C1      A    pop    bc
3107 3599 C9      A    ret
3108 359A CD 28D9 APOTIUP    call   AC2AC1
3109 359D CD 2947 A    call   AC2ST
3110 35A0 CD 2D4F A    call   INT
3111 35A3 CD 295C A    call   STAC2
3112 35A6 CD 2BDC A    call   VGL8
3113 35A9 37      A    scf
3114 35AA C0      A    ret    nz
3115 35AB C3 2CDD A    jp     CVINT
3116      A;
3117 35AE 65F3 ATABANW:  defw  END_   ADRESZLISTE ZU TOKEN
3118 35B0 4513 A    defw  FOR      ;81
3119 35B2 6737 A    defw  NEXT
3120 35B4 483E A    defw  DATA_
3121 35B6 4B5B A    defw  INPUT   ;85
3122 35B8 60AE A    defw  DIM
3123 35BA 4B92 A    defw  READ
3124 35BC 4863 A    defw  LET
3125 35BE 47CE A    defw  GOTO
3126 35C0 4784 A    defw  RUN     ;8A
3127 35C2 49C8 A    defw  IF_
3128 35C4 65D2 A    defw  RESTOR
3129 35C6 4798 A    defw  GOSUB
3130 35C8 4807 A    defw  RETURN
3131 35CA 4840 A    defw  REM     ;8F
3132 35CC 65EC A    defw  STOP
3133 35CE 4A07 A    defw  PRINT
3134 35D0 66B8 A    defw  CLEAR
3135 35D2 5205 A    defw  LIST_
3136 35D4 6492 A    defw  NEW    ;94
3137 35D6 48C7 A    defw  ON
3138 35D8 4020 A    defw  WAIT
3139 35DA 4FF7 A    defw  DEF
3140 35DC 53FA A    defw  POKE
3141 35DE 662D A    defw  CONT   ;99
3142 35E0 71BC A    defw  CSAVE
3143 35E2 7261 A    defw  CLOAD
3144 35E4 401A A    defw  OUT_
3145 35E6 4A00 A    defw  LPRINT
3146 35E8 5200 A    defw  LLIST   ;9E
3147 35EA 00C3 A    defw  ZCLS
3148 35EC 51A8 A    defw  PAUSE
3149 35EE 4840 A    defw  ELSE_
3150 35F0 6641 A    defw  TRON
3151 35F2 6642 A    defw  TROFF  ;A3
3152 35F4 6647 A    defw  SWAP
3153 35F6 6680 A    defw  ERASE
3154 35F8 498D A    defw  ERROR
3155 35FA 4940 A    defw  RESUME
3156 35FC 53B9 A    defw  DELETE  ;A8
3157 35FE 4998 A    defw  AUTO
3158 3600 543C A    defw  RENUM
3159 3602 46FE A    defw  DEFSTR
3160 3604 4701 A    defw  DEFINT
3161 3606 4704 A    defw  DEFSNG  ;AD
3162 3608 4707 A    defw  DEFDBL
    
```

```

3163 360A 4AED      A   defw  LINE
3164 360C 6CC5      A   defw  OPEN
3165 360E 7C67      A   defw  FIELD
3166 3610 7604      A   defw  GET           ;B2
3167 3612 7601      A   defw  PUT
3168 3614 6E1C      A   defw  CLOSE
3169 3616 6D6B      A   defw  LOAD
3170 3618 6D6C      A   defw  MERGE
3171 361A 6E37      A   defw  FILES        ;B7
3172 361C 7C5D      A   defw  LSET
3173 361E 7C62      A   defw  RSET
3174 3620 6DAE      A   defw  SAVE
3175 3622 6E32      A   defw  LFILES
3176 3624 5B4F      A   defw  CIRCLE       ;BC
3177 3626 780C      A   defw  COLOR
3178 3628 5E43      A   defw  DRAW
3179 362A 5A00      A   defw  PAINT
3180 362C 00C0      A   defw  0C0H         ;BEEP
3181 362E 3C4E      A   defw  PLAY         ;C1
3182 3630 5754      A   defw  PSET
3183 3632 574D      A   defw  PRESET
3184 3634 75E7      A   defw  SOUND
3185 3636 78B7      A   defw  SCREEN
3186 3638 7C18      A   defw  VDOKE        ;C6
3187 363A 7996      A   defw  SPRITE
3188 363C 4740      A   defw  ERFC
3189 363E 7A83      A   defw  WINDOW
3190 3640 5579      A   defw  CALL_
3191 3642 77C2      A   defw  TIME         ;CB
3192 3644 7712      A   defw  KEY
3193 3646 7E92      A   defw  MAX
3194 3648 75D4      A   defw  MOTOR
3195 364A 70C5      A   defw  BLOAD
3196 364C 708B      A   defw  BSAVE        ;D0
3197 364E 4740      A   defw  ERFC
3198 3650 4740      A   defw  ERFC
3199 3652 7C44      A   defw  NAME_
3200 3654 7C49      A   defw  KILL
3201 3656 7C4E      A   defw  RESET       ;D5
3202 3658 7C53      A   defw  COPY
3203 365A 7C58      A   defw  CMD
3204 365C 760F      A   defw  LOCATE
3205                A;
3206 365E 6A6E      ATABFKT: defw  LEFT   ;1
3207 3660 6A9E      A   defw  RIGHT
3208 3662 6AA7      A   defw  MID
3209 3664 2B17      A   defw  SGN
3210 3666 2D4F      A   defw  INT         ;5
3211 3668 2B02      A   defw  ABS_
3212 366A 277F      A   defw  SQR
3213 366C 285F      A   defw  RND
3214 366E 262C      A   defw  SIN
3215 3670 26F2      A   defw  LOG         ;A
3216 3672 27CA      A   defw  EXP
3217 3674 2613      A   defw  COS
3218 3676 267B      A   defw  TAN
3219 3678 2694      A   defw  ATN
3220 367A 6BFF      A   defw  FRE         ;F

```

```

3221 367C 4005      A   defw  INP
3222 367E 4FA6      A   defw  POS
3223 3680 6A0C      A   defw  LEN
3224 3682 6814      A   defw  STR
3225 3684 6AC8      A   defw  VAL           ;14
3226 3686 6A18      A   defw  ASC
3227 3688 6A28      A   defw  CHR
3228 368A 53F3      A   defw  PEEK
3229 368C 7C2B      A   defw  VDEEK
3230 368E 6A55      A   defw  SPACED       ;19
3231 3690 6805      A   defw  OCT
3232 3692 680A      A   defw  HEX
3233 3694 4FA1      A   defw  LPOS
3234 3696 680F      A   defw  BIN
3235 3698 2C0A      A   defw  CINT           ;1E
3236 369A 2C32      A   defw  CSNG
3237 369C 2CBA      A   defw  CDBL
3238 369E 2D3E      A   defw  FIX
3239 36A0 77CC      A   defw  STICK
3240 36A2 77D8      A   defw  STRIG         ;23
3241 36A4 77E6      A   defw  PDL
3242 36A6 77F5      A   defw  PAD
3243 36A8 4740      A   defw  ERFC
3244 36AA 6F35      A   defw  FPOS
3245 36AC 7C7B      A   defw  CVI           ;28
3246 36AE 7C80      A   defw  CVS
3247 36B0 7C85      A   defw  CVD
3248 36B2 6F24      A   defw  EOF
3249 36B4 6F08      A   defw  LOC
3250 36B6 6F16      A   defw  LOF           ;2D
3251 36B8 7C6C      A   defw  MKI
3252 36BA 7C71      A   defw  MKS
3253 36BC 7C76      A   defw  MKD
3254          A; ANFANGSADR TOKENS MIT ..
3255 36BE 36F2      ATABTOK: defw TOKA
3256 36C0 3703      A   defw  TOKB
3257 36C2 3716      A   defw  TOKC
3258 36C4 376A      A   defw  TOKD
3259 36C6 3797      A   defw  TOKE
3260 36C8 37B8      A   defw  TOKF
3261 36CA 37D2      A   defw  TOKG
3262 36CC 37E4      A   defw  TOKH
3263 36CE 37E9      A   defw  TOKI
3264 36D0 3805      A   defw  TOKJ
3265 36D2 3806      A   defw  TOKK
3266 36D4 380E      A   defw  TOKL
3267 36D6 384E      A   defw  TOKM
3268 36D8 386F      A   defw  TOKN
3269 36DA 387E      A   defw  TOKO
3270 36DC 3891      A   defw  TOKP
3271 36DE 38C8      A   defw  TOKQ
3272 36E0 38C9      A   defw  TOKR
3273 36E2 38FE      A   defw  TOKS
3274 36E4 3948      A   defw  TOKT
3275 36E6 3963      A   defw  TOKU
3276 36E8 396C      A   defw  TOKV
3277 36EA 3980      A   defw  TOKW
3278 36EC 398B      A   defw  TOKX
    
```

```
3279 36EE 398F      A   defw   TOKY
3280 36F0 3990      A   defw   TOKZ
3281                A;                               SCHLUESSELWORTE, TOKENS
3282 36F2 55 54     ATOKA:   defm   'UT'
3283 36F4 CF         A   defb   'O'+80H
3284 36F5 A9         A   defb   0A9H   ;AUTOTOK
3285 36F6 4E         A   defm   'N'
3286 36F7 C4         A   defb   'D'+80H
3287 36F8 F6         A   defb   0F6H   ;ANDTOK
3288 36F9 42         A   defm   'B'
3289 36FA D3         A   defb   'S'+80H
3290 36FB 06         A   defb   6H     ;ABSTOK
3291 36FC 54         A   defm   'T'
3292 36FD CE         A   defb   'N'+80H
3293 36FE 0E         A   defb   0EH   ;ATNTOK
3294 36FF 53         A   defm   'S'
3295 3700 C3         A   defb   'C'+80H
3296 3701 15         A   defb   15H   ;ASCTOK
3297 3702 00         A   defb   0
3298                A;
3299 3703 53 41 56   ATOKB:   defm   'SAV'
3300 3706 C5         A   defb   'E'+80H
3301 3707 D0         A   defb   0D0H   ;BSAVETOK
3302 3708 4C 4F 41   A   defm   'LOA'
3303 370B C4         A   defb   'D'+80H
3304 370C CF         A   defb   0CFH   ;BLOADTOK
3305 370D 45 45     A   defm   'EE'
3306 370F D0         A   defb   'P'+80H
3307 3710 C0         A   defb   0C0H   ;BEEPTOK
3308 3711 49 4E     A   defm   'IN'
3309 3713 A4         A   defb   '$'+80H
3310 3714 1D         A   defb   1DH   ;BIN$TOK
3311 3715 00         A   defb   0
3312                A;
3313 3716 41 4C     ATOKC:   defm   'AL'
3314 3718 CC         A   defb   'L'+80H
3315 3719 CA         A   defb   0CAH   ;CALLTOK
3316 371A 4C 4F 53   A   defm   'LOS'
3317 371D C5         A   defb   'E'+80H
3318 371E B4         A   defb   0B4H   ;CLOSETOK
3319 371F 4F 50     A   defm   'OP'
3320 3721 D9         A   defb   'Y'+80H
3321 3722 D6         A   defb   0D6H   ;COPYTOK
3322 3723 4F 4E     A   defm   'ON'
3323 3725 D4         A   defb   'T'+80H
3324 3726 99         A   defb   99H   ;CONTTOK
3325 3727 4C 45 41   A   defm   'LEA'
3326 372A D2         A   defb   'R'+80H
3327 372B 92         A   defb   92H   ;CLEARTOK
3328 372C 4C 4F 41   A   defm   'LOA'
3329 372F C4         A   defb   'D'+80H
3330 3730 9B         A   defb   9BH   ;CLOADTOK
3331 3731 53 41 56   A   defm   'SAV'
3332 3734 C5         A   defb   'E'+80H
3333 3735 9A         A   defb   9AH   ;CSAVETOK
3334 3736 53 52 4C 49A A   defm   'SRLI'
3335 373A CE         A   defb   'N'+80H
3336 373B E8         A   defb   0E8H   ;CSRLINTOK
```

```
3337 373C 49 4E      A      defm  'IN'
3338 373E D4          A      defb  'T'+80H
3339 373F 1E          A      defb  1EH      ;CINTTOK
3340 3740 53 4E      A      defm  'SN'
3341 3742 C7          A      defb  'G'+80H
3342 3743 1F          A      defb  1FH      ;CSNGTOK
3343 3744 44 42      A      defm  'DB'
3344 3746 CC          A      defb  'L'+80H
3345 3747 20          A      defb  20H      ;CDBLTOK
3346 3748 56          A      defm  'V'
3347 3749 C9          A      defb  'I'+80H
3348 374A 28          A      defb  28H      ;CVITOK
3349 374B 56          A      defm  'V'
3350 374C D3          A      defb  'S'+80H
3351 374D 29          A      defb  29H      ;CVSTOK
3352 374E 56          A      defm  'V'
3353 374F C4          A      defb  'D'+80H
3354 3750 2A          A      defb  2AH      ;CVD TOK
3355 3751 4F          A      defm  'O'
3356 3752 D3          A      defb  'S'+80H
3357 3753 0C          A      defb  0CH      ;COSTOK
3358 3754 48 52      A      defm  'HR'
3359 3756 A4          A      defb  '$'+80H
3360 3757 16          A      defb  16H      ;CHR$TOK
3361 3758 49 52 43 4CA defm  'IRCL'
3362 375C C5          A      defb  'E'+80H
3363 375D BC          A      defb  0BCH      ;CIRCLETOK
3364 375E 4F 4C 4F    A      defm  'OLO'
3365 3761 D2          A      defb  'R'+80H
3366 3762 BD          A      defb  0BDH      ;COLORTOK
3367 3763 4C          A      defm  'L'
3368 3764 D3          A      defb  'S'+80H
3369 3765 9F          A      defb  9FH      ;CLSTOK
3370 3766 4D          A      defm  'M'
3371 3767 C4          A      defb  'D'+80H
3372 3768 D7          A      defb  0D7H      ;CMDTOK
3373 3769 00          A      defb  0
3374          A;
3375 376A 45 4C 45 54ATOKD: defm  'ELET'
3376 376E C5          A      defb  'E'+80H
3377 376F A8          A      defb  0A8H      ;DELETETOK
3378 3770 41 54      A      defm  'AT'
3379 3772 C1          A      defb  'A'+80H
3380 3773 84          A      defb  84H      ;DATATOK
3381 3774 49          A      defm  'I'
3382 3775 CD          A      defb  'M'+80H
3383 3776 86          A      defb  86H      ;DIMTOK
3384 3777 45 46 53 54A defm  'EFST'
3385 377B D2          A      defb  'R'+80H
3386 377C AB          A      defb  0ABH      ;DEFSTR TOK
3387 377D 45 46 49 4EA defm  'EFIN'
3388 3781 D4          A      defb  'T'+80H
3389 3782 AC          A      defb  0ACH      ;DEFINTTOK
3390 3783 45 46 53 4EA defm  'EFSN'
3391 3787 C7          A      defb  'G'+80H
3392 3788 AD          A      defb  0ADH      ;DEFSNGTOK
3393 3789 45 46 44 42A defm  'EFDB'
3394 378D CC          A      defb  'L'+80H
```

```
3395 378E AE      A      defb  0AEH  ;DEFDBLTOK
3396 378F 45      A      defm  'E'
3397 3790 C6      A      defb  'F'+80H
3398 3791 97      A      defb  97H    ;DEFTOK
3399 3792 52 41   A      defm  'RA'
3400 3794 D7      A      defb  'W'+80H
3401 3795 BE      A      defb  0BEH  ;DRAWTOK
3402 3796 00      A      defb  0
3403          A;
3404 3797 4C 53   ATOKE:  defm  'LS'
3405 3799 C5      A      defb  'E'+80H
3406 379A A1      A      defb  0A1H  ;ELSETOK
3407 379B 4E      A      defm  'N'
3408 379C C4      A      defb  'D'+80H
3409 379D 81      A      defb  81H    ;ENDTOK
3410 379E 52 41 53 A      defm  'RAS'
3411 37A1 C5      A      defb  'E'+80H
3412 37A2 A5      A      defb  0A5H  ;ERASETOK
3413 37A3 52 52 4F A      defm  'RRO'
3414 37A6 D2      A      defb  'R'+80H
3415 37A7 A6      A      defb  0A6H  ;ERRORTOK
3416 37A8 52      A      defm  'R'
3417 37A9 CC      A      defb  'L'+80H
3418 37AA E1      A      defb  0E1H  ;ERLTOK
3419 37AB 52      A      defm  'R'
3420 37AC D2      A      defb  'R'+80H
3421 37AD E2      A      defb  0E2H  ;ERRTOK
3422 37AE 58      A      defm  'X'
3423 37AF D0      A      defb  'P'+80H
3424 37B0 0B      A      defb  0BH    ;EXPTOK
3425 37B1 4F      A      defm  'O'
3426 37B2 C6      A      defb  'F'+80H
3427 37B3 2B      A      defb  2BH    ;EOFTOK
3428 37B4 51      A      defm  'Q'
3429 37B5 D6      A      defb  'V'+80H
3430 37B6 F9      A      defb  0F9H  ;EQVTOK
3431 37B7 00      A      defb  0
3432          A;
3433 37B8 4F      ATOKF:  defm  'O'
3434 37B9 D2      A      defb  'R'+80H
3435 37BA 82      A      defb  82H    ;FORTOK
3436 37BB 49 45 4C A      defm  'IEL'
3437 37BE C4      A      defb  'D'+80H
3438 37BF B1      A      defb  0B1H  ;FIELDTOK
3439 37C0 49 4C 45 A      defm  'ILE'
3440 37C3 D3      A      defb  'S'+80H
3441 37C4 B7      A      defb  0B7H  ;FILESTOK
3442 37C5 CE      A      defb  'N'+80H
3443 37C6 DE      A      defb  0DEH  ;FNTOK
3444 37C7 52      A      defm  'R'
3445 37C8 C5      A      defb  'E'+80H
3446 37C9 0F      A      defb  0FH    ;FRETOK
3447 37CA 49      A      defm  'I'
3448 37CB D8      A      defb  'X'+80H
3449 37CC 21      A      defb  21H    ;FIXTOK
3450 37CD 50 4F   A      defm  'PO'
3451 37CF D3      A      defb  'S'+80H
3452 37D0 27      A      defb  27H    ;FPOSTOK
```

```
3453 37D1 00      A      defb  0
3454              A;
3455 37D2 4F 54    ATOKG:      defm  'OT'
3456 37D4 CF       A      defb  'O'+80H
3457 37D5 89      A      defb  89H      ;GOTOTOK
3458 37D6 4F 20 54 A      defm  'O T'
3459 37D9 CF       A      defb  'O'+80H
3460 37DA 89      A      defb  89H      ;GOTOTOK
3461 37DB 4F 53 55 A      defm  'OSU'
3462 37DE C2       A      defb  'B'+80H
3463 37DF 8D      A      defb  8DH      ;GOSUBTOK
3464 37E0 45      A      defm  'E'
3465 37E1 D4       A      defb  'T'+80H
3466 37E2 B2      A      defb  0B2H    ;GETTOK
3467 37E3 00      A      defb  0
3468              A;
3469 37E4 45 58    ATOKH:      defm  'EX'
3470 37E6 A4       A      defb  '$'+80H
3471 37E7 1B      A      defb  1BH      ;HEX$TOK
3472 37E8 00      A      defb  0
3473              A;
3474 37E9 4E 50 55 ATOKI:      defm  'NPU'
3475 37EC D4       A      defb  'T'+80H
3476 37ED 85      A      defb  85H      ;INPUTTOK
3477 37EE C6       A      defb  'F'+80H
3478 37EF 8B      A      defb  8BH      ;IFTOK
3479 37F0 4E 53 54 A      defm  'NST'
3480 37F3 D2       A      defb  'R'+80H
3481 37F4 E5      A      defb  0E5H    ;INSTRTOK
3482 37F5 4E      A      defm  'N'
3483 37F6 D4       A      defb  'T'+80H
3484 37F7 05      A      defb  5H      ;INTTOK
3485 37F8 4E      A      defm  'N'
3486 37F9 D0      A      defb  'P'+80H
3487 37FA 10      A      defb  10H     ;INPTOK
3488 37FB 4D      A      defm  'M'
3489 37FC D0      A      defb  'P'+80H
3490 37FD FA      A      defb  0FAH    ;IMPTOK
3491 37FE 4E 4B 45 59A defm  'NKEY'
3492 3802 A4       A      defb  '$'+80H
3493 3803 EC      A      defb  0ECH    ;INKEY$TOK
3494 3804 00      A      defb  0
3495              A;
3496 3805 00      ATOKJ:      defb  0
3497              A;
3498 3806 49 4C    ATOKK:      defm  'IL'
3499 3808 CC      A      defb  'L'+80H
3500 3809 D4      A      defb  0D4H    ;KILLTOK
3501 380A 45      A      defm  'E'
3502 380B D9      A      defb  'Y'+80H
3503 380C CC      A      defb  0CCH    ;KEYTOK
3504 380D 00      A      defb  0
3505              A;
3506 380E 50 52 49 4EATOKL: defm  'PRIN'
3507 3812 D4      A      defb  'T'+80H
3508 3813 9D      A      defb  9DH      ;LPRINTTOK
3509 3814 4C 49 53 A      defm  'LIS'
3510 3817 D4      A      defb  'T'+80H
```

```
3511 3818 9E      A      defb  9EH      ;LLISTTOK
3512 3819 50 4F    A      defm  'PO'
3513 381B D3      A      defb  'S'+80H
3514 381C 1C      A      defb  1CH      ;LPOSTOK
3515 381D 45      A      defm  'E'
3516 381E D4      A      defb  'T'+80H
3517 381F 88      A      defb  88H      ;LETTOK
3518 3820 4F 43 41 54A defm  'OCAT'
3519 3824 C5      A      defb  'E'+80H
3520 3825 D8      A      defb  0D8H     ;LOCATETOK
3521 3826 49 4E    A      defm  'IN'
3522 3828 C5      A      defb  'E'+80H
3523 3829 AF      A      defb  0AFH     ;LINETOK
3524 382A 4F 41    A      defm  'OA'
3525 382C C4      A      defb  'D'+80H
3526 382D B5      A      defb  0B5H     ;LOADTOK
3527 382E 53 45    A      defm  'SE'
3528 3830 D4      A      defb  'T'+80H
3529 3831 B8      A      defb  0B8H     ;LSETTOK
3530 3832 49 53    A      defm  'IS'
3531 3834 D4      A      defb  'T'+80H
3532 3835 93      A      defb  93H      ;LISTTOK
3533 3836 46 49 4C 45A defm  'FILE'
3534 383A D3      A      defb  'S'+80H
3535 383B BB      A      defb  0BBH     ;LFILESTOK
3536 383C 4F      A      defm  'O'
3537 383D C7      A      defb  'G'+80H
3538 383E 0A      A      defb  0AH      ;LOGTOK
3539 383F 4F      A      defm  'O'
3540 3840 C3      A      defb  'C'+80H
3541 3841 2C      A      defb  2CH      ;LOCTOK
3542 3842 45      A      defm  'E'
3543 3843 CE      A      defb  'N'+80H
3544 3844 12      A      defb  12H      ;LENTOK
3545 3845 45 46 54  A      defm  'EFT'
3546 3848 A4      A      defb  '$'+80H
3547 3849 01      A      defb  1          ;LEFT$TOK
3548 384A 4F      A      defm  'O'
3549 384B C6      A      defb  'F'+80H
3550 384C 2D      A      defb  2DH      ;LOFTOK
3551 384D 00      A      defb  0
3552      A;
3553 384E 4F 54 4F  ATOKM: defm  'OTO'
3554 3851 D2      A      defb  'R'+80H
3555 3852 CE      A      defb  0CEH     ;MOTORTOK
3556 3853 45 52 47  A      defm  'ERG'
3557 3856 C5      A      defb  'E'+80H
3558 3857 B6      A      defb  0B6H     ;MERGETOK
3559 3858 4F      A      defm  'O'
3560 3859 C4      A      defb  'D'+80H
3561 385A FB      A      defb  0FBH     ;MODTOK
3562 385B 4B 49    A      defm  'KI'
3563 385D A4      A      defb  '$'+80H
3564 385E 2E      A      defb  2EH      ;MKI$TOK
3565 385F 4B 53    A      defm  'KS'
3566 3861 A4      A      defb  '$'+80H
3567 3862 2F      A      defb  2FH      ;MKS$TOK
3568 3863 4B 44    A      defm  'KD'
```



```
3569 3865 A4      A      defb  '$'+80H
3570 3866 30      A      defb  30H      ;MKD$TOK
3571 3867 49 44   A      defm  'ID'
3572 3869 A4      A      defb  '$'+80H
3573 386A 03      A      defb  3H      ;MID$TOK
3574 386B 41      A      defm  'A'
3575 386C D8      A      defb  'X'+80H
3576 386D CD      A      defb  0CDH    ;MAXTOK
3577 386E 00      A      defb  0
3578
A;
3579 386F 45 58   ATOKN:  defm  'EX'
3580 3871 D4      A      defb  'T'+80H
3581 3872 83      A      defb  83H    ;NEXTTOK
3582 3873 41 4D   A      defm  'AM'
3583 3875 C5      A      defb  'E'+80H
3584 3876 D3      A      defb  0D3H   ;NAMETOK
3585 3877 45      A      defm  'E'
3586 3878 D7      A      defb  'W'+80H
3587 3879 94      A      defb  94H    ;NEWTOK
3588 387A 4F      A      defm  'O'
3589 387B D4      A      defb  'T'+80H
3590 387C E0      A      defb  0E0H   ;NOTTOK
3591 387D 00      A      defb  0
3592
A;
3593 387E 50 45   ATOKO:  defm  'PE'
3594 3880 CE      A      defb  'N'+80H
3595 3881 B0      A      defb  0B0H   ;OPENTOK
3596 3882 55      A      defm  'U'
3597 3883 D4      A      defb  'T'+80H
3598 3884 9C      A      defb  9CH    ;OUTTOK
3599 3885 CE      A      defb  'N'+80H
3600 3886 95      A      defb  95H    ;ONTOK
3601 3887 D2      A      defb  'R'+80H
3602 3888 F7      A      defb  0F7H   ;ORTOK
3603 3889 43 54   A      defm  'CT'
3604 388B A4      A      defb  '$'+80H
3605 388C 1A      A      defb  1AH    ;OCT$TOK
3606 388D 46      A      defm  'F'
3607 388E C6      A      defb  'F'+80H
3608 388F EB      A      defb  0EBH   ;OFFTOK
3609 3890 00      A      defb  0
3610
A;
3611 3891 52 49 4E ATOKP:  defm  'RIN'
3612 3894 D4      A      defb  'T'+80H
3613 3895 91      A      defb  91H    ;PRINTTOK
3614 3896 55      A      defm  'U'
3615 3897 D4      A      defb  'T'+80H
3616 3898 B3      A      defb  0B3H   ;PUTTOK
3617 3899 4F 4B   A      defm  'OK'
3618 389B C5      A      defb  'E'+80H
3619 389C 98      A      defb  98H    ;POKETOK
3620 389D 4F      A      defm  'O'
3621 389E D3      A      defb  'S'+80H
3622 389F 11      A      defb  11H    ;POSTOK
3623 38A0 45 45   A      defm  'EE'
3624 38A2 CB      A      defb  'K'+80H
3625 38A3 17      A      defb  17H    ;PEEKTOK
3626 38A4 53 45   A      defm  'SE'
```

```
3627 38A6 D4      A      defb  'T'+80H
3628 38A7 C2      A      defb  0C2H  ;PSETTOK
3629 38A8 52 45 53 45A defm  'RESE'
3630 38AC D4      A      defb  'T'+80H
3631 38AD C3      A      defb  0C3H  ;PRESETTOK
3632 38AE 4F 49 4E  A      defm  'OIN'
3633 38B1 D4      A      defb  'T'+80H
3634 38B2 ED      A      defb  0EDH  ;POINTTOK
3635 38B3 41 49 4E  A      defm  'AIN'
3636 38B6 D4      A      defb  'T'+80H
3637 38B7 BF      A      defb  0BFH  ;PAINTTOK
3638 38B8 44      A      defm  'D'
3639 38B9 CC      A      defb  'L'+80H
3640 38BA 24      A      defb  24H   ;PDLTOK
3641 38BB 41      A      defm  'A'
3642 38BC C4      A      defb  'D'+80H
3643 38BD 25      A      defb  25H   ;PADTOK
3644 38BE 4C 41    A      defm  'LA'
3645 38C0 D9      A      defb  'Y'+80H
3646 38C1 C1      A      defb  0C1H  ;PLAYTOK
3647 38C2 41 55 53  A      defm  'AUS'
3648 38C5 C5      A      defb  'E'+80H
3649 38C6 A0      A      defb  0A0H  ;PAUSETOK
3650 38C7 00      A      defb  0
3651      A;
3652 38C8 00      ATOKQ:  defb  0
3653      A;
3654 38C9 45 54 55 52ATOKR: defm  'ETUR'
3655 38CD CE      A      defb  'N'+80H
3656 38CE 8E      A      defb  8EH   ;RETURNTOK
3657 38CF 45 41    A      defm  'EA'
3658 38D1 C4      A      defb  'D'+80H
3659 38D2 87      A      defb  87H   ;READTOK
3660 38D3 55      A      defm  'U'
3661 38D4 CE      A      defb  'N'+80H
3662 38D5 8A      A      defb  8AH   ;RUNTOK
3663 38D6 45 53 54 4FA defm  'ESTOR'
3664 38DB C5      A      defb  'E'+80H
3665 38DC 8C      A      defb  8CH   ;RESTORETOK
3666 38DD 45      A      defm  'E'
3667 38DE CD      A      defb  'M'+80H
3668 38DF 8F      A      defb  8FH   ;REMTOK
3669 38E0 45 53 55 4DA defm  'ESUM'
3670 38E4 C5      A      defb  'E'+80H
3671 38E5 A7      A      defb  0A7H  ;RESUMETOK
3672 38E6 53 45    A      defm  'SE'
3673 38E8 D4      A      defb  'T'+80H
3674 38E9 B9      A      defb  0B9H  ;RSETTOK
3675 38EA 49 47 48 54A defm  'IGHT'
3676 38EE A4      A      defb  '$'+80H
3677 38EF 02      A      defb  2H   ;RIGHT$TOK
3678 38F0 4E      A      defm  'N'
3679 38F1 C4      A      defb  'D'+80H
3680 38F2 08      A      defb  8H   ;RNDTOK
3681 38F3 45 4E 55  A      defm  'ENU'
3682 38F6 CD      A      defb  'M'+80H
3683 38F7 AA      A      defb  0AAH  ;RENUMTOK
3684 38F8 45 53 45  A      defm  'ESE'
```

```
3685 38FB D4      A      defb  'T'+80H
3686 38FC D5      A      defb  0D5H  ;RESETTOK
3687 38FD 00      A      defb  0
3688                A;
3689 38FE 43 52 45 45ATOKS:  defm  'CREE'
3690 3902 CE        A      defb  'N'+80H
3691 3903 C5        A      defb  0C5H  ;SCREENTOK
3692 3904 50 52 49 54A  defm  'PRIT'
3693 3908 C5        A      defb  'E'+80H
3694 3909 C7        A      defb  0C7H  ;SPRITETOK
3695 390A 54 4F      A      defm  'TO'
3696 390C D0        A      defb  'P'+80H
3697 390D 90        A      defb  90H   ;STOPTOK
3698 390E 57 41      A      defm  'WA'
3699 3910 D0        A      defb  'P'+80H
3700 3911 A4        A      defb  0A4H  ;SWAPTOK
3701 3912 41 56      A      defm  'AV'
3702 3914 C5        A      defb  'E'+80H
3703 3915 BA        A      defb  0BAH  ;SAVETOK
3704 3916 50 43      A      defm  'PC'
3705 3918 A8        A      defb  '('+80H
3706 3919 DF        A      defb  0DFH  ;SPC(TOK
3707 391A 54 45      A      defm  'TE'
3708 391C D0        A      defb  'P'+80H
3709 391D DC        A      defb  0DCH  ;STEPTOK
3710 391E 47        A      defm  'G'
3711 391F CE        A      defb  'N'+80H
3712 3920 04        A      defb  4H   ;SGNTOK
3713 3921 51        A      defm  'Q'
3714 3922 D2        A      defb  'R'+80H
3715 3923 07        A      defb  7H   ;SQRTOK
3716 3924 49        A      defm  'I'
3717 3925 CE        A      defb  'N'+80H
3718 3926 09        A      defb  9H   ;SINTOK
3719 3927 54 52      A      defm  'TR'
3720 3929 A4        A      defb  '$'+80H
3721 392A 13        A      defb  13H  ;STR$TOK
3722 392B 54 52 49 4EA  defm  'TRING'
3723 3930 A4        A      defb  '$'+80H
3724 3931 E3        A      defb  0E3H  ;STRING$TOK
3725 3932 50 41 43 45A  defm  'PACE'
3726 3936 A4        A      defb  '$'+80H
3727 3937 19        A      defb  19H  ;SPPACE$TOK
3728 3938 4F 55 4E      A      defm  'OUN'
3729 393B C4        A      defb  'D'+80H
3730 393C C4        A      defb  0C4H  ;SOUNDTOK
3731 393D 54 49 43      A      defm  'TIC'
3732 3940 CB        A      defb  'K'+80H
3733 3941 22        A      defb  22H  ;STICKTOK
3734 3942 54 52 49      A      defm  'TRI'
3735 3945 C7        A      defb  'G'+80H
3736 3946 23        A      defb  23H  ;STRIGTOK
3737 3947 00        A      defb  0
3738                A;
3739 3948 48 45      ATOKT:  defm  'HE'
3740 394A CE        A      defb  'N'+80H
3741 394B DA        A      defb  0DAH  ;THENTOK
3742 394C 52 4F      A      defm  'RO'
```

```

3743 394E CE      A      defb  'N'+80H
3744 394F A2      A      defb  0A2H  ;TRONTOK
3745 3950 52 4F 46 A      defm  'ROF'
3746 3953 C6      A      defb  'F'+80H
3747 3954 A3      A      defb  0A3H  ;TROFFTOK
3748 3955 41 42   A      defm  'AB'
3749 3957 A8      A      defb  '('+80H
3750 3958 DB      A      defb  0DBH  ;TAB(TOK
3751 3959 CF      A      defb  'O'+80H
3752 395A D9      A      defb  0D9H  ;TOTOK
3753 395B 49 4D   A      defm  'IM'
3754 395D C5      A      defb  'E'+80H
3755 395E CB      A      defb  0CBH  ;TIMETOK
3756 395F 41      A      defm  'A'
3757 3960 CE      A      defb  'N'+80H
3758 3961 0D      A      defb  0DH   ;TANTOK
3759 3962 00      A      defb  0
3760      A;
3761 3963 53 49 4E ATOKU:  defm  'SIN'
3762 3966 C7      A      defb  'G'+80H
3763 3967 E4      A      defb  0E4H  ;USINGTOK
3764 3968 53      A      defm  'S'
3765 3969 D2      A      defb  'R'+80H
3766 396A DD      A      defb  0DDH  ;USRTOK
3767 396B 00      A      defb  0
3768      A;
3769 396C 41      ATOKV:  defm  'A'
3770 396D CC      A      defb  'L'+80H
3771 396E 14      A      defb  14H   ;VALTOK
3772 396F 41 52 50 54A defm  'ARPT'
3773 3973 D2      A      defb  'R'+80H
3774 3974 E7      A      defb  0E7H  ;VARPTRTOK
3775 3975 44 4F 4B A      defm  'DOK'
3776 3978 C5      A      defb  'E'+80H
3777 3979 C6      A      defb  0C6H  ;VDOKETOK
3778 397A 44 45 45 A      defm  'DEE'
3779 397D CB      A      defb  'K'+80H
3780 397E 18      A      defb  18H   ;VDEEKTOK
3781 397F 00      A      defb  0
3782      A;
3783 3980 41 49   ATOKW:  defm  'AI'
3784 3982 D4      A      defb  'T'+80H
3785 3983 96      A      defb  96H   ;WAITTOK
3786 3984 49 4E 44 4FA defm  'INDO'
3787 3988 D7      A      defb  'W'+80H
3788 3989 C9      A      defb  0C9H  ;WINDOW
3789 398A 00      A      defb  0
3790      A;
3791 398B 4F      ATOKX:  defm  'O'
3792 398C D2      A      defb  'R'+80H
3793 398D F8      A      defb  0F8H  ;XORTOK
3794 398E 00      A      defb  0
3795      A;
3796 398F 00      ATOKY:  defb  0
3797      A;
3798 3990 00      ATOKZ:  defb  0
3799      A;
3800 3991 AB      ATABOP: defb  '+'+80H

```

OPERATOR TOKENS

```

3801 3992 F1      A      defb  0F1H    ;PLUSTOK
3802 3993 AD     A      defb  '-' +80H
3803 3994 F2     A      defb  0F2H    ;MINUSTOK
3804 3995 AA     A      defb  '*' +80H
3805 3996 F3     A      defb  0F3H    ;MULTTOK
3806 3997 AF     A      defb  '/' +80H
3807 3998 F4     A      defb  0F4H    ;DIVTOK
3808 3999 DE     A      defb  '^' +80H
3809 399A F5     A      defb  0F5H    ;POTTOK
3810 399B DC     A      defb  5CH+80H
3811 399C FC     A      defb  0FCH    ;INTDIVTOK
3812 399D A7     A      defb  27H+80H
3813 399E E6     A      defb  0E6H    ;APOSTROPHTOK
3814 399F BE     A      defb  '>' +80H
3815 39A0 EE     A      defb  0EEH    ;GROESSERTOK
3816 39A1 BD     A      defb  '=' +80H
3817 39A2 EF     A      defb  0EFH    ;GLEICHTOK
3818 39A3 BC     A      defb  '<' +80H
3819 39A4 F0     A      defb  0F0H    ;KLEINERTOK
3820 39A5 00     A      defb  0
3821          A;
3822 39A6 79     ATABPRI:  defb  79H    ;+
3823 39A7 79     A      defb  79H    ;-
3824 39A8 7C     A      defb  7CH    ;*
3825 39A9 7C     A      defb  7CH    ;/
3826 39AA 7F     A      defb  7FH    ;^
3827 39AB 50     A      defb  50H    ;INTDIV
3828 39AC 46     A      defb  46H    ;'
3829 39AD 3C     A      defb  3CH    ;>
3830 39AE 32     A      defb  32H    ;=
3831 39AF 28     A      defb  28H    ;<
3832 39B0 7A     A      defb  7AH
3833 39B1 7B     A      defb  7BH
3834          A;
3835 39B2 2CBA    ATABKON   defw  CDBL
3836 39B4 0000   A      defw  0
3837 39B6 2C0A   A      defw  CINT
3838 39B8 2CD8   A      defw  TYSTR?
3839 39BA 2C32   A      defw  CSNG
3840          A;
3841 39BC 231A    ATAB8BC   defw  ADD8
3842 39BE 230C   A      defw  SUB8
3843 39C0 2466   A      defw  MLT8
3844 39C2 251F   A      defw  DIV8
3845 39C4 3457   A      defw  POT8
3846 39C6 2C03   A      defw  VGL80
3847          A;
3848 39C8 2ECE    ATAB4BC   defw  ADD4
3849 39CA 2ED7   A      defw  SUB4
3850 39CC 2EDC   A      defw  MLT4
3851 39CE 2EE7   A      defw  DIV4
3852 39D0 3448   A      defw  POT4
3853 39D2 2BA1   A      defw  VGL4
3854          A;
3855 39D4 2DF2    ATABINT   defw  ADDI
3856 39D6 2DE7   A      defw  SUBI
3857 39D8 2E13   A      defw  MLTI
3858 39DA 4DAB   A      defw  DIVI
    
```

```
3859 39DC 34BF      A   defw  POTI
3860 39DE 2BCD      A   defw  VGL2
3861 39E0 00         A   defb  0
3862                A;
                                FEHLERAUSSCHRIFTEN
3863 39E1 4E 45 58 54ATABERR: defm  'NEXT without FOR'
3864 39F1 00         A   defb  0
3865 39F2 53 79 6E 74A defm  'Syntax error'
3866 39FE 00         A   defb  0
3867 39FF 52 45 54 55A defm  'RETURN without GOSUB'
3868 3A13 00         A   defb  0
3869 3A14 4F 75 74 20A defm  'Out of DATA'
3870 3A1F 00         A   defb  0
3871 3A20 49 6C 6C 65A defm  'Illegal function call'
3872 3A35 00         A   defb  0
3873 3A36 4F 76 65 72A defm  'Overflow'
3874 3A3E 00         A   defb  0
3875 3A3F 4F 75 74 20A defm  'Out of memory'
3876 3A4C 00         A   defb  0
3877 3A4D 55 6E 64 65A defm  'Undefined line number'
3878 3A62 00         A   defb  0
3879 3A63 53 75 62 73A defm  'Subscript out of range'
3880 3A79 00         A   defb  0
3881 3A7A 52 65 64 69A defm  'Redimensioned array'
3882 3A8D 00         A   defb  0
3883 3A8E 44 69 76 69A defm  'Division by zero'
3884 3A9E 00         A   defb  0
3885 3A9F 49 6C 6C 65A defm  'Illegal direct'
3886 3AAD 00         A   defb  0
3887 3AAE 54 79 70 65A defm  'Type mismatch'
3888 3ABB 00         A   defb  0
3889 3ABC 4F 75 74 20A defm  'Out of string space'
3890 3ACF 00         A   defb  0
3891 3AD0 53 74 72 69A defm  'String too long'
3892 3ADF 00         A   defb  0
3893 3AE0 53 74 72 69A defm  'String formula too complex'
3894 3AFA 00         A   defb  0
3895 3AFB 43 61 6E   A   defm  'Can'
3896 3AFE 27         A   defb  27H
3897 3AFF 74 20 43 4FA defm  't CONTINUE'
3898 3B09 00         A   defb  0
3899 3B0A 55 6E 64 65A defm  'Undefined user function'
3900 3B21 00         A   defb  0
3901 3B22 44 65 76 69A defm  'Device I/O error'
3902 3B32 00         A   defb  0
3903 3B33 56 65 72 69A defm  'Verify error'
3904 3B3F 00         A   defb  0
3905 3B40 4E 6F 20 52A defm  'No RESUME'
3906 3B49 00         A   defb  0
3907 3B4A 52 45 53 55A defm  'RESUME without error'
3908 3B5E 00         A   defb  0
3909 3B5F 55 6E 70 72A defm  'Unprintable error'
3910 3B70 00         A   defb  0
3911 3B71 4D 69 73 73A defm  'Missing operand'
3912 3B80 00         A   defb  0
3913 3B81 4C 69 6E 65A defm  'Line buffer overflow'
3914 3B95 00         A   defb  0
3915 3B96 46 49 45 4CA defm  'FIELD overflow'
3916 3BA4 00         A   defb  0
```

```

3917 3BA5 49 6E 74 65A defm 'Internal error'
3918 3BB3 00 A defb 0
3919 3BB4 42 61 64 20A defm 'Bad file number'
3920 3BC3 00 A defb 0
3921 3BC4 46 69 6C 65A defm 'File not found'
3922 3BD2 00 A defb 0
3923 3BD3 46 69 6C 65A defm 'File already open'
3924 3BE4 00 A defb 0
3925 3BE5 49 6E 70 75A defm 'Input past end'
3926 3BF3 00 A defb 0
3927 3BF4 42 61 64 20A defm 'Bad file name'
3928 3C01 00 A defb 0
3929 3C02 44 69 72 65A defm 'Direct statement in file'
3930 3C1A 00 A defb 0
3931 3C1B 53 65 71 75A defm 'Sequential I/O only'
3932 3C2E 00 A defb 0
3933 3C2F 46 69 6C 65A defm 'File not OPEN'
3934 3C3C 00 A defb 0
3935 A;
3936 3C3D 20 69 6E 20AIN_ defm ' in '
3937 A;
3938 3C41 00 ALEERZK defb 0
3939 A;
3940 3C42 4F 6B AOK: defm 'OK'
3941 3C44 0D A defb 0DH
3942 3C45 0A A defb 0AH
3943 3C46 00 A defb 0
3944 A;
3945 3C47 42 72 65 61ABREAKM: defm 'Break'
3946 3C4C 00 A defb 0
3947 A;*****
3948 A;* Musikerzeugung fuer BIC *
3949 A;* Date: 30.1.89 *
3950 A;*****
3951 3C4D 20 APLAY0 defb 20h
3952 3C4E CD FF64 APLAY call XPLAY ;Erweiterung
3953 3C51 E5 A push hl
3954 3C52 21 3D97 A ld hl,TABPL1
3955 3C55 22 F833 A ld (HLPDR1),hl
3956 3C58 3E 00 A ld a,0
3957 3C5A 32 FA12 A ld (HLPPL1),a
3958 3C5D 21 FFF6 A ld hl,-10
3959 3C60 39 A add hl,sp
3960 3C61 22 FA13 A ld (HLPPL2),hl
3961 3C64 E1 A pop hl
3962 3C65 F5 A push af
3963 3C66 CD 4C57 APLAY1 call SNAL3
3964 3C69 E3 A ex (sp),hl
3965 3C6A E5 A push hl
3966 3C6B CD 69E0 A call ZKUP2
3967 3C6E CD 2B5F A call HLEDCEB
3968 3C71 7B A ld a,e
3969 3C72 B7 A or a
3970 3C73 20 07 A jr nz,PLAY2
3971 3C75 1E 01 A ld e,1
3972 3C77 01 3C4D A ld bc,PLAY0
3973 3C7A 51 A ld d,c
3974 3C7B 48 A ld c,b
    
```

```
3975 3C7C F1      APLAY2      pop      af
3976 3C7D F5      A      push  af
3977 3C7E CD 0150  A      call  MUR1
3978 3C81 73      A      ld    (hl),e
3979 3C82 23      A      inc  hl
3980 3C83 72      A      ld    (hl),d
3981 3C84 23      A      inc  hl
3982 3C85 71      A      ld    (hl),c
3983 3C86 23      A      inc  hl
3984 3C87 54      A      ld    d,h
3985 3C88 5D      A      ld    e,l
3986 3C89 01 001C  A      ld    bc,1Ch
3987 3C8C 09      A      add  hl,bc
3988 3C8D EB      A      ex   de,hl
3989 3C8E 73      A      ld    (hl),e
3990 3C8F 23      A      inc  hl
3991 3C90 72      A      ld    (hl),d
3992 3C91 C1      A      pop  bc
3993 3C92 E1      A      pop  hl
3994 3C93 04      A      inc  b
3995 3C94 78      A      ld    a,b
3996 3C95 FE 03  A      cp   3
3997 3C97 30 16  A      jr   nc,PLAY4
3998 3C99 2B      A      dec  hl
3999 3C9A D7      A      rst  TCHAR
4000 3C9B 28 05  A      jr   z,PLAY3
4001 3C9D C5      A      push bc
4002 3C9E CF      A      rst  CPSTX
4003 3C9F 2C      A      defb ', '
4004 3CA0 18 C4  A      jr   PLAY1
4005 3CA2 78      APLAY3     ld     a,b
4006 3CA3 32 FA15  A      ld    (MUKA),a
4007 3CA6 CD 3D70  A      call  PLAY15
4008 3CA9 04      A      inc  b
4009 3CAA 78      A      ld    a,b
4010 3CAB FE 03  A      cp   3
4011 3CAD 38 F3  A      jr   c,PLAY3
4012 3CAF 2B      APLAY4     dec    hl
4013 3CB0 D7      A      rst  TCHAR
4014 3CB1 C2 4056  A      jp   nz,ERSN
4015 3CB4 E5      A      push hl
4016 3CB5 AF      APLAY5     xor    a
4017 3CB6 F5      APLAY6     push  af
4018 3CB7 32 FA15  A      ld    (MUKA),a
4019 3CBA 47      A      ld    b,a
4020 3CBB CD 3D8A  A      call  PLAY18
4021 3CBE DA 3D3F  A      jp   c,PLAY11
4022 3CC1 78      A      ld    a,b
4023 3CC2 CD 0150  A      call  MUR1
4024 3CC5 7E      A      ld    a,(hl)
4025 3CC6 B7      A      or   a
4026 3CC7 CA 3D3F  A      jp   z,PLAY11
4027 3CCA 32 FA18  A      ld    (HLPPL3),a
4028 3CCD 23      A      inc  hl
4029 3CCE 5E      A      ld    e,(hl)
4030 3CCF 23      A      inc  hl
4031 3CD0 56      A      ld    d,(hl)
4032 3CD1 23      A      inc  hl
```



```
4033 3CD2 ED 53 FA19 A ld (HLPPL4),de
4034 3CD6 5E A ld e,(hl)
4035 3CD7 23 A inc hl
4036 3CD8 56 A ld d,(hl)
4037 3CD9 23 A inc hl
4038 3CDA E5 A push hl
4039 3CDB 2E 24 A ld l,24h
4040 3CDD CD 0153 A call MUR2
4041 3CE0 E5 A push hl
4042 3CE1 2A FA13 A ld hl,(HLPPL2)
4043 3CE4 2B A dec hl
4044 3CE5 C1 A pop bc
4045 3CE6 F3 A di ;di
4046 3CE7 CD 645F A call BCTHL1
4047 3CEA D1 A pop de
4048 3CEB 60 A ld h,b
4049 3CEC 69 A ld l,c
4050 3CED F9 A ld sp,hl
4051 3CEE FB A ei ;ei
4052 3CEF 3E FF A ld a,0FFh
4053 3CF1 32 F835 A ld (HLPDR2),a
4054 3CF4 C3 5FA6 A jp DRZK4
4055 3CF7 3A FA18 APLAY7 ld a,(HLPPL3)
4056 3CFA B7 A or a
4057 3CFB 20 03 A jr nz,PLAY9
4058 3CFD CD 3D70 APLAY8 call PLAY15
4059 3D00 3A FA15 APLAY9 ld a,(MUKA)
4060 3D03 CD 0150 A call MUR1
4061 3D06 3A FA18 A ld a,(HLPPL3)
4062 3D09 77 A ld (hl),a
4063 3D0A 23 A inc hl
4064 3D0B ED 5B FA19 A ld de,(HLPPL4)
4065 3D0F 73 A ld (hl),e
4066 3D10 23 A inc hl
4067 3D11 72 A ld (hl),d
4068 3D12 21 0000 A ld hl,0
4069 3D15 39 A add hl,sp
4070 3D16 EB A ex de,hl
4071 3D17 2A FA13 A ld hl,(HLPPL2)
4072 3D1A F3 A di ;di
4073 3D1B F9 A ld sp,hl
4074 3D1C C1 A pop bc
4075 3D1D C1 A pop bc
4076 3D1E C1 A pop bc
4077 3D1F E5 A push hl
4078 3D20 B7 A or a
4079 3D21 ED 52 A sbc hl,de
4080 3D23 28 18 A jr z,PLAY10
4081 3D25 3E F0 A ld a,0F0h
4082 3D27 A5 A and l
4083 3D28 B4 A or h
4084 3D29 C2 4740 A jp nz,ERFC
4085 3D2C 2E 24 A ld l,24h
4086 3D2E CD 0153 A call MUR2
4087 3D31 C1 A pop bc
4088 3D32 0B A dec bc
4089 3D33 CD 645F A call BCTHL1
4090 3D36 E1 A pop hl
```

```
4091 3D37 2B      A   dec   hl
4092 3D38 70      A   ld    (hl),b
4093 3D39 2B      A   dec   hl
4094 3D3A 71      A   ld    (hl),c
4095 3D3B 18 02     A   jr    PLAY11
4096 3D3D C1      APLAY10  pop   bc
4097 3D3E C1      A   pop   bc
4098 3D3F FB      APLAY11  ei           ;ei
4099 3D40 F1      A   pop   af
4100 3D41 3C      A   inc   a
4101 3D42 FE 03   A   cp   3
4102 3D44 DA 3CB6 A   jp   c,PLAY6
4103 3D47 F3      A   di           ;di
4104 3D48 3A FC09 A   ld    a,(STCSSW)
4105 3D4B FE 03   A   cp   3
4106 3D4D 28 1C   A   jr    z,PLAY14
4107 3D4F 3A FA12 A   ld    a,(HLPPL1)
4108 3D52 07      A   rlca
4109 3D53 38 07   A   jr    c,PLAY12
4110 3D55 21 FA1D A   ld    hl,MUHLPL
4111 3D58 34      A   inc   (hl)
4112 3D59 CD 0099 A   call  MUZELV
4113 3D5C FB      APLAY12  ei           ;ei
4114 3D5D 21 FA12 A   ld    hl,HLPPL1
4115 3D60 7E      A   ld    a,(hl)
4116 3D61 F6 80   A   or   80h
4117 3D63 77      A   ld    (hl),a
4118 3D64 FE 83   A   cp   83h
4119 3D66 C2 3CB5 A   jp   nz,PLAY5
4120 3D69 E1      APLAY13  pop   hl
4121 3D6A C9      A   ret
4122 3D6B CD 0090 APLAY14  call  MUINIT
4123 3D6E 18 F9   A   jr    PLAY13
4124 3D70 3A FA12 APLAY15  ld    a,(HLPPL1)
4125 3D73 3C      A   inc   a
4126 3D74 32 FA12 A   ld    (HLPPL1),a
4127 3D77 1E FF   A   ld    e,0FFh
4128 3D79 E5      APLAY16  push  hl
4129 3D7A C5      A   push  bc
4130 3D7B D5      APLAY17  push  de
4131 3D7C 3A FA15 A   ld    a,(MUKA)
4132 3D7F F3      A   di           ;di
4133 3D80 CD 00F9 A   call  MUPUW
4134 3D83 FB      A   ei           ;ei
4135 3D84 D1      A   pop   de
4136 3D85 28 F4   A   jr    z,PLAY17
4137 3D87 C1      A   pop   bc
4138 3D88 E1      A   pop   hl
4139 3D89 C9      A   ret
4140 3D8A 3A FA15 APLAY18  ld    a,(MUKA)
4141 3D8D C5      A   push  bc
4142 3D8E F3      A   di           ;di
4143 3D8F CD 00F6 A   call  MU1D
4144 3D92 FB      A   ei           ;ei
4145 3D93 C1      A   pop   bc
4146 3D94 FE 08   A   cp   8
4147 3D96 C9      A   ret
4148                A;
```

```
4149 3D97 41          ATABPL1      defb   'A'
4150 3D98 3EA7        A          defw   PLAYA
4151 3D9A 42          A          defb   'B'
4152 3D9B 3EA7        A          defw   PLAYA
4153 3D9D 43          A          defb   'C'
4154 3D9E 3EA7        A          defw   PLAYA
4155 3DA0 44          A          defb   'D'
4156 3DA1 3EA7        A          defw   PLAYA
4157 3DA3 45          A          defb   'E'
4158 3DA4 3EA7        A          defw   PLAYA
4159 3DA6 46          A          defb   'F'
4160 3DA7 3EA7        A          defw   PLAYA
4161 3DA9 47          A          defb   'G'
4162 3DAA 3EA7        A          defw   PLAYA
4163 3DAC CD           A          defb   'M'+80h
4164 3DAD 3E07        A          defw   PLAYM
4165 3DAF D6           A          defb   'V'+80h
4166 3DB0 3DEF        A          defw   PLAYV
4167 3DB2 D3           A          defb   'S'+80h
4168 3DB3 3E27        A          defw   PLAYS
4169 3DB5 CE           A          defb   'N'+80h
4170 3DB6 3E8A        A          defw   PLAYN
4171 3DB8 CF           A          defb   'O'+80h
4172 3DB9 3E58        A          defw   PLAYO
4173 3DBB D2           A          defb   'R'+80h
4174 3DBC 3E65        A          defw   PLAYR
4175 3DBE D4           A          defb   'T'+80h
4176 3DBF 3E4B        A          defw   PLAYT
4177 3DC1 CC           A          defb   'L'+80h
4178 3DC2 3E31        A          defw   PLAYL
4179 3DC4 58           A          defb   'X'
4180 3DC5 6086        A          defw   DRWSTR
4181 3DC7 00           A          defb   0
4182 3DC8 10          ATABPL2      defb   16
4183 3DC9 12          A          defb   18
4184 3DCA 14          A          defb   20
4185 3DCB 16          A          defb   22
4186 3DCC 00           A          defb   0
4187 3DCD 00           A          defb   0
4188 3DCE 02           A          defb   2
4189 3DCF 04           A          defb   4
4190 3DD0 06           A          defb   6
4191 3DD1 08           A          defb   8
4192 3DD2 0A           A          defb   10
4193 3DD3 0A           A          defb   10
4194 3DD4 0C           A          defb   12
4195 3DD5 0E           A          defb   14
4196 3DD6 10           A          defb   16
4197 3DD7 0DFD        ATABPL3      defw   0DFDh
4198 3DD9 0D35        A          defw   0D35h
4199 3DDB 0C77        A          defw   0C77h
4200 3DDD 0BC4        A          defw   0BC4h
4201 3DDF 0B1B        A          defw   0B1Bh
4202 3DE1 0A7B        A          defw   0A7Bh
4203 3DE3 09E5        A          defw   09E5h
4204 3DE5 0956        A          defw   0956h
4205 3DE7 08D0        A          defw   08D0h
4206 3DE9 0852        A          defw   0852h
```

```
4207 3DEB 07DA      A   defw  07DAh
4208 3DED 0769      A   defw  0769h
4209                A;
4210 3DEF 38 02      APLAYV      jr      c,PLAYV1
4211 3DF1 1E 08      A   ld      e,8          ;Standard
4212 3DF3 3E 0F      APLAYV1     ld      a,15          ;max
4213 3DF5 BB            A   cp
4214 3DF6 38 50      A   jr      c,ERPLAY
4215 3DF8 AF            APLAYV2     xor     a
4216 3DF9 B2            A   or      d
4217 3DFA 20 4C      A   jr      nz,ERPLAY
4218 3DFC 2E 12      A   ld      l,12h        ;Adr. letzte-Lautst.
4219 3DFE CD 0153    A   call    MUR2
4220 3E01 3E 40      A   ld      a,40h
4221 3E03 A6            A   and     (hl)
4222 3E04 B3            A   or      e
4223 3E05 77            A   ld      (hl),a
4224 3E06 C9            A   ret
4225 3E07 7B            APLAYM      ld      a,e
4226 3E08 38 03      A   jr      c,PLAYM1
4227 3E0A 2F            A   cpl
4228 3E0B 3C            A   inc     a
4229 3E0C 5F            A   ld      e,a
4230 3E0D B2            APLAYM1     or      d
4231 3E0E 28 38      A   jr      z,ERPLAY
4232 3E10 2E 13      A   ld      l,13h        ;Adr. letzte-Huellk.-Frequ.
4233 3E12 CD 0153    A   call    MUR2
4234 3E15 E5            A   push   hl
4235 3E16 7E            A   ld      a,(hl)
4236 3E17 23            A   inc     hl
4237 3E18 66            A   ld      h,(hl)
4238 3E19 6F            A   ld      l,a
4239 3E1A E7            A   rst     CPREG
4240 3E1B E1            A   pop     hl
4241 3E1C C8            A   ret     z
4242 3E1D 73            A   ld      (hl),e
4243 3E1E 23            A   inc     hl
4244 3E1F 72            A   ld      (hl),d
4245 3E20 2B            A   dec     hl
4246 3E21 2B            A   dec     hl
4247 3E22 3E 40      A   ld      a,40h
4248 3E24 B6            A   or      (hl)
4249 3E25 77            A   ld      (hl),a
4250 3E26 C9            A   ret
4251 3E27 7B            APLAYS      ld      a,e
4252 3E28 FE 10      A   cp      16          ;Huellkurv.-Nr.
4253 3E2A 30 1C      A   jr      nc,ERPLAY
4254 3E2C F6 10      A   or      10h
4255 3E2E 5F            A   ld      e,a
4256 3E2F 18 C7      A   jr      PLAYV2
4257 3E31 38 02      APLAYL      jr      c,PLAYL1      ;Laenge
4258 3E33 1E 04      A   ld      e,4
4259 3E35 7B            APLAYL1     ld      a,e
4260 3E36 FE 41      A   cp      65
4261 3E38 30 0E      A   jr      nc,ERPLAY
4262 3E3A 2E 10      A   ld      l,10h        ;Adr. letzte Laenge
4263 3E3C CD 0153    APLAYL2     call    MUR2
4264 3E3F AF            A   xor     a
```

```
4265 3E40 B2      A    or    d
4266 3E41 20 05   A    jr    nz,ERPLAY
4267 3E43 B3      A    or    e
4268 3E44 28 02   A    jr    z,ERPLAY
4269 3E46 77      A    ld    (hl),a
4270 3E47 C9      A    ret
4271 3E48 CD 4740  AERPLAY    call    ERFC
4272 3E4B 38 02   APLAYT    jr     c,PLAYT1
4273 3E4D 1E 78   A    ld    e,78h
4274 3E4F 7B      APLAYT1   ld     a,e
4275 3E50 FE 20   A    cp    32
4276 3E52 38 F4   A    jr    c,ERPLAY
4277 3E54 2E 11   A    ld    l,11h
4278 3E56 18 E4   A    jr    PLAYL2
4279 3E58 38 02   APLAY0    jr     c,PLAY01
4280 3E5A 1E 04   A    ld    e,4
4281 3E5C 7B      APLAY01   ld     a,e
4282 3E5D FE 09   A    cp    9
4283 3E5F 30 E7   A    jr    nc,ERPLAY
4284 3E61 2E 0F   A    ld    l,0Fh
4285 3E63 18 D7   A    jr    PLAYL2
4286 3E65 38 02   APLAYR    jr     c,PLAYR1
4287 3E67 1E 04   A    ld    e,4
4288 3E69 AF      APLAYR1   xor    a
4289 3E6A B2      A    or    d
4290 3E6B 20 DB   A    jr    nz,ERPLAY
4291 3E6D B3      A    or    e
4292 3E6E 28 D8   A    jr    z,ERPLAY
4293 3E70 FE 41   A    cp    65
4294 3E72 30 D4   A    jr    nc,ERPLAY
4295 3E74 21 0000  APLAYR2   ld     hl,0
4296 3E77 E5      A    push  hl
4297 3E78 2E 10   A    ld    l,10h
4298 3E7A CD 0153  A    call  MUR2
4299 3E7D E5      A    push  hl
4300 3E7E 23     A    inc   hl
4301 3E7F 23     A    inc   hl
4302 3E80 7E      A    ld    a,(hl)
4303 3E81 32 FA16  A    ld    (HLPPL5),a
4304 3E84 36 80   A    ld    (hl),80h
4305 3E86 2B      A    dec   hl
4306 3E87 2B      A    dec   hl
4307 3E88 18 7B   A    jr    PLAYA9
4308 3E8A 30 BC   APLAYN    jr     nc,ERPLAY
4309 3E8C AF      A    xor   a
4310 3E8D B2      A    or    d
4311 3E8E 20 B8   A    jr    nz,ERPLAY
4312 3E90 B3      A    or    e
4313 3E91 28 E1   A    jr    z,PLAYR2
4314 3E93 FE 60   A    cp    96
4315 3E95 30 B1   A    jr    nc,ERPLAY
4316 3E97 7B      A    ld    a,e
4317 3E98 06 00   A    ld    b,0
4318 3E9A 58      A    ld    e,b
4319 3E9B D6 0C   APLAYN1   sub    0Ch
4320 3E9D 1C      A    inc   e
4321 3E9E 30 FB   A    jr    nc,PLAYN1
4322 3EA0 C6 0C   A    add   a,0Ch
```

```
4323 3EA2 87      A    add    a,a
4324 3EA3 4F      A    ld     c,a
4325 3EA4 C3 3EDC  A    jp     PLAYA5
4326 3EA7 41      APLAYA    ld     b,c
4327 3EA8 79      A    ld     a,c
4328 3EA9 D6 40    A    sub    40h
4329 3EAB 87      A    add    a,a
4330 3EAC 4F      A    ld     c,a
4331 3EAD CD 5FF2  A    call   DRZK13
4332 3EB0 28 1C    A    jr     z,PLAYA3
4333 3EB2 FE 23    A    cp     '#'
4334 3EB4 28 19    A    jr     z,PLAYA4
4335 3EB6 FE 2B    A    cp     '+'
4336 3EB8 28 15    A    jr     z,PLAYA4
4337 3EBA FE 2D    A    cp     '-'
4338 3EBC 28 05    A    jr     z,PLAYA1
4339 3EBE CD 600F  A    call   DRZK16
4340 3EC1 18 0B    A    jr     PLAYA3
4341 3EC3 0D      APLAYA1    dec    c
4342 3EC4 78      A    ld     a,b
4343 3EC5 FE 43    A    cp     'C'
4344 3EC7 28 04    A    jr     z,PLAYA2
4345 3EC9 FE 46    A    cp     'F'
4346 3ECB 20 01    A    jr     nz,PLAYA3
4347 3ECD 0D      APLAYA2    dec    c
4348 3ECE 0D      APLAYA3    dec    c
4349 3ECF 2E 0F    APLAYA4    ld     l,0Fh
4350 3ED1 CD 0153  A    call   MUR2
4351 3ED4 5E      A    ld     e,(hl)
4352 3ED5 06 00    A    ld     b,0
4353 3ED7 21 3DC8  A    ld     hl,TABPL2
4354 3EDA 09      A    add    hl,bc
4355 3EDB 4E      A    ld     c,(hl)
4356 3EDC 21 3DD7  APLAYA5    ld     hl,TABPL3
4357 3EDF 09      A    add    hl,bc
4358 3EE0 7B      A    ld     a,e
4359 3EE1 5E      A    ld     e,(hl)
4360 3EE2 23      A    inc   hl
4361 3EE3 56      A    ld     d,(hl)
4362 3EE4 3D      APLAYA6    dec    a
4363 3EE5 28 09    A    jr     z,PLAYA8
4364 3EE7 CB 3A    A    srl   d
4365 3EE9 CB 1B    A    rrr   e
4366 3EEB 18 F7    A    jr     PLAYA6
4367 3EED CD 4740  APLAYA7    call   ERFC
4368 3EF0 8B      APLAYA8    adc    a,e
4369 3EF1 5F      A    ld     e,a
4370 3EF2 8A      A    adc    a,d
4371 3EF3 93      A    sub    e
4372 3EF4 57      A    ld     d,a
4373 3EF5 D5      A    push  de
4374 3EF6 2E 10    A    ld     l,10h
4375 3EF8 CD 0153  A    call   MUR2
4376 3EFB 4E      A    ld     c,(hl)
4377 3EFC E5      A    push  hl
4378 3EFD CD 5FF2  A    call   DRZK13
4379 3F00 28 10    A    jr     z,PLAYAA
4380 3F02 CD 6033  A    call   DRZK19
```

```
4381 3F05 3E 40      APLAYA9      ld      a,40h
4382 3F07 BB          A      cp      e
4383 3F08 38 E3      A      jr      c,PLAYA7
4384 3F0A AF          A      xor     a
4385 3F0B B2          A      or      d
4386 3F0C 20 DF      A      jr      nz,PLAYA7
4387 3F0E B3          A      or      e
4388 3F0F 28 01      A      jr      z,PLAYAA
4389 3F11 4B          A      ld      c,e
4390 3F12 E1          APLAYAA      pop     hl
4391 3F13 16 00      A      ld      d,0
4392 3F15 42          A      ld      b,d
4393 3F16 23          A      inc     hl
4394 3F17 5E          A      ld      e,(hl)
4395 3F18 E5          A      push   hl
4396 3F19 CD 2DCA    A      call   DIMLEN
4397 3F1C EB          A      ex     de,hl
4398 3F1D CD 2C4B    A      call   CV4BC1
4399 3F20 CD 2B8D    A      call   AC12T
4400 3F23 21 3FBD    A      ld      hl,KONST
4401 3F26 CD 2B3E    A      call   HLAC1R
4402 3F29 CD 251F    A      call   DIV8
4403 3F2C CD 2C0A    A      call   CINT
4404 3F2F 54          A      ld      d,h
4405 3F30 5D          A      ld      e,l
4406 3F31 CD 5FF2    APLAYAB      call   DRZK13
4407 3F34 28 16      A      jr      z,PLAYAD
4408 3F36 FE 2E      A      cp      2Eh
4409 3F38 20 0F      A      jr      nz,PLAYAC
4410 3F3A CB 3A      A      srl     d
4411 3F3C CB 1B      A      rrr     e
4412 3F3E ED 5A      A      adc     hl,de
4413 3F40 3E E0      A      ld      a,0E0h
4414 3F42 A4          A      and     h
4415 3F43 28 EC      A      jr      z,PLAYAB
4416 3F45 AC          A      xor     h
4417 3F46 67          A      ld      h,a
4418 3F47 18 03      A      jr      PLAYAD
4419 3F49 CD 600F    APLAYAC      call   DRZK16
4420 3F4C 11 0001    APLAYAD      ld      de,1
4421 3F4F E7          A      rst     CPREG
4422 3F50 38 01      A      jr      c,PLAYAE
4423 3F52 EB          A      ex     de,hl
4424 3F53 01 FFF7    APLAYAE      ld      bc,-9
4425 3F56 E1          A      pop     hl
4426 3F57 E5          A      push   hl
4427 3F58 09          A      add     hl,bc
4428 3F59 72          A      ld      (hl),d
4429 3F5A 23          A      inc     hl
4430 3F5B 73          A      ld      (hl),e
4431 3F5C 23          A      inc     hl
4432 3F5D 0E 02      A      ld      c,2
4433 3F5F E3          A      ex     (sp),hl
4434 3F60 23          A      inc     hl
4435 3F61 5E          A      ld      e,(hl)
4436 3F62 7B          A      ld      a,e
4437 3F63 E6 BF      A      and     0BFh
4438 3F65 77          A      ld      (hl),a
```

```
4439 3F66 E3      A    ex    (sp),hl
4440 3F67 3E 80   A    ld    a,80h
4441 3F69 B3      A    or    e
4442 3F6A 77      A    ld    (hl),a
4443 3F6B 23      A    inc   hl
4444 3F6C 0C      A    inc   c
4445 3F6D E3      A    ex    (sp),hl
4446 3F6E 7B      A    ld    a,e
4447 3F6F E6 40   A    and   40h
4448 3F71 28 0C   A    jr    z,PLAYAF
4449 3F73 23      A    inc   hl
4450 3F74 5E      A    ld    e,(hl)
4451 3F75 23      A    inc   hl
4452 3F76 56      A    ld    d,(hl)
4453 3F77 E1      A    pop   hl
4454 3F78 72      A    ld    (hl),d
4455 3F79 23      A    inc   hl
4456 3F7A 73      A    ld    (hl),e
4457 3F7B 23      A    inc   hl
4458 3F7C 0C      A    inc   c
4459 3F7D 0C      A    inc   c
4460 3F7E FE      A    defb  0FEh          ;cp 0E1h
4461 3F7F E1      APLAYAF pop   hl
4462 3F80 D1      A    pop   de
4463 3F81 7A      A    ld    a,d
4464 3F82 B3      A    or    e
4465 3F83 28 05   A    jr    z,PLAYAG
4466 3F85 72      A    ld    (hl),d
4467 3F86 23      A    inc   hl
4468 3F87 73      A    ld    (hl),e
4469 3F88 0C      A    inc   c
4470 3F89 0C      A    inc   c
4471 3F8A 2E 07   APLAYAG ld     l,7
4472 3F8C CD 0153 A    call MUR2
4473 3F8F 71      A    ld    (hl),c
4474 3F90 79      A    ld    a,c
4475 3F91 D6 02   A    sub   2
4476 3F93 0F      A    rrca
4477 3F94 0F      A    rrca
4478 3F95 0F      A    rrca
4479 3F96 23      A    inc   hl
4480 3F97 B6      A    or    (hl)
4481 3F98 77      A    ld    (hl),a
4482 3F99 2B      A    dec   hl
4483 3F9A 7A      A    ld    a,d
4484 3F9B B3      A    or    e
4485 3F9C 20 0C   A    jr    nz,PLAYAH
4486 3F9E E5      A    push  hl
4487 3F9F 3A FA16 A    ld    a,(HLPPL5)
4488 3FA2 F6 80   A    or    80h
4489 3FA4 01 000B A    ld    bc,0Bh
4490 3FA7 09      A    add   hl,bc
4491 3FA8 77      A    ld    (hl),a
4492 3FA9 E1      A    pop   hl
4493 3FAA D1      APLAYAH pop   de
4494 3FAB 46      A    ld    b,(hl)
4495 3FAC 23      A    inc   hl
4496 3FAD 5E      APLAYAI ld     e,(hl)
```



```
4497 3FAE 23      A    inc    hl
4498 3FAF CD 3D79  A    call   PLAY16
4499 3FB2 10 F9    A    djnz   PLAYAI
4500 3FB4 CD 3D8A  A    call   PLAY18
4501 3FB7 DA 3CF7  A    jp     c,PLAY7
4502 3FBA C3 5FA6  A    jp     DRZK4
4503                A;
4504 3FBD 0000    AKONST    defw   0
4505 3FBF 1245    A    defw   01245h
4506                A;
4507 3FC1 D7      APLFKT    rst    TCHAR
4508 3FC2 3E 03    A    ld     a,3
4509 3FC4 CD 7C36  A    call   BYTAET
4510 3FC7 E5      A    push   hl
4511 3FC8 3A FA1C  A    ld     a,(MUKAFL)
4512 3FCB 1D      A    dec    e
4513 3FCC FA 3FDE  A    jp     m,PLFKT4
4514 3FCF 0F      APLFKT1   rrca
4515 3FD0 1D      A    dec    e
4516 3FD1 F2 3FCF  A    jp     p,PLFKT1
4517 3FD4 3E 00    A    ld     a,0
4518 3FD6 30 01    A    jr     nc,PLFKT3
4519 3FD8 3D      APLFKT2   dec    a
4520 3FD9 CD 2B1A  APLFKT3   call   SGN1
4521 3FDC E1      A    pop    hl
4522 3FDD C9      A    ret
4523 3FDE E6 07    APLFKT4   and    7
4524 3FE0 28 F7    A    jr     z,PLFKT3
4525 3FE2 3E FF    A    ld     a,0FFh
4526 3FE4 18 F3    A    jr     PLFKT3
4527                A;
4528 3FE6 21 0004  AFORUP    ld     hl,4
4529 3FE9 39      A    add    hl,sp
4530 3FEA 7E      AFORUP1   ld     a,(hl)
4531 3FEB 23      A    inc    hl
4532 3FEC FE 82    A    cp    82H ;FORTOK
4533 3FEE C0      A    ret    nz
4534 3FEF 4E      A    ld     c,(hl)
4535 3FF0 23      A    inc    hl
4536 3FF1 46      A    ld     b,(hl)
4537 3FF2 23      A    inc    hl
4538 3FF3 E5      A    push  hl
4539 3FF4 60      A    ld     h,b
4540 3FF5 69      A    ld     l,c
4541 3FF6 7A      A    ld     a,d
4542 3FF7 B3      A    or     e
4543 3FF8 EB      A    ex    de,hl
4544 3FF9 28 02    A    jr     z,FORUP2
4545 3FFB EB      A    ex    de,hl
4546 3FFC E7      A    rst   CPREG
4547 3FFD 01 0016  AFORUP2   ld     bc,16H
4548 4000 E1      A    pop    hl
4549 4001 C8      A    ret    z
4550 4002 09      A    add    hl,bc
4551 4003 18 E5    A    jr     FORUP1
4552                A;
4553 4005 CD 5410  AINP    call   ADRREC ;UEBERNAHME PORTADR
4554 4008 44      A    ld     b,h
```

```

4555 4009 4D      A    ld      c,l
4556 400A ED 78   A    in      a,(c)
4557 400C C3 4FA9  A    jp      POS1
4558 400F CD 5406  AINP1 call  ADRTDE      ;UEBERNAHME PORTADR
4559 4012 D5      A    push   de
4560 4013 CF      A    rst    CPSTX
4561 4014 2C      A    defb   ','
4562 4015 CD 51F3  A    call   BYTAE2      ;INTPAR. 8 BIT
4563 4018 C1      A    pop    bc
4564 4019 C9      A    ret
4565          A;
4566 401A CD 400F  AOUT_ call  INP1
4567 401D ED 79   A    out    (c),a
4568 401F C9      A    ret
4569          A;
4570 4020 CD 400F  AWAIT call  INP1
4571 4023 C5      A    push   bc
4572 4024 F5      A    push   af
4573 4025 1E 00   A    ld     e,0
4574 4027 2B      A    dec    hl
4575 4028 D7      A    rst    TCHAR
4576 4029 28 05   A    jr     z,WAIT1
4577 402B CF      A    rst    CPSTX
4578 402C 2C      A    defb   ','
4579 402D CD 51F3  A    call   BYTAE2
4580 4030 F1      AWAIT1 pop     af
4581 4031 57      A    ld     d,a
4582 4032 C1      A    pop    bc
4583 4033 CD 00BD  AWAIT2 call   BREAK      ;WARTESCHLEIFE
4584 4036 ED 78   A    in      a,(c)      ;
4585 4038 AB      A    xor    e          ;
4586 4039 A2      A    and   d          ;
4587 403A 28 F7   A    jr     z,WAIT2    ;
4588 403C C9      A    ret
4589          A;
4590 403D 2A F2E2  AENDER ld    hl,(ACTZN) ;VON PROGEND
4591 4040 7C      A    ld     a,h
4592 4041 A5      A    and   l
4593 4042 3C      A    inc   a
4594 4043 28 08   A    jr     z,ENDER1    ;DIREKTMODUS ?
4595 4045 3A F581  A    ld     a,(ERRFLG)
4596 4048 B7      A    or    a
4597 4049 1E 15   A    ld     e,15H      ;NO RESUME
4598 404B 20 23   A    jr     nz,ERRO
4599 404D C3 660A  AENDER1 jp    END3
4600          A;
4601 4050 2A F569  AERINSN ld    hl,(HPTZL)    ;INPUT ERROR
4602 4053 22 F2E2  A    ld     (ACTZN),hl
4603 4056 1E 02   AERSN ld    e,2        ;Syntax error
4604 4058 01      A    defb   1
4605 4059 1E 0B   AERD0 ld   e,0BH     ;Division by zero
4606 405B 01      A    defb   1
4607 405C 1E 01   AERNEFO ld   e,1H     ;NEXT without FOR
4608 405E 01      A    defb   1
4609 405F 1E 0A   AERDD ld   e,0AH     ;Redimensioned array
4610 4061 01      A    defb   1
4611 4062 1E 12   AERUF ld   e,12H     ;Undefined user function
4612 4064 01      A    defb   1
    
```

```
4613 4065 1E 16      AERRESU  ld     e,16H          ;RESUME without error
4614 4067 01          A   defb  1
4615 4068 1E 06      AEROV  ld     e,6H          ;Overflow
4616 406A 01          A   defb  1
4617 406B 1E 18      AERMO  ld     e,18H          ;Missing operand
4618 406D 01          A   defb  1
4619 406E 1E 0D      AERTM  ld     e,0DH          ;Type mismatch
4620
4621 4070 CD FF0A     AERRO  call   XERR1
4622 4073 AF          A   xor   a
4623 4074 32 F743     A   ld   (LMAFL),a
4624 4077 2A F2DF     A   ld   hl,(HIADZK)
4625 407A 7C          A   ld   a,h
4626 407B B5          A   or   l
4627 407C 28 0A      A   jr   z,ERR01
4628 407E 3A F2E1     A   ld   a,(HIZEZK)
4629 4081 77          A   ld   (hl),a
4630 4082 21 0000     A   ld   hl,0
4631 4085 22 F2DF     A   ld   (HIADZK),hl
4632 4088 FB          AERRO1  ei
4633 4089 2A F2E2     A   ld   hl,(ACTZN)
4634 408C 22 F579     A   ld   (ERLNR),hl
4635 408F 7C          A   ld   a,h
4636 4090 A5          A   and  l
4637 4091 3C          A   inc  a
4638 4092 28 03      A   jr   z,ERR02
4639 4094 22 F57B     A   ld   (HELPZN),hl
4640 4097 01 40A5     AERRO2  ld     bc,ERR05          ;RUCKKEHRADR LADEN
4641 409A 18 03      A   jr   ERR04
4642 409C 01 411C     AERRO3  ld     bc,KOM1          ;NACH FEHLER IN KOMMANDOEBEENE
4643 409F 2A F577     AERRO4  ld     hl,(HELPSP)
4644 40A2 C3 64FC     A   jp   INITR          ;ZEIGER RUECKS. -> KOMM-EBENE
4645 40A5 C1          AERRO5  pop   bc
4646 40A6 7B          A   ld   a,e
4647 40A7 4B          A   ld   c,e
4648 40A8 32 F2DB     A   ld   (ERRNR),a
4649 40AB 2A F575     A   ld   hl,(HLPTR)
4650 40AE 22 F57D     A   ld   (HLPERL),hl
4651 40B1 EB          A   ex  de,hl
4652 40B2 2A F579     A   ld   hl,(ERLNR)
4653 40B5 7C          A   ld   a,h
4654 40B6 A5          A   and  l
4655 40B7 3C          A   inc  a
4656 40B8 28 07      A   jr   z,ERR06
4657 40BA 22 F584     A   ld   (HPTZL2),hl
4658 40BD EB          A   ex  de,hl
4659 40BE 22 F586     A   ld   (HPTAW2),hl
4660 40C1 2A F57F     AERRO6  ld     hl,(ZNRESU)      ;FORTSETZEN NACH FEHLER ?
4661 40C4 7C          A   ld   a,h
4662 40C5 B5          A   or   l
4663 40C6 EB          A   ex  de,hl
4664 40C7 21 F581     A   ld   hl,ERRFLG
4665 40CA 28 08      A   jr   z,ERR07          ;NEIN
4666 40CC A6          A   and  (hl)
4667 40CD 20 05      A   jr   nz,ERR07
4668 40CF 35          A   dec  (hl)
4669 40D0 EB          A   ex  de,hl
4670 40D1 C3 460C     A   jp   RUNM2          ;WEITER ENTSPR. ON ERROR, ADR IN HL
```

```
4671 40D4 AF      AERR07  xor   a
4672 40D5 77      A      ld   (hl),a
4673 40D6 59      A      ld   e,c           ;FEHLERNR IN E
4674 40D7 CD 7543 A      call  LSTRES
4675 40DA 21 39E0 A      ld   hl,TABERR-1
4676 40DD CD FF0F A      call  XERR2       ;FEHLERMELDUNGEN DISKETTE
4677 40E0 7B      A      ld   a,e
4678 40E1 FE 3C      A      cp   3CH
4679 40E3 30 08      A      jr   nc,ERR08    ;>3B -> UNPRINTABLE ERROR
4680 40E5 FE 32      A      cp   32H
4681 40E7 30 06      A      jr   nc,ERR09    ;>32...3C
4682 40E9 FE 1A      A      cp   1AH
4683 40EB 38 05      A      jr   c,ERR010    ;1...19
4684 40ED 3E 2F      AERR08  ld   A,2FH        ;17
4685 40EF D6 18      AERR09  sub   18H
4686 40F1 5F      A      ld   e,a
4687 40F2 CD 4840 AERR10  call  REM
4688 40F5 23      A      inc  hl
4689 40F6 1D      A      dec  e
4690 40F7 20 F9      A      jr   nz,ERR010   ;AUSSCHRIFT NOCH NICHT GEFUND.
4691 40F9 E5      A      push hl          ;GEFUNDEN
4692 40FA 2A F579 A      ld   hl,(ERLNR)
4693 40FD E3      A      ex   (sp),hl
4694 40FE E5      AERR011 push  hl          ;ADR AUSSCHRIFT
4695 40FF CD 0174 A      call  KOMSCR
4696 4102 E1      A      pop  hl
4697 4103 7E      A      ld   a,(hl)
4698 4104 FE 3F      A      cp   3FH        ;UNPRINT. ERROR 3FH ?
4699 4106 20 06      A      jr   nz,ERR012
4700 4108 E1      A      pop  hl          ;ja --> unprintable error
4701 4109 21 39E0 A      ld   hl,TABERR-1
4702 410C 18 DF      A      jr   ERR08
4703 410E 3E 07      AERR012 ld   a,7          ;BEL
4704 4110 DF      A      rst  CHARO
4705 4111 CD 6888 A      call  OUTZK1      ;AUSG FEHLERMELDUNG
4706 4114 E1      A      pop  hl
4707 4115 7C      A      ld   a,h
4708 4116 A5      A      and  l
4709 4117 3C      A      inc  a           ;DIREKTMODUS ?
4710 4118 C4 308A A      call  nz,AUINZN   ;NEIN -> AUS "IN ZLNR"ZN
4711 411B 3E      A      defb 3EH        ;DUMMY LD A
4712      A;
4713 411C C1      AKOM1 pop  bc
4714 411D CD 0174 AKOM2  call  KOMSCR
4715 4120 CD 7524 A      call  PRTRES      ;DRUCKERAUSG 0D,0A
4716 4123 CD 6F74 A      call  CLOSEB
4717 4126 CD 7543 A      call  LSTRES      ;AUSG 0D,0A
4718 4129 21 3C42 A      ld   hl,OK        ;"OK",0D,0A
4719 412C CD 6888 A      call  OUTZK1
4720 412F CD FF14 AKOM3  call  XLANON      ;Freigabe LAN
4721 4132 21 FFFF A      ld   hl,0FFFFH
4722 4135 22 F2E2 A      ld   (ACTZN),hl   ;KOMMANDOMODUS
4723 4138 21 F2B0 A      ld   hl,HLPBER
4724 413B 22 F575 A      ld   (HLPTR),hl
4725 413E 3A F570 A      ld   a,(AUTOFL)  ;AUTO ?
4726 4141 B7      A      or   a
4727 4142 28 16      A      jr   z,KOM5     ;NEIN
4728 4144 2A F571 A      ld   hl,(AUTOZN)
```

```
4729 4147 E5      A      push  hl
4730 4148 CD 3092  A      call  AUZN
4731 414B D1      A      pop   de
4732 414C D5      A      push  de
4733 414D CD 4290  A      call  SUCLN      ;ZEILE MIT NR AUS DE SUCHEN
4734 4150 3E 2A   A      ld    a,'*'
4735 4152 38 02   A      jr   c,KOM4      ;GEFUNDEN --> *
4736 4154 3E 20   A      ld    a,' '      ;NICHT GEFUNDEN
4737 4156 DF      AKOM4  rst   CHAR0
4738 4157 32 F570  A      ld    (AUTOFL),a
4739 415A CD 014A  AKOM5  call  TAFCB
4740 415D 20 0C   A      jr   nz,KOM6
4741 415F CD 00AE   A      call  EDI1
4742 4162 30 0A   A      jr   nc,KOM7
4743 4164 AF      A      xor   a          ;^STOP
4744 4165 32 F570  A      ld    (AUTOFL),a ;AUTO AUS
4745 4168 C3 412F  A      jp   KOM3
4746 416B CD 7594  AKOM6  call  FCBEUBU ;EINLESEN 256 BYTE VON FCB-PUFFER
4747 416E D7      AKOM7  rst   TCHAR
4748 416F 3C      A      inc   a
4749 4170 3D      A      dec   a
4750 4171 28 BC   A      jr   z,KOM3
4751 4173 F5      A      push af
4752 4174 CD FF19  A      call  XLANOF      ;LAN sperren (bedingt)
4753 4177 CD 474F  A      call  INTPAR
4754 417A 30 06   A      jr   nc,KOM8
4755 417C CD 014A  A      call  TAFCB
4756 417F CA 4056  A      jp   z,ERSN      ;INTPAR ZU GROSZ
4757 4182 CD 4503  AKOM8  call  SCAN52
4758 4185 3A F570  A      ld    a,(AUTOFL)
4759 4188 B7      A      or    a
4760 4189 28 08   A      jr   z,KOM9      ;KEIN AUTO
4761 418B FE 2A   A      cp   '*'
4762 418D 20 04   A      jr   nz,KOM9
4763 418F BE      A      cp   (hl)
4764 4190 20 01   A      jr   nz,KOM9
4765 4192 23      A      inc  hl
4766 4193 7A      AKOM9  ld    a,d
4767 4194 B3      A      or    e
4768 4195 28 06   A      jr   z,KOM10     ;KEINE ZEILENNR
4769 4197 7E      A      ld    a,(hl)
4770 4198 FE 20   A      cp   ' '
4771 419A 20 01   A      jr   nz,KOM10
4772 419C 23      A      inc  hl
4773 419D D5      AKOM10 push  de
4774 419E CD 42AD  A      call  SCAN      ;VORUEBERSETZEN
4775 41A1 D1      A      pop  de
4776 41A2 F1      A      pop  af
4777 41A3 22 F575  A      ld    (HLPTR),hl
4778 41A6 38 07   A      jr   c,INSLN     ;ZEILENNR AM ANFANG
4779 41A8 AF      A      xor  a
4780 41A9 32 F570  A      ld    (AUTOFL),a
4781 41AC C3 6F41  A      jp   TSTFCB     ;ABARBEITUNG IM DIREKTMODUS
4782      A;
4783 41AF D5      AINSLN push  de      ;ZEILE EINFUEGEN IN PROGRAMM
4784 41B0 C5      A      push bc
4785 41B1 D7      A      rst  TCHAR
4786 41B2 B7      A      or   a
```

```
4787 41B3 F5      A   push  af
4788 41B4 3A F570  A   ld    a,(AUTOFL) ;AUTO ?
4789 41B7 A7      A   and   a
4790 41B8 28 03     A   jrc  z,INSLN1   ;NEIN
4791 41BA F1      A   pop  af         ;JA
4792 41BB 37      A   scf
4793 41BC F5      A   push  af
4794 41BD ED 53 F57B AINSLN1 ld    (HELPZN),de
4795 41C1 2A F573  A   ld    hl,(AUTOAB)
4796 41C4 19      A   add  hl,de
4797 41C5 38 0B   A   jrc  c,INSLN2
4798 41C7 D5      A   push  de
4799 41C8 11 FFFA  A   ld    de,0FFFAH ;ZLNR IN HL ZU GROSZ ?
4800 41CB E7      A   rst  CPREG
4801 41CC D1      A   pop  de
4802 41CD 22 F571 A   ld    (AUTOZN),hl
4803 41D0 38 04   A   jrc  c,INSLN3   ;NEIN
4804 41D2 AF      AINSLN2 xor  a
4805 41D3 32 F570 A   ld    (AUTOFL),a ;AUTO AUS
4806 41D6 CD 4290 AINSLN3 call  SUCLN        ;ZEILE SUCHEN
4807 41D9 38 0D   A   jrc  c,INSLN6   ;GEFUNDEN Z=1,CY=1
4808 41DB F1      A   pop  af         ;IN PROGBER Z=0,CY=0
4809 41DC F5      A   push  af         ;NACH PROG Z=1,CY=0
4810 41DD 20 06   A   jrc  nz,INSLN5
4811 41DF D2 4802 A   jpb  nc,ULER
4812 41E2 C5      AINSLN4 push  bc
4813 41E3 18 4D   A   jrc  INSLNA
4814 41E5 B7      AINSLN5 or   a
4815 41E6 18 07   A   jrc  INSLN8
4816 41E8 F1      AINSLN6 pop  af
4817 41E9 F5      A   push  af
4818 41EA 20 02   A   jrc  nz,INSLN7
4819 41EC 38 F4   A   jrc  c,INSLN4
4820 41EE 37      AINSLN7 scf
4821 41EF C5      AINSLN8 push  bc
4822 41F0 F5      A   push  af
4823 41F1 E5      A   push  hl
4824 41F2 CD 54BE A   call REN7
4825 41F5 E1      A   pop  hl
4826 41F6 F1      A   pop  af
4827 41F7 C1      A   pop  bc
4828 41F8 C5      A   push  bc
4829 41F9 DC 53DC A   call c,DEL2
4830 41FC D1      A   pop  de
4831 41FD F1      A   pop  af
4832 41FE D5      A   push  de
4833 41FF 28 31   A   jrc  z,INSLNA
4834 4201 D1      A   pop  de
4835 4202 21 0000 A   ld    hl,0
4836 4205 22 F57F A   ld    (ZNRESU),hl
4837 4208 2A F588 A   ld    hl,(SVARPT)
4838 420B E3      A   ex   (sp),hl
4839 420C C1      A   pop  bc
4840 420D E5      A   push  hl
4841 420E 09     A   add  hl,bc
4842 420F E5      A   push  hl
4843 4210 CD 645C A   call BCTOHL
4844 4213 E1      A   pop  hl
```

```
4845 4214 22 F588 A ld (SVARPT),hl
4846 4217 EB A ex de,hl
4847 4218 74 A ld (hl),h
4848 4219 C1 A pop bc
4849 421A D1 A pop de
4850 421B E5 A push hl
4851 421C 23 A inc hl
4852 421D 23 A inc hl
4853 421E 73 A ld (hl),e ;FOLGEZEIGER EINTRAGEN
4854 421F 23 A inc hl
4855 4220 72 A ld (hl),d
4856 4221 23 A inc hl
4857 4222 11 F2E5 A ld de,LINBUF
4858 4225 0B A dec bc
4859 4226 0B A dec bc
4860 4227 0B A dec bc
4861 4228 0B A dec bc ;ZEILENLAENGE-4
4862 4229 1A AINSLN9 ld a,(de) ;INHALT LINE BUFFER
4863 422A 77 A ld (hl),a ; -> PROGRAMMSPEICHER
4864 422B 23 A inc hl
4865 422C 13 A inc de
4866 422D 0B A dec bc
4867 422E 79 A ld a,c
4868 422F B0 A or b
4869 4230 20 F7 A jr nz,INSLN9
4870 4232 CD FF23 AINSLNA call XINSL1
4871 4235 D1 A pop de
4872 4236 CD 4252 A call PTNEW1 ;FOLGEZEIGER NEU
4873 4239 2A F72B A ld hl,(ACTFCB)
4874 423C 22 F582 A ld (HELPMO),hl
4875 423F CD 64A6 A call NEW2
4876 4242 CD FF28 A call XINSL2
4877 4245 2A F582 A ld hl,(HELPMO)
4878 4248 22 F72B A ld (ACTFCB),hl
4879 424B C3 412F A jp KOM3
4880 A;
4881 424E 2A F53C APTNEW ld hl,(PSTBEG) ;FOLGEZEIGER NEU AB PROGANF
4882 4251 EB A ex de,hl ; " AB AKT. ZEILE
4883 4252 62 APTNEW1 ld h,d
4884 4253 6B A ld l,e
4885 4254 7E A ld a,(hl)
4886 4255 23 A inc hl
4887 4256 B6 A or (hl)
4888 4257 C8 A ret z
4889 4258 23 A inc hl
4890 4259 23 A inc hl
4891 425A 23 APTNEW2 inc hl
4892 425B 7E A ld a,(hl)
4893 425C B7 APTNEW3 or a
4894 425D 28 0E A jr z,PTNEW4
4895 425F FE 20 A cp ' '
4896 4261 30 F7 A jr nc,PTNEW2
4897 4263 FE 0B A cp 0BH
4898 4265 38 F3 A jr c,PTNEW2
4899 4267 CD 4650 A call TCHAR1
4900 426A D7 A rst TCHAR
4901 426B 18 EF A jr PTNEW3
4902 426D 23 APTNEW4 inc hl
```

```
4903 426E EB      A      ex      de,hl
4904 426F 73      A      ld      (hl),e      ;FOLGEZEIGER
4905 4270 23      A      inc     hl          ;EINTRAGEN
4906 4271 72      A      ld      (hl),d
4907 4272 18 DE    A      jr      PTNEW1
4908
4909 4274 11 0000  AZNUEB  ld      de,0      ;ZLNR NACH SCHLUESSELWORT UEBERNEHMEN
4910 4277 D5      A      push   de
4911 4278 28 09    A      jr      z,ZNUEB1      ;KEINE ZLNR -> STANDARD 0
4912 427A D1      A      pop    de
4913 427B CD 4745 A      call   INTPAP      ;TCHAR EINSCHL '.'
4914 427E D5      A      push   de
4915 427F 28 0B    A      jr      z,ZNUEB2      ;KEIN ABSTAND
4916 4281 CF      A      rst    CPSTX
4917 4282 F2      A      defb   0F2H        ;MINUSTOK
4918 4283 11 FFFA  AZNUEB1 ld      de,0FFFAH    ;MAX ZLNR
4919 4286 C4 4745 A      call   nz,INTPAP
4920 4289 C2 4056 A      jp      nz,ERSN
4921 428C EB      AZNUEB2 ex      de,hl
4922 428D D1      A      pop    de
4923 428E E3      AZNUEB3 ex      (sp),hl      ;LETZTE ZLNR IN STACK
4924 428F E5      A      push   hl
4925
4926 4290 2A F53C  ASUCLN  ld      hl,(PSTBEG)  ;ZEILE IN PROGRAMM SUCHEN
4927 4293 44      ASUCLN1 ld      b,h          ;E: ZLNR IN DE
4928 4294 4D      A      ld      c,l          ;A: ADR ZEILE IN BC, HL
4929 4295 7E      A      ld      a,(hl)
4930 4296 23      A      inc     hl
4931 4297 B6      A      or      (hl)
4932 4298 2B      A      dec     hl
4933 4299 C8      A      ret     z          ;KEIN PROG OD PROGENTE
4934 429A 23      A      inc     hl          ;Z=0 CY=0
4935 429B 23      A      inc     hl
4936 429C 7E      A      ld      a,(hl)
4937 429D 23      A      inc     hl
4938 429E 66      A      ld      h,(hl)
4939 429F 6F      A      ld      l,a
4940 42A0 E7      A      rst    CPREG
4941 42A1 60      A      ld      h,b
4942 42A2 69      A      ld      l,c
4943 42A3 7E      A      ld      a,(hl)
4944 42A4 23      A      inc     hl
4945 42A5 66      A      ld      h,(hl)
4946 42A6 6F      A      ld      l,a
4947 42A7 3F      A      ccf
4948 42A8 C8      A      ret     z          ;CY=1 -> UEBERSCHREIBEN
4949 42A9 3F      A      ccf
4950 42AA D0      A      ret     nc         ;NICHT IN PROG CY=0
4951 42AB 18 E6    A      jr      SUCLN1
4952
4953 42AD AF      ASCAN  xor    a          ;VORUEBERS, EINTRAG IN LINE BUFFER
4954 42AE 32 F52B A      ld      (MODUS2),a
4955 42B1 32 F52A A      ld      (MODUS1),a
4956 42B4 CD FF2D A      call   XSCN1
4957 42B7 01 013B A      ld      bc,13BH
4958 42BA 11 F2E5 A      ld      de,LINBUF
4959 42BD 7E      ASCAN1 ld      a,(hl)
4960 42BE B7      A      or      a
```



```
4961 42BF 20 13      A    jr      nz,SCAN3
4962 42C1 21 0140    ASCAN2  ld      hl,140H      ;BC=BC-300
4963 42C4 7D        A    ld      a,l
4964 42C5 91        A    sub     c
4965 42C6 4F        A    ld      c,a
4966 42C7 7C        A    ld      a,h
4967 42C8 98        A    sbc    a,b
4968 42C9 47        A    ld      b,a
4969 42CA 21 F2E4    A    ld      hl,LINBUF-1
4970 42CD AF          A    xor     a          ;3x0 -> ENDE
4971 42CE 12        A    ld      (de),a
4972 42CF 13        A    inc    de
4973 42D0 12        A    ld      (de),a
4974 42D1 13        A    inc    de
4975 42D2 12        A    ld      (de),a
4976 42D3 C9        A    ret
4977 42D4 FE 22    ASCAN3  cp      ''''          ;ANFANG ZEICHENKETTEN
4978 42D6 CA 4311    A    jp      z,SCAN9
4979 42D9 FE 20    A    cp      ' '
4980 42DB 28 07    A    jr      z,SCAN4
4981 42DD 3A F52A    A    ld      a,(MODUS1)
4982 42E0 B7        A    or      a
4983 42E1 7E        A    ld      a,(hl)
4984 42E2 28 3D    A    jr      z,SCAN12
4985 42E4 23        ASCAN4  inc     hl
4986 42E5 F5        A    push   af
4987 42E6 FE 01    A    cp      1          ;VORBYTE ZUSATZGRAFIKZEICHEN
4988 42E8 20 04    A    jr      nz,SCAN5
4989 42EA 7E        A    ld      a,(hl)
4990 42EB A7        A    and    a
4991 42EC 3E 01    A    ld      a,1          ;IN LINE BUFFER
4992 42EE C4 44D2    ASCAN5  call   nz,SCAN47
4993 42F1 F1        A    pop    af
4994 42F2 D6 3A    A    sub    3AH
4995 42F4 28 06    A    jr      z,SCAN6
4996 42F6 FE 4A    A    cp      4AH          ;DATATOK-3AH
4997 42F8 20 08    A    jr      nz,SCAN7
4998 42FA 3E 01    A    ld      a,1
4999 42FC 32 F52A    ASCAN6  ld      (MODUS1),a      ;DATA
5000 42FF 32 F52B    A    ld      (MODUS2),a      ;NEUE ANW. NACH ':'
5001 4302 D6 55    ASCAN7  sub     55H
5002 4304 20 B7    A    jr      nz,SCAN1
5003 4306 F5        A    push   af
5004 4307 7E        ASCAN8  ld      a,(hl)
5005 4308 B7        A    or      a
5006 4309 E3        A    ex     (sp),hl
5007 430A 7C        A    ld      a,h
5008 430B E1        A    pop    hl
5009 430C 28 B3    A    jr      z,SCAN2
5010 430E BE        A    cp      (hl)
5011 430F 28 D3    A    jr      z,SCAN4
5012 4311 F5        ASCAN9  push   af
5013 4312 7E        A    ld      a,(hl)
5014 4313 23        ASCAN10 inc     hl
5015 4314 FE 01    A    cp      1          ;VORBYTE ZUSATZGRAFIK
5016 4316 20 04    A    jr      nz,SCAN11
5017 4318 7E        A    ld      a,(hl)
5018 4319 A7        A    and    a
```

```
5019 431A 3E 01      A    ld      a,1
5020 431C C4 44D2    ASCAN11    call     nz,SCAN47      ;IN LINE BUFFER
5021 431F 18 E6      A    jr      SCAN8
5022 4321 23        ASCAN12    inc     hl
5023 4322 B7          A    or      a
5024 4323 FA 42BD    A    jp      m,SCAN1      ;TOKENS (80...FF)
5025 4326 FE 01      A    cp      1            ;VORBYTE
5026 4328 20 07      A    jr      nz,SCAN13
5027 432A 7E          A    ld      a,(hl)
5028 432B A7          A    and     a
5029 432C 28 93      A    jr      z,SCAN2
5030 432E 23        A    inc     hl          ;GRAFIKZEICHEN UEBERSPRINGEN
5031 432F 18 8C      A    jr      SCAN1
5032 4331 2B        ASCAN13    dec     hl
5033 4332 FE 3F      A    cp      '?'
5034 4334 3E 91      A    ld      a,91H      ;PRINTTOK
5035 4336 D5          A    push   de
5036 4337 C5          A    push   bc
5037 4338 CA 4398    A    jp      z,SCAN19
5038 433B 7E          A    ld      a,(hl)
5039 433C FE 5F      A    cp      '-'
5040 433E CA 4398    A    jp      z,SCAN19    ; -> CALL
5041 4341 11 3991    A    ld      de,TABOP
5042 4344 CD 4E83    A    call   SNAL41      ;KLEIN -> GROSZ
5043 4347 CD 66B1    A    call   TSTBU1      ;BUCHSTABE ?
5044 434A DA 440F    A    jp      c,SCAN30    ;NEIN
5045 434D E5          A    push   hl
5046 434E 21 36BE    A    ld      hl,TABTOK
5047 4351 D6 41      A    sub    'A'
5048 4353 87          A    add    a,a
5049 4354 4F          A    ld      c,a
5050 4355 06 00      A    ld      b,0
5051 4357 09          A    add    hl,bc
5052 4358 5E          A    ld      e,(hl)
5053 4359 23        A    inc     hl
5054 435A 56          A    ld      d,(hl)      ;ANFANGSADR SW-GRUPPE IN DE
5055 435B E1          A    pop    hl
5056 435C 23        A    inc     hl
5057 435D E5          ASCAN14    push   hl
5058 435E CD 4E83    ASCAN15    call   SNAL41      ;KLEIN -> GROSZ
5059 4361 4F          A    ld      c,a
5060 4362 1A          A    ld      a,(de)
5061 4363 E6 7F      A    and    7FH          ;STOPBIT FUER SW AUSBLENDEN
5062 4365 CA 44DD    A    jp      z,SCAN48    ;SW NICHT GEFUNDEN
5063 4368 23        A    inc     hl
5064 4369 B9          A    cp      c
5065 436A 20 21      A    jr      nz,SCAN16    ;SW NICHT GLEICH
5066 436C 1A          A    ld      a,(de)
5067 436D 13        A    inc     de
5068 436E B7          A    or      a
5069 436F F2 435E    A    jp      p,SCAN15    ;NEXT BUCHSTABE
5070 4372 F1          A    pop    af          ;SW-ENDE
5071 4373 1A          A    ld      a,(de)      ;TOKEN ZU SW IN A
5072 4374 B7          A    or      a
5073 4375 FA 4397    A    jp      m,SCAN18    ;TOKEN>80H
5074 4378 C1          A    pop    bc          ;< => Funktionstoken
5075 4379 D1          A    pop    de
5076 437A F6 80      A    or      80H        ;+80h
```

```
5077 437C F5      A   push  af          ;kellern
5078 437D 3E FF    A   ld     a,0FFH      ;KENNBYTE FUNKTION
5079 437F CD 44D2  A   call  SCAN47      ;IN LINE BUFFER
5080 4382 AF        A   xor   a
5081 4383 32 F52B  A   ld     (MODUS2),a
5082 4386 F1        A   pop   af          ;FUNKTIONSTOKEN+80H
5083 4387 CD 44D2  A   call  SCAN47      ;IN LINE BUFFER
5084 438A C3 42BD  A   jp    SCAN1       ;NAECHSTES ZEICHEN
5085 438D E1        ASCAN16 pop   hl
5086 438E 1A        ASCAN17 ld     a,(de)
5087 438F 13        A   inc  de
5088 4390 B7        A   or   a
5089 4391 F2 438E  A   jp    p,SCAN17
5090 4394 13        A   inc  de
5091 4395 18 C6    A   jr   SCAN14
5092 4397 2B        ASCAN18 dec   hl
5093 4398 F5        ASCAN19 push  af
5094 4399 11 43A7  A   ld   de,TTOKZN
5095 439C 4F        A   ld   c,a
5096 439D 1A        ASCAN20 ld     a,(de)
5097 439E B7        A   or   a
5098 439F 28 15    A   jr   z,SCAN21    ;ENDE, NICHT GEFUNDEN
5099 43A1 13        A   inc  de
5100 43A2 B9        A   cp   c
5101 43A3 20 F8    A   jr   nz,SCAN20   ;NICHT GEFUNDEN
5102 43A5 18 11    A   jr   SCAN22     ;TOKEN GEFUNDEN
5103          A;
5104 43A7 8C        ATTOKZN defb  8CH   ;RESTORE      Zeilennr. kann folgen
5105 43A8 A9        A   defb 0A9H   ;AUTO
5106 43A9 AA        A   defb 0AAH   ;RENUM
5107 43AA A8        A   defb 0A8H   ;DELETE
5108 43AB A7        A   defb 0A7H   ;RESUME
5109 43AC E1        A   defb 0E1H   ;ERL
5110 43AD A1        A   defb 0A1H   ;ELSE
5111 43AE 8A        A   defb 8AH    ;RUN
5112 43AF 93        A   defb 93H   ;LIST
5113 43B0 9E        A   defb 9EH   ;LLIST
5114 43B1 89        A   defb 89H   ;GOTO
5115 43B2 8E        A   defb 8EH   ;RETURN
5116 43B3 DA        A   defb 0DAH  ;THEN
5117 43B4 8D        A   defb 8DH   ;GOSUB
5118 43B5 00        A   defb 0
5119          A;
5120 43B6 AF        ASCAN21 xor   a          ;KEINE ZLNR
5121 43B7 C2        A   defb 0C2H   ; jp   nz, DUMMY
5122 43B8 3E 01    ASCAN22 ld     a,1      ;ZLNR KANN FOLGEN
5123 43BA 32 F52B  ASCAN23 ld     (MODUS2),a ;KENNZ. FUER FOLGENDE ZLNR
5124 43BD F1        A   pop   af          ;TOKEN REG
5125 43BE C1        ASCAN24 pop   bc
5126 43BF D1        A   pop   de
5127 43C0 FE A1    A   cp   0A1H     ;ELSETOK
5128 43C2 F5        A   push  af
5129 43C3 CC 44D0  A   call  z,SCAN46   ;':' VOR ELSE EINTRAGEN
5130 43C6 F1        A   pop   af
5131 43C7 FE CA    A   cp   0CAH    ;CALLTOK
5132 43C9 28 04    A   jr   z,SCAN25
5133 43CB FE 5F    A   cp   '-'
5134 43CD 20 29    A   jr   nz,SCAN29
```

```
5135 43CF D4 44D2 ASCAN25 call nc,SCAN47 ;IN LINE BUFFER
5136 43D2 23 ASCAN26 inc hl
5137 43D3 CD 4E83 A call SNAL41 ;KLEIN -> GROSZ
5138 43D6 A7 A and a
5139 43D7 CA 42C1 ASCAN27 jp z,SCAN2 ;PUFFERENDE
5140 43DA FA 43D2 A jp m,SCAN26 ;ZEICHEN>=80H
5141 43DD FE 01 A cp 1 ;VORBYTE ?
5142 43DF 20 07 A jr nz,SCAN28 ;NEIN
5143 43E1 23 A inc hl
5144 43E2 7E A ld a,(hl)
5145 43E3 A7 A and a
5146 43E4 28 F1 A jr z,SCAN27
5147 43E6 18 EA A jr SCAN26
5148 43E8 FE 20 ASCAN28 cp ' '
5149 43EA 28 E3 A jr z,SCAN25
5150 43EC FE 3A A cp ':'
5151 43EE 28 3C A jr z,SCAN32
5152 43F0 FE 28 A cp '('
5153 43F2 28 38 A jr z,SCAN32
5154 43F4 FE 30 A cp '0'
5155 43F6 18 D7 A jr SCAN25
5156 43F8 FE E6 ASCAN29 cp 0E6H ;APOSTROPH TOK
5157 43FA C2 44A6 A jp nz,SCAN42
5158 43FD F5 A push af
5159 43FE CD 44D0 A call SCAN46 ;':' EINTRAGEN
5160 4401 3E 8F A ld a,8FH ;REMTOK
5161 4403 CD 44D2 A call SCAN47 ;EINTRAGEN
5162 4406 F1 A pop af
5163 4407 E5 A push hl
5164 4408 21 0000 A ld hl,0
5165 440B E3 A ex (sp),hl
5166 440C C3 4313 A jp SCAN10
5167 440F 7E ASCAN30 ld a,(hl)
5168 4410 FE 2E A cp '.'
5169 4412 28 0A A jr z,SCAN31
5170 4414 FE 3A A cp ':'
5171 4416 D2 4494 A jp nc,SCAN40
5172 4419 FE 30 A cp '0'
5173 441B DA 4494 A jp c,SCAN40
5174 441E 3A F52B ASCAN31 ld a,(MODUS2) ;ZEICHEN=ZIFFER
5175 4421 B7 A or a
5176 4422 7E A ld a,(hl)
5177 4423 C1 A pop bc
5178 4424 D1 A pop de
5179 4425 FA 42E4 A jp m,SCAN4
5180 4428 28 1F A jr z,SCAN36
5181 442A FE 2E A cp '.'
5182 442C CA 42E4 ASCAN32 jp z,SCAN4
5183 442F 3E 0E A ld a,0EH ;KENNBYTE WERT
5184 4431 CD 44D2 A call SCAN47 ;IN LINE BUFFER
5185 4434 D5 A push de
5186 4435 CD 474F A call INTPAR ;INTWERT IN DE
5187 4438 CD 4503 A call SCAN52 ;NEXT ZEICHEN AUSSER SPACE,TAB ZS
5188 443B E3 ASCAN33 ex (sp),hl
5189 443C EB A ex de,hl
5190 443D 7D ASCAN34 ld a,l ;L-BYTE WERT
5191 443E CD 44D2 A call SCAN47 ;IN LINE BUFFER
5192 4441 7C A ld a,h ;D0. H-BYTE
```

```
5193 4442 E1          ASCAN35    pop    hl
5194 4443 CD 44D2     A        call  SCAN47
5195 4446 C3 42BD     A        jp    SCAN1
5196 4449 D5          ASCAN36    push   de
5197 444A C5          A        push  bc
5198 444B 7E          A        ld    a,(hl)
5199 444C CD 2F19     A        call  EIKO
5200 444F CD 4503     A        call  SCAN52
5201 4452 C1          A        pop   bc
5202 4453 D1          A        pop   de
5203 4454 E5          A        push  hl
5204 4455 3A F529     A        ld    a,(TYP)
5205 4458 FE 02       A        cp    2
5206 445A 20 15       A        jr    nz,SCAN37
5207 445C 2A F6BE     A        ld    hl,(AC1INT)
5208 445F 7C          A        ld    a,h
5209 4460 B7          A        or    a
5210 4461 3E 02       A        ld    a,2
5211 4463 20 0C       A        jr    nz,SCAN37
5212 4465 7D          A        ld    a,l
5213 4466 65          A        ld    h,l
5214 4467 2E 0F       A        ld    l,0FH
5215 4469 FE 0A       A        cp    0AH
5216 446B 30 D0       A        jr    nc,SCAN34    ;1-BYTE-INT 10...255
5217 446D C6 11       A        add   a,11H        ;1-BYTE-INT 0...9
5218 446F 18 D1       A        jr    SCAN35      ;IN LINE BUFFER
5219 4471 F5          ASCAN37    push   af
5220 4472 0F          A        rrca          ;TYP:2
5221 4473 C6 1B       A        add   a,1BH        ;1C- 2 , 1D- 4 , 1F- 8 BYTE
5222 4475 CD 44D2     A        call  SCAN47      ;EINTRAGEN IN LINEBUFFER
5223 4478 21 F6BC     A        ld    hl,AC1
5224 447B 3A F529     A        ld    a,(TYP)
5225 447E FE 02       A        cp    2
5226 4480 20 03       A        jr    nz,SCAN38
5227 4482 21 F6BE     A        ld    hl,AC1INT
5228 4485 F1          ASCAN38    pop    af
5229 4486 F5          ASCAN39    push   af
5230 4487 7E          A        ld    a,(hl)
5231 4488 CD 44D2     A        call  SCAN47      ;ZEICHEN IN LINEBUFFER ANZAHL=TYP
5232 448B F1          A        pop   af
5233 448C 23          A        inc   hl
5234 448D 3D          A        dec   a
5235 448E 20 F6       A        jr    nz,SCAN39
5236 4490 E1          A        pop   hl
5237 4491 C3 42BD     A        jp    SCAN1
5238 4494 11 3990     ASCAN40    ld     de,TABOP-1
5239 4497 13          ASCAN41    inc    de
5240 4498 1A          A        ld    a,(de)
5241 4499 E6 7F         A        and  7FH
5242 449B CA 44E9     A        jp    z,SCAN49    ;KEIN OPERATOR
5243 449E 13          A        inc   de
5244 449F BE          A        cp    (hl)
5245 44A0 1A          A        ld    a,(de)      ;OPERATOR-TOKEN IN A
5246 44A1 20 F4       A        jr    nz,SCAN41
5247 44A3 C3 44F8     A        jp    SCNA50
5248 44A6 FE 26       ASCAN42    cp    '&'
5249 44A8 C2 42E4     A        jp    nz,SCAN4    ;NAECHSTES ZEICHEN
5250 44AB E5          A        push  hl
```

```
5251 44AC D7      A   rst   TCHAR
5252 44AD E1      A   pop   hl
5253 44AE CD 4E84  A   call  SNAL42      ;KLEIN->GROSSBUCHSTABEN
5254 44B1 FE 48    A   cp    'H'
5255 44B3 28 0D    A   jr    z,SCAN44
5256 44B5 FE 4F    A   cp    'O'
5257 44B7 28 05    A   jr    z,SCAN43
5258 44B9 3E 26    A   ld    a,'&'
5259 44BB C3 42E4  A   jp    SCAN4      ;NAECHSTES ZEICHEN
5260 44BE 3E 0B    ASCAN43 ld    a,0BH      ;0BH IN LINEBUFFER FUER OCT
5261 44C0 18 02    A   jr    SCAN45
5262 44C2 3E 0C    ASCAN44 ld    a,0CH      ;0CH IN LINEBUFFER FUER HEX
5263 44C4 CD 44D2  ASCAN45 call   SCAN47
5264 44C7 D5      A   push  de
5265 44C8 C5      A   push  bc
5266 44C9 CD 4E92  A   call  SNAL44      ;WERT IN DE KONVERTIEREN
5267 44CC C1      A   pop   bc
5268 44CD C3 443B  A   jp    SCAN33
5269 44D0 3E 3A    ASCAN46 ld    a,':'
5270 44D2 12      ASCAN47 ld    (de),a      ;ZEICHEN IN LINEBUFFER
5271 44D3 13      A   inc   de
5272 44D4 0B      A   dec   bc
5273 44D5 79      A   ld    a,c
5274 44D6 B0      A   or    b          ;ENDE LINEBUFFER ?
5275 44D7 C0      A   ret   nz
5276 44D8 1E 19    A   ld    e,19H      ;JA->LINEBUFFER OVERFLOW
5277 44DA C3 4070  A   jp    ERRO
5278 44DD E1      ASCAN48 pop   hl          ;SCHLUESSELWORT NICHT GEF.
5279 44DE 2B      A   dec   hl
5280 44DF 3D      A   dec   a
5281 44E0 32 F52B  A   ld    (MODUS2),a
5282 44E3 CD 4E83  A   call  SNAL41      ;KLEIN->GROSSBUCHSTABEN
5283 44E6 C3 43BE  A   jp    SCAN24
5284 44E9 7E      ASCAN49 ld    a,(hl)      ;ZEICHEN IN A
5285 44EA FE 20    A   cp    ' '          ;VERGLEICH MIT SPACE
5286 44EC 30 0A    A   jr    nc,SCNA50
5287 44EE FE 09    A   cp    9           ; TAB
5288 44F0 28 06    A   jr    z,SCNA50
5289 44F2 FE 0A    A   cp    0AH        ; LF
5290 44F4 28 02    A   jr    z,SCNA50
5291 44F6 3E 20    A   ld    a,' '
5292 44F8 F5      ASCNA50 push  af
5293 44F9 3A F52B  A   ld    a,(MODUS2)
5294 44FC 3C      A   inc   a
5295 44FD 28 01    A   jr    z,SCAN51
5296 44FF 3D      A   dec   a
5297 4500 C3 43BA  ASCAN51 jp    SCAN23
5298 4503 2B      ASCAN52 dec   hl
5299 4504 7E      A   ld    a,(hl)      ;VON HINTEN 1.ZEICHEN VERSCHIEDEN
5300 4505 FE 20    A   cp    ' '          ;VON SPACE,TAB,LF SUCHEN
5301 4507 28 FA    A   jr    z,SCAN52
5302 4509 FE 09    A   cp    9
5303 450B 28 F6    A   jr    z,SCAN52
5304 450D FE 0A    A   cp    0AH
5305 450F 28 F2    A   jr    z,SCAN52
5306 4511 23      A   inc   hl
5307 4512 C9      A   ret
5308                A;
```

```
5309 4513 3E 64      AFOR ld    a,64H
5310 4515 32 F56B    A      ld    (FORFLG),a
5311 4518 CD 4863    A      call   LET          ;ANFANGSWERT AUF VARIABLE LAUFPARAMETER
5312 451B C1              A      pop    bc
5313 451C E5              A      push   hl          ;ZEIGER AUF TO RETTEN
5314 451D CD 483E    A      call   DATA_      ;HL ZEIGT AUF ':' BZW. ZEILENENDE
5315 4520 22 F567    A      ld    (HELPTTR),hl  ;ZEIGER ZWISCHENSPEICHERN
5316                A;
5317 4523 21 0002    A      ld    hl,2          ;STACKMANIPULATION FUER PARAMETER
5318 4526 39              A      add    hl,sp
5319 4527 CD 3FEA    AFOR1 call   FORUP1
5320 452A 20 17      A      jr    nz,FOR2
5321 452C 09              A      add    hl,bc
5322 452D D5              A      push   de
5323 452E 2B              A      dec    hl
5324 452F 56              A      ld    d,(hl)
5325 4530 2B              A      dec    hl
5326 4531 5E              A      ld    e,(hl)
5327 4532 23              A      inc    hl
5328 4533 23              A      inc    hl
5329 4534 E5              A      push   hl
5330 4535 2A F567    A      ld    hl,(HELPTTR)
5331 4538 E7              A      rst    CPREG
5332 4539 E1              A      pop    hl
5333 453A D1              A      pop    de
5334 453B 20 EA      A      jr    nz,FOR1
5335 453D D1              A      pop    de
5336 453E F9              A      ld    sp,hl
5337 453F 22 F577    A      ld    (HELPSP),hl
5338 4542 0E              A      defb   0EH          ; ld    c,B?D1
5339 4543 D1          AFOR2 pop    de
5340 4544 EB              A      ex    de,hl
5341 4545 0E 0C      A      ld    c,0CH
5342 4547 CD 646A    A      call   TSMEMS        ;TEST OB NOCH 12 STACKZELLEN FREI
5343 454A E5              A      push   hl
5344 454B 2A F567    A      ld    hl,(HELPTTR)
5345 454E E3              A      ex    (sp),hl      ;ZEIGER VOR SCHLEIFENKOERPER IN STACK
5346 454F E5              A      push   hl
5347 4550 2A F2E2    A      ld    hl,(ACTZN)
5348 4553 E3              A      ex    (sp),hl      ;AKTUELLE ZN IN STACK
5349                A;
5350 4554 CF              A      rst    CPSTX
5351 4555 D9              A      defb   0D9H        ;TO-TOKEN
5352 4556 EF              A      rst    TYPTST
5353 4557 CA 406E    A      jp    z,ERTM          ;NACH TO FOLGT STRING
5354 455A F5              A      push   af
5355 455B CD 4C57    A      call   SNAL3        ;AUSWERTUNG AUSDRUCK NACH TO
5356 455E F1              A      pop    af
5357 455F E5              A      push   hl
5358 4560 30 18      A      jr    nc,FOR3      ;DOPPELTE GENAUIGKEIT
5359 4562 F2 45B1    A      jp    p,FOR5          ;EINFACHE "
5360 4565 CD 2C0A    A      call   CINT          ;INTEGER
5361 4568 E3              A      ex    (sp),hl      ;ENDWERT IN STACK
5362 4569 11 0001    A      ld    de,1          ;STANDARDWERT 1 FUER STEP
5363 456C 7E              A      ld    a,(hl)
5364 456D FE DC      A      cp    0DCH          ;STEPTOK
5365 456F CC 51E5    A      call   z,INTDE1
5366 4572 D5              A      push   de          ;SCHRITTWEITE IN STACK
```

```
5367 4573 E5      A      push  hl
5368 4574 EB      A      ex    de,hl
5369 4575 CD 2B2B  A      call  SGN3      ;VORZEICHENTEST
5370 4578 18 5A     A      jr    FOR6
5371                A;
5372 457A CD 2CBA  AFOR3 call  CDBL      ;DOPPELTE GENAUIGKEIT
5373 457D D1      A      pop  de
5374 457E 21 FFF8  A      ld   hl,-8
5375 4581 39      A      add  hl,sp
5376 4582 F9      A      ld   sp,hl
5377 4583 D5      A      push de
5378 4584 CD 2B90  A      call  AC1HLT     ;ENDWERT VON AC1 IN STACK
5379 4587 E1      A      pop  hl
5380 4588 7E      A      ld   a,(hl)
5381 4589 FE DC   A      cp   0DCH      ;STEPTOK
5382 458B 11 299B  A      ld   de,K1     ;STANDARD STEP 1
5383 458E 3E 01   A      ld   a,1
5384 4590 20 0F   A      jr    nz,FOR4
5385 4592 D7      A      rst  TCHAR
5386 4593 CD 4C57  A      call  SNAL3     ;AUSDRUCK AUSWERTEN
5387 4596 E5      A      push hl
5388 4597 CD 2CBA  A      call  CDBL
5389 459A CD 2AF1  A      call  TVORZ
5390 459D 11 F6BC  A      ld   de,AC1
5391 45A0 E1      A      pop  hl
5392 45A1 44      AFOR4 ld   b,h
5393 45A2 4D      A      ld   c,l
5394 45A3 21 FFF8  A      ld   hl,-8
5395 45A6 39      A      add  hl,sp
5396 45A7 F9      A      ld   sp,hl
5397 45A8 F5      A      push af
5398 45A9 C5      A      push bc
5399 45AA CD 2B73  A      call  NLDIRT     ;8 BYTE SCHRITTWEITE IN STACK
5400 45AD E1      A      pop  hl
5401 45AE F1      A      pop  af
5402 45AF 18 2A   A      jr    FOR8
5403                A;
5404 45B1 CD 2C32  AFOR5 call  CSNG      ;EINFACHE GENAUIGKEIT
5405 45B4 CD 2B4C  A      call  AC1BCD     ;ENDWERT IN BCDE
5406 45B7 E1      A      pop  hl
5407 45B8 C5      A      push bc
5408 45B9 D5      A      push de          ;ENDWERT IN STACK
5409 45BA 01 1041  A      ld   bc,1041H
5410 45BD 11 0000  A      ld   de,0        ;BCDE: 4BYTE-EINS
5411 45C0 7E      A      ld   a,(hl)
5412 45C1 FE DC   A      cp   0DCH      ;STEPTOK
5413 45C3 3E 01   A      ld   a,1
5414 45C5 20 0E   A      jr    nz,FOR7     ;STANDARDSCHRITTWEITE
5415 45C7 CD 4C58  A      call  SNAL4     ;AUSDRUCK AUSWERTEN
5416 45CA E5      A      push hl
5417 45CB CD 2C32  A      call  CSNG
5418 45CE CD 2B4C  A      call  AC1BCD     ;SCHRITTWEITE IN BCDE
5419 45D1 CD 2AF1  A      call  TVORZ     ;VORZEICHENTEST
5420 45D4 E1      AFOR6 pop  hl
5421 45D5 D5      AFOR7 push  de          ;BEI SNG 4BYTE )
5422 45D6 C5      A      push bc          ;SCHRITTW.IN STACK)
5423 45D7 C5      A      push bc          ; )
5424 45D8 C5      A      push bc          ; )
```



```
5425 45D9 C5      A      push  bc          ;BEI SNG 8BYTE )BEI INT 12BYTE
5426 45DA C5      A      push  bc          ;BLIND IN STACK )BLIND IN STACK
5427 45DB B7      AFOR8 or   a
5428 45DC 20 02   A      jr    nz, FOR9
5429 45DE 3E 02   A      ld    a, 2
5430 45E0 4F      AFOR9 ld    c, a          ;KENNBYTE VORZEICHEN SCHRITTWEITE
5431 45E1 EF      A      rst   TYPTST
5432 45E2 47      A      ld    b, a
5433 45E3 C5      A      push  bc          ;TYP, VORZEICHEN IN STACK
5434 45E4 E5      A      push  hl
5435 45E5 2A F56D  A      ld    hl, (CUSTMT)
5436 45E8 E3      A      ex    (sp), hl     ;ADR AKT.STATMNT IN STACK
5437 45E9 06 82   AFOR10 ld    b, 82H        ;FORTOK
5438 45EB C5      A      push  bc          ;FORTOK ALS KENNBYTE FUER
5439 45EC 33      A      inc   sp          ;FOR-NEXT-EBENE IN STACK
5440      A          ;WEITER IN RUNMOD ZUM ABARBEITEN
5441      A          ;DES SCHLEIFENKOERPERS
5442      A;
5443      A;
5444 45ED ED 73 F577 ARUNMOD ld    (HELPSP), sp ;STACK RETTEN
5445 45F1 CD FF1E  A      call  XLANST        ;STOP von LAN --> LAN-PAUSE bis LAN ON
5446 45F4 CD 00BA  A      call  STPTST        ;STOPABFRAGE
5447 45F7 3A FACE  A      ld    a, (IRVAN)
5448 45FA B7      A      or   a          ;NACH JEDER ANWEISUNG
5449 45FB C4 6592  A      call  nz, IRBEH     ;INTERRUPTBEHANDLUNG, WENN IRVAN>0
5450 45FE FB      ARUNM1 ei
5451 45FF 22 F575  A      ld    (HLPTR), hl
5452 4602 7E      A      ld    a, (hl)
5453 4603 FE 3A   A      cp    ':'
5454 4605 28 25   A      jr    z, RUNM4     ;ENDE ANWEISUNG
5455 4607 B7      A      or   a
5456 4608 C2 4056  A      jp    nz, ERSN      ;KEIN ZEILENENDE-->SNERROR
5457 460B 23      A      inc   hl
5458 460C 7E      ARUNM2 ld    a, (hl)
5459 460D 23      A      inc   hl
5460 460E B6      A      or   (hl)
5461 460F CA 403D  A      jp    z, ENDER      ;ZEIGER=0 -->PROGAMMENDE
5462 4612 23      A      inc   hl
5463 4613 5E      A      ld    e, (hl)
5464 4614 23      A      inc   hl
5465 4615 56      A      ld    d, (hl)      ;ZN IN DE
5466 4616 EB      A      ex    de, hl
5467 4617 22 F2E2  A      ld    (ACTZN), hl
5468 461A 3A F68A  A      ld    a, (TRACFL)
5469 461D B7      A      or   a
5470 461E 28 0B   A      jr    z, RUNM3     ;KEIN TRACE
5471 4620 D5      A      push  de
5472 4621 3E 5B   A      ld    a, '['
5473 4623 DF      A      rst   CHARO
5474 4624 CD 3092  A      call  AUZN
5475 4627 3E 5D   A      ld    a, ']'
5476 4629 DF      A      rst   CHARO      ;AUSGABE ZN AUF LST-GERAET
5477 462A D1      A      pop  de
5478 462B EB      ARUNM3 ex    de, hl
5479 462C D7      ARUNM4 rst   TCHAR        ;ANSPRUNG AUS DIREKTMODUS
5480 462D 11 45ED  A      ld    de, RUNMOD    ;ADRESSE FUER RUECKKEHR AUS
5481 4630 D5      A      push  de          ;ROUTINE KELLERN
5482 4631 C8      A      ret   z          ;ANWEISUNG ABGEARBEITET
```

```
5483                                     A;
5484 4632 FE 5F      ARUNM5      cp      ' _ '
5485 4634 CA 5578    A      jp      z,CALL0
5486 4637 D6 81     A      sub      81H      ;ENDTOK      Tabellenbegrenzung
5487 4639 DA 4863    A      jp      c,LET      ;KEIN TOKEN--> LET
5488 463C FE 58     A      cp      58H      ;LOCATETOK
5489 463E D2 5187    A      jp      nc,RUNM6      ;TOKEN OBERHALB TO
5490 4641 07        A      rlca
5491 4642 4F        A      ld      c,a
5492 4643 06 00     A      ld      b,0
5493 4645 EB        A      ex      de,hl
5494 4646 21 35AE    A      ld      hl,TABANW
5495 4649 09        A      add     hl,bc
5496 464A 4E        A      ld      c,(hl)
5497 464B 23        A      inc     hl
5498 464C 46        A      ld      b,(hl)      ;BC: ANSPRUNGADR FUER ROUTINE
5499 464D C5        A      push   bc      ;KELLERN
5500 464E EB        A      ex      de,hl
5501                                     A;
5502 464F 23        ATCHAR0     inc     hl      ;naechstes signif Zeichen suchen
5503 4650 7E        ATCHAR1     ld      a,(hl)
5504 4651 FE 3A     A      cp      ':'      ;WENN VON RUNMOD ANGELAUFEN,
5505 4653 D0        A      ret     nc      ;BUCHSTABE ;DANN MIT RET ABSPRUNG ZUR ROUTINE
5506 4654 FE 20     A      cp      ' '
5507 4656 28 F7     A      jr      z,TCHAR0
5508 4658 30 6C     A      jr      nc,TCHARA ;SONDERZEICHEN UND ZIFFERN
5509 465A B7        A      or      a
5510 465B C8        A      ret     z      ;ZEILENENDE
5511 465C FE 0B     A      cp      0BH
5512 465E 38 61     A      jr      c,TCHAR9 ;STEUERZEICHEN < 0BH
5513 4660 FE 1E     A      cp      1EH
5514 4662 20 05     A      jr      nz,TCHAR2
5515 4664 3A F52E    A      ld      a,(HKBZNR) ;ZEICHEN = 1EH
5516 4667 B7        A      or      a
5517 4668 C9        A      ret
5518                                     A;
5519 4669 FE 10     ATCHAR2     cp      10H
5520 466B 28 34     A      jr      z,TCHAR7
5521 466D F5        A      push   af
5522 466E 23        A      inc     hl
5523 466F 32 F52E    A      ld      (HKBZNR),a
5524 4672 D6 1C     A      sub     1CH
5525 4674 30 30     A      jr      nc,TCHAR8
5526 4676 D6 F5     A      sub     0F5H ;POTTOK
5527 4678 30 06     A      jr      nc,TCHAR3
5528 467A FE FE     A      cp      0FEH
5529 467C 20 16     A      jr      nz,TCHAR5
5530 467E 7E        A      ld      a,(hl)
5531 467F 23        A      inc     hl
5532 4680 22 F52C    ATCHAR3     ld      (HPROAD),hl
5533 4683 26 00     A      ld      h,0
5534 4685 6F        ATCHAR4     ld      l,a
5535 4686 22 F530    A      ld      (HARVAL),hl
5536 4689 3E 02     A      ld      a,2
5537 468B 32 F52F    A      ld      (HTYPZN),a
5538 468E 21 46CC    A      ld      hl,TCHARB
5539 4691 F1        A      pop    af
5540 4692 B7        A      or      a
```

```
5541 4693 C9      A      ret
5542 4694 7E      ATCHAR5   ld      a,(hl)
5543 4695 23      A      inc    hl
5544 4696 23      A      inc    hl
5545 4697 22 F52C   A      ld      (HPROAD),hl
5546 469A 2B      A      dec    hl
5547 469B 66      A      ld      h,(hl)
5548 469C 18 E7     A      jr      TCHAR4
5549 469E CD 46CE  ATCHAR6   call   TCHARC
5550 46A1 2A F52C   ATCHAR7   ld      hl,(HPROAD)
5551 46A4 18 AA     A      jr      TCHAR1
5552 46A6 3C      ATCHAR8   inc     a
5553 46A7 07      A      rlca
5554 46A8 32 F52F   A      ld      (HTYPZN),a
5555 46AB D5      A      push   de
5556 46AC C5      A      push   bc
5557 46AD 11 F530   A      ld      de,HARVAL
5558 46B0 EB      A      ex     de,hl
5559 46B1 47      A      ld      b,a
5560 46B2 CD 2B77  A      call  NLDIR
5561 46B5 EB      A      ex     de,hl
5562 46B6 C1      A      pop   bc
5563 46B7 D1      A      pop   de
5564 46B8 22 F52C   A      ld      (HPROAD),hl
5565 46BB F1      A      pop   af
5566 46BC 21 46CC   A      ld      hl,TCHARB
5567 46BF B7      A      or     a
5568 46C0 C9      A      ret
5569 46C1 FE 09     ATCHAR9   cp      9
5570 46C3 D2 464F   A      jp      nc,TCHAR0
5571 46C6 FE 30     ATCHARA   cp      '0'
5572 46C8 3F      A      ccf
5573 46C9 3C      A      inc   a
5574 46CA 3D      A      dec   a
5575 46CB C9      A      ret
5576 46CC 1E 10     ATCHARB   ld      e,10H
5577 46CE 3A F52E   ATCHARC   ld      a,(HKBZNR)
5578 46D1 FE 0F     A      cp      0FH
5579 46D3 30 13     A      jr      nc,TCHARE
5580 46D5 FE 0D     A      cp      0DH
5581 46D7 38 0F     A      jr      c,TCHARE
5582 46D9 2A F530   A      ld      hl,(HARVAL)
5583 46DC 20 07     A      jr      nz,TCHARD
5584 46DE 23      A      inc   hl
5585 46DF 23      A      inc   hl
5586 46E0 23      A      inc   hl
5587 46E1 5E      A      ld      e,(hl)
5588 46E2 23      A      inc   hl
5589 46E3 56      A      ld      d,(hl)
5590 46E4 EB      A      ex     de,hl
5591 46E5 C3 2EB6   ATCHARD   jp      CV4BC0
5592 46E8 3A F52F   ATCHARE   ld      a,(HTYPZN)
5593 46EB 32 F529   A      ld      (TYP),a
5594 46EE FE 02     A      cp      2
5595 46F0 20 06     A      jr      nz,TCHARF
5596 46F2 2A F530   A      ld      hl,(HARVAL)
5597 46F5 22 F6BE   A      ld      (AC1INT),hl
5598 46F8 21 F530   ATCHARF   ld      hl,HARVAL
```

```
5599 46FB C3 2B88 A jp HLAC1T
5600 A;
5601 46FE 1E 03 ADEFSTR ld e,3
5602 4700 01 A defb 1
5603 A;
5604 4701 1E 02 ADEFINT ld e,2
5605 4703 01 A defb 1
5606 A;
5607 4704 1E 04 ADEFSNG ld e,4
5608 4706 01 A defb 1
5609 A;
5610 4707 1E 08 ADEFDBL ld e,8
5611 4709 CD 66B0 ADEF1 call TSTBU ;TEST,OB BUCHSTABE
5612 470C 01 4056 A ld bc,ERSN
5613 470F C5 A push bc
5614 4710 D8 A ret c ;KEIN BUCHSTABE --> SN-ERROR
5615 4711 D6 41 A sub 'A'
5616 4713 4F A ld c,a
5617 4714 47 A ld b,a ;NR ERSTER BUCHSTABE IN BC
5618 4715 D7 A rst TCHAR
5619 4716 FE F2 A cp 0F2H ;MINUSTOK
5620 4718 20 09 A jr nz,DEF2 ;NUR EIN BUCHSTABE
5621 471A D7 A rst TCHAR
5622 471B CD 66B0 A call TSTBU ;TEST,OB BUCHSTABE
5623 471E D8 A ret c ;KEIN BUCHSTABE -->SN-ERROR
5624 471F D6 41 A sub 'A'
5625 4721 47 A ld b,a ;NR ZWEITER BUCHSTABE IN B
5626 4722 D7 A rst TCHAR
5627 4723 78 ADEF2 ld a,b
5628 4724 91 A sub c
5629 4725 D8 A ret c ;1. HINTER 2.BUCHST.--> SN-ERROR
5630 4726 3C A inc a
5631 4727 E3 A ex (sp),hl ;ZEIGER KELLERN
5632 4728 21 F590 A ld hl,VARFOR
5633 472B 06 00 A ld b,0
5634 472D 09 A add hl,bc ;HL: ADR KENNBYTE 1.BUCHSTABE
5635 472E 73 ADEF3 ld (hl),e ;TYP ABSPEICHERN
5636 472F 23 A inc hl
5637 4730 3D A dec a
5638 4731 20 FB A jr nz,DEF3
5639 4733 E1 A pop hl ;ZEIGER IN HL
5640 4734 7E A ld a,(hl)
5641 4735 FE 2C A cp ','
5642 4737 C0 A ret nz ;KEINE WEITERE DEFINITIONEN
5643 4738 D7 A rst TCHAR
5644 4739 18 CE A jr DEF1
5645 A;
5646 473B D7 AINTPA1 rst TCHAR ;POSITIVEN INTEGERPARAMETER
5647 473C CD 51E6 AINTPA2 call INTDE2 ;UEBERNEHMEN,SONST FC-ERROR
5648 473F F0 A ret p
5649 A;
5650 4740 1E 05 AERFC ld e,5 ;ERROR ILLEGAL FUNCTION CALL
5651 4742 C3 4070 A jp ERRO
5652 A;
5653 4745 7E AINTPAP ld a,(hl) ;TEST ZEICHEN
5654 4746 FE 2E A cp '.'
5655 4748 ED 5B F57B A ld de,(HELPZN)
5656 474C CA 464F A jp z,TCHAR0 ;BEI PUNKT UEBERNAHME INT.PARAMETER AUS HELPZN
```

```
5657 474F 2B      AINTPAR    dec    hl          ;INTEGERPARAMETER AUS QUELLZEILE IN DE
5658 4750 D7      AINTP1     rst    TCHAR
5659 4751 FE 0E    A    cp    0EH          ;KENNBYTE ZN
5660 4753 28 02    A    jr    z,INTP2
5661 4755 FE 0D    A    cp    0DH          ;KENNBYTE ZN
5662 4757 ED 5B F530 AINTP2     ld    de,(HARVAL)
5663 475B CA 464F    A    jp    z,TCHAR0    ;FOLGENDE ZEICHEN ALS ZN (HEX) GEWERTET
5664 475E AF      A    xor    a
5665 475F 32 F52E    A    ld    (HKBZNR),a  ;UMWANDLUNG ASCII-FOLGE --> INTEGERZAHL
5666 4762 11 0000    A    ld    de,0
5667 4765 2B      A    dec    hl
5668 4766 D7      AINTP3     rst    TCHAR
5669 4767 D0      A    ret    nc          ;KEINE ZIFFER MEHR
5670 4768 E5      A    push   hl
5671 4769 F5      A    push   af
5672 476A 21 1998    A    ld    hl,1998H    ;ENTSPRICHT 6552
5673 476D E7      A    rst    CPREG
5674 476E 38 11    A    jr    c,INTP4    ;ZAHL ZU GROSS
5675 4770 62      A    ld    h,d
5676 4771 6B      A    ld    l,e
5677 4772 19      A    add    hl,de
5678 4773 29      A    add    hl,hl
5679 4774 19      A    add    hl,de
5680 4775 29      A    add    hl,hl      ; *10
5681 4776 F1      A    pop    af
5682 4777 D6 30    A    sub    '0'
5683 4779 5F      A    ld    e,a
5684 477A 16 00    A    ld    d,0
5685 477C 19      A    add    hl,de
5686 477D EB      A    ex    de,hl
5687 477E E1      A    pop    hl
5688 477F 18 E5    A    jr    INTP3
5689 4781 F1      AINTP4     pop    af
5690 4782 E1      A    pop    hl
5691 4783 C9      A    ret
5692      A;
5693 4784 CA 64A6    ARUN    jp    z,NEW2
5694 4787 FE 0E    A    cp    0EH          ;KENNBYTE ZN
5695 4789 28 05    A    jr    z,RUN1
5696 478B FE 0D    A    cp    0DH          ;KENNBYTE ZN
5697 478D C2 6D69    A    jp    nz,LOAD0    ;RUN DATEINAME ODER NUR RUN
5698 4790 CD 64AD    ARUN1   call  NEW3          ;RUN ZEILENNUMMER
5699 4793 01 45ED    A    ld    bc,RUNMOD
5700 4796 18 35    A    jr    GOTO0
5701      A;
5702 4798 0E 03    AGOSUB   ld    c,3
5703 479A CD 646A    A    call  TSMEMS      ;TEST,OB 3 STACKPOSITIONEN FREI
5704 479D CD 474F    A    call  INTPAR      ;ZN IN DE
5705 47A0 C1      A    pop    bc          ;RUECKSPRUNG IN RUNMOD WEGWERFEN
5706 47A1 E5      A    push   hl          ;RUECKKEHRDR. BEI RETURN KELLERN
5707 47A2 E5      A    push   hl
5708 47A3 2A F2E2    A    ld    hl,(ACTZN)
5709 47A6 E3      A    ex    (sp),hl     ;AKT.ZN IN STACK
5710 47A7 01 0000    A    ld    bc,0
5711 47AA C5      A    push   bc          ; ?
5712 47AB 01 45ED    A    ld    bc,RUNMOD
5713 47AE 3E 8D    A    ld    a,8DH        ;GOSUBTOK
5714 47B0 F5      A    push   af          ;KENNBYTE FUER GOSUBEBENE IN STACK
```

```
5715 47B1 33      A   inc   sp
5716 47B2 C5      A   push  bc           ;RUECKKEHR IN RUNMOD KELLERN
5717 47B3 18 1C   A   jr    GOT01
5718                A;
5719 47B5 E5      AGOSUB1  push   hl           ; <-          INTERRUPT-BEHANDLUNG
5720 47B6 E5      A   push  hl           ; I    ZEIGER FUER RUECKKEHR NACH RETURN KELLERN
5721 47B7 2A F2E2  A   ld    hl,(ACTZN)
5722 47BA E3      A   ex    (sp),hl      ;AKT.ZN IN STACK
5723 47BB C5      A   push  bc
5724 47BC 3E 8D   A   ld    a,8DH       ;GOSUBTOK
5725 47BE F5      A   push  af           ;KENNBYTE FUER GOSUBEBENE IN STACK
5726 47BF 33      A   inc   sp
5727 47C0 EB      A   ex    de,hl
5728 47C1 2B      A   dec   hl
5729 47C2 22 F575  A   ld    (HLPTR),hl
5730 47C5 23      A   inc   hl
5731 47C6 ED 73 F577 A   ld    (HELPSP),sp ;STACKADR VOR ABARBEITUNG IR ZWISCHENSPEICHERN
5732 47CA C3 460C  A   jp    RUNM2
5733                A;
5734 47CD C5      AGOTO0   push   bc           ;RUECKKEHR IN RUNMOD KELLERN
5735 47CE CD 474F  AGOTO call INTPAR      ;ZN IN DE
5736 47D1 3A F52E  AGOTO1   ld     a,(HKBZNR)
5737 47D4 FE 0D   A   cp    0DH         ;KENNBYTE ADRZN
5738 47D6 EB      A   ex    de,hl      ;ADRESSE DER ZEILE IN HL
5739 47D7 C8      A   ret   z
5740 47D8 FE 0E   A   cp    0EH         ;KENNBYTE ZNNR.
5741 47DA C2 4056  A   jp    nz,ERSN    ;KEINE ZEILENUMMER --> SN-ERROR
5742 47DD EB      A   ex    de,hl
5743 47DE E5      A   push  hl
5744 47DF 2A F52C  A   ld    hl,(HPROAD)
5745 47E2 E3      A   ex    (sp),hl
5746 47E3 CD 4840  A   call  REM
5747 47E6 23      A   inc   hl
5748 47E7 E5      A   push  hl
5749 47E8 2A F2E2  A   ld    hl,(ACTZN)
5750 47EB E7      A   rst   CPREG      ;TEST,OB ZN VOR ODER NACH AUFRUF LIEGT
5751 47EC E1      A   pop   hl
5752 47ED DC 4293  A   call  c,SUCLN1   ;ZEILE NACH AKT.ZEILE SUCHEN
5753 47F0 D4 4290  A   call  nc,SUCLN   ;ZEILE AB PRO.BEG. SUCHEN
5754 47F3 30 0D   A   jr    nc,ULER    ;NICHT GEFUNDEN --> UL-ERROR
5755 47F5 0B      A   dec   bc         ;BC: ADRESSE DER ZEILE
5756 47F6 3E 0D   A   ld    a,0DH
5757 47F8 32 F56F  A   ld    (DATFLG),a
5758 47FB E1      A   pop   hl
5759 47FC CD 5554  A   call  REN21      ;KENNBYTE ADRZN UND ADRESSE IN QUELL EINTRAGEN
5760 47FF 60      A   ld    h,b
5761 4800 69      A   ld    l,c         ;HL: ADRESSE DER ZEILE
5762 4801 C9      A   ret
5763                A;
5764 4802 1E 08   AULER ld  e,8         ;ERROR UNDEFINED LINE
5765 4804 C3 4070  A   jp    ERRO
5766                A;
5767 4807 22 F56D  ARETURN  ld     (CUSTMT),hl
5768 480A 16 FF   A   ld    d,0FFH
5769 480C CD 3FE6  A   call  FORUP      ;STACKMANIPULATION
5770 480F FE 8D   A   cp    8DH       ;KENNBYTE GOSUB-EBENE
5771 4811 28 01   A   jr    z,RETUR1
5772 4813 2B      A   dec   hl
```

```
5773 4814 F9      ARETUR1   ld    sp,hl          ;STACK RICHTIG STELLEN
5774 4815 22 F577   A    ld    (HELPSP),hl
5775 4818 1E 03      A    ld    e,3
5776 481A C2 4070      A    jp    nz,ERRO          ;KEIN GOSUB --> ERROR RETURN WITHOUT GOSUB
5777 481D E1          A    pop   hl
5778 481E 7C          A    ld    a,h
5779 481F B5          A    or    l
5780 4820 28 06      A    jr    z,RETUR2        ;HL=0 --> KAM VON GOSUB
5781 4822 7E          A    ld    a,(hl)
5782 4823 E6 01      A    and   1
5783 4825 C4 6547     A    call  nz,IRRET
5784 4828 C1          ARETUR2   pop   bc          ;BC: AKT.ZN
5785 4829 21 45ED     A    ld    hl,RUNMOD
5786 482C E3          A    ex    (sp),hl
5787 482D EB          A    ex    de,hl          ;DE: RUECKSPRUNGADR
5788 482E 2A F56D     A    ld    hl,(CUSTMT)    ;HL: ADR.NACH GOSUB-ANWEISUNG
5789 4831 2B          A    dec   hl
5790 4832 D7          A    rst   TCHAR
5791 4833 C2 47CE     A    jp    nz,GOTO          ;BEI ZEILENENDE GOTO AUF NAECHSTE ZEILE
5792 4836 60          A    ld    h,b
5793 4837 69          A    ld    l,c
5794 4838 22 F2E2     A    ld    (ACTZN),hl      ;AKT.ZN VON GOSUBZEILE
5795 483B EB          A    ex    de,hl
5796 483C 3E          A    defb  3EH ; ld    a,0E1H
5797          A;
5798 483D E1          AREAINP   pop   hl          ;ANSPRUNG VON READ UND INPUT
5799          A;
5800 483E 01          ADATA_   defb   1 ; ld    bc,L?0E3A
5801 483F 3A          A    defb  3AH
5802          A;
5803 4840          AELSE_
5804 4840 0E 00      AREM    ld    c,0H
5805 4842 06 00      A    ld    b,0
5806          A;
5807 4844 79          AREM1   ld    a,c          ;C: 3A BEI READ,RETURN,INPUT,DATA
5808 4845 48          A    ld    c,b          ;C: 0 BEI REM,ELSE
5809 4846 47          A    ld    b,a          ;TAUSCH B UND C
5810 4847 2B          AREM2   dec   hl
5811 4848 D7          AREM3   rst   TCHAR
5812 4849 B7          A    or    a
5813 484A C8          A    ret   z          ;HL ZEIGT AUF ZEILENENDE
5814 484B B8          A    cp    b
5815 484C C8          A    ret   z          ;HL ZEIGT AUF ':' BEI READ,RETURN,INPUT,DATA
5816 484D 23          A    inc   hl
5817 484E FE 22      A    cp    '''
5818 4850 28 F2      A    jr    z,REM1
5819 4852 3C          A    inc   a
5820 4853 28 F3      A    jr    z,REM3        ;ZEICHEN WAR FUNKTIONS-KENNBYTE
5821 4855 D6 8C      A    sub   8CH ;RESTORETOK
5822 4857 20 EE     A    jr    nz,REM2
5823 4859 B8          A    cp    b          ;BEI RESTORE A=0
5824 485A 8A          A    adc   a,d
5825 485B 57          A    ld    d,a          ;D=D+1 WENN B=3A
5826 485C 18 E9     A    jr    REM2
5827          A;
5828 485E F1          ALET0   pop   af
5829 485F C6 03      A    add   a,3
5830 4861 18 12     A    jr    LET1
```

```
5831          A;
5832 4863 CD 60B3 ALET call DIM1          ;LINKE SEITE DER LET-ANWEISUNG
5833 4866 CF      A   rst  CPSTX
5834 4867 EF      A   defb 0EFH      ;'='-TOKEN
5835 4868 ED 53 F56D A   ld  (CUSTMT),de
5836 486C D5      A   push de
5837 486D 3A F529 A   ld  a,(TYP)
5838 4870 F5      A   push af          ;TYP LINKE SEITE KELLERN
5839 4871 CD 4C57 A   call SNAL3          ;RECHTE SEITE AUSDRUCK AUSWERTEN NACH AC1
5840 4874 F1      A   pop  af
5841 4875 E3      ALET1 ex  (sp),hl
5842 4876 47      ALET2 ld  b,a          ;B: TYP LINKE SEITE
5843 4877 3A F529 A   ld  a,(TYP)          ;A: TYP RECHTE SEITE
5844 487A B8      A   cp  b
5845 487B 78      A   ld  a,b          ;A: TYP LINKE SEITE
5846 487C 28 06  A   jr  z,LET4          ;TYP LINKS RECHTS GLEICH
5847 487E CD 5154 A   call FN7            ;WERT RECHTS (IN AC1) ENTSPR.TYP LINKS KONVERT
5848 4881 3A F529 ALET3 ld  a,(TYP)
5849 4884 11 F6BC ALET4 ld  de,AC1
5850 4887 FE 02  A   cp  2
5851 4889 20 03  A   jr  nz,LET5
5852 488B 11 F6BE A   ld  de,AC1INT        ;TYP2
5853 488E E5      ALET5 push hl
5854 488F FE 03  A   cp  3
5855 4891 20 2E  A   jr  nz,LET9          ;NUMERISCHER TYP
5856          A          ;AUFBEREITUNG ZEICHENKETTE
5857 4893 2A F6BE A   ld  hl,(AC1INT)      ;HL: ZEIGER AUF LEN-ADR ZK
5858 4896 E5      A   push hl
5859 4897 23      A   inc hl          ;HL: ZEIGER AUF ADR ZK
5860 4898 5E      A   ld  e,(hl)
5861 4899 23      A   inc hl
5862 489A 56      A   ld  d,(hl)          ;DE: ZEIGER AUF ADR ZK
5863 489B 21 F2E4 A   ld  hl,LINBUF-1
5864 489E E7      A   rst  CPREG
5865 489F 38 14  A   jr  c,LET7          ;ZK STEHT IM LINBUF
5866 48A1 2A F58C A   ld  hl,(FSLPTR)
5867 48A4 E7      A   rst  CPREG
5868 48A5 D1      A   pop  de
5869 48A6 30 15  A   jr  nc,LET8         ;ADR ZK STEHT IM VARIABLENBEREICH
5870 48A8 21 F55D A   ld  hl,DENBUF+29
5871 48AB E7      A   rst  CPREG
5872 48AC 38 06  A   jr  c,LET6          ;ADR STEHT IN LENZK-ADRZK
5873 48AE 21 F53F A   ld  hl,DENBUF-1
5874 48B1 E7      A   rst  CPREG
5875 48B2 38 09  A   jr  c,LET8         ;ADR ZK IM PUFFER DER ADR FUER TEILZEICHENKETTEN
5876 48B4 3E      ALET6 defb 3EH      ; ld a,B?D1
5877 48B5 D1      ALET7 pop  de          ;DE: ADR ZK AUS AC1
5878 48B6 CD 69FE A   call ZKUP3          ;HL 3BYTE ZURUECKSTELLEN
5879 48B9 EB      A   ex  de,hl
5880 48BA CD 6821 A   call STR2
5881 48BD CD 69FE ALET8 call ZKUP3
5882 48C0 E3      A   ex  (sp),hl        ;HL: ADR. VARIABLE
5883 48C1 CD 2B73 ALET9 call NLDIRT        ;WERT BZW. ADR. DER ZK IN VARIABLE EINSCHREIBEN
5884 48C4 D1      A   pop  de
5885 48C5 E1      A   pop  hl
5886 48C6 C9      A   ret
5887          A;
5888 48C7 FE A6  AON  cp  0A6H          ;ERRORTOK
```



```
5889 48C9 20 25      A   jr      nz,ON1
5890 48CB D7          A   rst     TCHAR      ;ON ERROR
5891 48CC CF          A   rst     CPSTX
5892 48CD 89          A   defb    89H        ;GOTOTOK
5893 48CE CD 474F    A   call    INTPAR     ;ZEILENNR. IN DE
5894 48D1 7A          A   ld      a,d
5895 48D2 B3          A   or      e
5896 48D3 28 09      A   jr      z,ONE      ;KEINE ZEILE ANGEGEBEN, DE=0
5897 48D5 CD 428E    A   call    ZNUEB3     ;ZN (DE) IM PROG. SUCHEN, ADR IN BC
5898 48D8 50          A   ld      d,b
5899 48D9 59          A   ld      e,c
5900 48DA E1          A   pop     hl
5901 48DB D2 4802    A   jp      nc,ULER     ;ZEILE NICHT GEFUNDEN
5902 48DE ED 53 F57F  AONE ld      (ZNRESU),de  ;ARD ZUR FORTSETZUNG NACH ERROR IN ZNRESU
5903 48E2 D8          A   ret     c          ;ADR WAR ANGEGEBEN, FERTIG
5904 48E3 3A F581    A   ld      a,(ERRFLG)
5905 48E6 B7          A   or      a
5906 48E7 7B          A   ld      a,e
5907 48E8 C8          A   ret     z          ;ERRORFLAG=0
5908 48E9 3A F2DB    A   ld      a,(ERRNR)
5909 48EC 5F          A   ld      e,a
5910 48ED C3 4097    A   jp      ERRO2     ;FEHLERMELDUNG ENTSPR. ERRNR
5911 48F0 CD 76B9    AON1 call    ON2        ;KEY,STOP,STRIG,INTERVAL ?
5912 48F3 38 31      A   jr      c,ONAUSD   ;ON AUSDRUCK
5913 48F5 C5          A   push   bc
5914 48F6 D7          A   rst     TCHAR
5915 48F7 CF          A   rst     CPSTX
5916 48F8 8D          A   defb    8DH        ;GOSUBTOK
5917 48F9 AF          A   xor     a
5918 48FA C1          AONIR pop     bc
5919 48FB C5          A   push   bc
5920 48FC B9          A   cp     c
5921 48FD D2 4056    A   jp      nc,ERSN   ;ZU VIELE PARAMTER NACH GOSUB
5922 4900 F5          A   push   af
5923 4901 CD 474F    A   call    INTPAR     ;ZN IN DE
5924 4904 7A          A   ld      a,d
5925 4905 B3          A   or      e
5926 4906 28 09      A   jr      z,ONIR1   ;ZN NICHT ANGEGEBEN
5927 4908 CD 428E    A   call    ZNUEB3     ;ZN (DE) IM PROG. SUCHEN, ADR IN BC
5928 490B 50          A   ld      d,b
5929 490C 59          A   ld      e,c
5930 490D E1          A   pop     hl
5931 490E D2 4802    A   jp      nc,ULER     ;ZEILE NICHT GEFUNDEN
5932 4911 F1          AONIR1 pop     af
5933 4912 C1          A   pop     bc
5934 4913 F5          A   push   af
5935 4914 80          A   add    a,b
5936 4915 C5          A   push   bc
5937 4916 CD 7702    A   call    ONIR2     ;ADR FUER ON IR GOSUB EINTRAGEN
5938          A          ;ZN=0 --> ADR=0 --> IR-BEHANDLUNG AUS
5939 4919 2B          A   dec    hl
5940 491A D7          A   rst     TCHAR      ;NAECHSTES ZEICHEN
5941 491B C1          A   pop     bc
5942 491C D1          A   pop     de
5943 491D C8          A   ret     z          ;ZEILENENDE
5944 491E C5          A   push   bc
5945 491F D5          A   push   de
5946 4920 CF          A   rst     CPSTX
```

```
5947 4921 2C      A   defb  ', '
5948 4922 F1      A   pop   af
5949 4923 3C      A   inc   a
5950 4924 18 D4   A   jr    ONIR
5951 4926 CD 51F3 AONAUSD call  BYTAE2      ;ON AUSDRUCK
5952 4929 7E      A   ld   a,(hl)
5953 492A 47      A   ld   b,a
5954 492B FE 8D   A   cp   8DH      ;GOSUBTOK
5955 492D 28 03   A   jr    z,ONAUS1
5956 492F CF      A   rst  CPSTX
5957 4930 89      A   defb  89H      ;GOTOTOK
5958 4931 2B      A   dec  hl
5959 4932 4B      AONAUS1 ld    c,e
5960 4933 0D      AONAUS2 dec   c
5961 4934 78      A   ld   a,b
5962 4935 CA 4632 A   jp   z,RUNM5   ;GENUEGEND ADRESSEN
5963 4938 CD 4750 A   call INTP1
5964 493B FE 2C   A   cp   ' '
5965 493D C0      A   ret  nz      ;KEINE WEITERE ADR IN DER ANWEISUNG
5966 493E 18 F3   A   jr    ONAUS2
5967      A;
5968 4940 3A F581 ARESUME ld   a,(ERRFLG)
5969 4943 B7      A   or   a
5970 4944 20 09   A   jr    nz,RESU1
5971 4946 32 F57F A   ld   (ZNRRESU),a ;ERRFLG=0 ---->
5972 4949 32 F580 A   ld   (ZNRRESU+1),a ;FORTSETZUNG NACH RESUME AUS
5973 494C C3 4065 A   jp   ERRESU   ;ERROR: RESUM WITHOUT ERROR
5974 494F 3C      ARESU1 inc  a
5975 4950 32 F2DB A   ld   (ERRNR),a
5976 4953 7E      A   ld   a,(hl)
5977 4954 FE 83   A   cp   83H      ;NEXTTOK
5978 4956 28 10   A   jr    z,RESU2  ;RESUME NEXT
5979 4958 CD 474F A   call INTPAR    ;ZEILENNR. IN DE
5980 495B C0      A   ret  nz      ;KEINE ZEILENNR. ANGEGEBEN
5981 495C 7A      A   ld   a,d
5982 495D B3      A   or   e
5983 495E 28 0C   A   jr    z,RESU3  ;RESUME 0
5984 4960 CD 47D1 A   call GOTO1    ;RESUME ZN
5985 4963 AF      A   xor  a
5986 4964 32 F581 A   ld   (ERRFLG),a
5987 4967 C9      A   ret
5988 4968 D7      ARESU2 rst   TCHAR      ;RESUME NEXT
5989 4969 C0      A   ret  nz      ;KEIN ZEILENENDE
5990 496A 18 05   A   jr    RESU4
5991 496C AF      ARESU3 xor   a          ;RESUME 0
5992 496D 32 F581 A   ld   (ERRFLG),a
5993 4970 3C      A   inc  a
5994 4971 2A F57D ARESU4 ld   hl,(HLPERL)
5995 4974 EB      A   ex  de,hl
5996 4975 2A F579 A   ld   hl,(ERLNR)
5997 4978 22 F2E2 A   ld   (ACTZN),hl
5998 497B EB      A   ex  de,hl
5999 497C C0      A   ret  nz
6000 497D 7E      A   ld   a,(hl)
6001 497E B7      A   or   a
6002 497F 20 04   A   jr    nz,RESU5
6003 4981 23      A   inc  hl
6004 4982 23      A   inc  hl
```

```
6005 4983 23      A    inc    hl
6006 4984 23      A    inc    hl
6007 4985 23      ARESU5  inc    hl
6008 4986 AF       A    xor    a
6009 4987 32 F581  A    ld    (ERRFLG),a
6010 498A C3 483E  A    jp    DATA_
6011             A;
6012 498D CD 51F3  AERROR  call   BYTAE2      ;FEHLERNR. IN A
6013 4990 C0       A    ret    nz
6014 4991 B7       A    or    a
6015 4992 CA 4740  A    jp    z,ERFC   ;ERROR 0 ==> FC-ERROR
6016 4995 C3 4070  A    jp    ERRO    ;FEHLERRoutine (AUSGABE FEHLERTEXT...)
6017             A;
6018 4998 11 000A  AAUTO ld    de,0AH   ;STANDARD-ANFANGS-ZN 10
6019 499B D5       A    push  de
6020 499C 28 16    A    jr    z,AUTO1  ;KEINE PARAMETER
6021 499E CD 4745  A    call  INTPAP   ;ANFANGSZEILENNR. HOLEN
6022 49A1 EB       A    ex    de,hl
6023 49A2 E3       A    ex    (sp),hl ;ANFANGSZN IN STACK
6024 49A3 28 10    A    jr    z,AUTO2  ;KEINE SCHRITTWEITE ANGEZEIGT
6025 49A5 EB       A    ex    de,hl   ;DE: STANDARDSCHRITTWEITE
6026 49A6 CF       A    rst  CPSTX
6027 49A7 2C       A    defb  ','
6028 49A8 ED 5B F573 A    ld    de,(AUTOAB) ;LETZTER AUTOABSTAND STANDARD10
6029 49AC 28 06    A    jr    z,AUTO1
6030 49AE CD 474F  A    call  INTPAR   ;SCHRITTWEITE HOLEN
6031 49B1 C2 4056  A    jp    nz,ERSN  ;ANWEISUNG NICHT ZU ENDE ---> SN=ERROR
6032 49B4 EB       AAUTO1  ex     de,hl
6033 49B5 7C       AAUTO2  ld     a,h
6034 49B6 B5       A    or    l
6035 49B7 CA 4740  A    jp    z,ERFC   ;ABSTAND=0 -->FC-ERROR
6036 49BA 22 F573  A    ld    (AUTOAB),hl
6037 49BD 32 F570  A    ld    (AUTOFL),a
6038 49C0 E1       A    pop  hl
6039 49C1 22 F571  A    ld    (AUTOZN),hl
6040 49C4 C1       A    pop  bc
6041 49C5 C3 412F  A    jp    KOM3     ;KOMMANDOEbene ZEILENEINGABE
6042             A;
6043 49C8 CD 4C57  AIF_  call  SNAL3    ;AUSWERTUNG AUSDRUCK NACH IF
6044 49CB 7E       A    ld    a,(hl)
6045 49CC FE 2C    A    cp    ','
6046 49CE CC 464F  A    call  z,TCHAR0
6047 49D1 FE 89    A    cp    89H     ;GOTOTOK
6048 49D3 28 03    A    jr    z,IF1_   ;IF AUSDRUCK , GOTO
6049 49D5 CF       A    rst  CPSTX
6050 49D6 DA       A    defb  0DAH    ;THENTOK
6051 49D7 2B       A    dec  hl
6052 49D8 E5       AIF1_  push  hl
6053 49D9 CD 2B21  A    call  SGN2
6054 49DC E1       A    pop  hl
6055 49DD 28 10    A    jr    z,IF3     ;BEDINGUNG NICHT ERFUELLT
6056 49DF D7       AIF2_  rst   TCHAR     ;BEDINGUNG ERFUELLT --> WEITER NACH THEN
6057 49E0 C8       A    ret    z
6058 49E1 FE 0E    A    cp    0EH     ;KENNBYTE ZN
6059 49E3 CA 47CE  A    jp    z,GOTO
6060 49E6 FE 0D    A    cp    0DH     ;KENNBYTE ADR ZEILE
6061 49E8 C2 4632  A    jp    nz,RUNM5 ;ABARBEITUNG ANWEISUNG NACH THEN
6062 49EB 2A F530  A    ld    hl,(HARVAL)
```

```
6063 49EE C9      A      ret
6064 49EF 16 01    AIF3  ld      d,1          ;NICHT ERFUELLT --> ELSE ODER NEUE ZEILE SUCHEN
6065 49F1 CD 483E  AIF4  call     DATA_        ;HL AUF ':' ODER ZEILENENDE STELLEN
6066 49F4 B7      A      or      a
6067 49F5 C8      A      ret      z          ;ZEILENENDE GEFUNDEN
6068 49F6 D7      A      rst     TCHAR
6069 49F7 FE A1    A      cp      0A1H        ;ELSETOK
6070 49F9 20 F6    A      jr      nz,IF4
6071 49FB 15      A      dec     d          ;ELSE GEFUNDEN
6072 49FC 20 F3    A      jr      nz,IF4
6073 49FE 18 DF    A      jr      IF2_        ;WEITER NACH ELSE
6074      A;
6075 4A00 3E 01    ALPRINT ld      a,1
6076 4A02 32 F2DD  A      ld      (PTORSC),A      ;AUSGABE AUF DRUCKER LEGEN
6077 4A05 18 05    A      jr      PRIN1
6078      A;
6079 4A07 0E 02    APRINT ld      c,2
6080 4A09 CD 6F50  A      call    PRITDK        ;TEST,OB PRINT# (NEIN --> RET)
6081 4A0C 2B      APRIN1 dec     hl
6082 4A0D D7      A      rst     TCHAR
6083 4A0E CC 7548  A      call    z,LSTRE1        ;NUR PRINT --> AUSGABE CR,LF
6084 4A11 CA 4AE1    APRIN2 jp      z,AUSGE          ;NUR PRINT --> AUSGABEENDE
6085 4A14 FE E4    A      cp      0E4H        ;USINGTOK
6086 4A16 CA 62BD  A      jp      z,USING        ;PRINT USING
6087 4A19 FE DB    A      cp      0DBH        ;TAB(TOK
6088 4A1B CA 4AA8    A      jp      z,PRIN11       ;PRINT TAB(
6089 4A1E FE DF    A      cp      0DFH        ;SPC(TOK
6090 4A20 CA 4AA8  A      jp      z,PRIN11       ;PRINT SPC(
6091 4A23 E5      A      push   hl
6092 4A24 FE 2C    A      cp      ','
6093 4A26 28 4C    A      jr      z,PRIN7
6094 4A28 FE 3B    A      cp      ';'
6095 4A2A CA 4ADC  A      jp      z,PRIN16
6096 4A2D C1      A      pop    bc
6097 4A2E CD 4C57  A      call    SNAL3          ;AUSWERTUNG AUSDRUCK
6098 4A31 E5      A      push   hl
6099 4A32 EF      A      rst     TYPTST
6100 4A33 28 38    A      jr      z,PRIN6        ;TYP3 ZEICHENKETTE
6101 4A35 CD 30A5  A      call    AUKO          ;AUSGABEKONVERTIERUNG
6102 4A38 CD 6845  A      call    ZKUP1         ;ZEICHENKETTE AUFBEREITEN
6103 4A3B 36 20    A      ld      (hl),' '
6104 4A3D 2A F6BE  A      ld      hl,(AC1INT)
6105 4A40 34      A      inc     (hl)
6106 4A41 CD 014A  A      call    TAFCB          ;AUSGABEKANAL FUER PRINT ?
6107 4A44 20 23    A      jr      nz,PRIN5       ;JA
6108 4A46 2A F6BE  A      ld      hl,(AC1INT)    ;HL: ZEIGER AUF LAENGE DER ZEICHENKETTE
6109 4A49 3A F2DD  A      ld      a,(PTORSC)
6110 4A4C B7      A      or      a
6111 4A4D 28 08    A      jr      z,PRIN3
6112 4A4F 3A F2DC  A      ld      a,(LPTPOS)     ;AUSGABE AUF DRUCKER
6113 4A52 86      A      add     a,(hl)
6114 4A53 FE FF    A      cp      0FFH        ;TEST DRUCKPOSITION
6115 4A55 18 0A    A      jr      PRIN4
6116 4A57 3A F264  APRIN3 ld      a,(SPLAST)      ;AUSGABE AUF BILDSCHIRM
6117 4A5A 47      A      ld      b,a
6118 4A5B 3A F527  A      ld      a,(CRSSPI)
6119 4A5E 86      A      add     a,(hl)
6120 4A5F 3D      A      dec     a
```

```
6121 4A60 B8      A    cp      b                ;TEST KURSORPOSITION
6122 4A61 38 06   APRIN4 jr      c,PRIN5          ;ZK PASST NOCH AUF ZEILE
6123 4A63 CC 7551 A    call    z,LSTRE2        ;ZK GEHT BIS ZEILENENDE
6124 4A66 C4 7548 A    call    nz,LSTRE1        ;ZK GEHT UEBER ZEILE HINAUS
6125 4A69 CD 688B APRIN5 call    OUTZK2            ;AUSGABE ZEICHENKETTE
6126 4A6C B7      A    or      a
6127 4A6D CC 688B APRIN6 call    z,OUTZK2          ;AUSGABE ZEICHENKETTE
6128 4A70 E1      A    pop    hl
6129 4A71 C3 4A0C A    jp      PRIN1          ;NAECHSTER TEIL DER AUSGABELISTE
6130                A;
6131 4A74 01 0008 APRIN7 ld      bc,8              ;AUSGABE AB NAECHSTEN TAB
6132 4A77 2A F72B A    ld      hl,(ACTFCB)
6133 4A7A 09      A    add    hl,bc
6134 4A7B CD 014A A    call    TAFCB
6135 4A7E 7E      A    ld      a,(hl)
6136 4A7F 20 20   A    jr      nz,PRIN10      ;AUSGABE UEBER KANAL
6137 4A81 3A F2DD A    ld      a,(PTORSC)
6138 4A84 B7      A    or      a
6139 4A85 28 07   A    jr      z,PRIN8
6140 4A87 3A F2DC A    ld      a,(LPTPOS)      ;AUSGABE AUF DRUCKER
6141 4A8A FE EE   A    cp      0EEH          ;TEST DRUCKPOSITION (LETZTER TAB)
6142 4A8C 18 08   A    jr      PRIN9
6143 4A8E 3A F269 APRIN8 ld      a,(LSTTAB)        ;AUSGABE AUF BILDSCHIRM
6144 4A91 47      A    ld      b,a
6145 4A92 3A F527 A    ld      a,(CRSSPI)
6146 4A95 B8      A    cp      b                ;TEST KURSURPOSITION
6147 4A96 D4 7548 APRIN9 call    nc,LSTRE1          ;POSITION HINTER LETZTEM TAB
6148 4A99 D2 4ADC A    jp      nc,PRIN16       ;AUSGABE AUF NEUE ZEILE
6149 4A9C 21 F263 A    ld      hl,SPFIRS
6150 4A9F 96      A    sub    (hl)
6151 4AA0 3C      A    inc    a
6152 4AA1 D6 0E   APRIN10 sub    0EH
6153 4AA3 30 FC   A    jr      nc,PRIN10
6154 4AA5 2F      A    cpl
6155 4AA6 18 2D   A    jr      PRIN14          ;A: ABSTAND POSITION NAECHSTER TAB
6156                A;
6157 4AA8 F5      APRIN11 push   af                ;PRINT TAB( , PRINT SPC(
6158 4AA9 CD 51F2 A    call    BYTAE1          ;ANZAHL IN E
6159 4AAC CF      A    rst    CPSTX
6160 4AAD 29      A    defb   ')
6161 4AAE 2B      A    dec    hl
6162 4AAF F1      A    pop    af
6163 4AB0 D6 DF   A    sub    0DFH          ;SPC(TOK
6164 4AB2 E5      A    push   hl
6165 4AB3 28 1C   A    jr      z,PRIN13
6166 4AB5 01 0008 A    ld      bc,8
6167 4AB8 2A F72B A    ld      hl,(ACTFCB)
6168 4ABB 09      A    add    hl,bc
6169 4ABC CD 014A A    call    TAFCB
6170 4ABF 7E      A    ld      a,(hl)
6171 4AC0 20 0F   A    jr      nz,PRIN13      ;BEI AUSGABE UEBER KANAL
6172 4AC2 3A F2DD A    ld      a,(PTORSC)
6173 4AC5 B7      A    or      a
6174 4AC6 CA 4ACE A    jp      z,PRIN12
6175 4AC9 3A F2DC A    ld      a,(LPTPOS)      ;BEI AUSGABE AUF DRUCKER
6176 4ACC 18 03   A    jr      PRIN13
6177 4ACE 3A F527 APRIN12 ld      a,(CRSSPI)        ;BEI AUSGABE AUF BILDSCHIRM
6178 4AD1 2F      APRIN13 cpl
```

```
6179 4AD2 83      A    add    a,e
6180 4AD3 30 07    A    jr     nc,PRIN16
6181 4AD5 3C      APRIN14 inc    a
6182 4AD6 47      A    ld     b,a
6183 4AD7 3E 20    A    ld     a,' '
6184 4AD9 DF      APRIN15 rst    CHAR0
6185 4ADA 10 FD    A    djnz  PRIN15 ;AUSGABE VON B LEERZEICHEN
6186 4ADC E1      APRIN16 pop    hl
6187 4ADD D7      A    rst    TCHAR
6188 4ADE C3 4A11 A    jp     PRIN2
6189          A;
6190 4AE1 AF      AAUSGE xor    a          ;Endebehandlung fuer Ausgabe
6191 4AE2 32 F2DD A    ld     (PTORSC),a ;AUSGABE AUF BILDSCHIRM LEGEN
6192 4AE5 E5      A    push  hl
6193 4AE6 67      A    ld     h,a
6194 4AE7 6F      A    ld     l,a
6195 4AE8 22 F72B A    ld     (ACTFCB),hl ;akt. FCB freigeben
6196 4AEB E1      A    pop   hl
6197 4AEC C9      A    ret
6198          A;
6199 4AED FE 85    ALINE cp    85H          ;INPUTTOK
6200 4AEF C2 5852 A    jp     nz,LINE0     ;GRAFIK LINE
6201 4AF2 CF      A    rst    CPSTX
6202 4AF3 85      A    defb  85H          ;INPUTTOK
6203 4AF4 FE 23    A    cp    '#'
6204 4AF6 CA 6F88 A    jp     z,LINP       ;LINE INPUT #
6205 4AF9 CD 4B19 A    call  LINEUP        ;AUFBEREITUNG EINGABEAUFFORDERUNG UND INPUTLISTE
6206 4AFC CD 60B3 A    call  DIM1          ;VARIABLE DIMENSIONIEREN,WENN NOCH NICHT DIM.
6207 4AFF CD 2CD8 A    call  TYSTR?        ;TEST OB ZK
6208 4B02 D5      A    push  de
6209 4B03 E5      A    push  hl
6210 4B04 CD 00B1 A    call  EDI2          ;EINGABE
6211 4B07 D1      A    pop   de
6212 4B08 C1      A    pop   bc
6213 4B09 DA 6607 A    jp     c,END2
6214 4B0C C5      A    push  bc
6215 4B0D D5      A    push  de
6216 4B0E 06 00    A    ld     b,0
6217 4B10 CD 6848 A    call  ZKUP12        ;ZK AUFBEREITEN
6218 4B13 E1      A    pop   hl
6219 4B14 3E 03    A    ld     a,3
6220 4B16 C3 4875 A    jp     LET1         ;ZK AUF VARIABLE ZUWEISEN
6221          A;
6222 4B19 FE 22    ALINEUP cp    ''
6223 4B1B 3E 00    A    ld     a,0
6224 4B1D C0      A    ret    nz
6225 4B1E CD 6846 A    call  ZKUP11
6226 4B21 CF      A    rst    CPSTX
6227 4B22 3B      A    defb  ';'
6228 4B23 E5      A    push  hl
6229 4B24 CD 688B A    call  OUTZK2
6230 4B27 E1      A    pop   hl
6231 4B28 C9      A    ret
6232          A;
6233 4B29 3F 52 65 64AREDO defm  '?Redo from start'
6234 4B39 0D      A    defb  0Dh
6235 4B3A 0A      A    defb  0Ah
6236 4B3B 00      A    defb  0
```

```
6237      A;
6238 4B3C CD FF32  AINPU0      call  XINPT
6239 4B3F 3A F56C  A      ld      a,(RDIPFL)
6240 4B42 B7          A      or      a
6241 4B43 C2 4050  A      jp      nz,ERINSN
6242 4B46 C1          A      pop     bc
6243 4B47 21 4B29  A      ld      hl,REDO
6244 4B4A CD 6888  A      call   OUTZK1      ;AUSGABE ZK "REDO FROM START"
6245 4B4D 2A F575  A      ld      hl,(HLPTR)
6246 4B50 C9          A      ret
6247      A;
6248 4B51 CD 6F4E  AINPU1      call   PRDCK0      ;INPUT #
6249 4B54 E5          A      push   hl
6250 4B55 21 F423  A      ld      hl,EDIBUF-1
6251 4B58 C3 4B8E  A      jp      INPU4
6252      A;
6253 4B5B FE 23     AINPUT      cp      '#'
6254 4B5D 28 F2     A      jr      z,INPU1      ;--> INPUT #
6255 4B5F F5          A      push   af
6256 4B60 CD 016B  A      call   TGRASC      ;Textscreen?
6257 4B63 D2 4740  A      jp      nc,ERFC      ;nein -->
6258 4B66 F1          A      pop     af
6259 4B67 FE 22     AINPU2      cp      ''
6260 4B69 3E 00     A      ld      a,0
6261 4B6B 20 11     A      jr      nz,INPU3      ;kein prompt string
6262 4B6D CD 6846  A      call   ZKUP11      ;ZK AUFBEREITEN
6263 4B70 CF          A      rst     CPSTX
6264 4B71 3B          A      defb  ','
6265 4B72 E5          A      push   hl
6266 4B73 CD 688B  A      call   OUTZK2      ;AUSGABE ZK (EINGABEAUFFORDERUNG)
6267 4B76 3E 20     A      ld      a,' '
6268 4B78 DF          A      rst     CHAR0
6269 4B79 CD 00B1  A      call   EDI2
6270 4B7C 18 04     A      jr      INPU3A
6271 4B7E E5          AINPU3      push   hl
6272 4B7F CD 00B4  A      call   GETST      ;EINGABEZK HOLEN
6273 4B82 C1          AINPU3A     pop     bc
6274 4B83 DA 6607  A      jp      c,END2
6275 4B86 23          A      inc     hl
6276 4B87 7E          A      ld      a,(hl)
6277 4B88 B7          A      or      a
6278 4B89 2B          A      dec     hl
6279 4B8A C5          A      push   bc
6280 4B8B CA 483D  A      jp      z,REAINP
6281 4B8E 36 2C     AINPU4      ld      (hl),' ,'
6282 4B90 18 05     A      jr      INPU5
6283      A;
6284 4B92 E5          AREAD push   hl
6285 4B93 2A F58E  A      ld      hl,(READPT)
6286 4B96 F6          A      defb  0F6H ; or 0AFH
6287 4B97 AF          AINPU5      xor     a
6288 4B98 32 F56C  A      ld      (RDIPFL),a ;VON READ A=AFH VON INPUT A=0
6289 4B9B E3          A      ex     (sp),hl
6290 4B9C 01          A      defb  1 ; ld bc,L?2CCF
6291 4B9D CF          AINPU6      rst     CPSTX
6292 4B9E 2C          A      defb  ','
6293 4B9F CD 60B3  A      call   DIM1
6294 4BA2 E3          A      ex     (sp),hl
```

```
6295 4BA3 D5      A   push  de
6296 4BA4 7E      A   ld    a,(hl)
6297 4BA5 FE 2C   A   cp    ','
6298 4BA7 28 1B   A   jr    z,INPU7
6299 4BA9 3A F56C  A   ld    a,(RDIPFL)
6300 4BAC B7      A   or    a
6301 4BAD C2 4C33   A   jp    nz,READ1      ;WENN VON READ
6302 4BB0 3E 3F   A   ld    a,'?'
6303 4BB2 DF      A   rst   CHAR0        ;AUSGABE '?'
6304 4BB3 CD 00B4 A   call  GETST        ;EINGABEZK HOLEN
6305 4BB6 D1      A   pop   de
6306 4BB7 C1      A   pop   bc
6307 4BB8 DA 6607 A   jp    c,END2
6308 4BBB 23      A   inc  hl
6309 4BBC 7E      A   ld    a,(hl)
6310 4BBD 2B      A   dec  hl
6311 4BBE B7      A   or    a
6312 4BBF C5      A   push  bc
6313 4BC0 CA 483D  A   jp    z,REAINP
6314 4BC3 D5      A   push  de
6315 4BC4 CD 014A  AINPU7 call  TAFCB
6316 4BC7 C2 6F7C  A   jp    nz,LINP0     ;EIGABE UEBER KANAL
6317 4BCA EF      A   rst   TYPTST
6318 4BCB F5      A   push  af
6319 4BCC 20 22   A   jr    nz,INPU11    ;NUMERISCHER TYP
6320 4BCE D7      A   rst   TCHAR       ;EINGABE AUF ZK-VARIABLE
6321 4BCF 57      A   ld    d,a
6322 4BD0 47      A   ld    b,a
6323 4BD1 FE 22   A   cp    ','
6324 4BD3 28 0C   A   jr    z,INPU9     ;ZEICHENKETTENKONSTANTE
6325 4BD5 3A F56C A   ld    a,(RDIPFL)
6326 4BD8 B7      A   or    a
6327 4BD9 57      A   ld    d,a
6328 4BDA 28 02   A   jr    z,INPU8
6329 4BDC 16 3A   A   ld    d,':'        ;BEI READ
6330 4BDE 06 2C   AINPU8 ld    b,','
6331 4BE0 2B      A   dec  hl
6332 4BE1 CD 6849 AINPU9 call  ZKUP13        ;ZEICHENKETTENAUFBEREITUNG
6333 4BE4 F1      AINPU10 pop   af
6334 4BE5 C6 03   A   add  a,3          ;TYP REGENERIEREN
6335 4BE7 EB      A   ex   de,hl
6336 4BE8 21 4BF8 A   ld    hl,INPU12
6337 4BEB E3      A   ex   (sp),hl     ;RUECKSPRUNG ZU INPU12 KELLERN
6338 4BEC D5      A   push  de
6339 4BED C3 4876  A   jp    LET2        ;ADR ZK AUF VARIABLE ZUWEISEN
6340
6341 4BF0 D7      AINPU11 rst   TCHAR       ;EINGABE AUF NUMERISCHE VARIABLE
6342 4BF1 01 4BE4  A   ld    bc,INPU10
6343 4BF4 C5      A   push  bc          ;RUECKSPRUNG ZU INPU10 KELLERN
6344 4BF5 C3 2F19 A   jp    EIKO        ;UMWANDLUNG NUM.WERT IN ZK
6345
6346 4BF8 2B      AINPU12 dec   hl
6347 4BF9 D7      A   rst   TCHAR
6348 4BFA 28 05   A   jr    z,INPU13
6349 4BFC FE 2C   A   cp    ','
6350 4BFE C2 4B3C  A   jp    nz,INPU0     ;AUSGABE MELDUNG 'REDO FROM START'
6351 4C01 E3      AINPU13 ex   (sp),hl
6352 4C02 2B      A   dec  hl
```



```
6353 4C03 D7 A rst TCHAR
6354 4C04 C2 4B9D A jp nz,INPU6 ;EINGABELISTE NOCH NICHT ABGEARBEITET
6355 4C07 D1 A pop de
6356 4C08 3A F56C A ld a,(RDIPFL)
6357 4C0B B7 A or a
6358 4C0C EB A ex de,h1
6359 4C0D C2 65E7 A jp nz,RESTO2 ;BEI READ
6360 4C10 D5 A push de
6361 4C11 CD 014A A call TAFCB
6362 4C14 20 08 A jr nz,INPU14 ;BEI EINGABE UEBER KANAL
6363 4C16 7E A ld a,(h1)
6364 4C17 B7 A or a ;LETZTES ZEICHEN DER EINGABE-ZK
6365 4C18 21 4C22 A ld h1,EXTRA
6366 4C1B C4 6888 A call nz,OUTZK1 ;NEIN --> MELDUNG 'EXTRE..' AUSGEBEN
6367 4C1E E1 AINPU14 pop h1
6368 4C1F C3 4AE1 A jp AUSGE ;ENDEBEHANDLUNG AUSGABE
6369 A;
6370 4C22 3F 45 78 74AEXTRA defm '?Extra ignored'
6371 4C30 0D A defb 0Dh
6372 4C31 0A A defb 0Ah
6373 4C32 00 A defb 0
6374 A;
6375 4C33 CD 483E AREAD1 call DATA_ ;ENDE DER ANWEISUNG SUCHEN
6376 4C36 B7 A or a
6377 4C37 20 11 A jr nz,READ2 ;HL ZEIGT AUF ':'
6378 4C39 23 A inc hl
6379 4C3A 7E A ld a,(h1)
6380 4C3B 23 A inc hl
6381 4C3C B6 A or (h1) ;TEST PROGRAMMENDE
6382 4C3D 1E 04 A ld e,4
6383 4C3F CA 4070 A jp z,ERRO ;JA --> ERROR* 'OUT OF DATA'
6384 4C42 23 A inc hl
6385 4C43 5E A ld e,(h1)
6386 4C44 23 A inc hl
6387 4C45 56 A ld d,(h1)
6388 4C46 ED 53 F569 A ld (HPTZL),de ;ZEIGER AUF NAECHSTE PROGZEILE
6389 4C4A D7 AREAD2 rst TCHAR
6390 4C4B FE 84 A cp 84H ;DATATOK
6391 4C4D 20 E4 A jr nz,READ1 ;NEIN --> WEITER DATE-ANWEISUNG SUCHEN
6392 4C4F C3 4BC4 A jp INPU7 ;JA --> DATEN UEBERNEHMEN
6393 A;
6394 4C52 CF ASNAL1 rst CPSTX ;AUSWERTUNG '=' AUSDRUCK
6395 4C53 EF A defb 0EFH ;GLEICHTOK
6396 4C54 01 A defb 1 ; ld bc,L?28CF
6397 4C55 CF ASNAL2 rst CPSTX ;AUSWERTUNG '(' AUSDRUCK
6398 4C56 28 A defb '('
6399 4C57 2B ASNAL3 dec hl ;AUSERTUNG AUSDRUCK
6400 4C58 16 00 ASNAL4 ld d,0
6401 4C5A D5 ASNAL5 push de
6402 4C5B 0E 01 A ld c,1
6403 4C5D CD 646A A call TSMEMS
6404 4C60 CD FF37 A call XSNAL1
6405 4C63 CD 4DBA A call SNAL30
6406 4C66 22 F582 ASNAL6 ld (HELPMO),hl
6407 4C69 2A F582 ASNAL7 ld hl,(HELPMO)
6408 4C6C C1 A pop bc
6409 4C6D 7E A ld a,(h1)
6410 4C6E 22 F563 A ld (HARI4),hl
```

```
6411 4C71 FE EE      A   cp   0EEH   ;GROESSERTOK
6412 4C73 D8         A   ret   c           ;ZEICHEN UNTERHALB GROESSERTOK
6413 4C74 FE F1      A   cp   0F1H   ;PLUSTOK
6414 4C76 38 5F      A   jr   c,SNAL12
6415 4C78 D6 F1      A   sub  0F1H   ;PLUSTOK
6416 4C7A 5F         A   ld   e,a
6417 4C7B 20 09      A   jr   nz,SNAL8
6418 4C7D 3A F529    A   ld   a,(TYP)
6419 4C80 FE 03      A   cp   3
6420 4C82 7B         A   ld   a,e
6421 4C83 CA 6997    A   jp   z,TSTZKG   ;STRINGVERKETTUNG
6422 4C86 FE 0C      ASNAL8 cp   0CH
6423 4C88 D0         A   ret   nc
6424 4C89 21 39A6    A   ld   hl,TABPRI   ;PRIORITAET DER OPERATION FESTSTELLEN
6425 4C8C 16 00      A   ld   d,0
6426 4C8E 19         A   add  hl,de
6427 4C8F 78         A   ld   a,b           ;ALTE PRIORITAET IN A
6428 4C90 56         A   ld   d,(hl)       ;AKTUELLE PRIORITAET IN D
6429 4C91 BA         A   cp   d
6430 4C92 D0         A   ret   nc           ;ALTE PRIORITAET BLEIBT
6431 4C93 C5         A   push bc
6432 4C94 01 4C69    A   ld   bc,SNAL7
6433 4C97 C5         A   push bc
6434 4C98 7A         A   ld   a,d
6435 4C99 CD FF3C    A   call XSNAL2
6436 4C9C FE 51      A   cp   51H
6437 4C9E 38 50      A   jr   c,SNAL14   ;PRIORITAET<51 > = < '
6438 4CA0 E6 FE      A   and  0FEH
6439 4CA2 FE 7A      A   cp   7AH
6440 4CA4 28 4A      A   jr   z,SNAL14   ;PRIORITAET 7A,7B
6441 4CA6 21 F6BE    ASNAL9 ld   hl,AC1INT   ;PRIORITAET VON + - * : ^
6442 4CA9 3A F529    A   ld   a,(TYP)   ;HL ENTSPRECHEND TYP IN AC1 STELLEN
6443 4CAC D6 03      A   sub  3
6444 4CAE CA 406E    A   jp   z,ERTM
6445 4CB1 B7         A   or   a
6446 4CB2 2A F6BE    A   ld   hl,(AC1INT)
6447 4CB5 E5         A   push hl
6448 4CB6 FA 4CC8    A   jp   m,SNAL10
6449 4CB9 2A F6BC    A   ld   hl,(AC1)
6450 4CBC E5         A   push hl
6451 4CBD E2 4CC8    A   jp   po,SNAL10
6452 4CC0 2A F6C2    A   ld   hl,(AC1+6)
6453 4CC3 E5         A   push hl
6454 4CC4 2A F6C0    A   ld   hl,(AC1+4)
6455 4CC7 E5         A   push hl
6456 4CC8 C6 03      ASNAL10 add  a,3
6457 4CCA 4B         A   ld   c,e
6458 4CCB 47         A   ld   b,a
6459 4CCC C5         A   push bc
6460 4CCD 01 4D15    A   ld   bc,SNAL16
6461 4CD0 C5         ASNAL11 push bc
6462 4CD1 2A F563    A   ld   hl,(HARI4)
6463 4CD4 C3 4C5A    A   jp   SNAL5
6464          A;
6465 4CD7 16 00      ASNAL12 ld   d,0
6466 4CD9 D6 EE      ASNAL13 sub  0EEH   ;GROESSERTOK
6467 4CDB 38 1E      A   jr   c,SNAL15
6468 4CDD FE 03      A   cp   3
```

```
6469 4CDF 30 1A      A   jr      nc,SNAL15
6470 4CE1 FE 01      A   cp      1
6471 4CE3 17         A   rla
6472 4CE4 AA         A   xor     d
6473 4CE5 BA         A   cp     d
6474 4CE6 57         A   ld     d,a
6475 4CE7 DA 4056   A   jp     c,ERSN
6476 4CEA 22 F563   A   ld     (HARI4),hl
6477 4CED D7         A   rst    TCHAR
6478 4CEE 18 E9     A   jr     SNAL13
6479          A;
6480 4CF0 D5         ASNAL14  push   de
6481 4CF1 CD 2C0A   A   call  CINT
6482 4CF4 D1         A   pop   de
6483 4CF5 E5         A   push  hl
6484 4CF6 01 4F52   A   ld    bc,SNAL59
6485 4CF9 18 D5     A   jr     SNAL11
6486 4CFB 78         ASNAL15  ld     a,b
6487 4CFC FE 64     A   cp    'd' ;KLEIN D
6488 4CFE D0         A   ret   nc
6489 4CFF C5         A   push  bc
6490 4D00 D5         A   push  de
6491 4D01 11 6405   A   ld    de,6405h
6492 4D04 21 4F31   A   ld    hl,SNAL56
6493 4D07 E5         A   push  hl
6494 4D08 EF         A   rst    TYPTST
6495 4D09 C2 4CA6   A   jp    nz,SNAL9
6496 4D0C 2A F6BE   A   ld    hl,(AC1INT)
6497 4D0F E5         A   push  hl
6498 4D10 01 67D8   A   ld    bc,NEXT8
6499 4D13 18 BB     A   jr     SNAL11
6500          A;
6501 4D15 C1         ASNAL16  pop    bc
6502 4D16 79         A   ld    a,c
6503 4D17 32 F52A   A   ld    (MODUS1),a
6504 4D1A 3A F529   A   ld    a,(TYP)
6505 4D1D B8         A   cp    b
6506 4D1E 20 0B     A   jr    nz,SNAL17
6507 4D20 FE 02     A   cp    2
6508 4D22 28 1F     A   jr    z,SNAL18
6509 4D24 FE 04     A   cp    4
6510 4D26 CA 4D90   A   jp    z,SNAL26
6511 4D29 30 2B     A   jr    nc,SNAL20
6512 4D2B 57         ASNAL17  ld     d,a
6513 4D2C 78         A   ld    a,b
6514 4D2D FE 08     A   cp    8
6515 4D2F 28 22     A   jr    z,SNAL19
6516 4D31 7A         A   ld    a,d
6517 4D32 FE 08     A   cp    8
6518 4D34 28 44     A   jr    z,SNAL24
6519 4D36 78         A   ld    a,b
6520 4D37 FE 04     A   cp    4
6521 4D39 28 52     A   jr    z,SNAL25
6522 4D3B 7A         A   ld    a,d
6523 4D3C FE 03     A   cp    3
6524 4D3E CA 406E   A   jp    z,ERTM
6525 4D41 30 54     A   jr    nc,SNAL28
6526          A;
```

```
6527 4D43 21 39D4  ASNAL18  ld    hl,TABINT      ;ADRESSRECHNUNG FUER INTEGER ARITHMETIK
6528 4D46 06 00    A    ld    b,0
6529 4D48 09      A    add   hl,bc
6530 4D49 09      A    add   hl,bc
6531 4D4A 4E      A    ld    c,(hl)
6532 4D4B 23      A    inc   hl
6533 4D4C 46      A    ld    b,(hl)
6534 4D4D D1      A    pop   de
6535 4D4E 2A F6BE  A    ld    hl,(AC1INT)
6536 4D51 C5      A    push  bc
6537 4D52 C9      A    ret                    ;ABSPRUNG ZUR INTEGERARI.-ROUTINE
6538                                A;
6539 4D53 CD 2CBA  ASNAL19  call   CDBL          ;AUFBEREITUNG 8BYTE-OPERANDEN
6540 4D56 CD 2B8D  ASNAL20  call   AC12T
6541 4D59 E1      A    pop   hl
6542 4D5A 22 F6C0  A    ld    (AC1+4),hl
6543 4D5D E1      A    pop   hl
6544 4D5E 22 F6C2  A    ld    (AC1+6),hl
6545 4D61 C1      ASNAL21  pop    bc
6546 4D62 D1      A    pop   de
6547 4D63 CD 2B41  A    call  BCDAC1
6548 4D66 CD 2CBA  ASNAL22  call   CDBL
6549 4D69 21 39BC  A    ld    hl,TAB8BC   ;ADRESSRECHNUNG FUER 8BYTE-ARITHMETIK
6550 4D6C 3A F52A  ASNAL23  ld    a,(MODUS1)
6551 4D6F 07      A    rlca
6552 4D70 85      A    add   a,l
6553 4D71 6F      A    ld    l,a
6554 4D72 8C      A    adc   a,h
6555 4D73 95      A    sub   l
6556 4D74 67      A    ld    h,a
6557 4D75 7E      A    ld    a,(hl)
6558 4D76 23      A    inc   hl
6559 4D77 66      A    ld    h,(hl)
6560 4D78 6F      A    ld    l,a
6561 4D79 E9      A    jp    (hl)        ;ABSPRUNG ZUR 4,8BYTE-ARITHMETIK-ROUTINE
6562 4D7A 78      ASNAL24  ld    a,b
6563 4D7B F5      A    push  af
6564 4D7C CD 2B8D  A    call  AC12T
6565 4D7F F1      A    pop   af
6566 4D80 32 F529  A    ld    (TYP),a
6567 4D83 FE 04    A    cp    4
6568 4D85 28 DA    A    jr    z,SNAL21
6569 4D87 E1      A    pop   hl
6570 4D88 22 F6BE  A    ld    (AC1INT),hl
6571 4D8B 18 D9    A    jr    SNAL22
6572                                A;
6573 4D8D CD 2C32  ASNAL25  call   CSNG          ;AUFBEREITUNG 4BYTE-OPERANDEN
6574 4D90 C1      ASNAL26  pop    bc
6575 4D91 D1      A    pop   de
6576 4D92 21 39C8  ASNAL27  ld    hl,TAB4BC     ;ADRESSRECHNUNG FUER 4BYTE-ARITHMETIK
6577 4D95 18 D5    A    jr    SNAL23
6578                                A;
6579 4D97 E1      ASNAL28  pop    hl           ;AUFBEREITUNG 4BYTE-OPERANDEN
6580 4D98 CD 2B31  A    call  AC1SST
6581 4D9B CD 2C4B  A    call  CV4BC1
6582 4D9E CD 2B4C  A    call  AC1BCD
6583 4DA1 E1      A    pop   hl
6584 4DA2 22 F6BC  A    ld    (AC1),hl
```

```
6585 4DA5 E1 A pop hl
6586 4DA6 22 F6BE A ld (AC1INT),hl
6587 4DA9 18 E7 A jr SNAL27
6588 A;
6589 4DAB E5 ADIVI push hl ;16BIT DIVISION VON AUSSEN ANGESPRUNGEN
6590 4DAC EB A ex de,hl
6591 4DAD CD 2C4B A call CV4BC1
6592 4DB0 E1 A pop hl
6593 4DB1 CD 2B31 A call AC1SST
6594 4DB4 CD 2C4B A call CV4BC1
6595 4DB7 C3 2EE5 A jp DIV40
6596 A;
6597 4DBA D7 ASNAL30 rst TCHAR ;NAECHSTES ZEICHEN
6598 4DBB CA 406B A jp z,ERMO ;ENDE DER ZK --> MO-ERROR
6599 4DBE DA 2F19 A jp c,EIKO ;ZIFFER ---> EINGABEKONVERTIERUNG
6600 4DC1 CD 66B1 A call TSTBU1 ;TEST,OB BUCHSTABE
6601 4DC4 D2 4E75 A jp nc,SNAL40 ;JA
6602 4DC7 FE 20 A cp ' '
6603 4DC9 DA 469E A jp c,TCHAR6 ;ZEICHEN<20H
6604 4DCC CD FF41 A call XSNAL3 ;weitere Zeichen mit Sonderbedeutung
6605 4DCF 3C A inc a
6606 4DD0 CA 4ED6 A jp z,SNAL50 ;ZEICHEN=FF (KENNBYTE FUNKTION)--> ADR-RECHNUNG
6607 4DD3 3D A dec a
6608 A; ZUORDNUNG SPEZIELLE ZEICHEN (AUCH TOKEN) ZU ROUTINE
6609 4DD4 FE F1 A cp 0F1H ;PLUSTOK
6610 4DD6 28 E2 A jr z,SNAL30
6611 4DD8 FE F2 A cp 0F2H ;MINUSTOK
6612 4DDA CA 4E67 A jp z,SNAL37
6613 4DDD FE 22 A cp ""
6614 4DDF CA 6846 A jp z,ZKUP11
6615 4DE2 FE E0 A cp 0E0H ;NOTTOK
6616 4DE4 CA 4F3D A jp z,SNAL57
6617 4DE7 FE 26 A cp '8'
6618 4DE9 CA 4E92 A jp z,SNAL44
6619 4DEC FE E2 A cp 0E2H ;ERRTOK
6620 4DEE 20 0A A jr nz,SNAL31 ;ROUTINE FUER ERR
6621 4DF0 D7 A rst TCHAR
6622 4DF1 3A F2DB A ld a,(ERRNR)
6623 4DF4 E5 A push hl
6624 4DF5 CD 4FA9 A call POS1 ;FEHLERNUMMER AUSGEBEN
6625 4DF8 E1 A pop hl
6626 4DF9 C9 A ret
6627 A;
6628 4DFA FE E1 ASNAL31 cp 0E1H ;ERLTOK
6629 4DFC 20 0A A jr nz,SNAL32
6630 4DFE D7 A rst TCHAR ;ROUTINE FUER ERL
6631 4DFF E5 A push hl
6632 4E00 2A F579 A ld hl,(ERLNR)
6633 4E03 CD 2EB6 A call CV4BC0 ;FEHLERZN IN AC1
6634 4E06 E1 A pop hl
6635 4E07 C9 A ret
6636 A;
6637 4E08 FE ED ASNAL32 cp 0EDH ;POINTTOK
6638 4E0A CA 5781 A jp z,POINT
6639 4E0D FE CB A cp 0CBH ;TIMETOK
6640 4E0F CA 77AD A jp z,TIMEF
6641 4E12 FE C1 A cp 0C1H ;PLAYTOK
6642 4E14 CA 3FC1 A jp z,PLFKT
```

```
6643 4E17 FE E7      A    cp      0E7H          ;VARPTR TOK
6644 4E19 20 23     A    jr      nz,SNAL35
6645 4E1B D7         A    rst     TCHAR        ;ROUTINE FUER VARPTR
6646 4E1C CF         A    rst     CPSTX
6647 4E1D 28         A    defb   '('
6648 4E1E FE 23     A    cp      '#'
6649 4E20 20 0B     A    jr      nz,SNAL33    ;ADRESSE EINER VARIABLEN
6650 4E22 CD 51F2   A    call   BYTAE1       ;KANALNR. IN A UND E
6651 4E25 E5         A    push   hl
6652 4E26 CD 6C7E   A    call   FCBAD        ;ADRESSE DES ZUEGH. FCB IN HL
6653 4E29 EB         A    ex     de,hl
6654 4E2A E1         A    pop    hl
6655 4E2B 18 03     A    jr      SNAL34
6656 4E2D CD 6169   ASNAL33 call   DIM13          ;ADRESSE DER VARIABLEN IN DE
6657 4E30 CF         ASNAL34 rst     CPSTX
6658 4E31 29         A    defb   ')'
6659 4E32 E5         A    push   hl
6660 4E33 EB         A    ex     de,hl
6661 4E34 7C         A    ld     a,h
6662 4E35 B5         A    or     l
6663 4E36 CA 4740   A    jp     z,ERFC        ;ADRESSE=0 ---> FC-ERROR
6664 4E39 CD 2C19   A    call   CINT1        ;ADRESSE IN AC1
6665 4E3C E1         A    pop    hl
6666 4E3D C9         A    ret
6667                A;
6668 4E3E FE DD     ASNAL35 cp      0DDH          ;USRTOK
6669 4E40 CA 4FAF   A    jp     z,USR
6670 4E43 FE E5     A    cp     0E5H          ;INSTR TOK
6671 4E45 CA 6AF8   A    jp     z,INSTR
6672 4E48 FE EC     A    cp     0ECH          ;INKEY$ TOK
6673 4E4A CA 7567   A    jp     z,INKEYD
6674 4E4D FE E3     A    cp     0E3H          ;STRING$ TOK
6675 4E4F CA 6A36   A    jp     z,STRING
6676 4E52 FE 85     A    cp     85H           ;INPUT TOK
6677 4E54 CA 6E8F   A    jp     z,INPD
6678 4E57 FE E8     A    cp     0E8H          ;CSRLINTOK
6679 4E59 CA 77B7   A    jp     z,CSRLIN
6680 4E5C FE DE     A    cp     0DEH          ;FNTOK
6681 4E5E CA 501A   A    jp     z,FN
6682 4E61 CD 4C55   ASNAL36 call   SNAL2          ;NAECHST TIEFERE EBENE DES AUSDRUCKS
6683 4E64 CF         A    rst     CPSTX
6684 4E65 29         A    defb   ')'
6685 4E66 C9         A    ret
6686                A;
6687 4E67 16 7D     ASNAL37 ld     d,7DH          ;PRIORITAET 7D IN D
6688 4E69 CD 4C5A   A    call   SNAL5
6689 4E6C 2A F582   A    ld     hl,(HELPMO)
6690 4E6F E5         A    push   hl
6691 4E70 CD 2B06   A    call   ABS1
6692 4E73 E1         ASNAL38 pop    hl
6693 4E74 C9         A    ret
6694 4E75 CD 60B3   ASNAL40 call   DIM1
6695 4E78 E5         ASNAL64 push   hl
6696 4E79 EB         A    ex     de,hl
6697 4E7A 22 F6BE   A    ld     (AC1INT),hl
6698 4E7D EF         A    rst     TYPTST
6699 4E7E C4 2B88   A    call   nz,HLAC1T
6700 4E81 E1         A    pop    hl
```

```
6701 4E82 C9      A      ret
6702 4E83 7E      ASNAL41  ld      a,(hl)      ;KLEIN- IN GROSSBUCHSTABEN UMWANDELN
6703 4E84 FE 61   ASNAL42  cp      'a'      ;KLEIN A
6704 4E86 D8      A      ret
6705 4E87 FE 7B   A      cp      '{'      ; 'z'+1
6706 4E89 D0      A      ret
6707 4E8A E6 5F   A      and     5FH
6708 4E8C C9      A      ret
6709             A;
6710 4E8D FE 26   ASNAL43  cp      '8'      ;MOEGELICHKEIT FUER H,B,O-PARAMETER IN DE
6711 4E8F C2 474F  A      jp      nz,INTPAR
6712 4E92 11 0000 ASNAL44  ld      de,0      ;WERT IN DE (INTERN) KONVERTIEREN
6713 4E95 D7      A      rst      TCHAR
6714 4E96 CD 4E84  A      call   SNAL42
6715 4E99 01 0102  A      ld      bc,102H
6716 4E9C FE 42   A      cp      'B'
6717 4E9E 28 0F   A      jr      z,SNAL46      ;8B BC=0102
6718 4EA0 01 0308  A      ld      bc,308H
6719 4EA3 FE 4F   A      cp      'O'
6720 4EA5 28 08   A      jr      z,SNAL46      ;8O BC=0308
6721 4EA7 01 0410 ASNAL45  ld      bc,410H
6722 4EAA FE 48   A      cp      'H'      ; WENN 8H --> BC=0410
6723 4EAC C2 4056  A      jp      nz,ERSN      ; NICHT 8B,8O,8H --> SN-ERROR
6724 4EAF 23      ASNAL46  inc     hl
6725 4EB0 7E      A      ld      a,(hl)
6726 4EB1 EB      A      ex     de,hl
6727 4EB2 CD 4E84  A      call   SNAL42      ;KLEIN- IN GROSSBUCHSTABEN
6728 4EB5 FE 3A   A      cp      ':'
6729 4EB7 38 06   A      jr      c,SNAL47      ;ZIFFER
6730 4EB9 FE 41   A      cp      'A'
6731 4EBB 38 14   A      jr      c,SNAL49      ; ;<=>?@
6732 4EBD D6 07   A      sub     7      ;FUER HEXA A,B,C,D,E,F
6733 4EBF D6 30   ASNAL47  sub     '0'      ;ASCII-ZIFFER --> WERT
6734 4EC1 B9      A      cp      c      ;VERGLEICH MIT BASIS-WERT
6735 4EC2 30 0D   A      jr      nc,SNAL49     ;ZIFFER GROESSER
6736 4EC4 C5      A      push   bc
6737 4EC5 29      ASNAL48  add     hl,hl
6738 4EC6 DA 4068  A      jp      c,EROV
6739 4EC9 10 FA   A      djnz   SNAL48     ;WERT=WERT+ZIFFER*BASIS
6740 4ECB C1      A      pop    bc
6741 4ECC B5      A      or     l
6742 4ECD 6F      A      ld     l,a
6743 4ECE EB      A      ex     de,hl
6744 4ECF 18 DE   A      jr     SNAL46
6745 4ED1 CD 2C19 ASNAL49  call   CINT1
6746 4ED4 EB      A      ex     de,hl
6747 4ED5 C9      A      ret
6748             A;
6749 4ED6 23      ASNAL50  inc     hl      ;ADRESSRECHNUNG FUER STARTADRESSE
6750 4ED7 7E      A      ld     a,(hl)
6751 4ED8 D6 81   A      sub     81H     ;ENDTOK
6752 4EDA 06 00   A      ld     b,0
6753 4EDC 07      A      rlca
6754 4EDD 4F      A      ld     c,a
6755 4EDE C5      A      push   bc
6756 4EDF D7      A      rst     TCHAR
6757 4EE0 79      A      ld     a,c
6758 4EE1 FE 05   A      cp     5
```

```
6759 4EE3 30 16      A    jr      nc,SNAL51
6760 4EE5 CD 4C55    A    call   SNAL2
6761 4EE8 CF        A    rst    CPSTX
6762 4EE9 2C        A    defb   ','
6763 4EEA CD 2CD8    A    call   TYSTR?
6764 4EED EB        A    ex     de,hl
6765 4EEE 2A F6BE    A    ld     hl,(AC1INT)
6766 4EF1 E3        A    ex     (sp),hl
6767 4EF2 E5        A    push  hl
6768 4EF3 EB        A    ex     de,hl
6769 4EF4 CD 51F3    A    call   BYTAE2
6770 4EF7 EB        A    ex     de,hl
6771 4EF8 E3        A    ex     (sp),hl
6772 4EF9 18 1A      A    jr      SNAL53
6773 4EFB CD 4E61    ASNAL51 call   SNAL36
6774 4EFE E3        A    ex     (sp),hl
6775 4EFF 7D        A    ld     a,l
6776 4F00 FE 0C      A    cp     0CH
6777 4F02 38 0D      A    jr      c,SNAL52
6778 4F04 FE 1B      A    cp     1BH
6779 4F06 CD FF46    A    call   XSNAL4
6780 4F09 30 06      A    jr      nc,SNAL52
6781 4F0B EF        A    rst    TYPTST
6782 4F0C E5        A    push  hl
6783 4F0D DC 2CBA    A    call   c,CDBL
6784 4F10 E1        A    pop   hl
6785 4F11 11 4E73    ASNAL52 ld     de,SNAL38
6786 4F14 D5        A    push  de
6787 4F15 01 365E    ASNAL53 ld     bc,TABFKT
6788 4F18 CD FF4B    A    call   XSNAL5
6789 4F1B 09        ASNAL54 add   hl,bc
6790 4F1C 4E        A    ld     c,(hl)
6791 4F1D 23        A    inc   hl
6792 4F1E 66        A    ld     h,(hl)
6793 4F1F 69        A    ld     l,c
6794 4F20 E9        A    jp     (hl) ;ABSPRUNG ZUR FUNKTIONSRoutine
6795                A;
6796 4F21 15        ASNAL55 dec   d ;TEST,OB ZEICHEN EIN VORZEICHEN - KENNBYTE IN D
6797 4F22 FE F2      A    cp     0F2H ;MINUSTOK
6798 4F24 C8        A    ret   z
6799 4F25 FE 2D      A    cp     '-'
6800 4F27 C8        A    ret   z
6801 4F28 14        A    inc   d
6802 4F29 FE 2B      A    cp     '+'
6803 4F2B C8        A    ret   z
6804 4F2C FE F1      A    cp     0F1H ;PLUSTOK
6805 4F2E C8        A    ret   z
6806 4F2F 2B        A    dec   hl
6807 4F30 C9        A    ret
6808                A;
6809 4F31 3C        ASNAL56 inc   a ;ANSPRUNG VON AUSSEN ?
6810 4F32 8F        A    adc   a,a
6811 4F33 C1        A    pop  bc
6812 4F34 A0        A    and  b
6813 4F35 C6 FF      A    add  a,-1
6814 4F37 9F        A    sbc  a,a
6815 4F38 CD 2B1A    A    call SGN1
6816 4F3B 18 12      A    jr      SNAL58
```



```
6817 4F3D 16 5A      ASNAL57      ld      d,'Z'
6818 4F3F CD 4C5A     A      call   SNAL5
6819 4F42 CD 2C0A     A      call   CINT
6820 4F45 7D         A      ld      a,l
6821 4F46 2F         A      cpl
6822 4F47 6F         A      ld      l,a
6823 4F48 7C         A      ld      a,h
6824 4F49 2F         A      cpl
6825 4F4A 67         A      ld      h,a
6826 4F4B 22 F6BE     A      ld      (AC1INT),hl
6827 4F4E C1         A      pop    bc
6828 4F4F C3 4C69     ASNAL58     jp      SNAL7
6829                A;
6830 4F52 78         ASNAL59     ld      a,b                ;TEST AUF LOG. UND SPEZ. OPERATIONEN
6831 4F53 F5         A      push  af
6832 4F54 CD 2C0A     A      call   CINT
6833 4F57 F1         A      pop    af
6834 4F58 D1         A      pop    de
6835 4F59 FE 7A     A      cp     7AH
6836 4F5B CA 2EBA     A      jp     z,DIV167
6837 4F5E FE 7B     A      cp     7BH
6838 4F60 CA 2E66     A      jp     z,DIV16
6839 4F63 01 4FAB     A      ld      bc,POS2
6840 4F66 C5         A      push  bc                ;SPRUNG ZU POS2 NACH RET KELLERN
6841 4F67 FE 46     A      cp     46H
6842 4F69 20 06     A      jr     nz,SNAL60
6843 4F6B 7B         A      ld      a,e                ;46H --> AL=HL OR DE
6844 4F6C B5         A      or     l
6845 4F6D 6F         A      ld      l,a
6846 4F6E 7C         A      ld      a,h
6847 4F6F B2         A      or     d
6848 4F70 C9         A      ret
6849 4F71 FE 50     ASNAL60     cp     50H
6850 4F73 20 06     A      jr     nz,SNAL61
6851 4F75 7B         A      ld      a,e                ;50H --> AL=HL AND DE
6852 4F76 A5         A      and   l
6853 4F77 6F         A      ld      l,a
6854 4F78 7C         A      ld      a,h
6855 4F79 A2         A      and   d
6856 4F7A C9         A      ret
6857 4F7B FE 3C     ASNAL61     cp     3CH
6858 4F7D 20 06     A      jr     nz,SNAL62
6859 4F7F 7B         A      ld      a,e                ;3CH --> AL=HL XOR DE
6860 4F80 AD         A      xor   l
6861 4F81 6F         A      ld      l,a
6862 4F82 7C         A      ld      a,h
6863 4F83 AA         A      xor   d
6864 4F84 C9         A      ret
6865 4F85 FE 32     ASNAL62     cp     32H
6866 4F87 20 08     A      jr     nz,SNAL63
6867 4F89 7B         A      ld      a,e                ;32H --> AL = HL /XOR DE
6868 4F8A AD         A      xor   l
6869 4F8B 2F         A      cpl
6870 4F8C 6F         A      ld      l,a
6871 4F8D 7C         A      ld      a,h
6872 4F8E AA         A      xor   d
6873 4F8F 2F         A      cpl
6874 4F90 C9         A      ret
```

```
6875 4F91 7D      ASNAL63    ld      a,l          ;AL = /AND DE
6876 4F92 2F      A        cpl
6877 4F93 A3      A        and      e
6878 4F94 2F      A        cpl
6879 4F95 6F      A        ld      l,a
6880 4F96 7C      A        ld      a,h
6881 4F97 2F      A        cpl
6882 4F98 A2      A        and      d
6883 4F99 2F      A        cpl
6884 4F9A C9      A        ret
6885                A;
6886 4F9B B7      AHLMIDE   or      a          ;HL MINUS DE
6887 4F9C ED 52    A        sbc     hl,de
6888 4F9E C3 2EB6  A        jp      CV4BC0
6889                A;
6890 4FA1 3A F2DC  ALPOS    ld      a,(LPTPOS)  ;DRUCKERSPALTE
6891 4FA4 18 03    A        jr      POS1
6892 4FA6 3A F527  APOS    ld      a,(CRSSPI) ;BILDSCHIRMSPALTE
6893 4FA9 6F      APOS1   ld      l,a
6894 4FAA AF      A        xor     a
6895 4FAB 67      APOS2   ld      h,a
6896 4FAC C3 2C19  A        jp      CINT1 ;INTEGERZAHL AUS HL IN AC1
6897                A;
6898 4FAF CD 4FCE  AUSR    call   USRUP        ;ADRESSE DER USR-FKT HOLEN
6899 4FB2 D5      A        push   de
6900 4FB3 CD 4E61  A        call   SNAL36   ;ARGUMENT HOLEN
6901 4FB6 E3      A        ex      (sp),hl
6902 4FB7 5E      A        ld      e,(hl)
6903 4FB8 23      A        inc     hl
6904 4FB9 56      A        ld      d,(hl)
6905 4FBA 21 2F17  A        ld      hl,POPHL
6906 4FBD E5      A        push   hl      ;SPRUNG ZU POP HL,RET BEIM 2.RET KELLERN
6907 4FBE D5      A        push   de      ;DE: ADR DER USR-FKT
6908 4FBF 3A F529  A        ld      a,(TYP)
6909 4FC2 F5      A        push   af
6910 4FC3 FE 03    A        cp      3
6911 4FC5 CC 69E3  A        call   z,ZKUP21 ;ZEICHENKETTENFKT.
6912 4FC8 F1      A        pop     af
6913 4FC9 EB      A        ex      de,hl
6914 4FCA 21 F6BC  A        ld      hl,AC1
6915 4FCD C9      A        ret
6916                A;
6917 4FCE D7      AUSRUP   rst     TCHAR      ;ZUORDNUNG USRNR. - ADRESSE
6918 4FCF 01 0000  A        ld      bc,0
6919 4FD2 FE 1B    A        cp      1BH
6920 4FD4 30 0B    A        jr      nc,USRUP1 ;USR-NUMMER ZU GROSS --> USR 0
6921 4FD6 FE 11    A        cp      11H
6922 4FD8 38 07    A        jr      c,USRUP1  ;USR-NUMMER ZU KLEIN --> USR 0
6923 4FDA D7      A        rst     TCHAR
6924 4FDB 3A F530  A        ld      a,(HARVAL)
6925 4FDE B7      A        or      a
6926 4FDF 17      A        rla
6927 4FE0 4F      A        ld      c,a
6928 4FE1 EB      AUSRUP1  ex      de,hl
6929 4FE2 21 F24F  A        ld      hl,USRADR ;TABELLE DER ADRESSEN DER USR-FKT
6930 4FE5 09      A        add     hl,bc
6931 4FE6 EB      A        ex      de,hl   ;DE: ADRESSE DER USR-FKT
6932 4FE7 C9      A        ret
```

```
6933          A;
6934 4FE8 CD 4FCE ADEFUSR call  USRUP
6935 4FEB D5      A push  de
6936 4FEC CF      A rst   CPSTX
6937 4FED EF      A defb 0EFH ;GLEICHTOK
6938 4FEE CD 5406 A call  ADRTDE ;ADRESSE IN DE HOLEN
6939 4FF1 E3      A ex   (sp),hl
6940 4FF2 73      A ld   (hl),e
6941 4FF3 23      A inc  hl
6942 4FF4 72      A ld   (hl),d ;USR-ADR IN USR-TABELLE EINTRAGEN
6943 4FF5 E1      A pop  hl
6944 4FF6 C9      A ret
6945          A;
6946 4FF7 FE DD    ADEF cp   0DDH ;USRTOK
6947 4FF9 28 ED    A jr   z,DEFUSR
6948 4FFB CD 517B A call  FNDIM ;FUNKTIONSNAMEN VEREINBAREN
6949 4FFE CD 516D A call  TSTDIR ;TEST AUF DIREKTMODUS
6950 5001 EB      A ex   de,hl
6951 5002 73      A ld   (hl),e
6952 5003 23      A inc  hl
6953 5004 72      A ld   (hl),d
6954 5005 EB      A ex   de,hl
6955 5006 7E      A ld   a,(hl)
6956 5007 FE 28    A cp   '('
6957 5009 C2 483E A jp   nz,DATA_ ;KEIN ARGUMENT --> FUNKTION UEBERNEHMEN
6958 500C D7      A rst  TCHAR
6959 500D CD 60B3 ADEF6 call DIM1 ;ARGUMENT VEREINBAREN
6960 5010 7E      A ld   a,(hl)
6961 5011 FE 29    A cp   ')'
6962 5013 CA 483E A jp   z,DATA_ ;ARGUMENTE VEREINBART --> FUNKTION UEBERNEHMEN
6963 5016 CF      A rst  CPSTX
6964 5017 2C      A defb ','
6965 5018 18 F3    A jr   DEF6
6966          A;
6967 501A CD 517B AFN call  FNDIM ;FKT.-NAMEN VEREINBAREN
6968 501D 3A F529 A ld   a,(TYP)
6969 5020 B7      A or   a
6970 5021 F5      A push af
6971 5022 22 F582 A ld   (HELPMO),hl
6972 5025 EB      A ex   de,hl
6973 5026 7E      A ld   a,(hl)
6974 5027 23      A inc  hl
6975 5028 66      A ld   h,(hl)
6976 5029 6F      A ld   l,a
6977 502A 7C      A ld   a,h
6978 502B B5      A or   l
6979 502C CA 4062 A jp   z,ERUF
6980 502F 7E      A ld   a,(hl)
6981 5030 FE 28    A cp   '('
6982 5032 C2 50CE A jp   nz,FN5
6983 5035 D7      A rst  TCHAR
6984 5036 22 F563 A ld   (HARI4),hl
6985 5039 EB      A ex   de,hl
6986 503A 2A F582 A ld   hl,(HELPMO)
6987 503D CF      A rst  CPSTX
6988 503E 28      A defb '('
6989 503F AF      A xor  a
6990 5040 F5      A push af
```

```
6991 5041 E5      A      push  hl
6992 5042 EB      A      ex     de,hl
6993 5043 3E 80    AFN1  ld     a,80H
6994 5045 32 F56B    A      ld     (FORFLG),a
6995 5048 CD 60B3    A      call  DIM1
6996 504B EB      A      ex     de,hl
6997 504C E3      A      ex     (sp),hl
6998 504D 3A F529    A      ld     a,(TYP)
6999 5050 F5      A      push  af
7000 5051 D5      A      push  de
7001 5052 CD 4C57    A      call  SNAL3
7002 5055 22 F582    A      ld     (HELPMO),hl
7003 5058 E1      A      pop   hl
7004 5059 22 F563    A      ld     (HARI4),hl
7005 505C F1      A      pop   af
7006 505D CD 5154    A      call  FN7
7007 5060 0E 04      A      ld     c,4
7008 5062 CD 646A    A      call  TSMEMS
7009 5065 21 FFF8    A      ld     hl,-8
7010 5068 39      A      add   hl,sp
7011 5069 F9      A      ld     sp,hl
7012 506A CD 2B90    A      call  AC1HLT
7013 506D 3A F529    A      ld     a,(TYP)
7014 5070 F5      A      push  af
7015 5071 2A F582    A      ld     hl,(HELPMO)
7016 5074 7E      A      ld     a,(hl)
7017 5075 FE 29      A      cp    ')
7018 5077 28 0E      A      jr    z, FN3
7019 5079 CF      A      rst  CPSTX
7020 507A 2C      A      defb ', '
7021 507B E5      A      push  hl
7022 507C 2A F563    A      ld     hl,(HARI4)
7023 507F CF      A      rst  CPSTX
7024 5080 2C      A      defb ', '
7025 5081 18 C0      A      jr    FN1
7026 5083 F1      AFN2  pop   af
7027 5084 32 F614    A      ld     (FNCNT1),a
7028 5087 F1      AFN3  pop   af
7029 5088 B7      A      or    a
7030 5089 28 38      A      jr    z, FN4
7031 508B 32 F529    A      ld     (TYP),a
7032 508E 21 0000    A      ld     hl,0
7033 5091 39      A      add   hl,sp
7034 5092 CD 2B88    A      call  HLAC1T
7035 5095 21 0008    A      ld     hl,8
7036 5098 39      A      add   hl,sp
7037 5099 F9      A      ld     sp,hl
7038 509A D1      A      pop   de
7039 509B 2E 03      A      ld     l,3
7040 509D 1B      A      dec  de
7041 509E 1B      A      dec  de
7042 509F 1B      A      dec  de
7043 50A0 3A F529    A      ld     a,(TYP)
7044 50A3 85      A      add  a,l
7045 50A4 47      A      ld   b,a
7046 50A5 3A F614    A      ld     a,(FNCNT1)
7047 50A8 4F      A      ld   c,a
7048 50A9 80      A      add  a,b
```

```
7049 50AA FE 64      A    cp    'd'      ;KLEIN D
7050 50AC D2 4740    A    jp    nc,ERFC
7051 50AF F5          A    push  af
7052 50B0 7D          A    ld    a,l
7053 50B1 06 00      A    ld    b,0
7054 50B3 21 F616    A    ld    hl,FNSBUF
7055 50B6 09          A    add   hl,bc
7056 50B7 4F          A    ld    c,a
7057 50B8 CD 5168    A    call  FNUP
7058 50BB 01 5083    A    ld    bc,FN2
7059 50BE C5          A    push  bc
7060 50BF C5          A    push  bc
7061 50C0 C3 4881    A    jp    LET3
7062 50C3 2A F582    AFN4 ld    hl,(HELPMO)
7063 50C6 D7          A    rst   TCHAR
7064 50C7 E5          A    push  hl
7065 50C8 2A F563    A    ld    hl,(HARI4)
7066 50CB CF          A    rst   CPSTX
7067 50CC 29          A    defb  ') '
7068 50CD 3E          A    defb  3EH      ; ld    a,B?D5
7069 50CE D5          AFN5 push  de
7070 50CF 22 F563    A    ld    (HARI4),hl
7071 50D2 3A F5AC    A    ld    a,(FNCNT)
7072 50D5 C6 04      A    add   a,4
7073 50D7 F5          A    push  af
7074 50D8 0F          A    rrca
7075 50D9 4F          A    ld    c,a
7076 50DA CD 646A    A    call  TSMEMS
7077 50DD F1          A    pop   af
7078 50DE 4F          A    ld    c,a
7079 50DF 2F          A    cpl
7080 50E0 3C          A    inc   a
7081 50E1 6F          A    ld    l,a
7082 50E2 26 FF      A    ld    h,0FFH
7083 50E4 39          A    add   hl,sp
7084 50E5 F9          A    ld    sp,hl
7085 50E6 E5          A    push  hl
7086 50E7 11 F5AA    A    ld    de,FNPTR
7087 50EA CD 5168    A    call  FNUP
7088 50ED E1          A    pop   hl
7089 50EE 22 F5AA    A    ld    (FNPTR),hl
7090 50F1 2A F614    A    ld    hl,(FNCNT1)
7091 50F4 22 F5AC    A    ld    (FNCNT),hl
7092 50F7 44          A    ld    b,h
7093 50F8 4D          A    ld    c,l
7094 50F9 21 F5AE    A    ld    hl,FNDBUF
7095 50FC 11 F616    A    ld    de,FNSBUF
7096 50FF CD 5168    A    call  FNUP
7097 5102 67          A    ld    h,a
7098 5103 6F          A    ld    l,a
7099 5104 22 F614    A    ld    (FNCNT1),hl
7100 5107 2A F680    A    ld    hl,(HPTRFN)
7101 510A 23          A    inc   hl
7102 510B 22 F680    A    ld    (HPTRFN),hl
7103 510E 7C          A    ld    a,h
7104 510F B5          A    or    l
7105 5110 32 F67D    A    ld    (HDIMFN),a
7106 5113 2A F563    A    ld    hl,(HARI4)
```

```
7107 5116 CD 4C52 A call SNAL1
7108 5119 2B A dec hl
7109 511A D7 A rst TCHAR
7110 511B C2 4056 A jp nz,ERSN
7111 511E EF A rst TYPTST
7112 511F 20 0F A jr nz,FN6
7113 5121 11 F55E A ld de,LENZK
7114 5124 2A F6BE A ld hl,(AC1INT)
7115 5127 E7 A rst CPREG
7116 5128 38 06 A jr c,FN6
7117 512A CD 6821 A call STR2
7118 512D CD 6868 A call ZKUP17
7119 5130 2A F5AA AFN6 ld hl,(FNPTR)
7120 5133 54 A ld d,h
7121 5134 5D A ld e,l
7122 5135 23 A inc hl
7123 5136 23 A inc hl
7124 5137 4E A ld c,(hl)
7125 5138 23 A inc hl
7126 5139 46 A ld b,(hl)
7127 513A 03 A inc bc
7128 513B 03 A inc bc
7129 513C 03 A inc bc
7130 513D 03 A inc bc
7131 513E 21 F5AA A ld hl,FNPTR
7132 5141 CD 5168 A call FNUP
7133 5144 EB A ex de,hl
7134 5145 F9 A ld sp,hl
7135 5146 2A F680 A ld hl,(HPTRFN)
7136 5149 2B A dec hl
7137 514A 22 F680 A ld (HPTRFN),hl
7138 514D 7C A ld a,h
7139 514E B5 A or l
7140 514F 32 F67D A ld (HDIMFN),a
7141 5152 E1 A pop hl
7142 5153 F1 A pop af
7143 5154 E5 AFN7 push hl
7144 5155 E6 07 A and 7 ;ZIELTYP AUSFILTERN
7145 5157 21 39B2 A ld hl,TABKON
7146 515A 4F A ld c,a
7147 515B 06 00 A ld b,0
7148 515D 09 A add hl,bc
7149 515E CD 4F1B A call SNAL54 ;HL=HL+2*BC HL=(HL,HL+1) --> jp (HL)
7150 5161 E1 A pop hl ;--> KONVERTIERUNG ENTSPRECHEND ZIELTYP
7151 5162 C9 A ret
7152 A;
7153 5163 1A AFNUPP1 ld a,(de) ;UMLADEN (DE) --> (HL) BC-MAL
7154 5164 77 A ld (hl),a
7155 5165 23 A inc hl
7156 5166 13 A inc de
7157 5167 0B A dec bc
7158 5168 78 AFNUP ld a,b
7159 5169 B1 A or c
7160 516A 20 F7 A jr nz,FNUPP1
7161 516C C9 A ret
7162 A;
7163 516D E5 ATSTDIR push hl ;TEST AUF DIREKTMODUS
7164 516E 2A F2E2 A ld hl,(ACTZN) ;BEI DIREKTMODUS 0FFFFH
```

```
7165 5171 23      A    inc    hl
7166 5172 7C      A    ld     a,h
7167 5173 B5      A    or     l
7168 5174 E1      A    pop    hl
7169 5175 C0      A    ret    nz           ;KEIN DIREKTMODUS
7170 5176 1E 0C   A    ld     e,0CH
7171 5178 C3 4070  A    jp     ERRO         ;ERROR ILLEGAL DIRECT
7172                A;
7173 517B CF      AFNDIM   rst     CPSTX
7174 517C DE      A    defb  0DEH         ;FNTOK
7175 517D 3E 80   A    ld     a,80H
7176 517F 32 F56B A    ld     (FORFLG),a
7177 5182 B6      A    or     (hl)
7178 5183 4F      A    ld     c,a
7179 5184 C3 60B8  A    jp     DIM2         ;Fkt.Namen vereinbaren
7180                A;
7181 5187 FE 7E   ARUNM6   cp     7EH           ;TEST KENNBYTE FUNKTION
7182 5189 20 1A   A    jr     nz,RUNM7     ;KEINE FUNKTION --> SN-ERROR
7183 518B 23      A    inc    hl
7184 518C 7E      A    ld     a,(hl)
7185 518D 23      A    inc    hl
7186 518E FE 83   A    cp     83H         ;MID$TOK + 80H
7187 5190 CA 6B7B A    jp     z,MIDAN
7188 5193 FE A3   A    cp     0A3H         ;STRIGTOK + 80H
7189 5195 CA 7668 A    jp     z,SWSTRG
7190 5198 FE 85   A    cp     85H         ;INTTOK + 80H
7191 519A CA 765A A    jp     z,SWINTV
7192 519D FE 96   A    cp     96h         ;CHRTOK+80H
7193 519F CA 7966 A    jp     z,CHRAN
7194 51A2 CD FF50 A    call  XRMN3         ;EXTERNE AUNWEISUNGEN
7195 51A5 C3 4056  ARUNM7   jp     ERSN           ;SN-ERROR
7196                A;
7197 51A8 F5      APAUSE   push   af           ;Par.vorhanden ?
7198 51A9 28 36   A    jr     z,PAUSE5     ;nein
7199 51AB CD 5406 A    call  ADRTDE         ;ja, uebernehmen in de
7200 51AE E3      A    ex     (sp),hl      ;Zeiger rett.
7201 51AF E5      A    push  hl
7202 51B0 2A FC0C  A    ld     hl,(VATIME)  ;Zeit
7203 51B3 19      A    add   hl,de         ;Zeit' = Zeit + Par
7204 51B4 EB      A    ex     de,hl        ;in de
7205 51B5 2A FC0C  APAUSE2  ld     hl,(VATIME)
7206 51B8 E7      A    rst   CPREG         ;ZEIT' = ZEIT
7207 51B9 28 23   A    jr     z,PAUSE3
7208 51BB F3      APAUSE1  di
7209 51BC 3A FACE  A    ld     a,(IRVAN)    ;IR-Anmeldung?
7210 51BF B7      A    or     a
7211 51C0 20 1B   A    jr     nz,PAUSE7     ;ja -> Abbruch Pause
7212 51C2 3A FC09  A    ld     a,(STCSSW)
7213 51C5 FE 04   A    cp     4           ;Stop ?
7214 51C7 28 10   A    jr     z,PAUSE6     ;ja
7215 51C9 FB      A    ei
7216 51CA FE 03   A    cp     3           ;CTRL STOP ?
7217 51CC 20 05   A    jr     nz,PAUSE4     ;nein
7218 51CE D5      A    push  de
7219 51CF CD 00BA  A    call  STPTST         ;Stoptasten-Behandlung
7220 51D2 D1      A    pop   de
7221 51D3 F1      APAUSE4  pop    af
7222 51D4 F5      A    push  af
```

```
7223 51D5 28 E4      A   jr      z,PAUSE1      ;keine Par.
7224 51D7 18 DC      A   jr      PAUSE2       ;mit Par.
7225 51D9 AF          APAUSE6      xor    a
7226 51DA 32 FC09     A   ld      (STCSSW),a
7227 51DD FB          APAUSE7      ei
7228 51DE F1          APAUSE3      pop    af
7229 51DF E1          A   pop     hl           ;Zeiger reg.
7230 51E0 C9          A   ret
7231 51E1 E3          APAUSE5      ex     (sp),hl
7232 51E2 E5          A   push   hl
7233 51E3 18 D6     A   jr      PAUSE1
7234          A;
7235 51E5 D7          AINTDE1     rst    TCHAR           ;UEBERNAHME INTEGERPARAMETER IN DE
7236 51E6 CD 4C57    AINTDE2     call  SNAL3           ;AUSWERTUNG AUSDRUCK
7237 51E9 E5          AINTDE3     push  hl
7238 51EA CD 2C0A    A   call   CINT        ;UEBERNAHME WERT IN DE
7239 51ED EB          A   ex     de,hl
7240 51EE E1          A   pop     hl
7241 51EF 7A          A   ld     a,d
7242 51F0 B7          A   or     a
7243 51F1 C9          A   ret           ;Z=0 ; WENN WERT <256
7244          A;
7245 51F2 D7          ABYTAE1     rst    TCHAR           ;UEBERNAHME BYTEPARAMETER IN A UND E
7246 51F3 CD 4C57    ABYTAE2     call  SNAL3
7247 51F6 CD 51E9    ABYTAE3     call  INTDE3
7248 51F9 C2 4740    A   jp     nz,ERFC     ;WERT ZU GROSS --> FC-ERROR
7249 51FC 2B          A   dec    hl
7250 51FD D7          A   rst    TCHAR       ;ZEIGER STELLEN
7251 51FE 7B          A   ld     a,e
7252 51FF C9          A   ret
7253          A;
7254 5200 3E 01      ALLIST      ld     a,1
7255 5202 32 F2DD    A   ld     (PTORSC),a  ;DRUCKER EIN
7256 5205 CD FF55    ALIST_      call  XLST1
7257 5208 C1          A   pop     bc         ;RUECKKEHRADRESSE WEGWERFEN
7258 5209 CD 4274    A   call   ZNUEB       ;ZEILENNUMMER UEBERNEHMEN 1. IN BC 2. IN (SP)
7259 520C C5          A   push   bc
7260 520D 21 FFFF    ALIST1      ld     hl,0FFFFH
7261 5210 22 F2E2    A   ld     (ACTZN),hl  ;AKTUELLE ZN = FFFF (DIREKTMODUS)
7262 5213 E1          A   pop     hl         ;HL: 1.ZN
7263 5214 D1          A   pop     de         ;LETZTE ZN DES LIST-KOMMANDOS
7264 5215 4E          A   ld     c,(hl)
7265 5216 23          A   inc    hl
7266 5217 46          A   ld     b,(hl)     ;BC: ANFANG NAECHSTE ZEILE
7267 5218 23          A   inc    hl
7268 5219 78          A   ld     a,b
7269 521A B1          A   or     c
7270 521B CA 411D    A   jp     z,KOM2     ;PROG.ENDE --> LIST ABBRECHEN --> OK < AUSGEBEN
7271 521E CD 014A    A   call   TAFCB      ;ERFOLGT LIST AUF KANAL ?
7272 5221 CC 00BA    A   call   z,STPTST   ;NEIN --> STOPABFRAGE
7273 5224 C5          A   push   bc         ;ADR. NAECHSTE ZEILE KELLERN
7274 5225 4E          A   ld     c,(hl)
7275 5226 23          A   inc    hl
7276 5227 46          A   ld     b,(hl)     ;BC: ZEILENNUMMER
7277 5228 23          A   inc    hl
7278 5229 C5          A   push   bc
7279 522A E3          A   ex     (sp),hl
7280 522B EB          A   ex     de,hl     ;HL: LETZTE ZN DE: AKT.ZN
```



```
7281 522C E7      A   rst   CPREG
7282 522D C1      A   pop   bc           ;BC: ADR 1.ZEICHEN DER AKT. ZEILE
7283 522E DA 411C A   jp    c,KOM1      ;AKT.ZN > LETZTE ZN VON LIST --> LIST ABBRECHEN
7284 5231 E3      A   ex    (sp),hl    ;(SP):LETZTE ZN VON LIST HL:ADR NAECHSTE ZEILE
7285 5232 E5      A   push  hl
7286 5233 C5      A   push  bc
7287 5234 EB      A   ex    de,hl      ;DE: ADR. NAECHSTE ZEILE HL: AKT.ZN
7288 5235 22 F57B A   ld    (HELPZN),hl
7289 5238 CD 3092 A   call  AUZN        ;AUSGABE ZN ALS STRING
7290 523B E1      A   pop   hl          ;HL: ADR. 1.ZEICHEN DER ZEILE
7291 523C 7E      A   ld    a,(hl)
7292 523D FE 09   A   cp    9           ;TAB ?
7293 523F 28 03   A   jr    z,LIST2
7294 5241 3E 20   A   ld    a,' '       ;NEIN --> LEERZEICHEN AUSGEBEN
7295 5243 DF      A   rst   CHAR0
7296 5244 CD 525B ALIST2  call  LIST4          ;ZEILE IN EDIBUF RUECKUEBERSETZEN
7297 5247 21 F424 A   ld    hl,EDIBUF
7298 524A CD 5252 A   call  LIST3        ;ZEILE VON EDIBUF AUSGEBEN
7299 524D CD 7548 A   call  LSTRE1       ;0D 0A AUSGEBEN
7300 5250 18 BB   A   jr    LIST1
7301      A;
7302 5252 7E      ALIST3  ld    a,(hl)        ;ZEILE BIS 00 AUSGEBEN
7303 5253 B7      A   or    a
7304 5254 C8      A   ret   z
7305 5255 CD 7587 A   call  LSTOUT       ;ZEICHEN (A) AUF LISTGERAET AUSGEBEN
7306 5258 23      A   inc  hl
7307 5259 18 F7   A   jr    LIST3
7308      A           ;ZEILE AUS PROG.SPEICHER IN EDIBUF RUECKUEBERSETZEN
7309 525B 01 F424 ALIST4  ld    bc,EDIBUF
7310 525E 16 FF   A   ld    d,0FFH      ;MAX. 255 ZEICHEN
7311 5260 AF      A   xor  a
7312 5261 32 F52A A   ld    (MODUS1),a
7313 5264 18 04   A   jr    LIST6
7314 5266 03      ALIST5  inc  bc             ;NAECHSTES BYTE IM PROGRAMMSPEICHER
7315 5267 23      A   inc  hl
7316 5268 15      A   dec  d
7317 5269 C8      A   ret   z           ;EDIBUF VOLL
7318 526A 7E      ALIST6  ld    a,(hl)        ;ZEICHEN VOM PROG.SPEICHER HOLEN
7319 526B B7      A   or    a
7320 526C 02      A   ld    (bc),a      ;ZEICHEN IN EDIBUF SCHREIBEN
7321 526D C8      A   ret   z           ;ZEILENENDE
7322 526E FE 0B   A   cp    0BH
7323 5270 38 25   A   jr    c,LIST9     ;STEUERCODE < 0B
7324 5272 FE 20   A   cp    ' '
7325 5274 DA 5338 A   jp    c,LIST24     ;ZEICHEN 0B ... 1F
7326 5277 FE 22   A   cp    '"'
7327 5279 20 0A   A   jr    nz,LIST7
7328 527B 3A F52A A   ld    a,(MODUS1)   ;ZEICHEN '"'
7329 527E EE 01   A   xor  1           ;ZK-BIT = 1,WENN 1.MAL '"'
7330 5280 32 F52A A   ld    (MODUS1),a   ;ZK-BIT = 0,WENN 2.MAL '"'
7331 5283 3E 22   A   ld    a,'"'
7332 5285 FE 3A   ALIST7  cp    ':'
7333 5287 20 0E   A   jr    nz,LIST9
7334 5289 3A F52A A   ld    a,(MODUS1)   ;ZEICHEN ':'
7335 528C 1F      A   rra
7336 528D 38 06   A   jr    c,LIST8     ;ZEICHENKETTE IST EINGESCHALTET
7337 528F 17      A   rla
7338 5290 E6 FD   A   and  0FDH
```

```
7339 5292 32 F52A A ld (MODUS1),a ;DATA-BIT = 0
7340 5295 3E 3A ALIST8 ld a,':'
7341 5297 B7 ALIST9 or a
7342 5298 F2 5266 A jp p,LIST5 ;ZEICHEN < 80H --> NAECHSTES BYTE
7343 529B 3A F52A A ld a,(MODUS1) ;ZEICHEN > 80H (TOKEN ODER GRAFIKZEICHEN)
7344 529E 1F A rra
7345 529F 38 2E A jr c,LIST11 ;ZEICHENKETTE --> GRAFIKZEICHEN
7346 52A1 1F A rra
7347 52A2 1F A rra
7348 52A3 30 3E A jr nc,LIST15 ;KEIN KOMMENTAR
7349 52A5 7E A ld a,(hl) ;BEREITS ZEICHEN AUS KOMMENTARZILE
7350 52A6 FE E6 A cp 0E6H ;APOSTROPH TOK (ERSATZZEICHEN FUER KOMMENTAR)
7351 52A8 E5 A push hl
7352 52A9 C5 A push bc
7353 52AA 21 52CC A ld hl,LIST10
7354 52AD E5 A push hl
7355 52AE C0 A ret nz ;SPRUNG ZU LIST10, WENN NICHT APOSTROPH TOK
7356 52AF 0B A dec bc ;KONTROLLE,OB IM EDIBUF BEREITS ':REM' STEHT
7357 52B0 0A A ld a,(bc)
7358 52B1 FE 4D A cp 'M'
7359 52B3 C0 A ret nz
7360 52B4 0B A dec bc
7361 52B5 0A A ld a,(bc)
7362 52B6 FE 45 A cp 'E'
7363 52B8 C0 A ret nz
7364 52B9 0B A dec bc
7365 52BA 0A A ld a,(bc)
7366 52BB FE 52 A cp 'R'
7367 52BD C0 A ret nz
7368 52BE 0B A dec bc
7369 52BF 0A A ld a,(bc)
7370 52C0 FE 3A A cp ':'
7371 52C2 C0 A ret nz ;NEIN --> SPRUNG ZU LIST10
7372 52C3 F1 A pop af ;JA
7373 52C4 F1 A pop af
7374 52C5 E1 A pop hl
7375 52C6 14 A inc d
7376 52C7 14 A inc d
7377 52C8 14 A inc d
7378 52C9 14 A inc d ;VORHERGEHENDES ':REM' AUS EDIBUF GELOESCHT
7379 52CA 18 25 A jr LIST16
7380 52CC C1 ALIST10 pop bc
7381 52CD E1 A pop hl
7382 52CE 7E A ld a,(hl)
7383 52CF C3 5266 ALIST11 jp LIST5 ;WEITER MIT NAECHSTEM BYTE
7384 A;
7385 52D2 3A F52A ALIST12 ld a,(MODUS1)
7386 52D5 F6 02 A or 2 ;DATA-BIT SETZEN
7387 52D7 32 F52A ALIST13 ld (MODUS1),a
7388 52DA AF A xor a
7389 52DB C9 A ret
7390 52DC 3A F52A ALIST14 ld a,(MODUS1)
7391 52DF F6 04 A or 4 ;KOMMENTAR-BIT SETZEN
7392 52E1 18 F4 A jr LIST13
7393 52E3 17 ALIST15 rla
7394 52E4 38 E9 A jr c,LIST11 ;ZEICHEN GEHOERT ZU DATA-ANWEISUNG
7395 52E6 7E A ld a,(hl)
7396 52E7 FE 84 A cp 84H ;DATATOK
```

```
7397 52E9 CC 52D2 A call z,LIST12
7398 52EC FE 8F A cp 8FH ;REMTOK
7399 52EE CC 52DC A call z,LIST14
7400 52F1 7E ALIST16 ld a,(hl)
7401 52F2 3C A inc a
7402 52F3 7E A ld a,(hl)
7403 52F4 20 04 A jr nz,LIST17
7404 52F6 23 A INC HL ;A WAR KENNYBYTE FUER FKT. FF
7405 52F7 7E A ld a,(hl)
7406 52F8 E6 7F A and 7FH ;A: FKT.TOKEN AND 7F
7407 52FA 23 ALIST17 inc hl
7408 52FB FE A1 A cp 0A1H ;ELSETOK
7409 52FD 20 02 A jr nz,LIST18
7410 52FF 0B A dec bc ;WENN ELSE FOLGT, DANN IM EDIBUF 1 BYTE ZURUECK
7411 5300 14 A inc d
7412 5301 E5 ALIST18 push hl
7413 5302 C5 A push bc
7414 5303 D5 A push de
7415 5304 CD FF5A A call XLST2
7416 5307 21 36F1 A ld hl,TOKA-1 ;ZEIGER VOR SCHLUESSELWORTTABELLE
7417 530A 47 A ld b,a ;B: GESUCHTES TOKEN
7418 530B 0E 40 A ld c,'@' ;C: ZEICHEN VOR 'A'
7419 530D 0C ALIST19 inc c ;NAECHSTER ANFANGSBUCHSTABE
7420 530E 23 ALIST20 inc hl ;NAECHSTES ZEICHEN DER SCHLUESSELWORTTABELLE
7421 530F 54 A ld d,h
7422 5310 5D A ld e,l
7423 5311 7E ALIST21 ld a,(hl) ;A: ZEICHEN AUS TABELLE
7424 5312 B7 A or a
7425 5313 28 F8 A jr z,LIST19 ;ENDE DER TABELLE FUER AKTUELLEN ANFANGSBUCHST.
7426 5315 23 A inc hl
7427 5316 F2 5311 A jp p,LIST21
7428 5319 7E A ld a,(hl) ;A: TOKEN NACH SCHLUESSELWORT
7429 531A B8 A cp b
7430 531B 20 F1 A jr nz,LIST20
7431 531D EB A ex de,hl ;TOKEN GEFUNDEN
7432 531E 79 A ld a,c
7433 531F D1 A pop de
7434 5320 C1 A pop bc
7435 5321 FE 5B A cp '[' ;ANFANGSBUCHSTABE = '[' ?
7436 5323 20 02 A jr nz,LIST23
7437 5325 7E ALIST22 ld a,(hl) ;JA --> A: OPERATORENTOKEN
7438 5326 23 A inc hl
7439 5327 5F ALIST23 ld e,a
7440 5328 E6 7F A and 7FH
7441 532A 02 A ld (bc),a ;ASCII-CODE FUER OPERATOR BZW. BUCHSTABE EINES
7442 532B 03 A inc bc ;SCHLUESSELWORTS IN EDIBUF
7443 532C 15 A dec d
7444 532D CA 68B7 A jp z,TSTZK2 ;EDIBUF VOLL
7445 5330 B3 A or e
7446 5331 F2 5325 A jp p,LIST22 ;SCHLUESSELWORT NICHT ZU ENDE
7447 5334 E1 A pop hl
7448 5335 C3 526A A jp LIST6
7449 A;
7450 5338 2B ALIST24 dec hl ;RUECKUEBERSETZUNG VON ZAHLEN
7451 5339 D7 A rst TCHAR
7452 533A D5 A push de
7453 533B C5 A push bc
7454 533C F5 A push af
```

```
7455 533D CD 46CE A call TCHARC
7456 5340 F1 A pop af
7457 5341 01 5355 A ld bc,LIST25
7458 5344 C5 A push bc ;RUECKKEHR ZU LIST25 NACH KONVERTIERUNG KELLERN
7459 5345 FE 0B A cp 0BH ;KENNBYTE OKTAL
7460 5347 CA 339E A jp z,AUOKT
7461 534A FE 0C A cp 0CH ;KENNBYTE HEXADEZIMAL
7462 534C CA 33A2 A jp z,AUHEX
7463 534F 2A F530 A ld hl,(HARVAL)
7464 5352 C3 30A5 A jp AUKO
7465 A;
7466 5355 C1 ALIST25 pop bc ;WEITER NACH KONVERTIERUNG
7467 5356 D1 A pop de ;HL ZEIGT IN PUFFER FUER AUSGABEKONVERTIERUNG
7468 5357 3A F52E A ld a,(HKBNZR) ;ART DER ZAHL NACH DER KONVERTIERUNG
7469 535A 1E 4F A ld e,'0'
7470 535C FE 0B A cp 0BH
7471 535E 28 06 A jr z,LIST26 ;OKTAL
7472 5360 FE 0C A cp 0CH
7473 5362 1E 48 A ld e,'H'
7474 5364 20 0B A jr nz,LIST27 ;WEDER OKTAL NOCH HEXADEZIMAL
7475 5366 3E 26 ALIST26 ld a,'&'
7476 5368 02 A ld (bc),a ;'&' IN EDIBUF
7477 5369 03 A inc bc
7478 536A 15 A dec d
7479 536B C8 A ret z ;EDIBUF VOLL
7480 536C 7B A ld a,e
7481 536D 02 A ld (bc),a ;'0' ODER 'H' IN EDIBUF
7482 536E 03 A inc bc
7483 536F 15 A dec d
7484 5370 C8 A ret z ;EDIBUF VOLL
7485 5371 3A F52F ALIST27 ld a,(HTYPZN) ;TYP DER ZAHL NACH DER KONVERTIERUNG
7486 5374 FE 04 A cp 4
7487 5376 1E 00 A ld e,0
7488 5378 38 06 A jr c,LIST28 ;INTEGER
7489 537A 1E 21 A ld e,'!'
7490 537C 28 02 A jr z,LIST28 ;EINFACHE GENAUIGKEIT 4BYTE
7491 537E 1E 23 A ld e,'#' ;DOPPELTE GENAUIGKEIT 8BYTE
7492 5380 7E ALIST28 ld a,(hl)
7493 5381 FE 20 A cp ' '
7494 5383 20 01 A jr nz,LIST29
7495 5385 23 A inc hl ;LEERZEICHEN AN VORZEICHENSTELLE UEBERGEHEN
7496 5386 7E ALIST29 ld a,(hl)
7497 5387 23 A inc hl
7498 5388 B7 A or a
7499 5389 28 20 A jr z,LIST32 ;ZAHL FERTIG
7500 538B 02 A ld (bc),a ;ASCII-CODE FUER ZIFFER IN EDIBUF
7501 538C 03 A inc bc
7502 538D 15 A dec d
7503 538E C8 A ret z ;EDIBUF VOLL
7504 538F 3A F52F A ld a,(HTYPZN) ;TYP DER ZAHL
7505 5392 FE 04 A cp 4
7506 5394 38 F0 A jr c,LIST29 ;INTEGER
7507 5396 0B A dec bc
7508 5397 0A A ld a,(bc)
7509 5398 03 A inc bc
7510 5399 20 04 A jr nz,LIST30
7511 539B FE 2E A cp '.'
7512 539D 28 08 A jr z,LIST31
```

```
7513 539F FE 44 ALIST30 cp 'D'
7514 53A1 28 04 A jr z,LIST31
7515 53A3 FE 45 A cp 'E'
7516 53A5 20 DF A jr nz,LIST29
7517 53A7 1E 00 ALIST31 ld e,0 ;WENN . E D ,DANN KEINE GENAUGKEITSANGABE
7518 53A9 18 DB A jr LIST29
7519 53AB 7B ALIST32 ld a,e
7520 53AC B7 A or a
7521 53AD 28 04 A jr z,LIST33
7522 53AF 02 A ld (bc),a ;KENNZEICHEN FUER GENAUGKEIT IN EDIBUF
7523 53B0 03 A inc bc
7524 53B1 15 A dec d
7525 53B2 C8 A ret z ;EDIBUF VOLL
7526 53B3 2A F52C ALIST33 ld hl,(HPROAD) ;HL: WIEDER ZEIGER IN PROG.ZEILE
7527 53B6 C3 526A A jp LIST6
7528 A;
7529 53B9 CD 4274 ADELETE call ZNUEB ;ZN UEBERNEHMEN 1. IN BC 2.IN (SP)
7530 53BC C5 A push bc
7531 53BD CD 54BE A call REN7
7532 53C0 C1 A pop bc
7533 53C1 D1 A pop de
7534 53C2 C5 A push bc
7535 53C3 C5 A push bc
7536 53C4 CD 4290 A call SUCLN ;ZEILE IM PROG. SUCHEN
7537 53C7 30 05 A jr nc,DEL1 ;NICHT GEFUNDEN
7538 53C9 54 A ld d,h
7539 53CA 5D A ld e,l
7540 53CB E3 A ex (sp),hl ;ADR 1. ZN IN HL
7541 53CC E5 A push hl
7542 53CD E7 A rst CPREG
7543 53CE D2 4740 ADEL1 jp nc,ERFC ;FC-ERROR
7544 53D1 21 3C42 A ld hl,OK
7545 53D4 CD 6888 A call OUTZK1 ;AUSGABE 'OK'
7546 53D7 C1 A pop bc
7547 53D8 21 4232 A ld hl,INSLNA
7548 53DB E3 A ex (sp),hl ;ADRESSE ENDEBEHANDLUNG (ZEIGER,NEW,..)
7549 53DC EB ADEL2 ex de,hl
7550 53DD 2A F588 A ld hl,(SVARPT) ;HL: ZEIGT HINTER PROG.ENDE
7551 53E0 1A ADEL3 ld a,(de) ;PROG. NACH DELETE-BEREICH VORVERSCHIEBEN
7552 53E1 02 A ld (bc),a
7553 53E2 03 A inc bc
7554 53E3 13 A inc de
7555 53E4 E7 A rst CPREG
7556 53E5 20 F9 A jr nz,DEL3
7557 53E7 60 A ld h,b ;VOLLSTAENDIG VERSCHOBEN
7558 53E8 69 A ld l,c
7559 53E9 22 F588 A ld (SVARPT),hl ;ZEIGER HINTER PROG.ENDE
7560 53EC 22 F58A A ld (DVARPT),hl
7561 53EF 22 F58C A ld (FSLPTR),hl
7562 53F2 C9 A ret ;SPRUNG ZU ENDEBEHANDLUNG
7563 A;
7564 53F3 CD 5410 APEEK call ADDRREC ;ADRESSE BERECHNEN
7565 53F6 7E A ld a,(hl)
7566 53F7 C3 4FA9 A jp POS1 ;WERT VON A NACH AC1
7567 A;
7568 53FA CD 5406 APOKE call ADRTDE ;ADRESSE IN DE UEBERNEHMEN
7569 53FD D5 A push de
7570 53FE CF A rst CPSTX
```

```
7571 53FF 2C      A   defb  ','
7572 5400 CD 51F3  A   call  BYTAE2      ;BYTEPARAMETER IN A
7573 5403 D1      A   pop   de
7574 5404 12      A   ld    (de),a     ;BYTE EINSCHREIBEN
7575 5405 C9      A   ret
7576           A;
7577 5406 CD 4C57  AADRTE  call  SNAL3      ;AUSWERTUNG AUSDRUCK
7578 5409 E5      AADRDE0 push hl
7579 540A CD 5410  A   call  ADDRREC   ;ADRESSE BERECHNEN
7580 540D EB      A   ex    de,hl
7581 540E E1      A   pop   hl
7582 540F C9      A   ret
7583           A;
7584 5410 01 2C0A  AADRREC  ld    bc,CINT
7585 5413 C5      A   push  bc        ;SPRUNG ZU CINT KELLERN
7586 5414 EF      A   rst   TYPTST
7587 5415 F8      A   ret   m
7588 5416 CD 2AF1  A   call  TVORZ     ;INTEGER --> SPRUNG ZU CINT
7589 5419 F8      A   ret   m        ;VORZEICHENTEST
7590 541A CD 2C32  A   call  CSNG
7591 541D 01 3245  A   ld    bc,3245H  ;)
7592 5420 11 8076  A   ld    de,8076H  ;) 32768
7593 5423 CD 2BA1  A   call  VGL4      ;VERGLEICH (AC1) MIT 32768
7594 5426 D8      A   ret   c        ;KLEINER
7595 5427 01 6545  A   ld    bc,6545H  ;)
7596 542A 11 6053  A   ld    de,6053H  ;) 65536
7597 542D CD 2BA1  A   call  VGL4      ;VERGLEICH (AC1) MIT 65536
7598 5430 D2 4068  A   jp    nc,EROV   ;GROESSER --> OV-ERROR
7599 5433 01 65C5  A   ld    bc,65C5H
7600 5436 11 6053  A   ld    de,6053H
7601 5439 C3 2ECE  A   jp    ADD4      ; --> (AC1)-65536 --> CINT
7602           A;
7603 543C 01 000A  ARENUM   ld    bc,0AH      ;STANDARDABSTAND 10
7604 543F C5      A   push  bc
7605 5440 50      A   ld    d,b
7606 5441 58      A   ld    e,b
7607 5442 28 26  A   jr    z,REN2    ;KEINE PARAMETER
7608 5444 FE 2C  A   cp    ','
7609 5446 28 09  A   jr    z,REN1    ;KEINE NEUANFANGSZN
7610 5448 D5      A   push  de
7611 5449 CD 4745  A   call  INTPAP    ;NEUANFANGSZN IN DE
7612 544C 42      A   ld    b,d
7613 544D 4B      A   ld    c,e
7614 544E D1      A   pop   de
7615 544F 28 19  A   jr    z,REN2    ;KEINE WEITEREN PARAMETER
7616 5451 CF      AREN1  rst   CPSTX
7617 5452 2C      A   defb  ','
7618 5453 CD 4745  A   call  INTPAP    ;ALTANFANGSZN IN DE
7619 5456 28 12  A   jr    z,REN2    ;KEIN WEITERER PARAMETER
7620 5458 F1      A   pop   af
7621 5459 CF      A   rst   CPSTX
7622 545A 2C      A   defb  ','
7623 545B D5      A   push  de
7624 545C CD 474F  A   call  INTPAR    ;ABSTAND IN DE
7625 545F C2 4056  A   jp    nz,ERSN   ;ANWEISUNG NICHT ZU ENDE --> SN-ERROR
7626 5462 7A      A   ld    a,d
7627 5463 B3      A   or    e
7628 5464 CA 4740  A   jp    z,ERFC    ;ABSTAND 0 --> FC-ERROR
```

```
7629 5467 EB      A      ex      de,hl
7630 5468 E3      A      ex      (sp),hl
7631 5469 EB      A      ex      de,hl
7632 546A C5      AREN2 push  bc
7633 546B CD 4290 A      call   SUCLN      ;ALTANFANGSZN SUCHEN
7634 546E D1      A      pop    de
7635 546F D5      A      push   de
7636 5470 C5      A      push   bc
7637 5471 CD 4290 A      call   SUCLN      ;NEUANFANGSZN SUCHEN
7638 5474 60      A      ld     h,b
7639 5475 69      A      ld     l,c
7640 5476 D1      A      pop    de
7641 5477 E7      A      rst    CPREG
7642 5478 EB      A      ex      de,hl
7643 5479 DA 4740 A      jp     c,ERFC      ;NEUANFANGSZN BEREITS IM PROG. --> FC-ERROR
7644 547C D1      A      pop    de
7645 547D C1      A      pop    bc
7646 547E F1      A      pop    af
7647 547F E5      A      push   hl
7648 5480 D5      A      push   de
7649 5481 18 0E   A      jr     REN4
7650 5483 09      AREN3 add    hl,bc      ;TEST,OB ALLE NEUEN ZN ZULAESSIG
7651 5484 DA 4740 A      jp     c,ERFC      ;NEUE AKTZN ZU GROSS --> FC-ERROR
7652 5487 EB      A      ex      de,hl
7653 5488 E5      A      push   hl
7654 5489 21 FFF9 A      ld     hl,65529
7655 548C E7      A      rst    CPREG
7656 548D E1      A      pop    hl
7657 548E DA 4740 A      jp     c,ERFC      ;NEUE AKTZN ZU GROSS
7658 5491 D5      AREN4 push   de
7659 5492 5E      A      ld     e,(hl)
7660 5493 23      A      inc    hl
7661 5494 56      A      ld     d,(hl)
7662 5495 7A      A      ld     a,d
7663 5496 B3      A      or     e
7664 5497 EB      A      ex      de,hl
7665 5498 D1      A      pop    de
7666 5499 28 07   A      jr     z,REN5      ;PROG.ENDE GEFUNDEN
7667 549B 7E      A      ld     a,(hl)
7668 549C 23      A      inc    hl
7669 549D B6      A      or     (hl)
7670 549E 2B      A      dec    hl
7671 549F EB      A      ex      de,hl
7672 54A0 20 E1   A      jr     nz,REN3      ;TEST FUER NAECHSTE ZN
7673 54A2 C5      AREN5 push   bc
7674 54A3 CD 54CA A      call   REN9      ;ZEILEN ABSUCHEN
7675 54A6 C1      A      pop    bc
7676 54A7 D1      A      pop    de
7677 54A8 E1      A      pop    hl
7678 54A9 D5      AREN6 push   de      ;NEUE ZN NACH FOLGEZEIGER EINTRAGEN
7679 54AA 5E      A      ld     e,(hl)
7680 54AB 23      A      inc    hl
7681 54AC 56      A      ld     d,(hl)
7682 54AD 7A      A      ld     a,d
7683 54AE B3      A      or     e
7684 54AF 28 14   A      jr     z,REN8      ;FERTIG FUER ALLE ZEILEN
7685 54B1 EB      A      ex      de,hl
7686 54B2 E3      A      ex      (sp),hl
```

```
7687 54B3 EB      A   ex   de,hl
7688 54B4 23      A   inc  hl
7689 54B5 73      A   ld   (hl),e
7690 54B6 23      A   inc  hl
7691 54B7 72      A   ld   (hl),d
7692 54B8 EB      A   ex   de,hl
7693 54B9 09      A   add  hl,bc
7694 54BA EB      A   ex   de,hl
7695 54BB E1      A   pop  hl
7696 54BC 18 EB     A   jr   REN6          ;NAECHSTE ZEILE
7697                A;
7698 54BE 3A F56F  AREN7 ld   a,(DATFLG)
7699 54C1 B7      A   or   a
7700 54C2 C8      A   ret  z
7701 54C3 18 06    A   jr   REN10
7702 54C5 01 411C AREN8 ld   bc,KOM1
7703 54C8 C5      A   push bc          ;SPRUNG IN KOMMANDOEbene NACH REN KELLERN
7704 54C9 FE      A   defb 0FEH      ; cp 0F6H
7705 54CA F6      AREN9 defb 0F6H      ; or 0AFH
7706 54CB AF      AREN10 xor   a              ;ZEILEN ABSUCHEN
7707 54CC 32 F56F A   ld   (DATFLG),a ;(DATFLG) KENNBYTE ANSPRUNG =AF..FF VON REN9
7708 54CF 2A F53C A   ld   hl,(PSTBEG) ;          =0 VON REN10 UND REN8
7709 54D2 2B      A   dec  hl          ;HL: ZEIGER VOR PROG.ANFANG
7710 54D3 23      AREN11 inc  hl
7711 54D4 7E      A   ld   a,(hl)
7712 54D5 23      A   inc  hl
7713 54D6 B6      A   or   (hl)
7714 54D7 C8      A   ret  z          ;FOLGEZEIGER 0 ---> PROG.ENDE
7715 54D8 23      A   inc  hl
7716 54D9 5E      A   ld   e,(hl)
7717 54DA 23      A   inc  hl
7718 54DB 56      A   ld   d,(hl)      ;DE: ZN
7719 54DC D7      AREN12 rst   TCHAR
7720 54DD B7      AREN13 or   a
7721 54DE 28 F3    A   jr   z,REN11      ;ZEILENENDE
7722 54E0 4F      A   ld   c,a
7723 54E1 3A F56F A   ld   a,(DATFLG)
7724 54E4 B7      A   or   a          ;KENNBYTE ANSPRUNG AUSWERTEN
7725 54E5 79      A   ld   a,c
7726 54E6 28 53    A   jr   z,REN19      ;WEITER,WENN VON REN8 ODER REN10
7727 54E8 FE A6    A   cp   0A6H        ;ERRORTOK
7728 54EA 20 14    A   jr   nz,REN14
7729 54EC D7      A   rst   TCHAR
7730 54ED FE 89    A   cp   89H         ;GOTOTOK
7731 54EF 20 EC    A   jr   nz,REN13
7732 54F1 D7      A   rst   TCHAR      ;BEI ON ERROR GOTO
7733 54F2 FE 0E    A   cp   0EH         ;KENNBYTE ZN
7734 54F4 20 E7    A   jr   nz,REN13    ;KEINE ZN FOLGT
7735 54F6 D5      A   push de
7736 54F7 CD 4757 A   call INTp2        ;ZN IN DE UEBERNEHMEN
7737 54FA 7A      A   ld   a,d
7738 54FB B3      A   or   e
7739 54FC 20 0A    A   jr   nz,REN15     ;ZN >0
7740 54FE 18 27    A   jr   REN17        ;ZN =0 ---> NAECHSTES BYTE
7741 5500 FE 0E    AREN14 cp   0EH           ;KENNBYTE ZN
7742 5502 20 D8    A   jr   nz,REN12     ;KEINE ZN FOLGT
7743 5504 D5      A   push de
7744 5505 CD 4757 A   call INTp2        ;ZN IN DE UEBERNEHMEN
```



```
7745 5508 E5      AREN15      push   hl
7746 5509 CD 4290 A      call  SUCLN      ;ZEILE SUCHEN ADR IN BC
7747 550C 0B      A      dec      bc
7748 550D 3E 0D      A      ld      a,0DH
7749 550F 38 3C      A      jr      c,REN20 ;ZEILE GEFUNDEN
7750 5511 CD 7543 A      call  LSTRES     ;LISTGERAET RUECKSETZEN (AUSGABE 0D 0A)
7751 5514 21 552B A      ld      hl,UNDEF
7752 5517 D5      A      push   de
7753 5518 CD 6888 A      call  OUTZK1     ;AUSGABE 'UNDEFINED LINE'
7754 551B E1      A      pop    hl
7755 551C CD 3092 A      call  AUZN      ;AUSGABE ZN
7756 551F C1      A      pop    bc
7757 5520 E1      A      pop    hl
7758 5521 E5      A      push   hl
7759 5522 C5      A      push   bc
7760 5523 CD 308A A      call  AUINZN    ;AUSGABE 'IN' ZN
7761 5526 E1      AREN16      pop    hl
7762 5527 D1      AREN17      pop    de
7763 5528 2B      A      dec    hl
7764 5529 18 B1     AREN18      jr     REN12    ;NAECHSTES BYTE
7765      A;
7766 552B 55 6E 64 65AUNDEF defm 'Undefined line '
7767 553A 00      A      defb  0
7768      A;
7769 553B FE 0D      AREN19      cp     0DH      ;KENNBYTE ZN
7770 553D 20 EA      A      jr     nz,REN18 ;KEINE ZN FOLGT
7771 553F D5      A      push   de
7772 5540 CD 4757 A      call  INTP2     ;ZN IN DE UEBERNEHMEN
7773 5543 E5      A      push   hl
7774 5544 EB      A      ex     de,hl
7775 5545 23      A      inc    hl
7776 5546 23      A      inc    hl
7777 5547 23      A      inc    hl
7778 5548 4E      A      ld     c,(hl)
7779 5549 23      A      inc    hl
7780 554A 46      A      ld     b,(hl)   ;ZN IN BC EINTRAGEN
7781 554B 3E 0E      A      ld     a,0EH
7782 554D 21 5526 AREN20      ld     hl,REN16
7783 5550 E5      A      push   hl      ;SPRUNG ZU REN16 NACH RET
7784 5551 2A F52C A      ld     hl,(HPROAD) ;HL: ZEIGER AUF STELLE,WO ZN ZU AENDERN IST
7785 5554 E5      AREN21      push   hl
7786 5555 2B      A      dec    hl
7787 5556 70      A      ld     (hl),b
7788 5557 2B      A      dec    hl
7789 5558 71      A      ld     (hl),c
7790 5559 2B      A      dec    hl
7791 555A 77      A      ld     (hl),a   ; 0E NEUE ZN EINGETRAGEN
7792 555B E1      A      pop    hl
7793 555C C9      A      ret
7794      A;
7795 555D 7E      ACPSTX0     ld     a,(hl)   ;BYTEVERGLEICH (ANSPRUNG VON CPSTX)
7796 555E E3      A      ex     (sp),hl ;(HL) - BYTE,DAS NACH CALL CPSTX IM PROG.STEHT
7797 555F BE      A      cp     (hl)
7798 5560 23      A      inc    hl
7799 5561 E3      A      ex     (sp),hl
7800 5562 C2 4056 A      jp     nz,ERSN  ;NICHT GLEICH --> SN-ERROR
7801 5565 C3 464F A      jp     TCHAR0   ; --> HL AUF NAECHSTES SIG.ZEICHEN
7802      A;
```

```
7803 5568 3A F529 ATYPTS0 ld a,(TYP) ;TYP: ZEIGER AUF NAECHSTES SIG.ZEICHEN
7804 556B FE 08 A cp 8 ;TYP A CY Z
7805 556D 30 05 A jr nc,TYPTS1 ; 2 FF 1 0
7806 556F D6 03 A sub 3 ; 3 0 1 1
7807 5571 B7 A or a ; 4 1 1 0
7808 5572 37 A scf ; 8 5 0 0
7809 5573 C9 A ret
7810 5574 D6 03 ATYPTS1 sub 3 ; 3 0 1 1
7811 5576 B7 A or a ; 4 1 1 0
7812 5577 C9 A ret ; 8 5 0 0
7813 A;
7814 5578 D7 ACALL0 rst TCHAR ;HL: ZEIGER AUF NAECHSTES SIG.ZEICHEN
7815 5579 11 FC81 ACALL_ ld de,NACALL ;DE: ANFANG NAMENPUFFER FUER CALL
7816 557C 06 0F A ld b,0FH ;B: ZAEHLER MAX.15 BYTE
7817 557E 7E ACALL1 ld a,(hl)
7818 557F A7 A and a
7819 5580 28 0D A jr z,CALL2 ;ZEILENENDE
7820 5582 FE 3A A cp ':'
7821 5584 28 09 A jr z,CALL2 ;ANWEISUNGSENDE
7822 5586 FE 28 A cp '('
7823 5588 28 05 A jr z,CALL2 ;ANFANG PARAMETER
7824 558A 12 A ld (de),a ;ZEICHEN IN NAMENPUFFER SCHREIBEN
7825 558B 13 A inc de
7826 558C 23 A inc hl
7827 558D 10 EF A djnz CALL1 ;PUFFER NICHT VOLL, NAME NICHT FERTIG
7828 558F 78 ACALL2 ld a,b
7829 5590 FE 0F A cp 0FH
7830 5592 28 15 A jr z,CALL6 ;KEINE NAME EINGETRAGEN --> SN-ERROR
7831 5594 AF ACALL3 xor a
7832 5595 12 A ld (de),a ;0 NACH NAMEN EINTRAGEN
7833 5596 1B A dec de
7834 5597 1A A ld a,(de)
7835 5598 FE 20 A cp ' '
7836 559A 28 F8 A jr z,CALL3 ;ZURUECK ZUM LETZTEN SIG. ZEICHEN
7837 559C 06 10 A ld b,10H ;BANKZAEHLER AUF 10H
7838 559E 11 FC71 A ld de,SUBBST ;TABELLE DER BANKSTATEN
7839 55A1 1A ACALL4 ld a,(de)
7840 55A2 E6 20 A and 20H ;TEST BIT 5
7841 55A4 20 06 A jr nz,CALL7 ;BANK MIT ERWEITERUNG GEFUNDEN
7842 55A6 13 ACALL5 inc de
7843 55A7 10 F8 A djnz CALL4 ;NAECHSTE BANK
7844 55A9 C3 4056 ACALL6 jp ERSN ;KEINE BANK MIT ERWEITERUNG --> SN-ERROR
7845 55AC C5 ACALL7 push bc
7846 55AD D5 A push de
7847 55AE E5 A push hl
7848 55AF CD 7E85 A call RSWBNK ;BERECHNUNG BANKSCHALTER
7849 55B2 F5 A push af
7850 55B3 4F A ld c,a
7851 55B4 2E 04 A ld l,4
7852 55B6 CD 7E75 A call WOVBNK ;ADRESSE AB BYTE 4 DER BANK IN DE HOLEN
7853 55B9 D5 A push de
7854 55BA DD E1 A pop ix ;ZIELADRESSE IN IX
7855 55BC FD E1 A pop iy ;ZIELBANK IN IY
7856 55BE E1 A pop hl
7857 55BF 2B A dec hl
7858 55C0 D7 A rst TCHAR ;HL: ZEIGER AUF NAMEN IM NAMENPUFFER
7859 55C1 CD 001C A call L3CALL ;RUF UP AUF ANDERER BANK
7860 55C4 D1 A pop de
```

```

7861 55C5 C1      A    pop    bc
7862 55C6 38 DE   A    jr     c,CALL5      ;UP NAME NICHT GEFUNDEN --> NAECHSTE BANK SUCHEN
7863 55C8 C9      A    ret
7864             A;
7865 55C9 E1      AERWGR pop    hl          ;HL: ZEIGER AUF GEARETENAMEN
7866 55CA 78      A    ld    a,b           ;B: LAENGE NAME
7867 55CB FE 10   A    cp    10H
7868 55CD 38 02   A    jr     c,ERWGR1
7869 55CF 06 0F   A    ld    b,0FH         ;AUF 15 ZEICHEN BEGRENZEN
7870 55D1 CD 561B AERWGR1 call  ERWGUP          ;DE: NACALL, B: LAENGE MIND. 1
7871 55D4 CD 4E83 AERWGR2 call  SNAL41         ;KLEIN --> GROSS
7872 55D7 12      A    ld    (de),a       ;GERAETENAMEN IN NACALL EINTRAGEN
7873 55D8 23      A    inc   hl
7874 55D9 13      A    inc   de
7875 55DA 10 F8   A    djnz  ERWGR2
7876 55DC AF      A    xor   a
7877 55DD 12      A    ld    (de),a       ;0 NACH NAMEN EINTRAGEN
7878 55DE 06 10   A    ld    b,10H
7879 55E0 11 FC71 A    ld    de,SUBBST     ;BANKSTATUS-TABELLE
7880 55E3 1A      AERWGR3 ld    a,(de)
7881 55E4 E6 40   A    and   40H          ;TEST BIT 6
7882 55E6 20 06   A    jr     nz,ERWGR6   ;ERWEITERUNG GEFUNDEN
7883 55E8 13      AERWGR4 inc   de
7884 55E9 10 F8   A    djnz  ERWGR3       ;NAECHSTE BANK
7885 55EB C3 7064 AERWGR5 jp    ERBFNA         ;KEIN GERAET AUF BANK --> BAD FILE NAME
7886 55EE C5      AERWGR6 push  bc
7887 55EF D5      A    push  de
7888 55F0 CD 7E85 A    call  RSWBNK        ;BANKSCHALTER BERECHNEN IN A, ADR IN HL
7889 55F3 F5      A    push  af
7890 55F4 4F      A    ld    c,a
7891 55F5 2E 06   A    ld    l,6
7892 55F7 CD 7E75 A    call  WOVBNK        ;ADR VON ZIELBANK+6 IN DE
7893 55FA D5      A    push  de
7894 55FB DD E1   A    pop   ix           ;IX: ADR AUF BANK
7895 55FD FD E1   A    pop   iy           ;IY: ZIELBANK
7896 55FF 3E FF   A    ld    a,0FFH       ;PARAMETER FUER
7897 5601 CD 001C A    call  L3CALL        ;LONGCALL
7898 5604 D1      A    pop   de
7899 5605 C1      A    pop   bc
7900 5606 38 E0   A    jr     c,ERWGR4     ;NAME NICHT GEFUNDEN --> NAECHSTE BANK
7901 5608 4F      A    ld    c,a
7902 5609 3E 10   A    ld    a,10H
7903 560B 90      A    sub   b            ;A: BANKNR.
7904 560C 87      A    add   a,a
7905 560D 87      A    add   a,a
7906 560E B1      A    or    c            ;A: Geraet (BIT 7..2: BANKNR, 1,0: RUECKGABE)
7907 560F FE 11   A    cp    17
7908 5611 38 D8   A    jr     c,ERWGR5     ;Geraet <=16
7909 5613 FE FC   A    cp    0FCH
7910 5615 30 D4   A    jr     nc,ERWGR5    ;>FB
7911 5617 E1      A    pop   hl
7912 5618 D1      A    pop   de
7913 5619 A7      A    and   a            ;A: erweitertes Geraet
7914 561A C9      A    ret
7915 561B 11 FC81 AERWGR5 ld    de,NACALL
7916 561E A7      A    and   a
7917 561F C0      A    ret    nz
7918 5620 04      A    inc   b
    
```

```
7919 5621 C9      A      ret
7920              A;
7921 5622 C5      AERWRT      push  bc          ;Geraeteroutinen fuer Zusatzgeraete
7922 5623 F5      A      push  af          ;Geraetekennzeichen      (z.B. COM:)
7923 5624 1F      A      rra
7924 5625 1F      A      rra
7925 5626 E6 3F    A      and    3FH          ;A: BANKNR.
7926 5628 CD 7E88 A      call   RSWBK1       ;BERECHNUNG BANKSCHALTER
7927 562B F5      A      push  af
7928 562C 4F      A      ld    c,a
7929 562D 2E 06    A      ld    l,6
7930 562F CD 7E75 A      call   WOVBNK       ;ADR AUF BANK VON (BANK+6) NACH DE
7931 5632 D5      A      push  de
7932 5633 DD E1    A      pop   ix          ;IX: ADR
7933 5635 FD E1    A      pop   iy          ;IY: ZIELBANK
7934 5637 F1      A      pop   af
7935 5638 E6 03    A      and    3          ;A: ZUGRIFFSTYP
7936 563A 32 FC91  A      ld    (HLPBNK),a
7937 563D C1      A      pop   bc
7938 563E F1      A      pop   af
7939 563F D1      A      pop   de
7940 5640 E1      A      pop   hl
7941 5641 C3 001C A      jp    L3CALL       ;--> LONGCALL
7942              A;
7943 5644 CD 4C57  AKOOUEB   call   SNAL3          ;Koordinate
7944 5647 E5      A      push  hl          ;uebernehmen
7945 5648 CD 2CBA  A      call   CDBL         ;Typ 8
7946 564B E1      A      pop   hl
7947 564C C9      A      ret
7948              A;
7949 564D 7E      AXYUEB   ld    a,(hl)         ;UEBERNAHME XY-PARAMETER
7950 564E FE 40    A      cp    'a'
7951 5650 CC 464F A      call   z,TCHAR0
7952 5653 3A FC41  A      ld    a,(WINFLG)  ;mit oder ohne Skalierung ?
7953 5656 A7      A      and    a
7954 5657 28 49    A      jr    z,XYUEBA    ;mit
7955 5659 01 0000  A      ld    bc,0         ;ohne, aber schneller
7956 565C 50      A      ld    d,b
7957 565D 59      A      ld    e,c
7958 565E FE F2    A      cp    0F2H        ;MINUSTOK
7959 5660 28 1C    A      jr    z,XYUEB2    ;X1,Y1 FEHLEN -> XALT,YALT UEBERNEHMEN
7960 5662 3A FC41  AXYUEB1  ld    a,(WINFLG)
7961 5665 A7      A      and    a
7962 5666 28 50    A      jr    z,XYUEBB
7963 5668 7E      A      ld    a,(hl)
7964 5669 FE DC    A      cp    0DCH        ;STEPTOK
7965 566B F5      A      push  af
7966 566C CC 464F A      call   z,TCHAR0
7967 566F CF      A      rst   CPSTX
7968 5670 28      A      defb  '('
7969 5671 CD 51E6  A      call   INTDE2       ;X UEBERNEHMEN
7970 5674 D5      A      push  de
7971 5675 CF      A      rst   CPSTX
7972 5676 2C      A      defb  ','
7973 5677 CD 51E6  A      call   INTDE2       ;Y UEBERNEHMEN
7974 567A CF      A      rst   CPSTX
7975 567B 29      A      defb  ')'
7976 567C C1      A      pop   bc          ;BC: X, DE: Y
```

```
7977 567D F1      A      pop      af
7978 567E E5      AXYUEB2  push     hl
7979 567F 2A FC2D A      ld       hl,(XALT)
7980 5682 28 03   A      jr      z,XYUEB3      ;BEI STEP
7981 5684 21 0000 A      ld       hl,0
7982 5687 09      AXYUEB3  add     hl,bc      ;XALT+DELTAx ODER 0+XNEU
7983 5688 22 FC2D A      ld       (XALT),hl
7984 568B 22 FC29 A      ld       (XNEU),hl
7985 568E 44      A      ld       b,h
7986 568F 4D      A      ld       c,l
7987 5690 2A FC2F A      ld       hl,(YALT)
7988 5693 28 03   A      jr      z,XYUEB4
7989 5695 21 0000 A      ld       hl,0
7990 5698 19      AXYUEB4  add     hl,de
7991 5699 22 FC2F A      ld       (YALT),hl
7992 569C 22 FC2B A      ld       (YNEU),hl
7993 569F EB      A      ex      de,hl      ;BC: X, DE: Y
7994 56A0 E1      A      pop      hl
7995 56A1 C9      A      ret
7996      A;
7997 56A2 7E      AXYUEBA  ld      a,(hl)
7998 56A3 FE F2  A      cp      0F2h      ;MINUS-token
7999 56A5 20 11  A      jr      nz,XYUEBB      ;nein
8000 56A7 E5      A      push     hl      ;Zeiger
8001 56A8 F5      A      push     af
8002 56A9 21 2993 A      ld       hl,K0
8003 56AC CD 28DC A      call    IHLAC1      ;Y
8004 56AF 21 F682 A      ld       hl,HSWAP
8005 56B2 CD 28E7 A      call    AC1IHL      ;X
8006 56B5 F1      A      pop      af
8007 56B6 18 33  A      jr      XYUEBE
8008 56B8 7E      AXYUEBB  ld      a,(hl)
8009 56B9 FE DC  A      cp      0DCh      ;STEP-token
8010 56BB F5      A      push     af
8011 56BC CC 464F A      call    z,TCHAR0      ;ja -> naechstes Zeichen
8012 56BF CF      A      rst     CPSTX
8013 56C0 28      A      defb    '('
8014 56C1 CD 5644 A      call    K00UEB      ;X uebernehmen
8015 56C4 F1      A      pop      af
8016 56C5 F5      A      push     af
8017 56C6 E5      A      push     hl      ;Zeiger
8018 56C7 28 06  A      jr      z,XYUEBF
8019 56C9 21 FC42 A      ld       hl,X0
8020 56CC CD 28B2 A      call    SUB8HL
8021 56CF 21 F682 AXYUEBF  ld      hl,HSWAP
8022 56D2 CD 28E7 A      call    AC1IHL      ;X retten in HSWAP
8023 56D5 E1      A      pop      hl
8024 56D6 CF      A      rst     CPSTX
8025 56D7 2C      A      defb    ','
8026 56D8 CD 5644 A      call    K00UEB      ;Y uebernehmen
8027 56DB CF      A      rst     CPSTX
8028 56DC 29      A      defb    ')'
8029 56DD F1      A      pop      af
8030 56DE F5      A      push     af
8031 56DF 28 08  A      jr      z,XYUEBG
8032 56E1 E5      A      push     hl      ;Zeiger
8033 56E2 21 FC4A A      ld       hl,Y0
8034 56E5 CD 28B2 A      call    SUB8HL      ;Y
```

```
8035 56E8 E1      A      pop      hl
8036 56E9 F1      AXYUEBG  pop      af
8037 56EA E5      A      push     hl
8038 56EB F5      AXYUEBE  push     af
8039 56EC 21 FC39 A      ld        hl,Y8ALT
8040 56EF 28 03  A      jr        z,XYUEBC      ;bei STEP
8041 56F1 21 2993 A      ld        hl,K0
8042 56F4 CD 5744 AXYUEBC  call     XYADD8      ;+Yalt
8043 56F7 21 FC39 A      ld        hl,Y8ALT
8044 56FA CD 28E7 A      call     AC1IHL      ;Yalt=
8045 56FD 21 FC5A A      ld        hl,SCALEY
8046 5700 CD 28BB A      call     MLT8HL      ;Skalierung
8047 5703 CD 573B A      call     XYCINT
8048 5706 22 FC2F A      ld        (YALT),hl    ;phys. Koordinaten
8049 5709 22 FC2B A      ld        (YNEU),hl
8050 570C F1      A      pop      af
8051 570D E5      A      push     hl          ;Y, 16 bit
8052 570E F5      A      push     af
8053 570F 21 F682 A      ld        hl,HSWAP    ;X
8054 5712 CD 28DC A      call     IHLAC1
8055 5715 21 FC31 A      ld        hl,X8ALT
8056 5718 F1      A      pop      af
8057 5719 28 03  A      jr        z,XYUEBD      ;bei STEP
8058 571B 21 2993 A      ld        hl,K0
8059 571E CD 5744 AXYUEBD  call     XYADD8      ;+Xalt
8060 5721 21 FC31 A      ld        hl,X8ALT
8061 5724 CD 28E7 A      call     AC1IHL
8062 5727 21 FC52 A      ld        hl,SCALEX
8063 572A CD 28BB A      call     MLT8HL      ;Skalierung
8064 572D CD 573B A      call     XYCINT
8065 5730 22 FC2D A      ld        (XALT),hl    ;phys. Koord.
8066 5733 22 FC29 A      ld        (XNEU),hl
8067 5736 44      A      ld        b,h
8068 5737 4D      A      ld        c,l          ;bc=X
8069 5738 D1      A      pop      de          ;de=Y
8070 5739 E1      A      pop      hl          ;Zeiger
8071 573A C9      A      ret
8072 573B 3E 08  AXYCINT  ld        a,8
8073 573D 32 F529 A      ld        (TYP),a
8074 5740 CD 2C0A A      call     CINT
8075 5743 C9      A      ret
8076 5744 3E 08  AXYADD8  ld        a,8
8077 5746 32 F529 A      ld        (TYP),a
8078 5749 CD 28AC A      call     ADD8HL
8079 574C C9      A      ret
8080      A;
8081 574D 3A F287 APRESET  ld        a,(ACTINK)
8082 5750 F5      A      push     af          ;ACTINK retten
8083 5751 AF      A      xor      a          ;Standard PAPER
8084 5752 18 0D  A      jr        PSET1
8085      A;
8086 5754 3A F273 APSET ld    a,(SCRNRA)
8087 5757 FE 05  A      cp        5          ;screen 5 ?
8088 5759 3E 03  A      ld        a,3      ;Standard INK
8089 575B 20 03  A      jr        nz,PSET0
8090 575D 3A F288 A      ld        a,(INK)
8091 5760 37      APSET0   scf
8092 5761 CD FF69 APSET1   call     XPSET
```

```
8093 5764 F5      A      push  af          ;woher ?
8094 5765 F5      A      push  af          ;Farbe retten
8095 5766 CD 5662 A      call  XYUEB1       ;X,Y UEBERNEHMEN
8096 5769 F1      A      pop   af          ;Farbe reg.
8097 576A CD 57DD A      call  INKUE1      ;FARBPAR. UEBERNEHMEN
8098 576D E5      A      push  hl
8099 576E CD 010E A      call  TPPOS        ;TESTEN PIXELPOSITION
8100 5771 30 06   A      jr    nc,PSET2   ;AUSSERHALB BILDSCHIRM
8101 5773 CD 0111 A      call  MKPMA        ;BERECHNEN PIXELADR.
8102 5776 CD 0120 A      call  SPOINT       ;PIXEL SETZEN,RUECKSETZEN
8103 5779 E1      APSET2 pop   hl
8104 577A F1      A      pop   af          ;woher ?
8105 577B D8      A      ret   c          ;aus PSET, o.k.
8106 577C F1      A      pop   af          ;aus PRESET
8107 577D CD 011A A      call  STAINK       ;ACTINK reg.
8108 5780 C9      A      ret
8109          A;
8110 5781 CD FF7D APOINT call  XPOINT
8111 5784 D7      A      rst   TCHAR
8112 5785 E5      A      push hl
8113 5786 CD 0114 A      call  LDPMA        ;PIXELADR VOM LASTPOINT IN A,HL
8114 5789 D1      A      pop   de
8115 578A E5      A      push hl
8116 578B F5      A      push af
8117 578C 2A FC2B A      ld   hl,(YNEU)    ;KOORDINATEN ALT U. NEU KELLERN
8118 578F E5      A      push hl
8119 5790 2A FC29 A      ld   hl,(XNEU)
8120 5793 E5      A      push hl
8121 5794 2A FC2F A      ld   hl,(YALT)
8122 5797 E5      A      push hl
8123 5798 2A FC2D A      ld   hl,(XALT)
8124 579B E5      A      push hl
8125 579C EB      A      ex   de,hl
8126 579D CD 5662 A      call  XYUEB1       ;X,Y UEBERNEHMEN
8127 57A0 E5      A      push hl
8128 57A1 CD 010E A      call  TPPOS        ;TESTEN PIXELPOSITION
8129 57A4 21 FFFF A      ld   hl,0FFFFH     ;RUECKGABEPAR BEI KOORDINATEN AUSSERHALB BS
8130 57A7 30 09   A      jr    nc,POINT1
8131 57A9 CD 0111 A      call  MKPMA        ;PIXELADR BERECHNEN
8132 57AC CD 011D A      call  GPOINT       ;FARBCODE HOLEN
8133 57AF 6F      A      ld   l,a
8134 57B0 26 00   A      ld   h,0          ;HL: FARBCODE
8135 57B2 CD 2C19 APOINT1 call  CINT1         ;FARBCODE IN AC1
8136 57B5 D1      A      pop   de
8137 57B6 E1      A      pop   hl          ;KOORDINATEN ALT,NEU REGENERIEREN
8138 57B7 22 FC2D A      ld   (XALT),hl
8139 57BA E1      A      pop   hl
8140 57BB 22 FC2F A      ld   (YALT),hl
8141 57BE E1      A      pop   hl
8142 57BF 22 FC29 A      ld   (XNEU),hl
8143 57C2 E1      A      pop   hl
8144 57C3 22 FC2B A      ld   (YNEU),hl
8145 57C6 F1      A      pop   af
8146 57C7 E1      A      pop   hl
8147 57C8 D5      A      push de
8148 57C9 CD 0117 A      call  STPMA        ;PIXELADR LASTPOINT SPEICHERN
8149 57CC E1      A      pop   hl
8150 57CD C9      A      ret
```

```
8151                A;
8152 57CE 3A F273    AINKUP      ld      a,(SCRNRA)
8153 57D1 FE 05     A      cp      5
8154 57D3 3A F288    A      ld      a,(INK)
8155 57D6 C8        A      ret      z
8156 57D7 3E 03     A      ld      a,3
8157 57D9 C9        A      ret
8158                A;
8159 57DA CD 57CE    AINKUEB      call   INKUP      ;FARBPARAMETER UEBERNEHMEN
8160 57DD C5        AINKUE1      push  bc
8161 57DE D5        A      push  de
8162 57DF 5F        A      ld      e,a
8163 57E0 CD 016B    A      call   TGRASC      ;Test, ob Grafik-Screen
8164 57E3 DA 4740    A      jp      c,ERFC
8165 57E6 2B        A      dec     hl
8166 57E7 D7        A      rst     TCHAR
8167 57E8 28 09     A      jr      z,INKUE2    ;BEI ZEILENENDE
8168 57EA CF        A      rst     CPSTX
8169 57EB 2C        A      defb   ','
8170 57EC FE 2C     A      cp      ','
8171 57EE 28 03     A      jr      z,INKUE2    ;KEIN FARBPARAM. -> STANDARD
8172 57F0 CD 51F3    A      call   BYTAE2      ;FARBPAR. IN E
8173 57F3 7B        AINKUE2      ld      a,e
8174 57F4 E5        A      push  hl
8175 57F5 CD 011A    A      call   STAINK      ;INK SETZEN
8176 57F8 DA 4740    A      jp      c,ERFC      ;FARBPCODE ZU GROSS -> FC ERROR
8177 57FB E1        A      pop   hl
8178 57FC D1        A      pop   de
8179 57FD C1        A      pop   bc
8180 57FE C3 4650    A      jp      TCHAR1
8181                A;
8182 5801 60        AABSX0      ld      h,b
8183 5802 69        A      ld      l,c
8184 5803 01 8000    A      ld      bc,8000h
8185 5806 09        A      add     hl,bc
8186 5807 E5        A      push  hl
8187 5808 2A FC29    A      ld      hl,(XNEU)
8188 580B 09        A      add     hl,bc
8189 580C C1        A      pop   bc
8190 580D 18 03     A      jr      ABSX2
8191 580F 2A FC29    AABSX ld      hl,(XNEU)    ;HL=|XAKTU-XNEU|
8192 5812 7D        AABSX2      ld      a,l
8193 5813 91        A      sub   c
8194 5814 6F        A      ld      l,a
8195 5815 7C        A      ld      a,h
8196 5816 98        A      sbc   a,b
8197 5817 67        A      ld      h,a
8198 5818 D0        AABSX1      ret     nc
8199 5819 AF        AMINHL     xor     a      ;HL=-HL
8200 581A 95        A      sub   l
8201 581B 6F        A      ld      l,a
8202 581C 9C        A      sbc   a,h
8203 581D 95        A      sub   l
8204 581E 67        A      ld      h,a
8205 581F 37        A      scf
8206 5820 C9        A      ret
8207                A;
8208 5821 EB        AABSX0      ex     de,hl
```



```
8209 5822 11 8000 A ld de,8000h
8210 5825 19 A add hl,de
8211 5826 E5 A push hl
8212 5827 2A FC2B A ld hl,(YNEU)
8213 582A 19 A add hl,de
8214 582B D1 A pop de
8215 582C 18 03 A jr ABSY1
8216 582E 2A FC2B AABSY ld hl,(YNEU) ;HL=|YAKTU-YNEU|
8217 5831 7D AABSY1 ld a,l
8218 5832 93 A sub e
8219 5833 6F A ld l,a
8220 5834 7C A ld a,h
8221 5835 9A A sbc a,d
8222 5836 67 A ld h,a
8223 5837 18 DF A jr ABSX1
8224 A;
8225 5839 E5 AYTAUSC push hl ;YAKTU <-> DE (YNEU)
8226 583A 2A FC2B A ld hl,(YNEU)
8227 583D EB A ex de,hl
8228 583E 22 FC2B A ld (YNEU),hl
8229 5841 E1 A pop hl
8230 5842 C9 AYTAUS1 ret
8231 A;
8232 5843 CD 5839 AKOTAUS call YTAUSC ;KOORDINATEN AKTUELL, NEU TAUSCHEN
8233 5846 E5 AXTAUSC push hl ;XAKTU <-> BC (XNEU)
8234 5847 C5 A push bc
8235 5848 2A FC29 A ld hl,(XNEU)
8236 584B E3 A ex (sp),hl
8237 584C 22 FC29 A ld (XNEU),hl
8238 584F C1 A pop bc
8239 5850 E1 A pop hl
8240 5851 C9 A ret
8241 A;
8242 5852 CD FF6E ALINE0 call XLINE
8243 5855 CD 564D A call XYUEB ;X1,Y1 HOLEN ;LINIE GRAFIK
8244 5858 C5 A push bc
8245 5859 D5 A push de
8246 585A CF A rst CPSTX
8247 585B F2 A defb 0F2H ;MINUSTOK
8248 585C CD 5662 A call XYUEB1 ;X2,Y2 HOLEN
8249 585F CD 57DA A call INKUEB ;FARBPAR HOLEN
8250 5862 D1 A pop de
8251 5863 C1 A pop bc
8252 5864 28 44 A jr z,LINE2 ;NUR LINIE
8253 5866 CF A rst CPSTX
8254 5867 2C A defb ','
8255 5868 CF A rst CPSTX
8256 5869 42 A defb 'B'
8257 586A CA 58C0 A jp z,BOX1 ;LINE ...,B
8258 586D CF ABOXFI rst CPSTX
8259 586E 46 A defb 'F'
8260 586F E5 A push hl
8261 5870 CD 010E A call TPPOS ;PIXELPOSITION 1 TESTEN
8262 5873 CD 5843 A call KOTAUS
8263 5876 CD 010E A call TPPOS ;PIXELPOSITION 2
8264 5879 CD 582E A call ABSY ;TEST ZEICHENRICHTUNG Y
8265 587C DC 5839 A call c,YTAUSC ;RICHTUNG AENDERN
8266 587F 23 A inc hl
```

```
8267 5880 E5      A      push  hl
8268 5881 CD 580F  A      call  ABSX          ;TEST ZEICHENRICHTUNG X
8269 5884 DC 5846  A      call  c,XTAUSC     ;RICHTUNG AENDERN
8270 5887 23      A      inc   hl
8271 5888 E5      A      push  hl
8272 5889 CD 0111  A      call  MKPMA       ;PIXELADR BERECHNEN
8273 588C D1      A      pop   de
8274 588D C1      A      pop   bc
8275 588E D5      ABOXF11 push  de
8276 588F C5      A      push  bc
8277 5890 CD 0114  A      call  LDPMA       ;PIXELADR HOLEN IN A,HL
8278 5893 F5      A      push  af
8279 5894 E5      A      push  hl
8280 5895 EB      A      ex    de,hl
8281 5896 CD 0123  A      call  FILL
8282 5899 E1      A      pop   hl
8283 589A F1      A      pop   af
8284 589B CD 0117  A      call  STPMA       ;PIXELADR SPEICHERN
8285 589E CD 0108  A      call  APDWN1      ;NAECHSTE BILDSCHIRMZEILE
8286 58A1 C1      A      pop   bc
8287 58A2 D1      A      pop   de
8288 58A3 0B      A      dec  bc          ;Y-LAENGE -1
8289 58A4 78      A      ld   a,b
8290 58A5 B1      A      or   c
8291 58A6 20 E6    A      jr   nz,BOXFI1
8292 58A8 E1      A      pop   hl          ;BOX FERTIG
8293 58A9 C9      A      ret
8294
8295 58AA C5      ALINE2  push  bc          ;NUR LINE
8296 58AB D5      A      push  de
8297 58AC E5      A      push  hl
8298 58AD CD 58EA  A      call  LINGEN       ;LINIE ZEICHNEN
8299 58B0 2A FC2D  A      ld   hl,(XALT)    ;LASTPOINT SETZEN
8300 58B3 22 FC29  A      ld   (XNEU),hl
8301 58B6 2A FC2F  A      ld   hl,(YALT)
8302 58B9 22 FC2B  A      ld   (YNEU),hl
8303 58BC E1      A      pop   hl
8304 58BD D1      A      pop   de
8305 58BE C1      A      pop   bc
8306 58BF C9      A      ret
8307
8308 58C0 E5      ABOXF11 push  hl          ;LINE ...,B
8309 58C1 2A FC2B  A      ld   hl,(YNEU)
8310 58C4 E5      A      push  hl
8311 58C5 D5      A      push  de
8312 58C6 EB      A      ex    de,hl
8313 58C7 CD 58AA  A      call  LINE2       ;LINIE A
8314 58CA E1      A      pop   hl
8315 58CB 22 FC2B  A      ld   (YNEU),hl
8316 58CE EB      A      ex    de,hl
8317 58CF CD 58AA  A      call  LINE2       ;LINIE B
8318 58D2 E1      A      pop   hl
8319 58D3 22 FC2B  A      ld   (YNEU),hl
8320 58D6 2A FC29  A      ld   hl,(XNEU)
8321 58D9 C5      A      push  bc
8322 58DA 44      A      ld   b,h
8323 58DB 4D      A      ld   c,l
8324 58DC CD 58AA  A      call  LINE2       ;LINIE C
```

```
8325 58DF E1 A pop hl
8326 58E0 22 FC29 A ld (XNEU),hl
8327 58E3 44 A ld b,h
8328 58E4 4D A ld c,l
8329 58E5 CD 58AA A call LINE2 ;LINIE D
8330 58E8 E1 A pop hl
8331 58E9 C9 A ret
8332 A;
8333 A;-----
8334 A;Liniengenerator (ohne Verzerrung)
8335 A;-----
8336 58EA CD FF05 ALINGEN call XLING
8337 58ED CD 5843 A call KOTAUS
8338 58F0 D5 A push de
8339 58F1 CD 5821 A call ABSY0 ;hl yDIFF
8340 58F4 D1 A pop de
8341 58F5 DC 5843 A call c,KOTAUS ;Zeichnen immer nach oben
8342 58F8 D5 A push de ;y-Koordinate
8343 58F9 E5 A push hl ;yDIFF
8344 58FA C5 A push bc
8345 58FB CD 5801 A call ABSX0 ;hl xDIFF
8346 58FE C1 A pop bc
8347 58FF EB A ex de,hl ;de xDIFF
8348 5900 21 5979 A ld hl,RECHTS
8349 5903 30 03 A jr nc,YLING1 ;zeichnen nach rechts
8350 5905 21 5977 A ld hl,LINKS ;zeichnen nach links
8351 5908 E3 AYLING1 ex (sp),hl;hl yDIFF (sp) Adresse
8352 5909 E7 A rst CPREG ;Vergleich xDIFF yDIFF
8353 590A 30 10 A jr nc,YLING2 ;Anstieg > 45 Grad
8354 590C 22 F80A A ld (HLPLI1),hl ;yDIFF
8355 590F E1 A pop hl
8356 5910 22 F28C A ld (ADLIN1),hl ;links o. rechts Hauptrichtung
8357 5913 21 5975 A ld hl,HOCH
8358 5916 22 F28F A ld (ADLIN2),hl ;Nebenrichtung
8359 5919 EB A ex de,hl ;hl xDIFF
8360 591A 18 0F A jr YLING3
8361 591C E3 AYLING2 ex (sp),hl;hl Adresse Nebenrichtung (sp) yDIFF
8362 591D 22 F28F A ld (ADLIN2),hl
8363 5920 21 5975 A ld hl,HOCH
8364 5923 22 F28C A ld (ADLIN1),hl ;Haupttrichtung
8365 5926 EB A ex de,hl
8366 5927 22 F80A A ld (HLPLI1),hl ;xDIFF
8367 592A E1 A pop hl ;hl yDIFF
8368 592B D1 AYLING3 pop de ;bc x de y
8369 592C E5 A push hl ;hl Differenz der Hauptrichtung
8370 592D CD 5819 A call MINHL
8371 5930 22 F80C A ld (HLPLI2),hl ;-DIFFhaupt
8372 5933 E1 A pop hl
8373 5934 23 A inc hl
8374 5935 E5 A push hl ;Zaehler in Hauptrichtung
8375 5936 2B A dec hl
8376 5937 CD 597B A call HLHALB
8377 593A 22 F682 A ld (HSWAP),hl ;DIFFhaupt/2
8378 593D 18 08 A jr YLING6
8379 593F ED 53 F682 AYLING4 ld (HSWAP),de
8380 5943 D1 A pop de
8381 5944 CD F28B AYLING5 call JPLIN1
8382 5947 C5 AYLING6 push bc
```

```
8383 5948 D5      A      push  de
8384 5949 CD 010E  A      call  TPPOS
8385 594C 30 06      A      jr    nc,YLING7
8386 594E CD 0111  A      call  MKPMA
8387 5951 CD 0120  A      call  SPOINT
8388 5954 D1      AYLING7  pop    de
8389 5955 C1      A      pop   bc
8390 5956 E1      A      pop   hl
8391 5957 2B      A      dec   hl      ;Zaehler-1
8392 5958 7D      A      ld    a,l
8393 5959 B4      A      or    h
8394 595A C8      A      ret   z
8395 595B E5      A      push  hl
8396 595C D5      A      push  de
8397 595D ED 5B F682 A      ld    de,(HSWAP)
8398 5961 2A F80A  A      ld    hl,(HLPLI1)
8399 5964 19      A      add   hl,de      ;Berechnung der Abweichung
8400 5965 EB      A      ex    de,hl
8401 5966 2A F80C  A      ld    hl,(HLPLI2)
8402 5969 19      A      add   hl,de
8403 596A 30 D3      A      jr    nc,YLING4      ;ohne Nebenrichtung
8404 596C 22 F682 A      ld    (HSWAP),hl      ;Abweichung merken
8405 596F D1      A      pop   de      ;de y
8406 5970 CD F28E  A      call  JPLIN2      ;Schritt in Nebenrichtung
8407 5973 18 CF      A      jr    YLING5
8408
A;-----
8409 5975 13      AHOCH inc  de      ;y+1
8410 5976 C9      A      ret
8411 5977 0B      ALINKS  dec   bc      ;x-1
8412 5978 C9      A      ret
8413 5979 03      ARECHTS inc   bc      ;x+1
8414 597A C9      A      ret
8415 597B 7C      AHLHALB ld    a,h
8416 597C B7      A      or    a
8417 597D 1F      A      rra
8418 597E 67      A      ld    h,a
8419 597F 7D      A      ld    a,l
8420 5980 1F      A      rra
8421 5981 6F      A      ld    l,a
8422 5982 C9      A      ret
8423
A;=====
8424 5983 CD 010E  AYLINGE call  TPPOS      ;TESTEN PIXELPOSITION 1
8425 5986 CD 5843  A      call  KOTAUS
8426 5989 CD 010E  A      call  TPPOS      ;TESTEN PIXELPOSITION 2
8427 598C CD 582E  A      call  ABSY      ;TESTEN Y-RICHTUNG
8428 598F DC 5843  A      call  c,KOTAUS      ;NEGATIV --> RICHTUNG AENDERN
8429 5992 D5      A      push  de
8430 5993 E5      A      push  hl
8431 5994 CD 580F  A      call  ABSX      ;TESTEN X-RICHTUNG
8432 5997 EB      A      ex    de,hl
8433 5998 21 00FC  A      ld    hl,APRGT1      ;POSITIV --> UP APRGT1 VERWENDEN
8434 599B 30 03      A      jr    nc,LING1
8435 599D 21 00FF  A      ld    hl,APLFT1      ;NEGATIV --> UP APLFT1 VERWENDEN
8436 59A0 E3      ALING1  ex    (sp),hl
8437 59A1 E7      A      rst  CPREG      ;TEST, ANSTIEG > 45 GRAD
8438 59A2 30 10      A      jr    nc,LING2      ;JA
8439 59A4 22 F80A  A      ld    (HLPLI1),hl
8440 59A7 E1      A      pop   hl
```

```
8441 59A8 22 F28C A ld (ADLIN1),HL ;HAUPTRICHTUNG IST X
8442 59AB 21 0108 A ld hl,APDWN1
8443 59AE 22 F28F A ld (ADLIN2),HL ;NEBENRICHTUNG IST Y
8444 59B1 EB A ex de,hl
8445 59B2 18 0F A jr LING3
8446 59B4 E3 ALING2 ex (sp),hl
8447 59B5 22 F28F A ld (ADLIN2),HL ;NEBENRICHTUNG IST X
8448 59B8 21 0108 A ld hl,APDWN1
8449 59BB 22 F28C A ld (ADLIN1),HL ;HAUPTRICHTUNG IST Y
8450 59BE EB A ex de,hl
8451 59BF 22 F80A A ld (HLPLI1),hl
8452 59C2 E1 A pop hl
8453 59C3 D1 ALING3 pop de
8454 59C4 E5 A push hl
8455 59C5 CD 5819 A call MINHL ;HL=-HL
8456 59C8 22 F80C A ld (HLPLI2),hl
8457 59CB CD 0111 A call MKPMA ;PIXELADR BERECHNEN
8458 59CE D1 A pop de
8459 59CF D5 A push de
8460 59D0 CD 59F8 A call DEHALB
8461 59D3 C1 A pop bc
8462 59D4 03 A inc bc
8463 59D5 18 07 A jr LING6 ;--> LINIE ZEICHNEN
8464 59D7 E1 ALING4 pop hl
8465 59D8 78 A ld a,b
8466 59D9 B1 A or c
8467 59DA C8 A ret z ;LINIE FERTIG
8468 59DB CD F28B ALING5 call JPLIN1 ;SCHRITT IN HAUTRICHTUNG
8469 59DE CD 0120 ALING6 call SPOINT ;PIXEL SETZEN,RUECKSETZEN
8470 59E1 0B A dec bc
8471 59E2 E5 A push hl
8472 59E3 2A F80A A ld hl,(HLPLI1)
8473 59E6 19 A add hl,de
8474 59E7 EB A ex de,hl
8475 59E8 2A F80C A ld hl,(HLPLI2)
8476 59EB 19 A add hl,de
8477 59EC 30 E9 A jr nc,LING4 ;KEIN SCHRITT IN NEBENRICHTUNG
8478 59EE EB A ex de,hl
8479 59EF E1 A pop hl
8480 59F0 78 A ld a,b
8481 59F1 B1 A or c
8482 59F2 C8 A ret z ;LINIE FERTIG
8483 59F3 CD F28E A call JPLIN2 ;SCHRITT IN NEBENRICHTUNG
8484 59F6 18 E3 A jr LING5
8485 A;
8486 59F8 7A ADEHALB ld a,d ;DE=DE/2
8487 59F9 B7 A or a
8488 59FA 1F A rra
8489 59FB 57 A ld d,a
8490 59FC 7B A ld a,e
8491 59FD 1F A rra
8492 59FE 5F A ld e,a
8493 59FF C9 A ret
8494 A;
8495 5A00 CD FF73 APAINT call XPAINT
8496 5A03 CD 564D A call XYUEB ;X,Y UEBERNEHMEN
8497 5A06 C5 A push bc
8498 5A07 D5 A push de
```

```
8499 5A08 CD 57DA A call INKUEB ;FARBPARAM FUER AUSMALFARBE
8500 5A0B 3A F287 A ld a,(ACTINK)
8501 5A0E 5F A ld e,a
8502 5A0F 2B A dec hl
8503 5A10 D7 A rst TCHAR
8504 5A11 28 05 A jr z,PAINT1 ;KEINE RANDFARBE ANGEGEBEN
8505 5A13 CF A rst CPSTX
8506 5A14 2C A defb ','
8507 5A15 CD 51F3 A call BYTAE2 ;RANDFARBE UEBERNEHMEN
8508 5A18 7B APAINT1 ld a,e
8509 5A19 CD 0129 A call PAIUP1
8510 5A1C DA 4740 A jp c,ERFC
8511 5A1F D1 A pop de
8512 5A20 C1 A pop bc
8513 5A21 E5 A push hl
8514 5A22 CD 60A0 A call PAINTI
8515 5A25 CD 0111 A call MKPMA
8516 5A28 11 0001 A ld de,1
8517 5A2B 06 00 A ld b,0
8518 5A2D CD 5B1A A call PAINTG
8519 5A30 28 14 A jr z,PAINT2
8520 5A32 E5 A push hl
8521 5A33 CD 5B2B A call PAINTH
8522 5A36 D1 A pop de
8523 5A37 19 A add hl,de
8524 5A38 EB A ex de,hl
8525 5A39 AF A xor a
8526 5A3A CD 5B0C A call PAINTE
8527 5A3D 3E 40 A ld a,'@'
8528 5A3F CD 5B0C A call PAINTE
8529 5A42 06 C0 A ld b,0C0H
8530 5A44 18 1E A jr PAINT5
8531 5A46 E1 APAINT2 pop hl
8532 5A47 C9 A ret
8533 5A48 CD 00BD APAINT3 call BREAK
8534 5A4B 3A F827 A ld a,(HLPPA4)
8535 5A4E B7 A or a
8536 5A4F 28 0C A jr z,PAINT4
8537 5A51 2A F828 A ld hl,(HLPPA5)
8538 5A54 E5 A push hl
8539 5A55 2A F826 A ld hl,(HLPPA3)
8540 5A58 E5 A push hl
8541 5A59 2A F82A A ld hl,(HLPPA6)
8542 5A5C E5 A push hl
8543 5A5D D1 APAINT4 pop de
8544 5A5E C1 A pop bc
8545 5A5F E1 A pop hl
8546 5A60 79 A ld a,c
8547 5A61 CD 0117 A call STPMA
8548 5A64 78 APAINT5 ld a,b
8549 5A65 32 F830 A ld (HLPPA9),a
8550 5A68 87 A add a,a
8551 5A69 28 DB A jr z,PAINT2
8552 5A6B D5 A push de
8553 5A6C 30 05 A jr nc,PAINT6
8554 5A6E CD 0105 A call APUP
8555 5A71 18 03 A jr PAINT7
8556 5A73 CD 010B APAINT6 call APDWN
```

```
8557 5A76 D1          APAIN7       pop     de
8558 5A77 38 E4       A      jr      c,PAINT4
8559 5A79 06 00       A      ld      b,0
8560 5A7B CD 5B1A       A      call   PAINTG
8561 5A7E CA 5A5D       A      jp      z,PAINT4
8562 5A81 AF           A      xor     a
8563 5A82 32 F827       A      ld      (HLPPA4),a
8564 5A85 CD 5B2B       A      call   PAINTH
8565 5A88 5D           A      ld      e,l
8566 5A89 54           A      ld      d,h
8567 5A8A B7           A      or      a
8568 5A8B 28 1A       A      jr      z,PAINT8
8569 5A8D 2B           A      dec     hl
8570 5A8E 2B           A      dec     hl
8571 5A8F 7C           A      ld      a,h
8572 5A90 87           A      add     a,a
8573 5A91 38 14       A      jr      c,PAINT8
8574 5A93 ED 53 F82A     A      ld      (HLPPA6),de
8575 5A97 CD 0114       A      call   LDPMA
8576 5A9A 22 F828       A      ld      (HLPPA5),hl
8577 5A9D 32 F826       A      ld      (HLPPA3),a
8578 5AA0 3A F830       A      ld      a,(HLPPA9)
8579 5AA3 2F           A      cpl
8580 5AA4 32 F827       A      ld      (HLPPA4),a
8581 5AA7 2A F82E     APAIN8       ld      hl,(HLPPA8)
8582 5AAA 19           A      add     hl,de
8583 5AAB EB           A      ex      de,hl
8584 5AAC CD 5B00       A      call   PAINTD
8585 5AAF 2A F81F       A      ld      hl,(HLPPA1)
8586 5AB2 3A F821       A      ld      a,(HLPPA2)
8587 5AB5 CD 0117       A      call   STPMA
8588 5AB8 2A F82C     APAIN9       ld      hl,(HLPPA7)
8589 5ABB ED 5B F82E     A      ld      de,(HLPPA8)
8590 5ABF B7           A      or      a
8591 5AC0 ED 52           A      sbc    hl,de
8592 5AC2 28 39       A      jr      z,PAINTC
8593 5AC4 38 1C       A      jr      c,PAINTA
8594 5AC6 EB           A      ex      de,hl
8595 5AC7 06 01       A      ld      b,1
8596 5AC9 CD 5B1A       A      call   PAINTG
8597 5ACC 28 2F       A      jr      z,PAINTC
8598 5ACE B7           A      or      a
8599 5ACF 28 E7       A      jr      z,PAINT9
8600 5AD1 EB           A      ex      de,hl
8601 5AD2 2A F81F       A      ld      hl,(HLPPA1)
8602 5AD5 3A F821       A      ld      a,(HLPPA2)
8603 5AD8 4F           A      ld      c,a
8604 5AD9 3A F830       A      ld      a,(HLPPA9)
8605 5ADC 47           A      ld      b,a
8606 5ADD CD 5B11       A      call   PAINTF
8607 5AE0 18 D6       A      jr      PAINT9
8608 5AE2 CD 5819     APAINA       call   MINHL
8609 5AE5 2B           A      dec     hl
8610 5AE6 2B           A      dec     hl
8611 5AE7 7C           A      ld      a,h
8612 5AE8 87           A      add     a,a
8613 5AE9 38 12       A      jr      c,PAINTC
8614 5AEB 23           A      inc     hl
```

```
8615 5AEC E5      A      push  hl
8616 5AED CD 00FF  APAINTB call  APLFT1
8617 5AF0 2B      A      dec   hl
8618 5AF1 7C      A      ld   a,h
8619 5AF2 B5      A      or   l
8620 5AF3 20 F8    A      jr   nz,PAINTB
8621 5AF5 D1      A      pop  de
8622 5AF6 3A F830  A      ld   a,(HLPPA9)
8623 5AF9 2F      A      cpl
8624 5AFA CD 5B0C    A      call PAINTE
8625 5AFD C3 5A48  APAINTC jp    PAINT3
8626 5B00 3A F831  APAINTD ld   a,(HLPPAA)
8627 5B03 4F      A      ld   c,a
8628 5B04 3A F832  A      ld   a,(HLPPAB)
8629 5B07 B1      A      or   c
8630 5B08 C8      A      ret  z
8631 5B09 3A F830  A      ld   a,(HLPPA9)
8632 5B0C 47      APAINTE ld   b,a
8633 5B0D CD 0114  A      call LDPMA
8634 5B10 4F      A      ld   c,a
8635 5B11 E3      APAINTF ex   (sp),hl
8636 5B12 C5      A      push bc
8637 5B13 D5      A      push de
8638 5B14 E5      A      push hl
8639 5B15 0E 02    A      ld   c,2
8640 5B17 C3 646A  A      jp   TSMEMS
8641 5B1A CD 012C  APAINTG call PAIUP2
8642 5B1D ED 53 F82C A      ld   (HLPPA7),de
8643 5B21 22 F82E  A      ld   (HLPPA8),hl
8644 5B24 7C      A      ld   a,h
8645 5B25 B5      A      or   l
8646 5B26 79      A      ld   a,c
8647 5B27 32 F832  A      ld   (HLPPAB),a
8648 5B2A C9      A      ret
8649 5B2B CD 0114  APAINTH call LDPMA
8650 5B2E E5      A      push hl
8651 5B2F F5      A      push af
8652 5B30 2A F81F  A      ld   hl,(HLPPA1)
8653 5B33 3A F821  A      ld   a,(HLPPA2)
8654 5B36 CD 0117  A      call STPMA
8655 5B39 F1      A      pop  af
8656 5B3A E1      A      pop  hl
8657 5B3B 22 F81F  A      ld   (HLPPA1),hl
8658 5B3E 32 F821  A      ld   (HLPPA2),a
8659 5B41 CD 012F  A      call PAIUP3
8660 5B44 79      A      ld   a,c
8661 5B45 32 F831  A      ld   (HLPPAA),a
8662 5B48 C9      A      ret
8663      A;
8664 5B49 EB      AMINDE2 ex   de,hl      ;DE--DE
8665 5B4A CD 5819  A      call MINHL
8666 5B4D EB      A      ex   de,hl
8667 5B4E C9      A      ret
8668      A;
8669 5B4F CD FF78  ACIRCLE call XCIRCL
8670 5B52 CD 564D  A      call XYUEB      ;MITTELPUNKT UEBERNEHMEN
8671 5B55 CF      A      rst  CPSTX
8672 5B56 2C      A      defb ','
```



```
8673 5B57 3A FC41 A ld a,(WINFLG) ;RADIUS UEBERNEHMEN
8674 5B5A A7 A and a
8675 5B5B 28 05 A jr z,CIRCA
8676 5B5D CD 51E6 A call INTDE2
8677 5B60 18 20 A jr CIRCB
8678 5B62 CD 4C57 ACIRCA call SNAL3
8679 5B65 E5 A push hl
8680 5B66 CD 2CBA A call CDBL
8681 5B69 21 F682 A ld hl,HSWAP ;RADIUS retten
8682 5B6C CD 28E7 A call AC1IHL
8683 5B6F 21 FC52 A ld hl,SCALEX
8684 5B72 CD 28BB A call MLT8HL ;mit ABS(SCALEX) skalieren
8685 5B75 CD 2B02 A call ABS_
8686 5B78 3E 08 A ld a,8
8687 5B7A 32 F529 A ld (TYP),a
8688 5B7D CD 2C0A A call CINT
8689 5B80 18 02 A jr CIRCC
8690 5B82 E5 ACIRCB push hl
8691 5B83 EB A ex de,hl
8692 5B84 CD 5CA8 ACIRCC call CIRCH
8693 5B87 AF A xor a
8694 5B88 32 F812 A ld (VORWI),a ;WINKELVORZEICHEN +
8695 5B8B 32 F81E A ld (ELLIRI),a ;ELLIPSENRICHTUNG 0 (<-->)
8696 5B8E E1 A pop hl ;ZEIGER IN BASICZEILE REGEN.
8697 5B8F CD 57DA A call INKUEB ;FARBPARAMETER UEBERNEHMEN
8698 5B92 0E 80 A ld c,80h
8699 5B94 11 FFFF A ld de,0FFFFh ;STANDARD FUER ANFANGSWINKEL
8700 5B97 CD 5DDE A call WIUEB ;ANFANGSWINKEL IN DE
8701 5B9A D5 A push de
8702 5B9B 0E 01 A ld c,1
8703 5B9D 11 0000 A ld de,0 ;STANDARD FUR ENDWINKEL
8704 5BA0 CD 5DDE A call WIUEB ;ENDWINKEL IN DE
8705 5BA3 E3 A ex (sp),hl
8706 5BA4 AF A xor a
8707 5BA5 E7 A rst CPREG ;VERGLEICH ANFANGS-ENDWINKEL
8708 5BA6 3E 00 A ld a,0
8709 5BA8 30 0F A jr nc,CIRC1 ;ANFANGSWINKEL < ENDWINKEL
8710 5BAA 3D A dec a ;A=FF
8711 5BAB EB A ex de,hl
8712 5BAC F5 A push af
8713 5BAD 3A F812 A ld a,(VORWI) ;WINKELVORZEICHEN VERTAUSCHEN
8714 5BB0 4F A ld c,a
8715 5BB1 07 A rlca
8716 5BB2 07 A rlca
8717 5BB3 B1 A or c
8718 5BB4 0F A rrca
8719 5BB5 32 F812 A ld (VORWI),a
8720 5BB8 F1 A pop af
8721 5BB9 32 F815 ACIRC1 ld (RICWI),a ;WINKELRICHTUNG EINTRAGEN
8722 5BBC ED 53 F81C A ld (ANFWI),de
8723 5BC0 22 F810 A ld (ENDWI),hl
8724 5BC3 E1 A pop hl ;BASICZEIGER REGEN.
8725 5BC4 2B A dec hl
8726 5BC5 D7 A rst TCHAR
8727 5BC6 20 23 A jr nz,CIRC2
8728 5BC8 E5 A push hl ;kein Ellipsenparam.
8729 5BC9 CD 0126 A call LDELLI ;STANDARD-ELLIPSENPARAM. LADEN
8730 5BCC 3A FC41 A ld a,(WINFLG)
```

```
8731 5BCF A7      A    and    a
8732 5BD0 20 0D   A    jr     nz,CIRCF
8733 5BD2 21 299B A    ld     hl,K1      ;fuer Skalierung elli=1
8734 5BD5 CD 28DC A    call   IHLAC1
8735 5BD8 3E 08   A    ld     a,8
8736 5BDA 32 F529 A    ld     (TYP),a
8737 5BDD 18 18   A    jr     CIRC4
8738 5BDF 7C      ACIRCF ld     a,h
8739 5BE0 B7      A    or     a
8740 5BE1 28 55   A    jr     z,CIRC4    ;ELLIPSENRICHTUNG <-->
8741 5BE3 3E 01   A    ld     a,1
8742 5BE5 32 F81E A    ld     (ELLIRI),a
8743 5BE8 EB      A    ex     de,hl
8744 5BE9 18 4D   A    jr     CIRC4
8745 5BEB CF      ACIRC2 rst     CPSTX
8746 5BEC 2C      A    defb  ','
8747 5BED CD 4C57 A    call   SNAL3      ;AUSDRUCK ELLIPSENPARAMETER AUSW.
8748 5BF0 E5      A    push  hl
8749 5BF1 3A FC41 A    ld     a,(WINFLG)
8750 5BF4 A7      A    and    a
8751 5BF5 20 1D   A    jr     nz,CIRCE
8752 5BF7 CD 2CBA ACIRC4 call   CDBL      ;Skalierung elli
8753 5BFA CD 2AF1 A    call   TVORZ
8754 5BFD FA 4740 A    jp     m,ERFC     ;bei neg.
8755 5C00 21 FC5A A    ld     hl,SCALEY  ;mit ABS(...)
8756 5C03 CD 28BB A    call   MLT8HL
8757 5C06 21 FC52 A    ld     hl,SCALEX
8758 5C09 CD 28C1 A    call   DIV8HL
8759 5C0C CD 2B02 A    call   ABS_
8760 5C0F 3E 08   A    ld     a,8
8761 5C11 32 F529 A    ld     (TYP),a
8762 5C14 CD 2C32 ACIRCE call   CSNG
8763 5C17 CD 2AF1 A    call   TVORZ     ;VORZEICHENTEST
8764 5C1A CA 4740 A    jp     z,ERFC     ;ELLIPSENPARAMETER 0
8765 5C1D FA 4740 A    jp     m,ERFC     ; "      NEGATIV
8766 5C20 CD 5E38 A    call   TSEINS    ;VERGLEICH MIT 1
8767 5C23 20 07   A    jr     nz,CIRC3  ;=<1
8768 5C25 3C      A    inc    a        ;>1
8769 5C26 32 F81E A    ld     (ELLIRI),a ;ELLIPSENRICHTUNG =1
8770 5C29 CD 2EE7 A    call   DIV4      ;KEHRWERT BERECHNEN
8771 5C2C 01 2543 ACIRC3 ld     bc,2543H
8772 5C2F 11 0060 A    ld     de,60H
8773 5C32 CD 2EDC A    call   MLT4      ;NORMIERTER ELLIPSENPARAMETER * 256
8774 5C35 CD 2C0A A    call   CINT
8775 5C38 22 F80E ACIRC4 ld     (ELLIPA),hl
8776 5C3B 3A F81E A    ld     a,(ELLIRI)
8777 5C3E A7      A    and    a        ;Radius = y-Radius ?
8778 5C3F 28 1F   A    jr     z,CIRCK   ;nein
8779 5C41 21 F682 A    ld     hl,HSWAP   ;ja, mit ABS(SCALEY) skalieren
8780 5C44 CD 28DC A    call   IHLAC1
8781 5C47 21 FC5A A    ld     hl,SCALEY
8782 5C4A CD 28BB A    call   MLT8HL
8783 5C4D 3E 08   A    ld     a,8
8784 5C4F 32 F529 A    ld     (TYP),a
8785 5C52 F5      A    push  af
8786 5C53 CD 2B02 A    call   ABS_
8787 5C56 F1      A    pop   af
8788 5C57 32 F529 A    ld     (TYP),a
```

```
8789 5C5A CD 2C0A A call CINT
8790 5C5D CD 5CA8 A call CIRCH ;XNEU und RAD2 neu bestimmen
8791 5C60 11 0000 ACIRCK ld de,0 ;ANFANGSWERTE KREISALGOR.
8792 5C63 ED 53 F81A A ld (HLPCI3),de
8793 5C67 2A FC29 A ld hl,(XNEU)
8794 5C6A 29 A add hl,hl ;HL: 2*R
8795 5C6B CD 00BD ACIRC5 call BREAK ;STOPABFRAGE
8796 5C6E 7B A ld a,e ;PKT. IM 1. OKTANDEN BERECHNEN
8797 5C6F 1F A rra
8798 5C70 38 16 A jr c,CIRC6
8799 5C72 D5 A push de
8800 5C73 E5 A push hl
8801 5C74 23 A inc hl
8802 5C75 EB A ex de,hl
8803 5C76 CD 59F8 A call DEHALB
8804 5C79 EB A ex de,hl
8805 5C7A 13 A inc de
8806 5C7B CD 59F8 A call DEHALB
8807 5C7E CD 5CCD A call CIRC9 ;--> PKT. SPIEGELN
8808 5C81 D1 A pop de
8809 5C82 E1 A pop hl
8810 5C83 E7 A rst CPREG ;VERGLEICH RADIUS - Y
8811 5C84 D2 5A46 A jp nc,PAINT2 ;FERTIG --> POP HL, RET
8812 5C87 EB A ex de,hl
8813 5C88 44 ACIRC6 ld b,h
8814 5C89 4D A ld c,l
8815 5C8A 2A F81A A ld hl,(HLPCI3)
8816 5C8D 23 A inc hl
8817 5C8E 19 A add hl,de
8818 5C8F 19 A add hl,de ;ABWEICHUNG BERECHNEN
8819 5C90 7C A ld a,h
8820 5C91 87 A add a,a
8821 5C92 38 0C A jr c,CIRC7 ;NEGATIV --> NUR IN Y-RICHTUNG
8822 5C94 D5 A push de
8823 5C95 EB A ex de,hl
8824 5C96 60 A ld h,b
8825 5C97 69 A ld l,c
8826 5C98 29 A add hl,hl
8827 5C99 2B A dec hl
8828 5C9A EB A ex de,hl
8829 5C9B B7 A or a
8830 5C9C ED 52 A sbc hl,de ;ABWEICHUNG NEU BERECHNEN
8831 5C9E 0B A dec bc ;SCHRITT IN X-RICHTUNG, SPALTE-1
8832 5C9F D1 A pop de
8833 5CA0 22 F81A ACIRC7 ld (HLPCI3),HL ;ABWEICHUNG ZWISCHENSPEICHERN
8834 5CA3 60 A ld h,b
8835 5CA4 69 A ld l,c
8836 5CA5 13 A inc de ;SCHRITT IN Y-RICHTUNG, ZEILE+1
8837 5CA6 18 C3 A jr CIRC5
8838 A;
8839 5CA8 22 FC29 ACIRCH ld (XNEU),hl ;RADIUS IN XNEU
8840 5CAB CD 2C19 A call CINT1 ;RADIUS IN AC1
8841 5CAE CD 2C32 A call CSNG
8842 5CB1 01 7040 A ld bc,7040H
8843 5CB4 11 0771 A ld de,771H
8844 5CB7 CD 2EDC A call MLT4 ;RADIUS*0.707107 (R:SQR(2))
8845 5CBA CD 2C0A A call CINT
8846 5CBD 22 F813 A ld (RAD2),hl
```

```
8847 5CC0 C9      A      ret
8848              A;
8849 5CC1 D5      ACIRC8      push  de
8850 5CC2 CD 5DB2  A      call  CIRELI      ;KOORDINATEN FUER ELLIPSE MODIFIZIEREN
8851 5CC5 E1      A      pop   hl
8852 5CC6 3A F81E  A      ld    a,(ELLIRI)
8853 5CC9 B7      A      or   a
8854 5CCA C8      A      ret   z
8855 5CCB EB      A      ex   de,hl      ;BEI ELLIPSENRICHTUNG 1 KOORD.TAUSCH
8856 5CCC C9      A      ret
8857              A;
8858 5CCD ED 53 F816 ACIRC9      ld    (HLPCI1),DE      ;KOORDINATENAUSCH FUER SPIEGELUNG DER OKTANDEN
8859 5CD1 E5      A      push hl
8860 5CD2 21 0000  A      ld    hl,0
8861 5CD5 22 F818  A      ld    (HLPCI2),hl
8862 5CD8 CD 5CC1  A      call  CIRC8      ;MODIFIKATION FUER ELLIPSE
8863 5CDB 22 F822  A      ld    (YKOOR),hl
8864 5CDE E1      A      pop   hl
8865 5CDF EB      A      ex   de,hl
8866 5CE0 E5      A      push hl
8867 5CE1 CD 5CC1  A      call  CIRC8      ;MODIFIKATION FUER ELLIPSE
8868 5CE4 ED 53 F824 A      ld    (XKOOR),de
8869 5CE8 D1      A      pop   de
8870 5CE9 CD 5B49  A      call  MINDE2
8871 5CEC CD 5D0F  A      call  CIRC10      ;FUER OKTANDEN 3,5,7,1
8872 5CFE E5      A      push hl
8873 5CF0 D5      A      push de
8874 5CF1 2A F813  A      ld    hl,(RAD2)
8875 5CF4 22 F818  A      ld    (HLPCI2),hl
8876 5CF7 ED 5B F816 A      ld    de,(HLPCI1)
8877 5CFB B7      A      or   a
8878 5CFC ED 52      A      sbc  hl,de
8879 5CFE 22 F816  A      ld    (HLPCI1),hl
8880 5D01 2A F822  A      ld    hl,(YKOOR)
8881 5D04 CD 5819  A      call  MINHL
8882 5D07 22 F822  A      ld    (YKOOR),hl
8883 5D0A D1      A      pop   de
8884 5D0B E1      A      pop   hl
8885 5D0C CD 5B49  A      call  MINDE2      ;FUER OKTANDEN 4,6,8,2
8886 5D0F 3E 04      ACIRC10      ld    a,4      ;JE OKTAND 1 DURCHLAUF
8887 5D11 F5      ACIRC11      push  af
8888 5D12 E5      A      push hl
8889 5D13 D5      A      push de
8890 5D14 E5      A      push hl
8891 5D15 D5      A      push de
8892 5D16 ED 5B F818 A      ld    de,(HLPCI2)
8893 5D1A 2A F813  A      ld    hl,(RAD2)
8894 5D1D 29      A      add  hl,hl
8895 5D1E 19      A      add  hl,de
8896 5D1F 22 F818  A      ld    (HLPCI2),hl
8897 5D22 2A F816  A      ld    hl,(HLPCI1)
8898 5D25 19      A      add  hl,de
8899 5D26 EB      A      ex   de,hl
8900 5D27 2A F81C  A      ld    hl,(ANFWI)
8901 5D2A E7      A      rst  CPREG
8902 5D2B 28 1A      A      jr   z,CIRC14      ;PUNKT AUF ANFANGSWINKEL
8903 5D2D 30 08      A      jr   nc,CIRC12
8904 5D2F 2A F810  A      ld    hl,(ENDWI)
```

```
8905 5D32 E7      A   rst      CPREG
8906 5D33 28 0A   A   jr       z,CIRC13      ;PUNKT AUF ENDWINKEL
8907 5D35 30 20   A   jr       nc,CIRC16     ;PUNKT LIEGT IM SEKTOR
8908 5D37 3A F815 ACIRC12      ld      a,(RICWI)
8909 5D3A B7      A   or       a
8910 5D3B 20 24   A   jr       nz,CIRC18     ;A=FF --> IM SEKTOR --> PUNKT ZEICHNEN
8911 5D3D 18 1E   A   jr       CIRC17       ;AUSSERHALB SEKTOR
8912 5D3F 3A F812 ACIRC13      ld      a,(VORWI)      ;PKT. AUF ENDWINKEL
8913 5D42 87      A   add      a,a
8914 5D43 30 1C   A   jr       nc,CIRC18     ;VORZEICHEN + --> NUR PKT.ZEICHNEN
8915 5D45 18 06   A   jr       CIRC15       ;SEKTORLINIE ZEICHNEN
8916 5D47 3A F812 ACIRC14      ld      a,(VORWI)      ;PKT. AUF ANFANGSWINKEL
8917 5D4A 1F      A   rra
8918 5D4B 30 14   A   jr       nc,CIRC18     ;VORZEICHEN + --> NUR PKT.ZEICHNEN
8919 5D4D D1      ACIRC15      pop     de
8920 5D4E E1      A   pop     hl
8921 5D4F CD 5DA3 A   call    CIRBSK        ;ABS.KOORDINATEN AUF KREISBOGEN BERECHNEN
8922 5D52 CD 5D94 A   call    CIRSEC        ;KREISSEKTORLINIE ZEICHNEN
8923 5D55 18 1A   A   jr       CIRC19
8924 5D57 3A F815 ACIRC16      ld      a,(RICWI)
8925 5D5A B7      A   or       a
8926 5D5B 28 04   A   jr       z,CIRC18     ;PUNKT ZEICHNEN
8927 5D5D D1      ACIRC17      pop     de
8928 5D5E E1      A   pop     hl
8929 5D5F 18 10   A   jr       CIRC19
8930 5D61 D1      ACIRC18      pop     de          ;PUNKT AUF KREISBOGEN ZEICHNEN
8931 5D62 E1      A   pop     hl
8932 5D63 CD 5DA3 A   call    CIRBSK        ;ABS.KOORDINATEN FUER PKT.
8933 5D66 CD 010E A   call    TPPOS         ;TEST PIXELPOSITION
8934 5D69 30 06   A   jr       nc,CIRC19     ;AUSSERHALB
8935 5D6B CD 0111 A   call    MKPMA         ;PIXELADR. BERECHNEN
8936 5D6E CD 0120 A   call    SPOINT        ;PIXEL SETZEN,RUECKSETZEN
8937 5D71 D1      ACIRC19      pop     de
8938 5D72 E1      A   pop     hl
8939 5D73 F1      A   pop     af
8940 5D74 3D      A   dec     a
8941 5D75 C8      A   ret     z          ;ALLE 4 OKTANDEN FERTIG
8942 5D76 F5      A   push    af          ;KOORDINATENTAUSSCH
8943 5D77 D5      A   push    de
8944 5D78 ED 5B F822 A   ld      de,(YK00R)
8945 5D7C CD 5B49 A   call    MINDE2
8946 5D7F 22 F822 A   ld      (YK00R),hl
8947 5D82 EB      A   ex      de,hl
8948 5D83 D1      A   pop     de
8949 5D84 E5      A   push    hl
8950 5D85 2A F824 A   ld      hl,(XK00R)
8951 5D88 EB      A   ex      de,hl
8952 5D89 22 F824 A   ld      (XK00R),hl
8953 5D8C CD 5B49 A   call    MINDE2
8954 5D8F E1      A   pop     hl
8955 5D90 F1      A   pop     af
8956 5D91 C3 5D11 A   jp      CIRC11        ;PKT. IM NAECHSTEN OKTANDEN
8957
8958 5D94 2A FC2D ACIRSEC      ld      hl,(XALT)      ;LINIE VOM KREISBOGEN ZUM MITTELPKT
8959 5D97 22 FC29 A   ld      (XNEU),hl
8960 5D9A 2A FC2F A   ld      hl,(YALT)
8961 5D9D 22 FC2B A   ld      (YNEU),hl
8962 5DA0 C3 58EA A   jp      LINGEN        ;--> LINIENGENERATOR
```

```
8963          A;
8964 5DA3 D5    ACIRBSK    push  de          ;ABSOLUTE BILDSCHIRMKOORDINATEN BERECHNEN
8965 5DA4 ED 5B FC2D A    ld      de,(XALT)
8966 5DA8 19    A    add    hl,de
8967 5DA9 44    A    ld      b,h
8968 5DAA 4D    A    ld      c,l
8969 5DAB D1    A    pop    de
8970 5DAC 2A FC2F A    ld      hl,(YALT)
8971 5DAF 19    A    add    hl,de
8972 5DB0 EB    A    ex     de,hl
8973 5DB1 C9    A    ret
8974          A;
8975 5DB2 2A F80E ACIRELI    ld      hl,(ELLIPA) ;MODIFIZIERUNG DER KOORDINATE IN DE
8976 5DB5 7D    A    ld      a,l
8977 5DB6 B7    A    or     a
8978 5DB7 20 04  A    jr     nz,CIREL1
8979 5DB9 B4    A    or     h
8980 5DBA C0    A    ret    nz          ;STANDARDPARAMETER --> KREIS
8981 5DBB EB    A    ex     de,hl
8982 5DBC C9    A    ret    ;PARAMETER > 256 ODER < 1/256 --> LINIE
8983 5DBD 4A    ACIREL1    ld      c,d          ;ELLIPSE
8984 5DBE 16 00  A    ld      d,0
8985 5DC0 F5    A    push  af
8986 5DC1 CD 5DD1 A    call  CIREL2
8987 5DC4 1E 80  A    ld      e,80H
8988 5DC6 19    A    add    hl,de
8989 5DC7 59    A    ld      e,c
8990 5DC8 4C    A    ld      c,h
8991 5DC9 F1    A    pop    af
8992 5DCA CD 5DD1 A    call  CIREL2
8993 5DCD 59    A    ld      e,c
8994 5DCE 19    A    add    hl,de
8995 5DCF EB    A    ex     de,hl
8996 5DD0 C9    A    ret
8997 5DD1 06 08  ACIREL2    ld      b,8
8998 5DD3 21 0000 A    ld      hl,0
8999 5DD6 29    ACIREL3    add    hl,hl
9000 5DD7 87    A    add    a,a
9001 5DD8 30 01  A    jr     nc,CIREL4
9002 5DDA 19    A    add    hl,de
9003 5ddb 10 F9  ACIREL4    djnz   CIREL3
9004 5DDD C9    A    ret
9005          A;
9006 5DDE 2B    AWIUEB    dec    hl          ;WINKELPARAMETER UEBERNEHMEN
9007 5DDF D7    A    rst    TCHAR
9008 5DE0 C8    A    ret    z          ;KEIN WEITERES ZEICHEN
9009 5DE1 CF    A    rst    CPSTX
9010 5DE2 2C    A    defb  ','
9011 5DE3 FE 2C  A    cp     ','
9012 5DE5 C8    A    ret    z          ;KEIN WINKEL --> STANDARDWERT
9013 5DE6 C5    A    push  bc
9014 5DE7 CD 4C57 A    call  SNAL3        ;AUSDRUCK AUSWERTEN
9015 5DEA E3    A    ex     (sp),hl
9016 5DEB E5    A    push  hl
9017 5DEC CD 2C32 A    call  CSNG
9018 5DEF C1    A    pop    bc
9019 5DF0 21 F6BC A    ld      hl,AC1
9020 5DF3 7E    A    ld      a,(hl)
```

```
9021 5DF4 B7      A    or    a
9022 5DF5 F2 5E01  A    jp    p,WIUEB1      ;VORZEICHEN + --> KEINE KREISSEKTORLINIE
9023 5DF8 E6 7F    A    and   7FH          ;VORZEICHEN -
9024 5DFA 77      A    ld    (hl),a      ;WINKEL + EINTRAGEN
9025 5DFB 21 F812  A    ld    hl,VORWI
9026 5DFE 7E      A    ld    a,(hl)
9027 5DFF B1      A    or    c            ;C: 1 BEI ANFANGSWINKEL, 80 BEI ENDWINKEL
9028 5E00 77      A    ld    (hl),a      ;WINKELVORZEICHEN SPEICHERN
9029 5E01 01 6241  AWIUEB1 ld    bc,6241h      ;2*PI - Winkel
9030 5E04 11 1983  A    ld    de,1983h    ;wegen anderer Drehrichtung
9031 5E07 CD 2ED7  A    call  SUB4
9032 5E0A 21 F6BC  A    ld    hl,AC1
9033 5E0D CB BE      A    res   7,(hl)
9034 5E0F 01 1540  A    ld    bc,1540H
9035 5E12 11 5591  A    ld    de,5591H
9036 5E15 CD 2EDC  A    call  MLT4        ;WINKEL * 1/(2*PI)
9037 5E18 CD 5E38  A    call  TSEINS      ;VGL MIT 1
9038 5E1B CA 4740  A    jp    z,ERFC      ;WINKEL > 2*PI --> FC ERROR
9039 5E1E CD 2B31  A    call  AC1SST
9040 5E21 2A F813  A    ld    hl,(RAD2)
9041 5E24 29      A    add   hl,hl
9042 5E25 29      A    add   hl,hl
9043 5E26 29      A    add   hl,hl
9044 5E27 CD 2C19  A    call  CINT1
9045 5E2A CD 2C32  A    call  CSNG
9046 5E2D C1      A    pop   bc
9047 5E2E D1      A    pop   de
9048 5E2F CD 2EDC  A    call  MLT4
9049 5E32 CD 2C0A  A    call  CINT
9050 5E35 D1      A    pop   de
9051 5E36 EB      A    ex   de,hl        ;DE:=WINKEL*8*RAD2/(2*PI)
9052 5E37 C9      A    ret
9053             A;
9054 5E38 01 1041  ATSEINS ld    bc,1041H    ;VGL MIT 1
9055 5E3B 11 0000  A    ld    de,0
9056 5E3E CD 2BA1  A    call  VGL4
9057 5E41 3D      A    dec   a
9058 5E42 C9      A    ret
9059             A;
9060 5E43 CD FF82  ADRAW call  XDRAW
9061 5E46 CD 016B  A    call  TGRASC
9062 5E49 DA 4740  A    jp    c,ERFC      ;SCREEN <> 2 - 5 --> FC ERROR
9063 5E4C CD 57CE  A    call  INKUP      ;Standardfarbe einstellen
9064 5E4F CD 011A  A    call  STAINK
9065 5E52 11 5E5F  A    ld    de,TABDRW
9066 5E55 AF      A    xor   a
9067 5E56 32 FC62  A    ld    (HLPDR3),a
9068 5E59 32 F835  A    ld    (HLPDR2),a
9069 5E5C C3 5F70  A    jp    DRZK
9070 5E5F D5      ATABDRW defb  'U'+80H
9071 5E60 5E90  A    defw  DRWUPP
9072 5E62 C4      A    defb  'D'+80H
9073 5E63 5E8D  A    defw  DRWDWN
9074 5E65 CC      A    defb  'L'+80H
9075 5E66 5E95  A    defw  DRWLFT
9076 5E68 D2      A    defb  'R'+80H
9077 5E69 5E98  A    defw  DRWRGT
9078 5E6B 4D      A    defb  'M'
```

```
9079 5E6C 5EB4      A   defw  DRWK00
9080 5E6E C5        A   defb  'E'+80H
9081 5E6F 5EA2      A   defw  DRWUR
9082 5E71 C6        A   defb  'F'+80H
9083 5E72 5EA6      A   defw  DRWDR
9084 5E74 C7        A   defb  'G'+80H
9085 5E75 5E9F      A   defw  DRWDL
9086 5E77 C8        A   defb  'H'+80H
9087 5E78 5EAD      A   defw  DRWUL
9088 5E7A C1        A   defb  'A'+80H
9089 5E7B 5F2A      A   defw  DRWROT
9090 5E7D 42        A   defb  'B'
9091 5E7E 5F22      A   defw  DRWMOV
9092 5E80 4E        A   defb  'N'
9093 5E81 5F1E      A   defw  DRWLIN
9094 5E83 58        A   defb  'X'
9095 5E84 6086      A   defw  DRWSTR
9096 5E86 C3        A   defb  'C'+80H
9097 5E87 5F66      A   defw  DRWCOL
9098 5E89 D3        A   defb  'S'+80H
9099 5E8A 5F38      A   defw  DRWSCA
9100 5E8C 00        A   defb  0
9101 5E8D CD 5B49   ADRWDWN  call  MINDE2
9102 5E90 01 0000   ADRWUPP  ld    bc,0
9103 5E93 18 46    A   jr    DRWK02
9104 5E95 CD 5B49   ADRWLFT  call  MINDE2
9105 5E98 42        ADRWRGT  ld    b,d
9106 5E99 4B        A   ld   c,e
9107 5E9A 11 0000   A   ld  de,0
9108 5E9D 18 3C    A   jr    DRWK02
9109 5E9F CD 5B49   ADRWDL  call  MINDE2
9110 5EA2 42        ADRWUR  ld    b,d
9111 5EA3 4B        A   ld   c,e
9112 5EA4 18 35    A   jr    DRWK02
9113 5EA6 42        ADRWDR  ld    b,d
9114 5EA7 4B        A   ld   c,e
9115 5EA8 CD 5B49   ADRWDR1 call  MINDE2
9116 5EAB 18 2E    A   jr    DRWK02
9117 5EAD CD 5B49   ADRWUL  call  MINDE2
9118 5EB0 42        A   ld  b,d
9119 5EB1 4B        A   ld  c,e
9120 5EB2 18 F4    A   jr    DRWDR1
9121 5EB4 CD 5FEC   ADRWK00 call  DRZK12
9122 5EB7 06 00    A   ld  b,0
9123 5EB9 FE 2B    A   cp  '+'
9124 5EBB 28 05    A   jr  z,DRWK01
9125 5EBD FE 2D    A   cp  '-'
9126 5EBF 28 01    A   jr  z,DRWK01
9127 5EC1 04        A   inc b
9128 5EC2 78        ADRWK01 ld    a,b
9129 5EC3 F5        A   push af
9130 5EC4 CD 600F   A   call DRZK16
9131 5EC7 CD 601D   A   call DRZK17
9132 5ECA D5        A   push de
9133 5ECB CD 5FEC   A   call DRZK12
9134 5ECE FE 2C    A   cp  ','
9135 5ED0 C2 4740   A   jp  nz,ERFC
9136 5ED3 CD 601D   A   call DRZK17
```



```
9137 5ED6 C1      A    pop    bc
9138 5ED7 F1      A    pop    af
9139 5ED8 B7      A    or     a
9140 5ED9 20 23   A    jr     nz,DRWK05
9141 5EDB CD 5F45  ADRWK02  call   DRWSC
9142 5EDE D5      A    push   de
9143 5EDF 50      A    ld     d,b
9144 5EE0 59      A    ld     e,c
9145 5EE1 CD 5F45  A    call   DRWSC
9146 5EE4 EB      A    ex     de,hl
9147 5EE5 D1      A    pop    de
9148 5EE6 3A FC64  A    ld     a,(HLPDR5)
9149 5EE9 1F      A    rra
9150 5EEA 30 06   A    jr     nc,DRWK03
9151 5EEC F5      A    push   af
9152 5EED CD 5819  A    call   MINHL
9153 5EF0 EB      A    ex     de,hl
9154 5EF1 F1      A    pop    af
9155 5EF2 1F      ADRWK03  rra
9156 5EF3 30 06   A    jr     nc,DRWK04
9157 5EF5 CD 5819  A    call   MINHL
9158 5EF8 CD 5B49  A    call   MINDE2
9159 5EFB CD 5DA3  ADRWK04  call   CIRBSK
9160 5EFE 3A FC62  ADRWK05  ld     a,(HLPDR3)
9161 5F01 87      A    add    a,a
9162 5F02 38 09   A    jr     c,DRWK06
9163 5F04 F5      A    push   af
9164 5F05 C5      A    push   bc
9165 5F06 D5      A    push   de
9166 5F07 CD 5D94  A    call   CIRSEC
9167 5F0A D1      A    pop    de
9168 5F0B C1      A    pop    bc
9169 5F0C F1      A    pop    af
9170 5F0D 87      ADRWK06  add    a,a
9171 5F0E 38 09   A    jr     c,DRWK07
9172 5F10 ED 53 FC2F  A    ld     (YALT),de
9173 5F14 60      A    ld     h,b
9174 5F15 69      A    ld     l,c
9175 5F16 22 FC2D  A    ld     (XALT),hl
9176 5F19 AF      ADRWK07  xor    a
9177 5F1A 32 FC62  A    ld     (HLPDR3),a
9178 5F1D C9      A    ret
9179 5F1E 3E 40   ADRWLIN  ld     a,'@'
9180 5F20 18 02   A    jr     DRWM01
9181 5F22 3E 80   ADRWMOV  ld     a,80H
9182 5F24 21 FC62  ADRWM01  ld     hl,HLPDR3
9183 5F27 B6      A    or     (hl)
9184 5F28 77      A    ld     (hl),a
9185 5F29 C9      A    ret
9186 5F2A 30 0C   ADRWROT  jr     nc,DRWSCA
9187 5F2C 3E 03   A    ld     a,3
9188 5F2E 93      A    sub   e
9189 5F2F 38 3B   A    jr     c,DRWC01
9190 5F31 3C      A    inc   a
9191 5F32 E6 03   A    and   3
9192 5F34 32 FC64  A    ld     (HLPDR5),a
9193 5F37 C9      A    ret
9194 5F38 D2 4740  ADRWSCA  jp     nc,ERFC
```

```
9195 5F3B 7A      A    ld    a,d
9196 5F3C B7      A    or    a
9197 5F3D C2 4740  A    jp    nz,ERFC
9198 5F40 7B      A    ld    a,e
9199 5F41 32 FC63  A    ld    (DRWSCF),a
9200 5F44 C9      A    ret
9201 5F45 3A FC63  ADRWSC ld    a,(DRWSCF)
9202 5F48 B7      A    or    a
9203 5F49 C8      A    ret  z
9204 5F4A 21 0000  A    ld    hl,0
9205 5F4D 19      ADRWSC1 add  hl,de
9206 5F4E 3D      A    dec  a
9207 5F4F 20 FC    A    jr    nz,DRWSC1
9208 5F51 EB      A    ex   de,hl
9209 5F52 7A      A    ld    a,d
9210 5F53 87      A    add  a,a
9211 5F54 F5      A    push af
9212 5F55 30 01  A    jr    nc,DRWSC2
9213 5F57 1B      A    dec  de
9214 5F58 CD 59F8  ADRWSC2 call  DEHALB
9215 5F5B CD 59F8  A    call DEHALB
9216 5F5E F1      A    pop  af
9217 5F5F D0      A    ret  nc
9218 5F60 7A      A    ld    a,d
9219 5F61 F6 C0   A    or    0C0H
9220 5F63 57      A    ld    d,a
9221 5F64 13      A    inc  de
9222 5F65 C9      A    ret
9223 5F66 30 D0   ADRWCOL jr    nc,DRWSCA
9224 5F68 7B      A    ld    a,e
9225 5F69 CD 011A  A    call STAINK
9226 5F6C DA 4740  ADRWC01 jp    c,ERFC
9227 5F6F C9      A    ret
9228          A;
9229 5F70 ED 53 F833 ADRZK ld    (HLPDR1),de ;AUSWERTUNG AUSDRUCK ZK FUER DRAW, PLAY
9230 5F74 CD 4C57  A    call SNAL3
9231 5F77 E5      A    push hl
9232 5F78 11 0000  A    ld    de,0
9233 5F7B D5      A    push de
9234 5F7C F5      A    push af
9235 5F7D CD 69E0  ADRZK1 call  ZKUP2 ;VON PLAY
9236 5F80 CD 2B5F  A    call HLEDCB
9237 5F83 41      A    ld    b,c
9238 5F84 4A      A    ld    c,d
9239 5F85 53      A    ld    d,e
9240 5F86 78      A    ld    a,b
9241 5F87 B1      A    or    c
9242 5F88 28 06   A    jr    z,DRZK2
9243 5F8A 7A      A    ld    a,d
9244 5F8B B7      A    or    a
9245 5F8C 28 02   A    jr    z,DRZK2
9246 5F8E C5      A    push bc
9247 5F8F D5      A    push de
9248 5F90 F1      ADRZK2 pop   af
9249 5F91 32 FA18  A    ld    (HLPPL3),a
9250 5F94 E1      A    pop  hl
9251 5F95 7C      A    ld    a,h
9252 5F96 B5      A    or    l
```

```
9253 5F97 20 0A      A    jr      nz,DRZK3
9254 5F99 3A F835    A    ld      a,(HLPDR2)
9255 5F9C B7              A    or      a
9256 5F9D CA 600D          A    jp      z,DRZK15
9257 5FA0 C3 3CFD          A    jp      PLAY8
9258 5FA3 22 FA19    ADRZK3      ld      (HLPPL4),hl
9259 5FA6 CD 5FF2    ADRZK4      call   DRZK13
9260 5FA9 28 E5      A    jr      z,DRZK2
9261 5FAB 87          A    add     a,a
9262 5FAC 4F          A    ld      c,a
9263 5FAD 2A F833    A    ld      hl,(HLPDR1)
9264 5FB0 7E          ADRZK5      ld      a,(hl)
9265 5FB1 87          A    add     a,a
9266 5FB2 CC 4740    ADRZK6      call   z,ERFC
9267 5FB5 B9              A    cp      c
9268 5FB6 28 05      A    jr      z,DRZK7
9269 5FB8 23          A    inc     hl
9270 5FB9 23          A    inc     hl
9271 5FBA 23          A    inc     hl
9272 5FBB 18 F3      A    jr      DRZK5
9273 5FBD 01 5FA6    ADRZK7      ld      bc,DRZK4
9274 5FC0 C5          A    push    bc
9275 5FC1 7E          A    ld      a,(hl)
9276 5FC2 4F          A    ld      c,a
9277 5FC3 87          A    add     a,a
9278 5FC4 30 20      A    jr      nc,DRZK11
9279 5FC6 B7              A    or      a
9280 5FC7 1F          A    rra
9281 5FC8 4F          A    ld      c,a
9282 5FC9 C5          A    push    bc
9283 5FCA E5          A    push    hl
9284 5FCB CD 5FF2    A    call   DRZK13
9285 5FCE 11 0001    A    ld      de,1
9286 5FD1 CA 5FE3    A    jp      z,DRZK9
9287 5FD4 CD 66B1    A    call   TSTBU1
9288 5FD7 D2 5FE0    A    jp      nc,DRZK8
9289 5FDA CD 6020    A    call   DRZK18
9290 5FDD 37          A    scf
9291 5FDE 18 04      A    jr      DRZK10
9292 5FE0 CD 600F    ADRZK8      call   DRZK16
9293 5FE3 B7          ADRZK9      or      a
9294 5FE4 E1          ADRZK10     pop     hl
9295 5FE5 C1          A    pop     bc
9296 5FE6 23          ADRZK11     inc     hl
9297 5FE7 7E          A    ld      a,(hl)
9298 5FE8 23          A    inc     hl
9299 5FE9 66          A    ld      h,(hl)
9300 5FEA 6F          A    ld      l,a
9301 5FEB E9          A    jp      (hl) ;VERZWEIGUNG ZUR ROUTINE ENTSPR. BUCHSTABE
9302 5FEC CD 5FF2    ADRZK12     call   DRZK13
9303 5FEF 28 C1      A    jr      z,DRZK6
9304 5FF1 C9          A    ret
9305 5FF2 E5          ADRZK13     push    hl
9306 5FF3 21 FA18    ADRZK14     ld      hl,HLPPL3
9307 5FF6 7E          A    ld      a,(hl)
9308 5FF7 B7          A    or      a
9309 5FF8 28 13      A    jr      z,DRZK15
9310 5FFA 35          A    dec     (hl)
```

```
9311 5FFB 2A FA19 A ld hl,(HLPPL4)
9312 5FFE 7E A ld a,(hl)
9313 5FFF 23 A inc hl
9314 6000 22 FA19 A ld (HLPPL4),hl
9315 6003 FE 20 A cp ' '
9316 6005 28 EC A jr z,DRZK14
9317 6007 FE 60 A cp ' ',''
9318 6009 38 02 A jr c,DRZK15
9319 600B D6 20 A sub ' '
9320 600D E1 ADRZK15 pop hl
9321 600E C9 A ret
9322 600F E5 ADRZK16 push hl
9323 6010 21 FA18 A ld hl,HLPPL3
9324 6013 34 A inc (hl)
9325 6014 2A FA19 A ld hl,(HLPPL4)
9326 6017 2B A dec hl
9327 6018 22 FA19 A ld (HLPPL4),hl
9328 601B E1 A pop hl
9329 601C C9 A ret
9330 601D CD 5FEC ADRZK17 call DRZK12
9331 6020 FE 3D ADRZK18 cp '='
9332 6022 CA 607E A jp z,DRZK26
9333 6025 FE 2B A cp '+'
9334 6027 28 F4 A jr z,DRZK17
9335 6029 FE 2D A cp '-'
9336 602B 20 06 A jr nz,DRZK19
9337 602D 11 6099 A ld de,MINDE
9338 6030 D5 A push de
9339 6031 18 EA A jr DRZK17
9340 6033 11 0000 ADRZK19 ld de,0
9341 6036 FE 2C ADRZK20 cp ','
9342 6038 28 D5 A jr z,DRZK16
9343 603A FE 3B A cp ';'
9344 603C C8 A ret z
9345 603D FE 3A A cp ':'
9346 603F 30 CE A jr nc,DRZK16
9347 6041 FE 30 A cp '0'
9348 6043 38 CA A jr c,DRZK16
9349 6045 21 0000 A ld hl,0
9350 6048 06 0A A ld b,0AH
9351 604A 19 ADRZK21 add hl,de
9352 604B 38 2A A jr c,DRZK24
9353 604D 10 FB A djnz DRZK21
9354 604F D6 30 A sub '0'
9355 6051 5F A ld e,a
9356 6052 16 00 A ld d,0
9357 6054 19 A add hl,de
9358 6055 38 20 A jr c,DRZK24
9359 6057 EB A ex de,hl
9360 6058 CD 5FF2 A call DRZK13
9361 605B 20 D9 A jr nz,DRZK20
9362 605D C9 A ret
9363 605E CD 5FEC ADRZK22 call DRZK12
9364 6061 11 F424 A ld de,EDIBUF
9365 6064 D5 A push de
9366 6065 06 28 A ld b,'('
9367 6067 CD 66B1 A call TSTBU1
9368 606A 38 0B A jr c,DRZK24
```

```
9369 606C 12      ADRZK23      ld      (de),a
9370 606D 13      A      inc      de
9371 606E FE 3B    A      cp      ';'
9372 6070 28 08    A      jr      z,DRZK25
9373 6072 CD 5FEC  A      call     DRZK12
9374 6075 10 F5    A      djnz    DRZK23
9375 6077 CD 4740  ADRZK24      call     ERFC
9376 607A E1      ADRZK25      pop      hl
9377 607B C3 4E75    A      jp      SNAL40
9378 607E CD 605E  ADRZK26      call     DRZK22
9379 6081 CD 2C0A  A      call     CINT
9380 6084 EB      A      ex      de,hl
9381 6085 C9      A      ret
9382 6086 CD 605E  ADRWSTR      call     DRZK22
9383 6089 3A FA18    A      ld      a,(HLPPL3)
9384 608C 2A FA19    A      ld      hl,(HLPPL4)
9385 608F E3      A      ex      (sp),hl
9386 6090 F5      A      push   af
9387 6091 0E 02    A      ld      c,2
9388 6093 CD 646A  A      call     TSMEMS
9389 6096 C3 5F7D    A      jp      DRZK1
9390
9391
9392 6099 AF      AMINDE      xor      a      ;DE--DE
9393 609A 93      A      sub      e
9394 609B 5F      A      ld      e,a
9395 609C 9A      A      sbc      a,d
9396 609D 93      A      sub      e
9397 609E 57      A      ld      d,a
9398 609F C9      A      ret
9399
9400 60A0 E5      APAINTI     push     hl
9401 60A1 CD 010E  A      call     TPPPOS
9402 60A4 D2 4740  A      jp      nc,ERFC
9403 60A7 E1      A      pop      hl
9404 60A8 C9      A      ret
9405
9406 60A9 2B      ADIM0 dec    hl
9407 60AA D7      A      rst     TCHAR
9408 60AB C8      A      ret     z
9409 60AC CF      A      rst     CPSTX
9410 60AD 2C      A      defb   ','
9411 60AE 01 60A9  ADIM ld      bc,DIM0
9412 60B1 C5      A      push   bc
9413 60B2 F6      A      defb   0F6H ; or B?AF
9414 60B3 AF      ADIM1 xor    a
9415 60B4 32 F528  A      ld      (DIMFL),a ;DIMFL=0 WENN VON DIM1, =AF...FF WENN VON DIM
9416 60B7 4E      A      ld      c,(hl)
9417 60B8 CD 66B0  ADIM2 call   TSTBU
9418 60BB DA 4056  A      jp      c,ERSN
9419 60BE AF      A      xor      a
9420 60BF 47      A      ld      b,a
9421 60C0 D7      A      rst     TCHAR
9422 60C1 38 05    A      jr      c,DIM3
9423 60C3 CD 66B1  A      call   TSTBU1
9424 60C6 38 09    A      jr      c,DIM5
9425 60C8 47      ADIM3 ld      b,a
9426 60C9 D7      ADIM4 rst     TCHAR
9427 60CA 38 FD    A      jr      c,DIM4
```

```
9427 60CC CD 66B1 A call TSTBU1
9428 60CF 30 F8 A jr nc,DIM4
9429 60D1 FE 26 ADIM5 cp '8'
9430 60D3 30 17 A jr nc,DIM6
9431 60D5 11 60FA A ld de,DIM7
9432 60D8 D5 A push de
9433 60D9 16 02 A ld d,2
9434 60DB FE 25 A cp '%'
9435 60DD C8 A ret z
9436 60DE 14 A inc d
9437 60DF FE 24 A cp '$'
9438 60E1 C8 A ret z
9439 60E2 14 A inc d
9440 60E3 FE 21 A cp '!'
9441 60E5 C8 A ret z
9442 60E6 16 08 A ld d,8
9443 60E8 FE 23 A cp '#'
9444 60EA C8 A ret z
9445 60EB F1 A pop af
9446 60EC 79 ADIM6 ld a,c
9447 60ED E6 7F A and 7FH
9448 60EF 5F A ld e,a
9449 60F0 16 00 A ld d,0
9450 60F2 E5 A push hl
9451 60F3 21 F54F A ld hl,DENBUF+15
9452 60F6 19 A add hl,de
9453 60F7 56 A ld d,(hl)
9454 60F8 E1 A pop hl
9455 60F9 2B A dec hl
9456 60FA 7A ADIM7 ld a,d
9457 60FB 32 F529 A ld (TYP),a
9458 60FE D7 A rst TCHAR
9459 60FF 3A F56B A ld a,(FORFLG)
9460 6102 3D A dec a
9461 6103 CA 61F4 A jp z,DIM24
9462 6106 F2 6114 A jp p,DIM8
9463 6109 7E A ld a,(hl)
9464 610A D6 28 A sub '('
9465 610C CA 61C6 A jp z,DIM21
9466 610F D6 33 A sub '3'
9467 6111 CA 61C6 A jp z,DIM21
9468 6114 AF ADIM8 xor a
9469 6115 32 F56B A ld (FORFLG),a
9470 6118 E5 A push hl
9471 6119 3A F67D A ld a,(HDIMFN)
9472 611C B7 A or a
9473 611D 32 F67A A ld (DIMBYT),a
9474 6120 28 3C A jr z,DIM12
9475 6122 2A F5AC A ld hl,(FNCNT)
9476 6125 11 F5AE A ld de,FNDBUF
9477 6128 19 A add hl,de
9478 6129 22 F67B A ld (DIMPTR),hl
9479 612C EB A ex de,hl
9480 612D 18 17 A jr DIM11
9481 612F 1A ADIM9 ld a,(de)
9482 6130 6F A ld l,a
9483 6131 13 A inc de
9484 6132 1A A ld a,(de)
```

```
9485 6133 13      A    inc    de
9486 6134 B9      A    cp     c
9487 6135 20 0B   A    jr     nz,DIM10
9488 6137 3A F529 A    ld     a,(TYP)
9489 613A BD      A    cp     l
9490 613B 20 05   A    jr     nz,DIM10
9491 613D 1A      A    ld     a,(de)
9492 613E B8      A    cp     b
9493 613F CA 61B0 A    jp     z,DIM18
9494 6142 13      ADIM10 inc    de
9495 6143 26 00   A    ld     h,0
9496 6145 19      A    add    hl,de
9497 6146 EB      ADIM11 ex     de,hl
9498 6147 3A F67B A    ld     a,(DIMPTR)
9499 614A BB      A    cp     e
9500 614B C2 612F A    jp     nz,DIM9
9501 614E 3A F67C A    ld     a,(DIMPTR+1)
9502 6151 BA      A    cp     d
9503 6152 20 DB   A    jr     nz,DIM9
9504 6154 3A F67A A    ld     a,(DIMBYT)
9505 6157 B7      A    or     a
9506 6158 28 18   A    jr     z,DIM16
9507 615A AF      A    xor    a
9508 615B 32 F67A A    ld     (DIMBYT),a
9509 615E 2A F58A ADIM12 ld     hl,(DVARPT)
9510 6161 22 F67B A    ld     (DIMPTR),hl
9511 6164 2A F588 A    ld     hl,(SVARPT)
9512 6167 18 DD   A    jr     DIM11
9513 6169 CD 60B3 ADIM13 call   DIM1    ;ADRESSE DER VARIABLEN IN DE BRINGEN
9514 616C C9      ADIM14 ret
9515 616D 57      ADIM15 ld     d,a
9516 616E 5F      A    ld     e,a
9517 616F C1      A    pop   bc
9518 6170 E3      A    ex    (sp),hl
9519 6171 C9      A    ret
9520 6172 E1      ADIM16 pop    hl
9521 6173 E3      A    ex    (sp),hl
9522 6174 D5      A    push  de
9523 6175 11 616C A    ld     de,DIM14
9524 6178 E7      A    rst   CPREG
9525 6179 28 F2   A    jr     z,DIM15
9526 617B 11 4E78 A    ld     de,SNAL64
9527 617E E7      A    rst   CPREG
9528 617F D1      A    pop   de
9529 6180 28 31   A    jr     z,DIM19
9530 6182 E3      A    ex    (sp),hl
9531 6183 E5      A    push  hl
9532 6184 C5      A    push  bc
9533 6185 3A F529 A    ld     a,(TYP)
9534 6188 4F      A    ld     c,a
9535 6189 C5      A    push  bc
9536 618A 06 00   A    ld     b,0
9537 618C 03      A    inc   bc
9538 618D 03      A    inc   bc
9539 618E 03      A    inc   bc
9540 618F 2A F58C A    ld     hl,(FSLPTR)
9541 6192 E5      A    push  hl
9542 6193 09      A    add   hl,bc
```

```
9543 6194 C1      A    pop    bc
9544 6195 E5      A    push   hl
9545 6196 CD 645C A    call   BCTOHL
9546 6199 E1      A    pop    hl
9547 619A 22 F58C A    ld     (FSLPTR),hl
9548 619D 60      A    ld     h,b
9549 619E 69      A    ld     l,c
9550 619F 22 F58A A    ld     (DVARPT),hl
9551 61A2 2B      ADIM17 dec    hl
9552 61A3 36 00    A    ld     (hl),0
9553 61A5 E7      A    rst    CPREG
9554 61A6 20 FA  A    jr     nz,DIM17
9555 61A8 D1      A    pop    de
9556 61A9 73      A    ld     (hl),e
9557 61AA 23      A    inc   hl
9558 61AB D1      A    pop    de
9559 61AC 73      A    ld     (hl),e
9560 61AD 23      A    inc   hl
9561 61AE 72      A    ld     (hl),d
9562 61AF EB      A    ex    de,hl
9563 61B0 13      ADIM18 inc    de
9564 61B1 E1      A    pop    hl
9565 61B2 C9      A    ret
9566 61B3 32 F6BC ADIM19 ld     (AC1),a
9567 61B6 67      A    ld     h,a
9568 61B7 6F      A    ld     l,a
9569 61B8 22 F6BE A    ld     (AC1INT),hl
9570 61BB EF      A    rst    TYPTST
9571 61BC 20 06  A    jr     nz,DIM20
9572 61BE 21 3C41 A    ld     hl,LEERZK
9573 61C1 22 F6BE A    ld     (AC1INT),hl
9574 61C4 E1      ADIM20 pop    hl
9575 61C5 C9      A    ret
9576 61C6 E5      ADIM21 push   hl
9577 61C7 2A F528 A    ld     hl,(DIMFL)
9578 61CA E3      A    ex    (sp),hl
9579 61CB 57      A    ld     d,a
9580 61CC D5      ADIM22 push   de
9581 61CD C5      A    push  bc
9582 61CE CD 473B A    call  INTPA1
9583 61D1 C1      A    pop    bc
9584 61D2 F1      A    pop    af
9585 61D3 EB      A    ex    de,hl
9586 61D4 E3      A    ex    (sp),hl
9587 61D5 E5      A    push  hl
9588 61D6 EB      A    ex    de,hl
9589 61D7 3C      A    inc   a
9590 61D8 57      A    ld     d,a
9591 61D9 7E      A    ld     a,(hl)
9592 61DA FE 2C  A    cp    ','
9593 61DC CA 61CC A    jp    z,DIM22
9594 61DF FE 29  A    cp    ')'
9595 61E1 28 05  A    jr     z,DIM23
9596 61E3 FE 5D  A    cp    ']'
9597 61E5 C2 4056 A    jp    nz,ERSN
9598 61E8 D7      ADIM23 rst    TCHAR
9599 61E9 22 F582 A    ld     (HELPMO),hl
9600 61EC E1      A    pop    hl
```



```
9601 61ED 22 F528 A ld (DIMFL),hl
9602 61F0 1E 00 A ld e,0
9603 61F2 D5 A push de
9604 61F3 11 A defb 11H ; ld de,0F5E5H
9605 61F4 E5 ADIM24 push hl
9606 61F5 F5 A push af
9607 61F6 2A F58A A ld hl,(DVARPT)
9608 61F9 3E A defb 3EH ; ld a,19H
9609 61FA 19 ADIM25 add hl,de
9610 61FB ED 5B F58C A ld de,(FSLPTR)
9611 61FF E7 A rst CPREG
9612 6200 28 2D A jr z,DIM28
9613 6202 5E A ld e,(hl)
9614 6203 23 A inc hl
9615 6204 7E A ld a,(hl)
9616 6205 23 A inc hl
9617 6206 B9 A cp c
9618 6207 20 08 A jr nz,DIM26
9619 6209 3A F529 A ld a,(TYP)
9620 620C BB A cp e
9621 620D 20 02 A jr nz,DIM26
9622 620F 7E A ld a,(hl)
9623 6210 B8 A cp b
9624 6211 23 ADIM26 inc hl
9625 6212 5E A ld e,(hl)
9626 6213 23 A inc hl
9627 6214 56 A ld d,(hl)
9628 6215 23 A inc hl
9629 6216 20 E2 A jr nz,DIM25
9630 6218 3A F528 A ld a,(DIMFL)
9631 621B B7 A or a
9632 621C C2 405F A jp nz,ERDD
9633 621F F1 A pop af
9634 6220 44 A ld b,h
9635 6221 4D A ld c,l
9636 6222 CA 2F17 A jp z,POPHL
9637 6225 96 A sub (hl)
9638 6226 CA 6289 A jp z,DIM32
9639 6229 11 0009 ADIM27 ld de,9
9640 622C C3 4070 A jp ERRO
9641 622F 3A F529 ADIM28 ld a,(TYP)
9642 6232 77 A ld (hl),a
9643 6233 23 A inc hl
9644 6234 5F A ld e,a
9645 6235 16 00 A ld d,0
9646 6237 F1 A pop af
9647 6238 CA 4740 A jp z,ERFC
9648 623B 71 A ld (hl),c
9649 623C 23 A inc hl
9650 623D 70 A ld (hl),b
9651 623E 23 A inc hl
9652 623F 4F A ld c,a
9653 6240 CD 646A A call TSMEMS
9654 6243 23 A inc hl
9655 6244 23 A inc hl
9656 6245 22 F563 A ld (HARI4),hl
9657 6248 71 A ld (hl),c
9658 6249 23 A inc hl
```

```
9659 624A 3A F528 A ld a,(DIMFL)
9660 624D 17 A rla
9661 624E 79 A ld a,c
9662 624F 01 000B ADIM29 ld bc,0BH
9663 6252 30 02 A jr nc,DIM30
9664 6254 C1 A pop bc
9665 6255 03 A inc bc
9666 6256 71 ADIM30 ld (hl),c
9667 6257 F5 A push af
9668 6258 23 A inc hl
9669 6259 70 A ld (hl),b
9670 625A 23 A inc hl
9671 625B CD 2DCA A call DIMLEN
9672 625E F1 A pop af
9673 625F 3D A dec a
9674 6260 20 ED A jr nz,DIM29
9675 6262 F5 A push af
9676 6263 42 A ld b,d
9677 6264 4B A ld c,e
9678 6265 EB A ex de,hl
9679 6266 19 A add hl,de
9680 6267 DA 6481 A jp c,MOERR0
9681 626A CD 6473 A call TSMEM1
9682 626D 22 F58C A ld (FSLPTR),hl
9683 6270 2B ADIM31 dec hl
9684 6271 36 00 A ld (hl),0
9685 6273 E7 A rst CPREG
9686 6274 20 FA A jr nz,DIM31
9687 6276 03 A inc bc
9688 6277 57 A ld d,a
9689 6278 2A F563 A ld hl,(HARI4)
9690 627B 5E A ld e,(hl)
9691 627C EB A ex de,hl
9692 627D 29 A add hl,hl
9693 627E 09 A add hl,bc
9694 627F EB A ex de,hl
9695 6280 2B A dec hl
9696 6281 2B A dec hl
9697 6282 73 A ld (hl),e
9698 6283 23 A inc hl
9699 6284 72 A ld (hl),d
9700 6285 23 A inc hl
9701 6286 F1 A pop af
9702 6287 38 30 A jr c,DIM36
9703 6289 47 ADIM32 ld b,a
9704 628A 4F A ld c,a
9705 628B 7E A ld a,(hl)
9706 628C 23 A inc hl
9707 628D 16 A defb 16H ; ld d,0E1H ; ERLTOK
9708 628E E1 ADIM33 pop hl
9709 628F 5E A ld e,(hl)
9710 6290 23 A inc hl
9711 6291 56 A ld d,(hl)
9712 6292 23 A inc hl
9713 6293 E3 A ex (sp),hl
9714 6294 F5 A push af
9715 6295 E7 A rst CPREG
9716 6296 D2 6229 A jp nc,DIM27
```

```
9717 6299 CD 2DCA A call DIMLEN
9718 629C 19 A add hl,de
9719 629D F1 A pop af
9720 629E 3D A dec a
9721 629F 44 A ld b,h
9722 62A0 4D A ld c,l
9723 62A1 20 EB A jr nz,DIM33
9724 62A3 3A F529 A ld a,(TYP)
9725 62A6 44 A ld b,h
9726 62A7 4D A ld c,l
9727 62A8 29 A add hl,hl
9728 62A9 D6 04 A sub 4
9729 62AB 38 04 A jr c,DIM34
9730 62AD 29 A add hl,hl
9731 62AE 28 06 A jr z,DIM35
9732 62B0 29 A add hl,hl
9733 62B1 B7 ADIM34 or a
9734 62B2 E2 62B6 A jp po,DIM35
9735 62B5 09 A add hl,bc
9736 62B6 C1 ADIM35 pop bc
9737 62B7 09 A add hl,bc
9738 62B8 EB A ex de,hl
9739 62B9 2A F582 ADIM36 ld hl,(HELPMO)
9740 62BC C9 A ret
9741 A;
9742 62BD CD 4C58 AUSING call SNAL4
9743 62C0 CD 2CD8 A call TYSTR?
9744 62C3 CF A rst CPSTX
9745 62C4 3B A defb ';'
9746 62C5 EB A ex de,hl
9747 62C6 2A F6BE A ld hl,(AC1INT)
9748 62C9 18 08 A jr USIN2
9749 62CB 3A F56C AUSIN1 ld a,(RDIPFL)
9750 62CE B7 A or a
9751 62CF 28 0D A jr z,USIN3
9752 62D1 D1 A pop de
9753 62D2 EB A ex de,hl
9754 62D3 E5 AUSIN2 push hl
9755 62D4 AF A xor a
9756 62D5 32 F56C A ld (RDIPFL),a
9757 62D8 3C A inc a
9758 62D9 F5 A push af
9759 62DA D5 A push de
9760 62DB 46 A ld b,(hl)
9761 62DC 04 A inc b
9762 62DD 05 A dec b
9763 62DE CA 4740 AUSIN3 jp z,ERFC
9764 62E1 23 A inc hl
9765 62E2 7E A ld a,(hl)
9766 62E3 23 A inc hl
9767 62E4 66 A ld h,(hl)
9768 62E5 6F A ld l,a
9769 62E6 18 1A A jr USIN8
9770 62E8 58 AUSIN4 ld e,b
9771 62E9 E5 A push hl
9772 62EA 0E 02 A ld c,2
9773 62EC 7E AUSIN5 ld a,(hl)
9774 62ED 23 A inc hl
```

```
9775 62EE FE 5C      A    cp      5CH      ;BACK SLASH
9776 62F0 CA 641C     A    jp      z,USIN29
9777 62F3 FE 20      A    cp      ' '
9778 62F5 20 03      A    jr      nz,USIN6
9779 62F7 0C         A    inc     c
9780 62F8 10 F2      A    djnz   USIN5
9781 62FA E1             AUSIN6  pop     hl
9782 62FB 43         A    ld     b,e
9783 62FC 3E 5C      A    ld     a,5CH ;BACK SLASH
9784 62FE CD 6452     AUSIN7  call   USINUP
9785 6301 DF         A    rst    CHAR0
9786 6302 AF         AUSIN8  xor    a
9787 6303 5F         A    ld     e,a
9788 6304 57         A    ld     d,a
9789 6305 CD 6452     AUSIN9  call   USINUP
9790 6308 57         A    ld     d,a
9791 6309 7E         A    ld     a,(hl)
9792 630A 23         A    inc    hl
9793 630B FE 21      A    cp      '! '
9794 630D CA 6419     A    jp      z,USIN28
9795 6310 FE 23      A    cp      '# '
9796 6312 28 3C      A    jr      z,USIN13
9797 6314 FE 26      A    cp      '&'
9798 6316 CA 6415     A    jp      z,USIN27
9799 6319 05         A    dec    b
9800 631A CA 6401     A    jp      z,USIN24
9801 631D FE 2B      A    cp      '+ '
9802 631F 3E 08      A    ld     a,8
9803 6321 28 E2      A    jr      z,USIN9
9804 6323 2B         A    dec    hl
9805 6324 7E         A    ld     a,(hl)
9806 6325 23         A    inc    hl
9807 6326 FE 2E      A    cp      '.'
9808 6328 28 40      A    jr      z,USIN14
9809 632A FE 5C      A    cp      5CH ;BACK SLASH
9810 632C 28 BA      A    jr      z,USIN4
9811 632E BE         A    cp      (hl)
9812 632F 20 CD      A    jr      nz,USIN7
9813 6331 FE 4D      A    cp      'M'
9814 6333 28 14      A    jr      z,USIN11
9815 6335 FE 2A      A    cp      '* '
9816 6337 20 C5      A    jr      nz,USIN7
9817 6339 23         A    inc    hl
9818 633A 78         A    ld     a,b
9819 633B FE 02      A    cp      2
9820 633D 38 03      A    jr      c,USIN10
9821 633F 7E         A    ld     a,(hl)
9822 6340 FE 4D      A    cp      'M'
9823 6342 3E 20      AUSIN10 ld     a,' '
9824 6344 20 07      A    jr      nz,USIN12
9825 6346 05         A    dec    b
9826 6347 1C         A    inc    e
9827 6348 FE         A    defb  0FEH ; cp B?AF
9828 6349 AF         AUSIN11 xor    a
9829 634A C6 10      A    add    a,10H
9830 634C 23         A    inc    hl
9831 634D 1C         AUSIN12 inc    e
9832 634E 82         A    add    a,d
```

```
9833 634F 57      A      ld      d,a
9834 6350 1C      AUSIN13 inc      e
9835 6351 0E 00     A      ld      c,0
9836 6353 05      A      dec      b
9837 6354 28 48     A      jr      z,USIN18
9838 6356 7E      A      ld      a,(hl)
9839 6357 23      A      inc      hl
9840 6358 FE 2E     A      cp      '.'
9841 635A 28 19     A      jr      z,USIN15
9842 635C FE 23     A      cp      '#'
9843 635E 28 F0     A      jr      z,USIN13
9844 6360 FE 2C     A      cp      ','
9845 6362 20 1B     A      jr      nz,USIN16
9846 6364 7A      A      ld      a,d
9847 6365 F6 40     A      or      '0'
9848 6367 57      A      ld      d,a
9849 6368 18 E6     A      jr      USIN13
9850 636A 7E      AUSIN14 ld      a,(hl)
9851 636B FE 23     A      cp      '#'
9852 636D 3E 2E     A      ld      a, '.'
9853 636F C2 62FE    A      jp      nz,USIN7
9854 6372 0E 01     A      ld      c,1
9855 6374 23      A      inc      hl
9856 6375 0C      AUSIN15 inc      c
9857 6376 05      A      dec      b
9858 6377 28 25     A      jr      z,USIN18
9859 6379 7E      A      ld      a,(hl)
9860 637A 23      A      inc      hl
9861 637B FE 23     A      cp      '#'
9862 637D 28 F6     A      jr      z,USIN15
9863 637F D5      AUSIN16 push de
9864 6380 11 639C  A      ld      de,USIN17
9865 6383 D5      A      push  de
9866 6384 54      A      ld      d,h
9867 6385 5D      A      ld      e,l
9868 6386 FE 5E     A      cp      '^'
9869 6388 C0      A      ret      nz
9870 6389 BE      A      cp      (hl)
9871 638A C0      A      ret      nz
9872 638B 23      A      inc      hl
9873 638C BE      A      cp      (hl)
9874 638D C0      A      ret      nz
9875 638E 23      A      inc      hl
9876 638F BE      A      cp      (hl)
9877 6390 C0      A      ret      nz
9878 6391 23      A      inc      hl
9879 6392 78      A      ld      a,b
9880 6393 D6 04     A      sub      4
9881 6395 D8      A      ret      c
9882 6396 D1      A      pop     de
9883 6397 D1      A      pop     de
9884 6398 47      A      ld      b,a
9885 6399 14      A      inc      d
9886 639A 23      A      inc      hl
9887 639B CA      A      defb 0CAH ; jp z,L?D1EB
9888 639C EB      AUSIN17 ex      de,hl
9889 639D D1      A      pop     de
9890 639E 7A      AUSIN18 ld      a,d
```

```
9891 639F 2B      A    dec    hl
9892 63A0 1C      A    inc    e
9893 63A1 E6 08      A    and    8
9894 63A3 20 15      A    jr     nz,USIN20
9895 63A5 1D      A    dec    e
9896 63A6 78      A    ld    a,b
9897 63A7 B7      A    or     a
9898 63A8 28 10      A    jr     z,USIN20
9899 63AA 7E      A    ld    a,(hl)
9900 63AB D6 2D      A    sub   '-'
9901 63AD 28 06      A    jr     z,USIN19
9902 63AF FE FE      A    cp    0FEH
9903 63B1 20 07      A    jr     nz,USIN20
9904 63B3 3E 08      A    ld    a,8
9905 63B5 C6 04      AUSIN19  add    a,4
9906 63B7 82      A    add   a,d
9907 63B8 57      A    ld    d,a
9908 63B9 05      A    dec   b
9909 63BA E1      AUSIN20  pop    hl
9910 63BB F1      A    pop   af
9911 63BC 28 4C      A    jr     z,USIN26
9912 63BE C5      A    push  bc
9913 63BF D5      A    push  de
9914 63C0 CD 4C57    A    call  SNAL3
9915 63C3 D1      A    pop   de
9916 63C4 C1      A    pop   bc
9917 63C5 C5      A    push  bc
9918 63C6 E5      A    push  hl
9919 63C7 43      A    ld    b,e
9920 63C8 78      A    ld    a,b
9921 63C9 81      A    add   a,c
9922 63CA FE 19      A    cp    19H
9923 63CC D2 4740    A    jp    nc,ERFC
9924 63CF 7A      A    ld    a,d
9925 63D0 F6 80      A    or    80H
9926 63D2 CD 30A6    A    call  AUK01
9927 63D5 CD 6888    A    call  OUTZK1
9928 63D8 E1      AUSIN21  pop    hl
9929 63D9 2B      A    dec   hl
9930 63DA D7      A    rst   TCHAR
9931 63DB 37      A    scf
9932 63DC 28 0B      A    jr     z,USIN23
9933 63DE 32 F56C    A    ld    (RDIPFL),a
9934 63E1 FE 3B      A    cp    ';'
9935 63E3 28 03      A    jr     z,USIN22
9936 63E5 CF      A    rst   CPSTX
9937 63E6 2C      A    defb  ','
9938 63E7 06      A    defb  6H ;ld b,0D7h
9939 63E8 D7      AUSIN22  rst   TCHAR
9940 63E9 C1      AUSIN23  pop    bc
9941 63EA EB      A    ex    de,hl
9942 63EB E1      A    pop   hl
9943 63EC E5      A    push  hl
9944 63ED F5      A    push  af
9945 63EE D5      A    push  de
9946 63EF 7E      A    ld    a,(hl)
9947 63F0 90      A    sub   b
9948 63F1 23      A    inc   hl
```

```
9949 63F2 16 00      A   ld     d,0
9950 63F4 5F         A   ld     e,a
9951 63F5 7E         A   ld     a,(hl)
9952 63F6 23         A   inc    hl
9953 63F7 66         A   ld     h,(hl)
9954 63F8 6F         A   ld     l,a
9955 63F9 19         A   add    hl,de
9956 63FA 78         A   ld     a,b
9957 63FB B7         A   or     a
9958 63FC C2 6302      A   jp     nz,USIN8
9959 63FF 18 04      A   jr     USIN25
9960 6401 CD 6452    AUSIN24  call   USINUP
9961 6404 DF         A   rst    CHAR0
9962 6405 E1         AUSIN25  pop    hl
9963 6406 F1         A   pop   af
9964 6407 C2 62CB    A   jp     nz,USIN1
9965 640A DC 7548    AUSIN26  call   c,LSTRE1
9966 640D E3         A   ex    (sp),hl
9967 640E CD 69E6    A   call  ZKUP22
9968 6411 E1         A   pop   hl
9969 6412 C3 4AE1      A   jp     AUSGE
9970 6415 0E 00      AUSIN27  ld     c,0
9971 6417 18 04      A   jr     USIN30
9972 6419 0E 01      AUSIN28  ld     c,1
9973 641B 3E         A   defb  3EH ; ld  a,0F1H ;PLUSTOK
9974 641C F1         AUSIN29  pop   af
9975 641D 05         AUSIN30  dec   b
9976 641E CD 6452    A   call  USINUP
9977 6421 E1         A   pop   hl
9978 6422 F1         A   pop   af
9979 6423 28 E5      A   jr     z,USIN26
9980 6425 C5         A   push  bc
9981 6426 CD 4C57    A   call  SNAL3
9982 6429 CD 2CD8    A   call  TYSTR?
9983 642C C1         A   pop   bc
9984 642D C5         A   push  bc
9985 642E E5         A   push  hl
9986 642F 2A F6BE      A   ld    hl,(AC1INT)
9987 6432 41         A   ld    b,c
9988 6433 0E 00      A   ld    c,0
9989 6435 78         A   ld    a,b
9990 6436 F5         A   push  af
9991 6437 B7         A   or    a
9992 6438 C4 6A75      A   call  nz,LEFT2
9993 643B CD 688B    A   call  OUTZK2
9994 643E 2A F6BE      A   ld    hl,(AC1INT)
9995 6441 F1         A   pop   af
9996 6442 B7         A   or    a
9997 6443 CA 63D8      A   jp    z,USIN21
9998 6446 96         A   sub   (hl)
9999 6447 47         A   ld    b,a
10000 6448 3E 20      A   ld    a,' '
10001 644A 04         A   inc   b
10002 644B 05         AUSIN31  dec    b
10003 644C CA 63D8      A   jp    z,USIN21
10004 644F DF         A   rst    CHAR0
10005 6450 18 F9      A   jr    USIN31
10006 6452 F5         AUSINUP  push  af
```

```
10007 6453 7A      A   ld   a,d
10008 6454 B7      A   or   a
10009 6455 3E 2B    A   ld   a, '+'
10010 6457 C4 0018    A   call nz,CHARO
10011 645A F1      A   pop  af
10012 645B C9      A   ret
10013           A;
10014 645C CD 6473  ABCTOHL call  TSMEM1      ;(BC) --> (HL) BIS HL=DE
10015 645F C5      ABCTHL1 push bc
10016 6460 E3      A   ex   (sp),hl
10017 6461 C1      A   pop  bc
10018 6462 E7      ABCTHL2 rst   CPREG
10019 6463 7E      A   ld   a,(hl)
10020 6464 02      A   ld   (bc),a
10021 6465 C8      A   ret  z
10022 6466 0B      A   dec  bc
10023 6467 2B      A   dec  hl
10024 6468 18 F8    A   jr   BCTHL2
10025           A;
10026 646A E5      ATSMEMS push hl      ; ABSTAND STACK ZU FSLPTR NOCH 2*C BYTES ?
10027 646B 2A F58C  A   ld   hl,(FSLPTR)
10028 646E 06 00    A   ld   b,0
10029 6470 09      A   add  hl,bc
10030 6471 09      A   add  hl,bc
10031 6472 3E      A   defb 3EH ; ld   a,B?E5
10032 6473 E5      ATSMEM1 push hl
10033 6474 3E 88    A   ld   a,88H
10034 6476 95      A   sub  l
10035 6477 6F      A   ld   l,a
10036 6478 3E FF    A   ld   a,0FFH
10037 647A 9C      A   sbc  a,h
10038 647B 67      A   ld   h,a
10039 647C 38 03    A   jr   c,MOERR0 ;(FSLPTR)+2*C > FF88H
10040 647E 39      A   add  hl,sp
10041 647F E1      A   pop  hl
10042 6480 D8      A   ret  c ;ABSTAND REICHT
10043 6481 CD 424E  AMOERR0 call  PTNEW ;FOLGEZEIGER NEU STELLEN
10044 6484 2A F53A  A   ld   hl,(STDPTR)
10045 6487 2B      A   dec  hl
10046 6488 2B      A   dec  hl
10047 6489 22 F577  A   ld   (HELPSP),hl
10048 648C 11 0007  A   ld   de,7
10049 648F C3 4070    A   jp   ERRO ;ERROR OUT OF MEMORY
10050           A;
10051 6492 C0      ANEW ret  nz
10052 6493 2A F53C  ANEW1 ld   hl,(PSTBEG)
10053 6496 CD 6642  A   call TROFF
10054 6499 32 F570    A   ld   (AUTOFL),a
10055 649C 32 F56F  A   ld   (DATFLG),a
10056 649F 77      A   ld   (hl),a
10057 64A0 23      A   inc  hl
10058 64A1 77      A   ld   (hl),a
10059 64A2 23      A   inc  hl
10060 64A3 22 F588  A   ld   (SVARPT),hl
10061 64A6 CD FEFB  ANEW2 call  XNEW1
10062 64A9 2A F53C  A   ld   hl,(PSTBEG)
10063 64AC 2B      A   dec  hl
10064 64AD 22 F56D  ANEW3 ld   (CUSTMT),hl
```



```
10065 64B0 CD 6577 ANEW4 call IROFF ;KEYSW. AUS, IR-ERLAUBNIS AUS
10066 64B3 CD 0069 A call SPRRES ;Sprite-Reset
10067 64B6 CD 7AF5 A call WINDIN ;Grafik-WINDOW initialisieren
10068 64B9 06 1A A ld b,1AH
10069 64BB 21 F590 A ld hl,VARFOR
10070 64BE 36 08 ANEW5 ld (hl),8 ;fuer alle Variablen -> dopp. Genau 8
10071 64C0 23 A inc hl
10072 64C1 10 FB A djnz NEW5
10073 64C3 CD 28A4 A call RND2 ;STANDARDWERT FUER RND
10074 64C6 AF A xor a
10075 64C7 32 F581 A ld (ERRFLG),a
10076 64CA 6F A ld l,a
10077 64CB 67 A ld h,a
10078 64CC 22 F57F A ld (ZNRESU),hl ;RESUME AUS
10079 64CF 22 F586 A ld (HPTAW2),hl ;CONTINUE AUS
10080 64D2 2A F538 A ld hl,(RAMTOP)
10081 64D5 22 F561 A ld (SWAPTR),hl
10082 64D8 CD 65D2 A call RESTOR
10083 64DB 2A F588 A ld hl,(SVARPT)
10084 64DE 22 F58A A ld (DVARPT),hl
10085 64E1 22 F58C A ld (FSLPTR),hl
10086 64E4 CD 6E24 A call CLOSEA ;CLOSE ALLE FILES
10087 64E7 3A F743 A ld a,(LMAFL)
10088 64EA E6 01 A and 1 ;LOAD/MERGE ?
10089 64EC 20 03 A jr nz,NEW6 ;JA
10090 64EE 32 F743 A ld (LMAFL),a ;NEIN --> A=0
10091 64F1 C1 ANEW6 pop bc
10092 64F2 2A F53A A ld hl,(STD PTR) ;UNTERKANTE STACK
10093 64F5 2B A dec hl
10094 64F6 2B A dec hl
10095 64F7 22 F577 A ld (HELPPSP),hl
10096 64FA 23 A inc hl
10097 64FB 23 A inc hl
10098 64FC F9 AINITR ld sp,hl
10099 64FD 21 F540 A ld hl,DENBUF
10100 6500 22 F53E A ld (PDENBU),hl ;ZEIGER IN DENBUF AUF PUFFERANFANG
10101 6503 CD 7524 A call PRTRES ;PTR-GERAET RUECKSETZEN (NEUE ZEILE)
10102 6506 CD 4AE1 A call AUSGE ;AUSGABE AUF BS , KEIN AKTUELLER FCB
10103 6509 AF A xor a
10104 650A 67 A ld h,a
10105 650B 6F A ld l,a
10106 650C 22 F5AC A ld (FNCNT),hl
10107 650F 32 F67D A ld (HDIMFN),a
10108 6512 22 F614 A ld (FNCNT1),hl
10109 6515 22 F680 A ld (HPTRFN),hl
10110 6518 22 F5AA A ld (FNPTR),hl
10111 651B 32 F56B A ld (FORFLG),a
10112 651E E5 A push hl
10113 651F C5 A push bc ;SPRUNGADR. NACH FEHLER KELLERN
10114 6520 2A F56D AINITR1 ld hl,(CUSTMT)
10115 6523 C9 A ret
10116 A;
10117 6524 F3 ASWTON di ;SCHALTER (HL) AUF ON
10118 6525 7E A ld a,(hl)
10119 6526 E6 04 A and 4
10120 6528 F6 01 A or 1
10121 652A BE A cp (hl)
10122 652B 77 A ld (hl),a
```

```
10123 652C 28 04 A jr z,SWTON1
10124 652E E6 04 A and 4
10125 6530 20 26 A jr nz,IRRET2
10126 6532 FB ASWTON1 ei
10127 6533 C9 A ret
10128 A;
10129 6534 F3 ASWTOFF di ;SCHALTER (HL) AUF OFF
10130 6535 7E A ld a,(hl)
10131 6536 36 00 A ld (hl),0
10132 6538 18 07 A jr SWTSP1
10133 A;
10134 653A F3 ASWTSTP di ;SCHALTER AUF STOP
10135 653B 7E A ld a,(hl)
10136 653C F5 A push af
10137 653D F6 02 A or 2
10138 653F 77 A ld (hl),a
10139 6540 F1 A pop af
10140 6541 EE 05 ASWTSP1 xor 5
10141 6543 28 26 A jr z,IRRET5
10142 6545 FB A ei
10143 6546 C9 A ret
10144 A;
10145 6547 F3 AIRRET di ;ANSPRUNG NACH RETURN AUS IR-UP
10146 6548 7E A ld a,(hl)
10147 6549 E6 05 A and 5
10148 654B BE A cp (hl)
10149 654C 77 A ld (hl),a
10150 654D 20 02 A jr nz,IRRET1
10151 654F FB A ei
10152 6550 C9 A ret
10153 6551 EE 05 AIRRET1 xor 5
10154 6553 28 03 A jr z,IRRET2
10155 6555 FB A ei
10156 6556 C9 A ret
10157 6557 F3 A di
10158 6558 3A FACE AIRRET2 ld a,(IRVAN)
10159 655B 3C A inc a
10160 655C 32 FACE A ld (IRVAN),a
10161 655F FB A ei
10162 6560 C9 A ret
10163 6561 F3 AIRRET3 di ;BIT 2 AUF NULL VOR IR-BEHANDLUNG
10164 6562 7E A ld a,(hl)
10165 6563 E6 03 A and 3
10166 6565 BE A cp (hl)
10167 6566 77 A ld (hl),a
10168 6567 20 02 A jr nz,IRRET5
10169 6569 FB AIRRET4 ei
10170 656A C9 A ret
10171 656B 3A FACE AIRRET5 ld a,(IRVAN)
10172 656E D6 01 A sub 1
10173 6570 38 F7 A jr c,IRRET4
10174 6572 32 FACE A ld (IRVAN),a
10175 6575 FB A ei
10176 6576 C9 A ret
10177 A;
10178 6577 21 FBBA AIROFF ld hl,KEY1SW ;IR-BEHANDLUNG AUSSCHALTEN
10179 657A 06 1A A ld b,1AH
10180 657C AF A xor a
```

```
10181 657D 77      AIROFF1    ld      (hl),a      ;SCHALTER
10182 657E 23      A      inc      hl
10183 657F 77      A      ld      (hl),a      ;ADRESSE
10184 6580 23      A      inc      hl
10185 6581 77      A      ld      (hl),a
10186 6582 23      A      inc      hl
10187 6583 10 F8     A      djnz     IROFF1
10188 6585 21 FAC4   A      ld      hl,FIRERL      ;FKTSTASTEN-IR-ERLAUBNIS AUSSCHALTEN
10189 6588 06 0A     A      ld      b,0AH
10190 658A 77      AIROFF2    ld      (hl),a
10191 658B 23      A      inc      hl
10192 658C 10 FC     A      djnz     IROFF2
10193 658E 32 FACE   A      ld      (IRVAN),a      ;IR-VORANMELDUNGS-ZAEHLER = 0
10194 6591 C9      A      ret
10195      A;
10196 6592 3A F581   AIRBEH     ld      a,(ERRFLG)      ;ANSPRUNG BEI IR-BEHANDLUNG
10197 6595 B7      A      or      a
10198 6596 C0      A      ret      nz          ;BEI FEHLER
10199 6597 E5      A      push     hl
10200 6598 2A F2E2   A      ld      hl,(ACTZN)
10201 659B 7C      A      ld      a,h
10202 659C A5      A      and      l
10203 659D 3C      A      inc      a
10204 659E 28 0F     A      jr      z,IRBEH3      ;(ACTZN)=FFFF --> DIREKTMODUS
10205 65A0 21 FBBA   A      ld      hl,KEY1SW
10206 65A3 06 1A     A      ld      b,1AH
10207 65A5 7E      AIRBEH1    ld      a,(hl)
10208 65A6 FE 05     A      cp      5
10209 65A8 28 07     A      jr      z,IRBEH4      ;IR ON UND IR ANGEMELDET
10210 65AA 23      AIRBEH2    inc      hl
10211 65AB 23      A      inc      hl
10212 65AC 23      A      inc      hl
10213 65AD 10 F6     A      djnz     IRBEH1      ;NAECHSTE IR-QUELLE
10214 65AF E1      AIRBEH3    pop      hl
10215 65B0 C9      A      ret
10216 65B1 C5      AIRBEH4    push     bc          ;KEIN IR ANGEMELDET ODER DIREKTMODUS
10217 65B2 23      A      inc      hl          ;ADR DER IR-BEHANDLUNG FESTSTELLEN
10218 65B3 5E      A      ld      e,(hl)      ;DE: ADR ERSTE ZEILE IR-BEHANDLUNG
10219 65B4 23      A      inc      hl
10220 65B5 56      A      ld      d,(hl)
10221 65B6 2B      A      dec      hl
10222 65B7 2B      A      dec      hl
10223 65B8 7A      A      ld      a,d
10224 65B9 B3      A      or      e
10225 65BA C1      A      pop      bc
10226 65BB 28 ED     A      jr      z,IRBEH2      ;KEINE ADR EINGETRAGEN
10227 65BD D5      A      push     de
10228 65BE E5      A      push     hl
10229 65BF CD 6561   A      call    IRRET3      ;RES 2,(SWITCH)
10230 65C2 CD 653A   A      call    SWTSTP      ;SCHALTER AUF STOP, SET 1,(SWITCH), (IRVAN)-1
10231 65C5 0E 03     A      ld      c,3
10232 65C7 CD 646A   A      call    TSMEMS      ;ABSTAND STACK 6 BYTES ?
10233 65CA C1      A      pop      bc
10234 65CB D1      A      pop      de
10235 65CC E1      A      pop      hl
10236 65CD E3      A      ex      (sp),hl
10237 65CE E1      A      pop      hl
10238 65CF C3 47B5   A      jp      GOSUB1      ;SPRUNG ZUR IR-BEHANDLUNG
```

```
10239          A;
10240 65D2 EB      ARESTOR      ex      de,hl
10241 65D3 2A F53C A      ld      hl,(PSTBEG)
10242 65D6 28 0E    A      jr      z,RESTO1      ;RESTORE OHNE ZN --> READZEIGER AUF 1.ZEILE
10243 65D8 EB      A      ex      de,hl
10244 65D9 CD 474F A      call   INTPAR      ;ZN IN DE
10245 65DC E5      A      push   hl
10246 65DD CD 4290 A      call   SUCLN      ;ZEILE SUCHEN
10247 65E0 60      A      ld      h,b
10248 65E1 69      A      ld      l,c      ;HL: ADR DER ZEILE
10249 65E2 D1      A      pop    de
10250 65E3 D2 4802 A      jp     nc,ULER      ;ZEILE NICHT IM PROG.
10251 65E6 2B      ARESTO1   dec     hl
10252 65E7 22 F58E ARESTO2   ld      (READPT),hl
10253 65EA EB      A      ex      de,hl      ;ZEIGER IN BASICZEILE REGENER.
10254 65EB C9      A      ret
10255          A;
10256 65EC C2 764E ASTOP    jp     nz,SWSTOP      ;STOPSWITCH SETZEN
10257 65EF C0      ASTOP1   ret     nz
10258 65F0 3C      A      inc     a
10259 65F1 18 0A    A      jr     END1
10260          A;
10261 65F3 C0      AEND_   ret     nz
10262 65F4 AF      A      xor     a
10263 65F5 32 F581 A      ld      (ERRFLG),a
10264 65F8 F5      A      push   af
10265 65F9 CC 6E24 A      call   z,CLOSEA      ;ALLE FILES ZU
10266 65FC F1      A      pop    af
10267 65FD 22 F575 AEND1   ld      (HLPTR),hl
10268 6600 21 F540 A      ld      hl,DENBUF
10269 6603 22 F53E A      ld      (PDENBU),hl
10270 6606 21      A      defb   21h      ; ld hl,0FFF6H
10271 6607 F6 FF    AEND2   or     0FFh
10272 6609 C1      A      pop    bc
10273 660A 2A F2E2 AEND3   ld      hl,(ACTZN)
10274 660D E5      A      push   hl
10275 660E F5      AEND5   push   af
10276 660F 7D      A      ld      a,l
10277 6610 A4      A      and     h
10278 6611 3C      A      inc     a
10279 6612 28 09    A      jr     z,END4      ;(ACTZN) = FFFFH --> DIREKTMODE
10280 6614 22 F584 A      ld      (HPTZL2),hl
10281 6617 2A F575 A      ld      hl,(HLPTR)
10282 661A 22 F586 A      ld      (HPTAW2),hl
10283 661D CD 7524 AEND4   call   PRGRES      ;PTR-GERAET RUECKSETZEN
10284 6620 CD 7543 A      call   LSTRES      ;LST-GERAET RUECKSETZEN
10285 6623 F1      A      pop    af
10286 6624 21 3C47 A      ld      hl,BREAKM
10287 6627 C2 40FE A      jp     nz,ERR011     ;AUSSCHRIFT 'BREAK IN' ZN
10288 662A C3 411C A      jp     KOM1      ;KOMMANDOEbene
10289          A;
10290 662D 2A F586 ACONT   ld      hl,(HPTAW2)   ;FORTSETZUNGS-ANW
10291 6630 7C      A      ld      a,h
10292 6631 B5      A      or     l
10293 6632 11 0011 A      ld      de,11H
10294 6635 CA 4070 A      jp     z,ERRO      ;FORTSETZUNGS-ANW = 0 --> ERROR 'CANT CONTINUE'
10295 6638 ED 5B F584 A      ld      de,(HPTZL2)
10296 663C ED 53 F2E2 A      ld      (ACTZN),de   ;FORTSETZUNGS-ZN
```

```
10297 6640 C9      A      ret
10298             A;
10299 6641 3E      ATRON defb 3EH      ; ld a,B?AF
10300 6642 AF      ATROFF      xor      a
10301 6643 32 F68A    A      ld      (TRACFL),A      ;VON TRON A=AFH, VON TROFF A=0
10302 6646 C9      A      ret
10303             A;
10304 6647 CD 60B3    ASWAP call DIM1      ;ADR DER VARIABLEN SUCHEN
10305 664A D5      A      push     de
10306 664B E5      A      push     hl
10307 664C 21 F682    A      ld      hl,HSWAP
10308 664F CD 2B73    A      call    NLDIRT      ;1. VARIABLE ZWISCHENSPEICHERN
10309 6652 2A F58A    A      ld      hl,(DVARPT)
10310 6655 E3      A      ex      (sp),hl
10311 6656 EF      A      rst     TYPTST      ;TYPTST
10312 6657 F5      A      push     af
10313 6658 CF      A      rst     CPSTX
10314 6659 2C      A      defb    ','
10315 665A CD 60B3    A      call    DIM1      ;ADR 2. VARIABLE SUCHEN
10316 665D F1      A      pop     af
10317 665E 47      A      ld      b,a
10318 665F EF      A      rst     TYPTST      ;TYPTST FUER 2. VARIABLE
10319 6660 B8      A      cp      b
10320 6661 C2 406E    A      jp      nz,ERTM      ; VARIABLEN VERSCHIED.TYPS --> TM-ERROR
10321 6664 E3      A      ex      (sp),hl
10322 6665 EB      A      ex      de,hl
10323 6666 E5      A      push     hl
10324 6667 2A F58A    A      ld      hl,(DVARPT)
10325 666A E7      A      rst     CPREG
10326 666B 20 10      A      jr      nz,ERFC0
10327 666D D1      A      pop     de
10328 666E E1      A      pop     hl
10329 666F E3      A      ex      (sp),hl
10330 6670 D5      A      push     de
10331 6671 CD 2B73    A      call    NLDIRT      ;2.VAR. AUF PLATZ DER 1.VAR
10332 6674 E1      A      pop     hl
10333 6675 11 F682    A      ld      de,HSWAP
10334 6678 CD 2B73    A      call    NLDIRT      ;1.VAR. AUS ZWISCHENSP. AUF PLATZ DER 2. VAR.
10335 667B E1      A      pop     hl
10336 667C C9      A      ret
10337             A;
10338 667D C3 4740    AERFC0      jp      ERFC
10339             A;
10340 6680 3E 01      AERASE      ld      a,1
10341 6682 32 F56B    A      ld      (FORFLG),a      ;KENNBYTE FUER RUECKKEHR AUS DIM
10342 6685 CD 60B3    A      call    DIM1      ;BC: ADR 1.ELEMENT DE: LAENGE DER VARIABLEN
10343 6688 E5      A      push     hl
10344 6689 32 F56B    A      ld      (FORFLG),a
10345 668C 60      A      ld      h,b
10346 668D 69      A      ld      l,c
10347 668E 0B      A      dec     bc
10348 668F 0B      A      dec     bc
10349 6690 0B      A      dec     bc
10350 6691 0B      A      dec     bc
10351 6692 0B      A      dec     bc      ;BC: 1.BYTE FELDDNAME
10352 6693 19      A      add     hl,de
10353 6694 EB      A      ex      de,hl      ;DE: 1.BYTE NACH FELD
10354 6695 2A F58C    A      ld      hl,(FSLPTR)
```

```
10355 6698 E7      AERASE1      rst      CPREG
10356 6699 1A      A      ld      a,(de)
10357 669A 02      A      ld      (bc),a      ;FELD UEBERSCHREIBEN
10358 669B 13      A      inc     de
10359 669C 03      A      inc     bc
10360 669D 20 F9     A      jr      nz,ERASE1
10361 669F 0B      A      dec     bc      ;ALLE WEITEREN VARIABLEN NACH VORN VERSCHOBEN
10362 66A0 60      A      ld      h,b
10363 66A1 69      A      ld      l,c
10364 66A2 22 F58C   A      ld      (FSLPTR),HL      ;NEUES ENDE DES VARIABLENBEREICHS
10365 66A5 E1      A      pop     hl
10366 66A6 7E      A      ld      a,(hl)
10367 66A7 FE 2C   A      cp      ','
10368 66A9 C0      A      ret     nz      ;FERTIG
10369 66AA D7      A      rst     TCHAR
10370 66AB 18 D3     A      jr      ERASE      ;NAECHSTE VARIABLE
10371      A;
10372 66AD F1      A      pop     af
10373 66AE E1      A      pop     hl
10374 66AF C9      A      ret
10375      A;
10376 66B0 7E      ATSTBU      ld      a,(hl)      ;TEST, OB ZEICHEN BUCHSTABE
10377 66B1 FE 41   ATSTBU1     cp      'A'
10378 66B3 D8      A      ret     c      ;<A KEIN BUCHSTABE CY=1
10379 66B4 FE 5B   A      cp      '['
10380 66B6 3F      A      ccf
10381 66B7 C9      A      ret
10382      A;
10383 66B8 CA 64AD   ACLEAR      jpb     z,NEW3      ;CLEAR OHNE PARAMETER
10384 66BB CD 473C   A      call   INTPA2      ;LAENGE ZK-BEREICH IN DE
10385 66BE 2B      A      dec     hl
10386 66BF D7      A      rst     TCHAR
10387 66C0 E5      A      push    hl
10388 66C1 2A FBB4   A      ld      hl,(EOFRAM)
10389 66C4 44      A      ld      b,h
10390 66C5 4D      A      ld      c,l      ;ALTES EOFRAM IN BC
10391 66C6 2A F538   A      ld      hl,(RAMTOP)
10392 66C9 28 2E   A      jr      z,CLEAR2      ;NUR 1.PARAMETER
10393 66CB E1      A      pop     hl      ;ZEIGER IN BASIC-ZEILE
10394 66CC CF      A      rst     CPSTX
10395 66CD 2C      A      defb   ','
10396 66CE D5      A      push    de      ;1.PARAMETER KELLERN
10397 66CF CD 5406   A      call   ADRTDE      ;NEUE ADR EOFRAM IN DE
10398 66D2 2B      A      dec     hl
10399 66D3 D7      A      rst     TCHAR
10400 66D4 C2 4056   A      jpb     nz,ERSN      ;WEITERER PARAMETER --> SN-ERROR
10401 66D7 E3      A      ex      (sp),hl
10402 66D8 EB      A      ex      de,hl      ;DE: 1.PARAMETER HL: 2.PARAMETER
10403 66D9 7C      A      ld      a,h
10404 66DA A7      A      and    a
10405 66DB F2 4740   A      jpb     p,ERFC      ;2.PARAMETER < 8000H --> FC-ERROR
10406 66DE D5      A      push    de
10407 66DF ED 5B FBB8   A      ld      de,(SYSANF)      ;1.BYTE VOM SYSTEMRAM
10408 66E3 E7      A      rst     CPREG
10409 66E4 D2 4740   A      jpb     nc,ERFC      ;EOFRAM-ADR LIEGT IM SYSTEMRAM --> FC-ERROR
10410 66E7 D1      A      pop     de      ;Laenge ZK-Bereich
10411 66E8 E5      A      push    hl      ;2.Parameter
10412 66E9 01 FEEA   A      ld      bc,-278
```

```
10413 66EC CD FE5B A call XCLEAR
10414 66EF 3A F725 A ld a,(MAXFIL)
10415 66F2 09 ACLEAR1 add hl,bc ;PLATZ FUER FCB'S ENTSRECHEND MAXFILES
10416 66F3 3D A dec a
10417 66F4 F2 66F2 A jp p,CLEAR1
10418 66F7 C1 A pop bc ;BC: 2.PARAMETER
10419 66F8 2B A dec hl ;HL: LETZTES BYTE IM USERRAM
10420 66F9 7D ACLEAR2 ld a,l
10421 66FA 93 A sub e
10422 66FB 5F A ld e,a
10423 66FC 7C A ld a,h
10424 66FD 9A A sbc a,d ;RESERVIEREN ZK-BEREICH
10425 66FE 57 A ld d,a ;DE: ANFANG ZK-BEREICH
10426 66FF DA 6481 A jp c,MOERR0 ;ZK-BEREICH ZU GROSS ODER EOFRAM ZU KLEIN
10427 6702 E5 A push hl
10428 6703 2A F588 A ld hl,(SVARPT)
10429 6706 C5 A push bc
10430 6707 01 00A0 A ld bc,0A0H
10431 670A 09 A add hl,bc
10432 670B C1 A pop bc
10433 670C E7 A rst CPREG
10434 670D D2 6481 A jp nc,MOERR0 ;ABSTAND PROG.ENDE - ZK-BEREICH < 160 BYTE
10435 6710 EB A ex de,hl
10436 6711 22 F53A A ld (STDPTR),hl ;ANFANG ZK-BEREICH SPEICHERN
10437 6714 60 A ld h,b
10438 6715 69 A ld l,c
10439 6716 22 FBB4 A ld (EOFAM),hl ;2.PARAMETER ODER ALTES EOFAM
10440 6719 22 FBB6 A ld (EOFAM1),hl
10441 671C E1 A pop hl
10442 671D 22 F538 A ld (RAMTOP),hl ;LETZTES BYTE VOR FCB'S
10443 6720 E1 A pop hl ;ZEIGER IN BASIC-ZEILE
10444 6721 CD 64AD A call NEW3 ;VARIABLENZEIGER INITIALISIEREN
10445 6724 3A F725 A ld a,(MAXFIL)
10446 6727 CD 7EB2 A call FCBRAM ;ZEIGER UND TABELLEN FUER FCB'S INITIALISIEREN
10447 672A 2A F56D A ld hl,(CUSTMT)
10448 672D C3 45ED A jp RUNMOD
10449 A;
10450 6730 7D A ld a,l
10451 6731 93 A sub e
10452 6732 5F A ld e,a
10453 6733 7C A ld a,h
10454 6734 9A A sbc a,d
10455 6735 57 A ld d,a
10456 6736 C9 A ret
10457 A;
10458 6737 11 0000 ANEXT ld de,0
10459 673A C4 60B3 ANEXT1 call nz,DIM1 ;ADR LAUFVARIABLE IN BC
10460 673D 22 F56D A ld (CUSTMT),HL ;ZEIGER IN BASIC-ZEILE SPEICHERN
10461 6740 CD 3FE6 A call FORUP ;TIEFSTE FOR-NEXT-EBENE SUCHEN
10462 6743 C2 405C A jp nz,ERNEFO ;EBENE STIMMT NICHT MIT FOR UEBEREIN --> ERROR
10463 6746 F9 A ld sp,hl
10464 6747 D5 A push de
10465 6748 7E A ld a,(hl)
10466 6749 F5 A push af
10467 674A 23 A inc hl
10468 674B D5 A push de
10469 674C 7E A ld a,(hl)
10470 674D 23 A inc hl
```

```

10471 674E B7      A    or    a
10472 674F FA 677B  A    jp    m,NEXT3
10473 6752 3D      A    dec   a
10474 6753 20 04    A    jr    nz,NEXT2
10475 6755 01 0008  A    ld    bc,8
10476 6758 09      A    add   hl,bc
10477 6759 C6 04    ANEXT2  add   a,4
10478 675B 32 F529  A    ld    (TYP),a
10479 675E CD 2B88  A    call  HLAC1T
10480 6761 EB      A    ex    de,hl
10481 6762 E3      A    ex    (sp),hl
10482 6763 E5      A    push  hl
10483 6764 EF      A    rst   TYPTST
10484 6765 30 4E    A    jr    nc,NEXT5
10485 6767 CD 2B56  A    call  HLCBED
10486 676A CD 2ECE  A    call  ADD4
10487 676D E1      A    pop   hl
10488 676E CD 2B68  A    call  HLAC1S
10489 6771 E1      A    pop   hl
10490 6772 CD 2B5F  A    call  HLEDCB
10491 6775 E5      A    push  hl
10492 6776 CD 2BA1  A    call  VGL4
10493 6779 18 29    A    jr    NEXT4
10494 677B 01 000C  ANEXT3  ld    bc,0CH
10495 677E 09      A    add   hl,bc
10496 677F 4E      A    ld    c,(hl)
10497 6780 23      A    inc   hl
10498 6781 46      A    ld    b,(hl)
10499 6782 23      A    inc   hl
10500 6783 E3      A    ex    (sp),hl
10501 6784 5E      A    ld    e,(hl)
10502 6785 23      A    inc   hl
10503 6786 56      A    ld    d,(hl)
10504 6787 E5      A    push  hl
10505 6788 69      A    ld    l,c
10506 6789 60      A    ld    h,b
10507 678A CD 2DF2  A    call  ADDI
10508 678D 3A F529  A    ld    a,(TYP)
10509 6790 FE 02    A    cp    2
10510 6792 C2 4068  A    jp    nz,EROV
10511 6795 EB      A    ex    de,hl
10512 6796 E1      A    pop   hl
10513 6797 72      A    ld    (hl),d
10514 6798 2B      A    dec   hl
10515 6799 73      A    ld    (hl),e
10516 679A E1      A    pop   hl
10517 679B D5      A    push  de
10518 679C 5E      A    ld    e,(hl)
10519 679D 23      A    inc   hl
10520 679E 56      A    ld    d,(hl)
10521 679F 23      A    inc   hl
10522 67A0 E3      A    ex    (sp),hl
10523 67A1 CD 2BCD  A    call  VGL2
10524 67A4 E1      ANEXT4  pop   hl
10525 67A5 C1      A    pop   bc
10526 67A6 90      A    sub   b
10527 67A7 CD 2B5F  A    call  HLEDCB
10528 67AA 28 1A    A    jr    z,NEXT6
  
```



```
10529 67AC EB A ex de,hl
10530 67AD 22 F2E2 A ld (ACTZN),hl
10531 67B0 69 A ld l,c
10532 67B1 60 A ld h,b
10533 67B2 C3 45E9 A jp FOR10
10534 67B5 CD 2317 ANEXT5 call ADD80
10535 67B8 E1 A pop hl
10536 67B9 CD 2B90 A call AC1HLT
10537 67BC E1 A pop hl
10538 67BD CD 2B6F A call HLAC2T
10539 67C0 D5 A push de
10540 67C1 CD 2BDC A call VGL8
10541 67C4 18 DE A jr NEXT4
10542 67C6 F9 ANEXT6 ld sp,hl
10543 67C7 22 F577 A ld (HELPSP),hl
10544 67CA EB A ex de,hl
10545 67CB 2A F56D A ld hl,(CUSTMT)
10546 67CE 7E A ld a,(hl)
10547 67CF FE 2C A cp ','
10548 67D1 C2 45ED A jp nz,RUNMOD
10549 67D4 D7 A rst TCHAR
10550 67D5 CD 673A A call NEXT1
10551 67D8 CD 69E0 ANEXT8 call ZKUP2
10552 67DB 7E A ld a,(hl)
10553 67DC 23 A inc hl
10554 67DD 4E A ld c,(hl)
10555 67DE 23 A inc hl
10556 67DF 46 A ld b,(hl)
10557 67E0 D1 A pop de
10558 67E1 C5 A push bc
10559 67E2 F5 A push af
10560 67E3 CD 69E7 A call ZKUP23
10561 67E6 F1 A pop af
10562 67E7 57 A ld d,a
10563 67E8 5E A ld e,(hl)
10564 67E9 23 A inc hl
10565 67EA 4E A ld c,(hl)
10566 67EB 23 A inc hl
10567 67EC 46 A ld b,(hl)
10568 67ED E1 A pop hl
10569 67EE 7B ANEXT7 ld a,e
10570 67EF B2 A or d
10571 67F0 C8 A ret z
10572 67F1 7A A ld a,d
10573 67F2 D6 01 A sub 1
10574 67F4 D8 A ret c
10575 67F5 AF A xor a
10576 67F6 BB A cp e
10577 67F7 3C A inc a
10578 67F8 D0 A ret nc
10579 67F9 15 A dec d
10580 67FA 1D A dec e
10581 67FB 0A A ld a,(bc)
10582 67FC 03 A inc bc
10583 67FD BE A cp (hl)
10584 67FE 23 A inc hl
10585 67FF 28 ED A jr z,NEXT7
10586 6801 3F A ccf
```

```
10587 6802 C3 2AF9 A jp TVORZ3 ;VORZEICHENTEST
10588 A;
10589 6805 CD 339E AOCT call AUOKT ;AUSGABEKONVERTIERUNG OKTAL
10590 6808 18 0D A jr STR1
10591 A;
10592 680A CD 33A2 AHEX call AUHEX ;AUSGABEKONVERTIERUNG HEXADEZIMAL
10593 680D 18 08 A jr STR1
10594 A;
10595 680F CD 339A ABIN call AUBIN ;AUSGABEKONVERTIERUNG BINAER
10596 6812 18 03 A jr STR1
10597 A;
10598 6814 CD 30A5 ASTR call AUKO ;AUSGABEKONVERTIERUNG
10599 6817 CD 6845 ASTR1 call ZKUP1 ;LAENGE UND ADR ZK IN DENBUF
10600 681A CD 69E3 A call ZKUP21 ;ZEICHENKETTE AUFBEREITEN
10601 681D 01 6A32 A ld bc,CHR2
10602 6820 C5 A push bc ;SPRUNG ZU CHR2 KELLERN
10603 6821 7E ASTR2 ld a,(hl) ;A: LEN ZK
10604 6822 23 A inc hl
10605 6823 E5 A push hl
10606 6824 CD 689E A call TSTZK
10607 6827 E1 A pop hl
10608 6828 4E A ld c,(hl)
10609 6829 23 A inc hl
10610 682A 46 A ld b,(hl) ;BC: ADR ZK
10611 682B CD 683A A call WLAZK2 ;LENZK, ADRZK BESCHREIBEN
10612 682E E5 A push hl
10613 682F 6F A ld l,a
10614 6830 CD 69D7 A call TSTZKI ;(BC) --> (DE) A-MAL
10615 6833 D1 A pop de
10616 6834 C9 A ret
10617 A;
10618 6835 3E 01 AWLAZK ld a,1
10619 6837 CD 689E AWLAZK1 call TSTZK
10620 683A 21 F55E AWLAZK2 ld hl,LENZK
10621 683D E5 A push hl
10622 683E 77 A ld (hl),A ;LENZK EINTRAGEN
10623 683F 23 A inc hl
10624 6840 73 A ld (hl),e
10625 6841 23 A inc hl
10626 6842 72 A ld (hl),d ;ADRZK EINTRAGEN
10627 6843 E1 A pop hl
10628 6844 C9 A ret
10629 A;
10630 6845 2B AZKUP1 dec hl ;AB HL LAENGE DER ZK ZAEHLEN
10631 6846 06 22 AZKUP11 ld b,'"';ADR UND LEN IN DENBUF
10632 6848 50 AZKUP12 ld d,b
10633 6849 E5 AZKUP13 push hl
10634 684A 0E FF A ld c,0FFH
10635 684C 23 AZKUP14 inc hl
10636 684D 7E A ld a,(hl)
10637 684E 0C A inc c ;LAENGE + 1
10638 684F B7 A or a
10639 6850 28 06 A jr z,ZKUP15 ;0 --> ENDE ZK
10640 6852 BA A cp d
10641 6853 28 03 A jr z,ZKUP15 ;TEST AUF BEGRENZUNGSZEICHEN DER ZK (")
10642 6855 B8 A cp b
10643 6856 20 F4 A jr nz,ZKUP14 ;NAECHSTES ZEICHEN
10644 6858 FE 22 AZKUP15 cp '''
```

```
10645 685A CC 464F A call z,TCHAR0
10646 685D E3 A ex (sp),hl
10647 685E 23 A inc hl
10648 685F EB A ex de,hl
10649 6860 79 A ld a,c
10650 6861 CD 683A A call WLAZK2 ;LENZK, ADRZK EINTRAGEN
10651 6864 11 F55E AZKUP16 ld de,LENZK
10652 6867 3E A defb 3Eh ; ld a,B?D5
10653 6868 D5 AZKUP17 push de
10654 6869 2A F53E A ld hl,(PDENBU)
10655 686C 22 F6BE A ld (AC1INT),hl
10656 686F 3E 03 A ld a,3
10657 6871 32 F529 A ld (TYP),a
10658 6874 CD 2B73 A call NLDIRT ;LEN, ADR ZK IN DENBUF EINTRAGEN
10659 6877 11 F561 A ld de,SWAPTR
10660 687A E7 A rst CPREG ;TEST: DENBUF UND LENZK, ADRZK VOLL ?
10661 687B 22 F53E A ld (PDENBU),hl
10662 687E E1 A pop hl
10663 687F 7E A ld a,(hl)
10664 6880 C0 A ret nz ;NEIN
10665 6881 11 0010 AZKUP18 ld de,10H
10666 6884 C3 4070 A jp ERRO ;ERROR: STRING FOMULA TOO COMPLEX
10667
10668 6887 23 AOUTZK inc hl ;AUSGABE ZEICHENKETTE
10669 6888 CD 6845 AOUTZK1 call ZKUP1 ;LAENGE ZK BESTIMMEN
10670 688B CD 69E3 AOUTZK2 call ZKUP21
10671 688E CD 2B61 A call HLDCB ;BC: ADR, D: LEN ZK
10672 6891 14 A inc d
10673 6892 15 AOUTZK3 dec d
10674 6893 C8 A ret z ;ZK ALLE
10675 6894 0A A ld a,(bc)
10676 6895 DF A rst CHAR0 ;ZEICHEN AUF LST
10677 6896 FE 0D A cp 0DH
10678 6898 CC 7551 A call z,LSTRE2 ;ZEILENVORSCHUB
10679 689B 03 A inc bc
10680 689C 18 F4 A jr OUTZK3 ;NAECHSTES ZEICHEN
10681
10682 689E B7 ATSTZK or A ; A: Laenge ZK ;TEST, OB PLATZ FUER ZK
10683 689F 0E A defb 0EH ; LD C,0F1H
10684 68A0 F1 ATSTZK1 pop af
10685 68A1 F5 A push af
10686 68A2 2A F53A A ld hl,(STDPTR) ;Oberkante Stack
10687 68A5 EB A ex de,hl
10688 68A6 2A F561 A ld hl,(SWAPTR) ;Fuellzeiger
10689 68A9 2F A cpl
10690 68AA 4F A ld c,a
10691 68AB 06 FF A ld b,0FFH
10692 68AD 09 A add hl,bc ;-Laenge
10693 68AE 23 A inc hl
10694 68AF E7 A rst CPREG ;reicht Platz?
10695 68B0 38 07 A jr c,TSTZK3 ;nein
10696 68B2 22 F561 A ld (SWAPTR),hl ;ja
10697 68B5 23 A inc hl
10698 68B6 EB A ex de,hl
10699 68B7 F1 ATSTZK2 pop af
10700 68B8 C9 A ret ;Ok
10701 68B9 F1 ATSTZK3 pop af
10702 68BA 11 000E A ld de,0EH
```

```
10703 68BD CA 4070 A jp z,ERRO ;ERROR: STRING TOO LONG
10704 68C0 BF A cp a
10705 68C1 F5 A push af
10706 68C2 01 68A0 A ld bc,TSTZK1
10707 68C5 C5 A push bc
10708 68C6 2A F538 ATSTZK4 ld hl,(RAMTOP)
10709 68C9 22 F561 ATSTZK5 ld (SWAPTR),hl
10710 68CC 21 0000 A ld hl,0
10711 68CF E5 A push hl
10712 68D0 2A F58C A ld hl,(FSLPTR)
10713 68D3 E5 A push hl
10714 68D4 21 F540 A ld hl,DENBUF
10715 68D7 ED 5B F53E ATSTZK6 ld de,(PDENBU)
10716 68DB E7 A rst CPREG
10717 68DC 01 68D7 A ld bc,TSTZK6
10718 68DF C2 6952 A jp nz,TSTZKD
10719 68E2 21 F612 A ld hl,HPTSTR
10720 68E5 22 F67E A ld (HPTRST),hl
10721 68E8 2A F58A A ld hl,(DVARPT)
10722 68EB 22 F67B A ld (DIMPTR),hl
10723 68EE 2A F588 A ld hl,(SVARPT)
10724 68F1 ED 5B F67B ATSTZK7 ld de,(DIMPTR)
10725 68F5 E7 A rst CPREG
10726 68F6 28 12 A jr z,TSTZK9
10727 68F8 7E A ld a,(hl)
10728 68F9 23 A inc hl
10729 68FA 23 A inc hl
10730 68FB 23 A inc hl
10731 68FC FE 03 A cp 3
10732 68FE 20 04 A jr nz,TSTZK8
10733 6900 CD 6953 A call TSTZKE
10734 6903 AF A xor a
10735 6904 5F ATSTZK8 ld e,a
10736 6905 16 00 A ld d,0
10737 6907 19 A add hl,de
10738 6908 18 E7 A jr TSTZK7
10739 690A 2A F67E ATSTZK9 ld hl,(HPTRST)
10740 690D 5E A ld e,(hl)
10741 690E 23 A inc hl
10742 690F 56 A ld d,(hl)
10743 6910 7A A ld a,d
10744 6911 B3 A or e
10745 6912 2A F58A A ld hl,(DVARPT)
10746 6915 28 13 A jr z,TSTZKB ;KEINE ZK-FELDER
10747 6917 EB A ex de,hl
10748 6918 22 F67E A ld (HPTRST),hl
10749 691B 23 A inc hl
10750 691C 23 A inc hl
10751 691D 5E A ld e,(hl)
10752 691E 23 A inc hl
10753 691F 56 A ld d,(hl)
10754 6920 23 A inc hl
10755 6921 EB A ex de,hl
10756 6922 19 A add hl,de
10757 6923 22 F67B A ld (DIMPTR),hl
10758 6926 EB A ex de,hl
10759 6927 18 C8 A jr TSTZK7
10760 6929 C1 ATSTZKA pop bc
```

```
10761 692A ED 5B F58C ATSTZKB ld de,(FSLPTR)
10762 692E E7 A rst CPREG
10763 692F CA 6973 A jp z,TSTZKF ;KEINE FELDVARIABLEN
10764 6932 7E A ld a,(hl)
10765 6933 23 A inc hl
10766 6934 CD 2B5F A call HLEDCB
10767 6937 E5 A push hl
10768 6938 09 A add hl,bc
10769 6939 FE 03 A cp 3
10770 693B 20 EC A jr nz,TSTZKA
10771 693D 22 F565 A ld (HARI5),hl
10772 6940 E1 A pop hl
10773 6941 4E A ld c,(hl)
10774 6942 06 00 A ld b,0
10775 6944 09 A add hl,bc
10776 6945 09 A add hl,bc
10777 6946 23 A inc hl
10778 6947 EB ATSTZKC ex de,hl
10779 6948 2A F565 A ld hl,(HARI5)
10780 694B EB A ex de,hl
10781 694C E7 A rst CPREG
10782 694D 28 DB A jr z,TSTZKB
10783 694F 01 6947 A ld bc,TSTZKC ;RUECKSPRUNGADR. KELLERN
10784 6952 C5 ATSTZKD push bc
10785 6953 AF ATSTZKE xor a
10786 6954 B6 A or (hl)
10787 6955 23 A inc hl
10788 6956 5E A ld e,(hl)
10789 6957 23 A inc hl
10790 6958 56 A ld d,(hl) ;DE: ZEIGER AUF NAECHSTE ZEILE, WENN Z=1
10791 6959 23 A inc hl
10792 695A C8 A ret z
10793 695B 44 A ld b,h
10794 695C 4D A ld c,l
10795 695D 2A F561 A ld hl,(SWAPTR)
10796 6960 E7 A rst CPREG
10797 6961 60 A ld h,b
10798 6962 69 A ld l,c
10799 6963 D8 A ret c
10800 6964 E1 A pop hl
10801 6965 E3 A ex (sp),hl
10802 6966 E7 A rst CPREG
10803 6967 E3 A ex (sp),hl
10804 6968 E5 A push hl
10805 6969 60 A ld h,b
10806 696A 69 A ld l,c
10807 696B D0 A ret nc
10808 696C C1 A pop bc
10809 696D F1 A pop af
10810 696E F1 A pop af
10811 696F E5 A push hl
10812 6970 D5 A push de
10813 6971 C5 A push bc
10814 6972 C9 A ret
10815 6973 D1 ATSTZKF pop de
10816 6974 E1 A pop hl
10817 6975 7C A ld a,h
10818 6976 B5 A or l
```

```
10819 6977 C8      A    ret    z
10820 6978 2B      A    dec    hl
10821 6979 46      A    ld     b,(hl)
10822 697A 2B      A    dec    hl
10823 697B 4E      A    ld     c,(hl)
10824 697C E5      A    push   hl
10825 697D 2B      A    dec    hl
10826 697E 6E      A    ld     l,(hl)
10827 697F 26 00    A    ld     h,0
10828 6981 09      A    add    hl,bc
10829 6982 50      A    ld     d,b
10830 6983 59      A    ld     e,c
10831 6984 2B      A    dec    hl
10832 6985 44      A    ld     b,h
10833 6986 4D      A    ld     c,l
10834 6987 2A F561  A    ld     hl,(SWAPTR)
10835 698A CD 645F  A    call   BCTHL1
10836 698D E1      A    pop    hl
10837 698E 71      A    ld     (hl),c
10838 698F 23      A    inc    hl
10839 6990 70      A    ld     (hl),b
10840 6991 60      A    ld     h,b
10841 6992 69      A    ld     l,c
10842 6993 2B      A    dec    hl
10843 6994 C3 68C9  A    jp     TSTZK5
10844 6997 C5      ATSTZKG push   bc
10845 6998 E5      A    push   hl
10846 6999 2A F6BE  A    ld     hl,(AC1INT)
10847 699C E3      A    ex     (sp),hl
10848 699D CD 4DBA  A    call   SNAL30
10849 69A0 E3      A    ex     (sp),hl
10850 69A1 CD 2CD8  A    call   TYSTR?
10851 69A4 7E      A    ld     a,(hl)
10852 69A5 E5      A    push   hl
10853 69A6 2A F6BE  A    ld     hl,(AC1INT)
10854 69A9 E5      A    push   hl
10855 69AA 86      A    add    a,(hl)
10856 69AB 11 000F  A    ld     de,0FH
10857 69AE DA 4070  A    jp     c,ERRO
10858 69B1 CD 6837  A    call   WLAZK1
10859 69B4 D1      A    pop    de
10860 69B5 CD 69E7  A    call   ZKUP23
10861 69B8 E3      A    ex     (sp),hl
10862 69B9 CD 69E6  A    call   ZKUP22
10863 69BC E5      A    push   hl
10864 69BD 2A F55F  A    ld     hl,(ADRZK)
10865 69C0 EB      A    ex     de,hl
10866 69C1 CD 69CF  A    call   TSTZKH
10867 69C4 CD 69CF  A    call   TSTZKH
10868 69C7 21 4C66  A    ld     hl,SNAL6
10869 69CA E3      A    ex     (sp),hl
10870 69CB E5      A    push   hl
10871 69CC C3 6864  A    jp     ZKUP16
10872 69CF E1      ATSTZKH pop    hl
10873 69D0 E3      A    ex     (sp),hl
10874 69D1 7E      A    ld     a,(hl)
10875 69D2 23      A    inc    hl
10876 69D3 4E      A    ld     c,(hl)
```

```
10877 69D4 23      A   inc   hl
10878 69D5 46      A   ld    b,(hl)
10879 69D6 6F      A   ld    l,a
10880 69D7 2C      ATSTZKI inc   l
10881 69D8 2D      ATSTZKJ dec   l           ;LAENGE-1
10882 69D9 C8      A   ret   z           ;FERTIG
10883 69DA 0A      A   ld    a,(bc)
10884 69DB 12      A   ld    (de),a       ;ZK UMLADEN
10885 69DC 03      A   inc   bc
10886 69DD 13      A   inc   de
10887 69DE 18 F8  A   jr    TSTZKJ
10888                A;
10889 69E0 CD 2CD8 AZKUP2  call   TYSTR?       ;TYPAUSWERTUNG
10890 69E3 2A F6BE AZKUP21 ld    hl,(AC1INT)   ;=3 STRING
10891 69E6 EB      AZKUP22 ex    de,hl
10892 69E7 CD 69FE AZKUP23 call   ZKUP3
10893 69EA EB      A   ex    de,hl
10894 69EB C0      A   ret   nz
10895 69EC D5      A   push  de
10896 69ED 50      A   ld    d,b
10897 69EE 59      A   ld    e,c
10898 69EF 1B      A   dec   de
10899 69F0 4E      A   ld    c,(hl)
10900 69F1 2A F561 A   ld    hl,(SWAPTR)
10901 69F4 E7      A   rst   CPREG
10902 69F5 20 05  A   jr    nz,ZKUP24
10903 69F7 47      A   ld    b,a
10904 69F8 09      A   add   hl,bc
10905 69F9 22 F561 A   ld    (SWAPTR),hl
10906 69FC E1      AZKUP24 pop   hl
10907 69FD C9      A   ret
10908                A;
10909 69FE 2A F53E AZKUP3  ld    hl,(PDENBU)
10910 6A01 2B      A   dec   hl
10911 6A02 46      A   ld    b,(hl)
10912 6A03 2B      A   dec   hl
10913 6A04 4E      A   ld    c,(hl)       ;BC: ADR TEILZK
10914 6A05 2B      A   dec   hl
10915 6A06 E7      A   rst   CPREG
10916 6A07 C0      AZKUP31 ret   NZ           ;PUFFER FUER ADR DER TEILZK LEER
10917 6A08 22 F53E A   ld    (PDENBU),hl
10918 6A0B C9      A   ret
10919                A;
10920 6A0C 01 4FA9 ALEN ld    bc,POS1
10921 6A0F C5      A   push  bc           ;SPRUNG ZU POS1 NACH RET (WERT IN AC1)
10922 6A10 CD 69E0 ALEN1 call  ZKUP2       ;LAENGE DER ZK IN (HL)
10923 6A13 AF      A   xor   a
10924 6A14 57      A   ld    d,a           ;D:=0
10925 6A15 7E      A   ld    a,(hl)       ;A:Laenge HL:Adr.(Laenge,Zeiger)
10926 6A16 B7      A   or    a
10927 6A17 C9      A   ret
10928                A;
10929 6A18 01 4FA9 AASC ld    bc,POS1
10930 6A1B C5      A   push  bc
10931 6A1C CD 6A10 AASC1 call  LEN1       ;LAENGE DER ZK IN A
10932 6A1F CA 4740 A   jp    z,ERFC       ;LAENGE = 0 --> FC-ERROR
10933 6A22 23      A   inc   hl
10934 6A23 5E      A   ld    e,(hl)
```

```
10935 6A24 23      A   inc   hl
10936 6A25 56      A   ld    d,(hl)      ;DE: ADR DER ZK
10937 6A26 1A      A   ld    a,(de)      ;A: ZEICHENKODE 1.ZEICHEN
10938 6A27 C9      A   ret
10939             A;
10940 6A28 CD 6835   ACHR call  WLAZK
10941 6A2B CD 51F6   A   call  BYTAE3      ;ZEICHENNR. IN E
10942 6A2E 2A F55F   ACHR1 ld   hl,(ADRZK)
10943 6A31 73      A   ld    (hl),e      ;ZEICHEN EINTRAGEN
10944 6A32 C1      ACHR2 pop  bc
10945 6A33 C3 6864   A   jp    ZKUP16      ;ZEICHENAUSWERTUNG
10946             A;
10947 6A36 D7      ASTRING  rst    TCHAR
10948 6A37 CF      A   rst   CPSTX
10949 6A38 28      A   defb  '('
10950 6A39 CD 51F3   A   call  BYTAE2      ;ANZAHL IN E
10951 6A3C D5      A   push  de
10952 6A3D CF      A   rst   CPSTX
10953 6A3E 2C      A   defb  ','
10954 6A3F CD 4C57   A   call  SNAL3      ;AUSDRUCK AUSWERTEN
10955 6A42 CF      A   rst   CPSTX
10956 6A43 29      A   defb  ')'
10957 6A44 E3      A   ex    (sp),hl
10958 6A45 E5      A   push  hl
10959 6A46 EF      A   rst   TYPTST      ;TYP AUSWERTUNG
10960 6A47 28 05    A   jr    z,STRIN1    ;3 ZEICHENKETTE
10961 6A49 CD 51F6   A   call  BYTAE3      ;ZEICHENCODE AUS AC1 IN A
10962 6A4C 18 03    A   jr
10963 6A4E CD 6A1C   ASTRIN1 call  ASC1          ;ZEICHENCODE VON ZK IN A
10964 6A51 D1      ASTRIN2 pop  de          ;ANZAHL IN E
10965 6A52 CD 6A5A   A   call  SPACE1
10966             A;
10967 6A55 CD 51F6   ASPACED  call  BYTAE3      ;ANZAHL IN E
10968 6A58 3E 20    A   ld    a,' '
10969 6A5A F5      ASPACE1  push  af
10970 6A5B 7B      A   ld    a,e
10971 6A5C CD 6837   A   call  WLAZK1
10972 6A5F 47      A   ld    b,a
10973 6A60 F1      A   pop  af
10974 6A61 04      A   inc  b
10975 6A62 05      A   dec  b
10976 6A63 28 CD    A   jr    z,CHR2
10977 6A65 2A F55F   A   ld    hl,(ADRZK)
10978 6A68 77      ASPACE2  ld    (hl),a
10979 6A69 23      A   inc  hl
10980 6A6A 10 FC    A   djnz SPACE2
10981 6A6C 18 C4    A   jr    CHR2
10982             A;
10983 6A6E CD 6AF0   ALEFT call  VAL1
10984 6A71 AF      A   xor  a
10985 6A72 E3      ALEFT1  ex    (sp),hl
10986 6A73 4F      A   ld    c,a
10987 6A74 3E      A   defb  3EH      ; ld a,B?E5
10988 6A75 E5      ALEFT2  push  hl
10989 6A76 E5      ALEFT3  push  hl
10990 6A77 7E      A   ld    a,(hl)
10991 6A78 B8      A   cp   b
10992 6A79 38 02    A   jr    c,LEFT4
```



```
10993 6A7B 78      A    ld    a,b
10994 6A7C 11      A    defb  11H    ; ld    de,0EH
10995 6A7D 0E 00    ALEFT4 ld    c,0H
10996 6A7F C5      A    push  bc
10997 6A80 CD 689E  A    call  TSTZK
10998 6A83 C1      A    pop   bc
10999 6A84 E1      A    pop   hl
11000 6A85 E5      A    push  hl
11001 6A86 23      A    inc   hl
11002 6A87 46      A    ld    b,(hl)
11003 6A88 23      A    inc   hl
11004 6A89 66      A    ld    h,(hl)
11005 6A8A 68      A    ld    l,b
11006 6A8B 06 00    A    ld    b,0
11007 6A8D 09      A    add   hl,bc
11008 6A8E 44      A    ld    b,h
11009 6A8F 4D      A    ld    c,l
11010 6A90 CD 683A  A    call  WLAZK2
11011 6A93 6F      A    ld    l,a
11012 6A94 CD 69D7  A    call  TSTZKI
11013 6A97 D1      A    pop   de
11014 6A98 CD 69E7  A    call  ZKUP23
11015 6A9B C3 6864  A    jp    ZKUP16
11016          A;
11017 6A9E CD 6AF0  ARIGHT call  VAL1
11018 6AA1 D1      A    pop   de
11019 6AA2 D5      A    push  de
11020 6AA3 1A      A    ld    a,(de)
11021 6AA4 90      A    sub   b
11022 6AA5 18 CB  A    jr    LEFT1
11023          A;
11024 6AA7 EB      AMID  ex    de,hl
11025 6AA8 7E      A    ld    a,(hl)
11026 6AA9 CD 6AF3  A    call  VAL2
11027 6AAC 04      A    inc   b
11028 6AAD 05      A    dec   b
11029 6AAE CA 4740  A    jp    z,ERFC
11030 6AB1 C5      A    push  bc
11031 6AB2 CD 6BF1  A    call  MIDAN4
11032 6AB5 F1      A    pop   af
11033 6AB6 E3      A    ex    (sp),hl
11034 6AB7 01 6A76  A    ld    bc,LEFT3
11035 6ABA C5      A    push  bc
11036 6ABB 3D      A    dec   a
11037 6ABC BE      A    cp    (hl)
11038 6ABD 06 00    A    ld    b,0
11039 6ABF D0      A    ret   nc
11040 6AC0 4F      A    ld    c,a
11041 6AC1 7E      A    ld    a,(hl)
11042 6AC2 91      A    sub   c
11043 6AC3 BB      A    cp    e
11044 6AC4 47      A    ld    b,a
11045 6AC5 D8      A    ret   c
11046 6AC6 43      A    ld    b,e
11047 6AC7 C9      A    ret
11048          A;
11049 6AC8 CD 6A10  AVAL  call  LEN1
11050 6ACB CA 4FA9  A    jp    z,POS1
```

```
11051 6ACE 5F      A    ld     e,a
11052 6ACF 23      A    inc    hl
11053 6AD0 7E      A    ld     a,(hl)
11054 6AD1 23      A    inc    hl
11055 6AD2 66      A    ld     h,(hl)
11056 6AD3 6F      A    ld     l,a
11057 6AD4 E5      A    push   hl
11058 6AD5 19      A    add    hl,de
11059 6AD6 46      A    ld     b,(hl)
11060 6AD7 22 F2DF   A    ld     (HIADZK),hl
11061 6ADA 78      A    ld     a,b
11062 6ADB 32 F2E1   A    ld     (HIZEZK),a
11063 6ADE 72      A    ld     (hl),d
11064 6ADF E3      A    ex     (sp),hl
11065 6AE0 C5      A    push   bc
11066 6AE1 2B      A    dec    hl
11067 6AE2 D7      A    rst    TCHAR
11068 6AE3 CD 2F19  A    call   EIKO
11069 6AE6 21 0000   A    ld     hl,0
11070 6AE9 22 F2DF   A    ld     (HIADZK),hl
11071 6AEC C1      A    pop    bc
11072 6AED E1      A    pop    hl
11073 6AEE 70      A    ld     (hl),b
11074 6AEF C9      A    ret
11075 6AF0 EB      AVAL1 ex    de,hl
11076 6AF1 CF      A    rst    CPSTX
11077 6AF2 29      A    defb   ') '
11078 6AF3 C1      AVAL2 pop    bc
11079 6AF4 D1      A    pop    de
11080 6AF5 C5      A    push   bc
11081 6AF6 43      A    ld     b,e
11082 6AF7 C9      A    ret
11083
11084 6AF8 D7      AINSTR  rst    TCHAR
11085 6AF9 CD 4C55   A    call   SNAL2 ;AUSWERTUNG AUSDRUCK
11086 6AFC EF      A    rst    TYPTST
11087 6AFD 3E 01     A    ld     a,1
11088 6AFF F5      A    push   af
11089 6B00 28 11     A    jr     z,INSTR1
11090 6B02 F1      A    pop    af
11091 6B03 CD 51F6   A    call   BYTAE3
11092 6B06 B7      A    or     a
11093 6B07 CA 4740     A    jpb   z,ERFC
11094 6B0A F5      A    push   af
11095 6B0B CF      A    rst    CPSTX
11096 6B0C 2C      A    defb   ', '
11097 6B0D CD 4C57   A    call   SNAL3
11098 6B10 CD 2CD8     A    call   TYSTR?
11099 6B13 CF      AINSTR1 rst    CPSTX
11100 6B14 2C      A    defb   ', '
11101 6B15 E5      A    push   hl
11102 6B16 2A F6BE   A    ld     hl,(AC1INT)
11103 6B19 E3      A    ex     (sp),hl
11104 6B1A CD 4C57   A    call   SNAL3
11105 6B1D CF      A    rst    CPSTX
11106 6B1E 29      A    defb   ') '
11107 6B1F E5      A    push   hl
11108 6B20 CD 69E0     A    call   ZKUP2
```

11109	6B23	EB	A	ex	de,hl	
11110	6B24	C1	A	pop	bc	
11111	6B25	E1	A	pop	hl	
11112	6B26	F1	A	pop	af	
11113	6B27	C5	A	push	bc	
11114	6B28	01 2F17	A	ld	bc,POPHL	
11115	6B2B	C5	A	push	bc	
11116	6B2C	01 4FA9	A	ld	bc,POS1	
11117	6B2F	C5	A	push	bc	
11118	6B30	F5	A	push	af	
11119	6B31	D5	A	push	de	
11120	6B32	CD 69E6	A	call	ZKUP22	
11121	6B35	D1	A	pop	de	
11122	6B36	F1	A	pop	af	
11123	6B37	47	A	ld	b,a	
11124	6B38	3D	A	dec	a	
11125	6B39	4F	A	ld	c,a	
11126	6B3A	BE	A	cp	(hl)	
11127	6B3B	3E 00	A	ld	a,0	
11128	6B3D	D0	A	ret	nc	
11129	6B3E	1A	A	ld	a,(de)	
11130	6B3F	B7	A	or	a	
11131	6B40	78	A	ld	a,b	
11132	6B41	C8	A	ret	z	
11133	6B42	7E	A	ld	a,(hl)	
11134	6B43	23	A	inc	hl	
11135	6B44	46	A	ld	b,(hl)	
11136	6B45	23	A	inc	hl	
11137	6B46	66	A	ld	h,(hl)	
11138	6B47	68	A	ld	l,b	
11139	6B48	06 00	A	ld	b,0	
11140	6B4A	09	A	add	hl,bc	
11141	6B4B	91	AINSTR2	sub	c	
11142	6B4C	47	A	ld	b,a	
11143	6B4D	C5	A	push	bc	
11144	6B4E	D5	A	push	de	
11145	6B4F	E3	A	ex	(sp),hl	
11146	6B50	4E	A	ld	c,(hl)	
11147	6B51	23	A	inc	hl	
11148	6B52	5E	A	ld	e,(hl)	
11149	6B53	23	A	inc	hl	
11150	6B54	56	A	ld	d,(hl)	
11151	6B55	E1	A	pop	hl	
11152	6B56	E5	AINSTR3	push	hl	
11153	6B57	D5	A	push	de	
11154	6B58	C5	A	push	bc	
11155	6B59	1A	AINSTR4	ld	a,(de)	
11156	6B5A	BE	A	cp	(hl)	
11157	6B5B	20 16	A	jr	nz,INSTR7	
11158	6B5D	13	A	inc	de	
11159	6B5E	0D	A	dec	c	
11160	6B5F	28 09	A	jr	z,INSTR6	
11161	6B61	23	A	inc	hl	
11162	6B62	10 F5	A	djnz	INSTR4	
11163	6B64	D1	A	pop	de	
11164	6B65	D1	A	pop	de	
11165	6B66	C1	A	pop	bc	
11166	6B67	D1	AINSTR5	pop	de	

```
11167 6B68 AF      A      xor      a
11168 6B69 C9      A      ret
11169 6B6A E1      AINSTR6  pop      hl
11170 6B6B D1      A      pop      de
11171 6B6C D1      A      pop      de
11172 6B6D C1      A      pop      bc
11173 6B6E 78      A      ld       a,b
11174 6B6F 94      A      sub      h
11175 6B70 81      A      add      a,c
11176 6B71 3C      A      inc      a
11177 6B72 C9      A      ret
11178 6B73 C1      AINSTR7  pop      bc
11179 6B74 D1      A      pop      de
11180 6B75 E1      A      pop      hl
11181 6B76 23      A      inc      hl
11182 6B77 10 DD  A      djnz   INSTR3
11183 6B79 18 EC  A      jr      INSTR5
11184      A;
11185 6B7B CF      AMIDAN   rst      CPSTX      ;MID$-ANWEISUNG
11186 6B7C 28      A      defb   '('
11187 6B7D CD 60B3 A      call  DIM1      ;ADR DER VARIABLEN
11188 6B80 CD 2CD8 A      call  TYSTR?    ;TEST, OB ZK
11189 6B83 E5      A      push   hl
11190 6B84 D5      A      push   de
11191 6B85 EB      A      ex     de,hl
11192 6B86 23      A      inc      hl
11193 6B87 5E      A      ld     e,(hl)
11194 6B88 23      A      inc      hl
11195 6B89 56      A      ld     d,(hl)
11196 6B8A 2A F58C A      ld     hl,(FSLPTR)
11197 6B8D E7      A      rst    CPREG
11198 6B8E 38 10  A      jr     c,MIDAN1
11199 6B90 2A F53C A      ld     hl,(PSTBEG)
11200 6B93 E7      A      rst    CPREG
11201 6B94 30 0A  A      jr     nc,MIDAN1
11202 6B96 E1      A      pop     hl
11203 6B97 E5      A      push   hl
11204 6B98 CD 6821 A      call  STR2
11205 6B9B E1      A      pop     hl
11206 6B9C E5      A      push   hl
11207 6B9D CD 2B73 A      call  NLDIRT
11208 6BA0 E1      AMIDAN1  pop     hl
11209 6BA1 E3      A      ex     (sp),hl
11210 6BA2 CF      A      rst    CPSTX
11211 6BA3 2C      A      inc     l
11212 6BA4 CD 51F3 A      call  BYTAE2
11213 6BA7 B7      A      or     a
11214 6BA8 CA 4740 A      jp     z,ERFC
11215 6BAB F5      A      push   af
11216 6BAC 7E      A      ld     a,(hl)
11217 6BAD CD 6BF1 A      call  MIDAN4
11218 6BB0 D5      A      push   de
11219 6BB1 CD 4C52 A      call  SNAL1
11220 6BB4 E5      A      push   hl
11221 6BB5 CD 69E0 A      call  ZKUP2
11222 6BB8 EB      A      ex     de,hl
11223 6BB9 E1      A      pop     hl
11224 6BBA C1      A      pop     bc
```

```

11225 6BBB F1      A    pop    af
11226 6BBC 47      A    ld     b,a
11227 6BBD E3      A    ex     (sp),hl
11228 6BBE E5      A    push   hl
11229 6BBF 21 2F17  A    ld     hl,POPHL
11230 6BC2 E3      A    ex     (sp),hl
11231 6BC3 79      A    ld     a,c
11232 6BC4 B7      A    or     a
11233 6BC5 C8      A    ret    z
11234 6BC6 7E      A    ld     a,(hl)
11235 6BC7 90      A    sub    b
11236 6BC8 DA 4740  A    jp     c,ERFC
11237 6BCB 3C      A    inc    a
11238 6BCC B9      A    cp     c
11239 6BCD 38 01    A    jr     c,MIDAN2
11240 6BCF 79      A    ld     a,c
11241 6BD0 48      AMIDAN2 ld     c,b
11242 6BD1 0D      A    dec    c
11243 6BD2 06 00    A    ld     b,0
11244 6BD4 D5      A    push   de
11245 6BD5 23      A    inc    hl
11246 6BD6 5E      A    ld     e,(hl)
11247 6BD7 23      A    inc    hl
11248 6BD8 66      A    ld     h,(hl)
11249 6BD9 6B      A    ld     l,e
11250 6BDA 09      A    add    hl,bc
11251 6BDB 47      A    ld     b,a
11252 6BDC D1      A    pop    de
11253 6BDD EB      A    ex     de,hl
11254 6BDE 4E      A    ld     c,(hl)
11255 6BDF 23      A    inc    hl
11256 6BE0 7E      A    ld     a,(hl)
11257 6BE1 23      A    inc    hl
11258 6BE2 66      A    ld     h,(hl)
11259 6BE3 6F      A    ld     l,a
11260 6BE4 EB      A    ex     de,hl
11261 6BE5 79      A    ld     a,c
11262 6BE6 B7      A    or     a
11263 6BE7 C8      A    ret    z
11264 6BE8 1A      AMIDAN3 ld     a,(de)
11265 6BE9 77      A    ld     (hl),a
11266 6BEA 13      A    inc    de
11267 6BEB 23      A    inc    hl
11268 6BEC 0D      A    dec    c
11269 6BED C8      A    ret    z
11270 6BEE 10 F8    A    djnz  MIDAN3
11271 6BF0 C9      A    ret
11272 6BF1 1E FF    AMIDAN4 ld     e,0FFH
11273 6BF3 FE 29    A    cp     ')'
11274 6BF5 28 05    A    jr     z,MIDAN5
11275 6BF7 CF      A    rst   CPSTX
11276 6BF8 2C      A    defb  ','
11277 6BF9 CD 51F3  A    call  BYTAE2 ;3. PARAMETER FUER MID$
11278 6BFC CF      AMIDAN5 rst   CPSTX
11279 6BFD 29      A    defb  ')'
11280 6BFE C9      A    ret
11281      A;
11282 6BFF 2A F58C  AFRE ld     hl,(FSLPTR)
    
```

```
11283 6C02 EB A ex de,hl
11284 6C03 21 0000 A ld hl,0
11285 6C06 39 A add hl,sp
11286 6C07 EF A rst TYPTST ;TYPANWERTUNG
11287 6C08 C2 4F9B A jp nz,HLMIDE ;NUMERISCH: STACK-(FSLPTR)
11288 6C0B CD 69E3 A call ZKUP21 ;STRING
11289 6C0E CD 68C6 A call TSTZK4
11290 6C11 ED 5B F53A A ld de,(STDPTR)
11291 6C15 2A F561 A ld hl,(SWAPTR)
11292 6C18 C3 4F9B A jp HLMIDE ;(SWAPTR)-(STDPTR)
11293 A;
11294 6C1B CD 4C57 ADATNA call SNAL3 ;DATEINAMEN AUSWERTEN
11295 6C1E E5 A push hl
11296 6C1F CD 69E0 A call ZKUP2 ;TYPANWERTUNG USW.
11297 6C22 7E A ld a,(hl) ;A: LAENGE
11298 6C23 B7 A or a
11299 6C24 28 32 A jr z,DATNA3 ;=0 --> ERROR: BAD FILE NAME
11300 6C26 23 A inc hl
11301 6C27 5E A ld e,(hl)
11302 6C28 23 A inc hl
11303 6C29 66 A ld h,(hl)
11304 6C2A 6B A ld l,e ;HL: ADR NAME
11305 6C2B 5F A ld e,a ;E: LAENGE NAME
11306 6C2C CD 711A A call DATNA7 ;ZULAESSIGES GERAET ?
11307 6C2F F5 A push af ;KENNBYTE GERAET KELLERN, Disk A =0
11308 6C30 01 F72D A ld bc,AUTSTL ;PUFFER FUER DATEINAMEN
11309 6C33 16 0B A ld d,0BH ;11 BYTES DATEINAMEN EINTRAGEN
11310 6C35 1C A inc e
11311 6C36 1D ADATNA1 dec e
11312 6C37 28 39 A jr z,DATNA6 ;REST LEERZ.A EINTRAGEN
11313 6C39 7E A ld a,(hl)
11314 6C3A FE 80 A cp 80h ;bit 7 gesetzt ?
11315 6C3C 30 1A A jr nc,DATNA3 ;ja -> unzul. Zeichen
11316 6C3E FE 20 A cp ' '
11317 6C40 38 16 A jr c,DATNA3 ;UNZUL. ZEICHEN IM NAMEN
11318 6C42 FE 2E A cp '.'
11319 6C44 28 18 A jr z,DATNA5 ;DATEITYP FOLGT
11320 6C46 02 A ld (bc),a ;ZEICHEN EINTRAGEN
11321 6C47 03 A inc bc
11322 6C48 23 A inc hl
11323 6C49 15 A dec d
11324 6C4A 20 EA A jr nz,DATNA1
11325 6C4C F1 ADATNA2 pop af ;NAME FERTIG, KENNBYTE IN A
11326 6C4D F5 A push af
11327 6C4E 57 A ld d,a ;Kennbyte
11328 6C4F 3A F72D A ld a,(AUTSTL)
11329 6C52 3C A inc a
11330 6C53 28 03 A jr z,DATNA3 ;1. ZEICHEN IN NAMEN = FF --> ERROR
11331 6C55 F1 A pop af ;Kennbyte in A
11332 6C56 E1 A pop hl ;Zeiger in HL, Name in AUTSTL
11333 6C57 C9 A ret
11334 6C58 C3 7064 ADATNA3 jp ERBFNA ;ERROR: BAD FILE NAME
11335 6C5B 23 ADATNA4 inc hl
11336 6C5C 18 D8 A jr DATNA1
11337 6C5E 7A ADATNA5 ld a,d
11338 6C5F FE 0B A cp 0BH
11339 6C61 CA 6C58 A jp z,DATNA3
11340 6C64 FE 03 A cp 3
```

```
11341 6C66 DA 6C58 A jp c,DATNA3
11342 6C69 28 F0 A jr z,DATNA4
11343 6C6B 3E 20 A ld a,' '
11344 6C6D 02 A ld (bc),a
11345 6C6E 03 A inc bc
11346 6C6F 15 A dec d
11347 6C70 18 EC A jr DATNA5 ;STANDARDTYP DATEN: ' '
11348 6C72 3E 20 ADATNA6 ld a,' ' ;NAMEN MIT LEERZ. AUFFUELLEN
11349 6C74 02 A ld (bc),a
11350 6C75 03 A inc bc
11351 6C76 15 A dec d
11352 6C77 20 F9 A jr nz,DATNA6
11353 6C79 18 D1 A jr DATNA2
11354 A;
11355 6C7B CD 51F6 AFCBAD0 call BYTAE3 ;FCB-NR. IN A
11356 6C7E 6F AFCBAD ld l,a ;BESTIMMEN ADR VON FCB (A)
11357 6C7F 3A F725 A ld a,(MAXFIL)
11358 6C82 BD A cp l
11359 6C83 DA 7076 A jp c,ERBFNR ;FCB-NR. > MAXFIL --> ERROR: BAD FILE NUMBER
11360 6C86 26 00 A ld h,0
11361 6C88 29 A add hl,hl ;FILENUMBER * 2
11362 6C89 EB A ex de,hl
11363 6C8A 2A F727 A ld hl,(ATBFCB) ;ADRESSTABELLE DER FCB'S
11364 6C8D 19 A add hl,de
11365 6C8E 7E A ld a,(hl)
11366 6C8F 23 A inc hl
11367 6C90 66 A ld h,(hl)
11368 6C91 6F A ld l,a ;HL: ADR FCB
11369 6C92 3A F743 A ld a,(LMAFL)
11370 6C95 3C A inc a
11371 6C96 C8 A ret z ;(LMAFL)=FF
11372 6C97 7E A ld a,(hl)
11373 6C98 B7 A or a
11374 6C99 C8 A ret z ;BYTE 1 (FCB)=0 : GESCHLOSSEN, FERTIG
11375 6C9A E5 A push hl
11376 6C9B 11 0004 A ld de,4
11377 6C9E 19 A add hl,de
11378 6C9F 7E A ld a,(hl)
11379 6CA0 FE 11 A cp 17
11380 6CA2 30 06 A jr nc,FCBAD1 ;Geraetekennzeichen > 16
11381 6CA4 CD FE92 A call XZUGDS ;erweiterte Geraetekennzeichen
11382 6CA7 C3 7079 A jp ERINT ;unerlaubtes Geraet --> Internal error
11383 6CAA E1 AFCBAD1 pop hl
11384 6CAB 7E A ld a,(hl)
11385 6CAC B7 A or a
11386 6CAD 37 A scf
11387 6CAE C9 A ret ;CY=1, Z=0
11388 A;
11389 6CAF 2B AFILNR dec hl ;FILENR. BESTIMMEN
11390 6CB0 D7 A rst TCHAR
11391 6CB1 FE 23 A cp '#'
11392 6CB3 CC 464F A call z,TCHAR0
11393 6CB6 CD 51F3 A call BYTAE2 ;FILENR. IN A
11394 6CB9 E3 A ex (sp),hl
11395 6CBA E5 A push hl
11396 6CBB CD 6C7E AFILOP? call FCBAD ;TEST, OB FILE OPEN ?
11397 6CBE CA 7070 A jp z,ERNTOP ;ERROR: FILE NOT OPEN
11398 6CC1 22 F72B A ld (ACTFCB),hl ;ADR FCB IN ACTFCB EINTRAGEN
```

```
11399 6CC4 C9      A      ret
11400             A;
11401 6CC5 01 4AE1  AOPEN ld    bc,AUSGE
11402 6CC8 C5      A      push   bc          ;SPRUNG ZU AUSGE BEI RET
11403 6CC9 CD 6C1B  A      call   DATNA        ;KENNBYTE GERAET,DATEINAME,TYP HOLEN
11404 6CCC 7E      A      ld     a,(hl)
11405 6CCD FE 82    A      cp     82H          ;FOR
11406 6CCF 1E 04    A      ld     e,4         ;RANDOM = 4 (STANDARD)
11407 6CD1 20 1F    A      jr     nz,OPEN3   ;OHNE FOR
11408 6CD3 D7      A      rst    TCHAR
11409 6CD4 FE 85    A      cp     85H          ;INPUT
11410 6CD6 1E 01    A      ld     e,1
11411 6CD8 28 17    A      jr     z,OPEN2    ;INPUT = 1
11412 6CDA FE 9C    A      cp     9CH          ;OUT
11413 6CDC 28 0C    A      jr     z,OPEN1
11414 6CDE CF      A      rst    CPSTX
11415 6CDF 41      A      defb  'A'
11416 6CE0 CF      A      rst    CPSTX
11417 6CE1 50      A      defb  'P'
11418 6CE2 CF      A      rst    CPSTX
11419 6CE3 50      A      defb  'P'
11420 6CE4 CF      A      rst    CPSTX
11421 6CE5 81      A      defb  81H         ;END
11422 6CE6 1E 08    A      ld     e,8
11423 6CE8 18 08    A      jr     OPEN3      ;APPEND = 8
11424 6CEA D7      AOPEN1  rst    TCHAR
11425 6CEB CF      A      rst    CPSTX
11426 6CEC B3      A      defb  0B3H        ;PUT
11427 6CED 1E 02    A      ld     e,2
11428 6CEF 18 01    A      jr     OPEN3      ;OUTPUT = 2
11429 6CF1 D7      AOPEN2  rst    TCHAR
11430 6CF2 CF      AOPEN3  rst    CPSTX
11431 6CF3 41      A      defb  'A'
11432 6CF4 CF      A      rst    CPSTX
11433 6CF5 53      A      defb  'S'         ;AS
11434 6CF6 D5      A      push  de          ;Zugriffstyp(E), Geraet(D)
11435 6CF7 7E      A      ld     a,(hl)
11436 6CF8 FE 23    A      cp     '#'
11437 6CFA CC 464F  A      call  z,TCHAR0
11438 6CFD CD 51F3  A      call  BYTAE2      ;FILENR. IN A, E
11439 6D00 B7      A      or     a
11440 6D01 CA 7076  A      jp     z,ERBFNR    ;=0 --> ERROR: BAD FILE NUMBER
11441 6D04 CD FE97  A      call  XOPDS
11442 6D07 1E      A      defb  1EH        ; ld e,B?D5
11443 6D08 D5      AOPEN4  push   de
11444 6D09 2B      A      dec    hl
11445 6D0A 5F      A      ld     e,a         ;E: FILENUMBER
11446 6D0B D7      A      rst    TCHAR
11447 6D0C C2 4056  A      jp     nz,ERSN     ;ANWEISUNG NICHT ZU ENDE --> SN ERROR
11448 6D0F E3      A      ex     (sp),hl
11449 6D10 7B      A      ld     a,e
11450 6D11 F5      A      push  af          ;file Nr. -> Stack
11451 6D12 E5      A      push  hl         ;Typ/Geraet -> Stack
11452 6D13 CD 6C7E  A      call  FCBAD       ;FCB ADR BESTIMMEN
11453 6D16 C2 7067  A      jp     nz,ERALOP   ;ERROR: FILE ALREADY OPEN
11454 6D19 D1      A      pop   de
11455 6D1A 7A      A      ld     a,d
11456 6D1B FE 11    A      cp     17          ;Test Geraet
```



```
11457 6D1D CD FE9C A call XOPERW ;faengt mit ret nc an
11458 6D20 DA 7079 A jp c,ERINT ;Geraet < 17 --> Internal error
11459 6D23 E5 A push hl
11460 6D24 01 0004 A ld bc,4
11461 6D27 09 A add hl,bc
11462 6D28 72 A ld (hl),d ;Geraetekennzeichen eintragen
11463 6D29 3E 00 A ld a,0 ;OPEN
11464 6D2B E1 A pop hl
11465 6D2C CD 7194 A call JPGROU ;Absprung zu Geraeteroutine fuer OPEN
11466 6D2F F1 A pop af
11467 6D30 E1 A pop hl
11468 6D31 C9 A ret
11469 A;
11470 6D32 E5 ACLOSE1 push hl
11471 6D33 B7 A or a ;TEST FILENR.
11472 6D34 20 08 A jr nz,CLOSE2 ;>0
11473 6D36 3A F743 A ld a,(LMAFL) ;=0
11474 6D39 E6 01 A and 1
11475 6D3B C2 6EF8 A jp nz,AFCBC1 ;DIREKTZUGRIFF --> CLOSE DMA-BEREICH
11476 6D3E CD 6C7E ACLOSE2 call FCBAD ;ADR ZU FILENR. BERRECHNEN
11477 6D41 28 15 A jr z,CLOSE4 ;FILE NICHT OFFEN
11478 6D43 22 F72B A ld (ACTFCB),HL ;ADR IN ACTFCB
11479 6D46 E5 A push hl
11480 6D47 38 06 A jr c,CLOSE3 ;ZUGRIFFSTYP > 8
11481 6D49 CD FEA1 A call XCLODS
11482 6D4C C3 7079 A jp ERINT ;INTERNAL ERROR
11483 6D4F 3E 02 ACLOSE3 ld a,2
11484 6D51 CD 7194 A call JPGROU ;SPRUNG ZUR GERAETEROUTINE MIT 2 (CLOSE)
11485 6D54 CD 6EEF A call AFCBCL ;DMA-BEREICH LOESCHEN
11486 6D57 E1 A pop hl
11487 6D58 E5 ACLOSE4 push hl
11488 6D59 11 0007 A ld de,7
11489 6D5C 19 A add hl,de
11490 6D5D 77 A ld (hl),a ;BIT 7 (FCB) =0
11491 6D5E 67 A ld h,a
11492 6D5F 6F A ld l,a
11493 6D60 22 F72B A ld (ACTFCB),hl ;KEIN AKTUELLER FCB
11494 6D63 E1 A pop hl
11495 6D64 86 A add a,(hl)
11496 6D65 36 00 A ld (hl),0
11497 6D67 E1 A pop hl
11498 6D68 C9 A ret
11499 A;
11500 6D69 37 ALOAD0 scf
11501 6D6A 11 A defb 11h ; ld de,HLPTR
11502 6D6B F6 ALOAD defb 0F6H ; OR 0AFH
11503 6D6C AF AMERGE xor a
11504 6D6D F5 A push af
11505 6D6E CD 6C1B A call DATNA ;DETEINAMEN EINTRAGEN
11506 6D71 F1 A pop af
11507 6D72 F5 A push af
11508 6D73 28 0C A jr z,LOAD1 ;BEI MERGE
11509 6D75 7E A ld a,(hl)
11510 6D76 D6 2C A sub ','
11511 6D78 B7 A or a
11512 6D79 20 06 A jr nz,LOAD1
11513 6D7B D7 A rst TCHAR
11514 6D7C CF A rst CPSTX
```

```
11515 6D7D 52      A   defb   'R'           ;PARAMETER FUER AUTOSTART
11516 6D7E F1      A   pop    af
11517 6D7F 37      A   scf                    ;CY=1 : AUTOSTART
11518 6D80 F5      A   push   af
11519 6D81 F5      ALOAD1  push   af
11520 6D82 AF      A   xor    a
11521 6D83 1E 01   A   ld     e,1           ;INPUT FILE
11522 6D85 CD 6D08 A   call   OPEN4
11523 6D88 2A F72B A   ld     hl,(ACTFCB)
11524 6D8B 01 0007 A   ld     bc,7
11525 6D8E 09      A   add    hl,bc
11526 6D8F F1      A   pop    af
11527 6D90 9F      A   sbc    a,a
11528 6D91 E6 80   A   and    80H           ;AUTOSTART = 80, SONST 0
11529 6D93 F6 01   A   or     1             ;SERIELLER INPUT
11530 6D95 32 F743 A   ld     (LMAFL),a
11531 6D98 F1      A   pop    af
11532 6D99 F5      A   push   af
11533 6D9A 9F      A   sbc    a,a
11534 6D9B 32 F72D A   ld     (AUTSTL),a    ;AUTOSTART = FF, SONST 0
11535 6D9E 7E      A   ld     a,(hl)       ;(FCB+7)
11536 6D9F B7      A   or     a
11537 6DA0 FA 6DDC A   jp     m,LOAD2       ;KENNBYTE FUER INTERNER CODE DISKETTE
11538 6DA3 F1      A   pop    af
11539 6DA4 C4 6493 A   call   nz,NEW1       ;BEI LOAD
11540 6DA7 AF      A   xor    a
11541 6DA8 CD 6CBB A   call   FILOP?       ;TEST OB FILE OFFEN
11542 6DAB C3 412F A   jp     KOM3          ;--> KOMMANDOEBENE
11543      A;
11544 6DAE CD 6C1B ASAVE call   DATNA       ;DATEINAMEN UEBERNEHMEN
11545 6DB1 2B      A   dec    hl
11546 6DB2 D7      A   rst    TCHAR
11547 6DB3 1E 80   A   ld     e,80H
11548 6DB5 37      A   scf
11549 6DB6 28 07   A   jr     z,SAVE1     ;KEINE WEITEREN PARAMETER
11550 6DB8 CF      A   rst    CPSTX
11551 6DB9 2C      A   defb   ','
11552 6DBA CF      A   rst    CPSTX
11553 6DBB 41      A   defb   'A'
11554 6DBC B7      A   or     a
11555 6DBD 1E 02   A   ld     e,2
11556 6DBF F5      ASAVE1  push   af           ;CY=0 : ASCII, CY=1 : INTERNER CODE
11557 6DC0 7A      A   ld     a,d
11558 6DC1 FE 11   A   cp    17
11559 6DC3 38 05   A   jr     c,SAVE2     ;GERAETEKENNBYTE <=16 (DISKETTE)
11560 6DC5 1E 02   A   ld     e,2
11561 6DC7 F1      A   pop    af
11562 6DC8 AF      A   xor    a
11563 6DC9 F5      A   push   af
11564 6DCA AF      ASAVE2  xor    a
11565 6DCB CD 6D08 A   call   OPEN4       ;E=80H FUER DISKETTE, INTERNER CODE, SONST 2
11566 6DCE F1      A   pop    af
11567 6DCF 38 05   A   jr     c,SAVE3     ;DISKETTE, INTERNER CODE
11568 6DD1 2B      A   dec    hl
11569 6DD2 D7      A   rst    TCHAR
11570 6DD3 C3 5205 A   jp     LIST_        ;AUSGABE ASCII
11571 6DD6 CD FEB0 ASAVE3  call   XFILSA        ;SAVE INTERNER CODE AUF DISKETTE
11572 6DD9 C3 7064 A   jp     ERBFNA       ;ODER ERROR: BAD FILE NAME
```

```
11573      A;
11574 6DDC CD FEB5 ALOAD2      call  XFILLO      ;LOAD INTERNER CODE VON DISKETTE
11575 6DDF C3 7064 A   jp      ERBFNA      ;ODER BAD FILE NAME
11576      A;
11577 6DE2 E5      A   push   hl          ;Laden Geraetekennzeichen aus FCB
11578 6DE3 D5      A   push   de
11579 6DE4 2A F72B A   ld     hl,(ACTFCB)
11580 6DE7 11 0004 A   ld     de,4
11581 6DEA 19      A   add    hl,de
11582 6DEB 7E      A   ld     a,(hl)
11583 6DEC D1      A   pop    de
11584 6DED E1      A   pop    hl
11585 6DEE C9      A   ret
11586      A;
11587 6DEF 20 19    ACLOSE5     jr      nz,CLOSE9     ;CLOSE OHNE PARAMETER
11588 6DF1 E5      A   push   hl          ;ZEIGER IN BASICZEILE KELLERN
11589 6DF2 C5      ACLOSE6     push   bc          ;SPRUNG ZU CLOSE1 KELLERN
11590 6DF3 F5      A   push   af          ;ANZAHL DER FILES KELLERN
11591 6DF4 11 6DFB A   ld     de,CLOSE7
11592 6DF7 D5      A   push   de          ;SPRUNG ZU CLOSE7 KELLERN
11593 6DF8 C5      A   push   bc          ; "      CLOSE1      "
11594 6DF9 B7      A   or     a
11595 6DFA C9      A   ret          ;--> CLOSE1
11596 6DFB F1      ACLOSE7     pop     af
11597 6DFC C1      A   pop    bc
11598 6DFD 3D      A   dec    a
11599 6DFE F2 6DF2 A   jp     p,CLOSE6     ;NOCH WEITERE FILES SCHLIESSEN
11600 6E01 E1      A   pop    hl
11601 6E02 C9      A   ret
11602 6E03 C1      ACLOSE8     pop     bc
11603 6E04 E1      A   pop    hl
11604 6E05 7E      A   ld     a,(hl)
11605 6E06 FE 2C   A   cp     ','
11606 6E08 C0      A   ret     nz          ;KEINE WEITEREN FILES ANGEGEBEN
11607 6E09 D7      A   rst    TCHAR
11608 6E0A C5      ACLOSE9     push   bc
11609 6E0B 7E      A   ld     a,(hl)
11610 6E0C FE 23   A   cp     '#'
11611 6E0E CC 464F A   call   z,TCHAR0
11612 6E11 CD 51F3 A   call   BYTAE2      ;FILENR. IN A, E
11613 6E14 E3      A   ex     (sp),hl
11614 6E15 E5      A   push   hl
11615 6E16 11 6E03 A   ld     de,CLOSE8
11616 6E19 D5      A   push   de          ;SPRUNG ZU CLOSE8 KELLERN
11617 6E1A 37      A   scf
11618 6E1B E9      A   jp     (hl)
11619      A;
11620 6E1C 01 6D32 ACLOSE      ld     bc,CLOSE1
11621 6E1F 3A F725 A   ld     a,(MAXFIL)
11622 6E22 18 CB   A   jr     CLOSE5
11623      A;
11624 6E24 3A F743 ACLOSEA     ld     a,(LMAFL)
11625 6E27 B7      A   or     a
11626 6E28 F8      A   ret     m          ;FILE FUER INTERNEN CODE DISKETTE
11627 6E29 01 6D32 A   ld     bc,CLOSE1
11628 6E2C AF      A   xor    a
11629 6E2D 3A F725 A   ld     a,(MAXFIL)
11630 6E30 18 BD   A   jr     CLOSE5
```

```
11631 A;
11632 6E32 3E 01 ALFILES ld a,1
11633 6E34 32 F2DD A ld (PTORSC),a ;DRUCKER EIN
11634 A;
11635 6E37 CD FEBA AFILES call XFILES
11636 6E3A C3 4740 A jp ERFC ;KEINE DISKETTE --> FC ERROR
11637 A;
11638 6E3D F5 AGET1 push af
11639 6E3E CD 6CAF A call FILENR ;UEBERNAHME FILENR IN E
11640 6E41 38 06 A jr c,GET2 ;GERAETEKENNYBYTE > 8 (CAS,...)
11641 6E43 CD FEBF A call XFILGE
11642 6E46 C3 7064 A jp ERBFNA ;KEINE DISKETTE --> ERROR: BAD FILE NAME
11643 6E49 D1 AGET2 pop de
11644 6E4A C1 A pop bc
11645 6E4B 3E 04 A ld a,4
11646 6E4D C3 7194 A jp JPGROU ;--> GERAETERROUTINE FUER PUT/GET
11647 A;
11648 6E50 E5 ACHRO98 push hl ;AUSGABE ZEICHEN AUF ERWEITERTES LIST-GERAET
11649 6E51 D5 A push de
11650 6E52 C5 A push bc
11651 6E53 F5 A push af
11652 6E54 CD 6E6A A call ACTZM1 ;Geraet in A
11653 6E57 30 06 A jr nc,CHRO99 ; > 16
11654 6E59 CD FEC4 A call XFILLS
11655 6E5C C3 7064 A jp ERBFNA ;KEINE DISK --> ERROR: BAD FILE NAME
11656 6E5F F1 ACHRO99 pop af
11657 6E60 F5 A push af
11658 6E61 4F A ld c,a ;C: AUSGABEZEICHEN
11659 6E62 3E 06 A ld a,6
11660 6E64 CD 7194 A call JPGROU ;--> GERAETERROUTINE FUER PRINT#
11661 6E67 C3 751F A jp OUVTO1 ;POP AF,BC,DE,HL RET
11662 A;
11663 6E6A D5 AACTZM1 push de ;aktuelles Geraet in A
11664 6E6B 2A F72B A ld hl,(ACTFCB)
11665 6E6E EB A ex de,hl
11666 6E6F 21 0004 A ld hl,4
11667 6E72 19 A add hl,de
11668 6E73 7E A ld a,(hl)
11669 6E74 EB A ex de,hl
11670 6E75 D1 A pop de
11671 6E76 FE 11 A cp 17
11672 6E78 C9 A ret
11673 A;
11674 6E79 E5 AACTZMO push hl ;aktuelles Geraet in A
11675 6E7A D5 A push de
11676 6E7B C5 A push bc
11677 6E7C CD 6E6A A call ACTZM1
11678 6E7F 30 06 A jr nc,ACTZM2 ;Geraet > 16
11679 6E81 CD FEC9 A call XZMODS
11680 6E84 C3 7079 A jp ERINT ;KEINE DISKETTE --> INTERNAL ERROR
11681 6E87 3E 08 AACTZM2 ld a,8
11682 6E89 CD 7194 A call JPGROU ;--> GERAETERROUTINE FUER INPUT#
11683 6E8C C3 7520 A jp OUVTO2 ;POP BC,DE,HL RET (A: ZEICHEN)
11684 A;
11685 6E8F D7 AINPD rst TCHAR
11686 6E90 CF A rst CPSTX
11687 6E91 24 A defb '$'
11688 6E92 CF A rst CPSTX
```

```
11689 6E93 28      A   defb  '('
11690 6E94 E5      A   push  hl
11691 6E95 2A F72B  A   ld    hl,(ACTFCB)
11692 6E98 E5      A   push  hl
11693 6E99 21 0000  A   ld    hl,0
11694 6E9C 22 F72B  A   ld    (ACTFCB),hl ;ZEITWEILIG KEIN AKTUELLER FILE
11695 6E9F E1      A   pop   hl
11696 6EA0 E3      A   ex    (sp),hl
11697 6EA1 CD 51F3  A   call  BYTAE2 ;ANZAHL DER ZEICHEN IN E
11698 6EA4 D5      A   push  de
11699 6EA5 7E      A   ld    a,(hl)
11700 6EA6 FE 2C   A   cp    ','
11701 6EA8 20 11   A   jr    nz,INPD2 ;KEIN ',' --> INPUT$ VON TASTATUR
11702 6EAA D7      A   rst   TCHAR
11703 6EAB CD 6CAF  A   call  FILENR ;FILENR HOLEN MIT ZUGRIFFSTYP IN A
11704 6EAE FE 01   A   cp    1 ;FILE FOR INPUT
11705 6EB0 CA 6EB8  A   jp    z,INPD1
11706 6EB3 FE 04   A   cp    4 ;FILE FOR RANDOM
11707 6EB5 C2 707C  A   jp    nz,ERINPE ;SONST ERROR: INPUT PAST END
11708 6EB8 E1      AINPD1  pop   hl
11709 6EB9 AF      A   xor   a
11710 6EBA 7E      A   ld    a,(hl)
11711 6EBB F5      AINPD2  push  af
11712 6EBC CF      A   rst   CPSTX
11713 6EBD 29      A   defb  ')'
11714 6EBE F1      A   pop   af
11715 6EBF E3      A   ex    (sp),hl
11716 6EC0 F5      A   push  af
11717 6EC1 7D      A   ld    a,l
11718 6EC2 B7      A   or    a
11719 6EC3 CA 4740  A   jp    z,ERFC ;ANZAHL=0 --> FC ERROR
11720 6EC6 E5      A   push  hl
11721 6EC7 CD 6837  A   call  WLAZK1 ;LENZK, ADRZK EINTRAGEN
11722 6ECA EB      A   ex    de,hl
11723 6ECB C1      A   pop   bc ;C: ANZAHL
11724 6ECC F1      AINPD3  pop   af
11725 6ECD F5      A   push  af
11726 6ECE 28 17   A   jr    z,INPD5 ;INPUT VON FILE
11727 6ED0 CD FD09  A   call  ICONIN ;ZEICHEN VON TASTATUR HOLEN.
11728 6ED3 F5      A   push  af
11729 6ED4 CD 00BD  A   call  BREAK ;STOP-ABFRAGE
11730 6ED7 F1      A   pop   af
11731 6ED8 77      AINPD4  ld    (hl),a ;ZEICHEN IN ZK EINTRAGEN
11732 6ED9 23      A   inc   hl
11733 6EDA 0D      A   dec   c ;ANZAHL-1
11734 6EDB 20 EF   A   jr    nz,INPD3 ;NAECHSTES ZEICHEN HOLEN
11735 6EDD F1      A   pop   af ;FERTIG
11736 6EDE C1      A   pop   bc
11737 6EDF E1      A   pop   hl
11738 6EE0 22 F72B  A   ld    (ACTFCB),hl ;ACTFCB REGENERIEREN
11739 6EE3 C5      A   push  bc
11740 6EE4 C3 6864  A   jp    ZKUP16 ;ZEICHEN-AUSWERTUNG
11741 6EE7 CD 6E79  AINPD5  call  ACTZMO ;... --> GERAETEROUTINE INPUT# (ZEICHEN IN A)
11742 6EEA DA 707C  A   jp    c,ERINPE ;FILE NICHT VORHANDEN --> ERROR
11743 6EED 18 E9   A   jr    INPD4 ;ZEICHEN EINTRAGEN
11744      A;
11745 6EEF CD 6F00  AAFCBCL call  AFCBC2 ;HL: ACTFCB+9
11746 6EF2 E5      A   push  hl
```

```
11747 6EF3 06 00      A   ld      b,0
11748 6EF5 CD 6EFA      A   call    BERCL          ;256 BYTES LOESCHEN
11749 6EF8 E1          AAFBCB1    pop      hl
11750 6EF9 C9          A   ret
11751                A;
11752 6EFA AF          ABERCL    xor      a
11753 6EFB 77          ABERCL1   ld      (hl),a          ;B-MAL (A) IN (HL)FF.
11754 6EFC 23          A   inc     hl
11755 6EFD 10 FC      A   djnz   BERCL1
11756 6EFF C9          A   ret
11757                A;
11758 6F00 2A F72B     AAFBCB2   ld      hl,(ACTFCB)
11759 6F03 11 0009     A   ld      de,9
11760 6F06 19          A   add     hl,de
11761 6F07 C9          A   ret          ;HL: Adr dma-Bereich
11762                A;
11763 6F08 CD 6C7B     ALOC call  FCBAD0          ;FCB-ADR BESTIMMEN
11764 6F0B 28 1A      A   jr      z,EOF1          ;FILE NICHT OFFEN --> ERROR
11765 6F0D 3E 0A      A   ld      a,0AH
11766 6F0F 38 1B      A   jr      c,EOF2          ;SPRUNG ZUR GERAETERROUTINE (OP-CODE IN A)
11767 6F11 CD FECE     A   call    XLOC           ;DISKETTE
11768 6F14 18 1C      A   jr      EOF3           ;INTERNAL ERROR
11769                A;
11770 6F16 CD 6C7B     ALOF call  FCBAD0          ;FCB-ADR BESTIMMEN
11771 6F19 28 0C      A   jr      z,EOF1          ;FILE NICHT OFFEN --> ERROR
11772 6F1B 3E 0C      A   ld      a,0CH
11773 6F1D 38 0D      A   jr      c,EOF2          ;SPRUNG ZUR GERAETERROUTINE (OP-CODE IN A)
11774 6F1F CD FED3     A   call    XLOF           ;DISKETTE
11775 6F22 18 0E      A   jr      EOF3           ;INTERNAL ERROR
11776                A;
11777 6F24 CD 6C7B     AEOF call  FCBAD0          ;FCB-ADR BESTIMMEN
11778 6F27 CA 7070     AEOF1 jp    z,ERNTOP          ;FILE NICHT OFFEN --> ERROR
11779 6F2A 3E 0E      A   ld      a,0EH
11780 6F2C DA 7194     AEOF2 jp    c,JPGROU          ;SPRUNG ZUR GERAETERROUTINE (OP-CODE IN A)
11781 6F2F CD FED8     A   call    XEOF           ;DISKETTE
11782 6F32 C3 7079     AEOF3 jp    ERINT           ;INTERNAL ERROR
11783                A;
11784 6F35 CD 6C7B     AFPOS call  FCBAD0          ;FCB-ADR BESTIMMEN
11785 6F38 3E 10      A   ld      a,10H
11786 6F3A 38 F0      A   jr      c,EOF2          ;SPRUNG ZUR GERAETERROUTINE (OP-CODE IN A)
11787 6F3C CD FEDD     A   call    XFPOS          ;DISKETTE
11788 6F3F 18 F1      A   jr      EOF3           ;INTERNAL ERROR
11789                A;
11790 6F41 CD 014A     ATSTFCB  call  TAFCB          ;FCB-ADR BESTIMMEN
11791 6F44 CA 462C     A   jp      z,RUNM4          ;KEIN AKTUELLER FCB
11792 6F47 AF          A   xor     a
11793 6F48 CD 6D32     A   call    CLOSE1          ;ALLE FILES ZU
11794 6F4B C3 706A     A   jp      ERDIST          ;ERROR DIRECT STATEMENT IN FILE
11795                A;
11796 6F4E 0E 01     APRTDK0  ld      c,1          ;VON LINE INPUT UND INPUT
11797 6F50 FE 23     APRTDK   cp      '#'          ;VON PRINT MIT C=2
11798 6F52 C0          A   ret     nz          ;KEIN PRINT# ODER LINE INPUT#
11799 6F53 C5          A   push   bc
11800 6F54 CD 51F2     A   call    BYTAE1          ;FILENR IN E
11801 6F57 CF          A   rst    CPSTX
11802 6F58 2C          A   defb   ','
11803 6F59 7B          A   ld      a,e
11804 6F5A E5          A   push   hl
```

```
11805 6F5B CD 6CBB A call FILOP? ;FILE OFFEN ?
11806 6F5E 7E A ld a,(hl) ;A: FILETYP
11807 6F5F E1 A pop hl
11808 6F60 C1 A pop bc
11809 6F61 B9 A cp c ;VGL MIT VORGABETYP
11810 6F62 28 0E A jr z,PRTDK2 ;VORGABETYP EINGEHALTEN
11811 6F64 FE 04 A cp 4
11812 6F66 28 0A A jr z,PRTDK2 ;FILETYP = 4
11813 6F68 FE 08 A cp 8
11814 6F6A 20 03 A jr nz,PRTDK1 ;KEIN WEITERER TYP MOEGlich --> ERROR
11815 6F6C 79 A ld a,c ;FILETYP = 8
11816 6F6D FE 02 A cp 2 ;PRINT# ?
11817 6F6F C2 7076 APRTDK1 jp nz,ERBFNR ;NEIN --> ERROR: BAD FILE NUMBER
11818 6F72 7E APRTDK2 ld a,(hl) ;1. BYTE PARAMETERLISTE
11819 6F73 C9 A ret
11820 A;
11821 6F74 01 6520 ACLOSEB ld bc,INITR1
11822 6F77 C5 A push bc ;NACH CLOSE1 -> LD HL,(CUSTMT) RET
11823 6F78 AF A xor a
11824 6F79 C3 6D32 A jp CLOSE1
11825 A;
11826 6F7C EF ALINP0 rst TYPTST ;TYP AUSWERTUNG
11827 6F7D 01 4BE4 A ld bc,INPU10
11828 6F80 11 2C20 A ld de,2C20H ; , ODER ' ' ALS TRENNZEICHEN
11829 6F83 20 17 A jr nz,LINP1 ;NUMERISCHER TYP
11830 6F85 5A A ld e,d ;STRING --> ',' ALS TRENNZEICHEN
11831 6F86 18 14 A jr LINP1
11832 A;
11833 6F88 01 4AE1 ALINP ld bc,AUSGE ;LINE INPUT #
11834 6F8B C5 A push bc ;SPRUNG ZU AUSGABEENDE KELLERN
11835 6F8C CD 6F4E A call PRTDK0 ;TEST, OB FILETYP STIMMT
11836 6F8F CD 60B3 A call DIM1 ;VARIABLE SUCHEN
11837 6F92 CD 2CD8 A call TYSTR? ;STRING-VARIABLE ?
11838 6F95 D5 A push de ;JA
11839 6F96 01 485E A ld bc,LET0
11840 6F99 AF A xor a
11841 6F9A 57 A ld d,a
11842 6F9B 5F A ld e,a ;TRENNZEICHEN 0
11843 6F9C F5 ALINP1 push af
11844 6F9D C5 A push bc ;SPRUNG ZU LET0 KELLERN
11845 6F9E E5 A push hl
11846 6F9F CD 6E79 ALINP2 call ACTZMO ;ZEICHEN VOM GERAET HOLEN
11847 6FA2 DA 707C A jp c,ERINPE ;FEHLER IN GERAETERROUTINE --> INPUT PAST END
11848 6FA5 FE 20 A cp ' ' ;FOLGT ZEICHEN UEBERNEHMEN
11849 6FA7 20 04 A jr nz,LINP3 ;TRENN- UND STEUERZEICHEN AUSWERTEN
11850 6FA9 14 A inc d
11851 6FAA 15 A dec d
11852 6FAB 20 F2 A jr nz,LINP2
11853 6FAD FE 22 ALINP3 cp '""
11854 6FAF 20 0E A jr nz,LINP4
11855 6FB1 7B A ld a,e
11856 6FB2 FE 2C A cp ','
11857 6FB4 3E 22 A ld a, '"'
11858 6FB6 20 07 A jr nz,LINP4
11859 6FB8 57 A ld d,a
11860 6FB9 5F A ld e,a
11861 6FBA CD 6E79 A call ACTZMO
11862 6FBD 38 47 A jr c,LINP9
```

```
11863 6FBF 21 F424 ALINP4 ld hl,EDIBUF
11864 6FC2 06 FF A ld b,0FFH
11865 6FC4 4F ALINP5 ld c,a
11866 6FC5 7A A ld a,d
11867 6FC6 FE 22 A cp ''
11868 6FC8 79 A ld a,c
11869 6FC9 28 2A A jr z,LINP7
11870 6FCB FE 0D A cp 0DH
11871 6FCD E5 A push hl
11872 6FCE 28 50 A jr z,LINP11
11873 6FD0 E1 A pop hl
11874 6FD1 FE 0A A cp 0AH
11875 6FD3 20 20 A jr nz,LINP7
11876 6FD5 4F ALINP6 ld c,a
11877 6FD6 7B A ld a,e
11878 6FD7 FE 2C A cp ','
11879 6FD9 79 A ld a,c
11880 6FDA C4 705A A call nz,LINP17
11881 6FDD CD 6E79 A call ACTZMO
11882 6FE0 38 24 A jr c,LINP9
11883 6FE2 FE 0A A cp 0AH
11884 6FE4 28 EF A jr z,LINP6
11885 6FE6 FE 0D A cp 0DH
11886 6FE8 20 0B A jr nz,LINP7
11887 6FEA 7B A ld a,e
11888 6FEB FE 20 A cp ''
11889 6FED 28 12 A jr z,LINP8
11890 6FEF FE 2C A cp ','
11891 6FF1 3E 0D A ld a,0DH
11892 6FF3 28 0C A jr z,LINP8
11893 6FF5 B7 ALINP7 or a
11894 6FF6 28 09 A jr z,LINP8
11895 6FF8 BA A cp d
11896 6FF9 28 0B A jr z,LINP9
11897 6FFB BB A cp e
11898 6FFC 28 08 A jr z,LINP9
11899 6FFE CD 705A A call LINP17
11900 7001 CD 6E79 ALINP8 call ACTZMO
11901 7004 30 BE A jr nc,LINP5
11902 7006 E5 ALINP9 push hl
11903 7007 FE 22 A cp ''
11904 7009 28 04 A jr z,LINP10
11905 700B FE 20 A cp ''
11906 700D 20 2B A jr nz,LINP14
11907 700F CD 6E79 ALINP10 call ACTZMO
11908 7012 38 26 A jr c,LINP14
11909 7014 FE 20 A cp ''
11910 7016 28 F7 A jr z,LINP10
11911 7018 FE 2C A cp ','
11912 701A 28 1E A jr z,LINP14
11913 701C FE 0D A cp 0DH
11914 701E 20 09 A jr nz,LINP12
11915 7020 CD 6E79 ALINP11 call ACTZMO
11916 7023 38 15 A jr c,LINP14
11917 7025 FE 0A A cp 0AH
11918 7027 28 11 A jr z,LINP14
11919 7029 4F ALINP12 ld c,a
11920 702A CD 6E6A A call ACTZM1
```



```
11921 702D 30 06      A   jr      nc,LINP13
11922 702F CD FEE2    A   call   XLINPD      ;GERAETEKENNZEICHEN <=16 --> DISKETTE
11923 7032 C3 7079    A   jp      ERINT      ;ODER INTERNAL ERROR
11924 7035 3E 12      ALINP13  ld      a,12H
11925 7037 CD 7194    A   call   JPGROU     ;GERAETERROUTINE FUER LINE INPUT #
11926 703A E1              ALINP14  pop     hl
11927 703B 36 00      ALINP15  ld      (hl),0
11928 703D 21 F423    A   ld     hl,EDIBUF-1
11929 7040 7B          A   ld     a,e
11930 7041 D6 20          A   sub   ' '
11931 7043 28 07      A   jr      z,LINP16
11932 7045 06 00      A   ld     b,0
11933 7047 CD 6848    A   call   ZKUP12
11934 704A E1              A   pop   hl
11935 704B C9              A   ret
11936 704C EF          ALINP16  rst     TYPTST
11937 704D F5          A   push  af
11938 704E D7          A   rst   TCHAR
11939 704F F1          A   pop   af
11940 7050 F5          A   push  af
11941 7051 DC 2F19    A   call   c,EIKO
11942 7054 F1          A   pop   af
11943 7055 D4 2F19    A   call   nc,EIKO
11944 7058 E1          A   pop   hl
11945 7059 C9          A   ret
11946 705A B7          ALINP17  or     a
11947 705B C8          A   ret   z
11948 705C 77          A   ld   (hl),a
11949 705D 23          A   inc  hl
11950 705E 05          A   dec  b
11951 705F C0          A   ret  nz
11952 7060 F1          A   pop  af
11953 7061 C3 703B    A   jp   LINP15
11954          A;
11955 7064 1E 38      AERBFNA  ld     e,'8'
11956 7066 01          A   defb 1      ;BAD FILE NAME
11957 7067 1E 36      AERALOP  ld     e,36H
11958 7069 01          A   defb 1      ;FILE ALREADY OPEN
11959 706A 1E 39      AERDIST  ld     e,39H
11960 706C 01          A   defb 1      ;DIRECT STATEMENT IN FILE
11961 706D 1E 35      AERNFTFO ld     e,35H
11962 706F 01          A   defb 1      ;FILE NOT FOUND
11963 7070 1E 3B      AERNTOP  ld     e,3BH
11964 7072 01          A   defb 1      ;FILE NOT OPEN
11965 7073 1E 32      AERFIOV  ld     e,32H
11966 7075 01          A   defb 1      ;FILE OVERFLOW
11967 7076 1E 34      AERBFNR  ld     e,34H
11968 7078 01          A   defb 1      ;BAD FILE NUMBER
11969 7079 1E 33      AERINT   ld     e,33H
11970 707B 01          A   defb 1      ;INTERNAL ERROR
11971 707C 1E 37      AERINPE  ld     e,37H
11972 707E 01          A   defb 1      ;INPUT PAST END
11973 707F 1E 3A      AERSEIO  ld     e,3AH      ;SEQUENTIAL I/O ONLY
11974 7081 AF          A   xor  a
11975 7082 32 F743    A   ld   (LMAFL),a
11976 7085 32 FC1C    A   ld   (HLPERR),a
11977 7088 C3 4070      A   jp   ERRO
11978          A;
```

```
11979 708B CD 6C1B ABSAVE call DATNA ;DATEINAMEN HOLEN
11980 708E 7A A ld a,d
11981 708F FE 11 A cp 17 ;Diskette ?
11982 7091 CD FEAB A call XBSAVE
11983 7094 D5 A push de ;D: GERAETEKENNZEICHEN
11984 7095 CF A rst CPSTX
11985 7096 2C A defb ','
11986 7097 CD 7110 A call ADTDE ;ANFANGSADR IN DE
11987 709A EB A ex de,hl
11988 709B 22 FC6E A ld (STADR),hl
11989 709E EB A ex de,hl
11990 709F D5 A push de
11991 70A0 CF A rst CPSTX
11992 70A1 2C A defb ','
11993 70A2 CD 7110 A call ADTDE ;ENDADR IN DE
11994 70A5 EB A ex de,hl
11995 70A6 22 F744 A ld (LADBSA),hl
11996 70A9 EB A ex de,hl
11997 70AA 2B A dec hl
11998 70AB D7 A rst TCHAR
11999 70AC 28 0A A jr z,BSAVE1 ;KEINE STARTADR
12000 70AE CF A rst CPSTX
12001 70AF 2C A defb ','
12002 70B0 CD 7110 A call ADTDE ;STARTADR IN DE
12003 70B3 EB A ex de,hl
12004 70B4 22 FC6E A ld (STADR),hl
12005 70B7 EB A ex de,hl
12006 70B8 C1 ABSAVE1 pop bc ;STARTADR
12007 70B9 D1 A pop de ;D: GERAETEKENNZEICHEN
12008 70BA E5 A push hl
12009 70BB C5 A push bc
12010 70BC 7A A ld a,d
12011 70BD FE FF A cp 0FFH
12012 70BF CA 71F9 A jp z,BSAVE2 ;FUER CAS
12013 70C2 C3 7064 A jp ERBFNA ;SONST --> ERROR: BAD FILE NAME
12014 A;
12015 70C5 CD 6C1B ABLOAD call DATNA ;Dateinamen holen
12016 70C8 7A A ld a,d
12017 70C9 FE 11 A cp 17 ;Diskette ?
12018 70CB CD FEA6 A call XBLOAD
12019 70CE D5 A push de
12020 70CF AF A xor a
12021 70D0 32 FC6D A ld (AUTOST),a ;KEIN AUTOSTART
12022 70D3 2B A dec hl
12023 70D4 D7 A rst TCHAR
12024 70D5 01 0000 A ld bc,0
12025 70D8 28 13 A jr z,BLOAD2 ;KEIN WEITERER PARAMETER
12026 70DA CF A rst CPSTX
12027 70DB 2C A defb ','
12028 70DC FE 52 A cp 'R'
12029 70DE 20 08 A jr nz,BLOAD1 ;KEIN AUTOSTART
12030 70E0 32 FC6D A ld (AUTOST),a
12031 70E3 D7 A rst TCHAR
12032 70E4 28 07 A jr z,BLOAD2 ;KEIN WEITERER PARAMETER
12033 70E6 CF A rst CPSTX
12034 70E7 2C A defb ','
12035 70E8 CD 7110 ABLOAD1 call ADTDE ;VERSCHIEBUNG IN DE
12036 70EB 42 A ld b,d
```

```
12037 70EC 4B      A      ld      c,e
12038 70ED D1      ABLOAD2  pop      de          ;D: GERAETEKENNYBYTE
12039 70EE E5      A      push    hl
12040 70EF C5      A      push    bc
12041 70F0 7A      A      ld      a,d
12042 70F1 FE FF    A      cp      0FFH
12043 70F3 CA 7236  A      jp      z,BLOAD5      ;CAS
12044 70F6 C3 7064  A      jp      ERBFNA      ;SONST --> ERROR: BAD FILE NAME
12045                A;
12046 70F9 3A FC6D  ABLOAD3  ld      a,(AUTOST)
12047 70FC B7      A      or      a          ;TEST AUF AUTOSTART
12048 70FD 28 0C    A      jr      z,BLOAD4      ;NEIN
12049 70FF AF      A      xor      a
12050 7100 CD 6D32  A      call   CLOSE1      ;ALLE FILES SCHLIESSEN
12051 7103 21 6EF8  A      ld      hl,AFBCB1
12052 7106 E5      A      push    hl          ;NACH RET VON MC-CODE --> POP HL  RET
12053 7107 2A FC6E  A      ld      hl,(STADR)
12054 710A E9      A      jp      (hl)      ;AUTOSTART FUER MC-CODE
12055                A;
12056 710B E1      ABLOAD4  pop      hl          ;KEIN AUTOSTART
12057 710C AF      A      xor      a
12058 710D C3 6D32  A      jp      CLOSE1      ;ALLE FILES ZU
12059                A;
12060 7110 CD 4C57  AADTDE   call   SNAL3      ;AUSDRUCK AUSWERTEN
12061 7113 E5      A      push    hl
12062 7114 CD 5410  A      call   ADRREC      ;ADRESSRECHNUNG
12063 7117 D1      A      pop      de
12064 7118 EB      A      ex      de,hl
12065 7119 C9      A      ret          ;DE: ADRESSE
12066                A;
12067                A;
12068 711A CD FEE7  ADATNA7  call   XFILDS      ;AUSWERTUNG GERAETENAMEN
12069 711D 7E      A      ld      a,(hl)      ;ERWEITERUNG DISKETTE
12070 711E FE 3A    A      cp      ':'
12071 7120 38 1A    A      jr      c,DATNAA      ;ZIFFER ODER SONDERZEICHEN --> BAD FILE NAME
12072 7122 E5      AGERDS   push    hl          ;HL: ADR NAMEN      erweiterter Geraetenamen
12073 7123 53      A      ld      d,e          ;D: LAENGE NAMEN
12074 7124 7E      A      ld      a,(hl)
12075 7125 23      A      inc    hl
12076 7126 1D      A      dec    e
12077 7127 28 0A    A      jr      z,DATNA9      ;NAMEN ALLE
12078 7129 FE 3A    ADATNA8  cp      ':'
12079 712B 28 15    A      jr      z,DATNAB      ;FILENAME FOLGT
12080 712D 7E      A      ld      a,(hl)      ;NAECHSTES ZEICHEN
12081 712E 23      A      inc    hl
12082 712F 1D      A      dec    e
12083 7130 F2 7129  A      jp      p,DATNA8      ;NAECHSTES ZEICHEN GERAETENAMEN
12084 7133 5A      ADATNA9  ld      e,d          ;E: LAENGE
12085 7134 E1      A      pop    hl          ;HL: ADRESSE
12086 7135 AF      A      xor    a
12087 7136 3E FF    A      ld      a,0FFH      ;KEIN GERAETENAMEN --> STANDARD CAS
12088 7138 CD FEFC  A      call   XGERST      ;ANDERER STANDARD BEI DISK
12089 713B C9      A      ret
12090                A;
12091 713C CD FEF1  ADATNAA  call   XGERDS      ;LAUFWERK BEI DISK
12092 713F C3 7064  A      jp      ERBFNA      ;KEINE DISKETTE --> BAD FILE NAME
12093                A;
12094 7142 7A      ADATNAB  ld      a,d          ;GERAETEKENNYBYTE BESTIMMEN
```

```
12095 7143 93      A   sub   e
12096 7144 3D      A   dec   a           ;LAENGE GERAETENAME
12097 7145 C1      A   pop   bc         ;ADR GERAETENAME
12098 7146 D5      A   push  de
12099 7147 C5      A   push  bc
12100 7148 4F      A   ld    c,a
12101 7149 47      A   ld    b,a
12102 714A 11 717B A   ld    de,TABGER   ;TABELLE GERAETENAMEN
12103 714D E3      A   ex    (sp),hl
12104 714E E5      A   push  hl
12105 714F CD 4E83 ADATNAC call  SNAL41       ;KLEIN- IN GROSSBUCHSTABEN
12106 7152 C5      A   push  bc
12107 7153 47      A   ld    b,a
12108 7154 1A      A   ld    a,(de)
12109 7155 23      A   inc   hl
12110 7156 13      A   inc   de
12111 7157 B8      A   cp    b           ;VGL GERAETENAMEN MIT TABELLE
12112 7158 C1      A   pop   bc
12113 7159 20 0D   A   jr    nz,DATNAE   ;NAECHSTER GERAETENAME
12114 715B 0D      A   dec   c
12115 715C 20 F1   A   jr    nz,DATNAC   ;NAECHSTES ZEICHEN GERAETENAME
12116 715E 1A      ADATNAD ld    a,(de)       ;GERAETENAME ALLE, NAECHSTES ZEICHEN AUS TABGER
12117 715F B7      A   or    a
12118 7160 F2 7168 A   jp    p,DATNAE    ;NAME IN TABELLE NICHT ALLE
12119 7163 E1      A   pop   hl         ;A: GERAETEKENNYTE
12120 7164 E1      A   pop   hl
12121 7165 D1      A   pop   de
12122 7166 B7      A   or    a
12123 7167 C9      A   ret
12124          A;
12125 7168 B7      ADATNAE or    a
12126 7169 FA 715E A   jp    m,DATNAD
12127 716C 1A      ADATNAF ld    a,(de)
12128 716D 87      A   add   a,a
12129 716E 13      A   inc   de
12130 716F 30 FB   A   jr    nc,DATNAF
12131 7171 48      A   ld    c,b         ;ANFANG NAECHSTER GERAETENAME
12132 7172 E1      A   pop   hl
12133 7173 E5      A   push  hl
12134 7174 1A      A   ld    a,(de)
12135 7175 B7      A   or    a
12136 7176 20 D7   A   jr    nz,DATNAC   ;--> VGL GERAETENAMEN
12137 7178 C3 55C9 A   jp    ERWGR       ;TABELLE ALLE --> ERWEITERUNG GERAETNAMEN
12138          A;
12139 717B 43 41 53 ATABGER defm  'CAS'
12140 717E FF      A   defb 0FFH
12141 717F 4C 50 54 A   defm  'LPT'
12142 7182 FE      A   defb 0FEH
12143 7183 43 52 54 A   defm  'CRT'
12144 7186 FD      A   defb 0FDH
12145 7187 47 52 50 A   defm  'GRP'
12146 718A FC      A   defb 0FCH
12147 718B 00      A   defb 0
12148          A;
12149 718C 73E7 ATBGEAD defw  TABCAS
12150 718E 74C6 A   defw  TABLPT
12151 7190 73C2 A   defw  TABCRT
12152 7192 73A4 A   defw  TABGRP
```

```
12153      A;
12154      A;                                ADRESSRECHNUNG GERAETERROUTINEN
12155 7194 CD FEF6  AJPGRU      call  XJPGRD      ;andere Geraete
12156 7197 E5      A      push  hl      ;HL: ADR FCB
12157 7198 D5      A      push  de
12158 7199 F5      A      push  af      ;A: OP-CODE FUER FILEOPERATION
12159 719A 11 0004 A      ld      de,4
12160 719D 19      A      add   hl,de
12161 719E 7E      A      ld      a,(hl)
12162 719F FE FC   A      cp      0FCH
12163 71A1 DA 5622 A      jp      c,ERWRT      ;--> GERAETERROUTINE FUER ZUSATZGERAETE
12164 71A4 3E FF   A      ld      a,0FFH      ;ADRESSRECHNUNG FUER STANDARDGERAETE
12165 71A6 96      A      sub   (hl)
12166 71A7 87      A      add   a,a
12167 71A8 5F      A      ld      e,a
12168 71A9 21 718C A      ld      hl,TBGEAD
12169 71AC 19      A      add   hl,de
12170 71AD 5E      A      ld      e,(hl)
12171 71AE 23      A      inc   hl
12172 71AF 56      A      ld      d,(hl)      ;DE: ADR DER TABELLE FUER GERAET
12173 71B0 F1      A      pop   af
12174 71B1 6F      A      ld      l,a      ;ADRESSRECHNUNG FUER OPERATIONEN
12175 71B2 26 00  A      ld      h,0
12176 71B4 19      A      add   hl,de
12177 71B5 5E      A      ld      e,(hl)
12178 71B6 23      A      inc   hl
12179 71B7 56      A      ld      d,(hl)      ;ADRESSE DER GERAETERROUTINE
12180 71B8 EB      A      ex   de,hl
12181 71B9 D1      A      pop   de
12182 71BA E3      A      ex   (sp),hl
12183 71BB C9      A      ret                    ;ABSPRUNG
12184      A;
12185 71BC CD 72BA  ACSAVE      call  DNACAS      ;DATEINAME IN AUTSTL
12186 71BF 2B      A      dec   hl
12187 71C0 D7      A      rst   TCHAR
12188 71C1 E5      A      push hl
12189 71C2 28 07   A      jr    z,CSAVE1      ;KEINE WEITEREN PARAMETER
12190 71C4 E1      A      pop   hl
12191 71C5 CF      A      rst   CPSTX
12192 71C6 2C      A      defb ', '
12193 71C7 CD 71DE  A      call  CSAVE5      ;Parameter fuer Kassettengeschw.
12194 71CA E5      A      push hl
12195 71CB 3E D3   ACSAVE1      ld      a,'S'+80H      ;10 * D3H IN VORBLOCK
12196 71CD CD 7347 A      call  WVOBL      ;VORBLOCK AUSGEBEN
12197 71D0 2A F588 A      ld      hl,(SVARPT)  ;ENDADR SETZEN
12198 71D3 22 F744 A      ld      (LADBSA),hl
12199 71D6 2A F53C A      ld      hl,(PSTBEG) ;ANFADR HOLEN
12200 71D9 CD 7360 A      call  CSAVE2
12201 71DC E1      A      pop   hl
12202 71DD C9      A      ret
12203 71DE CD 51F3  ACSAVE5      call  BYTAE2
12204 71E1 3D      A      dec   a
12205 71E2 FE 02   A      cp      2
12206 71E4 D2 4740 A      jp      nc,ERFC
12207 71E7 E5      A      push hl
12208 71E8 01 0005 A      ld      bc,5
12209 71EB A7      A      and   a
12210 71EC 21 F29B A      ld      hl,TBSTCS      ;Tabelle Kassettenparameter
```

```
12211 71EF 28 01    A   jr      z,CSAVE6
12212 71F1 09        A   add     hl,bc
12213 71F2 11 F2A5   A   ACSAVE6 ld      de,NUBIFR      ;aktuelle Kassettenparameter
12214 71F5 ED B0      A   ldir
12215 71F7 E1        A   pop     hl
12216 71F8 C9        A   ret
12217          A;
12218 71F9 3E D0    ABSAVE2 ld      a,0D0H      ;10 * D0H IN VORBLOCK
12219 71FB CD 7347  A   call    WVOBL      ;VORBLOCK AUSGEBEN
12220 71FE AF        A   xor     a
12221 71FF CD 7518  A   call    OUVTON     ;VORTON AUSGEBEN
12222 7202 E1        A   pop     hl
12223 7203 E5        A   push    hl
12224 7204 CD 7225  A   call    HLTCAS     ;ANFANGSADR AUF CAS
12225 7207 2A F744  A   ld      hl,(LADBSA)
12226 720A E5        A   push    hl
12227 720B CD 7225  A   call    HLTCAS     ;ENDADR AUF CAS
12228 720E 2A FC6E  A   ld      hl,(STADR)
12229 7211 CD 7225  A   call    HLTCAS     ;STARTADR AUF CAS
12230 7214 D1        A   pop     de
12231 7215 E1        A   pop     hl
12232 7216 7E        ABSAVE3 ld      a,(hl)
12233 7217 CD 74FE  A   call    BYTCAS     ;AUSGABE ZEICHEN AUF CAS
12234 721A E7        A   rst     CPREG
12235 721B 30 03    A   jr      nc,BSAVE4  ;FERTIG
12236 721D 23        A   inc     hl
12237 721E 18 F6    A   jr      BSAVE3     ;NAECHSTES ZEICHEN
12238 7220 CD 00F0  ABSAVE4 call    WMOFF      ;CAS ABSCHALTEN
12239 7223 E1        A   pop     hl
12240 7224 C9        A   ret
12241          A;
12242 7225 7D        AHLTCAS ld      a,l      ;AUSGABE ADR AUF CAS
12243 7226 CD 74FE  A   call    BYTCAS
12244 7229 7C        A   ld      a,h
12245 722A C3 74FE  A   jp     BYTCAS
12246          A;
12247 722D CD 74F4  AHLVCAS call    BYVCAS     ;ADR VON CAS HOLEN
12248 7230 6F        A   ld      l,a
12249 7231 CD 74F4  A   call    BYVCAS
12250 7234 67        A   ld      h,a
12251 7235 C9        A   ret
12252          A;
12253 7236 0E D0    ABLOAD5 ld      c,0D0H     ;KENNBYTE FUER BLOAD
12254 7238 CD 72DA  A   call    TVOBL      ;TEST VORBLOCK
12255 723B CD 7509  A   call    INVTON     ;EINGABE VORTON
12256 723E C1        A   pop     bc
12257 723F CD 722D  A   call    HLVCAS     ;ANFADR HOLEN
12258 7242 09        A   add     hl,bc     ;ANFADR + VERSCHIEBUNG
12259 7243 EB        A   ex     de,hl
12260 7244 CD 722D  A   call    HLVCAS
12261 7247 09        A   add     hl,bc     ;ENDADR + VERSCHIEBUNG
12262 7248 E5        A   push    hl
12263 7249 CD 722D  A   call    HLVCAS
12264 724C 22 FC6E  A   ld      (STADR),hl ;STARTADR
12265 724F EB        A   ex     de,hl
12266 7250 D1        A   pop     de
12267 7251 CD 74F4  ABLOAD6 call    BYVCAS     ;ZEICHEN LESEN
12268 7254 77        A   ld      (hl),a
```

```
12269 7255 E7      A   rst   CPREG
12270 7256 28 03   A   jr    z,BLOAD7      ;FERTIG
12271 7258 23     A   inc   hl
12272 7259 18 F6   A   jr    BLOAD6        ;NAECHSTES ZEICHEN
12273 725B CD 00E7 ABLOAD7 call   MOFF          ;CAS AUSSCHALTEN
12274 725E C3 70F9 A   jp    BLOAD3        ;TEST AUF AUTOSTART
12275
12276 7261 D6 91   ACLOAD  sub    91H          ;PRINTTOK --> CLOAD ?
12277 7263 28 02   A   jr    z,CLOAD1
12278 7265 AF      A   xor   a             ;NEIN
12279 7266 01     A   defb 1             ; ld bc,L?232F
12280 7267 2F     ACLOAD1 cpl
12281 7268 23     A   inc   hl
12282 7269 FE 01   A   cp    1
12283 726B F5     A   push  af           ;CLOAD ?: A=FF,CY=0 CLOAD: A=0,CY=1
12284 726C CD 72AE A   call  DNACA0        ;DATEINAME IN AUTSTL
12285 726F 0E D3   A   ld   c,0D3H        ;KENNBYTE FUER CLOAD
12286 7271 CD 72DA A   call  TVOBL         ;TEST VORBLOCK
12287 7274 F1     A   pop   af
12288 7275 32 F6BE A   ld   (AC1INT),a
12289 7278 DC 6493 A   call  c,NEW1        ;VOR CLOAD --> NEW
12290 727B 3A F6BE A   ld   a,(AC1INT)
12291 727E FE 01   A   cp    1
12292 7280 32 F294 A   ld   (HLPExp),a
12293 7283 F5     A   push  af
12294 7284 CD 54BE A   call  REN7          ;DARSTELLUNG ZEILENNR. VEREINHEITLICHEN !
12295 7287 F1     A   pop   af
12296 7288 2A F53C A   ld   hl,(PSTBEG)
12297 728B CD 737F A   call  CLOAD4        ;LESEN UND VERGLEICHEN
12298 728E 20 10   A   jr    nz,CLOAD3    ;VERSCHIEDEN
12299 7290 22 F588 A   ld   (SVARPT),hl   ;PROGRAMMENDE EINTRAGEN
12300 7293 21 3C42 ACLOAD2 ld    hl,OK
12301 7296 CD 6888 A   call  OUTZK1        ;AUSGABE 'OK'
12302 7299 2A F53C A   ld   hl,(PSTBEG)
12303 729C E5     A   push  hl
12304 729D C3 4232 A   jp    INSLNA        ;FOLGEZEIGER NEU ... --> KOMMANDOEbene
12305 72A0 23     ACLOAD3 inc   hl
12306 72A1 EB     A   ex    de,hl
12307 72A2 2A F588 A   ld   hl,(SVARPT)
12308 72A5 E7     A   rst   CPREG
12309 72A6 DA 7293 A   jp    c,CLOAD2     ;VEGLEICHSPROG LAENGER ALS IM SPEICHER
12310 72A9 1E 14   A   ld   e,14H
12311 72AB C3 4070 A   jp    ERRO         ;VERIFY ERROR
12312
12313 72AE 2B     ADNACA0 dec   hl           ;DATEINAME FUER CAS IN AUTSTL
12314 72AF D7     A   rst   TCHAR
12315 72B0 20 08   A   jr    nz,DNACAS    ;DATEINAME IN ANWEISUNG
12316 72B2 E5     A   push  hl
12317 72B3 21 F72D A   ld   hl,AUTSTL     ;6 * SPACE EINTRAGEN
12318 72B6 06 06   A   ld   b,6
12319 72B8 18 19   A   jr    DNACA2
12320 72BA CD 4C57 ADNACAS call  SNAL3          ;AUSDRUCK FUER DATEINAME AUSWERTEN
12321 72BD E5     A   push  hl
12322 72BE CD 6A1C A   call  ASC1         ;DE: ADR ZK
12323 72C1 2B     A   dec   hl
12324 72C2 2B     A   dec   hl
12325 72C3 46     A   ld   b,(hl)       ;B: LAENGE ZK
12326 72C4 0E 06   A   ld   c,6
```

```
12327 72C6 21 F72D A ld hl,AUTSTL
12328 72C9 1A ADNACA1 ld a,(de)
12329 72CA 77 A ld (hl),a
12330 72CB 23 A inc hl
12331 72CC 13 A inc de
12332 72CD 0D A dec c
12333 72CE 28 08 A jr z,DNACA3 ;6 ZEICHEN UEBERNOMMEN
12334 72D0 10 F7 A djnz DNACA1 ;DATEINAME NOCH NICHT ZU ENDE
12335 72D2 41 A ld b,c
12336 72D3 36 20 ADNACA2 ld (hl),' '
12337 72D5 23 A inc hl
12338 72D6 10 FB A djnz DNACA2 ;REST MIT LEERZ. AUFFUELLEN
12339 72D8 E1 ADNACA3 pop hl
12340 72D9 C9 A ret
12341 A;
12342 72DA CD 7509 ATVOBL call INVTON ;TEST VORBLOCK
12343 72DD 06 0A A ld b,10
12344 72DF CD 74F4 ATVOBL1 call BYVCAS
12345 72E2 B9 A cp c ;VGL MIT KENNBYTE DATEIART
12346 72E3 20 F5 A jr nz,TVOBL ;TEST NEU ANFANGEN
12347 72E5 10 F8 A djnz TVOBL1 ;ZEICHEN RICHTIG --> WEITER
12348 72E7 21 F738 A ld hl,CANAB2
12349 72EA E5 A push hl
12350 72EB 06 06 A ld b,6
12351 72ED CD 74F4 ATVOBL2 call BYVCAS ;6 BYTES DATEINAME IN CANAB2
12352 72F0 77 A ld (hl),a
12353 72F1 23 A inc hl
12354 72F2 10 F9 A djnz TVOBL2
12355 72F4 E1 A pop hl
12356 72F5 11 F72D A ld de,AUTSTL
12357 72F8 06 06 A ld b,6
12358 72FA 1A ATVOBL3 ld a,(de)
12359 72FB 13 A inc de
12360 72FC FE 20 A cp ' '
12361 72FE 20 04 A jr nz,TVOBL4 ;DE: ANFANG DATEINAME IN CANAB1
12362 7300 10 F8 A djnz TVOBL3
12363 7302 18 0D A jr TVOBL6 ;CLOAD OHNE DATEINAME
12364 7304 11 F72D ATVOBL4 ld de,AUTSTL
12365 7307 06 06 A ld b,6
12366 7309 1A ATVOBL5 ld a,(de)
12367 730A BE A cp (hl) ;DATEINAMEN VERGLEICHEN
12368 730B 20 0A A jr nz,TVOBL7 ;VERSCHIEDEN
12369 730D 23 A inc hl
12370 730E 13 A inc de
12371 730F 10 F8 A djnz TVOBL5
12372 7311 21 7321 ATVOBL6 ld hl,FOUND ;DATEI GEFUNDEN
12373 7314 C3 732F A jp TVOBL8
12374 7317 C5 ATVOBL7 push bc ;DATEINAME VERSCHIEDEN
12375 7318 21 7328 A ld hl,SKIP
12376 731B CD 732F A call TVOBL8 ;AUSGABE: SKIP 'DATEINAME'
12377 731E C1 A pop bc
12378 731F 18 B9 A jr TVOBL ;WEITERSUCHEN
12379 A;
12380 7321 46 6F 75 6EAF0UND defm 'Found:'
12381 7327 00 A defb 0
12382 7328 53 6B 69 70ASKIP defm 'Skip :'
12383 732E 00 A defb 0
12384 A;
```



```
12385 732F ED 5B F2E2 ATVOBL8 ld de,(ACTZN) ;DIREKTMODUS ?
12386 7333 13 A inc de
12387 7334 7A A ld a,d
12388 7335 B3 A or e
12389 7336 C0 A ret nz ;NEIN
12390 7337 CD 6888 A call OUTZK1 ;AUSGABE MELDUNG
12391 733A 21 F738 A ld hl,CANAB2
12392 733D 06 06 A ld b,6
12393 733F 7E ATVOBL9 ld a,(hl) ;AUSGABE DATEINAME
12394 7340 23 A inc hl
12395 7341 DF A rst CHARO
12396 7342 10 FB A djnz TVOBL9
12397 7344 C3 7548 A jp LSTRE1 ;AUSGABE NEUE ZEILE
12398 A;
12399 7347 CD 7518 AWVOBL call OUVTON ;VORBLOCK SCHREIBEN
12400 734A 06 0A A ld b,10
12401 734C CD 74FE AWVOBL1 call BYTCAS ;10 * KENNBYTE DATEIART SCHREIBEN
12402 734F 10 FB A djnz WVOBL1
12403 7351 06 06 A ld b,6
12404 7353 21 F72D A ld hl,AUTSTL
12405 7356 7E AWVOBL2 ld a,(hl)
12406 7357 23 A inc hl
12407 7358 CD 74FE A call BYTCAS ;6 BYTES DATEINAME SCHREIBEN
12408 735B 10 F9 A djnz WVOBL2
12409 735D C3 00F0 A jp WMOFF ;CAS ABSCHALTEN
12410 A;
12411 7360 E5 ACSAVE2 push hl ;BLOCK SCHREIBEN
12412 7361 CD 54BE A call REN7 ;DARSTELLUNG ZEILENNR. VEREINHEITLICHEN
12413 7364 AF A xor a
12414 7365 CD 7518 A call OUVTON
12415 7368 D1 A pop de ;ANFANGSADR
12416 7369 2A F744 A ld hl,(LADBSA) ;ENDADR
12417 736C 1A ACSAVE3 ld a,(de)
12418 736D 13 A inc de
12419 736E CD 74FE A call BYTCAS ;BYTE AUSGEBEN
12420 7371 E7 A rst CPREG
12421 7372 20 F8 A jr nz,CSAVE3 ;NAECHSTES BYTE
12422 7374 2E 07 A ld l,7 ;FERTIG
12423 7376 CD 74FE ACSAVE4 call BYTCAS ;7 * 0 AUSGEBEN
12424 7379 2D A dec l
12425 737A 20 FA A jr nz,CSAVE4
12426 737C C3 00F0 A jp WMOFF ;CAS AUSSCHALTEN
12427 A;
12428 737F CD 7509 ACLOAD4 call INVTON
12429 7382 9F A sbc a,a
12430 7383 2F A cpl
12431 7384 57 A ld d,a ;CLOAD: D=0 CLOAD ?: D=FF
12432 7385 06 0A ACLOAD5 ld b,10
12433 7387 CD 74F4 ACLOAD6 call BYVCAS ;ZEICHEN LESEN
12434 738A 5F A ld e,a
12435 738B CD 6473 A call TSMEM1 ;TEST, OB SPEICHER REICHT
12436 738E 7B A ld a,e
12437 738F 96 A sub (hl) ;VGL GELESENES BYTE MIT SPEICHER
12438 7390 A2 A and d ;CLOAD ODER CLOAD ?
12439 7391 C2 00E7 A jp nz,MOFF ;CLOAD ? UND BYTES <> --> Z=0, CAS AUS
12440 7394 73 A ld (hl),e ;BYTE IN SPEICHER
12441 7395 7E A ld a,(hl)
12442 7396 B7 A or a
```

```
12443 7397 23      A   inc   hl
12444 7398 20 EB     A   jr    nz,CLOAD5      ;KEIN PROGRAMMENDE
12445 739A 10 EB     A   djnz  CLOAD6       ;10 * 0 LESEN
12446 739C 01 FFFA   A   ld    bc,-6
12447 739F 09      A   add   hl,bc
12448 73A0 AF      A   xor   a
12449 73A1 C3 00E7   A   jp    MOFF         ;CAS AUS, HL: PROGRAMMENDE, Z=1
12450
12451 73A4 73D6     ATABGRP defw  GRP0      ;OPEN
12452 73A6 73E2     A   defw  GRP2         ;CLOSE
12453 73A8 707F     A   defw  ERSEIO      ;PUT/GET
12454 73AA 73B8     A   defw  GRP6        ;PRINT#
12455 73AC 4740     A   defw  ERFC        ;INPUT#
12456 73AE 4740     A   defw  ERFC        ;LOC
12457 73B0 4740     A   defw  ERFC        ;LOF
12458 73B2 4740     A   defw  ERFC        ;EOF
12459 73B4 4740     A   defw  ERFC        ;FPOS
12460 73B6 4740     A   defw  ERFC        ;LINE INPUT#
12461
12462 73B8 CD 016B   AGRP6 call  TGRASC     ;PRINT# AUF GRP
12463 73BB DA 4740     A   jp    c,ERFC      ;BEI SCREEN <> 2 UND 3 --> FC ERROR
12464 73BE 79      A   ld    a,c
12465 73BF C3 008D   A   jp    TXTGSC     ;--> ROM BIOS
12466
12467 73C2 73D6     ATABCRT defw  GRP0      ;OPEN
12468 73C4 73E2     A   defw  GRP2         ;CLOSE
12469 73C6 707F     A   defw  ERSEIO      ;PUT/GET
12470 73C8 73E3     A   defw  CRT6        ;PRINT#
12471 73CA 4740     A   defw  ERFC        ;INPUT#
12472 73CC 4740     A   defw  ERFC        ;LOC
12473 73CE 4740     A   defw  ERFC        ;LOF
12474 73D0 4740     A   defw  ERFC        ;EOF
12475 73D2 4740     A   defw  ERFC        ;FPOS
12476 73D4 4740     A   defw  ERFC        ;LINE INPUT#
12477
12478 73D6 CD 74ED   AGRP0 call  ERBFN1     ;E=8 (APPEND) --> BAD FILE NAME
12479 73D9 FE 01      A   cp    1
12480 73DB CA 7064     A   jp    z,ERBFNA    ;E=1 (INPUT) --> BAD FILE NAME
12481 73DE 22 F72B   AGRP01 ld    (ACTFCB),hl
12482 73E1 73      A   ld    (hl),e
12483 73E2 C9      AGRP2 ret
12484
12485 73E3 79      ACRT6 ld    a,c
12486 73E4 C3 FD0C   A   jp    ICONOUT    ;--> ROM BIOS
12487
12488 73E7 73FB     ATABCAS defw  CAS0      ;OPEN
12489 73E9 7425     A   defw  CAS2         ;CLOSE
12490 73EB 707F     A   defw  ERSEIO      ;PUT/GET
12491 73ED 744A     A   defw  CAS6        ;PRINT#
12492 73EF 745F     A   defw  CAS8        ;INPUT#
12493 73F1 4740     A   defw  ERFC        ;LOC
12494 73F3 4740     A   defw  ERFC        ;LOF
12495 73F5 748D     A   defw  CASE        ;EOF
12496 73F7 4740     A   defw  ERFC        ;FPOS
12497 73F9 749C     A   defw  CAS12       ;LINE INPUT#
12498
12499 73FB E5      ACAS0 push  hl
12500 73FC D5      A   push  de
;OPEN AUF CAS
```

```
12501 73FD 01 0006 A ld bc,6
12502 7400 09 A add hl,bc
12503 7401 AF A xor a
12504 7402 77 A ld (hl),a
12505 7403 32 FC26 A ld (HLPCAS),a
12506 7406 CD 74ED A call ERBFN1 ;E=8 (APPEND) --> BAD FILE NAME
12507 7409 FE 04 A cp 4
12508 740B CA 7064 A jp z,ERBFNA ;E=4 (RANDOM) --> BAD FILE NAME
12509 740E FE 01 A cp 1
12510 7410 28 09 A jr z,CAS02 ;E=1 (INPUT)
12511 7412 3E EA A ld a,0EAH ;KENNBYTE FUER DATEN
12512 7414 CD 7347 A call WVOBL ;AUSGABE VORBLOCK
12513 7417 D1 ACAS01 pop de
12514 7418 E1 A pop hl
12515 7419 18 C3 A jr GRP01 ;FILETYP IN FCB, RET
12516 741B 0E EA ACAS02 ld c,0EAH ;KENNBYTE DATEN
12517 741D CD 72DA A call TVOBL ;VORBLOCK TESTEN
12518 7420 CD 00E7 A call MOFF ;CAS AUS
12519 7423 18 F2 A jr CAS01
12520 A;
12521 7425 7E ACAS2 ld a,(hl) ;CLOSE AUF CAS
12522 7426 FE 01 A cp 1
12523 7428 28 1B A jr z,CAS22 ;INPUT FILE --> FERTIG
12524 742A 3E 1A A ld a,1AH ;EOF
12525 742C E5 A push hl
12526 742D CD 74AB A call CASUP1 ;EINTRAGEN IN DMA-BEREICH FCB
12527 7430 CC 744F A call z,CAS61 ;AUSGABE BLOCK, WENN DMA-BEREICH VOLL
12528 7433 E1 A pop hl
12529 7434 CD 74A1 A call CASUP2 ;DMA-BEREICH LOESCHEN
12530 7437 28 0C A jr z,CAS22 ;--> FERTIG, WENN MIT EOF GENAU VOLL
12531 7439 E5 A push hl
12532 743A 09 A add hl,bc
12533 743B 36 1A ACAS21 ld (hl),1AH ;LETZTEN BLOCK AUFFUELLEN MIT 1AH
12534 743D 23 A inc hl
12535 743E 0C A inc c
12536 743F 20 FA A jr nz,CAS21
12537 7441 E1 A pop hl
12538 7442 CD 744F A call CAS61 ;LETZTEN BLOCK AUSGEBEN
12539 7445 AF ACAS22 xor a
12540 7446 32 FC26 A ld (HLPCAS),a
12541 7449 C9 A ret
12542 A;
12543 744A 79 ACAS6 ld a,c ;BYTE AUS C IN DMA-BEREICH
12544 744B CD 74AB A call CASUP1
12545 744E C0 A ret ;BLOCK NICHT VOLL
12546 744F AF ACAS61 xor a ;BLOCK AUSGEBEN
12547 7450 CD 7518 A call OUVTON
12548 7453 06 00 A ld b,0
12549 7455 7E ACAS62 ld a,(hl)
12550 7456 CD 74FE A call BYTCAS ;256 BYTES
12551 7459 23 A inc hl
12552 745A 10 F9 A djnz CAS62
12553 745C C3 00F0 A jp WMOFF ;CAS AUS
12554 A;
12555 745F EB ACAS8 ex de,hl ;INPUT#
12556 7460 21 FC26 A ld hl,HLPCAS
12557 7463 CD 74DE A call CASUP5 ;HLPCAS LEER ? NEIN --> ...CASE
12558 7466 EB A ex de,hl ;JA (nach OPEN und CLOSE)
```

```
12559 7467 CD 74BB A call CASUP3 ;ZEIGER AUF ANFANG DMA-BEREICH
12560 746A 20 14 A jr nz,CAS82 ;NOCH REST IM DMA-BEREICH
12561 746C E5 A push hl
12562 746D CD 7509 A call INVTON ;NEUEN BLOCK HOLEN
12563 7470 E1 A pop hl
12564 7471 06 00 A ld b,0
12565 7473 CD 74F4 ACAS81 call BYVCAS
12566 7476 77 A ld (hl),a
12567 7477 23 A inc hl
12568 7478 10 F9 A djnz CAS81
12569 747A CD 00E7 A call MOFF ;CAS AUS
12570 747D 25 A dec h
12571 747E AF A xor a
12572 747F 47 A ld b,a
12573 7480 4F ACAS82 ld c,a ;ZEICHEN AUS DMA-BEREICH HOLEN
12574 7481 09 A add hl,bc ;Adr noch nicht gelesenes Zeichen
12575 7482 7E A ld a,(hl)
12576 7483 FE 1A A cp 1AH ;TEST AUF EOF
12577 7485 37 A scf
12578 7486 3F A ccf
12579 7487 C0 A ret nz ;KEIN DATEIENDE, CY=0
12580 7488 32 FC26 A ld (HLPCAS),a ;EOF AUF HLPCAS
12581 748B 37 A scf
12582 748C C9 A ret ;BLOCK MIT DETEIEENDE, CY=1
12583 A;
12584 748D CD 745F ACASE call CAS8 ;1 ZEICHEN VON DATEI HOLEN
12585 7490 21 FC26 A ld hl,HLPCAS
12586 7493 77 A ld (hl),a ;AUF HLPCAS SCHREIBEN
12587 7494 D6 1A A sub 1AH
12588 7496 D6 01 A sub 1
12589 7498 9F A sbc a,a
12590 7499 C3 2B1A A jp SGN1 ;CY=1,A=-1 BEI EOF, SONST CY=0, A=0
12591 A;
12592 749C 21 FC26 ACAS12 ld hl,HLPCAS ;LINE INPUT#
12593 749F 71 A ld (hl),c
12594 74A0 C9 A ret
12595 A;
12596 74A1 01 0006 ACASUP2 ld bc,6 ;DMA-BEREICH LOESCHEN
12597 74A4 09 A add hl,bc
12598 74A5 7E A ld a,(hl)
12599 74A6 4F A ld c,a
12600 74A7 36 00 A ld (hl),0 ;RECORD-LAENGE = 0
12601 74A9 18 16 A jr CASUP4
12602 A;
12603 74AB 5F ACASUP1 ld e,a ;NAECHSTES BYTE IN DMA-BEREICH FCB EINTRAGEN
12604 74AC 01 0006 A ld bc,6
12605 74AF 09 A add hl,bc
12606 74B0 7E A ld a,(hl)
12607 74B1 34 A inc (hl) ;RECORD-LAENGE = +1
12608 74B2 23 A inc hl
12609 74B3 23 A inc hl
12610 74B4 23 A inc hl
12611 74B5 E5 A push hl
12612 74B6 4F A ld c,a
12613 74B7 09 A add hl,bc
12614 74B8 73 A ld (hl),e ;ZEICHEN EINTRAGEN
12615 74B9 E1 A pop hl
12616 74BA C9 A ret ;Z=1 WENN RECORD-LAENGE=256
```

```
12617          A;
12618 74BB 01 0006 ACASUP3   ld      bc,6
12619 74BE 09      A   add    hl,bc
12620 74BF 7E      A   ld     a,(hl)
12621 74C0 34      A   inc   (hl)      ;LAENGE +1
12622 74C1 23      ACASUP4   inc    hl
12623 74C2 23      A   inc   hl
12624 74C3 23      A   inc   hl
12625 74C4 A7      A   and   a          ;ALTE LAENGE = 0 ?
12626 74C5 C9      A   ret                    ;HL: ANFANG DMA-BEREICH, Z=1 FUER ALTE LAENGE=0
12627          A;
12628 74C6 73D6     ATABLPT   defw   GRP0          ;OPEN
12629 74C8 73E2     A   defw  GRP2          ;CLOSE
12630 74CA 707F     A   defw  ERSEIO       ;PUT/GET
12631 74CC 74DA     A   defw  LPT6         ;PRINT#
12632 74CE 4740     A   defw  ERFC         ;INPUT#
12633 74D0 4740     A   defw  ERFC         ;LOC
12634 74D2 4740     A   defw  ERFC         ;LOF
12635 74D4 4740     A   defw  ERFC         ;EOF
12636 74D6 4740     A   defw  ERFC         ;FPOS
12637 74D8 4740     A   defw  ERFC         ;LINE INPUT#
12638          A;
12639 74DA 79      ALPT6 ld    a,c          ;PRINT# AUF LPT
12640 74DB C3 FD0F     A   jp    ILIST        ;--> ROM BIOS
12641          A;
12642 74DE 7E      ACASUP5   ld      a,(hl)      ;ZEICHEN AUS HLPICAS
12643 74DF 36 00     A   ld    (hl),0
12644 74E1 A7      A   and   a
12645 74E2 C8      A   ret    z          ;ZEICHEN = 0
12646 74E3 33      A   inc   sp
12647 74E4 33      A   inc   sp          ;BEI RET --> RUNMOD
12648 74E5 FE 1A     A   cp    1AH        ;ZEICHEN = EOF ?
12649 74E7 37      A   scf
12650 74E8 3F      A   ccf
12651 74E9 C0      A   ret    nz         ;NEIN, CY=0
12652 74EA 77      A   ld    (hl),a     ;HLPICAS REGEN.
12653 74EB 37      A   scf
12654 74EC C9      A   ret                    ;JA, CY=1
12655          A;
12656 74ED 7B      AERBFN1   ld      a,e          ;DATEITYP = 8 ?
12657 74EE FE 08     A   cp    8
12658 74F0 CA 7064     A   jp    z,ERBFNA    ;JA --> ERROR: BAD FILE NAME
12659 74F3 C9      A   ret
12660          A;
12661 74F4 E5      ABYVCAS   push   hl            ;BYTE VON CAS LESEN
12662 74F5 D5      A   push  de
12663 74F6 C5      A   push  bc
12664 74F7 CD 00E4   A   call  INBYTE     ;--> ROM BIOS
12665 74FA 30 24     A   jr    nc,OUVT02  ;BYTE OK
12666 74FC 18 14     A   jr    INVT01     ;CAS-FEHLER
12667          A;
12668 74FE E5      ABYTCAS   push   hl            ;BYTE AUF CAS SCHREIBEN
12669 74FF D5      A   push  de
12670 7500 C5      A   push  bc
12671 7501 F5      A   push  af
12672 7502 CD 00ED   A   call  OUTBYT     ;--> ROM BIOS
12673 7505 30 18     A   jr    nc,OUVT01  ;BYTE OK
12674 7507 18 09     A   jr    INVT01     ;CAS-FEHLER
```

```
12675      A;
12676 7509 E5      AINVTON      push   hl          ;VORTON ERWARTEN
12677 750A D5      A      push   de
12678 750B C5      A      push   bc
12679 750C F5      A      push   af
12680 750D CD 00E1  A      call  INVT          ;--> ROM BIOS
12681 7510 30 0D      A      jr      nc,OUVTO1      ;VORTON GEKOMMEN
12682 7512 CD 00E7  AINVT01      call  MOFF          ;CAS AUS
12683 7515 C3 75CF  A      jp      ERDEVI          ;--> DEVICE I/O ERROR
12684      A;
12685 7518 E5      AOUVTON      push   hl          ;VORTON AUSGEBEN
12686 7519 D5      A      push   de
12687 751A C5      A      push   bc
12688 751B F5      A      push   af
12689 751C CD 00EA  A      call  OUVTVT          ;--> ROM BIOS
12690 751F F1      AOUVT01      pop    af
12691 7520 C1      AOUVT02      pop    bc
12692 7521 D1      A      pop    de
12693 7522 E1      A      pop    hl
12694 7523 C9      A      ret
12695      A;
12696 7524 AF      APRTRRES      xor    a          ;DRUCKER AUS, BS AUF NEUE ZEILE
12697 7525 32 F2DD  A      ld      (PTORSC),a
12698 7528 3A F2DC  A      ld      a,(LPTPOS)
12699 752B B7      A      or      a
12700 752C C8      A      ret      z
12701 752D 3E 0D      A      ld      a,0DH
12702 752F CD 753C  A      call  BSNWL1
12703 7532 3E 0A      A      ld      a,0AH
12704 7534 CD 753C  A      call  BSNWL1
12705 7537 AF      A      xor    a
12706 7538 32 F2DC  A      ld      (LPTPOS),a
12707 753B C9      A      ret
12708      A;
12709 753C CD FD0F  ABSNWL1      call  ILIST          ;--> ROM BIOS
12710 753F D0      A      ret      nc          ;OK
12711 7540 C3 75CF  A      jp      ERDEVI          ;DIVICE I/O ERROR
12712      A;
12713 7543 3A F527  ALSTRES      ld      a,(CRSSPI)      ;RUECKSETZEN FUER CONOUT
12714 7546 B7      A      or      a
12715 7547 C8      A      ret      z
12716 7548 CD FF00  ALSTRE1      call  XLSTRE
12717 754B 3E 0D      A      ld      a,0DH
12718 754D DF      A      rst    CHARO
12719 754E 3E 0A      A      ld      a,0AH
12720 7550 DF      A      rst    CHARO
12721 7551 CD 014A  ALSTRE2      call  TAFCB          ;TEST AUF AKTUELLEN FCB
12722 7554 28 02      A      jr      z,LSTRE3          ;KEINER
12723 7556 AF      A      xor    a          ;CONOUT AUF FILE
12724 7557 C9      A      ret
12725 7558 3A F2DD  ALSTRE3      ld      a,(PTORSC)      ;CONOUT AUF LST ODER CRT
12726 755B B7      A      or      a
12727 755C 28 05      A      jr      z,LSTRE4          ;BEI CRT
12728 755E AF      A      xor    a
12729 755F 32 F2DC  A      ld      (LPTPOS),a      ;DRUCKERSPALTE = 0
12730 7562 C9      A      ret
12731 7563 32 F527  ALSTRE4      ld      (CRSSPI),a      ;BS-SPALTE = 0
12732 7566 C9      A      ret
```

```
12733      A;
12734 7567 D7      AINKEYD      rst      TCHAR
12735 7568 E5      A      push    hl
12736 7569 CD FD06  A      call    ICONST      ;--> ROM BIOS
12737 756C 28 0C   A      jr      z,AINKEY1  ;KEIN ZEICHEN
12738 756E CD FD09  A      call    ICONIN      ;--> ROM BIOS, ZEICHEN AUS RINGPUFFER HOLEN
12739 7571 F5      A      push    af
12740 7572 CD 6835  A      call    WLAZK      ;ADR ZIELZEICHENKETTE
12741 7575 F1      A      pop     af
12742 7576 5F      A      ld      e,a
12743 7577 CD 6A2E  A      call    CHR1      ;ZEICHEN EINTRAGEN
12744 757A 21 3C41  AINKEY1      ld      hl,LEERZK      ;STANDARD: KEINE TASTE GEDRUECKT -> LEERE ZK
12745 757D 22 F6BE  A      ld      (AC1INT),hl
12746 7580 3E 03   A      ld      a,3
12747 7582 32 F529  A      ld      (TYP),a
12748 7585 E1      A      pop     hl
12749 7586 C9      A      ret
12750      A;
12751 7587 DF      ALSTOUT      rst      CHARO      ;1 ZEICHEN AUF CONOUT
12752 7588 FE 0A   A      cp      0AH
12753 758A C0      A      ret      nz
12754 758B 3E 0D   A      ld      a,0DH      ;FALLS 0AH AUCH 0DH
12755 758D DF      A      rst      CHARO
12756 758E CD 7551  A      call    LSTRE2      ;BEI CRT UND LPT SPALTENZAehler = 0
12757 7591 3E 0A   A      ld      a,0AH      ;0AH REGEN.
12758 7593 C9      A      ret
12759      A;
12760 7594 06 FF   AFCBEBU      ld      b,255      ;EDIBUF aus dma-Bereich FCB fuellen
12761 7596 21 F424  A      ld      hl,EDIBUF
12762 7599 CD 6E79  AFCBEB1      call    ACTZMO      ;ZEICHEN VOM FCB IN A
12763 759C 38 16   A      jr      c,FCBBE4  ;EINTRAGUNG IM DMA-BEREICH ZU ENDE
12764 759E 77      A      ld      (hl),a      ;ZEICHEN EINTRAGEN
12765 759F FE 0D   A      cp      0DH
12766 75A1 28 0B   A      jr      z,FCBBE3  ;UMLADEN ABSCHLIESSEN
12767 75A3 FE 09   A      cp      9
12768 75A5 28 04   A      jr      z,FCBEB2  ;ZEIGER ERHOEHEN, NAECHSTES ZEICHEN
12769 75A7 FE 0A   A      cp      0AH
12770 75A9 28 EE   A      jr      z,FCBEB1  ;NAECHSTES ZEICHEN, 0A UEBERSCHREIBEN
12771 75AB 23      AFCBEB2      inc     hl
12772 75AC 10 EB   A      djnz   FCBEB1      ;NAECHSTE STELLE IM EDIBUF
12773 75AE AF      AFCBEB3      xor     a      ;EDIBUF VOLL
12774 75AF 77      A      ld      (hl),a      ;0 EINTRAGEN
12775 75B0 21 F423  A      ld      hl,EDIBUF-1 ;ZEIGER VOR EDIBUF STELLEN (AUF ':')
12776 75B3 C9      A      ret
12777 75B4 04      AFCBEB4      inc     b      ;TEST, OB ZEICHEN IN EDIBUF
12778 75B5 20 F7   A      jr      nz,FCBBE3  ;JA
12779 75B7 3A F743  AFCBEB5      ld      a,(LMAFL)   ;NEIN
12780 75BA E6 80   A      and    80H
12781 75BC 32 F743  A      ld      (LMAFL),a  ;RES 6...0,(LMAFL)
12782 75BF CD 6F74  A      call    CLOSEB      ;ALLE FILES ZU
12783 75C2 3A F72D  A      ld      a,(AUTSTL)
12784 75C5 A7      A      and    a
12785 75C6 CA 411C  A      jp      z,KOM1      ;KEIN AUTOSTART --> KOMMANDOEbene
12786 75C9 CD 64A6  A      call    NEW2      ;ZEIGER STELLEN
12787 75CC C3 45ED  A      jp      RUNMOD
12788      A;
12789 75CF 1E 13   AERDEVI      ld      e,13H
12790 75D1 C3 4070  A      jp      ERRO      ;--> DEVICE I/O ERROR
```

```
12791      A;
12792 75D4 1E FF      AMOTOR      ld      e,-1
12793 75D6 28 0B      A      jr      z,MOTOR2      ;E=-1 --> MOTOR UMSCHALTEN
12794 75D8 D6 EB      A      sub     0EBH      ;OFFTOK
12795 75DA 5F          A      ld      e,a
12796 75DB 28 05      A      jr      z,MOTOR1      ;E=0 --> MOTOR AUS
12797 75DD CF          A      rst     CPSTX
12798 75DE 95          A      defb    95H      ;ONTOK
12799 75DF 1E 01      A      ld      e,1      ;E=1 --> MOTOR EIN
12800 75E1 3E          A      defb    3EH      ; ld a,0D7H
12801 75E2 D7          AMOTOR1     rst     10H
12802 75E3 7B          AMOTOR2     ld      a,e      ;A: KENNYBYTE MOTOR WAS ?
12803 75E4 C3 00F3     A      jp      MOTST      ;--> ROM BIOS
12804      A;
12805 75E7 CD 51F3     ASOUND      call    BYTAE2
12806 75EA FE 0E      A      cp      0Eh
12807 75EC D2 4740     A      jp      nc,ERFC
12808 75EF F5          A      push   af
12809 75F0 CF          A      rst     CPSTX
12810 75F1 2C          A      defb    ','
12811 75F2 CD 51F3     A      call    BYTAE2
12812 75F5 F1          A      pop     af
12813 75F6 FE 07      A      cp      7
12814 75F8 20 04      A      jr      nz,SOUND1
12815 75FA CB B3      A      res     6,e
12816 75FC CB FB      A      set     7,e
12817 75FE C3 0093     ASOUND1     jp      MUOTAE
12818      A;
12819 7601 06 80      APUT      ld      b,80H      ;WEICHE
12820 7603 11          A      defb    11H      ;LD DE,6
12821 7604 06 00      AGET      ld      b,0
12822 7606 FE C7      A      cp      0C7h      ;SPRITE-token
12823 7608 CA 7A59     A      jp      z,SPRIT5     ;PUT/GET SPRITE
12824 760B 78          A      ld      a,b
12825 760C C3 6E3D     A      jp      GET1
12826      A;
12827 760F ED 5B F267     ALOCATE     ld      de,(CRSZL) ;d:Spalte, e:Zeile
12828 7613 D5          A      push   de
12829 7614 FE 2C      A      cp      ','
12830 7616 28 0B      A      jr      z,LOCAT1     ;KEINE ZEILENANGABE -> ALTE ZEILE
12831 7618 CD 51F3     A      call    BYTAE2     ;ZEILE UEBERNEHMEN IN A
12832 761B 3C          A      inc     a      ;ZEILE = +1
12833 761C D1          A      pop     de
12834 761D 5F          A      ld      e,a
12835 761E D5          A      push   de      ;NEUE, ALTE ZEILE KELLERN
12836 761F 2B          A      dec     hl
12837 7620 D7          A      rst     TCHAR
12838 7621 28 25      A      jr      z,LOCAT4     ;KEINE SPALTE
12839 7623 CF          ALOCAT1     rst     CPSTX
12840 7624 2C          A      defb    ','
12841 7625 FE 2C      A      cp      ','
12842 7627 28 0B      A      jr      z,LOCAT2     ;KEINE SPALTE
12843 7629 CD 51F3     A      call    BYTAE2     ;SPALTE HOLEN
12844 762C 3C          A      inc     a
12845 762D D1          A      pop     de
12846 762E 57          A      ld      d,a
12847 762F D5          A      push   de
12848 7630 2B          A      dec     hl
```



```
12849 7631 D7      A   rst   TCHAR
12850 7632 28 14   A   jr    z,LOCAT4      ;KEIN 3. PARAMETER
12851 7634 CF      ALOCAT2  rst   CPSTX
12852 7635 2C      A   defb  ','
12853 7636 CD 51F3  A   call  BYTAE2      ;3. PARAMETER HOLEN
12854 7639 A7      A   and  a
12855 763A 3E 79   A   ld   a,'y'        ;KLEIN-Y
12856 763C 20 01   A   jr    nz,LOCAT3
12857 763E 3D      A   dec  a            ;KLEIN-X
12858 763F F5      ALOCAT3  push  af            ;3.PAR=0 -> A=78H, SONST A=79H
12859 7640 3E 1B   A   ld   a,1BH
12860 7642 DF      A   rst  CHARO
12861 7643 F1      A   pop  af
12862 7644 DF      A   rst  CHARO
12863 7645 3E 35   A   ld   a,'5'        ;AUSGABE ESC,'Y','5'
12864 7647 DF      A   rst  CHARO      ;ODER   ESC,'X','5'
12865 7648 E3      ALOCAT4  ex    (sp),hl
12866 7649 CD 00C6  A   call  CRSPOS      ;--> ROM BIOS
12867 764C E1      A   pop  hl
12868 764D C9      A   ret
12869
12870 764E E5      ASWSTOP  push  hl            ;STOP
12871 764F 21 FBDB  A   ld   hl,STOPSW
12872 7652 18 24   A   jr    SWSTG1
12873
12874 7654 E5      ASWSPRI  push  hl            ;SPRITE
12875 7655 21 FBDB  A   ld   hl,SPRISW
12876 7658 18 1E   A   jr    SWSTG1
12877
12878 765A CF      ASWINTV  rst   CPSTX      ;INTERVAL
12879 765B 45      A   defb  'E'
12880 765C CF      A   rst  CPSTX
12881 765D 52      A   defb  'R'
12882 765E CF      A   rst  CPSTX
12883 765F FF      A   defb  0FFH      ;FKT-KENNYBYTE
12884 7660 CF      A   rst  CPSTX
12885 7661 94      A   defb  94H       ;VALTOK
12886 7662 E5      A   push hl
12887 7663 21 FBED  A   ld   hl,INTVSW
12888 7666 18 10   A   jr    SWSTG1
12889
12890 7668 3E 04   ASWSTRG  ld    a,4          ;STRIG(N)
12891 766A CD 7C36  A   call  BYTAE2      ;1 BYTE IN E
12892 766D 2B      A   dec  hl
12893 766E D7      A   rst  TCHAR
12894 766F E5      A   push hl
12895 7670 16 00   A   ld   d,0
12896 7672 21 FBDE  A   ld   hl,SRG0SW
12897 7675 19      A   add  hl,de
12898 7676 19      A   add  hl,de
12899 7677 19      A   add  hl,de      ;HL: SWSTRG (NR)
12900 7678 CD 76A7  ASWSTG1  call  ONOFST      ;SCHALTER STELLEN ON, OFF, STOP
12901 767B 18 0E   A   jr    SWKEY1
12902
12903 767D CD 51F3  ASWKEY   call  BYTAE2      ;KEY-NR HOLEN      ;KEY(N)
12904 7680 3D      A   dec  a
12905 7681 FE 0A   A   cp   0AH
12906 7683 D2 4740  A   jp   nc,ERFC    ;KEY-NR ZU GROSS --> FC ERROR
```

```
12907 7686 7E      A   ld   a,(hl)
12908 7687 E5      A   push hl
12909 7688 CD 7691  A   call SWADRR      ;ADR BERECHNEN, SCHALTER STELLEN
12910 768B E1      ASWKEY1 pop   hl      ;FERTIG
12911 768C F1      A   pop   af
12912 768D D7      A   rst   TCHAR
12913 768E C3 45FE  A   jmp   RUNM1      ;--> RUNMOD
12914          A;
12915 7691 16 00  ASWADRR ld    d,0      ;FKT-TASTEN-IR-ANMELDUNG, WENN IR ERLAUBT
12916 7693 21 FAC3 A   ld   hl,FIRERL-1
12917 7696 19      A   add  hl,de      ;E: KEY-NR
12918 7697 E5      A   push hl
12919 7698 21 FBB7  A   ld   hl,KEY1SW-3
12920 769B 19      A   add  hl,de
12921 769C 19      A   add  hl,de
12922 769D 19      A   add  hl,de
12923 769E CD 76A7  A   call ONOFST     ;SCHALTER AUF ON, OFF, STOP SETZEN
12924 76A1 7E      A   ld   a,(hl)
12925 76A2 E6 01  A   and  1
12926 76A4 E1      A   pop   hl
12927 76A5 77      A   ld   (hl),a    ;FKTTASTEN-IR-ERLAUBNIS SETZEN
12928 76A6 C9      A   ret
12929          A;
12930 76A7 FE 95  AONOFST cp    95H      ;ONTOK          SCHALTER SETZEN ENTSPR (HL)
12931 76A9 CA 6524 A   jmp  z,SWTON
12932 76AC FE EB  A   cp   0EBH      ;OFFTOK
12933 76AE CA 6534 A   jmp  z,SWTOFF
12934 76B1 FE 90  A   cp   90H      ;STOPTOK
12935 76B3 CA 653A A   jmp  z,SWTSTP
12936 76B6 C3 4056 A   jmp  ERSN      ;SONST --> SN ERROR
12937          A;
12938 76B9 01 000A AON2 ld   bc,000AH  ;B: 0.STELLE IN TAB  C:10 KEY-TASTEN
12939 76BC FE CC  A   cp   0CCH      ;KEYTOK
12940 76BE C8      A   ret   z
12941 76BF 01 0A01  A   ld   bc,0A01H  ;B: 10.STELLE IN TAB  C: 1 STOP-TASTE
12942 76C2 FE 90  A   cp   90H      ;STOPTOK
12943 76C4 C8      A   ret   z
12944 76C5 04      A   inc  b        ;B: 11.Stelle in Tab  C: 1 SPRITE-IR
12945 76C6 FE C7  A   cp   0C7h     ;SPRITETOK
12946 76C8 C8      A   ret   z
12947 76C9 FE FF  A   cp   0FFH     ;FKT-TOKEN
12948 76CB D8      A   ret   c
12949 76CC E5      A   push hl
12950 76CD D7      A   rst   TCHAR
12951 76CE FE A3  A   cp   0A3H     ;STRIGTOK
12952 76D0 28 07  A   jrc  z,ONSTRI
12953 76D2 FE 85  A   cp   85H     ;INTTOK (INTERVAL ?)
12954 76D4 28 08  A   jrc  z,ONINTV
12955 76D6 E1      AON3 pop   hl
12956 76D7 37      A   scf
12957 76D8 C9      A   ret
12958          A;
12959 76D9 C1      AONSTRI pop  bc      ;ON STRIG
12960 76DA 01 0C05 A   ld   bc,0C05H ;B: 12.STELLE IN TAB  C: 5 STRIG-IR
12961 76DD C9      A   ret
12962          A;
12963 76DE D7      AONINTV rst   TCHAR    ;ON INTERVAL
12964 76DF FE 45  A   cp   'E'
```

```
12965 76E1 20 F3      A    jr      nz,ON3
12966 76E3 C1          A    pop     bc
12967 76E4 D7          A    rst     TCHAR
12968 76E5 CF          A    rst     CPSTX
12969 76E6 52          A    defb   'R'
12970 76E7 CF          A    rst     CPSTX
12971 76E8 FF          A    defb   0FFH      ;FKT-TOKEN
12972 76E9 CF          A    rst     CPSTX
12973 76EA 94          A    defb   94H      ;VALTOK
12974 76EB CF          A    rst     CPSTX
12975 76EC EF          A    defb   0EFH      ;= TOK
12976 76ED CD 5406    A    call   ADRTDE    ;INTPAR IN DE
12977 76F0 7A          A    ld     a,d
12978 76F1 B3          A    or     e
12979 76F2 CA 4740    A    jp     z,ERFC     ;INTERVALL-ZEIT = 0 --> FC ERROR
12980 76F5 EB          A    ex     de,hl
12981 76F6 22 FC0E    A    ld     (VAIVAL),hl
12982 76F9 22 FC10    A    ld     (DAUER),hl
12983 76FC EB          A    ex     de,hl
12984 76FD 01 1101    A    ld     bc,1101H   ;B: 17.STELLE IN TAB  C: 1 INTERVAL-IR
12985 7700 2B          A    dec    hl
12986 7701 C9          A    ret
12987                A;
12988 7702 E5          AONIR2  push   hl           ;ADRESSE FUER ON ... GOSUB EINTRAGEN
12989 7703 47          A    ld     b,a
12990 7704 87          A    add    a,a
12991 7705 80          A    add    a,b
12992 7706 6F          A    ld     l,a
12993 7707 26 00      A    ld     h,0
12994 7709 01 FB BB   A    ld     bc,KEY1AD
12995 770C 09          A    add    hl,bc
12996 770D 73          A    ld     (hl),e
12997 770E 23          A    inc    hl
12998 770F 72          A    ld     (hl),d
12999 7710 E1          A    pop    hl
13000 7711 C9          A    ret
13001                A;
13002 7712 FE 93      AKEY  cp     93H      ;LISTTOK ?           ;KEY
13003 7714 20 42      A    jr     nz,KEY9    ;NEIN
13004 7716 D7          A    rst     TCHAR    ;KEY LIST
13005 7717 E5          A    push   hl
13006 7718 21 F746    A    ld     hl,FKEY1
13007 771B 0E 0A      A    ld     c,0AH
13008 771D 06 10      AKEY1 ld     b,10H
13009 771F 7E          AKEY2 ld     a,(hl)
13010 7720 23          A    inc    hl
13011 7721 CD 00AB    A    call   CHRTST
13012 7724 38 11      A    jr     c,KEY3
13013 7726 05          A    dec    b
13014 7727 28 1B      A    jr     z,KEY6
13015 7729 7E          A    ld     a,(hl)
13016 772A 23          A    inc    hl
13017 772B 5F          A    ld     e,a
13018 772C CD 00AB    A    call   CHRTST
13019 772F 28 06      A    jr     z,KEY3
13020 7731 3E 01      A    ld     a,1
13021 7733 DF          A    rst     CHAR0
13022 7734 7B          A    ld     a,e
```

```
13023 7735 18 0A      A    jr      KEY5
13024 7737 FE 7F      AKEY3 cp    7FH
13025 7739 28 04      A    jr      z,KEY4
13026 773B FE 20      A    cp
13027 773D 30 02      A    jr      nc,KEY5
13028 773F 3E 20      AKEY4 ld    a,' '
13029 7741 DF          AKEY5 rst   CHAR0
13030 7742 10 DB      A    djnz   KEY2
13031 7744 CD 7548    AKEY6 call  LSTRE1
13032 7747 0D          A    dec    c
13033 7748 20 D3      A    jr      nz,KEY1
13034 774A E1          A    pop    hl
13035 774B C9          A    ret
13036
13037 774C CD 0010    AKEY7 call  TCHAR
13038 774F C3 00CF    A    jp     KEYON      ;Fkt-Tasten-Anzeige ein
13039
13040 7752 CD 0010    AKEY8 call  TCHAR
13041 7755 C3 00CC    A    jp     KEYOFF     ;Fkt-Tasten-Anzeige aus
13042
13043 7758 FE 28      AKEY9 cp    '('
13044 775A CA 767D    A    jp     z,SWKEY    ;KEY(N) --> IR-SCHALTER STELLEN
13045 775D FE 95      A    cp     95H        ;ONTOK
13046 775F 28 EB      A    jr      z,KEY7
13047 7761 FE EB      A    cp     0EBH       ;OFFTOK
13048 7763 28 ED      A    jr      z,KEY8
13049 7765 CD 51F3    A    call   BYTAE2     ;KEY N , "... "
13050 7768 3D          A    dec    a
13051 7769 FE 0A      A    cp     0AH
13052 776B D2 4740    A    jp     nc,ERFC    ;KEY-NR > 10 --> FC ERROR
13053 776E EB          A    ex     de,hl
13054 776F 6F          A    ld     l,a
13055 7770 26 00      A    ld     h,0
13056 7772 29          A    add    hl,hl
13057 7773 29          A    add    hl,hl
13058 7774 29          A    add    hl,hl
13059 7775 29          A    add    hl,hl
13060 7776 01 F746    A    ld     bc,FKEY1
13061 7779 09          A    add    hl,bc
13062 777A E5          A    push   hl          ;ADR FKT-TASTEN-PUFFER KELLERN
13063 777B EB          A    ex     de,hl
13064 777C CF          A    rst   CPSTX
13065 777D 2C          A    defb   ','
13066 777E CD 4C57    A    call   SNAL3      ;AUSDRUCK AUSWERTEN ZEICHENKETTE
13067 7781 E5          A    push   hl
13068 7782 CD 69E0    A    call   ZKUP2
13069 7785 46          A    ld     b,(hl)     ;B: LAENGE ZK
13070 7786 23          A    inc    hl
13071 7787 5E          A    ld     e,(hl)
13072 7788 23          A    inc    hl
13073 7789 56          A    ld     d,(hl)     ;DE: ADR ZK
13074 778A E1          A    pop    hl          ;HL: ADR FKT-TASTEN-PUFFER
13075 778B E3          A    ex     (sp),hl
13076 778C 0E 0F      A    ld     c,0FH
13077 778E 78          A    ld     a,b
13078 778F A7          A    and   a
13079 7790 28 0D      A    jr      z,KEY11;LAENGE=0 --> LOESCHEN
13080 7792 1A          AKEY10 ld     a,(de)        ;MAX 15 BYTES UEBERNEHMEN
```

```
13081 7793 A7      A    and    a
13082 7794 CA 4740  A    jp     z,ERFC
13083 7797 77      A    ld     (hl),a
13084 7798 13      A    inc    de
13085 7799 23      A    inc    hl
13086 779A 0D      A    dec    c
13087 779B 28 07    A    jr     z,KEY12      ;UEBERNOMMEN
13088 779D 10 F3    A    djnz  KEY10
13089 779F 70      AKEY11 ld     (hl),b      ;B: 0 --> FKT-TASTEN-PUFFER LOESCHEN
13090 77A0 23      A    inc    hl
13091 77A1 0D      A    dec    c
13092 77A2 20 FB    A    jr     nz,KEY11
13093 77A4 71      AKEY12 ld     (hl),c      ;SCHLUSS-0 EINTRAGEN
13094 77A5 CD 015C  A    call  VFTINI
13095 77A8 CD 00C9  A    call  BKEYAN      ;--> ROM BIOS
13096 77AB E1      A    pop   hl
13097 77AC C9      A    ret
13098
13099 77AD D7      ATIMEF  rst    TCHAR      ;TIME-FUNKTION
13100 77AE E5      A    push  hl
13101 77AF 2A FC0C  A    ld    hl,(VATIME)
13102 77B2 CD 2EB6  A    call  CV4BC0
13103 77B5 E1      A    pop   hl
13104 77B6 C9      A    ret
13105
13106 77B7 D7      ACSRLIN rst    TCHAR      ;CRSLIN
13107 77B8 E5      A    push  hl
13108 77B9 3A F267  A    ld    a,(CRSZL)  ;A: KURSORZEILE
13109 77BC 3D      A    dec    a      ;Int-Wert 8 bit uebergeben
13110 77BD CD 2B1A  A    call  SGN1
13111 77C0 E1      A    pop   hl
13112 77C1 C9      A    ret
13113
13114 77C2 CF      ATIMEF  rst    CPSTX      ;TIME-ANWEISUNG
13115 77C3 EF      A    defb  0EFH      ;= TOK
13116 77C4 CD 5406  A    call  ADRTDE      ;ZEIT UEBERNEHMEN IN DE
13117 77C7 ED 53 FC0C  A    ld    (VATIME),de
13118 77CB C9      A    ret
13119
13120 77CC CD 51F6  ASTICK  call   BYTAE3      ;NR UEBERNEHMEN
;STICK
13121 77CF FE 03    A    cp    3
13122 77D1 30 0A    A    jr    nc,STRIG1  ;>2 --> FC ERROR
13123 77D3 CD 00D5  A    call  GSTRIG      ;--> ROM BIOS
13124 77D6 18 1A    A    jr    PDL1
13125
13126 77D8 CD 51F6  ASTRIG  call   BYTAE3      ;NR UEBERNEHMEN
;STRIG
13127 77DB FE 05    A    cp    5
13128 77DD D2 4740  ASTRIG1 jp    nc,ERFC      ;>4 --> FC ERROR
13129 77E0 CD 00D8  A    call  GSTICK      ;--> ROM BIOS
13130 77E3 C3 2B1A  ASTRIG2 jp    SGN1      ;A=0 oder A=FF entspr. Vorzeichen
13131
13132 77E6 CD 51F6  APDL  call  BYTAE3      ;NR UEBERNEHMEN      ;PDL
13133 77E9 3D      A    dec    a
13134 77EA FE 0C    A    cp    0CH
13135 77EC 30 EF    A    jr    nc,STRIG1  ;>12 --> FC ERROR
13136 77EE 3C      A    inc    a
13137 77EF CD 00DE  A    call  GPDL      ;--> ROM BIOS
13138 77F2 C3 4FA9  APDL1 jp    POS1      ;WERT UEBERGEHEN
```

```
13139          A;
13140 77F5 CD 51F6 APAD call BYTAE3          ;NR UEBERNEHMEN          ;PAD
13141 77F8 FE 08  A   cp      8
13142 77FA 30 E1  A   jr      nc,STRIG1          ;>7 --> FC ERROR
13143 77FC F5     A   push   af
13144 77FD CD 00DB A   call   GPAD          ;--> ROM BIOS  Ruf-Nr in A
13145 7800 47     A   ld      b,a
13146 7801 F1     A   pop    af
13147 7802 E6 03  A   and    3          ;A: Betriebsart
13148 7804 3D     A   dec    a          ;FF 0 1 2
13149 7805 FE 02  A   cp      2
13150 7807 78     A   ld      a,b
13151 7808 38 E8  A   jr      c,PDL1          ;WERT UEBERGEHEN
13152 780A 18 D7  A   jr      STRIG2          ;DTO. 8 BIT
13153          A;
13154 780C CD FF87 ACOLOR call   XCOLOR
13155 780F 01 4740 A   ld      bc,ERFC          ;Error-Adr kellern
13156 7812 C5     A   push   bc
13157 7813 CD 016B A   call   TGRASC          ;Grafik/Text ?
13158 7816 30 67  A   jr      nc,COLG          ;Grafik
13159 7818 3A F291 ACOLT5  ld      a,(ACTCOL)          ;Text, ACTCOL als Standard
13160 781B 47     A   ld      b,a
13161 781C E6 1F  A   and    1fh          ;INK
13162 781E 32 F288 A   ld      (INK),a
13163 7821 78     A   ld      a,b
13164 7822 E6 E0  A   and    0e0h          ;PAPER
13165 7824 32 F289 A   ld      (PAPER),a
13166 7827 7E     A   ld      a,(hl)          ;INK vorhanden?
13167 7828 FE 2C  A   cp      ','
13168 782A 28 18  A   jr      z,COLT1          ;nein
13169 782C CD 51F3 A   call   BYTAE2          ;ja
13170 782F 3A F273 A   ld      a,(SCRNRA)
13171 7832 FE 05  A   cp      5          ;screen 5 ?
13172 7834 3E 1F  A   ld      a,31          ;fuer Text
13173 7836 20 02  A   jr      nz,COLT6
13174 7838 3E 0F  A   ld      a,15          ;fuer screen5
13175 783A BB     ACOLT6  cp      e          ;zulaessig ?
13176 783B D8     A   ret    c          ;nein
13177 783C 7B     A   ld      a,e
13178 783D 32 F288 A   ld      (INK),a
13179 7840 2B     A   dec    hl
13180 7841 D7     A   rst    TCHAR
13181 7842 28 29  A   jr      z,COLT3          ;Anweisungsende
13182 7844 CF     ACOLT1  rst    CPSTX
13183 7845 2C     A   defb   ','
13184 7846 FE 2C  A   cp      ','          ;PAPER vorhanden ?
13185 7848 28 18  A   jr      z,COLT4          ;nein
13186 784A CD 51F3 A   call   BYTAE2          ;ja
13187 784D 3A F273 A   ld      a,(SCRNRA)
13188 7850 FE 05  A   cp      5
13189 7852 3E 07  A   ld      a,7
13190 7854 20 02  A   jr      nz,COLT7
13191 7856 3E 0F  A   ld      a,15
13192 7858 BB     ACOLT7  cp      e
13193 7859 D8     A   ret    c          ;unzulaessig
13194 785A 7B     A   ld      a,e
13195 785B 32 F289 A   ld      (PAPER),a          ;PAPER
13196 785E 2B     A   dec    hl
```

```
13197 785F D7      A   rst   TCHAR
13198 7860 28 0B   A   jr    z,COLT3      ;Anweisungsende
13199 7862 CF      ACOLT4  rst    CPSTX
13200 7863 2C      A   defb  ','
13201 7864 CD 51F3 A   call  BYTAE2      ;BORDER uebernehmen
13202 7867 FE 10   A   cp    16
13203 7869 D0      A   ret   nc          ;unzulaessig
13204 786A CD 0165 A   call  SETBOR      ;BORDER setzen
13205 786D 3A F288 ACOLT3  ld     a,(INK)
13206 7870 47      A   ld    b,a
13207 7871 3A F289 A   ld    a,(PAPER)   ; | Paper |Bl| H| Ink |
13208 7874 07      A   rlca
13209 7875 07      A   rlca
13210 7876 07      A   rlca
13211 7877 07      A   rlca
13212 7878 07      A   rlca
13213 7879 B0      A   or    b          ; | 4| 2| 1|16| 8| 4| 2| 1|
13214 787A 32 F291 A   ld    (ACTCOL),a ; | R| G| B|Bl| H| R| G| B|
13215 787D 18 36   A   jr    COLE
13216 787F FE 05   ACOLG  cp    5
13217 7881 28 95   A   jr    z,COLT5
13218 7883 7E      A   ld    a,(hl)     ;PAPER vorhanden ?
13219 7884 FE 2C   A   cp    ','
13220 7886 28 0D   A   jr    z,COLG1    ;nein
13221 7888 CD 51F3 A   call  BYTAE2      ;ja
13222 788B FE 10   A   cp    16
13223 788D D0      A   ret   nc          ;unzulaessig
13224 788E CD 0171 A   call  SETPAP      ;PAPER fuer Grafik
13225 7891 2B      A   dec   hl
13226 7892 D7      A   rst   TCHAR
13227 7893 28 20   A   jr    z,COLE     ;Anweisungsende
13228 7895 CF      ACOLG1  rst    CPSTX
13229 7896 2C      A   defb  ','
13230 7897 FE 2C   A   cp    ','
13231 7899 28 0F   A   jr    z,COLG2    ;nein
13232 789B CD 51F3 A   call  BYTAE2      ;ja
13233 789E FE 08   A   cp    8
13234 78A0 D0      A   ret   nc          ;unzulaessig
13235 78A1 E6 01   A   and  1
13236 78A3 CD 016E A   call  SETPAL      ;PALETTE fuer Grafik
13237 78A6 2B      A   dec   hl
13238 78A7 D7      A   rst   TCHAR
13239 78A8 28 0B   A   jr    z,COLE     ;Anweisungsende
13240 78AA CF      ACOLG2  rst    CPSTX
13241 78AB 2C      A   defb  ','
13242 78AC CD 51F3 A   call  BYTAE2      ;BORDER uebernehmen
13243 78AF FE 10   A   cp    16
13244 78B1 D0      A   ret   nc          ;unzulaessig
13245 78B2 CD 0165 A   call  SETBOR      ;BORDER
13246 78B5 C1      ACOLE  pop   bc
13247 78B6 C9      A   ret
13248
13249 78B7 CD FF5F ASCREEN call  XSCREEN
13250 78BA ED 4B F272 A   ld    bc,(PAGEAK) ;SCREEN
13251 78BE 50      A   ld    d,b
13252 78BF 59      A   ld    e,c          ;DE=BC
13253 78C0 FE 2C   A   cp    ','
13254 78C2 28 09   A   jr    z,SCREEN1  ;screen aktiv fehlt
```

```
13255 78C4 CD 7940 A call SCREUP
13256 78C7 47 A ld b,a
13257 78C8 57 A ld d,a
13258 78C9 2B A dec hl
13259 78CA D7 A rst TCHAR
13260 78CB 28 27 A jr z,SCREN4
13261 78CD CF ASCREN1 rst CPSTX
13262 78CE 2C A defb ','
13263 78CF FE 2C A cp ','
13264 78D1 28 09 A jr z,SCREN2 ;page aktiv fehlt
13265 78D3 CD 7940 A call SCREUP
13266 78D6 4F A ld c,a
13267 78D7 5F A ld e,a
13268 78D8 2B A dec hl
13269 78D9 D7 A rst TCHAR
13270 78DA 28 18 A jr z,SCREN4
13271 78DC CF ASCREN2 rst CPSTX
13272 78DD 2C A defb ','
13273 78DE FE 2C A cp ','
13274 78E0 28 08 A jr z,SCREN3 ;screen vis fehlt
13275 78E2 CD 7940 A call SCREUP
13276 78E5 57 A ld d,a
13277 78E6 2B A dec hl
13278 78E7 D7 A rst TCHAR
13279 78E8 28 0A A jr z,SCREN4
13280 78EA CF ASCREN3 rst CPSTX
13281 78EB 2C A defb ','
13282 78EC FE 2C A cp ','
13283 78EE 28 04 A jr z,SCREN4 ;page vis fehlt
13284 78F0 CD 7940 A call SCREUP
13285 78F3 5F A ld e,a
13286 78F4 E5 ASCREN4 push hl
13287 78F5 C5 A push bc
13288 78F6 78 A ld a,b ;A akt. SCRNR.
13289 78F7 CD 7948 A call SCRVER ;A max. Seiten-Nr.
13290 78FA B9 A cp c ;C akt. Seiten-Nr.
13291 78FB DA 4740 ASCREN5 jp c,ERFC
13292 78FE 7A A ld a,d ;A vis. SCRNR.
13293 78FF CD 7948 A call SCRVER ;A max. Seiten-Nr.
13294 7902 BB A cp e ;E vis. Seiten-Nr.
13295 7903 38 F6 A jr c,SCREN5
13296 7905 C1 A pop bc
13297 7906 CD 005F A call SELSCR
13298 7909 E1 A pop hl
13299 790A 2B A dec hl
13300 790B D7 A rst TCHAR
13301 790C C8 A ret z ;Anweisungsende
13302 790D CF A rst CPSTX
13303 790E 2C A defb ','
13304 790F FE 2C A cp ','
13305 7911 28 09 A jr z,SCREN7 ;Klickpar. fehlt
13306 7913 CD 51F3 A call BYTAE2
13307 7916 32 F284 A ld (KCLKSW),a
13308 7919 2B A dec hl
13309 791A D7 A rst TCHAR
13310 791B C8 A ret z ;Anweisungsende
13311 791C CF ASCREN7 rst CPSTX
13312 791D 2C A defb ','
```



```
13313 791E FE 2C      A   cp      ','
13314 7920 28 06      A   jr      z,SCREN6      ;Kassettenpar. fehlt
13315 7922 CD 71DE    A   call    CSAVE5
13316 7925 2B        A   dec     hl
13317 7926 D7        A   rst     TCHAR
13318 7927 C8        A   ret     z              ;Anweisungsende
13319 7928 CF        ASCREN6   rst     CPSTX
13320 7929 2C        A   defb   ','
13321 792A FE 2C      A   cp      ','
13322 792C 28 09      A   jr      z,SCREN8
13323 792E CD 51F3    A   call    BYTAE2      ;Drucker
13324 7931 32 F2DE    A   ld     (DRUTYP),a    ;7.
13325 7934 2B        A   dec     hl
13326 7935 D7        A   rst     TCHAR
13327 7936 C8        A   ret     z
13328 7937 CF        ASCREN8   rst     CPSTX
13329 7938 2C        A   defb   ','
13330 7939 CD 51F3    A   call    BYTAE2
13331 793C 32 F2AF    A   ld     (V24FO),a    ;8.
13332 793F C9        A   ret
13333                A;
13334 7940 C5        ASCREUP   push    bc
13335 7941 D5        A   push   de
13336 7942 CD 51F3    A   call    BYTAE2      ;Bytepar. in A
13337 7945 D1        A   pop    de
13338 7946 C1        A   pop    bc
13339 7947 C9        A   ret
13340                A;
13341 7948 21 795C    ASCRVER   ld     hl,PAGTAB
13342 794B FE 0A      A   cp     10
13343 794D D2 4740    A   jp     nc,ERFC
13344 7950 C5        A   push   bc
13345 7951 06 00      A   ld     b,0
13346 7953 4F        A   ld     c,a
13347 7954 09        A   add    hl,bc
13348 7955 7E        A   ld     a,(hl)
13349 7956 B7        A   or     a
13350 7957 FA 4740    ASCRVE2   jp     m,ERFC      ;bei FF -> falsche SCRNR
13351 795A C1        A   pop    bc
13352 795B C9        A   ret
13353 795C 0F        APAGTAB   defb   15          ;A - max.Seitenzahl
13354 795D 07        A   defb   7          ;Screen 0 - 16 Seiten (0...15)
13355 795E 05        A   defb   5          ; 1 - 8
13356 795F 02        A   defb   2          ; 2 - 6
13357 7960 FF        A   defb  0FFh       ; 3 - 3
13358 7961 02        A   defb   2          ; 5 - 3
13359 7962 FF        A   defb  0FFh
13360 7963 FF        A   defb  0FFh
13361 7964 0F        A   defb  15         ; 8 - 16
13362 7965 07        A   defb   7         ; 9 - 8
13363                A;
13364 7966 3E FF      ACHRAN   ld     a,0FFh
13365 7968 CD 7C36    A   call    BYTAE2      ;Parameter n in E
13366 796B D5        A   push   de          ;Parameter n retten
13367 796C CD 4C52    A   call    SNAL1      ;Ausdruckauswertg. ab =
13368 796F E3        A   ex     (sp),hl
13369 7970 E5        A   push   hl
13370 7971 CD 69E0    A   call    ZKUP2      ;Typauswertg.,HL:lae,adr
```

```
13371 7974 7E      A   ld   a,(hl)
13372 7975 FE 08    A   cp   8
13373 7977 C2 4740   A   jp   nz,ERFC      ;Param. <> 8
13374 797A 23      A   inc  hl
13375 797B 5E      A   ld   e,(hl)
13376 797C 23      A   inc  hl
13377 797D 56      A   ld   d,(hl)      ;Adr. ZK in DE
13378 797E EB      A   ex   de,hl
13379 797F E5      A   push hl          ;Anf.adr. ZK
13380 7980 1E 08    A   ld   e,8         ;Bytezaehler
13381 7982 4E      ACHRAN1 ld   c,(hl)
13382 7983 06 08    A   ld   b,8         ;Bitzaehler
13383 7985 CB 21    ACHRAN2 sla   c
13384 7987 1F      A   rra          ;Byte drehen
13385 7988 10 FB    A   djnz CHRAN2
13386 798A 77      A   ld   (hl),a
13387 798B 23      A   inc  hl
13388 798C 1D      A   dec  e
13389 798D 20 F3    A   jr   nz,CHRAN1
13390 798F E1      A   pop  hl          ;Anf.adr. ZK RAM
13391 7990 C1      A   pop  bc          ;Param. in C
13392 7991 CD 0177 A   call WRZEMU
13393 7994 E1      A   pop  hl          ;Zeiger in Quellzeile
13394 7995 C9      A   ret
13395      A;
13396 7996 FE 24    ASPRITE cp   '$'          ;SPRITE$(n)=zeichenkette
13397 7998 C2 7654   A   jp   nz,SWSPRI  ;-> ON/OFF/STOP
13398 799B 3A F273 A   ld   a,(SCRNRA) ;screen 5 ?
13399 799E FE 05    A   cp   5
13400 79A0 C2 4740   A   jp   nz,ERFC
13401 79A3 D7      A   rst  TCHAR
13402 79A4 3E 07    A   ld   a,7
13403 79A6 CD 7C36 A   call BYTAET      ;(n)
13404 79A9 E5      A   push hl          ;(Zeiger)
13405 79AA F5      A   push af          ;n
13406 79AB 2A FBB8 A   ld   hl,(SYSANF) ;Anfang Systembereich
13407 79AE 11 FB94 A   ld   de,0FB94h   ;-Laenge Sprite-Bereich
13408 79B1 19      A   add  hl,de
13409 79B2 E5      A   push hl          ;Anfang Sprite-Bereich
13410 79B3 ED 5B FBB4 A   ld   de,(EOFRAM) ;Ende BASIC-Bereich
13411 79B7 F5      A   push af
13412 79B8 E7      A   rst  CPREG
13413 79B9 DA 6481 A   jp   c,MOERR0    ;Sprite-Bereich nicht frei
13414 79BC 21 FFC3 A   ld   hl,SPRT0+48 ;Anfang Sprite-Adressen
13415 79BF F1      A   pop  af
13416 79C0 3C      A   inc  a
13417 79C1 3D      ASPRIT1 dec  a
13418 79C2 28 04    A   jr   z,SPRIT0
13419 79C4 23      A   inc  hl
13420 79C5 23      A   inc  hl
13421 79C6 18 F9    A   jr   SPRIT1
13422 79C8 D1      ASPRIT0 pop  de          ;hl: Adr. Sprite-Adr.
13423 79C9 EB      A   ex   de,hl      ;de: Adr.Sprite-Adr., hl: Anf.Sprites
13424 79CA F1      A   pop  af          ;Sprite-Nr.
13425 79CB 01 0090 A   ld   bc,144      ;Sprite-Laenge
13426 79CE 3C      A   inc  a
13427 79CF 3D      ASPRIT2 dec  a
13428 79D0 28 03    A   jr   z,SPRIT6
```

```
13429 79D2 09      A   add    hl,bc
13430 79D3 18 FA    A   jr     SPRIT2      ;Sprite-Adr. in hl
13431 79D5 EB      ASPRIT6 ex     de,hl
13432 79D6 73      A   ld     (hl),e      ;eintragen in Tabelle
13433 79D7 23      A   inc    hl
13434 79D8 72      A   ld     (hl),d
13435 79D9 EB      A   ex     de,hl
13436 79DA 11 0030    A   ld     de,48      ;Sprites eintragen
13437 79DD 19      A   add    hl,de
13438 79DE E5      A   push   hl
13439 79DF 11 0015    A   ld     de,21
13440 79E2 19      A   add    hl,de
13441 79E3 E5      A   push   hl      ;Sprite-Puffer
13442 79E4 DD E1    A   pop    ix
13443 79E6 E1      A   pop    hl      ;Zeiger
13444 79E7 E3      A   ex     (sp),hl
13445 79E8 CD 4C52  A   call   SNAL1      ;=ausdruck
13446 79EB E5      A   push   hl      ;(Adr S),(Zeiger)
13447 79EC CD 69E0  A   call   ZKUP2      ;Test Zeichenkette
13448 79EF 7E      A   ld     a,(hl)
13449 79F0 23      A   inc    hl
13450 79F1 5E      A   ld     e,(hl)
13451 79F2 23      A   inc    hl
13452 79F3 66      A   ld     h,(hl)
13453 79F4 6B      A   ld     l,e      ;hl-Adr zk
13454 79F5 A7      A   and    a
13455 79F6 28 5F    A   jr     z,SPRIT3   ;fertig
13456 79F8 FE 09    A   cp     9
13457 79FA 38 02    A   jr     c,SPRIT4   ;max 8 bytes
13458 79FC 3E 08    A   ld     a,8
13459 79FE 47      ASPRIT4 ld     b,a      ;Sprite-Muster entsprechend
13460 79FF 7E      ASPRITG ld     a,(hl)   ;der 4 Lagen eintragen
13461 7A00 0E 00    A   ld     c,0
13462 7A02 DD 71 02  A   ld     (ix+2),c
13463 7A05 0F      A   rrca
13464 7A06 CB 11    A   rl     c
13465 7A08 DD 71 1A  A   ld     (ix+26),c
13466 7A0B 0F      A   rrca
13467 7A0C CB 11    A   rl     c
13468 7A0E DD 71 32  A   ld     (ix+50),c
13469 7A11 0F      A   rrca
13470 7A12 CB 11    A   rl     c
13471 7A14 DD 71 4A  A   ld     (ix+74),c
13472 7A17 0F      A   rrca
13473 7A18 CB 11    A   rl     c
13474 7A1A DD 71 01  A   ld     (ix+1),c
13475 7A1D 0F      A   rrca
13476 7A1E CB 11    A   rl     c
13477 7A20 DD 71 19  A   ld     (ix+25),c
13478 7A23 0F      A   rrca
13479 7A24 CB 11    A   rl     c
13480 7A26 DD 71 31  A   ld     (ix+49),c
13481 7A29 0F      A   rrca
13482 7A2A CB 11    A   rl     c
13483 7A2C DD 71 49  A   ld     (ix+73),c
13484 7A2F 0F      A   rrca
13485 7A30 CB 11    A   rl     c
13486 7A32 DD 71 00  A   ld     (ix),c
```

```
13487 7A35 CB 21 A sla c
13488 7A37 DD 71 18 A ld (ix+24),c
13489 7A3A CB 21 A sla c
13490 7A3C DD 71 30 A ld (ix+48),c
13491 7A3F CB 21 A sla c
13492 7A41 DD 71 48 A ld (ix+72),c
13493 7A44 23 A inc hl
13494 7A45 DD 2B A dec ix
13495 7A47 DD 2B A dec ix
13496 7A49 DD 2B A dec ix
13497 7A4B 10 B2 A djnz SPRITG
13498 7A4D E1 A pop hl
13499 7A4E E3 A ex (sp),hl
13500 7A4F 06 60 A ld b,96
13501 7A51 7E ASPRITF ld a,(hl)
13502 7A52 ED 6F A rld
13503 7A54 23 A inc hl
13504 7A55 10 FA A djnz SPRITF
13505 7A57 E1 ASPRIT3 pop hl ;Zeiger
13506 7A58 C9 A ret ;fertig
13507 A;
13508 7A59 05 ASPRIT5 dec b ;PUT/GET SPRITE (x,y),f,n
13509 7A5A FA 4056 A jp m,ERSN ;GET --> Fehler
13510 7A5D 3A F273 A ld a,(SCRNRA) ;Test screen 5
13511 7A60 FE 05 A cp 5
13512 7A62 C2 4740 A jp nz,ERFC ;nein
13513 7A65 D7 A rst TCHAR
13514 7A66 CD 5662 A call XYUEB1 ;Koordinaten <STEP>(x,y)
13515 7A69 C5 A push bc ;x
13516 7A6A D5 A push de ;y
13517 7A6B CD 57DA A call INKUEB
13518 7A6E CF A rst CPSTX
13519 7A6F 2C A defb ','
13520 7A70 CD 51F3 A call BYTAE2 ;Sprite-Nr
13521 7A73 FE 08 A cp 8
13522 7A75 D2 4740 A jp nc,ERFC
13523 7A78 D1 A pop de ;y
13524 7A79 C1 A pop bc ;x
13525 7A7A E5 A push hl ;Zeiger
13526 7A7B CD 017A A call PUTSPR ;PUT
13527 7A7E DA 4740 A jp c,ERFC
13528 7A81 E1 A pop hl ;Zeiger
13529 7A82 C9 A ret
13530 A;
13531 7A83 CD FF8C AWINDOW call XWINDO
13532 7A86 F5 A push af
13533 7A87 CD 016B A call TGRASC
13534 7A8A 30 66 A jr nc,WINDG
13535 7A8C F1 A pop af ;WINDOW fuer Text
13536 7A8D 20 10 A jr nz,WIND0 ;Parameter vorhanden
13537 7A8F E5 A push hl ;keine Parameter
13538 7A90 21 1901 A ld hl,1901h ;Z2/Z1 = 25/1
13539 7A93 3A F285 A ld a,(FKTANZ) ;0 oder -1
13540 7A96 84 A add a,h
13541 7A97 67 A ld h,a
13542 7A98 CD 7C0E A call WINDUP
13543 7A9B 57 A ld d,a
13544 7A9C 5D A ld e,l
```

```
13545 7A9D 18 33      A    jr      WIND1          ;Standardwerte eingestellt
13546 7A9F CD 51F3    AWIND0  call    BYTAE2        ;Parameter vorhanden
13547 7AA2 3C          A    inc     a
13548 7AA3 4F          A    ld     c,a          ;Zeile1
13549 7AA4 CF          A    rst    CPSTX
13550 7AA5 2C          A    defb   ','
13551 7AA6 C5          A    push   bc
13552 7AA7 CD 51F3    A    call   BYTAE2        ;Zeile2
13553 7AAA 3C          A    inc     a
13554 7AAB FE 1A      A    cp     26
13555 7AAD 30 40      A    jr     nc,WERFC      ;Zeile2 > max
13556 7AAF C1          A    pop    bc
13557 7AB0 47          A    ld     b,a
13558 7AB1 B9          A    cp     c
13559 7AB2 38 3B      A    jr     c,WERFC      ;Zeile1 > Zeile2
13560 7AB4 C5          A    push   bc
13561 7AB5 CF          A    rst    CPSTX
13562 7AB6 2C          A    defb   ','
13563 7AB7 CD 51F3    A    call   BYTAE2        ;Spalte1
13564 7ABA 3C          A    inc     a
13565 7ABB 4F          A    ld     c,a
13566 7ABC CF          A    rst    CPSTX
13567 7ABD 2C          A    defb   ','
13568 7ABE C5          A    push   bc
13569 7ABF CD 51F3    A    call   BYTAE2        ;Spalte2
13570 7AC2 1C          A    inc     e
13571 7AC3 CD 7C0E    A    call   WINDUP
13572 7AC6 BB          A    cp     e
13573 7AC7 38 26      A    jr     c,WERFC      ;Spalte2 > max
13574 7AC9 E3          A    ex     (sp),hl
13575 7ACA 63          A    ld     h,e
13576 7ACB 7C          A    ld     a,h
13577 7ACC BD          A    cp     l
13578 7ACD 38 20      A    jr     c,WERFC      ;Spalte1 > Spalte2
13579 7ACF EB          A    ex     de,hl        ;de: S1/S2
13580 7AD0 E1          A    pop    hl
13581 7AD1 E3          A    ex     (sp),hl      ;hl: Z1/Z2
13582 7AD2 ED 53 F263  AWIND1  ld     (SPFIRS),de      ;d: SPLAST, e: SPFIRS
13583 7AD6 22 F265    A    ld     (ZLFIRS),hl   ;h: ZLLAST, l: ZLFIRS
13584 7AD9 7A          A    ld     a,d           ;SPLAST
13585 7ADA 93          A    sub    e           ;SPFIRS
13586 7ADB 3C          A    inc     a           ;Zeilenlaenge
13587 7ADC 57          A    ld     d,a
13588 7ADD D6 0E      AWIND2  sub    14
13589 7ADF 30 FC      A    jr     nc,WIND2
13590 7AE1 C6 1C      A    add    a,28         ;Rest
13591 7AE3 ED 44      A    neg
13592 7AE5 82          A    add    a,d         ;+Zeilenlaenge
13593 7AE6 83          A    add    a,e         ;+SPFIRS
13594 7AE7 32 F269    A    ld     (LSTTAB),a   ;letzte zul Tab-position fuer PRINT
13595 7AEA 3E 0B      A    ld     a,0Bh        ;HOME
13596 7AEC DF          A    rst    CHARO
13597 7AED E1          A    pop    hl          ;Zeiger reg.
13598 7AEE C9          A    ret
13599 7AEF C3 4740    AWERFC  jp     ERFC
13600 7AF2 F1          AWINDG  pop    af
13601 7AF3 20 2E      A    jr     nz,WINDG0    ;Parameter vorhanden
13602 7AF5 E5          AWINDIN push   hl              ;Zeiger rett
```

```
13603 7AF6 21 2993 A ld hl,K0 ;nicht vorhanden
13604 7AF9 E5 A push hl ;Standards einstellen
13605 7AFA 11 FC42 A ld de,X0
13606 7AFD CD 28D3 A call IHLIDE ;X0=0
13607 7B00 E1 A pop hl
13608 7B01 11 FC4A A ld de,Y0
13609 7B04 CD 28D3 A call IHLIDE ;Y0=0
13610 7B07 21 299B A ld hl,K1
13611 7B0A E5 A push hl
13612 7B0B 11 FC52 A ld de,SCALEX
13613 7B0E CD 28D3 A call IHLIDE ;SCALEX=1
13614 7B11 E1 A pop hl
13615 7B12 11 FC5A A ld de,SCALEY
13616 7B15 CD 28D3 A call IHLIDE ;SCALEY=1
13617 7B18 21 0000 AWINDGE ld hl,0
13618 7B1B 22 FC2D A ld (XALT),hl
13619 7B1E 22 FC2F A ld (YALT),hl
13620 7B21 E1 A pop hl ;Zeiger reg
13621 7B22 C9 A ret
13622 7B23 FE 95 AWINDG0 cp 95h ;ONTOK ?
13623 7B25 20 0B A jr nz,WINDG3 ;nein
13624 7B27 AF A xor a ;ja
13625 7B28 32 FC41 A ld (WINFLG),a ;mit Skalierung,
13626 7B2B 3E C9 A ld a,0C9h ;ohne Verzerrung
13627 7B2D 32 FF05 A ld (XLING),a
13628 7B30 18 16 A jr WINDG6 ;patch loeschen
13629 7B32 FE EB AWINDG3 cp 0EBh ;OFFTOK ?
13630 7B34 20 19 A jr nz,WINDG4 ;nein
13631 7B36 3E FF A ld a,0FFh ;ja
13632 7B38 3A FC41 A ld a,(WINFLG) ;ohne Skalierung,
13633 7B3B E5 A push hl ;mit Verzerrung
13634 7B3C 21 7B4A A ld hl,WINDG5
13635 7B3F 11 FF05 A ld de,XLING
13636 7B42 01 0005 A ld bc,5
13637 7B45 ED B0 A ldir ;patch setzen
13638 7B47 E1 A pop hl
13639 7B48 D7 AWINDG6 rst TCHAR
13640 7B49 C9 A ret
13641 7B4A E3 AWINDG5 ex (sp),hl
13642 7B4B E1 A pop hl
13643 7B4C C3 5983 A jp YLINGE
13644 A;
13645 7B4F CF AWINDG4 rst CPSTX ;Parameter uebernehmen
13646 7B50 28 A defb '('
13647 7B51 CD 5644 A call KOUEB ;X0
13648 7B54 E5 A push hl
13649 7B55 21 FC42 A ld hl,X0
13650 7B58 CD 28E7 A call AC1IHL
13651 7B5B E1 A pop hl
13652 7B5C CF A rst CPSTX
13653 7B5D 2C A defb ','
13654 7B5E CD 5644 A call KOUEB ;Y0
13655 7B61 E5 A push hl
13656 7B62 21 FC4A A ld hl,Y0
13657 7B65 CD 28E7 A call AC1IHL
13658 7B68 E1 A pop hl
13659 7B69 CF A rst CPSTX
13660 7B6A 29 A defb ')'
```

```
13661 7B6B CF      A   rst   CPSTX
13662 7B6C F2      A   defb  0F2h      ;MINUS-token
13663 7B6D FE DC   A   cp    0DCh      ;STEP-token
13664 7B6F F5      A   push  af        ;merken
13665 7B70 CC 464F A   call  z,TCHAR0  ;ja -> naechstes Zeichen
13666 7B73 CF      A   rst   CPSTX
13667 7B74 28      A   defb  '('
13668 7B75 CD 5644 A   call  KOOUEB
13669 7B78 E5      A   push  hl
13670 7B79 21 F682 A   ld    hl,HSWAP
13671 7B7C CD 28E7 A   call  AC1IHL    ;X1
13672 7B7F E1      A   pop   hl
13673 7B80 CF      A   rst   CPSTX
13674 7B81 2C      A   defb  ','
13675 7B82 CD 5644 A   call  KOOUEB    ;Y1
13676 7B85 CF      A   rst   CPSTX
13677 7B86 29      A   defb  ')'
13678 7B87 F1      A   pop   af        ;STEP ?
13679 7B88 E5      A   push  hl        ;Zeiger rett
13680 7B89 20 28   A   jr    nz,WINDG1 ;nein
13681 7B8B 21 FC4A A   ld    hl,Y0     ;ja -> 'rechts oben' bestimmen
13682 7B8E CD 28AC A   call  ADD8HL
13683 7B91 21 F682 A   ld    hl,HSWAP
13684 7B94 E5      A   push  hl
13685 7B95 CD 28D0 A   call  IHLAC2
13686 7B98 E1      A   pop   hl
13687 7B99 CD 28E7 A   call  AC1IHL    ;HSWAP=Y1'
13688 7B9C CD 28D9 A   call  AC2AC1
13689 7B9F 21 FC42 A   ld    hl,X0
13690 7BA2 CD 28AC A   call  ADD8HL
13691 7BA5 21 F682 A   ld    hl,HSWAP
13692 7BA8 E5      A   push  hl
13693 7BA9 CD 28D0 A   call  IHLAC2    ;AC2=Y1'
13694 7BAC E1      A   pop   hl
13695 7BAD CD 28E7 A   call  AC1IHL    ;HSWAP=X1'
13696 7BB0 CD 28D9 A   call  AC2AC1    ;AC1=Y1'
13697 7BB3 21 FC4A AWINDG1 ld    hl,Y0
13698 7BB6 CD 28B2 A   call  SUB8HL    ;AC1=Y1'-Y0
13699 7BB9 CD 28CD A   call  AC1AC2
13700 7BBC 21 7C06 A   ld    hl,K200
13701 7BBF CD 28DC A   call  IHLAC1    ;Pixel/Zeile
13702 7BC2 CD 251F A   call  DIV8
13703 7BC5 21 FC5A A   ld    hl,SCALEY
13704 7BC8 CD 28E7 A   call  AC1IHL    ;SCALEY
13705 7BCB 21 F682 A   ld    hl,HSWAP
13706 7BCE CD 28DC A   call  IHLAC1    ;X1'
13707 7BD1 21 FC42 A   ld    hl,X0
13708 7BD4 CD 28B2 A   call  SUB8HL    ;AC1=X1'-X0
13709 7BD7 CD 28CD A   call  AC1AC2
13710 7BDA 21 7BF6 A   ld    hl,K640
13711 7BDD 3A F273 A   ld    a,(SCRNRA)
13712 7BE0 FE 03   A   cp    3
13713 7BE2 28 03   A   jr    z,WINDG2
13714 7BE4 21 7BFE A   ld    hl,K320
13715 7BE7 CD 28DC AWINDG2 call  IHLAC1    ;Pixel/Zeile
13716 7BEA CD 251F A   call  DIV8
13717 7BED 21 FC52 A   ld    hl,SCALEX
13718 7BF0 CD 28E7 A   call  AC1IHL    ;SCALEX
```

```
13719 7BF3 C3 7B18 A jp WINDGE
13720 7BF6 6443 AK640 defw 6443h
13721 7BF8 0000 A defw 0
13722 7BFA 0000 A defw 0
13723 7BFC 0000 A defw 0
13724 7BFE 3243 AK320 defw 3243h
13725 7C00 0000 A defw 0
13726 7C02 0000 A defw 0
13727 7C04 0000 A defw 0
13728 7C06 2043 AK200 defw 2043h
13729 7C08 0000 A defw 0
13730 7C0A 0000 A defw 0
13731 7C0C 0000 A defw 0
13732 7C0E 3A F273 AWINDUP ld a,(SCRNRA) ;40 oder 80 Zeichen ?
13733 7C11 1F A rra
13734 7C12 3E 50 A ld a,80
13735 7C14 D8 A ret c ;a=80
13736 7C15 CB 3F A srl a
13737 7C17 C9 A ret ;a=40
13738 A;
13739 7C18 CD 5406 AVDOKE call ADRTDE ;Ausdruck auswerten (Adresse)
;VPOKE
13740 7C1B E5 A push hl
13741 7C1C EB A ex de,hl ;Adr. in hl
13742 7C1D E3 A ex (sp),hl
13743 7C1E CF A rst CPSTX
13744 7C1F 2C A defb ','
13745 7C20 CD 5406 A call ADRTDE ;WORD UEBERNEHMEN
13746 7C23 42 A ld b,d
13747 7C24 7B A ld a,e
13748 7C25 E3 A ex (sp),hl
13749 7C26 CD 004D A call WRTVRM ;--> ROM BIOS
13750 7C29 E1 A pop hl
13751 7C2A C9 A ret
13752 A;
13753 7C2B CD 5410 AVDEEK call ADDRREC ;Adr in HL
13754 7C2E CD 004A A call RDVRM ; --> ROM BIOS
13755 7C31 60 A ld h,b ;WORD uebernehmen
13756 7C32 6F A ld l,a
13757 7C33 C3 2EB6 A jp CV4BC0
13758 A;
13759 7C36 F5 ABYTAET push af ;BYTEPARAMETER IN A UND VGL MIT ALT A
13760 7C37 CF A rst CPSTX
13761 7C38 28 A defb '('
13762 7C39 CD 51F3 A call BYTAE2 ;PARAMETER IN E
13763 7C3C F1 A pop af
13764 7C3D BB A cp e
13765 7C3E 38 48 A jr c,ERFC1 ;PARAM. > A --> FC ERROR
13766 7C40 CF A rst CPSTX
13767 7C41 29 A defb ')'
13768 7C42 7B A ld a,e
13769 7C43 C9 A ret
13770 A;
13771 7C44 CD FE42 ANAME_ call XNAME ;NAME
13772 7C47 18 3F A jr ERFC1
13773 7C49 CD FE47 AKILL call XKILL ;KILL
13774 7C4C 18 3A A jr ERFC1
13775 7C4E CD FE56 ARESET call XRESET
13776 7C51 18 35 A jr ERFC1
```



```

13777 7C53 CD FE4C ACOPY call XCOPY ;COPY
13778 7C56 18 30 A jr ERFC1
13779 7C58 CD FE51 ACMD call XCMD ;CMD
13780 7C5B 18 2B A jr ERFC1
13781 7C5D CD FE65 ALSET call XLSET ;LSET
13782 7C60 18 26 A jr ERFC1
13783 7C62 CD FE6A ARSET call XRSET ;RSET
13784 7C65 18 21 A jr ERFC1
13785 7C67 CD FE6F AFIELD call XFIELD ;FIELD
13786 7C6A 18 1C A jr ERFC1
13787 7C6C CD FE74 AMKI call XMKI ;MKI$
13788 7C6F 18 17 A jr ERFC1
13789 7C71 CD FE79 AMKS call XMKS ;MKS$
13790 7C74 18 12 A jr ERFC1
13791 7C76 CD FE7E AMKD call XMKD ;MKD$
13792 7C79 18 0D A jr ERFC1
13793 7C7B CD FE83 ACVI call XCVI ;CVI
13794 7C7E 18 08 A jr ERFC1
13795 7C80 CD FE88 ACVS call XCVS ;CVS
13796 7C83 18 03 A jr ERFC1
13797 7C85 CD FE8D ACVD call XCVD ;CVD
13798 7C88 C3 4740 AERFC1 jp ERFC
13799 A;
13800 7C8B C3 4740 ABIOSBL jp ERFC ;CBOOT
13801 7C8E C3 4740 A jp ERFC ;WBOOT
13802 7C91 C3 0000# A jp INKEY ;CONST
13803 7C94 C3 0000# A jp RDRIPU ;CONIN
13804 7C97 C3 0000# A jp OUTASC ;CONOUT
13805 7C9A C3 0000# A jp PRTOUT ;LIST
13806 7C9D C3 4740 A jp ERFC ;PUNCH
13807 7CA0 C3 4740 A jp ERFC ;READER
13808 7CA3 C3 4740 A jp ERFC ;HOME
13809 7CA6 C3 4740 A jp ERFC ;SELDSK
13810 7CA9 C3 4740 A jp ERFC ;SETTRK
13811 7CAC C3 4740 A jp ERFC ;SETSEC
13812 7CAF C3 4740 A jp ERFC ;SETDMA
13813 7CB2 C3 4740 A jp ERFC ;READ
13814 7CB5 C3 4740 A jp ERFC ;WRITE
13815 7CB8 C3 0000# A jp PRSTA ;LISTST
13816 7CBB C3 4740 A jp ERFC ;SECTRAM
13817 7CBE C3 4740 A jp ERFC ;CONOST
13818 7CC1 C3 4740 A jp ERFC ;AUXIST
13819 7CC4 C3 4740 A jp ERFC ;AUXOST
13820 7CC7 C3 4740 A jp ERFC ;DEVTBL
13821 A;
13822 7CCA 31 F22B AINIT ld sp,LREUP-10 ;INITIALISIERUNG FUER BASIC
13823 7CCD 01 0211 A ld bc,BSKENN-XIRSY1
13824 7CD0 11 FD81 A ld de,XIRSY1+1
13825 7CD3 21 FD80 A ld hl,XIRSY1
13826 7CD6 36 C9 A ld (hl),0C9H
13827 7CD8 ED B0 A ldir ;patch-Bereich mit C9 laden
13828 7CDA 36 00 A ld (hl),0 ;BSKENN loeschen
13829 7CDC 21 7C8B A ld hl,BIOSBL ;BIOS-Sprungleiste initialisieren
13830 7CDF 11 FD00 A ld de,BIORSL
13831 7CE2 01 003F A ld bc,63
13832 7CE5 ED B0 A ldir
13833 7CE7 21 F235 A ld hl,LREUP
13834 7CEA 22 FBB4 A ld (EOFRAM),hl
    
```

```
13835 7CED 22 FBB6 A ld (EOFRM1),hl
13836 7CF0 23 A inc hl
13837 7CF1 22 FBB8 A ld (SYSANF),hl ;Anfang Systembereich
13838 7CF4 CD 7DD5 A call RAMTST ;RAM-ROM-TEST
13839 7CF7 22 FBB2 A ld (ANFRAM),hl ;UNTERKANTE RAM
13840 7CFA 01 007C A ld bc,HLPBER-LREUP+1 ;Rufe zu and. Baenken
13841 7CFD 11 F235 A ld de,LREUP ;UND STANDARDBELEGUNGEN
13842 7D00 21 7F75 A ld hl,TBINIR ;EINTRAGEN
13843 7D03 ED B0 A ldir ;7F27...7FB7 --> F380...F410
13844 7D05 CD 0168 A call BSINIT ;BELEGEN F-TASTEN MIT STANDARD
13845 7D08 AF A xor a
13846 7D09 32 F526 A ld (ENDEBU),a
13847 7D0C 32 F743 A ld (LMAFL),a
13848 7D0F 3E 2C A ld a,', '
13849 7D11 32 F423 A ld (EDIBUF-1),a
13850 7D14 3E 3A A ld a,':'
13851 7D16 32 F2E4 A ld (LINBUF-1),a
13852 7D19 3E A0 A ld a,0A0h ;page/slot
13853 7D1B 32 F726 A ld (SLCTRL),a ;3/2,2/2,1/0,0/0
13854 7D1E 3E C9 A ld a,0C9h
13855 7D20 32 FC65 A ld (INSCPX),a
13856 7D23 21 F5AA A ld hl,FNPTR
13857 7D26 22 F612 A ld (HPTSTR),hl
13858 7D29 22 F53A A ld (STDPTR),hl ;UNTERKANTE STACK
13859 7D2C 01 00C8 A ld bc,0C8H
13860 7D2F 09 A add hl,bc
13861 7D30 22 F538 A ld (RAMTOP),hl
13862 7D33 3E 01 A ld a,1
13863 7D35 32 F589 A ld (SVARPT+1),a
13864 7D38 CD 7EB2 A call FCBRAM ;MAXFILE=1
13865 7D3B CD 64F1 A call NEW6 ;STACK U. RAM INITIALISIEREN
13866 7D3E 2A FBB2 A ld hl,(ANFRAM)
13867 7D41 AF A xor a
13868 7D42 77 A ld (hl),a ;START=0 EINTRAGEN
13869 7D43 23 A inc hl
13870 7D44 22 F53C A ld (PSTBEG),hl ;PROGRAMMBEGINN AUF 8001H
13871 7D47 CD 6493 A call NEW1
13872 7D4A CD 003B A call MUINI
13873 7D4D CD 003E A call FTINI
13874 7D50 21 100B A ld hl,100BH ;h:Spalte, l:Zeile
13875 7D53 CD 00C6 A call CRSPOS ;ZEILE, SPALTE SETZEN
13876 7D56 21 7F29 A ld hl,CRSAUS ;Kursor im Anfangsbild weg
13877 7D59 CD 6888 A call OUTZK1
13878 7D5C 21 7F31 A ld hl,BICSYS ;MELDUNG ROM BIOS
13879 7D5F CD 6888 A call OUTZK1
13880 7D62 21 0F0C A ld hl,0F0CH
13881 7D65 CD 00C6 A call CRSPOS
13882 7D68 21 7F3C A ld hl,VERSIO
13883 7D6B CD 6888 A call OUTZK1
13884 7D6E 21 0B0E A ld hl,0B0EH
13885 7D71 CD 00C6 A call CRSPOS
13886 7D74 21 7F53 A ld hl,COPYRI
13887 7D77 CD 6888 A call OUTZK1
13888 7D7A 06 03 A ld b,3 ;PAUSE NACH 1.BILD
13889 7D7C 2B AINIT1 dec hl
13890 7D7D 7D A ld a,l
13891 7D7E B4 A or h
13892 7D7F 20 FB A jr nz,INIT1
```

```
13893 7D81 10 F9      A   djnz  INIT1
13894 7D83 CD 7DED    A   call  BNKTST      ;ANDERE BAENKE ABTESTEN
13895 7D86 21 7F2D    A   ld    hl,CRSEIN   ;Kursor wieder ein
13896 7D89 CD 6888    A   call  OUTZK1
13897 7D8C 2A FBB2    AINIT2  ld     hl,(ANFRAM)   ;BASIC-ARBEITSSPEICHER INIT
13898 7D8F AF          A   xor   a
13899 7D90 77          A   ld    (hl),a
13900 7D91 23          A   inc   hl
13901 7D92 22 F53C    A   ld    (PSTBEG),hl
13902 7D95 CD 6493    A   call  NEW1
13903 7D98 CD 7D9E    A   call  INIBA       ;ANLAUF BASIC
13904 7D9B C3 411D    A   jp    KOM2       ;--> KOMMANDOEEBENE BASIC
13905
A;
13906 7D9E 3E FF      AINIBA  ld     a,0FFH       ;ANLAUF BASIC
13907 7DA0 32 F285    A   ld    (FKTANZ),a
13908 7DA3 CD 017D    A   call  MONTV
13909 7DA6 3E 0C     A   ld    a,0Ch      ;CLS
13910 7DA8 DF          A   rst   CHAR0
13911 7DA9 21 7F4B    A   ld    hl,BICBAS   ;MELDUNG BASIC
13912 7DAC CD 6888    A   call  OUTZK1
13913 7DAF 21 7F3C    A   ld    hl,VERSIO
13914 7DB2 CD 6888    A   call  OUTZK1
13915 7DB5 21 7F53    A   ld    hl,COPYRI
13916 7DB8 CD 6888    A   call  OUTZK1
13917 7DBB 2A F588    A   ld    hl,(SVARPT) ;FREIBEREICH BERECHNEN
13918 7DBE EB          A   ex   de,hl
13919 7DBF 2A F53A    A   ld    hl,(STDPTR)
13920 7DC2 7D          A   ld    a,l
13921 7DC3 93          A   sub  e
13922 7DC4 6F          A   ld   l,a
13923 7DC5 7C          A   ld   a,h
13924 7DC6 9A          A   sbc  a,d
13925 7DC7 67          A   ld   h,a
13926 7DC8 01 FFF2    A   ld   bc,-14
13927 7DCB 09          A   add  hl,bc
13928 7DCC CD 3092    A   call  AUZN        ;... BYTES FREE
13929 7DCF 21 7F69    A   ld   hl,BYTFRE
13930 7DD2 C3 6888    A   jp   OUTZK1
13931
A;
13932 7DD5 21 EF00    ARAMTST  ld     hl,0EF00H    ;RAM-TEST
13933 7DD8 7E          ARAMTS1  ld     a,(hl)
13934 7DD9 2F          A   cpl
13935 7DDA 77          A   ld   (hl),a
13936 7ddb BE          A   cp   (hl)
13937 7DDC 2F          A   cpl
13938 7DDD 77          A   ld   (hl),a
13939 7DDE 20 09      A   jr   nz,RAMTS2
13940 7DE0 2C          A   inc  l
13941 7DE1 20 F5      A   jr   nz,RAMTS1
13942 7DE3 7C          A   ld   a,h
13943 7DE4 3D          A   dec  a
13944 7DE5 F0          A   ret  p
13945 7DE6 67          A   ld   h,a
13946 7DE7 18 EF      A   jr   RAMTS1
13947 7DE9 2E 00      ARAMTS2  ld     l,0
13948 7DEB 24          A   inc  h
13949 7DEC C9          A   ret
;HL: ERSTE 100H-ADR MIT RAM
13950
A;
```

```
13951 7DED F3          ABNKSTST      di                      ;ANDERE BAENKE TESTEN
13952 7DEE 0E 00      A      ld      c,0                      ;BANK-NR
13953 7DF0 21 FC71    A      ld      hl,SUBBST          ;BANK-STATUS-BYTES
13954 7DF3 23          ABNKTS2      inc      hl                      ;NAECHSTES BANK-STATUS-BYTE FUER 4000H
13955 7DF4 E5          A      push    hl
13956 7DF5 21 4000    A      ld      hl,4000H          ;ZIELADR
13957 7DF8 CD 7E75    ABNKTS3      call     WOVBNK          ;DE: 2 BYTE VON ZIELBANK
13958 7DFB E5          A      push    hl
13959 7DFC 21 4241    A      ld      hl,4241H          ;'AB'
13960 7DFF E7          A      rst      CPREG
13961 7E00 E1          A      pop     hl
13962 7E01 06 00      A      ld      b,0
13963 7E03 20 2A      A      jr      nz,BNKTS4          ;KEIN 'AB'
13964 7E05 CD 7E75    A      call     WOVBNK          ;'AB' --> ERWEITERUNG AUF PAGE GEFUNDEN
13965 7E08 E5          A      push    hl
13966 7E09 C5          A      push    bc
13967 7E0A D5          A      push    de                      ;DE: ADR FUER LONGCALL VON ZIELPAGE BYTE 2,3
13968 7E0B DD E1      A      pop     ix
13969 7E0D 79          A      ld      a,c
13970 7E0E F5          A      push    af
13971 7E0F FD E1      A      pop     iy
13972 7E11 C4 001C    A      call     nz,L3CALL          ;INIT ERWEITERUNG, WENN ADR VORHANDEN
13973 7E14 C1          A      pop     bc
13974 7E15 E1          A      pop     hl
13975 7E16 CD 7E75    A      call     WOVBNK          ;BYTES 4,5 VON ZIELPAGE HOLEN
13976 7E19 C6 FF      A      add     a,0FFH          ;CY=1 WENN ADR(BYTE 4,5)>0
13977 7E1B CB 18      A      rr      b                      ;CY IN BIT5,B
13978 7E1D CD 7E75    A      call     WOVBNK          ;BYTES 6,7 VON ZIELPAGE HOLEN
13979 7E20 C6 FF      A      add     a,0FFH          ;CY=1 WENN ADR(BYTE 6,7)>0
13980 7E22 CB 18      A      rr      b                      ;CY IN BIT 6,B
13981 7E24 CD 7E75    A      call     WOVBNK          ;BYTES 8,9 VON ZIELPAGE HOLEN
13982 7E27 C6 FF      A      add     a,0FFH          ;CY=1 WENN ADR(BYTE 8,9)>0
13983 7E29 CB 18      A      rr      b                      ;CY IN BIT 7,B
13984 7E2B 11 FFF8    A      ld      de,-8
13985 7E2E 19          A      add     hl,de          ;HL: 4002H ODER 8002H
13986 7E2F E3          ABNKTS4      ex      (sp),hl          ;HL: ADR PAGE-STATUS-BYTE
13987 7E30 70          A      ld      (hl),b          ;PAGE-STATUS-BYTE EINTRAGEN
13988 7E31 23          A      inc     hl                      ;NAECHSTES PAGE-STATUS-BYTE (8000 BZW. C000)
13989 7E32 E3          A      ex      (sp),hl
13990 7E33 11 3FFE    A      ld      de,3FFEH
13991 7E36 19          A      add     hl,de          ;HL: 8000H ODER C000H
13992 7E37 7C          A      ld      a,h
13993 7E38 FE C0      A      cp      0C0H
13994 7E3A 38 BC      A      jr      c,BNKTS3          ;HL: 8000H
13995 7E3C E1          A      pop     hl
13996 7E3D 23          A      inc     hl                      ;NAECHSTES PAGE-STATUS-BYTE (0)
13997 7E3E 0C          A      inc     c                      ;NAECHSTE BANK
13998 7E3F 79          A      ld      a,c
13999 7E40 FE 04      A      cp      4
14000 7E42 38 AF      A      jr      c,BNKTS2
14001 7E44 21 FC71    A      ld      hl,SUBBST          ;FERTIG
14002 7E47 06 10      A      ld      b,10h
14003 7E49 7E          ABNKTS6      ld      a,(hl)
14004 7E4A 87          A      add     a,a
14005 7E4B 38 04      A      jr      c,BNKTS7          ;BIT 7,PAGE-STATUS-BYTE = 1
14006 7E4D 23          A      inc     hl
14007 7E4E 10 F9      A      djnz   BNKTS6
14008 7E50 C9          A      ret
```

```
14009          A;                RESERVIERUNG RAM AUF PAGE 8000H FUER ERWEITERUNG
14010 7E51 CD 7E85  ABNKTS7      call  RSWBNK          ;BERECHNEN BANKSCHALTER
14011 7E54 CD 0024  A      call  BANKUM          ;BANK UMSCHALTEN
14012 7E57 2A F588  A      ld    hl,(SVARPT)
14013 7E5A 11 C000  A      ld    de,0C000H
14014 7E5D E7      A      rst    CPREG
14015 7E5E 30 04    A      jr    nc,BNKTS8      ;SVARPTR > C000H --> BLEIBT
14016 7E60 EB      A      ex    de,hl
14017 7E61 22 F588  A      ld    (SVARPT),hl      ;SONST AUF C000H
14018 7E64 2A 8008  ABNKTS8      ld    hl,(8008H)          ;PSTBEG HOLEN VON BYTE 8,9 DER ERWEITERUNG
14019 7E67 23      A      inc   hl
14020 7E68 22 F53C  A      ld    (PSTBEG),hl
14021 7E6B 7C      A      ld    a,h
14022 7E6C 32 FA8D  A      ld    (STOPFL),a
14023 7E6F CD 64A6  ABNKTS9      call  NEW2            ;NEW OHNE VARIABLENZEIGER STELLEN
14024 7E72 C3 45ED  A      jp    RUNMOD
14025          A;
14026 7E75 CD 7E79  AWOVBNK      call  BYVBNK          ;2 BYTE VON ANDERER BANK LESEN
14027 7E78 5A      A      ld    e,d          ;I: C=ZIELBANK, HL=ZIELADR
14028 7E79 79      ABYVBNK      ld    a,c          ;O: HL=HL+2    DE=2 BYTE
14029 7E7A C5      A      push  bc
14030 7E7B D5      A      push  de
14031 7E7C CD 000C  A      call  LREB          ;--> ROM BIOS
14032 7E7F D1      A      pop   de
14033 7E80 C1      A      pop   bc
14034 7E81 57      A      ld    d,a
14035 7E82 B3      A      or    e
14036 7E83 23      A      inc   hl
14037 7E84 C9      A      ret
14038          A;
14039 7E85 3E 10    ARSWBNK      ld    a,10H          ;BERECHNUNG BANKSCHALTER FUER LONG...
14040 7E87 90      A      sub   b
14041 7E88 47      ARSWBK1      ld    b,a
14042 7E89 26 00    A      ld    h,0
14043 7E8B 1F      A      rra
14044 7E8C CB 1C    A      rr    h
14045 7E8E 1F      A      rra
14046 7E8F CB 1C    A      rr    h
14047 7E91 C9      A      ret
14048          A;
14049 7E92 CF      AMAX      rst    CPSTX          ;MAXFILES
14050 7E93 B7      A      defb 0B7H          ;FILESTOK
14051 7E94 CF      A      rst    CPSTX
14052 7E95 EF      A      defb 0EFH          ;= TOK
14053 7E96 CD 51F3  A      call  BYTAE2          ;ANZAHL UEBERNEHMEN
14054 7E99 C2 4056  A      jp    nz,ERSN          ;SN ERROR, WENN NICHT ZU ENDE
14055 7E9C FE 0B    A      cp    11
14056 7E9E D2 4740  A      jp    nc,ERFC          ;> 9 --> FC ERROR
14057 7EA1 22 F56D  A      ld    (CUSTMT),hl      ;ZEIGER RETTEN
14058 7EA4 F5      A      push  af
14059 7EA5 CD 6E24  A      call  CLOSEA          ;ALLE FILES ZU
14060 7EA8 F1      A      pop   af
14061 7EA9 CD 7EB2  A      call  FCBRAM          ;FCB'S ANLEGEN
14062 7EAC CD 64B0  A      call  NEW4
14063 7EAF C3 45ED  A      jp    RUNMOD          ;FERTIG --> RUNMOD
14064 7EB2 F5      AFCBRAM      push  af          ;FCB'S ENTSPR. MAXFILES ANLEGEN
14065 7EB3 F5      A      push  af
14066 7EB4 CD FE60  A      call  XMXFIL
```

```
14067 7EB7 F1      A    pop    af
14068 7EB8 2A FBB6  A    ld     hl,(EOFRM1)
14069 7EBB 11 FEEA  A    ld     de,-278      ;-(FCB-Laenge+Adr.)
14070 7EBE 19      AFCBRA1  add    hl,de
14071 7EBF 3D      A    dec    a
14072 7EC0 F2 7EBE  A    jp     p,FCBRA1
14073 7EC3 EB      A    ex     de,hl
14074 7EC4 2A F53A  A    ld     hl,(STDPTR)
14075 7EC7 44      A    ld     b,h
14076 7EC8 4D      A    ld     c,l
14077 7EC9 2A F538  A    ld     hl,(RAMTOP)
14078 7ECC 7D      A    ld     a,l
14079 7ECD 91      A    sub   c
14080 7ECE 6F      A    ld     l,a
14081 7ECF 7C      A    ld     a,h
14082 7ED0 98      A    sbc   a,b
14083 7ED1 67      A    ld     h,a
14084 7ED2 F1      A    pop    af
14085 7ED3 E5      A    push  hl
14086 7ED4 F5      A    push  af
14087 7ED5 01 008C  A    ld     bc,8CH
14088 7ED8 09      A    add   hl,bc
14089 7ED9 44      A    ld     b,h
14090 7EDA 4D      A    ld     c,l
14091 7EDB 2A F588  A    ld     hl,(SVARPT)
14092 7EDE 09      A    add   hl,bc
14093 7EDF E7      A    rst   CPREG
14094 7EE0 D2 6481  A    jp     nc,MOERR0
14095 7EE3 F1      A    pop    af
14096 7EE4 32 F725  A    ld     (MAXFIL),a
14097 7EE7 6B      A    ld     l,e
14098 7EE8 62      A    ld     h,d
14099 7EE9 22 F727  A    ld     (ATBFCB),hl
14100 7EEC 2B      A    dec   hl
14101 7EED 22 F538  A    ld     (RAMTOP),hl
14102 7EF0 22 F561  A    ld     (SWAPTR),hl
14103 7EF3 C1      A    pop    bc
14104 7EF4 7D      A    ld     a,l
14105 7EF5 91      A    sub   c
14106 7EF6 6F      A    ld     l,a
14107 7EF7 7C      A    ld     a,h
14108 7EF8 98      A    sbc   a,b
14109 7EF9 67      A    ld     h,a
14110 7EFA 22 F53A  A    ld     (STDPTR),hl
14111 7EFD 2B      A    dec   hl
14112 7EFE 2B      A    dec   hl
14113 7EFF C1      A    pop    bc
14114 7F00 F9      A    ld     sp,hl
14115 7F01 C5      A    push  bc
14116 7F02 3A F725  A    ld     a,(MAXFIL)
14117 7F05 6F      A    ld     l,a
14118 7F06 2C      A    inc   l
14119 7F07 26 00    A    ld     h,0
14120 7F09 29      A    add   hl,hl
14121 7F0A 19      A    add   hl,de
14122 7F0B EB      A    ex     de,hl
14123 7F0C D5      A    push  de      ;DE: BEGINN 1.FCB    HL: ANF ADRTAB FCB'S
14124 7F0D 01 0114  A    ld     bc,114h    ;LAENGE FCB
```

```
14125 7F10 73      AFCBRA2    ld      (hl),e      ;AUFBAU ADRESSTABELLE
14126 7F11 23      A      inc      hl
14127 7F12 72      A      ld      (hl),d
14128 7F13 23      A      inc      hl
14129 7F14 EB      A      ex      de,hl
14130 7F15 36 00     A      ld      (hl),0      ;BYTE 1 FCB = 0
14131 7F17 09      A      add     hl,bc
14132 7F18 EB      A      ex      de,hl
14133 7F19 3D      A      dec     a
14134 7F1A F2 7F10     A      jpb     p,FCBRA2    ;NAECHSTEN FCB
14135 7F1D E1      A      pop     hl          ;TABELLE FERTIG
14136 7F1E 01 0009     A      ld      bc,9
14137 7F21 09      A      add     hl,bc
14138 7F22 22 F729     A      ld      (ACTDMA),hl
14139 7F25 C9      A      ret
14140
14141      A;-----
14142 7F26 C3 3092     A;Hilfsprogramm fuer FILES ( Adr.>4000h !)
14143      AHAUZN      jpb     AUZN
14144 7F29 1B      ACRSAUS    defb    1Bh          ;ESC
14145 7F2A 78 35     A      defm   'x5'      ;Kursor aus
14146 7F2C 00      A      defb    0
14147 7F2D 1B      ACRSEIN    defb    1Bh          ;ESC
14148 7F2E 79 35     A      defm   'y5'      ;Kursor ein
14149 7F30 00      A      defb    0
14150 7F31 42 49 43 20ABICSYS defm    'BIC System'
14151 7F3B 00      A      defb    0
14152 7F3C 56 65 72 73AVERSIO defm    'Version '
14153 7F44 32 2E 30 31ANR1 defm    '2.01'
14154 7F48 0D      A      defb    0Dh
14155 7F49 0A      A      defb    0Ah
14156 7F4A 00      A      defb    0
14157 7F4B 52 42 41 53ABICBAS defm    'RBASIC '
14158 7F52 00      A      defb    0
14159 7F53 72 6F 62 6FACOPYRI defm    'robotron MKD 1989'
14160 7F66 0D      A      defb    0Dh
14161 7F67 0A      A      defb    0Ah
14162 7F68 00      A      defb    0
14163 7F69 20 42 79 74ABYTFRE defm    ' Bytes free'
14164 7F74 00      A      defb    0
14165
14166 7F75 D3 A8     ATBINIR    out     (BANKPO),a    ;LREUP (LONGGETBYTE)      AB F380H
14167 7F77 5E      A      ld      e,(hl)
14168 7F78 18 03     A      jr      TBINI1
14169 7F7A D3 A8     A      out     (BANKPO),a    ;LWRUP (LONGPUTBYTE)
14170 7F7C 73      A      ld      (hl),e
14171 7F7D 7A      ATBINI1    ld      a,d
14172 7F7E D3 A8     A      out     (BANKPO),a
14173 7F80 C9      A      ret
14174 7F81 D3 A8     A      out     (BANKPO),a    ;LCAUP (LONGCALL)
14175 7F83 08      A      ex      af,af'
14176 7F84 CD F24D     A      call   JPIX
14177 7F87 08      A      ex      af,af'
14178 7F88 F1      A      pop     af
14179 7F89 D3 A8     A      out     (BANKPO),a
14180 7F8B 08      A      ex      af,af'
14181 7F8C C9      A      ret
14182 7F8D DD E9     A      jpb     (ix)      ;JPIX
```

```
14183          A;
14184 7F8F 4740  A   defw  ERFC   ;USRADR
14185 7F91 4740  A   defw  ERFC
14186 7F93 4740  A   defw  ERFC
14187 7F95 4740  A   defw  ERFC
14188 7F97 4740  A   defw  ERFC
14189 7F99 4740  A   defw  ERFC
14190 7F9B 4740  A   defw  ERFC
14191 7F9D 4740  A   defw  ERFC
14192 7F9F 4740  A   defw  ERFC
14193 7FA1 4740  A   defw  ERFC
14194          A;
14195          A; Bereich fuer zu initialisierende Variablen
14196          A;
14197 7FA3 01     ABPA1IW   defb  1     ;SPFIRS
14198 7FA4 28     A   defb  40     ;SPLAST
14199 7FA5 01     A   defb  1     ;ZLFIRS
14200 7FA6 18     A   defb  24     ;ZLLAST
14201 7FA7 01     A   defb  1     ;CRSZL
14202 7FA8 01     A   defb  1     ;CRSSP
14203 7FA9 0E     A   defb  14     ;LSTTAB
14204 7FAA 0028  A   defw  40     ;WIDTH
14205 7FAC 0000  A   defw  0     ;VVRAM
14206 7FAE 0000  A   defw  0     ;AVRAM
14207 7FB0 00     A   defb  0     ;PAGEVI
14208 7FB1 00     A   defb  0     ;SCRNRV
14209 7FB2 00     A   defb  0     ;PAGEAK
14210 7FB3 00     A   defb  0     ;SCRNRA
14211          A;-----
14212 7FB4 42     A   defb  42H    ;PAL11
14213 7FB5 54     A   defb  54H    ;PAL12
14214 7FB6 66     A   defb  66H    ;PAL13
14215 7FB7 43     A   defb  43H    ;PAL21
14216 7FB8 55     A   defb  55H    ;PAL22
14217 7FB9 67     A   defb  67H    ;PAL23
14218 7FBA 00FF  A   defw  0FFH   ;PALCOL
14219 7FBC 0000  A   defw  0     ;PVIEW1
14220 7FBE 0140  A   defw  320    ;PVIEW2
14221 7FC0 0000  A   defw  0     ;PVIEW3
14222 7FC2 00C8  A   defw  200    ;PVIEW4
14223 7FC4 01     A   defb  1     ;KCLKSW
14224 7FC5 00     A   defb  0     ;FKTANZ
14225 7FC6 FF     A   defb  0FFH   ;HSTRIG
14226 7FC7 01     A   defb  1     ;ACTINK
14227 7FC8 06     A   defb  6     ;INK
14228 7FC9 00     A   defb  0     ;PAPER
14229 7FCA 00     A   defb  0     ;BORDER
14230 7FCB C3     A   defb  0C3H   ;JPLIN1
14231 7FCC 0000  A   defw  0     ;ADLIN1
14232 7FCE C3     A   defb  0C3H   ;JPLIN2
14233 7FCF 0000  A   defw  0     ;ADLIN2
14234 7FD1 06     A   defb  6     ;ACTCOL
14235 7FD2 F836  A   defw  MUPUK0 ;AMUPUK
14236 7FD4 FF     A   defb  0FFH   ;HLPXP
14237 7FD5 01     A   defb  1     ;TSTIRZ
14238 7FD6 20     A   defb  32     ;TSTPRZ
14239 7FD7 FAE2  A   defw  RINGPU ;SCHRIP
14240 7FD9 FAE2  A   defw  RINGPU ;LES RIP
```



```
14241 7FDB 5C53      A   defw  5C53H  ;TBSTCS
14242 7FDD 2D26      A   defw  2D26H
14243 7FDF 250F      A   defw  250FH
14244 7FE1 0E2D      A   defw  0E2DH
14245 7FE3 1F16      A   defw  1F16H
14246 7FE5 5C53      A   defw  5C53H  ;NUBIFR
14247 7FE7 2D26      A   defw  2D26h  ;EIBIFR
14248 7FE9 0F        A   defb  0Fh    ;VOTOL
14249 7FEA 0100      A   defw  100h   ;ELLIX
14250 7FEC 0100      A   defw  100h   ;ELLIY
14251 7FEE 00        A   defb  0      ;HOMECO
14252 7FEF 81        A   defb  81h   ;V24FO
12          0000      COND  $ GT 8000H
14          ENDC
16          ; RAM fuer BIC1 und BIC_SYS, teilw BIC_DSK
17          0000      RSOLO EQU 0      ;RAM nicht allein
18          0000      DSE EQU 0
19          0000      DSE1RA EQU 0
20          0000      DSE2RA EQU 0
21          0000      SCP EQU 0
```

# DSE1 4000-63FF

Z80ASM SuperFast Relocating Macro Assembler  
DSE1 Z80

Z80ASM 1.30 Page 1

```

1          ;*****
2          ;
3          ;Rahmenfile 1 fuer Diskettensoftware in DSE
4          ;Stand: 28.03.89
5          ;File: DSE1.S
6          ;*****
7          ;
8          INCLUDEORG.z80
9          A;*****
10         A;Symbol. Vereinbarung aller ORG's
11         A;Stand: 22.11.89
12         A;File: ORG.S
13         A;-----
14         2300 ABIC1 EQU    2300H ;R-BASIC (Busch)
15         A;
16         6420 ADSE2 EQU    6420H ;Floppy-Treiber (Ludewig,Loeber)
17         7880 ADSE3 EQU    7880H ;Bildteil SCP (Gaertner)
18         A      ;BIOS,Disk (Ludewig)
19         8000 ASCPROM EQU    08000H ;Erweiterung SCP-ROM
20         A;
21         E606 ABDOSCP EQU    0E606H ;Achtung: XX06H !!!
22         A      ;RAM fuer BDOS nur in SCP
23         A      ;RAM fuer SCP-ROM-Treiber
24         E880 ADSK1RA EQU    0E880H ;Disk-RAM 1 (Busch,Kersten)
25         EA27 ADSK2RA EQU    0EA27H ;Disk-RAM 2 (Ludewig,Loeber)
26         F235 ASYSRAM EQU    0F235H ;Grund-RAM
27         A;
28         BFF9 APLOT EQU    0C000H-7;Plotteranschluss
29         A;*****
30         INCLUDEBIC_MAC.Z80
31         A;!HEAD MODULE
32         A;FILE          BIC.MAC.S
33         A;DISK          BIC BDOS Arb.1
34         A;AUTHOR        Kersten
35         A;DATE          16.12.88
36         A;VARIABLES    -
37         A;END
38         A;!
39         A
40         A;; Blocktransfer
41         A; =====
42         A
43         A; Aufruf z.B.:    MOVE 1000H (ADR) 128
44         A
45         AMOVE MACRO $ZIEL,$QUELLE,$LAENGE
46         A    LD    DE,$ZIEL
47         A    LD    HL,$QUELLE
48         A    LD    BC,$LAENGE
49         A    LDIR
50         A    ENDM
51         A
52         A;; Byte- bzw. Wort-Tabellen
53         A; =====
54         A
55         A; Makros erlauben pro Aufruf bis zu 10 Byte- bzw.
56         A; Wort-Definitionen.
57         A
58         A; Als Operanden nur Konstanten zulaessig!

```

```
29      A
30      A; Aufruf z.B.:      DFB 17 35 0 -55H 001101B
31      A;                  (bei DFW entsprechend)
32      A
33      ADFB MACRO $0,$1,$2,$3,$4,$5,$6,$7,$8,$9
34      A      DEFB      $0
35      A      IFNB      <$1>
36      A DFB $1,$2,$3,$4,$5,$6,$7,$8,$9
37      A      ENDIF
38      A      ENDM
39      A
40      ADFW MACRO $0,$1,$2,$3,$4,$5,$6,$7,$8,$9
41      A      DEFW      $0
42      A      IFNB      <$1>
43      A DFW $1,$2,$3,$4,$5,$6,$7,$8,$9
44      A      ENDIF
45      A      ENDM
```

```

47      A
48      A;; Fuellen RAM-Bereich mit einheitlichem Inhalt
49      A; =====
50      A
51      A; Inhalt = sich lfd. wiederholende Folge von
52      A; 1...8 Bytes (B0...B7)
53      A
54      A; Fuer Operanden B0...B7 keine Register zulaessig
55      A; (weder r noch (rr))!
56      A
57      A; Aufruf z.B.:      FLRAM (ADR) 1024 16 23H (BYTE1)
58      A
59      A; aendert AF, BC, DE, HL
60      A
61      A; Hilfs-Makro
62      A
63      AFLRaM0      MACRO  $B0,$B1,$B2,$B3,$B4,$B5,$B6,$B7
64      A      LD      A,$B0
65      A      LD      (DE),A
66      A      INC      DE
67      A      DEC      BC
68      A      IFNB    <$B1>
69      A FLRaM0     $B1,$B2,$B3,$B4,$B5,$B6,$B7
70      A      ENDIF
71      A      ENDM
72      A
73      A; Haupt-Makro (fuer Anwender)
74      A
75      AFLRAM      MACRO  $ADRESSE,$LAENGE,$B0,$B1,$B2,$B3,$B4,$B5,$B6,$B7
76      A;          ADRESSE = Anfangsadresse des zu
77      A;                   fuellenden Bereiches
78      A;          LAENGE  = Laenge des Bereiches
79      A;          B0...B7 = sich wiederholende
80      A;                   Byte-Folge
81      A      LD      HL,$ADRESSE
82      A      LD      D,H
83      A      LD      E,L
84      A      LD      BC,$LAENGE
85      A
86      A      FLRaM0  $B0,$B1,$B2,$B3,$B4,$B5,$B6,$B7
87      A      LDIR
88      A
89      A      ENDM
90      A;----- Ende BIC.MAC.S -----
11      ;
12      4000      ORG    4000H
13      ;
15      INCLUDEBICDSK.Z80
1      A;-----
2      A; Diskettenerweiterung Disk-BASIC
3      A; Stand: 25.05.1989 / Dr.Busch
4      A;-----
5      A      GLOBAL  BBDOSX
6      A;-----
7      A; externals aus BASIC und ROM-BIOS
8      A;-----
9      A      external  ADTDE
10     A      external  AUSGE
    
```

```
11      A      external      AUZN
12      A      external      BYTAE1
13      A      external      BYTAE2
14      A      external      BYTAE3
15      A      external      CHR2
16      A      external      CLOSE1
17      A      external      CLOSEA
18      A      external      CURSRD
19      A      external      DATNA
20      A      external      DIM1
21      A      external      ERALOP
22      A      external      ERBFNA
23      A      external      ERBFNR
24      A      external      ERFC
25      A      external      ERFIOV
26      A      external      ERINPE
27      A      external      ERNTFO
28      A      external      ERNTOP
29      A      external      ERRO
30      A      external      ERR03
31      A      external      ERSN
32      A      external      ERTM
33      A      external      FCBAD
34      A      external      FCBBE5
35      A      external      FN7
36      A      external      GERDS
37      A      external      HAUZN
38      A      external      INIBA
39      A      external      INIT2
40      A      external      INTPA2
41      A      external      KOM7
42      A      external      LSTRE1
43      A      external      LSTRES
44      A      external      MOERR0
45      A      external      OPEN4
46      A      external      OUTZK
47      A      external      PTNEW
48      A      external      REN10
49      A      external      RUNMOD
50      A      external      SNAL1
51      A      external      TCHAR0
52      A      external      TSTZK
53      A      external      TYPTS0
54      A      external      WLAZK1
55      A      external      ZKUP18
56      A      external      ZKUP2
57      A      external      NLDIRT
58      A      external      AC1HLT
59      A      external      HLAC1T
60      A      external      CINT1
61      A      external      POS1
62      A      external      POS2
63      A      external      LINP14
64      A      external      INTDE2
65      A;-----
66      A; externals aus ROM-BIOS
67      A;-----
68      000C      ALREB equ      0Ch
```

```
69      0018      ACHARO      equ      18h
70      001C      AL3CALL     equ      1Ch
71      0020      ACPREG      equ      20h
72      0024      ABANKUM     equ      24h
73      0030      AL2CALL     equ      30h
74      0059      AJIBCDE     equ      59h
75      005C      AJOBCDE     equ      5Ch
76      006C      ASSCR0      equ      6Ch
77      00BD      AJBREAK     equ      0BDh
78      00CC      AJKEYOF     equ      0CCh
79      00D2      AJLXTM      equ      0D2h
80      0138      ADBAABF     equ      138h
81      0141      ADTMABF     equ      141h
82      0159      AJL1CAL     equ      159h
83      002D      AREZEMU     equ      2Dh
84      0177      AWRZEMU     equ      177h
85      0198      AREMASK     equ      198h
86              A      external  CURSS
87              A      external  CURSRD
88              A      external  INKEY, RDRIPU, OUTASC, PRTOUT
89              A      external  PRSTA
90              A;-----
91              A; externals aus ROM-BDOS
92              A;-----
93              A      external  BFLINI
94              A      external  BICOP
95              A      external  FORMA0
96              A      external  SELDSK
97              A      external  HOME
98              A      external  SETTRK
99              A      external  SETSEC
100             A      external  BSETDMA
101             A      external  SECTAN
102             A      external  READ
103             A      external  WRITE
104             A;-----
105 4000 41 42    A      defm  'AB'          ;Kennzeichen
106 4002 4017    A      defw  DSKINI       ;Adr. Initialisierung
107 4004 435B    A      defw  CALLUP       ;Eintritt CALL
108 4006 0000    A      defw  0            ;Eintritt Aufruf Zusatzgeraete
109 4008 0000    A      defw  0            ;RAM-Reservierung
110 400A 0000    A      defw  0
111 400C 0000    A      defw  0
112 400E 0000    A      defw  0
113             A;-----
114 4010 7E      ADCHARO      ld      a,(hl)
115 4011 A7      A      and      a
116 4012 C8      A      ret      z
117 4013 DF      A      rst      CHARO
118 4014 23      A      inc      hl
119 4015 18 F9    A      jr      DCHARO
120             A;
121 4017 F3      ADSKINI      di            ;Initialisierung I
122 4018 3E 01    A      ld      a,1        ;dse-ton ein
123 401A D3 70    A      out     (70h),a
124 401C 3A FC91  A      ld      a,(HLPBNK)
125 401F A7      A      and      a
126 4020 F8      A      ret      m        ;disk-ROM nicht da !
```

```
127 A;
128 4021 3E 06 A ld a,6
129 4023 CD 0141 A call DTMABF ;direkte Tastenabfrage
130 4026 F3 A di
131 4027 0F A rrca
132 4028 38 0D A jr c,DSKIN1 ;bit 0,a ? (kein shift)
133 402A 3E 07 A ld a,7 ;nein (shift)
134 402C DF A rst CHARO ;BEEP
135 402D 3E FF A ld a,0FFh ;disk-ROM aus
136 402F 32 FC91 A ld (HLPBNK),a
137 4032 AF A xor a ;RBASIC
138 4033 32 FF91 A ld (BSKENN),a
139 4036 C9 A ret
140 A; Initialisierung disk-ROM
141 4037 21 F235 ADSKIN1 ld hl,LREUP
142 403A 11 E880 A ld de,ARAMDS ;Anfang disk-RAM
143 403D A7 A and a
144 403E ED 52 A sbc hl,de
145 4040 D4 42CB A call nc,MEMNEU ;Speichergrenzen neu
146 4043 D8 A ret c ;reicht nicht
147 4044 2A FBB6 A ld hl,(EOFRM1)
148 4047 22 FBB4 A ld (EOFRAM),hl
149 404A E5 A push hl
150 404B 23 A inc hl
151 404C 22 FBB8 A ld (SYSANF),hl ;Anfang Systembereich
152 404F 21 09B5 A ld hl,LREUP-ARAMDS
153 4052 01 E880 A ld bc,ARAMDS
154 4055 AF ADSKIN4 xor a ;disk-RAM initialisieren
155 4056 02 A ld (bc),a
156 4057 03 A inc bc
157 4058 2B A dec hl
158 4059 7D A ld a,l
159 405A B4 A or h
160 405B 20 F8 A jr nz,DSKIN4
161 405D 22 F571 A ld (AUTOZN),hl ;= 0
162 4060 3E 06 A ld a,6
163 4062 CD 0141 A call DTMABF ;dir. Tastenabfrage
164 4065 E6 02 A and 2 ;2 /CTRL, 0 CTRL
165 4067 32 E88A A ld (TAST),a
166 406A 3E 07 A ld a,7
167 406C DF A rst CHARO ;BEEP
168 406D 21 4081 A ld hl,XNEW1A
169 4070 11 FEFB A ld de,XNEW1 ;Initialisierung II initialisieren
170 4073 01 0005 A ld bc,5
171 4076 ED B0 A ldir
172 4078 CD 4353 A call BANK?
173 407B 32 FEFC A ld (XNEW1+1),a ;richtige Bank eintragen
174 407E D1 A pop de
175 407F 18 05 A jr DSKINA
176 4081 F7 AXNEW1A rst L2CALL
177 4082 00 A defb 0
178 4083 4092 A defw DINIT
179 4085 C9 A ret
180 A;
181 4086 3A E88A ADSKINA ld a,(TAST)
182 4089 A7 A and a
183 408A CD 0000# A call BFLINI ;Treiberinitialisierung
184 408D 21 FC91 A ld hl,HLPBNK ;Init II durch
```

```
185 4090 34      A    inc    (hl)
186 4091 C9      A    ret
187
188 4092 21 FEFB  ADINIT    ld    hl,XNEW1    ;Initialisierung II
189 4095 06 05    A    ld    b,5          ;Aufruf aus Anlauf RBASIC
190 4097 36 C9    ADINIT1   ld    (hl),0C9h
191 4099 23      A    inc    hl          ;Initialisierung loeschen
192 409A 10 FB    A    djnz  DINIT1
193 409C 21 FC91  A    ld    hl,HLPBNK
194 409F AF      A    xor    a
195 40A0 BE      A    cp    (hl)
196 40A1 77      A    ld    (hl),a        ;HLPBNK loesch (Init I,II durch)
197 40A2 F0      A    ret    p          ;kein Init I, zurueck
198 40A3 CD 4353  A    call  BANK?
199 40A6 32 E88D  A    ld    (AKTBNK),a
200 40A9 CD 0138  A    call  DBAABF      ;dir. Bankabfrage
201 40AC E6 0C    A    and   0Ch        ;page 1
202 40AE 47      A    ld    b,a
203 40AF 3A F726  A    ld    a,(SLCTRL)
204 40B2 E6 F3    A    and   0F3h
205 40B4 B0      A    or    b
206 40B5 32 F726  A    ld    (SLCTRL),a  ;akt. slot eintragen
207 40B8 3E 0D    A    ld    a,0Dh       ;Ende LINBUF setzen
208 40BA 32 F421  A    ld    (LINBUF+13Ch),a
209 40BD 3A E88A  A    ld    a,(TAST)
210 40C0 A7      A    and   a
211 40C1 CD 56D2  A    call  INITBB     ;BDOS initialisieren
212 40C4 CD 4280  A    call  BIOSLI     ;BIOS Sprungleiste init.
213 40C7 0E 0D    A    ld    c,13       ;reset disk
214 40C9 CD E89A  A    call  BBDOS
215 40CC 32 E88C  A    ld    (RESDOK),a
216 40CF CD 41CA  A    call  PATCHI     ;patches initialisieren
217 40D2 0E 00    A    ld    c,0
218 40D4 31 C200  A    ld    sp,0C200h
219
220 40D7 21 4165  A    ld    hl,SCPSYS   ;SCPX5105.SYS da (Systemdisk) ?
221 40DA CD 418C  A    call  FILDA?
222 40DD 20 03    A    jr    nz,DSKBAS  ;nein
223
224 40DF CD FC65  A    call  INSCPX     ;Initialisierung SCPX
225
226 40E2 3E 01    ADSKBAS  LD    A,1           ;Kennz. Disk-BASIC
227 40E4 32 FF91  A    ld    (BSKENN),a
228 40E7 21 4170  A    ld    hl,AUTEXB   ;AUTOEXEC.BAS da ?
229 40EA CD 418C  A    call  FILDA?
230 40ED F5      A    push  af
231 40EE 21 417B  A    ld    hl,RAUTEX   ;Kommando laden
232 40F1 11 F42E  A    ld    de,EDIBUF+0Ah
233 40F4 01 0011  A    ld    bc,17
234 40F7 ED B0    A    ldir
235 40F9 F1      A    pop   af
236 40FA 28 04    A    jr    z,DSKBA1   ;ja
237 40FC AF      A    xor   a          ;nein
238 40FD 32 F431  A    ld    (EDIBUF+0Dh),a ;Kommando loeschen
239 4100 31 C200  ADSKBA1  ld    sp,0C200h
240 4103 2A FBB2  A    ld    hl,(ANFRAM)
241 4106 AF      A    xor   a
242 4107 77      A    ld    (hl),a
```



```
243 4108 23      A      inc      hl
244 4109 22 F53C  A      ld      (PSTBEG),hl
245 410C 77      A      ld      (hl),a
246 410D 23      A      inc      hl
247 410E 77      A      ld      (hl),a
248 410F 23      A      inc      hl
249 4110 22 F588  A      ld      (SVARPT),hl
250 4113 21 FFFF  A      ld      hl,0FFFFh
251 4116 22 F2E2  A      ld      (ACTZN),hl
252 4119 3A F725  A      ld      a,(MAXFIL)
253 411C CD 41B0  A      call   MXFIUP
254 411F 60      A      ld      h,b
255 4120 69      A      ld      l,c
256 4121 CD 42CB  A      call   MEMNEU
257 4124 ED 7B F53A A      ld      sp,(STDPTR)
258 4128 DD 21 0000#A ld      ix,INIBA
259 412C CD 0159  A      call   JL1CAL      ;Meldung RBASIC
260 412F CD 4344  A      call   OUZKSP      ;Meldung Disk RBASIC
261      A;
262 4132 0D      A      defb   0Dh
263 4133 0A      A      defb   0Ah
264 4134 52 42 41 53A defm   'RBASIC Disk Version 2.00'
265 414C 0D      A      defb   0Dh
266 414D 0A      A      defb   0Ah
267 414E 00      A      defb   0
268      A;
269 414F 21 0000#  A      ld      hl,KOM7
270 4152 E5      A      push   hl
271 4153 21 F42D  A      ld      hl,EDIBUF+9
272 4156 E5      A      push   hl
273 4157 21 F464  A      ld      hl,EDIBUF+40h
274 415A E5      A      push   hl
275 415B 36 E1  A      ld      (hl),0E1h      ;pop hl
276 415D 23      A      inc      hl
277 415E 36 C9  A      ld      (hl),0C9h      ;ret
278 4160 26 40  A      ld      h,40h          ;page address
279 4162 C3 0024  A      jp      BANKUM        ;ret --> KOM7, hl=Kommando
280      A;
281 4165 53 43 50 58ASCPYSYS defm   'SCPX5105SYS'
282 4170 41 55 54 4FAAUTEXB defm   'AUTOEXECBAS'
283 417B 52 55 4E 22ARAUTEX defm   'RUN"AUTOEXEC.BAS'
284 418B 00      A      defb   0
285      A;
286 418C 3A E88C  AFILDA? ld      a,(RESDOK)      ;reset disk durch ?
287 418F A7      A      and      a
288 4190 28 02  A      jrc     z,FILDA0      ;ja (RESDOK=0)
289 4192 3C      A      inc      a          ; (oder 0FFh)
290 4193 C0      A      ret     nz          ;nein (RESDOK=0FEh)
291 4194 AF      AFILDA0 xor     a
292 4195 11 F43F  A      ld      de,EDIBUF+1Bh ;fcb erstellen
293 4198 D5      A      push   de          ;file name hl->
294 4199 06 24  A      ld      b,24h        ;fcb-Laenge
295 419B 12      AFILDA1 ld      (de),a
296 419C 13      A      inc      de
297 419D 10 FC  A      djnz   FILDA1
298 419F D1      A      pop     de
299 41A0 D5      A      push   de
300 41A1 13      A      inc      de
```

```
301 41A2 01 000B A ld bc,11
302 41A5 ED B0 A ldir ;file name laden
303 41A7 D1 A pop de ;fcb adr.
304 41A8 0E 0F A ld c,15 ;open file
305 41AA CD 5369 A call BBDOSX
306 41AD E6 FC A and 0FCh ;Fehler ?
307 41AF C9 A ret
308 A;
309 41B0 3C AMXFIUP inc a
310 41B1 4F A ld c,a
311 41B2 11 00A4 A ld de,0A4h ;Laenge bdos-fcb
312 41B5 62 A ld h,d
313 41B6 6A A ld l,d
314 41B7 42 A ld b,d
315 41B8 CD 45D2 A call MLT16
316 41BB 2A FBB4 A ld hl,(EOFRAM)
317 41BE A7 A and a
318 41BF ED 42 A sbc hl,bc
319 41C1 22 E88E A ld (ADFCB0),hl
320 41C4 C9 A ret
321 A;
322 A;-----
323 41C5 33 AGERDSX inc sp
324 41C6 33 A inc sp
325 41C7 C3 0000# A jp GERDS
326 A;-----
327 41CA 21 41C5 APATCHI ld hl,GERDSX ;Initialisierung patches
328 41CD 11 FEF1 A ld de,XGERDS
329 41D0 01 0005 A ld bc,5 ;zuerst XGERDS
330 41D3 ED B0 A ldir
331 41D5 21 41F2 A ld hl,PATCHT ;Adresstabelle
332 41D8 5E APATCH1 ld e,(hl)
333 41D9 23 A inc hl
334 41DA 56 A ld d,(hl)
335 41DB 23 A inc hl
336 41DC 7B A ld a,e
337 41DD B2 A or d
338 41DE C8 A ret z ;fertig
339 41DF EB A ex de,hl
340 41E0 36 F7 A ld (hl),0F7h ;rst L2CALL
341 41E2 23 A inc hl
342 41E3 3A E88D A ld a,(AKTBNK)
343 41E6 77 A ld (hl),a ;Bank
344 41E7 23 A inc hl
345 41E8 EB A ex de,hl
346 41E9 ED A0 A ldi ;Adresse
347 41EB ED A0 A ldi
348 41ED 3E C9 A ld a,0C9h ;ret
349 41EF 12 A ld (de),a
350 41F0 18 E6 A jr PATCH1 ;-> weiter
351 A;
352 41F2 FE42 APATCHT defw XNAME
353 41F4 5044 A defw NAME
354 41F6 FE47 A defw XKILL
355 41F8 5002 A defw KILL
356 41FA FE4C A defw XCOPY
357 41FC 5393 A defw COPY
358 41FE FE65 A defw XLSET
```

359	4200	4DAA	A	defw	LSET
360	4202	FE6A	A	defw	XRSET
361	4204	4DA9	A	defw	RSET
362	4206	FE6F	A	defw	XFIELD
363	4208	4D21	A	defw	FIELD
364	420A	FE74	A	defw	XMKI
365	420C	4E82	A	defw	MKI
366	420E	FE79	A	defw	XMKS
367	4210	4E85	A	defw	MKS
368	4212	FE7E	A	defw	XMKD
369	4214	4E88	A	defw	MKD
370	4216	FE83	A	defw	XCVI
371	4218	4EAA	A	defw	CVI
372	421A	FE88	A	defw	XCVS
373	421C	4EAD	A	defw	CVS
374	421E	FE8D	A	defw	XCVD
375	4220	4EB0	A	defw	CVD
376	4222	FE92	A	defw	XZUGDS
377	4224	446F	A	defw	ZUGDS
378	4226	FE97	A	defw	XOPDS
379	4228	447E	A	defw	OPDS
380	422A	FE9C	A	defw	XOPERW
381	422C	44BE	A	defw	OPERW
382	422E	FEA1	A	defw	XCLOADS
383	4230	4765	A	defw	CLOADS
384	4232	FEA6	A	defw	XBLOAD
385	4234	49BA	A	defw	DBLOAD
386	4236	FEAB	A	defw	XBSAVE
387	4238	4852	A	defw	DBSAVE
388	423A	FEB0	A	defw	XFILSA
389	423C	47A4	A	defw	FILSA
390	423E	FEB5	A	defw	XFILLO
391	4240	47D5	A	defw	FILLO
392	4242	FEBA	A	defw	XFILES
393	4244	4EEF	A	defw	FILES
394	4246	FEBF	A	defw	XFILGE
395	4248	4B2A	A	defw	FILGE
396	424A	FEC4	A	defw	XFILLS
397	424C	46E2	A	defw	FILLS
398	424E	FEC9	A	defw	XZMODS
399	4250	4614	A	defw	ZMODS
400	4252	FECE	A	defw	XLOC
401	4254	514B	A	defw	LOC
402	4256	FED3	A	defw	XLOF
403	4258	514C	A	defw	LOF
404	425A	FED8	A	defw	XEOF
405	425C	4ECE	A	defw	EOF
406	425E	FEE2	A	defw	XLINPD
407	4260	46CF	A	defw	LINPD
408	4262	FEE7	A	defw	XFILDS
409	4264	5311	A	defw	FILDS
410	4266	FEEC	A	defw	XGERST
411	4268	5355	A	defw	GERST
412	426A	FF0F	A	defw	XERR2
413	426C	51D8	A	defw	ERR2
414	426E	FE56	A	defw	XRESET
415	4270	5024	A	defw	RESET
416	4272	FE60	A	defw	XXMFIL

```
417 4274 43B5      A   defw  MXFIL
418 4276 FE5B      A   defw  XCLEAR
419 4278 43BC      A   defw  CLEARD
420 427A E880      A   defw  JPBDOS
421 427C E89A      A   defw  BBDOS
422 427E 0000      A   defw  0
423              A;-----
424 4280 21 428C   ABIOSLI      ld    hl,BIODSL      ;BIOS-DSK-Sprungleiste
425 4283 11 FD00   A   ld    de,BIORSL      ;Sprungleiste im RAM
426 4286 01 003F   A   ld    bc,63        ;21 BIOS-Rufe
427 4289 ED B0      A   ldir
428 428B C9          A   ret
429              A;
430 428C C3 0000#   ABIODSL      jp    ERFC          ;CBOOT
431 428F C3 0000#   A   jp    ERFC          ;WBOOT
432 4292 C3 0000#   A   jp    INKEY        ;CONST
433 4295 C3 0000#   A   jp    RDRIPU       ;CONIN
434 4298 C3 0000#   A   jp    OUTASC       ;CONOUT
435 429B C3 0000#   A   jp    PRTOUT       ;LIST
436 429E C3 0000#   A   jp    ERFC          ;PUNCH
437 42A1 C3 0000#   A   jp    ERFC          ;READER
438 42A4 C3 0000#   A   jp    HOME
439 42A7 C3 0000#   A   jp    SELDSK
440 42AA C3 0000#   A   jp    SETTRK
441 42AD C3 0000#   A   jp    SETSEC
442 42B0 C3 0000#   A   jp    BSETDMA
443 42B3 C3 0000#   A   jp    READ
444 42B6 C3 0000#   A   jp    WRITE
445 42B9 C3 0000#   A   jp    PRSTA        ;LISTST
446 42BC C3 0000#   A   jp    SECTRAN
447 42BF C3 0000#   A   jp    ERFC          ;CONOST
448 42C2 C3 0000#   A   jp    ERFC          ;AUXIST
449 42C5 C3 0000#   A   jp    ERFC          ;AUXOST
450 42C8 C3 0000#   A   jp    ERFC          ;DEVTBL
451              A;-----
452 42CB 7D          AMEMNEU      ld    a,l
453 42CC B4          A   or    h
454 42CD C8          A   ret    z
455 42CE AF          A   xor   a
456 42CF 95          A   sub   l
457 42D0 6F          A   ld    l,a
458 42D1 3E 00      A   ld    a,0
459 42D3 9C          A   sbc   a,h
460 42D4 67          A   ld    h,a
461 42D5 4D          A   ld    c,l
462 42D6 44          A   ld    b,h
463 42D7 39          A   add   hl,sp        ;hl = sp - hl
464 42D8 3F          A   ccf
465 42D9 D8          A   ret    c
466 42DA ED 5B FBB2   A   ld    de,(ANFRAM)
467 42DE ED 52      A   sbc   hl,de
468 42E0 D8          A   ret    c
469 42E1 7C          A   ld    a,h
470 42E2 FE 02      A   cp    2
471 42E4 D8          A   ret    c
472 42E5 C5          A   push  bc
473 42E6 21 0000    A   ld    hl,0
474 42E9 39          A   add   hl,sp
```

```
475 42EA 5D      A    ld    e,l
476 42EB 54      A    ld    d,h
477 42EC 09      A    add   hl,bc
478 42ED E5      A    push hl
479 42EE 2A F53A  A    ld    hl,(STDPTR)
480 42F1 A7      A    and   a
481 42F2 ED 52    A    sbc  hl,de
482 42F4 4D      A    ld    c,l
483 42F5 44      A    ld    b,h
484 42F6 03      A    inc  bc
485 42F7 E1      A    pop  hl
486 42F8 F9      A    ld    sp,hl
487 42F9 EB      A    ex   de,hl
488 42FA ED B0    A    ldir
489 42FC C1      A    pop  bc
490 42FD 2A FBB4  A    ld    hl,(EOFRAM)
491 4300 09      A    add   hl,bc
492 4301 22 FBB6  A    ld    (EOFRM1),hl
493 4304 11 FDD4  A    ld    de,0FDD4h    ;-2*(114h+2), BASIC-fcb + Adr.
494 4307 19      A    add   hl,de
495 4308 22 F727  A    ld    (ATBFCB),hl
496 430B EB      A    ex   de,hl
497 430C 2A F538  A    ld    hl,(RAMTOP)
498 430F 09      A    add   hl,bc
499 4310 22 F538  A    ld    (RAMTOP),hl
500 4313 2A F729  A    ld    hl,(ACTDMA)
501 4316 09      A    add   hl,bc
502 4317 22 F729  A    ld    (ACTDMA),hl
503 431A 2A F53A  A    ld    hl,(STDPTR)
504 431D 09      A    add   hl,bc
505 431E 22 F53A  A    ld    (STDPTR),hl
506 4321 2B      A    dec  hl
507 4322 2B      A    dec  hl
508 4323 22 F577  A    ld    (HELPSP),hl
509 4326 6B      A    ld    l,e
510 4327 62      A    ld    h,d
511 4328 23      A    inc  hl
512 4329 23      A    inc  hl
513 432A 23      A    inc  hl
514 432B 23      A    inc  hl
515 432C 3A F725  A    ld    a,(MAXFIL)  ;Anzahl fcb's
516 432F 3C      A    inc  a
517 4330 EB      AMEMNE2 ex    de,hl
518 4331 73      A    ld    (hl),e    ;ATBFCB fuellen
519 4332 23      A    inc  hl
520 4333 72      A    ld    (hl),d
521 4334 23      A    inc  hl
522 4335 EB      A    ex   de,hl    ;fcb's initialisieren
523 4336 01 0007  A    ld    bc,7
524 4339 70      A    ld    (hl),b
525 433A 09      A    add   hl,bc
526 433B 70      A    ld    (hl),b
527 433C 01 010D  A    ld    bc,10Dh
528 433F 09      A    add   hl,bc
529 4340 3D      A    dec  a
530 4341 20 ED    A    jr   nz,MEMNE2
531 4343 C9      A    ret
532      A;
```

```
533 4344 E3      AOUZKSP      ex      (sp),hl
534 4345 CD 434A  A      call    STROUT
535 4348 E3      A      ex      (sp),hl
536 4349 C9      A      ret
537          A;
538 434A 7E      ASTROUT     ld      a,(hl)
539 434B 23      A      inc     hl
540 434C A7      A      and     a
541 434D C8      A      ret     z
542 434E CD FD0C  A      call    ICONOUT
543 4351 18 F7    A      jr      STROUT
544          A;
545 4353 CD 0138  ABANK?     call    DBAABF
546 4356 0F      A      rrca
547 4357 0F      A      rrca
548 4358 E6 03    A      and     3
549 435A C9      A      ret
550          A;
551 435B 3A FE92  ACALLUP    ld      a,(XZUGDS)
552 435E FE C9    A      cp     0C9h
553 4360 37      A      scf
554 4361 C8      A      ret     z
555 4362 E5      A      push   hl
556 4363 CD 4353  A      call    BANK?
557 4366 21 E88D  A      ld     hl,AKTBNK
558 4369 BE      A      cp     (hl)
559 436A 20 26    A      jr     nz,CALLU5
560 436C 21 4395  A      ld     hl,CALLTB
561 436F 11 FC81  ACALLU1    ld     de,NACALL
562 4372 1A      ACALLU2    ld     a,(de)
563 4373 BE      A      cp     (hl)
564 4374 13      A      inc     de
565 4375 23      A      inc     hl
566 4376 20 10    A      jr     nz,CALLU4
567 4378 A7      A      and     a
568 4379 20 F7    A      jr     nz,CALLU2
569 437B 7E      A      ld     a,(hl)
570 437C 23      A      inc     hl
571 437D 66      A      ld     h,(hl)
572 437E 6F      A      ld     l,a
573 437F E3      A      ex     (sp),hl
574 4380 CD 52C1  A      call    DTCHAR
575 4383 37      A      scf
576 4384 3F      A      ccf
577 4385 C9      A      ret
578 4386 23      ACALLU3    inc     hl
579 4387 7E      A      ld     a,(hl)
580 4388 A7      ACALLU4    and     a
581 4389 20 FB    A      jr     nz,CALLU3
582 438B 23      A      inc     hl
583 438C 23      A      inc     hl
584 438D 23      A      inc     hl
585 438E 7E      A      ld     a,(hl)
586 438F A7      A      and     a
587 4390 20 DD    A      jr     nz,CALLU1
588 4392 E1      ACALLU5    pop     hl
589 4393 37      A      scf
590 4394 C9      A      ret
```

```
591          A;
592 4395 46 4F 52 4DACALLTB      defm  'FORMAT'
593 439B 00          A      defb  0
594 439C 43A7       A      defw  FORMAT
595 439E 42 49 43 4FA      defm  'BICOP'
596 43A3 00          A      defb  0
597 43A4 0000#      A      defw  BICOP
598 43A6 00          A      defb  0
599          A;
600 43A7 E5          AFORMAT      push  hl
601 43A8 CC 0000#    A      call  z,FORMA0
602 43AB E1          A      pop   hl
603 43AC A7          A      and   a
604 43AD C9          A      ret
605          A;
606 43AE 7A          ALDDSK      ld    a,d          ;Geraetekenzeichen
607 43AF 3D          ALDDSK1     dec   a
608 43B0 F0          A      ret  p          ;expliz. Diskdrive
609 43B1 3A E887     A      ld  a,(DEFDRV) ;default
610 43B4 C9          A      ret
611          A;
612 43B5 CD 41B0     AMXFIL      call  MXFIUP      ;bdos-fcb's anlegen
613 43B8 22 FBB6     A      ld  (EOFRM1),hl ;Oberkante BASIC-fcb's
614 43BB C9          A      ret
615          A;
616 43BC 01 FE46     ACLEARD     ld    bc,-442     ;notwendiger Platz je
617 43BF C9          A      ret          ;bdos- + BASIC-fcb
618          A;
619 43C0 E5          ASUFCB      push  hl          ;FCB-Adresse suchen
620 43C1 D5          A      push  de
621 43C2 C5          A      push  bc
622 43C3 CD 43AE     A      call  LDDSK
623 43C6 4F          A      ld   c,a
624 43C7 2A F727     A      ld   hl,(ATBFCB)
625 43CA 3A F725     A      ld   a,(MAXFIL)
626 43CD F5          ASUFCB1     push  af
627 43CE 5E          A      ld   e,(hl)
628 43CF 23          A      inc  hl
629 43D0 56          A      ld   d,(hl)
630 43D1 23          A      inc  hl
631 43D2 E5          A      push  hl
632 43D3 EB          A      ex   de,hl
633 43D4 7E          A      ld   a,(hl)      ;mode
634 43D5 A7          A      and  a          ;file offen ?
635 43D6 28 2D      A      jr   z,SUFCB4   ;nein
636 43D8 23          A      inc  hl
637 43D9 23          A      inc  hl
638 43DA 23          A      inc  hl
639 43DB 23          A      inc  hl
640 43DC 7E          A      ld   a,(hl)      ;Geraet
641 43DD FE 11      A      cp   17          ;=Disk ?
642 43DF 30 24      A      jr   nc,SUFCB4  ;nein
643 43E1 2B          A      dec  hl
644 43E2 2B          A      dec  hl
645 43E3 56          A      ld   d,(hl)
646 43E4 2B          A      dec  hl
647 43E5 5E          A      ld   e,(hl)
648 43E6 1A          A      ld   a,(de)      ;byte 0 bdos-fcb
```

```
649 43E7 CD 43AF A call LDDSK1
650 43EA B9 A cp c
651 43EB 20 18 A jr nz,SUFCB4
652 43ED 13 A inc de
653 43EE 21 F72D A ld hl,AUTSTL
654 43F1 06 0B A ld b,11
655 43F3 1A ASUFCB2 ld a,(de) ;Namen vergleichen
656 43F4 E6 7F A and 7Fh
657 43F6 FE 3F A cp 3Fh
658 43F8 28 03 A jr z,SUFCB3
659 43FA BE A cp (hl)
660 43FB 20 08 A jr nz,SUFCB4
661 43FD 13 ASUFCB3 inc de
662 43FE 23 A inc hl
663 43FF 10 F2 A djnz SUFCB2
664 4401 E1 A pop hl
665 4402 E1 A pop hl
666 4403 18 66 A jr END2 ;fertig, file gefunden
667 4405 E1 ASUFCB4 pop hl
668 4406 F1 A pop af
669 4407 3D A dec a
670 4408 F2 43CD A jp p,SUFCB1 ;nicht gefunden, weiter
671 440B 18 5E A jr END2
672 A;
673 440D E5 ASUCHF push hl
674 440E D5 A push de
675 440F C5 A push bc
676 4410 7A A ld a,d ;Geraet
677 4411 32 F42E A ld (EDIBUF+0Ah),a
678 4414 CD 4433 A call NAUML
679 4417 CD 441C A call SUCHF1 ;set dma, search first
680 441A 18 4F A jr END2
681 A;
682 441C 11 F478 ASUCHF1 ld de,EDIBUF+54h
683 441F 0E 1A A ld c,26 ;set dma address
684 4421 CD 5369 A call BBDOSX
685 4424 11 F42E A ld de,EDIBUF+0Ah ;fcb address
686 4427 AF A xor a
687 4428 32 F43A A ld (EDIBUF+16h),a
688 442B 0E 11 A ld c,17 ;search for first
689 442D CD 5369 A call BBDOSX
690 4430 FE FF A cp 0FFh ;Fehler ?
691 4432 C9 A ret
692 A;
693 4433 11 F42F ANAUML ld de,EDIBUF+0Bh ;Namen umladen in Hilfs-fcb
694 4436 21 F72D ANAUML1 ld hl,AUTSTL
695 4439 01 000B A ld bc,11
696 443C ED B0 A ldir
697 443E C9 A ret
698 A;
699 443F E5 ASTACKM push hl ;Stackmanipulation fuer
700 4440 D5 A push de ;nachfolgende Disk-Zugriffe
701 4441 C5 A push bc
702 4442 F5 A push af
703 4443 21 0010 A ld hl,16
704 4446 39 A add hl,sp
705 4447 DD E5 A push ix
706 4449 C1 A pop bc
```



```
707 444A 71      A    ld    (hl),c
708 444B 23      A    inc   hl
709 444C 70      A    ld    (hl),b
710 444D 21 000A   A    ld    hl,10
711 4450 39      A    add   hl,sp
712 4451 EB      A    ex   de,hl
713 4452 18 0C   A    jr   STAKM4
714 4454 FD E5   ASTAKM2 push  iy
715 4456 C1      A    pop  bc
716 4457 4E      ASTAKM3 ld    c,(hl)
717 4458 1A      A    ld    a,(de)
718 4459 77      A    ld    (hl),a
719 445A 79      A    ld    a,c
720 445B 12      A    ld    (de),a
721 445C 23      A    inc   hl
722 445D 13      A    inc   de
723 445E 10 F7   A    djnz STAKM3
724 4460 21 0012   ASTAKM4 ld    hl,18
725 4463 39      A    add   hl,sp
726 4464 7B      A    ld    a,e
727 4465 95      A    sub   l
728 4466 7A      A    ld    a,d
729 4467 9C      A    sbc  a,h
730 4468 38 EA   A    jr   c,STAKM2
731 446A F1      AEND1 pop  af
732 446B C1      AEND2 pop  bc
733 446C D1      A    pop  de
734 446D E1      A    pop  hl
735 446E C9      A    ret
736      A;
737 446F DD 21 F240 AZUGDS ld    ix,LWRUP+6 ;Disk-Zugriff
738 4473 FD 21 0200 A    ld    iy,200h
739 4477 CD 443F   A    call STACKM
740 447A E1      A    pop  hl
741 447B 7E      A    ld    a,(hl) ;modus
742 447C A7      A    and  a
743 447D C9      A    ret
744      A;
745 447E 01 0080   AOPDS ld    bc,80h ;Auswertung fuer LEN=...
746 4481 ED 43 E888 A    ld    (RECLen),bc ;Standard merken
747 4485 CD 52C1   A    call DTCHAR ;Anweisungsende ?
748 4488 7B      A    ld    a,e ;File-Nr.
749 4489 C8      A    ret  z ;ja
750 448A F5      A    push af
751 448B E5      A    push hl
752 448C 21 000C   A    ld    hl,12
753 448F 39      A    add   hl,sp
754 4490 7E      A    ld    a,(hl)
755 4491 FE 04   A    cp   4 ;mode = random ?
756 4493 C2 530A   A    jp  nz,ERDSN ;nein
757 4496 23      A    inc  hl
758 4497 7E      A    ld    a,(hl) ;Geraet = Disk ?
759 4498 FE 11   A    cp   17
760 449A D2 530A   A    jp  nc,ERDSN ;nein
761 449D E1      A    pop  hl
762 449E CD 52B7   A    call DCPSTX
763 44A1 FF      A    defb 0FFh ;Funktion
764 44A2 CD 52B7   A    call DCPSTX
```

```
765 44A5 92      A   defb   92h           ;LEN
766 44A6 CD 52B7  A   call  DCPSTX
767 44A9 EF      A   defb   0EFh          ;=
768 44AA DD 21 0000#A ld   ix,INTPA2
769 44AE CD 0159  A   call  JLICAL          ;integer par.
770 44B1 1B      A   dec   de
771 44B2 14      A   inc   d
772 44B3 15      A   dec   d           ;<100h ?
773 44B4 C2 5304  A   jp    nz,ERDFC
774 44B7 13      A   inc   de          ;i.0.
775 44B8 ED 53 E888 A   ld   (RECLen),de
776 44BC F1      A   pop   af
777 44BD C9      A   ret
778                A;
779 44BE D0      AOPERW  ret   nc           ;OPEN fuer Diskette
780 44BF DD 21 F240  A   ld   ix,LWRUP+6
781 44C3 FD 21 0400 A   ld   iy,400h
782 44C7 CD 443F  A   call  STACKM
783 44CA CD 50D7  A   call  NACOF4        ;unzulaessige Zeichen ?
784 44CD CD 43C0  A   call  SUFCB         ;file auf anderen fcbs offen ?
785 44D0 CA 52EC  A   jp    z,ERDALO     ;ja
786 44D3 22 F72B  A   ld   (ACTFCB),hl
787 44D6 7B      A   ld   a,e
788 44D7 FE 04    A   cp    4           ;random ?
789 44D9 28 07    A   jr    z,OPERW1
790 44DB 01 0080  A   ld   bc,80h       ;Standard fuer sequentielle files
791 44DE ED 43 E888 A   ld   (RECLen),bc
792 44E2 F1      AOPERW1 pop   af
793 44E3 F5      A   push af           ;file nr
794 44E4 E5      A   push hl          ;fcb address
795 44E5 D5      A   push de          ;d=Geraet, e=mode
796 44E6 5F      A   ld   e,a         ;file nr
797 44E7 3A F725  A   ld   a,(MAXFIL)
798 44EA BB      A   cp    e
799 44EB DA 52F2  A   jp    c,ERDBFN    ;
800 44EE 01 00A4  A   ld   bc,00A4h    ;Laenge bdos-fcb
801 44F1 50      A   ld   d,b
802 44F2 2A E88E  A   ld   hl,(ADFCB0)
803 44F5 CD 45D2  A   call MLT16
804 44F8 AF      A   xor   a
805 44F9 21 000C  A   ld   hl,12        ;extent=0
806 44FC 09      A   add  hl,bc
807 44FD 77      A   ld   (hl),a
808 44FE D1      A   pop  de
809 44FF E1      A   pop  hl
810 4500 23      A   inc  hl          ;Laden BASIC-fcb mit Zeiger
811 4501 71      A   ld   (hl),c     ;auf bdos fcb
812 4502 23      A   inc  hl
813 4503 70      A   ld   (hl),b
814 4504 23      A   inc  hl
815 4505 77      A   ld   (hl),a     ;last byte = 0
816 4506 23      A   inc  hl
817 4507 72      A   ld   (hl),d     ;Geraet = 0
818 4508 23      A   inc  hl
819 4509 23      A   inc  hl
820 450A 77      A   ld   (hl),a     ;Fuellstand dma = 0
821 450B CD 440D  A   call SUCHF       ;search for first
822 450E C5      A   push bc
```

```
823 450F D5      A   push  de
824 4510 7A      A   ld    a,d
825 4511 02      A   ld    (bc),a
826 4512 59      A   ld    e,c
827 4513 50      A   ld    d,b
828 4514 13      A   inc  de
829 4515 CD 4436 A   call NAUML1      ;Dateinamen eintragen
830 4518 D1      A   pop  de
831 4519 C1      A   pop  bc
832 451A 7B      A   ld    a,e
833 451B 20 2E     A   jr   nz,OPERW3   ;file schon da ?
834 451D E6 86     A   and  86h         ;nein -> INPUT oder APPEND ?
835 451F CA 52FE A   jp   z,ERDFNF    ;      ja -> file not found
836
837 4522 D5      AOPERW2 push  de      ;fuer OUTPUT und SAVE
838 4523 C5      A   push bc          ;und RANDOM, wenn noch nicht da
839 4524 F5      A   push af          ;z - file schon da, nz - nicht da
840 4525 59      A   ld    e,c
841 4526 50      A   ld    d,b
842 4527 CD 45E5 A   call INIFCB
843 452A F1      A   pop  af          ;file schon da ?
844 452B 20 0C     A   jr   nz,OPERW8   ;nein
845 452D D5      A   push de
846 452E 0E 13     A   ld    c,19       ;delete file
847 4530 CD 5369 A   call BBDOSX
848 4533 D1      A   pop  de
849 4534 FE FF     A   cp   0FFh        ;Fehler ?
850 4536 CA 51B3 A   jp   z,ERWPRT    ;write protected
851 4539 0E 16     AOPERW8 ld    c,22       ;make file
852 453B CD 5369 A   call BBDOSX
853 453E 3C      A   inc  a
854 453F CA 51B0 A   jp   z,ERTOOM    ;too many files
855 4542 E1      AOPERW7 pop   hl
856 4543 D1      A   pop  de
857 4544 2A F72B A   ld   hl,(ACTFCB)
858 4547 73      A   ld   (hl),e     ;mode eintragen
859 4548 F1      AEND3 pop  af
860 4549 E1      A   pop  hl
861 454A C9      A   ret
862 454B FE 08     AOPERW3 cp    8          ;file schon da
863 454D 28 42     A   jr   z,OPERW5   ;-> APPEND
864 454F FE 02     A   cp   2
865 4551 28 CF     A   jr   z,OPERW2   ;-> OUTPUT
866 4553 FE 80     A   cp   80h
867 4555 28 CB     A   jr   z,OPERW2   ;-> SAVE
868 4557 D5      A   push de          ;INPUT und random, wenn schon da
869 4558 C5      A   push bc
870 4559 59      A   ld    e,c
871 455A 50      A   ld    d,b
872 455B CD 45E5 A   call INIFCB
873 455E 0E 0F     A   ld    c,15       ;open file
874 4560 CD 5369 A   call BBDOSX
875 4563 E1      A   pop  hl
876 4564 D1      A   pop  de
877 4565 2A F72B A   ld   hl,(ACTFCB)
878 4568 73      A   ld   (hl),e
879 4569 7B      A   ld   a,e
880 456A FE 04     A   cp   4          ;random ?
```

```
881 456C 28 DA      A    jr      z,END3 ;ja, fertig
882 456E E5          A    push   hl          ;nein, erstes Zeichen lesen
883 456F 21 FC1C   A    ld     hl,HLPERR
884 4572 AF          A    xor    a
885 4573 BE          A    cp     (hl)
886 4574 77          A    ld     (hl),a
887 4575 E1          A    pop    hl
888 4576 20 D0     A    jr     nz,END3
889 4578 01 0006   A    ld     bc,6          ;read/write-Zeiger in dma-Bereich
890 457B 09          A    add    hl,bc
891 457C E5          A    push   hl
892 457D CD 462B   A    call  ZEILES        ;Zeichen lesen
893 4580 E1          A    pop    hl
894 4581 2B          A    dec    hl
895 4582 2B          A    dec    hl
896 4583 2B          A    dec    hl
897 4584 77          A    ld     (hl),a        ;last byte
898 4585 FE FF     A    cp     0FFh         ;Programm-Datei ?
899 4587 20 BF     A    jr     nz,END3;nein
900 4589 23          A    inc    hl          ;ja
901 458A 23          A    inc    hl
902 458B 23          A    inc    hl
903 458C 23          A    inc    hl
904 458D 36 80     A    ld     (hl),80h
905 458F 18 B7     AOPERW4 jr     END3
906 4591 C5          AOPERW5 push   bc          ;fuer APPEND
907 4592 59          A    ld     e,c
908 4593 50          A    ld     d,b
909 4594 CD 45E5   A    call  INIFCB
910 4597 0E 0F     A    ld     c,15        ;open file
911 4599 CD 5369   A    call  BBDOSX
912 459C 2A F72B   A    ld     hl,(ACTFCB)
913 459F 36 01     A    ld     (hl),1      ;auf INPUT schalten
914 45A1 01 0006   A    ld     bc,6
915 45A4 09          A    add    hl,bc
916 45A5 36 80     A    ld     (hl),080h   ;dma-Bereich leer
917 45A7 2A F72B   A    ld     hl,(ACTFCB)
918 45AA E5          AOPERW6 push   hl
919 45AB CD 462B   A    call  ZEILES        ;Zeichen lesen aus file
920 45AE E1          A    pop    hl
921 45AF 30 F9     A    jr     nc,OPERW6    ;bis Ende
922 45B1 36 02     A    ld     (hl),2      ;umschalten auf OUTPUT
923 45B3 01 0006   A    ld     bc,6
924 45B6 09          A    add    hl,bc
925 45B7 7E          A    ld     a,(hl)
926 45B8 D6 80     A    sub    80h
927 45BA 2F          A    cpl
928 45BB 77          A    ld     (hl),a      ;read/write pointer
929 45BC 01 0103   A    ld     bc,103h
930 45BF 09          A    add    hl,bc
931 45C0 4E          A    ld     c,(hl)
932 45C1 23          A    inc    hl
933 45C2 46          A    ld     b,(hl)
934 45C3 0B          A    dec    bc          ;basic loc dec
935 45C4 70          A    ld     (hl),b
936 45C5 2B          A    dec    hl
937 45C6 71          A    ld     (hl),c
938 45C7 CD 46C6   A    call  ACTBDO
```

```
939 45CA 01 0020 A ld bc,20h
940 45CD 09 A add hl,bc
941 45CE 35 A dec (hl) ;bdos cr dec
942 45CF E1 A pop hl
943 45D0 18 BD A jr OPERW4
944 A;
945 45D2 78 AMLT16 ld a,b ;bc:=bc*de+hl
946 45D3 06 11 A ld b,11h
947 45D5 18 07 A jr MLT163
948 45D7 30 01 AMLT161 jr nc,MLT162
949 45D9 19 A add hl,de
950 45DA CB 1C AMLT162 rr h
951 45DC CB 1D A rr l
952 45DE 1F AMLT163 rra
953 45DF CB 19 A rr c
954 45E1 10 F4 A djnz MLT161
955 45E3 47 A ld b,a
956 45E4 C9 A ret
957 A;
958 45E5 62 AINIFCB ld h,d
959 45E6 6B A ld l,e
960 45E7 01 000C A ld bc,0Ch ;hl: Anfang bdos fcb
961 45EA 09 A add hl,bc ;Loeschen ab extent
962 45EB 0E 84 A ld c,84h ;bis Ende dma-Bereich
963 45ED 70 AINIFC1 ld (hl),b
964 45EE 23 A inc hl
965 45EF 0D A dec c
966 45F0 20 FB A jr nz,INIFC1
967 45F2 2A F72B A ld hl,(ACTFCB) ;hl: BASIC-fcb
968 45F5 01 0005 A ld bc,5
969 45F8 09 A add hl,bc
970 45F9 36 80 A ld (hl),80h ;rec len bdos
971 45FB 23 A inc hl
972 45FC 70 A ld (hl),b ;read/write pointer = 0
973 45FD 01 0103 A ld bc,103h
974 4600 09 A add hl,bc ;rrn BASIC (loc)
975 4601 E5 A push hl
976 4602 06 0B A ld b,11
977 4604 AF A xor a
978 4605 77 AINIFC2 ld (hl),a
979 4606 23 A inc hl
980 4607 10 FC A djnz INIFC2
981 4609 E1 A pop hl
982 460A 23 A inc hl
983 460B 23 A inc hl
984 460C ED 4B E888 A ld bc,(RECLen) ;user set record size
985 4610 71 A ld (hl),c ;bei random, sonst 80h
986 4611 23 A inc hl
987 4612 70 A ld (hl),b
988 4613 C9 A ret
989 A;
990 4614 DD 21 F240 AZMODS ld ix,LWRUP+6 ;1 byte fuer INPUT#, LINE INPUT#
991 4618 FD 21 0600 A ld iy,600h
992 461C CD 443F A call STACKM
993 461F CD 462B A call ZEILES ;byte lesen einschli. record
994 4622 C3 446B A jp END2 ;fertig
995 A;
996 4625 CD 4636 AZEILE call ZEILS ;Zeichen lesen
```

```
997 4628 36 00      A   ld   (hl),0           ;last byte loeschen
998 462A C9          A   ret
999                A;
1000 462B CD 4636   AZEILES call  ZEILS           ;Zeichen lesen mit Test
1001 462E D8          A   ret   c             ;auf EOF (1Ah)
1002 462F FE 1A     A   cp   1Ah
1003 4631 37          A   scf
1004 4632 3F          A   ccf
1005 4633 C0          A   ret   nz
1006 4634 37          A   scf
1007 4635 C9          A   ret
1008                A;
1009 4636 2A F72B   AZEILS  ld   hl,(ACTFCB)      ;BASIC-fcb           Zeichen lesen
1010 4639 7E          A   ld   a,(hl)         ;mode
1011 463A FE 01     A   cp   1             ;= INPUT ?
1012 463C C2 519E   A   jp   nz,ERBMOD      ;bad file mode
1013 463F 23          A   inc  hl
1014 4640 23          A   inc  hl
1015 4641 23          A   inc  hl             ;last byte
1016 4642 E5          A   push hl
1017 4643 7E          A   ld   a,(hl)
1018 4644 A7          A   and  a             ;schon was gelesen ?
1019 4645 20 18     A   jr   nz,ZEILS1      ;ja, EOF-Test
1020 4647 23          A   inc  hl
1021 4648 23          A   inc  hl
1022 4649 23          AZEILS6 inc  hl             ;Lesezeiger
1023 464A 7E          A   ld   a,(hl)
1024 464B B7          A   or   a
1025 464C 28 1E     A   jr   z,ZEILS2      ;dma-Bereich leer -> record lesen
1026 464E 2B          A   dec  hl             ;Zeichen lesen
1027 464F 7E          A   ld   a,(hl)        ;rec len
1028 4650 23          A   inc  hl
1029 4651 96          A   sub  (hl)          ;Lesezeiger
1030 4652 35          A   dec  (hl)
1031 4653 4F          A   ld   c,a
1032 4654 06 00     A   ld   b,0           ;bc: neuser Lesezeiger
1033 4656 CD 46C6   A   call ACTBDO        ;hl: akt. bdos fcb
1034 4659 11 0024   A   ld   de,24h        ;Anfang dma bereich
1035 465C 19          A   add  hl,de
1036 465D 09          A   add  hl,bc          ;Zeichen aus dma-Bereich
1037 465E 7E          A   ld   a,(hl)        ;lesen
1038 465F 47          AZEILS1 ld   b,a
1039 4660 D6 1A     A   sub  1Ah           ;EOF-Test
1040 4662 D6 01     A   sub  1             ;EOF-CY=1, <>EOF-CY=0
1041 4664 78          A   ld   a,b           ;Zeichen
1042 4665 E1          A   pop  hl            ;last byte
1043 4666 36 00     A   ld   (hl),0        ;fuer <>EOF
1044 4668 D0          A   ret   nc
1045 4669 77          A   ld   (hl),a        ;fuer EOF
1046 466A 3F          A   ccf
1047 466B C9          A   ret
1048 466C CD 4677   AZEILS2 call  RECLES
1049 466F 28 D8     A   jr   z,ZEILS6      ;Zeichen lesen
1050 4671 3E 1A     A   ld   a,1Ah         ;EOF bei Fehler
1051 4673 37          A   scf
1052 4674 E1          A   pop  hl
1053 4675 77          A   ld   (hl),a
1054 4676 C9          A   ret
```

```
1055                                     A;
1056 4677 2A F72B ARECLES      ld      hl,(ACTFCB) ;BASIC fcb
1057 467A 01 0109 A      ld      bc,109h ;BASIC rrn
1058 467D 09      A      add     hl,bc ; +=1
1059 467E 4E      A      ld      c,(hl)
1060 467F 23      A      inc     hl
1061 4680 46      A      ld      b,(hl)
1062 4681 03      A      inc     bc
1063 4682 70      A      ld      (HL),b
1064 4683 2B      A      dec     hl
1065 4684 71      A      ld      (hl),c
1066 4685 CD 46C6 A      call   ACTBDO ;bdos fcb
1067 4688 E5      A      push    hl
1068 4689 01 0024 A      ld      bc,24h
1069 468C 09      A      add     hl,bc ;akt. dma-Adresse
1070 468D E5      A      push    hl
1071 468E 0E 80   A      ld      c,80h ;loeschen
1072 4690 36 00   AZEILS3 ld      (hl),0
1073 4692 23      A      inc     hl
1074 4693 0D      A      dec     c
1075 4694 20 FA   A      jr      nz,ZEILS3
1076 4696 D1      A      pop     de
1077 4697 0E 1A   A      ld      c,26 ;set dma address
1078 4699 CD 5369 A      call   BBDOSX
1079 469C D1      A      pop     de
1080 469D D5      A      push    de
1081 469E 0E 14   A      ld      c,20 ;sequential read
1082 46A0 CD 5369 A      call   BBDOSX
1083 46A3 D1      A      pop     de
1084 46A4 A7      A      and     a ;Fehler?
1085 46A5 F5      A      push    af
1086 46A6 21 0021 A      ld      hl,21h ;bdos rrn
1087 46A9 19      A      add     hl,de
1088 46AA 34      A      inc     (hl) ; +=1
1089 46AB 20 06   A      jr      nz,ZEILS4
1090 46AD 23      A      inc     hl
1091 46AE 34      A      inc     (hl)
1092 46AF 20 02   A      jr      nz,ZEILS4
1093 46B1 23      A      inc     hl
1094 46B2 34      A      inc     (hl)
1095 46B3 F1      AZEILS4 pop     af
1096 46B4 3E 00   A      ld      a,0
1097 46B6 2A F72B A      ld      hl,(ACTFCB) ;Lesezeiger
1098 46B9 01 0006 A      ld      bc,6
1099 46BC 09      A      add     hl,bc
1100 46BD 20 02   A      jr      nz,ZEILS5 ;bei Fehler
1101 46BF 3E 80   A      ld      a,80h
1102 46C1 77      AZEILS5 ld      (hl),a ;0 bei Fehler, sonst 80h
1103 46C2 2B      A      dec     hl
1104 46C3 36 80   A      ld      (hl),80h ;rec len
1105 46C5 C9      A      ret
1106                                     A;
1107 46C6 2A F72B AACTBDO ld      hl,(ACTFCB)
1108 46C9 23      AACTBDP inc     hl
1109 46CA 7E      A      ld      a,(hl)
1110 46CB 23      A      inc     hl
1111 46CC 66      A      ld      h,(hl)
1112 46CD 6F      A      ld      l,a ;hl: bdos fcb
```

```
1113 46CE C9      A      ret
1114             A;
1115 46CF E5      ALINPD      push  hl
1116 46D0 D5      A      push  de
1117 46D1 21 000A  A      ld      hl,0Ah
1118 46D4 39      A      add     hl,sp
1119 46D5 11 0000#  A      ld      de,LINP14
1120 46D8 73      A      ld      (hl),e
1121 46D9 23      A      inc     hl
1122 46DA 72      A      ld      (hl),d
1123 46DB D1      A      pop     de
1124 46DC E1      A      pop     hl
1125 46DD 23      A      inc     hl
1126 46DE 23      A      inc     hl
1127 46DF 23      A      inc     hl
1128 46E0 71      A      ld      (hl),c      ;Zeichen in last byte eintragen
1129 46E1 C9      A      ret
1130             A;
1131 46E2 DD 21 F240 AFILLS      ld      ix,LWRUP+6      ;von PRINT#
1132 46E6 FD 21 0800 A      ld      iy,800h
1133 46EA CD 443F  A      call   STACKM
1134 46ED 7E      A      ld      a,(hl)
1135 46EE FE 02      A      cp      2      ;OUTPUT ?
1136 46F0 C2 519E  A      jp      nz,ERBMOD      ;nein -> bad file mode
1137 46F3 F1      A      pop     af
1138 46F4 F5      A      push    af
1139 46F5 CD 46FB  A      call   ZEINTR      ;byte eintragen, u.U. rec aus
1140 46F8 C3 446A  A      jp      END1      ;fertig
1141             A;
1142 46FB 2A F72B  AZEINTR      ld      hl,(ACTFCB)
1143 46FE E5      A      push    hl
1144 46FF 01 0006  A      ld      bc,6      ;write pointer
1145 4702 09      A      add     hl,bc
1146 4703 5F      A      ld      e,a
1147 4704 34      A      inc     (hl)
1148 4705 7E      A      ld      a,(hl)
1149 4706 FE 80      A      cp      80h      ;record voll ?
1150 4708 F5      A      push    af      ;merken
1151 4709 4F      A      ld      c,a
1152 470A C5      A      push    bc
1153 470B CD 46C6  A      call   ACTBDO
1154 470E 01 0023  A      ld      bc,23h      ;hl: dma-Bereich
1155 4711 09      A      add     hl,bc
1156 4712 C1      A      pop     bc
1157 4713 09      A      add     hl,bc      ;Zeichenadr. in dma-Ber.
1158 4714 73      A      ld      (hl),e      ;Zeichen eintragen
1159 4715 F1      A      pop     af
1160 4716 E1      A      pop     hl      ;BASIC fcb
1161 4717 C0      A      ret     nz      ;record nicht voll
1162             A;
1163 4718 E5      ARECAUS      push    hl      ;voll, ausgeben
1164 4719 01 0006  A      ld      bc,6
1165 471C 09      A      add     hl,bc
1166 471D 36 00      A      ld      (hl),0      ;write pointer = 0
1167 471F CD 46C6  A      call   ACTBDO      ;bdos fcb
1168 4722 E5      A      push    hl
1169 4723 01 0024  A      ld      bc,24h
1170 4726 09      A      add     hl,bc      ;dma-Bereich
```



```
1171 4727 EB      A      ex      de,hl
1172 4728 0E 1A      A      ld      c,26      ;set dma address
1173 472A CD 5369      A      call     BBDOSX
1174 472D D1          A      pop     de
1175 472E D5          A      push    de
1176 472F 0E 15      A      ld      c,21      ;sequential write
1177 4731 CD 5369      A      call     BBDOSX
1178 4734 D1          A      pop     de
1179 4735 D5          A      push    de
1180 4736 F5          A      push    af
1181 4737 21 0021      A      ld      hl,21h     ;bdos rrn = +1
1182 473A 19          A      add     hl,de
1183 473B 34          A      inc     (hl)
1184 473C 20 06      A      jr      nz,RECAU1
1185 473E 23          A      inc     hl
1186 473F 34          A      inc     (hl)
1187 4740 20 02      A      jr      nz,RECAU1
1188 4742 23          A      inc     hl
1189 4743 34          A      inc     (hl)
1190 4744 F1          ARECAU1  pop     af
1191 4745 A7          A      and     a
1192 4746 28 0C      A      jr      z,RECAU2
1193 4748 D1          A      pop     de      ;bdos fcb
1194 4749 AF          A      xor     a
1195 474A E1          A      pop     hl      ;BASIC fcb
1196 474B 77          A      ld      (hl),a
1197 474C 0E 10      A      ld      c,16      ;close file
1198 474E CD 5369      A      call     BBDOSX
1199 4751 C3 51AD      A      jp      ERFULL     ;disk full
1200 4754 E1          ARECAU2  pop     hl      ;bdos fcb
1201 4755 E1          A      pop     hl      ;BASIC fcb
1202 4756 E5          A      push    hl
1203 4757 11 0109      A      ld      de,109h
1204 475A 19          A      add     hl,de      ;BASIC rrn
1205 475B 5E          A      ld      e,(hl)     ; +=1
1206 475C 23          A      inc     hl
1207 475D 56          A      ld      d,(hl)
1208 475E 13          A      inc     de
1209 475F 72          A      ld      (hl),d
1210 4760 2B          A      dec     hl
1211 4761 73          A      ld      (hl),e
1212 4762 E1          A      pop     hl      ;BASIC fcb
1213 4763 A7          A      and     a
1214 4764 C9          A      ret
1215          A;
1216 4765 DD 21 F240 ACLODS      ld      ix,LWRUP+6      ;CLOSE fuer Disk
1217 4769 FD 21 0400 A      ld      iy,400h
1218 476D CD 443F      A      call     STACKM
1219 4770 E1          A      pop     hl
1220 4771 7E          A      ld      a,(hl)
1221 4772 E6 82      A      and     82h      ;OUTPUT, SAVE ?
1222 4774 28 12      A      jr      z,CLODS1     ;nein
1223 4776 AF          A      xor     a
1224 4777 E5          A      push    hl
1225 4778 21 FC1C      A      ld      hl,HLPERR
1226 477B BE          A      cp      (hl)
1227 477C 77          A      ld      (hl),a
1228 477D E1          A      pop     hl
```

```
1229 477E 20 08      A   jr      nz,CLODS1
1230 4780 3E 1A      A   ld      a,1Ah
1231 4782 CD 46FB    A   call    ZEINTR      ;EOF eintragen fuer OUTPUT
1232 4785 C4 4718    A   call    nz,RECAUS   ;rec ausgeben
1233 4788 E5             ACLODS1   push    hl
1234 4789 23             A   inc     hl
1235 478A 5E             A   ld      e,(hl)
1236 478B 23             A   inc     hl
1237 478C 56             A   ld      d,(hl)
1238 478D 0E 10      A   ld      c,16      ;close file
1239 478F CD 5369    A   call    BBDOSX
1240 4792 E1             A   pop     hl
1241 4793 E5             A   push    hl
1242 4794 11 0007    A   ld      de,7
1243 4797 19             A   add     hl,de
1244 4798 72             A   ld      (hl),d
1245 4799 6A             A   ld      l,d
1246 479A 62             A   ld      h,d
1247 479B 22 F72B    A   ld      (ACTFCB),hl ;loeschen
1248 479E E1             A   pop     hl
1249 479F 34             A   inc     (hl)
1250 47A0 35             A   dec     (hl)
1251 47A1 72             A   ld      (hl),d    ;mode loeschen
1252 47A2 E1             A   pop     hl
1253 47A3 C9             A   ret
1254             A;
1255 47A4 CD 5358    AFILSA   call    STCKM      ;Stackmanipul.
1256 47A7 E5             A   push    hl
1257 47A8 DD 21 0000#A   ld      ix,REN10   ;Zeiger bereinigen
1258 47AC CD 0159    A   call    JL1CAL
1259 47AF 3E FF      A   ld      a,0FFh   ;Kennzeichen Programm
1260 47B1 CD 46FB    A   call    ZEINTR   ;Zeichen eintragen in record
1261 47B4 2A F588    A   ld      hl,(SVARPT)
1262 47B7 EB             A   ex      de,hl
1263 47B8 2A F53C    A   ld      hl,(PSTBEG)
1264 47BB E7             AFILSA2   rst     CPREG      ;Anfang - Ende ?
1265 47BC 28 0B      A   jr      z,FILSA1 ;fertig -> CLOSE
1266 47BE 7E             A   ld      a,(hl)   ;Zeichen holen
1267 47BF 23             A   inc     hl
1268 47C0 E5             A   push    hl
1269 47C1 D5             A   push    de
1270 47C2 CD 46FB    A   call    ZEINTR   ;Zeichen eintragen in record
1271 47C5 D1             A   pop     de
1272 47C6 E1             A   pop     hl
1273 47C7 18 F2      A   jr      FILSA2
1274 47C9 AF             AFILSA1   xor     a
1275 47CA 32 F743    A   ld      (LMAFL),a
1276 47CD E1             A   pop     hl
1277 47CE DD 21 0000#A   ld      ix,CLOSE1
1278 47D2 C3 0159    A   jp     JL1CAL
1279             A;
1280 47D5 DD 21 0000#AFILLO ld      ix,FCBBE5   ;LOAD interner Code
1281 47D9 FD 21 0200  A   ld      iy,200h
1282 47DD CD 443F    A   call    STACKM
1283 47E0 F1             A   pop     af
1284 47E1 CA 519E    A   jp     z,ERBMOD   ;bad file mode
1285 47E4 2A F72B    A   ld      hl,(ACTFCB) ;BASIC fcb
1286 47E7 E5             A   push    hl
```

```
1287 47E8 CD 462B A call ZEILES ;Zeichen lesen 0FFh
1288 47EB 3C A inc a ;interner Code?
1289 47EC C2 519E A jp nz,ERBMOD ;nein -> bad file mode
1290 47EF 2A F53C A ld hl,(PSTBEG) ;Anfang
1291 47F2 EB AFILLO1 ex de,hl
1292 47F3 2A F53A A ld hl,(STDPTR) ;Adr. Stack
1293 47F6 01 FF6D A ld bc,0FF6Dh ;-93h
1294 47F9 09 A add hl,bc
1295 47FA E7 A rst CPREG
1296 47FB EB A ex de,hl ;Zeiger in BASIC Programm
1297 47FC DA 52D4 A jp c,ERDMO ;out of memory
1298 47FF E3 A ex (sp),hl ;BASIC fcb, (Zeiger)
1299 4800 E5 A push hl ;(BASIC fcb), (Zeiger)
1300 4801 CD 4625 A call ZEILE ;Zeichen lesen
1301 4804 E1 A pop hl
1302 4805 E3 A ex (sp),hl ;Zeiger, (BASIC fcb)
1303 4806 38 04 A jr c,FILLO2 ;fileende gefunden (kein weiterer rec)
1304 4808 77 A ld (hl),a ;Zeichen eintragen
1305 4809 23 A inc hl ;Zeiger weiterstellen
1306 480A 18 E6 A jr FILL01 ;weiter
1307 480C DD 21 0000#AFILLO2 ld ix,PTNEW ;Folgezeiger
1308 4810 CD 0159 A call JL1CAL ;neu stellen
1309 4813 23 A inc hl
1310 4814 22 F588 A ld (SVARPT),hl
1311 4817 22 F58A A ld (DVARPT),hl
1312 481A 22 F58C A ld (FSLPTR),hl
1313 481D DD 21 0000#A ld ix,CLOSEA
1314 4821 CD 0159 A call JL1CAL
1315 4824 E1 A pop hl
1316 4825 3A F72D A ld a,(AUTSTL)
1317 4828 A7 A and a
1318 4829 C8 A ret z ;ohne Autostart
1319 482A AF A xor a
1320 482B 32 F743 A ld (LMAFL),a
1321 482E 21 4842 A ld hl,FILL0T ;5 byte RUN anhaengen
1322 4831 11 F42E A ld de,EDIBUF+0Ah
1323 4834 01 0005 A ld bc,5
1324 4837 D5 A push de
1325 4838 ED B0 A ldir
1326 483A E1 A pop hl
1327 483B DD 21 0000#A ld ix,RUNMOD
1328 483F C3 0159 A jp JL1CAL
1329 4842 3A AFILLOT defb ':'
1330 4843 8A A defb 08Ah ;RUN token
1331 4844 00 A defb 0
1332 4845 00 A defb 0
1333 4846 00 A defb 0
1334 A;
1335 4847 E5 ASAVHL push hl ;hl -> record
1336 4848 7D A ld a,l
1337 4849 CD 46FB A call ZEINTR
1338 484C E1 A pop hl
1339 484D 7C A ld a,h
1340 484E CD 46FB A call ZEINTR
1341 4851 C9 A ret
1342 A;
1343 4852 D0 ADBSAVE ret nc
1344 4853 CD 5358 A call STCKM ;SAVE Maschinencode
```

```
1345 4856 D5      A      push  de
1346 4857 CD 4B08  A      call  KADTDE      ;Anfangsadresse
1347 485A ED 53 FC6E  A      ld    (STADR),de
1348 485E D5      A      push  de
1349 485F CD 4B08  A      call  KADTDE      ;Endadresse
1350 4862 ED 53 F744  A      ld    (LADBSA),de
1351 4866 E3      A      ex    (sp),hl
1352 4867 EB      A      ex    de,hl
1353 4868 E7      A      rst  CPREG
1354 4869 DA 5304  A      jp    c,ERDFC    ;Anf>End -> ill. function call
1355 486C EB      A      ex    de,hl
1356 486D E3      A      ex    (sp),hl
1357 486E CD 52C1  A      call  DTCHAR
1358 4871 37      A      scf                    ;RAM
1359 4872 28 1B   A      jr    z,DBSAV2     ;Anweisungsende
1360 4874 CD 52B7  A      call  DCPSTX      ;es kommt noch was
1361 4877 2C      A      defb  ','
1362 4878 FE 5A   A      cp    'Z'
1363 487A CA 4963  A      jp    z,DBSAVG
1364 487D FE 53   A      cp    'S'          ;aus Bildspeicher ?
1365 487F 20 06   A      jr    nz,DBSAV1   ;nein
1366 4881 CD 52C2  A      call  DTCHA0
1367 4884 A7      A      and  a            ;screen
1368 4885 18 08   A      jr    DBSAV2      ;ja, ohne Startadr.
1369 4887 CD 4B0C  A      call  ADTDEX      ;Startadresse
1370 488A ED 53 FC6E  A      ld    (STADR),de
1371 488E 37      A      scf
1372 488F C1      A      ADBSAV2      pop  bc
1373 4890 30 05   A      jr    nc,DBSAV3   ;-> screen
1374 4892 04      A      inc  b            ;Anfangsadr. < 8000h ?
1375 4893 05      A      dec  b
1376 4894 F2 5304  A      jp    p,ERDFC     ;ja -> ill. function call
1377 4897 D1      A      ADBSAV3      pop  de
1378 4898 E5      A      push  hl
1379 4899 C5      A      push  bc
1380 489A F5      A      push  af
1381 489B AF      A      xor  a            ;file #0
1382 489C 1E 02   A      ld    e,2          ;OPEN FOR OUTPUT
1383 489E DD 21 0000#A  ld    ix,OPEN4
1384 48A2 CD 0159  A      call  JL1CAL
1385 48A5 F1      A      pop  af
1386 48A6 F5      A      push  af
1387 48A7 3E FE   A      ld    a,0FEh      ;MC
1388 48A9 38 02   A      jr    c,DBSAVD
1389 48AB 3E FD   A      ld    a,0FDh      ;Screen
1390 48AD CD 46FB  A      call  ADBSAVD     ;eintragen
1391 48B0 F1      A      pop  af
1392 48B1 E1      A      pop  hl
1393 48B2 E5      A      push  hl
1394 48B3 F5      A      push  af
1395 48B4 CD 4847  A      call  SAVHL      ;Anfangsadr
1396 48B7 2A F744  A      ld    hl,(LADBSA)
1397 48BA CD 4847  A      call  SAVHL      ;Endadr
1398 48BD 2A FC6E  A      ld    hl,(STADR)
1399 48C0 CD 4847  A      call  SAVHL      ;Startadr eintragen
1400 48C3 F1      A      pop  af
1401 48C4 D1      A      pop  de
1402 48C5 2A F744  A      ld    hl,(LADBSA) ;Endadr
```

```
1403 48C8 30 1B      A   jr      nc,DBSAV4      ;Screen
1404 48CA 1A        ADBSAV5      ld      a,(de)      ;Zeichen holen
1405 48CB D5          A   push    de
1406 48CC E5          A   push    hl
1407 48CD CD 46FB    A   call   ZEINTR      ;und ausgeben
1408 48D0 E1          A   pop     hl
1409 48D1 D1          A   pop     de
1410 48D2 E7          A   rst     CPREG
1411 48D3 28 05     A   jr      z,DBSAV6
1412 48D5 38 03     A   jr      c,DBSAV6
1413 48D7 13        A   inc     de
1414 48D8 18 F0     A   jr      DBSAV5
1415 48DA AF          ADBSAV6      xor     a
1416 48DB DD 21 0000#A    ld      ix,CLOSE1    ;CLOSE
1417 48DF CD 0159    A   call   JL1CAL
1418 48E2 C3 4FEB    A   jp     END4
1419
1420 48E5 E5          ADBSAV4      push   hl
1421 48E6 CD 0000#    A   call   CURSRD      ;Kursoradr lesen
1422 48E9 22 F565    A   ld     (HARI5),hl  ;retten
1423 48EC CD 4B1B    A   call   KRAUS
1424 48EF E1          A   pop     hl
1425 48F0 ED 5B FC6E  A   ld     de,(STADR)
1426 48F4 A7          A   and     a
1427 48F5 ED 52     A   sbc    hl,de
1428 48F7 23        A   inc     hl
1429 48F8 22 F744    A   ld     (LADBSA),hl ;Laenge gesamt
1430 48FB CD 518D    A   call   BLSIZE      ;Blockgroesse bestimmen
1431 48FE E5          A   push   hl
1432 48FF ED 5B F744  A   ld     de,(LADBSA)
1433 4903 7A        A   ld     a,d
1434 4904 B3        A   or     e
1435 4905 20 05     A   jr      nz,DBSA11
1436 4907 37        A   scf
1437 4908 F5          A   push   af
1438 4909 18 0D     A   jr      DBSA10
1439 490B E5          ADBSAV7      push   hl      ;Laenge rec
1440 490C ED 5B F744  ADBSA11      ld     de,(LADBSA) ;Restlaenge gesamt
1441 4910 E7          A   rst     CPREG
1442 4911 F5          A   push   af
1443 4912 4B        A   ld     c,e
1444 4913 42        A   ld     b,d
1445 4914 30 04     A   jr      nc,DBSAVC
1446 4916 28 02     A   jr      z,DBSAVC
1447 4918 4D        ADBSA10      ld     c,l      ;bc: Anzahl
1448 4919 44        A   ld     b,h
1449 491A 2A FC6E    ADBSAVC      ld     hl,(STADR) ;Anfang
1450 491D E5          A   push   hl
1451 491E 09        A   add    hl,bc
1452 491F 22 FC6E    A   ld     (STADR),hl ;neuer Anfang
1453 4922 E1          A   pop    hl      ;Anfang
1454 4923 ED 5B E890    A   ld     de,(HIADR)
1455 4927 CD 0059    A   call   JIBCDE      ;Lesen von VDP,bc mal nach de
1456 492A F1          A   pop    af
1457 492B 30 12     A   jr      nc,DBSAV8
1458 492D E1          A   pop    hl
1459 492E E5          A   push   hl
1460 492F CD 4951    A   call   DBSAVA
```

```
1461 4932 2A F744 A ld hl,(LADBSA) ;Laenge gesamt
1462 4935 D1 A pop de ;Laenge rec
1463 4936 A7 A and a
1464 4937 ED 52 A sbc hl,de ;- Anzahl
1465 4939 22 F744 A ld (LADBSA),hl
1466 493C EB A ex de,hl
1467 493D 18 CC A jr DBSAV7 ;weiter
1468 493F E1 ADBSAV8 pop hl ;Rest ausgeben
1469 4940 2A F744 A ld hl,(LADBSA)
1470 4943 CD 4951 A call DBSAVA
1471 4946 2A F565 A ld hl,(HARI5) ;Kursoradr reg.
1472 4949 CD 0000# A call CURSS
1473 494C CD 4B24 A call KREIN
1474 494F 18 89 ADBSAVJ jr DBSAV6 ;fertig, CLOSE
1475 4951 45 ADBSAVA ld b,l ;80 bytes
1476 4952 CB 20 A sla b ;oder weniger von SCREEN-Puffer
1477 4954 2A E890 A ld hl,(HIADR) ;ausgeben
1478 4957 7E ADBSAVB ld a,(hl)
1479 4958 C5 A push bc
1480 4959 E5 A push hl
1481 495A CD 46FB A call ZEINTR ;in file
1482 495D E1 A pop hl
1483 495E 23 A inc hl
1484 495F C1 A pop bc
1485 4960 10 F5 A djnz DBSAVB
1486 4962 C9 A ret
1487 A;
1488 4963 CD 52C2 ADBSAVG call DTCHA0 ;BSAVE Zeichengenerator
1489 4966 C1 A pop bc ;Anfangsadr.
1490 4967 78 A ld a,b
1491 4968 A7 A and a
1492 4969 C2 5304 A jp nz,ERDFC ;Anfang > 255 -> ill.f.call
1493 496C D1 A pop de
1494 496D E5 A push hl
1495 496E C5 A push bc ;Anfangsadr.
1496 496F AF A xor a ;file #0
1497 4970 1E 02 A ld e,2 ;OPEN FOR OUTPUT
1498 4972 DD 21 0000#A ld ix,OPEN4
1499 4976 CD 0159 A call JL1CAL
1500 4979 3E FC A ld a,0FCh ;ZG
1501 497B CD 46FB A call ZEINTR
1502 497E E1 A pop hl
1503 497F CD 4847 A call SAVHL ;Anfang
1504 4982 2A F744 A ld hl,(LADBSA)
1505 4985 CD 4847 A call SAVHL ;Ende
1506 4988 2A FC6E A ld hl,(STADR)
1507 498B CD 4847 A call SAVHL ;Start
1508 498E 2A F744 A ld hl,(LADBSA) ;letzte Zeichennummer
1509 4991 ED 5B FC6E A ld de,(STADR) ;erste Zeichennummer in e
1510 4995 A7 A and a
1511 4996 ED 52 A sbc hl,de
1512 4998 23 A inc hl ;Zeichenanzahl (max 256)
1513 4999 4B A ld c,e ;Zeichennr. in c
1514 499A 7C ADBSAVH ld a,h
1515 499B B5 A or l
1516 499C 28 B1 A jr z,DBSAVJ ;fertig
1517 499E E5 A push hl ;Anzahl
1518 499F C5 A push bc ;Nr.
```

```
1519 49A0 79      A    ld    a,c
1520 49A1 CD 002D    A    call  REZEMU
1521 49A4 06 08    A    ld    b,8
1522 49A6 21 FBAA    A    ld    hl,ZEIPUF
1523 49A9 7E          ADBSAVI ld    a,(hl)
1524 49AA E5          A    push hl
1525 49AB C5          A    push bc
1526 49AC CD 46FB    A    call  ZEINTR
1527 49AF C1          A    pop  bc
1528 49B0 E1          A    pop  hl
1529 49B1 23          A    inc  hl
1530 49B2 10 F5    A    djnz DBSAVI
1531 49B4 C1          A    pop  bc
1532 49B5 E1          A    pop  hl
1533 49B6 2B          A    dec  hl      ;Anzahl--=1
1534 49B7 0C          A    inc  c      ;naechstes Zeichen
1535 49B8 18 E0    A    jr    DBSAVH
1536          A;
1537 49BA D0          ADBLOAD ret    nc
1538 49BB CD 5358    A    call  STCKM      ;BLOAD MC
1539 49BE D5          A    push de
1540 49BF AF          A    xor  a
1541 49C0 32 FC6D    A    ld    (AUTOST),a
1542 49C3 4F          A    ld    c,a
1543 49C4 47          A    ld    b,a
1544 49C5 CD 52C1    A    call  DTCHAR      ;Anweisungsende ?
1545 49C8 28 21    A    jr    z,DBLOA3      ;ja
1546 49CA CD 52B7    A    call  DCPSTX      ;nein
1547 49CD 2C          A    defb ', '
1548 49CE FE 52    A    cp    'R'          ;Autostart ?
1549 49D0 28 08    A    jr    z,DBLOA1      ;ja
1550 49D2 FE 53    A    cp    'S'          ;nein, in Bildspeicher ?
1551 49D4 28 04    A    jr    z,DBLOA1      ;ja
1552 49D6 FE 5A    A    cp    'Z'          ;nein, in ZG ?
1553 49D8 20 0C    A    jr    nz,DBLOA2     ;nein
1554 49DA 32 FC6D    ADBLOA1 ld    (AUTOST),a
1555 49DD CD 52C2    A    call  DTCHA0
1556 49E0 28 09    A    jr    z,DBLOA3      ;Anweisungsende
1557 49E2 CD 52B7    A    call  DCPSTX
1558 49E5 2C          A    defb ', '
1559 49E6 CD 4B0C    ADBLOA2 call  ADTDEX      ;Verschiebung
1560 49E9 42          A    ld    b,d
1561 49EA 4B          A    ld    c,e
1562 49EB D1          ADBLOA3 pop    de
1563 49EC E5          A    push hl
1564 49ED C5          A    push bc
1565 49EE 3E FF    A    ld    a,0FFh
1566 49F0 32 FC1C    A    ld    (HLPERR),a
1567 49F3 AF          A    xor  a
1568 49F4 1E 01    A    ld    e,1          ;OPEN FOR INPUT
1569 49F6 DD 21 0000#A ld    ix,OPEN4
1570 49FA CD 0159    A    call  JL1CAL
1571 49FD CD 4625    A    call  ZEILE
1572 4A00 C1          A    pop  bc          ;Verschiebung
1573 4A01 F5          A    push af          ;file type
1574 4A02 CD 4AFA    A    call  LSHLBC      ;2 byte lesen, + Verschiebung
1575 4A05 E5          A    push hl
1576 4A06 CD 4AFA    A    call  LSHLBC      ;das 3 x
```

```
1577 4A09 E5      A    push    hl
1578 4A0A CD 4AFA  A    call    LSHLBC
1579 4A0D 22 FC6E  A    ld      (STADR),hl    ;Startadr
1580 4A10 E1      A    pop     hl          ;Endadr
1581 4A11 C1      A    pop     bc          ;Anfadr
1582 4A12 A7      A    and     a
1583 4A13 ED 42   A    sbc    hl,bc
1584 4A15 23      A    inc    hl          ;Laenge
1585 4A16 22 E890  A    ld      (HIADR),hl
1586 4A19 3A FC6D  A    ld      a,(AUTOST)
1587 4A1C FE 53   A    cp     'S'
1588 4A1E CA 4A5B  A    jp     z,DBLOA6     ;S -> in screen
1589 4A21 FE 5A   A    cp     'Z'
1590 4A23 CA 4AD0  A    jp     z,DBLOAG     ;Z -> in ZG
1591 4A26 F1      ADBLOA4  pop     af            ;file type
1592 4A27 FE FE   A    cp     0FEh       ;MC RAM
1593 4A29 C2 519E  A    jp     nz,ERBMOD
1594 4A2C 7C      ADBLOAE  ld      a,h          ;Laenge = 0 ?
1595 4A2D B5      A    or     l
1596 4A2E 28 0C   A    jr     z,DBLOA5     ;ja, fertig
1597 4A30 E5      A    push   hl          ;Laenge
1598 4A31 C5      A    push   bc          ;Adresse
1599 4A32 CD 4625  A    call   ZEILE       ;Zeichen aus file in a
1600 4A35 C1      A    pop     bc
1601 4A36 E1      A    pop     hl
1602 4A37 02      A    ld     (bc),a      ;in Speicher
1603 4A38 2B      A    dec    hl
1604 4A39 03      A    inc    bc
1605 4A3A 18 F0   A    jr     DBLOAE
1606 4A3C DD 21 0000#ADBL0A5  ld     ix,AUSGE      ;Endebehandlung
1607 4A40 CD 0159  A    call   J11CAL
1608 4A43 AF      A    xor    a
1609 4A44 DD 21 0000#A    ld     ix,CLOSE1    ;file 0 close
1610 4A48 CD 0159  A    call   J11CAL
1611 4A4B 21 4A59  A    ld     hl,DBLOAB
1612 4A4E E5      A    push   hl
1613 4A4F 3A FC6D  A    ld     a,(AUTOST)  ;Autostart?
1614 4A52 A7      A    and    a
1615 4A53 C8      A    ret    z          ;nein
1616 4A54 2A FC6E  A    ld     hl,(STADR)  ;ja
1617 4A57 E5      A    push   hl
1618 4A58 C9      A    ret
1619 4A59 E1      ADBLOAB  pop     hl
1620 4A5A C9      A    ret
1621      A;
1622 4A5B CD 0000#  ADBLOA6  call   CURSRD       ;Kursor retten
1623 4A5E 22 F565  A    ld     (HARI5),hl
1624 4A61 CD 4B1B  A    call   KRAUS
1625 4A64 CD 0198  A    call   REMASK     ;Schreibmaske ruecksetzen
1626 4A67 F1      A    pop     af          ;file type
1627 4A68 FE FD   A    cp     0FDh
1628 4A6A C2 519E  A    jp     nz,ERBMOD
1629 4A6D 2A E890  A    ld     hl,(HIADR)
1630 4A70 22 F744  A    ld     (LADBSA),hl
1631 4A73 CD 518D  A    call   BLSIZE     ;(HIADR)=Pufferad, hl=Laenge
1632 4A76 E5      ADBLOA7  push   hl
1633 4A77 ED 5B F744  A    ld     de,(LADBSA) ;Laenge in screen
1634 4A7B E7      A    rst    CPREG
```



```
1635 4A7C F5      A   push  af
1636 4A7D 4B      A   ld    c,e
1637 4A7E 42      A   ld    b,d
1638 4A7F 30 04     A   jr    nc,DBLOAC
1639 4A81 28 02     A   jr    z,DBLOAC
1640 4A83 4D      A   ld    c,l
1641 4A84 44      A   ld    b,h           ;Anzahl words in bc
1642 4A85 2A FC6E  ADBLOAC ld    hl,(STADR)    ;Anfang
1643 4A88 E5      A   push  hl
1644 4A89 09      A   add   hl,bc
1645 4A8A 22 FC6E  A   ld    (STADR),hl  ;Anfang'
1646 4A8D D1      A   pop   de           ;Anfang
1647 4A8E 2A E890  A   ld    hl,(HIADR)
1648 4A91 CD 4AB8  A   call DBLOA9       ;Lesen aus file in Puffer
1649 4A94 EB      A   ex    de,hl
1650 4A95 CD 005C  A   call JOBCDE       ;Schreiben in VDP, bc mal
1651 4A98 F1      A   pop   af           ;weiter?
1652 4A99 30 0D     A   jr    nc,DBLOA8   ;nein
1653 4A9B 2A F744  A   ld    hl,(LADBSA)
1654 4A9E D1      A   pop   de
1655 4A9F A7      A   and   a
1656 4AA0 ED 52     A   sbc  hl,de
1657 4AA2 22 F744  A   ld    (LADBSA),hl
1658 4AA5 EB      A   ex    de,hl
1659 4AA6 18 CE     A   jr    DBLOA7
1660 4AA8 2A F565  ADBLOA8 ld    hl,(HARI5)    ;Kursor reg.
1661 4AAB CD 0000#  A   call CURSS
1662 4AAE CD 4B24  A   call KREIN
1663 4AB1 C1      A   pop   bc
1664 4AB2 AF      ADBLOAH xor    a
1665 4AB3 32 FC6D  A   ld    (AUTOST),a
1666 4AB6 18 84     A   jr    DBLOA5
1667 4AB8 C5      ADBLOA9 push  bc           ;Anzahl (words)
1668 4AB9 D5      A   push  de           ;Ziel in screen
1669 4ABA E5      A   push  hl           ;Quelle in Puffer
1670 4ABB 41      A   ld    b,c
1671 4ABC CB 20     A   sla  b           ;*2 (bytes)
1672 4ABE 2A E890  A   ld    hl,(HIADR)
1673 4AC1 C5      ADBLOAA push  bc
1674 4AC2 E5      A   push  hl
1675 4AC3 CD 4625  A   call ZEILE       ;Zeichen lesen aus file
1676 4AC6 E1      A   pop   hl
1677 4AC7 77      A   ld    (hl),a     ;eintragen in Puffer
1678 4AC8 23      A   inc  hl
1679 4AC9 C1      A   pop   bc
1680 4ACA 10 F5     A   djnz DBLOAA
1681 4ACC E1      A   pop   hl           ;Puffer gefuellt
1682 4ACD D1      A   pop   de           ;Register reg.
1683 4ACE C1      A   pop   bc
1684 4ACF C9      A   ret
1685          A;
1686 4AD0 F1      ADBLOAG pop    af           ;file type
1687 4AD1 FE FC     A   cp   0FCh        ;ZG ?
1688 4AD3 C2 519E  A   jp   nz,ERBMOD
1689 4AD6 7C      ADBLOAJ ld    a,h         ;hl - Anzahl
1690 4AD7 B5      A   or   l           ;(b)c - erste Zeichennummer
1691 4AD8 28 D8     A   jr    z,DBLOAH   ;fertig
1692 4ADA E5      A   push  hl         ;Restanzahl
```

```
1693 4ADB C5      A   push  bc           ;Zeichen-Nr.
1694 4ADC 06 08    A   ld    b,8         ;8 bytes pro Zeichen
1695 4ADE 21 FBAA  A   ld    hl,ZEIPUF   ;Pufferadr.
1696 4AE1 E5      ADBLOAI  push  hl
1697 4AE2 C5      A   push  bc
1698 4AE3 CD 4625  A   call  ZEILE
1699 4AE6 C1      A   pop   bc
1700 4AE7 E1      A   pop   hl
1701 4AE8 77      A   ld    (hl),a
1702 4AE9 23      A   inc   hl
1703 4AEA 10 F5    A   djnz  DBLOAI
1704 4AEC C1      A   pop   bc           ;Zeichen-Nr.
1705 4AED C5      A   push  bc
1706 4AEE 21 FBAA  A   ld    hl,ZEIPUF   ;Pufferadr.
1707 4AF1 CD 0177  A   call  WRZEMU
1708 4AF4 C1      A   pop   bc
1709 4AF5 0C      A   inc   c           ;naechstes Zeichen
1710 4AF6 E1      A   pop   hl           ;Anzahl
1711 4AF7 2B      A   dec   hl           ;-1
1712 4AF8 18 DC   A   jr    DBLOAJ
1713          A;
1714 4AFA C5      ALSHLBC  push  bc           ;2 byte aus file, + bc
1715 4AFB CD 4625  A   call  ZEILE       ;(Adresse + Verschiebung)
1716 4AFE F5      A   push  af
1717 4AFF CD 4625  A   call  ZEILE
1718 4B02 67      A   ld    h,a
1719 4B03 F1      A   pop   af
1720 4B04 6F      A   ld    l,a
1721 4B05 C1      A   pop   bc
1722 4B06 09      A   add   hl,bc
1723 4B07 C9      A   ret
1724          A;
1725 4B08 CD 52B7  AKADTDE  call  DCPSTX
1726 4B0B 2C      A   defb  ','
1727 4B0C DD 21 0000#AAADTDEX ld    ix,ADTDE
1728 4B10 C3 0159  A   jp    JL1CAL
1729          A;
1730 4B13 1B      AKAUS defb 1Bh           ;ESC
1731 4B14 78 35  A   defm 'x5'
1732 4B16 00      A   defb 0
1733 4B17 1B      AKEIN defb 1Bh
1734 4B18 79 35  A   defm 'y5'
1735 4B1A 00      A   defb 0
1736 4B1B E5      AKRAUS  push  hl
1737 4B1C 21 4B13 A   ld    hl,KAUS
1738 4B1F CD 434A  AKRAUS1 call  STROUT
1739 4B22 E1      A   pop   hl
1740 4B23 C9      A   ret
1741 4B24 E5      AKREIN  push  hl
1742 4B25 21 4B17 A   ld    hl,KEIN
1743 4B28 18 F5  A   jr    KRAUS1
1744          A;
1745 4B2A DD 21 F240 AFILGE  ld    ix,LWRUP+6   ;GET und PUT
1746 4B2E FD 21 0400 A   ld    iy,400h
1747 4B32 CD 443F  A   call  STACKM     ;Stackmanipul
1748 4B35 7E      A   ld    a,(hl)
1749 4B36 FE 04    A   cp    4           ;random ?
1750 4B38 C2 519E  A   jp    nz,ERBMOD  ;bad file mode
```

```
1751 4B3B C1      A    pop    bc
1752 4B3C F1      A    pop    af
1753 4B3D 32 E892 A    ld     (HPUGE),a    ;PUT/GET
1754 4B40 C5      A    push   bc
1755 4B41 01 010F A    ld     bc,10Fh      ;BASIC rrn
1756 4B44 09      A    add    hl,bc
1757 4B45 5E      A    ld     e,(hl)
1758 4B46 23      A    inc    hl
1759 4B47 56      A    ld     d,(hl)
1760 4B48 13      A    inc    de          ;rrn = +1
1761 4B49 E3      A    ex     (sp),hl    ;(fcb+110h), Zeiger
1762 4B4A CD 52C1 A    call  DTCHAR
1763 4B4D 28 0B    A    jr     z,FILGE1   ;Anweisungsende
1764 4B4F CD 52B7 A    call  DCPSTX
1765 4B52 2C      A    defb  ','
1766 4B53 DD 21 0000#A ld     ix,INTDE2    ;rec nr uebernehmen
1767 4B57 CD 0159 A    call  JL1CAL
1768 4B5A E3      AFILGE1 ex     (sp),hl    ;fcb+110h, (Zeiger)
1769 4B5B CB 7A    A    bit   7,d        ;< 32768 ?
1770 4B5D C2 5304 A    jp     nz,ERDFC   ;ill. function call
1771 4B60 7B      A    ld     a,e
1772 4B61 B2      A    or    d
1773 4B62 CA 5304 A    jp     z,ERDFC;=0 -> dto.
1774 4B65 2B      A    dec   hl        ;BASIC random rrn
1775 4B66 73      A    ld     (hl),e    ;eintragen
1776 4B67 23      A    inc   hl
1777 4B68 72      A    ld     (hl),d
1778 4B69 1B      A    dec   de        ;rrn-1
1779 4B6A 23      A    inc   hl
1780 4B6B 23      A    inc   hl
1781 4B6C AF      A    xor   a
1782 4B6D 77      A    ld     (hl),a
1783 4B6E 23      A    inc   hl
1784 4B6F 77      A    ld     (hl),a
1785 4B70 01 FFF8 A    ld     bc,-8
1786 4B73 09      A    add   hl,bc      ;user set record size
1787 4B74 7E      A    ld     a,(hl)
1788 4B75 23      A    inc   hl
1789 4B76 66      A    ld     h,(hl)
1790 4B77 6F      A    ld     l,a
1791 4B78 EB      A    ex    de,hl
1792 4B79 D5      A    push  de        ;rec size
1793 4B7A E5      A    push  hl        ;rec nr
1794 4B7B 21 0080 A    ld     hl,80h
1795 4B7E E7      A    rst  CPREG     ;rec size = 80h ?
1796 4B7F E1      A    pop   hl
1797 4B80 20 05    A    jr     nz,FILGE2
1798 4B82 11 0000 A    ld     de,0
1799 4B85 18 38    A    jr     FILGE9   ;fuer rec size = 80h
1800 4B87 42      AFILGE2 ld     b,d        ;<> 80h
1801 4B88 4B      A    ld     c,e
1802 4B89 3E 10    A    ld     a,10h
1803 4B8B EB      A    ex    de,hl
1804 4B8C 21 0000 A    ld     hl,0
1805 4B8F E5      A    push  hl
1806 4B90 29      AFILGE3 add    hl,hl
1807 4B91 E3      A    ex    (sp),hl
1808 4B92 30 04    A    jr     nc,FILGE4
```

```
1809 4B94 29      A   add    hl,hl
1810 4B95 23      A   inc    hl
1811 4B96 18 01    A   jr     FILGE5
1812 4B98 29      AFILGE4  add    hl,hl
1813 4B99 E3      AFILGE5  ex     (sp),hl
1814 4B9A EB      A   ex     de,hl
1815 4B9B 29      A   add    hl,hl
1816 4B9C EB      A   ex     de,hl
1817 4B9D 30 06    A   jr     nc,FILGE7
1818 4B9F 09      A   add    hl,bc
1819 4BA0 E3      A   ex     (sp),hl
1820 4BA1 30 01    A   jr     nc,FILGE6
1821 4BA3 23      A   inc    hl
1822 4BA4 E3      AFILGE6  ex     (sp),hl
1823 4BA5 3D      AFILGE7  dec    a
1824 4BA6 20 E8    A   jr     nz,FILGE3
1825 4BA8 7D      A   ld     a,l
1826 4BA9 E6 7F    A   and    7Fh
1827 4BAB 5F      A   ld     e,a
1828 4BAC 16 00    A   ld     d,0
1829 4BAE C1      A   pop    bc
1830 4BAF 7D      A   ld     a,l
1831 4BB0 6C      A   ld     l,h
1832 4BB1 61      A   ld     h,c
1833 4BB2 29      A   add    hl,hl
1834 4BB3 DA 5304  A   jp     c,ERDFC;ill. function call
1835 4BB6 17      A   rla
1836 4BB7 30 01    A   jr     nc,FILGE8
1837 4BB9 23      A   inc    hl
1838 4BBA 78      AFILGE8  ld     a,b
1839 4BBB B7      A   or     a
1840 4BBC C2 5304  A   jp     nz,ERDFC ;ill. function call
1841 4BBF 22 E894  AFILGE9  ld     (HRECNU),hl ;rec nr retten
1842 4BC2 ED 4B F72B A   ld     bc,(ACTFCB)
1843 4BC6 21 0009  A   ld     hl,9 ;Anfang FIELD-Bereich
1844 4BC9 09      A   add    hl,bc
1845 4BCA 22 E896  A   ld     (HFIELD),hl
1846 4BCD CD 46C6  AFILGEA  call  ACTBDO ;Anfang dma-Bereich
1847 4BD0 01 0024  A   ld     bc,24h
1848 4BD3 09      A   add    hl,bc
1849 4BD4 19      A   add    hl,de ;rec size'
1850 4BD5 22 E898  A   ld     (HDMAB),hl
1851 4BD8 21 0080  A   ld     hl,80h
1852 4BDB 7D      A   ld     a,l
1853 4BDC 93      A   sub    e
1854 4BDD 6F      A   ld     l,a
1855 4BDE 7C      A   ld     a,h
1856 4BDF 9A      A   sbc    a,d
1857 4BE0 67      A   ld     h,a
1858 4BE1 D1      A   pop    de
1859 4BE2 D5      A   push   de ;rec size
1860 4BE3 E7      A   rst    CPREG
1861 4BE4 38 02    A   jr     c,FILGEB
1862 4BE6 62      A   ld     h,d
1863 4BE7 6B      A   ld     l,e
1864 4BE8 3A E892  AFILGEB  ld     a,(HPUGE)
1865 4BEB B7      A   or     a ;PUT oder GET ?
1866 4BEC 28 3A    A   jr     z,FILGEE ;GET
```

```
1867 4BEE 11 0080 A ld de,80h ;PUT
1868 4BF1 E7 A rst CPREG
1869 4BF2 30 05 A jr nc,FILGEC
1870 4BF4 E5 A push hl
1871 4BF5 CD 4C44 A call FILGEG
1872 4BF8 E1 A pop hl
1873 4BF9 C5 AFILGEC push bc
1874 4BFA 44 A ld b,h
1875 4BFB 4D A ld c,l
1876 4BFC 2A E898 A ld hl,(HDMAB)
1877 4BFF EB A ex de,hl
1878 4C00 2A E896 A ld hl,(HFIELD)
1879 4C03 CD 4C7B A call FILGEJ ;umladen bc *
1880 4C06 22 E896 A ld (HFIELD),hl
1881 4C09 50 A ld d,b
1882 4C0A 59 A ld e,c
1883 4C0B C1 A pop bc
1884 4C0C CD 4C43 A call FILGEF
1885 4C0F E1 AFILGED pop hl
1886 4C10 7D A ld a,l
1887 4C11 93 A sub e
1888 4C12 6F A ld l,a
1889 4C13 7C A ld a,h
1890 4C14 9A A sbc a,d
1891 4C15 67 A ld h,a
1892 4C16 B5 A or l
1893 4C17 11 0000 A ld de,0
1894 4C1A E5 A push hl
1895 4C1B 2A E894 A ld hl,(HRECNU)
1896 4C1E 23 A inc hl
1897 4C1F 22 E894 A ld (HRECNU),hl
1898 4C22 20 A9 A jr nz,FILGEA
1899 4C24 E1 A pop hl
1900 4C25 C3 4FEB A jp END4
1901 A;
1902 4C28 E5 AFILGEE push hl ;GET
1903 4C29 CD 4C44 A call FILGEG
1904 4C2C E1 A pop hl
1905 4C2D C5 A push bc
1906 4C2E 44 A ld b,h
1907 4C2F 4D A ld c,l
1908 4C30 2A E896 A ld hl,(HFIELD)
1909 4C33 EB A ex de,hl
1910 4C34 2A E898 A ld hl,(HDMAB)
1911 4C37 CD 4C7B A call FILGEJ ;umladen
1912 4C3A EB A ex de,hl
1913 4C3B 22 E896 A ld (HFIELD),hl
1914 4C3E 50 A ld d,b
1915 4C3F 59 A ld e,c
1916 4C40 C1 A pop bc
1917 4C41 18 CC A jr FILGED
1918 4C43 F6 AFILGEF defb 0F6h ;a<>0 : Schreiben (or 0AFh)
1919 4C44 AF AFILGEG xor a ;a=0 : Lesen
1920 4C45 32 E893 A ld (HFLAG),a
1921 4C48 C5 A push bc
1922 4C49 D5 A push de
1923 4C4A E5 A push hl
1924 4C4B 2A E894 A ld hl,(HRECNU)
```

```
1925 4C4E EB A ex de,hl
1926 4C4F 2A F72B A ld hl,(ACTFCB)
1927 4C52 44 A ld b,h
1928 4C53 4D A ld c,l
1929 4C54 21 010D A ld hl,10Dh ;?
1930 4C57 09 A add hl,bc
1931 4C58 E5 A push hl
1932 4C59 7E A ld a,(hl)
1933 4C5A 23 A inc hl
1934 4C5B 66 A ld h,(hl)
1935 4C5C 6F A ld l,a
1936 4C5D 13 A inc de
1937 4C5E E7 A rst CPREG
1938 4C5F E1 A pop hl
1939 4C60 73 A ld (hl),e
1940 4C61 23 A inc hl
1941 4C62 72 A ld (hl),d
1942 4C63 20 06 A jr nz,FILGEH
1943 4C65 3A E893 A ld a,(HFLAG)
1944 4C68 B7 A or a
1945 4C69 28 0C A jr z,FILGEI
1946 4C6B 21 4C77 AFILGEH ld hl,FILGEI
1947 4C6E E5 A push hl
1948 4C6F C5 A push bc
1949 4C70 E5 A push hl
1950 4C71 21 010A A ld hl,10Ah ;LOC input/output
1951 4C74 09 A add hl,bc
1952 4C75 18 10 A jr SATZLS
1953 4C77 E1 AFILGEI pop hl
1954 4C78 D1 A pop de
1955 4C79 C1 A pop bc
1956 4C7A C9 A ret
1957 4C7B C5 AFILGEJ push bc ;bc mal (hl) -> (de)
1958 4C7C 7E AFILGEK ld a,(hl)
1959 4C7D 12 A ld (de),a
1960 4C7E 23 A inc hl
1961 4C7F 13 A inc de
1962 4C80 0B A dec bc
1963 4C81 78 A ld a,b
1964 4C82 B1 A or c
1965 4C83 20 F7 A jr nz,FILGEK
1966 4C85 C1 A pop bc
1967 4C86 C9 A ret
1968 A;
1969 4C87 1B ASATZLS dec de ;rrn = -1
1970 4C88 2B A dec hl ;Adr r0
1971 4C89 73 A ld (hl),e ;rrn eintragen
1972 4C8A 23 A inc hl
1973 4C8B 72 A ld (hl),d
1974 4C8C 2A F72B A ld hl,(ACTFCB)
1975 4C8F 01 0005 A ld bc,5
1976 4C92 09 A add hl,bc
1977 4C93 36 80 A ld (hl),80h ;Satzlaenge = 80h
1978 4C95 23 A inc hl
1979 4C96 36 00 A ld (hl),0 ;Lese/Schreibzeiger = 0
1980 4C98 E1 A pop hl
1981 4C99 E3 A ex (sp),hl
1982 4C9A 44 A ld b,h
```

```
1983 4C9B 4D      A   ld    c,l
1984 4C9C E5      A   push  hl
1985 4C9D CD 46C6 A   call  ACTBDO
1986 4CA0 E5      A   push  hl
1987 4CA1 C1      A   pop   bc
1988 4CA2 21 000C A   ld    hl,0Ch      ;extent-Adr
1989 4CA5 09      A   add   hl,bc
1990 4CA6 7B      A   ld    a,e
1991 4CA7 17      A   rla
1992 4CA8 7A      A   ld    a,d
1993 4CA9 17      A   rla
1994 4CAA 56      A   ld    d,(hl)
1995 4CAB BA      A   cp    d          ;im gleichen extent ?
1996 4CAC 28 32   A   jr    z,SATZL3  ;ja
1997 4CAE D5      A   push  de        ;rrn
1998 4CAF F5      A   push  af        ;neuer extent
1999 4CB0 E5      A   push  hl        ;extent-Adr
2000 4CB1 C5      A   push  bc        ;bdos fcb
2001 4CB2 21 E88E A   ld    hl,ADFCB0  ;Standard dma fcb0
2002 4CB5 01 0024 A   ld    bc,24h
2003 4CB8 09      A   add   hl,bc
2004 4CB9 EB      A   ex    de,hl
2005 4CBA 0E 1A   A   ld    c,26      ;set dma address
2006 4CBC CD 5369 A   call  BBDOSX
2007 4CBF D1      A   pop   de
2008 4CC0 D5      A   push  de
2009 4CC1 0E 10   A   ld    c,16      ;close file
2010 4CC3 CD 5369 A   call  BBDOSX
2011 4CC6 D1      A   pop   de        ;bdos fcb
2012 4CC7 E1      A   pop   hl        ;extent-Adr
2013 4CC8 F1      A   pop   af        ;neuer ?
2014 4CC9 77      A   ld    (hl),a
2015 4CCA D5      A   push  de
2016 4CCB 0E 0F   A   ld    c,15      ;open file
2017 4CCD D5      A   push  de
2018 4CCE CD 5369 A   call  BBDOSX
2019 4CD1 D1      A   pop   de
2020 4CD2 3C      A   inc   a          ;schon da ?
2021 4CD3 20 09   A   jr    nz,SATZL2 ;ja, i.O.
2022 4CD5 0E 16   A   ld    c,22      ;nein, neuen aufmachen
2023 4CD7 CD 5369 A   call  BBDOSX    ;mit create file
2024 4CDA 3C      A   inc   a          ;Fehler ?
2025 4CDB CA 51B0 A   jp    z,ERTOOM  ;too many files
2026 4CDE C1      ASATZL2 pop   bc        ;bdos fcb
2027 4CDF D1      A   pop   de        ;rrn
2028 4CE0 21 0020 ASATZL3 ld    hl,20h
2029 4CE3 09      A   add   hl,bc
2030 4CE4 7B      A   ld    a,e
2031 4CE5 E6 7F   A   and  7Fh      ;cr = rrn mod 80
2032 4CE7 77      A   ld    (hl),a
2033 4CE8 E1      A   pop   hl        ;BASIC fcb
2034 4CE9 3A E893 A   ld    a,(HFLAG)
2035 4CEC B7      A   or    a
2036 4CED 20 05   A   jr    nz,SATZL5 ;fuer PUT
2037 4CEF CD 4677 A   call  RECLES    ;fuer Lesen
2038 4CF2 E1      A   pop   hl
2039 4CF3 C9      A   ret
2040 4CF4 21 0020 ASATZL5 ld    hl,20h    ;Lesen fertig
                          ;PUT
```

```
2041 4CF7 09      A    add    hl,bc
2042 4CF8 7E      A    ld     a,(hl)      ;cr
2043 4CF9 FE 7F   A    cp     7Fh
2044 4CFB 11 F42E  A    ld     de,EDIBUF+10
2045 4CFE F5      A    push   af          ;cr ?
2046 4CFF 21 0024  A    ld     hl,24h
2047 4D02 09      A    add    hl,bc      ;BASIC dma
2048 4D03 D5      A    push   de
2049 4D04 E5      A    push   hl
2050 4D05 CC 4D16  A    call  z,SATZL6
2051 4D08 2A F72B  A    ld     hl,(ACTFCB)
2052 4D0B CD 4718  A    call  RECAUS
2053 4D0E D1      A    pop    de
2054 4D0F E1      A    pop    hl
2055 4D10 F1      A    pop    af
2056 4D11 CC 4D16  A    call  z,SATZL6      ;u.U. rueckladen
2057 4D14 E1      A    pop    hl
2058 4D15 C9      A    ret     ;fertig
2059 4D16 C5      ASATZL6 push   bc      ;umladen 80h bytes
2060 4D17 06 80   A    ld     b,80h
2061 4D19 7E      ASATZL7 ld     a,(hl)
2062 4D1A 23      A    inc    hl
2063 4D1B 12      A    ld     (de),a
2064 4D1C 13      A    inc    de
2065 4D1D 10 FA   A    djnz  SATZL7
2066 4D1F C1      A    pop    bc
2067 4D20 C9      A    ret
2068
2069 4D21 CD 5358  AFIELD call   STCKM      ;Stackmani      FIELD
2070 4D24 FE 23   A    cp     '#'
2071 4D26 CC 52C2  A    call  z,DTCHA0
2072 4D29 DD 21 0000#A ld     ix,BYTAE2
2073 4D2D CD 0159  A    call  JL1CAL
2074 4D30 CA 530A  A    jp     z,ERDSN;syntax error
2075 4D33 E5      A    push   hl
2076 4D34 DD 21 0000#A ld     ix,FCBAD
2077 4D38 CD 0159  A    call  JL1CAL
2078 4D3B 5D      A    ld     e,l
2079 4D3C 54      A    ld     d,h          ;de: BASIC fcb
2080 4D3D CA 52DA  A    jp     z,ERDNOPI  ;file not open
2081 4D40 DA 5304  A    jp     c,ERDFC;ill function call
2082 4D43 7E      A    ld     a,(hl)
2083 4D44 FE 04   A    cp     4          ;random ?
2084 4D46 C2 519E  A    jp     nz,ERBMOD  ;nein -> bad file mode
2085 4D49 01 010B A    ld     bc,10Bh
2086 4D4C 09      A    add    hl,bc
2087 4D4D 4E      A    ld     c,(hl)
2088 4D4E 23      A    inc    hl
2089 4D4F 46      A    ld     b,(hl)      ;user set record size
2090 4D50 ED 43 F42E A    ld     (EDIBUF+0Ah),bc
2091 4D54 21 0000  A    ld     hl,0        ;FIELD-Zwischensumme
2092 4D57 22 F430  A    ld     (EDIBUF+0Ch),hl
2093 4D5A 01 0009  A    ld     bc,9        ;Anfang FIELD-Bereich
2094 4D5D E1      A    pop    hl        ;Zeiger
2095 4D5E EB      AFIELD1 ex     de,hl
2096 4D5F 09      A    add    hl,bc
2097 4D60 EB      A    ex     de,hl      ;de: Adr Var in FIELD-Bereich
2098 4D61 7E      A    ld     a,(hl)
```



```
2099 4D62 FE 2C      A    cp      ','
2100 4D64 C0        A    ret     nz           ;Ende
2101 4D65 D5        A    push   de
2102 4D66 DD 21 0000#A ld     ix, BYTAE1      ;Laenge in a
2103 4D6A CD 0159    A    call   JL1CAL
2104 4D6D F5        A    push   af
2105 4D6E CD 52B7    A    call   DCPSTX
2106 4D71 41        A    defb   'A'          ;AS
2107 4D72 CD 52B7    A    call   DCPSTX
2108 4D75 53        A    defb   'S'
2109 4D76 DD 21 0000#A ld     ix, DIM1
2110 4D7A CD 0159    A    call   JL1CAL
2111 4D7D DD 21 0000#A ld     ix, TYPTS0
2112 4D81 CD 0159    A    call   JL1CAL
2113 4D84 C2 52CE    A    jp     nz, ERDTM     ;<>3 -> type mismatch
2114 4D87 F1        A    pop    af
2115 4D88 E3        A    ex     (sp), hl
2116 4D89 D5        A    push   de
2117 4D8A E5        A    push   hl
2118 4D8B 2A F430    A    ld     hl, (EDIBUF+0Ch) ;FIELD-Zwischensumme
2119 4D8E 4F        A    ld     c, a
2120 4D8F 06 00     A    ld     b, 0
2121 4D91 09        A    add    hl, bc         ;+ Laenge
2122 4D92 22 F430    A    ld     (EDIBUF+0Ch), hl
2123 4D95 EB        A    ex     de, hl
2124 4D96 2A F42E    A    ld     hl, (EDIBUF+0Ah) ;user set record size
2125 4D99 E7        A    rst    CPREG
2126 4D9A DA 52E6    A    jp     c, ERDFOV     ;field overflow
2127 4D9D D1        A    pop    de
2128 4D9E E1        A    pop    hl
2129 4D9F 71        A    ld     (hl), c       ;Laenge und Adr
2130 4DA0 23        A    inc   hl           ;der Var eintragen
2131 4DA1 73        A    ld     (hl), e
2132 4DA2 23        A    inc   hl
2133 4DA3 72        A    ld     (hl), d
2134 4DA4 06 00     A    ld     b, 0
2135 4DA6 E1        A    pop    hl
2136 4DA7 18 B5     A    jr    FIELD1
2137
2138 4DA9 F6        ARSET defb 0F6h       ;or 37h      RSET
2139 4DAA 37        ALSET scf           ;           LSET
2140 4DAB CD 5358    A    call   STCKM
2141 4DAE F5        A    push   af
2142 4DAF DD 21 0000#A ld     ix, DIM1
2143 4DB3 CD 0159    A    call   JL1CAL
2144 4DB6 DD 21 0000#A ld     ix, TYPTS0
2145 4DBA CD 0159    A    call   JL1CAL
2146 4DBD C2 52CE    A    jp     nz, ERDTM     ;type mismatch
2147 4DC0 D5        A    push   de
2148 4DC1 DD 21 0000#A ld     ix, SNAL1
2149 4DC5 CD 0159    A    call   JL1CAL
2150 4DC8 C1        A    pop    bc
2151 4DC9 E3        A    ex     (sp), hl
2152 4DCA E5        A    push   hl
2153 4DCB C5        A    push   bc
2154 4DCC DD 21 0000#A ld     ix, ZKUP2
2155 4DD0 CD 0159    A    call   JL1CAL
2156 4DD3 46        A    ld     b, (hl)
```

```
2157 4DD4 E3      A   ex   (sp),hl
2158 4DD5 7E      A   ld   a,(hl)
2159 4DD6 4F      A   ld   c,a
2160 4DD7 C5      A   push bc
2161 4DD8 E5      A   push hl
2162 4DD9 F5      A   push af
2163 4DDA 23      A   inc  hl
2164 4DDB 5E      A   ld   e,(hl)
2165 4DDC 23      A   inc  hl
2166 4DDD 56      A   ld   d,(hl)
2167 4DDE B7      A   or   a
2168 4DDF 28 5C    A   jr   z,RLSET5
2169 4DE1 2A F729  A   ld   hl,(ACTDMA)
2170 4DE4 2B      A   dec  hl
2171 4DE5 E7      A   rst  CPREG
2172 4DE6 38 33    A   jr   c,RLSET2
2173 4DE8 2A F588  A   ld   hl,(SVARPT)
2174 4DEB E7      A   rst  CPREG
2175 4DEC 38 2D    A   jr   c,RLSET2
2176 4DEE 59      A   ld   e,c
2177 4DEF 16 00    A   ld   d,0
2178 4DF1 2A F53A  A   ld   hl,(STDPTR)
2179 4DF4 19      A   add  hl,de
2180 4DF5 EB      A   ex   de,hl
2181 4DF6 2A F561  A   ld   hl,(SWAPTR)
2182 4DF9 E7      A   rst  CPREG
2183 4DFA 38 54    A   jr   c,RLSET9
2184 4DFC F1      A   pop  af
2185 4DFD 79      ARLSET1 ld   a,c
2186 4DFE DD 21 0000#A ld   ix,TSTZK ;noch Platz fuer Zk ?
2187 4E02 CD 0159  A   call JL1CAL
2188 4E05 E1      A   pop  hl
2189 4E06 C1      A   pop  bc
2190 4E07 E3      A   ex   (sp),hl
2191 4E08 D5      A   push de
2192 4E09 C5      A   push bc
2193 4E0A DD 21 0000#A ld   ix,ZKUP2
2194 4E0E CD 0159  A   call JL1CAL
2195 4E11 C1      A   pop  bc
2196 4E12 D1      A   pop  de
2197 4E13 E3      A   ex   (sp),hl
2198 4E14 C5      A   push bc
2199 4E15 E5      A   push hl
2200 4E16 23      A   inc  hl
2201 4E17 F5      A   push af
2202 4E18 73      A   ld   (hl),e
2203 4E19 23      A   inc  hl
2204 4E1A 72      A   ld   (hl),d
2205 4E1B F1      ARLSET2 pop  af
2206 4E1C E1      A   pop  hl
2207 4E1D 23      A   inc  hl
2208 4E1E 5E      A   ld   e,(hl)
2209 4E1F 23      A   inc  hl
2210 4E20 56      A   ld   d,(hl)
2211 4E21 C1      A   pop  bc
2212 4E22 E1      A   pop  hl
2213 4E23 23      A   inc  hl
2214 4E24 7E      A   ld   a,(hl)
```

```
2215 4E25 23      A   inc   hl
2216 4E26 66      A   ld    h,(hl)
2217 4E27 6F      A   ld    l,a
2218 4E28 79      A   ld    a,c
2219 4E29 B8      A   cp    b
2220 4E2A 30 01     A   jr    nc,RLSET3
2221 4E2C 47      A   ld    b,a
2222 4E2D 90      ARLSET3  sub    b
2223 4E2E 4F      A   ld    c,a
2224 4E2F F1      A   pop   af
2225 4E30 D4 4E47   A   call  nc,RLSET7
2226 4E33 04      A   inc   b
2227 4E34 05      ARLSET4  dec    b
2228 4E35 28 0B   A   jr    z,RLSET6
2229 4E37 7E      A   ld    a,(hl)
2230 4E38 12      A   ld    (de),a
2231 4E39 23      A   inc   hl
2232 4E3A 13      A   inc   de
2233 4E3B 18 F7     A   jr    RLSET4
2234 4E3D C1      ARLSET5  pop    bc
2235 4E3E C1      A   pop   bc
2236 4E3F C1      A   pop   bc
2237 4E40 C1      A   pop   bc
2238 4E41 C1      A   pop   bc
2239 4E42 DC 4E47   ARLSET6  call   c,RLSET7
2240 4E45 E1      A   pop   hl
2241 4E46 C9      A   ret
2242 4E47 3E 20     ARLSET7  ld    a,' ' ;Leerzeichen auffuellen
2243 4E49 0C      A   inc   c
2244 4E4A 0D      ARLSET8  dec    c
2245 4E4B C8      A   ret   z
2246 4E4C 12      A   ld    (de),a
2247 4E4D 13      A   inc   de
2248 4E4E 18 FA   A   jr    RLSET8
2249 4E50 F1      ARLSET9  pop    af
2250 4E51 E1      A   pop   hl
2251 4E52 C1      A   pop   bc
2252 4E53 E3      A   ex    (sp),hl
2253 4E54 EB      A   ex    de,hl
2254 4E55 20 25   A   jr    nz,RLSETA
2255 4E57 C5      A   push  bc
2256 4E58 78      A   ld    a,b
2257 4E59 DD 21 0000#A  ld    ix,WLAZK1
2258 4E5D CD 0159   A   call  JL1CAL
2259 4E60 11 F55E   A   ld    de,LENZK
2260 4E63 2A F53E   A   ld    hl,(PDENBU)
2261 4E66 22 F6BE   A   ld    (AC1INT),hl
2262 4E69 3E 03     A   ld    a,3
2263 4E6B 32 F529   A   ld    (TYP),a
2264 4E6E CD 0000#   A   call  NLDIRT
2265 4E71 11 F561   A   ld    de,SWAPTR
2266 4E74 E7      A   rst   CPREG
2267 4E75 22 F53E   A   ld    (PDENBU),hl
2268 4E78 CA 52C8     A   jp    z,ERDFTC ;string formula too complex
2269 4E7B C1      A   pop   bc
2270 4E7C E3      ARLSETA  ex    (sp),hl
2271 4E7D C5      A   push  bc
2272 4E7E E5      A   push  hl
```

```
2273 4E7F C3 4DFD A jp RLSET1
2274 A;
2275 4E82 3E 02 AMKI ld a,2 ;MKI$
2276 4E84 01 A defb 1
2277 4E85 3E 04 AMKS ld a,4 ;MKS$
2278 4E87 01 A defb 1
2279 4E88 3E 08 AMKD ld a,8 ;MKD$
2280 4E8A CD 5358 A call STCKM
2281 4E8D F5 A push af
2282 4E8E DD 21 0000#A ld ix, FN7
2283 4E92 CD 0159 A call JL1CAL
2284 4E95 F1 A pop af
2285 4E96 DD 21 0000#A ld ix, WLAZK1
2286 4E9A CD 0159 A call JL1CAL
2287 4E9D 2A F55F A ld hl, (ADRZK)
2288 4EA0 CD 0000# A call AC1HLT
2289 4EA3 DD 21 0000#A ld ix, CHR2
2290 4EA7 C3 0159 A jp JL1CAL
2291 A;
2292 4EAA 3E 01 ACVI ld a,1 ;CVI
2293 4EAC 01 A defb 1
2294 4EAD 3E 03 ACVS ld a,3 ;CVS
2295 4EAF 01 A defb 1
2296 4EB0 3E 07 ACVD ld a,7 ;CVD
2297 4EB2 CD 5358 A call STCKM
2298 4EB5 F5 A push af
2299 4EB6 DD 21 0000#A ld ix, ZKUP2
2300 4EBA CD 0159 A call JL1CAL
2301 4EBD F1 A pop af
2302 4EBE BE A cp (hl)
2303 4EBF D2 5304 A jp nc, ERDFC ;ill function call
2304 4EC2 3C A inc a
2305 4EC3 23 A inc hl
2306 4EC4 4E A ld c, (hl)
2307 4EC5 23 A inc hl
2308 4EC6 66 A ld h, (hl)
2309 4EC7 69 A ld l, c
2310 4EC8 32 F529 A ld (TYP), a
2311 4ECB C3 0000# A jp HLAC1T
2312 A;
2313 4ECE CD 5358 AEOF call STCKM ;EOF
2314 4ED1 E5 A push hl
2315 4ED2 22 F72B A ld (ACTFCB), hl
2316 4ED5 CD 462B A call ZEILES
2317 4ED8 21 0000 A ld hl, 0
2318 4EDB 30 01 A jr nc, EOF1
2319 4EDD 2B A dec hl
2320 4EDE F5 AEOF1 push af
2321 4EDF CD 0000# A call CINT1
2322 4EE2 F1 A pop af ;last byte
2323 4EE3 E1 A pop hl
2324 4EE4 23 A inc hl
2325 4EE5 23 A inc hl
2326 4EE6 23 A inc hl
2327 4EE7 77 A ld (hl), a ;eintragen
2328 4EE8 21 0000 A ld hl, 0
2329 4EEB 22 F72B A ld (ACTFCB), hl
2330 4EEE C9 A ret
```

```
2331          A;
2332 4EEF CD 5358 AFILES      call  STCKM          ;FILES
2333 4EF2 16 00  A   ld      d,0
2334 4EF4 28 06  A   jr      z,FILES1
2335 4EF6 CD 50AE A   call   NACOFI
2336 4EF9 E5     A   push  hl          ;Dateinamen auswerten
2337 4EFA 18 04  A   jr      FILES2
2338 4EFC E5     AFILES1  push  hl
2339 4EFD CD 5140 A   call   AUFNA1      ;auffuellen mit 11x'?'
2340 4F00 CD 5098 AFILES2  call   NAMUML        ;Namen umladen
2341 4F03 3A F2DD A   ld      a,(PTORSC)
2342 4F06 A7     A   and   a
2343 4F07 F5     A   push  af
2344 4F08 CD 441C A   call   SUCHF1      ;set dma, search first
2345 4F0B CA 52FE A   jp      z,ERDFNF   ;file not found
2346 4F0E F5     A   push  af
2347 4F0F DD 21 0000#A ld      ix,LSTRES
2348 4F13 CD 0159 A   call   JL1CAL
2349 4F16 F1     A   pop   af
2350 4F17 E6 03  AFILES3  and   3
2351 4F19 87     A   add   a,a
2352 4F1A 87     A   add   a,a
2353 4F1B 87     A   add   a,a
2354 4F1C 87     A   add   a,a
2355 4F1D 87     A   add   a,a
2356 4F1E 4F     A   ld    c,a
2357 4F1F 06 00  A   ld    b,0
2358 4F21 21 F478 A   ld    hl,EDIBUF+84
2359 4F24 09     A   add   hl,bc
2360 4F25 23     A   inc  hl          ;user Kennzeichen ausblenden
2361 4F26 06 0B  A   ld    b,11
2362 4F28 7E     AFILES4  ld    a,(hl)
2363 4F29 E6 7F  A   and   7Fh        ;bit 7 wegblenden
2364 4F2B 23     A   inc  hl
2365 4F2C DF     A   rst  CHAR0
2366 4F2D 78     A   ld    a,b
2367 4F2E FE 04  A   cp   4
2368 4F30 20 08  A   jr    nz,FILES6
2369 4F32 7E     A   ld    a,(hl)
2370 4F33 FE 20  A   cp   20h
2371 4F35 28 02  A   jr    z,FILES5
2372 4F37 3E 2E  A   ld    a,2Eh
2373 4F39 DF     AFILES5  rst  CHAR0
2374 4F3A 10 EC  AFILES6  djnz  FILES4
2375 4F3C CD 00BD A   call  JBREAK      ;STOP ?
2376 4F3F F1     A   pop  af
2377 4F40 F5     A   push af
2378 4F41 3A F264 A   ld    a,(SPLAST)
2379 4F44 47     A   ld    b,a
2380 4F45 3A F527 A   ld    a,(CRSSPI)
2381 4F48 28 05  A   jr    z,FILES7
2382 4F4A 06 46  A   ld    b,70        ;max. Zeilenlaenge Drucker
2383 4F4C 3A F2DC A   ld    a,(LPTPOS)
2384 4F4F A7     AFILES7  and   a
2385 4F50 28 10  A   jr    z,FILES9
2386 4F52 C6 0C  A   add  a,12
2387 4F54 B8     A   cp   b
2388 4F55 30 04  A   jr    nc,FILES8
```

```
2389 4F57 3E 20      A   ld    a,20h
2390 4F59 DF          A   rst    CHARO
2391 4F5A 37          A   scf                    ;NC vom Drucker unterdr.
2392 4F5B DD 21 0000#A   ld    ix,LSTRE1
2393 4F5F D4 0159      A   call  nc,JL1CAL
2394 4F62 11 F42E    A   ld    de,EDIBUF+0Ah
2395 4F65 AF          A   xor    a
2396 4F66 32 F43A    A   ld    (EDIBUF+16h),a
2397 4F69 0E 12      A   ld    c,18                ;search next
2398 4F6B CD 5369    A   call  BBDOSX
2399 4F6E FE FF      A   cp    0FFh
2400 4F70 20 A5      A   jr    nz,FILES3
2401 4F72 F1          A   pop   af
2402                A;
2403 4F73 21 4FFF    A   ld    hl,FILESY
2404 4F76 CD 4010    A   call  DCHARO                ;Neue Zeile
2405 4F79 0E 1F      A   ld    c,31                ;DPB-Adresse
2406 4F7B CD 5369    A   call  BBDOSX
2407 4F7E 23          A   inc   hl
2408 4F7F 23          A   inc   hl
2409 4F80 23          A   inc   hl
2410 4F81 7E          A   ld    a,(hl)                ;3/DPB - BLM
2411 4F82 3C          A   inc   a
2412 4F83 32 F6B6    A   ld    (BLGROS),a
2413 4F86 23          A   inc   hl
2414 4F87 23          A   inc   hl                ;5,6/DPB - DSM
2415 4F88 5E          A   ld    e,(hl)
2416 4F89 23          A   inc   hl
2417 4F8A 56          A   ld    d,(hl)
2418 4F8B 13          A   inc   de
2419 4F8C D5          A   push  de                ;blocks/disk
2420 4F8D 0E 1B      A   ld    c,27                ;ALV-Adresse
2421 4F8F CD 5369    A   call  BBDOSX                ;hl: Adr. ALV
2422 4F92 D1          A   pop   de                ;de: blocks/disk
2423 4F93 D5          A   push  de
2424 4F94 DD 21 0000  A   ld    ix,0                ;ix: kumul.Blckanz.
2425 4F98 CB 3A      A   srl   d
2426 4F9A CB 1B      A   rr    e
2427 4F9C CB 3A      A   srl   d
2428 4F9E CB 1B      A   rr    e
2429 4FA0 CB 3A      A   srl   d
2430 4FA2 CB 1B      A   rr    e                ;de: Laenge ALV in bytes
2431 4FA4 7E          A   ld    a,(hl)                ;ALV auswerten
2432 4FA5 01 0800    A   ld    bc,800h                ;b=8, c=0
2433 4FA8 17          A   FILESE rla
2434 4FA9 38 01      A   jr    c,FILESD
2435 4FAB 0C          A   inc   c
2436 4FAC 10 FA      A   FILESD djnz  FILESE
2437 4FAE DD 09      A   add   ix,bc
2438 4FB0 23          A   inc   hl                ;naechste Adr. ALV
2439 4FB1 1B          A   dec   de
2440 4FB2 7A          A   ld    a,d
2441 4FB3 B3          A   or    e                ;fertig ?
2442 4FB4 20 EE      A   jr    nz,FILESA                ;nein
2443 4FB6 D1          A   pop   de
2444 4FB7 7B          A   ld    a,e
2445 4FB8 E6 07      A   and   7
2446 4FBA 28 0C      A   jr    z,FILESG
```

```
2447 4FBC 47      A    ld    b,a
2448 4FBD 0E 00    A    ld    c,0
2449 4FBF 7E      A    ld    a,(hl)
2450 4FC0 17      AFILESH    rla
2451 4FC1 38 01    A    jr    c,FILESI
2452 4FC3 0C      A    inc   c
2453 4FC4 10 FA    AFILESI    djnz   FILESH
2454 4FC6 DD 09    A    add   ix,bc
2455 4FC8 DD E5    AFILESG    push  ix          ;ix: Anzahl freier blocks
2456 4FCA 3A F6B6   A    ld    a,(BLGROS) ;records/block
2457 4FCD CB 3F    A    srl   a
2458 4FCF CB 3F    A    srl   a
2459 4FD1 CB 3F    A    srl   a
2460 4FD3 CB 3F    A    srl   a          ;2^a k/block
2461 4FD5 E1      A    pop   hl
2462 4FD6 A7      AFILESF    and   a
2463 4FD7 28 05    A    jr    z,FILESC
2464 4FD9 29      A    add   hl,hl
2465 4FDA CB 3F    A    srl   a
2466 4FDC 18 F8    A    jr    FILESF
2467 4FDE DD 21 0000#AFILESC    ld    ix,HAUZN
2468 4FE2 CD 0159  A    call  JL1CAL
2469 4FE5 21 4FF3  A    ld    hl,FILESX
2470 4FE8 CD 4010  A    call  DCHARO
2471      A;
2472 4FEB E1      AEND4 pop   hl
2473 4FEC DD 21 0000#A    ld    ix,AUSGE
2474 4FF0 C3 0159  A    jp    JL1CAL
2475      A;
2476 4FF3 20 4B 42 79AFILESX    defm  ' KBytes free'
2477 4FFF 0D      AFILESY    defb  0Dh
2478 5000 0A      A    defb  0Ah
2479 5001 00      A    defb  0
2480      A;
2481 5002 CD 5358   AKILL call  STCKM
2482 5005 CD 50C4   A    call  NACOF2      ;Namen
2483 5008 CD 52C1   A    call  DTCHAR
2484 500B C0      A    ret    nz
2485 500C CD 43C0   A    call  SUFCB      ;fcb suchen
2486 500F CA 52FE   A    jp    z,ERDFNF   ;file not found
2487 5012 CD 5098   A    call  NAMUML
2488 5015 E5      A    push  hl
2489 5016 11 F42E   A    ld    de,EDIBUF+0Ah ;Adr Name
2490 5019 0E 13    A    ld    c,19        ;delete file
2491 501B CD 5369   A    call  BBDOSX
2492 501E 3C      A    inc   a
2493 501F CA 51B3   A    jp    z,ERWPRT   ;write protected
2494 5022 E1      A    pop   hl
2495 5023 C9      A    ret
2496      A;
2497 5024 CD 5358   ARESET    call  STCKM
2498 5027 C0      A    ret    nz
2499 5028 E5      A    push  hl
2500 5029 DD 21 0000#A    ld    ix,CLOSEA     ;alle files schliessen
2501 502D CD 0159   A    call  JL1CAL
2502 5030 0E 19    A    ld    c,25        ;Abfrage Bezugs-LW
2503 5032 CD 5369   A    call  BBDOSX
2504 5035 F5      A    push  af          ;LW merken
```

```
2505 5036 0E 0D      A   ld      c,13          ;Diskssystem ruecksetzen
2506 5038 CD 5369      A   call     BBDOSX
2507 503B F1           A   pop      af
2508 503C 5F           A   ld      e,a
2509 503D 0E 0E      A   ld      c,14          ;altes LW einstellen
2510 503F CD 5369      A   call     BBDOSX
2511 5042 E1           A   pop      hl
2512 5043 C9           A   ret
2513                A;
2514 5044 CD 5358      ANAME:   call     STCKM
2515 5047 CD 50C4      A   call     NACOF2       ;old name
2516 504A CD 43C0      A   call     SUFCB        ;fcb suchen
2517 504D CA 51A7      A   jp      z,ERSTIO     ;file still open
2518 5050 CD 5098      A   call     NAMUML       ;name umladen
2519 5053 E5           A   push     hl
2520 5054 CD 441C      A   call     SUCHF1       ;set dma, search first
2521 5057 CA 52FE      A   jp      z,ERDFNF     ;file not found
2522 505A E1           A   pop      hl
2523 505B CD 52B7      A   call     DCPSTX
2524 505E 41           A   defb    'A'
2525 505F CD 52B7      A   call     DCPSTX
2526 5062 53           A   defb    'S'          ;'AS' ?
2527 5063 CD 50C4      A   call     NACOF2       ;new name
2528 5066 7A           A   ld      a,d
2529 5067 32 F43E      A   ld      (EDIBUF+1Ah),a
2530 506A E5           A   push     hl
2531 506B F5           A   push     af
2532 506C 11 F43E      A   ld      de,EDIBUF+1Ah ;fcb-Adr new name
2533 506F AF           A   xor     a
2534 5070 32 F44A      A   ld      (EDIBUF+26h),a
2535 5073 0E 11      A   ld      c,17          ;search first
2536 5075 CD 5369      A   call     BBDOSX
2537 5078 FE FF      A   cp      0FFh        ;Fehler?
2538 507A C2 51AA      A   jp      nz,ERALEX
2539 507D F1           A   pop      af
2540 507E 2A F42E      A   ld      hl,(EDIBUF+0Ah)
2541 5081 A7           A   and     a
2542 5082 28 04      A   jr      z,NAME1
2543 5084 BD           A   cp      l            ;Laufwerke gleich ?
2544 5085 C2 51BC      A   jp      nz,ERRENA    ;nein -> rename across disk
2545 5088 11 F43F      ANAME1   ld      de,EDIBUF+1Bh
2546 508B CD 4436      A   call     NAUML1       ;name laden
2547 508E 11 F42E      A   ld      de,EDIBUF+0Ah
2548 5091 0E 17      A   ld      c,23          ;rename file
2549 5093 CD 5369      A   call     BBDOSX
2550 5096 E1           A   pop      hl
2551 5097 C9           A   ret
2552                A;
2553 5098 CD 43AE      ANAMUML  call     LDDSK          ;Umladen Namen
2554 509B 3C           A   inc     a
2555 509C 32 F42E      A   ld      (EDIBUF+0Ah),a
2556 509F E5           A   push     hl
2557 50A0 D5           A   push     de
2558 50A1 CD 4433      A   call     NAUML
2559 50A4 D1           A   pop      de
2560 50A5 E1           A   pop      hl
2561 50A6 C9           A   ret
2562                A;
```



```
2563 50A7 DD 21 0000#ADSKNAM ld ix,DATNA ;Dateinamen auswerten
2564 50AB C3 0159 A jp JLIICAL
2565 A;
2566 50AE CD 50A7 ANACOFI call DSKNAM ;Dateinamen von FILES
2567 50B1 E5 A push hl ;auswerten und auffuellen
2568 50B2 21 F72D A ld hl,AUTSTL
2569 50B5 06 0B A ld b,11
2570 50B7 7E ANACOF1 ld a,(hl)
2571 50B8 23 A inc hl
2572 50B9 FE 20 A cp 20h
2573 50BB 20 0B A jr nz,NACOF3
2574 50BD 10 F8 A djnz NACOF1
2575 50BF CD 5140 A call AUFNA1
2576 50C2 18 04 A jr NACOF3
2577 50C4 CD 50A7 ANACOF2 call DSKNAM ;von KILL, NAME
2578 50C7 E5 A push hl
2579 50C8 21 F72D ANACOF3 ld hl,AUTSTL
2580 50CB 06 08 A ld b,8
2581 50CD CD 5137 A call AUFNAM
2582 50D0 06 03 A ld b,3
2583 50D2 CD 5137 A call AUFNAM
2584 50D5 E1 A pop hl
2585 50D6 F6 A defb 0F6h ;or .. ('?' erlaubt)
2586 50D7 37 ANACOF4 scf ;von OPEN, COPY ('?' verboten)
2587 50D8 D5 A push de
2588 50D9 E5 A push hl
2589 50DA 11 F72D A ld de,AUTSTL
2590 50DD D5 A push de
2591 50DE 06 0B A ld b,11
2592 50E0 C5 ANACOF5 push bc
2593 50E1 1A A ld a,(de)
2594 50E2 47 A ld b,a
2595 50E3 F5 A push af
2596 50E4 FE 80 A cp 80h ;Zeichen > 7Fh ?
2597 50E6 30 4C A jr nc,NAMT3 ;ja -> Fehler
2598 50E8 FE 61 A cp 'a'
2599 50EA 38 08 A jr c,NACOF7 ;< 61h, unveraendert
2600 50EC FE 7B A cp '{'
2601 50EE 30 04 A jr nc,NACOF7 ;>= 7Bh, unveraendert
2602 50F0 E6 5F A and 5Fh
2603 50F2 47 A ld b,a
2604 50F3 12 A ld (de),a
2605 50F4 F1 ANACOF7 pop af
2606 50F5 78 A ld a,b
2607 50F6 21 510E A ld hl,NACOF7 ;Zeichentabelle
2608 50F9 01 000D A ld bc,13 ;Laenge Tab
2609 50FC 38 01 A jr c,NACOF6
2610 50FE 0B A dec bc
2611 50FF ED B1 ANACOF6 cpir
2612 5101 28 31 A jr z,NAMT3;verbotenes Zeichen ?
2613 5103 C1 A pop bc ;nein
2614 5104 13 A inc de
2615 5105 10 D9 A djnz NACOF5
2616 5107 E1 A pop hl
2617 5108 CD 511B A call NAMT
2618 510B E1 A pop hl
2619 510C D1 A pop de
2620 510D C9 A ret
```

```
2621 510E 2E      ANACOPT  defb  '.'          ;verbotene Zeichen
2622 510F 22      A      defb  '"'
2623 5110 2F      A      defb  '/'
2624 5111 5C      A      defb  '\'
2625 5112 5B      A      defb  '['
2626 5113 5D      A      defb  ']'
2627 5114 3A      A      defb  ':'
2628 5115 2B      A      defb  '+'
2629 5116 3D      A      defb  '='
2630 5117 3B      A      defb  ';'
2631 5118 2C      A      defb  ','
2632 5119 2A      A      defb  '*'
2633 511A 3F      A      defb  '?'
2634             A;
2635 511B 3E 20    ANAMT ld   a,20h
2636 511D BE       A      cp   (hl)
2637 511E 28 14    A      jr   z,NAMT3;name leer -> bad file name
2638 5120 06 07    A      ld   b,7          ;Rest kann leer sein
2639 5122 CD 5127  A      call NAMT1
2640 5125 06 03    A      ld   b,3          ;Typ auch
2641 5127 23      ANAMT1  inc   hl
2642 5128 BE       A      cp   (hl)
2643 5129 28 03    A      jr   z,NAMT2
2644 512B 10 FA    A      djnz NAMT1
2645 512D C9       A      ret
2646 512E 05      ANAMT2  dec   b
2647 512F C8       A      ret   z
2648 5130 23      A      inc  hl
2649 5131 BE       A      cp   (hl)
2650 5132 28 FA    A      jr   z,NAMT2
2651 5134 C3 52F8  ANAMT3  jp    ERDBNA          ;bad file name
2652             A;
2653 5137 7E       AAUFNAM  ld   a,(hl)          ;* auffuellen
2654 5138 FE 2A    A      cp   '*'
2655 513A 28 09    A      jr   z,AUFNA2
2656 513C 23      A      inc  hl
2657 513D 10 F8   A      djnz AUFNAM
2658 513F C9       A      ret
2659 5140 21 F72D  AAUFNA1  ld   hl,AUTSTL
2660 5143 06 0B    A      ld   b,11
2661 5145 36 3F    AAUFNA2  ld   (hl),'?'
2662 5147 23      A      inc  hl
2663 5148 10 FB    A      djnz AUFNA2
2664 514A C9       A      ret
2665             A;
2666 514B F6       ALOC  defb  0F6h          ;or 0AFh
2667 514C AF       ALOF  xor   a
2668 514D CD 5358  A      call STCKM
2669 5150 F5       A      push af
2670 5151 DD 21 0000#A  ld   ix,BYTAE3      ;bytepar
2671 5155 CD 0159  A      call JL1CAL
2672 5158 DD 21 0000#A  ld   ix,FCBAD       ;fcb Adresse bestimmen
2673 515C CD 0159  A      call JL1CAL
2674 515F DA 5304  A      jp   c,ERDFC     ;ill function call
2675 5162 CA 52DA  A      jp   z,ERDNOP     ;file not open
2676 5165 47       A      ld   b,a         ;mode
2677 5166 F1       A      pop  af
2678 5167 28 16    A      jr   z,LOF1     ;-> LOF
```

```
2679 5169 78      A    ld    a,b          ;LOC
2680 516A FE 04    A    cp    4            ;random ?
2681 516C 01 010A  A    ld    bc,10Ah       ;nein, sequ location
2682 516F 20 03    A    jr    nz,LOC1
2683 5171 01 0110  A    ld    bc,110h      ;ja, BASIC rrn
2684 5174 09      ALOC1 add  hl,bc
2685 5175 7E      A    ld    a,(hl)
2686 5176 2B      A    dec   hl
2687 5177 6E      A    ld    l,(hl)
2688 5178 DD 21 0000#A  A    ld    ix,POS2
2689 517C C3 0159  ALOC2 jp    JL1CAL
2690 517F CD 46C9  ALOF1 call ACTBDP      ;bdos fcb
2691 5182 01 000F  A    ld    bc,0Fh       ;rc
2692 5185 09      A    add   hl,bc
2693 5186 7E      A    ld    a,(hl)
2694 5187 DD 21 0000#A  A    ld    ix,POS1
2695 518B 18 EF    A    jr    LOC2
2696      A;
2697 518D 2A F72B  ABLSIZE ld    hl,(ACTFCB) ;Pufferadr, Laenge fuer BSAVE/
2698 5190 11 0080  A    ld    de,80h       ;BLOAD,S
2699 5193 19      A    add   hl,de
2700 5194 22 E890  A    ld    (HIADR),hl   ;FIELD-Bereich
2701 5197 21 0040  A    ld    hl,40h       ;40h words = 80h bytes
2702 519A C9      A    ret
2703      A;
2704 519B 1E 3C    AERBINT ld    e,3Ch          ;internal error
2705 519D 01      A    defb  1
2706 519E 1E 3D    AERBMOD ld    e,3Dh          ;bad file mode
2707 51A0 01      A    defb  1
2708 51A1 1E 3E    AERBDNA ld    e,3Eh          ;bad drive name
2709 51A3 01      A    defb  1
2710 51A4 1E 3F    AERBIN2 ld    e,3Fh          ;internal error
2711 51A6 01      A    defb  1
2712 51A7 1E 40    AERSTIO ld    e,40h          ;file still open
2713 51A9 01      A    defb  1
2714 51AA 1E 41    AERALEX ld    e,41h          ;file already exists
2715 51AC 01      A    defb  1
2716 51AD 1E 42    AERFULL ld    e,42h          ;disk full
2717 51AF 01      A    defb  1
2718 51B0 1E 43    AERTOOM ld    e,43h          ;too many files
2719 51B2 01      A    defb  1
2720 51B3 1E 44    AERWPRT ld    e,44h          ;file write protected
2721 51B5 01      A    defb  1
2722 51B6 1E 45    AERIO ld    e,45h       ;disk I/O error
2723 51B8 01      A    defb  1
2724 51B9 1E 46    AEROFFL ld    e,46h          ;disk offline
2725 51BB 01      A    defb  1
2726 51BC 1E 47    AERRENA ld    e,47h          ;rename across disk
2727 51BE 01 0000  A    ld    bc,0
2728 51C1 AF      A    xor   a
2729 51C2 32 F743  A    ld    (LMAFL),a
2730 51C5 32 FC1C  A    ld    (HLPERR),a
2731 51C8 D5      A    push  de
2732 51C9 DD 21 0000#A  A    ld    ix,CLOSE1    ;alle files schliessen
2733 51CD CD 0159  A    call  JL1CAL
2734 51D0 D1      A    pop   de
2735 51D1 DD 21 0000#A  A    ld    ix,ERRO      ;Fehlerausschrift
2736 51D5 C3 0159  A    jp    JL1CAL
```

```
2737          A;
2738 51D8 7B      AERR2 ld    a,e          ;Fehlermeldungen von disk
2739 51D9 FE 3C  A      cp    3Ch
2740 51DB D8      A      ret    c          ;< 3C
2741 51DC FE 48  A      cp    48h
2742 51DE D0      A      ret    nc        ;> 47
2743 51DF D6 3B  A      sub   3Bh
2744 51E1 47      A      ld    b,a
2745 51E2 21 51FA A      ld    hl,ERRTAB ;Tabelle Fehlermeldungen
2746 51E5 7E      AERR21 ld    a,(hl)
2747 51E6 A7      A      and   a
2748 51E7 23      A      inc   hl
2749 51E8 20 FB  A      jr    nz,ERR21
2750 51EA 10 F9  A      djnz  ERR21
2751 51EC 2B      A      dec   hl
2752 51ED 11 F4CA A      ld    de,EDIBUF+0A6h
2753 51F0 D5      A      push  de
2754 51F1 01 0016 A      ld    bc,16h
2755 51F4 ED B0  A      ldir
2756 51F6 1E 01  A      ld    e,1
2757 51F8 E1      A      pop   hl
2758 51F9 C9      A      ret
2759 51FA 00      AERRTAB defb  0
2760 51FB 49 6E 74 65A defm  'Internal error' ;3C 60
2761 5209 00      A      defb  0
2762 520A 42 61 64 20A defm  'Bad file mode' ;3D 61
2763 5217 00      A      defb  0
2764 5218 42 61 64 20A defm  'Bad drive name' ;3E 62
2765 5226 00      A      defb  0
2766 5227 49 6E 74 65A defm  'Internal error' ;3F 63
2767 5235 00      A      defb  0
2768 5236 46 69 6C 65A defm  'File still open' ;40 64
2769 5245 00      A      defb  0
2770 5246 46 69 6C 65A defm  'File already exists' ;41 65
2771 5259 00      A      defb  0
2772 525A 44 69 73 6BA defm  'Disk full' ;42 66
2773 5263 00      A      defb  0
2774 5264 54 6F 6F 20A defm  'Too many files' ;43 67
2775 5272 00      A      defb  0
2776 5273 46 69 6C 65A defm  'File write protected' ;44 68
2777 5287 00      A      defb  0
2778 5288 44 69 73 6BA defm  'Disk I/O error' ;45 69
2779 5296 00      A      defb  0
2780 5297 44 69 73 6BA defm  'Disk offline' ;46 70
2781 52A3 00      A      defb  0
2782 52A4 52 65 6E 61A defm  'Rename across disk' ;47 71
2783 52B6 00      A      defb  0
2784          A;
2785 52B7 CD 52C1  ADCPSTX call  DTCHAR ;CPSTX
2786 52BA E3      A      ex    (sp),hl
2787 52BB BE      A      cp    (hl)
2788 52BC 20 4C  A      jr    nz,ERDSN
2789 52BE 23      A      inc   hl
2790 52BF E3      A      ex    (sp),hl
2791 52C0 23      A      inc   hl
2792 52C1 2B      ADTCHAR dec   hl
2793 52C2 DD 21 0000#ADTCHA0 ld    ix,TCHAR0 ;TCHAR0
2794 52C6 18 46  A      jr    LONGJP
```

```

2795 52C8 DD 21 0000#AERDFTC      ld      ix,ZKUP18      ;string formula too complex
2796 52CC 18 40      A      jr      LONGJJP
2797 52CE DD 21 0000#AERDTM      ld      ix,ERTM      ;type mismatch
2798 52D2 18 3A      A      jr      LONGJJP
2799 52D4 DD 21 0000#AERDMO      ld      ix,MOERR0     ;out of memory
2800 52D8 18 34      A      jr      LONGJJP
2801 52DA DD 21 0000#AERDNOP     ld      ix,ERNTOP     ;file not open
2802 52DE 18 2E      A      jr      LONGJJP
2803 52E0 DD 21 0000#AERDPAE     ld      ix,ERINPE     ;input past end
2804 52E4 18 28      A      jr      LONGJJP
2805 52E6 DD 21 0000#AERDFOV     ld      ix,ERFIOV     ;field overflow
2806 52EA 18 22      A      jr      LONGJJP
2807 52EC DD 21 0000#AERDALO     ld      ix,ERALOP     ;file already open
2808 52F0 18 1C      A      jr      LONGJJP
2809 52F2 DD 21 0000#AERDBFN     ld      ix,ERBFNR     ;bad file number
2810 52F6 18 16      A      jr      LONGJJP
2811 52F8 DD 21 0000#AERDBNA     ld      ix,ERBFNA     ;bad file name
2812 52FC 18 10      A      jr      LONGJJP
2813 52FE DD 21 0000#AERDFNF     ld      ix,ERNTFO     ;file not found
2814 5302 18 0A      A      jr      LONGJJP
2815 5304 DD 21 0000#AERDFC     ld      ix,ERFC      ;illegal function call
2816 5308 18 04      A      jr      LONGJJP
2817 530A DD 21 0000#AERDSN     ld      ix,ERSN      ;syntax error
2818 530E C3 0159      ALONGJJP      jp      JLLICAL
2819
2820 5311 7B          AFILDS      ld      a,e          ;FILDS
2821 5312 FE 02      A      cp      2
2822 5314 D8          A      ret      c          ;Laenge Namen < 2
2823 5315 7E          A      ld      a,(hl)
2824 5316 FE 3A      A      cp      ':'
2825 5318 28 DE      A      jr      z,ERDBNA     ;bad file name
2826 531A 23          A      inc      hl
2827 531B 7E          A      ld      a,(hl)
2828 531C FE 3A      A      cp      ':'
2829 531E 2B          A      dec      hl
2830 531F C0          A      ret      nz          ;kein disk Name
2831 5320 CD 5358      A      call     STCKM
2832 5323 7E          A      ld      a,(hl)     ;disk Name
2833 5324 E6 DF      A      and     0DFh      ;-> Grossbuchstabe
2834 5326 D6 40      A      sub     40h      ;A -> 1 usw.
2835 5328 FE 11      A      cp      17      ;LW zulaessig?
2836 532A D2 51A1      A      jp      nc,ERBDNA     ;nein
2837 532D F5          A      push    af
2838 532E E5          A      push    hl
2839 532F D5          A      push    de
2840 5330 5F          A      ld      e,a
2841 5331 1D          A      dec      e          ;gefordertes LW
2842 5332 D5          A      push    de
2843 5333 0E 19      A      ld      c,25      ;Abfrage aktuelles LW
2844 5335 CD 5369      A      call     BBDOSX
2845 5338 D1          A      pop     de          ;gef. LW
2846 5339 F5          A      push    af          ;akt. LW
2847 533A 0E 0E      A      ld      c,14      ;Auswahl LW
2848 533C CD 5369      A      call     BBDOSX
2849 533F 3C          A      inc     a          ;Fehler ?
2850 5340 CA 51A1      A      jp      z,ERBDNA
2851 5343 F1          A      pop     af          ;akt. LW
2852 5344 5F          A      ld      e,a

```

```

2853 5345 0E 0E      A   ld      c,14
2854 5347 CD 5369    A   call    BBDOSX
2855 534A D1           A   pop     de
2856 534B E1           A   pop     hl
2857 534C F1           A   pop     af
2858 534D 23           A   inc     hl
2859 534E 23           A   inc     hl
2860 534F 1D           A   dec     e
2861 5350 1D           A   dec     e
2862 5351 D5           A   push    de
2863 5352 1C           A   inc     e
2864 5353 D1           A   pop     de
2865 5354 C9           A   ret
2866                A;
2867 5355 3E 00    AGERST      ld      a,0           ;Standardgeraet = 0
2868 5357 C9           A   ret
2869                A;
2870 5358 E5           ASTCKM      push    hl           ;Stackmanipulation fuer
2871 5359 D5           A   push    de
2872 535A F5           A   push    af           ;Rueckkehr von Disk
2873 535B 21 000E   A   ld      hl,14
2874 535E 39           A   add     hl,sp
2875 535F 11 F240   A   ld      de,LCAUP-1
2876 5362 73           A   ld      (hl),e
2877 5363 23           A   inc     hl
2878 5364 72           A   ld      (hl),d
2879 5365 F1           A   pop     af
2880 5366 D1           A   pop     de
2881 5367 E1           A   pop     hl
2882 5368 C9           A   ret
2883                A;
2884 5369 3A E88C   ABBDOSX      ld      a,(RESDOK)   ;reset disk ok ?
2885 536C FE FE     A   cp      0FEh      ;schwerer Fehler?
2886 536E 20 11   A   jr      nz,BBDOSY ;nein
2887 5370 C5           A   push    bc           ;ja -> nachholen
2888 5371 D5           A   push    de
2889 5372 0E 0D   A   ld      c,13       ;reset disk
2890 5374 CD E89A   A   call    BBDOS
2891 5377 32 E88C   A   ld      (RESDOK),a ;ok ?
2892 537A FE FE     A   cp      0FEh      ;immer noch?
2893 537C CA 51B9   A   jp      z,EROFFL   ;nein -> disk offline
2894 537F D1           A   pop     de
2895 5380 C1           A   pop     bc
2896 5381 CD E89A   ABBDOSY      call    BBDOS
2897 5384 FE FE     A   cp      0FEh      ;schwerer Fehler
2898 5386 32 E88C   A   ld      (RESDOK),a
2899 5389 CA 51B6   A   jp      z,ERIO
2900 538C F5           A   push    af
2901 538D AF           A   xor     a
2902 538E 32 E88C   A   ld      (RESDOK),a
2903 5391 F1           A   pop     af
2904 5392 C9           A   ret
2905                A;-----
2906                A   include BICCOPY.Z80
1                B;*****
2                B; Kopierprogramm fuer BIC
3                B; Stand: 1.7.88, Dr.Busch/EKR2
4                B;-----

```

```
5          B; Kopieren von Dateien mit Luecken im SCP-Format
6          B; Aufruf mit
7          B; COPY "[geraet:]name" TO "[geraet:]name"
8          B; aus RBASIC
9          B;*****
10 5393 CD 5358 BCOPI call STCKM ;Stackmanipulation
11 5396 DD 21 0000#B ld ix,CLOSEA ;alle files schlieszen
12 539A CD 0159 B call JLIICAL
13 539D E5 B push hl
14 539E 21 F42E B ld hl,ZIFCB ;fcb's initialisieren
15 53A1 06 48 B ld b,48h
16 53A3 36 00 BCOPI1 ld (hl),0
17 53A5 23 B inc hl
18 53A6 10 FB B djnz COPY1
19 53A8 E1 B pop hl
20 53A9 CD 50A7 B call DSKNAM ;source name
21 53AC CD 50D7 B call NACOF4 ;zulaessig ?
22 53AF CD 5098 B call NAMUML ;ja, umladen
23 53B2 E5 B push hl ;nach QUFCB
24 53B3 21 F42E B ld hl,ZIFCB
25 53B6 11 F452 B ld de,QUFCB
26 53B9 01 000C B ld bc,12
27 53BC ED B0 B ldir
28 53BE E1 B pop hl
29 53BF CD 52B7 B call DCPSTX ;'TO'
30 53C2 D9 B defb 0D9h ;TO-token
31 53C3 CD 50A7 B call DSKNAM ;destination name
32 53C6 CD 50D7 B call NACOF4 ;zulaessig ?
33 53C9 CD 5098 B call NAMUML ;ja, umladen nach ZIFCB
34 53CC CD 52C1 B call DTCHAR ;Ende Anweisung ?
35 53CF C0 B ret nz ;nein -> syntax error
36 53D0 E5 B push hl ;Zeiger retten
37 53D1 21 F452 B ld hl,QUFCB ;LW, Namen vergleichen
38 53D4 11 F42E B ld de,ZIFCB
39 53D7 06 0C B ld b,12
40 53D9 1A BCOPI3 ld a,(de)
41 53DA BE B cp (hl)
42 53DB 20 07 B jr nz,COPY2 ;LW,Name <>, o.k.
43 53DD 23 B inc hl
44 53DE 13 B inc de
45 53DF 10 F8 B djnz COPY3
46 53E1 C3 52F8 B jp ERDBNA ;= -> bad file name
47 53E4 CD 5529 BCOPI2 call DATCU2 ;Quellfile suchen
48 53E7 CA 52FE B jp z,ERDFNF ;file not found
49 53EA 21 F437 B ld hl,ZIFCB+9
50 53ED E5 B push hl
51 53EE 11 F563 B ld de,ZITYP
52 53F1 01 0003 B ld bc,3
53 53F4 ED B0 B ldir ;temporaer typ '$$$'
54 53F6 E1 B pop hl
55 53F7 06 03 B ld b,3
56 53F9 36 24 BCOPI5 ld (hl),'$'
57 53FB 23 B inc hl
58 53FC 10 FB B djnz COPY5
59          B;
60 53FE CD 547B B call BLKPR ;Parameter Quell-disk bestimmen
61 5401 DA 52D4 B jp c,ERDMO ;out of memory bei Puffer<1 extent
62 5404 CD 54C6 B call DATCOP ;Datei kopieren
```

```

63          B;
64 5407 F5   B   push   af
65 5408 1E 00 B   ld     e,0
66 540A 0E 0E B   ld     c,14           ;select disk A
67 540C CD 5369 B  call   BBDOSX
68 540F F1   B   pop    af
69 5410 30 19 B   jr     nc,COPY4       ;kein Fehler
70 5412 F5   B   push   af
71 5413 CD 546C B  call   COPYUP
72 5416 0E 13 B   ld     c,19           ;Fehler -> delete file
73 5418 CD 5369 B  call   BBDOSX
74 541B F1   B   pop    af           ;Fehlercode in a
75 541C 3D   B   dec    a
76 541D CA 51AD B  jp     z,ERFULL       ;disk full
77 5420 3D   B   dec    a
78 5421 CA 51B0 B  jp     z,ERTOOM       ;too many files
79 5424 3D   B   dec    a
80 5425 CA 52FE B  jp     z,ERDFNF       ;file not found
81 5428 C3 51B6 B  jp     ERIO           ;disk I/O error
82 542B CD 546C BCOPY4 call   COPYUP         ;kein Fehler
83 542E D5   B   push   de           ;alte Zieldatei loeschen
84 542F 21 F563 B  ld     hl,ZITYP
85 5432 11 F437 B  ld     de,ZIFCB+9
86 5435 01 0003 B  ld     bc,3
87 5438 ED B0  B  ldir
88 543A D1   B   pop    de
89 543B 0E 13 B  ld     c,19           ;delete file
90 543D CD 5369 B  call   BBDOSX
91 5440 CD 546C B  call   COPYUP
92 5443 D5   B   push   de
93 5444 21 F437 B  ld     hl,ZIFCB+9
94 5447 06 03 B  ld     b,3
95 5449 36 24 BCOPY6 ld     (hl),'$'
96 544B 23   B   inc    hl
97 544C 10 FB B  djnz  COPY6
98 544E 21 F42E B  ld     hl,ZIFCB
99 5451 11 F43E B  ld     de,ZIFCB+10h
100 5454 01 0010 B  ld     bc,10h
101 5457 ED B0  B  ldir
102 5459 21 F563 B  ld     hl,ZITYP       ;Zieltyp regenerieren
103 545C 11 F447 B  ld     de,ZIFCB+19h
104 545F 01 0003 B  ld     bc,3
105 5462 ED B0  B  ldir
106 5464 D1   B   pop    de
107 5465 0E 17 B  ld     c,23           ;rename file
108 5467 CD 5369 B  call   BBDOSX
109 546A E1   BCOPYE pop    hl           ;Zeiger reg.
110 546B C9   B   ret
111          B;-----
112 546C 11 F42E BCOPYUP ld     de,ZIFCB       ;Ziel-fcb init
113 546F 21 000C B  ld     hl,12
114 5472 19   B   add    hl,de
115 5473 06 18 B  ld     b,24
116 5475 36 00 BCOPYU1 ld     (hl),0
117 5477 23   B   inc    hl
118 5478 10 FB B  djnz  COPYU1
119 547A C9   B   ret
120          B;=====

```



```
121 547B 3A F452 BBLKPR ld a,(QUFCB) ;Blockangaben ermitteln
122 547E 5F B ld e,a ;vom Quell-LW
123 547F 1D B dec e
124 5480 0E 0E B ld c,14 ;select disk (Quell-LW)
125 5482 CD 5369 B call BBDOSX ;wenn Quell-LW <> A
126 5485 0E 1F B ld c,31 ;DPB-Adresse
127 5487 CD 5369 B call BBDOSX ;in hl
128 548A 23 B inc hl ;DPB auswerten
129 548B 23 B inc hl
130 548C 23 B inc hl ;Blockmaske
131 548D 7E B ld a,(hl)
132 548E 3C B inc a
133 548F 32 F6B6 B ld (BLGROS),a ;Blockgroesze: rec's/block
134 5492 06 08 B ld b,8
135 5494 1F BBLKPR4 rra
136 5495 CB 11 B rl c
137 5497 10 FB B djnz BLKPR4
138 5499 79 B ld a,c
139 549A 32 F682 B ld (BLEXT),a ;blocks/extent
140 549D 23 B inc hl
141 549E 7E B ld a,(hl) ;Eintragsmaske
142 549F 32 F566 B ld (EXTMSK),a ;extents/dir-Eintrag-1
143 54A2 23 B inc hl
144 54A3 7E B ld a,(hl)
145 54A4 23 B inc hl
146 54A5 6E B ld l,(hl)
147 54A6 67 B ld h,a
148 54A7 23 B inc hl ;Blockanzahl
149 54A8 7C B ld a,h
150 54A9 A7 B and a ;< 256 ?
151 54AA 3E 00 B ld a,0 ;ja, 1 byte Blocknummern
152 54AC 28 01 B jrz,BLKPR1
153 54AE 3C B inc a ;> 255, 2 byte Blocknummern
154 54AF 32 F6BA BBLKPR1 ld (BLNRGR),a ;Blocknummerngroesze
155 54B2 21 FFE2 B ld hl,-30 ;Pufferspeicher berechnen
156 54B5 39 B add hl,sp
157 54B6 ED 5B F58C B ld de,(FSLPTR) ;Anfang Freibereich
158 54BA ED 53 F6B8 B ld (PUCOPY),de ;= Anfang Puffer
159 54BE A7 B and a
160 54BF ED 52 B sbc hl,de ;Laenge Freibereich
161 54C1 11 4000 B ld de,4000h ;extent-Groesze
162 54C4 E7 B rst CPREG
163 54C5 C9 B ret
164 B;-----
165 54C6 CD 5529 BDATCOP call DATCU2 ;ersten Eintrag suchen
166 54C9 37 B scf
167 54CA 47 B ld b,a ;Rueckgabecode retten
168 54CB 3E 03 B ld a,3 ;file not found
169 54CD C8 B ret z ;Fehler
170 54CE 78 B ld a,b
171 54CF CD 5517 BDATCO2 call DATCUP ;Adr. Eintrag bestimmen
172 54D2 CD 553C B call DATCU3 ;exNrn bestimmen
173 54D5 CD 554C BDATCO9 call DATCU4 ;recordmaske/extent bestimmen
174 54D8 C5 B push bc ;exNrn retten
175 B;
176 54D9 CD 559C B call LESEXT ;extent lesen
177 54DC D4 5622 B call nc,SCHEXT ;extent schreiben
178 B;
```

```
179 54DF C1      B   pop   bc           ;b: hoechste, c:akt. extNr
180 54E0 38 34   B   jr    c,DATCOE    ;Fehler
181 54E2 0C      B   inc   c
182 54E3 3A F685 B   ld    a,(LASTEX)  ;letzter ex ?
183 54E6 A7        B   and   a
184 54E7 20 EC   B   jr    nz,DATCO9   ;nicht fertig -> weiter
185                B;
186 54E9 C5      B   push  bc           ;b: letzte exNr im Eintrag
187 54EA 11 F4A4 B   ld    de,HIDMA
188 54ED 0E 1A   B   ld    c,26
189 54EF CD 5369 B   call  BBDOSX        ;set dma
190 54F2 21 F45E B   ld    hl,QUFCB+12  ;search first auf letzten ex
191 54F5 C1      B   pop   bc
192 54F6 70      B   ld    (hl),b       ;des Eintrags
193 54F7 11 F452 B   ld    de,QUFCB
194 54FA D5      B   push  de
195 54FB 0E 11   B   ld    c,17         ;search first
196 54FD CD 5369 B   call  BBDOSX
197 5500 FE FF   B   cp    0FFh         ;Fehler ?
198 5502 3E 04   B   ld    a,4
199 5504 D1      B   pop   de
200 5505 28 0F   B   jr    z,DATCOE    ;ja (CY=1)
201 5507 21 F45E B   ld    hl,QUFCB+12
202 550A 36 3F   B   ld    (hl),'?'    ;naechsten extent
203 550C 0E 12   B   ld    c,18
204 550E CD 5369 B   call  BBDOSX
205 5511 FE FF   B   cp    0FFh         ;fertig ?
206 5513 20 BA   B   jr    nz,DATCO2   ;nein, weiter
207 5515 A7      B   and   a           ;fertig -> Ok
208 5516 C9      BDATCOE   ret
209                B;
210 5517 E6 03   BDATCUP   and    3
211 5519 87      B   add   a,a
212 551A 87      B   add   a,a
213 551B 87      B   add   a,a
214 551C 87      B   add   a,a
215 551D 87      B   add   a,a
216 551E 06 00   B   ld    b,0
217 5520 4F      B   ld    c,a
218 5521 21 F4A4 B   ld    hl,HIDMA
219 5524 09      B   add   hl,bc        ;Eintragsanfang
220 5525 22 F683 B   ld    (DIRAD),hl
221 5528 C9      B   ret
222                B;
223 5529 11 F4A4 BDATCU2   ld    de,HIDMA        ;dma-Bereich fuer Suche
224 552C 0E 1A   B   ld    c,26         ;set dma
225 552E CD 5369 B   call  BBDOSX
226 5531 11 F452 B   ld    de,QUFCB      ;ersten Eintrag suchen
227 5534 0E 11   B   ld    c,17         ;search first
228 5536 CD 5369 B   call  BBDOSX
229 5539 FE FF   B   cp    0FFh         ;Fehler ?
230 553B C9      B   ret
231                B;
232 553C ED 5B F683 BDATCU3   ld    de,(DIRAD)     ;erste extNr suchen im Eintrag
233 5540 21 000C B   ld    hl,12
234 5543 19      B   add   hl,de
235 5544 46      B   ld    b,(hl)       ;b: hoechste extNr
236 5545 3A F566 B   ld    a,(EXTMSK)
```

```
237 5548 2F      B    cpl
238 5549 A0      B    and    b
239 554A 4F      B    ld     c,a          ;c: erste extNr
240 554B C9      B    ret
241          B;
242 554C C5      BDATCU4   push    bc
243 554D 78      B    ld     a,b
244 554E B9      B    cp     c          ;letzter extent im Eintrag ?
245 554F 3E 00    B    ld     a,0
246 5551 28 01    B    jrc   z,DATCU5     ;ja
247 5553 3C      B    inc    a          ;nein
248 5554 32 F685 BDATCU5   ld      (LASTEX),a
249 5557 21 0000 B    ld     hl,0
250 555A 22 F688 B    ld     (RECMSK),hl ;recordmaske/extent
251 555D 21 0010 B    ld     hl,16       ;bestimmen
252 5560 19      B    add    hl,de       ;hl: Anfang BlockNr im Eintrag
253 5561 3A F682 B    ld     a,(BLEXT)
254 5564 5F      B    ld     e,a        ;e: Blockanzahl/extent
255 5565 3A F6B6 B    ld     a,(BLGROS)
256 5568 CB 3F    B    srl   a
257 556A CB 3F    B    srl   a
258 556C CB 3F    B    srl   a
259 556E 57      B    ld     d,a        ;Kbyte/block
260 556F D5      BDATCU6   push    de
261 5570 01 0000 B    ld     bc,0
262 5573 4E      B    ld     c,(hl)
263 5574 23      B    inc   hl
264 5575 3A F6BA B    ld     a,(BLNRGR)
265 5578 A7      B    and   a
266 5579 28 02    B    jrc   z,DATCU7
267 557B 46      B    ld     b,(hl)
268 557C 23      B    inc   hl
269 557D 78      BDATCU7   ld      a,b
270 557E B1      B    or    c
271 557F 28 02    B    jrc   z,DATCU8     ;block leer
272 5581 3E FF    B    ld     a,0FFh     ;voll
273 5583 D1      BDATCU8   pop     de          ;d: Kbyte/block
274 5584 D5      B    push  de
275 5585 E5      B    push  hl
276 5586 2A F688 B    ld     hl,(RECMSK)
277 5589 CB 3F    BDATCU9   srl    a
278 558B CB 1C    B    rr    h
279 558D CB 1D    B    rr    l
280 558F 15      B    dec   d
281 5590 20 F7    B    jrc   nz,DATCU9
282 5592 22 F688 B    ld     (RECMSK),hl
283 5595 E1      B    pop   hl
284 5596 D1      B    pop   de
285 5597 1D      B    dec   e
286 5598 20 D5    B    jrc   nz,DATCU6
287 559A C1      B    pop   bc
288 559B C9      B    ret
289          B;-----
290 559C C5      BLESEXT   push    bc          ;c: akt. extent
291 559D D5      B    push  de
292 559E E5      B    push  hl          ;hl: ext-Anfang
293 559F 21 F452 B    ld     hl,QUFCB   ;open Quelle
294 55A2 11 000C B    ld     de,12
```

```
295 55A5 19      B   add    hl,de
296 55A6 71      B   ld     (hl),c      ;akt. extent eintragen
297 55A7 23      B   inc    hl
298 55A8 06 17    B   ld     b,23
299 55AA 36 00    BLESEX1 ld     (hl),0      ;Rest loeschen
300 55AC 23      B   inc    hl
301 55AD 10 FB    B   djnz  LESEX1
302 55AF 11 F952 B   ld     de,HI2DMA
303 55B2 0E 1A    B   ld     c,26      ;set dma
304 55B4 CD 5369 B   call  BBDOSX
305 55B7 11 F452 B   ld     de,QUFCB
306 55BA 0E 0F    B   ld     c,15      ;open file
307 55BC CD 5369 B   call  BBDOSX
308 55BF FE FF    B   cp     0FFh
309 55C1 CA 561D B   jp     z,LESEXF   ;Fehler
310 55C4 2A F688 B   ld     hl,(RECMASK);record-Maske
311 55C7 7C      B   ld     a,h      ;leer ?
312 55C8 B5      B   or     l
313 55C9 28 4E    B   jr     z,LESEX6   ;ja, CY=0 -> fertig
314 55CB 06 10    B   ld     b,16      ;16K/extent
315 55CD ED 5B F6B8 B   ld     de,(PUCOPY) ;Anfang COPY-Puffer
316 55D1 0E 00    B   ld     c,0      ;erste recNr
317 55D3 CB 3C    BLESEX2 srl     h      ;naechsten Block
318 55D5 CB 1D    B   rr     l
319 55D7 30 29    B   jr     nc,LESEX3 ;nicht besetzt
320 55D9 D5      B   push  de      ;Puffer-Anfang
321 55DA C5      B   push  bc      ;Block-Zaehler
322 55DB E5      B   push  hl      ;Maske retten
323 55DC 06 08    B   ld     b,8      ;8 rec's/Kbyte
324 55DE 21 F472 B   ld     hl,QUFCB+32;cr
325 55E1 71      B   ld     (hl),c   ;eintragen
326 55E2 C5      BLESEX4 push  bc      ;Zaehler rec's
327 55E3 D5      B   push  de
328 55E4 0E 1A    B   ld     c,26      ;set dma
329 55E6 CD 5369 B   call  BBDOSX
330 55E9 11 F452 B   ld     de,QUFCB
331 55EC 0E 14    B   ld     c,20      ;sequ. read
332 55EE CD 5369 B   call  BBDOSX
333 55F1 D1      B   pop   de
334 55F2 C1      B   pop   bc
335 55F3 A7      B   and   a
336 55F4 C2 55FF B   jp     nz,LESEX5 ;extent-Ende
337 55F7 21 0080 B   ld     hl,80h
338 55FA 19      B   add   hl,de
339 55FB EB      B   ex    de,hl    ;naechste dma
340 55FC 05      B   dec   b      ;Block fertig ? (K)
341 55FD 20 E3    B   jr     nz,LESEX4 ;nein -> weiter
342 55FF E1      BLESEX5 pop    hl    ;Maske
343 5600 C1      B   pop   bc      ;Block-Zaehler
344 5601 D1      B   pop   de      ;Block-Puffer-Anfang reg.
345 5602 E5      BLESEX3 push  hl
346 5603 21 0400 B   ld     hl,400h   ;Block-Laenge
347 5606 19      B   add   hl,de
348 5607 EB      B   ex    de,hl    ;Anfang Puffer naechster Block
349 5608 E1      B   pop   hl
350 5609 79      B   ld   a,c
351 560A C6 08    B   add   a,8
352 560C 4F      B   ld   c,a      ;naechsten recNr-Anfang
```

```
353 560D 05      B   dec   b           ;fertig ?
354 560E 20 C3   B   jr    nz,LESEX2  ;nein -> weiter
355 5610 11 F452 B   ld    de,QUFCB
356 5613 0E 10    B   ld    c,16       ;close file
357 5615 CD 5369 B   call  BBDOSX
358 5618 A7          B   and   a
359 5619 E1        BLESEX6 pop   hl           ;hl: ext-Anfang
360 561A D1        B   pop   de
361 561B C1        B   pop   bc         ;c: aktueller extent
362 561C C9          B   ret
363 561D 37        BLESEXF scf
364 561E 3E 03   B   ld    a,3        ;file not found
365 5620 18 F7   B   jr    LESEX6
366          B;-----
367 5622 C5        BSCHEXT push  bc           ;c: akt. extent
368 5623 D5        B   push  de
369 5624 E5        B   push  hl
370 5625 21 F43A B   ld    hl,ZIFCB+12
371 5628 71        B   ld    (hl),c     ;eintragen
372 5629 23        B   inc   hl
373 562A 06 17    B   ld    b,23
374 562C 36 00   BSCHEX1 ld    (hl),0     ;Rest loeschen
375 562E 23        B   inc   hl
376 562F 10 FB    B   djnz  SCHEX1
377 5631 11 F952 B   ld    de,HI2DMA
378 5634 C5        B   push  bc
379 5635 0E 1A    B   ld    c,26       ;set dma
380 5637 CD 5369 B   call  BBDOSX
381 563A C1        B   pop   bc
382 563B 11 F42E B   ld    de,ZIFCB
383 563E D5        B   push  de
384 563F 0E 0F    B   ld    c,15       ;open file
385 5641 CD 5369 B   call  BBDOSX
386 5644 FE FF    B   cp    0FFh      ;Fehler ?
387 5646 D1        B   pop   de
388 5647 20 05   B   jr    nz,SCHEX2 ;nein
389 5649 0E 16    B   ld    c,22       ;create
390 564B CD 5369 B   call  BBDOSX
391 564E 3C        BSCHEX2 inc   a
392 564F 3E 02   B   ld    a,2
393 5651 CA 56C8 B   jp    z,SCHEXF   ;too many files
394          B;
395 5654 2A F688 B   ld    hl,(RECMSK) ;record-Maske
396 5657 7C        B   ld    a,h
397 5658 B5          B   or    l           ;leer ?
398 5659 28 62   B   jr    z,SCHEX7  ;ja, fertig
399 565B 06 10    B   ld    b,16
400 565D ED 5B F6B8 B   ld    de,(PUCOPY)
401 5661 0E 00    B   ld    c,0
402 5663 CB 3C   BSCHEX3 srl   h           ;naechsten Block
403 5665 CB 1D    B   rr    l
404 5667 30 3D   B   jr    nc,SCHEX4 ;nicht besetzt
405 5669 D5        B   push  de
406 566A C5        B   push  bc
407 566B E5        B   push  hl
408 566C 06 08   B   ld    b,8        ;8 rec's/K
409 566E 21 F44E B   ld    hl,ZIFCB+32 ;cr
410 5671 71        B   ld    (hl),c     ;eintragen
```

```
411 5672 C5      BSCHEX5    push  bc
412 5673 D5      B      push  de
413 5674 3A F685 B      ld      a,(LASTEX) ;letzter extent ?
414 5677 A7      B      and    a
415 5678 20 0D     B      jr     nz,SCHEX6 ;nein
416 567A 2A F683 B      ld      hl,(DIRAD) ;rc
417 567D D5      B      push  de
418 567E 11 000F   B      ld      de,15
419 5681 19      B      add    hl,de
420 5682 D1      B      pop   de
421 5683 7E      B      ld      a,(hl)
422 5684 B9      B      cp    c ;erreicht ?
423 5685 28 3A   B      jr     z,SCHEX8 ;ja, fertig
424 5687 0E 1A   BSCHEX6    ld      c,26 ;set dma
425 5689 CD 5369 B      call  BBDOSX
426 568C 11 F42E B      ld      de,ZIFCB
427 568F 0E 15   B      ld      c,21 ;sequ. write
428 5691 CD 5369 B      call  BBDOSX
429 5694 D1      B      pop   de
430 5695 C1      B      pop   bc
431 5696 A7      B      and    a
432 5697 C2 56CB   B      jp     nz,SCHXFF ;disk full
433 569A 21 0080   B      ld      hl,80h
434 569D 19      B      add    hl,de ;naechste dma
435 569E EB      B      ex    de,hl
436 569F 0C      B      inc   c ;naechsten record
437 56A0 05      B      dec   b ;Block fertig ?
438 56A1 20 CF   B      jr     nz,SCHEX5 ;nein -> weiter
439 56A3 E1      B      pop   hl
440 56A4 C1      B      pop   bc
441 56A5 D1      B      pop   de
442 56A6 E5      BSCHEX4    push  hl
443 56A7 21 0400 B      ld      hl,400h
444 56AA 19      B      add    hl,de
445 56AB EB      B      ex    de,hl ;Anfang naechstes K
446 56AC E1      B      pop   hl
447 56AD 79      B      ld      a,c
448 56AE C6 08   B      add    a,8
449 56B0 4F      B      ld      c,a
450 56B1 05      B      dec   b ;fertig ?
451 56B2 20 AF   B      jr     nz,SCHEX3 ;nein -> naechstes K
452 56B4 11 F42E BSCHEX9    ld      de,ZIFCB
453 56B7 0E 10   B      ld      c,16 ;close file
454 56B9 CD 5369 B      call  BBDOSX
455 56BC A7      B      and    a
456 56BD E1      BSCHEX7    pop   hl
457 56BE D1      B      pop   de
458 56BF C1      B      pop   bc
459 56C0 C9      B      ret
460
461 56C1 D1      BSCHEX8    pop   de
462 56C2 C1      B      pop   bc
463 56C3 E1      B      pop   hl
464 56C4 C1      B      pop   bc
465 56C5 D1      B      pop   de
466 56C6 18 EC   B      jr     SCHEX9
467 56C8 37      BSCHEXF    scf
468 56C9 18 F2   B      jr     SCHEX7
```

```

469 56CB E1      BSCHXFF   pop    hl
470 56CC C1      B        pop    bc
471 56CD D1      B        pop    de
472 56CE 3E 01   B        ld     a,1           ;disk full
473 56D0 18 F6   B        jr     SCHEXF
474
2907 A;*****
17      INCLUDEBDOS_ROM.Z80
1      A;!HEAD MODULE
2      A;FILE           BDOS.ROM.S
3      A;DISK
4      A;AUTHOR         Kersten->Ludewig
5      A;DATE          17.05.89
6      A;VARIABLES (hier nicht angegeben)
7      A;END
8      A;!
9      A;
10     A;
11     A;
12     A; File enthaelt den BDOS-Teil fuer BASIC und SCP, der immer im ROM steht.
13     A;
14     A;
15     A;
16     A;; Erforderliche Speicheraufteilung fuer Arbeit des BDOS:
17     A;
18     A; Disk-BASIC:           FFFF
19     A;           |           Bank 2 (RAM) : System-RAM + BASIC-Anwenderspeicher
20     A;           8000
21     A;           |           Bank 1 oder 3 (ROM) : ROM-BDOS
22     A;           4000
23     A;           |           Bank 0 (ROM) : BASIC-Treiber
24     A;           0000
25     A;
26     A; SCP:                 FFFF
27     A;           |           Bank 2 (RAM) : System-RAM mit BIOS-Sprungleiste
28     A;           C000
29     A;           |           Bank 0 (ROM) : SCP-ROM (CCP, Treiber-Teile ...)
30     A;           |           (Sonderserie Bank 1 oder 3)
31     A;           8000
32     A;           |           Bank 1 oder 3 (ROM) : ROM-BDOS
33     A;           4000
34     A;           |           Bank 2 (RAM) : SCP-RAM (0 - 0FFh)
35     A;           0000
36     A;
37     A; Erforderliche Speicher-Aufteilung fuer SCP-Dienstprogramme:
38     A;
39     A;           FFFF
40     A;           |           Bank 2 (RAM)
41     A;           8000
42     A;           |           Bank 2 (RAM)
43     A;           4000
44     A;           |           Bank 2 (RAM)
45     A;           0000

```

```
47      A;
48      A;*****
49      A;
50      A;; modifizierungen gegenueber original cp/m 2.2: (Original Dames)
51      A; - um eine arbeit ohne lw a zu erlauben, wird das erste
52      A; default-lw nach kaltstart als $$$-sub-lw bei disk-reset
53      A; benutzt. dem anwenderprogramm wird dazu nach disk-reset
54      A; in h die kaltstart-lw-nr (a=0, b=1,..) und in l und a
55      A; ff bei vorhandener $-datei, 00 sonst uebergeben.
56      A; - um fuer pc1715 im directory "sauber" die loader-informa-
57      A; tionen unterzubringen, werden zu uebergehende dir-ein-
58      A; traege bei login nicht nur an USER=e5h, sondern auch
59      A; an filename[1] =00h oder >=f0h erkannt.
60      A; - einfuehrung eines kopierschutzes:
61      A; eine $$$-datei kann nicht in eine datei mit gesetztem
62      A; bit 7 im 3. typ-byte umbenannt werden (file r/o -meldung)
63      A; die $$$-eintragung im directory wird unkenntlich gemacht.
64      A; - ix und iy werden vom BDOS gerettet und wiederhergestellt
65      A; - einsparung von bytes durch einfuehrung von jr-spruengen
66      A; und streichen von steuerzeichen fuer nicht-bildschirm-
67      A; konsolen.
68      A; - beschleunigung der arbeit mit fcb(0)=0 indem nicht sofort
69      A; wieder auf current-laufwerk zurueckgeschaltet wird
70      A; - das puffern von zeichen im BDOS entfaellt zusammen mit der
71      A; ^s-funktion (nur dafuer noetig), da im BIOS ein allgemei-
72      A; nes stop des rechners implementiert ist (ci-taste).
73      A; - ^s wirkt wie ^h (falls ^h-taste zu ^s undefiniert wurde)
74      A; - verlegung des sprungverteilers fuer die BDOS-funktionen
75      A; nach vorn, damit speicherschutz von BDOS+40h moeglich ist.
76      A; - fehlerkorrektur bei selektivem lw-reset (fkt. 25h), funktionierte
77      A; nur bei zwischenzeitlichem lw-wechsel
78      A;*****
```



```

80      A;
81      A      GLOBAL INITBB
82      A      GLOBAL CRLF,  PUTSTR
83      A;
84      A;
85      00A8  APPIA:      EQU          0A8H      ;Port Bankumschaltung
86      A;
87      A;; BDOS-Anlauf fuer BASIC
88      A;
89 56D2      AINITBB:      MOVE      BBDOS BBD0 BDFUNC-BBD0
 1 56D2 11 E89A  B      LD      DE,BBDOS
 2 56D5 21 5705  B      LD      HL,BBD0
 3 56D8 01 0010  B      LD      BC,BDFUNC-BBD0
 4 56DB ED B0    B      LDIR
90      A      FLRAM  BDV0 SYSDV-BDV0+1 0
 6 56DD 21 E8AA  B      LD      HL,BDV0
 7 56E0 54      B      LD      D,H
 8 56E1 5D      B      LD      E,L
 9 56E2 01 0175  B      LD      BC,SYSDV-BDV0+1
10 56E5 3E 00    C      LD      A,0
11 56E7 12      C      LD      (DE),A
12 56E8 13      C      INC     DE
13 56E9 0B      C      DEC     BC
14 56EA ED B0    B      LDIR
15 56EC 3E E5    A      LD      A,0E5H
16 56EE 32 E9DA  A      LD      (ERASE),A
17 56F1 21 E95A  A      LD      HL,BDMA
18 56F4 22 E9DF  A      LD      (DMAADD),HL
19 56F7 22 E9E1  A      LD      (STDDMA),HL      ; Standard-DMA
20 56FA 3E FF    A      LD      A,-1
21 56FC 32 EA0F  A      LD      (OLDDISK),A
22 56FF 3E 00    A      LD      A,0
23 5701 32 EA1E  A      LD      (SYSDV),A      ; Kaltstart-Lw. := A
24 5704 C9      A      RET
25      A;
26      A;; RAM-Abbild im ROM fuer BDOS-Anfang Disk-BASIC
27      A; (steht nach System-Anlauf im RAM)
28      A; =====
29      A;
30 5705 C3 5767  ABBD0:      JP      BDOS1
31      A;
32      A      DFW      BFMELD, BFMELD, BFMELD, BFMELD ; Fehlerbeh.-Adr.
33 1 5708 57BA  B      DEFW     BFMELD
34 1 570A 57BA  C      DEFW     BFMELD
35 1 570C 57BA  D      DEFW     BFMELD
36 1 570E 57BA  E      DEFW     BFMELD
37      A;
38      A;
39 5710 5E      Asie34a:   ld      e,(hl)      ;Hilfsprogramm Fehleranzeige
40 5711 23      A      inc     hl
41 5712 56      A      ld      d,(hl)
42 5713 EB      A      ex      de,hl
43 5714 E9      A      jp      (hl)      ; Ansprung Fehlerbehandlung
44      A;
45      A;
46      0004  Adefault  equ     4      ;default-disk in rechter tetr.
47      A;
48      A;

```

```

121      A;; verteiler-liste fuer BDOS-funktionen
122      A;=====
123      A;
124 5715  ABDFUNC      DFW      IWBOOT,CONIN,CONOUT,READER,IPUNCH,ILIST
      1 5715  FD03      B      DFW      IWBOOT
      1 5717  593C      C      DFW      CONIN
      1 5719  582F      D      DFW      CONOUT
      1 571B  5941      E      DFW      READER
      1 571D  FD12      F      DFW      IPUNCH
      1 571F  FD0F      G      DFW      ILIST
125      A;6
126      A      DFW      DIRCON,GETIOB,SETIOB,PRINTST,RCBUB,GETCST
      1 5721  5946      B      DFW      DIRCON
      1 5723  595B      C      DFW      GETIOB
      1 5725  5960      D      DFW      SETIOB
      1 5727  5965      E      DFW      PRINTST
      1 5729  587C      F      DFW      RCBUB
      1 572B  596B      G      DFW      GETCST
127      A;12 = 0ch
128      A      DFW      VERSNM,RESDSK,SETDSK,OPEN,CLOSE,FIRST
      1 572D  62B5      B      DFW      VERSNM
      1 572F  62BA      C      DFW      RESDSK
      1 5731  6260      D      DFW      SETDSK
      1 5733  62F6      E      DFW      OPEN
      1 5735  62FF      F      DFW      CLOSE
      1 5737  6305      G      DFW      FIRST
129      A;18 = 12h
130      A      DFW      NEXT,DELETE,SEQREAD,SEQWRITE,MAKEF,RENAME
      1 5739  6321      B      DFW      NEXT
      1 573B  6330      C      DFW      DELETE
      1 573D  6339      D      DFW      SEQREAD
      1 573F  633F      E      DFW      SEQWRITE
      1 5741  6345      F      DFW      MAKEF
      1 5743  634E      G      DFW      RENAME
131      A;24 = 18h
132      A      DFW      LOGIN,CURRENT,SETDMA,GETALLOC,PROTECT,GETPRO
      1 5745  6357      B      DFW      LOGIN
      1 5747  635D      C      DFW      CURRENT
      1 5749  636D      D      DFW      SETDMA
      1 574B  6374      E      DFW      GETALLOC
      1 574D  5B3F      F      DFW      PROTECT
      1 574F  637A      G      DFW      GETPRO
133      A;30 = 1eh
134      A      DFW      SETATTR,GETDPB,SGUSER,RANDRD,RANDWR,FSIZE
      1 5751  6380      B      DFW      SETATTR
      1 5753  6389      C      DFW      GETDPB
      1 5755  6390      D      DFW      SGUSER
      1 5757  63A3      E      DFW      RANDRD
      1 5759  63A9      F      DFW      RANDWR
      1 575B  63AF      G      DFW      FSIZE
135      A;36 = 24h
136      A      DFW      SETRAND,RESDRIV,LEER,LEER,WRINIT
      1 575D  6229      B      DFW      SETRAND
      1 575F  63B5      C      DFW      RESDRIV
      1 5761  5971      D      DFW      LEER
      1 5763  5971      E      DFW      LEER
      1 5765  63E1      F      DFW      WRINIT
    
```

```
138          A;; BDOS-Eingang fuer Disk-BASIC
139          A;-----
140          A;
141 5767 ED 53 E952 ABDOS1:   ld      (DEPARM),de
142 576B 7B          A      ld      a,e
143 576C 32 EA06     A      ld      (ENTBYTE),a
144 576F AF          A      xor     a
145 5770 67          A      ld      h,a
146 5771 6F          A      ld      l,a
147 5772 22 E954     A      ld      (HLPARM),hl
148 5775 ED 73 E8AE   A      ld      (USTACK),sp
149 5779 31 E950     A      ld      sp,STACK
150 577C 32 EA10     A      ld      (FCB_0),a
151 577F 32 EA0E     A      ld      (IFDISK),a      ;flag: fcb nicht modifiziert
152 5782 DD E5       A      push    ix
153 5784 FD E5       A      push    iy
154 5786 21 579F     A      ld      hl,Return      ;standard-ausgang
155 5789 E5          A      push    hl
156 578A 79          A      ld      a,c
157 578B FE 29       A      cp      29h
158 578D D0          A      ret     nc      ; = JP Return
159 578E 4B          A      ld      c,e
160 578F 21 5715     A      ld      hl,BDFUNC
161 5792 5F          A      ld      e,a
162 5793 16 00       A      ld      d,0
163 5795 19          A      add     hl,de
164 5796 19          A      add     hl,de
165 5797 5E          A      ld      e,(hl)
166 5798 23          A      inc     hl
167 5799 56          A      ld      d,(hl)
168 579A 2A E952     A      ld      hl,(DEPARM)
169 579D EB          A      ex      de,hl
170 579E E9          A      jp      (hl)      ; Ausgang BDOS-Funktion
171          A;-----
172          A;; Allgemeiner BDOS-ausgang
173          A;-----
174 579F 3A EA0E     AReturn:  ld      a,(IFDISK)      ;fcb[0] veraendert?
175 57A2 B7          A      or      a
176 57A3 28 07       A      jr      z,ied91      ;nein
177 57A5 2A E952     A      ld      hl,(DEPARM)
178 57A8 3A EA10     A      ld      a,(FCB_0)      ;gerettetes fcb[0]
179 57AB 77          A      ld      (hl),a      ;fcb[0] auf alten wert zurueck
180 57AC FD E1       Aied91:  pop     iy
181 57AE DD E1       A      pop     ix
182 57B0 ED 7B E8AE   A      ld      sp,(USTACK)
183 57B4 2A E954     A      ld      hl,(HLPARM)
184 57B7 7D          A      ld      a,l
185 57B8 44          A      ld      b,h
186 57B9 C9          A      ret
187          A;; Abspeicherung Fehlermeldung fuer BASIC
188          A;
189 57BA 21 FFFE     ABFMELD:  LD      HL,0FFFEH      ; Fehler-Kennung
190 57BD 22 E954     A      LD      (HLPARM),HL
191 57C0 31 E94C     A      LD      SP,STACK-4      ; ( wegen IY, IX )
192 57C3 C3 579F     A      JP      Return
193          A;-----
194          A;; Sprung zur Fehlerbehandlung im BDOS
195          A;
```

```
196 57C6 21 E89F Aie347: ld hl,BADSEL ; <HL> := >Fehlerbehandlung<  
197 57C9 C3 E8A5 A JP ie34a
```

```

199          A;
200          A;; Zeicheneingabe mit Echo auf Bildschirm
201          A;
202 57CC CD FD09 Aie106:      call  ICONIN
203 57CF CD 57DA A      call  IFCTL
204 57D2 D8      A      ret    c
205 57D3 F5      A      push  af
206 57D4 4F      A      ld    c,a
207 57D5 CD 582F A      call  CONOUT
208 57D8 F1      A      pop   af
209 57D9 C9      A      ret
210          A;
211          A;; Kontrolle auf Steuerzeichen
212          A;
213          A; (bei CR, LF, HT, BS Zero
214          A;  bei sonstigen Steuerzeichen Carry)
215          A;
216 57DA FE 0D   AIFCTL:      cp    0dh
217 57DC C8      A      ret    z
218 57DD FE 0A   A      cp    0ah
219 57DF C8      A      ret    z
220 57E0 FE 09   A      cp    09h
221 57E2 C8      A      ret    z
222 57E3 FE 08   A      cp    08h
223 57E5 C8      A      ret    z
224 57E6 FE 20   A      cp    20h
225 57E8 C9      A      ret
226          A;-----
227 57E9 CD FD06 Aie123:      call  ICONST
228 57EC E6 01   A      and   01h
229 57EE C9      A      ret
230          A;-----
    
```

```
232 A;
233 57EF 3A E8AA Aie148: ld a,(BDV0)
234 57F2 B7 A or a
235 57F3 20 0E A jr nz,ie162
236 A; push bc ;Ohne Stop mit ^S
237 A; call ie123
238 A; pop bc ; nicht erforderlich (Lu!)
239 57F5 C5 A push bc
240 57F6 CD FD0C A call ICONOUT
241 57F9 C1 A pop bc
242 57FA C5 A push bc
243 57FB 3A E8AD A ld a,(BDV3)
244 57FE B7 A or a
245 57FF C4 FD0F A call nz,ILIST
246 5802 C1 A pop bc
247 5803 79 Aie162: ld a,c
248 5804 21 E8AC A ld hl,BDV2
249 5807 FE 7F A cp 7fh
250 5809 C8 A ret z
251 580A 34 A inc (hl)
252 580B FE 20 A cp 20h
253 580D D0 A ret nc
254 580E 35 A dec (hl)
255 580F 7E A ld a,(hl)
256 5810 B7 A or a
257 5811 C8 A ret z
258 5812 79 A ld a,c
259 5813 FE 08 A cp 08h
260 5815 20 02 A jr nz,ie179
261 5817 35 A dec (hl)
262 5818 C9 A ret
263 A;-----
264 5819 FE 0A Aie179: cp 0ah
265 581B C0 A ret nz
266 581C 36 00 A ld (hl),0
267 581E C9 A ret
268 A;
269 A;; Kontrolle auf Steuerzeichen + Ausgabe auf Bildschirm
270 A;; Vor Steuerzeichen "^" ausgeben
271 A;
272 581F 79 Aie17f: ld a,c
273 5820 CD 57DA A call IFCTL
274 5823 30 0A A jr nc,CONOUT
275 5825 F5 A push af
276 5826 0E 5E A ld c,5eh
277 5828 CD 57EF A call ie148
278 582B F1 A pop af
279 582C F6 40 A or 40h
280 582E 4F A ld c,a
```

```
282          A;
283          A;; Ausgabe 1 Zeichen (aus C)
284          A;
285 582F 79    ACONOUT:   ld      a,c
286 5830 FE 09 A        cp      09h
287 5832 20 BB A        jr      nz,ie148
288 5834 0E 20 Aie196:   ld      c,20h
289 5836 CD 57EF A        call   ie148
290 5839 3A E8AC A        ld      a,(BDV2)
291 583C E6 07 A        and     07h
292 583E 20 F4 A        jr      nz,ie196
293 5840 C9    A        ret
294          A;
295          A;; Ausgabe Back space
296          A;
297 5841 CD 5849 Aie1a4:   call   ie1ac
298 5844 0E 20 A        ld      c,20h
299 5846 CD FD0C A        call   ICONOUT
300 5849 0E 08 Aie1ac:   ld      c,08h
301 584B C3 FD0C A        jp      ICONOUT
302          A;
303          A;; Ausfuehrung ^R (Echo auf neuer Zeile)
304          A;
305 584E 0E 23 Aie1b1:   ld      c,'#'
306 5850 CD 57EF A        call   ie148
307 5853 CD 5865 A        call   CRLF
308 5856 3A E8AC Aie1b9:   ld      a,(BDV2)
309 5859 21 E8AB A        ld      hl,BDV1
310 585C BE    A        cp      (hl)
311 585D D0    A        ret     nc
312 585E 0E 20 A        ld      c,20h
313 5860 CD 57EF A        call   ie148
314 5863 18 F1 A        jr      ie1b9
315          A;-----
316 5865 0E 0D ACRLF:    ld      c,0dh
317 5867 CD 57EF A        call   ie148
318 586A 0E 0A A        ld      c,0ah
319 586C C3 57EF A        jp      ie148
320          A;-----
321 586F 0A    APUTSTR:  ld      a,(bc)
322 5870 FE 24 A        cp      '$'
323 5872 C8    A        ret     z
324 5873 03    A        inc     bc
325 5874 C5    A        push   bc
326 5875 4F    A        ld      c,a
327 5876 CD 582F A        call   CONOUT
328 5879 C1    A        pop    bc
329 587A 18 F3 A        jr      PUTSTR
```

```

331          A;
332          A;; Funktion 10 - Read console buffer
333          A;
334 587C 3A E8AC ARCBUB:   ld    a,(BDV2)
335 587F 32 E8AB  A    ld    (BDV1),a
336 5882 2A E952  A    ld    hl,(DEPARM)
337 5885 4E      A    ld    c,(hl)
338 5886 23      A    inc   hl
339 5887 E5      A    push  hl
340 5888 06 00    A    ld    b,0
341 588A C5      Aie1ef: push  bc
342 588B E5      A    push  hl
343 588C CD FD09 Aie1f1: call  ICONIN
344 588F E6 7F    A    and   7fh
345 5891 E1      A    pop   hl
346 5892 C1      A    pop   bc
347 5893 FE 0D    A    cp    0dh
348 5895 CA 5935  A    jp    z,ie2c1
349 5898 FE 0A    A    cp    0ah
350 589A CA 5935  A    jp    z,ie2c1
351 589D FE 13    A    cp    13h      ;^s
352 589F 28 08    A    jr    z,back   ;wie ^h
353 58A1 FE 08    A    cp    08h
354 58A3 28 04    A    jr    z,back   ;***del-taste***
355 58A5 FE 7F    A    cp    7fh      ;***del-taste*** wie ^h
356 58A7 20 0D    A    jr    nz,ie226 ;***del-taste***
357 58A9 78      Aback:  ld    a,b
358 58AA B7      A    or    a
359 58AB 28 DD    A    jr    z,ie1ef  ;***del-taste***
360 58AD 05      A    dec   b
361 58AE 3A E8AC  A    ld    a,(BDV2)
362 58B1 32 E8AA  A    ld    (BDV0),a
363 58B4 18 32    A    jr    ie270    ;***del-taste***
364          A;-----
365 58B6 FE 05    Aie226: cp    05h
366 58B8 20 0B    A    jr    nz,ie237 ;***del-taste***
367 58BA C5      A    push  bc
368 58BB E5      A    push  hl
369 58BC CD 5865  A    call  CRLF
370 58BF AF      A    xor   a
371 58C0 32 E8AB  A    ld    (BDV1),a
372 58C3 18 C7    A    jr    ie1f1
373          A;-----
374 58C5 FE 10    Aie237: cp    10h
375 58C7 20 0B    A    jr    nz,ie248
376 58C9 E5      A    push  hl
377 58CA 21 E8AD  A    ld    hl,BDV3
378 58CD 3E 01    A    ld    a,01h
379 58CF 96      A    sub   (hl)
380 58D0 77      A    ld    (hl),a
381 58D1 E1      A    pop   hl
382 58D2 18 B6    A    jr    ie1ef
383          A;-----

```



```
385                                     A;
386 58D4 FE 18      Aie248:      cp      18h
387 58D6 20 43      A      jr      nz,ie2a6      ;***ignorieren ctl-u, ctl-r***
388 58D8 E1         A      pop     hl
389 58D9 3A E8AB    Aie24e:      ld      a,(BDV1)
390 58DC 21 E8AC    A      ld      hl,BDV2
391 58DF BE         A      cp      (hl)
392 58E0 30 9A      A      jr      nc,RCBUB
393 58E2 35         A      dec     (hl)
394 58E3 CD 5841    A      call    ie1a4
395 58E6 18 F1      A      jr      ie24e
396                                     A;-----
397 58E8 C5         Aie270:      push    bc
398 58E9 CD 584E    A      call    ie1b1
399 58EC C1         A      pop     bc
400 58ED E1         A      pop     hl
401 58EE E5         A      push    hl
402 58EF C5         A      push    bc
403 58F0 78         Aie278:      ld      a,b
404 58F1 B7         A      or      a
405 58F2 28 0C      A      jr      z,ie28a
406 58F4 23         A      inc     hl
407 58F5 4E         A      ld      c,(hl)
408 58F6 05         A      dec     b
409 58F7 C5         A      push    bc
410 58F8 E5         A      push    hl
411 58F9 CD 581F    A      call    ie17f
412 58FC E1         A      pop     hl
413 58FD C1         A      pop     bc
414 58FE 18 F0      A      jr      ie278
415                                     A;-----
416 5900 E5         Aie28a:      push    hl
417 5901 3A E8AA    A      ld      a,(BDV0)
418 5904 B7         A      or      a
419 5905 CA 588C    A      jp      z,ie1f1
420 5908 21 E8AC    A      ld      hl,BDV2
421 590B 96         A      sub     (hl)
422 590C 32 E8AA    A      ld      (BDV0),a
423 590F CD 5841    Aie299:      call    ie1a4
424 5912 21 E8AA    A      ld      hl,BDV0
425 5915 35         A      dec     (hl)
426 5916 20 F7      A      jr      nz,ie299
427 5918 C3 588C    A      jp      ie1f1
428                                     A;-----
```

```
430 591B 23      Aie2a6:      inc    hl
431 591C 77      A      ld      (hl),a
432 591D 04      A      inc      b
433 591E C5      Aie2a9:      push   bc
434 591F E5      A      push   hl
435 5920 4F      A      ld      c,a
436 5921 CD 581F  A      call   ie17f
437 5924 E1      A      pop     hl
438 5925 C1      A      pop     bc
439 5926 7E      A      ld      a,(hl)
440 5927 FE 03  A      cp      03h
441 5929 78      A      ld      a,b
442 592A 20 05  A      jr      nz,ie2bd
443 592C FE 01  A      cp      01h
444 592E CA 0000 A      jp      z,0
445 5931 B9      Aie2bd:      cp      c
446 5932 DA 588A A      jp      c,ie1ef
447 5935 E1      Aie2c1:      pop     hl
448 5936 70      A      ld      (hl),b
449 5937 0E 0D  A      ld      c,0dh
450 5939 C3 57EF  A      jp      ie148
451
452      A;; Funktion 1 - Console input
453      A;
454 593C CD 57CC  ACONIN:      call   ie106
455 593F 18 2D  A      jr      ie301
456
457      A;; Funktion 3 - Reader input
458      A;
459 5941 CD FD15  AREADER:      call   IREADER
460 5944 18 28  A      jr      ie301
461
462      A;; Funktion 6 - Direct console I/O
463      A;
464 5946 79      ADIRCON:      ld      a,c
465 5947 3C      A      inc      a
466 5948 28 07  A      jr      z,ie2e0
467 594A 3C      A      inc      a
468 594B CA FD06  A      jp      z,ICONST
469 594E C3 FD0C  A      jp      ICONOUT
470
471 5951 CD FD06  Aie2e0:      call   ICONST ;const
472 5954 B7      A      or      a      ;zeichen da?
473 5955 C8      A      ret      z      ;nein, return mit a=00
474 5956 CD FD09  A      call   ICONIN ;conin
475 5959 18 13  A      jr      ie301      ;und a:=zeichen
```

```
477          A;; Funktion 7 - Get I/O-Byte
478          A;
479 595B 3A 0003  AGETIOB:   ld    a,(3)
480 595E 18 0E    A    jr    ie301
481          A;
482          A;; Funktion 8 - Set I/O-Byte
483          A;
484 5960 21 0003  ASETIOB:   ld    hl,0003h
485 5963 71      A    ld    (hl),c
486 5964 C9      A    ret
487          A;
488          A;; Funktion 9 - Print string
489          A;
490 5965 EB      APRINTST:  ex    de,hl
491 5966 4D      A    ld    c,l
492 5967 44      A    ld    b,h
493 5968 C3 586F  A    jp    PUTSTR
494          A;
495          A;; Funktion 11 - Get console status
496          A;
497 596B CD 57E9  AGETCST:   call   ie123
498 596E 32 E954  Aie301:   ld    (HLPARM),a
499 5971      Aie304:
500 5971 C9      ALEER:    ret
501          A;-----
502 5972 3E 01    Aie305:   ld    a,01h
503 5974 18 F8    A    jr    ie301
```

```
505          A;; Vorbereiten der Parameter der ausgewaehlten Diskette
506          A;
507 5976 3A E951 APrepar:   ld      a,(CURRD)
508 5979 4F      A      ld      c,a
509 597A CD FD1B A      call   ISELDSK
510 597D 7C      A      ld      a,h
511 597E B5      A      or      l
512 597F C8      A      ret     z          ; Fehler-Rueckkehr mit Zero
513          A          ; (Lw nicht vorhanden,
514          A          ; Disk nicht gesteckt,
515          A          ; Format nicht erkennbar)
516 5980 5E      A      ld      e,(hl)
517 5981 23      A      inc     hl
518 5982 56      A      ld      d,(hl)
519 5983 23      A      inc     hl
520 5984 22 E9E3 A      ld      (ADJOB1),hl ;^(grenze aktiver dir-entries)
521 5987 23      A      inc     hl
522 5988 23      A      inc     hl
523 5989 22 E9E5 A      ld      (ADJOB2),hl
524 598C 23      A      inc     hl
525 598D 23      A      inc     hl
526 598E 22 E9E7 A      ld      (ADJOB3),hl
527 5991 23      A      inc     hl
528 5992 23      A      inc     hl
529 5993 EB      A      ex      de,hl
530 5994 22 EA00 A      ld      (ADXLT),hl
531 5997 21 E9E9 A      ld      hl,ADDIR
532 599A 01 0008 A      ld      bc,08h
533 599D EB      A      ex      de,hl
534 599E CD EA27 A      call   FLLDIR
535 59A1 EB      A      ex      de,hl
536 59A2 2A E9EB A      ld      hl,(ADDPB)
537 59A5 EB      A      ex      de,hl
538 59A6 21 E9F1 A      ld      hl,CSPT
539 59A9 01 000F A      ld      bc,0fh
540 59AC EB      A      ex      de,hl
541 59AD CD EA27 A      call   FLLDIR
542 59B0 EB      A      ex      de,hl
543 59B1 2A E9F6 A      ld      hl,(CDSM)
544 59B4 7C      A      ld      a,h
545 59B5 21 EA0D A      ld      hl,BLOCK
546 59B8 36 FF      A      ld      (hl),0ffh
547 59BA B7      A      or      a
548 59BB 28 02      A      jr      z,ie39d
549 59BD 36 00      A      ld      (hl),0
550 59BF 3E FF      Aie39d:   ld      a,0ffh
551 59C1 B7      A      or      a
552 59C2 C9      A      ret     ; ordnungsgemaesse Rueckkehr mit NoZero
```

```
554          A;; home
555          A;
556 59C3 CD FD18 Aie3a1:      call  IHOME
557 59C6 AF      A      xor    a
558 59C7 2A E9E5 A      ld     hl,(ADJOB2) ;rel. track :=0
559 59CA 77      A      ld     (hl),a
560 59CB 23      A      inc   hl
561 59CC 77      A      ld     (hl),a
562 59CD 2A E9E7 A      ld     hl,(ADJOB3) ;rel. sector :=0
563 59D0 77      A      ld     (hl),a
564 59D1 23      A      inc   hl
565 59D2 77      A      ld     (hl),a
566 59D3 C9      A      ret
567          A;
568          A;; Lesen Sektor von Diskette
569          A;
570 59D4 CD FD27 ARead0:      call  IREAD
571 59D7 18 03    A      jr     ie3bb
572          A;
573          A;; Schreiben Sektor auf Diskette
574          A;
575 59D9 CD FD2A AWrite0:     call  IWRITE ;write
576 59DC B7      Aie3bb:     or     a      ;ok?
577 59DD C8      A      ret    z
578 59DE 21 E89D A      ld     hl,BADSEC ;nein, fehlermeldung
579 59E1 C3 E8A5 A      jp     ie34a
```

```

581                A;; stellen trk, sec im BIOS fuer dirbuf-transfer
582                A;
583 59E4 2A EA1A    Aie3c3:    ld    hl,(NMBDIR)    ;dir-entry
584 59E7 0E 02     A    ld    c,02h
585 59E9 CD 5B00   A    call  ie4ea    ;div 4 = benoetiger record
586 59EC 22 EA15   A    ld    (NMBREC),hl
587 59EF 22 EA1C   A    ld    (dedec),hl
588 59F2 21 EA15   Aie3d1:    ld    hl,NMBREC
589 59F5 4E       A    ld    c,(hl)
590 59F6 23       A    inc   hl
591 59F7 46       A    ld    b,(hl)
592 59F8 2A E9E7   A    ld    hl,(ADJOB3)    ;rel. sektor zu offset
593 59FB 5E       A    ld    e,(hl)
594 59FC 23       A    inc   hl
595 59FD 56       A    ld    d,(hl)
596 59FE 2A E9E5   A    ld    hl,(ADJOB2)    ;rel. track zu offset
597 5A01 7E       A    ld    a,(hl)
598 5A02 23       A    inc   hl
599 5A03 66       A    ld    h,(hl)
600 5A04 6F       A    ld    l,a
601 5A05 79       Aie3e4:    ld    a,c
602 5A06 93       A    sub   e
603 5A07 78       A    ld    a,b
604 5A08 9A       A    sbc   a,d
605 5A09 30 0E     A    jr    nc,ie3fa
606 5A0B E5       A    push  hl
607 5A0C 2A E9F1   A    ld    hl,(CSPT)
608 5A0F 7B       A    ld    a,e
609 5A10 95       A    sub   l
610 5A11 5F       A    ld    e,a
611 5A12 7A       A    ld    a,d
612 5A13 9C       A    sbc   a,h
613 5A14 57       A    ld    d,a
614 5A15 E1       A    pop   hl
615 5A16 2B       A    dec   hl
616 5A17 18 EC     A    jr    ie3e4
617                A;-----
    
```

```

619 5A19 E5      Aie3fa:      push  hl
620 5A1A 2A E9F1  A      ld    hl,(CSPT)
621 5A1D 19      A      add  hl,de
622 5A1E 38 0B     A      jr   c,ie40f
623 5A20 79      A      ld   a,c
624 5A21 95      A      sub  l
625 5A22 78      A      ld   a,b
626 5A23 9C      A      sbc  a,h
627 5A24 38 05     A      jr   c,ie40f
628 5A26 EB      A      ex   de,hl
629 5A27 E1      A      pop  hl
630 5A28 23      A      inc  hl
631 5A29 18 EE     A      jr   ie3fa
632          A;-----
633 5A2B E1      Aie40f:      pop   hl
634 5A2C C5      A      push bc
635 5A2D D5      A      push de
636 5A2E E5      A      push hl
637 5A2F EB      A      ex   de,hl
638 5A30 2A E9FE  A      ld   hl,(COFF)
639 5A33 19      A      add  hl,de
640 5A34 44      A      ld   b,h
641 5A35 4D      A      ld   c,l
642 5A36 CD FD1E  A      call ISETTRK      ;settrk
643 5A39 D1      A      pop  de
644 5A3A 2A E9E5  A      ld   hl,(ADJOB2)
645 5A3D 73      A      ld   (hl),e
646 5A3E 23      A      inc  hl
647 5A3F 72      A      ld   (hl),d
648 5A40 D1      A      pop  de
649 5A41 2A E9E7  A      ld   hl,(ADJOB3)
650 5A44 73      A      ld   (hl),e
651 5A45 23      A      inc  hl
652 5A46 72      A      ld   (hl),d
653 5A47 C1      A      pop  bc
654 5A48 79      A      ld   a,c
655 5A49 93      A      sub  e
656 5A4A 4F      A      ld   c,a
657 5A4B 78      A      ld   a,b
658 5A4C 9A      A      sbc  a,d
659 5A4D 47      A      ld   b,a
660 5A4E 2A EA00  A      ld   hl,(ADXLT)
661 5A51 EB      A      ex   de,hl
662 5A52 CD FD30  A      call ISECTRAN      ;sectran
663 5A55 4D      A      ld   c,l
664 5A56 44      A      ld   b,h
665 5A57 C3 FD21  A      jp   ISETSEC      ;setsec

```

```
667          A;; Erhalten Block-Nr. D im FCB
668          A;  entsprechend des aktuellen Satzes
669          A;
670 5A5A 21 E9F3 AGetDN:      ld      hl,CBSH
671 5A5D 4E      A      ld      c,(hl)
672 5A5E 3A EA13 A      ld      a,(RECORD)
673 5A61 B7      Aie445:    or       a
674 5A62 1F      A      rra
675 5A63 0D      A      dec     c
676 5A64 20 FB   A      jr      nz,ie445
677 5A66 47      A      ld      b,a
678 5A67 3E 08   A      ld      a,08h
679 5A69 96      A      sub     (hl)
680 5A6A 4F      A      ld      c,a
681 5A6B 3A EA12 A      ld      a,(EXTMAS)
682 5A6E 0D      Aie453:    dec     c
683 5A6F 28 04   A      jr      z,ie45c
684 5A71 B7      A      or      a
685 5A72 17      A      rla
686 5A73 18 F9   A      jr      ie453
687          A;-----
688 5A75 80      Aie45c:    add     a,b
689 5A76 C9      A      ret
690          A;
691          A;; Herausholen logische Block-Nr. aus FCB
692          A;  entsprechend seiner Nr. in BC
693          A;
694 5A77          AGetBlock:
695 5A77 2A E952 A      ld      hl,(DEPARM)
696 5A7A 11 0010 A      ld      de,0010h
697 5A7D 19      A      add     hl,de
698 5A7E 09      A      add     hl,bc
699 5A7F 3A EA0D A      ld      a,(BLOCK)
700 5A82 B7      A      or      a
701 5A83 28 04   A      jr      z,GetBl1
702 5A85 6E      A      ld      l,(hl)
703 5A86 26 00   A      ld      h,0          ; <HL> := log. Block-Nr.
704 5A88 C9      A      ret
705          A;-----
706 5A89 09      AGetBl1:   add     hl,bc
707 5A8A 5E      A      ld      e,(hl)
708 5A8B 23      A      inc     hl
709 5A8C 56      A      ld      d,(hl)
710 5A8D EB      A      ex     de,hl
711 5A8E C9      A      ret
```



```
713          A;; Bestimmen log. Block-Nr fuer aktuellen Satz
714          A;
715 5A8F CD 5A5A ASetBl:      call   GetDN
716 5A92 4F      A      ld     c,a
717 5A93 06 00   A      ld     b,0
718 5A95 CD 5A77 A      call   GetBlock
719 5A98 22 EA15 A      ld     (NMBREC),hl
720 5A9B C9      A      ret
721          A;-----
722 5A9C 2A EA15 Aie484:     ld     hl,(NMBREC)
723 5A9F 7D      A      ld     a,l
724 5AA0 B4      A      or     h
725 5AA1 C9      A      ret
726          A;
727          A;; Berechnen Satz-Nr.
728          A;
729 5AA2 3A E9F3 ABerSNr:    ld     a,(CBSH)
730 5AA5 2A EA15 A      ld     hl,(NMBREC)
731 5AA8 29      Aie490:    add    hl,hl
732 5AA9 3D      A      dec    a
733 5AAA 20 FC   A      jr     nz,ie490
734 5AAC 22 EA17 A      ld     (dede7),hl
735 5AAF 3A E9F4 A      ld     a,(CBLM)
736 5AB2 4F      A      ld     c,a
737 5AB3 3A EA13 A      ld     a,(RECORD)
738 5AB6 A1      A      and   c
739 5AB7 B5      A      or    l
740 5AB8 6F      A      ld     l,a
741 5AB9 22 EA15 A      ld     (NMBREC),hl
742 5ABC C9      A      ret
743          A;-----
744          A;; adressieren extent-nr.
745          A;
746 5ABD 2A E952 Aie4a6:    ld     hl,(DEPARM)
747 5AC0 11 000C A      ld     de,000ch
748 5AC3 19      A      add   hl,de
749 5AC4 C9      A      ret
750          A;-----
751 5AC5 2A E952 Aie4ae:    ld     hl,(DEPARM)
752 5AC8 11 000F A      ld     de,000fh
753 5ACB 19      A      add   hl,de
754 5ACC EB      A      ex   de,hl
755 5ACD 21 0011 A      ld     hl,0011h
756 5AD0 19      A      add   hl,de      ; <DE> --> FCB[15] = rc
757 5AD1 C9      A      ret      ; <HL> --> FCB[32] = cr
```

```
759 5AD2 CD 5AC5 Aie4bb: call ie4ae
760 5AD5 7E A ld a,(hl)
761 5AD6 32 EA13 A ld (RECORD),a
762 5AD9 EB A ex de,hl
763 5ADA 7E A ld a,(hl)
764 5ADB 32 EA11 A ld (COUNTR),a
765 5ADE CD 5ABD A call ie4a6 ; <HL> --> ext
766 5AE1 3A E9F5 A ld a,(CEXM)
767 5AE4 A6 A and (hl)
768 5AE5 32 EA12 A ld (EXTMAS),a
769 5AE8 C9 A ret
770 A;-----
771 5AE9 CD 5AC5 Aie4d2: call ie4ae
772 5AEC 3A EA05 A ld a,(SRMODE)
773 5AEF FE 02 A cp 02h
774 5AF1 20 01 A jr nz,ie4de
775 5AF3 AF A xor a
776 5AF4 4F Aie4de: ld c,a
777 5AF5 3A EA13 A ld a,(RECORD)
778 5AF8 81 A add a,c
779 5AF9 77 A ld (hl),a
780 5AFA EB A ex de,hl
781 5AFB 3A EA11 A ld a,(COUNTR)
782 5AFE 77 A ld (hl),a
783 5AFF C9 A ret
784 A;-----
785 A;; hl:= hl div (2**c)
786 A;
787 5B00 0C Aie4ea: inc c
788 5B01 0D Aie4eb: dec c
789 5B02 C8 A ret z
790 5B03 7C A ld a,h
791 5B04 B7 A or a
792 5B05 1F A rra
793 5B06 67 A ld h,a
794 5B07 7D A ld a,l
795 5B08 1F A rra
796 5B09 6F A ld l,a
797 5B0A 18 F5 A jr ie4eb
798 A;-----
799 A;; kontrollsumme ueber dir-sector
800 5B0C ADirCheck:
801 5B0C 0E 80 A ld c,80h
802 5B0E 2A E9E9 A ld hl,(ADDR)
803 5B11 AF A xor a
804 5B12 86 Aie4fd: add a,(hl)
805 5B13 23 A inc hl
806 5B14 0D A dec c
807 5B15 20 FB A jr nz,ie4fd
808 5B17 C9 A ret
809 A;-----
```

```
811 5B18 0C      Aie504:   inc    c           ; Linksverschieben HL
812 5B19 0D      Aie505:   dec    c
813 5B1A C8      A    ret    z
814 5B1B 29      A    add    hl,hl
815 5B1C 18 FB    A    jr     ie505
816           A;
817           A;; Einstellen von 1 fuer das aktuelle Laufwerk im Vektor,
818           A;; dessen Adresse in BC angegeben ist
819           A;
820 5B1E C5      Aie50b:   push   bc
821 5B1F 3A E951  A    ld     a,(CURRD)
822 5B22 4F      A    ld     c,a
823 5B23 21 0001  A    ld     hl,0001h
824 5B26 CD 5B18  A    call   ie504
825 5B29 C1      A    pop    bc
826 5B2A 79      A    ld     a,c
827 5B2B B5      A    or     l
828 5B2C 6F      A    ld     l,a
829 5B2D 78      A    ld     a,b
830 5B2E B4      A    or     h
831 5B2F 67      A    ld     h,a
832 5B30 C9      A    ret
833           A;
834           A;; Kontrolle des akt. LW auf R/O
835           A;
836 5B31 2A E9DB  AROCheck:ld hl,(ROVEKT) ;r/o vektor
837 5B34 3A E951  Aie521:   ld     a,(CURRD)
838 5B37 4F      A    ld     c,a
839 5B38 CD 5B00  A    call   ie4ea
840 5B3B 7D      A    ld     a,l
841 5B3C E6 01    A    and    01h           ;CURRD r/o ?
842 5B3E C9      A    ret
```

```
844          A;; Funktion 28 - Write protect disk
845          A;
846 5B3F 21 E9DB  APROTECT:ld hl,ROVEKT
847 5B42 4E      A   ld   c,(hl)
848 5B43 23      A   inc  hl
849 5B44 46      A   ld   b,(hl)
850 5B45 CD 5B1E  A   call ie50b
851 5B48 22 E9DB  A   ld   (ROVEKT),hl ;r/o-status setzen
852 5B4B 2A E9F8  A   ld   hl,(CDRM)
853 5B4E 23      A   inc  hl
854 5B4F EB      A   ex   de,hl
855 5B50 2A E9E3  A   ld   hl,(ADJOB1) ;^(grenze aktiver dir-eintraege)
856 5B53 73      A   ld   (hl),e ;stellen max.zahl fuer dir-suche
857 5B54 23      A   inc  hl
858 5B55 72      A   ld   (hl),d
859 5B56 C9      A   ret
860          A;
861          A;; Kontrolle Datei auf R/O
862          A;
863 5B57 CD 5B71  Aie544: call ie55e ;hl auf dir-entry in dirbuf
864 5B5A 11 0009  Aie547: ld de,0009h
865 5B5D 19      A   add  hl,de
866 5B5E 7E      A   ld   a,(hl) ;file r/o-bit
867 5B5F 17      A   rla ;=1?
868 5B60 D0      A   ret  nc ;nein
869 5B61      Afilero0:
870 5B61 21 E8A3  A   ld   hl,FILERO ;fehlermeldung
871 5B64 C3 E8A5  A   jp   ie34a
872          A;-----
873 5B67 CD 5B31  Aie554: call ROCheck ;disk r/o?
874 5B6A C8      A   ret  z ;nein
875 5B6B 21 E8A1  A   ld   hl,DISKRO ;sonst fehlermeldung
876 5B6E C3 E8A5  A   jp   ie34a
877          A;-----
878          A;; hl:=dirbuf+(direntry*32)
879          A;
880 5B71 2A E9E9  Aie55e: ld hl,(ADDIR)
881 5B74 3A EA19  A   ld   a,(FCBOFFS)
882 5B77 85      Aie564: add a,l
883 5B78 6F      A   ld   l,a
884 5B79 D0      A   ret  nc
885 5B7A 24      A   inc  h
886 5B7B C9      A   ret
887          A;-----
```

```
889                A;; adressieren write-flag in fcb
890 5B7C 2A E952    Aie569:    ld    hl,(DEPARM)
891 5B7F 11 000E    A    ld    de,000eh
892 5B82 19        A    add   hl,de
893 5B83 7E        A    ld    a,(hl)
894 5B84 C9        A    ret
895                A;-----
896 5B85 CD 5B7C    Aie572:    call  ie569
897 5B88 36 00     A    ld    (hl),0    ;fcb ist nicht aktuell auf dsk.
898 5B8A C9        A    ret
899                A;-----
900 5B8B CD 5B7C    Aie578:    call  ie569
901 5B8E F6 80     A    or    80h    ;fcb ist aktuell auf diskette
902 5B90 77        A    ld    (hl),a
903 5B91 C9        A    ret
904                A;-----
905 5B92 2A EA1A    Aie57f:    ld    hl,(NMBDIR)  ;dir-nr.
906 5B95 EB        A    ex    de,hl
907 5B96 2A E9E3    A    ld    hl,(ADJOB1) ;^(anzahl aktiver dir-eintraege)
908 5B99 7B        A    ld    a,e
909 5B9A 96        A    sub   (hl)    ;dirnr. - max.zahl
910 5B9B 23        A    inc   hl
911 5B9C 7A        A    ld    a,d
912 5B9D 9E        A    sbc   a,(hl)
913 5B9E C9        A    ret
914                A;-----
915 5B9F CD 5B92    Aie58c:    call  ie57f
916 5BA2 D8        A    ret    c
917 5BA3 13        A    inc   de
918 5BA4 72        A    ld    (hl),d
919 5BA5 2B        A    dec   hl
920 5BA6 73        A    ld    (hl),e
921 5BA7 C9        A    ret
922                A;-----
923 5BA8 7B        Aie595:    ld    a,e    ; <hl> := <de> - <hl>
924 5BA9 95        A    sub   l
925 5BAA 6F        A    ld    l,a
926 5BAB 7A        A    ld    a,d
927 5BAC 9C        A    sbc   a,h
928 5BAD 67        A    ld    h,a
929 5BAE C9        A    ret
930                A;-----
```

```
932 5BAF 0E FF      Aie59c:   ld      c,0ffh
933                A;
934                A;; bilden kontrollsumme ueber dir-sektor
935                A; ic =ff: kontrollsumme ablegen
936                A;  =00: kontrollsumme vergleichen
937                A;
938 5BB1 2A EA1C     Aie59e:   ld      hl,(dedec)
939 5BB4 EB         A      ex      de,hl
940 5BB5 2A E9FC     A      ld      hl,(CCKS)
941 5BB8 CD 5BA8     A      call    ie595
942 5BBB D0         A      ret     nc
943 5BBC C5         A      push   bc
944 5BBD CD 5B0C     A      call    DirCheck      ;kontrollsumme dir.sektor nach a
945 5BC0 2A E9ED     A      ld      hl,(ADCHECK)
946 5BC3 EB         A      ex      de,hl
947 5BC4 2A EA1C     A      ld      hl,(dedec)
948 5BC7 19         A      add     hl,de
949 5BC8 C1         A      pop    bc
950 5BC9 0C         A      inc     c              ;c=ff?
951 5BCA 28 09      A      jr     z,ie5c4          ;ja, ablegen
952 5BCC BE         A      cp     (hl)           ;stimmt kontrollsumme?
953 5BCD C8         A      ret     z              ;ja
954 5BCE CD 5B92     A      call    ie57f          ;nach akt. dir.-grenze?
955 5BD1 D0         A      ret     nc              ;ja
956 5BD2 C3 5B3F     A      jp     PROTECT        ;sonst r/o setzen
957                A;-----
958 5BD5 77         Aie5c4:   ld      (hl),a      ;kontrollsumme hinterlegen
959 5BD6 C9         A      ret
960                A;
961                A;; Eintragen Verzeichnis-Sektor mit Korrektur Kontrollsumme
962                A;
963 5BD7 CD 5BAF     ADirWr:   call    ie59c          ;kontrollsumme ueber dir-sektor
964 5BDA CD 5BEF     A      call    ie5e0          ;setdma dirbuf
965 5BDD 0E 01      A      ld      c,01h        ;write to dir
966 5BDF CD 59D9     A      call    Write0
967 5BE2 18 06      A      jr     DMARet
968                A;
969                A;; Lesen Verzeichnis-Sektor
970                A;
971 5BE4 CD 5BEF     ADirRd:   call    ie5e0
972 5BE7 CD 59D4     A      call    Read0
973 5BEA 21 E9DF     ADMARet:  ld      hl,DMAADD    ;setdma zurueck
974 5BED 18 03      A      jr     ie5e3
```

```
976          A;; Einstellen DMA fuer Verzeichnis
977          A;
978 5BEF 21 E9E9 Aie5e0:    ld    hl,ADDIR
979          A;
980          A; Einstellen DMA
981          A;
982 5BF2 4E      Aie5e3:    ld    c,(hl)
983 5BF3 23      A    inc   hl
984 5BF4 46      A    ld    b,(hl)
985 5BF5 C3 FD24 A    jp    ISETDMA;setdma
986          A;-----
987 5BF8 2A E9E9 Aie5e9:    ld    hl,(ADDIR)
988 5BFB EB      A    ex   de,hl
989 5BFC 2A E9DF A    ld    hl,(DMAADD)
990 5BFF 01 0080 A    ld    bc,80h
991 5C02 EB      A    ex   de,hl
992 5C03 CD EA27 A    call  FLLDIR
993 5C06 EB      A    ex   de,hl
994 5C07 C9      A    ret
995          A;
996          A;; Test ob ganzes Verzeichnis durchsucht
997          A;
998 5C08 21 EA1A Aie5f5:    ld    hl,NMBDIR    ;aktuelle dir.nr.
999 5C0B 7E      A    ld    a,(hl)
1000 5C0C 23      A    inc   hl
1001 5C0D BE      A    cp   (hl)      ;=ffff?
1002 5C0E C0      A    ret   nz       ;nein
1003 5C0F 3C      A    inc   a        ;sonst a=0, ret z
1004 5C10 C9      A    ret
1005          A;-----
1006          A;; direintragsnummer vor anfang stellen
1007          A;
1008 5C11 21 FFFF Aie5fe:    ld    hl,0ffffh   ; -1
1009 5C14 22 EA1A A    ld    (NMBDIR),hl
1010 5C17 C9      A    ret
1011          A;
1012          A;; Kontrolle ob ganzes Verzeichnis durchsucht
1013          A;
1014 5C18 2A E9F8 Aie605:    ld    hl,(CDRM)
1015 5C1B EB      A    ex   de,hl
1016 5C1C 2A EA1A A    ld    hl,(NMBDIR) ;akt. dir.nr
1017 5C1F 23      A    inc   hl       ;um 1 erhoehen
1018 5C20 22 EA1A A    ld    (NMBDIR),hl
1019 5C23 CD 5BA8 A    call  ie595    ;dir.ende?
1020 5C26 30 02   A    jr   nc,ie619 ;nein
1021 5C28 18 E7   A    jr   ie5fe    ;sonst wieder vor anfang
1022          A;-----
```

```

1024 5C2A 3A EA1A Aie619: ld a,(NMBDIR)
1025 5C2D E6 03 A and 03h
1026 5C2F 06 05 A ld b,05h
1027 5C31 87 Aie620: add a,a
1028 5C32 05 A dec b
1029 5C33 20 FC A jr nz,ie620
1030 5C35 32 EA19 A ld (FCB0FFS),a
1031 5C38 B7 A or a
1032 5C39 C0 A ret nz
1033 5C3A C5 A push bc
1034 5C3B CD 59E4 A call ie3c3
1035 5C3E CD 5BE4 A call DirRd
1036 5C41 C1 A pop bc
1037 5C42 C3 5BB1 A jp ie59e
1038 A;-----
1039 A;; bestimmen byte in allocation-tabelle
1040 A;
1041 5C45 79 Aie635: ld a,c
1042 5C46 E6 07 A and 07h
1043 5C48 3C A inc a ;blocknr. mod 8 +1
1044 5C49 5F A ld e,a
1045 5C4A 57 A ld d,a
1046 5C4B 79 A ld a,c ;blocknr mod 256
1047 5C4C 0F A rrca
1048 5C4D 0F A rrca
1049 5C4E 0F A rrca
1050 5C4F E6 1F A and 1fh ;div 8
1051 5C51 4F A ld c,a
1052 5C52 78 A ld a,b ;blocknr. div 256 *256
1053 5C53 87 A add a,a
1054 5C54 87 A add a,a
1055 5C55 87 A add a,a
1056 5C56 87 A add a,a
1057 5C57 87 A add a,a ;*32
1058 5C58 B1 A or c
1059 5C59 4F A ld c,a ;low(blocknr. div 8)
1060 5C5A 78 A ld a,b
1061 5C5B 0F A rrca
1062 5C5C 0F A rrca
1063 5C5D 0F A rrca
1064 5C5E E6 1F A and 1fh
1065 5C60 47 A ld b,a ;high(blocknr. div 8)
1066 5C61 2A E9EF A ld hl,(ADALLOC)
1067 5C64 09 A add hl,bc
1068 5C65 7E A ld a,(hl) ;allocation-byte
1069 5C66 07 Aie656: rlca ;allocation-bit auf bit 0
1070 5C67 1D A dec e
1071 5C68 20 FC A jr nz,ie656
1072 5C6A C9 A ret
1073 A;-----

```



```
1075                A;; setzen/loeschen block in allocation-bit-tabelle
1076 5C6B D5        Aie65c:   push   de
1077 5C6C CD 5C45   A    call   ie635           ;bestimmen byte
1078 5C6F E6 FE     A    and    0feh           ;loeschen bit 0
1079 5C71 C1        A    pop    bc
1080 5C72 B1        A    or     c              ;evtl. setzen bit 0
1081 5C73 0F        Aie664:  rrrca          ;allocation-byte wieder zurueck
1082 5C74 15        A    dec    d
1083 5C75 20 FC     A    jr     nz,ie664
1084 5C77 77        A    ld     (hl),a
1085 5C78 C9        A    ret
1086                A;
1087                A;; verwalten allocation-bits fuer dir-eintrag
1088                A;
1089 5C79 CD 5B71   ASetAll:  call   ie55e
1090 5C7C 11 0010   A    ld     de,0010h
1091 5C7F 19        A    add    hl,de
1092 5C80 C5        A    push   bc              ;c=0 fuer loeschen, =1 fuer setzen
1093 5C81 0E 11    A    ld     c,11h          ;auszuwertende bytezahl +1
1094 5C83 D1        Aie675:  pop     de
1095 5C84 0D        A    dec    c              ;fertig?
1096 5C85 C8        A    ret     z              ;ja, dir-eintrag ausgewertet
1097 5C86 D5        A    push   de
1098 5C87 3A EA0D   A    ld     a,(BLOCK)
1099 5C8A B7        A    or     a              ;2 bytes fuer BDOS-block?
1100 5C8B 28 07    A    jr     z,ie688        ;ja
1101 5C8D C5        A    push   bc
1102 5C8E E5        A    push   hl
1103 5C8F 4E        A    ld     c,(hl)        ;sonst 1 byte
1104 5C90 06 00    A    ld     b,0
1105 5C92 18 06    A    jr     ie68e
1106                A;-----
1107 5C94 0D        Aie688:  dec     c
1108 5C95 C5        A    push   bc
1109 5C96 4E        A    ld     c,(hl)
1110 5C97 23        A    inc    hl
1111 5C98 46        A    ld     b,(hl)
1112 5C99 E5        A    push   hl
1113 5C9A 79        Aie68e:  ld      a,c              ;BDOS-block =0?
1114 5C9B B0        A    or     b
1115 5C9C 28 0A    A    jr     z,ie69d        ;ja, ignorieren
1116 5C9E 2A E9F6   A    ld     hl,(CDSM)     ;BDOS-block zu gross?
1117 5CA1 7D        A    ld     a,l
1118 5CA2 91        A    sub    c
1119 5CA3 7C        A    ld     a,h
1120 5CA4 98        A    sbc    a,b
1121 5CA5 D4 5C6B   A    call   nc,ie65c      ;nein, ist gueltig
1122 5CA8 E1        Aie69d:  pop     hl
1123 5CA9 23        A    inc    hl
1124 5CAA C1        A    pop    bc
1125 5CAB 18 D6    A    jr     ie675
1126                A;-----
```

```
1128          A;;laufwerk erstmalig benutzt (login)
1129          A;=====
1130 5CAD 2A E9F6  AScan:      ld      hl,(CDSM)      ;BDOS-bloেকে -1
1131 5CB0 0E 03    A      ld      c,03h
1132 5CB2 CD 5B00  A      call    ie4ea      ;hl:= hl div 8
1133 5CB5 23      A      inc     hl          ;+1 =bytezahl allocation-tabelle
1134 5CB6 44      A      ld      b,h
1135 5CB7 4D      A      ld      c,l
1136 5CB8 2A E9EF  A      ld      hl,(ADALLOC)
1137 5CBB 36 00    Aie6b1:     ld      (hl),0      ;loeschen allocation-tabelle
1138 5CBD 23      A      inc     hl
1139 5CBE 0B      A      dec     bc
1140 5CBF 78      A      ld      a,b
1141 5CC0 B1      A      or      c
1142 5CC1 20 F8    A      jr      nz,ie6b1
1143 5CC3 2A E9FA  A      ld      hl,(CAL12)   ;setzen dir-allocation
1144 5CC6 EB      A      ex      de,hl
1145 5CC7 2A E9EF  A      ld      hl,(ADALLOC)
1146 5CCA 73      A      ld      (hl),e
1147 5CCB 23      A      inc     hl
1148 5CCC 72      A      ld      (hl),d
1149 5CCD CD 59C3  A      call    ie3a1      ;home
1150 5CD0 2A E9E3  A      ld      hl,(ADJOB1)  ;stellen max.dirzahl auf 3
1151 5CD3 36 03    A      ld      (hl),03h
1152 5CD5 23      A      inc     hl
1153 5CD6 36 00    A      ld      (hl),0
1154 5CD8 CD 5C11  A      call    ie5fe
```

```
1156      A;; setzen allocation-tabelle, suchen akt. dir.-grenze
1157      A;; und ermitteln, ob $*.*-datei im directory (fuer ccp $$$sub)
1158      A;
1159 5CDB 0E FF  Aie6d2:   ld      c,0ffh
1160 5CDD CD 5C18 A      call   ie605
1161 5CE0 CD 5C08 A      call   ie5f5      ;dir.ende?
1162 5CE3 C8      A      ret     z          ;ja
1163 5CE4 CD 5B71 A      call   ie55e      ;hl auf dir-eintrag
1164 5CE7 7E      A      ld     a,(hl)
1165 5CE8 FE E5   A      cp     0e5h      ;leerer dir-eintrag?
1166 5CEA 28 EF   A      jr     z,ie6d2   ;ja
1167 5CEC 23      A      inc    hl
1168 5CED 7E      A      ld     a,(hl)      ;filename[1] aus dir-eintrag
1169 5CEE 2B      A      dec    hl
1170 5CEF C6 10   A      add    a,10h      ;f0..ff -> 00..0f; 00 -> 10
1171 5CF1 FE 11   A      cp     10h+1      ;<=10h?
1172 5CF3 38 E6   A      jr     c,ie6d2   ;ja, pc1715 loader-eintrag
1173 5CF5 3A E950 A      ld     a,(USER)    ;stimmt user?
1174 5CF8 BE      A      cp     (hl)
1175 5CF9 20 0A   A      jr     nz,ie6f6   ;nein
1176 5CFB 23      A      inc    hl
1177 5CFC 7E      A      ld     a,(hl)
1178 5CFD D6 24   A      sub    '$'          ;$-datei ? (fuer $$$sub)
1179 5CFF 20 04   A      jr     nz,ie6f6   ;nein
1180 5D01 3D      A      dec    a          ;sonst ff
1181 5D02 32 E954 A      ld     (HLPARM),a  ;als returncode
1182 5D05 0E 01   Aie6f6:   ld     c,01h        ;anzeigen allocation setzen
1183 5D07 CD 5C79 A      call   SetAll      ;setzen allocation-bits
1184 5D0A CD 5B9F A      call   ie58c
1185 5D0D 18 CC   A      jr     ie6d2
1186      A;-----
1187 5D0F 3A EA04 Aie701:   ld     a,(dedd4)
1188 5D12 C3 596E A      jp     ie301
1189      A;-----
1190      A;; vergleichen extent-nummer
1191      A;; ia      muster
1192      A;; ic      dir-eintrag
1193      A;
1194 5D15 C5      AIfExt:   push   bc
1195 5D16 F5      A      push  af
1196 5D17 3A E9F5 A      ld     a,(CEXM)    ;extent-mask
1197 5D1A 2F      A      cpl
1198 5D1B 47      A      ld     b,a
1199 5D1C 79      A      ld     a,c          ;dir-eintrag (12)
1200 5D1D A0      A      and   b          ;extent-nr. frei
1201 5D1E 4F      A      ld     c,a
1202 5D1F F1      A      pop   af          ;muster
1203 5D20 A0      A      and   b          ;extent-nr. frei
1204 5D21 91      A      sub   c          ;bit 4-0 gleich?
1205 5D22 E6 1F   A      and   1fh
1206 5D24 C1      A      pop   bc
1207 5D25 C9      A      ret
```

```
1209          A; suchen passenden dir-eintrag
1210          A; ic anzahl der mit muster zu vergleichenden bytes
1211          A;
1212 5D26 3E FF  Aie718:   ld    a,0ffh      ; = Fehlercode
1213 5D28 32 EA04 A    ld    (dedd4),a
1214 5D2B 21 EA08 A    ld    hl,NMBSRCH
1215 5D2E 71      A    ld    (hl),c
1216 5D2F 2A E952 A    ld    hl,(DEPARM)
1217 5D32 22 EA09 A    ld    (ENTFCB),hl
1218 5D35 CD 5C11 A    call   ie5fe      ; Dir-Eintrag-Nr. vor Anfang
1219          A          ; ( <NMBDIR> := -1 )
1220 5D38 CD 59C3 A    call   ie3a1      ; IHOME
1221          A;
1222          A; weitersuchen, wird von aussen angesprungen
1223          A;
1224 5D3B 0E 00  Aie72d:   ld    c,0
1225 5D3D CD 5C18 A    call   ie605      ; Kontrolle, ob ganzes Verz. durchsucht
1226 5D40 CD 5C08 A    call   ie5f5
1227 5D43 28 52  A    jr    z,ie794      ;dir-ende erreicht
1228 5D45 2A EA09 A    ld    hl,(ENTFCB)  ;^such-muster
1229 5D48 EB      A    ex    de,hl
1230 5D49 1A      A    ld    a,(de)
1231 5D4A FE E5  A    cp    0e5h        ;leeren dir-eintrag suchen?
1232 5D4C 28 07  A    jr    z,ie74a      ;ja
1233 5D4E D5      A    push  de
1234 5D4F CD 5B92 A    call   ie57f      ;kommen noch aktive dir-eintraege?
1235 5D52 D1      A    pop   de
1236 5D53 30 42  A    jr    nc,ie794     ;nein, weitersuchen lohnt nicht
1237 5D55 CD 5B71 Aie74a:   call   ie55e
1238 5D58 3A EA08 A    ld    a,(NMBSRCH)  ;anzahl zu vergleichender bytes
1239 5D5B 4F      A    ld    c,a
1240 5D5C 06 00  A    ld    b,0         ;byteindex
1241 5D5E 79      Aie753:   ld    a,c          ;restl. bytezahl
1242 5D5F B7      A    or    a          ;fertig?
1243 5D60 28 24  A    jr    z,ie783      ;ja
1244 5D62 1A      A    ld    a,(de)
1245 5D63 FE 3F  A    cp    '?'         ;beliebiges byte erlaubt?
1246 5D65 28 19  A    jr    z,ie77c      ;ja
1247 5D67 78      A    ld    a,b
1248 5D68 FE 0D  A    cp    0dh        ;byte 13?
1249 5D6A 28 14  A    jr    z,ie77c      ;ja, immer uebergehen
1250 5D6C FE 0C  A    cp    0ch        ;byte 12?
1251 5D6E 1A      A    ld    a,(de)
1252 5D6F 28 07  A    jr    z,ie773      ;ja
1253 5D71 96      A    sub   (hl)        ;sonst bit 6-0 vergleichen
1254 5D72 E6 7F  A    and   7fh
1255 5D74 20 C5  A    jr    nz,ie72d     ;stimmt nicht, naechster dir-eintrag
1256 5D76 18 08  A    jr    ie77c      ;ist gleich, weiter
1257          A;-----
```

```
1259 5D78 C5      Aie773:    push  bc
1260 5D79 4E      A      ld    c,(hl)
1261 5D7A CD 5D15  A      call  IfExt      ;vergleichen extent-nummer
1262 5D7D C1      A      pop  bc
1263 5D7E 20 BB    A      jr   nz,ie72d
1264 5D80 13      Aie77c:    inc   de          ;naechste bytes vergleichen
1265 5D81 23      A      inc  hl
1266 5D82 04      A      inc  b
1267 5D83 0D      A      dec  c
1268 5D84 18 D8    A      jr   ie753
1269             A;-----
1270 5D86 3A EA1A  Aie783:    ld    a,(NMBDIR) ; Datei gefunden, Returncode setzen
1271 5D89 E6 03      A      and  03h
1272 5D8B 32 E954  A      ld    (HLPARM),a
1273 5D8E 21 EA04  A      ld    hl,dedd4
1274 5D91 7E      A      ld    a,(hl)
1275 5D92 17      A      rla
1276 5D93 D0      A      ret  nc          ; Fehler ?
1277 5D94 AF      A      xor  a          ; Nein
1278 5D95 77      A      ld    (hl),a    ; Fehlercode := 0
1279 5D96 C9      A      ret
1280             A;-----
1281 5D97 CD 5C11  Aie794:    call  ie5fe
1282 5D9A 3E FF      A      ld    a,0ffh
1283 5D9C C3 596E  A      jp   ie301
1284             A;
1285             A;; Loeschen Datei
1286             A;
1287 5D9F CD 5B67  AEraFil:   call  ie554
1288 5DA2 0E 0C    A      ld    c,0ch
1289 5DA4 CD 5D26  A      call  ie718
1290 5DA7 CD 5C08  Aie7a4:    call  ie5f5
1291 5DAA C8      A      ret  z
1292 5DAB CD 5B57  A      call  ie544
1293 5DAE CD 5B71  A      call  ie55e
1294 5DB1 36 E5    A      ld    (hl),0e5h
1295 5DB3 0E 00    A      ld    c,0
1296 5DB5 CD 5C79  A      call  SetAll
1297 5DB8 CD 5BD7  A      call  DirWr
1298 5DBB CD 5D3B  A      call  ie72d
1299 5DBE 18 E7    A      jr   ie7a4
```

```

1301      A;; Suchen freien Block (Eingang: BC = Startblock fuer Suche
1302      A;                               Ausgang: HL = Betr. Nr. = Gefunden
1303      A;                               = 0           = Nicht gef.
1304      A;
1305 5DC0 50  Aie7be:   ld      d,b
1306 5DC1 59  A      ld      e,c
1307 5DC2 79  Aie7c0:   ld      a,c
1308 5DC3 B0  A      or      b
1309 5DC4 28 0B A      jr      z,ie7d1
1310 5DC6 0B  A      dec     bc
1311 5DC7 D5  A      push    de
1312 5DC8 C5  A      push    bc
1313 5DC9 CD 5C45 A      call   ie635
1314 5DCC 1F  A      rra
1315 5DCD 30 1A A      jr      nc,ie7ec
1316 5DCF C1  A      pop     bc
1317 5DD0 D1  A      pop     de
1318 5DD1 2A E9F6 Aie7d1:   ld      hl,(CDSM)
1319 5DD4 7B  A      ld      a,e
1320 5DD5 95  A      sub     l
1321 5DD6 7A  A      ld      a,d
1322 5DD7 9C  A      sbc     a,h
1323 5DD8 30 17 A      jr      nc,ie7f4
1324 5DDA 13  A      inc     de
1325 5ddb C5  A      push    bc
1326 5DDC D5  A      push    de
1327 5DDD 42  A      ld      b,d
1328 5DDE 4B  A      ld      c,e
1329 5DDF CD 5C45 A      call   ie635
1330 5DE2 1F  A      rra
1331 5DE3 30 04 A      jr      nc,ie7ec
1332 5DE5 D1  A      pop     de
1333 5DE6 C1  A      pop     bc
1334 5DE7 18 D9 A      jr      ie7c0
1335      A;-----
1336 5DE9 17  Aie7ec:   rla
1337 5DEA 3C  A      inc     a
1338 5DEB CD 5C73 A      call   ie664
1339 5DEE E1  A      pop     hl
1340 5DEF D1  A      pop     de
1341 5DF0 C9  A      ret
1342      A;-----
1343 5DF1 79  Aie7f4:   ld      a,c
1344 5DF2 B0  A      or      b
1345 5DF3 20 CD A      jr      nz,ie7c0
1346 5DF5 21 0000 A      ld      hl,0
1347 5DF8 C9  A      ret

```

```
1349      A;; Gegebener FCB --> Verzeichnis
1350      A;
1351 5DF9 0E 00  Aie7fd:   ld    c,0           ;relative position in fcb
1352 5DFB 1E 20  A    ld    e,20h         ;byteanzahl
1353      A;
1354      A;; dir-eintrag modifizieren und neu schreiben
1355      A;
1356 5DFD D5     Aie801:   push   de
1357 5DFE 06 00  A    ld    b,0
1358 5E00 2A E952 A    ld    hl,(DEPARM)
1359 5E03 09     A    add   hl,bc
1360 5E04 EB     A    ex    de,hl         ;de auf stelle in fcb
1361 5E05 CD 5B71 A    call  ie55e         ;hl auf dirbuf-eintrag
1362 5E08 C1     A    pop   bc
1363 5E09 06 00  A    ld    b,0
1364 5E0B EB     A    ex    de,hl
1365 5E0C CD EA27 A    call  FLLDIR        ;move c bytes von fcb in dirbuf
1366 5E0F EB     A    ex    de,hl
1367 5E10 CD 59E4 Aie810:   call  ie3c3         ;stellen trk,sec fuer dirbuf
1368 5E13 C3 5BD7 A    jp    DirWr
1369      A;
1370      A;; ausfuehren rename file
1371      A;=====
1372 5E16 CD 5B67 AFRen:    call  ie554         ;test disk r/o
1373 5E19 0E 0C  A    ld    c,0ch        ;12 bytes vergleichen
1374 5E1B CD 5D26 A    call  ie718         ;suchen passenden dir-eintrag
1375 5E1E 2A E952 A    ld    hl,(DEPARM)
1376      A;!!!kopierschutz fuer $$$-dateien mit bit 7 =1 im 3. typbyte
1377      A;!!!solche dateien koennen von einer $$$-endung nicht in die
1378      A;!!!wirkliche endung umbenannt werden, der dir-eintrag wird
1379      A;!!!unkenntlich gemacht
1380 5E21 E5     A    push  hl
1381 5E22 DD E1   A    pop   ix
1382 5E24 01 0C10 A    ld    bc,0c10h      ;byte 0-11 neu setzen
1383 5E27 DD CB 1B 7EA bit    7,(ix+16+11) ;neuer dateityp mit bit 7?
1384 5E2B 28 1E   A    jr    z,ncopyp     ;nein
1385 5E2D 3E 24   A    ld    a,'$'
1386 5E2F DD BE 09 A    cp    (ix+9)        ;alter dateityp $$$?
1387 5E32 20 17   A    jr    nz,ncopyp
1388 5E34 DD BE 0A A    cp    (ix+10)
1389 5E37 20 12   A    jr    nz,ncopyp
1390 5E39 DD BE 0B A    cp    (ix+11)
1391 5E3C 20 0D   A    jr    nz,ncopyp
1392 5E3E 21 5B61 A    ld    hl,filero0    ;nach dir-aenderung fehlermeldung
1393 5E41 E5     A    push  hl
1394 5E42 21 5E67 A    ld    hl,copypm     ;muster-dir-eintrag fuer copy-protect
1395 5E45 22 E952 A    ld    (DEPARM),hl
1396 5E48 01 2000 A    ld    bc,2000h      ;dir-eintrag komplett neu setzen
1397 5E4B C5     Ancopyp:  push   bc
1398 5E4C DD 7E 00 A    ld    a,(ix)         ;fcb[0]
1399 5E4F DD 77 10  A    ld    (ix+16),a     ;in 2. filenames
```

```

1401 5E52 CD 5C08 Aie827: call ie5f5 ;dir-ende?
1402 5E55 28 0E A jr z,renend ;ja,fertig
1403 5E57 CD 5B57 A call ie544 ;test file r/o
1404 5E5A C1 A pop bc
1405 5E5B C5 A push bc
1406 5E5C 58 A ld e,b
1407 5E5D CD 5DFD A call ie801 ;byte 0-11 neu setzen und schreiben
1408 5E60 CD 5D3B A call ie72d ;suchen naechsten dir-eintrag
1409 5E63 18 ED A jr ie827
1410 5E65 C1 Arenend: pop bc
1411 5E66 C9 A ret
1412 5E67 Acopypm: ; ds 20h,0e5h ;so sieht dir nach rename aus
1413 A DFW 0e5e5h 0e5e5h 0e5e5h 0e5e5h
1 5E67 E5E5 B DEFW 0e5e5h
1 5E69 E5E5 C DEFW 0e5e5h
1 5E6B E5E5 D DEFW 0e5e5h
1 5E6D E5E5 E DEFW 0e5e5h
1414 A DFW 0e5e5h 0e5e5h 0e5e5h 0e5e5h
1 5E6F E5E5 B DEFW 0e5e5h
1 5E71 E5E5 C DEFW 0e5e5h
1 5E73 E5E5 D DEFW 0e5e5h
1 5E75 E5E5 E DEFW 0e5e5h
1415 A DFW 0e5e5h 0e5e5h 0e5e5h 0e5e5h
1 5E77 E5E5 B DEFW 0e5e5h
1 5E79 E5E5 C DEFW 0e5e5h
1 5E7B E5E5 D DEFW 0e5e5h
1 5E7D E5E5 E DEFW 0e5e5h
1416 A DFW 0e5e5h 0e5e5h 0e5e5h 0e5e5h
1 5E7F E5E5 B DEFW 0e5e5h
1 5E81 E5E5 C DEFW 0e5e5h
1 5E83 E5E5 D DEFW 0e5e5h
1 5E85 E5E5 E DEFW 0e5e5h
1417 A;-----
1418 5E87 0E 0C Aie83b: ld c,0ch
1419 5E89 CD 5D26 A call ie718
1420 5E8C CD 5C08 Aie840: call ie5f5
1421 5E8F C8 A ret z
1422 5E90 0E 00 A ld c,0
1423 5E92 1E 0C A ld e,0ch
1424 5E94 CD 5DFD A call ie801
1425 5E97 CD 5D3B A call ie72d
1426 5E9A 18 F0 A jr ie840
1427 A;-----

```



```
1429          A;; open file
1430 5E9C 0E 0F  AFOpen:  ld      c,0fh          ;15 bytes vergleichen
1431 5E9E CD 5D26 A      call  ie718          ;suchenden dir-eintrag
1432 5EA1 CD 5C08 A      call  ie5f5          ;gefunden?
1433 5EA4 C8          A      ret      z          ;nein
1434 5EA5 CD 5ABD Aie85a: call  ie4a6          ;^extentnr.
1435 5EA8 7E          A      ld      a,(hl)
1436 5EA9 F5          A      push   af
1437 5EAA E5          A      push   hl
1438 5EAB CD 5B71 A      call  ie55e          ;^(in dirbuf)
1439 5EAE EB          A      ex      de,hl      ;nach de
1440 5EAF 2A E952 A      ld      hl,(DEPARM)
1441 5EB2 01 0020 A      ld      bc,20h
1442 5EB5 D5          A      push   de
1443 5EB6 EB          A      ex      de,hl
1444 5EB7 CD EA27 A      call  FLLDIR        ;32 bytes von de nach hl
1445 5EBA EB          A      ex      de,hl
1446 5EBB CD 5B8B A      call  ie578          ;fcb ist aktuell auf dsk.
1447 5EBE D1          A      pop    de
1448 5EBF 21 000C A      ld      hl,000ch
1449 5EC2 19          A      add    hl,de
1450 5EC3 4E          A      ld      c,(hl)      ;extent aus dirbuf
1451 5EC4 21 000F A      ld      hl,000fh
1452 5EC7 19          A      add    hl,de
1453 5EC8 46          A      ld      b,(hl)      ;letzter record im extent
1454 5EC9 E1          A      pop    hl
1455 5ECA F1          A      pop    af
1456 5ECB 77          A      ld      (hl),a      ;neue extent-nr
1457 5ECC 79          A      ld      a,c
1458 5ECD BE          A      cp      (hl)        ;gleich?
1459 5ECE 78          A      ld      a,b
1460 5ECF 28 06      A      jr      z,ie88b      ;ja, record bleibt
1461 5ED1 3E 00      A      ld      a,0
1462 5ED3 38 02      A      jr      c,ie88b      ;neuer extent, leer
1463 5ED5 3E 80      A      ld      a,80h        ;sonst voller extent mit 128 records
1464 5ED7 2A E952 Aie88b: ld      hl,(DEPARM)
1465 5EDA 11 000F A      ld      de,000fh
1466 5EDD 19          A      add    hl,de
1467 5EDE 77          A      ld      (hl),a      ;recordzaehler fuer laufenden extent
1468 5EDF C9          A      ret
1469          A;-----
1470 5EE0 7E          Aie894: ld      a,(hl)
1471 5EE1 23          A      inc    hl
1472 5EE2 B6          A      or     (hl)
1473 5EE3 2B          A      dec    hl
1474 5EE4 C0          A      ret    nz
1475 5EE5 1A          A      ld      a,(de)
1476 5EE6 77          A      ld      (hl),a
1477 5EE7 13          A      inc    de
1478 5EE8 23          A      inc    hl
1479 5EE9 1A          A      ld      a,(de)
1480 5EEA 77          A      ld      (hl),a
1481 5EEB 1B          A      dec    de
1482 5EEC 2B          A      dec    hl
1483 5EED C9          A      ret
```

```

1485           A;; Suchen FCB der Datei in Verzeichnis
1486           A;
1487 5EEE AF      AFClose:   xor    a
1488 5EEF 32 E954  A      ld      (HLPARM),a
1489 5EF2 32 EA1A  A      ld      (NMBDIR),a
1490 5EF5 32 EA1B  A      ld      (dedeb),a
1491 5EF8 CD 5B31  A      call   ROCheck
1492 5EFB C0      A      ret     nz
1493 5EFC CD 5B7C  A      call   ie569
1494 5EFF E6 80    A      and     80h           ;ist fcb auf diskette aktuell?
1495 5F01 C0      A      ret     nz           ;ja
1496 5F02 0E 0F  A      ld      c,0fh
1497 5F04 CD 5D26  A      call   ie718
1498 5F07 CD 5C08  A      call   ie5f5
1499 5F0A C8      A      ret     z
1500 5F0B 01 0010  A      ld      bc,0010h
1501 5F0E CD 5B71  A      call   ie55e
1502 5F11 09      A      add     hl,bc
1503 5F12 EB      A      ex     de,hl
1504 5F13 2A E952  A      ld      hl,(DEPARM)
1505 5F16 09      A      add     hl,bc
1506 5F17 0E 10    A      ld      c,10h
1507 5F19 3A EA0D  Aie8cd:  ld      a,(BLOCK)
1508 5F1C B7      A      or     a
1509 5F1D 28 10    A      jr     z,ie8e8
1510 5F1F 7E      A      ld     a,(hl)
1511 5F20 B7      A      or     a
1512 5F21 1A      A      ld     a,(de)
1513 5F22 20 01    A      jr     nz,ie8db
1514 5F24 77      A      ld     (hl),a
1515 5F25 B7      Aie8db:  or     a
1516 5F26 20 02    A      jr     nz,ie8e1
1517 5F28 7E      A      ld     a,(hl)
1518 5F29 12      A      ld     (de),a
1519 5F2A BE      Aie8e1:  cp     (hl)
1520 5F2B 20 35    A      jr     nz,ie91f
1521 5F2D 18 13    A      jr     ie8fd
1522           A;-----

```

```
1524 5F2F CD 5EE0 Aie8e8: call ie894
1525 5F32 EB A ex de,hl
1526 5F33 CD 5EE0 A call ie894
1527 5F36 EB A ex de,hl
1528 5F37 1A A ld a,(de)
1529 5F38 BE A cp (hl)
1530 5F39 20 27 A jr nz,ie91f
1531 5F3B 13 A inc de
1532 5F3C 23 A inc hl
1533 5F3D 1A A ld a,(de)
1534 5F3E BE A cp (hl)
1535 5F3F 20 21 A jr nz,ie91f
1536 5F41 0D A dec c
1537 5F42 13 Aie8fd: inc de
1538 5F43 23 A inc hl
1539 5F44 0D A dec c
1540 5F45 20 D2 A jr nz,ie8cd
1541 5F47 01 FFEC A ld bc,0ffech
1542 5F4A 09 A add hl,bc
1543 5F4B EB A ex de,hl
1544 5F4C 09 A add hl,bc
1545 5F4D 1A A ld a,(de)
1546 5F4E BE A cp (hl)
1547 5F4F 38 09 A jr c,ie917
1548 5F51 77 A ld (hl),a
1549 5F52 01 0003 A ld bc,0003h
1550 5F55 09 A add hl,bc
1551 5F56 EB A ex de,hl
1552 5F57 09 A add hl,bc
1553 5F58 7E A ld a,(hl)
1554 5F59 12 A ld (de),a
1555 5F5A 3E FF Aie917: ld a,0ffh
1556 5F5C 32 EA02 A ld (dedd2),a
1557 5F5F C3 5E10 A jp ie810
1558 A;-----
1559 5F62 21 E954 Aie91f: ld hl,HLPARM
1560 5F65 35 A dec (hl)
1561 5F66 C9 A ret
```

```
1563           A;; Erstellen Datei
1564           A;
1565 5F67 CD 5B67 AFMake:      call   ie554
1566 5F6A 2A E952 A      ld    hl,(DEPARM)      ;retten nutzer fcb-adr.
1567 5F6D E5      A      push   hl
1568 5F6E 21 E9DA A      ld    hl,ERASE             ;umstellen auf e5-muster
1569 5F71 22 E952 A      ld    (DEPARM),hl
1570 5F74 0E 01   A      ld    c,01h              ;suchen e5-direintrag
1571 5F76 CD 5D26 A      call  ie718
1572 5F79 CD 5C08 A      call  ie5f5
1573 5F7C E1      A      pop    hl
1574 5F7D 22 E952 A      ld    (DEPARM),hl      ;wiederherstellen fcb-adr.
1575 5F80 C8      A      ret    z
1576 5F81 EB      A      ex     de,hl
1577 5F82 21 000F A      ld    hl,000fh
1578 5F85 19      A      add   hl,de
1579 5F86 0E 11   A      ld    c,11h
1580 5F88 AF      A      xor   a
1581 5F89 77      Aie946:   ld    (hl),a
1582 5F8A 23      A      inc   hl
1583 5F8B 0D      A      dec   c
1584 5F8C 20 FB   A      jr    nz,ie946
1585 5F8E 21 000D A      ld    hl,000dh
1586 5F91 19      A      add   hl,de
1587 5F92 77      A      ld    (hl),a
1588 5F93 CD 5B9F A      call  ie58c
1589 5F96 CD 5DF9 A      call  ie7fd
1590 5F99 C3 5B8B A      jp    ie578              ;fcb ist aktuell auf dsk.
1591           A;-----
1592 5F9C AF      ANextExt:xor a
1593 5F9D 32 EA02 A      ld    (dedd2),a
1594 5FA0 CD 5EEE A      call  FClose
1595 5FA3 CD 5C08 A      call  ie5f5
1596 5FA6 C8      A      ret    z
1597 5FA7 2A E952 A      ld    hl,(DEPARM)
1598 5FAA 01 000C A      ld    bc,000ch
1599 5FAD 09      A      add   hl,bc
1600 5FAE 7E      A      ld    a,(hl)
1601 5FAF 3C      A      inc   a
1602 5FB0 E6 1F   A      and   1fh
1603 5FB2 77      A      ld    (hl),a
1604 5FB3 28 0D   A      jr    z,ie983
1605 5FB5 47      A      ld    b,a
1606 5FB6 3A E9F5 A      ld    a,(CEXM)
1607 5FB9 A0      A      and   b
1608 5FBA 21 EA02 A      ld    hl,dedd2
1609 5FBD A6      A      and   (hl)
1610 5FBE 28 0C   A      jr    z,ie98e
1611 5FC0 18 24   A      jr    ie9ac
1612           A;-----
```

```
1614 5FC2 01 0002 Aie983: ld bc,0002h
1615 5FC5 09 A add hl,bc
1616 5FC6 34 A inc (hl)
1617 5FC7 7E A ld a,(hl)
1618 5FC8 E6 0F A and 0fh
1619 5FCA 28 24 A jr z,ie9b6
1620 5FCC 0E 0F Aie98e: ld c,0fh
1621 5FCE CD 5D26 A call ie718
1622 5FD1 CD 5C08 A call ie5f5
1623 5FD4 20 10 A jr nz,ie9ac
1624 5FD6 3A EA03 A ld a,(RWMODE)
1625 5FD9 3C A inc a
1626 5FDA 28 14 A jr z,ie9b6
1627 5FDC CD 5F67 A call FMake
1628 5FDF CD 5C08 A call ie5f5
1629 5FE2 28 0C A jr z,ie9b6
1630 5FE4 18 03 A jr ie9af
1631 A;-----
1632 5FE6 CD 5EA5 Aie9ac: call ie85a
1633 5FE9 CD 5AD2 Aie9af: call ie4bb
1634 5FEC AF A xor a
1635 5FED C3 596E A jp ie301
1636 A;-----
1637 5FF0 CD 5972 Aie9b6: call ie305
1638 5FF3 C3 5B8B A jp ie578 ;fcb ist aktuell auf dsk.
1639 A;
1640 A;; Eintragung aus Datei lesen
1641 A;
1642 5FF6 3E 01 ASeqRd: ld a,01h
1643 5FF8 32 EA05 A ld (SRMODE),a
1644 5FFB 3E FF Aie9c1: ld a,0ffh
1645 5FFD 32 EA03 A ld (RWMODE),a
1646 6000 CD 5AD2 A call ie4bb
1647 6003 3A EA13 A ld a,(RECORD)
1648 6006 21 EA11 A ld hl,COUNTR
1649 6009 BE A cp (hl)
1650 600A 38 11 A jr c,ie9e6
1651 600C FE 80 A cp 80h
1652 600E 20 21 A jr nz,ie9fb
1653 6010 CD 5F9C A call NextExt
1654 6013 AF A xor a
1655 6014 32 EA13 A ld (RECORD),a
1656 6017 3A E954 A ld a,(HLPARM)
1657 601A B7 A or a
1658 601B 20 14 A jr nz,ie9fb
1659 601D CD 5A8F Aie9e6: call SetBl
1660 6020 CD 5A9C A call ie484
1661 6023 28 0C A jr z,ie9fb
1662 6025 CD 5AA2 A call BerSNr
1663 6028 CD 59F2 A call ie3d1
1664 602B CD 59D4 A call Read0
1665 602E C3 5AE9 A jp ie4d2
1666 A;-----
1667 6031 C3 5972 Aie9fb: jp ie305
```

```

1669           A;; Eintragung in Datei schreiben
1670           A;
1671 6034 3E 01   ASeqWr:      ld      a,01h
1672 6036 32 EA05 A      ld      (SRMODE),a
1673 6039 3E 00   Aiea03:     ld      a,0
1674 603B 32 EA03 A      ld      (RWMODE),a
1675 603E CD 5B67 A      call     ie554          ; Test Disk R/O ?
1676 6041 2A E952 A      ld      hl,(DEPARM)
1677 6044 CD 5B5A A      call     ie547          ; Test File R/O ?
1678 6047 CD 5AD2 A      call     ie4bb
1679 604A 3A EA13 A      ld      a,(RECORD)
1680 604D FE 80   A      cp      80h
1681 604F D2 5972 A      jp      nc,ie305
1682 6052 CD 5A8F A      call     SetBl
1683 6055 CD 5A9C A      call     ie484
1684 6058 0E 00   A      ld      c,0
1685 605A 20 43   A      jr      nz,iea6e
1686 605C CD 5A5A A      call     GetDN
1687 605F 32 EA07 A      ld      (dedd7),a
1688 6062 01 0000 A      ld      bc,0
1689 6065 B7         A      or      a
1690 6066 28 07   A      jr      z,iea3b
1691 6068 4F         A      ld      c,a
1692 6069 0B         A      dec     bc
1693 606A CD 5A77 A      call     GetBlock
1694 606D 44         A      ld      b,h
1695 606E 4D         A      ld      c,l
1696 606F CD 5DC0 Aiea3b:    call     ie7be          ; freien Block suchen
1697 6072 7D         A      ld      a,l
1698 6073 B4         A      or      h
1699 6074 20 05   A      jr      nz,iea48          ; --> gefunden
1700 6076 3E 02   A      ld      a,02h
1701 6078 C3 596E A      jp      ie301
1702           A;-----
1703 607B 22 EA15 Aiea48:    ld      (NMBREC),hl
1704 607E EB         A      ex     de,hl
1705 607F 2A E952 A      ld      hl,(DEPARM)
1706 6082 01 0010 A      ld      bc,0010h
1707 6085 09         A      add    hl,bc
1708 6086 3A EA0D A      ld      a,(BLOCK)
1709 6089 B7         A      or      a
1710 608A 3A EA07 A      ld      a,(dedd7)
1711 608D 28 06   A      jr      z,iea64
1712 608F CD 5B77 A      call     ie564
1713 6092 73         A      ld      (hl),e
1714 6093 18 08   A      jr      iea6c
1715           A;-----

```

```
1717 6095 4F      Aiea64:  ld      c,a
1718 6096 06 00     A      ld      b,0
1719 6098 09      A      add     hl,bc
1720 6099 09      A      add     hl,bc
1721 609A 73      A      ld      (hl),e
1722 609B 23      A      inc     hl
1723 609C 72      A      ld      (hl),d
1724 609D 0E 02     Aiea6c:  ld      c,02h
1725 609F 3A E954   Aiea6e:  ld      a,(HLPARM)
1726 60A2 B7      A      or      a
1727 60A3 C0      A      ret
1728 60A4 C5      A      push   bc
1729 60A5 CD 5AA2 A      call  BerSNr
1730 60A8 3A EA05   A      ld      a,(SRMODE)
1731 60AB 3D      A      dec     a
1732 60AC 3D      A      dec     a
1733 60AD 20 3A   A      jr      nz,ieabb
1734 60AF C1      A      pop    bc
1735 60B0 C5      A      push   bc
1736 60B1 79      A      ld      a,c
1737 60B2 3D      A      dec     a
1738 60B3 3D      A      dec     a
1739 60B4 20 33   A      jr      nz,ieabb
1740 60B6 E5      A      push   hl
1741 60B7 2A E9E9   A      ld      hl,(ADDIR)
1742 60BA 57      A      ld      d,a
1743 60BB 77      Aiea8c:  ld      (hl),a
1744 60BC 23      A      inc     hl
1745 60BD 14      A      inc     d
1746 60BE F2 60BB   A      jp      p,iea8c
1747 60C1 CD 5BEF   A      call  ie5e0
1748 60C4 2A EA17   A      ld      hl,(dede7)
1749 60C7 0E 02     A      ld      c,02h
1750 60C9 22 EA15 Aiea9a:  ld      (NMBREC),hl
1751 60CC C5      A      push   bc
1752 60CD CD 59F2   A      call  ie3d1
1753 60D0 C1      A      pop    bc
1754 60D1 CD 59D9   A      call  Write0
1755 60D4 2A EA15   A      ld      hl,(NMBREC)
1756 60D7 0E 00     A      ld      c,0
1757 60D9 3A E9F4   A      ld      a,(CBLM)
1758 60DC 47      A      ld      b,a
1759 60DD A5      A      and    l
1760 60DE B8      A      cp     b
1761 60DF 23      A      inc     hl
1762 60E0 20 E7     A      jr      nz,iea9a
1763 60E2 E1      A      pop    hl
1764 60E3 22 EA15   A      ld      (NMBREC),hl
1765 60E6 CD 5BEA   A      call  DMARet
```

```

1767 60E9 CD 59F2 Aieabb: call ie3d1
1768 60EC C1 A pop bc
1769 60ED C5 A push bc
1770 60EE CD 59D9 A call Write0
1771 60F1 C1 A pop bc
1772 60F2 3A EA13 A ld a,(RECORD)
1773 60F5 21 EA11 A ld hl,COUNTR
1774 60F8 BE A cp (hl)
1775 60F9 38 04 A jr c,iead2
1776 60FB 77 A ld (hl),a
1777 60FC 34 A inc (hl)
1778 60FD 0E 02 A ld c,02h
1779 60FF Aiead2: ; nop ;war in fehlerhaften cp/m 2.2:
1780 A ; nop ;dec c/ dec c/ jp nz,ieadf
1781 A ; ld hl,0d800h ;3*nop wuerden es auch tun (langsamer)
1782 60FF F5 A push af
1783 6100 CD 5B7C A call ie569 ;adressieren write-flag im fcb
1784 6103 E6 7F A and 7fh ;fcb bei close auf diskette schreiben
1785 6105 77 A ld (hl),a
1786 6106 F1 A pop af
1787 6107 FE 7F A cp 7fh
1788 6109 20 1A A jr nz,ieb00
1789 610B 3A EA05 A ld a,(SRMODE)
1790 610E FE 01 A cp 01h
1791 6110 20 13 A jr nz,ieb00
1792 6112 CD 5AE9 A call ie4d2
1793 6115 CD 5F9C A call NextExt
1794 6118 21 E954 A ld hl,HLPARM
1795 611B 7E A ld a,(hl)
1796 611C B7 A or a
1797 611D 20 04 A jr nz,ieafe
1798 611F 3D A dec a
1799 6120 32 EA13 A ld (RECORD),a
1800 6123 36 00 Aieafe: ld (hl),0
1801 6125 C3 5AE9 Aieb00: jp ie4d2

```



```
1803 6128 AF      ARand:   xor    a
1804 6129 32 EA05 A      ld     (SRMODE),a
1805              A;
1806              A;; Vorbereiten CR, EX, S2 fuer Random-Zugriff
1807              A;
1808 612C C5      ARand0:  push   bc
1809 612D 2A E952 A      ld     hl,(DEPARM)
1810 6130 EB      A      ex     de,hl
1811 6131 21 0021 A      ld     hl,0021h
1812 6134 19      A      add    hl,de
1813 6135 7E      A      ld     a,(hl)
1814 6136 E6 7F   A      and    7fh
1815 6138 F5      A      push  af
1816 6139 7E      A      ld     a,(hl)
1817 613A 17      A      rla
1818 613B 23      A      inc   hl
1819 613C 7E      A      ld     a,(hl)
1820 613D 17      A      rla
1821 613E E6 1F   A      and    1fh
1822 6140 4F      A      ld     c,a
1823 6141 7E      A      ld     a,(hl)
1824 6142 1F      A      rra
1825 6143 1F      A      rra
1826 6144 1F      A      rra
1827 6145 1F      A      rra
1828 6146 E6 0F   A      and    0fh
1829 6148 47      A      ld     b,a
1830 6149 F1      A      pop   af
1831 614A 23      A      inc   hl
1832 614B 6E      A      ld     l,(hl)
1833 614C 2C      A      inc   l
1834 614D 2D      A      dec   l
1835 614E 2E 06   A      ld     l,06h
1836 6150 20 57   A      jr    nz,Rand4
1837 6152 21 0020 A      ld     hl,0020h
1838 6155 19      A      add    hl,de
1839 6156 77      A      ld     (hl),a
1840 6157 21 000C A      ld     hl,000ch
1841 615A 19      A      add    hl,de
1842 615B 79      A      ld     a,c
1843 615C 96      A      sub   (hl)
1844 615D 20 0A   A      jr    nz,Rand1
1845 615F 21 000E A      ld     hl,000eh
1846 6162 19      A      add    hl,de
1847 6163 78      A      ld     a,b
1848 6164 96      A      sub   (hl)
1849 6165 E6 7F   A      and    7fh
1850 6167 28 34   A      jr    z,Rand2
```

```

1852 6169 C5      ARand1:   push   bc
1853 616A D5      A       push   de
1854 616B CD 5EEE A       call  FClose
1855 616E D1      A       pop    de
1856 616F C1      A       pop    bc
1857 6170 2E 03  A       ld     l,03h
1858 6172 3A E954 A       ld     a,(HLPARM)
1859 6175 3C      A       inc    a
1860 6176 28 2A  A       jr     z,Rand3
1861 6178 21 000C A       ld     hl,000ch
1862 617B 19      A       add   hl,de
1863 617C 71      A       ld     (hl),c
1864 617D 21 000E A       ld     hl,000eh
1865 6180 19      A       add   hl,de
1866 6181 70      A       ld     (hl),b
1867 6182 CD 5E9C A       call  FOpen
1868 6185 3A E954 A       ld     a,(HLPARM)
1869 6188 3C      A       inc    a
1870 6189 20 12  A       jr     nz,Rand2
1871 618B C1      A       pop    bc
1872 618C C5      A       push   bc
1873 618D 2E 04  A       ld     l,04h
1874 618F 0C      A       inc    c
1875 6190 28 10  A       jr     z,Rand3
1876 6192 CD 5F67 A       call  FMake
1877 6195 2E 05  A       ld     l,05h
1878 6197 3A E954 A       ld     a,(HLPARM)
1879 619A 3C      A       inc    a
1880 619B 28 05  A       jr     z,Rand3
1881 619D C1      ARand2:  pop    bc
1882 619E AF      A       xor   a
1883 619F C3 596E A       jp    ie301
1884
1885 61A2 E5      A;-----
1885 61A2 E5      ARand3:  push   hl
1886 61A3 CD 5B7C A       call  ie569
1887 61A6 36 C0  A       ld     (hl),0c0h ;fcb bei close nicht auf dsk.
1888 61A8 E1      A       pop    hl
1889 61A9 C1      ARand4:  pop    bc
1890 61AA 7D      A       ld     a,l
1891 61AB 32 E954 A       ld     (HLPARM),a
1892 61AE C3 5B8B A       jp    ie578 ;fcb ist aktuell auf dsk.
1893
1894
1895
1896 61B1 0E FF  Aieb93:  ld     c,0ffh
1897 61B3 CD 6128 A       call  Rand
1898 61B6 CC 5FFB A       call  z,ie9c1
1899 61B9 C9      A       ret

```

```

1901                A;; Random write
1902                A;
1903 61BA 0E 00      Aieb9c:      ld      c,0
1904 61BC CD 6128    A      call   Rand
1905 61BF CC 6039    A      call   z,iea03
1906 61C2 C9        A      ret
1907                A;-----
1908 61C3 EB        AGetSiz:    ex      de,hl
1909 61C4 19        A      add    hl,de
1910 61C5 4E        A      ld     c,(hl)
1911 61C6 06 00      A      ld     b,0
1912 61C8 21 000C    A      ld     hl,000ch
1913 61CB 19        A      add    hl,de
1914 61CC 7E        A      ld     a,(hl)
1915 61CD 0F        A      rrca
1916 61CE E6 80      A      and    80h
1917 61D0 81        A      add    a,c
1918 61D1 4F        A      ld     c,a
1919 61D2 3E 00      A      ld     a,0
1920 61D4 88        A      adc    a,b
1921 61D5 47        A      ld     b,a
1922 61D6 7E        A      ld     a,(hl)
1923 61D7 0F        A      rrca
1924 61D8 E6 0F      A      and    0fh
1925 61DA 80        A      add    a,b
1926 61DB 47        A      ld     b,a
1927 61DC 21 000E    A      ld     hl,000eh
1928 61DF 19        A      add    hl,de
1929 61E0 7E        A      ld     a,(hl)
1930 61E1 87        A      add    a,a
1931 61E2 87        A      add    a,a
1932 61E3 87        A      add    a,a
1933 61E4 87        A      add    a,a
1934 61E5 F5        A      push   af
1935 61E6 80        A      add    a,b
1936 61E7 47        A      ld     b,a
1937 61E8 F5        A      push   af
1938 61E9 E1        A      pop    hl
1939 61EA 7D        A      ld     a,l
1940 61EB E1        A      pop    hl
1941 61EC B5        A      or     l
1942 61ED E6 01      A      and    01h
1943 61EF C9        A      ret
1944                A;-----

```

```

1946 61F0 0E 0C      AFSize0:   ld      c,0ch
1947 61F2 CD 5D26      A      call   ie718
1948 61F5 2A E952      A      ld      hl,(DEPARM)
1949 61F8 11 0021      A      ld      de,0021h
1950 61FB 19          A      add     hl,de
1951 61FC E5          A      push   hl
1952 61FD 72          A      ld      (hl),d
1953 61FE 23          A      inc     hl
1954 61FF 72          A      ld      (hl),d
1955 6200 23          A      inc     hl
1956 6201 72          A      ld      (hl),d
1957 6202 CD 5C08      Aiebe4:   call   ie5f5
1958 6205 28 20      A      jr      z,iee0c
1959 6207 CD 5B71      A      call   ie55e
1960 620A 11 000F      A      ld      de,000fh
1961 620D CD 61C3      A      call   GetSiz
1962 6210 E1          A      pop     hl
1963 6211 E5          A      push   hl
1964 6212 5F          A      ld      e,a
1965 6213 79          A      ld      a,c
1966 6214 96          A      sub    (hl)
1967 6215 23          A      inc     hl
1968 6216 78          A      ld      a,b
1969 6217 9E          A      sbc    a,(hl)
1970 6218 23          A      inc     hl
1971 6219 7B          A      ld      a,e
1972 621A 9E          A      sbc    a,(hl)
1973 621B 38 05      A      jr      c,iee06
1974 621D 73          A      ld      (hl),e
1975 621E 2B          A      dec     hl
1976 621F 70          A      ld      (hl),b
1977 6220 2B          A      dec     hl
1978 6221 71          A      ld      (hl),c
1979 6222 CD 5D3B      Aiee06:   call   ie72d
1980 6225 18 DB      A      jr      iebe4
1981          A;-----
1982 6227 E1          Aiee0c:   pop     hl
1983 6228 C9          A      ret
1984          A;
1985          A;; Funktion 36 - Set random record
1986          A;
1987 6229 2A E952      ASETRAND:ld hl,(DEPARM)
1988 622C 11 0020      A      ld      de,0020h
1989 622F CD 61C3      A      call   GetSiz
1990 6232 21 0021      A      ld      hl,0021h
1991 6235 19          A      add     hl,de
1992 6236 71          A      ld      (hl),c
1993 6237 23          A      inc     hl
1994 6238 70          A      ld      (hl),b
1995 6239 23          A      inc     hl
1996 623A 77          A      ld      (hl),a
1997 623B C9          A      ret
1998          A;-----

```

```
2000 623C 2A E9DD Aie21: ld hl,(LOGVEKT)
2001 623F 3A E951 A ld a,(CURRD)
2002 6242 4F A ld c,a
2003 6243 CD 5B00 A call ie4ea
2004 6246 E5 A push hl
2005 6247 EB A ex de,hl
2006 6248 CD 5976 A call Prepar ; Zero = Fehler
2007 624B E1 A pop hl
2008 624C CC 57C6 A call z,ie347 ; Aufruf bei Fehler (BASIC: Rueckkehr aus BDOS
2009 A ; SCPX: Warmstart)
2010 624F 7D A ld a,l
2011 6250 1F A rra
2012 6251 D8 A ret c
2013 6252 2A E9DD A ld hl,(LOGVEKT)
2014 6255 4D A ld c,l
2015 6256 44 A ld b,h
2016 6257 CD 5B1E A call ie50b
2017 625A 22 E9DD A ld (LOGVEKT),hl
2018 625D C3 5CAD A jp Scan
2019 A;
2020 A;; Funktion 14 - Select disk
2021 A;
2022 6260 3E FF ASETDSK: ld a,0ffh ;***loeschen keller standlaufw.***
2023 6262 32 EA0F A ld (OLDDISK),a
2024 6265 3A EA06 Aie245: ld a,(ENTBYTE) ;auszuwaehlendes lw
2025 6268 21 E951 A ld hl,CURRD
2026 626B BE A cp (hl) ;gleich zuletzt ausgewaehltem?
2027 626C C8 A ret z ;ja, parameter nicht neu uebernehmen
2028 626D 77 A ld (hl),a
2029 626E 18 CC A jr iec21
2030 A;-----
2031 6270 3E FF Aie251: ld a,0ffh
2032 6272 32 EA0E A ld (IFDISK),a
2033 6275 2A E952 A ld hl,(DEPARM)
2034 6278 7E A ld a,(hl)
2035 6279 E6 1F A and 1fh ;'? ' zulassen auf lw-position!
2036 627B 3D A dec a
2037 627C FE 1E A cp 1eh
2038 627E DA 6293 A jp c,ncurd ;***nicht 00h oder 1fh
2039 6281 21 EA0F A ld hl,OLDDISK ;***setzen standard-laufwerk***
2040 6284 7E A ld a,(hl)
2041 6285 3C A inc a ;keller leer?
2042 6286 28 24 A jr z,iec75 ;ja
2043 6288 36 FF A ld (hl),0ffh ;anzeigen keller leer
2044 628A 3D A dec a ;standard laufwerk
2045 628B 32 EA06 A ld (ENTBYTE),a ;auf paramfeld fuer seldsk
2046 628E CD 6265 A call iec45 ;seldsk
2047 6291 18 19 A jr iec75
```

```
2049 6293          Ancurd:                ;***retten standardlaufwerk***
2050 6293 32 EA06  A    ld    (ENTBYTE),a    ;param fuer seldsk hinterl.
2051 6296 3A EA0F  A    ld    a,(OLDDISK)    ;keller curdsk
2052 6299 3C      A    inc    a                ;keller leer?
2053 629A 20 06    A    jr    nz,ncurd1     ;nein
2054 629C 3A E951  A    ld    a,(CURRD)     ;current disk
2055 629F 32 EA0F  A    ld    (OLDDISK),a    ;einkellern
2056 62A2 7E      Ancurd1:    ld    a,(hl)        ;fcb[0] merken
2057 62A3 32 EA10  A    ld    (FCB_0),a
2058 62A6 E6 E0      A    and    0e0h
2059 62A8 77      A    ld    (hl),a        ;und bit 4-0 loeschen
2060 62A9 CD 6265  A    call  iec45         ;seldsk
2061 62AC 3A E950  Aiec75:    ld    a,(USER)
2062 62AF 2A E952  A    ld    hl,(DEPARM)
2063 62B2 B6      A    or    (hl)
2064 62B3 77      A    ld    (hl),a
2065 62B4 C9      A    ret
2066          A;
2067          A;; Funktion 12 - Return version number
2068          A;
2069 62B5          Aiec7e:
2070 62B5 3E 22    AVERSNM:    ld    a,22h
2071 62B7 C3 596E  A    jp    ie301
```

```
2073      A;; Funktion 13 - Reset disk system
2074      A;
2075 62BA      ARESDSK:                                ;***loeschen keller standlaufw.***
2076 62BA 3E FF      A      ld      a,0ffh          ;anzeigen keller leer
2077 62BC 32 EA0F     A      ld      (OLDDISK),a
2078 62BF 21 0000     A      ld      hl,0
2079 62C2 22 E9DB     A      ld      (ROVEKT),hl          ;ruecksetzen login und r/o
2080 62C5 22 E9DD     A      ld      (LOGVEKT),hl
2081 62C8 21 EA1E     A      ld      hl,SYSDV
2082 62CB 7E         A      ld      a,(hl)          ;system-lw schon definiert?
2083 62CC FE FF      A      cp      0ffh
2084 62CE 20 14      A      jr      nz,resdk1          ;ja, auf dieses umschalten
2085      A;
2086 62D0 DB A8      A      IN      A,(PPIA)
2087 62D2 47         A      LD      B,A          ; Retten Speicherbelegung
2088 62D3 E6 FC      A      AND     0FCh
2089 62D5 F6 02      A      OR      2          ;page0/slot2 zuschalten
2090 62D7 D3 A8      A      OUT     (PPIA),A
2091 62D9 3A 0004     A      ld      a,(defaul)          ;sonst erstes default benutzen
2092 62DC E6 0F      A      and     0fh
2093 62DE 4F         A      LD      C,A          ; Retten akt. Laufwerk
2094 62DF 78         A      LD      A,B
2095 62E0 D3 A8      A      OUT     (PPIA),A          ; gerettete Speicherbelegung
2096 62E2 79         A      LD      A,C
2097 62E3 77         A      ld      (hl),a
2098      A;
2099 62E4 32 E951     Aresdk1:      ld      (CURRD),a          ;als current disk
2100 62E7 32 E955     A      ld      (HLPARM+1),a          ;und als h in BDOS-result
2101 62EA 2A E9E1     A      ld      hl,(STDDMA)          ;set dma auf standard
2102 62ED 22 E9DF     A      ld      (DMAADD),hl
2103 62F0 CD 5BEA     A      call   DMARet
2104 62F3 C3 623C     A      jp      iec21          ;disk parameter uebernehmen
2105      A;
2106      A;; Funktion 15 - Open file
2107      A;
2108 62F6 CD 5B85     AOPEN:      call   ie572          ;loeschen fcb[14] (write-flag)
2109 62F9 CD 6270     A      call   iec51          ;lw selektieren
2110 62FC C3 5E9C     A      jp      FOpen
```

```
2112                A;; Funktion 16 - Close file
2113                A;
2114 62FF CD 6270    ACLOSE:      call   iec51
2115 6302 C3 5EEE    A      jp      FClose
2116                A;
2117                A;; Funktion 17 - Search for first
2118                A;
2119 6305 0E 00      AFIRST:      ld      c,0
2120 6307 EB          A      ex     de,hl
2121 6308 7E          A      ld     a,(hl)
2122 6309 FE 3F      A      cp     '?'
2123 630B 28 0E      A      jr     z,iecc2
2124 630D CD 5ABD    A      call   ie4a6      ; <hl> := fcb[12] = ex
2125 6310 7E          A      ld     a,(hl)
2126 6311 FE 3F      A      cp     '?'
2127 6313 C4 5B85      A      call   nz,ie572    ;fcb[14]:=0
2128 6316 CD 6270    A      call   iec51
2129 6319 0E 0F      A      ld     c,0fh
2130 631B CD 5D26    Aiecc2:     call   ie718
2131 631E C3 5BF8      A      jp     ie5e9
2132                A;
2133                A;; Funktion 18 - Search for next
2134                A;
2135 6321 2A EA09      ANEXT:      ld     hl,(ENTFCB)
2136 6324 22 E952      A      ld     (DEPARM),hl
2137 6327 CD 6270      A      call   iec51
2138 632A CD 5D3B      A      call   ie72d
2139 632D C3 5BF8      A      jp     ie5e9
2140                A;
2141                A;; Funktion 19 - Delete file
2142                A;
2143 6330 CD 6270      ADELETE:   call   iec51
2144 6333 CD 5D9F      A      call   EraFil
2145 6336 C3 5D0F      A      jp     ie701
2146                A;
2147                A;; Funktion 20 - Read sequentiell
2148                A;
2149 6339 CD 6270      ASEQREAD:  call   iec51
2150 633C C3 5FF6      A      jp     SeqRd
2151                A;
2152                A;; Funktion 21 - Write sequentiell
2153                A;
2154 633F CD 6270      ASEQWRITE: call   iec51
2155 6342 C3 6034      A      jp     SeqWr
```



```
2157      A;; Funktion 22 - Make file
2158      A;
2159 6345 CD 5B85  AMAKEF:   call   ie572           ;fcb[14]:=0
2160 6348 CD 6270  A      call   iec51
2161 634B C3 5F67  A      jp     FMake
2162      A;
2163      A;; Funktion 23 - Rename file
2164      A;
2165 634E CD 6270  ARENAME: call   iec51
2166 6351 CD 5E16  A      call   FRen
2167 6354 C3 5D0F  A      jp     ie701
2168      A;
2169      A;; Funktion 24 - Return login vektor
2170      A;
2171 6357 2A E9DD  ALOGIN: ld     hl,(LOGVEKT)
2172 635A C3 638C  A      jp     ied29
2173      A;
2174      A;; Funktion 25 - Return current disk
2175      A;
2176 635D 3A EA0F  ACURRENT:ld  a,(OLDDISK) ;***holen standardlaufw.***
2177 6360 3C      A      inc   a           ;keller leer?
2178 6361 28 04  A      jr   z,cursff    ;ja
2179 6363 3D      A      dec   a
2180 6364 C3 596E  A      jp     ie301
2181 6367 3A E951  Acursff: ld     a,(CURRD)
2182 636A C3 596E  A      jp     ie301
2183      A;
2184      A;; Funktion 26 - Set DMA address
2185      A;
2186 636D EB      ASETDMA: ex   de,hl
2187 636E 22 E9DF  A      ld   (DMAADD),hl
2188 6371 C3 5BEA  A      jp     DMARet
2189      A;
2190      A;; Funktion 27 - Get address allocation vektor
2191      A;
2192 6374 2A E9EF  AGETALLOC: ld   hl,(ADALLOC)
2193 6377 C3 638C  A      jp     ied29
2194      A;
2195      A;; Funktion 29 - Get r/o vektor
2196      A;
2197 637A 2A E9DB  AGETPRO:  ld   hl,(ROVEKT)
2198 637D C3 638C  A      jp     ied29
2199      A;
2200      A;; Funktion 30 - Set file attributes
2201      A;
2202 6380 CD 6270  ASETATTR: call   iec51
2203 6383 CD 5E87  A      call   ie83b
2204 6386 C3 5D0F  A      jp     ie701
```

```
2206          A;; Funktion 31 - Get address disk parameter
2207          A;
2208 6389 2A E9EB  AGETDPB:   ld     hl,(ADDPB)
2209 638C 22 E954  Aied29:   ld     (HLPARM),hl
2210 638F C9          A     ret
2211          A;
2212          A;; Funktion 32 - Set/Get USER code
2213          A;
2214 6390 3A EA06  ASGUSER:  ld     a,(ENTBYTE)
2215 6393 FE FF      A     cp   0ffh
2216 6395 20 06    A     jr   nz,ied3b
2217 6397 3A E950  A     ld   a,(USER)
2218 639A C3 596E  A     jp   ie301
2219 639D E6 1F      Aied3b:  and   1fh
2220 639F 32 E950  A     ld   (USER),a
2221 63A2 C9          A     ret
2222          A;
2223          A;; Funktion 33 - Read random
2224          A;
2225 63A3 CD 6270  ARANDRD: call  iec51
2226 63A6 C3 61B1  A     jp   ieb93
2227          A;
2228          A;; Funktion 34 - Write random
2229          A;
2230 63A9 CD 6270  ARANDWR: call  iec51
2231 63AC C3 61BA  A     jp   ieb9c
2232          A;
2233          A;; Funktion 35 - Compute file size
2234          A;
2235 63AF CD 6270  AFSIZE:  call  iec51
2236 63B2 C3 61F0  A     jp   FSize0
2237          A;-----
2238          A;; selektives reset fuer lw'e entsprechend bitliste in de
2239          A;
2240 63B5 2A E952  ARESDRIV:ld hl,(DEPARM)
2241 63B8 E5          A     push hl
2242 63B9 CD 5B34  A     call ie521      ;ist aktuell selektiertes lw dabei?
2243 63BC 28 04    A     jr   z,selrs1   ;nein
2244 63BE 2F          A     cpl             ;auf fe
2245 63BF 32 E951  A     ld   (CURRD),a  ;aktuell selektiertes lw ungueltig
```

```

2247 63C2 E1      Ase1rs1:  pop    hl
2248 63C3 7D      A      ld    a,l
2249 63C4 2F      A      cpl
2250 63C5 5F      A      ld    e,a
2251 63C6 7C      A      ld    a,h
2252 63C7 2F      A      cpl
2253 63C8 2A E9DD    A      ld    hl,(LOGVEKT) ;login-vektor
2254 63CB A4      A      and   h
2255 63CC 57      A      ld    d,a
2256 63CD 7D      A      ld    a,l
2257 63CE A3      A      and   e
2258 63CF 5F      A      ld    e,a
2259 63D0 2A E9DB    A      ld    hl,(ROVEKT) ;r/o-vektor
2260 63D3 EB      A      ex    de,hl
2261 63D4 22 E9DD    A      ld    (LOGVEKT),hl ;ruecksetzen login-vektor
2262 63D7 7D      A      ld    a,l
2263 63D8 A3      A      and   e
2264 63D9 6F      A      ld    l,a
2265 63DA 7C      A      ld    a,h
2266 63DB A2      A      and   d
2267 63DC 67      A      ld    h,a
2268 63DD 22 E9DB    A      ld    (ROVEKT),hl ;ruecksetzen r/o
2269 63E0 C9      A      ret
2270
2271 63E1 CD 6270    AWRINIT:  call   iec51
2272 63E4 3E 02     A      ld    a,02h
2273 63E6 32 EA05   A      ld    (SRMODE),a
2274 63E9 0E 00     A      ld    c,0
2275 63EB CD 612C   A      call  Rand0
2276 63EE CC 6039   A      call  z,iea03
2277 63F1 C9      A      ret
2278
2279
18      0000      COND    $ GT DSE2
20
22      0000      RSOLO   EQU    0      ;RAM nicht allein
23      0001      DSE EQU    1
24      0001      DSE1RA EQU    1
25      0001      DSE2RA EQU    1
26      0000      DISKLU EQU    0      ;BICDITR nicht dabei
27      0000      SCP EQU    0
  
```

# DSE2 6400-77FF

Z80ASM SuperFast Relocating Macro Assembler  
DSE2 Z80

Z80ASM 1.30 Page 1

```

1          ;*****
2          ;
3          ;Rahmenfile 2 fuer Diskettensoftware in DSE
4          ;Stand: 28.03.89
5          ;File: DSE2.S
6          ;*****
7          ;
8          INCLUDEORG.Z80
9          A;*****
10         A;Symbol. Vereinbarung aller ORG's
11         A;Stand: 22.11.89
12         A;File: ORG.S
13         A;-----
14         2300 ABIC1 EQU    2300H ;R-BASIC (Busch)
15         A;
16         6420 ADSE2 EQU    6420H ;Floppy-Treiber (Ludewig,Loeber)
17         7880 ADSE3 EQU    7880H ;Bildteil SCP (Gaertner)
18         A      ;BIOS,Disk (Ludewig)
19         8000 ASCPROM EQU    08000H ;Erweiterung SCP-ROM
20         A;
21         E606 ABDOSCP EQU    0E606H ;Achtung: XX06H !!!
22         A      ;RAM fuer BDOS nur in SCP
23         A      ;RAM fuer SCP-ROM-Treiber
24         E880 ADSK1RA EQU    0E880H ;Disk-RAM 1 (Busch,Kersten)
25         EA27 ADSK2RA EQU    0EA27H ;Disk-RAM 2 (Ludewig,Loeber)
26         F235 ASYSRAM EQU    0F235H ;Grund-RAM
27         A;
28         BFF9 APLOT EQU    0C000H-7;Plotteranschluss
29         A;*****
30         ; INCLUDEBIC.MAC.S
31         .LIST
32         ;
33         6420 ORG DSE2
34         ;
35         INCLUDEBICDITR.Z80
36         A;*****
37         A;
38         A;Logischer Floppy-Treiber fuer BIC
39         A;Filename: BICDITR.S
40         A;Version Dr. Dames 1.2.88, Anpassung an phys. SCP1715-Schnittstelle
41         A;
42         A;STAND: 02.05.89 / Ludewig
43         A;*****
44         A;
45         A;Makro DFB im Modul BIC.MAC.S erforderlich !
46         A;
47         A GLOBAL SELDSK,HOME, SETTRK,SETSEC,BSETDMA
48         A GLOBAL SECTRAN,WRITE, READ, BFLINI
49         A GLOBAL MRECOA,MRECOL,DIORTY
50         A GLOBAL BV24W1,BIOSM0,BIO10
51         A;
52         A EXTERNAL RDRIPU,OUTASC
53         A;*****
54         A;
55         A;Vereinbarungen fuer Varianten
56         A;=====
57         0001 ADSKDS EQU 1 ;Unterstuetzung zweiseitiger LW
58         0001 ADSK80 EQU 1 ;Unterstuetzung 80-spuriger LW

```

```
24      0001    AENWRIT    EQU    1      ;Schreiben auf Disk unterstuetzt
25      000A    ADBUFSZ    EQU    10     ;Puffergroesse = 1024
26      0001    AAUTFER    EQU    1      ;Unterstuetzung autom. Formaterkennug
27      0001    AIBMFRM    EQU    AUTFER ;Unterstuetzung IBM-Format von SIOS
28      0001    AERRVAR    EQU    1      ;mit BIOS-Fehlermeldg bei Floppy-Fehler
29      A;*****
30      0156    ALORIPU    EQU    156H   ;Loe. Ringpuffer
31      0174    AKOMSCR    EQU    174H   ;Kommando-SCREEN
32      A;
33      00A8    APPIA EQU    0A8H   ;Bankumschaltung
34      A;*****
```

```

36 6420      ALFPANF:
37           A;   Diskettentreiber; Umkleidung des phys. Transfers
38           A;   Version Dr. Dames 01.02.88
39           A; Aenderungen
40           A; - Anpassung an SCP1715-Schnittstelle fuer phys. Floppymodul
41           A; - Abbildung mehrerer log. LW auf gleiches phys. LW unterstuetzt
42           A;
43           A;*****
44           A;
45           A; Laufwerksauswahl
46           A;=====
47           A; i C: Laufw. (0=A:, 1=B: ...)
48           A; i E: Bit 0 ist LOGIN-Bit von BDOS (=0, wenn LOGIN)
49           A;
50 6420 CD 6948 ASELDSK:   CALL   DGETPB           ;HL auf DPH stellen, IX auf DPB
51 6423 C8      A   RET     Z             ;Geraet ex. nicht
52 6424 79      A   LD     A,C
53 6425 32 EA78 A   LD     (DUDEV),A           ;Laufwerk merken
54 6428 CB 43   A   BIT     0,E           ;LOGIN von BDOS?
55 642A C0      A   RET     NZ          ; nein-->
56           A;=====
57 642B DD CB 0F 7EA BIT   DPBFND,(IX+DPBFLG) ;Diskette?
58 642F C0      A   RET     NZ          ; nein:fertig
59           A;-----
60 6430 E5      A   PUSH  HL             ;^DPH merken
61           FFFF A   COND  DBUF SZ GT 7
62 6431 21 EA6F A   LD     HL,DBDEV
63 6434 BE      A   CP     (HL)         ;LOGIN fuer gepuffertes Device?
64 6435 20 07   A   JR     NZ,DSELNB      ; nein-->
65           A;-----
66 6437 36 FF   A   LD     (HL),0FFH      ;Puffer ist ungueltig
67 6439 21 EA6E A   LD     HL,DBFLG
68 643C CB 96   A   RES   DBFWR,(HL)         ;kein veraend. Puffer auszug.!
69 643E         ADSELNB:   ENDC
70           A;=====
71           0001 A   COND  AUTFER
72           A;+++++++Automatische Format-Erkennung+++++++
73           A; Reg. C zeigt auf Laufwerk
74 643E DD CB 0F 76A BIT   DPBFRM,(IX+DPBFLG) ;Formaterkennung unterdr.?
75 6442 C2 65D1 A   JP     NZ,SELEXT           ; ja-->
76           A   ENDC
77           A;-----
78           0001 A   COND  (DBUF SZ GT 7) AND AUTFER
79 6445 CD 67AD A   CALL  DBTRW             ;Puffer freigeben und auf Lesen schalten ## (0) ##
80 6448 21 EA84 A   LD     HL,DBNB
81 644B 36 FF   A   LD     (HL),0FFH      ;Puffernummer ist ungueltig, obwohl evtl.
82           A   ;alle anderen Pufferparameter stimmen
83           A   ;(da nur 128 Bytes vom Puffer belegt sind)
84           A   ENDC
85           A;-----
86           0001 A   COND  AUTFER
87 644D 79      A   LD     A,C
88 644E 32 EA66 A   LD     (DFRDEV),A
89 6451 32 EA6F A   LD     (DBDEV),A
90           A;-----
91 6454 AF      A   XOR     A
92 6455 DD 77 0F A   LD     (IX+DPBFLG),A ;ruecksetzen alle Flags
93 6458 DD 77 13 A   LD     (IX+DPBSN0),A ;keine Weiter-Numm. auf Ruecks.

```

```

94 645B DD 77 0D A LD (IX+DPBOFS),A ;keine Systemspuren
95 645E 32 EA67 A LD (DFRTRK),A ;Spur 0
96 6461 32 EA70 A LD (DBTRK),A
97 A; -----
98 6464 3C A INC A
99 6465 32 EA72 A LD (DBSEC),A ;Sektor 1
100 6468 32 EA74 A LD (DBSNB),A ;1 phys. Sektor lesen
101 A; -----
102 646B DD E5 A PUSH IX ;Stellen Sektor-Translate-Tabelle 1,2,3,...
103 646D 06 1A A LD B,26 ;max. Laenge der Tabelle
104 646F DD 77 21 ASELSTZ: LD (IX+DPBSTR),A
105 6472 DD 23 A INC IX
106 6474 3C A INC A
107 6475 10 F8 A DJNZ SELSTZ
108 6477 DD E1 A POP IX
109 A;=====
110 A; Positionieren auf Spur 0 und analysieren Systemspuren
111 A;
112 6479 CD 67C5 A CALL DSIDTR ;beliebigen Sekt.Id lesen ## 1 ##
113 647C 20 3E A JR NZ,SELSYS ;Fehler beim Lesen-->Systemsp. annehmen
114 A ;(z.B. SCP1700 mit 5"FM in Spur 0!!)
115 647E 7C A LD A,H
116 647F 32 EA73 A LD (DBSLC),A ;setzen Spurformat fuer Sp. 0
117 A ENDC
118 A; -----
119 0000 A COND (DBUFSZ LT 8) AND AUTFER
122 A ENDC
123 A; -----
124 0001 A COND AUTFER
125 6482 21 EA6E A LD HL,DBFLG
126 6485 46 A LD B,(HL) ;merken Fehlerprotokoll-Bit
127 6486 CB E6 A SET DBFTR,(HL) ;kein Fehlerprotokoll
128 6488 E5 A PUSH HL
129 6489 CD 67B3 A CALL DBTRAN ;Lesen Spur 0, Sektor 1 ## 2
##
130 648C E1 A POP HL
131 648D 70 A LD (HL),B ;setzen Standard fuer Fehlerprotokoll-Bit
132 648E 20 2C A JR NZ,SELSYS ;Fehler, Systemspuren annehmen
133 A; -----
134 6490 FD E5 A PUSH IY
135 6492 FD 2A EA75 A LD IY,(DBDMA)
136 6496 FD 7E 00 A LD A,(IY+0) ;Format-Loeschbyte
137 6499 FE E5 A CP 0E5H ;leere Diskette/geloeschter Eintrag?
138 649B 20 0A A JR NZ,SELSY2 ; nein (weder/noch)-->
139 A; -----
140 649D FD BE 01 A CP (IY+1) ;auch danach 0e5h?
141 64A0 20 15 A JR NZ,SELSY0 ; nein:geloeschter Dir-Eintrag
142 A; -----
143 64A2 DD 35 0D A DEC (IX+DPBOFS) ;Flag: leere Disk oder leere Systemsp.
144 64A5 18 10 A JR SELSY0 ; dpbofs auf 254
145 A; -----
146 64A7 ASELSY2: ENDC
147 0001 A COND IBMFRM AND AUTFER
148 64A7 FE 40 A CP 40H ;IBM-Format (SIOS-Daten-Diskette)?
149 64A9 28 0F A JR Z,SELSY1 ; ja:0 Systemspuren annehmen
150 A ENDC
151 A; -----
152 0001 A COND AUTFER
153 64AB FE 20 A CP 20H ;<=31 ? ("S"YL ist groesser!)

```

```

154 64AD 30 0B      A   JR      NC,SELSY1      ; nein:kann kein Directory sein; 0 Systemsp.
155                A                ; (Systemlader fuer PC1715 beginnt mit 02 oder 03)
156                A; -----
157 64AF  FD 7E 20  A   LD      A,(IY+20H)      ;bei SCP1715-Systemdiskette dort 00h
158                A                ;bei MicroDos dort 10h
159 64B2  FD B6 21  A   OR      (IY+21H)      ;bei SCP1715-Systemdiskette dort 00h
160                A                ;bei CP/A dort Dir-Eintrag (E5 oder Filename)
161 64B5  28 03      A   JR      Z,SELSY1      ;beides 00h, kein Directory; 0 Systemsp.
162                A; -----
163 64B7  DD 35 0D  A   ASELSY0:  DEC      (IX+DPBOFS) ;=255, wenn Directory/ =254 wenn vorn leer
164                A; ----- =0, wenn Systemspuren
165 64BA  FD E1      A   ASELSY1:  POP      IY
166 64BC                A   ASELSSYS:
167                A;=====
168                A; Analysieren Datenspur
169                A; SS/DS-Analyse
170                A;
171 64BC  DD 36 12 02A A   LD      (IX+DPBSTP),2 ;Doppel-Step-Impulse
172                A; -----
173 64C0  3E 03      A   LD      A,DLGINT      ;auf LOGIN-Spur (Behandlung einseitig: Spur 3)
174 64C2  CD 67C2   A   CALL   DSIDTT      ; belieb. SektId Vorderseite lesen      ## 3 ##
175 64C5  20 2B      A   JR      NZ,SELDLE     ;Fehler-->unsicheres Format
176 64C7  54        A   LD      D,H          ;d:=Sektorlcode, e:=Spur
177                A   ENDC
178                0001  A   COND   DSKDS AND AUTFER
179 64C8  DD CB 16 46A BIT   DPBTDS,(IX+DPBDRT) ;ist es ein DS-Laufwerk?
180 64CC  28 14      A   JR      Z,SELSS      ; nein:SS
181                A; -----
182 64CE  D5        A   PUSH   DE          ;merken Sektorlaengencode und Spur
183 64CF  DD CB 0F EEA SET   DPBFDS,(IX+DPBFLG) ; (Behandlung zweiseitig: Spur 7)
184 64D3  3E 07      A   LD      A,1+(DLGINT*2);Rueckseite der Spur,
185                A                ; ab der Format bei SS konstant
186 64D5  CD 67C2   A   CALL   DSIDTT      ;beliebigen Sekt.Id Ruecks. lesen      ## 4 ##
187 64D8  7A        A   LD      A,D          ;merken side Ruecks. -----> Auswertung
????
188 64D9  6B        A   LD      L,E          ;h:=Sektorlcode, l:=Spur Rueckseite
189 64DA  D1        A   POP      DE          ;wiederherstellen Vorderseite
190 64DB  20 05      A   JR      NZ,SELSS     ;Fehler beim Lesen:SS
191                A; -----
192 64DD  B7        A   OR      A
193 64DE  ED 52      A   SBC   HL,DE        ;Vorder- gleich Rueckseite?
194 64E0  28 04      A   JR      Z,SEL48
195                A; -----
196 64E2  DD CB 0F AEASELSS:  RES   DPBFDS,(IX+DPBFLG) ; nein:einseitig
197                A   ENDC
198                A;=====
199                0001  A   COND   AUTFER
200                A; 40/80 Track Analyse
201                A;
202 64E6  7B        A   ASEL48:  LD      A,E          ;trk
203 64E7  D6 03      A   SUB   DLGINT      ;waren 2 Steps richtig?
204 64E9  28 12      A   JR      Z,SELDL1     ; ja-->
205 64EB  DD 35 12  A   DEC   (IX+DPBSTP)   ;Einzelstep-Impulse
206 64EE  D6 03      A   SUB   DLGINT      ;waere 1 Step richtig?
207 64F0  28 0B      A   JR      Z,SELDL1     ; ja-->
208                A                ; nein:unsicher
209                A;=====
210                A; Fehlerausgang automat. Formaterkennung
211                A;

```



```

212 64F2 DD 36 10 FFASELDLE: LD (IX+DPBSLC),0FFH;provozieren 'BAD SECTOR'
213 64F6 21 0000 A LD HL,0 ;erzeugen 'SELECT' Error
214 64F9 E3 A EX (SP),HL ;^DPH=0 (im Stack)
215 64FA C3 6604 A JP SELEX5
216 A;=====
217 A; DS/SS und 40/80 ist unterschieden, es fehlt Sektorlaenge
218 A;
219 64FD 7A ASELDL1: LD A,D
220 64FE DD 77 10 A LD (IX+DPBSLC),A ;definieren Sektorlaengencode
221 A ENDC
222 A; -----
223 0000 A COND (DBUFSZ LT 8) AND AUTFER
226 A ENDC
227 A; -----
228 A;Test, ob Disk-Puffer ausreicht
229 0000 A COND ((DBUFSZ LT 10) AND ( NOT (DBUFSZ LT 8))) AND AUTFER
232 A ENDC
233 A; -----
234 0001 A COND ( NOT (DBUFSZ LT 8)) AND AUTFER
235 6501 B7 A OR A ;Sektorlaenge 128?
236 6502 20 0F A JR NZ,SELDXL ;nein, normale Sektorfolge
237 A ENDC
238 A; -----
239 0001 A COND AUTFER
240 A; Stellen Sektor-Translate-Tabelle 1,7,13,..
241 6504 DD E5 A PUSH IX
242 6506 E1 A POP HL
243 6507 01 0021 A LD BC,DPBSTR
244 650A 09 A ADD HL,BC
245 650B EB A EX DE,HL
246 650C 21 69C4 A LD HL,XLT
247 650F 0E 1A A LD C,26
248 6511 ED B0 A LDIR
249 A; -----
250 6513 ASELDXL:
251 6513 CD 6934 A CALL DTRSLA ;stellen hl entspr. Sektorlaenge
252 6516 20 DA A JR NZ,SELDLE ; unzuessaessig-->
253 A; -----
254 6518 01 0005 A LD BC,DSLL ;Laenge eines Eintrags
255 651B DD CB 12 4EA BIT 1,(IX+DPBSTP) ;40 Tr. auf 80er LW?
256 651F 20 08 A JR NZ,SELD40 ; ja-->
257 A; -----
258 6521 DD 7E 20 A LD A,(IX+DPBPTR) ;40er LW?
259 6524 FE 29 A CP 40+1
260 6526 38 01 A JR C,SELD40 ; ja:40 Tr. auf 40er LW-->
261 A; -----
262 6528 09 A ADD HL,BC ;auf 80er Format stellen
263 6529 DD CB 0F 6EASELD40: BIT DPBFDS,(IX+DPBFLG) ;DS?
264 652D 28 02 A JR Z,SELDSS ; nein-->
265 A; -----
266 652F 09 A ADD HL,BC ;auf DS Format
267 6530 09 A ADD HL,BC
268 6531 ASELDSS:
269 A;=====
270 A; DPB modifizieren entsprechend erkanntem Format
271 A;
272 6531 4E A LD C,(HL) ;Zahl der benutzten Spuren
273 6532 DD 71 14 A LD (IX+DPBTRK),C
    
```

```
274 6535 23      A   INC   HL
275 6536 4E      A   LD    C,(HL)      ;Anzahl 128er Sektoren pro Spur
276 6537 DD 71 00 A   LD    (IX+DPBSPT),C
277 653A 23      A   INC   HL
278 653B 4E      A   LD    C,(HL)      ;Anzahl der Dir-Eintraege -1
279                A;-----
280 653C 23      A   INC   HL
281 653D 7E      A   LD    A,(HL)      ;Anzahl der Systemspuren
282 653E CB 3F    A   SRL   A          ;feste Anzahl erzwungen?
283 6540 38 0C    A   JR    C,SELDOF   ; ja-->
284                A;-----
285 6542 DD CB 0D 7EA BIT   7,(IX+DPBOFS) ;kann Spur 0 Directory sein?
286 6546 28 06    A   JR    Z,SELDOF   ; nein:Standardanzahl setzen
287                A;-----
288 6548 DD 34 0D A   INC   (IX+DPBOFS) ;evtl. leere Systemspur?
289 654B 20 01    A   JR    NZ,SELDOF  ; ja: Vorzugsweise 190K, 380K, 390K, 780K
290                A;-----
291                A;
292                A; LD    B,A          ;retten Anzahl Systemspuren
293                A; LD    (DBTRK),A    ;einlesen evtl. moeglicher Datenbeginn
294                A; PUSH  HL
295                A; CALL  DBTRAN      ;dauert bei falscher Spur etwas laenger   ## (5) ##
296                A; POP   HL
297                A; LD    A,B
298                A; JR    NZ,SELDOF  ;Fehler, mit Systemspuren annehmen
299                A;-----
300                A; LD    DE,(DBDMA)
301                A; INC   DE          ;!!!! Korr., wenn 1.Datei geloescht !!!!
302                A; LD    A,(DE)
303                A; CP    0E5H        ;Daten auch leer?
304                A; LD    A,B
305                A; JR    NZ,SELDOF  ; nein:vorn liegen nichtbelegte Systemspuren
306                A;
307                A;-----
308 654D AF      ASELDO0: XOR   A          ;sonst ohne Systemspuren
309                A;-----
310 654E DD 77 0D ASELDOF: LD    (IX+DPBOFS),A
311                A;-----
312 6551 B7      A   OR    A          ;0 Systemspuren?
313 6552 28 07    A   JR    Z,SELDDR   ; ja-->
314                A;-----
315 6554 79      A   LD    A,C          ;Anzahl Dir-Eintraege<192 ?
316 6555 FE BF    A   CP    192-1
317 6557 38 02    A   JR    C,SELDDR   ; ja-->
318                A;-----
319 6559 0E 7F    A   LD    C,128-1    ; nein(780k): 128 Dir-Eintraege
320                A;-----
321 655B DD 71 07 ASELDDR: LD    (IX+DPBDIR),C
322                A;-----
323 655E 23      A   INC   HL
324 655F 4E      A   LD    C,(HL)      ;Abstand der Blockgroessentab.
325 6560 06 00    A   LD    B,0
326 6562 09      A   ADD   HL,BC       ;HL=Zeiger auf Blockgroessentabelle
327                A;-----
328 6563 4E      A   LD    C,(HL)
329 6564 DD 71 02 A   LD    (IX+DPBBL),C
330 6567 23      A   INC   HL
331 6568 4E      A   LD    C,(HL)
```

```

332 6569 DD 71 03 A LD (IX+DPBBLM),C
333 656C 23 A INC HL
334 656D 4E A LD C,(HL)
335 656E DD 71 04 A LD (IX+DPBEXM),C
336 A;=====
337 A; Bestimmen Zahl der abweichenden 128er-Spuren (ab Spur 0)
338 A;
339 6571 AF A XOR A
340 6572 32 EA67 A LD (DFRTRK),A ;ab Spur 0
341 A ;(gleichz. Spurrkorr. bei falschen Doppelstepimpulsen)
342 A; -----
343 6575 CD 67C5 ASF128Z: CALL DSIDTR ;beliebigen SektId lesen ## 6-
##
344 6578 20 18 A JR NZ,SF128E ; Fehler-->
345 A; -----
346 657A 7C A LD A,H ;Sektorlaenge
347 657B DD BE 10 A CP (IX+DPBSLC) ; gleich Disketten-Rest?
348 657E 28 12 A JR Z,SF128E ; ja-->WEITER
349 A; -----
350 6580 DD 7E 0F A LD A,(IX+DPBFLG)
351 6583 E6 03 A AND DPBFSM ;bisherige Anzahl abweichender Spuren
352 6585 FE 03 A CP DPBFSM ;Zaehler voll?
353 6587 28 09 A JR Z,SF128E ; ja-->
354 A; -----
355 6589 DD 34 0F A INC (IX+DPBFLG) ;erhoehen abweich. Spurzahl
356 658C 21 EA67 A LD HL,DFRTRK ;naechste (logische!) Spur
357 658F 34 A INC (HL)
358 6590 18 E3 A JR SF128Z
359 A;-----
360 6592 ASF128E: ENDC
361 A;=====
362 0001 A COND (DBUFSZ GT 7) AND AUTFER
363 A; Setzen Anzahl der logischen 128er Rekords im Puffer -1
364 A; Es wird immer das Maximum gesetzt, dies setzt eine dichte
365 A; Sektorfolge beim Transfer voraus! (so in dpbstr)
366 A;
367 6592 DD 36 11 07A A LD (IX+DPBBFM),(1 SHL (DBUFSZ-7))-1
368 A ENDC
369 A;-----
370 0001 A COND AUTFER
371 A; Berechnen Speicherkapazitaet-1 in BDOS-Bloecken aus
372 A; ((Tracks-dpbofs)*dpbspt/(2**dpbbls))-1
373 A;
374 6596 DD 6E 14 A LD L,(IX+DPBTRK)
375 6599 AF A XOR A
376 659A 67 A LD H,A ;hl:=log. Spurzahl
377 659B DD 5E 0D A LD E,(IX+DPBOFS)
378 659E 57 A LD D,A ;de:=log. offset-Spurzahl
379 659F ED 52 A SBC HL,DE
380 65A1 EB A EX DE,HL ;de:=log. Daten-Spurzahl
381 65A2 6F A LD L,A ;hl:=0
382 65A3 DD 46 00 A LD B,(IX+DPBSPT)
383 65A6 19 ADSIZMZ: ADD HL,DE
384 65A7 10 FD A DJNZ DSIZMZ ;hl:=(tracks-dpbofs)*dpbspt
385 65A9 DD 46 02 ADSIZME: LD B,(IX+DPBBLs)
386 65AC CB 3C ADSIZDZ: SRL H
387 65AE CB 1D A RR L
388 65B0 10 FA A DJNZ DSIZDZ ;hl:=hl/2**dpbbls
389 65B2 2B A DEC HL ;hl:=hl-1

```

```
390 65B3 DD 75 05 A LD (IX+DPBSIZ),L
391 65B6 DD 74 06 A LD (IX+DPBSIZ+1),H
392 A; -----
393 65B9 DD 7E 07 A LD A,(IX+DPBDIR) ;Dir-Groesse
394 65BC 3C A INC A
395 65BD 0F A RRCA
396 65BE 0F A RRCA ; div 4( da 4 Dir-Eintr./Sekt.)
397 65BF DD 77 0B A LD (IX+DPBCHK),A ; ist Sektorzahl = Check size
398 A; -----
399 65C2 DD 46 02 A LD B,(IX+DPBBL5) ;block shift
400 65C5 0F ASELDLA: RRCA ;BDOS-Blocke fuer Dir.
401 65C6 10 FD A DJNZ SELDLA
402 65C8 47 A LD B,A
403 65C9 AF A XOR A
404 65CA 37 ASELDAL: SCF ;Allocation-Bits fuer Dir.
405 65CB 1F A RRA
406 65CC 10 FC A DJNZ SELDAL
407 65CE DD 77 09 A LD (IX+DPBALC),A
408 A;+++++++Ende automatische Formaterkennung+++++++
409 A ENDC
410 A;=====
411 65D1 ASELEXT:
412 A; Anzeigen Diskformat als Speicherkapazitaet in kBytes
413 65D1 3A EA78 A LD A,(DUDEV)
414 65D4 C6 41 A ADD A,'A'
415 65D6 01 EAB7 A LD BC,DISKA5
416 65D9 02 A LD (BC),A ;LW
417 65DA 03 A INC BC
418 65DB 03 A INC BC
419 A; -----
420 A; (dpbsiz+1)*(2**(dpbbls-3))
421 65DC DD 6E 05 A LD L,(IX+DPBSIZ)
422 65DF DD 66 06 A LD H,(IX+DPBSIZ+1)
423 65E2 23 A INC HL
424 65E3 DD 7E 02 A LD A,(IX+DPBBL5)
425 65E6 D6 03 A SUB 3
426 65E8 28 04 A JR Z,SELEX1
427 65EA 29 ASELEX2: ADD HL,HL
428 65EB 3D A DEC A
429 65EC 20 FC A JR NZ,SELEX2
430 A; -----
431 65EE 11 0064 ASELEX1: LD DE,100 ;immer dreistellig
432 65F1 CD 6606 A CALL DEZWA
433 65F4 11 000A A LD DE,10
434 65F7 CD 6606 A CALL DEZWA
435 65FA 7D A LD A,L
436 65FB F6 30 A OR '0'
437 65FD 02 A LD (BC),A
438 A; -----
439 65FE 21 EAB2 A LD HL,DISKAP ;fuer RBASIC
440 6601 CD FE34 A CALL XSELE
441 A;=====
442 6604 E1 ASELEX5 POP HL ;hl auf DPH
443 6605 C9 A RET ;Return Seldsk
444 A;=====
445 6606 AF ADEZWA XOR A
446 6607 A7 ADEZW1 AND A
447 6608 ED 52 A SBC HL,DE
```

```
448 660A 38 03      A   JR      C,DEZW2
449 660C 3C          A   INC     A
450 660D 18 F8      A   JR      DEZW1
451                A; -----
452 660F 19          ADEZW2      ADD     HL,DE
453 6610 C6 30      A   ADD     A,'0'
454 6612 02          A   LD      (BC),A
455 6613 03          A   INC     BC
456 6614 C9          A   RET
457                A;*****
458                A;
459                A; auf Spur 0 zurueck (vor jedem Dir-Zugriff)
460                A;=====
461                FFFF      AHOME:      COND   DBUFSZ GT 7
462 6615 21 EA6E    A   LD      HL,DBFLG
463 6618 CB 56      A   BIT     DBFWR,(HL) ;veraenderter Puffer?
464 661A 20 05      A   JR      NZ,HOM10 ;ja, nicht freigeben
465                A; -----
466 661C 3E FF      A   LD      A,0FFH ;sonst Diskwechsel erlauben
467 661E 32 EA6F    A   LD      (DBDEV),A ;Puffer ist nicht aktiv
468                A   ENDC
469                A; -----
470 6621 0E 00      AHOM10:     LD      C,0
471                A;*****
472                A;
473                A; Einstellen Spur in Reg. BC
474                A;=====
475 6623 79          ASETTRK     LD      A,C
476 6624 32 EA79    A   LD      (DUTRK),A ;Spur merken
477 6627 C9          A   RET
478                A;*****
479                A;
480                A; Einstellen Sektor in Reg. C
481                A;=====
482 6628 79          ASETSEC:    LD      A,C
483 6629 32 EA7B    A   LD      (DUSEC),A
484 662C C9          A   RET
485                A;*****
486                A;
487                A; Einstellen DMA in Reg. BC
488                A;=====
489 662D ED 43 EA7E  ABSETDMA    LD      (DUDMA),BC
490 6631 C9          A   RET
491                A;*****
492                A;
493                A; Uebersetzung Sektornummer
494                A;=====
495                A; Translate-Tab-Adr. in DE, Eingangs-Sektornummer in BC,
496                A;                               Ausgangs-Sektornummer in HL
497                A; Es wird keine Translate-Tabelle benutzt, da die Sektor-
498                A; nummernverwaltung verallgemeinert im nicht-Standard-DPB
499                A; enthalten ist (auch fuer physische Sektorlaenge <>128)
500                A;
501 6632 60          ASETTRAN:LD H,B
502 6633 69          A   LD      L,C
503 6634 23          A   INC     HL ;Sektoren zaehlen in CP/A ab 1
504 6635 C9          A   RET
505                A;*****
```

```
506          A;
507          A; Schreiben Sektor
508          A;=====
509          A; Register C (vom BDOS gestellt):
510          A;   =0, wenn normales write
511          A;   =1, wenn directory-write (sofort ausgeben)
512          A;   =2, wenn Beginn eines neuen Datenblocks (kein preread)
513          A;
514          0001 A   COND   ENWRIT
515 6636 59      AWRITE:  LD     E,C           ;retten Reg. C
516 6637 3A EA78 A   LD     A,(DUDEV)
517 663A 4F      A   LD     C,A
518 663B CD 6948 A   CALL  DGETPB           ;ix:=dpb(ddrive)
519 663E 28 5E   A   JR     Z,DRWERR       ;Geraet ex. nicht
520          A   ENDC
521          A;-----
522          0001 A   COND   ENWRIT
523 6640 DD CB 0F 7EA BIT   DPBFND,(IX+DPBFLG) ;Diskette?
524 6644 C2 FE24 A   JP     NZ,XWRRAF       ; nein
525          A;-----
526 6647 21 EA77 A   LD     HL,DUFLG
527 664A CB D6   A   SET   DUFWR,(HL)   ;Write-Flag setzen
528          A   ENDC
529          A;-----
530          0001 A   COND   (DBUFSZ GT 7) AND ENWRIT ;gepufferte Disk E/A
531 664C 21 EA6E A   LD     HL,DBFLG
532 664F CB C6   A   SET   DBF00,(HL)   ;Annahme preread notwendig
533          A;-----
534 6651 7B      A   LD     A,E           ;A:= Write-Typ
535 6652 32 EA85 A   LD     (DWRTYP),A     ;merken Write-Typ
536 6655 FE 02   A   CP     2           ;write to unallocated?
537 6657 20 17   A   JR     NZ,CHKUNA    ; nein-->
538          A;-----
539 6659 DD 7E 03 A   LD     A,(IX+DPBBLM) ;Zahl der 128-Sekt. im Block -1
540 665C 3C      A   INC    A
541 665D 32 EA80 A   LD     (UNACNT),A     ;fuer diese Sekt. kein preread
542 6660 21 EA81 A   LD     HL,UNADEV
543 6663 71      A   LD     (HL),C
544 6664 3A EA79 A   LD     A,(DUTRK)
545 6667 32 EA82 A   LD     (UNATRK),A
546 666A 3A EA7B A   LD     A,(DUSEC)
547 666D 32 EA83 A   LD     (UNASEC),A
548          A;-----
549 6670 21 EA80 ACHKUNA: LD     HL,UNACNT
550 6673 7E      A   LD     A,(HL)
551 6674 B7      A   OR     A           ;noch nicht geschr. Sekt. da?
552 6675 28 49   A   JR     Z,ALLOC       ; nein-->
553          A;-----
554 6677 3D      A   DEC    A           ;sonst Restzahl -1
555 6678 77      A   LD     (HL),A
556 6679 23      A   INC    HL
557 667A 79      A   LD     A,C
558 667B BE      A   CP     (HL)       ;gleiches Geraet?
559 667C 20 42   A   JR     NZ,ALLOC       ; nein
560          A;-----
561 667E 23      A   INC    HL
562 667F 3A EA79 A   LD     A,(DUTRK)
563 6682 BE      A   CP     (HL)       ;gleiche Spur?
```

```

564 6683 20 3B      A   JR      NZ,ALLOC      ; nein
565                A; -----
566 6685 23        A   INC     HL
567 6686 3A EA7B   A   LD      A,(DUSEC)
568 6689 BE        A   CP      (HL)      ;gleicher Sektor?
569 668A 20 34    A   JR      NZ,ALLOC      ; nein
570                A; -----
571                A; Vorbereiten naechsten unalloc write-Aufruf
572 668C DD BE 00  A   CP      (IX+DPBSPT)  ;neue Spur?
573 668F 38 04    A   JR      C,UNATR1     ; nein
574                A; -----
575 6691 2B        A   DEC     HL
576 6692 34        A   INC     (HL)      ;unatrk +1
577 6693 23        A   INC     HL
578 6694 AF        A   XOR     A      ;Sektor auf Spuranfang
579                A; -----
580 6695 3C        AUNATR1: INC     A      ;naechster Sektor
581 6696 77        A   LD      (HL),A
582                A; -----
583 6697 21 EA6E   A   LD      HL,DBFLG
584 669A CB 86    A   RES     DBF00,(HL)  ;anzeigen kein preread notw.
585                A   ENDC
586                A   COND  ENWRIT
587 669C 18 26    A   JR      DRW
588                A   ENDC
589                A;*****
590                A;
591                A; Abbruch read/write mit E/A-Fehler
592                A;=====
593 669E 3E 01    ADRWERR: LD      A,1
594 66A0 C9        A   RET
595                A;*****
596                A;
597                A; Lesen Sektor
598                A;=====
599                A;
600 66A1 3A EA78   AREAD:   LD      A,(DUDEV)
601 66A4 4F        A   LD      C,A
602 66A5 CD 6948  A   CALL  DGETPB      ;ix:=dpb(ddrive)
603 66A8 28 F4    A   JR      Z,DRWERR   ;Geraet ex. nicht
604                A; -----
605 66AA DD CB 0F 7EA BIT  DPBFND,(IX+DPBFLG) ;Diskette?
606 66AE C2 FE29  A   JP      NZ,XRDRAF  ;nein
607                A; -----
608 66B1 21 EA77   A   LD      HL,DUFLG
609 66B4 CB 96    A   RES     DUFWR,(HL) ;Lesen anzeigen
610                A; -----
611                A   COND  DBUFSZ GT 7
612 66B6 21 EA6E   A   LD      HL,DBFLG
613 66B9 CB C6    A   SET     DBF00,(HL) ;preread notwendig
614 66BB 3E 02    A   LD      A,2
615 66BD 32 EA85   A   LD      (DWRTYP),A
616                A   ENDC
617                A;=====
618 66C0                AALLOC:
619                A   COND  (DBUFSZ GT 7) AND ENWRIT
620 66C0 AF        A   XOR     A
621 66C1 32 EA80   A   LD      (UNACNT),A ;Ende unalloc

```

```

622          A      ENDC
623          A;*****
624          A;
625          A; gemeinsamer Zweig read/write Floppy
626          A;=====
627          A;
628 66C4 3A EA7B  ADRW: LD      A,(DUSEC)      ;Sektornummer in 1..dpbspt
629 66C7 3D          A      DEC      A      ; ab 0 zaehlen
630 66C8 FA 669E  A      JP      M,DRWERR      ; <0:Fehler
631          A; -----
632 66CB DD BE 00  A      CP      (IX+DPBSPT)  ;Sektornr<dpbspt?
633 66CE 30 CE    A      JR      NC,DRWERR      ; nein:Fehler
634          A; -----
635          FFFF  A      COND   DBUFSZ GT 7
636 66D0 47          A      LD      B,A      ;retten dsectr-1
637          A      ENDC
638          A; -----
639 66D1 DD 7E 0F  A      LD      A,(IX+DPBFLG)
640 66D4 E6 03    A      AND     DPBFMSM      ;Anzahl der abweich. 128er Spuren
641 66D6 57          A      LD      D,A
642 66D7 3A EA79  A      LD      A,(DUTRK)      ;verlangte Spur
643 66DA BA          A      CP      D      ; im abweichenden Spurformat?
644 66DB DA 67CA  A      JP      C,DRWSEC      ; ja:Sektorlaenge 128          ## 1" ##
645          A; -----
646          A      ;gepufferte Disk E/A
647          FFFF  A      COND   (DBUFSZ GT 7) AND (DBUFSZ LT 12);<2**12 =4K Puffer
648 66DE DD 7E 10  A      LD      A,(IX+DPBSLC) ;phys. Sektorlaenge 128
649 66E1 B7          A      OR      A      ; (d.h. mit Sektorversatz)?
650 66E2 CA 67CA  A      JP      Z,DRWSEC      ; Ja:keine Pufferung sinnvoll          ##
1" ##
651          A      ENDC
652          A; -----
653          FFFF  A      COND   DBUFSZ GT 7
654 66E5 78          A      LD      A,B
655 66E6 DD 56 11  A      LD      D,(IX+DPBBFM) ;Puffermaske
656 66E9 A2          A      AND     D      ;rel. Sekt.nr. des BDOS-Blocks zum Puff.anf.
657 66EA F5          A      PUSH   AF      ; merken fuer move
658 66EB A8          A      XOR     B      ;A ist Sektornr. des Puff.anf.
659 66EC CB 3F    ADRWBNR: SRL     A      ;ermitteln Puffernr in Spur
660 66EE CB 1A    A      RR      D      ;noch Bits in Puffermaske?
661 66F0 20 FA    A      JR      NZ,DRWBNR      ; Ja
662          A; -----
663          A      ;Test, ob dieser Puffer da ist
664 66F2 F5          A      PUSH   AF      ;merken Puffernummer
665 66F3 21 EA84  A      LD      HL,DBNB
666 66F6 BE          A      CP      (HL)      ;richtige Puffernummer?
667 66F7 20 0F    A      JR      NZ,DBN      ; Nein
668          A; -----
669 66F9 21 EA70  A      LD      HL,DBTRK
670 66FC 3A EA79  A      LD      A,(DUTRK)      ;geforderte Spur
671 66FF BE          A      CP      (HL)      ; richtige Spur?
672 6700 20 06    A      JR      NZ,DBN
673          A; -----
674 6702 3A EA6F  A      LD      A,(DBDEV)      ;zum Puffer gehoeriges Geraet
675 6705 B9          A      CP      C      ; richtiges Geraet?
676 6706 28 6C    A      JR      Z,DBMAT      ;ja, Sektor steht im Puffer
677          A;=====
678 6708 C5          ADRBN: PUSH   BC      ;retten ddrive
679 6709 CD 67AD  A      CALL   DBTRW      ;veraenderten Puffer ausgeben          ## 1
##

```



```
680 670C C1      A    POP    BC          ;c:=ddrive
681              A;
682 670D 21 EA6F  A    LD     HL,DBDEV
683 6710 71      A    LD     (HL),C
684              A;
685 6711 3A EA79  A    LD     A,(DUTRK)
686 6714 32 EA70  A    LD     (DBTRK),A
687              A;
688 6717 CD 6948  A    CALL  DGETPB      ;ix:=dpb(c)
689 671A DD 46 10  A    LD     B,(IX+DPBSLC)
690 671D 21 EA73  A    LD     HL,DBSLC
691 6720 70      A    LD     (HL),B
692              A;
693 6721 DD 7E 11  A    LD     A,(IX+DPBBFM) ;Zahl der 128er Sektoren -1
694 6724 3C      A    INC    A
695 6725 87      A    ADD    A,A          ;CY:=0
696 6726 04      A    INC    B          ;fuer djnz, falls dpbslc=0
697 6727 0F      ADBSNBZ:  RRCA          ;Zahl der phys. Sekt. im Puff.
698 6728 10 FD  A    DJNZ  DBSNBZ
699 672A 57      A    LD     D,A          ;merken
700              A;
701 672B AF      A    XOR    A
702 672C C1      A    POP    BC          ;b:=geforderte Puffernr.
703 672D C5      A    PUSH  BC
704 672E 21 EA84  A    LD     HL,DBNB
705 6731 70      A    LD     (HL),B
706 6732 04      A    INC    B
707 6733 05      A    DEC    B          ;Puffernr. 0?
708 6734 28 03  A    JR     Z,DBSEC0    ;ja
709 6736 82      ADBSECZ:  ADD     A,D          ;0. phys. Sekt. im Puffer
710 6737 10 FD  A    DJNZ  DBSECZ      ;=dbsnb.*Puffernr.
711 6739 5F      ADBSEC0:  LD      E,A          ;merken Pufferanf.-Sektor
712              A;
713 673A DD 46 10  A    LD     B,(IX+DPBSLC)
714 673D DD 7E 00  A    LD     A,(IX+DPBSPT)
715 6740 04      A    INC    B          ;wegen djnz
716 6741 87      A    ADD    A,A
717 6742 CB 3F  ADBSECM:  SRL     A          ;phys. Sektoranzahl
718 6744 10 FC  A    DJNZ  DBSECM
719 6746 93      A    SUB    E          ;Restsektorzahl auf Spur
720 6747 BA      A    CP    D          ;>= Zahl zu transferierender?
721 6748 30 01  A    JR     NC,DBSECO    ;ja
722 674A 57      A    LD     D,A          ;sonst nur Restsektorzahl
723 674B 1C      ADBSECO:  INC     E          ;Sektoren zaehlen ab 1
724 674C 7B      A    LD     A,E
725 674D 32 EA72  A    LD     (DBSEC),A    ;hinterlegen Sektor, Sektorzahl
726 6750 7A      A    LD     A,D
727 6751 32 EA74  A    LD     (DBSNB),A
728              A;
729 6754 21 EA6E  A    LD     HL,DBFLG
730 6757 CB 96  A    RES   DBFWR,(HL)
731              A    ENDC
732              A    COND  (DBUFSZ GT 7) AND ENWRIT
733 6759 CB 46  A    BIT   DBF00,(HL)   ;muss neuer Puffer gel. werden?
734 675B 20 14  A    JR     NZ,DBPRR    ;ja
735              A;
736              A; nur dann kein pre-read, wenn Rest BDOS-Block >= phys. Puff.
737              A; und Rest BDOS-Block auf Pufferanfang beginnt
```

```

738 675D 3A EA80 A LD A,(UNACNT)
739 6760 DD BE 11 A CP (IX+DPBBFM) ;Restzahl-1 >= Puffergr.-1 ?
740 6763 38 0C A JR C,DBPRR ; nein:preread
741 A;
742 6765 3A EA7B A LD A,(DUSEC) ;Sektornr.
743 6768 3D A DEC A ; ab 0 zaehlen
744 6769 DD A6 11 A AND (IX+DPBBFM) ;rel. Sekt.nr. des
745 A ; BDOS-Blocks zum Pufferanfang
746 676C 20 03 A JR NZ,DBPRR
747 A;
748 676E 32 EA86 A LD (DBERRF),A ;fehlerfrei gel. anzeigen
749 A;
750 6771 C4 67B3 ADBPRR: CALL NZ,DBTRAN ;Puffer lesen
## 2
##
751 A ENDC
752 A;-----
753 0000 A COND (DBUFSZ GT 7) AND ( NOT (ENWRIT EQ 1))
755 A ENDC
756 A;=====
757 A; Sektor in/aus Puffer holen
758 A;
759 FFFF A COND DBUFSZ GT 7
760 6774 ADBMAT:
761 6774 F1 A POP AF ;Puffernr. in Spur wegschm.
762 6775 F1 A POP AF ;128-er Index im Puffer
763 6776 F5 A PUSH AF
764 6777 1F A RRA
765 6778 47 A LD B,A
766 6779 0E 00 A LD C,0
767 677B CB 19 A RR C ;BC=Sektornr*128
768 677D 21 EDC4 A LD HL,DBUF
769 6780 09 A ADD HL,BC ;Quelle=Adresse im Puffer
770 6781 ED 5B EA7E A LD DE,(DUDMA) ;Ziel=Nutzer-DMA
771 6785 3A EA77 A LD A,(DUFLG)
772 6788 CB 57 A BIT DUFWR,A ;Schreiben?
773 678A 28 09 A JR Z,DSMOVE ; nein
774 A; -----
775 678C 3A EA6E A LD A,(DBFLG)
776 678F CB D7 A SET DBFWR,A ;anzeigen Puffer beschrieben
777 6791 32 EA6E A LD (DBFLG),A
778 6794 EB A EX DE,HL ;Quelle, Ziel vertauschen
779 A; -----
780 6795 01 0080 ADSMOVE: LD BC,128
781 6798 CD EA27 A CALL FLLDIR
782 679B F1 A POP AF ;128-Index im Puffer
783 679C DD BE 11 A CP (IX+DPBBFM) ;letzter Sektor im Puffer?
784 679F 28 05 A JR Z,DMOVEW ; ja:Puffer ausgeben
785 A; -----
786 67A1 3A EA85 A LD A,(DWRTYP)
787 67A4 FE 01 A CP 1 ;write to directory?
788 67A6 CC 67AD ADMOVEW: CALL Z,DBTRW ; ja:veraend. Puffer ausgeben
## 3 ##
789 67A9 3A EA86 A LD A,(DBERRF) ;Ergebnis letztes dbtran
790 67AC C9 A RET
791 A;*****
792 A;
793 A; Schreiben Puffer, wenn notw.
794 A;=====
795 67AD 21 EA6E ADBTRW: LD HL,DBFLG
796 67B0 CB 56 A BIT DBFWR,(HL) ;Puffer veraendert?
    
```

```

797 67B2 C8      A   RET   Z           ;nein, Schreiben unterdruecken
798              A   ENDC
799              A;*****
800              A;
801              A; gemeinsamer Zweig Lesen/Schreiben Puffer
802              A;=====
803              FFFF A   COND   AUTFER OR (DBUFSZ GT 7)
804 67B3 21 EA6E ADBTRAN:   LD     HL,DBCDB
805              A   ENDC
806              FFFF A   COND   DBUFSZ GT 7
807 67B6 CD 67CD A   CALL   DSKTRA
808 67B9 32 EA86 A   LD     (DBERRF),A   ;Fehlerflag stellen
809 67BC 21 EA6E A   LD     HL,DBFLG
810 67BF CB 96    A   RES   DBFWR,(HL)   ;Puffer ist nicht veraendert
811 67C1 C9      A   RET
812              A   ENDC
813              A;-----
814              0000 A   COND   AUTFER AND ( NOT (DBUFSZ GT 7))
815              A   ENDC
816              A;*****
817              A;
818              A; Lesen beliebigen Sektor-Id.
819              A;=====
820              0001 ADSIDTT:   COND   AUTFER
821 67C2 32 EA67 A   LD     (DFRTRK),A   ;Spur in A
822              A;-----
823 67C5 21 EA65 ADSIDTR:   LD     HL,DFRCDB   ;Spur in (DFRTRK)
824 67C8 18 03    A   JR     DSKTRA       ;belieb. SektId lesen
825              A   ENDC
826              A;*****
827              A;
828              A; gemeinsamer Zweig Read/Write 128-Sektor einzeln
829              A;-----
830 67CA 21 EA77 ADRWSEC:   LD     HL,DUFLG
831              A;=====
832              A;
833              A;
834              A; interner Aufruf phys. Diskettentransfer
835              A; i HL auf CDB
836              A;-----
837 67CD ADSKTRA:
838              A;=====
839              A;
840              A; Umkleidung des physischen Disketten-Transfers
841              A;-----
842              A;
843              A; Parameter: HL auf CDB mit folgender Struktur:
844              A;
845              A; +0: cdbfl ;Flags (Struktur angepasst an ftkom)
846  CDB ? A;DIOF00 EQU 0           ;** frei ** (frueher Verify nach Schreiben) ?s. Puffer-
847              A;DIOFID EQU 1           ;fest ;=1, wenn nur Sektid. zu lesen
848              A;DIOFWR EQU 2           ;fest ;=1, wenn Schreiben
849              A;DIOFFM EQU 3           ;fest ;=1, wenn temporaer FM-Format erzwungen
850              A;DIOFTR EQU 4           ;=1, wenn keine Fehlermeldung (und -behandlg)
851              A;DIOFHD EQU 5           ;=1, wenn Kopf hochnehmen ("headup")
852              A;DIOFPS EQU 6           ;=1, wenn trk,sid,sec schon physisch
853              A;DIOFS1 EQU 7           ;fest ;=1, wenn Rueckseite (Aend CP/A !)
854              A;
855              A; ab hier unwichtig bei "diofhd" in cdbfl =1 (headup)
    
```

```

856      A; +1: cdbdev      ;logisches Geraet 0 .. dphnb-1
857      A; +2: cdbtrk     ;log./phys. Spur
858      A; +3: cdbsid     ;bel./phys. Seite
859      A; +4: cdbsec     ;log./phys. Sektor
860      A; +5: cdbslc     ;Sektorlaengencode (0=128, 1=256, 2=512, 3=1024)
861      A; +6: cdbsnb     ;Anz. zu uebertr. ph. Sekt. (wenn =0, so nur position.)
862      A; +7,8: cdbdma   ;Transferadresse
863      A;
864      A; Return, falls nicht "diofhd" in cdbfl =1:
865      A;   A=0 (ret z) bei fehlerfrei, sonst A=1 (ret nz) bei cdbfl, "dioftr" =0
866      A;   oder Returncode phys. Transfer
867      A;   E:=trk, D:=sid ,L:=sec, H:=len
868      A;   BC,IX unveraendert
869      A;=====
870      A;
871      A;Aufruf ueber Sprungvektor von BIOS-Erweiterung
872      A;-----
873 67CD  C5      ALDISKI:   PUSH   BC          ; (1) (Marke war DISKIO)
874 67CE  DD E5   A   PUSH   IX          ; (2)
875      A;
876 67D0  11 ED3B A   LD     DE,DIOCDB   ;CDB des Nutzers auf internen Hilfsspeicher
877 67D3  01 0009 A   LD     BC,DIOCDL   ;da modifiziert
878 67D6  D5      A   PUSH   DE          ; (3)
879 67D7  CD EA27 A   CALL  FLLDIR       ;falls Original im ROM-Adressbereich (Aend CP/A !)
880 67DA  E1      A   POP    HL          ; (3) HL auf DIOCDB
881 67DB  CB 6E   A   BIT   DIOFHD,(HL) ;Kopf hochnehmen?
882 67DD  3E 5A   A   LD     A,'Z'
883 67DF  C2 68CC A   JP     NZ,DIOERT   ; ja:Fehler
884      A;-----
885 67E2  23      A   INC    HL
886 67E3  4E      A   LD     C,(HL)     ;logisches Laufwerk
887 67E4  CD 6948 A   CALL  DGETPB      ; -----> IX = DPBx
888 67E7  3E 44   A   LD     A,'D'
889 67E9  CA 68CC A   JP     Z,DIOERT   ;LW ex. nicht-->
890      A;-----
891      A;%%% Abbildung mehrerer log. LW auf phys. LW 0
892 67EC  DD 7E 15 A   LD     A,(IX+DPBDNR)
893 67EF  A7      A   AND    A          ;Phys. LW 0 ?
894 67F0  20 15   A   JR     NZ,LPLW1   ; Nein-->
895      A;-----
896 67F2  3A EA87 A   LD     A,(LPTAB)   ;Vorher gleiches log. LW?
897 67F5  B9      A   CP     C
898 67F6  28 0F   A   JR     Z,LPLW1   ; ja-->
899      A;-----
900 67F8  79      A   LD     A,C
901 67F9  32 EA87 A   LD     (LPTAB),A   ;log. LW merken
902 67FC  C6 41   A   ADD   A,'A'
903 67FE  32 EA90 A   LD     (LPCHLG),A ;log. LW 'A'...
904 6801  21 EA88 A   LD     HL,LPCHNG   ;Aufforderung zum Disketten-Wechsel
905 6804  CD FE37 A   CALL  XLPLW       ;Anzeige, Tastenbetaetigung
906      A;-----
907 6807  21 ED3B ALPLW1   LD     HL,DIOCDB
908 680A  CB 76   A   BIT   DIOFPS,(HL) ;trk,sid,sec schon physisch? (Aend CP/A !)
909 680C  20 5D   A   JR     NZ,DIOPHY  ; Ja --> DIOPHY
910      A;=====
911      A; Track, Side und Sector entspr. Diskettenformat setzen
912 680E  23      A   INC    HL
913 680F  23      A   INC    HL

```

```
914 6810 56      A    LD    D,(HL)      ;Track merken in D
915 6811 5A      A    LD    E,D        ; und E
916 6812 23      A    INC   HL
917 6813 23      A    INC   HL
918 6814 4E      A    LD    C,(HL)
919 6815 0D      A    DEC   C        ;Sektornr. ab 0 in C
920                A;-----
921 6816 DD CB 0F 66A BIT    DPBF86,(IX+DPBFLG) ;Fortsetzung Disk auf Ruecks.?
922 681A 20 0C    A    JR    NZ,DIOTS2    ; ja-->
923                A;-----
924 681C DD CB 0F 6EA BIT    DPBFDS,(IX+DPBFLG) ;ungerade Spuren auf Rueckseite?
925 6820 28 2C    A    JR    Z,DIOTRS    ; nein: einseitig
926                A;-----
927 6822 CB 3A      A    SRL   D        ;Spur halbieren
928 6824 30 28    A    JR    NC,DIOTRS    ; -->Vorderseite (gerade Spur)
929 6826 18 12    A    JR    DIOTS1    ; -->Rueckseite
930                A;-----
931 6828 DD 46 14  ADIOTS2: LD    B,(IX+DPBTRK) ;log. Spurzahl
932 682B CB 38      A    SRL   B        ;Spuren auf Vorderseite
933 682D 7A      A    LD    A,D
934 682E 90      A    SUB   B        ;Spur auf Vorderseite?
935 682F 38 1D    A    JR    C,DIOTRS    ; ja: Spur in d unveraendert lassen
936                A;-----
937                A        ; nein: 40->0; 41->1; ...; 79->39
938 6831 DD CB 0F 5EA BIT    DPBF5V,(IX+DPBFLG) ;Ruecks. von aussen nach innen?
939 6835 20 02    A    JR    NZ,DIOTS4    ; ja-->
940 6837 2F      A    CPL           ; nein: 40->-1; 41->-2; ...; 79->-40
941 6838 80      A    ADD   A,B        ;      40->39; 41->38; ...; 79->0
942 6839 57      ADIOTS4: LD    D,A
943                A;-----
944 683A 3A ED3B  ADIOTS1: LD    A,(DIOFLG)
945 683D CB FF      A    SET   DIOFS1,A    ;vermerken Rueckseite
946 683F 32 ED3B  A    LD    (DIOFLG),A
947 6842 DD 7E 13  A    LD    A,(IX+DPBSN0) ;Versch. der Sektornr. auf Rueckseite
948 6845 81      A    ADD   A,C        ;Sektornr. evtl. weiterzaehlen
949 6846 B9      A    CP    C        ;Weiternummerierung auf Rueckseite?
950 6847 4F      A    LD    C,A
951 6848 20 04    A    JR    NZ,DIOTRS    ; ja: side=0 (!! KAYPRO)
952                A;-----
953 684A 3E 01    A    LD    A,1        ;side:=1
954 684C 18 01    A    JR    DIOTSS
955                A;-----
956 684E AF      ADIOTRS: XOR   A        ;side:=0
957 684F 32 ED3E  ADIOTSS: LD    (DIOSID),A ;phys. Seite setzen
958 6852 7A      A    LD    A,D
959 6853 32 ED3D  A    LD    (DIOTRK),A ;phys. Spur setzen
960                A;-----
961 6856 7B      A    LD    A,E        ;log. Spurnr. zurueck nach A
962 6857 DD E5      A    PUSH  IX        ; (3)
963 6859 E1      A    POP   HL        ; (3)
964 685A 11 0021  A    LD    DE,DPBSTR    ;D = 0
965 685D 19      A    ADD   HL,DE
966 685E DD BE 0D  A    CP    (IX+DPBOFS) ;Systemspur?
967 6861 38 03    A    JR    C,DIOSSP    ;ja, Sektornummern nicht logisch
968                A;-----
969 6863 59      A    LD    E,C
970 6864 19      A    ADD   HL,DE        ;HL entspr. Index in dpbstr
971 6865 4A      A    LD    C,D        ;c:=0
```

```

972 6866 79      ADIOSSP:  LD      A,C          ;phys. Sektornr. ab 0
973 6867 86      A      ADD      A,(HL)        ;+echte Sektornr.
974 6868 32 ED3F A      LD      (DIOSEC),A      ;phys. Sektor setzen
975
976 686B
977      ADIOPHY
978      A; i ret, BC, IX im Stack
979      A; i cdb auf diocdb
980      A; i IX auf DPB
981 686B DD E5    ADIORTY   PUSH    IX          ;interne Wiederholung LDISKI
982      A;-----
983      A; Zusammenbau des Steuerblocks fuer phys. Floppy-Routine
984 686D 21 ED3B A      LD      HL,DIOCDB
985 6870 3E 71    A      LD      A,71H
986 6872 CB 4E    A      BIT     DIOFID,(HL)     ;Lesen Sektid?
987 6874 20 08    A      JR      NZ,DIO00       ; ja-->
988 6876 3E 70    A      LD      A,70H
989 6878 CB 56    A      BIT     DIOFWR,(HL)     ;kein Schreiben?
990 687A 28 02    A      JR      Z,DIO00       ; ja-->
991 687C 3E 50    A      LD      A,50H          ;Schreiben
992 687E 32 EAC0 ADIO00:  LD      (FLKDO),A          ;setzen Befehl
993      A;
994 6881 DD 7E 15  A      LD      A,(IX+DPBDNR)   ;physische LW-Nr.
995 6884 32 EAC1  A      LD      (FLDEV),A
996      A;
997 6887 3A ED3D  A      LD      A,(DIOTRK)     ;Spur
998 688A 32 EAC2  A      LD      (FLTRK),A
999      A;
1000 688D 3A ED3E A      LD      A,(DIOSID)     ;Seite
1001 6890 32 EAC3  A      LD      (FLSID),A
1002      A;
1003 6893 3A ED3F  A      LD      A,(DIOSEC)     ;Sektor
1004 6896 32 EAC4  A      LD      (FLSEC),A
1005      A;
1006 6899 3A ED40  A      LD      A,(DIOSLC)     ;Sektorlaengencode
1007 689C 32 EAC5  A      LD      (FLSLC),A
1008      A;
1009 689F 3A ED41  A      LD      A,(DIOSNB)     ;Sektoranzahl
1010 68A2 32 EAC7  A      LD      (FLSNB),A
1011      A;
1012 68A5 DD 7E 12  A      LD      A,(IX+DPBSTP)   FL08: MFM (nicht aenderbar!)
1013 68A8 32 EAC9  A      LD      (FL09),A        ;Anzahl der Stepimpulse
1014      A;
1015 68AB 2A ED42  A      LD      HL,(DIODMA)    ;Transferadresse
1016 68AE 22 EACA  A      LD      (FLDMA),HL
1017      A;
1018 68B1 01 0016  A      LD      BC,DPBDRT      ;Drive Param Block
1019 68B4 DD 09      A      ADD      IX,BC
1020 68B6 DD 22 EACC  A      LD      (FL12),IX
1021      A;-----
1022 68BA CD FDAD  A      CALL     XISMON          ;BIOS-Monitor verbieten
1023 68BD DD 21 EAC0  A      LD      IX,FLKDO
1024 68C1 CD 6BDB  A      CALL     BIFM00         ;$$$ phys. Transfer $$$
1025 68C4 3A EACE  A      LD      A,(FL14)
1026 68C7 CD FDB0  A      CALL     XNAMON          ;BIOS-Monitor wieder erlauben
1027      A;-----
1028 68CA DD E1      A      POP      IX          ; (3) IX wieder auf DPBx
1029      A;-----

```

```

1030 68CC 21 ED3B ADIOERT LD HL,DIOCDB
1031 68CF CB 66 A BIT DIOFTR,(HL) ;Fehlerprotokoll und -behandlung unterdr.?
1032 68D1 20 4B A JR NZ,DTROK ; ja
1033 68D3 B7 A OR A ;Returncode
1034 68D4 28 48 A JR Z,DTROK ; -> fehlerfrei
1035 A;-----
1036 0001 A COND ERRVAR
1037 68D6 11 EA49 A LD DE,DERRRW ;Operation
1038 68D9 01 0005 A LD BC,5
1039 68DC CB 56 A BIT DIOFWR,(HL)
1040 68DE 20 05 A JR NZ,DERRR1
1041 68E0 21 692A A LD HL,RDZK ; (Lesen)
1042 68E3 18 03 A JR DERRR2
1043 68E5 21 692F ADERRR1 LD HL,WRZK ; (Schreiben)
1044 68E8 ED B0 ADERRR2 LDIR
1045 A;
1046 68EA 21 EACE A LD HL,FL14 ;Fehlercode
1047 68ED 11 EA45 A LD DE,DERRCD
1048 68F0 CD 6A1D A CALL MBRECO ; (zweistellig)
1049 A;
1050 68F3 3A ED3C A LD A,(DIODEV) ;LW
1051 68F6 C6 41 A ADD A,'A'
1052 68F8 32 EA52 A LD (DERRLW),A
1053 A;
1054 68FB 21 EAC2 A LD HL,FLTRK ;Spur
1055 68FE 11 EA56 A LD DE,DERRTR
1056 6901 CD 6A1D A CALL MBRECO ; (zweistellig)
1057 A;
1058 6904 3A EAC3 A LD A,(FLSID) ;Seite
1059 6907 11 EA5C A LD DE,DERRSI
1060 690A CD 6A25 A CALL MRECOR ; (einstellig!)
1061 A;
1062 690D 21 EAC4 A LD HL,FLSEC ;Sektor
1063 6910 11 EA61 A LD DE,DERRSC
1064 6913 CD 6A1D A CALL MBRECO ; (zweistellig)
1065 A;
1066 6916 21 EA3A A LD HL,DERRMS
1067 6919 CD FE3A A CALL XDERR1
1068 A ENDC
1069 691C 3E 01 A LD A,1 ;return mit Fehler
1070 A;-----
1071 691E B7 ADTROK: OR A ;stellen Z-Flag
1072 691F ED 5B EAC2 A LD DE,(FLTRK) ;E:=trk, D:=sid
1073 6923 2A EAC4 A LD HL,(FLSEC) ;L:=sec, H:=len
1074 6926 DD E1 A POP IX ; (2)
1075 6928 C1 A POP BC ; (1)
1076 6929 C9 A RET
1077 A;-----
1078 692A 52 65 61 64ARDZK DEFM 'Read '
1079 692F 57 72 69 74AWRZK DEFM 'Write'
1080 A;*****
1081 A; Stellen HL entsprechend Sektorlaengencode in (A)
1082 A;
1083 A;-----
1084 A; ret nz bei unzuessaessigem
1085 A;
1086 0001 ADTRSLA: COND AUTFER
1087 6934 B7 A OR A
    
```

```

1088 6935 21 696B A LD HL,DTRSL0
1089 6938 C8 A RET Z ;=0 (128)
1090 6939 3D A DEC A
1091 693A 21 697F A LD HL,DTRSL1 ;=1 (256)
1092 693D C8 A RET Z
1093 693E 3D A DEC A
1094 693F 21 6993 A LD HL,DTRSL2 ;=2 (512)
1095 6942 C8 A RET Z
1096 6943 3D A DEC A
1097 6944 21 69A7 A LD HL,DTRSL3 ;=3 (1024)
1098 6947 C9 A RET
1099 A ENDC
1100 A;*****
1101 A;
1102 A; allgemeine Unterprogramme
1103 A;=====
1104 A; Ermitteln DPH und DPB von (c) nach HL bzw. IX
1105 A; ret z DPH existiert nicht, HL=0
1106 A; ret nz ok, HL auf DPH, IX auf DPB
1107 A; BC, DE bleibt erhalten
1108 A;
1109 6948 D5 ADGETPB: PUSH DE
1110 6949 21 0000 A LD HL,0
1111 694C 79 A LD A,C
1112 694D FE 10 A CP 16 ;DPH definiert?
1113 694F 30 16 A JR NC,DGETP0 ;nein
1114 A; -----
1115 6951 EB A EX DE,HL
1116 6952 21 EACF A LD HL,DPHATB ;Adresstabelle fuer DPH's
1117 6955 59 A LD E,C
1118 6956 19 A ADD HL,DE
1119 6957 19 A ADD HL,DE
1120 6958 7E A LD A,(HL)
1121 6959 23 A INC HL
1122 695A 66 A LD H,(HL)
1123 695B 6F A LD L,A ;hl:=^DPH
1124 695C E5 A PUSH HL
1125 695D 1E 0A A LD E,10
1126 695F 19 A ADD HL,DE
1127 6960 5E A LD E,(HL)
1128 6961 23 A INC HL
1129 6962 56 A LD D,(HL) ;de:=^dpb
1130 6963 D5 A PUSH DE
1131 6964 DD E1 A POP IX ;ix:=^dpb
1132 6966 E1 A POP HL
1133 A; -----
1134 6967 D1 ADGETP0: POP DE
1135 6968 7C A LD A,H
1136 6969 B5 A OR L ;ret z bei hl=0
1137 696A C9 A RET
1138 A;*****
1139 A;
1140 A; Modifizierungstabellen entspr. Sektorlaenge und LW-Typ
1141 A; (Struktur)
1142 A;-----
1143 A; COND format
1144 0000 ADSLTRK EQU 0 ;benutzte Spuren
1145 0001 ADSLSPT EQU DSLTRK+1 ;Sektoren/Spur
    
```



```

1146      0002      ADSLDIR      EQU      DSLSPT+1      ;Dir-Eintraege
1147      0003      ADSLOFF      EQU      DSLDIR+1      ;2*offset
1148      A          ;[+Flag fuer festes offset]
1149      0001      ADSLFO       EQU      1          ;festes offset
1150      0000      ADSLVO       EQU      0          ;offset =0, falls Directory mgl.
1151      0004      ADSLBLK      EQU      DSLOFF+1      ;rel. Adr. Tab. BDOS-Blockgrosse
1152      0005      ADSLL EQU      5          ;Laenge eines Eintrags
1153      A;-----
1154      A; Zur automatischen Bestimmung des Spurformats wird dasjenige
1155      A; Format der Spur "dlgint" benutzt, alle folgenden Spuren
1156      A; muessen das gleiche Format haben!
1157      0003      ADLGINT      EQU      3          ;groesste Anzahl SS-Systemspuren
1158      A;-----
1159      A; Reihenfolge
1160      A; 5", 40 Tr, SS      LW 1.2
1161      A; 5", 80 Tr, SS      LW 1.4
1162      A; 5", 40 Tr, DS      ?
1163      A; 5", 80 Tr, DS      LW 1.6
1164      A;-----
1165      A; 128
1166 696B      ADTRSL0:      DFB      40,26,63,2*2+DSLVO,DBL1K-$ ;CP/M Standard
      1 696B 28      B      DEFB      40
      1 696C 1A      C      DEFB      26
      1 696D 3F      D      DEFB      63
      1 696E 04      E      DEFB      2*2+DSLVO
      1 696F 4C      F      DEFB      DBL1K-$
1167      A      DFB      80,26,127,2*2+DSLVO,DBL2K-$
      1 6970 50      B      DEFB      80
      1 6971 1A      C      DEFB      26
      1 6972 7F      D      DEFB      127
      1 6973 04      E      DEFB      2*2+DSLVO
      1 6974 4A      F      DEFB      DBL2K-$
1168      A      DFB      80,26,127,2*0+DSLFO,DBL2K-$
      1 6975 50      B      DEFB      80
      1 6976 1A      C      DEFB      26
      1 6977 7F      D      DEFB      127
      1 6978 01      E      DEFB      2*0+DSLFO
      1 6979 45      F      DEFB      DBL2K-$
1169      A      DFB      160,26,127,2*0+DSLFO,DBL2K0-$
      1 697A A0      B      DEFB      160
      1 697B 1A      C      DEFB      26
      1 697C 7F      D      DEFB      127
      1 697D 01      E      DEFB      2*0+DSLFO
      1 697E 43      F      DEFB      DBL2K0-$
1170      A;-----
1171      A; 256
1172 697F      ADTRSL1:      DFB      40,32,63,2*3+DSLFO,DBL2K-$ ;SCP Hausformat A51xx
      1 697F 28      B      DEFB      40
      1 6980 20      C      DEFB      32
      1 6981 3F      D      DEFB      63
      1 6982 07      E      DEFB      2*3+DSLFO
      1 6983 3B      F      DEFB      DBL2K-$
1173      A      DFB      80,32,63,2*3+DSLFO,DBL2K-$ ;SCP
      1 6984 50      B      DEFB      80
      1 6985 20      C      DEFB      32
      1 6986 3F      D      DEFB      63
      1 6987 07      E      DEFB      2*3+DSLFO
      1 6988 36      F      DEFB      DBL2K-$

```

```

1174      A   DFB   80,32,127,2*4+DSLFO,DBL2K-$
      1 6989 50   B   DEFB  80
      1 698A 20   C   DEFB  32
      1 698B 7F   D   DEFB 127
      1 698C 09   E   DEFB 2*4+DSLFO
      1 698D 31   F   DEFB DBL2K-$
1175      A   DFB   160,32,127,2*4+DSLFO,DBL2K0-$      ;SCP Hausformat PC1715
      1 698E A0   B   DEFB 160
      1 698F 20   C   DEFB  32
      1 6990 7F   D   DEFB 127
      1 6991 09   E   DEFB 2*4+DSLFO
      1 6992 2F   F   DEFB DBL2K0-$
1176      A;-----
1177      A; 512
1178 6993  ADTRSL2:  DFB   40,36,63,2*0+DSLFO,DBL1K-$
      1 6993 28   B   DEFB  40
      1 6994 24   C   DEFB  36
      1 6995 3F   D   DEFB  63
      1 6996 01   E   DEFB 2*0+DSLFO
      1 6997 24   F   DEFB DBL1K-$
1179      A   DFB   80,36,127,2*0+DSLFO,DBL2K-$
      1 6998 50   B   DEFB  80
      1 6999 24   C   DEFB  36
      1 699A 7F   D   DEFB 127
      1 699B 01   E   DEFB 2*0+DSLFO
      1 699C 22   F   DEFB DBL2K-$
1180      A   DFB   80,36,127,2*0+DSLFO,DBL2K-$
      1 699D 50   B   DEFB  80
      1 699E 24   C   DEFB  36
      1 699F 7F   D   DEFB 127
      1 69A0 01   E   DEFB 2*0+DSLFO
      1 69A1 1D   F   DEFB DBL2K-$
1181      A   DFB   160,36,127,2*0+DSLFO,DBL2K0-$
      1 69A2 A0   B   DEFB 160
      1 69A3 24   C   DEFB  36
      1 69A4 7F   D   DEFB 127
      1 69A5 01   E   DEFB 2*0+DSLFO
      1 69A6 1B   F   DEFB DBL2K0-$
1182      A;-----
1183      A; 1024
1184 69A7  ADTRSL3:  DFB   40,40,63,2*2+DSLVO,DBL1K-$      ;CP/A Standard A51xx
      1 69A7 28   B   DEFB  40
      1 69A8 28   C   DEFB  40
      1 69A9 3F   D   DEFB  63
      1 69AA 04   E   DEFB 2*2+DSLVO
      1 69AB 10   F   DEFB DBL1K-$
1185      A   DFB   80,40,127,2*2+DSLVO,DBL2K-$      ;CP/A
      1 69AC 50   B   DEFB  80
      1 69AD 28   C   DEFB  40
      1 69AE 7F   D   DEFB 127
      1 69AF 04   E   DEFB 2*2+DSLVO
      1 69B0 0E   F   DEFB DBL2K-$
1186      A   DFB   80,40,127,2*0+DSLVO,DBL2K-$      ;CP/A
      1 69B1 50   B   DEFB  80
      1 69B2 28   C   DEFB  40
      1 69B3 7F   D   DEFB 127
      1 69B4 00   E   DEFB 2*0+DSLVO
      1 69B5 09   F   DEFB DBL2K-$

```

```

1187      A   DFB   160,40,191,2*4+DSLVO,DBL2K0-$      ;CP/A (und SCP)
      1 69B6 A0   B   DEFB  160
      1 69B7 28   C   DEFB  40
      1 69B8 BF   D   DEFB  191
      1 69B9 08   E   DEFB  2*4+DSLVO
      1 69BA 07   F   DEFB  DBL2K0-$
1188      A;-----
1189      A; Modifizierungstabellen fuer BDOS-Blockgrosse
1190 69BB      ADBL1K:  DFB   3,7,0      ;Bl. Shift, Bl. Mask, Ext. Mask
      1 69BB 03   B   DEFB  3
      1 69BC 07   C   DEFB  7
      1 69BD 00   D   DEFB  0
1191 69BE      ADBL2K:  DFB   4,0FH,1
      1 69BE 04   B   DEFB  4
      1 69BF 0F   C   DEFB  0FH
      1 69C0 01   D   DEFB  1
1192 69C1      ADBL2K0: DFB   4,0FH,0      ;fuer Kapazitaet >255
      1 69C1 04   B   DEFB  4
      1 69C2 0F   C   DEFB  0FH
      1 69C3 00   D   DEFB  0
1193      A;=====
1194      A; CP/M-LOG.-SEKTORTRANSLATE-TABELLE (fuer 26*128)
1195      A;
1196 69C4      AXLT:  DFB   1,7,13,19,25,5
      1 69C4 01   B   DEFB  1
      1 69C5 07   C   DEFB  7
      1 69C6 0D   D   DEFB  13
      1 69C7 13   E   DEFB  19
      1 69C8 19   F   DEFB  25
      1 69C9 05   G   DEFB  5
1197      A   DFB   11,17,23,3,9,15
      1 69CA 0B   B   DEFB  11
      1 69CB 11   C   DEFB  17
      1 69CC 17   D   DEFB  23
      1 69CD 03   E   DEFB  3
      1 69CE 09   F   DEFB  9
      1 69CF 0F   G   DEFB  15
1198      A   DFB   21,2,8,14,20,26
      1 69D0 15   B   DEFB  21
      1 69D1 02   C   DEFB  2
      1 69D2 08   D   DEFB  8
      1 69D3 0E   E   DEFB  14
      1 69D4 14   F   DEFB  20
      1 69D5 1A   G   DEFB  26
1199      A   DFB   6,12,18,24,4,10
      1 69D6 06   B   DEFB  6
      1 69D7 0C   C   DEFB  12
      1 69D8 12   D   DEFB  18
      1 69D9 18   E   DEFB  24
      1 69DA 04   F   DEFB  4
      1 69DB 0A   G   DEFB  10
1200      A   DFB   16,22
      1 69DC 10   B   DEFB  16
      1 69DD 16   C   DEFB  22
1201      A;??vp      ENDC
1202      A;*****
1203      A;Ausgabe mit Warten
1204      A;
    
```

```
1205 69DE CD 6A0A ABIOSMS CALL BIOSM0 ;Ausgabe
1206 69E1 C5 ABV24W1 PUSH BC
1207 69E2 06 19 A LD B,25 ;ca. 2.5s warten
1208 69E4 E5 ABI0100 PUSH HL
1209 69E5 21 2EE0 A LD HL,12000
1210 69E8 2B ABI0200 DEC HL
1211 69E9 7C A LD A,H
1212 69EA B5 A OR L
1213 69EB 20 FB A JR NZ,BIO200
1214 69ED E1 A POP HL
1215 69EE 10 F4 A DJNZ BIO100
1216 69F0 C1 A POP BC
1217 69F1 18 0D A JR BIOSI7 ;Zeilenschaltung
1218 A;=====
1219 A; Ausgabe mit Eingabe
1220 A;
1221 69F3 CD 6A0A ABIOSME CALL BIOSM0
1222 A;=====
1223 A; Eingabe Zeichen und Zeilenschaltung
1224 A;
1225 69F6 CD 0156 ABIOSIN CALL LORIPU ;Loe Ringpu
1226 69F9 CD 0000# ABIOSI5 CALL RDRIPU ;Lesen Ringpu (kein BIOS-Ruf!)
1227 69FC FE 2A A CP '*'
1228 69FE 20 F9 A JR NZ,BIOSI5 ;Warten auf '*'
1229 A;
1230 6A00 3E 0D ABIOSI7 LD A,0DH
1231 6A02 CD 0000# A CALL OUTASC ;Zeilenschaltung (kein BIOS-Ruf!)
1232 6A05 3E 0A A LD A,0AH
1233 6A07 C3 0000# A JP OUTASC ; (kein BIOS-Ruf!)
1234 A;=====
1235 A; Ausgabe Text ab (HL) bis 00h
1236 A;
1237 6A0A E5 BIOSM0: PUSH HL
1238 6A0B CD 0174 A CALL KOMSCR ;Kommando-SCREEN
1239 6A0E E1 A POP HL
1240 6A0F 7E ABI010 LD A,(HL)
1241 6A10 B7 A OR A
1242 6A11 C8 A RET Z ;Ende-->RET
1243 6A12 E5 A PUSH HL
1244 6A13 CD 0000# A CALL OUTASC ;Ausgabe (kein BIOS-Ruf!)
1245 6A16 E1 A POP HL
1246 6A17 23 A INC HL
1247 6A18 18 F5 A JR BIO10
1248 A;*****
1249 A;PATCH-Ruf fuer BIOS-Error u WH bei Not Ready
1250 A;-----
1251 6A1A C3 69DE ABDER1 JP BIOSMS
1252 A;
1253 A;*****
1254 A; Rueckkonvertieren Byte ab (HL) nach (DE)
1255 A; RET: 2 Zeichen ab (DE), DE zeigt auf naechstes freies Byte
1256 A;
1257 6A1D 7E AMBRECO: LD A,(HL)
1258 A;=====
1259 A; Rueckkonvertieren Byte in A nach (DE)
1260 A; RET: 2 Zeichen ab (DE), DE zeigt auf naechstes freies Byte
1261 A;
1262 6A1E CD 6A21 AMRECOA: CALL MRECA
```

```

1263      A;=====
1264      A; Rueckkonvertieren A in HEX-Ziffern nach (DE)
1265      A; RET: A um 4 bits nach rechts rotiert
1266      A;      DE zeigt auf naechstes Byte
1267      A;
1268 6A21      AMRECA:
1269 6A21 0F      AMRECOL:      RRCA      ;linkes Halbbyte
1270 6A22 0F      A      RRCA
1271 6A23 0F      A      RRCA
1272 6A24 0F      A      RRCA
1273 6A25      AMRECOR:      ;rechtes Halbbyte
1274 6A25 F5      A      PUSH      AF      ;fuer 2. mreca-Aufruf retten
1275 6A26 E6 0F      A      AND      0FH
1276 6A28 D6 0A      A      SUB      9+1
1277 6A2A 38 02      A      JR      C,MRECOD      ;0..9
1278 6A2C C6 07      A      ADD      A,7      ;A..F
1279 6A2E C6 3A      AMRECOD:      ADD      A,'0'+10
1280 6A30 12      A      LD      (DE),A
1281 6A31 13      A      INC      DE
1282 6A32 F1      A      POP      AF
1283 6A33 C9      A      RET
1284      A;*****
1285      A;
1286      A; ???? Koepfe abheben und Motoren aus ???
1287      A;=====
1288      A;HEADUP:
1289      A;*****
1290      A;
1291      A;Floppy-RAM initialisieren fuer RBASIC
1292      A;=====
1293 6A34 CD FE2E      ABFLINI      CALL      XBFLIN      ;Test weiterer LW
1294      A; -----
1295 6A37 21 6AC8      A      LD      HL,SRANF      ;Gesamt-RAM u.
1296 6A3A 11 EA27      A      LD      DE,LFRAMA      ; LW A
1297 6A3D 01 0113      A      LD      BC,SRLAE
1298 6A40 ED B0      A      LDIR
1299      A;
1300 6A42 21 6B90      A      LD      HL,SDPHA      ;LW B im LW 0
1301 6A45 11 EB9C      A      LD      DE,DPHB
1302 6A48 01 004B      A      LD      BC,SDPHL
1303 6A4B ED B0      A      LDIR
1304 6A4D 21 EBAC      A      LD      HL,DPBB
1305 6A50 22 EBA6      A      LD      (DPHB+10),HL
1306 6A53 21 EBE7      A      LD      HL,CHKB
1307 6A56 22 EBA8      A      LD      (DPHB+12),HL
1308 6A59 21 EC17      A      LD      HL,ALVB
1309 6A5C 22 EBAA      A      LD      (DPHB+14),HL
1310      A; -----
1311 6A5F 21 6AC7      A      LD      HL,BXDER1+2
1312 6A62 11 FE3C      A      LD      DE,XDER1+2
1313 6A65 01 0009      A      LD      BC,BXDER1+3-BXSELE      ;PATCH-Rufe init
1314 6A68 ED B8      A      LDDR
1315      A; -----
1316 6A6A DD 21 EAC0      A      LD      IX,FLKDO      ;Init phys. Treiber
1317 6A6E CD 6BDB      A      CALL      BIFM00
1318      A; -----
1319 6A71 DD 36 00 90A      LD      (IX+0),90H      ;Test auf phys. LW 1
1320 6A75 DD 36 01 01A      LD      (IX+1),1

```

```

1321 6A79 CD 6BDB A CALL BIFM00
1322 6A7C 3A F1F7 A LD A,(RSTAT)
1323 6A7F E6 30 A AND 30H ;Bereit o. Spur 0 ?
1324 6A81 28 05 A JR Z,BFLI10 ; Nein-->
1325 A;
1326 6A83 3E 01 A LD A,1
1327 6A85 32 EBC1 A LD (DPBB+DPBDNR),A ;LW B im LW 1
1328 A;
1329 6A88 DD 36 01 02ABFLI10 LD (IX+1),2 ;Test auf phys. LW 2
1330 6A8C CD 6BDB A CALL BIFM00
1331 6A8F 3A F1F7 A LD A,(RSTAT)
1332 6A92 E6 30 A AND 30H ;Bereit o. Spur 0 ?
1333 6A94 28 28 A JR Z,BFLI20 ; Nein-->
1334 A;
1335 6A96 21 EC49 A LD HL,DPHC
1336 6A99 22 EAD3 A LD (DPHATB+4),HL ;LW C im LW 2
1337 6A9C 21 6B90 A LD HL,SDPHA
1338 6A9F 11 EC49 A LD DE,DPHC
1339 6AA2 01 004B A LD BC,SDPHL
1340 6AA5 ED B0 A LDIR
1341 6AA7 21 EC59 A LD HL,DPBC
1342 6AAA 22 EC53 A LD (DPHC+10),HL
1343 6AAD 21 EC94 A LD HL,CHKC
1344 6AB0 22 EC55 A LD (DPHC+12),HL
1345 6AB3 21 ECC4 A LD HL,ALVC
1346 6AB6 22 EC57 A LD (DPHC+14),HL
1347 6AB9 3E 02 A LD A,2
1348 6ABB 32 EC6E A LD (DPBC+DPBDNR),A
1349 A;
1350 6ABE C9 ABFLI20 RET
1351 A;
1352 A;Patch-Rufe
1353 A;
1354 6ABF C3 6A0A ABXSELE JP BIOSM0 ;Anzeige Disk-Format
1355 6AC2 C3 69F3 ABXLPLW JP BIOSME ;Diskwechsel im DSE-LW
1356 6AC5 C3 6A1A ABXDER1 JP BDER1 ;BIOS-Error u WH bei Not Ready
1357 A;*****
1358 A;
1359 A;Standardwerte fuer RAM des logischen Floppy-Treibers
1360 A;
1361 6AC8 ASRANF:
1362 A;=====
1363 A;Standard-Floppy-LDIR
1364 A;
1365 A;-----
1366 6AC8 F5 ASFLLDI PUSH AF
1367 6AC9 DB A8 A IN A,(PPIA)
1368 6ACB F5 A PUSH AF ;Istbank retten
1369 6ACC 3E AA ASFLLD1 LD A,0AAH ;alles Bank 2
1370 6ACE D3 A8 A OUT (PPIA),A
1371 A;
1372 6AD0 78 A LD A,B
1373 6AD1 B1 A OR C
1374 6AD2 28 02 A JR Z,SFLLD2
1375 6AD4 ED B0 A LDIR ;umspeichern
1376 A;
1377 6AD6 F1 ASFLLD2 POP AF
1378 6AD7 D3 A8 A OUT (PPIA),A ;Bank zurueck

```

```

1379 6AD9 F1      A    POP    AF
1380 6ADA C9      A    RET
1381             A;=====
1382             A; Standard-Fehlermeldung Disk I/O Error
1383             A;
1384             A;-----
1385             0001 ASDERRM:    COND  ERRVAR
1386             A    DFB    0DH,0AH
1387             1 6ADB 0D      B    DEFB    0DH
1388             1 6ADC 0A      C    DEFB    0AH
1389             1387 6ADD 42 49 4F 53A  DEFM  'BIOS-Err XX: Write LW=X T=XX Si=X Se=XX'
1390             1388             A    DFB    07H,0
1391             1 6B04 07      B    DEFB    07H
1392             1 6B05 00      C    DEFB    0
1393             A    ENDC
1394             A;=====
1395             A; Standard-CDB fuer Bestimmung Spurformat
1396             A;
1397             A;-----
1398             1394             0001 ASDFRCD:    COND  AUTFER
1399             1395 6B06 12      A    DEFB    (1 SHL DIOFID)+(1 SHL DIOFTR)
1400             1396             A; Lesen Sektorid., kein Fehlerprotokoll
1401             1397 6B07 FF      A    DEFB    0FFH          ;Geraet
1402             1398 6B08 FF      A    DEFB    0FFH          ;Spur
1403             1399 6B09 FF      A    DEFB    0FFH          ;Seite (bel.)
1404             1400 6B0A 01      A    DEFB    1            ;Sektor (bel.)
1405             1401 6B0B 00      A    DEFB    0            ;Sektorlaengencode (bel.)
1406             1402 6B0C 01      A    DEFB    1            ;Sektoranzahl (>0)
1407             1403 6B0D EAC2     A    DEFW    FLTRK        ;dorthin Sektorid hinterlegt
1408             1404             A    ENDC
1409             1405             A;=====
1410             1406             A; Standard-Puffer-CDB
1411             1407             A;
1412             1408             A;-----
1413             1409             FFFF ASDBCDB:    COND  AUTFER OR (DBUFSZ GT 7)
1414             1410 6B0F 00      A    DEFB    0
1415             1411 6B10 FF      A    DEFB    0FFH
1416             1412 6B11 FF      A    DEFB    0FFH
1417             1413 6B12 FF      A    DEFB    0FFH
1418             1414 6B13 FF      A    DEFB    0FFH
1419             1415 6B14 FF      A    DEFB    0FFH
1420             1416 6B15 FF      A    DEFB    0FFH
1421             1417             A    ENDC
1422             1418             A    COND DBUFSZ GT 7
1423             1419 6B16 EDC4     A    DEFW    DBUF
1424             1420             A    ENDC
1425             1421             0000 A    COND AUTFER AND ( NOT (DBUFSZ GT 7))
1426             1422             A    ENDC
1427             1424             A;=====
1428             1425             A; Standard-CDB fuer ungepufferte E/A
1429             1426             A;
1430             1427             A;-----
1431             1428 6B18 00      ASDUCDB:    DEFB    0
1432             1429 6B19 00      A    DEFB    0
1433             1430 6B1A FF      A    DEFB    0FFH
1434             1431 6B1B FF      A    DEFB    0FFH          ;Seite
1435             1432 6B1C FF      A    DEFB    0FFH
1436             1433 6B1D 00      A    DEFB    0            ;128 Bytes Sektorlaenge

```

```

1434 6B1E 01      A   DEFB   1           ;immer nur 1 Sektor
1435 6B1F FFFF    A   DEFW   0FFFFH
1436           A;=====
1437           A; Standard-Pufferzugriff
1438           A;
1439           A;-----
1440           0001  A   COND   ENWRIT AND (DBUFSZ GT 7)
1441 6B21           ASUNACN:  DFB   0,0FFH,0FFH,0
   1 6B21 00      B   DEFB   0
   1 6B22 FF      C   DEFB   0FFH
   1 6B23 FF      D   DEFB   0FFH
   1 6B24 00      E   DEFB   0
1442           A   ENDC
1443           FFFF  A   COND   DBUFSZ GT 7
1444 6B25 FF      A   DEFB   0FFH
1445 6B26 FF      A   DEFB   0FFH
1446 6B27 00      A   DEFB   0           ;Ergebnisflag letztes dbtran
1447           A   ENDC
1448           A;=====
1449           A;%% Standard-Abbildung mehrerer log. LW auf 1 phys. LW
1450           A;
1451           A;-----
1452 6B28 00      ASLPTAB:  DFB   0           ;log. LW A fuer phys. LW 0
1453           A   DFB   0DH,0AH
   1 6B29 0D      B   DEFB   0DH
   1 6B2A 0A      C   DEFB   0AH
1454 6B2B 44 69 73 6BA  DEFM  'Disk. '
1455 6B31 58 20 69 6EA  DEFM  'X in DSE stecken; dann Taste "*"
1456           A   DFB   07H,0
   1 6B51 07      B   DEFB   07H
   1 6B52 00      C   DEFB   0
1457           A;=====
1458           A;Standard-Anzeige Diskettenkapazitaet
1459           A;
1460           A;-----
1461 6B53           ASDISKA  DFB   0DH,0AH
   1 6B53 0D      B   DEFB   0DH
   1 6B54 0A      C   DEFB   0AH
1462 6B55 4C 57 20 58A  DEFM  'LW X=XXXX'
1463           A   DFB   0DH,0AH,0
   1 6B5E 0D      B   DEFB   0DH
   1 6B5F 0A      C   DEFB   0AH
   1 6B60 00      D   DEFB   0
1464           A;=====
1465           A;Standard-Paramterfeld fuer phys. floppy-Routine
1466           A;
1467           A;-----
1468 6B61 80      ASSFLP:   DFB   80H       ;Kommando
1469 6B62 00      A   DEFB   0           ;Laufwerk
1470 6B63 00      A   DEFB   0           ;Spur
1471 6B64 00      A   DEFB   0           ;Seite
1472 6B65 01      A   DEFB   1           ;Sektor
1473 6B66 00      A   DEFB   0           ;Sektorlaengencode
1474 6B67 0E      A   DEFB   0EH        ;gap 3
1475 6B68 01      A   DEFB   1           ;Sektorzahl
1476 6B69 01      A   DEFB   1           ;0/1 FM/MFM (BIC: nur MFM!)
1477 6B6A 01      A   DEFB   1           ;Schritte von Spur zu Spur
1478 6B6B 0000    A   DEFW   0           ;Transferadresse

```



```

1479 6B6D 0000      A   DEFW  0           ;Adresse Drive Param Block
1480 6B6F 00       A   DEFEB 0           ;Ergebnis-Status
1481              A;=====
1482              A; Standard-Tabelle der DPH-Adressen
1483              A;
1484              A;-----
1485 6B70 EAEF      ASDPHAT:  DEFW  DPHA   ;A
1486 6B72 EB9C      A   DEFW  DPHB   ;B
1487 6B74 0000      A   DEFW  0       ;C
1488 6B76 0000      A   DEFW  0       ;D
1489 6B78 0000      A   DEFW  0       ;E
1490 6B7A 0000      A   DEFW  0       ;F
1491 6B7C 0000      A   DEFW  0       ;G
1492 6B7E 0000      A   DEFW  0       ;H
1493 6B80 0000      A   DEFW  0       ;I
1494 6B82 0000      A   DEFW  0       ;J
1495 6B84 0000      A   DEFW  0       ;K
1496 6B86 0000      A   DEFW  0       ;L
1497 6B88 0000      A   DEFW  0       ;M
1498 6B8A 0000      A   DEFW  0       ;N
1499 6B8C 0000      A   DEFW  0       ;O
1500 6B8E 0000      A   DEFW  0       ;P
1501              A;=====
1502              A; Standard-Disk-Parameter-Block (fuer alle phys. Laufwerke)
1503              A;
1504              A;-----
1505              A;DISK-PARAMETER-HEADER
1506              A;
1507 6B90 0000      ASDPHA:  DEFW  0           ;kein log. Sektortranslate
1508 6B92 0000      A   DEFW  0           ;BDOS Spur
1509 6B94 0000      A   DEFW  0           ;BDOS Sektor
1510 6B96 0000      A   DEFW  0           ;BDOS Dir
1511 6B98 ED44      A   DEFW  DIRBUF
1512 6B9A EAFF      A   DEFW  DPBA
1513 6B9C EB3A      A   DEFW  CHKA
1514 6B9E EB6A      A   DEFW  ALVA
1515              A;
1516              A;CP/M-STANDARD-DISK-PARAMETER-BLOCK
1517              A; fuer BIC Standard: 5*1024*160, 4 Systemspuren
1518              A;
1519 6BA0 0028      ASDPBA:  DEFW  40           ;Sekt/Spur
1520 6BA2 04        A   DEFEB 4           ;Blockshift (2k)
1521 6BA3 0F        A   DEFEB 15          ;Blockmaske
1522 6BA4 00        A   DEFEB 0           ;Extentmaske
1523 6BA5 0185      A   DEFW  780/2-1      ;Blockzahl (ohne System)
1524 6BA7 007F      A   DEFW  128-1       ;Dir Entries
1525              A   DFB  0C0H,0     ;Dir Allocation
           1 6BA9 C0      B   DEFEB 0C0H
           1 6BAA 00      C   DEFEB 0
1526 6BAB 0020      A   DEFW  128/4       ;Checksum
1527 6BAD 0004      A   DEFW  4           ;Systemspuren
1528              A;
1529              A;DISKETTEN-PARAMETER (NICHT-STANDARD-DBP)
1530              A;
1531 6BAF 20        A   DEFEB 00100000B    ;Disk,aut.Formaterk,DS(Ruecks=ung.Spuren),
1532              A           ; kein FM,keine 128er Spuren
1533 6BB0 03        A   DEFEB 3           ;1k Sektorlaenge
1534 6BB1 07        A   DEFEB 8-1         ;Puffermaske:8 128er Sektoren im Puffer
    
```

```

1535 6BB2 01      A   DEFB   1           ;1 Stepimpuls von Spur zu Spur
1536 6BB3 00      A   DEFB   0           ;kein Weiternummerieren d. Sekt auf Rueckseite
1537 6BB4 A0      A   DEFB  160          ;160 log. Spuren
1538             A;
1539             A;PHYS. LAUFWERKSNUMMER
1540             A;
1541 6BB5 00      A   DEFB   0           ;phys. LW-Nr.
1542             A;
1543             A;LAUFWERKS-PARAMETER (SCP1715-DRIVE-PARAMETER-BLOCK)
1544             A; fuer MFS 1.6
1545             A;
1546 6BB6 39      A   DEFB  00111001B   ;Max.26 Sekt/Spur,80 Spur,5",MFM,DS
1547 6BB7 50      A   DEFB   80          ; 1. Spur mit Praekompensation
1548 6BB8 04      A   DEFB   4           ;Schrittzeit SRT in ms
1549 6BB9 04      A   DEFB   4           ;Kopfberuhigungszeit nach Andruck HLT in ms
1550 6BBA 0A      A   DEFB  10          ;Kopfberuhigungszeit nach Step in ms
1551 6BBB 50      A   DEFB  80          ;1. Spur mit Schreibbegrenzung (bei BIC ign.)
1552 6BBC 00      A   DEFB   0           ;Optionen: mit Verify nach Schreiben
1553 6BBD 20      A   DEFB  32          ;Kopfentladezeit HUT in ms
1554 6BBE 00      A   DEFB   0           ;Praekompzeit (bei BIC ignoriert)
1555 6BBF 00      A   DEFB   0           ;frei
1556 6BC0 50      A   DEFB  80          ;LW hat 80 phys. Spuren
1557             A;
1558             A;PHYSISCHE SEKTOR-TRANSLATE-TABELLE
1559             A;
1560             A   DFB   1,2,3,4,5,6 ;Reihenfolge fuer Sektorzugriff
           1 6BC1 01      B   DEFB   1
           1 6BC2 02      C   DEFB   2
           1 6BC3 03      D   DEFB   3
           1 6BC4 04      E   DEFB   4
           1 6BC5 05      F   DEFB   5
           1 6BC6 06      G   DEFB   6
1561             A   DFB   7,8,9,10,11,12 ; (ausser fuer 26*128)
           1 6BC7 07      B   DEFB   7
           1 6BC8 08      C   DEFB   8
           1 6BC9 09      D   DEFB   9
           1 6BCA 0A      E   DEFB  10
           1 6BCB 0B      F   DEFB  11
           1 6BCC 0C      G   DEFB  12
1562             A   DFB  13,14,15,16,17,18
           1 6BCD 0D      B   DEFB  13
           1 6BCE 0E      C   DEFB  14
           1 6BCF 0F      D   DEFB  15
           1 6BD0 10      E   DEFB  16
           1 6BD1 11      F   DEFB  17
           1 6BD2 12      G   DEFB  18
1563             A   DFB  19,20,21,22,23,24
           1 6BD3 13      B   DEFB  19
           1 6BD4 14      C   DEFB  20
           1 6BD5 15      D   DEFB  21
           1 6BD6 16      E   DEFB  22
           1 6BD7 17      F   DEFB  23
           1 6BD8 18      G   DEFB  24
1564             A   DFB  25,26
           1 6BD9 19      B   DEFB  25
           1 6BDA 1A      C   DEFB  26
1565             A;-----
1566             004B   ASDPHL   EQU   $-SDPHA

```

```

1567 A;=====
1568 0113 ASRLAE EQU $-SRANF
1569 A;*****
19 INCLUDE FD1.Z80
1 A;#####
2 A;# Physischer Floppy-Modul FD1.S ( 3,75 MHz-Version ) #
3 A;# VERSION: 1. Sektor-Lesen OHNE ID-Feld-Lesen #
4 A;# 2. Sektor-Schreiben OHNE ID-Feld-Lesen #
5 A;# D.h.Annahme,dass b.Posit.i.a.die Sollspur erreicht w. #
6 A;# Im F.-fall w.ueb.HOME neu posit.b.lesz=0 bzw im Fall #
7 A;# log.ISTsp.in PCN = SOLLsp.in (ix+2),tats.Kopfpos.aber #
8 A;# falsch,w.ueber homez1 neuposit.u.RD/WR-Ruf wiederholt #
9 A;# Austritt mit F.= <ST0> = F.-Klasse 40h/80h/C0h #
10 A;# #
11 A;# In IX w. Anfangsadr.eines 15 Byte langen Param.-feldes ueberg. #
12 A;# IX wird durch den Modul nicht zerstoert. Der Akku enthaelt den #
13 A;# Status der abgeschlossenen Operation. (A=00 : kein Fehler) #
14 A;#####
15 A;file: FD1.S,FDUP1.S,FDDAT1.S
16 A;date: 28.09.88/LU
17 A;
18 A;
19 A;+++++
20 A;Aufbau der echten Schnittstelle zw.Blockungs/FD-Modul fuer:
21 A; ;Lesen / Schreiben I Formatieren
22 A;+++++
23 A;
24 A;FL00: db 70h ;BYTE 0 : BEFEHL (Lesen) (ix) I
25 A; db 00 ;BYTE 1 : LAUFWERK (ix+1) I
26 A; db 20h ;BYTE 2 : SPUR (ix+2) I
27 A; db 00 ;BYTE 3 : KOPF (ix+3) I
28 A; db 01 ;BYTE 4 : SEKTOR (ix+4) I Sektorinhalt
29 A; db 03 ;BYTE 5 : rel.DATENFELDLAENGE (ix+5) I
30 A; n=0..3/128,256,512,1024 B/Sek. I
31 A; db 0Eh ;BYTE 6 : LUECKE (GAP 3) (ix+6) I Luecke 3
32 A; db 01 ;BYTE 7 : SEKTORANZAHL(1..5/1024) (ix+7) I
33 A; db 01 ;BYTE 8 : VERFAHREN (0/1=FM/MFM) (ix+8) I
34 A; db 01 ;BYTE 9 : SCHRITTE/SPUR:1/2=80/40 (ix+9) I
35 A; dw PUFF ;BYTE 10 : PUFFERADRESSE (LOW) (ix+10)I
36 A; ;BYTE 11 : PUFFERADRESSE (HIGH) (ix+11)I
37 A; dw DRPBA ;BYTE 12 : DRIVEPARAM.-BLOCK (LOW) (ix+12) I
38 A; ;BYTE 13 : DRIVEPARAM.-BLOCK (HIGH)(ix+13) I
39 A; db 00 ;BYTE 14 : STATUS (ix+14) I
40 A;
41 A;DRIVE-PARAMETER-BLOCK:
42 A;(Zeitangaben in ms)
43 A;-----
44 A;DRPBA:
45 A; db 05 ;BYTE 0: Laufwerktyp
46 A; db 80 ;BYTE 1: 1.Spur mit Praekomp.,d.h. keine
47 A; db 14 ;BYTE 2: Schritt-bzw.Spurwechselzeit = 4 ms b.4MHz-FDC
48 A; db 02h ;BYTE 3: Kopfberuhigungszeit nach Andruck
49 A; ; (vertik.Schwingen = 2 ms; 0 entspr.512ms !!!)
50 A; db 10 ;BYTE 4: Kopfber.zeit nach Step =10ms z.Elim.
51 A; ; horiz.Schwingen d.Softtimer UP Time1
52 A; db 80 ;BYTE 5: 1.Spur mit Schreibbegrenzung (keine)
53 A; db 00 ;BYTE 6: ;Option
54 A; ;bit0:frei
    
```

```

55      A;                ;bit1:frei
56      A;                ;bit2:frei
57      A;                ;bit3:1= Arbeit ohne Kon-
58      A;                ;      trollesen nach Schreiben
59      A;                ;bit4-7: frei
60      A;    db  00      ;BYTE 7: frei
61      A;    db  00      ;BYTE 8: Praecompenationszeit
62      A;                ; 0 = 125ns
63      A;                ; 1 = 250ns
64      A;                ; 2 = 375ns
65      A;                ; 3 = 500ns
66      A;    db  00      ;BYTE 9: frei
67      A;
68      A;
69      A;+++++
70      A;Aufbau der internen Schnittstelle des FD-Moduls fuer:
71      A;    ~~~~~~      ;Lesen / Schreiben          I Formatieren
72      A;+++++
73      A;
74      A;SCHN:    ds    1,0    ; 0    :BEFEHL                (ix)    I
75      A;LAUFW:  ds    1,0    ; 1    :LAUFWERK            (ix+1) I
76      A;SPUR:    ds    1,0    ; 2    :SPUR                (ix+2) I
77      A;KOPF:    ds    1,0    ; 3    :KOPF                (ix+3) I
78      A;SKT1:    ds    1,0    ; 4    :SEKTOR            (ix+4) I Sektorinhalt
79      A;DFLDL:   ds    1,0    ; 5    :DATENFELDLAENGE      (ix+5) I
80      A;GAP:     ds    1,0    ; 6    :LUECKE (GAP 3)      (ix+6) I Luecke 3
81      A;SANZ:    ds    1,0    ; 7    :SEKTORANZAHL      (ix+7) I
82      A;VERF:    ds    1,0    ; 8    :VERFAHREN          (ix+8) I
83      A;SPUD:    ds    1,0    ; 9    :SCHRITTE/SPUR      (ix+9) I
84      A;PUFFL:   ds    1,0    ; 10   :PUFFERADRESSE (LOW) (ix+10)I
85      A;PUFFH:   ds    1,0    ; 11   :PUFFERADRESSE (HIGH)(ix+11)I
86      A;
87      A;-----
88      A;
89      A;DRPB:     ds    1,0    ; 12   :LW-Typ MFS 1.6
90      A;    ds    1,0    ; 13   :1.Spur m.Praekomp.
91      A;    ds    1,0    ; 14   :Schrittzeit SRT/ms (2ms-Schritte)
92      A;    ds    1,0    ; 15   :Kopfladezeit HLT/ms (4ms-Schritte)
93      A;    ds    1,0    ; 16   :dto.nach Step
94      A;    ds    1,0    ; 17   :1.Spur m.Schreibstrombegrenzg.
95      A;    ds    1,0    ; 18   :Option f.Kontrollesen
96      A;    ds    1,0    ; 19   :Kopfentladezeit HUT in ms(32ms-Schritte)
97      A;    ds    1,0    ; 20   :Praekomp.zeit
98      A;    ds    1,0    ; 21   :frei
99      A;
100     A;
101     A;Befehlskodierung:
102     A;~~~~~
103     A; 80h - Kaltstart (nach POWER ON erf.,sonst u.a. Kopfschleichen!!)
104     A; 70h - Lesen gueltiger Sektoren ( Datenmarke FB )
105     A; 50h - Schreiben gueltiger Sektoren
106     A;Sonderbefehle:
107     A;~~~~~
108     A; 71h - Lesen ID-Feld
109     A; 51h - Formatieren einer Spur
110     A; 73h - Kontrolllesen nach Formatieren (ohne Positionieren)
111     A; 90h - LW-Bereitstet fuer autom.Formaterkennung
112     A;Moegliche Statusmeldungen:

```

```

113      A;-----
114      A;Statusbyte      Bedeutung
115      A; 00             kein Fehler
116      A; 82             bei aut.Formaterkennung ueber Ruf SELDSK1: ID-Feld nicht lesbar
117      A; 4b             Kontollesefehler nach Schreiben
118      A; 52             LW nicht bereit
119      A; 53             Schreibschutz
120      A;
121      A; 61             allgemeiner Fehler ( FDCM ) | z.B. bei Verklemmung in UP
AUSGM
122      A; 62             allgemeiner Fehler ( SPEZ ) | d.h.Bef.-ausgabe an FDC nicht
moegl.
123      A; 63             allgemeiner Fehler ( HOME ) | dto bei HOME/SEEK
124      A; 64             allgemeiner Fehler ( ENDEP1) | wenn ein LW dauernd im
Suchbetrieb
125      A;
126      A; 40             Meldung entsprechend Fehlerstatus | fehlerhafter Komm.-
Abschluss (z.B.CRC-Fehler)
127      A; 80             des Statusreg. ST0 vom FDC | neues Komm. vor Abschluss
altes befohlen
128      A; C0             (Bit 6 und 7) | RDY-Wechsel eines LW waehrend
Komm.-Bearb.
129      A;
130      A;
131      A;Toradressen:
132      A;~~~~~
133      0040 AFDCSTA EQU 40H ;Hauptstatusregister FDC
134      0041 AFDCDAT EQU FDCSTA+1 ;Datenregister FDC
135      0048 AZREG EQU 48H ;Zusatzregister
136      A
137      0010 ATCSTOP EQU 10H ;TC=1: RD/WR-Op. abbrechen (vollst. 4mms-langer H-
Imp.erf.!!)
138      0020 ARESFDC EQU 20H ;FDC-Reset
139      A;
140      A;Ueberwachungszaehler (ACHTUNG: von CPU-Takt abh.;kritisch!!!!)
141      A;~~~~~
142      C000 AUEZEIT EQU 0C00H ;Ueberwachgszaehler z.Synch.FDC nach Ausgabe eines Bef.
143      A ;u.Abholen Resultatbytes (z.B.war 6000h b.2,4 MHz in UP idles
144      A ;zw.call ausgm und call eing1 zu kurz. URSACHE: HLT = 0 ent-
145      A ;spricht Max.-Wert = 508 ms(u.wirkt vor jedem Sektor-Kdo.)
146      1400 APOSZA EQU 1400H ;Abbruchzaehler fuer LW-nicht-bereit vor Positionierung
147      A ;1715W-Wert:= a00h/2,4MHz;1400h auch f.4MHz gueltig !!!
148      00AE ASTIME EQU 174 ;Grundwert fuer soft-timer(= 1ms bei 4 MHz !!),z.B.zur
149      A ;Realg. Kopfberuhigungszeit nach Step(Elim.horiz.Schwingens)
150      0003 AKTIME EQU 3 ;Grundwert b.4 MHz-Vers.f.Wartezeit b.Ausgabesynchr.zum
FDC
151      A ;z.B.in UP ausgm
152      A;
153      A;-----
154      A
155      A
156 6BDB ABIFM0:
157 6BDB DD E5 ABIFM0: PUSH IX
158 6BDD E1 A POP HL
159 6BDE ED 73 F21D A LD (SP00),SP ;Stackpointer retten
160 6BE2 22 F21B A LD (IX00),HL ;Schnittstellenzeiger merken
161 6BE5 11 F1C4 A LD DE,SCHN
162 6BE8 01 000C A LD BC,12
163 6BEB ED B0 A LDIR ;Uebernahme echte Schnittstelle nach schn
164 A ;ACHTUNG: schn hat ab IX+11 neue Belegung !!!!
165 A;
166 6BED 4E A LD C,(HL)
167 6BEE 23 A INC HL
168 6BEF 46 A LD B,(HL)
169 6BF0 C5 A PUSH BC
170 6BF1 E1 A POP HL ;HL zeigt auf akt.DRPB!

```

```
171 6BF2 01 000A A LD BC,10
172 6BF5 ED B0 A LDIR ;Uebernahme des DRPB
173 A;
174 6BF7 DD 21 F1C4 A LD IX,SCHN ;NEUSETZEN IX auf modulinterne Schnittstelle schn
175 A;
176 6BFB FD 21 F1DA A LD IY,SPEZT ;FDC-Kommandobytes laden
177 6BFF FD 36 00 03A LD (IY+SPEZT-SPEZT),3 ;SPEZ (1.Byte jeweils Komm.-laenge)
178 6C03 FD 36 01 03A LD (IY+SPEZT+1-SPEZT),3 ;Komm.-code
179 A;
180 A;HUT (32ms-Schritte)
181 6C07 DD 7E 13 A LD A,(IX+19)
182 6C0A 06 05 A LD B,5
183 6C0C CB 3F AHUT0: SRL A
184 6C0E 10 FC A DJNZ HUT0
185 6C10 4F A LD C,A
186 A;Schrittzeit (2ms-Schritte)
187 6C11 DD 7E 0E A LD A,(IX+14)
188 6C14 CB 3F A SRL A
189 6C16 ED 44 A NEG
190 6C18 E6 0F A AND 0FH
191 6C1A 06 04 A LD B,4
192 6C1C CB 27 ASRT0: SLA A
193 6C1E 10 FC A DJNZ SRT0
194 6C20 B1 A OR C ;SRT/HUT = 4 ms/32 ms
195 6C21 FD 77 02 A LD (IY+SPEZT+2-SPEZT),A
196 A;Kopfladezeit HLT (4ms-Schritte)
197 6C24 DD 7E 0F A LD A,(IX+15)
198 6C27 CB 3F A SRL A
199 6C29 CB C7 A SET 0,A ;ND-Bit hinzu
200 6C2B FD 77 03 A LD (IY+SPEZT+3-SPEZT),A ;HLT/ND = 4 ms/ND-Bit ==> 03h
201 A;
202 6C2E FD 36 04 02A LD (IY+HOMET-SPEZT),2 ;HOME
203 6C32 FD 36 05 07A LD (IY+HOMET+1-SPEZT),7 ;Komm.-code
204 6C36 FD 36 07 03A LD (IY+SEEKT-SPEZT),3 ;SEEK
205 6C3A FD 36 08 0FA LD (IY+SEEKT+1-SPEZT),0FH ;Komm.-code
206 6C3E FD 36 0B 01A LD (IY+SENSET-SPEZT),1 ;SENSE
207 6C42 FD 36 0C 08A LD (IY+SENSET+1-SPEZT),8 ;Komm.-code
208 6C46 FD 36 0D 02A LD (IY+IDLEST-SPEZT),2 ;RD-ID
209 6C4A FD 36 0E 4AA LD (IY+IDLEST+1-SPEZT),4AH ;Komm.-code
210 6C4E FD 36 10 02A LD (IY+STATT-SPEZT),2 ;LW-Status
211 6C52 FD 36 11 04A LD (IY+STATT+1-SPEZT),4 ;Komm.-code
212 6C56 3E 09 A LD A,9 ;Komm.-table/Laenge f.RD/WR-Op.
213 6C58 32 F1ED A LD (CODET),A
214 6C5B AF A XOR A
215 6C5C 32 F1FB A LD (STATB),A ;Status loeschen
216 A;
217 6C5F DD 7E 00 A LD A,(IX)
218 6C62 FE 80 A CP 80H
219 6C64 CA 7078 A JP Z,KALTS ;Kaltstartkommando
220 A;
221 A;Lese/Schreibwiederhol.zaehler und HOME-Zaehler kommandoabh.laden
222 A;-----
223 6C67 DD 7E 00 A LD A,(IX)
224 6C6A FE 90 A CP 90H ;LW-Bereit-Test f.aut.Formaterk.
225 6C6C CA 712C A JP Z,LWRDY?
226 A;
227 6C6F FE 51 A CP 51H ;Komm.-code f.Formatieren
228 6C71 28 13 A JR Z,M00
```

```
229 6C73 FE 73 A CP 73H ;Komm.-code f.Kontr.-RD nach Formatieren
230 6C75 28 0F A JR Z,M00
231 A;
232 6C77 3E 05 A LD A,5 ;Lese/Schreib-Wiederholungszaeher = 05 !! ACHTUNG !!
233 6C79 32 F20C A LD (LESZ),A ; ==> bei zu kleinem lesz (z.B.= 2) haeuft sich BAD SECTOR
234 6C7C 3E 02 A LD A,2 ;Wenn lesz-mal.Wiederholung der RD/WR-SEC-Op.ohne
235 6C7E 32 F20A A LD (HOMEZ1),A ;Erfolg,dann noch einmal wiederh.mit vorh.HOME.Dad.
236 A ;w.auch solche F.elim.,wie Schlittenpos.ausser-
237 A ;halb Spurber./Disk (z.B.v.Hand verstellt!)
238 6C81 32 F20B A LD (HOMEZ2),A ;HOME-Zaehler f.Real.HOME b.fehlerh.Kontrolles.nach SEC-WR
239 6C84 18 0A A JR SCP2 ; (bei >1 ausserdem zu langsames Format.im F.-Fall)
240 A;
241 6C86 3E 04 AM00: LD A,4 ;Werte f.Rufe 'Form./Kontr.-RD nach Form.' laden
242 6C88 32 F20C A LD (LESZ),A ;bei lesz=1 laeuft DP FORMAT nicht (b.lesz=6 zu langsam,
243 6C8B 3E 02 A LD A,2 ;wenn fehlerhafter Sec,lesz=2 f.jungfrauel.Disks unguenstig)
244 6C8D 32 F20A A LD (HOMEZ1),A ;homez1=2: Bei fehlerhaft formatiertem Sec
einmal.Neupositionieren
245 A;
246 A;
247 A;SEKTORARBEIT mit ggf.Kontroll-RD bei Schreiben (entspr.B3/(ix+18)):
248 A;-----
249 A;
250 6C90 CD 6CCA ASCP2: CALL DISKI01 ;Ausfuehr.der Bef.RD/WR/FORMAT/KLNF/ID-
RD,Rueckgabeparam.in A
251 6C93 32 F1FB A LD (STATB),A ;3 Rueckkehrvar.:
252 A ; 1. ohne Fehler : zu scp21, A:=0
253 A ; 2. m.F.(ST0 <> 0): zu scp21, A:=<result>:=ST0 (Fehlerklasse
40h,80h,C0h)
254 A ; 3. schwerer F. : zu fescp,A:=61h,62h,..(direkter Aus-
255 A ; sprung z.B.aus UP spez,fdcm,such,pos0
256 A ; zu fescp mit Kaltstart)
257 A
258 A
259 A;Wenn kein Fehler,dann Test,ob WR und wenn ja,ob Kontrolllesen
260 A;-----
261 6C96 3A F1C4 ASCP21: LD A,(SCHN)
262 6C99 FE 50 A CP 50H
263 6C9B 20 13 A JR NZ,ESCP0 ;kein Schreiben !
264 6C9D 3A F1FB A LD A,(STATB)
265 6CA0 FE 00 A CP 0
266 6CA2 20 0C A JR NZ,ESCP0 ;wenn Fehler b.Schreiben,dann kein CON-RD
267 A ; ~~~~~
268 6CA4 DD CB 12 5EA BIT 3,(IX+18) ;B3=0: WR mit CON-RD (u.Beruecksicht.des akt.Wertes/LESZ!)
269 6CA8 CA 70A0 A JP Z,KL ;Rueckkehr bei keinem F.: jp escp0
270 A ; b.fehlerhaft.Sec: jp scp2 (WR-Wiederholung)
271 A ; bei LESZ:=0: jp escp (Austritt m.F.=4bh)
272 6CAB 18 03 A JR ESCP0 ;B3=1: WR ohne CON-RD
273 A;
274 A;
275 A;Ausgang des physischen Moduls
276 A;-----
277 6CAD 32 F1FB AESCP: LD (STATB),A ;Absp.A:=01 bei log.F.(log.geloeschter Sec gefunden)
278 6CB0 AF AESCP0: XOR A ;alle Motoren stop d.SW = 00 (B0/1/2 Motorbits)
279 A ;ACHTUNG: b.Ausg.SW=20h,d.h.SW m.FDC-Reset am Ende jed.RD/WR-
Op.
280 6CB1 D3 48 A OUT (ZREG),A ;wuerde PCN (int.Spurzaeh./FDC) auf 0 gesetzt(obwohl FDC n.auf
Spur 0 steht!)
281 A ;Dad.wuerde bei naechstem Positionieren im POS0 falsch posit.
!!!!!!
282 A;
283 6CB3 DD 2A F21B AESCP1: LD IX,(IX00) ;IX regener.(auf echte Schnittst.v.Blockungsmod.)
284 6CB7 3A F1FB AESCP2: LD A,(STATB)
285 6CBA DD 77 0E A LD (IX+14),A ;<statb> in echter Schnittstelle zurueckgeben
286 6CBD ED 7B F21D AKS3: LD SP,(SP00)
```

```
287 6CC1 C9      A      RET          ;zurueck in aufruf.Modul(BIOS/BDOS)
288             A;
289             A;
290             A;Fehlerhaftes Ende des Moduls, wobei die Fehlerursache nicht weiter verifiziert
291             A;werden kann (Fehlerklasse 60h, 61h, ...).
292             A;-----
293 6CC2 32 F1FB  AFESCP:      LD (STATB),A
294 6CC5 CD 7088  A      CALL KS      ;Kaltstart (FDC-Reset + Istspuren ISSPj=FF f.HOME)
295 6CC8 18 E6   A      JR ESCP0
296             A;
297             A;-----
298             A;
299             A      INCLUDE FDUP1.Z80      ;alle UPs
1             B;*****
2             B;Unterprogramme zu FD-Modul (3,75 MHz-Version) *
3             B;VERSION: 1. RD-und WR-Op.OHNE vorher.ID-Feld-Lesen beim Posit. *
4             B;      2. MIT Zeit-Ueberwachung im Bytehandling der RD/WR-Op.*
5             B;      durch Soft-Loop *
6             B;      3. Implementierung der Befehle 51h/73h/71h/90h --> *
7             B;      51h Formatieren *
8             B;      73h Kontrolllesen nach Formatieren ohne Positionierg*
9             B;      71h ID-Feld lesen (Nutzung z.aut.Formatanpassung !)*
10            B;      90h Abfrage LW-Status *
11            B;*****
12            B;file:      FDUP1.S
13            B;date:      03.05.89 / LO
14            B;
15            B;Sektorarbeit:
16            B;Ausfuehrung der Kommandos LESEN/SCHREIBEN/FORMAT/KONTR.-RD nach FORMAT/ID-RD
17            B;+++++
18            B;
19 6CCA          BDISKI01:
20 6CCA DD 7E 01  BDISK0:      LD A,(IX+1)      ;Schnittstellencode f.LW0/1/2: 00/01/02 !!
21 6CCD E6 03   B      AND 3
22 6CCF 47      B      LD B,A
23 6CD0 4F      B      LD C,A
24 6CD1 04      B      INC B
25 6CD2 3E 80   B      LD A,80H      ;Motorcode im ZREG f.LW0/1/2 berechnen
26 6CD4 07      BDISK0:      RLCA
27 6CD5 10 FD   B      DJNZ DISK0
28             B;
29 6CD7 21 F1FE B      LD HL,ISSP0     ;zum akt.LW gehoerige Istsp.-Adr.ber.u.nach
30 6CDA 09      B      ADD HL,BC      ;aissp abspeichern
31 6CDB 22 F1FC B      LD (AISSP),HL
32             B;
33             B;Ein/Ausschalten Praecompensation d.B3/ZREG:= 1/0
34             B;-----
35             B;Prae.-Params in DRPBA: Byte 1/PRA = 1.Spur m.Praecomp. Byte 8 = Praec.-zeit
36             B;----- Wenn PRA=80 ==> f.keine Spur Praekomp.!!
37             B;
38 6CDE 47      B      LD B,A      ;Motor-Bits f.zreg retten
39 6CDF DD 7E 0D  B      LD A,(IX+13)    ;PRA = 1.Spur mit Praecomp.lt.Schnittstelle
40 6CE2 DD 4E 02  B      LD C,(IX+2)    ;zu bearb.Spur
41 6CE5 0C      B      INC C
42 6CE6 91      B      SUB C      ;wenn A < 0,dann akt.Spur ohne Praecomp.
43 6CE7 78      B      LD A,B
44 6CE8 30 03   B      JR NC,NOPRAE
45 6CEA 0E 08   B      LD C,00001000B;B3=1: Arbeit mit Praecomp.
```



```

46 6CEC B1      B      OR C          ;spurabhaengig Praecomp.bit zu Motor-Bit dazuodern
47              B              ;(z.Z.1.Spur mit Praec.=80,d.h.keine Spur m.Praec.)
48              B;
49 6CED 32 F219 BNOPRAE:   LD (ZREGSP),A ;abspeichern akt.Stand Motorbits(Prae/
50              B              ;Res/TC-Bits:=0)
51 6CF0 D3 48   B      OUT (ZREG),A ;Motor ein
52              B;
53              B;Einstellung allgemeiner Kommando-
54              B;bytes fuer FDC
55              B;-----
56 6CF2 DD 7E 03 B      LD A,(IX+3)   ;aus Kopfbyte Kopfbit HDS ber.
57 6CF5 B7      B      OR A
58 6CF6 07      B      RLCA
59 6CF7 07      B      RLCA
60 6CF8 DD 46 01 B      LD B,(IX+1)   ;LW-Bits DS0/1 aus LW-Byte hinzuodern
61 6CFB B0      B      OR B          ;akt.Komm.-byte in A:= 0 0 0 0 HDS DS1 DS0 in
62 6CFC 32 F1EF B      LD (K2CODE),A ;Kommandocode/Byte 2 f. FD-Befehle laden
63 6CFF 32 F1EC B      LD (STAT+2),A
64 6D02 32 F1E3 B      LD (SEEK+2),A
65 6D05 32 F1E9 B      LD (IDLEST+2),A
66              B;
67              B;FDC programmieren und positionieren entspr.Spur in Schnittstelle (ix+2)
68              B;PRINZIP: OHNE Kontrolle aktuelle Istspur d.ID-Feldlesen b. RD -u.WR-Op. !!!
69              B; Falls ISTsp.in Var.PCN = SOLLsp.in (ix+2),tats.Spur aber anders(z.B.
70              B; v.Hand verst.),erfolgen 5 Wiederh.entpr.LESZ u.anschl.1 HOME entspr.
71              B; homez1,sodass int.Spurzaehler/FDC=0.Bei nachf.RD/WR-Op.w.dann neuposit.
72              B;
73              B;
74 6D08 CD 6F4B B      CALL SPEZ     ;FDC-Reset im Kaltstart,Spezif.FDC b.jedem Posit.,obwohl
75              B              ;FDC einmal prog.Werte auch d.Kaltstart/FDC-Reset nicht
vergisst.
76              B              ;lfd.neue Spez.erf.,weil LW-Param.untersch.sein koennen.
77 6D0B CD 6FB3 B      CALL POS0     ;kein Posit.,wenn (log.)Istspur in PCN = Sollspur in
(ix+2);d.h.evtl.falsche
78              B              ;Spur/FDC w.im sowieso erfolg.ID-Lesen der nachfolg. RD/WR-
Op.erkant u.ueb.
79              B              ;HOME d.anschl.Neuposit.entpr.Stand homez
korr.(mittl.Zeitgewinn 100ms/Sec).
80              B; !!!!-----> ;Direkter Ausprung zu escp nach Sonderbef.ID-Lesen
81              B              ;(w.f.aut.Formatanpassg in UP seldsk1 benutzt)
82              B;
83              B;Aufbereiten der Sektorinformation
84              B;-----
85 6D0E 21 F1C6 B      LD HL,SPUR
86 6D11 11 F1F0 B      LD DE,KSINFO   ;Komm.-table f.RD/WR entspr.Sektorinformationen
87 6D14 01 0004 B      LD BC,4        ;umladen u.aufbereiten
88 6D17 ED B0   B      LDIR
89              B;
90 6D19 DD 7E 00 B      LD A,(IX)      ;Befehl
91 6D1C FE 51   B      CP 51H        ;Formatieren (w.beim Formatieren d.DP FORMAT in schn eingetr.)
92 6D1E 20 14   B      JR NZ,FORMV   ;nein
93 6D20 1B      B      DEC DE          ;-----+
94 6D21 3A F1C8 B      LD A,(SKT1)    ;
95 6D24 12      B      LD (DE),A      ;ksinfo+3 (Datenbyte 0e5h)
96 6D25 1B      B      DEC DE          ;
97 6D26 3A F1CA B      LD A,(GAP)      ;
98 6D29 12      B      LD (DE),A      ;ksinfo+2 (Gap3=74h/1024|Ueberladen der 'codet' mit
99 6D2A 1B      B      DEC DE          ; =36h/256)|den Informationen, die fuer
100 6D2B 3A F1CB B      LD A,(SANZL)   ; das Formatieren erforderlich
101 6D2E 12      B      LD (DE),A      ;ksinfo+1 (Sekt/Spur) sind (siehe Schnittstelle)
102 6D2F 1B      B      DEC DE          ;
103 6D30 3A F1C9 B      LD A,(DFLDL)   ;

```

```
104 6D33 12      B      LD (DE),A      ;ksinfo+0 (Bytes/Sekt)      |
105              B      ;-----+
106              B;
107              B;formatabh.keot (Nr.letzter Sec/Spur) berechnen
108              B;-----
109 6D34 DD 7E 05 BFORMV: LD A,(IX+5) ;rel.Datenfeldlge (1,2,3 ==> 256/512/1024)
110 6D37 21 F1F4 B      LD HL,KEOT
111 6D3A 36 05 B      LD (HL),5      ;Standardwert f.1024-Sec laden
112 6D3C FE 03 B      CP 3
113 6D3E 28 0E B      JR Z,SECK
114 6D40 36 09 B      LD (HL),9      ;keot f.9*512-Format
115 6D42 FE 02 B      CP 2
116 6D44 28 08 B      JR Z,SECK
117 6D46 36 10 B      LD (HL),16     ;16*256-Format
118 6D48 FE 01 B      CP 1          ;26*128-Format
119 6D4A 28 02 B      JR Z,SECK
120 6D4C 36 1A B      LD (HL),26
121              B;
122              B;-----
123              B; ld a,(skt1) ;Berechnung Pseudo-EOT:
124              B; add a,(ix+7) ;Dad.w.lfd.Aktual.des EOT-Byte keot entspr.
125              B; dec a      ;Disk-Format vermieden.Es w.aus Anfangs-Sec <skt1> u.
126              B; ld (keot),a ;Anzahl der zu beh.Sec (ix+7) die Nr v.letz.zu beh.Sec
127              B      ;ber.u.als scheinbares Spurende eingetrag.Das dann
128              B      ;aut.Weiterst.auf naech.Spur/Kopf Sec 1 d.FDC stoert
129              B      ;nicht,da diesbez.keine Auswertung erfolgt!!!
130              B;-----
131              B;
132 6D4E DD 7E 06 BSECK: LD A,(IX+6)
133 6D51 32 F1F5 B      LD (KGPL),A    ;Gap3 = Luecke nach Datenfeld: = max.116B b.1024-Sec
134 6D54 3E 80 B      LD A,80H      ;Datenfeldlaenge f.80h-sektorierte Disks
135 6D56 32 F1F6 B      LD (KDTL),A    ;(entspr.rel.Laenge n=0)
136              B;
137              B;Berech.Gesamtzahl der zu behand.Bytes aus rel/abs Datenfeldlge * Anzahl Sec
138              B;-----
139 6D59 DD 46 05 BSECL: LD B,(IX+5) ;rel. Datenfeldlaenge
140 6D5C 21 0040 B      LD HL,40H
141 6D5F 04 B      INC B
142 6D60 29 BSECL1: ADD HL,HL
143 6D61 10 FD B      DJNZ SECL1
144 6D63 22 F215 B      LD (SKTGR),HL ;abs. Datenfeldlaenge = Anzahl Byte/Sec
145 6D66 EB B      EX DE,HL
146              B;
147 6D67 DD 7E 00 B      LD A,(IX)      ;Befehl
148 6D6A FE 51 B      CP 51H      ;Formatieren ?
149 6D6C 3E 09 B      LD A,9      ;Laenge der 'codet' f.RD WR/SCAN
150 6D6E 20 05 B      JR NZ,VS2
151 6D70 11 0004 B      LD DE,4      ;4 Byte pro ID-Feld
152 6D73 3E 06 B      LD A,6      ;Laenge der 'codet' f.Formatieren
153 6D75 32 F1ED BVS2: LD (CODET),A
154              B;
155 6D78 21 0000 B      LD HL,0
156 6D7B DD 46 07 B      LD B,(IX+7)
157 6D7E 19 BSECL2: ADD HL,DE
158 6D7F 10 FD B      DJNZ SECL2
159 6D81 22 F217 B      LD (BLCKL),HL ;Gesamtzahl der zu behand.Bytes
160              B;
161              B;RUF-Verteiler: Komm.-code f.RD WR/FORMAT/KONTROLL-RD
```

```
162 B;-----
163 6D84 DD 7E 00 BLESEN: LD A,(IX)
164 6D87 FE 70 B CP 70H ;Lesen ?
165 6D89 3E 46 B LD A,46H ;Komm.-code f.RD
166 6D8B 32 F1EE B LD (K1CODE),A
167 6D8E CA 6DBC B JP Z,REEAD ;ja
168 B;
169 6D91 DD 7E 00 BKONRD: LD A,(IX)
170 6D94 FE 73 B CP 73H ;Kontrolllesen nach Format.?
171 6D96 3E 51 B LD A,51H ;Bef.-code f.scan equal
172 6D98 32 F1EE B LD (K1CODE),A
173 6D9B CA 6E37 B JP Z,KLNF ;ja
174 B;
175 B;Schreiben einschl.Test WR-protected/Formatieren
176 6D9E 3E 45 BSCHREI: LD A,45H ;Komm.-code f.WR | Write und Formatieren werden
177 6DA0 32 F1EE B LD (K1CODE),A ; | durch die selbe Routine
178 6DA3 DD 7E 00 B LD A,(IX) ; | WRRITE ausgefuehrt,da vorher
179 6DA6 FE 50 B CP 50H ;Schreiben ? | die codet entsprechend
180 6DA8 28 05 B JR Z,WRPTST ;ja,nun wrpr-Test | modifiziert wurde
181 6DAA 3E 4D B LD A,4DH ;Komm.-code f.Formatieren
182 6DAC 32 F1EE B LD (K1CODE),A
183 B;
184 6DAF CD 6F57 BWRPTST: CALL STATLW
185 6DB2 CB 77 B BIT 6,A ;Diskette schreibgeschuetzt ?
186 6DB4 CA 6DFE B JP Z,WRRITE ;nein
187 6DB7 3E 53 B LD A,53H ;F.-code
188 6DB9 C3 6CAD B JP ESCP ;Austritt m.F.= 53h
189 B;
190 B;
191 B;-----
192 B;LESEN EINES/MEHRERER SECTOREN :
193 B;Besonderheit b.dieser Version : Begrenzg.der Wartezeit auf Eintritt
Datenbereitschaft
194 B; FDC v.ca 0,3s/2,4 MHz,dann raus z.Wiederh.entspr.
195 B; lesz/homez1 (b.homez1=0 Austr.m.F.=<ST0>=40,80,c0)
196 B;-----
197 B;
198 6DBC BREEAD:
199 6DBC 21 F1ED B LD HL,CODET
200 6DBF CD 6F0A B CALL AUSGM ;FDC f.RD-Op.progr.
201 6DC2 C4 6F37 B CALL NZ,FDCM
202 6DC5 20 F5 B JR NZ,REEAD
203 B;
204 6DC7 ED 4B F217 B LD BC,(BLCKL)
205 6DCB 2A F1CE B LD HL,(PUFFL)
206 B;
207 B;VERSION f.BIC/3,75MHz mit Softloop-Ueberwachung
208 B; (Schleife zum byte-weisen RD in max.0,032 ms) :
209 B;-----
210 6DCE 11 0000 B LD DE,00 ;max.Ueberwachgzeit: 65535 * 51T = 0.9s/3,75 MHz
211 6DD1 F3 B DI ;DI muesste eig.vor call ausgm,dies hat aber eigene
212 B ;harte F.-Ausgaenge,wo dann ueberall EI stehen muesste
213 6DD2 BSECRD:
214 6DD2 1B B DEC DE ;bei BIC(3,75MHz): Schleifenueberwachg.einbinden f.aut.
215 6DD3 7B B LD A,E ;Austritt,wenn B5/7-Hauptstat.reg.staendig 0,d.h.FDC
216 6DD4 B2 B OR D ;keine Daten bzw.nicht mehr in Ausfuehrgsphase (z.B.liefert FDC
217 B ;im Hauptstat.-reg. D0h = "Ausf.phase beendet"inf.Desynch.zur.)
218 6DD5 28 23 B JR Z,RD2 ;Austritt z.Ruf-Wiederholung
219 B;
```

```
220          B;BYTEHANDLING:
221          B;-----
222 6DD7 DB 40  BSECRD0:      IN A,(FDCSTA) ;Status des FDC holen
223 6DD9 FE F0  B      CP 0F0H      ;B7B6B5B4 = 1 ==> Ausfuehrungsphase,Daten vorhanden
224 6DDB 20 F5  B      JR NZ,SECRD  ;bei Desynchr.FDC/CPU meldet FDC z.B. Status = D0h zur.
225          B;
226          B;      DI          ;T E S T  24.04.89-->N E G T I V  3.5.89
227 6DDD DB 41  B      IN A,(FDCDAT)
228 6DDF 77      B      LD (HL),A
229 6DE0 ED A1  B      CPI
230 6DE2 EA 6DD7 B      JP PE,SECRD0 ;alle abgeholt?
231          B;
232 6DE5 3A F219 B      LD A,(ZREGSP) ;letzter akt.Stand zreg (Motorcode)
233 6DE8 F6 10  B      OR TCSTOP    ;Hinzuodern des TC-Stop (B4-zreg = 1)
234 6DEA D3 48  B      OUT (ZREG),A ;Abbrechen der Uebertragung durch TC-Ausgabe
235 6DEC CB A7  B      RES 4,A      ;vollst.4 mms langer H-Impuls
236 6DEE 00      B      NOP
237 6DEF D3 48  B      OUT (ZREG),A
238          B;
239 6DF1 DB 40  B      IN A,(FDCSTA) ;bedingtes Blindlesen eines ggfs.noch angearb.
240 6DF3 FE F0  B      CP 0F0H      ;Datenbytes(z.B.wenn kein vollst.Sec gelesen w.)
241 6DF5 C2 6DFA B      JP NZ,RD2    ;nein
242 6DF8 DB 41  B      IN A,(FDCDAT) ;ja:letztes Datenbyte blindlesen u.verwerfen
243          B;
244 6DFA FB      BRD2: EI
245 6DFB C3 6EAA B      JP ENDEBH    ;d.h.zur f.RD-u.WR-Op.gemeinsamen Endebehandlung,bei
246          B;      ;F.lesz-fache Wiederholg.,dann Austritt m.F.=<ST0>
247          B;
248          B;
249          B;-----
250          B;SCHREIBEN EINES/MEHRERER SECTOREN / FORMATIEREN EINER SPUR
251          B;Ueberwachg Datenbereitabfrage wie b.RD
252          B;-----
253 6DFE 21 F1ED BWRRITE:      LD HL,CODET  ;Floppy-Bef.WR/FORM ausloesen
254 6E01 CD 6F0A B      CALL AUSGM
255 6E04 C4 6F37 B      CALL NZ,FDCM
256 6E07 20 F5  B      JR NZ,WRRITE
257          B;
258 6E09 2A F1CE B      LD HL,(PUFFL)
259 6E0C ED 4B F217 B      LD BC,(BLCKL)
260          B;
261          B;VERSION f.BIC/3,75MHz mit Softloop-Ueberwachung
262          B;-----
263 6E10 11 0000 B      LD DE,00      ;max.Ueberwachgzeit: 65535 * 51T = 0.9s/3,75 MHz
264 6E13 F3      B      DI          ;DI muesste eig.vor call ausgm,dies hat aber eigene
265          B;      ;harte F.-Ausgaenge,wo dann ueberall EI stehen muesste
266 6E14          BSECRW:
267 6E14 1B      B      DEC DE      ;bei BIC(3,75MHz): Schleifenueberwachg.einbinden f.aut.
268 6E15 7B      B      LD A,E      ;Austritt,wenn B5/7-Hauptstat.reg.staendig 0,d.h.FDC
269 6E16 B2      B      OR D        ;keine Daten/nicht in Ausfuehrgsphase (z.B.FDC-Stat=D0h)
270 6E17 28 1A  B      JR Z,WR2    ;Austritt z.Ruf-Wiederholung
271          B;
272          B;BYTEHANDLING:
273          B;Schleife zum byte-weisen WR in max.0,032 ms
274          B;-----
275          B;
276 6E19 DB 40  BSECRW0:      IN A,(FDCSTA) ;Daten bereit u.noch Ausfuehrgsphase(B7B6B5B4:=1011) ?
277 6E1B FE B0  B      CP 0B0H      ;B7B6B5B4/Hauptstat.reg. = 1011
```



```

336 6E62 EA 6E56 B JP PE,KLNFS1
337 B;
338 6E65 3A F219 B LD A,(ZREGSP) ;letzter akt. Stand von zreg
339 6E68 F6 10 B OR TCSTOP ;weitere Uebertrag.d.FDC ueber TC-Bit4/zreg:=1 sperren
340 6E6A D3 48 B OUT (ZREG),A
341 6E6C CB A7 B RES 4,A
342 6E6E 00 B NOP
343 6E6F D3 48 B OUT (ZREG),A
344 6E71 18 33 B JR KLN2
345 B;
346 6E73 21 F1ED BKLNFD: LD HL,CODET ;DATENSPUREN
347 6E76 CD 6F0A B CALL AUSGM ;Floppy-Bef.scan equal ausloesen
348 6E79 C4 6F37 B CALL NZ,FDCM
349 6E7C 20 F5 B JR NZ,KLNFD
350 B;
351 6E7E ED 4B F217 B LD BC,(BLCKL)
352 B;
353 B;VERSION f.BIC/3,75MHz mit Softloop-Ueberwachung
354 B;-----
355 6E82 11 0000 B LD DE,00 ;max.Ueberwachzeit: 65535 * 51T = 0.9s/3,75 MHz
356 6E85 F3 B DI ;DI muesste eig.vor call ausgm,dies hat aber eigene
357 B ;harte F.-Ausgaenge,wo dann ueberall EI stehen muesste
358 6E86 BKLNFD0:
359 6E86 1B B DEC DE ;bei BIC(3,75MHz): Schleifenueberwachg.einbinden f.aut.
360 6E87 7B B LD A,E ;Austritt,wenn B5/7-Hauptstat.reg.staendig 0,d.h.FDC
361 6E88 B2 B OR D ;keine Daten/nicht in Ausfuehrphase (z.B.FDC-Stat=D0h)
362 6E89 28 1B B JR Z,KLN2 ;Austritt z.Ruf-Wiederholung
363 B;
364 B;BYTEHANDLING:
365 B;Schleife zum byte-weisen CON-RD in max.0,032 ms
366 B;-----
367 B;
368 6E8B DB 40 BKLNFD1: IN A,(FDCSTA) ;Daten bereit u.noch Ausfuehrphase(B7B6B5B4:=1011) ?
369 6E8D FE B0 B CP 0B0H ;B7B6B5B4/Hauptstat.reg. = 1011
370 B ; ~~~=> Richtung CPU/FDC
371 6E8F 20 F5 B JR NZ,KLNFD0
372 B;
373 B; DI ;T E S T 24.04.89-->N E G T I V 3.5.89
374 6E91 3E E5 B LD A,0E5H ;Daten fuer Datenspur: 0E5H
375 6E93 D3 41 B OUT (FDCDAT),A
376 6E95 ED A1 B CPI ;BC:= 0 ==> P/V-Flag := 1
377 6E97 EA 6E8B B JP PE,KLNFD1
378 B;
379 6E9A 3A F219 B LD A,(ZREGSP) ;letzter akt. Stand von zreg
380 6E9D F6 10 B OR TCSTOP ;weitere Uebertrag.d.FDC ueber TC-Bit4/zreg:=1 sperren
381 6E9F D3 48 B OUT (ZREG),A
382 6EA1 CB A7 B RES 4,A
383 6EA3 00 B NOP
384 6EA4 D3 48 B OUT (ZREG),A
385 B;
386 6EA6 FB BKLN2: EI
387 6EA7 C3 6EAA B JP ENDEBH
388 B;
389 B;-----
390 B;Gemeinsame Behandlung Fehler-Klasse <ST0>:= 40h/80h/C0h bei allen SEC-Operat.
391 B;-----
392 B;40h: unnorm.Komm.-abschluss 80h: unvollst.Komm. C0h: Komm.-Abbruch w.RDY-
Wechsel
393 B;

```

```

394 6EAA CD 6ED2  BENEDEBH: CALL EINGM ;Resultatsphase v.RD/WR-Op.abholen (7 Byte)
395 6EAD 3A F20E  B LD A,(RESULT)
396 6EB0 E6 C0    B AND 0C0H ;B7/6-ST0 = 0: norm.=fehlerfreier Komm.-Abschluss ?
397 6EB2 C8      B RET Z ;AUSRITT 1 ( o.k.-Fall): kein Fehler aufgetreten
398          B ;~~~~~
399          B;
400 6EB3 21 F20C  B LD HL,LESZ ;Fehlerfall: ==> Ruf lesz-mal (bei falscher Spur -Test
result+2-
401 6EB6 35      B DEC (HL) ;~~~~~ innerhalb Spurber.auch m.Positg.) wiederholen
402 6EB7 20 09   B JR NZ,XX ; ~~~~~ (in dem Fall ID-Lesen d.FDC moegl.)
403          B;
404 6EB9 36 01   B LD (HL),1 ;lesz=1: sonst wegen lesz=0/dec lesz "Quasi-Endlosschleife"!!!
405 6EBB 21 F20A B LD HL,HOMEZ1 ;wenn leszmal o.Erfolg wiederholt,dann ist log.ISTsp.in
406 6EBE 35      B DEC (HL) ;Var.PCN zwar = SOLLsp.in (IX+2),Kopf aber
ausserh.Spurbereich/Disk.
407          B ;Dann noch homez1-mal wiederh.m.Neupositg.ueber HOME.
408 6EBF C8      B RET Z ;AUSRITT 2 (irgendein F.): F.-Typ,bei dem lesz/homez1-mal
wiederholt
409          B ;~~~~~ wurde.Als F.-Nr w.<result>=ST0
zurueckgegeb.
410 6EC0 18 08   B JR YY ;Kopf steht ausserhalb Spurbereich/Disk (d.h.FDC kann kein ID-
Feld lesen!!)
411          B ; ==> Ruf-Wiederholung mit Neupositionieren
412          B;-----
413 6EC2 3A F210  BXX LD A,(RESULT+2) ;falsche Spur (B4/ST2 = 1) ?
414 6EC5 CB 67   B BIT 4,A ;Dann Neuposit.ueber HOME (Fall: Kopf falsch,aber
innerh.Spurber.)
415 6EC7 CA 6CCA B JP Z,DSK0 ;sonst Ruf-Wiederholung ohne Neupositiong. ~~~~~
416          B;
417          B;-----
418 6ECA 2A F1FC  BYY: LD HL,(AISSP)
419 6ECD 36 FF   B LD (HL),0FFH ;<aissp>:=0ffh ==> HOME in POS0
420 6ECF C3 6CCA B JP DSK0 ;Ruf-Wiederholung mit Neupositionierung ueber HOME
421          B;
422          B ;AUSRITT 3 (schwere F.): direkter Aussprung aus den F.-
423          B ;~~~~~ gener.UPs(z.B.F.=62h in UP spez)
424          B ; (==> F.-Klasse OHNE WIEDERHOLUNG !!!)
425          B;
426          B;
427          B;+++++
428          B;Zeitminimales Lesen einer Nachricht vom FDC
429          B;+++++
430 6ED2 21 F20E  BEINGM: LD HL,RESULT
431 6ED5 3E 07   BEING1: LD A,7 ;maximale Anzahl von Resultatsbytes
432 6ED7 32 F201 B LD (ZRES),A
433 6EDA 11 C000 B LD DE,UEZEIT
434          B;
435 6EDD DB 40    BEWAIT: IN A,(FDCSTA) ;B7=1: FDC-Datreg.bereit f.RD/WR-Op. ?
436 6EDF CB 7F    B BIT 7,A
437 6EE1 CA 6F01 B JP Z,FDCNB1
438          B;
439 6EE4 DB 40    B IN A,(FDCSTA)
440 6EE6 CB 77    B BIT 6,A ;B6:=1: Richtung FDC ==> CPU ?
441 6EE8 CA 6F01 B JP Z,FDCNB1
442          B;
443 6EEB DB 41    B IN A,(FDCDAT)
444 6EED 77      B LD (HL),A ;-----,
445 6EEE 23      B INC HL ;Wartezeit I
446 6EEF 3A F201 B LD A,(ZRES) ; fuer Reaktion RQM I
447 6EF2 3D      B DEC A ; des Hauptstatus- I--- ca. 0,025ms
448 6EF3 32 F201 B LD (ZRES),A ; registers im FDC I
449 6EF6 C8      B RET Z ; I
450          B ; I
451 6EF7 DB 40    BBSY: IN A,(FDCSTA) ;solange B4:=1,weit. I

```

```

452 6EF9 CB 67      B    BIT 4,A          ;Result.bytes im FDC I
453 6EFB 3E 00     B    LD A,0          ;vorhanden          I
454 6EFD C8        B    RET Z           ;kein Resultatsbyte mehr vorhanden
455 6EFE C3 6EDD   B    JP EWAIT        ;naechstes Byte abholen
456                B;
457 6F01 1B        BFDCNB1:    DEC DE
458 6F02 7A        B    LD A,D
459 6F03 B3          B    OR E
460 6F04 C2 6EDD   B    JP NZ,EWAIT
461 6F07 F6 02     B    OR 2            ;A:=02 ==> Fehlerstatus von eingm
462 6F09 C9        B    RET             ;Synchronisationsfehler
463                B;
464                B;
465                B;+++++
466                B;Zeitminimale Ausgabe eines Befehls an FDC
467                B;+++++
468 6F0A 00        BAUSGM:     NOP
469 6F0B 0E 41     BAUSGT1:    LD C,FDCDAT ;Ausgabe des SCAN dauert ca. 0,450 ms
470 6F0D 46        B    LD B,(HL)       ;bei 2,45 MHz
471 6F0E 23        B    INC HL
472 6F0F 11 0000   B    LD DE,0
473                B;
474 6F12 DB 40     BRICHT:     IN A,(FDCSTA) ;Richtung: CPU zum FDC ?
475 6F14 CB 77     B    BIT 6,A
476 6F16 20 19     B    JR NZ,RICHT0    ;FDC nicht bereit (falsche Richtung)
477                B;
478 6F18 DB 40     BBEREIT:    IN A,(FDCSTA) ;FDC bereit ?
479 6F1A CB 7F     B    BIT 7,A
480 6F1C 28 03     B    JR Z,FDCNB      ;FDC nicht bereit
481                B;
482 6F1E ED A3     BFDCOK:     OUTI
483 6F20 C8        B    RET Z           ;fertig -----,
484 6F21 78        BFDCNB:     LD A,B          ;
485 6F22 06 03     B    LD B,KTIME      ;Wartezeit fuer          I
486 6F24 10 FE     BKILLT:     DJNZ KILLT    ;Hauptstatusregister          I
487 6F26 47        B    LD B,A          ;des FDC          I-- 0,02404ms
488 6F27 1B        B    DEC DE          ;
489 6F28 7A        B    LD A,D          ;
490 6F29 B3          B    OR E            ;A=Wert des Ueberw.-Zaehlers          I
491 6F2A 00        B    NOP            ;
492 6F2B 20 EB     B    JR NZ,BEREIT    ;Fehlerstatus fuer ausgm-----,
493 6F2D 00        B    NOP
494 6F2E F6 01     B    OR 1            ;A:=01 ==> Synchronisationsfehler
495 6F30 C9        B    RET
496                B;
497 6F31 CD 6F37   BRICHT0:    CALL FDCM    ;Abholen einer unerwarteten Meldung des FDC
498 6F34 C3 6F12   B    JP RICHT
499                B;
500                B;
501                B;+++++
502                B;U-Programm zum Abholen einer unerwarteten Meldung des FDC
503                B;z.B.in UP ausgm keine LW-Bereitschaft mehr d.DISK-Entnahme
504                B;+++++
505 6F37 DB 40     BFDCM:     IN A,(FDCSTA)
506 6F39 E6 C0     B    AND 0C0H        ;B7/6-Hauptstatusreg.:= 11 ?
507 6F3B FE C0     B    CP 0C0H         ;hat der FDC eine Meldung ???? ( RDY- Wechsel )
508 6F3D 3E 61     B    LD A,61H        ;falls nicht, so allgemeinen Fehler ausgeben !!!
509 6F3F C2 6CC2   B    JP NZ,FESCP

```



```
510 B;
511 6F42 CD 6ED2 B CALL EINGM ;FDC-Meldung abholen
512 6F45 00 B NOP ;eventuell RDY-Wechsel eines
513 6F46 00 B NOP ;Laufwerkes untersuchen
514 6F47 00 B NOP
515 6F48 F6 01 B OR 1 ;z-Flag = 0
516 6F4A C9 B RET
517 B;
518 B;
519 B;+++++
520 B;Spezifizieren des FDC
521 B;(w.d.FDC-Reset/Kaltstart n.geloescht)
522 B;+++++
523 6F4B 21 F1DA BSPEZ: LD HL,SPEZT ;Adresse des ersten Kommandobytes
524 6F4E CD 6F0A B CALL AUSGM ;FDC - Spezifikation
525 6F51 C8 B RET Z
526 6F52 3E 62 B LD A,62H
527 6F54 C3 6CC2 B JP FESCP
528 B;
529 B;+++++
530 B;Abfrage des LW-Status
531 B;+++++
532 6F57 21 F1EA BSTATLW: LD HL,STATT
533 6F5A CD 6F0A B CALL AUSGM
534 6F5D 3E 00 B LD A,0 ;verursacht Meldung LWNB in POS0
535 6F5F C0 B RET NZ
536 6F60 CD 6ED2 B CALL EINGM
537 6F63 3A F20E B LD A,(RESULT)
538 6F66 32 F1F7 B LD (RSTAT),A
539 6F69 C9 B RET
540 B;
541 B;+++++
542 B;Spur 0 - Positionierung in 3 Posit.-Schritten:
543 B; Ist-Spur ==> Spur < 16
544 B; Spur < 16 ==> Spur 16
545 B; Spur 16 ==> Spur 00
546 B;+++++
547 6F6A CD 6F78 BHOME: CALL HOME1 ;zur 1. Positionierung mit HOME-Komm.
548 B ;(Spur 0 aussen !!!)
549 6F6D CD 7023 B CALL ENDEP ;ev.vorangegang.Pos.-vorgang noch nicht beendet?
550 B;
551 6F70 3E 10 B LD A,16 ;2.Positionierung ab ncn=16,da mit HOME nur ueber
552 6F72 32 F1FA B LD (NCN),A ;max.77 Spuren in einem Schritt pos.w.kann!!
553 6F75 CD 6F8F B CALL SUCH ;2.Posit.ausfuehren
554 B;
555 B;-----
556 6F78 CD 7023 BHOME1: CALL ENDEP ;Test,ob LW d.ein ev.vorangegang.Suchkom.noch
557 B ;im Suchbetrieb (dann B0..4/Hauptstat.-reg.< 0 !!)
558 6F7B DD 7E 01 B LD A,(IX+1) ;LW-Byte aus uebernommener Schnittst.schn
559 6F7E 32 F1E0 B LD (HOMET+2),A ;nach HOME-Tab.
560 6F81 21 F1DE B LD HL,HOMET ;HOME - Kommando!!
561 6F84 CD 6F0A B CALL AUSGM ;Spur 0 anfahren (aber nur max.77 Schritte moegl.)
562 6F87 20 13 B JR NZ,SUCH1 ;wenn Ausgabe/Ausfuehrung Komm. nicht erfolgreich,
563 B ;dann zu BH "schwerer Fehler"
564 6F89 2A F1FC B LD HL,(AISSP) ;ISSP f.akt.LW := 0
565 6F8C 36 00 B LD (HL),0
566 6F8E C9 B RET
567 B;
```

```

568          B;+++++
569          B;Spur - Positionierung
570          B;+++++
571 6F8F 3A F1FA BSUCH:      LD A,(NCN)
572 6F92 32 F1E4 B      LD (SEEKT+3),A
573 6F95 21 F1E1 B      LD HL,SEEKT      ;SUCH-Kommando!
574 6F98 CD 6F0A B      CALL AUSGM
575 6F9B C8      B      RET Z          ;ausgm kommt b.fehlerfreier Posit.m.Z:=1 zur.
576 6F9C 3E 63  BSUCH1:    LD A,63H
577 6F9E C3 6CC2 B      JP FESCP
578          B;
579          B;+++++
580          B;SENSE - Interruptstatus (erf.b.Komm.
581          B;ohne Resultatsphase z.B.RECAL/SEEK)
582          B;+++++
583 6FA1 21 F1E5 BSENSE:  LD HL,SENSET
584 6FA4 CD 6F0A B      CALL AUSGM
585 6FA7 C0      B      RET NZ
586 6FA8 CD 6ED2 B      CALL EINGM      ;SENSE-Status abholen (ST0,PCN)
587 6FAB AF      B      XOR A
588 6FAC 2A F20E B      LD HL,(RESULT)
589 6FAF 22 F1F8 B      LD (SEEKST),HL ;und nach seekst abspeichern
590 6FB2 C9      B      RET
591          B;
592          B;
593          B;+++++
594          B;Kopfpositionierung:
595          B;      Bei RD-Op. OHNE ID-Feld-Lesen
596          B;      Bei WR-Op. OHNE ID-Feld-Lesen
597          B;D.h.Spurkontr.nur im ID-Lesen der RD/WR-Op.selbst!!!
598          B;Sonderbefehl ID-Feld lesen ->Ausprung zu escp/fescp
599          B;+++++
600 6FB3 21 1400 BPOS0:   LD HL,POSZA      ;Ueberwachungszeit
601 6FB6 E5      BPOSW0:   PUSH HL
602 6FB7 CD 6F57 B      CALL STATLW      ;B5/ST3:=1 LW bereit
603 6FBA E1      B      POP HL
604 6FBB CB 6F      B      BIT 5,A
605 6FBD 20 0A      B      JR NZ,POS1      ;LW bereit
606          B;
607 6FBF 2B      B      DEC HL          ;LW nicht bereit: Warten entspr.posza
608 6FC0 7C      B      LD A,H
609 6FC1 B5      B      OR L
610 6FC2 20 F2      B      JR NZ,POSW0
611          B;
612 6FC4 3E 52      B      LD A,52H          ;LW auch nach Wartezeit nicht bereit
613 6FC6 C3 6CC2 B      JP FESCP
614          B;
615 6FC9 DD 7E 00 BPOS1:   LD A,(IX)          ;Befehl
616 6FCC FE 73      B      CP 73H          ;Lesen ohne Positionieren
617 6FCE C8      B      RET Z
618          B;
619 6FCF 21 F209 B      LD HL,HOMEZ      ;unwirksam,da bei dieser Version ("RD/WR-Op.OHNE ID-Lesen")
620 6FD2 36 04      B      LD (HL),4      ;
621 6FD4 2A F1FC B      LD HL,(AISSP)     ;im POSO vor der RD/WR-Op.kein ID-Feld z.Spurkontr.erfolgt!!!!
622 6FD7 7E      B      LD A,(HL)          ;theor.ISTspur in Var.ISSPj (ggf.nicht
ident.m.tats.Kopfpos.)
623 6FD8 DD BE 02 B      CP (IX+2)        ;SOLL - Spur
624 6FDB 28 26      B      JR Z,POS3      ;Gleichheit
625          B;

```

```
626 6FDD FE FF      BPOS2:      CP 0FFH      ;1.Positionierung nach Kaltstart (als HOME-Posit.)
627 6FDF CC 6F6A    B      CALL Z,H00ME ;oder nach Fehler
628                                     B;
629 6FE2 21 F209    B      LD HL,H0MEZ
630 6FE5 35         B      DEC (HL)
631 6FE6 3E 56      B      LD A,56H      ;Spur nicht gefunden (z.B.Spurnr.>79 = 4fh)
632 6FE8 CA 6CC2    B      JP Z,FESCP    ;?????????
633                                     B;
634 6FEB CD 7023    B      CALL ENDEP    ;Positionierende abwarten
635                                     B;
636 6FEE AF         B      XOR A      ;SEEK
637 6FEF DD 46 09    B      LD B,(IX+9)
638 6FF2 DD 86 02    BPOS25     ADD A,(IX+2) ;Schritte=(Spur)*(Schritte pro Spur)
639 6FF5 10 FB      B      DJNZ POS25
640 6FF7 32 F1FA    B      LD (NCN),A
641 6FFA CD 6F8F    B      CALL SUCH    ;Suchen bis pcn = ncn (momentane = anzufahr.Spur-Nr)
642                                     B;
643 6FFD DD 7E 10    B      LD A,(IX+16) ;Kopfberuhigungszeit nach Step (10ms) d.softtimer abwarten
644 7000 CD 706E    B      CALL TIME1   ;(Eliminierung horizont.Schwingens des Kopfes!)
645                                     B;
646 7003 CD 7023    BPOS3:     CALL ENDEP    ;Positionierende abwarten
647                                     B;
648                                     B;Code f.Version Sonderbefehl ID-Feldlesen
649                                     B;-----
650 7006 2A F1FC    B      LD HL,(AISSP) ;vermeintlich (d.h.in fehlerlosem Fall
tatsaechl.)angefahr.
651 7009 DD 7E 02    B      LD A,(IX+2) ;Istspur absp.(im F.-Fall w.lesz-faches
Wiederhol.m.HOME
652 700C 77         B      LD (HL),A    ;in Kauf genommen) ==> erhebbl.Beschl.der RD-Op.,da
mind.
653                                     B      ;40 ms f.RD eines ID-Feldes der angefahr.Spur entfallen
!!!!
654                                     B;
655 700D 3A F1C4    B      LD A,(SCHN) ;Befehlscode
656 7010 FE 71      B      CP 71H
657 7012 28 01      B      JR Z,IDRD
658                                     B;
659 7014 C9         B      RET          ;Abschluss von POS0 f. RD/WR-Op.
660                                     B;ID-Feld der aktuellen Spur lesen
661                                     B;ID: ST0 ST1 ST2 Cyl Hd R(Sec) N(Byt/Sec)
662                                     B;-----
663 7015 CD 7040    BIDRD:     CALL IDLES   ;ACHTUNG: im UP idles Austritt m.F.=61h,wenn UEZEIT zu
664                                     B      ; kurz (z.B.= 6000h/6800h ==> F./kein F.b.2,4MHz !!)
665 7018 28 05      B      JR Z,IDRD0   ;gesetztes Z-Flag = erfolgreiches Lesen
666 701A 3E 82      B      LD A,82H    ;eigentlich:falscher Kopf/hier:ID-Feld nicht lesbar
667 701C C3 6CAD    B      JP ESCP     ;bzw.nicht vorhanden (unformatierte Disk)
668                                     B;
669 701F AF         BIDRD0:    XOR A      ;Status = 0 setzen
670 7020 C3 6CB0    B      JP ESCP0    ;zum Ende von bfm springen (ID-Feld wird im modifi-
671                                     B      ;zierten seldsk ausgewertet)
672                                     B;
673                                     B;+++++
674                                     B;Ende der Positionierung abwarten
675                                     B;+++++
676 7023 F5         BENDEP:    PUSH AF
677 7024 E5         B      PUSH HL
678 7025 21 C000    B      LD HL,UEZEIT
679 7028 2B         BENDEP1:   DEC HL
680 7029 7D         B      LD A,L
681 702A B4         B      OR H
682 702B 3E 64      B      LD A,64H
683 702D CA 6CC2    B      JP Z,FESCP    ;undefinierter Fehler
```

```
684 7030 DB 40      B    IN A,(FDCSTA) ;ist irgendein LW noch im Suchbetrieb,
685 7032 E6 1F      B    AND 01FH      ;d.h.B0..4/Hauptstatreg. >< 0 ?
686 7034 28 07      B    JR Z,POPR     ;nein
687                B;
688 7036 E5          B    PUSH HL
689 7037 CD 6FA1     B    CALL SENSE    ;Abschluss von SEEK oder HOME; SENSE liefert
690                B    ;erst n.erfolg.Kom.-Ende guelt.ST0 u.PCN (vorher
691 703A E1           B    POP HL        ;hat ST0 den Wert 80h!!)
692 703B 18 EB       B    JR ENDEP1
693 703D E1          BPOPR:      POP HL
694 703E F1          B    POP AF
695 703F C9          B    RET
696                B;
697                B;+++++++
698                B;ID-Feld-Lesen
699                B;+++++++
700 7040 21 F202     BIDLES:    LD HL,IDF
701 7043 06 07      B    LD B,7        ;7 Bytes: ST0 ST1 ST2 Cyl Head Rec N (rel.Datfeldlng)
702 7045 36 EE       BIDLES0:   LD (HL),0EEH ;Statusfeld loeschen mit EEH
703 7047 23          B    INC HL
704 7048 10 FB       B    DJNZ IDLES0
705 704A 21 F1E7     BIDLES1:   LD HL,IDLEST
706 704D CD 6F0A     B    CALL AUSGM    ;ACHTUNG: UEZEIT=6000h zw.ausgm/eing1 b.2,4MHz zu
707 7050 21 F202     B    LD HL,IDF     ; kurz,schon 6800h reicht,gewaehlt aber
708 7053 CD 6ED5     B    CALL EING1    ; FFFFh (ausreichend auch b.3,75 MHz)
709                B;
710 7056 01 0004     B    LD BC,4       ;ID-Feld-Werte zurueckladen auf uebergebe.PUFF
711 7059 21 F205     B    LD HL,IDF+3   ;f.Auswertung in aut.Formaterkennung
712 705C DD 5E 0A    B    LD E,(IX+10)
713 705F DD 56 0B    B    LD D,(IX+11)
714 7062 ED B0       B    LDIR
715                B;
716 7064 47          B    LD B,A
717 7065 3A F202     B    LD A,(IDF)
718 7068 E6 C0       B    AND 0C0H
719 706A B0           B    OR B
720 706B C9          B    RET            ;Z :wenn i.0.
721                B;
722                B;+++++++
723                B;Zeit-Programm
724                B;+++++++
725                B ;Anwendg z.B.f.Real.Kopfberuhigungszeit nach Step
726 706C 3E 01       BTIME0:    LD A,1    ;Einstellung in ms bei 2,4 MHz
727 706E 06 AE       BTIME1:    LD B,STIME ;Soft-Timer: 1 ms
728 7070 B7           BTIME2:    OR A
729 7071 05          B    DEC B
730 7072 20 FC       B    JR NZ,TIME2
731 7074 3D          B    DEC A
732 7075 20 F7       B    JR NZ,TIME1
733 7077 C9          B    RET
734                B;
735                B;
736                B;+++++++
737                B;Kaltstartfunktion
738                B;+++++++
739 7078 AF          BKALTS:    XOR A
740 7079 32 F219     B    LD (ZREGSP),A ;Zw.-Sp.f.zreg: alle Motoren aus
741 707C 21 F1FE     B    LD HL,ISSP0
```

```
742 707F 22 F1FC B LD (AISSP),HL
743 B;
744 7082 CD 7088 B CALL KS
745 7085 C3 6CB0 B JP ESCP0
746 B;
747 7088 06 03 BKS: LD B,3
748 708A 21 F1FE B LD HL,ISSP0
749 708D 36 FF BKS0: LD (HL),0FFH ;issp0/1/2 := 0ffh f.Real.HOME in POS0
750 708F 23 B INC HL ; bei Kaltstart/Fehler
751 7090 10 FB B DJNZ KS0
752 B;
753 7092 3A F219 B LD A,(ZREGSP) ;zreg m.akt.Stand PRAE/MOTOR-Bits (s.S1-4)
754 7095 CB EF B SET 5,A ;vollst.H-Impuls F.FDC-Reset Progr. (> 3,5mms)
755 7097 D3 48 B OUT (ZREG),A ;PRAE/MOT-Bits unbeeinfl.
756 7099 00 B NOP
757 709A 00 B NOP
758 709B CB AF B RES 5,A
759 709D D3 48 B OUT (ZREG),A ;FDC-Reset (FDC-Programm w.dad.nicht geloescht)
760 709F C9 B RET
761 B;
762 B;
763 B;+++++
764 B;Kontrolllesen: Wenn beim Sec-WR kein Fehler aufgetreten,wird
765 B; bei B3/(ix+18)=0 in UP DISKIO UP kl aufgerufen.
766 B; Dabei w.Sec f.Sec der Pufferinhalt m.den Disk-
767 B; daten verglichen.Bei F.w.ab def.Sec nochm.geschr.
768 B;+++++
769 70A0 3E 01 BKL: LD A,1 ;STP-Byte in SCAN-Komm.auf 1: Sec in
770 70A2 32 F1F6 B LD (KDTL),A ;ununterbrochener Reihe vergleichen
771 70A5 3E 51 B LD A,51H ;SCAN-Kommandocode(Sec-Vergleich)
772 70A7 32 F1EE B LD (K1CODE),A
773 70AA 2A F215 B LD HL,(SKTGR) ;Sec-laenge
774 70AD 22 F217 B LD (BLCKL),HL ;Blocklaenge enthaelt nun Laenge eines Sektors
775 B;
776 70B0 3A F1C8 BK1: LD A,(SKT1) ;akt.Sec-Nr
777 70B3 32 F1F4 B LD (KEOT),A ;als Pseudo-EOT eintr.
778 70B6 32 F1F2 B LD (KSINFO+2),A ;akt.Sektor-Nr in Komm.-table eintragen
779 B;
780 70B9 21 F1ED BSCAN: LD HL,CODET ;Floppy-Bef.SCAN ausloesen
781 70BC CD 6F0A B CALL AUSGM
782 70BF C4 6F37 B CALL NZ,FDCM
783 70C2 20 F5 B JR NZ,SCAN
784 B;
785 70C4 2A F1CE B LD HL,(PUFFL)
786 70C7 ED 4B F217 B LD BC,(BLCKL)
787 B;
788 B;Ueberwachung bei BIC (3.75 MHz!) d.Softschleife (im BC 5120 mit K2/3 ZRE-CTC)
789 B;-----
790 70CB 11 0000 B LD DE,00 ;max.Ueberwachzeit: 65535 * 51T = 0,9 s/3,75MHz)
791 70CE F3 B DI
792 70CF BSECSC:
793 70CF 1B B DEC DE ;Schleifenueberwachg.f.aut.Austritt nach 0,9 s/3,75 MHz
794 70D0 7A B LD A,D ;wenn B5/7-Hauptstat.reg.staendig 0,d.h.FDC
795 70D1 B3 B OR E ;keine Daten bzw.nicht in Ausfuehrungsphase
796 70D2 28 1A B JR Z,SC2 ;Austritt z.Wiederholung
797 B;
798 B;Schleife zum byte-weisen SCAN = Puffer-Ausgabe an FDC in max. 32 mms
799 B;-----
```

```
800 70D4 DB 40      BSECSC0:   IN A,(FDCSTA) ;Daten bereit u.noch Ausfuehrphase(B7B6B5B4:=1011) ?
801 70D6 FE B0      B      CP 0B0H      ;B7B6B5B4/Hauptstat.reg. = 1011
802                B                ; ~~~=> Richtung CPU/FDC
803 70D8 20 F5      B      JR NZ,SECSC
804                B;
805                B;      DI                ;T E S T 24.04.89-->N E G T I V 3.5.89
806 70DA 7E        B      LD A,(HL)
807 70DB D3 41      B      OUT (FDCDAT),A ;Byte kontrolllesen
808 70DD ED A1      B      CPI
809 70DF EA 70D4    B      JP PE,SECSC0
810                B;
811 70E2 3A F219    B      LD A,(ZREGSP) ;letzter akt.Stand von zreg
812 70E5 F6 10      B      OR TCSTOP    ;weitere Uebertragung d.FDC ueber TC:=1 sperren
813 70E7 D3 48      B      OUT (ZREG),A
814 70E9 CB A7      B      RES 4,A
815 70EB 00         B      NOP
816 70EC D3 48      B      OUT (ZREG),A
817                B;
818 70EE FB         BSC2: EI
819                B;
820 70EF CD 6ED2    B      CALL EINGM    ;Resultat vom FDC abholen
821 70F2 3A F20E    B      LD A,(RESULT) ;und auf Fehler untersuchen
822 70F5 E6 C0      B      AND 0C0H    ;Normaler = fehlerfreier Komm.-Abschluss?
823 70F7 20 1E      B      JR NZ,KF    ;FDC-Fehler aufgetreten ==> Wdh.ab fehlerh.Sec.
824                B;
825 70F9 3A F210    B      LD A,(RESULT+2) ;Sec-Vergleich o.k.(B3/ST2:=1) ?
826 70FC CB 5F      B      BIT 3,A
827 70FE 28 17      B      JR Z,KF    ;Schreibwiederholung ab fehlerhaftem Sektor!
828                B;
829 7100 DD 34 04    B      INC (IX+4)   ;akt. Sec-Nr. inkrementieren
830 7103 2A F1CE    B      LD HL,(PUFFL) ;akt. Pufferadresse
831 7106 ED 5B F215 B      LD DE,(SKTGR)
832 710A 19         B      ADD HL,DE
833 710B 22 F1CE    B      LD (PUFFL),HL ;Anfangsadresse fuer naechstes Schreiben
834 710E DD 35 07    B      DEC (IX+7)   ;sanz-1
835 7111 AF         B      XOR A
836 7112 CA 6CB0    B      JP Z,ESCP0   ;Austritt: Kontrolllesen fehlerfrei beendet
837                B      ;~~~~~
838 7115 18 99      B      JR K1        ;naechsten Sektor vergleichen
839                B;
840 7117 21 F20C    BKF: LD HL,LESZ
841 711A 35         B      DEC (HL)
842 711B C2 6C90    B      JP NZ,SCP2   ;Schreibwiederholung ab
843                B      ;fehlerhaftem Sektor!
844 711E 36 01      B      LD (HL),1    ;lesz=1 z.Verhinderg Endlosloop im Fall lesz=0/dec lesz
845 7120 21 F20B    B      LD HL,HOMEZ2  ;home-Zaehler nur f.Schreibwiederhlg.nach fehlerh.Kon.-
846 7123 35         B      DEC (HL)    ;lesen m.Spur0-Anfahren b.Vers.: 'SEC-RD/WR-Arbeit
847 7124 C2 6C90    B      JP NZ,SCP2   ;OHNE vorher.ID-Feldlesen im POSO'
848                B;
849 7127 3E 4B      B      LD A,4BH
850 7129 C3 6CAD    B      JP ESCP      ;Austritt mit Fehler 4bh
851                B;
852 712C DD 7E 03    BLWRDY?: LD A,(IX+3) ;KOPFBIT B2 SETZEN
853 712F B7           B      OR A
854 7130 07         B      RLCA
855 7131 07         B      RLCA
856 7132 DD 46 01    B      LD B,(IX+1) ;LW-Bits B0/1 setzen
857 7135 B0           B      OR B
```

```

858 7136 32 F1EC B LD (STATT+2),A
859 7139 E6 03 B AND 3
860 713B 3C B INC A
861 713C 47 B LD B,A
862 713D 3E 80 B LD A,80H
863 713F 07 BLWRD0 RLCA
864 7140 10 FD B DJNZ LWRD0
865 7142 32 F219 B LD (ZREGSP),A
866 7145 D3 48 B OUT (ZREG),A ;Motor ein
867 7147 21 1400 B LD HL,POSZA ;Ueberwachung
868 714A E5 BLWRD1 PUSH HL
869 714B CD 6F57 B CALL STATLW
870 714E E1 B POP HL
871 714F E6 30 B AND 30H ;Bit5/ST3=1: LW bereit )
872 7151 C2 6CAD B JP NZ,ESCP ;Bit4/ST3=1: Spur 0 erreicht )LW vorhanden
873 B;
874 7154 2B B DEC HL
875 7155 7C B LD A,H
876 7156 B5 B OR L ;Zeit vorbei ?
877 7157 20 F1 B JR NZ,LWRD1 ;Nein, weiter warten
878 7159 C3 6CC2 B JP FESCP
879 B;
880 B;*****
300 A;
301 A;*****
21 INCLUDE BICFORMAT.Z80
1 A;*****
2 A; FORMAT: *
3 A; Disketten-Formatierungsprogramm fuer BIC *
4 A; (Hardware LW 1.6 + FDC 8272) *
5 A; Disk DS-DD-80 Spuren *
6 A; Format:5 * 1024 (2 Systemspuren) BIC-Standard mit*
7 A; Sektorversatz 1 4 2 5 3 *
8 A; Nutzung der phys.Routinen im Betriebssystem (bifm00) *
9 A; max.8 2-kByte-Blocke (ausser Spur 0-2) koennen defekt sein *
10 A; Anzeige der defekten Blocke nach Beendigung Formatieren *
11 A;
12 A; Stand: 10.04.89
13 A;
14 A; File: BICFORMAT.S
15 A;*****
16 A;
17 000D ACR EQU 0DH
18 000A ALF EQU 0AH
19 0008 ABS EQU 08H
20 A;
21 000C ACHOME EQU 0CH ;BS-Steuerzeichen
22 0005 AANZSEK EQU 5 ;Sektoranzahl auf einer Seite der Disk
23 0005 AANZBLK EQU 5 ;Anzahl der 1-K-Blocke auf einer Disk-Seite
24 0001 ASEKBLK EQU 1 ;Anzahl Sektoren je KByte
25 A;*****
26 A;
27 A GLOBAL FORMA0
28 715C AFORMA0 ;Programmbeginn
29 A;
30 A;
31 A;Einlesen der benoetigten Parameter, Modifizierung der entspr.Schnittstellen
32 A;-----
    
```

```
33 715C 21 74FD AINITB0: LD HL,SCHNR0 ;Umladen Schnittstellen u Puffer in RAM
34 715F 11 F433 A LD DE,SCHNR ; Zieladresse
35 7162 01 0066 A LD BC,DBMEN0-SCHNR0+1 ; Laenge: SCHNR0...DBMEN0
36 7165 ED B0 A LDIR
37 A; -----
38 7167 AF AMENUE XOR A
39 7168 32 F424 A LD (LWOK),A ;kein gueltiges log. LW
40 716B 11 7563 A LD DE,AMENUE
41 716E CD 74E9 A CALL ZKAUS ;Anzeige Anfangsmenue
42 7171 CD 74F4 A CALL TEIN ;Einlesen drivename
43 A;
44 7174 FE 03 A CP 3
45 7176 CA 7363 A JP Z,BREAK
46 7179 FE 0D A CP CR
47 717B 20 02 A JR NZ,MEN10
48 717D 3E 41 A LD A,'A' ;ENTER = log. LW A
49 A;
50 717F CB AF AMEN10 RES 5,A ;Erzeugen Grossbuchstaben
51 7181 D6 41 A SUB 'A' ;log. LW A = 0
52 7183 FE 10 A CP 16
53 7185 30 E0 A JR NC,MENUE ;-->Falsches log. LW
54 A;
55 7187 4F A LD C,A
56 7188 CD 6948 A CALL DGETPB
57 718B 28 DA A JR Z,MENUE ;-->Falsches log. LW
58 A; -----
59 718D 3E FF A LD A,0FFH
60 718F 32 F424 A LD (LWOK),A ;Gueltiges log. LW
61 A;
62 7192 DD 7E 1C A LD A,(IX+DPBOPT)
63 7195 32 F425 A LD (HDPBOP),A ;Verify-Status retten
64 7198 CB DF A SET DPBONV,A ;Format ohne Verify
65 719A DD 77 1C A LD (IX+DPBOPT),A
66 A;
67 719D DD 7E 15 A LD A,(IX+DPBDNR)
68 71A0 32 F434 A LD (SCHNR+1),A ;phys. LW-Code in Schnittstellen laden
69 71A3 32 F443 A LD (SCHNF+1),A
70 A;
71 71A6 11 0016 A LD DE,DPBDRT
72 71A9 DD 19 A ADD IX,DE
73 71AB DD 22 F43F A LD (SCHNR+12),IX
74 71AF DD 22 F44E A LD (SCHNF+12),IX ;Adr Drive-Parameter-Block
75 A;
76 71B3 79 A LD A,C ;A = log. LW
77 71B4 11 0001 A LD DE,1
78 71B7 A7 A AND A
79 71B8 28 07 A JR Z,MEN30
80 71BA CB 23 AMEN20 SLA E
81 71BC CB 12 A RL D ;DE = LW-Vektor
82 71BE 3D A DEC A
83 71BF 20 F9 A JR NZ,MEN20
84 71C1 0E 25 AMEN30 LD C,37 ;log. LW durch BDOS ruecksetzen
85 71C3 CD E89A A CALL BBDOS ; (nicht BBDOSX !!)
86 A; -----
87 71C6 11 7581 A LD DE,STECK
88 71C9 CD 74E9 A CALL ZKAUS ;Aufforderung zum Stecken der zu form.Disk
89 71CC AWART1:
90 71CC CD 74F4 A CALL TEIN ; Warten auf Betaetigen einer Taste
```



```
91 71CF FE 03      A   CP   03H      ;   ^C --> Abbruch
92 71D1 CA 7363    A   JP   Z,BREAK   ;   |
93 71D4 FE 0D      A   CP   0DH      ;   Unterscheidung ET1 = weiter/andere = warten
94 71D6 20 F4      A   JR   NZ,WART1  ;-----+
95                A
96 71D8 CD 7448    AINITB2:  CALL  SP0      ;in allen ID-Puffern die Spurnr.auf 0 setzen und
die
97                A                      ;Schnittstellen      initialisieren
98                A
99                A;Ende der Schnittstellenmodifizierung
100               A;-----
101 71DB 11 759F    A   LD   DE,WARN
102 71DE CD 74E9    A   CALL ZKAUS      ;Warnung,alle Files auf d.form.Disk werden geloescht
103               A
104 71E1 CD 74F4    A   CALL TEIN       ;warten auf 'J':-->formatieren
105               A                      ; andere Taste:-->abbrechen
106 71E4 CB AF      A   RES  5,A        ;Grossbuchstaben erzeugen
107 71E6 FE 4A      A   CP   'J'
108 71E8 C2 7363    A   JP   NZ,BREAK   ;Abbruch des Programms
109               A
110 71EB DD 21 F433  A   LD   IX,SCHNR
111 71EF DD 36 00 80A A   LD   (IX+0),80H
112 71F3 CD 6BDB    A   CALL BIFM00     ;Kaltstart f.FDC
113 71F6 DD 36 00 73A A   LD   (IX+0),73H  ;Code fuer Kontrolllesen
114               A
115 71FA 21 F429    A   LD   HL,TRACK
116 71FD 36 50      A   LD   (HL),80    ;Spurzaehler laden (Rueckwaertszaehler !!)
117               A
118 71FF 21 F42C    A   LD   HL,VRM
119 7202 36 00      A   LD   (HL),0     ;Vorder-/Rueckseitenmerker
120               A
121 7204 21 F432    A   LD   HL,DBLLGE
122 7207 36 10      A   LD   (HL),DBMEND-DBM+1
123               A                      ;max.Laenge des DBM
124 7209 46         A   LD   B,(HL)
125               A
126 720A 21 F489    A   LD   HL,DBM     ;Adr.des DBM
127 720D 22 F430    A   LD   (BLZEIG),HL ;Zeiger auf 1.freie Zelle des DBM
128               A
129 7210 36 00      ADBML:   LD   (HL),0
130 7212 23         A   INC  HL
131 7213 10 FB      A   DJNZ DBML      ;DBM loeschen
132               A
133 7215 21 F42D    A   LD   HL,SFM
134 7218 36 00      A   LD   (HL),0     ;Sektorform.merker (zaehlt def.128-Byte-Blocke)
135               A
136 721A 11 76A8    A   LD   DE,FANZ1
137 721D CD 74E9    A   CALL ZKAUS      ;Leerzeile
138               A
139               A;Vorbereitung fuer jeden Aufruf des Moduls 'bifm' bei neuer Spur
140               A;-----
141 7220 21 F42A    AINITB3:  LD   HL,SPFWDH
142 7223 36 02      A   LD   (HL),2     ;Spurform.wdh.-Zaehler (nach Fehlern beim Formatieren)
143 7225 21 F42B    A   LD   HL,SFWDH
144 7228 36 02      A   LD   (HL),2     ;Sektorform.wdh.-Zaehler (nach Fehlern bei
Kontrolllesen)
145               A
146               A;Beginn Formatierung
147               A;-----
148 722A 11 75D7    AINITB4:  LD   DE,FANZ
```

```
149 722D CD 74E9 A CALL ZKAUS ;Anzeige "Formatieren auf Spur: "  
150 A  
151 7230 3A F42C A LD A,(VRM)  
152 7233 47 A LD B,A  
153 7234 3A F444 A LD A,(SCHNF+2)  
154 7237 87 A ADD A,A  
155 7238 80 A ADD A,B ; 2 * Spur + Seite  
156 7239 CD 74A2 A CALL KON ; Konvertierung/Anzeige  
157 A  
158 723C DD 21 F442 A LD IX,SCHNF  
159 7240 CD 6BDB A CALL BIFM00 ;Form.einer Spur auf einer Seite der Disk  
160 7243 DD 7E 0E A LD A,(IX+14) ;Status  
161 7246 FE 00 A CP 0  
162 7248 CA 7262 A JP Z,KONRD0 ;Fehlerfrei --> nun Kontrolllesen  
163 A  
164 A;Behandlung von Fehlern nach Formatieren  
165 A;-->z.B.Status 40h vom FDC (Ursachen/Bedeutung bis jetzt ungeklaert)  
166 A;auch moeglich z.B. LW-Hebel nicht geschlossen  
167 A;-----  
168 724B DD 7E 0E AFEBEFO: LD A,(IX+14) ;Status  
169 724E FE 52 A CP 52H ;Fehlercode f.LW nicht bereit  
170 7250 CA 7358 A JP Z,BREAK3  
171 7253 FE 53 A CP 53H ;Fehlercode f.Disk schreibgeschuetzt  
172 7255 CA 735D A JP Z,BREAK4  
173 A  
174 7258 21 F42A A LD HL,SPFWDH ;Spurformatierwdh.-Zaehler  
175 725B 35 A DEC (HL)  
176 725C CA 7363 A JP Z,BREAK ;nach 3-maliger vergeblicher Form.einer Spur  
177 A ;Programmabbruch,da f.diese Fehlerklasse z.Z. keine  
178 725F C3 722A A JP INITB4 ;Erklaerung existiert  
179 A  
180 A;Kontrolllesen einer Spur in 1-K-Bloecken  
181 A;-----  
182 7262 3E 05 AKONRD0: LD A,ANZBLK ;Anzahl der 1-K-Bloecke auf einer Seite  
183 7264 32 F428 A LD (KLZ),A ;in den Kontrollese-Zaehler laden  
184 A  
185 7267 DD 21 F433 A LD IX,SCHNR ;-----+  
186 726B 3A F444 A LD A,(SCHNF+2) ; gerade form.Spur  
187 726E DD 77 02 A LD (IX+2),A ; in schnr laden  
188 A ;  
189 7271 3A F42C A LD A,(VRM) ; ==> Init.von schnr  
190 7274 DD 77 03 A LD (IX+3),A ; Kopfnr.laden  
191 7277 DD 36 04 01A LD (IX+4),1 ; 1.zu beh.Sektor  
192 727B DD 36 00 73A LD (IX),73H ;-----+  
193 A  
194 727F CD 6BDB AKONRD1: CALL BIFM00 ;Kontrolllesen 1 kByte  
195 7282 DD 7E 0E A LD A,(IX+14) ;Status  
196 7285 FE 00 A CP 0  
197 7287 C2 729D A JP NZ,FEBEKL ;zur Fehlerbehandlung nach Kontrolllesen  
198 A  
199 728A 21 F428 A WNF: LD HL,KLZ  
200 728D 35 A DEC (HL)  
201 728E CA 730F A JP Z,PRSEIT ;Spur o.k.,weiter mit naechster Spur  
202 A  
203 7291 DD 7E 04 A LD A,(IX+4) ;1.zu behandelnder Sektor  
204 7294 06 01 A LD B,SEKBLK  
205 7296 80 A ADD A,B ;auf naechstes KByte einstellen  
206 7297 DD 77 04 A LD (IX+4),A
```

```
207 729A C3 727F A JP KONRD1 ;naechstes KByte kontrolllesen
208 A
209 A;Behandlung von Fehlern nach Kontrolllesen --> 2-malige Wiederholung.
210 A;Danach Eintragen in Errormap.Max 8 2-k-Bloecke duerfen defekt sein.
211 A;Bei Fehlern in Spur 0-2 sofortiger Abbruch. Es bleibt
212 A;dem Bediener ueberlassen,einen neuen Programmdurchlauf zu starten.
213 A;-----
214 729D 21 F42B AFEBEKL: LD HL,SFWDH ;Wdh.-Zaehler nach Fehler bei Kontrolllesen
215 72A0 35 A DEC (HL)
216 72A1 C2 722A A JP NZ,INITB4 ;nochmaliges Form.der selben Spur
217 72A4 36 01 A LD (HL),1 ;Verhindern 'Quasi'-Endlosschleife
218 A
219 72A6 DD 7E 02 A LD A,(IX+2) ;Spur,die gerade geprueft wurde
220 72A9 FE 03 A CP 3
221 72AB DA 734E A JP C,BREAK1 ;System- bzw.Dir.-Spur darf keinen Fehler haben
222 A
223 72AE D6 02 A SUB 2 ;Numerierung der Bloecke beginnt auf Spur 2
224 72B0 87 A ADD A,A ;Anzahl d.vollstaendig form.Spuren ab Spur2/Kopf0
225 72B1 47 A LD B,A
226 72B2 16 00 A LD D,0
227 72B4 1E 05 A LD E,ANZBLK ;Anz.der 1-K-Bloecke auf einer Spur
228 72B6 21 0000 A LD HL,0
229 72B9 19 AANZKB0: ADD HL,DE ;Anz.der 1-K-Bloecke auf den bisher
o.k.form.Spuren,
230 72BA 10 FD A DJNZ ANZKB0 ;gezaehlt ab Spur 2/Kopf0
231 A
232 72BC 3A F42C A LD A,(VRM) ;falls Vorderseite bereits o.k.,diese Bloecke
233 72BF FE 00 A CP 0 ;auch addieren
234 72C1 28 01 A JR Z,ANZKB1
235 72C3 19 A ADD HL,DE
236 A
237 72C4 E5 AANZKB1: PUSH HL ;hl zwischenspeichern
238 72C5 3E 05 A LD A,ANZBLK ;Berechnung der auf dieser Spur bereits o.k.
239 72C7 21 F428 A LD HL,KLZ ;geprueften 1-K-Bloecke
240 72CA 96 A SUB (HL)
241 72CB 3C A INC A ;Nr.des defekten 1-K-Blockes auf der akt.Spur
242 72CC E1 A POP HL
243 72CD 16 00 A LD D,0
244 72CF 5F A LD E,A
245 72D0 19 A ADD HL,DE ;Nr.des defekten 1-K-Blockes ab Spur 2/Kopf 0
246 72D1 2B A DEC HL ;Zaehlung bei 0 beginnend
247 A
248 72D2 CB 3C A SRL H ;Errechnen des defekten 2-K-Blockes,indem das hl-Reg.
249 72D4 CB 1D A RR L ;durch 2 geteilt wird
250 A
251 72D6 22 F42E A LD (DEFBL),HL ;Blocknummer retten
252 A
253 72D9 DA 72FC A JP C,RTEST ;wenn in hl eine ungerade 1-K-Bl.-Nr.stand,pruefen,ob
254 A ;der vorhergehende Bl.,der auch zu dem 2-K-Bl. gehoert,
255 A ;bereits defekt war --> dann kein weiterer Eintrag
256 72DC AFEBEK1:
257 72DC 21 F432 A LD HL,DBLLGE
258 72DF 35 A DEC (HL)
259 72E0 35 A DEC (HL) ;wenn Anz.d.max.zul.def.Bloecke ueberschritten,dann
260 72E1 FA 7353 A JP M,BREAK2 ;Programmabbruch
261 A
262 72E4 2A F430 A LD HL,(BLZEIG) ;Zeiger auf naechste freie Adresse im Merker-Feld
263 72E7 ED 5B F42E A LD DE,(DEFBL) ;gerettete Blocknr.in de laden
264 72EB 73 A LD (HL),E ;low-Teil abspeichern
```

```
265 72EC 23      A   INC   HL
266 72ED 72      A   LD    (HL),D      ;high-Teil abspeichern
267 72EE 23      A   INC   HL
268 72EF 22 F430 A   LD    (BLZEIG),HL ;Zeiger auf naechste freie Adresse
269
270 72F2 21 F42D A   LD    HL,SFM      ;Merker f.def.128-Byte-Blocke (f.Dir.-Eintrag.)
271 72F5 7E      A   LD    A,(HL)
272 72F6 C6 10   A   ADD   A,16        ;16 * 128 = 2 kByte
273 72F8 77      A   LD    (HL),A
274
275 72F9 C3 728A A   JP    WNF        ;weiter nach Fehler bei Kontrolllesen
276
277 72FC 2A F430 ARTEST: LD    HL,(BLZEIG) ;Zeiger auf naechste freie Zelle in DBM
278 72FF 2B      A   DEC   HL
279 7300 56      A   LD    D,(HL)     ;high-Byte des zuletzt abgespeicherten 2-K-Blockes
280 7301 2B      A   DEC   HL
281 7302 5E      A   LD    E,(HL)     ;low-Byte
282 7303 2A F42E A   LD    HL,(DEFBL) ;zu pruefender 2-K-Block in hl
283 7306 AF      A   XOR   A          ;CY loeschen
284 7307 ED 52   A   SBC   HL,DE      ;bei Gleichheit ist der zu pruefende 2-K-Block
285 7309 CA 728A A   JP    Z,WNF      ;bereits als im 1.kByte defekt eingetragen
286 730C C3 72DC A   JP    FEBEK1     ;ungleich --> eintragen
287
288
289
290 730F DD 21 F442 APRSEIT: LD    IX,SCHNF
291 7313 21 F42C A   LD    HL,VRM
292 7316 7E      A   LD    A,(HL)
293 7317 FE 00   A   CP    0
294 7319 C2 732B A   JP    NZ,INITB5 ;bereits beide Seiten der Spur form.u.kon.-gelesen
295
296 731C 36 01   A   LD    (HL),1     ;vrm auf 1
297 731E DD 36 03 01A LD    (IX+3),1     ;Kopf 1
298 7322 21 F465 A   LD    HL,F3H1     ;ID-Puffer f.Kopf 1
299 7325 22 F44C A   LD    (PUFFF),HL ;ID-Pufferadr.in Schnittstelle laden
300 7328 C3 7220 A   JP    INITB3     ;Seite 1 form.
301
302
303
304 732B DD 21 F442 AINITB5: LD    IX,SCHNF
305 732F 21 F42C A   LD    HL,VRM
306 7332 36 00   A   LD    (HL),0     ;vrm auf 0
307 7334 DD 34 02 A   INC   (IX+2)     ;naechste Spur einstellen
308 7337 DD 36 03 00A LD    (IX+3),0     ;Kopf 0
309
310 733B CD 748C A   CALL SPINC      ;Spur im ID-Puffer inkrement.
311
312 733E 21 F451 A   LD    HL,F3H0
313 7341 22 F44C A   LD    (PUFFF),HL ;ID-Pufferadr.in Schnittstelle laden
314
315 7344 21 F429 AINITB7: LD    HL,TRACK
316 7347 35      A   DEC   (HL)
317 7348 CA 736C A   JP    Z,ENDE     ;alle Spuren formatiert
318
319 734B C3 7220 A   JP    INITB3     ;naechste Spur form.
320
321
322
A;Programmabbruch nach ^C o.Fehler nach Form.einer Spur
```

```
323 A;-----
324 734E 11 7629 ABREAK1: LD DE,BR1TEX ;System-o.Dir.-Spur defekt
325 7351 18 0D A JR BREAK0
326 A
327 7353 11 764E ABREAK2: LD DE,BR2TEX ;zuviele defekte Bloecke
328 7356 18 08 A JR BREAK0
329 A
330 7358 11 7669 ABREAK3: LD DE,BR3TEX ;LW nicht bereit
331 735B 18 03 A JR BREAK0
332 A
333 735D 11 767B ABREAK4: LD DE,BR4TEX ;Disk schreibgeschuetzt
334 A
335 7360 ABREAK0:
336 7360 CD 74E9 A CALL ZKAUS
337 A
338 7363 11 7698 ABREAK: LD DE,BRTEX
339 7366 CD 74E9 A CALL ZKAUS ;Break-Anzeige
340 A
341 7369 C3 741F A JP WARM
342 A
343 A;Anlegen der Sperrdatei errfile.sav,falls die Disk defekte Bloecke hat
344 A;-----
345 736C 11 F489 AENDE: LD DE,DBM ;Adresse des DBM
346 736F 2A F430 A LD HL,(BLZEIG) ;Zeiger auf freie Zelle im DBM,bei 0 def.Bl.
347 A ;gleich der Adr.des DBM
348 7372 AF A XOR A ;CY loeschen
349 7373 ED 52 A SBC HL,DE
350 7375 CA 741F A JP Z,WARM ;o.k.--> zur 'Ende ?'-Abfrage
351 A
352 7378 E5 A PUSH HL
353 7379 11 75EF A LD DE,DBTEX ;Anzeige 'Defekte Bloecke:'
354 737C CD 74E9 A CALL ZKAUS
355 737F E1 A POP HL
356 A
357 7380 AF A XOR A ;CY loeschen
358 7381 CB 1D A RR L ;nach Subtraktion in HL Anzahl def.Bloecke * 2 (max.
32) ;deshalb L durch 2 teilen
359 A ;B als Zaehler f.anzuzeigende def. 2-K-Bloecke
360 7383 45 A LD B,L
361 7384 21 F489 A LD HL,DBM
362 7387 22 F430 A LD (BLZEIG),HL ;Zeiger auf auszugebenden Block
363 A
364 738A C5 ADBAUSG: PUSH BC
365 738B 2A F430 A LD HL,(BLZEIG)
366 738E 23 A INC HL ;high-Byte
367 738F 7E A LD A,(HL)
368 7390 CD 74C0 A CALL BTSTR ;wandeln in 2 ASCII-Zeichen
369 7393 3A F426 A LD A,(ASZEH)
370 7396 CD FD0C A CALL ICONOUT ;Ausgabe eines Zeichens auf BS
371 7399 3A F427 A LD A,(ASEIN)
372 739C CD FD0C A CALL ICONOUT
373 739F 2A F430 A LD HL,(BLZEIG) ;low-Byte
374 73A2 7E A LD A,(HL)
375 73A3 CD 74C0 A CALL BTSTR
376 73A6 3A F426 A LD A,(ASZEH)
377 73A9 CD FD0C A CALL ICONOUT
378 73AC 3A F427 A LD A,(ASEIN)
379 73AF CD FD0C A CALL ICONOUT
380 A
```

```
381 73B2 2A F430 A LD HL,(BLZEIG)
382 73B5 23 A INC HL
383 73B6 23 A INC HL ;Zeiger auf naechsten Block
384 73B7 22 F430 A LD (BLZEIG),HL
385 A
386 73BA 3E 2C A LD A,', ' ;Komma zwischen den Bloecken
387 73BC CD FD0C A CALL ICONOUT
388 A
389 73BF C1 A POP BC
390 73C0 10 C8 A DJNZ DBAUSG
391 A
392 73C2 3E 08 A LD A,BS ;letztes Komma loeschen
393 73C4 CD FD0C A CALL ICONOUT
394 73C7 3E 20 A LD A,' '
395 73C9 CD FD0C A CALL ICONOUT
396 A;
397 73CC 21 EDC4 A LD HL,DBUF ;Adresse des hostbuffers im System
398 73CF 01 0400 A LD BC,400H ;Laenge des hostbuffers
399 73D2 36 E5 AINIBUF: LD (HL),0E5H
400 73D4 23 A INC HL
401 73D5 0B A DEC BC
402 73D6 78 A LD A,B
403 73D7 B1 A OR C
404 73D8 C2 73D2 A JP NZ,INIBUF ;Init.buffer mit E5
405 A
406 73DB 3A F42D A LD A,(SFM) ;Anzahl der def 128-Byte-Bloecke
407 73DE 21 F488 A LD HL,RECC ;in das 'rc'-Byte des Dir.-Eintrages
408 73E1 77 A LD (HL),A
409 A
410 73E2 21 F479 A LD HL,ERRFIL ;vp 140428 statt ERRFILE
411 73E5 11 EDC4 A LD DE,DBUF
412 73E8 01 0020 A LD BC,32
413 73EB ED B0 A LDIR ;Dir.-Eintragung in den write-buffer laden
414 A
415 73ED DD 21 F433 A LD IX,SCHNR
416 73F1 DD 36 00 50A LD (IX),50H ;Befehl: Schreiben
417 73F5 DD 36 02 02A LD (IX+2),2 ;Spur 2
418 73F9 DD 36 03 00A LD (IX+3),0 ;Kopf 0
419 73FD DD 36 04 01A LD (IX+4),1 ;Sektor 1
420 A;
421 7401 3A F425 A LD A,(HDPBOP) ;Verify-Status zurueck
422 7404 DD 66 0D A LD H,(IX+13)
423 7407 DD 6E 0C A LD L,(IX+12)
424 740A 11 0006 A LD DE,DPBOPT-DPBDRT
425 740D 19 A ADD HL,DE
426 740E 77 A LD (HL),A
427 A;
428 740F 21 EDC4 A LD HL,DBUF
429 7412 22 F43D A LD (PUFFR),HL ;hostbufferadr.
430 A
431 7415 CD 6BDB A CALL BIFM00
432 7418 DD 7E 0E A LD A,(IX+14)
433 741B A7 A AND A
434 741C C2 734E A JP NZ,BREAK1
435 A
436 A;Programmabschluss: Abfrage ob neuer Durchlauf oder Ende
437 A;-----
438 741F 3A F424 AWARM LD A,(LWOK) ;gueltige log. LW-Eingabe ?
```

```
439 7422 A7      A   AND   A
440 7423 28 12   A   JR    Z,WARM2      ; Nein-->
441                A;
442 7425 DD 21 F433 A   LD    IX,SCHNR
443 7429 3A F425 A   LD    A,(HDPBOP)      ;Verify-Status zurueck
444 742C DD 66 0D A   LD    H,(IX+13)
445 742F DD 6E 0C A   LD    L,(IX+12)
446 7432 11 0006 A   LD    DE,DPBOPT-DPBDRT
447 7435 19      A   ADD   HL,DE
448 7436 77      A   LD    (HL),A
449                A;
450 7437 11 7612 AWARM2 LD    DE,ENDEQ
451 743A CD 74E9 A   CALL ZKAUS          ;Abfrage ob neuer Durchlauf oder Ende
452                A
453 743D CD 74F4 A   CALL TEIN           ;warten auf 'J':-->neuer Durchlauf
454                A           ; andere Taste:-->abbrechen
455 7440 CB AF    A   RES   5,A           ;Grossbuchstaben erzeugen
456 7442 FE 4A   A   CP    'J'
457 7444 CA 715C A   JP    Z,INITB0      ;Neustart des Programms
458                A;
459 7447 C9      A   RET
460                A
461                A
462                A;Unterprogramme
463                A;*****
464                A
465                A;Nullsetzen aller Spurnummern in den akt.ID-Puffern
466                A;Initialisieren der Schnittstellen
467                A;-----
468 7448 06 0A   ASP0: LD    B,10          ;Anzahl Sektoren auf beiden Seiten der Disk
469 744A 11 0004 A   LD    DE,4
470 744D 21 F451 A   LD    HL,F3H0        ;Adr.des 1.ID-Feldes
471 7450 36 00   ASP01: LD    (HL),0
472 7452 19      A   ADD   HL,DE
473 7453 10 FB   A   DJNZ  SP01
474 7455 00      A   NOP
475 7456 DD 21 F433 AF01024: LD    IX,SCHNR
476 745A FD 21 F442 A   LD    IY,SCHNF
477 745E 3E 73   A   LD    A,73H          ;Befehl Kontrolllesen nach Format.
478 7460 DD 77 00 A   LD    (IX),A
479 7463 3E 00   A   LD    A,0
480 7465 FD 77 02 A   LD    (IY+2),A        ;Spur 0
481 7468 FD 77 03 A   LD    (IY+3),A        ;Kopf 0
482 746B 3E 01   A   LD    A,1
483 746D DD 77 04 A   LD    (IX+4),A        ;1.zu behandelnder Sektor
484                A;
485 7470 21 EA6E A   LD    HL,DBFLG        ;Puffer DBUF ungueltig machen !
486 7473 CB 96   A   RES   DBFWR,(HL)
487 7475 21 EA6F A   LD    HL,DBDEV
488 7478 36 FF   A   LD    (HL),0FFH
489 747A 21 EA84 A   LD    HL,DBNB
490 747D 36 FF   A   LD    (HL),0FFH
491                A;
492 747F 21 EDC4 A   LD    HL,DBUF
493 7482 22 F43D A   LD    (PUFFR),HL      ;Read-Pufferadr.laden
494 7485 21 F451 A   LD    HL,F3H0
495 7488 22 F44C A   LD    (PUFFF),HL     ;Format-Pufferadr.laden
496 748B C9      A   RET
```

```

497      A
498      A;Inkrementieren aller Spurnummern in den akt.ID-Puffern
499      A;-----
500 748C 06 0A  ASPINC:  LD      B,10
501 748E 11 0004 A      LD      DE,4
502 7491 21 F451 A      LD      HL,F3H0
503 7494 34      ASPINC1: INC      (HL)
504 7495 7E      A      LD      A,(HL)      ;Spur in A
505 7496 19      A      ADD     HL,DE
506 7497 10 FB   A      DJNZ   SPINC1
507      A;
508 7499 FE 02   A      CP      2
509 749B D8      A      RET     C      ;Systemspur-->RET
510 749C 3E E5   A      LD      A,0E5H      ;Datenspuren mit 0E5H
511 749E 32 F446 A      LD      (SCHNF+4),A  ; initialisieren
512 74A1 C9      A      RET
513      A
514      A;Konvertierung A / 3 stell Dez-Anzeige
515      A;-----
516 74A2 0E 64   AKON: LD      C,100
517 74A4 CD 74AE A      CALL   DEZA
518 74A7 0E 0A   A      LD      C,10
519 74A9 CD 74AE A      CALL   DEZA
520 74AC 0E 01   A      LD      C,1
521      A;
522 74AE 06 00   ADEZA LD      B,0
523 74B0 91      ADEZ1 SUB     C
524 74B1 38 03   A      JR      C,DEZ2
525 74B3 04      A      INC     B
526 74B4 18 FA   A      JR      DEZ1
527 74B6 81      ADEZ2 ADD     A,C
528 74B7 F5      A      PUSH   AF
529 74B8 78      A      LD      A,B
530 74B9 C6 30   A      ADD     A,'0'
531 74BB CD FD0C A      CALL   ICONOUT
532 74BE F1      A      POP     AF
533 74BF C9      A      RET
534      A
535      A;Umwandlung Zahl in A in 2 ASCII-Zeichen
536      A;-----
537 74C0 47      ABTSTR: LD      B,A      ;Retten A
538 74C1 E6 F0   A      AND     0F0H      ;High-Tetrade
539 74C3 0F      A      RRCA
540 74C4 0F      A      RRCA
541 74C5 0F      A      RRCA
542 74C6 0F      A      RRCA
543 74C7 FE 0A   A      CP      10
544 74C9 F2 74D1 ABS01: JP      P,BS1P
545 74CC F6 30   A      OR      30H      ;0..9
546 74CE C3 74D3 A      JP      BS1
547 74D1 C6 37   ABS1P: ADD     A,'A'-10      ;A..F
548 74D3 32 F426 ABS1: LD      (ASZEH),A
549 74D6 78      A      LD      A,B
550 74D7 E6 0F   A      AND     0FH      ;Low-Tetrade
551 74D9 FE 0A   A      CP      10
552 74DB F2 74E3 ABS11: JP      P,BS2P
553 74DE F6 30   A      OR      30H
554 74E0 C3 74E5 A      JP      BS2
    
```



```

555 74E3 C6 37 ABS2P: ADD A,'A'-10
556 74E5 32 F427 ABS2: LD (ASEIN),A
557 74E8 C9 A RET
558 A;
559 A;Ausgabe Zeichenkette auf BS (Ende = 0H)
560 A;-----
561 74E9 1A AZKAUS LD A,(DE)
562 74EA B7 A OR A
563 74EB C8 A RET Z
564 74EC D5 A PUSH DE
565 74ED CD FD0C A CALL ICONOUT
566 74F0 D1 A POP DE
567 74F1 13 A INC DE
568 74F2 18 F5 A JR ZKAUS
569 A;
570 A;Tastatureigabe (mit Vorloeschen Ringpuffer u. Anzeige)
571 A;-----
572 A;
573 74F4 CD 0156 ATEIN CALL LORIPU
574 74F7 CD FD09 A CALL ICONIN
575 74FA C3 FD0C A JP ICONOUT
576 A;
577 A;Schnittstellen f.RD/WR und Form
578 A;Grundeinstellung der Werte auf das Standardformat 5 * 1024
579 A;-----
580 74FD 73 ASCHNR0: DEFB 73H ;(ix+0) Befehl
581 74FE 00 A DEFB 0 ;(ix+1) Laufwerk
582 74FF 00 A DEFB 0 ;(ix+2) Spur
583 7500 00 A DEFB 0 ;(ix+3) Kopf
584 7501 01 A DEFB 1 ;(ix+4) Sektor
585 7502 03 A DEFB 3 ;(ix+5) rel.Datenfeldlaenge
586 7503 38 A DEFB 38H ;(ix+6) Gap 3
587 7504 01 A DEFB 1 ;(ix+7) Sektoranzahl
588 7505 01 A DEFB 1 ;(ix+8) Verfahren (FM/MFM)
589 7506 01 A DEFB 1 ;(ix+9) Schritte/Spur
590 7507 00 APUFFR0: DEFB 0 ;(ix+10) Puffadr.(low)
591 7508 00 A DEFB 0 ;(ix+11) Puffadr.(high)
592 7509 0000 A DEFW 0 ;(ix+12) DRPB (low)
593 A ;(ix+13) DRPB (high)
594 750B 00 A DEFB 0 ;(ix+14) Status
595 A;
596 750C 51 ASCHNF0: DEFB 51H ;(ix+0) Befehl
597 750D 00 A DEFB 0 ;(ix+1) Laufwerk
598 750E 00 A DEFB 0 ;(ix+2) Spur
599 750F 00 A DEFB 0 ;(ix+3) Kopf
600 7510 53 A DEFB 53H ;(ix+4) Sektorinhalt (Systemspuren)
601 7511 03 A DEFB 3 ;(ix+5) rel.Datenfeldlaenge
602 7512 74 A DEFB 74H ;(ix+6) Gap 3
603 7513 05 A DEFB 5 ;(ix+7) Sektoranzahl
604 7514 01 A DEFB 1 ;(ix+8) Verfahren (FM/MFM)
605 7515 01 A DEFB 1 ;(ix+9) Schritte/Spur
606 7516 00 APUFFF0: DEFB 0 ;(ix+10) Puffadr.(low)
607 7517 00 A DEFB 0 ;(ix+11) Puffadr.(high)
608 7518 0000 A DEFW 0 ;(ix+12) DRPB (low)
609 A ;(ix+13) DRPB (high)
610 751A 00 A DEFB 0 ;(ix+14) Status
611 A;
612 A;Puffer f.ID-Felder:
    
```

```

613      A;-----
614 751B  AF3H00:  DFB   0,0,1,3      ;C,H,R,N f.Sektor 1,Kopf 0,Spur 0 (C wird bei
      1 751B 00  B   DEFB   0
      1 751C 00  C   DEFB   0
      1 751D 01  D   DEFB   1
      1 751E 03  E   DEFB   3
615      A   DFB   0,0,4,3      ;      Sektor 4 /jedem Aufruf aktualisiert)
      1 751F 00  B   DEFB   0
      1 7520 00  C   DEFB   0
      1 7521 04  D   DEFB   4
      1 7522 03  E   DEFB   3
616      A   DFB   0,0,2,3      ;      2
      1 7523 00  B   DEFB   0
      1 7524 00  C   DEFB   0
      1 7525 02  D   DEFB   2
      1 7526 03  E   DEFB   3
617      A   DFB   0,0,5,3      ;      5
      1 7527 00  B   DEFB   0
      1 7528 00  C   DEFB   0
      1 7529 05  D   DEFB   5
      1 752A 03  E   DEFB   3
618      A   DFB   0,0,3,3      ;      3
      1 752B 00  B   DEFB   0
      1 752C 00  C   DEFB   0
      1 752D 03  D   DEFB   3
      1 752E 03  E   DEFB   3
619 752F  AF3H10:  DFB   0,1,1,3      ;C,H,R,N f.Sektor 1,Kopf 1,Spur 0 (s.oben)
      1 752F 00  B   DEFB   0
      1 7530 01  C   DEFB   1
      1 7531 01  D   DEFB   1
      1 7532 03  E   DEFB   3
620      A   DFB   0,1,4,3
      1 7533 00  B   DEFB   0
      1 7534 01  C   DEFB   1
      1 7535 04  D   DEFB   4
      1 7536 03  E   DEFB   3
621      A   DFB   0,1,2,3
      1 7537 00  B   DEFB   0
      1 7538 01  C   DEFB   1
      1 7539 02  D   DEFB   2
      1 753A 03  E   DEFB   3
622      A   DFB   0,1,5,3
      1 753B 00  B   DEFB   0
      1 753C 01  C   DEFB   1
      1 753D 05  D   DEFB   5
      1 753E 03  E   DEFB   3
623 753F  AF3H11:  DFB   0,1,3,3
      1 753F 00  B   DEFB   0
      1 7540 01  C   DEFB   1
      1 7541 03  D   DEFB   3
      1 7542 03  E   DEFB   3
624      A;vorbereitete Directory-Eintragung zum Anlegen der Sperrdatei errfile.sav
625      A;-----
626 7543  11      AERRFI0  DEFB   17      ;User 17
627 7544  45 52 52 46A  DEFM  'ERRFILE '
628      A   DFB   0D3H,0C1H,56H ;errfile.sav mit gesetztem Bit 7 im Typ
      1 754C D3      B   DEFB   0D3H
      1 754D C1      C   DEFB   0C1H
    
```

```

    1 754E 56      D   DEFB   56H
629 754F 00      AEXTZA0 DEFB   0           ;Extentzaehler (hier 0)
630 7550 0000    A   DEFW   0           ;Byte 13/14 des Dir.-Eintrages
631 7552 00      ARECC0  DEFB   0           ;Zaehler f.die belegten 128-Byte-Saetze (0..80h)
632 7553        ADBM0  DFW   0,0,0,0
    1 7553 0000    B   DEFW   0
    1 7555 0000    C   DEFW   0
    1 7557 0000    D   DEFW   0
    1 7559 0000    E   DEFW   0
633          A   DFW   0,0,0,0
    1 755B 0000    B   DEFW   0
    1 755D 0000    C   DEFW   0
    1 755F 0000    D   DEFW   0
    1 7561 0000    E   DEFW   0
634          7562  ADBMEN0 EQU   $-1
635          A;Bildschirmausschriften
636          A;*****
637 7563        AAMENUE  DFB   CR,LF
    1 7563 0D      B   DEFB   CR
    1 7564 0A      C   DEFB   LF
638 7565 46 6F 72 6DA  DEFM   'Formatieren im LW (A)/B/C: '
639 7580 00      A   DEFB   0
640 7581        ASTECK:  DFB   CR,LF,LF
    1 7581 0D      B   DEFB   CR
    1 7582 0A      C   DEFB   LF
    1 7583 0A      D   DEFB   LF
641 7584 44 69 73 6BA  DEFM   'Diskette stecken <ENTER>: '
642 759E 00      A   DEFB   0
643 759F        AWARN:  DFB   CR,LF,LF
    1 759F 0D      B   DEFB   CR
    1 75A0 0A      C   DEFB   LF
    1 75A1 0A      D   DEFB   LF
644 75A2 57 41 52 4EA  DEFM   'WARNUNG !!!'
645          A   DFB   CR,LF
    1 75AD 0D      B   DEFB   CR
    1 75AE 0A      C   DEFB   LF
646 75AF 47 65 73 61A  DEFM   'Gesamte Diskette wird geloescht! J/(N):'
647 75D6 00      A   DEFB   0
648 75D7 0D      AFANZ:  DEFB   CR
649 75D8 46 6F 72 6DA  DEFM   'Formatieren auf Spur: '
650 75EE 00      A   DEFB   0
651 75EF        ADBTEX:  DFB   CR,LF,LF
    1 75EF 0D      B   DEFB   CR
    1 75F0 0A      C   DEFB   LF
    1 75F1 0A      D   DEFB   LF
652 75F2 4E 75 6D 6DA  DEFM   'Nummern der defekten Bloecke:'
653          A   DFB   CR,LF,0
    1 760F 0D      B   DEFB   CR
    1 7610 0A      C   DEFB   LF
    1 7611 00      D   DEFB   0
654 7612        AENDEQ:  DFB   CR,LF
    1 7612 0D      B   DEFB   CR
    1 7613 0A      C   DEFB   LF
655 7614 4E 6F 63 68A  DEFM   'Noch einmal? J/(N): '
656 7628 00      A   DEFB   0
657 7629        ABR1TEX:  DFB   CR,LF
    1 7629 0D      B   DEFB   CR
    1 762A 0A      C   DEFB   LF

```

```

658 762B 53 79 73 74A   DEFM   'System- oder Directory-Spur defekt'
659 764D 00           A     DEFB   0
660 764E           ABR2TEX: DFB    CR,LF
    1 764E 0D           B     DEFB   CR
    1 764F 0A           C     DEFB   LF
661 7650 5A 75 20 76A   DEFM   'Zu viele defekte Bloecke'
662 7668 00           A     DEFB   0
663 7669           ABR3TEX: DFB    CR,LF
    1 7669 0D           B     DEFB   CR
    1 766A 0A           C     DEFB   LF
664 766B 4C 57 20 6EA   DEFM   'LW nicht bereit'
665 767A 00           A     DEFB   0
666 767B           ABR4TEX: DFB    CR,LF
    1 767B 0D           B     DEFB   CR
    1 767C 0A           C     DEFB   LF
667 767D 44 69 73 6BA   DEFM   'Diskette hat Schreibschutz'
668 7697 00           A     DEFB   0
669 7698           ABRTX:  DFB    CR,LF,LF
    1 7698 0D           B     DEFB   CR
    1 7699 0A           C     DEFB   LF
    1 769A 0A           D     DEFB   LF
670 769B 2A 2A 20 41A   DEFM   '** ABBRUCH **'
671 76A8           AFANZ1  DFB    CR,LF,LF,0
    1 76A8 0D           B     DEFB   CR
    1 76A9 0A           C     DEFB   LF
    1 76AA 0A           D     DEFB   LF
    1 76AB 00           E     DEFB   0
672           A;*****
23           INCLUDE BILDCOPY.Z80 ; vp: die Datei fehlt :-(
    1           A;*****
    2           A;UP zum Bildschirmabzug (im RBASIC)
    3           A;
    4           A;File: BILDCOPY.S
    5           A;Stand: 03.05.89 / Ludewig
    6           A;*****
    7           001B   AESCCHR   EQU    1BH
    8           002D   AREZEMU   EQU    2DH
    9           004A   ARDVRM   EQU    4AH
   10           0159   AL1CALL   EQU    159H
   11           A     GLOBAL BICOP
   12           A     EXTERNAL ERDEVI,PRTOUT,PRTREI
   13           A;*****
   14           A;IN : -
   15           A;OUT: NC: Ausgabe ok
   16           A;      sonst: Falscher Drucker, nicht 8 Datenbit oder CTRL-STOP
   17           A;      RBASIC: Hart zu ERDEVI
   18           A;      SCP: RET C
   19           A;REG: AF,BC,DE
   20           A;      HL (nur bei SCP)
   21           A;
   22 76AC FB           ABICOP   EI ;EI (da Longcall mit DI endet)
   23 76AD 3A F2AF      A     LD     A,(V24F0) ;8 Bit?
   24 76B0 CB 7F       A     BIT   7,A
   25 76B2 CA 76C3     A     JP    Z,BIC004 ; Nein-->
   26           A;
   27 76B5 3A F2DE     A     LD     A,(DRUTYP) ;Richtiger Drucker?
   28 76B8 CB 4F       A     BIT   1,A
   29 76BA CA 76CD     A     JP    Z,BIC005 ; Ja-->
    
```

```

30 76BD C3 76C3 A JP BIC004
31 A; -----
32 76C0 E1 ABIC001 POP HL ; (3) Stack leeren
33 76C1 E1 ABIC002 POP HL ; (2)
34 76C2 E1 A POP HL ; (1)
35 76C3 CD FE1C ABIC004 CALL XPRT02 ;RET bei SCP
36 76C6 DD 21 0000#A LD IX,ERDEVI
37 76CA C3 0159 A JP L1CALL ;RBASIC-Fehler
38 A;=====
39 76CD E5 ABIC005 PUSH HL ; (1)
40 76CE 3A F26A A LD A,(WIDTH)
41 76D1 F5 ABIC008: PUSH AF ;BS-Spaltenzahl (2)
42 A;-----
43 76D2 3A F2DE A LD A,(DRUTYP)
44 76D5 CB 47 A BIT 0,A
45 76D7 11 776E A LD DE,IGRM ;Grafikmode IBM (ESC K)
46 76DA 28 03 A JR Z,BIC012
47 76DC 11 7771 A LD DE,EGRM ;Grafikmode EPSON (ESC * 5)
48 76DF CD 77BA ABIC012 CALL DRTREI
49 76E2 38 DD A JR C,BIC002
50 A;
51 76E4 3A F271 A LD A,(SCRNRV)
52 76E7 CB 5F A BIT 3,A
53 76E9 11 00C8 A LD DE,25*8 ;Screen 0-3,5
54 76EC 28 03 A JR Z,BIC018
55 76EE 11 0113 A LD DE,25*11 ;Screen 8,9
56 76F1 7B ABIC018: LD A,E
57 76F2 CD 0000# A CALL PRTREI ;Grafikanzahl
58 76F5 38 CA A JR C,BIC002
59 76F7 7A A LD A,D
60 76F8 CD 0000# A CALL PRTREI
61 76FB 38 C4 A JR C,BIC002
62 A;-----
63 76FD 2A F26C A LD HL,(VVRAM)
64 7700 F1 A POP AF ;(2)
65 7701 F5 A PUSH AF ;(2)
66 7702 5F A LD E,A
67 7703 16 00 A LD D,0
68 7705 1B A DEC DE
69 7706 19 A ADD HL,DE ;HL=BWS-Adr
70 A;=====
71 7707 3A F271 A LD A,(SCRNRV)
72 770A E6 06 A AND 6
73 770C 3E C8 A LD A,200 ;BS-Grafikzeilen
74 770E 20 05 A JR NZ,BIC020
75 7710 3A F285 A LD A,(FKTANZ)
76 7713 C6 19 A ADD A,25 ;BS-Alphazeilen
77 7715 F5 ABIC020: PUSH AF ; (3)
78 A;-----
79 7716 E5 A PUSH HL ; (4)
80 7717 CD 7779 A CALL BWSOUT ;Druck
81 771A E1 A POP HL ; (4)
82 771B 38 A3 A JR C,BIC001
83 A;-----
84 771D ED 5B F26A A LD DE,(WIDTH)
85 7721 19 A ADD HL,DE
86 7722 F1 A POP AF ; (3)
87 7723 3D A DEC A

```

```

88 7724 20 EF      A   JR      NZ,BICO20      ;-->Naechste BS-Zeile
89                A;  =====
90 7726 3A F271   A   LD      A,(SCRNRV)
91 7729 E6 06     A   AND     6                ;Alpha-Screen?
92 772B 20 1E     A   JR      NZ,BICO40      ; Nein-->
93 772D 3A F285   A   LD      A,(FKTANZ)     ;Mit Keyzeile?
94 7730 A7         A   AND     A
95 7731 28 18     A   JR      Z,BICO40      ; Nein-->
96                A;  -----
97 7733 F1        A   POP     AF                ; (2)
98 7734 F5        A   PUSH    AF                ; (2)
99 7735 6F        A   LD      L,A
100 7736 26 00    A   LD      H,0
101 7738 3A FAC3  A   LD      A,(FTSHI)
102 773B A7        A   AND     A
103 773C 11 FF3F  A   LD      DE,0FF40H-1    ;Key 1-5
104 773F 20 03    A   JR      NZ,BICO30
105 7741 11 FF8F  A   LD      DE,0FF90H-1    ;Key 6-10
106 7744 19        ABIC030:  ADD     HL,DE
107 7745 CD 7779  A   CALL   BWSOUT          ; Drucken
108 7748 DA 76C1  A   JP      C,BICO02
109                A;  =====
110 774B 3E 0D     ABIC040: LD      A,0DH      ;CR + evtl. linker Rand
111 774D CD 0000#  A   CALL   PRTOUT
112 7750 DA 76C1  A   JP      C,BICO02
113 7753 11 7775  A   LD      DE,NEZE
114 7756 CD 77BA  A   CALL   DRTREI          ;Neue Druckzeile
115 7759 DA 76C1  A   JP      C,BICO02
116                A;  -----
117 775C 3A F271  A   LD      A,(SCRNRV)
118 775F FE 05     A   CP      5
119 7761 20 04     A   JR      NZ,BICO42
120                A;
121 7763 F1        A   POP     AF                ; (2)
122 7764 3D        A   DEC     A                ;Screen 5: A=A-2
123 7765 18 01     A   JR      BICO43
124                A;
125 7767 F1        ABIC042  POP     AF                ; (2)
126 7768 3D        ABIC043  DEC     A                ;sonst: A=A-1
127 7769 C2 76D1  A   JP      NZ,BICO08      ;-->naechste BS-Spalte
128                A;=====
129 776C E1        A   POP     HL                ; (1)
130 776D C9        A   RET                      ;OK-->RET
131                A;*****
132 776E 02        AIGRM DEF 2                ;Grafikmode IBM: 60 Punkte/Zoll
133 776F 1B        A   DEF    ESCCHR
134 7770 4B        A   DEF    'K'
135                A;
136 7771 03        AEGRM DEF 3                ;Gafikmode EPSON: 72 Punkte/Zoll
137 7772 1B        A   DEF    ESCCHR          ; (Plottergrafik 1:1)
138 7773 2A        A   DEF    '*'
139 7774 05        A   DEF    5
140                A;
141 7775 03        ANEZE:  DEF    3                ;Neue Zeile
142 7776 1B        A   DEF    ESCCHR          ; Vorschub 24/216 Zoll
143 7777 4A        A   DEF    'J'                ; = 8 Nadeln
144 7778 18        A   DEF    24
145                A;*****

```

```

146      A;1 Doppelbyte aus BWS lesen und drucken
147      A;IN: HL=Adr. BWS
148      A;OUT:NC: ok
149      A;      C: CTRL-STOP
150      A;REG:AF,BC,DE,HL
151      A;
152 7779 CD 004A ABWSOUT:      CALL  RDVRM          ;BWS lesen
153      A; -----
154 777C 3A F271 A      LD      A,(SCRNRV)
155 777F FE 05   A      CP      5
156 7781 28 21   A      JR      Z,BWS030      ;Screen5-->
157 7783 CB 4F   A      BIT     1,A           ;Alpha-Screen?
158 7785 79     A      LD      A,C
159 7786 20 18   A      JR      NZ,BWS020     ; Nein-->
160      A;=====
161 7788 CD 002D A      CALL    REZEMU        ;Zeichenmuster lesen
162      A; -----
163 778B 11 FBAA A      LD      DE,ZEIPUF
164 778E 06 08   A      LD      B,8
165 7790 CD 77BD A      CALL    DRTRE6        ;Ausgabe 8 Byte Alpha
166 7793 D8     A      RET      C
167      A; -----
168 7794 11 77B6 A      LD      DE,ZAB
169 7797 3A F271 A      LD      A,(SCRNRV)
170 779A CB 5F   A      BIT     3,A           ;Screen 8,9?
171 779C C2 77BA A      JP      NZ,DRTREI     ; Ja-->Zeilenabstand
172 779F C9     A      RET
173      A;=====
174 77A0 B0     ABWS020:      OR      B           ;Ausgabe 1 Byte Grafik
175 77A1 C3 0000# A      JP      PRTREI
176      A;=====
177 77A4 E5     ABWS030      PUSH   HL
178 77A5 16 00   A      LD      D,0           ;Druckerbyte
179 77A7 CD 77C5 A      CALL    PIXEL         ;1. x 4 Bit
180 77AA E1     A      POP     HL
181      A; -----
182 77AB 2B     A      DEC     HL
183 77AC CD 004A A      CALL    RDVRM          ;2. x 4 Bit
184 77AF CD 77C5 A      CALL    PIXEL
185      A; -----
186 77B2 7A     A      LD      A,D
187 77B3 C3 0000# A      JP      PRTREI        ;Ausgabe 1 Byte Multicolor
188      A;=====
189 77B6 03     AZAB: DEFB  3           ;Zeilenabstand
190 77B7 0000  A      DEFW   0
191 77B9 00     A      DEFB   0
192      A;*****
193      A;Direktausgabe auf Drucker
194      A;IN: DE=Adr. ZK (1.Byte=Laenge)
195      A;OUT:NC: Ausgabe ok / DE weiter
196      A;      C: CTRL-STOP
197      A;REG:AF
198      A;
199 77BA 1A     ADRTREI:      LD      A,(DE)
200 77BB 47     A      LD      B,A
201 77BC 13     ADRTRE5:      INC     DE
202 77BD 1A     ADRTRE6:      LD      A,(DE) ;ENTRY:Laenge in B
203 77BE CD 0000# A      CALL    PRTREI

```

```

204 77C1 D8      A   RET      C
205 77C2 10 F8   A   DJNZ     DRTRE5
206 77C4 C9      A   RET
207            A;*****
208            A;Wandlung 1 Doppelbyte aus BWS in 4 Druckpunkte
209            A;IN: C,B: Doppelbyte aus BWS (nach RDVRM)
210            A;      D: Druckpunkte
211            A;OUT: D: um 4 Bit linksverschoben
212            A;      Bit 3-0 entspr. Doppelbyte
213            A;REG:AF,BC,D,E,H
214            A;
215 77C5 3A FC22  APIXEL      LD      A,(VIREG3)
216 77C8 E6 0F    A   AND      0FH
217 77CA 5F      A   LD      E,A          ;E=Hintergrundfarbe
218 77CB 26 04    A   LD      H,4
219            A; -----
220 77CD AF      APIX10      XOR      A
221 77CE CB 02    A   RLC      D          ;D links verschieben
222            A; -----
223 77D0 CB 79    A   BIT      7,C
224 77D2 28 02    A   JR      Z,PIX20
225 77D4 CB DF    A   SET      3,A
226            A; -----
227 77D6 CB 59    APIX20      BIT      3,C
228 77D8 28 02    A   JR      Z,PIX30
229 77DA CB D7    A   SET      2,A
230            A; -----
231 77DC CB 78    APIX30      BIT      7,B
232 77DE 28 02    A   JR      Z,PIX40
233 77E0 CB CF    A   SET      1,A
234            A; -----
235 77E2 CB 58    APIX40      BIT      3,B
236 77E4 28 02    A   JR      Z,PIX50
237 77E6 CB C7    A   SET      0,A
238            A; -----
239 77E8 BB      APIX50      CP      E          ;A=Hintergrundfarbe?
240 77E9 28 02    A   JR      Z,PIX60
241 77EB CB C2    A   SET      0,D          ; Nein: Druckpunkt setzen
242            A; -----
243 77ED CB 01    APIX60      RLC      C
244 77EF CB 00    A   RLC      B
245 77F1 25      A   DEC      H
246 77F2 20 D9    A   JR      NZ,PIX10
247            A; -----
248 77F4 C9      A   RET
249            A;*****
24      0000      COND    $ GT DSE3
26      ENDC
28      0000      RSOLO   EQU    0          ;RAM nicht allein
29      0001      DSE EQU    1
30      0001      DSE1RA EQU    1
31      0001      DSE2RA EQU    1
32      0001      DISKLU EQU    1          ;BICDITR ist dabei
33      0000      SCP EQU    0

```



# SCPROM2 7800-7FFF

```
2 ;-----  
3 ; ROM-Erweiterung fuer SCP (Bildteil, im DSE-ROM!)  
4 ; Stand: 28.03.89  
5 ; File: SCPROM2.S  
6 ;-----  
7 INCLUDEORG.Z80  
1 A;*****  
2 A;Symbol. Vereinbarung aller ORG's  
3 A;Stand: 22.11.89  
4 A;File: ORG.S  
5 A;-----  
6 2300 ABIC1 EQU 2300H ;R-BASIC (Busch)  
7 A;  
8 6420 ADSE2 EQU 6420H ;Floppy-Treiber (Ludewig,Loeber)  
9 7880 ADSE3 EQU 7880H ;Bildteil SCP (Gaertner)  
10 A ;BIOS,Disk (Ludewig)  
11 8000 ASCPROM EQU 08000H ;Erweiterung SCP-ROM  
12 A;  
13 E606 ABDOSCP EQU 0E606H ;Achtung: XX06H !!!  
14 A ;RAM fuer BDOS nur in SCP  
15 A ;RAM fuer SCP-ROM-Treiber  
16 E880 ADSK1RA EQU 0E880H ;Disk-RAM 1 (Busch,Kersten)  
17 EA27 ADSK2RA EQU 0EA27H ;Disk-RAM 2 (Ludewig,Loeber)  
18 F235 ASYSRAM EQU 0F235H ;Grund-RAM  
19 A;  
20 BFF9 APLOT EQU 0C000H-7;Plotteranschluss  
21 A;*****  
2 INCLUDEK4.Z80  
1 A;*****  
2 A;Steuerfile fuer Test am K4-Muster  
3 A;Stand: 30.09.88  
4 0000 AZDS EQU 0  
5 0000 ACGG EQU 0  
6 0001 AK4 EQU 1  
7 A;*****  
9 00A8 PPIA equ 0A8h ;Portadresse fuer Bankumschaltung  
10 ;  
11 7880 org DSE3  
12 ;  
14 INCLUDESCPGA.E.Z80  
2 A;*****  
3 A;Bildschirmtreiber fuer SCP  
4 A; Stand: 11.05.89  
5 A; Bearbeiter: Gaertner EKR  
6 A;  
7 A;-----  
8 A external JPVER5  
9 A external VHOME  
10 A external BEEP  
11 A external KULIFS  
12 A external VLF  
13 A external CLSTSC  
14 A external VCR  
15 A external CSCRFK  
16 A external KUREFS  
17 A external CLINFK  
18 A external CLIN  
19 A external KUHO
```

```

20      A      external      ESC
21      A      external      WRZEMU
22      A      external      AOUTI4
23      A      external      AOUTI5
24      A      external      SAZLSP
25      A      external      ESCF7
26      A      external      POP0
27      A      external      DEL
28      A      external      TGRASC
29      A      external      CURSRD
30      A      external      CURSS
31      A      external      STWIND
32      A      external      SELSCR
33      A      external      KEYON
34      A      external      KEYOFF
35      A      external      FULL
36      A      external      VFTIN2
37      A      external      VFTIN6
38      A      external      WRMOD
39      A      EXTERNAL      ZG,      REZEMU
40      A;=====
41      A      global      ZEISA0, INISCR, PTVRA1, PTVRA2, FEMEIN, FEMAUS
42      A;=====
43      017D      AMONTV      equ      17Dh
44      0098      APARAP      equ      98h
45      A;=====
46      A;Initialisierung des Bildschirms f}r SCP
47      A;RAM-Zellen init.
48      A;PATCH-Rufe init.
49      A;SCP-Zeichensatz init.
50      A;SCREEN 1 einstellen
51      A;Bildschirm l|schen
52      A;-----
53  7880  21  78BD      AINISCR      ld      hl, INISC1
54  7883  11  FAC8      A      ld      de, ZEISFL
55  7886  01  0004      A      ld      bc, 4
56  7889  ED  B0      A      ldir                      ;RAM init
57      A;
58  788B  11  FDFF      A      ld      de, XOUASC
59  788E  01  0005      A      ld      bc, 5
60  7891  ED  B0      A      ldir                      ;PATCH-Ruf
61      A;
62  7893  11  FDB3      A      ld      de, XVFTIN
63  7896  01  0005      A      ld      bc, 5
64  7899  ED  B0      A      ldir                      ;PATCH-Ruf
65      A;
66  789B  CD  7B5F      A      call     SCPZGI      ;Zeichensatz init
67      A;
68  789E  21  78CB      A      ld      hl, STFTA1
69  78A1  11  F746      A      ld      de, FKEY1
70  78A4  01  00A0      A      ld      bc, 160
71  78A7  ED  B0      A      ldir                      ;Standard-F-Tasten f}r SCP init
72      A;
73  78A9  AF          A      xor      a
74  78AA  CD  017D      A      call     MONTV      ;BS-Modus einstellen (a=0 SCP)
75      A;
76  78AD  CD  0000#     A      call     KEYOFF
77  78B0  CD  0000#     A      call     STWIND

```

```
78 78B3 CD 0000# A call CLSTSC ;BS 80*25 l|schen
79 78B6 CD 0000# A call KEYON
80 78B9 CD 0000# A call STWIND ;BS 80*24 einstellen Zeile 25 Sonderzeile
81 78BC C9 A ret
82 A;-----
83 A;Initialisierungswerte
84 78BD 7F AINISC1 defb 7Fh ;ZEISFL
85 78BE 00 A defb 0 ;ZEISA
86 78BF 00 A defb 0 ;INVEFL
87 78C0 00 A defb 0 ;FKTAN1
88 A;
89 78C1 CD A defb 0CDh ;call
90 78C2 796B A defw SCPA0U ;SCPA0U
91 78C4 C9C9 A defw 0C9C9h ;ret ret
92 A;
93 78C6 CD A defb 0CDh ;call
94 78C7 7BC4 A defw SVFTI0 ;SVFTI0
95 78C9 C9C9 A defw 0C9C9h ;ret ret
96 A;
97 78CB 64 69 65 6EASTFTA1 defm 'dienst'
98 78D1 0D A defb 0Dh
99 78D2 00 A defb 0
100 78D3 0000 A defw 0
101 78D5 0000 A defw 0
102 78D7 0000 A defw 0
103 78D9 0000 A defw 0
104 A;
105 78DB 64 69 72 20A defm 'dir '
106 78DF 0000 A defw 0
107 78E1 0000 A defw 0
108 78E3 0000 A defw 0
109 78E5 0000 A defw 0
110 78E7 0000 A defw 0
111 78E9 0000 A defw 0
112 A;
113 78EB 73 74 61 74A defm 'stat '
114 78F0 00 A defb 0
115 78F1 0000 A defw 0
116 78F3 0000 A defw 0
117 78F5 0000 A defw 0
118 78F7 0000 A defw 0
119 78F9 0000 A defw 0
120 A;
121 78FB 74 79 70 65A defm 'type '
122 7900 00 A defb 0
123 7901 0000 A defw 0
124 7903 0000 A defw 0
125 7905 0000 A defw 0
126 7907 0000 A defw 0
127 7909 0000 A defw 0
128 A;
129 790B 67 6F A defm 'go'
130 790D 0D A defb 0Dh
131 790E 00 A defb 0
132 790F 0000 A defw 0
133 7911 0000 A defw 0
134 7913 0000 A defw 0
135 7915 0000 A defw 0
```

```

136 7917 0000      A   defw  0
137 7919 0000      A   defw  0
138                A;
139 791B 74 70      A   defm  'tp'
140 791D 0000      A   defw  0
141 791F 0000      A   defw  0
142 7921 0000      A   defw  0
143 7923 0000      A   defw  0
144 7925 0000      A   defw  0
145 7927 0000      A   defw  0
146 7929 0000      A   defw  0
147                A;
148 792B 64 69 72   A   defm  'dir'
149 792E 0D         A   defb  0Dh
150 792F 0000      A   defw  0
151 7931 0000      A   defw  0
152 7933 0000      A   defw  0
153 7935 0000      A   defw  0
154 7937 0000      A   defw  0
155 7939 0000      A   defw  0
156                A;
157 793B 72 65 6E 20A defm  'ren '
158 793F 0000      A   defw  0
159 7941 0000      A   defw  0
160 7943 0000      A   defw  0
161 7945 0000      A   defw  0
162 7947 0000      A   defw  0
163 7949 0000      A   defw  0
164                A;
165 794B 70 69 70 20A defm  'pip '
166 794F 0000      A   defw  0
167 7951 0000      A   defw  0
168 7953 0000      A   defw  0
169 7955 0000      A   defw  0
170 7957 0000      A   defw  0
171 7959 0000      A   defw  0
172                A;
173 795B 75 73 65 72A defm  'user '
174 7960 00         A   defb  0
175 7961 0000      A   defw  0
176 7963 0000      A   defw  0
177 7965 0000      A   defw  0
178 7967 0000      A   defw  0
179 7969 0000      A   defw  0
180                A;=====
181                A;
182                A;Ausgabe eines Zeichens auf den Bildschirm
183                A;
184                A;Behandlung der Steuerzeichen kompatibel zu SCP und CP/A
185                A;
186                A;IN : a Zeichen
187 796B 4F         ASCPAOU   ld     c,a
188 796C CD 0000#   A   call  TGRASC   ;Grafikbildschirm eingestellt?
189 796F D0         A   ret   nc     ;ja -> keine Zeichenausgabe
190 7970 21 799B   A   ld    hl,SCPA03
191 7973 E5         A   push  hl     ;Ruecksprung aus Routinen kellern
192                A;
193 7974 21 FC15   A   ld    hl,ESCSW

```

```
194 7977 7E      A   ld   a,(hl)
195 7978 A7      A   and  a
196 7979 C2 7A12  A   jp   nz,ESCF0B      ;(ESCSW)<>0 -> ESC-Folge behandeln
197
198 797C 79      A   ld   a,c           ;a Zeichen
199 797D FE 20    A   cp   20h          ;Steuerzeichen
200 797F 38 5F    A   jr   c,SCPJPV     ;ja ->Steuerzeichenauswertung
201
202 7981 2A F267  A   ld   hl,(CRSZL)   ;hl aktuelle Kursorpos.
203 7984 FE 7F    A   cp   7Fh          ;Zeichen= DEL?
204 7986 CA 0000# A   jp   z,DEL        ;ja
205 7989 30 24    A   jr   nc,SONDER    ;Zeichen > 7Fh
206
207 798B 3A FAC8  ASCPA05 ld   a,(ZEISFL)    ;a Kennbyte Zeichensatz
208 798E A7      A   and  a
209 798F F2 7995  A   jp   p,SCPA01     ;=7Fh
210 7992 B1      A   or   c           ;Bit 8 des Zeichens setzen
211 7993 18 02    A   jr   SCPA02
212 7995 A1      ASCPA01 and  c           ;Bit 8 des Zeichens r}cksetzen
213 7996 4F      A   ld   c,a
214 7997 CD 0000# ASCPA02 call  AOUTI4        ;Zeichenausgabe aus ROM-BS rufen
215 799A E1      A   pop  hl          ;R}cksprung zu SCPA03 unterbinden
216 799B 21 0002 ASCPA03 ld   hl,2
217 799E 39      A   add  hl,sp
218 799F 11 0000# A   ld   de,POP0     ;R}cksprung in 32k-ROM nach AOUTI4
219 79A2 73      A   ld   (hl),e
220 79A3 23      A   inc  hl
221 79A4 72      A   ld   (hl),d
222 79A5 C9      A   ret
223
224 79A6 79      ASCPA04 ld   a,c
225 79A7 FE A0    A   cp   0A0h
226 79A9 30 E0    A   jr   nc,SCPA05   ;Zeichen>9Fh (druckbare)
227 79AB E6 7F    A   and  7Fh          ;Bit 7 ausblenden -> Zeichen 0..1Fh
228 79AD 18 31    A   jr   SCPJPV     ;Steuerzeichenauswertung
229
230
231
232 79AF D6 82    ASONDER sub  82h
233 79B1 28 29    A   jr   z,KUEIN     ;Zeichen=82h Cursor ein
234 79B3 3D      A   dec  a
235 79B4 28 27    A   jr   z,KUEIN1   ;Zeichen=83h Cursor aus
236 79B6 3D      A   dec  a
237 79B7 FE 04    A   cp   4           ;Zeichen=84h...87h
238 79B9 30 EB    A   jr   nc,SCPA04   ;nein -> Umwandlung in Zeichen < 80h
239
240 79BB 1F      A   rra
241 79BC F5      A   push af
242
243 79BD 0E 20    A   ld   c,20h       ;Leerzeichen
244 79BF CD 0000# A   call AOUTI4      ;ausgeben
245
246 79C2 F1      A   pop  af
247 79C3 F5      A   push af
248 79C4 38 05    A   jr   c,SONDE1   ;Invers
249 79C6 CD 7B84 A   call FANORM      ;Normal
250 79C9 18 03    A   jr   SONDE2
251 79CB CD 7B8F  ASONDE1 call  FAINVE
```

```
252 79CE F1      ASONDE2    pop    af
253 79CF 1F      A      rra                ;Hell-Bit ins CY
254 79D0 3A F291 A      ld      a,(ACTCOL)
255 79D3 CD 7BB4  A      call   HELLDU           ;[nderung Farbbyte entspr. CY
256 79D6 E6 EF      A      and    0EFh           ;Blinken aus
257 79D8 32 F291 A      ld      (ACTCOL),a
258 79DB C9      A      ret
259
260 79DC 3C      AKUEIN    inc    a                ;a=1
261 79DD C3 0000#  AKUEIN1   jp     ESCF7           ;Sprung in 32k-ROM Cursor-ein/aus
262
263 A;=====
264 A;Berechnung Ansprungadresse der Routine Steuerzeichenbehandlung
265 79E0 21 79E6  ASCPJPV   ld     hl,SCPSTE-2    ;Anfang der Tabelle
266 79E3 0E 0E    A      ld     c,14        ;Anzahl
267 79E5 C3 0000#  A      jp     JPVER5       ;Sprung in 32k-ROM
268
269 79E8 01      ASCPSTE   defb   1
270 79E9 0000#  A      defw  VHOME
271 79EB 07      A      defb  7
272 79EC 0000#  A      defw  BEEP
273 79EE 08      A      defb  8
274 79EF 0000#  A      defw  KULIFS
275 79F1 0A      A      defb  0Ah
276 79F2 0000#  A      defw  VLF
277 79F4 0C      A      defb  0Ch
278 79F5 0000#  A      defw  CLSTSC
279 79F7 0D      A      defb  0Dh
280 79F8 0000#  A      defw  VCR
281 79FA 0E      A      defb  0Eh
282 79FB 7B15   A      defw  ZEISA1
283 79FD 0F      A      defb  0Fh
284 79FE 7B1D   A      defw  ZEISA2
285 7A00 14      A      defb  14h
286 7A01 0000#  A      defw  CSCRFK
287 7A03 15      A      defb  15h
288 7A04 0000#  A      defw  KUREFS
289 7A06 16      A      defb  16h
290 7A07 0000#  A      defw  CLINFK
291 7A09 18      A      defb  18h
292 7A0A 0000#  A      defw  CLIN
293 7A0C 1A      A      defb  1Ah
294 7A0D 0000#  A      defw  KUHO
295 7A0F 1B      A      defb  1Bh
296 7A10 0000#  A      defw  ESC
297
298 A;=====
299 A;Behandlung der ESC-Folgen
300 7A12 FA 7A2F  AESCF0B   jp     m,ESCF02       ; (ESCSW)>7Fh
301 7A15 FE 11   A      cp     11h
302 7A17 DA 7AE3 A      jp     c,ZEIATA       ; (ESCSW) 1...10h
303 7A1A FE 1B   A      cp     1Bh
304 7A1C CA 7AC9 A      jp     z,FTNEU        ; (ESCSW) 1Bh
305 7A1F 11 7A2A A      ld     de,ESCF01
306 7A22 D5      A      push  de              ;R}ckkehradr. nach Behandlung 5E 5F
307 7A23 D6 5E   A      sub   5Eh
308 7A25 28 0F   A      jr    z,ESC5E       ;Behandlung ESC 5Eh
309 7A27 3D      A      dec   a
```

```
310 7A28 28 4B      A   jr      z,ESC5F      ;Behandlung ESC 5Fh
311 7A2A AF         AESCF01    xor      a
312 7A2B 32 FC15   A   ld      (ESCSW),a    ;(ESCSW)=0
313 7A2E C9         A   ret
314 7A2F 79         AESCF02    ld      a,c            ;a Zeichen
315 7A30 A7         A   and    a
316 7A31 FA 7AA3   A   jp      m,ESCKUP    ;Zeichen nach ESC > 7Fh -> Kurs.pos.
317 7A34 77         A   ld      (hl),a      ;(ESCSW)=Zeichen
318 7A35 C9         A   ret
319
320 A;=====
321 A;Behandlung Folge ESC 5Eh
322 7A36 79         AESC5E     ld      a,c            ;a Zeichen
323 7A37 FE 40     A   cp      40h
324 7A39 D8         A   ret      c          ;<40h
325 7A3A FE 48     A   cp      48h
326 7A3C 30 0C     A   jr      nc,ESC5E1   ;>47h
327
328 7A3E C5         A   push   bc
329 7A3F 0E 20     A   ld      c,20h      ;Leerzeichen
330 7A41 CD 0000#  A   call   AOUTI5      ;ausgeben
331 7A44 C1         A   pop    bc
332
333 7A45 CD 7B84   A   call   FANORM      ;Einstellung normale Darstellung
334 7A48 18 10     A   jr      ESC5E2
335
336 7A4A FE 50     AESC5E1    cp      50h
337 7A4C D8         A   ret      c          ;47h< Zeichen <50h
338 7A4D FE 58     A   cp      58h
339 7A4F D0         A   ret      nc        ;>57h
340
341 7A50 C5         A   push   bc
342 7A51 0E 20     A   ld      c,20h      ;Leerzeichen
343 7A53 CD 0000#  A   call   AOUTI5      ;ausgeben
344 7A56 C1         A   pop    bc
345
346 7A57 CD 7B8F   A   call   FAINVE      ;Einstellung inverse Darstellung
347
348 7A5A 3A F291   AESC5E2    ld      a,(ACTCOL)
349 7A5D CB 39     A   srl    c            ;Hell-Bit in CY
350 7A5F CD 7BB4   A   call   HELLDU      ;[nderung Farbbyte entspr. CY
351 7A62 CB 39     A   srl    c            ;Blink-Bit in CY
352 7A64 CD 7BBC   A   call   BLINK       ;[nderung Farbbyte entspr. CY
353 7A67 32 F291   A   ld      (ACTCOL),a
354 7A6A CB 39     A   srl    c            ;Zeichensatz-Bit in CY
355 7A6C 3E 7F     A   ld      a,7Fh      ;Bit 7 = 0 Zeichensatz 1 lokal
356 7A6E 30 01     A   jr      nc,ESC5E3
357 7A70 3C         A   inc    a            ;Bit 7 = 1 Zeichensatz 2 lokal
358 7A71 32 FAC8   AESC5E3    ld      (ZEISFL),a
359 7A74 C9         A   ret
360
361 A;=====
362 A;Behandlung Folge ESC 5Fh
363 7A75 79         AESC5F     ld      a,c            ;a Zeichen
364 7A76 FE 30     A   cp      30h
365 7A78 CA 7B15   A   jp      z,ZEISA1    ;ESC 5Fh 30h Zeichensatz 1 global
366 7A7B FE 31     A   cp      31h
367 7A7D CA 7B1D   A   jp      z,ZEISA2    ;ESC 5Fh 31h Zeichensatz 2 global
```

```
368 A;
369 7A80 FE 40 A cp 40h
370 7A82 D8 A ret c ;Zeichen < 44h
371 7A83 FE 6C A cp 6Ch
372 7A85 D0 A ret nc ;Zeichen > 6Fh
373 A;
374 7A86 3A F291 A ld a,(ACTCOL)
375 7A89 F5 A push af ;globale Farbe kellern
376 7A8A CB 39 A srl c ;Hell-Bit in CY
377 7A8C CD 7BB4 A call HELLDU ;[nderung Farbbyte
378 7A8F CB 39 A srl c ;Blink-Bit in CY
379 7A91 CD 7BBC A call BLINK ;[nderung Farbbyte
380 7A94 32 F291 A ld (ACTCOL),a ;lokales Farbbyte
381 A;
382 7A97 79 A ld a,c ;a Zeichen
383 7A98 D6 0F A sub 0Fh ;Grafikzeichen auf Nr. im ZG
384 7A9A 4F A ld c,a
385 7A9B CD 0000# A call AOUTI5
386 A;
387 7A9E F1 A pop af
388 7A9F 32 F291 A ld (ACTCOL),a ;globales Farbbyte regenerieren
389 7AA2 C9 A ret
390 A;=====
391 A;Kursorpositionierung mit ESC-Folge
392 A; IN : c Zeichen (ESCSW)=0FFh -> Zeile (ESCSW)=0FEh -> Spalte
393 7AA3 11 F268 AESCKUP ld de,CRSSP
394 7AA6 34 A inc (hl)
395 7AA7 F5 A push af ;F-Reg. kellern
396 7AA8 20 19 A jr nz,ESCKU1 ;(ESCSW) war 0FEh
397 A;
398 7AAA 35 A dec (hl)
399 7AAB 35 A dec (hl) ;(ESCSW) wird 0FEh
400 7AAC 1B A dec de ;de Zeiger auf CRSZL
401 7AAD 3A F266 A ld a,(ZLLAST)
402 7AB0 47 AESCKU0 ld b,a ;b Grenzwert
403 7AB1 79 A ld a,c ;a Zeichen
404 7AB2 D6 80 A sub 80h ;Offset abziehen
405 7AB4 B8 A cp b ;Vergleich mit Grenzwert
406 7AB5 3C A inc a ;Z{hlung 1...
407 7AB6 12 A ld (de),a ;neue Koordinate laden
408 7AB7 38 02 A jr c,ESCKU2 ;nicht au~erhalb
409 7AB9 78 A ld a,b
410 7ABA 12 A ld (de),a ;Grenzwert annehmen
411 A;
412 7ABB F1 AESCKU2 pop af
413 7ABC C8 A ret z ;folgt noch Angabe der Spalte
414 A;
415 7ABD 2A F267 A ld hl,(CRSZL)
416 7AC0 C3 0000# A jp SAZLSP ;neue Kursorpos. einstellen 32k-ROM
417 A;
418 7AC3 34 AESCKU1 inc (hl) ;(ESCSW) = 0
419 7AC4 3A F264 A ld a,(SPLAST) ;Grenzwert Spalte
420 7AC7 18 E7 A jr ESCKU0
421 A;=====
422 A;Einleiten der Neudefinition einer F-Taste
423 A; IN : c Nummer der Taste
424 7AC9 79 AFTNEU ld a,c ;a Zeichen
425 7ACA D6 30 A sub 30h
```



```
426 7ACC FE 0A      A   cp      0Ah          ;Taste 0..9
427 7ACE D0        A   ret     nc          ;Nr. >9
428 7ACF 26 00     A   ld     h,0
429 7AD1 6F        A   ld     l,a
430 7AD2 29        A   add    hl,hl
431 7AD3 29        A   add    hl,hl
432 7AD4 29        A   add    hl,hl
433 7AD5 29        A   add    hl,hl          ;hl Tastennr. * 16 Byte
434 7AD6 01 F746   A   ld     bc,FKEY1
435 7AD9 09        A   add    hl,bc          ;hl Anfangsadr. Puffer der F-Taste
436 7ADA 22 F813   A   ld     (RAD2),hl      ;zwischenspeichern
437 7ADD 3E 10     A   ld     a,16
438 7ADF 32 FC15   A   ld     (ESCSW),a      ;max. Lnge
439 7AE2 C9        A   ret
440                A;=====
441                A;Zeichen in F-Tastenpuffer ablegen
442                A; IN : c Zeichen a und (ESCSW) verfgbare Lnge+1
443 7AE3 FE 01     AZEIATA cp      1
444 7AE5 79        A   ld     a,c          ;a Zeichen
445 7AE6 28 1B     A   jr     z,ZEIAT3      ;verfgbare Lnge 0
446 7AE8 ED 5B F813 A   ld     de,(RAD2)
447 7AEC 12        AZEIAT1 ld     (de),a          ;Zeichen in Puffer
448 7AED 13        A   inc    de
449 7AEE 35        A   dec    (hl)
450 7AEF 35        A   dec    (hl)          ;(ESCSW)-2
451 7AF0 28 09     A   jr     z,ZEIAT2      ;(ESCSW)=0 Puffer voll
452 7AF2 34        A   inc    (hl)          ;(ESCSW)+1
453 7AF3 A7          A   and    a
454 7AF4 28 F6     A   jr     z,ZEIAT1      ;Zeichen war 0 -> Puffer mit 0 fllen
455 7AF6 ED 53 F813 A   ld     (RAD2),de      ;Zeiger in Puffer zwischenspeichern
456 7AFA C9        A   ret                ;weiter zum n{chsten Zeichen
457                A;
458 7AFB A7          AZEIAT2 and    a          ;a=0?
459 7AFC 28 02     A   jr     z,ZEIAT4      ;ja --> (ESCSW)=0
460 7AFE 34        A   inc    (hl)          ;(ESCSW)=1
461 7AFF AF        A   xor    a
462 7B00 12        AZEIAT4 ld     (de),a          ;0 als Abschl~ in Puffer
463 7B01 18 03     A   jr     ZEITAT5      ;warten auf 00 oder fertig
464                A;
465 7B03 A7          AZEIAT3 and    a
466 7B04 C0        A   ret     nz          ;weiter warten auf 00
467 7B05 77        A   ld     (hl),a        ;(ESCSW)=0 Abschl~ ESC-Folge
468 7B06 3E FF     AZEIAT5 ld     a,0FFh
469 7B08 32 F892   A   ld     (FUFLAG),a    ;Anzeige bei IR u. FT-Anzeige ein
470 7B0B C9        A   ret
471                A;=====
472                A;Tauschen der Zeichens{tze nach Taste (ALT)
473 7B0C 3A FAC9   AZEISA0 ld     a,(ZEISA)
474 7B0F 2F        A   cpl    a          ; 0 -> FF FF -> 0
475 7B10 32 FAC9   A   ld     (ZEISA),a     ;Kennbyte f}r anderen Zeichensatz
476 7B13 18 12     A   jr     ZEITAU        ;Spezialzeichen tauschen
477                A;Laden der Spezialzeichen f}r 1. Zeichensatz
478 7B15 21 FAC9   AZEISA1 ld     hl,ZEISA      ;In: FF 0
479 7B18 34        A   inc    (hl)          ; 0 1
480 7B19 28 0C     A   jr     z,ZEITAU      ; X
481 7B1B 35        A   dec    (hl)          ; 0
482 7B1C C9        A   ret                ;fertig, war bereits Zeichensatz 1
483                A;
```

```
484 A;Laden der Spezialzeichen f}r 2. Zeichensatz
485 7B1D 21 FAC9 AZEISA2 ld hl,ZEISA ;In: FF 0
486 7B20 34 A inc (hl) ; 0 1
487 7B21 20 02 A jr nz,ZEISA3 ; X
488 7B23 35 A dec (hl) ; FF
489 7B24 C9 A ret ;fertig, war bereits Zeichensatz 2
490 A;
491 7B25 35 AZEISA3 dec (hl) ; 0
492 7B26 35 A dec (hl) ; FF
493 7B27 26 1F AZEITAU ld h,1Fh ;erstes zu tauschendes Zeichen-1
494 7B29 24 AZEITA1 inc h ;Nr.+1
495 7B2A F8 A ret m ;Nr.=80h -> fertig
496 A;
497 7B2B 7C A ld a,h ;a: Nr.
498 7B2C CD 0000# A call REZEMU ;Zeichen 1 lesen
499 7B2F 7C A ld a,h
500 A;
501 7B30 21 FBAA A ld hl,ZEIPUF
502 7B33 11 F682 A ld de,HSWAP
503 7B36 01 0008 A ld bc,8
504 7B39 ED B0 A ldir ;Zeichen1 (8 Byte) umspeichern
505 A;
506 7B3B 67 A ld h,a ;h: Nr.
507 7B3C F6 80 A or 80h ;a: Nr.80h
508 7B3E CD 0000# A call REZEMU ;Zeichen 2 in ZEIPUF
509 7B41 4C A ld c,h ;c: Nr.
510 7B42 5C A ld e,h
511 A;
512 7B43 21 FBAA A ld hl,ZEIPUF
513 7B46 CD 0000# A call WRZEMU ;Zeichen 2 auf Zeichennr.
514 A;
515 7B49 7B A ld a,e
516 7B4A F6 80 A or 80h
517 7B4C 4F A ld c,a ;c Zeichennr.+80h
518 7B4D 21 F682 A ld hl,HSWAP
519 7B50 CD 0000# A call WRZEMU ;Zeichen 1 auf Zeichennr.+ 80h
520 7B53 63 A ld h,e ;h: Nr.
521 7B54 18 D3 A jr ZEITA1
522 A;-----
523 7B56 C5 AZEIUP0 push bc
524 7B57 CD 0000# A call WRZEMU ;8 Byte ab hl in Zeichengen.
525 7B5A C1 A pop bc
526 7B5B 0C A inc c ;c n{chste Zeichennr.
527 7B5C 10 F8 A djnz ZEIUP0
528 7B5E C9 A ret
529 A;=====
530 A;Zeichengenerator initialisieren
531 A; IN : im Zeichengenerator ist RBASIC-Zeichensatz
532 7B5F 21 0100# ASCPZGI ld hl,ZG+100h ;32*8 Byte
533 7B62 01 60A0 A ld bc,60A0h ;Zeichen Nr.A0h..FFh
534 7B65 CD 7B56 A call ZEIUP0 ;mit Zeichen 20h..7Fh }berschreiben
535 7B68 21 7C99 A ld hl,GRAZG ;Zeichensatz mit Pseudografik SCP
536 7B6B 01 0B01 A ld bc,0B01h ;Zeichen Nr. 1...0Bh
537 7B6E CD 7B56 A call ZEIUP0
538 A;Laden der Spezialzeichen zwischen 40h und 7Fh
539 7B71 0E 40 A ld c,40h ;Zeichen Nr. 40h
540 7B73 21 7C59 A ld hl,ZEIADR
541 7B76 CD 0000# A call WRZEMU
```

```
542 7B79 01 035B A ld bc,35Bh ;Nr. DBh..DDh
543 7B7C CD 7B56 A call ZEIUP0
544 7B7F 01 047B A ld bc,47Bh ;Nr. FBh...FEh
545 7B82 18 D2 A jr ZEIUP0
546 A;
547 A;=====
548 A;Farbdarstellung NORMAL einstellen
549 A; IN : (INVEFL) kennzeichnet aktuellen Farbzustand 0 =normal
550 A; FFh=invers
551 7B84 3A FACA AFANORM ld a,(INVEFL)
552 7B87 A7 A and a
553 7B88 C8 A ret z ;bereits normal
554 7B89 2F AFANOR1 cpl
555 7B8A 32 FACA A ld (INVEFL),a
556 7B8D 18 07 A jr FARBUM
557 A;
558 A;Farbdarstellung INVERS einstellen
559 A; IN : (INVEFL) s.o.
560 7B8F 3A FACA AFAINVE ld a,(INVEFL)
561 7B92 A7 A and a
562 7B93 C0 A ret nz ;bereits invers
563 7B94 18 F3 A jr FANOR1
564 A;
565 A;Farbcode umstellen
566 7B96 3A F291 AFARBUM ld a,(ACTCOL)
567 7B99 C5 A push bc
568 7B9A 4F A ld c,a
569 7B9B E6 18 A and 18h
570 7B9D 47 A ld b,a ;b : 0 0 0 Bl He 0 0 0
571 7B9E 79 A ld a,c
572 7B9F 07 A rlca
573 7BA0 07 A rlca
574 7BA1 07 A rlca ;a : Bl He V V V H H H
575 7BA2 4F A ld c,a
576 7BA3 E6 07 A and 7
577 7BA5 F5 A push af ;kellern: 0 0 0 0 0 H H H
578 7BA6 79 A ld a,c
579 7BA7 07 A rlca
580 7BA8 07 A rlca ;a : V V V H H H Bl He
581 7BA9 E6 E0 A and 0E0h
582 7BAB 4F A ld c,a ;c : V V V 0 0 0 0 0
583 7BAC F1 A pop af
584 7BAD B1 A or c
585 7BAE B0 A or b ;a : V V V Bl He H H H
586 7BAF C1 A pop bc
587 7BB0 32 F291 A ld (ACTCOL),a
588 7BB3 C9 A ret
589 A;=====
590 A;Auswertung Hell/Dunkel
591 A; IN : CY= 0 dunkel
592 A; = 1 hell
593 A; a Farbbyte
594 A; OUT: a Farbbyte
595 7BB4 38 03 AHLLDU jr c,HELLD1 ;hell
596 7BB6 E6 F7 A and 0F7h ;Hell-Bit aus
597 7BB8 C9 A ret
598 7BB9 F6 08 AHLLD1 or 8 ;Hell-Bit ein
599 7BBB C9 A ret
```

```
600          A;
601          A;Auswertung Blinken
602          A; IN : CY= 0 blinken aus
603          A;   = 1   "   ein
604          A;   a Farbbyte
605          A; OUT: a Farbbyte
606 7BBC 38 03  ABLINK   jr      c,BLINK1   ;ein
607 7BBE E6 EF  A   and   0EFh   ;Blink-Bit aus
608 7BC0 C9     A   ret
609 7BC1 F6 10  ABLINK1   or      10h   ;Blink-Bit ein
610 7BC3 C9     A   ret
611          A;=====
612          A;Erweiterung F-Tasten-Initialisierung f}r SCP
613          A;IN: b Anzahl der freien Stellen im VRAM
614          A;   hl Quellpuffer
615 7BC4 3A F291 ASVFTI0   ld      a,(ACTCOL)
616 7BC7 F5     A   push  af      ;aktuelle Farbe kellern
617 7BC8 3A FACA A   ld      a,(INVEFL)
618 7BCB A7     A   and   a      ;invers eingestellt ?
619 7BCC CC 7B96 A   call   z,FARBUM ;nein -> Umschaltung
620 7BCF CD 0000# ASVFTI1   call   WRMOD   ;GDC in Schreibmodus
621 7BD2 7E     A   ld      a,(hl)   ;Zeichen aus Puffer
622 7BD3 23     A   inc   hl
623 7BD4 A7     A   and   a
624 7BD5 20 02  A   jr      nz,SVFTI4
625 7BD7 3E 20  A   ld      a,20h   ;0 durch SPACE ersetzen
626 7BD9 FE 20  ASVFTI4   cp      20h   ;Steuerzeichen
627 7BDB 30 16  A   jr      nc,SVFTI2 ;nein
628          A;
629 7BDD C6 40  A   add   a,40h   ;a Gro~buchstabe entsprechend CTRL-Code
630 7BDF F5     A   push  af      ;Zeichen kellern
631 7BE0 3E 5E  A   ld      a,5Eh   ;"^"
632 7BE2 D3 98  A   out   (PARAP),a
633 7BE4 CD 0000# A   call   FULL
634 7BE7 3A F291 A   ld      a,(ACTCOL) ;^ in inverser Farbe ausgegeben
635 7BEA D3 98  A   out   (PARAP),a
636 7BEC F1     A   pop   af      ;Gro~buchstaben regen.
637 7BED 05     A   dec   b
638 7BEE 28 0F  A   jr      z,SVFTI3 ;F-Taste nach ^ voll
639 7BF0 CD 0000# A   call   FULL
640          A;
641 7BF3 D3 98  ASVFTI2   out   (PARAP),a
642 7BF5 CD 0000# A   call   FULL
643 7BF8 3A F291 A   ld      a,(ACTCOL)
644 7BFB D3 98  A   out   (PARAP),a ;Zeichen bzw. Gro~buchst. f}r Steuerzeichen
645          A ;in inverser Farbe ausgegeben
646 7BFD 10 D0  A   djnz  SVFTI1 ;F-Taste noch nicht vollst{ndig
647          A;
648 7BFF 21 0004 ASVFTI3   ld      hl,4   ;F-Taste fertig
649 7C02 39     A   add   hl,sp
650 7C03 11 0000# A   ld      de,VFTIN6
651 7C06 73     A   ld      (hl),e ;Stackmanipulation
652 7C07 23     A   inc   hl
653 7C08 72     A   ld      (hl),d
654 7C09 5F     A   ld      e,a
655 7C0A F1     A   pop   af
656 7C0B 32 F291 A   ld      (ACTCOL),a ;aktuelle Farbe regen.
657 7C0E 7B     A   ld      a,e ;a lokale Farbe, falls letztes Zeichen folgt
```

```
658 7C0F C9      A      ret
659              A;=====
660              A;80 Zeichen in VRAM ab FF40h (Sonderzeile ohne SHIFT) }bertragen
661              A;IN de : Adresse Quellpuffer
662 7C10 21 FF40  APTVRA1  ld      hl,0FF40h
663 7C13 18 03    A      jr      PTVRA3
664 7C15 21 FF90  APTVRA2  ld      hl,0FF90h
665 7C18 E5          APTVRA3  push   hl
666 7C19 CD 0000#  A      call  CURSRD      ;physischen Cursor lesen
667 7C1C E3          A      ex      (sp),hl    ;und kellern
668 7C1D 01 5001  A      ld      bc,5001h   ;80 Zeichen 1Taste
669 7C20 CD 0000#  A      call  VFTIN2
670 7C23 E1          A      pop   hl
671 7C24 CD 0000#  A      call  CURSS      ;physischen Cursor regenerieren
672 7C27 C9      A      ret
673              A;=====
674              A;Fehlermeldung auf Sonderzeile anzeigen
675              A;IN : de Adresse Quellpuffer Fehlertext
676 7C28 3A F88B  AFEMEIN  ld      a,(FZELLE)
677 7C2B A7          A      and   a
678 7C2C C0      A      ret   nz          ;bereits Fehlermeldung auf Zeile
679              A;
680 7C2D 3E 64    A      ld   a,100
681 7C2F 32 F88B  A      ld   (FZELLE),a   ;Z{hler f}r Dauer der Anzeige setzen
682              A;
683 7C32 3A F285  A      ld   a,(FKTANZ)
684 7C35 32 FACB  A      ld   (FKTAN1),a   ;Anzeigemodus vor Fehlermeldung speichern
685 7C38 D5          A      push  de
686 7C39 CD 7C10  A      call  PTVRA1      ;Anzeige ab FF40h
687 7C3C D1          A      pop   de          ;noch einmal gleicher Text
688 7C3D CD 7C15  A      call  PTVRA2      ;Anzeige ab FF90h
689 7C40 C3 0000#  A      jp   KEYON       ;Anzeige ein
690              A;=====
691              A;Fehlermeldung ausschalten
692              A;IN : -
693 7C43 3A FACB  AFEMAUS  ld      a,(FKTAN1)
694 7C46 32 F285  A      ld   (FKTANZ),a   ;Anzeigemodus vor Fehlermeldung regen.
695 7C49 A7          A      and   a
696 7C4A CC 0000#  A      call  z,KEYOFF    ;Anzeige aus falls 0
697 7C4D AF          A      xor   a
698 7C4E 32 F88B  A      ld   (FZELLE),a   ;keine Fehlermeldung mehr
699 7C51 3D          A      DEC   A
700 7C52 32 F891  A      LD   (STFLAG),A    ;Ausgabe anmelden
701 7C55 32 F892  A      LD   (FUFLAG),A
702 7C58 C9      A      ret
703              A;=====
704              A;Spezialzeichen
705 7C59 0638    AZEIADR  defw   0638h ;Paragraph
706 7C5B 423C    A      defw  423Ch
707 7C5D 603C    A      defw  603Ch
708 7C5F 001C    A      defw  1Ch
709              A;
710 7C61 1866    A      defw  1866h ;[
711 7C63 663C    A      defw  663Ch
712 7C65 667E    A      defw  667Eh
713 7C67 0066    A      defw  66h
714              A;
715 7C69 1C63    A      defw  1C63h ;\
```

```

716 7C6B 6336      A    defw  6336h
717 7C6D 3663      A    defw  3663h
718 7C6F 001C      A    defw   1Ch
719                A;
720 7C71 0066      A    defw   66h    ;]
721 7C73 6666      A    defw  6666h
722 7C75 6666      A    defw  6666h
723 7C77 003C      A    defw   3Ch
724                A;
725 7C79 0036      A    defw   36h    ;{
726 7C7B 301E      A    defw  301Eh
727 7C7D 333E      A    defw  333Eh
728 7C7F 006E      A    defw   6Eh
729                A;
730 7C81 0066      A    defw   66h    ;|
731 7C83 663C      A    defw  663Ch
732 7C85 6666      A    defw  6666h
733 7C87 003C      A    defw   3Ch
734                A;
735 7C89 0066      A    defw   66h    ;}
736 7C8B 6666      A    defw  6666h
737 7C8D 6666      A    defw  6666h
738 7C8F 007C      A    defw   7Ch
739                A;
740 7C91 631E      A    defw  631Eh  ;~
741 7C93 3B63      A    defw  3B63h
742 7C95 6363      A    defw  6363h
743 7C97 031B      A    defw  031Bh
744                A;
745 7C99 0000      AGRAZG defw  0      ;218
746 7C9B F800      A    defw  0F800h
747 7C9D 0808      A    defw  0808h
748 7C9F 0808      A    defw  0808h
749                A;
750 7CA1 0000      A    defw  0      ;191
751 7CA3 0F00      A    defw  0F00h
752 7CA5 0808      A    defw  0808h
753 7CA7 0808      A    defw  0808h
754                A;
755 7CA9 0808      A    defw  0808h  ;192
756 7CAB F808      A    defw  0F808h
757 7CAD 0000      A    defw  0
758 7CAF 0000      A    defw  0
759                A;
760 7CB1 0808      A    defw  0808h  ;217
761 7CB3 0F08      A    defw  0F08h
762 7CB5 0000      A    defw  0
763 7CB7 0000      A    defw  0
764                A;
765 7CB9 0000      A    defw  0      ;194
766 7CBB FF00      A    defw  0FF00h
767 7CBD 0808      A    defw  0808h
768 7CBF 0808      A    defw  0808h
769                A;
770 7CC1 0808      A    defw  0808h  ;180
771 7CC3 0F08      A    defw  0F08h
772 7CC5 0808      A    defw  0808h
773 7CC7 0808      A    defw  0808h

```

```

774      A;
775 7CC9 0808  A   defw  0808h  ;195
776 7CCB F808  A   defw  0F808h
777 7CCD 0808  A   defw  0808h
778 7CCF 0808  A   defw  0808h
779      A;
780 7CD1 0808  A   defw  0808h  ;193
781 7CD3 FF08  A   defw  0FF08h
782 7CD5 0000  A   defw  0
783 7CD7 0000  A   defw  0
784      A;
785 7CD9 0000  A   defw  0        ;196
786 7CDB FF00  A   defw  0FF00h
787 7CDD 0000  A   defw  0
788 7CDF 0000  A   defw  0
789      A;
790 7CE1 0808  A   defw  0808h  ;179
791 7CE3 0808  A   defw  0808h
792 7CE5 0808  A   defw  0808h
793 7CE7 0808  A   defw  0808h
794      A;
795 7CE9 0808  A   defw  0808h  ;197
796 7CEB FF08  A   defw  0FF08h
797 7CED 0808  A   defw  0808h
798 7CEF 0808  A   defw  0808h
799      A;=====
16      INCLUDESCPLUD.Z80 ;BIOS-Sprungleiste u. Diskette
17      A;*****
18      A;
19      A;BIC A 5105 SCP: BIOS-PROM-Teil
20      A;Stand: 04.05.89 / Ludewig
21      A;File: SCPLUD.S
22      A;
23      A;*****
24      A;externals aus BICDITR.S
25      A external HOME, SELDSK, SETTRK, SETSEC, BSETDMA
26      A external READ, WRITE, SECTRAN, MRECOA, MRECOL
27      A external DIORTY
28      A;
29      A external RDRIPU, LORIPU, INKEY, OUTASC
30      A;
31      A external CONST, CONIN, CONOUT, LIST, PUNCH, READER
32      A external LISTST, CONOST, AUXIST, AUXOST, WBOOT, DEVTBL
33      A;
34      A global INIBIOS, STINI, SFLINI, STNEU, PULO, WATA
35      A;
36      A;*****
37      A;BIOS-Sprungleiste (ROM) --> RAM
38      A;-----
39      A;
40      A;
41      A;
42      A;
43      A;
44      A;
45      A;
46      A;
47      A;
48      A;
49      A;
50      A;
51      A;
52      A;
53      A;
54      A;
55      A;
56      A;
57      A;
58      A;
59      A;
60      A;
61      A;
62      A;
63      A;
64      A;
65      A;
66      A;
67      A;
68      A;
69      A;
70      A;
71      A;
72      A;
73      A;
74      A;
75      A;
76      A;
77      A;
78      A;
79      A;
80      A;
81      A;
82      A;
83      A;
84      A;
85      A;
86      A;
87      A;
88      A;
89      A;
90      A;
91      A;
92      A;
93      A;
94      A;
95      A;
96      A;
97      A;
98      A;
99      A;
100     A;
101     A;
102     A;
103     A;
104     A;
105     A;
106     A;
107     A;
108     A;
109     A;
110     A;
111     A;
112     A;
113     A;
114     A;
115     A;
116     A;
117     A;
118     A;
119     A;
120     A;
121     A;
122     A;
123     A;
124     A;
125     A;
126     A;
127     A;
128     A;
129     A;
130     A;
131     A;
132     A;
133     A;
134     A;
135     A;
136     A;
137     A;
138     A;
139     A;
140     A;
141     A;
142     A;
143     A;
144     A;
145     A;
146     A;
147     A;
148     A;
149     A;
150     A;
151     A;
152     A;
153     A;
154     A;
155     A;
156     A;
157     A;
158     A;
159     A;
160     A;
161     A;
162     A;
163     A;
164     A;
165     A;
166     A;
167     A;
168     A;
169     A;
170     A;
171     A;
172     A;
173     A;
174     A;
175     A;
176     A;
177     A;
178     A;
179     A;
180     A;
181     A;
182     A;
183     A;
184     A;
185     A;
186     A;
187     A;
188     A;
189     A;
190     A;
191     A;
192     A;
193     A;
194     A;
195     A;
196     A;
197     A;
198     A;
199     A;
200     A;
201     A;
202     A;
203     A;
204     A;
205     A;
206     A;
207     A;
208     A;
209     A;
210     A;
211     A;
212     A;
213     A;
214     A;
215     A;
216     A;
217     A;
218     A;
219     A;
220     A;
221     A;
222     A;
223     A;
224     A;
225     A;
226     A;
227     A;
228     A;
229     A;
230     A;
231     A;
232     A;
233     A;
234     A;
235     A;
236     A;
237     A;
238     A;
239     A;
240     A;
241     A;
242     A;
243     A;
244     A;
245     A;
246     A;
247     A;
248     A;
249     A;
250     A;
251     A;
252     A;
253     A;
254     A;
255     A;
256     A;
257     A;
258     A;
259     A;
260     A;
261     A;
262     A;
263     A;
264     A;
265     A;
266     A;
267     A;
268     A;
269     A;
270     A;
271     A;
272     A;
273     A;
274     A;
275     A;
276     A;
277     A;
278     A;
279     A;
280     A;
281     A;
282     A;
283     A;
284     A;
285     A;
286     A;
287     A;
288     A;
289     A;
290     A;
291     A;
292     A;
293     A;
294     A;
295     A;
296     A;
297     A;
298     A;
299     A;
300     A;
301     A;
302     A;
303     A;
304     A;
305     A;
306     A;
307     A;
308     A;
309     A;
310     A;
311     A;
312     A;
313     A;
314     A;
315     A;
316     A;
317     A;
318     A;
319     A;
320     A;
321     A;
322     A;
323     A;
324     A;
325     A;
326     A;
327     A;
328     A;
329     A;
330     A;
331     A;
332     A;
333     A;
334     A;
335     A;
336     A;
337     A;
338     A;
339     A;
340     A;
341     A;
342     A;
343     A;
344     A;
345     A;
346     A;
347     A;
348     A;
349     A;
350     A;
351     A;
352     A;
353     A;
354     A;
355     A;
356     A;
357     A;
358     A;
359     A;
360     A;
361     A;
362     A;
363     A;
364     A;
365     A;
366     A;
367     A;
368     A;
369     A;
370     A;
371     A;
372     A;
373     A;
374     A;
375     A;
376     A;
377     A;
378     A;
379     A;
380     A;
381     A;
382     A;
383     A;
384     A;
385     A;
386     A;
387     A;
388     A;
389     A;
390     A;
391     A;
392     A;
393     A;
394     A;
395     A;
396     A;
397     A;
398     A;
399     A;
400     A;
401     A;
402     A;
403     A;
404     A;
405     A;
406     A;
407     A;
408     A;
409     A;
410     A;
411     A;
412     A;
413     A;
414     A;
415     A;
416     A;
417     A;
418     A;
419     A;
420     A;
421     A;
422     A;
423     A;
424     A;
425     A;
426     A;
427     A;
428     A;
429     A;
430     A;
431     A;
432     A;
433     A;
434     A;
435     A;
436     A;
437     A;
438     A;
439     A;
440     A;
441     A;
442     A;
443     A;
444     A;
445     A;
446     A;
447     A;
448     A;
449     A;
450     A;
451     A;
452     A;
453     A;
454     A;
455     A;
456     A;
457     A;
458     A;
459     A;
460     A;
461     A;
462     A;
463     A;
464     A;
465     A;
466     A;
467     A;
468     A;
469     A;
470     A;
471     A;
472     A;
473     A;
474     A;
475     A;
476     A;
477     A;
478     A;
479     A;
480     A;
481     A;
482     A;
483     A;
484     A;
485     A;
486     A;
487     A;
488     A;
489     A;
490     A;
491     A;
492     A;
493     A;
494     A;
495     A;
496     A;
497     A;
498     A;
499     A;
500     A;
501     A;
502     A;
503     A;
504     A;
505     A;
506     A;
507     A;
508     A;
509     A;
510     A;
511     A;
512     A;
513     A;
514     A;
515     A;
516     A;
517     A;
518     A;
519     A;
520     A;
521     A;
522     A;
523     A;
524     A;
525     A;
526     A;
527     A;
528     A;
529     A;
530     A;
531     A;
532     A;
533     A;
534     A;
535     A;
536     A;
537     A;
538     A;
539     A;
540     A;
541     A;
542     A;
543     A;
544     A;
545     A;
546     A;
547     A;
548     A;
549     A;
550     A;
551     A;
552     A;
553     A;
554     A;
555     A;
556     A;
557     A;
558     A;
559     A;
560     A;
561     A;
562     A;
563     A;
564     A;
565     A;
566     A;
567     A;
568     A;
569     A;
570     A;
571     A;
572     A;
573     A;
574     A;
575     A;
576     A;
577     A;
578     A;
579     A;
580     A;
581     A;
582     A;
583     A;
584     A;
585     A;
586     A;
587     A;
588     A;
589     A;
590     A;
591     A;
592     A;
593     A;
594     A;
595     A;
596     A;
597     A;
598     A;
599     A;
600     A;
601     A;
602     A;
603     A;
604     A;
605     A;
606     A;
607     A;
608     A;
609     A;
610     A;
611     A;
612     A;
613     A;
614     A;
615     A;
616     A;
617     A;
618     A;
619     A;
620     A;
621     A;
622     A;
623     A;
624     A;
625     A;
626     A;
627     A;
628     A;
629     A;
630     A;
631     A;
632     A;
633     A;
634     A;
635     A;
636     A;
637     A;
638     A;
639     A;
640     A;
641     A;
642     A;
643     A;
644     A;
645     A;
646     A;
647     A;
648     A;
649     A;
650     A;
651     A;
652     A;
653     A;
654     A;
655     A;
656     A;
657     A;
658     A;
659     A;
660     A;
661     A;
662     A;
663     A;
664     A;
665     A;
666     A;
667     A;
668     A;
669     A;
670     A;
671     A;
672     A;
673     A;
674     A;
675     A;
676     A;
677     A;
678     A;
679     A;
680     A;
681     A;
682     A;
683     A;
684     A;
685     A;
686     A;
687     A;
688     A;
689     A;
690     A;
691     A;
692     A;
693     A;
694     A;
695     A;
696     A;
697     A;
698     A;
699     A;
700     A;
701     A;
702     A;
703     A;
704     A;
705     A;
706     A;
707     A;
708     A;
709     A;
710     A;
711     A;
712     A;
713     A;
714     A;
715     A;
716     A;
717     A;
718     A;
719     A;
720     A;
721     A;
722     A;
723     A;
724     A;
725     A;
726     A;
727     A;
728     A;
729     A;
730     A;
731     A;
732     A;
733     A;
734     A;
735     A;
736     A;
737     A;
738     A;
739     A;
740     A;
741     A;
742     A;
743     A;
744     A;
745     A;
746     A;
747     A;
748     A;
749     A;
750     A;
751     A;
752     A;
753     A;
754     A;
755     A;
756     A;
757     A;
758     A;
759     A;
760     A;
761     A;
762     A;
763     A;
764     A;
765     A;
766     A;
767     A;
768     A;
769     A;
770     A;
771     A;
772     A;
773     A;
774     A;
775     A;
776     A;
777     A;
778     A;
779     A;
780     A;
781     A;
782     A;
783     A;
784     A;
785     A;
786     A;
787     A;
788     A;
789     A;
790     A;
791     A;
792     A;
793     A;
794     A;
795     A;
796     A;
797     A;
798     A;
799     A;
800     A;
801     A;
802     A;
803     A;
804     A;
805     A;
806     A;
807     A;
808     A;
809     A;
810     A;
811     A;
812     A;
813     A;
814     A;
815     A;
816     A;
817     A;
818     A;
819     A;
820     A;
821     A;
822     A;
823     A;
824     A;
825     A;
826     A;
827     A;
828     A;
829     A;
830     A;
831     A;
832     A;
833     A;
834     A;
835     A;
836     A;
837     A;
838     A;
839     A;
840     A;
841     A;
842     A;
843     A;
844     A;
845     A;
846     A;
847     A;
848     A;
849     A;
850     A;
851     A;
852     A;
853     A;
854     A;
855     A;
856     A;
857     A;
858     A;
859     A;
860     A;
861     A;
862     A;
863     A;
864     A;
865     A;
866     A;
867     A;
868     A;
869     A;
870     A;
871     A;
872     A;
873     A;
874     A;
875     A;
876     A;
877     A;
878     A;
879     A;
880     A;
881     A;
882     A;
883     A;
884     A;
885     A;
886     A;
887     A;
888     A;
889     A;
890     A;
891     A;
892     A;
893     A;
894     A;
895     A;
896     A;
897     A;
898     A;
899     A;
900     A;
901     A;
902     A;
903     A;
904     A;
905     A;
906     A;
907     A;
908     A;
909     A;
910     A;
911     A;
912     A;
913     A;
914     A;
915     A;
916     A;
917     A;
918     A;
919     A;
920     A;
921     A;
922     A;
923     A;
924     A;
925     A;
926     A;
927     A;
928     A;
929     A;
930     A;
931     A;
932     A;
933     A;
934     A;
935     A;
936     A;
937     A;
938     A;
939     A;
940     A;
941     A;
942     A;
943     A;
944     A;
945     A;
946     A;
947     A;
948     A;
949     A;
950     A;
951     A;
952     A;
953     A;
954     A;
955     A;
956     A;
957     A;
958     A;
959     A;
960     A;
961     A;
962     A;
963     A;
964     A;
965     A;
966     A;
967     A;
968     A;
969     A;
970     A;
971     A;
972     A;
973     A;
974     A;
975     A;
976     A;
977     A;
978     A;
979     A;
980     A;
981     A;
982     A;
983     A;
984     A;
985     A;
986     A;
987     A;
988     A;
989     A;
990     A;
991     A;
992     A;
993     A;
994     A;
995     A;
996     A;
997     A;
998     A;
999     A;
1000    A;

```

```

32 7D09 C3 F9AC A JP KHOME ;8
33 7D0C C3 F9B1 A JP KSELDSK
34 7D0F C3 F9B6 A JP KSETTRK ;10
35 7D12 C3 F9BB A JP KSETSEC
36 7D15 C3 F9C0 A JP KSETDMA ;12
37 7D18 C3 F9C5 A JP KREAD
38 7D1B C3 F9CA A JP KWRITE ;14
39 7D1E C3 F9CF A JP KLISTST
40 7D21 C3 F9D4 A JP KSECTRAN ;16
41 7D24 C3 F9D9 A JP KCONOST
42 7D27 C3 F9DE A JP KAUXIST ;18
43 7D2A C3 F9E3 A JP KAUXOST
44 7D2D C3 F9E8 A JP KDEVTBL ;20
45 A;
46 A;*****
47 A;Koepfe der BIOS-Rufe (ROM) --> RAM
48 A;-----
49 A;
50 7D30 21 7DE2 ABIOPRA LD HL,CIBOOT ;0
51 7D33 18 64 A JR BIOPA ;BIOPA muss im PROM folgen wie
52 A ; BIORA im RAM !!
53 7D35 21 0000# A LD HL,WBOOT
54 7D38 18 5F A JR BIOPA
55 7D3A 21 0000# A LD HL,CONST ;2
56 7D3D 18 5A A JR BIOPA
57 7D3F 21 0000# A LD HL,CONIN
58 7D42 18 55 A JR BIOPA
59 7D44 21 0000# A LD HL,CONOUT ;4
60 7D47 18 50 A JR BIOPA
61 7D49 21 0000# A LD HL,LIST
62 7D4C 18 4B A JR BIOPA
63 7D4E 21 0000# A LD HL,PUNCH ;6
64 7D51 18 46 A JR BIOPA
65 7D53 21 0000# A LD HL,READER
66 7D56 18 41 A JR BIOPA
67 7D58 21 0000# A LD HL,HOME ;8
68 7D5B 18 3C A JR BIOPA
69 7D5D 21 0000# A LD HL,SELDSK
70 7D60 18 37 A JR BIOPA
71 7D62 21 0000# A LD HL,SETTRK ;10
72 7D65 18 32 A JR BIOPA
73 7D67 21 0000# A LD HL,SETSEC
74 7D6A 18 2D A JR BIOPA
75 7D6C 21 0000# A LD HL,BSETDMA ;12
76 7D6F 18 28 A JR BIOPA
77 7D71 21 0000# A LD HL,READ
78 7D74 18 23 A JR BIOPA
79 7D76 21 0000# A LD HL,WRITE ;14
80 7D79 18 1E A JR BIOPA
81 7D7B 21 0000# A LD HL,LISTST
82 7D7E 18 19 A JR BIOPA
83 7D80 21 0000# A LD HL,SECTRAN ;16
84 7D83 18 14 A JR BIOPA
85 7D85 21 0000# A LD HL,CONOST
86 7D88 18 0F A JR BIOPA
87 7D8A 21 0000# A LD HL,AUXIST ;18
88 7D8D 18 0A A JR BIOPA
89 7D8F 21 0000# A LD HL,AUXOST

```



```
90 7D92 18 05      A   JR      BIOPA
91 7D94 21 0000#   A   LD      HL,DEVTBL      ;20
92 7D97 18 00      A   JR      BIOPA
93                A;
94                A;*****
95                A;BIOS-Rahmen (ROM) --> RAM
96                A;-----
97                A;
98                A;=== Laenge = 33 === im RAM von Hand aendern ! ===
99 7D99 00         ABIOPA      NOP
100 7D9A 00        A   NOP          ;PATCH fuer LAN
101 7D9B 00        A   NOP
102 7D9C ED 73 FA8B A   LD      (BIORST),SP    ;SP merken
103 7DA0 31 FA8B   A   LD      SP,BIORST    ;neuer Stack
104 7DA3 DB A8     A   IN      A,(PPIA)
105 7DA5 F5        A   PUSH   AF          ;Slotkonfiguration merken
106 7DA6 3A F726   A   LD      A,(SLCTRL)
107 7DA9 D3 A8     A   OUT     (PPIA),A      ;Speicher umschalten
108                A;
109 7DAB CD FA0E   A   CALL   JPHLR        ;BIOS-Aufruf (kann Speicher umschalten!)
110                A;
111 7DAE C1        A   POP     BC          ;A,DE,HL NICHT BUNUTZEN !
112 7DAF 0E A8     A   LD      C,PPIA
113 7DB1 ED 41     A   OUT     (C),B      ;Speicher rueckschalten
114 7DB3 06 00     A   LD      B,0         ;fuer erw. Tastaturschnittstelle
115 7DB5 ED 7B FA8B A   LD      SP,(BIORST)  ;SP zurueck
116 7DB9 C9        A   RET
117                A;-----
118 7DBA E9        AJPHLP:   JP      (HL)
119                A;
120                A;*****
121                A;Umspeichern zentrale BIOS-Teile in RAM
122                A;-----
123                A;
124 7DBB 21 7CF1   AINIBIOS:LD HL,BIOPSL    ;BIOS-Sprungleiste
125 7DBE 11 FD00   A   LD      DE,BIORSL
126 7DC1 01 003F   A   LD      BC,63
127 7DC4 ED B0     A   LDIR
128 7DC6 21 7D30   A   LD      HL,BIOPRA    ;BIOS-Rahmen
129 7DC9 11 F984   A   LD      DE,BIORRA
130 7DCC 01 008B   A   LD      BC,JPHLP+1-BIOPRA
131 7DCF ED B0     A   LDIR
132 7DD1 21 7DDD   A   LD      HL,SRST38    ;PATCH fuer RST 38H
133 7DD4 11 FE3D   A   LD      DE,XRST38
134 7DD7 01 0005   A   LD      BC,5
135 7DDA ED B0     A   LDIR
136 7DDC C9        A   RET
137                A;
138 7DDD 3E AA     ASRST38   LD      A,0AAH    ;alles RAM
139 7DDF D3 A8     A   OUT     (PPIA),A
140 7DE1 FF        A   RST     38H        ;STOP-Zustand
141                A;*****
142                A;BIOS-Ruf 0: Kaltstart
143                A;-----
144 7DE2 C7        ACIBOOT:   RST     0      ;Adr 0 im PROM Slot 0 !
145                A;
146                A;*****
147                A;Aktualisieren IO-Byte, LW und User in Statuszeile
```

```

148 A;-----
149 7DE3 DB A8 ASTNEU IN A,(PPIA)
150 7DE5 F5 A PUSH AF
151 7DE6 E6 FC A AND 0FCH
152 7DE8 F6 02 A OR 2 ;Page 0 auf Slot 2
153 7DEA D3 A8 A OUT (PPIA),A
154 A;-----
155 7DEC 21 E69A A LD HL,IORET
156 7DEF 3A 0003 A LD A,(3)
157 7DF2 BE A CP (HL) ;IO-Byte veraendert?
158 7DF3 28 0C A JR Z,STN10 ; Nein-->
159 A;-----
160 7DF5 77 A LD (HL),A
161 7DF6 11 E655 A LD DE,STIO
162 7DF9 CD 0000# A CALL MRECOA
163 7DFC 3E FF A LD A,0FFH
164 7DFE 32 F891 A LD (STFLAG),A ;Anzeige anmelden
165 A;-----
166 7E01 21 E69B ASTN10 LD HL,LWRET
167 7E04 3A 0004 A LD A,(4)
168 7E07 BE A CP (HL) ;LW, User veraendert?
169 7E08 28 14 A JR Z,STN20 ; Nein-->
170 A;-----
171 7E0A 77 A LD (HL),A
172 7E0B 47 A LD B,A
173 7E0C E6 0F A AND 0FH
174 7E0E C6 41 A ADD A,'A'
175 7E10 11 E64A A LD DE,STALW
176 7E13 12 A LD (DE),A
177 7E14 78 A LD A,B
178 7E15 13 A INC DE
179 7E16 CD 0000# A CALL MRECOL
180 7E19 3E FF A LD A,0FFH
181 7E1B 32 F891 A LD (STFLAG),A ;Anzeige anmelden
182 A;-----
183 7E1E F1 ASTN20 POP AF
184 7E1F D3 A8 A OUT (PPIA),A
185 7E21 C9 A RET
186 A;
187 A;*****
188 A;Statuszeile initialisieren (Aufruf vor SFLINI!)
189 A;-----
190 7E22 01 0050 ASTINI LD BC,CBSTEN-CBSTAT ;Anfangsbelg.Statuszeile
191 7E25 11 E64A A LD DE,STZEIL
192 7E28 21 7E3C A LD HL,CBSTAT
193 7E2B ED B0 A LDIR
194 7E2D AF A XOR A
195 7E2E 32 E69A A LD (IORET),A ;Kopien loeschen
196 7E31 32 E69B A LD (LWRET),A
197 7E34 3D A DEC A
198 7E35 32 F891 A LD (STFLAG),A ;Anzeige anmelden
199 7E38 32 F892 A LD (FUFLAG),A
200 7E3B C9 A RET
201 A;
202 7E3C 41 30 20 5C A CBSTAT DEFM 'A0 \ A---- 95
203 7E64 20 20 20 20A DEFM '
204 7E8C ACBSTEN
205 A;

```

```
206 A;*****
207 A;Floppy-Init fuer SCP (Aufruf nach STINI !)
208 A;-----
209 7E8C CD FE31 ASFLINI CALL XSFLIN
210 A;-----
211 7E8F 3A EBC1 A LD A,(DPBB+DPBDNR) ;phys. LW 1 da?
212 7E92 FE 01 A CP 1
213 7E94 20 0A A JR NZ,SFLI10 ; Nein-->
214 A;
215 7E96 3E 42 A LD A,'B' ;LW in Statuszeile
216 7E98 32 E650 A LD (STLW+1),A
217 7E9B 21 F891 A LD HL,STFLAG
218 7E9E 36 FF A LD (HL),0FFH ; Ausgabe anmelden
219 A;-----
220 7EA0 2A EAD3 ASFLI10 LD HL,(DPHATB+4) ;phys. LW 2 da?
221 7EA3 7C A LD A,H
222 7EA4 B5 A OR L
223 7EA5 28 0A A JR Z,SFLI20 ; Nein-->
224 A;
225 7EA7 3E 43 A LD A,'C' ;LW in Statuszeile
226 7EA9 32 E651 A LD (STLW+2),A
227 7EAC 21 F891 A LD HL,STFLAG
228 7EAF 36 FF A LD (HL),0FFH ; Ausgabe anmelden
229 A;-----
230 7EB1 21 7EC5 ASFLI20 LD HL,SXDER1+2
231 7EB4 11 FE3C A LD DE,XDER1+2
232 7EB7 01 0009 A LD BC,SXDER1+3-SXSELE ;PATCH-Rufe init
233 7EBA ED B8 A LDDR
234 A;-----
235 7EBC C9 A RET
236 A;-----
237 A;Patch-Rufe
238 A;
239 7EBD C3 7EC6 ASXSELE JP SSELE ;Anzeige Disk-Format
240 7EC0 C3 7EE5 ASXLPLW JP SLPLW ;Diskwechsel im DSE-LW
241 7EC3 C3 7F05 ASXDER1 JP SDER1 ;BIOS-Error u WH bei Not Ready
242 A;
243 A;*****
244 A;Patch-Ruf fuer Anzeige Diskformat
245 A;-----
246 7EC6 21 E658 ASSELE LD HL,STDSKF
247 7EC9 11 EAB7 A LD DE,DISKA5
248 7ECC 1A A LD A,(DE)
249 7ECD D6 41 A SUB 'A'
250 A;
251 7ECF A7 ASSEL10 AND A
252 7ED0 28 07 A JR Z,SSEL20
253 7ED2 01 0008 A LD BC,8
254 7ED5 09 A ADD HL,BC ;Adressrechnung
255 7ED6 3D A DEC A
256 7ED7 18 F6 A JR SSEL10
257 A;
258 7ED9 EB ASSEL20 EX DE,HL
259 7EDA 01 0006 A LD BC,6
260 7EDD ED B0 A LDIR ;Statuszeile laden
261 7EDF 21 F891 A LD HL,STFLAG
262 7EE2 36 FF A LD (HL),0FFH ;Ausgabe anmelden
263 7EE4 C9 A RET
```

```

264      A;
265      A;*****
266      A;PATCH-Ruf Diskwechsel im DSE-LW
267      A;-----
268 7EE5 CD 7F56 ASLPLW CALL PULO
269 7EE8 23      A INC HL
270 7EE9 23      A INC HL ;HL=LPCHNG+2
271 7EEA 01 0026 A LD BC,38
272 7EED CD 7F76 A CALL FEANZ0 ;Fehleranzeige
273      A;
274 7EF0 CD 7F66 ASLPLW2 CALL WATA ;Warten auf Tastendruck
275 7EF3 FE 2A A CP '*'
276 7EF5 20 F9 A JR NZ,SLPLW2 ;Warten auf '*'
277      A;
278 7EF7 3A EA87 A LD A,(LPTAB)
279 7EFA C6 41 A ADD A,'A'
280 7EFC 32 E64F A LD (STLW),A ;LW-Anzeige in Statuszeile
281 7EFF CD 7C43 ASLPLW3 CALL FEMAUS ;Fehleranzeige aus
282 7F02 C3 FDB0 A JP XNAMON ;STOP-Zustand erlauben
283      A;
284      A;*****
285      A;PATCH-Ruf fuer BIOS-Error u WH bei Not Ready
286      A;-----
287 7F05 CD 7F56 ASDER1 CALL PULO ;Puffer loeschen
288 7F08 23      A INC HL
289 7F09 23      A INC HL ;HL=DERRMS+2
290 7F0A 01 0027 A LD BC,39
291 7F0D 3A EACE A LD A,(FL14)
292 7F10 FE 52 A CP 'R' ;Fehler: Not Ready?
293 7F12 C2 7F7F A JP NZ,FEANZ ;Nein-->Fehleranzeige, RET
294      A;-----
295 7F15 E5 ASDER11 PUSH HL
296 7F16 11 E6C4 A LD DE,DFEPU+41-1
297 7F19 21 7F38 A LD HL,FZK
298 7F1C 01 001E A LD BC,FZKE-FZK
299 7F1F ED B0 A LDIR ;Zusatztext laden
300 7F21 E1 A POP HL
301      A;
302 7F22 01 0027 A LD BC,39
303 7F25 CD 7F76 A CALL FEANZ0 ;Fehleranzeige
304      A;
305 7F28 CD 7F66 A CALL WATA ;Warten auf Tastendruck
306 7F2B E6 5F A AND 5FH ;Grossbuchstaben
307 7F2D FE 57 A CP 'W'
308 7F2F 20 CE A JR NZ,SLPLW3 ;sonst --> Weiter
309      A;
310 7F31 E1 A POP HL ;Stackmanipulation !!
311 7F32 CD 7EFF A CALL SLPLW3 ;Anzeige loeschen
312 7F35 C3 0000# A JP DIORTY ;W --> Wiederholung Sektor
313      A;-----
314 7F38 28 57 2D 57AFZK DEFM '(W-Wiederholen / sonst-Weiter)'
315 7F56 AFZKE EQU $
316      A;
317      A;*****
318      A;UP fuer Puffer loeschen
319      A;-----
320 7F56 E5 APULO PUSH HL
321 7F57 21 E69C A LD HL,DFEPU

```

```

322 7F5A 36 20      A   LD   (HL),' '
323 7F5C 54         A   LD   D,H
324 7F5D 5D         A   LD   E,L
325 7F5E 13         A   INC  DE
326 7F5F 01 004F    A   LD   BC,80-1
327 7F62 ED B0      A   LDIR                ;Puffer loeschen
328 7F64 E1         A   POP  HL
329 7F65 C9         A   RET
330                A;
331                A;*****
332                A;UP fuer Warten auf Tastendruck
333                A;-----
334 7F66 CD 0000#   AWATA CALL  LORIPU
335 7F69 3E FF      AWATA2  LD   A,0FFH      ;Daueranzeige erzwingen
336 7F6B 32 F88B    A   LD   (FZELLE),A
337 7F6E CD 0000#   A   CALL INKEY        ; (kein BIOS-Ruf!)
338 7F71 28 F6      A   JR   Z,WATA2
339 7F73 C3 0000#   A   JP   RDRIPU       ;Zeichen lesen (kein BIOS-Ruf !)
340                A;
341                A;*****
342                A;UP fuer Fehleranzeige in Statuszeile
343                A;-----
344                A;I: HL= Adr. ZK mit Fehlertext
345                A; BC= Laenge Fehlertext
346                A;
347 7F76 3A F88B    AFEANZ0  LD   A,(FZELLE)
348 7F79 A7          A   AND  A
349 7F7A 20 FA      A   JR   NZ,FEANZ0    ;Warten bis Statuszeile frei
350 7F7C CD FDAD    A   CALL XISMON       ;STOP-Zustand verbieten
351 7F7F 11 E69C    AFEANZ  LD   DE,DFEPU
352 7F82 D5         A   PUSH DE
353 7F83 ED B0      A   LDIR                ;Fehlertext umspeichern
354                A;
355 7F85 D1         A   POP  DE
356 7F86 CD 7C28    A   CALL FEMEIN       ;Fehleranzeige
357 7F89 3E 07      A   LD   A,7          ;BEEP
358 7F8B C3 0000#   A   JP   OUTASC       ; (kein BIOS-Ruf !)
359                A;
360                A;*****
17                ;
18                0000      COND  $ GT 8000H
20                ENDC
22                0000      RSOLO  EQU  0      ;RAM nicht allein
23                0001      DSE equ  1
24                0001      DSE1RA equ  1
25                0001      DSE2RA equ  1
26                0000      DISKLU equ  0      ;BICDITR nicht enthalten
27                0001      SCP  equ  1
28                0000      ELS  EQU  0      ;SCPEL* nicht enthalten

```

# SCPROM1 8000-9EFF

Z80ASM SuperFast Relocating Macro Assembler  
 SCPROM1 Z80

Z80ASM 1.30 Page 1

```

2          ;-----
3          ; ROM-Erweiterung fuer SCP
4          ; Stand: 28.03.89
5          ; File: SCPROM1.S
6          ;-----
7          INCLUDEORG.Z80
1          A;*****
2          A;Symbol. Vereinbarung aller ORG's
3          A;Stand: 22.11.89
4          A;File: ORG.S
5          A;-----
6          2300  ABIC1 EQU    2300H  ;R-BASIC (Busch)
7          A;
8          6420  ADSE2 EQU    6420H  ;Floppy-Treiber (Ludewig,Loeber)
9          7880  ADSE3 EQU    7880H  ;Bildteil SCP (Gaertner)
10         A          ;BIOS,Disk (Ludewig)
11         8000  ASCPROM EQU    08000H ;Erweiterung SCP-ROM
12         A;
13         E606  ABDOSCP EQU    0E606H ;Achtung: XX06H !!!
14         A          ;RAM fuer BDOS nur in SCP
15         A          ;RAM fuer SCP-ROM-Treiber
16         E880  ADSK1RA EQU    0E880H ;Disk-RAM 1 (Busch,Kersten)
17         EA27  ADSK2RA EQU    0EA27H ;Disk-RAM 2 (Ludewig,Loeber)
18         F235  ASYSRAM EQU    0F235H ;Grund-RAM
19         A;
20         BFF9  APLOT EQU    0C000H-7;Plotteranschluss
21         A;*****
8          INCLUDEK4.Z80
1          A;*****
2          A;Steuerfile fuer Test am K4-Muster
3          A;Stand: 30.09.88
4          0000  AZDS EQU    0
5          0000  ACGG EQU    0
6          0001  AK4 EQU    1
7          A;*****
9          ; INCLUDEBIC.MAC.S
10         .LIST
11         ; externals aus ROM-BIOS
12         0138  DBAABF equ    138h
13         00A8  PPIA equ    0A8h ;Portadresse fuer Bankumschaltung
14         ;
15         8000  org    SCPROM
16         ;-----
17         ; Kennung ROM-Erweiterung und
18         ; Initialisierungsadressen
19         ;
20         8000  41 42      defm  'AB'          ;Kennzeichen
21         8002  8810      defw  R8INI         ;Adr. Initialisierung
22         8004  0000      defw  0            ;Eintritt CALL
23         8006  0000      defw  0            ; Aufruf Zusatzger.
24         8008  0000      defw  0            ;RAM-Reservierung
25         800A  0000      defw  0
26         800C  0000      defw  0
27         800E  0000      defw  0
28         ;-----
30         INCLUDEZG.Z80          ;Bei Aenderungen ROM-BIOS aendern !!!
31         A;*****
32         A;Standard-Zeichengenerator BIC (RBASIC)

```

```

3          A;Stand: 12.01.89
4          A;File: ZG.S
5          A;
6          A global ZG
7          A;
8 8010 0000  AZG:  DEFW  0          ;0H
9 8012 0000  A     DEFW  0
10 8014 0000  A     DEFW  0
11 8016 0000  A     DEFW  0
12 8018 413E  A     DEFW  413EH ;
13 801A 4155  A     DEFW  4155H
14 801C 5D63  A     DEFW  5D63H
15 801E 3E41  A     DEFW  3E41H
16 8020 7F3E  A     DEFW  7F3EH ;2H
17 8022 7F6B  A     DEFW  7F6BH
18 8024 635D  A     DEFW  635DH
19 8026 3E7F  A     DEFW  3E7FH
20 8028 7F36  A     DEFW  7F36H ;
21 802A 7F7F  A     DEFW  7F7FH
22 802C 1C3E  A     DEFW  1C3EH
23 802E 0008  A     DEFW  8
24 8030 1C08  A     DEFW  1C08H ;4H
25 8032 7F3E  A     DEFW  7F3EH
26 8034 1C3E  A     DEFW  1C3EH
27 8036 0008  A     DEFW  8
28 8038 1C1C  A     DEFW  1C1CH ;
29 803A 7F7F  A     DEFW  7F7FH
30 803C 087F  A     DEFW  087FH
31 803E 001C  A     DEFW  1CH
32 8040 1C08  A     DEFW  1C08H ;6H
33 8042 7F3E  A     DEFW  7F3EH
34 8044 087F  A     DEFW  087FH
35 8046 001C  A     DEFW  1CH
36 8048 0000  A     DEFW  0          ;
37 804A 1800  A     DEFW  1800H
38 804C 0018  A     DEFW  18H
39 804E 0000  A     DEFW  0
40 8050 637F  A     DEFW  637FH ;8H
41 8052 4141  A     DEFW  4141H
42 8054 6341  A     DEFW  6341H
43 8056 007F  A     DEFW  7FH
44 8058 1C00  A     DEFW  1C00H ;
45 805A 2222  A     DEFW  2222H
46 805C 1C22  A     DEFW  1C22H
47 805E 0000  A     DEFW  0
48 8060 637F  A     DEFW  637FH ;0AH
49 8062 5D49  A     DEFW  5D49H
50 8064 6349  A     DEFW  6349H
51 8066 007F  A     DEFW  7FH
52 8068 E0F0  A     DEFW  0E0F0H ;
53 806A 9EB0  A     DEFW  9EB0H
54 806C 3333  A     DEFW  3333H
55 806E 1E33  A     DEFW  1E33H
56 8070 663C  A     DEFW  663CH ;0CH
57 8072 6666  A     DEFW  6666H
58 8074 183C  A     DEFW  183CH
59 8076 187E  A     DEFW  187EH
60 8078 140C  A     DEFW  140CH ;

```

```

61 807A 2424      A   DEFW  2424H
62 807C 0714      A   DEFW  0714H
63 807E 0003      A   DEFW   3
64 8080 447C      A   DEFW  447CH ;0EH
65 8082 447C      A   DEFW  447CH
66 8084 7744      A   DEFW  7744H
67 8086 0033      A   DEFW  33H
68 8088 2A49      A   DEFW  2A49H ;
69 808A 771C      A   DEFW  771CH
70 808C 2A1C      A   DEFW  2A1CH
71 808E 0049      A   DEFW  49H
72          A;
73 8090 0700      A   DEFW  0700H ;10H
74 8092 7F1F      A   DEFW  7F1FH
75 8094 071F      A   DEFW  071FH
76 8096 0000      A   DEFW   0
77 8098 7000      A   DEFW  7000H ;
78 809A 7F7C      A   DEFW  7F7CH
79 809C 707C      A   DEFW  707CH
80 809E 0000      A   DEFW   0
81 80A0 1C08      A   DEFW  1C08H ;12H
82 80A2 083E      A   DEFW  083EH
83 80A4 1C3E      A   DEFW  1C3EH
84 80A6 0008      A   DEFW   8
85 80A8 3636      A   DEFW  3636H ;
86 80AA 3636      A   DEFW  3636H
87 80AC 0036      A   DEFW  36H
88 80AE 0036      A   DEFW  36H
89 80B0 6F7E      A   DEFW  6F7EH ;14H
90 80B2 6E6F      A   DEFW  6E6FH
91 80B4 6C6C      A   DEFW  6C6CH
92 80B6 006C      A   DEFW  6CH
93 80B8 033C      A   DEFW  033CH ;
94 80BA 413E      A   DEFW  413EH
95 80BC 603E      A   DEFW  603EH
96 80BE 001E      A   DEFW  1EH
97 80C0 0000      A   DEFW   0 ;16H
98 80C2 0000      A   DEFW   0
99 80C4 7F00      A   DEFW  7F00H
100 80C6 007F      A   DEFW  7FH
101 80C8 1C08      A   DEFW  1C08H ;
102 80CA 083E      A   DEFW  083EH
103 80CC 1C3E      A   DEFW  1C3EH
104 80CE 7F08      A   DEFW  7F08H
105 80D0 1C08      A   DEFW  1C08H ;18H
106 80D2 083E      A   DEFW  083EH
107 80D4 0808      A   DEFW  0808H
108 80D6 0008      A   DEFW   8
109 80D8 0808      A   DEFW  0808H ;
110 80DA 0808      A   DEFW  0808H
111 80DC 1C3E      A   DEFW  1C3EH
112 80DE 0008      A   DEFW   8
113 80E0 1000      A   DEFW  1000H ;1AH
114 80E2 7F30      A   DEFW  7F30H
115 80E4 1030      A   DEFW  1030H
116 80E6 0000      A   DEFW   0
117 80E8 0400      A   DEFW  0400H ;
118 80EA 7F06      A   DEFW  7F06H

```



```

119 80EC 0406      A   DEFW  0406H
120 80EE 0000      A   DEFW  0
121 80F0 0000      A   DEFW  0      ;1CH
122 80F2 0000      A   DEFW  0
123 80F4 0303      A   DEFW  0303H
124 80F6 007F      A   DEFW  7FH
125 80F8 1400      A   DEFW  1400H  ;
126 80FA 7F36      A   DEFW  7F36H
127 80FC 1436      A   DEFW  1436H
128 80FE 0000      A   DEFW  0
129 8100 0808      A   DEFW  0808H  ;1EH
130 8102 1C1C      A   DEFW  1C1CH
131 8104 3E3E      A   DEFW  3E3EH
132 8106 007F      A   DEFW  7FH
133 8108 3E7F      A   DEFW  3E7FH  ;
134 810A 1C3E      A   DEFW  1C3EH
135 810C 081C      A   DEFW  081CH
136 810E 0008      A   DEFW  8
137              A;
138 8110 0000      A   DEFW  0      ;20H
139 8112 0000      A   DEFW  0
140 8114 0000      A   DEFW  0
141 8116 0000      A   DEFW  0
142 8118 1818      A   DEFW  1818H  ;
143 811A 1818      A   DEFW  1818H
144 811C 0018      A   DEFW  18H
145 811E 0018      A   DEFW  18H
146 8120 3636      A   DEFW  3636H  ;22H
147 8122 0036      A   DEFW  36H
148 8124 0000      A   DEFW  0
149 8126 0000      A   DEFW  0
150 8128 3636      A   DEFW  3636H  ;
151 812A 367F      A   DEFW  367FH
152 812C 367F      A   DEFW  367FH
153 812E 0036      A   DEFW  36H
154 8130 7C18      A   DEFW  7C18H  ;24H
155 8132 3C1A      A   DEFW  3C1AH
156 8134 3E58      A   DEFW  3E58H
157 8136 0018      A   DEFW  18H
158 8138 6300      A   DEFW  6300H  ;
159 813A 1833      A   DEFW  1833H
160 813C 660C      A   DEFW  660CH
161 813E 0063      A   DEFW  63H
162 8140 361C      A   DEFW  361CH  ;26H
163 8142 6E1C      A   DEFW  6E1CH
164 8144 333B      A   DEFW  333BH
165 8146 006E      A   DEFW  6EH
166 8148 1818      A   DEFW  1818H  ;
167 814A 000C      A   DEFW  0CH
168 814C 0000      A   DEFW  0
169 814E 0000      A   DEFW  0
170 8150 1830      A   DEFW  1830H  ;28H
171 8152 0C0C      A   DEFW  0C0CH
172 8154 180C      A   DEFW  180CH
173 8156 0030      A   DEFW  30H
174 8158 180C      A   DEFW  180CH  ;
175 815A 3030      A   DEFW  3030H
176 815C 1830      A   DEFW  1830H

```

```

177 815E 000C      A   DEFW  0CH
178 8160 6600      A   DEFW  6600H ;2AH
179 8162 FF3C      A   DEFW  0FF3CH
180 8164 663C      A   DEFW  663CH
181 8166 0000      A   DEFW  0
182 8168 1800      A   DEFW  1800H ;
183 816A 7E18      A   DEFW  7E18H
184 816C 1818      A   DEFW  1818H
185 816E 0000      A   DEFW  0
186 8170 0000      A   DEFW  0 ;2CH
187 8172 0000      A   DEFW  0
188 8174 1800      A   DEFW  1800H
189 8176 0C18      A   DEFW  0C18H
190 8178 0000      A   DEFW  0 ;
191 817A 7E00      A   DEFW  7E00H
192 817C 0000      A   DEFW  0
193 817E 0000      A   DEFW  0
194 8180 0000      A   DEFW  0 ;2EH
195 8182 0000      A   DEFW  0
196 8184 1800      A   DEFW  1800H
197 8186 0018      A   DEFW  18H
198 8188 3060      A   DEFW  3060H ;
199 818A 0C18      A   DEFW  0C18H
200 818C 0306      A   DEFW  0306H
201 818E 0001      A   DEFW  1
202                A;
203 8190 633E      A   DEFW  633EH ;30H
204 8192 6B73      A   DEFW  6B73H
205 8194 6367      A   DEFW  6367H
206 8196 003E      A   DEFW  3EH
207 8198 1C18      A   DEFW  1C18H ;
208 819A 1818      A   DEFW  1818H
209 819C 1818      A   DEFW  1818H
210 819E 007E      A   DEFW  7EH
211 81A0 663C      A   DEFW  663CH ;32H
212 81A2 3C60      A   DEFW  3C60H
213 81A4 6606      A   DEFW  6606H
214 81A6 007E      A   DEFW  7EH
215 81A8 623C      A   DEFW  623CH ;
216 81AA 3860      A   DEFW  3860H
217 81AC 6660      A   DEFW  6660H
218 81AE 003C      A   DEFW  3CH
219 81B0 1C18      A   DEFW  1C18H ;34H
220 81B2 191A      A   DEFW  191AH
221 81B4 187F      A   DEFW  187FH
222 81B6 003C      A   DEFW  3CH
223 81B8 467E      A   DEFW  467EH ;
224 81BA 3C06      A   DEFW  3C06H
225 81BC 6660      A   DEFW  6660H
226 81BE 003C      A   DEFW  3CH
227 81C0 663C      A   DEFW  663CH ;36H
228 81C2 3E06      A   DEFW  3E06H
229 81C4 6666      A   DEFW  6666H
230 81C6 003C      A   DEFW  3CH
231 81C8 627E      A   DEFW  627EH ;
232 81CA 3060      A   DEFW  3060H
233 81CC 1818      A   DEFW  1818H
234 81CE 0018      A   DEFW  18H

```

```

235 81D0 663C      A   DEFW  663CH  ;38H
236 81D2 3C66      A   DEFW  3C66H
237 81D4 6666      A   DEFW  6666H
238 81D6 003C      A   DEFW  3CH
239 81D8 663C      A   DEFW  663CH  ;
240 81DA 7C66      A   DEFW  7C66H
241 81DC 6660      A   DEFW  6660H
242 81DE 003C      A   DEFW  3CH
243 81E0 0000      A   DEFW  0      ;3AH
244 81E2 1818      A   DEFW  1818H
245 81E4 1800      A   DEFW  1800H
246 81E6 0018      A   DEFW  18H
247 81E8 0000      A   DEFW  0      ;
248 81EA 1818      A   DEFW  1818H
249 81EC 1800      A   DEFW  1800H
250 81EE 0C18      A   DEFW  0C18H
251 81F0 1830      A   DEFW  1830H  ;3CH
252 81F2 060C      A   DEFW  060CH
253 81F4 180C      A   DEFW  180CH
254 81F6 0030      A   DEFW  30H
255 81F8 0000      A   DEFW  0      ;
256 81FA 007E      A   DEFW  7EH
257 81FC 7E00      A   DEFW  7E00H
258 81FE 0000      A   DEFW  0
259 8200 0C06      A   DEFW  0C06H  ;3EH
260 8202 3018      A   DEFW  3018H
261 8204 0C18      A   DEFW  0C18H
262 8206 0006      A   DEFW  6
263 8208 663C      A   DEFW  663CH  ;
264 820A 3060      A   DEFW  3060H
265 820C 0018      A   DEFW  18H
266 820E 0018      A   DEFW  18H
267
268 8210 633E      A   DEFW  633EH  ;40H
269 8212 7B7B      A   DEFW  7B7BH
270 8214 037B      A   DEFW  037BH
271 8216 003E      A   DEFW  3EH
272 8218 3C18      A   DEFW  3C18H  ;
273 821A 6666      A   DEFW  6666H
274 821C 667E      A   DEFW  667EH
275 821E 0066      A   DEFW  66H
276 8220 663F      A   DEFW  663FH  ;42H
277 8222 3E66      A   DEFW  3E66H
278 8224 6666      A   DEFW  6666H
279 8226 003F      A   DEFW  3FH
280 8228 663C      A   DEFW  663CH  ;
281 822A 0303      A   DEFW  0303H
282 822C 6603      A   DEFW  6603H
283 822E 003C      A   DEFW  3CH
284 8230 361F      A   DEFW  361FH  ;44H
285 8232 6666      A   DEFW  6666H
286 8234 3666      A   DEFW  3666H
287 8236 001F      A   DEFW  1FH
288 8238 467F      A   DEFW  467FH  ;
289 823A 1E16      A   DEFW  1E16H
290 823C 4616      A   DEFW  4616H
291 823E 007F      A   DEFW  7FH
292 8240 467F      A   DEFW  467FH  ;46H

```

```

293 8242 1E16      A   DEFW  1E16H
294 8244 0616      A   DEFW  0616H
295 8246 000F      A   DEFW  0FH
296 8248 663C      A   DEFW  663CH ;
297 824A 0303      A   DEFW  0303H
298 824C 6373      A   DEFW  6373H
299 824E 007E      A   DEFW  7EH
300 8250 6666      A   DEFW  6666H ;48H
301 8252 7E66      A   DEFW  7E66H
302 8254 6666      A   DEFW  6666H
303 8256 0066      A   DEFW  66H
304 8258 187E      A   DEFW  187EH ;
305 825A 1818      A   DEFW  1818H
306 825C 1818      A   DEFW  1818H
307 825E 007E      A   DEFW  7EH
308 8260 3078      A   DEFW  3078H ;4AH
309 8262 3030      A   DEFW  3030H
310 8264 3333      A   DEFW  3333H
311 8266 001E      A   DEFW  1EH
312 8268 6667      A   DEFW  6667H ;
313 826A 1E36      A   DEFW  1E36H
314 826C 6636      A   DEFW  6636H
315 826E 0067      A   DEFW  67H
316 8270 060F      A   DEFW  060FH ;4CH
317 8272 0606      A   DEFW  0606H
318 8274 6646      A   DEFW  6646H
319 8276 007F      A   DEFW  7FH
320 8278 7763      A   DEFW  7763H ;
321 827A 7F7F      A   DEFW  7F7FH
322 827C 636B      A   DEFW  636BH
323 827E 0063      A   DEFW  63H
324 8280 6763      A   DEFW  6763H ;4EH
325 8282 7B6F      A   DEFW  7B6FH
326 8284 6373      A   DEFW  6373H
327 8286 0063      A   DEFW  63H
328 8288 361C      A   DEFW  361CH ;
329 828A 6363      A   DEFW  6363H
330 828C 3663      A   DEFW  3663H
331 828E 001C      A   DEFW  1CH
332          A;
333 8290 663F      A   DEFW  663FH ;50H
334 8292 1E66      A   DEFW  1E66H
335 8294 0606      A   DEFW  0606H
336 8296 000F      A   DEFW  0FH
337 8298 361C      A   DEFW  361CH ;
338 829A 6363      A   DEFW  6363H
339 829C 335B      A   DEFW  335BH
340 829E 006E      A   DEFW  6EH
341 82A0 663F      A   DEFW  663FH ;52H
342 82A2 3E66      A   DEFW  3E66H
343 82A4 6636      A   DEFW  6636H
344 82A6 0047      A   DEFW  47H
345 82A8 663C      A   DEFW  663CH ;
346 82AA 3C06      A   DEFW  3C06H
347 82AC 6660      A   DEFW  6660H
348 82AE 003C      A   DEFW  3CH
349 82B0 5A7E      A   DEFW  5A7EH ;54H
350 82B2 1818      A   DEFW  1818H

```

```

351 82B4 1818      A   DEFW  1818H
352 82B6 003C      A   DEFW  3CH
353 82B8 6666      A   DEFW  6666H ;
354 82BA 6666      A   DEFW  6666H
355 82BC 6666      A   DEFW  6666H
356 82BE 003C      A   DEFW  3CH
357 82C0 6666      A   DEFW  6666H ;56H
358 82C2 6666      A   DEFW  6666H
359 82C4 3C66      A   DEFW  3C66H
360 82C6 0018      A   DEFW  18H
361 82C8 6363      A   DEFW  6363H ;
362 82CA 6B63      A   DEFW  6B63H
363 82CC 777F      A   DEFW  777FH
364 82CE 0063      A   DEFW  63H
365 82D0 3663      A   DEFW  3663H ;58H
366 82D2 1C1C      A   DEFW  1C1CH
367 82D4 6336      A   DEFW  6336H
368 82D6 0063      A   DEFW  63H
369 82D8 6666      A   DEFW  6666H ;
370 82DA 3C66      A   DEFW  3C66H
371 82DC 1818      A   DEFW  1818H
372 82DE 003C      A   DEFW  3CH
373 82E0 637F      A   DEFW  637FH ;5AH
374 82E2 1831      A   DEFW  1831H
375 82E4 664C      A   DEFW  664CH
376 82E6 007F      A   DEFW  7FH
377 82E8 0C3C      A   DEFW  0C3CH ;
378 82EA 0C0C      A   DEFW  0C0CH
379 82EC 0C0C      A   DEFW  0C0CH
380 82EE 003C      A   DEFW  3CH
381 82F0 0603      A   DEFW  0603H ;5CH
382 82F2 180C      A   DEFW  180CH
383 82F4 6030      A   DEFW  6030H
384 82F6 0040      A   DEFW  40H
385 82F8 303C      A   DEFW  303CH ;
386 82FA 3030      A   DEFW  3030H
387 82FC 3030      A   DEFW  3030H
388 82FE 003C      A   DEFW  3CH
389 8300 1408      A   DEFW  1408H ;5EH
390 8302 4122      A   DEFW  4122H
391 8304 0000      A   DEFW  0
392 8306 0000      A   DEFW  0
393 8308 0000      A   DEFW  0 ;
394 830A 0000      A   DEFW  0
395 830C 0000      A   DEFW  0
396 830E FF00      A   DEFW  0FF00H
397                A;
398 8310 0C00      A   DEFW  0C00H ;60H
399 8312 3018      A   DEFW  3018H
400 8314 0000      A   DEFW  0
401 8316 0000      A   DEFW  0
402 8318 0000      A   DEFW  0 ;
403 831A 301E      A   DEFW  301EH
404 831C 333E      A   DEFW  333EH
405 831E 006E      A   DEFW  6EH
406 8320 0707      A   DEFW  0707H ;62H
407 8322 663E      A   DEFW  663EH
408 8324 6666      A   DEFW  6666H

```

```
409 8326 003D      A   DEFW  3DH
410 8328 0000      A   DEFW  0      ;
411 832A 663C      A   DEFW  663CH
412 832C 6606      A   DEFW  6606H
413 832E 003C      A   DEFW  3CH
414 8330 3038      A   DEFW  3038H  ;64H
415 8332 333E      A   DEFW  333EH
416 8334 3333      A   DEFW  3333H
417 8336 006E      A   DEFW  6EH
418 8338 0000      A   DEFW  0      ;
419 833A 663C      A   DEFW  663CH
420 833C 067E      A   DEFW  067EH
421 833E 003C      A   DEFW  3CH
422 8340 6C38      A   DEFW  6C38H  ;66H
423 8342 1E0C      A   DEFW  1E0CH
424 8344 0C0C      A   DEFW  0C0CH
425 8346 001E      A   DEFW  1EH
426 8348 0000      A   DEFW  0      ;
427 834A 667C      A   DEFW  667CH
428 834C 7C66      A   DEFW  7C66H
429 834E 3E60      A   DEFW  3E60H
430 8350 0607      A   DEFW  0607H  ;68H
431 8352 6E36      A   DEFW  6E36H
432 8354 6666      A   DEFW  6666H
433 8356 0067      A   DEFW  67H
434 8358 0018      A   DEFW  18H      ;
435 835A 181C      A   DEFW  181CH
436 835C 1818      A   DEFW  1818H
437 835E 003C      A   DEFW  3CH
438 8360 0040      A   DEFW  40H      ;6AH
439 8362 6070      A   DEFW  6070H
440 8364 6660      A   DEFW  6660H
441 8366 3C66      A   DEFW  3C66H
442 8368 0607      A   DEFW  0607H  ;
443 836A 3666      A   DEFW  3666H
444 836C 361E      A   DEFW  361EH
445 836E 0067      A   DEFW  67H
446 8370 181C      A   DEFW  181CH  ;6CH
447 8372 1818      A   DEFW  1818H
448 8374 1818      A   DEFW  1818H
449 8376 003C      A   DEFW  3CH
450 8378 0000      A   DEFW  0      ;
451 837A 7F36      A   DEFW  7F36H
452 837C 6B6B      A   DEFW  6B6BH
453 837E 0063      A   DEFW  63H
454 8380 0000      A   DEFW  0      ;6EH
455 8382 661B      A   DEFW  661BH
456 8384 6666      A   DEFW  6666H
457 8386 0066      A   DEFW  66H
458 8388 0000      A   DEFW  0      ;
459 838A 663C      A   DEFW  663CH
460 838C 6666      A   DEFW  6666H
461 838E 003C      A   DEFW  3CH
462          A;
463 8390 0000      A   DEFW  0      ;70H
464 8392 663B      A   DEFW  663BH
465 8394 3E66      A   DEFW  3E66H
466 8396 0F06      A   DEFW  0F06H
```

```

467 8398 0000      A   DEFW  0      ;
468 839A 336E      A   DEFW  336EH
469 839C 3E33      A   DEFW  3E33H
470 839E 7830      A   DEFW  7830H
471 83A0 0000      A   DEFW  0      ;72H
472 83A2 361B      A   DEFW  361BH
473 83A4 0606      A   DEFW  0606H
474 83A6 000F      A   DEFW  0FH
475 83A8 0000      A   DEFW  0      ;
476 83AA 063C      A   DEFW  063CH
477 83AC 603C      A   DEFW  603CH
478 83AE 003E      A   DEFW  3EH
479 83B0 0C0C      A   DEFW  0C0CH ;74H
480 83B2 0C3E      A   DEFW  0C3EH
481 83B4 6C0C      A   DEFW  6C0CH
482 83B6 0038      A   DEFW  38H
483 83B8 0000      A   DEFW  0      ;
484 83BA 6666      A   DEFW  6666H
485 83BC 6666      A   DEFW  6666H
486 83BE 007C      A   DEFW  7CH
487 83C0 0000      A   DEFW  0      ;76H
488 83C2 6666      A   DEFW  6666H
489 83C4 3C66      A   DEFW  3C66H
490 83C6 0018      A   DEFW  18H
491 83C8 0000      A   DEFW  0      ;
492 83CA 6B63      A   DEFW  6B63H
493 83CC 7F6B      A   DEFW  7F6BH
494 83CE 0036      A   DEFW  36H
495 83D0 0000      A   DEFW  0      ;78H
496 83D2 3663      A   DEFW  3663H
497 83D4 361C      A   DEFW  361CH
498 83D6 0063      A   DEFW  63H
499 83D8 0000      A   DEFW  0      ;
500 83DA 6666      A   DEFW  6666H
501 83DC 7C66      A   DEFW  7C66H
502 83DE 3E60      A   DEFW  3E60H
503 83E0 0000      A   DEFW  0      ;7AH
504 83E2 327E      A   DEFW  327EH
505 83E4 0C18      A   DEFW  0C18H
506 83E6 007E      A   DEFW  7EH
507 83E8 1870      A   DEFW  1870H ;
508 83EA 0E18      A   DEFW  0E18H
509 83EC 1818      A   DEFW  1818H
510 83EE 0070      A   DEFW  70H
511 83F0 1818      A   DEFW  1818H ;7CH
512 83F2 0018      A   DEFW  18H
513 83F4 1818      A   DEFW  1818H
514 83F6 0018      A   DEFW  18H
515 83F8 180E      A   DEFW  180EH ;
516 83FA 7018      A   DEFW  7018H
517 83FC 1818      A   DEFW  1818H
518 83FE 000E      A   DEFW  0EH
519 8400 5B0E      A   DEFW  5B0EH ;7EH
520 8402 0030      A   DEFW  30H
521 8404 0000      A   DEFW  0
522 8406 0000      A   DEFW  0
523 8408 0800      A   DEFW  0800H ;
524 840A 2214      A   DEFW  2214H

```

```

525 840C 7F41      A   DEFW  7F41H
526 840E 0000      A   DEFW  0
527                          A;
528 8410 663C      A   DEFW  663CH ;80H
529 8412 0303      A   DEFW  0303H
530 8414 3C66      A   DEFW  3C66H
531 8416 0608      A   DEFW  0608H
532 8418 0066      A   DEFW  66H ;
533 841A 6666      A   DEFW  6666H
534 841C 6666      A   DEFW  6666H
535 841E 007C      A   DEFW  7CH
536 8420 0810      A   DEFW  0810H ;82H
537 8422 663C      A   DEFW  663CH
538 8424 063E      A   DEFW  063EH
539 8426 003C      A   DEFW  3CH
540 8428 413E      A   DEFW  413EH ;
541 842A 301C      A   DEFW  301CH
542 842C 333E      A   DEFW  333EH
543 842E 006E      A   DEFW  6EH
544 8430 0036      A   DEFW  36H ;84H
545 8432 301E      A   DEFW  301EH
546 8434 333E      A   DEFW  333EH
547 8436 006E      A   DEFW  6EH
548 8438 0804      A   DEFW  0804H ;
549 843A 301E      A   DEFW  301EH
550 843C 333E      A   DEFW  333EH
551 843E 006E      A   DEFW  6EH
552 8440 141C      A   DEFW  141CH ;86H
553 8442 301E      A   DEFW  301EH
554 8444 333E      A   DEFW  333EH
555 8446 006E      A   DEFW  6EH
556 8448 3E00      A   DEFW  3E00H ;
557 844A 0363      A   DEFW  0363H
558 844C 3E63      A   DEFW  3E63H
559 844E 0608      A   DEFW  0608H
560 8450 413E      A   DEFW  413EH ;88H
561 8452 663C      A   DEFW  663CH
562 8454 067E      A   DEFW  067EH
563 8456 003C      A   DEFW  3CH
564 8458 0036      A   DEFW  36H ;
565 845A 663C      A   DEFW  663CH
566 845C 067E      A   DEFW  067EH
567 845E 003C      A   DEFW  3CH
568 8460 1008      A   DEFW  1008H ;8AH
569 8462 663C      A   DEFW  663CH
570 8464 067E      A   DEFW  067EH
571 8466 003C      A   DEFW  3CH
572 8468 0036      A   DEFW  36H ;
573 846A 181C      A   DEFW  181CH
574 846C 1818      A   DEFW  1818H
575 846E 003C      A   DEFW  3CH
576 8470 221C      A   DEFW  221CH ;8CH
577 8472 181C      A   DEFW  181CH
578 8474 1818      A   DEFW  1818H
579 8476 003C      A   DEFW  3CH
580 8478 1008      A   DEFW  1008H ;
581 847A 1C00      A   DEFW  1C00H
582 847C 1818      A   DEFW  1818H

```



```

583 847E 003C      A   DEFW  3CH
584 8480 1866      A   DEFW 1866H ;8EH
585 8482 663C      A   DEFW 663CH
586 8484 667E      A   DEFW 667EH
587 8486 0066      A   DEFW 66H
588 8488 2418      A   DEFW 2418H ;
589 848A 3C18      A   DEFW 3C18H
590 848C 7E66      A   DEFW 7E66H
591 848E 0066      A   DEFW 66H
592                A;
593 8490 0810      A   DEFW 0810H ;90H
594 8492 467F      A   DEFW 467FH
595 8494 461E      A   DEFW 461EH
596 8496 007F      A   DEFW 7FH
597 8498 0000      A   DEFW 0 ;
598 849A 4837      A   DEFW 4837H
599 849C 097F      A   DEFW 097FH
600 849E 0076      A   DEFW 76H
601 84A0 1E7C      A   DEFW 1E7CH ;92H
602 84A2 7B1B      A   DEFW 7B1BH
603 84A4 1B1F      A   DEFW 1B1FH
604 84A6 007B      A   DEFW 7BH
605 84A8 2418      A   DEFW 2418H ;
606 84AA 3C00      A   DEFW 3C00H
607 84AC 6666      A   DEFW 6666H
608 84AE 003C      A   DEFW 3CH
609 84B0 0066      A   DEFW 66H ;94H
610 84B2 663C      A   DEFW 663CH
611 84B4 6666      A   DEFW 6666H
612 84B6 003C      A   DEFW 3CH
613 84B8 1008      A   DEFW 1008H ;
614 84BA 663C      A   DEFW 663CH
615 84BC 6666      A   DEFW 6666H
616 84BE 003C      A   DEFW 3CH
617 84C0 2418      A   DEFW 2418H ;96H
618 84C2 6600      A   DEFW 6600H
619 84C4 6666      A   DEFW 6666H
620 84C6 007C      A   DEFW 7CH
621 84C8 1008      A   DEFW 1008H ;
622 84CA 6666      A   DEFW 6666H
623 84CC 6666      A   DEFW 6666H
624 84CE 007C      A   DEFW 7CH
625 84D0 0036      A   DEFW 36H ;98H
626 84D2 6666      A   DEFW 6666H
627 84D4 7C66      A   DEFW 7C66H
628 84D6 3E60      A   DEFW 3E60H
629 84D8 1C63      A   DEFW 1C63H ;
630 84DA 6336      A   DEFW 6336H
631 84DC 3663      A   DEFW 3663H
632 84DE 001C      A   DEFW 1CH
633 84E0 0066      A   DEFW 66H ;9AH
634 84E2 6666      A   DEFW 6666H
635 84E4 6666      A   DEFW 6666H
636 84E6 003C      A   DEFW 3CH
637 84E8 7E18      A   DEFW 7E18H ;
638 84EA 1B1B      A   DEFW 1B1BH
639 84EC 7E1B      A   DEFW 7E1BH
640 84EE 1818      A   DEFW 1818H

```

```

641 84F0 663C      A   DEFW  663CH  ;9CH
642 84F2 3F06      A   DEFW  3F06H
643 84F4 0606      A   DEFW  0606H
644 84F6 007F      A   DEFW  7FH
645 84F8 3663      A   DEFW  3663H  ;
646 84FA 087F      A   DEFW  087FH
647 84FC 087F      A   DEFW  087FH
648 84FE 0008      A   DEFW  8
649 8500 2907      A   DEFW  2907H  ;9EH
650 8502 7F29      A   DEFW  7F29H
651 8504 2121      A   DEFW  2121H
652 8506 0061      A   DEFW  61H
653 8508 1870      A   DEFW  1870H  ;
654 850A 187E      A   DEFW  187EH
655 850C 1818      A   DEFW  1818H
656 850E 000E      A   DEFW  0EH
657          A;
658 8510 0810      A   DEFW  0810H  ;A0H
659 8512 301E      A   DEFW  301EH
660 8514 333E      A   DEFW  333EH
661 8516 006E      A   DEFW  6EH
662 8518 0810      A   DEFW  0810H  ;
663 851A 1C00      A   DEFW  1C00H
664 851C 1818      A   DEFW  1818H
665 851E 003C      A   DEFW  3CH
666 8520 0810      A   DEFW  0810H  ;A2H
667 8522 663C      A   DEFW  663CH
668 8524 6666      A   DEFW  6666H
669 8526 003C      A   DEFW  3CH
670 8528 0810      A   DEFW  0810H  ;
671 852A 6666      A   DEFW  6666H
672 852C 6666      A   DEFW  6666H
673 852E 007C      A   DEFW  7CH
674 8530 334C      A   DEFW  334CH  ;A4H
675 8532 3B00      A   DEFW  3B00H
676 8534 6666      A   DEFW  6666H
677 8536 0066      A   DEFW  66H
678 8538 334C      A   DEFW  334CH  ;
679 853A 6700      A   DEFW  6700H
680 853C 736B      A   DEFW  736BH
681 853E 0063      A   DEFW  63H
682 8540 1E00      A   DEFW  1E00H  ;A6H
683 8542 3E30      A   DEFW  3E30H
684 8544 6E33      A   DEFW  6E33H
685 8546 7F00      A   DEFW  7F00H
686 8548 3E00      A   DEFW  3E00H  ;
687 854A 6363      A   DEFW  6363H
688 854C 3E63      A   DEFW  3E63H
689 854E 7F00      A   DEFW  7F00H
690 8550 0018      A   DEFW  18H  ;A8H
691 8552 0618      A   DEFW  0618H
692 8554 6303      A   DEFW  6303H
693 8556 003E      A   DEFW  3EH
694 8558 0000      A   DEFW  0  ;
695 855A 037F      A   DEFW  037FH
696 855C 0003      A   DEFW  3
697 855E 0000      A   DEFW  0
698 8560 0000      A   DEFW  0  ;AAH
  
```

```

699 8562 607F      A   DEFW  607FH
700 8564 0060      A   DEFW  60H
701 8566 0000      A   DEFW  0
702 8568 0302      A   DEFW  0302H ;
703 856A 4A32      A   DEFW  4A32H
704 856C 1022      A   DEFW  1022H
705 856E 0078      A   DEFW  78H
706 8570 0302      A   DEFW  0302H ;ACH
707 8572 3222      A   DEFW  3222H
708 8574 782A      A   DEFW  782AH
709 8576 0020      A   DEFW  20H
710 8578 0018      A   DEFW  18H ;
711 857A 1818      A   DEFW  1818H
712 857C 1818      A   DEFW  1818H
713 857E 0018      A   DEFW  18H
714 8580 4800      A   DEFW  4800H ;AEH
715 8582 1224      A   DEFW  1224H
716 8584 4824      A   DEFW  4824H
717 8586 0000      A   DEFW  0
718 8588 1200      A   DEFW  1200H ;
719 858A 4824      A   DEFW  4824H
720 858C 1224      A   DEFW  1224H
721 858E 0000      A   DEFW  0
722                A;
723 8590 0055      A   DEFW  55H ;B0H
724 8592 0055      A   DEFW  55H
725 8594 0055      A   DEFW  55H
726 8596 0055      A   DEFW  55H
727 8598 AA55      A   DEFW  0AA55H ;
728 859A AA55      A   DEFW  0AA55H
729 859C AA55      A   DEFW  0AA55H
730 859E AA55      A   DEFW  0AA55H
731 85A0 AAFF      A   DEFW  0AAFFH ;B2H
732 85A2 AAFF      A   DEFW  0AAFFH
733 85A4 AAFF      A   DEFW  0AAFFH
734 85A6 AAFF      A   DEFW  0AAFFH
735 85A8 0808      A   DEFW  0808H ;
736 85AA 0808      A   DEFW  0808H
737 85AC 0808      A   DEFW  0808H
738 85AE 0808      A   DEFW  0808H
739 85B0 0808      A   DEFW  0808H ;B4H
740 85B2 0F08      A   DEFW  0F08H
741 85B4 0808      A   DEFW  0808H
742 85B6 0808      A   DEFW  0808H
743 85B8 0808      A   DEFW  0808H ;
744 85BA 080F      A   DEFW  080FH
745 85BC 080F      A   DEFW  080FH
746 85BE 0808      A   DEFW  0808H
747 85C0 1414      A   DEFW  1414H ;B6H
748 85C2 1714      A   DEFW  1714H
749 85C4 1414      A   DEFW  1414H
750 85C6 1414      A   DEFW  1414H
751 85C8 0000      A   DEFW  0 ;
752 85CA 1F00      A   DEFW  1F00H
753 85CC 1414      A   DEFW  1414H
754 85CE 1414      A   DEFW  1414H
755 85D0 0000      A   DEFW  0 ;B8H
756 85D2 080F      A   DEFW  080FH

```

```

757 85D4 080F      A   DEFW  080FH
758 85D6 0808      A   DEFW  0808H
759 85D8 1414      A   DEFW  1414H ;
760 85DA 1017      A   DEFW  1017H
761 85DC 1417      A   DEFW  1417H
762 85DE 1414      A   DEFW  1414H
763 85E0 1414      A   DEFW  1414H ;BAH
764 85E2 1414      A   DEFW  1414H
765 85E4 1414      A   DEFW  1414H
766 85E6 1414      A   DEFW  1414H
767 85E8 0000      A   DEFW  0 ;
768 85EA 101F      A   DEFW  101FH
769 85EC 1417      A   DEFW  1417H
770 85EE 1414      A   DEFW  1414H
771 85F0 1414      A   DEFW  1414H ;BCH
772 85F2 1017      A   DEFW  1017H
773 85F4 001F      A   DEFW  1FH
774 85F6 0000      A   DEFW  0
775 85F8 1414      A   DEFW  1414H ;
776 85FA 1F14      A   DEFW  1F14H
777 85FC 0000      A   DEFW  0
778 85FE 0000      A   DEFW  0
779 8600 0808      A   DEFW  0808H ;BEH
780 8602 080F      A   DEFW  080FH
781 8604 000F      A   DEFW  0FH
782 8606 0000      A   DEFW  0
783 8608 0000      A   DEFW  0 ;
784 860A 0F00      A   DEFW  0F00H
785 860C 0808      A   DEFW  0808H
786 860E 0808      A   DEFW  0808H
787              A;
788 8610 0808      A   DEFW  0808H ;C0H
789 8612 F808      A   DEFW  0F808H
790 8614 0000      A   DEFW  0
791 8616 0000      A   DEFW  0
792 8618 0808      A   DEFW  0808H ;
793 861A FF08      A   DEFW  0FF08H
794 861C 0000      A   DEFW  0
795 861E 0000      A   DEFW  0
796 8620 0000      A   DEFW  0 ;C2H
797 8622 FF00      A   DEFW  0FF00H
798 8624 0808      A   DEFW  0808H
799 8626 0808      A   DEFW  0808H
800 8628 0808      A   DEFW  0808H ;
801 862A F808      A   DEFW  0F808H
802 862C 0808      A   DEFW  0808H
803 862E 0808      A   DEFW  0808H
804 8630 0000      A   DEFW  0 ;C4H
805 8632 FF00      A   DEFW  0FF00H
806 8634 0000      A   DEFW  0
807 8636 0000      A   DEFW  0
808 8638 0808      A   DEFW  0808H ;
809 863A FF08      A   DEFW  0FF08H
810 863C 0808      A   DEFW  0808H
811 863E 0808      A   DEFW  0808H
812 8640 0808      A   DEFW  0808H ;C6H
813 8642 08F8      A   DEFW  08F8H
814 8644 08F8      A   DEFW  08F8H

```

```

815 8646 0808      A   DEFW  0808H
816 8648 1414      A   DEFW  1414H  ;
817 864A F414      A   DEFW  0F414H
818 864C 1414      A   DEFW  1414H
819 864E 1414      A   DEFW  1414H
820 8650 1414      A   DEFW  1414H  ;C8H
821 8652 04F4      A   DEFW  04F4H
822 8654 00FC      A   DEFW  0FCH
823 8656 0000      A   DEFW  0
824 8658 0000      A   DEFW  0  ;
825 865A 04FC      A   DEFW  04FCH
826 865C 14F4      A   DEFW  14F4H
827 865E 1414      A   DEFW  1414H
828 8660 1414      A   DEFW  1414H  ;CBH
829 8662 00F7      A   DEFW  0F7H
830 8664 00FF      A   DEFW  0FFH
831 8666 0000      A   DEFW  0
832 8668 0000      A   DEFW  0  ;
833 866A 00FF      A   DEFW  0FFH
834 866C 14F7      A   DEFW  14F7H
835 866E 1414      A   DEFW  1414H
836 8670 1414      A   DEFW  1414H  ;CCH
837 8672 04F4      A   DEFW  04F4H
838 8674 14F4      A   DEFW  14F4H
839 8676 1414      A   DEFW  1414H
840 8678 0000      A   DEFW  0  ;
841 867A 00FF      A   DEFW  0FFH
842 867C 00FF      A   DEFW  0FFH
843 867E 0000      A   DEFW  0
844 8680 1414      A   DEFW  1414H  ;CEH
845 8682 00F7      A   DEFW  0F7H
846 8684 14F7      A   DEFW  14F7H
847 8686 1414      A   DEFW  1414H
848 8688 0808      A   DEFW  0808H  ;
849 868A 00FF      A   DEFW  0FFH
850 868C 00FF      A   DEFW  0FFH
851 868E 0000      A   DEFW  0
852                A;
853 8690 1414      A   DEFW  1414H  ;D0H
854 8692 FF14      A   DEFW  0FF14H
855 8694 0000      A   DEFW  0
856 8696 0000      A   DEFW  0
857 8698 0000      A   DEFW  0  ;
858 869A 00FF      A   DEFW  0FFH
859 869C 08FF      A   DEFW  08FFH
860 869E 0808      A   DEFW  0808H
861 86A0 0000      A   DEFW  0  ;D2H
862 86A2 FF00      A   DEFW  0FF00H
863 86A4 1414      A   DEFW  1414H
864 86A6 1414      A   DEFW  1414H
865 86A8 1414      A   DEFW  1414H  ;
866 86AA FC14      A   DEFW  0FC14H
867 86AC 0000      A   DEFW  0
868 86AE 0000      A   DEFW  0
869 86B0 0808      A   DEFW  0808H  ;D4H
870 86B2 08F8      A   DEFW  08F8H
871 86B4 00F8      A   DEFW  0F8H
872 86B6 0000      A   DEFW  0

```

```

873 86B8 0000      A   DEFW  0          ;
874 86BA 08F8      A   DEFW  08F8H
875 86BC 08F8      A   DEFW  08F8H
876 86BE 0808      A   DEFW  0808H
877 86C0 0000      A   DEFW  0          ;D6H
878 86C2 FC00      A   DEFW  0FC00H
879 86C4 1414      A   DEFW  1414H
880 86C6 1414      A   DEFW  1414H
881 86C8 1414      A   DEFW  1414H ;
882 86CA FF14      A   DEFW  0FF14H
883 86CC 1414      A   DEFW  1414H
884 86CE 1414      A   DEFW  1414H
885 86D0 0808      A   DEFW  0808H ;D8H
886 86D2 08FF      A   DEFW  08FFH
887 86D4 08FF      A   DEFW  08FFH
888 86D6 0808      A   DEFW  0808H
889 86D8 0808      A   DEFW  0808H ;
890 86DA 0F08      A   DEFW  0F08H
891 86DC 0000      A   DEFW  0
892 86DE 0000      A   DEFW  0
893 86E0 0000      A   DEFW  0          ;DAH
894 86E2 F800      A   DEFW  0F800H
895 86E4 0808      A   DEFW  0808H
896 86E6 0808      A   DEFW  0808H
897 86E8 FFFF      A   DEFW  0FFFFH ;
898 86EA FFFF      A   DEFW  0FFFFH
899 86EC FFFF      A   DEFW  0FFFFH
900 86EE FFFF      A   DEFW  0FFFFH
901 86F0 0000      A   DEFW  0          ;DCH
902 86F2 0000      A   DEFW  0
903 86F4 FFFF      A   DEFW  0FFFFH
904 86F6 FFFF      A   DEFW  0FFFFH
905 86F8 0F0F      A   DEFW  0F0FH ;
906 86FA 0F0F      A   DEFW  0F0FH
907 86FC 0F0F      A   DEFW  0F0FH
908 86FE 0F0F      A   DEFW  0F0FH
909 8700 F0F0      A   DEFW  0F0F0H ;DEH
910 8702 F0F0      A   DEFW  0F0F0H
911 8704 F0F0      A   DEFW  0F0F0H
912 8706 F0F0      A   DEFW  0F0F0H
913 8708 FFFF      A   DEFW  0FFFFH ;
914 870A FFFF      A   DEFW  0FFFFH
915 870C 0000      A   DEFW  0
916 870E 0000      A   DEFW  0
917          A;
918 8710 0000      A   DEFW  0          ;E0H
919 8712 3B6E      A   DEFW  3B6EH
920 8714 3B13      A   DEFW  3B13H
921 8716 006E      A   DEFW  6EH
922 8718 631E      A   DEFW  631EH ;
923 871A 3B63      A   DEFW  3B63H
924 871C 6363      A   DEFW  6363H
925 871E 031B      A   DEFW  031BH
926 8720 667F      A   DEFW  667FH ;E2H
927 8722 0606      A   DEFW  0606H
928 8724 0606      A   DEFW  0606H
929 8726 0007      A   DEFW  7
930 8728 0000      A   DEFW  0          ;

```

```

931 872A 367F      A   DEFW  367FH
932 872C 3636      A   DEFW  3636H
933 872E 0076      A   DEFW  76H
934 8730 667F      A   DEFW  667FH ;E4H
935 8732 180C      A   DEFW  180CH
936 8734 660C      A   DEFW  660CH
937 8736 007F      A   DEFW  7FH
938 8738 0000      A   DEFW  0 ;
939 873A 1B7E      A   DEFW  1B7EH
940 873C 1B1B      A   DEFW  1B1BH
941 873E 000E      A   DEFW  0EH
942 8740 3300      A   DEFW  3300H ;E6H
943 8742 3333      A   DEFW  3333H
944 8744 5F33      A   DEFW  5F33H
945 8746 0303      A   DEFW  0303H
946 8748 0000      A   DEFW  0 ;
947 874A 1B7E      A   DEFW  1B7EH
948 874C 1818      A   DEFW  1818H
949 874E 0018      A   DEFW  18H
950 8750 087F      A   DEFW  087FH ;E8H
951 8752 6B3E      A   DEFW  6B3EH
952 8754 3E6B      A   DEFW  3E6BH
953 8756 7F08      A   DEFW  7F08H
954 8758 361C      A   DEFW  361CH ;
955 875A 7F63      A   DEFW  7F63H
956 875C 3663      A   DEFW  3663H
957 875E 001C      A   DEFW  1CH
958 8760 361C      A   DEFW  361CH ;EAH
959 8762 6363      A   DEFW  6363H
960 8764 3663      A   DEFW  3663H
961 8766 0077      A   DEFW  77H
962 8768 4638      A   DEFW  4638H ;
963 876A 3E0C      A   DEFW  3E0CH
964 876C 6363      A   DEFW  6363H
965 876E 003E      A   DEFW  3EH
966 8770 0000      A   DEFW  0 ;ECH
967 8772 4936      A   DEFW  4936H
968 8774 4949      A   DEFW  4949H
969 8776 0036      A   DEFW  36H
970 8778 3E40      A   DEFW  3E40H ;
971 877A 4951      A   DEFW  4951H
972 877C 3E45      A   DEFW  3E45H
973 877E 0001      A   DEFW  1
974 8780 0000      A   DEFW  0 ;EEH
975 8782 037E      A   DEFW  037EH
976 8784 033F      A   DEFW  033FH
977 8786 007E      A   DEFW  7EH
978 8788 663C      A   DEFW  663CH ;
979 878A 6666      A   DEFW  6666H
980 878C 6666      A   DEFW  6666H
981 878E 0066      A   DEFW  66H
982      A;
983 8790 0000      A   DEFW  0 ;F0H
984 8792 007E      A   DEFW  7EH
985 8794 007E      A   DEFW  7EH
986 8796 007E      A   DEFW  7EH
987 8798 1818      A   DEFW  1818H ;
988 879A 187E      A   DEFW  187EH

```

```

989 879C 0018      A   DEFW  18H
990 879E 007E      A   DEFW  7EH
991 87A0 1806      A   DEFW 1806H ;F2H
992 87A2 1860      A   DEFW 1860H
993 87A4 0006      A   DEFW  6
994 87A6 007E      A   DEFW  7EH
995 87A8 1860      A   DEFW 1860H ;
996 87AA 1806      A   DEFW 1806H
997 87AC 0060      A   DEFW  60H
998 87AE 007E      A   DEFW  7EH
999 87B0 5830      A   DEFW 5830H ;F4H
1000 87B2 1818      A   DEFW 1818H
1001 87B4 1818      A   DEFW 1818H
1002 87B6 1818      A   DEFW 1818H
1003 87B8 1818      A   DEFW 1818H ;
1004 87BA 1818      A   DEFW 1818H
1005 87BC 1818      A   DEFW 1818H
1006 87BE 0C1A      A   DEFW 0C1AH
1007 87C0 1C1C      A   DEFW 1C1CH ;F6H
1008 87C2 7F00      A   DEFW 7F00H
1009 87C4 1C00      A   DEFW 1C00H
1010 87C6 001C      A   DEFW  1CH
1011 87C8 0000      A   DEFW  0 ;
1012 87CA 334C      A   DEFW 334CH
1013 87CC 4C00      A   DEFW 4C00H
1014 87CE 0033      A   DEFW  33H
1015 87D0 1C00      A   DEFW 1C00H ;F8H
1016 87D2 1C36      A   DEFW 1C36H
1017 87D4 0000      A   DEFW  0
1018 87D6 0000      A   DEFW  0
1019 87D8 1C00      A   DEFW 1C00H ;
1020 87DA 1C3E      A   DEFW 1C3EH
1021 87DC 0000      A   DEFW  0
1022 87DE 0000      A   DEFW  0
1023 87E0 0800      A   DEFW 0800H ;FAH
1024 87E2 081C      A   DEFW 081CH
1025 87E4 0000      A   DEFW  0
1026 87E6 0000      A   DEFW  0
1027 87E8 1070      A   DEFW 1070H ;
1028 87EA 1310      A   DEFW 1310H
1029 87EC 1814      A   DEFW 1814H
1030 87EE 0010      A   DEFW  10H
1031 87F0 661B      A   DEFW 661BH ;FCH
1032 87F2 6666      A   DEFW 6666H
1033 87F4 0066      A   DEFW  66H
1034 87F6 0000      A   DEFW  0
1035 87F8 120C      A   DEFW 120CH ;
1036 87FA 0408      A   DEFW 0408H
1037 87FC 001E      A   DEFW  1EH
1038 87FE 0000      A   DEFW  0
1039 8800 0000      A   DEFW  0 ;FEH
1040 8802 3C3C      A   DEFW 3C3CH
1041 8804 3C3C      A   DEFW 3C3CH
1042 8806 0000      A   DEFW  0
1043 8808 0000      A   DEFW  0 ;
1044 880A 0000      A   DEFW  0
1045 880C 0000      A   DEFW  0
1046 880E 0000      A   DEFW  0

```



1047

A;\*\*\*\*\*

```
34 ;-----
35 8810 CD 0138 R8INI call DBAABF ;Abfrage aktuelle Bank
36 8813 E6 30 and 30h ;page 2
37 8815 47 ld b,a
38 8816 3A F726 ld a,(SLCTRL)
39 8819 E6 CF and 0CFh
40 881B B0 or b
41 881C 32 F726 ld (SLCTRL),a ;auf akt. Slot-Nr.
42 881F 21 882B ld hl,JPINSC
43 8822 11 FC65 ld de,INSCPX
44 8825 01 0008 ld bc,8
45 8828 ED B0 ldir
46 882A C9 ret
47 ;
48 882B 3A F726 JPINSC ld a,(SLCTRL)
49 882E D3 A8 out (PPIA),a
50 8830 C3 9A09 jp CBOOT
51 ;-----
53 INCLUDEBDOSSCRO.Z80 ;BDOS-Rahmen fuer SCP
1 A;!HEAD MODULE
2 A;FILE BDOSSCP.ROM.S
3 A;DISK BIC-SCP-Quellen
4 A;AUTHOR Kersten -> Ludewig
5 A;DATE 25.05.89
6 A;VARIABLES (hier nicht angegeben)
7 A;END
8 A;!
9 A;
10 A;
11 A;
12 A; File enthaelt den BDOS-Teil fuer SCP, der immer im ROM steht.
13 A;
14 A;
15 A;
16 A;; Erforderliche Speicheraufteilung fuer Arbeit des BDOS:
17 A;
18 A; Disk-BASIC: FFFF
19 A; | Bank 2 (RAM) : System-RAM + BASIC-Anwenderspeicher
20 A; 8000
21 A; | Bank 1 oder 3 (ROM) : ROM-BDOS
22 A; 4000
23 A; | Bank 0 (ROM) : BASIC-Treiber
24 A; 0000
25 A;
26 A; SCP: FFFF
27 A; | Bank 2 (RAM) : System-RAM mit BIOS-Sprungleiste
28 A; C000
29 A; | Bank 0 (ROM) : SCP-ROM (CCP, Treiber-Teile ...)
30 A; | (Sonderserie Bank 1 oder 3)
31 A; 8000
32 A; | Bank 1 oder 3 (ROM) : ROM-BDOS
33 A; 4000
34 A; | Bank 2 (RAM) : SCP-RAM (0 - 0FFh)
35 A; 0000
36 A;
37 A; Erforderliche Speicher-Aufteilung fuer SCP-Dienstprogramme:
38 A;
39 A; FFFF
```

```
40          A;          |      Bank 2 (RAM)
41          A;          8000
42          A;          |      Bank 2 (RAM)
43          A;          4000
44          A;          |      Bank 2 (RAM)
45          A;          0000
```

```

47      A;
48      A      EXTERNAL      INITBB
49      A      EXTERNAL      PUTSTR,CRLF
50      A;
51      A;; BDOS-Anlauf fuer SCP
52      A; =====
53 8833  CD 0000#  AINITSB: CALL      INITBB
54      A      MOVE      SBSEC SSBSEC MBad-SSBSEC ;SPC-Fehlerbehandlung
   1 8836  11 F616  B      LD      DE,SBSEC
   2 8839  21 89AA  B      LD      HL,SSBSEC
   3 883C  01 0062  B      LD      BC,MBad-SSBSEC
   4 883F  ED B0    B      LDIR
55      A      MOVE      SBDOS SBD0 SBD2-SBD0 ;BDOS-Rahmen
   1 8841  11 E606  B      LD      DE,SBDOS
   2 8844  21 8861  B      LD      HL,SBD0
   3 8847  01 0044  B      LD      BC,SBD2-SBD0
   4 884A  ED B0    B      LDIR
56      A      MOVE      BADSEC SERRAD 8          ;SCP-Fehleradr.
   1 884C  11 E89D  B      LD      DE,BADSEC
   2 884F  21 88A5  B      LD      HL,SERRAD
   3 8852  01 0008  B      LD      BC,8
   4 8855  ED B0    B      LDIR
57 8857  21 0080  A      LD      HL,80H
58 885A  22 E9DF  A      LD      (DMAADD),HL
59 885D  22 E9E1  A      LD      (STDDMA),HL          ;Standard-DMA
60 8860  C9      A      RET
61      A;
62      A;
63      A;; RAM-Abbild im ROM fuer BDOS-Rahmen SCP
64      A; (steht nach System-Anlauf im RAM)
65      A; =====
66      A;
67 8861  C3 E61E  ASBD0:      JP      SBDOS0 ; Sprung zur Bank-Umschaltung,) im
68      A      ; + Ansprung ROM-BDOS          ) RAM
69      A;
70 8864  F62F  A      DEFW      ERRBAD
71 8866  F648  A      DEFW      ERRSEL
72 8868  F64D  A      DEFW      ERRDRO
73 886A  F652  A      DEFW      ERRFRO
74      A;
75      A; Original-Vorsatz von BWS (hier aber vor BDOS)
76      A;=== Laenge = 13 === im RAM von Hand aendern ! ===
77 886C  C3 FD00  AVors0      JP      BIORSL ; Kaltstart (in RAM)
78 886F  0200  A      DEFW      200H ; Versions-Nr. 02.00
79 8871  E606  A      DEFW      SBDOS ; SCP-Anfang
80 8873  FFFF  A      DEFW      0FFFFH ; -Ende
81 8875  4D 44  A      DEFM      'MD' ; Hersteller-Kennzeichen
82 8877  02      A      DEFB      2 ; BIC A5105
83 8878  00      A      DEFB      0 ; Anzahl Install-Adressen
84      A;
85      A;=== Laenge = 24 === im RAM von Hand aendern ! ===
86 8879  ED 73 F2E2 ASBD1:      LD      (UST0),SP ; retten SP
87 887D  31 F2F8  A      LD      SP,STACK0 ; Ist erforderlich, da User-Stack
88      A      ; nur Platz fuer 1xCALL zu haben
89      A      ; braucht.
90 8880  DB A8  A      IN      A,(PPIA) ; ( zugehoerige RAM-Adr. = SBDOS0 )
91 8882  32 FAC7  A      LD      (RettMem),A ; Retten Speicherbelegung
92 8885  3A F726  A      LD      A,(SLCTRL) ; SCPX-Bank-Belegung mit SCP-RAM

```

```

93 8888 E6 FC      A    AND    0FCh          ; 0 bis 0FFh auf Bank 2
94 888A F6 02      A    OR     2
95 888C D3 A8      A    OUT    (PPIA),A
96 888E C3 88AD    A    JP     SBDOS1          ; Sprung zu ROM-BDOS
97
98                A;
99 8891 ED 5B FAC4 ASBD01: LD     DE,(RettDE) ;SBD0SE: Endebehandlung fuer SCP-BDOS
100 8895 32 FAC6    A    LD     (RettA),A
101 8898 3A FAC7    A    LD     A,(RettMem)
102 889B D3 A8      A    OUT    (PPIA),A
103 889D 3A FAC6    A    LD     A,(RettA)
104 88A0 ED 7B F2E2 A    LD     SP,(UST0)
105 88A4 C9          A    RET
106 88A5                ASBD2:
107                A;
108 88A5                ASERRAD: DFW    SBSEC, SBSEL, SDRO, SFRO
    1 88A5 F616      B    DEFW  SBSEC
    1 88A7 F61B      C    DEFW  SBSEL
    1 88A9 F620      D    DEFW  SDRO
    1 88AB F625      E    DEFW  SFRO
109                A;
110                0004 Adefaul equ 4          ;default-disk in rechter tetr.
111                A;

```

```

113      A;
114      A;; BDOS-Eintritt fuer SCP (im ROM)
115      A; -----
116      A;
117      A; Makro fuer Test, ob BDOS-Ruf-Nr. in gegebenem Bereich
118      A;
119      AIfBer:    MACRO  $Unten, $Oben, $Behandlung
120      A      LOCAL  M1$$YM
121      A      LD      A,$Unten-1
122      A      CP      C
123      A      JR      NC,M1$$YM
124      A      LD      A,$Oben
125      A      CP      C
126      A      JP      NC,$Behandlung
127      AM1$$YM:
128      A      ENDM
129      A;
130      A;
131 88AD ED 53 FAC4 ASBDOS1:  LD      (RettDE),DE ; Retten DE
132 88B1 3E 09      A      LD      A,9 ; = Nr. fuer String-Ausgabe
133 88B3 B9        A      CP      C
134 88B4 28 36      A      JR      Z,SPRSTR
135      A;
136 88B6 3E 0A      A      LD      A,10 ; = Nr. fuer String-Eingabe
137 88B8 B9        A      CP      C
138 88B9 28 57      A      JR      Z,SRCBUB
139      A;
140 88BB          ASBDOS2:  IfBer 15, 17, FCBBeh;Ruf 18 ausklammern
   2 88BB 3E 0E      B      LD      A,15-1
   3 88BD B9        B      CP      C
   4 88BE 30 06      B      JR      NC,??0001
   5 88C0 3E 11      B      LD      A,17
   6 88C2 B9        B      CP      C
   7 88C3 D2 8921    B      JP      NC,FCBBeh
141          A      IfBer 19, 23, FCBBeh; (s. UP NEXT)
   2 88C6 3E 12      B      LD      A,19-1
   3 88C8 B9        B      CP      C
   4 88C9 30 06      B      JR      NC,??0002
   5 88CB 3E 17      B      LD      A,23
   6 88CD B9        B      CP      C
   7 88CE D2 8921    B      JP      NC,FCBBeh
142      A;
143 88D1 3E 1E      A      LD      A,30 ; = Nr. fuer Attribut setzen
144 88D3 B9        A      CP      C
145 88D4 28 4B      A      JR      Z,FCBBeh
146      A;
147          A      IfBer 33, 36, FCBBeh
   2 88D6 3E 20      B      LD      A,33-1
   3 88D8 B9        B      CP      C
   4 88D9 30 06      B      JR      NC,??0003
   5 88DB 3E 24      B      LD      A,36
   6 88DD B9        B      CP      C
   7 88DE D2 8921    B      JP      NC,FCBBeh
148      A;
149 88E1 3E 28      A      LD      A,40 ; = Nr. fuer Random write mit
150 88E3 B9        A      CP      C ; Initialisierung
151 88E4 28 3B      A      JR      Z,FCBBeh
152      A;

```

```
153 88E6 CD E89A ASBDOS3: CALL BBDOS ; Aufruf ohne Umspeicherungen
154 A;
155 88E9 C3 E636 A JP SBDOSE ;Ende im RAM
```

```

157      A;
158      A; Sonderbehandlung String-Ausgabe
159      A;
160 88EC D5      ASPRSTR:   PUSH   DE           ; Retten >Teil-Quellpuffer<
161      A
162 88ED CD 8979  A      CALL   ZKHOL
163 88F0 3E 24    A      LD     A, '$'
164 88F2 32 F421  A      LD     (ZSTR+STRLEN),A      ; Begrenzen Teil-String
165      A
166 88F5 0E 09    A      LD     C,9
167 88F7 11 F31F  A      LD     DE,ZSTR
168 88FA CD E89A  A      CALL   BBDOS
169      A
170 88FD D1      A      POP    DE
171 88FE 21 0102  A      LD     HL,STRLEN
172 8901 19      A      ADD    HL,DE
173 8902 EB      A      EX     DE,HL      ; naechster Teil-Quellpuffer
174      A
175 8903 21 F31F  A      LD     HL,ZSTR
176 8906 01 0102  A      LD     BC,STRLEN
177 8909 3E 24    A      LD     A, '$'
178 890B ED B1    A      CPIR
179 890D 20 DD    A      JR     NZ,SPRSTR   ; '$' in Teil-String
180      A
181 890F C3 E636  A      JP     SBDOSE      ; Ja
182      A;
183      A; Sonderbehandlung String-Eingabe
184      A;
185 8912 CD 8979  ASRCBUB:  CALL   ZKHOL
186 8915 11 F31F  A      LD     DE,ZSTR
187 8918 CD E89A  A      CALL   BBDOS
188 891B CD 898C  A      CALL   ZKZUR
189 891E C3 E636  A      JP     SBDOSE
190      A;
191      A; Sonderbehandlung FCB's
192      A;
193 8921 CD 8930  AFCBBeh:CALL FCBHOL
194 8924 11 F2F8  A      LD     DE,ZFCB
195 8927 CD E89A  A      CALL   BBDOS
196 892A CD 894C  A      CALL   FCBZUR
197 892D C3 E636  A      JP     SBDOSE

```



```
199      A;
200      A; Umspeicher-UPs fuer Sonderbehandlungen BDOS-Rufe
201      A;
202      A; (setzt Rettung DE bei BDOS-Ruf voraus!)
203      A;
204 8930 F5      AFCBHOL:   PUSH   AF           ;Original-FCB --> Zwischen-FCB
205 8931 C5      A        PUSH   BC
206 8932 D5      A        PUSH   DE
207 8933 E5      A        PUSH   HL
208 8934 21 F2F8 A        LD     HL,ZFCB
209 8937 EB      A        EX     DE,HL       ;HL := Quelle  DE := Ziel
210 8938 01 0024 A        LD     BC,36       ;max. FCB-Laenge (CP/M nach V:2.0)
211 893B CD EA27 A        CALL  FLLDIR      ;Umladen, Einstellen/Regen. Bank-Belegg.
212 893E 01 0003 A        LD     BC,3
213 8941 2B      A        DEC    HL
214 8942 2B      A        DEC    HL
215 8943 2B      A        DEC    HL       ;Direktzugriffssparameter (r0..r2)
216 8944 CD EA27 A        CALL  FLLDIR      ; retten
217 8947 E1      A        POP    HL
218 8948 D1      A        POP    DE
219 8949 C1      A        POP    BC
220 894A F1      A        POP    AF
221 894B C9      A        RET
222      A;
223      A;
224 894C F5      AFCBZUR:   PUSH   AF           ; Original-FCB <-- Zwischen-FCB
225 894D C5      A        PUSH   BC
226 894E D5      A        PUSH   DE
227 894F E5      A        PUSH   HL
228 8950 21 F319 A        LD     HL,ZFCB+33
229 8953 11 F31C A        LD     DE,DZRET
230 8956 01 0003 A        LD     BC,3       ;Direktzugriffssparameter (r0..r2)
231 8959 1A      AFCBZ10   LD     A,(DE)
232 895A ED A1   A        CPI
233 895C 20 09   A        JR     NZ,FCBZ20 ; veraendert?
234 895E 13     A        INC    DE       ; Ja-->
235 895F EA 8959 A        JP     PE,FCBZ10
236      A;
237 8962 01 0021 A        LD     BC,33       ;FCB-Laenge (CP/M vor V:2.0)
238 8965 18 03   A        JR     FCBZ30
239 8967 01 0024 AFCBZ20   LD     BC,36       ;FCB-Laenge (CP/M nach V:2.0)
240 896A 21 F2F8 AFCBZ30   LD     HL,ZFCB     ;Quelle
241 896D ED 5B FAC4 A        LD     DE,(RettDE) ;Ziel
242 8971 CD EA27 A        CALL  FLLDIR
243 8974 E1      A        POP    HL
244 8975 D1      A        POP    DE
245 8976 C1      A        POP    BC
246 8977 F1      A        POP    AF
247 8978 C9      A        RET
```

```

249          A;
250 8979 F5   AZKHOL:   PUSH   AF           ; Original-ZK --> Zwischen-ZK
251 897A C5   A     PUSH   BC
252 897B D5   A     PUSH   DE
253 897C E5   A     PUSH   HL
254 897D 21 F31F A     LD     HL,ZSTR
255 8980 EB   A     EX     DE,HL       ; HL := Quelle  DE := Ziel
256 8981 01 0102 A     LD     BC,STRLEN
257 8984 CD EA27 A     CALL  FLLDIR
258 8987 E1   A     POP    HL
259 8988 D1   A     POP    DE
260 8989 C1   A     POP    BC
261 898A F1   A     POP    AF
262 898B C9   A     RET
263          A;
264          A;
265          A;
266 898C F5   AZKZUR:   PUSH   AF           ; Original-ZK <-- Zwischen-ZK
267 898D C5   A     PUSH   BC
268 898E D5   A     PUSH   DE
269 898F E5   A     PUSH   HL
270 8990 3A F31F A     LD     A,(ZSTR)      ; Max-Laenge
271 8993 C6 02  A     ADD   A,2
272 8995 4F   A     LD     C,A
273 8996 06 00 A     LD     B,0
274 8998 30 01  A     JR     NC,ZKZ05
275 899A 04   A     INC   B
276 899B 21 F31F AZKZ05 LD     HL,ZSTR
277 899E ED 5B FAC4 A     LD     DE,(RettDE)
278 89A2 CD EA27 A     CALL  FLLDIR
279 89A5 E1   A     POP    HL
280 89A6 D1   A     POP    DE
281 89A7 C1   A     POP    BC
282 89A8 F1   A     POP    AF
283 89A9 C9   A     RET

```

```
285 A;*****
286 A;; Sprung zur Fehlerbehandlung im SCP-Vorspann ( ->RAM)
287 A;
288 89AA 21 E609 ASSBSEC: ld hl,SBDSEC ;Relativspruenge fuehren in RAM !!
289 89AD 18 0D A jr SSbder
290 89AF 21 E60B ASSBSEL: ld hl,SBDSEL
291 89B2 18 08 A jr SSbder
292 89B4 21 E60D ASSDRO: ld hl,SDISKRO
293 89B7 18 03 A jr SSbder
294 89B9 21 E60F ASSFRO: ld hl,SFILERO
295 89BC 3E AA ASSbder LD A,0AAH
296 89BE D3 A8 A OUT (PPIA),A
297 89C0 C3 E8A5 A jp ie34a
298 A;=====
299 A; ( ->RAM)
300 A;=== Laenge = 25 === im RAM von Hand aendern ! ===
301 89C3 21 8A0C ASERRBAD ld hl,MBad;bad sector
302 89C6 3A F726 A LD A,(SLCTRL)
303 89C9 E6 FC A AND 0FCH
304 89CB F6 02 A OR 2
305 89CD D3 A8 A OUT (PPIA),A
306 89CF CD 8A40 A call SFMELD ; Aufruf Fehlerbehandlg.
307 89D2 FE 03 A cp 03h
308 89D4 C0 A ret nz
309 89D5 3E AA A LD A,0AAH
310 89D7 D3 A8 A OUT (PPIA),A
311 89D9 C3 0000 A JP 0
312 A;-----
313 A;=== Laenge = 05 === im RAM von Hand aendern ! ===
314 89DC 21 8A30 ASERRSEL ld hl,MSel;select
315 89DF 18 08 A jr SERRRES
316 A;-----
317 A;=== Laenge = 05 === im RAM von Hand aendern ! ===
318 89E1 21 8A3C ASERRDRO ld hl,MRO ;r/o
319 89E4 18 03 A jr SERRRES
320 A;-----
321 A;=== Laenge = 03 === im RAM von Hand aendern ! ===
322 89E6 21 8A37 ASERRFRO ld hl,MFRO ;file r/o
323 A;=== Laenge = 19 === im RAM von Hand aendern ! ===
324 89E9 3A F726 ASERRRES LD A,(SLCTRL)
325 89EC E6 FC A AND 0FCH
326 89EE F6 02 A OR 2
327 89F0 D3 A8 A OUT (PPIA),A
328 89F2 CD 8A40 A call SFMELD
329 89F5 3E AA A LD A,0AAH
330 89F7 D3 A8 A OUT (PPIA),A
331 89F9 C3 0000 A jp 0
332 A;-----
333 A;
334 A;; BDOS-Fehlermeldungen ( ->RAM)
335 A;
336 A;=== Laenge = 12 === im RAM von Hand aendern ! ===
337 89FC 42 44 4F 53AMERR00: defm 'BDOS err on ' ;) werden in RAM geladen
338 A;=== Laenge = 04 === im RAM von Hand aendern ! ===
339 8A08 20 3A 20 24AMERR10: defm ' : $' ;) dort "MERR0" u. "MERR1"
340 A;
341 8A0C 62 61 64 20AMBad: defm 'bad sector (^c=abort, other=ignore)$'
342 8A30 73 65 6C 65AMSel: defm 'select$'
```

```

343 8A37 66 69 6C 65AMFRO:      defm  'file '
344 8A3C 72 2F 6F 24AMRO: defm  'r/o$'
345                                     A;
346                                     A;*****
347                                     A;; Ausgabe Fehlermeldung fuer SCP (ROM !)
348                                     A;
349 8A40 E5          ASFMELD:      push  hl
350 8A41 CD 0000#    A      call  CRLF
351 8A44 3A E951    A      ld    a,(CURRD)
352 8A47 C6 61      A      add   a,'a'
353 8A49 32 F674    A      ld    (MERR1),a
354 8A4C 01 F668    A      ld    bc,MERR0
355 8A4F CD 0000#    A      call  PUTSTR
356 8A52 C1         A      pop   bc
357 8A53 CD 0000#    A      call  PUTSTR
358 8A56 DB A8      A      IN   A,(PPIA)
359 8A58 F5         A      PUSH  AF
360 8A59 E6 FC      A      AND   0FCH          ;Page 0 auf Slot 0
361 8A5B D3 A8      A      OUT  (PPIA),A
362 8A5D CD 0000#    A      CALL  LORIPU
363 8A60 F1         A      POP   AF
364 8A61 D3 A8      A      OUT  (PPIA),A
365 8A63 C3 FD09    A      jp    ICONIN
366                                     A;*****
55                                     INCLUDE SCPLUE.Z80
2                                     A;*****
3                                     A;Tastaturtreiber fuer SCP 5105
4                                     A;Stand: 08.05.89
5                                     A;Bearbeiter: Luetzner
6                                     A;File: SCPLUE.S
7                                     A;*****
8                                     A;
9                                     A      external  IRSYS, SYS06, SYS19, FTB, FTB6, SOTB, SOTB10
10                                    A      external  STB, STB2, CAPSB, STOPB, CTRIPU
11                                    A      external  HOMEB, KEYOFF, RIPUZI, LORIPU, INKEY, RDRIPU
12                                    A      external  RDRIP1, ZEISA0, GETA35, YSLDIF
13                                    A;=====
14          0004      Amonrq      EQU    4      ;Bit 4,(SYNFLG)
15          0005      Amonact      EQU    5      ;    5
16                                    A;=====
17 8A66 01          AYRZ240      defb   1
18 8A67 00          AYZELLE      defb   0
19 8A68 00          AYYNSEM      defb   0
20 8A69 00          AYYNFLG      defb   0
21 8A6A 00          AY2PPIA      defb   0
22                                     A;
23 8A6B 9AC5        AYATATUP      defw   STATUS ;enthaelt Adr. fuer UP,
24                                     A;                               welches aktuelle F-Tastenzeile erzeugt
25 8A6D FF          AYTFLLAG      defb   0FFh ;Statuszeile anfordern
26 8A6E FF          AYUFLAF      defb   0FFh ;Funktionstastenanzeige anfordern
27 8A6F 00          AYYNS2       defb   0
28                                     A;=====
29                                     A;Anfang Stop-Monitor
30                                     A;
31                                     A;=== Laenge = 07 === im RAM von Hand aendern ! ===
32 8A70 E5          AYIOSMO      push  hl
33 8A71 21 F8C8    A      ld    hl,DECHL
34 8A74 36 35      A      ld    (hl),35h          ;NOP -> dec (hl)

```

```
35 8A76 21      A   DEFB   21H           ;LD HL,...
36             A;=== Laenge = 04 === im RAM von Hand aendern ! ===
37 8A77 0000    AYPCRET   DEFW   0           ;Adr., wo System-IR eingeschoben wurde
38 8A79 E3      A   ex     (sp),hl
39 8A7A F3      A   di
40             A;
41             A;Eintritt nach RST 38h
42             A;
43             A;=== Laenge = 41 === im RAM von Hand aendern ! ===
44 8A7B ED 73 F888 AYONCAL   ld     (IRSPL3),sp
45 8A7F 31 F888  A   ld     sp,IRSPL3
46 8A82 F5      A   push  af
47             A;
48 8A83 3E 20    A   ld     a,20h           ;monrq=0 / monact=1
49 8A85 32 F88D  A   ld     (SYNFLG),a
50             A;
51 8A88 DB A8    A   in     a,(PPIA)
52 8A8A 32 F88E  A   ld     (H2PPIA),a
53 8A8D 3A F726  A   ld     a,(SLCTRL)
54 8A90 D3 A8    A   out    (PPIA),a
55 8A92 E5      A   push  hl
56 8A93 CD 0000# A   call  LORIPU
57 8A96 E1      A   pop   hl
58 8A97 F1      A   pop   af
59             A;
60 8A98 CD 9AEC  A   call  BIOSMC         ;EI in BIOSMC
61             A;
62 8A9B E5      A   push  hl
63 8A9C F5      A   push  af
64 8A9D 21 F88D  A   ld     hl,SYNFLG
65 8AA0 F3      A   di
66 8AA1 CB AE    A   res   monact,(hl)    ;Stop-Monitor inaktiv
67 8AA3 2B      A   dec   hl             ;SYNSEM
68             A;=== Laenge = 22 === im RAM von Hand aendern ! ===
69 8AA4 00      AYDECHL  nop                    ;dec (hl), wenn von BIOSMO kommend, sonst NOP
70             A           ;Flags bei dec (hl) !!
71 8AA5 21 F8C8  A   ld     hl,DECHL
72 8AA8 36 00    A   ld     (hl),0        ;dec (hl) -> NOP
73 8AAA CD 0000# A   call  LORIPU         ;Tastaturpuffer loeschen
74 8AAD 3A F88E  A   ld     a,(H2PPIA)
75 8AB0 D3 A8    A   out    (PPIA),a
76 8AB2 F1      A   pop   af
77 8AB3 E1      A   pop   hl
78 8AB4 ED 7B F888 A   ld     sp,(IRSPL3)
79 8AB8 FB      A   ei
80 8AB9 C9      A   ret
81             A;
82             A;=== Laenge = 24 === im RAM von Hand aendern ! ===
83 8ABA 3A FCD5  AYSTOP4  ld     a,(H1PPIA)      ;Slotbelegg. vor Syst.-IR
84 8ABD D3 A8    A   out    (PPIA),a
85 8ABF 5E      A   ld     e,(hl)
86 8AC0 23      A   inc   hl
87 8AC1 56      A   ld     d,(hl)       ;DE= PC vor Syst.-IR
88 8AC2 ED 53 F89B A   ld     (PCRET),de    ;nach Bios-Monitor dort weiter
89 8AC6 11 F894  A   ld     de,BIOSMO
90 8AC9 72      A   ld     (hl),d
91 8ACA 2B      A   dec   hl
92 8ACB 73      A   ld     (hl),e       ;nach RETI -> Bios-Monitor einschieben
```

```

93 8ACC 3A F726 A ld a,(SLCTRL)
94 8ACF D3 A8 A out (PPIA),a
95 8AD1 C9 A ret ;CY=1
96 A;-----
97 8AD2 E5 AYISM01 PUSH HL ;Verbieten BIOS-Monitor
98 8AD3 21 F88C A LD HL,SYNSEM
99 8AD6 34 A INC (HL)
100 8AD7 E1 A POP HL
101 8AD8 C9 A RET
102 A;
103 8AD9 E5 AYNAM01 PUSH HL ;Erlauben BIOS-Monitor
104 8ADA 21 F88C A LD HL,SYNSEM
105 8ADD 35 A DEC (HL)
106 8ADE E1 A POP HL
107 8ADF C9 A RET
108 A;=====
109 A;
110 A;Patch-Rufe
111 A;
112 8AE0 C3 8B26 AHSTB jp XXSTB
113 8AE3 C9 A ret
114 8AE4 C9 A ret
115 A;-----
116 8AE5 21 8B4D AHJPCDE ld hl,TABET2
117 8AE8 C9 A ret
118 8AE9 C9 A ret
119 A;-----
120 8AEA C3 8BC1 AHIRSY2 jp XXIRS2
121 8AED C9 A ret
122 8AEE C9 A ret
123 A;-----
124 8AEF E1 AHIRSY4 pop hl
125 8AF0 C3 0000# A jp SYS19
126 A;-----
127 8AF3 E1 AHFTB pop hl
128 8AF4 C3 0000# A jp FTB6
129 A;-----
130 8AF7 C3 8B0E AHSTOPB jp XXSTOP
131 A;-----
132 8AFA C3 8B93 AHRDRP2 jp XXRDPU
133 A;-----
134 8AFD C3 8B89 AHRDRP4 jp XXRDP4
135 A;-----
136 8B00 B7 AHSOTB1 OR A ;NC bewirkt jp SOTB10
137 8B01 C9 A RET
138 A;-----
139 8B02 C3 8BDF AHGETA5 jp XXGETA
140 A;-----
141 8B05 C3 8B6B AHSOTB2 jp XXSOT2
142 A;-----
143 8B08 C3 F8F6 ADISMON JP DISM01 ;Verbieten BIOS-Monitor
144 A;
145 8B0B C3 F8FD AENAMON JP ENAM01 ;Erlauben BIOS-Monitor
146 A;
147 A;=====
148 A;Erweiterung der STOP-Tastenbehandlung fuer's SCP
149 A;IN: CY - STOP A=4
150 A; NC - ^STOP A=3

```

```
151          A;
152          A;OUT:  NC -> A in RINGPU
153          A;-----
154 8B0E D0   AXXSTOP      ret      nc
155          A;-----
156 8B0F 21 F88D A      ld      hl,SYNFLG
157 8B12 CB 6E   A      bit      monact,(hl)
158 8B14 28 03   A      jr      z,XXSTP4      ;STOP-Monitor inaktiv
159          A;-----
160 8B16 C6 D7   A      add     a,0D7h      ;STOP-Codierung: 0DBh
161 8B18 C9      A      ret      ;NC
162          A;-----
163 8B19 CB E6   AXXSTP4      set      monrq,(hl)      ;Anforderung
164 8B1B 2B      A      dec     hl          ;SYNSEM
165 8B1C 34      A      inc     (hl)
166 8B1D 35      A      dec     (hl)      ;Unterbrechung erlaubt ?
167 8B1E C0      A      ret     nz         ; nein -> CY=1
168          A;-----
169 8B1F 34      A      inc     (hl)      ;erneuten Aufruf sperren !
170 8B20 2A FCD3 A      ld      hl,(IRSPL2)
171 8B23 C3 F8DE A      jp      XSTOP4      ;RETI-Adr. :=BIOSMO
172          A;                      (PCRET) := PCalt
173          A;=====
174          A;Erweiterung Sondertastenbehandlung
175          A;-----
176 8B26 21 0000# AXXSTB      ld      hl,STB2
177 8B29 E3      A      ex      (sp),hl
178 8B2A 5F      A      ld      e,a
179 8B2B 16 00   A      ld      d,0
180 8B2D 21 8B01 A      ld      hl,STAC02-30h
181 8B30 C9      A      ret
182          A;-----
183 8B31 00      ASTAC02      defb    0      ;shift
184 8B32 1B      A      defb    1BH      ;ESC
185 8B33 00      A      defb    0      ;CTRL
186 8B34 00      A      defb    0      ;CAPS
187 8B35 00      A      defb    0      ;ALT
188 8B36 00      A      defb    0      ;PF1
189 8B37 00      A      defb    0
190 8B38 00      A      defb    0
191          A;
192 8B39 00      A      defb    0
193 8B3A 00      A      defb    0      ;PF5
194 8B3B 00      A      defb    0      ;GRAPH
195 8B3C 00      A      defb    0
196 8B3D 00      A      defb    0      ;STOP
197 8B3E 00      A      defb    0
198 8B3F 00      A      defb    0
199 8B40 0D      A      defb    0Dh      ;enter
200          A;
201 8B41 20      A      defb    20h      ;space
202 8B42 00      A      defb    0      ;home
203 8B43 16      A      defb    16h      ;ins  (^V)
204 8B44 7F      A      defb    7Fh      ;del
205 8B45 08      A      defb    8      ;<-
206 8B46 05      A      defb    5      ;/\
207 8B47 18      A      defb    18h      ;\|
208 8B48 04      A      defb    4      ;->
```

```

209      A;*****
210      A;ALT-Behandlung
211      A;
212 8B49 CD 0000# AALTB call ZEISA0 ;Umschalten ZS
213 8B4C C9      A      ret
214      A;*****
215 8B4D 30      ATABET2 defb 30h
216 8B4E 0000#  A      defw  SOTB
217 8B50 33      A      defb  33h
218 8B51 0000#  A      defw  STB
219 8B53 34      A      defb  34h
220 8B54 0000#  A      defw  CAPSB
221 8B56 35      A      defb  35h
222 8B57 8B49  A      defw  ALTB
223 8B59 3A      A      defb  3Ah
224 8B5A 0000#  A      defw  FTB
225 8B5C 3C      A      defb  3Ch
226 8B5D 0000#  A      defw  STB      ;Graph
227 8B5F 3D      A      defb  3Dh
228 8B60 0000#  A      defw  STOPB
229 8B62 41      A      defb  41h
230 8B63 0000#  A      defw  STB      ;ENTER,SPACE
231 8B65 42      A      defb  42h
232 8B66 0000#  A      defw  HOMEB
233 8B68 FF      A      defb  0FFh
234 8B69 0000#  A      defw  STB
235      A;
236      A;-----
237      A;Erweiterung (alphanumerische) Tastenbehandlung
238      A;Wandlung 8-Bit-Codes in 7-Bit-ASCII
239      A;
240 8B6B 21 8B79 AXXSOT2 ld hl,TAB
241 8B6E 01 0008 A ld bc,8
242 8B71 ED B1  A cpir
243 8B73 C0      A      ret      nz
244      A;-----
245 8B74 0E 07  A ld c,7
246 8B76 09      A add hl,bc
247 8B77 7E      A ld a,(hl)      ;7-Bit-ASCII
248 8B78 C9      A      ret
249      A;-----
250 8B79 8E      ATAB defb 8Eh ;AE
251 8B7A 99      A      defb  99h ;OE
252 8B7B 9A      A      defb  9Ah ;UE
253 8B7C 84      A      defb  84h ;ae
254 8B7D 94      A      defb  94h ;oe
255 8B7E 81      A      defb  81h ;ue
256 8B7F E1      A      defb  0E1h ;sz
257 8B80 5C      A      defb  5Ch ;\
258      A;-----
259 8B81 5B      A      defb  5Bh
260 8B82 5C      A      defb  5Ch
261 8B83 5D      A      defb  5Dh
262 8B84 7B      A      defb  7Bh
263 8B85 7C      A      defb  7Ch
264 8B86 7D      A      defb  7Dh
265 8B87 7E      A      defb  7Eh
266 8B88 40      A      defb  40h

```



```
267      A;=====
268      A;falls innerhalb RDRIPU Stop-Monitor war, an Anfang zurueck
269 8B89 F3  AXRDP4      di
270 8B8A D1  A      pop      de
271 8B8B CD 0000# A      call     GETA35      ;NZ -> Zeichen in RINGPU
272 8B8E CA 0000# A      jp       z,RDRIP1      ;zurueck nach Anfang Read - Ringpuffer
273      A;-----
274 8B91 D5  A      push     de            ;Fortsetzungsadr.
275 8B92 C9  A      ret      ;in Read - Ringpuffer
276      A;=====
277      A;fuer SCP RINGPU parallel mit Puffer in Statuszeile
278      A;ab STTAST (39 Byte) bearbeiten
279      A;
280 8B93 C5  AXRDPDU      push     bc            ;c - Zeichen
281 8B94 D5  A      push     de
282 8B95 2A F299 A      ld      hl,(LES RIP)
283 8B98 11 E670 A      ld      de,STTAST      ;Beginn Pufferbereich
284 8B9B 06 27  A      ld      b,39
285 8B9D 3A F297 AXRDPDU2     ld      a,(SCHRIP)
286 8BA0 BD  A      cp      l            ;Low (LES RIP)
287 8BA1 28 10  A      jr      z,XRDPU3      ;weiter kein Zeichen
288      A;-----
289 8BA3 7E  A      ld      a,(hl)
290 8BA4 FE 7F  A      cp      7Fh          ;DEL u. STOP (0DBh), falls Monitor aktiv ist
291 8BA6 38 02  A      jr      c,XRDP22
292      A;-----
293 8BA8 3E 2E  A      ld      a,'.'
294      A;-----
295 8BAA 12  AXRDP22     ld      (de),a
296 8BAB 13  A      inc     de
297 8BAC CD 0000# A      call     RIPUZI
298 8BAF 10 EC  A      djnz   XRDPU2
299      A;-----
300 8BB1 18 06  A      jr      XRDPU6
301      A;
302 8BB3 3E 20  AXRDPU3     ld      a,20h
303 8BB5 12  AXRDPU4     ld      (de),a
304 8BB6 13  A      inc     de
305 8BB7 10 FC  A      djnz   XRDPU4
306      A;-----
307 8BB9 21 F891 AXRDPU6     ld      hl,STFLAG
308 8BBC 36 FF  A      ld      (hl),0FFh      ;Statuszeile anfordern
309 8BBE D1  A      pop     de
310 8BBF C1  A      pop     bc
311 8BC0 C9  A      ret
312      A;=====
313      A;Erweiterung System-IR
314      A;aller 240ms wird Statuszeile aktualisiert, falls (FZELLE)=0
315      A;      sonst steht Fehlermeldung in Statuszeile !
316      A;-----
317 8BC1 21 F88A AXXIRS2     ld      hl,IRZ240
318 8BC4 35  A      dec     (hl)
319 8BC5 20 13  A      jr      nz,XXIR22      ;Zeit noch nicht um
320      A;-----
321 8BC7 36 0C  A      ld      (hl),12
322 8BC9 23  A      inc     hl            ;FZELLE
323 8BCA 7E  A      ld      a,(hl)
324 8BCB B7  A      or      a            ;Fehlermeldg. vorhanden ?
```

```
325 8BCC 28 06      A   jr      z,XXIR21      ; nein
326                A;-----
327 8BCE 35        A   dec     (hl)
328 8BCF 20 09      A   jr      nz,XXIR22     ; ja -> bleibt stehen
329                A;-----
330 8BD1 CD 0000#    A   call   FEMAUS        ;Fehlermeldung aus, FU- u. STFLAG:=0FFh
331                A;-----
332 8BD4 2A F88F    AXXIR21 ld     hl,(STATUP)
333 8BD7 CD 8BDE    A   call   CALLLHL
334                A;-----
335 8BDA E1         AXXIR22 pop   hl              ;RET-Adr.
336 8BDB C3 0000#    A   jp     SYS06
337                A;=====
338 8BDE E9         ACALLHL   jp     (hl)
339                A;=====
340                A;Falls monrq,(SYNFLG)=1 u. (SYNSEM)>0 -> STOP nachbilden
341                A;
342 8BDF 3A F88D    AXXGETA ld     a,(SYNFLG)
343 8BE2 CB 67      A   bit    monrq,a
344 8BE4 C8        A   ret    z              ;keine unerfuellte STOP-Anforderung
345                A;-----
346 8BE5 21 FADF    A   ld     hl,ASTAMT
347 8BE8 3E 14     A   ld     a,14h         ;CTRL- u. ALT-Bit ggf. ruecksetzen
348 8BEA B6        A   or     (hl)
349 8BEB 77        A   ld     (hl),a
350 8BEC 23        A   inc   hl              ;Spalte von STOP-Taste
351 8BED CB E6     A   set   4,(hl)         ;evtl. CTRL ruecksetzen, STOP dominiert
352 8BEF 32 FACF    A   ld     (KCLK1T),a    ;Keyclick off
353 8BF2 CD 0000#    A   call   STOPB
354 8BF5 AF        A   xor   a
355 8BF6 32 FACF    A   ld     (KCLK1T),a    ;Keyclick on
356 8BF9 C9        A   ret
357                A;*****
358                A;Umladeprogramme zum initialisieren der RAM-Bereiche
359                A;-----
360                A;PATCH-Rufe init.
361                A;
362 8BFA F3         AINITST di
363 8BFB 21 8AE0    A   ld     hl,HSTB
364 8BFE 11 FD85    A   ld     de,XSTB
365 8C01 01 002E    A   ld     bc,XXSTOP-HSTB
366 8C04 ED B0     A   ldir
367                A;-----
368                A;Routinen fuer System-IR u. STOP-Monitor in Syst.-RAM
369                A;sowie der RAM-Zellen u. YISMO1/YNAMO1
370                A;
371 8C06 21 8A66    A   ld     hl,YRZ240
372 8C09 11 F88A    A   ld     de,IRZ240
373 8C0C 01 007A    A   ld     bc,HSTB-YRZ240
374 8C0F ED B0     A   ldir
375                A;-----
376 8C11 21 F2AE    A   ld     hl,HOMECO
377 8C14 36 0A     A   ld     (hl),10       ;HOME=10 fuer SCP
378                A;-----
379 8C16 3A F726    A   ld     a,(SLCTRL)
380 8C19 32 FCD6#    A   ld     (RIRSYS+YSLDIF),a
381                A;-----
382 8C1C C9        A   ret
```

```

383      A;*****
384      A;TASTATURMODUL - Ansprung vom Treiberkopf im Syst.-RAM
385      A;
386      A;IN : A=0      Status fuer Eingabe
387      A;      A=1      Zeichen-Eingabe
388      A;      (A=2      Zeichen-Ausgabe      I ggf. fuer andere
389      A;      A=3      Status fuer Ausgabe)  I Treiber !!!
390      A;      A=0FFh Kaltstart
391      A;
392      A;-----
393 8C1D FE FF  ATASTMO      cp      0FFh
394 8C1F 28 07  A      jr      z,TCOLD
395      A;-----
396 8C21 B7      A      or      a
397 8C22 28 07  A      jr      z,TCONST
398      A;-----
399 8C24 3D      A      dec     a
400 8C25 28 0C  A      jr      z,TCONIN
401      A;-----
402 8C27 C9      A      ret
403      A;=====
404      A;Kaltstart des Tastaturtreiber's
405      A;erfolgt einmalig im Anlauf
406      A;
407      A;=====
408      A;Warmstart des Tastaturtreiber's (fall's notwendig)
409      A;
410      A;OUT: Reg.: HL,DE,AF
411      A;      evtl. EI
412      A;-----
413 8C28 C3 0000# ATCOLD      JP      LORIPU ;RINGPU u. Statuszeilen-Puffer loeschen
414      A;
415      A;=====
416      A;Status fuer Tastatur
417      A;
418      A;OUT: Reg.: AF
419      A;      EI
420      A;
421      A;-----
422      A;
423 8C2B CD 0000# ATCONST      call   INKEY ;NZ - Zeichen da
424 8C2E 3E 00  A      ld      a,0
425 8C30 C8      A      ret      z
426      A;-----
427 8C31 3D      A      dec     a
428 8C32 C9      A      ret      ;A = 0FFh - Zeichen da
429      A;=====
430      A;Conin fuer Tastatur
431      A;
432      A;OUT: A - Zeichen
433      A;      EI
434      A;-----
435      A;
436 8C33 CD 0000# ATCONIN      call   RDRIPU ;wartet auf Zeichen
437 8C36 C9      A      ret      ;B wird auf 0 gesetzt
438      A;*****
57      INCLUDESCPELV.Z80 ;V24 PIO und SIO Treiber
2      A; AUTOR: Lutz Elssner

```

```

3          A; STAND: 08.05.89
4          A; -----
5          A; V24-Treiber fuer Drucker (PIO) und Plotter (SIO)
6          A; =====
7          A;
8          A; Marke fuer Kaltstartinitialisierung SCP : INIV24
9          A; Marke fuer Kaltstartinitialisierung BASIC: INBV24
10         A; Marken fuer Treibereingaenge: V24PL, V24SC, V24SR, V24SP, V24SL
11         A;
12         A; =====
13         A   EXTERNAL PRTREI          ;Printer TREIber (PIO)
14         A                               ;ohne Zeichbehandlung
15         A                               ;bei Abbruch mit ^STOP ist CY=1
16         A   EXTERNAL PRTOU          ;Printer OUTput (PIO)
17         A                               ;mit Zeichenbehandlung (Rand, TAB, ...)
18         A                               ;bei Abbruch mit ^STOP ist CY=1
19         A   EXTERNAL PRSTA          ;Printer STATus (PIO) CTS-Bit Abfrage
20         A                               ;NZ bereit / Z nicht bereit
21         A                               ;bei Abbruch mit ^STOP ist CY=1
22         A   EXTERNAL PULO           ;DFEPU loeschen
23         A   EXTERNAL FEMEIN, FEMAUS ;Fehlermeldung in Systemzeile ein/aus
24         A   EXTERNAL LORIPU, RDRIPU ;Eingabepuffer loeschen / lesen
25         A   EXTERNAL WATA           ;warten auf Tastendruck
26         A   EXTERNAL BIOSM0, BIO10 ;Fehleranzeige auf Cursorposition (BASIC)
27         A   EXTERNAL BV24W1         ;2.5 s warten, dann CR LF
28         A; -----
29         00B7 ADSTPTS      EQU      00B7H          ;Direkter StoPTest
30         A                               ;bei ^STOP ist CY=1
31         A;
32         A; Portadressen (Tabelle wird in RAM kopiert)
33         A; =====
34         A;=== Laenge = 12 === im RAM von Hand aendern ! ===
35         8C37 50 AV24TAB:  DEFB   50H          ;CTC fuer SIO Takt
36         8C38 69 A   DEFB   69H          ;SIOD Daten
37         8C39 6B A   DEFB   6BH          ;SIOC Control
38         A;
39         A; Standardwerte fuer Hardwareinitialisierung (Tabelle wird in RAM kopiert)
40         A; =====
41         8C3A 47 A   DEFB   01000111B        ;CTCC Steuerwort (DI, Zaehlermode, ...)
42         8C3B 02 A   DEFB   2          ;CTCZ Zeitkonstante (9600 Baud)
43         8C3C C1 A   DEFB   11000001B        ;WR3 SIO Empfaenger (8 Bit)
44         8C3D 44 A   DEFB   01000100B        ;WR4 SIO (VT=16, 1 Stopbit, keine Paritaet)
45         8C3E 6A A   DEFB   01101010B        ;WR5 SIO Sender (8 Bit)
46         8C3F 00 A   DEFB   0          ;INZ eingegebenes Zeichen
47         8C40 AV24TE:
48         A; =====
49         A; V24 Tabelle IX-Adressierung (muss mit Reihenfolge der Tabelle uebereinstimmen)
50         0000 ACTC EQU 0          ;Portadressen
51         0001 ASIOD EQU 1
52         0002 ASIOC EQU 2
53         0003 ACTCC EQU 3          ;CTC-Init
54         0004 ACTCZ EQU 4
55         0005 AWR3 EQU 5          ;SIO-Init
56         0006 AWR4 EQU 6
57         0007 AWR5 EQU 7
58         0008 AINZ EQU 8          ;Zwischenspeicher eingegebenes Zeichen
59         A; -----

```

```

61          A;
62          A; *****
63          A;V24 Druckertreiber (PIO) [Aufruf Treiberroutine vom ROM-BIOS]
64          A; =====
65          A; V24 PIO LIST mit Zeichenbehandlung
66 8C40 21 0000# AV24PL: LD HL,PRTOUT ;Treiberadresse in HL
67 8C43 18 03   A JR V24P
68          A; =====
69          A; V24 PIO PUNCH ohne Zeichenbehandlung
70 8C45 21 0000# AV24PP: LD HL,PRTREI ;Treiberadresse in HL
71          A; =====
72 8C48 3C     AV24P: INC A
73 8C49 20 02   A JR NZ,V24P1
74          A; FF Initialisierung
75          A;
76 8C4B B7     AV24P3: OR A
77 8C4C C9     A RET
78          A; -----
79 8C4D D6 04   AV24P1: SUB 4
80 8C4F 20 0A   A JR NZ,V24P2
81          A; 03 Status Ausgabe
82 8C51 CD 0000# A CALL PRSTA ;Routine aus ROM-BIOS (Ludewig)
83 8C54 38 0D   A JR C,V24PF ;Abbruch mit Taste
84 8C56 3E FF   A LD A,0FFH
85 8C58 C0     A RET NZ ;bereit
86 8C59 AF     A XOR A
87 8C5A C9     A RET ;nicht bereit
88          A; -----
89 8C5B 3C     AV24P2: INC A
90 8C5C 20 ED   A JR NZ,V24P3 ;Ende
91          A; 02 Zeichen Ausgabe
92 8C5E 79     A LD A,C
93 8C5F CD 8C66 A CALL VJPHL ;Routine aus ROM-BIOS (Ludewig) Adresse in HL
94 8C62 D0     A RET NC ;bei Abbruch mit ^STOP ist CY=1
95 8C63 C3 8DB1 AV24PF: JP BRK0 ;Anzeige BREAK BY ^STOP
96          A ;in Systemzeile, danach ist CY=1
97 8C66 E9     AVJPHL: JP (HL)
98          A; -----

```

```
100      A; *****
101      A; V24 Treiber (SIO) Initialisierung [Aufruf vom Kaltstart]
102      A; =====
103      A; Initialisierung SCP
104 8C67 3E E1  AINIV24: LD A,0E1H ;Code fuer: POP HL
105 8C69 32 FE1C A LD (XPRT02),A
106 8C6C 21 8CC5 A LD HL,XSV24
107 8C6F 18 03 A JR INIV
108      A;
109      A; Initialisierung BASIC
110 8C71 21 8CCB AINBV24: LD HL,XBV24
111 8C74 01 0006 AINIV: LD BC,6
112 8C77 11 FFE5 A LD DE,XV24W
113 8C7A ED B0 A LDIR
114      A;
115 8C7C 21 8C37 A LD HL,V24TAB ;Tabelle in RAM transportieren
116 8C7F 11 FFD9 A LD DE,V24RAM
117 8C82 01 0009 A LD BC,V24TE-V24TAB ;Laenge
118 8C85 D5 A PUSH DE
119 8C86 ED B0 A LDIR
120 8C88 DD E1 A POP IX ;RAM Anfang
121      A; automatische Erkennung, ob Hardware Vorteiler 13:1 vorhanden
122 8C8A 3A F726 A LD A,(SLCTRL)
123 8C8D E6 10 A AND 00010000B
124 8C8F 28 04 A JR Z,V24I ;8000H Slot 0,2
125 8C91 DD 36 04 0DA LD (IX+CTCZ),13 ;8000H Slot 1,3
126      A; Initialisierung CTC und SIO IX=Tabellenadresse
127 8C95 DD 4E 00 AV24I: LD C,(IX+CTC) ;Portadresse CTC
128      A;
129 8C98 DD 7E 03 A LD A,(IX+CTCC) ;Steuerwort
130 8C9B ED 79 A OUT (C),A
131      A;
132 8C9D DD 7E 04 A LD A,(IX+CTCZ) ;Zeitkonstante
133 8CA0 ED 79 A OUT (C),A
134      A;
135 8CA2 DD 4E 02 A LD C,(IX+SIOC) ;Portadresse SIO CONTROL
136 8CA5 3E 18 A LD A,00011000B ;RESET PORT
137 8CA7 ED 79 A OUT (C),A
138      A;
139 8CA9 06 04 A LD B,4
140 8CAB ED 41 A OUT (C),B
141 8CAD DD 7E 06 A LD A,(IX+WR4) ;WR4 (Stopbits, Parity)
142 8CB0 ED 79 A OUT (C),A
143      A;
144 8CB2 06 03 A LD B,3
145 8CB4 ED 41 A OUT (C),B
146 8CB6 DD 7E 05 A LD A,(IX+WR3) ;WR3 (Empfaenger)
147 8CB9 ED 79 A OUT (C),A
148      A;
149 8CBB 06 05 A LD B,5
150 8CBD ED 41 A OUT (C),B
151 8CBF DD 7E 07 A LD A,(IX+WR5) ;WR5 (Sender)
152 8CC2 ED 79 A OUT (C),A
153 8CC4 C9 A RET
154      A; -----
155      A; Belegung der PATCH-Rufe fuer Fehler bei SCP und BASIC
156 8CC5 C3 8E09 AXSV24: JP SV24W
157 8CC8 C3 8E2F A JP SV24E
```

```
158 8CCB C3 8E24 AXBV24: JP BV24W
159 8CCE C3 8E6A A JP BV24E
160 A; -----
```

```
162          A; *****
163          A;V24 Treiber (SIO)
164          A; =====
165          A; V24 SIO CONSOLE
166 8CD1     AV24SC:
167          A;
168          A; V24 SIO READER
169 8CD1     AV24SR:
170          A;
171          A; V24 SIO PUNCH
172 8CD1     AV24SP:
173          A;
174          A; V24 SIO LIST
175 8CD1 DD 21 FFD9 AV24SL: LD IX,V24RAM ;Anfang der Tabelle im RAM
176 8CD5 3C AV24S: INC A
177 8CD6 20 08 A JR NZ,V24S1
178          A; FF Initialisierung
179 8CD8 CD 8C95 A CALL V24I
180 8CDB DD CB 07 BEA RES 7,(IX+WR5) ;kein Zeichen im RAM
181 8CDF C9 A RET
182          A; -----
183 8CE0 3D AV24S1: DEC A
184 8CE1 20 0D A JR NZ,V24S2
185          A; 00 Status Eingabe
186 8CE3 CD 8D0F A CALL V2400 ;Status
187 8CE6 6F A LD L,A ;L=Zeichen
188 8CE7 3E FF A LD A,0FFH
189 8CE9 D0 A RET NC ;NC, A=FF bereit, L=Zeichen
190 8CEA 7D A LD A,L
191 8CEB 3C A INC A ;wird 00 bei RxD-BREAK
192 8CEC B7 A OR A
193 8CED C8 A RET Z ;NC, A=00 nicht bereit bei RxD-BREAK
194 8CEE 37 A SCF
195 8CEF C9 A RET ; C, nicht bereit (PA, OV, FR, ^STOP)
196          A; -----
197 8CF0 3D AV24S2: DEC A
198 8CF1 20 0B A JR NZ,V24S3
199          A; 01 Zeichen Eingabe
200 8CF3 CD 8D0F A CALL V2400 ;Status
201 8CF6 DD 7E 08 A LD A,(IX+INZ) ;Zeichen
202 8CF9 DD CB 07 BEA RES 7,(IX+WR5) ;Zeichen abgeholt
203 8CFD C9 A RET ;NC, A=Zeichen (OK)
204          A ; C, (Fehler)
205          A; -----
206 8CFE 3D AV24S3: DEC A
207          A;
208          A; 02 Zeichen Ausgabe
209 8CFF 28 63 A JR Z,V2402
210          A; -----
211 8D01 3D A DEC A
212 8D02 20 09 A JR NZ,V24S5
213          A; 03 Status Ausgabe
214 8D04 CD 8D8D A CALL V2403
215 8D07 3E 00 A LD A,0
216 8D09 D8 A RET C ;Abbruch mit Taste
217 8D0A C8 A RET Z ;A=0 nicht bereit
218 8D0B 3D A DEC A
219 8D0C C9 A RET ;A=FF bereit
```



```
220 A; -----  
221 8D0D B7 AV24S5: OR A ;Ausgang bei falschen Codes in A  
222 8D0E C9 A RET ;NC, kein Fehler  
223 A; -----
```

```

225      A;
226      A; *****
227      A; ;V24 Unterprogramme
228      A; =====
229      A; Statusabfrage Eingabe
230 8D0F DD 4E 02 AV2400: LD C,(IX+SIOC) ;SIO-CONTROL
231 8D12 DD CB 07 7EA BIT 7,(IX+WR5)
232 8D16 20 31 A JR NZ,DE006 ;Zeichen im RAM
233      A;
234 8D18 CD 8D9D ADE001: CALL BRKEY
235 8D1B 38 0C A JR C,DTR0 ;Abbruch mit Taste A=0
236      A;
237 8D1D ED 78 A IN A,(C) ;RR0
238 8D1F CB 47 A BIT 0,A ;RECEIVER CHARACTER AVAILABLE
239 8D21 20 21 A JR NZ,DE003 ;Zeichen im SIO
240      A;
241 8D23 CD 8DBC A CALL BREAK ;RxD-BREAK
242 8D26 30 0F A JR NC,DE002 ;OK
243 8D28 3D A DEC A ;A=FF bei RxD-BREAK
244 8D29 F5 ADTR0: PUSH AF
245 8D2A 3E 05 A LD A,5
246 8D2C ED 79 A OUT (C),A ;WR5
247 8D2E DD 7E 07 A LD A,(IX+WR5)
248 8D31 CB BF A RES 7,A ;DTR=0
249 8D33 ED 79 A OUT (C),A
250 8D35 F1 A POP AF
251 8D36 C9 A RET
252      A;
253 8D37 3E 05 ADE002: LD A,5
254 8D39 ED 79 A OUT (C),A ;WR5
255 8D3B DD 7E 07 A LD A,(IX+WR5)
256 8D3E CB FF A SET 7,A ;DTR=1
257 8D40 ED 79 A OUT (C),A
258 8D42 18 D4 A JR DE001 ;wiederholen
259      A;
260 8D44 CD 8D29 ADE003: CALL DTR0 ;DTR=0
261 8D47 18 05 A JR XE004 ;Zeicheneingabe
262      A;
263 8D49 DD 7E 08 ADE006: LD A,(IX+INZ) ;Zeichen
264 8D4C 18 12 A JR XE006 ;OK
265      A;
266 8D4E CD 8DCB AXE004: CALL EFETA ;Empf. Fehler/Tastatur
267 8D51 D8 A RET C ;Fehler/Stop A=0
268      A;
269 8D52 DD 4E 01 A LD C,(IX+SIOD) ;SIO DATEN
270 8D55 DD CB 07 FEA SET 7,(IX+WR5) ;Zeichen im RAM
271 8D59 20 02 A JR NZ,XE005 ;bei Fehler schon in A
272 8D5B ED 78 A IN A,(C) ;Zeicheneingabe
273 8D5D DD 77 08 AXE005: LD (IX+INZ),A ;in RAM
274 8D60 B7 AXE006: OR A
275 8D61 C0 A RET NZ ;A<>0 bereit
276 8D62 3D A DEC A ;A=FF bereit
277 8D63 C9 A RET
278      A; =====

```

```
280          A;
281          A; DTR AUSGABE
282 8D64 41    AV2402:    LD      B,C          ;Zeichen in B
283 8D65 CD 8D8D ADA021:    CALL   V2403          ;Status
284 8D68 D8    A      RET      C          ;Abbruch mit Taste
285 8D69 28 FA  A      JR      Z,DA021        ;wiederholen
286          A; -----
287          A; 1 Zeichen senden aus B ohne Erlaubnisabfrage
288          A; C=SIO-CONTROL, BCDEHL bleiben
289 8D6B D5    AXEA: PUSH  DE
290 8D6C 11 FFFF A      LD      DE,0FFFFH      ;TIME
291 8D6F ED 78  ADA023:    IN      A,(C)          ;RR0
292 8D71 CB 57  A      BIT     2,A          ;TRANSMIT BUFFER EMPTY
293 8D73 20 0E  A      JR      NZ,DA025        ;OK
294          A;
295 8D75 1B    A      DEC     DE          ;Zeitschleife
296 8D76 7B    A      LD      A,E
297 8D77 B2    A      OR      D
298 8D78 20 F5  A      JR      NZ,DA023
299          A;
300 8D7A 11 8EA3 A      LD      DE,CLER        ;'TxC-ERROR'
301 8D7D CD 8DFC A      CALL   PRCST
302 8D80 D1    A      POP     DE
303 8D81 37    A      SCF
304 8D82 C9    A      RET
305          A;
306 8D83 D1    ADA025:    POP     DE
307 8D84 C5    A      PUSH   BC
308 8D85 DD 4E 01 A      LD      C,(IX+SIOD)    ;SIO-DATEN
309 8D88 ED 41  A      OUT    (C),B          ;Zeichenausgabe
310 8D8A C1    A      POP     BC
311 8D8B B7    A      OR      A
312 8D8C C9    A      RET
313          A; =====
314          A; DTR AUSGABE STATUS
315 8D8D CD 8D9D AV2403:    CALL   BRKEY
316 8D90 D8    A      RET      C          ;Abbruch durch Taste
317 8D91 DD 4E 02 A      LD      C,(IX+SIOC)
318 8D94 3E 10  A      LD      A,00010000B    ;EXTERN RESET
319 8D96 ED 79  A      OUT    (C),A
320 8D98 ED 78  A      IN      A,(C)          ;RR0
321 8D9A E6 20  A      AND    00100000B      ;CTS
322 8D9C C9    A      RET
323          A; =====
```

```
325          A; Abbruch durch Tastatur
326 8D9D C5   ABRKEY:   PUSH   BC
327 8D9E D5   A   PUSH   DE
328 8D9F E5   A   PUSH   HL
329 8DA0 DD E5 A   PUSH   IX
330 8DA2 CD 00B7 A   CALL   DSTPTS   ;Direkter StoPteSt
331 8DA5 DD E1 A   POP    IX
332 8DA7 E1   A   POP    HL
333 8DA8 D1   A   POP    DE
334 8DA9 C1   A   POP    BC
335 8DAA 30 02 A   JR     NC,BRK2   ;nicht gedrueckt
336 8DAC 20 03 A   JR     NZ,BRK0   ;^STOP gedrueckt
337          A;
338 8DAE AF   ABRK2:   XOR    A           ;nichts oder ^C gedrueckt
339 8DAF 3D   A   DEC    A
340 8DB0 C9   A   RET                    ;NC, NZ nicht gedrueckt
341          A;
342 8DB1 D5   ABRK0:   PUSH   DE
343 8DB2 11 8EAD A   LD     DE,BRTA   ;'BREAK BY ^STOP'
344 8DB5 CD 8DFC ABRK1:   CALL   PRCST   ;Textausgabe
345 8DB8 D1   A   POP    DE
346 8DB9 AF   A   XOR    A
347 8DBA 37   A   SCF
348 8DBB C9   A   RET                    ; C, A=0 Abbruch durch Taste
349          A; =====
350          A; Abbruch durch RxD-BREAK (SIO Status)
351          A; C=SIO-CONTROL BCDEHL bleiben
352 8DBC ED 78 ABRK:   IN     A,(C)   ;RR0
353 8DBE E6 80   A   AND   10000000B ;BREAK / CY=0
354 8DC0 3E 10   A   LD    A,00010000B ;EXTERN RESET
355 8DC2 ED 79   A   OUT   (C),A
356 8DC4 C8   A   RET    Z           ;NC, Z, OK
357          A;
358 8DC5 D5   A   PUSH   DE
359 8DC6 11 8EBC A   LD     DE,BRFE   ;'RxD-BREAK'
360 8DC9 18 EA   A   JR     BRK1     ;Anzeige
361          A; =====
362          A; Empfaengerfehlerauswertung, Anzeige
363          A; C=SIO-CONTROL
364          A; CHL bleiben A,B=fehlerhaftes Byte
365 8DCB 3E 01 AEFETA: LD     A,1
366 8DCD ED 79   A   OUT   (C),A
367 8DCF ED 78   A   IN    A,(C)     ;RR1
368 8DD1 E6 70   A   AND   01110000B
369 8DD3 C8   A   RET    Z           ;NC, Z, OK
370          A;
371 8DD4 CB 67   A   BIT   4,A       ;PARITY
372 8DD6 21 8EC6 A   LD     HL,PAFE
373 8DD9 20 0C   A   JR     NZ,EFE3
374          A;
375          A;
376 8DDB CB 6F   A   BIT   5,A       ;OVERFLOW
377 8DDD 21 8ECD A   LD     HL,OVFE
378 8DE0 20 05   A   JR     NZ,EFE3
379          A;
380 8DE2 CB 77   A   BIT   6,A       ;FRAME
381 8DE4 21 8ED6 A   LD     HL,FRFE
382          A;
```

```

383 8DE7 C5      AEF3:      PUSH   BC
384 8DE8 DD 4E 01 A      LD     C,(IX+SI0D) ;SIO-DATEN
385 8DEB ED 78   A      IN     A,(C)    ;fehlerhaftes Byte abholen
386 8DED C1      A      POP   BC
387 8DEE F5      A      PUSH  AF
388 8DEF 3E 30   A      LD     A,00110000B ;ERROR-RESET
389 8DF1 ED 79   A      OUT   (C),A
390             A;
391 8DF3 CD FFE8 A      CALL  XV24E      ;Fehleranzeige mit Eingabe (Meldung ab HL)
392             A;
393 8DF6 C1      A      POP   BC
394 8DF7 D8      A      RET   C        ;Abbruch durch ^C bei XV24E A=0
395             A; other ignore
396 8DF8 AF      A      XOR   A
397 8DF9 3D      A      DEC   A        ;Z=0
398 8DFA 78      A      LD     A,B      ;fehlerhaftes Byte zurueckgeben
399 8DFB C9      A      RET
400             A; =====
401             A; Ausgabe Fehlermeldung mit warten (DE)=Meldung
402             A; BCHLIX bleiben
403 8DFC C5      APRCST:  PUSH   BC
404 8DFD E5      A      PUSH  HL
405 8DFE DD E5   A      PUSH  IX
406 8E00 EB      A      EX     DE,HL
407 8E01 CD FFE5 A      CALL  XV24W
408 8E04 DD E1   A      POP   IX
409 8E06 E1      A      POP   HL
410 8E07 C1      A      POP   BC
411 8E08 C9      A      RET
412             A; =====
    
```

```
414          A; SCP Fehleranzeige mit warten
415          A; HL:Fehlertext
416 8E09 CD 0000# ASV24W:      CALL  PULO          ;Fehlerpuffer loeschen
417 8E0C 11 E69C  A      LD      DE,DFEPU      ;Fehlerpuffer
418 8E0F D5       A      PUSH   DE
419 8E10 E5       A      PUSH   HL
420 8E11 21 8EDC  A      LD      HL,V24TX      ;V24 err
421 8E14 CD 8E98  A      CALL   VMOVE
422 8E17 E1       A      POP    HL            ;spez. Fehler
423 8E18 CD 8E98  A      CALL   VMOVE
424 8E1B D1       A      POP    DE
425 8E1C CD 0000# A      CALL   FEMEIN        ;Fehlermeldung ein
426 8E1F 3E 07   A      LD      A,7          ;BEEP
427 8E21 C3 0000# A      JP      OUTASC
428          A; =====
429          A; BASIC-Fehleranzeige mit warten
430 8E24 CD 8E87  ABV24W:     CALL  BV24UP      ;Ausgabe mehrerer Teiltex
431 8E27 3E 07   A      LD      A,7          ;BEEP
432 8E29 CD 0000# A      CALL   OUTASC
433 8E2C C3 0000# A      JP      BV24W1      ;warten und CR LF
434          A; =====
435          A; SCP-Fehleranzeige mit Eingabe
436          A; HL=Fehlertext (PARITY, OVERFLOW, FRAME)
437          A; R:CY=1 ^C gedruickt (abort) A=0
438          A;  CY=0 (ignore)
439 8E2F CD 0000# ASV24E:     CALL  PULO          ;Fehlerpuffer loeschen (HL bleibt)
440 8E32 3A F88B ASV24E1:    LD      A,(FZELLE)
441 8E35 B7       A      OR      A
442 8E36 20 FA   A      JR      NZ,SV24E1    ;warten, bis Systemzeile frei
443 8E38 CD FDAD  A      CALL   XISMON        ;Verbot Monitor (HL bleibt)
444 8E3B 11 E69C  A      LD      DE,DFEPU      ;Fehlerpuffer
445 8E3E D5       A      PUSH   DE
446 8E3F E5       A      PUSH   HL
447 8E40 21 8EDC  A      LD      HL,V24TX      ;V24 err
448 8E43 CD 8E98  A      CALL   VMOVE
449 8E46 E1       A      POP    HL
450 8E47 CD 8E98  A      CALL   VMOVE
451 8E4A 21 8EE6  A      LD      HL,VTATX      ;abort ignore
452 8E4D CD 8E98  A      CALL   VMOVE
453 8E50 D1       A      POP    DE
454 8E51 CD 0000# A      CALL   FEMEIN        ;Fehler anzeigen
455 8E54 3E 07   A      LD      A,7          ;BEEP
456 8E56 CD 0000# A      CALL   OUTASC
457 8E59 CD 0000# A      CALL   WATA          ;warten auf Taste
458 8E5C F5       A      PUSH   AF
459 8E5D CD 0000# A      CALL   FEMAUS        ;Fehleranzeige aus
460 8E60 CD FDB0  A      CALL   XNAMON        ;erlauben Monitor
461 8E63 F1       ASV24E2:    POP     AF
462 8E64 D6 03   A      SUB    3
463 8E66 37       A      SCF
464 8E67 C8       A      RET    Z            ;^C CY=1 A=0
465 8E68 3F       A      CCF            ;other CY=0
466 8E69 C9       A      RET
467          A; =====
468          A; BASIC-Fehleranzeige mit Eingabe
469 8E6A CD 8E87  ABV24E:     CALL  BV24UP
470 8E6D 21 8EE6  A      LD      HL,VTATX      ;abort ignore
471 8E70 CD 0000# A      CALL   BIO10
```

```
472 8E73 3E 07      A   LD   A,7           ;BEEP
473 8E75 CD 0000#    A   CALL OUTASC
474 8E78 CD 0000#    A   CALL LORIPU
475 8E7B CD 0000#    A   CALL RDRIPU       ;Eingabe
476 8E7E F5         A   PUSH AF
477 8E7F 21 8EA0     A   LD   HL,VCRLF      ;CR LF
478 8E82 CD 0000#    A   CALL BIO10
479 8E85 18 DC      A   JR   SV24E2
480                A; =====
481                A; UP fuer Fehleranzeige
482 8E87 E5         ABV24UP:  PUSH HL
483 8E88 21 8EA0     A   LD   HL,VCRLF
484 8E8B CD 0000#    A   CALL BIOSM0
485 8E8E 21 8EDC     A   LD   HL,V24TX     ;V24 err
486 8E91 CD 0000#    A   CALL BIO10
487 8E94 E1         A   POP  HL           ;spez. Text
488 8E95 C3 0000#    A   JP   BIO10
489                A; -----
490 8E98 7E         AVMOVE:   LD   A,(HL)
491 8E99 B7         A   OR   A
492 8E9A C8         A   RET   Z
493 8E9B 12         A   LD   (DE),A
494 8E9C 23         A   INC  HL
495 8E9D 13         A   INC  DE
496 8E9E 18 F8     A   JR   VMOVE
497                A; =====
498                A; Fehlertexte
499 8EA0 0A0D     AVCRLF:  DEFW  0A0DH
500 8EA2 00      A   DEFB  0
501                A;
502 8EA3 54 78 43 2DACLER:  DEFM  'TxC-ERROR'
503 8EAC 00      A   DEFB  0
504                A;
505 8EAD 42 52 45 41ABRTA:  DEFM  'BREAK BY ^STOP'
506 8EBB 00      A   DEFB  0
507                A;
508 8EBC 52 78 44 2DABRFE:  DEFM  'RxD-BREAK'
509 8EC5 00      A   DEFB  0
510                A;
511 8EC6 50 41 52 49APAFE:  DEFM  'PARITY'
512 8ECC 00      A   DEFB  0
513 8ECD 4F 56 45 52AOVFE:  DEFM  'OVERFLOW'
514 8ED5 00      A   DEFB  0
515 8ED6 46 52 41 4DAFRFE:  DEFM  'FRAME'
516 8EDB 00      A   DEFB  0
517                A;
518 8EDC 56 32 34 20AV24TX:  DEFM  'V24 err: '
519 8EE5 00      A   DEFB  0
520                A;
521 8EE6 20 28 5E 63AVTATX:  DEFM  ' (^c=abort, other=ignore)'
522 8EFF 00      A   DEFB  0
523                A; *****
524                A; ENDE SCPELV.S
525                A; *****
59                INCLUDE SCPSCH.Z80 ;Warmstart
2                A;*****
3                A;* Warmstart fuer BIC
4                A;* Version 1.0 - 07.04.89
```

```

5          A;* Bearbeiter : Torsten Schlegel
6          A;*****
7          A global      WBOOT
8          A external SELSCR
9          0174 AKOMSCR   equ    174h
10         A;
11 8F00 21 9085 AWBOOT:   LD      HL,CCPW      ;Einsprung Warmstart normal
12 8F03 E5      A   PUSH  HL              ;Ablegen CCP-Anfang m. Pufferloeschen im Stack
13 8F04 18 04   A   JR    BEGINN         ;Sprung zum Beginn Warmstartsequenz
14         A;
15 8F06 21 903D AKW1BOOT  LD      HL,CCP      ;Einsprung fuer Kaltstart
16 8F09 E5      A   PUSH  HL              ;Ablegen CCP-Anfang o. Pufferloeschen im Stack
17         A;
18 8F0A 0E 1A   ABEGINN:  LD      C,1AH      ;*Aufruf BDOS Funktion 26 SETDMA
19 8F0C 11 0080 A   LD      DE,80H      ;Standard DMA- Adresse
20 8F0F CD E606 A   CALL   SBDOS
21         A;
22 8F12 3E FF   A   LD      A,0FFH      ;*Beginn Bildschirminitialisierung
23 8F14 32 FC17 A   LD      (CURSW),A    ;Einschalten Cursor
24 8F17 3E 00   A   LD      A,0         ;ESC-switch loeschen
25 8F19 32 FC15 A   LD      (ESCSW),A    ;
26 8F1C CD 0174 A   call   KOMSCR      ;Bildschirmmodus einstellen
27         A;
28 8F1F 21 E658 A   LD      HL,STDSKF
29 8F22 11 E659 A   LD      DE,STDSKF+1
30 8F25 01 0017 A   LD      BC,STTAST-STDSKF-1
31 8F28 36 20   A   LD      (HL),' '
32 8F2A ED B0   A   LDIR                    ;LW-Format in Statuszeile loeschen
33 8F2C 3E FF   A   LD      A,0FFH
34 8F2E 32 F891 A   LD      (STFLAG),A   ; und Ausgabe anmelden
35         A;
36 8F31 DB A8   A   IN      A,(PPIA)     ;untere PAGE auf RAM schalten
37 8F33 E6 FC   A   AND    11111100B
38 8F35 F6 02   A   OR     00000010B
39 8F37 D3 A8   A   OUT   (PPIA),A
40         A;
41 8F39 3E C3   A   LD      A,0C3H      ;RST 38H mit Sprung zum Monitor belegen
42 8F3B 32 0038 A   LD      (38H),A
43 8F3E 21 F89F A   LD      HL,MONCAL
44 8F41 22 0039 A   LD      (39H),HL
45         A;
46 8F44 3A 0004 A   LD      A,(4)        ;Lesen des aktiven LW aus RAM Bank2/Add.0004H
47 8F47 4F      A   LD      C,A
48 8F48 C9      A   RET                    ;Sprung zum CCP
49         A;*****
61         INCLUDESCPSCH2.Z80 ;BIOS-Verteiler fuer zeichenweise E/A-Geraete
2          A;*****
3          A;*
4          A;* Bios-Teil zur Treiberansteuerung unter SCP 5105
5          A;* Auswertung I/O Byte & Treibertabelle fuer zeichenweise arbeitende
6          A;* E/A Geraete
7          A;-----
8          A;* Erarbeitet : Elssner/Schlegel
9          A;* File: SCPSCH2.S
10         A;* Stand: 17.05.89
11         A;*
12         A;*****
13         000C ALREB EQU 0CH

```



```

14      A external OUTASC
15      A;
16      A global      CONST,CONIN, CONOUT,LIST, PUNCH, READER
17      A global      LISTST,CONOST,      AUXIST,AUXOST,DEVTBL
18      A;-----
19      A;Programm muss im ROM stehen, wird vom BIOS gerufen
20      A;Parameter fuer jeden BIOS-Ruf laden
21      A;-----
22      A;CONSOLE
23 8F49 3E 00      ACONST: LD A,0 ;Consolenstatus Eingabe (BIOS-02)
24 8F4B 18 0A      A JR CON0
25 8F4D 3E 01      ACONIN: LD A,1 ;Consoleneingabe (BIOS-03)
26 8F4F 18 06      A JR CON0
27 8F51 3E 02      ACONOUT: LD A,2 ;Consolenausgabe (BIOS-04)
28 8F53 18 02      A JR CON0
29 8F55 3E 03      ACONOST: LD A,3 ;Consolenausgabestatus (BIOS-17)
30 8F57 06 00      ACON0: LD B,0
31 8F59 16 43      A LD D,'C'
32 8F5B C3 F5AD    A JP TRRUF2
33      A;-----
34      A;READER
35 8F5E 3E 00      AAUXIST: LD A,0 ;Readerstatus (BIOS-18)
36 8F60 18 02      A JR RDR
37 8F62 3E 01      AREADER: LD A,1 ;Reader (BIOS-07)
38 8F64 06 01      ARDR: LD B,1
39 8F66 16 52      A LD D,'R'
40 8F68 C3 F5AD    A JP TRRUF2
41      A;-----
42      A;PUNCH
43 8F6B 3E 03      AAUXOST: LD A,3 ;Puncher-Status (BIOS-19)
44 8F6D 18 02      A JR PUN
45 8F6F 3E 02      APUNCH: LD A,2 ;Ausgabe auf Punch (BIOS-06)
46 8F71 06 02      APUN: LD B,2
47 8F73 16 50      A LD D,'P'
48 8F75 C3 F5AD    A JP TRRUF2
49      A;-----
50      A;LIST
51 8F78 3E 03      ALISTST: LD A,3 ;List-Status (BIOS-15)
52 8F7A 18 02      A JR LST
53 8F7C 3E 02      ALIST: LD A,2 ;Ausgabe auf Listger. (BIOS-05)
54 8F7E 06 03      ALST: LD B,3
55 8F80 16 4C      A LD D,'L'
56 8F82 C3 F5AD    A JP TRRUF2
57      A ;TRRUF2 ist Sprung zu Treiberaufrufprg.(steht im RAM)
58      A;*****
59      A;*
60      A;* Bios-Teil zur Treiberansteuerung unter SCP 5105
61      A;* Auswertung I/O Byte & Treibertabelle fuer zeichenweise arbeitende
62      A;* E/A Geraete
63      A;-----
64      A;* Erarbeitet : Elssner/Schlegel
65      A;*
66      A;*****
67      A ;Programm muss im ROM stehen
68      A ;Ermittlung von Treiberadresse und Slotnummer des angesprochenen
69      A ;Treibers
70      A ;bei Aufruf B= log. Tabellennr. C= I/O Byte
71      A ;Rueckkehr BC= Treiberadresse A= Slot fuer TREIA

```

```

72          A      ;Rueckkehr HL= Pos. in TRTAB DE= Pos. in SLTAB zus. fuer BIOS Ruf
73 8F85 78      ADEVTBL: LD A,B
74 8F86 87      A ADD A,A
75 8F87 E6 06   A AND 00000110B
76 8F89 47      A LD B,A
77 8F8A 5F      A LD E,A ;Log. Tabnr.
78 8F8B 16 00   A LD D,0
79 8F8D 79      A LD A,C ;I/O Byte
80 8F8E 28 04   A JR Z,SH1
81          A ;-----
82 8F90 CB 3F   ASH: SRL A ;verschiebe rechts und fuehle mit 0
83 8F92 10 FC   A DJNZ SH ;bis die zwei signifk. Bits in 1&0
84 8F94 CB 23   ASH1: SLA E ;log.Tabnr. in E (0,4,8,12)
85 8F96 E6 03   A AND 3 ;Bits von I/O Byte 000000XX
86 8F98 83      A ADD A,E ;zu log. Tabnr. 0000XX||
87 8F99 5F      A LD E,A
88 8F9A 21 F5ED A LD HL,SLTAB ;Anfangsadr. d. Tabelle d. Slotnummern
89 8F9D 19      A ADD HL,DE ;+ log. Tabellennummer & I/O Bytestellung
90 8F9E E5      A PUSH HL ;Position der Slotnr. d. Treibers auf Stack
91 8F9F 21 F5CD A LD HL,TRTAB ;Anfangsadr d. Tabelle d. Treiberadressen
92 8FA2 19      A ADD HL,DE ;+ log. Tabellennr. und I/O Bytestellung
93 8FA3 19      A ADD HL,DE ;nochmal, da 2-Byte Tabelle
94 8FA4 4E      A LD C,(HL)
95 8FA5 23      A INC HL
96 8FA6 46      A LD B,(HL) ;BC= Treiberanfangsadresse
97 8FA7 2B      A DEC HL ;HL= Position in Treiberadresstabelle
98 8FA8 D1      A POP DE ;DE= Position in der Slottabelle
99 8FA9 1A      A LD A,(DE) ;A = Slotadresse
100 8FAA C9     A RET ;Rueckkehr ins RAM zu TREIA-prg.
101          A;*****
102          A;*
103          A;* Programmteil TREIA
104          A;* erstellt: Elssner/Schlegel
105          A;*****
106          A;* Registerinhalt Aufruf: A=Funktionscode, B=Kanal, C=Zeichen
107          A;* ruft Treiber fuer Zeichenweise arbeitende E/A Geraete auf
108          A;*****
109          0003 AIOBYTE EQU 3
110          A;-----
111          A;
112          A;=== Laenge = 29 === im RAM von Hand aendern ! ===
113 8FAB F5     ATTREIA: PUSH AF ;Funktionscode auf Stack legen
114          A;
115          A; PUSH BC ;Kanal und Zeichen f. Ausg. auf Stack
116          A; LD A,02H ;holen I/O Byte
117          A; LD HL,IOBYTE ;von Bank 2
118          A; CALL LREB
119          A; POP BC
120          A;
121 8FAC DB A8   A IN A,(PPIA) ;ist schneller !
122 8FAE F5     A PUSH AF
123 8FAF E6 FC   A AND 0FCH
124 8FB1 F6 02   A OR 2
125 8FB3 D3 A8   A OUT (PPIA),A
126 8FB5 21 0003 A LD HL,IOBYTE
127 8FB8 66      A LD H,(HL)
128 8FB9 F1      A POP AF
129 8FBA D3 A8   A OUT (PPIA),A

```

```
130      A;
131 8FBC C5      A      PUSH   BC
132 8FBD 4C      A      LD      C,H          ;in C uebertragen
133 8FBE CD 8F85 A      CALL   DEVTBL      ;Aufruf UP zur Ermittlung der Treiberadresse
134      A      ;und des Slots des Treibers
135 8FC1 D3 A8   A      OUT    (PPIA),A    ;einstellen der Slotbelegung in der Treiber
136      A      ;angesprungen werden muss
137 8FC3 69      A      LD      L,C          ;Umlagern Treiberadresse von BC nach HL
138 8FC4 60      A      LD      H,B
139 8FC5 C1      A      POP    BC          ;holen Kanal & Zeichen vom Stack
140 8FC6 F1      A      POP    AF          ;holen Funktionscode vom Stack
141 8FC7 E9      A      JP     (HL)        ;Ansprung Treiber
142      A;Parameter zum Treiberaufruf A= Funktionscode
143      A;                          C= Zeichen fuer Ausgabe
144      A;Auf Stack liegt Rueckkehradresse des Treibers ins BIOS (siehe Ludewig)
145      A;nach Rueckkehr wird im BIOS-Rahmen (Ludewig) auf Slotbelegung vor Auf-
146      A;ruf rueckgeschaltet
147      A;-----
148      A;=== Laenge = 32 === im RAM von Hand aendern ! ===
149 8FC8 21 E699 ATRRUF0: LD      HL,STTREI
150 8FCB 72      A      LD      (HL),D      ;Zeichen in Statuszeile ein
151 8FCC C5      A      PUSH   BC
152 8FCD CD F590 A      CALL   TRBSCH      ;Adresse errechnen und Treiber aufrufen
153 8FD0 C1      A      POP    BC
154 8FD1 F5      A      PUSH   AF
155 8FD2 3E 20   A      LD      A,' '
156 8FD4 32 E699 A      LD      (STTREI),A  ;Zeichen in Statuszeile aus
157 8FD7 F1      A      POP    AF
158 8FD8 D0      A      RET    NC          ;OK
159 8FD9 3E AA   A      LD      A,10101010B
160 8FDB D3 A8   A      OUT    (PPIA),A    ;alles RAM fuer Warmstart
161 8FDD 78      A      LD      A,B          ;Geraetecode (LIST=3)
162 8FDE FE 03   A      CP     3
163 8FE0 C2 0000 A      JP     NZ,0          ;Warmstart
164 8FE3 AF      A      XOR    A          ;wenn Fehler im LIST-Treiber, dann
165 8FE4 32 E8AD A      LD      (BDV3),A    ;^P ausschalten
166 8FE7 C7      A      RST    0          ;und Warmstart
167      A;-----
168      A;Tabelle fuer Treiberanfangsadressen (liegen im RAM)
169 8FE8 901D   ATTRTAB: DEFW   DUMMYT      ;Console TTY
170 8FEA 9025   A      DEFW   CON          ;Console CRT
171 8FEC 901D   A      DEFW   DUMMYT      ;Console BAT
172 8FEE 8CD1   A      DEFW   V24SC       ;Console UC1
173      A;
174 8FF0 9025   A      DEFW   CON          ;Reader TTY
175 8FF2 8CD1   A      DEFW   V24SR       ;Reader PTR
176 8FF4 901D   A      DEFW   DUMMYT      ;Reader UR1
177 8FF6 901D   A      DEFW   DUMMYT      ;Reader UR2
178      A;
179 8FF8 9025   A      DEFW   CON          ;Puncher TTY
180 8FFA 8CD1   A      DEFW   V24SP       ;Puncher PTP
181 8FFC 901D   A      DEFW   DUMMYT      ;Puncher UP1
182 8FFE 8C45   A      DEFW   V24PP       ;Puncher UP2
183      A;
184 9000 8C45   A      DEFW   V24PP       ;List TTY
185 9002 9025   A      DEFW   CON          ;List CRT
186 9004 8C40   A      DEFW   V24PL       ;List LPT
187 9006 8CD1   A      DEFW   V24SL       ;List UL1
```

```
188      A;Tabelle fuer Slotadresse
189 9008  ATREIAE:                                ;Marke fuer Verschiebeende
190      A;-----
191      A;Verschieberoutine fuer TREIA vom ROM ins RAM
192 9008  21 8FAB  ACOPTRA:  LD   HL,TTREIA  ;wird aufgerufen vom Kaltstart
193 900B  11 F590  A   LD   DE,TRBSCH
194 900E  01 005D  A   LD   BC,TREIAE-TTREIA
195 9011  ED B0   A   LDIR
196      A;Anlegen der Slotbelegungstabelle mit Standartwert der SCP-Slotbelegung
197 9013  3A F726  A   LD   A,(SLCTRL)  ;Slotcontrol
198 9016  06 10   A   LD   B,16        ;Tabellenlaenge
199 9018  12      AEOSLT:  LD   (DE),A
200 9019  13      A   INC   DE
201 901A  10 FC   A   DJNZ  EOSLT
202 901C  C9      A   RET                                ;zurueck an Kaltstart
203      A;-----
204      A;Dummysreiber
205      A;Bei Aufruf: A= Funktionscode, C=Ausgabezeichen
206      A;Bei Return: CY=0  A= 0FFh bei Statusabfragen und Ausgaben
207      A;          CY=0  A= 01Ah bei Eingabeforderung (eof)
208 901D  FE 01   ADUMMYT: CP   1                                ;Eingabe ?
209 901F  3E 1A   A   LD   A,1AH
210 9021  C8      A   RET   Z                                ;A=EOF (1AH) CY=0
211 9022  AF      A   XOR   A
212 9023  3D      A   DEC   A
213 9024  C9      A   RET                                ;A=FFH (Status bereit) CY=0
214      A;-----
215      A; Consolentreiber Aufteilung in Tastatur und Bildschirm
216 9025  21 9037  ACON: LD   HL,NCRET
217 9028  E5      A   PUSH  HL
218 9029  FE 02   A   CP   2                                ;A = 0 -> TASTMO (Status Eing)
219 902B  28 0C   A   JR   Z,CON1                                ; = 1 -> TASTMO (Eingang)
220 902D  DA 8C1D  A   JP   C,TASTMO                                ; = 2 -> (OUTASC, Ausgang)
221 9030  FE FF   A   CP   0FFh                                ; = 3 -> FF ret (Status Ausg)
222 9032  CA 8C1D  A   JP   Z,TASTMO                                ; = FF -> TASTMO (Kaltst.)
223 9035  3E FF   A   LD   A,0FFh
224 9037  B7      ANCRET:  OR   A
225 9038  C9      A   RET
226 9039  79      ACON1:  LD   A,C
227 903A  C3 0000# A   JP   OUTASC                                ;Zeichen in A
228      A;-----
229      A; die V24-Treiber befinden sich in SCPELV.S
230      A;-----
231      A; ENDE SCPSCH2.S
232      A;-----
63      INCLUDESCPELO.Z80  ;CCP-Initialisierung und Kommandointerpreter
2      A; AUTOR: Lutz Elssner
3      A; STAND: 05.05.89
4      A;-----
5      A; CCP-ROM
6      A; =====
7      A; Eintrittsmoeglichkeiten:
8      A; CCP vom Kaltstart (Abarbeitung Kaltstartkommando SUBM AUTOEXEC)
9      A; CCPW vom Warmstart (Loeschen des Kommandopuffers)
10     A; die Initialisierung des CCP-RAM erfolgt nach dem Eintritt vom Kaltstart
11     A; automatisch
12     A;-----
13     A; externe Marken:CRAM2
```

```

14          A; globale Marken: CCP, CCPW
15          A;
16          A; -----
17          A;;CCP-EQU's
18          A; =====
19          A;
20          0004  ADEFAUL      EQU      4
21          A;BDOSJP      erfolgt ueber RAM
22          0006  ABDOSAD      EQU      6          ;BDOS-Adresse
23          005C  ADEFFCB      EQU      5CH        ;Standard-FCB
24          0080  ADEFDMA      EQU      80H
25          0100  ATPA EQU      100H
26          0008  ALRESO      EQU      8          ;Laenge residenter Kommando-Namen (ROM)
27          0008  ALRESC      EQU      8          ;Laenge residenter Kommando-Namen (RAM)
28          0006  ANRESC      EQU      6          ;Anzahl mit EXT nachladbarer Kommandos
29          0018  ALVOR EQU    24          ;Laenge des BDOS-Vorspanns
30          0010  ALADINI     EQU      16          ;Adresse im BDOS-Vorspann
31          A;
32          A; -----
33          005C  ACFCBD      EQU      DEFFCB      ;Disk
34          005D  ACFCBF      EQU      DEFFCB+1    ;Filename
35          0065  ACFCBT      EQU      DEFFCB+9    ;Typ EX S1 S2 RC
36          006C  ACFCB0     EQU      DEFFCB+16
37          007C  ACFCBCR    EQU      DEFFCB+32    ;Current Record
38          A;

```

```
40      A;;CCP-Eintritt
41      A; =====
42      A;;Eintritt von BIOS nach Kaltstart, Initialisierung des gesamten CCP-RAM
43      A; Abarbeitung des Kaltstartkommandos SUBM AUTOEXEC
44      A; Uebergabeparameter in Register C:Bit 7,6,5,4=USER Bit 3,2,1,0=DRIVE
45 903D DB A8      ACCP: IN      A,(PPIA)
46 903F E6 FC      A      AND      1111100B      ;RAM fuer Adressbereich 0000-3FFF
47 9041 F6 02      A      OR       00000010B     ;einschalten
48 9043 D3 A8      A      OUT      (PPIA),A
49 9045 47         A      LD       B,A          ;B=CCP-interne SLOT-Belegung
50 9046 C5         A      PUSH     BC          ;C=USER/DRIVE retten
51      A; Loeschen des gesamten CCP-RAM-Bereiches
52 9047 21 E6EC    A      LD       HL,CRAM2      ;Anfangsadresse RAM
53 904A 11 017E    A      LD       DE,CRAML      ;Laenge
54 904D 36 00      ACCPK1:  LD      (HL),0
55 904F 23         A      INC      HL
56 9050 1B         A      DEC      DE
57 9051 7B         A      LD       A,E
58 9052 B2         A      OR       D
59 9053 20 F8      A      JR       NZ,CCPK1
60      A;
61 9055 78         A      LD       A,B
62 9056 32 E867    A      LD       (CSLOT),A     ;CCP-interne SLOT-Belegung
63      A; Transport der Kopie in den RAM
64 9059 CD 913B    A      CALL     CCOPY        ;2* LDIR
65      A; Initialisierung von Steuervariablen
66 905C 3E C9      A      LD       A,0C9H       ;RET fuer PATCH eintragen
67 905E 32 E7FC    A      LD       (CK12),A     ;Warmstart
68 9061 32 E7FF    A      LD       (CK22),A     ;Kommandoschleife
69 9064 32 E802    A      LD       (CK32),A     ;CCPDEF
70      A;
71 9067 21 E6EE    A      LD       HL,COMBT2
72 906A 22 E856    A      LD       (DCF71),HL    ;Parameterbeginn fuer Fehlermeldung auf Anfang
73      A;
74 906D 2A 0006    A      LD       HL,(BDOSAD)   ;BDOS-Anfang nach Kaltstart
75 9070 22 E868    A      LD       (CBDOS),HL    ;BDOS-Sprung wird bei Warmstart regeneriert
76 9073 22 E815    A      LD       (TREND),HL    ;keine Treiber nachgeladen
77 9076 22 E858    A      LD       (EXTZ),HL     ;keine EXT-Kommandos
78      A;
79 9079 E5         A      PUSH     HL          ;Original-BDOS-Adresse
80 907A 11 0010    A      LD       DE,LADINI     ;auf BDOS+LADINI eintragen
81 907D 19         A      ADD      HL,DE
82 907E D1         A      POP      DE
83 907F 73         A      LD       (HL),E
84 9080 23         A      INC      HL
85 9081 72         A      LD       (HL),D
86      A;
87 9082 C1         A      POP      BC          ;C=USER/DRIVE
88 9083 18 14      A      JR       CCP4
89      A; -----
```

```
91          A; -----
92          A;;Eintritt von BIOS nach Warmstart, Teilinitialisierung des CCP-RAM
93          A; Loeschen des Kommandopuffers
94          A; Uebergabeparameter in Register C:Bit 7,6,5,4=USER Bit 3,2,1,0=DRIVE
95 9085 3A E867 ACCPW: LD A,(CSLOT) ;CCP interne SLOT-Belegung
96 9088 D3 A8 A OUT (PPIA),A
97          A; Teilinitialisierung RAM
98 908A C5 A PUSH BC
99 908B CD 913B A CALL CCOPY
100 908E C1 A POP BC
101          A; BDOS-Sprung regenerieren
102 908F 2A E868 A LD HL,(CBDOS)
103 9092 22 0006 A LD (BDOSAD),HL
104          A; Kommandopuffer loeschen
105 9095 AF ACCP3: XOR A
106 9096 32 E6ED A LD (COMBL2),A
107          A;;CCP Original Eintritt
108 9099 31 E7E0 ACCP4: LD SP,CST2
109 909C 3A E867 A LD A,(CSLOT)
110 909F D3 A8 A OUT (PPIA),A
111          A;
112 90A1 79 A LD A,C ;neue Default-Disk
113 90A2 E6 0F A AND 0FH ;User loeschen
114 90A4 32 E85B A LD (DEFDV),A ;merken neue Default-Disk
115 90A7 79 A LD A,C
116 90A8 1F A RRA
117 90A9 1F A RRA
118 90AA 1F A RRA
119 90AB 1F A RRA
120 90AC E6 0F A AND 0FH
121 90AE 32 E85A A LD (DEFUS),A ;Default User merken
122 90B1 CD 9377 A CALL SETUS ;Set User Code fuer $$$SUB
123 90B4 0E 0D A LD C,0DH ;Reset Disk System
124 90B6 CD 9665 A CALL BDOSJP
125 90B9 7C A LD A,H ;BDOS gibt in H $$$SUB-LW
126 90BA 32 E85D A LD (SYSDVC),A ;merken
127 90BD 3C A INC A ;>0 machen
128 90BE 2C A INC L ;war $$$SUB-Datei?
129 90BF 28 01 A JR Z,SETSUB ;ja
130 90C1 AF A XOR A ;sonst =0
131 90C2 32 E866 ASETSUB: LD (DCF70),A ;auf LW +1 bei $$$SUB vorh.
132 90C5 11 E6ED A LD DE,COMBL2 ;aktuelle Kommandolaenge
133 90C8 CD E7FC A CALL CK12 ;RET (PATCH fuer LAN)
134 90CB 3A E6ED A LD A,(COMBL2) ;Kommando schon da?
135 90CE B7 A OR A
136 90CF 20 30 A JR NZ,ICBB8 ;ja
137          A; -----
```

```
139      A;
140      A;; CCP-Kommando holen
141      A; =====
142      A;
143 90D1 31 E7E0 AICBA2: LD SP,CST2
144 90D4 CD 9354 A CALL CCPDEF ;einstellen drive, user, dma
145      A; Zeilenschaltung
146 90D7 CD 92CD A CALL NEWLN ;CR,LF
147      A; Laufwerk anzeigen
148 90DA 3A E85E A LD A,(SELDAK) ;aktuell selektiertes LW
149 90DD C6 41 A ADD A,'A'
150 90DF CD 92D4 A CALL PUTCH ;Ausgeben
151      A; USER anzeigen
152 90E2 3A E85C A LD A,(SELUAK) ;aktuell selektierter user
153 90E5 B7 A OR A ;=0?
154 90E6 28 11 A JR Z,USER0 ;ja, User nicht in Prompt-Meldung
155 90E8 CD 94CD A CALL BCDKON ;User BCD aufbereiten
156 90EB B7 A OR A ;Zehner vom User vorhanden?
157 90EC 28 05 A JR Z,USER09 ;nein
158 90EE C6 30 A ADD A,'0'
159 90F0 CD 92D4 A CALL PUTCH
160 90F3 79 AUSER09: LD A,C
161 90F4 C6 30 A ADD A,'0'
162 90F6 CD 92D4 A CALL PUTCH
163      A; PROMPT anzeigen
164 90F9 3E 3E AUSER0: LD A,'>' ;Prompt
165 90FB CD 92D4 A CALL PUTCH
166      A; Kommando von $$$SUB oder Tastatur in Kommandopuffer eingeben
167 90FE CD 9245 A CALL IC92D ;holen naechstes Komm.
168      A; Kommandopuffer auswerten (Beginn)
169 9101 21 E6EE AICBB8: LD HL,COMBT2 ;Entschl.zeiger auf Anfang
170 9104 22 E854 A LD (COMPP2),HL
171 9107 CD 9354 A CALL CCPDEF ;einstellen default-Werte
172      A; 1.Parameter (Kommandoname) in FCB eintragen
173 910A CD 9409 A CALL FNHOL ;ersten Param. holen
174 910D C2 91F3 A JP NZ,ICF1B ;wenn */?, so Fehler
175 9110 2A E854 A LD HL,(COMPP2) ;Entschl.zeiger in Komm.puffer
176      A ; (COMPP2) anfangs = COMBT2
177      A; wenn Laufwerk angegeben von Diskette laden
178 9113 22 E863 A LD (PARBEG),HL ;fuer moeglichen Param.beginn
179 9116 3A E865 A LD A,(DCF6E) ;expl. LW?
180 9119 B7 A OR A
181 911A 20 05 A JR NZ,TKOM ;ja, kein residentes Komm.
182      A; wenn Kommandoname zu lang von Diskette laden
183      0000 A COND LRESC<8
184      A ENDC
185      A; Kommandoname in den Tabellen der residenten Kommandos suchen
186 911C CD 94DA A CALL RSUCH ;residentes Kommando?
187 911F 20 31 A JR NZ,ICE86 ;ja, ausfuehren
188      A;
189      A;transientes Kommando von Diskette laden und starten
190      A; =====
191 9121 3A 005D ATKOM: LD A,(CFCBF)
192 9124 FE 20 A CP ' ' ;Filename da?
193 9126 20 0E A JR NZ,ICE7A ;ja
194 9128 3A E865 A LD A,(DCF6E) ;expl. LW
195 912B B7 A OR A ;angegeben?
196 912C CA 91DC A JP Z,ENDKB ;nein
```



```
200      A;;wechseln aktuelles Laufwerk
201 912F 3D      A      DEC      A
202 9130 32 E85B A      LD      (DEFDV),A      ;sonst neue Default-Disk
203 9133 C3 91DC A      JP      ENDKKB      ;Kommandoende
204      A;
205 9136 CD 951E AICE7A:      CALL      LODCOM
206 9139 18 49   A      JR      COMLG0
207      A; =====
208      A; Kopieren der Programmteile ROM --> RAM
209 913B 21 9929 ACCOPY:      LD      HL,CRAM0      ;ROM
210 913E 11 E6EC A      LD      DE,CRAM2      ;RAM
211 9141 01 00C4 A      LD      BC,LDIR0-CRAM0;CCP RAM Laenge (Warmstart = Kaltstart)
212 9144 ED B0    A      LDIR
213 9146 21 99ED A      LD      HL,LDIR0      ;ROM hinter STACK
214 9149 11 E7E0 A      LD      DE,LDIR2      ;RAM hinter STACK
215 914C 01 001C A      LD      BC,CCPE0-LDIR0;Laenge
216 914F ED B0    A      LDIR
217 9151 C9      A      RET
218      A;
219      A;;Residentes Kommando ausfuehren
220      A; =====
221      A; bei Aufruf:
222      A; CY=1...Kommando im ROM, DE=Startadresse
223      A; CY=0...Kommando im RAM, Verschieben und Starten auf 100H
224      A;
225 9152 30 0D   AICE86:      JR      NC,URESI      ;EXT-Kommando
226      A;;echtes residentes Kommando im ROM ausfuehren
227 9154 7B      A      LD      A,E      ;Sonderfall
228 9155 B2      A      OR      D
229 9156 28 2C   A      JR      Z,COMLG0      ;Startadresse =0 --> 'GO'-Kommando
230      A;
231 9158 D5      A      PUSH     DE      ;Startadresse
232 9159 CD 9354 A      CALL     CCPDEF
233 915C 21 91DC A      LD      HL,ENDKKB      ;Rueckkehradresse nach Kommandoausfuehrung
234 915F E3      A      EX      (SP),HL      ;in Stack und Startadresse holen
235 9160 E9      A      JP      (HL)      ;und anspringen
236      A; -----
237      A;;mit EXT resident gemachtes Kommando verschieben und auf 100H starten
238 9161 2A E861 AURES1:      LD      HL,(DCF98)      ;vorhergehende Routinenadresse
239 9164 B7      A      OR      A      ;fuer Laengenberechnung
240 9165 ED 52   A      SBC     HL,DE      ;Differenz als Laenge
241 9167 28 1B   A      JR      Z,COMLG0      ;Laenge =0, kein LDIR!
242 9169 E5      A      PUSH     HL
243 916A 01 0100 A      LD      BC,TPA
244 916D C5      A      PUSH     BC
245 916E 09      A      ADD     HL,BC      ;Ende nach LDIR
246 916F ED 4B 0006 A      LD      BC,(BDOSAD)
247 9173 B7      A      OR      A
248 9174 ED 42   A      SBC     HL,BC      ;Ende nach Pseudo-BDOS?
249 9176 E1      A      POP     HL
250 9177 C1      A      POP     BC
251 9178 38 06   A      JR      C,LDLDIR      ;nein
252 917A CD 9324 A      CALL     NOSPC      ;No Space
253 917D C3 91DC A      JP      ENDKKB      ;Komm.ende
254 9180 EB      ALDLDIR:      EX      DE,HL
255 9181 CD 9636 A      CALL     LDIRU      ;File-laden simulieren (LDIR)
```

```
257      A;
258      A;; Kommando-Parameter aufbereiten (Programm steht auf 100H)
259      A; =====
260      A;
261 9184 CD 9409 ACOMLG0: CALL FNHOL ;1. Filename nach Programmname
262 9187 3A E865 A LD A,(DCF6E) ;expl. LW
263 918A 32 005C A LD (CFCBD),A
264      A;
265 918D 21 006C A LD HL,CFCB0 ;2. Filename nach Programmname
266 9190 CD 940C A CALL IC9E0 ;auf FCB + 10H
267 9193 3A E865 A LD A,(DCF6E) ;expl. LW
268 9196 32 006C A LD (CFCB0),A
269      A;
270 9199 AF A XOR A
271 919A 32 007C A LD (CFCBCR),A ;Record :=0
272      A;
273      A; Kommandopuffer --> DMA-Puffer
274 919D 2A E863 A LD HL,(PARBEG) ;Stringlaenge (anfangs = 0)
275      A ; Zeiger Param.beg. in Komm.puff.
276 91A0 06 00 A LD B,0 ;Stringlaengenzaehler
277 91A2 11 0081 A LD DE,DEFDMA+1
278      A;
279 91A5 7E AICEE7: LD A,(HL) ;Parameter hinterlegen
280 91A6 12 A LD (DE),A
281 91A7 B7 A OR A
282 91A8 28 05 A JR Z,ICEF1 ;00-Byte (Stringende)
283 91AA 04 A INC B ;Bytezaehler
284 91AB 23 A INC HL ;Quelle (CCP-Kommandopuffer)
285 91AC 13 A INC DE ;Ziel (DMA-Puffer 80H)
286 91AD 18 F6 A JR ICEE7
287      A;
288 91AF 78 AICEF1: LD A,B
289 91B0 32 0080 A LD (DEFDMA),A ;Stringlaenge hinterlegen
290 91B3 22 E854 A LD (COMPP2),HL ;Entschl.zeiger an Paramende
291 91B6 CD 92CD A CALL NEWLN ;CR, LF
292 91B9 CD 9354 A CALL CCPDEF ;einstellen default-Werte
293      A;
294 91BC 31 E7E0 A LD SP,CST2 ;CCP-STACK
295      A;
296 91BF 21 9594 A LD HL,ANW
297 91C2 11 E6EC A LD DE,COMBF2
298 91C5 01 009A A LD BC,ANWE-ANW
299 91C8 ED B0 A LDIR
300      A;
301 91CA C3 9646 A JP CTPA ;Programm ausfuehren (CALL 100H im RAM)
302      A; Rueckkehr erfolgt nicht ueber RET, sondern ueber RET2 im RAM direkt zu RETPA
303      A; (erforderlich, weil XSUB Warmstart in RETURN umwandelt, aber Stack nicht
regeneriert)
304 91CD 31 E7E0 ARETPA: LD SP,CST2 ;CCP-STACK
305 91D0 CD 913B A CALL CCOPY ;RAM regenerieren
306 91D3 CD 9217 A CALL TTEST ;Test, ob Treiber nachgeladen und resident machen
307 91D6 CD 9354 A CALL CCPDEF
308 91D9 C3 90D1 A JP ICBA2 ;naechstes Kommando
309      A;
```

```
311      A;;Ende der Kommandobehandlung
312      A; =====
313 91DC 31 E7E0 AENDKB: LD SP,CST2 ; Ende der Kommando-Behandlung
314 91DF CD 9354 A CALL CCPDEF ; default-Werte wiederherst.
315      A;
316      A;; Test, ob Kommandorest leer
317      A; =====
318      A
319 91E2 CD 9409 A CALL FNHOL ;holen naechsten Filenamen
320 91E5 3A 005D A LD A,(CFCBF) ;1. Zeichen filename
321 91E8 D6 20 A SUB ' '
322 91EA E5 A PUSH HL
323 91EB 21 E865 A LD HL,DCF6E ; (DCF6E) = explizit gefordertes LW (anfangs = 0)
324 91EE B6 A OR (HL) ;weder filename noch expl. LW?
325 91EF E1 A POP HL
326 91F0 CA 90D1 A JP Z,ICBA2 ;ja, naechstes Kommando
327      A
328      A; Parameterrest als Fehler protokollieren
329      A
330 91F3 CD 9354 AICF1B: CALL CCPDEF ;evtl fuer putch notw.
331 91F6 CD 92CD A CALL NEWLN ;CR, LF
332 91F9 2A E856 A LD HL,(DCF71) ; anfangs = COMBT2
333      A ; Zeiger auf Parameterbeginn
334 91FC 7E AICF21: LD A,(HL)
335 91FD FE 20 A CP ' ' ;Leerz.?
336 91FF 28 0B A JR Z,ICF31 ;ja, Param.ende
337 9201 B7 A OR A ;Komm.ende?
338 9202 28 08 A JR Z,ICF31 ;ja
339 9204 E5 A PUSH HL
340 9205 CD 92D4 A CALL PUTCH ;ungueltigen Rest protok.
341 9208 E1 A POP HL
342 9209 23 A INC HL
343 920A 18 F0 A JR ICF21
344      A;
345 920C 3E 3F AICF31: LD A,'?' ;'?' als Fehlermeldung
346 920E CD 92D4 A CALL PUTCH
347 9211 CD 9343 ASUBMBR: CALL IC8AF ;$$$SUB streichen
348 9214 C3 90D1 A JP ICBA2 ;naechstes Kommando
349      A;
```

```
351      A;
352      A;;Test der Variablen BDOSAD, LADINI, TREND, EXTZ, CBDOS
353      A; auf zulaessige Kombination, wenn OK Treiber fest in System einbinden
354      A; -----
355      A;BDOSAD:   Sprungbefehl auf Adresse 5
356      A;LADINI:   Adresse, die im aktuellen Vorspann steht, auf (BDOSAD)+10H
357      A;TREND:   CCP-intern: Treiberende, unterhalb dieser Adresse kann das erste
358      A;          EXT-Kommando abgelegt werden
359      A;EXTZ:   CCP-intern: EXT-Zeiger, unterhalb dieser Adresse kann das naechste
360      A;          EXT-Kommando abgelegt werden
361      A;CBDOS:   CCP-intern: die Adresse, die auf CBDOS abgelegt ist, wird beim
Warmstart
362      A;          zur Regenerierung von BDOSAD benutzt
363      A; -----
364 9217 2A E858  ATTEST:   LD      HL,(EXTZ)
365 921A ED 5B E815 A      LD      DE,(TREND)
366 921E AF          A      XOR      A
367 921F ED 52      A      SBC      HL,DE          ;EXTZ-TREND
368 9221 C0          A      RET      NZ          ;EXT aktiv: Treiber laden verboten !!
369      A; EXTZ=TREND --> kein EXT-Kommando nachgeladen
370 9222 2A 0006  A      LD      HL,(BDOSAD)
371 9225 01 0010  A      LD      BC,LADINI
372 9228 E5          A      PUSH   HL
373 9229 09          A      ADD      HL,BC
374 922A CD 962E  A      CALL   CBCHL          ;LADINI aus dem aktuellem Vorspann im RAM !! holen
375 922D E1          A      POP      HL
376 922E AF          A      XOR      A
377 922F ED 42      A      SBC      HL,BC          ;BDOSAD-LADINI
378 9231 C0          A      RET      NZ          ;undefinierter Zustand von LADINI oder kein
379      A;          ;gueltiger Vorspann vorhanden (tritt auf bei
380      A;          ;zeitweise residenten Programmen z.B. DU, XSUB)
381      A; EXTZ=TREND und BDOSAD=LADINI --> Originalzustand oder Treiber nachgeladen
382 9232 EB          A      EX      DE,HL          ;HL=TREND
383 9233 AF          A      XOR      A
384 9234 ED 42      A      SBC      HL,BC          ;TREND-BDOSAD
385 9236 D8          A      RET      C          ;BDOSAD>TREND undefinierter Zustand
386 9237 C8          A      RET      Z          ;BDOSAD=LADINI=TREND=EXTZ Originalzustand
387      A; EXTZ=TREND und BDOSAD=LADINI und BDOSAD<TREND --> Treiber nachgeladen
388      A; Treiber resident machen, loeschen nur durch Kaltstart moeglich
389 9238 2A 0006  A      LD      HL,(BDOSAD) ;aktuelle BDOS-Adresse wurde vom Treiber veraendert
390 923B 22 E868  A      LD      (CBDOS),HL ;Regenerierung von BDOSAD bei Warmstart
391 923E 22 E815  A      LD      (TREND),HL ;Treiber
392 9241 22 E858  A      LD      (EXTZ),HL   ;1. Adresse fuer EXT-Kommandos
393 9244 C9          A      RET
394      A; -----
395      A;
```

```

397      A;
398      A;; Bereitstellen naechstes Kommando
399      A; =====
400      A
401 9245 3A E866 AIC92D:   LD      A,(DCF70)      ;$$$SUB aktiv? (anfangs = 0)
402      A                                ;wenn >0, so $$$SUB-LW +1
403 9248 B7      A      OR      A
404 9249 28 49   A      JR      Z,IC983      ;nein, Kommando von Tastatur holen
405      A; Kommando von Datei $$$SUB holen
406 924B CD 93DB A      CALL   IC8FB        ;Tastendruck?
407 924E 20 C1   A      JR      NZ,SUBMBR     ;ja, $$$SUB abberechen
408      A;
409 9250 3A E866 A      LD      A,(DCF70)
410 9253 3D      A      DEC      A
411 9254 CD 938A A      CALL   IC8C3        ;$$$SUB-LW auswaehlen
412      A;
413 9257 11 E76D ABNK1:   LD      DE,SFD2      ;FCB-Adresse
414 925A CD 939A A      CALL   IC8CF        ;Open $$$SUB
415      A;
416 925D 20 0C   A      JR      NZ,BNK2        ;gefunden
417 925F 3A E85C A      LD      A,(SELUAK)     ;schon USER 0 probiert
418 9262 B7      A      OR      A
419 9263 28 2F   A      JR      Z,IC983      ;ja, nicht da
420      A;
421 9265 AF      A      XOR      A            ;USER 0 auswaehlen
422 9266 CD 9377 A      CALL   SETUS
423 9269 18 EC   A      JR      BNK1
424      A;
425 926B 3A E77C ABNK2:   LD      A,(SFRC2)      ;Anzahl der Records im (letzten) Extent
426 926E 3D      A      DEC      A            ;-1
427 926F 32 E78D A      LD      (SFRC2),A      ;als aktuellen Record (falls Datei leer FF)
428      A;
429 9272 11 E6ED A      LD      DE,COMBL2     ;Record auf Eingabepuffer
430 9275 CD 9372 A      CALL   SETDMA        ;Set DMA
431      A;
432 9278 11 E76D A      LD      DE,SFD2
433 927B CD 93C6 A      CALL   IC8F0        ;read (leere Datei fuehrt zu read-Fehler)
434 927E 20 14   A      JR      NZ,IC983      ;read-Fehler
435      A;
436 9280 21 E77B A      LD      HL,SFS22
437 9283 36 00   A      LD      (HL),0        ;Schreibzugriff simulieren
438      A;
439 9285 23      A      INC      HL
440 9286 35      A      DEC      (HL)        ;Recordzahl im Extent -1
441      A;
442 9287 11 E76D A      LD      DE,SFD2
443 928A CD 93A4 A      CALL   IC8D9        ;Close
444 928D 28 05   A      JR      Z,IC983      ;Fehler
445      A;
446 928F CD 9354 A      CALL   CCPDEF        ;wiederherst. default-Werte
447 9292 18 1C   A      JR      IC994

```

```
449      A
450      A;; Holen naechstes Kommando von Konsole
451      A; =====
452      A
453 9294 CD 9343 AIC983:   CALL  IC8AF           ;$$$SUB streichen
454 9297 CD 9354 A   CALL  CCPDEF
455      A
456      A; Im folgenden wird das BDOS erst dann durch "Lesen String" belegt, wenn
457      A; das erste Zeichen des Kommandos anliegt. Dadurch kann das BDOS bis zur
458      A; Kommandoeingabe von Hintergrund-Programmen benutzt werden.
459      A;
460      A; die Warteschleife wird durch den RAM gefuehrt, damit Eingriffe
461      A; vom LAN moeglich werden
462      A;
463 929A CD 93D4 AKOMMWZ:  CALL  KPRESS           ;Taste gedrueckt?
464 929D CD E7FF A   CALL  CK22           ;RET (PATCH)
465 92A0 28 F8  A   JR    Z,KOMMWZ         ;nein, BDOS nicht blockieren
466 92A2 CD 9354 A   CALL  CCPDEF
467      A;
468 92A5 11 E6EC A   LD    DE,COMBF2
469 92A8 3E 7F  A   LD    A,127           ;max. Pufferlaenge
470 92AA 12      A   LD    (DE),A
471 92AB 0E 0A  A   LD    C,10           ;holen String
472 92AD CD 9665 A   CALL  BDOSJP
473      A;
474 92B0 21 E6ED AIC994:   LD    HL,COMBL2
475 92B3 46      A   LD    B,(HL)
476 92B4 04      A   INC   B           ;Stringlaenge
477 92B5 23      AIC999:   INC   HL
478 92B6 10 02  A   DJNZ  IC9A3         ;Umwandlung in Grossbuchst.
479 92B8 70      A   LD    (HL),B       ;am Ende 00h
480 92B9 C9      A   RET
481      A
482      A; falls SUBMIT-Strom laeuft, Kommando protokollieren
483      A
484 92BA 3A E866 AIC9A3:   LD    A,(DCF70)       ;Submit aktiv?
485 92BD B7      A   OR    A
486 92BE 28 06  A   JR    Z,NSUBPR         ;nein
487      A;
488 92C0 7E      A   LD    A,(HL)
489 92C1 E5      A   PUSH  HL
490 92C2 CD 92D4 A   CALL  PUTCH
491 92C5 E1      A   POP   HL
492 92C6 7E      ANSUBPR:  LD    A,(HL)         ;in Grossbuchstaben
493 92C7 CD 93F2 A   CALL  IC924         ;umwandeln
494 92CA 77      A   LD    (HL),A
495 92CB 18 E8  A   JR    IC999
496      A; -----
```

```

498          A;
499          A;; CR,LF
500          A; =====
501          A
502 92CD 3E 0D ANEWLN:      LD      A,0DH
503 92CF CD 92D4 A      CALL  PUTCH
504 92D2 3E 0A A      LD      A,0AH
505          A
506          A;; Zeichen in A ausgeben
507          A; =====
508          A
509 92D4 C5 APUTCH:      PUSH   BC
510 92D5 5F A      LD      E,A
511 92D6 0E 02 A      LD      C,02H
512 92D8 CD 9665 A      CALL  BDOSJP
513 92DB C1 A      POP     BC
514 92DC C9 A      RET
515          A
516          A
517          A;; Meldungen des CCP
518          A; =====
519          A
520 92DD 52 65 61 64 ADCBDA:  DEFM   'Read Error'
521          A      DFB   07H, 24H      ; 24H = '$'
522          1 92E7 07 B      DEFB   07H
523          1 92E8 24 C      DEFB   24H
524 92E9 4E 6F 20 46 ADCBE5:  DEFM   'No File$'
525 92F1 41 4C 4C 20 ADCC93:  DEFM   'ALL (Y/N)?$'
526 92FC 4E 6F 20 53 ADCD3B:  DEFM   'No Space'
527          A      DFB   07H, 24H      ; 24H = '$'
528          1 9304 07 B      DEFB   07H
529          1 9305 24 C      DEFB   24H
530 9306 46 69 6C 65 ADCDAE:  DEFM   'File exists'
531          A      DFB   07H, 24H      ; 24H = '$'
532          1 9311 07 B      DEFB   07H
533          1 9312 24 C      DEFB   24H
534 9313 2A 62 72 65 ABREAKT:  DEFM   '*break*'
535          A      DFB   07H, 24H      ; 24H = '$'
536          1 931A 07 B      DEFB   07H
537          1 931B 24 C      DEFB   24H
538 931C 43 4F 4D ADCF48:  DEFM   'COM'
539          A; -----
540 931F 01 92DD ARDERR:      LD      BC,DCBDA      ;Read Error
541 9322 18 0D A      JR      IC8AB
542          A
543 9324 01 92FC ANOSPC:      LD      BC,DCD3B      ;No Space
544 9327 18 08 A      JR      IC8AB
545          A
546 9329 01 9306 AFILEX:      LD      BC,DCDAE      ;File exists
547 932C 18 03 A      JR      IC8AB
548          A
549 932E 01 92E9 AIC8A8:      LD      BC,DCBE5      ;No File
550          A
551          A;; String ab (BC) ausgeben
552          A; =====
553          A
554 9331 CD 92CD AIC8AB:      CALL   NEWLN          ;CR,LF zuvor
555 9334 0A AIC8AD:      LD      A,(BC)

```

```
548 9335 FE 24      A    CP    '$'  
549 9337 28 06      A    JR    Z,IC88F  
550 9339 CD 92D4     A    CALL  PUTCH  
551 933C 03          A    INC   BC  
552 933D 18 F5      A    JR    IC8AD  
553 933F 3E 20      AIC88F: LD   A,' '  
554 9341 18 91      A    JR    PUTCH           ;ans Ende ein Leerzeichen
```



```
556 A
557 A;; $$$SUB streichen
558 A; =====
559 A
560 9343 21 E866 AIC8AF: LD HL,DCF70 ;$$$SUB aktiv?
561 9346 7E A LD A,(HL)
562 9347 B7 A OR A
563 9348 C8 A RET Z ;nein
564 9349 36 00 A LD (HL),0 ;sonst jetzt inaktiv
565 934B 3D A DEC A
566 934C CD 938A A CALL IC8C3 ;Select Disk mit $$$SUB
567 934F 11 E76D A LD DE,SFD2 ;Delete $$$SUB
568 9352 18 62 A JR IC8E8
569 A
570 A;; Einstellen default-Werte: drive, user, dma
571 A; =====
572 A;
573 9354 CD E802 ACCPDEF: CALL CK32 ;RET (PATCH-BDOS Zugriffe erlaubt)
574 9357 3A E85A A LD A,(DEFUS) ;default user (anfangs = 0)
575 935A F5 A PUSH AF
576 935B 87 A ADD A,A
577 935C 87 A ADD A,A
578 935D 87 A ADD A,A
579 935E 87 A ADD A,A
580 935F 21 E85B A LD HL,DEFDV ; default drive
581 9362 B6 A OR (HL) ; user/default
582 9363 32 0004 A LD (DEFAULT),A ;setzen default-Byte
583 9366 E6 0F A AND 0FH
584 9368 CD 938A A CALL IC8C3 ;default drive
585 936B F1 A POP AF ;default user
586 936C CD 9377 A CALL SETUS
587 936F 11 0080 A LD DE,DEFDMA ;default dma
588 A
589 A;; Set DMA
590 A; =====
591 A
592 9372 0E 1A ASETDMA: LD C,1AH
593 9374 C3 9665 A JP BDOSJP
594 A
595 A;; Set User Code
596 A; =====
597 A
598 9377 32 E85C ASETUS: LD (SELUAK),A ;merken ausgewaehlten User
599 937A 5F A LD E,A
600 937B 0E 20 A LD C,20H
601 937D C3 9665 A JP BDOSJP
602 A
603 A;; Laufwerk fuer Dateiarbeit auswaehlen
604 A; =====
605 A
606 9380 AF AICB26: XOR A
607 9381 32 005C A LD (CFCBD),A ;Standard-Laufwerk in FCB
608 9384 3A E865 A LD A,(DCF6E) ;expl. LW?
609 9387 B7 A OR A
610 9388 C8 A RET Z ;ja, default annehmen
611 9389 3D A DEC A
612 A
613 A; Select Disk (A)
```

```
614 A
615 938A 32 E85E AIC8C3: LD (SELDAK),A ;merken aktuelle selekt. LW
616 938D 5F A LD E,A
617 938E 0E 0E A LD C,0EH
618 9390 C3 9665 A JP BDOSJP
619 A
620 A;; Open Standard-FCB
621 A; =====
622 A
623 9393 AF AIC8C8: XOR A
624 9394 32 007C A LD (CFCBCR),A ;Record :=0
625 9397 11 005C A LD DE,CFCBD
626 A
627 A; Open
628 A
629 939A 0E 0F AIC8CF: LD C,0FH
630 A
631 A;; BDOS-Aufruf
632 A; =====
633 A
634 939C CD 9665 ABDOSRF: CALL BDOSJP
635 939F 3C A INC A ;RET Z bei A=FF
636 93A0 C9 A RET
637 A
638 A;; Close
639 A; =====
640 A
641 93A1 11 005C ACLOSEF: LD DE,CFCBD
642 93A4 0E 10 AIC8D9: LD C,10H
643 93A6 18 F4 A JR BDOSRF
644 A
645 A;; Search for first
646 A; =====
647 A
648 93A8 11 005C AIC8DD: LD DE,CFCBD
649 93AB 0E 11 A LD C,11H
650 93AD 18 ED A JR BDOSRF
651 A
652 A;; Search for next
653 A; =====
654 A
655 93AF 0E 12 AIC8E4: LD C,12H
656 93B1 18 E9 A JR BDOSRF
657 A
658 A;; Delete File
659 A; =====
660 A
661 93B3 11 005C ADELETF: LD DE,CFCBD
662 93B6 0E 13 AIC8E8: LD C,13H
663 93B8 C3 9665 A JP BDOSJP
664 A
665 A;; Rename File
666 A; =====
667 A
668 93BB 11 005C ARENAMF: LD DE,CFCBD
669 93BE 0E 17 A LD C,17H
670 93C0 C3 9665 A JP BDOSJP
671 A
```

```

672          A;; Read sequentiell
673          A; =====
674          A
675 93C3 11 005C AIC8ED:      LD      DE,CFCBD
676 93C6 0E 14   AIC8F0:      LD      C,14H
677 93C8 CD 9665 AIC8F2:      CALL   BDOSJP      ;BDOS-Ruf mit RAM-Einschaltung
678 93CB B7       A      OR      A
679 93CC C9       A      RET
680          A
681          A;; Write sequentiell
682          A; =====
683          A
684 93CD 11 005C AIC8F7:      LD      DE,CFCBD
685 93D0 0E 15   A      LD      C,15H
686 93D2 18 F4   A      JR      IC8F2
687          A
688          A;; Tasten-Test (wenn Taste gedrueckt RET NZ)
689          A; =====
690          A
691 93D4 0E 0B   AKPRESS:     LD      C,0BH
692 93D6 CD 9665 A      CALL   BDOSJP
693 93D9 B7       A      OR      A
694 93DA C9       A      RET
695          A
696          A;; Tasten-Test (wenn ja '*break*' und RET NZ)
697          A; =====
698          A
699 93DB CD 93D4 AIC8FB:      CALL   KPRESS      ;Taste?
700 93DE C8       A      RET      Z      ;nein
701 93DF 01 9313 A      LD      BC,BREAKT
702 93E2 CD 9331 A      CALL   IC8AB
703 93E5 AF       A      XOR      A
704 93E6 3C       A      INC      A      ;ret nz
705 93E7 C9       A      RET

```

```
707          A
708          A;; Make File
709          A; =====
710          A
711 93E8 CD 93B3 AMAKEF:      CALL  DELETF
712 93EB 11 005C A      LD      DE,CFCBD
713 93EE 0E 16   A      LD      C,16H
714 93F0 18 AA   A      JR      BDOSRF
715          A
716          A;; Upper Case
717          A; =====
718          A
719 93F2 FE 61   AIC924:      CP      'a'
720 93F4 D8      A      RET      C
721 93F5 FE 7B   A      CP      'z'+1
722 93F7 D0      A      RET      NC
723 93F8 E6 5F   A      AND     5FH
724 93FA C9      A      RET
725          A
726          A
727          A;; Suchen naechsten Parameterbeginn
728          A; =====
729          A
730 93FB ED 5B E854 ANXTPAR:      LD      DE,(COMPP2) ;Entschl. Zeiger
731 93FF CD 94C4   A      CALL   IC9D4      ;naechstes Zeichen <> ' '
732 9402 ED 53 E856 A      LD      (DCF71),DE ;Parameterbeginn fuer Fehlermeldg
733 9406 1A      A      LD      A,(DE)
734 9407 B7      A      OR      A          ;Zeichen da?
735 9408 C9      A      RET          ;RET Z: kein Parameter mehr da
736          A
737          A
738          A;; Filenamen aufbereiten
739          A; =====
740          A; Uebertragung von 1 Dateibezeichnung aus Kommandopuffer ab akt. Position
741          A; in FCB ab 5CH, dabei '*' in entsprechende Anzahl '?' umwandeln
742          A; Kleinbuchstaben in Grossbuchstaben, Auffuellen mit Leerzeichen
743          A; EX, S1, S2 mit 00 belegen
744          A; Anzahl der '?' in A und B zurueckgeben / RET Z, wenn keine '?'
745          A;
746 9409 21 005C AFNHOL:      LD      HL,CFCBD
747          A; Auswerten Laufwerksangabe
748 940C E5      AIC9E0:      PUSH   HL
749 940D CD 93FB A      CALL   NXTPAR      ;uebergehen Leerzeichen
750 9410 28 0C   A      JR      Z,IC9FE   ;kein Parameter vorhanden
751          A;
752 9412 D6 40   A      SUB     40H
753 9414 38 08   A      JR      C,IC9FE   ;keine Buchstabe
754          A;
755 9416 47      A      LD      B,A          ;expl. LW (+1)
756 9417 13      A      INC     DE
757 9418 1A      A      LD      A,(DE)
758 9419 FE 3A   A      CP      ':'          ;LW-Bezeichner?
759 941B 28 0A   A      JR      Z,ICA03   ;ja, expl. LW im Filenamen
760 941D 1B      A      DEC     DE
761 941E AF      AIC9FE:      XOR     A
762 941F 32 E865 A      LD      (DCF6E),A   ;Anzeigen kein expl. LW
763 9422 3A E85B A      LD      A,(DEFDV)   ;default-LW verwenden
764 9425 18 05   A      JR      ICA08
```

```
765 9427 78          AICA03:   LD      A,B
766 9428 32 E865      A      LD      (DCF6E),A      ;expl. LW setzen
767 942B 13          A      INC      DE
768 942C 77          AICA08:   LD      (HL),A      ;LW in FCB setzen
769 942D 06 08      A      LD      B,8      ;max. Laenge Filename
770 942F CD 9459      A      CALL     ICA35
771 9432 1A          A      LD      A,(DE)
772 9433 FE 2E      A      CP      '.'
773 9435 20 1D      A      JR      NZ,ICA30
774 9437 13          A      INC      DE
775 9438 CD 9459      A      CALL     ICA35
776 943B AF          AICA17:   XOR     A
777 943C CD 9475      A      CALL     ICA51      ;FCB-Rest mit 00 loeschen
778 943F EB          A      EX      DE,HL
779 9440 22 E854      A      LD      (COMPP2),HL      ;Entschl.zeiger weiter
780 9443 E1          A      POP     HL
781 9444 01 000B      A      LD      BC,11      ;Kontrolle Filename
782 9447 23          AICA23:   INC     HL
783 9448 7E          A      LD      A,(HL)
784 9449 FE 3F      A      CP      '?'
785 944B 20 01      A      JR      NZ,ICA2A
786 944D 04          A      INC     B
787 944E 0D          AICA2A:   DEC     C
788 944F 20 F6      A      JR      NZ,ICA23
789 9451 78          A      LD      A,B
790 9452 B7          A      OR      A      ;RET Z, wenn kein '*'/''
791 9453 C9          A      RET
792
793 9454 CD 9473      AICA30:   CALL     ICA4F
794 9457 18 E2      A      JR      ICA17
795
796 9459 CD 94A7      AICA35:   CALL     IC9B6      ;(DE) Parameter-Begrenzer?
797 945C 28 15      A      JR      Z,ICA4F      ;ja
798 945E 23          A      INC     HL
799 945F FE 2A      A      CP      '*'
800 9461 20 04      A      JR      NZ,ICA43
801 9463 36 3F      A      LD      (HL),'?'
802 9465 18 02      A      JR      ICA45
803
804 9467 77          AICA43:   LD      (HL),A
805 9468 13          A      INC     DE
806 9469 10 EE      AICA45:   DJNZ    ICA35
807 946B CD 94A7      AICA47:   CALL     IC9B6
808 946E 28 09      A      JR      Z,ICA55
809 9470 13          A      INC     DE
810 9471 18 F8      A      JR      ICA47
811
812 9473 3E 20      AICA4F:   LD      A,' '      ;Rest mit Leerzeichen
813 9475 23          AICA51:   INC     HL
814 9476 77          A      LD      (HL),A
815 9477 10 FC      A      DJNZ    ICA51
816 9479 06 03      AICA55:   LD      B,3      ;fuer Typ oder FCB-Rest
817 947B C9          A      RET
```

```

819      A
820      A
821      A;; Dez.zahl als Parameter konvertieren
822      A; =====
823      A
824 947C CD 93FB AICAE9:   CALL  NXTPAR      ;suchen Parameteranfang
825 947F CA 91F3 A      JP      Z,ICF1B      ;keiner mehr da, Parameterrest protokollieren
826 9482 0E 00 A      LD      C,0
827 9484 CD 94A7 AICAF8:   CALL  IC9B6      ;Begrenzer?
828 9487 28 17 A      JR      Z,ICB19      ;ja
829 9489 13      A      INC      DE
830 948A D6 30 A      SUB      '0'
831 948C FE 0A A      CP      9+1      ;'0'..'9'?
832 948E 30 0E A      JR      NC,ICB23      ;nein
833 9490 47      A      LD      B,A
834 9491 79      A      LD      A,C      ;bisheriger Wert
835 9492 FE 1A A      CP      1+(256/10)    ;zu gross?
836 9494 30 08 A      JR      NC,ICB23      ;ja
837 9496 87      A      ADD      A,A
838 9497 87      A      ADD      A,A
839 9498 81      A      ADD      A,C
840 9499 87      A      ADD      A,A      ;*10
841 949A 80      A      ADD      A,B      ;+neue Ziffer
842 949B 4F      A      LD      C,A
843 949C 30 E6 A      JR      NC,ICAF8      ;kein Ueberlauf
844 949E 37      AICB23:   SCF
845 949F C9      A      RET
846 94A0 ED 53 E854 AICB19:   LD      (COMPP2),DE    ;Param.ende merken
847 94A4 79      A      LD      A,C
848 94A5 B7      A      OR      A
849 94A6 C9      A      RET
850      A
851      A;; Test auf Begrenzer
852      A; =====
853      A
854 94A7 1A      AIC9B6:   LD      A,(DE)
855 94A8 E5      A      PUSH   HL
856 94A9 C5      A      PUSH   BC
857 94AA 21 94BB A      LD      HL,DELIMIT
858 94AD 01 0009 A      LD      BC,LDELMT
859 94B0 ED B1 A      CPIR      ;Begrenzer?
860 94B2 C1      A      POP    BC
861 94B3 E1      A      POP    HL
862 94B4 C8      A      RET    Z      ;ja
863 94B5 FE 20 A      CP      ' '      ;Steuerzeichen?
864 94B7 DA 91F3 A      JP      C,ICF1B      ;ja, Parameterfehler
865 94BA C9      A      RET
866 94BB 00      ADELIMIT: DEFB  0
867 94BC 20 3D 5F 2EA DEFM  ' =_.:;<>'
868      0009 ALDELMT EQU  $-DELIMIT

```

```

870          A
871          A;; Suchen Zeichen <> ' '
872          A; =====
873          A
874 94C4 1A   AIC9D4:      LD      A,(DE)
875 94C5 B7   A      OR      A
876 94C6 C8   A      RET     Z
877 94C7 FE 20 A      CP      ' '
878 94C9 C0   A      RET     NZ
879 94CA 13   A      INC     DE
880 94CB 18 F7 A      JR      IC9D4
881          A
882          A
883          A;; Reg A in BCD-Form; Zehner nach A, Einer nach C
884          A
885 94CD 01 FF0A ABCDKON:  LD      BC,0FF00H+10
886 94D0 04   ABCDK10: INC     B
887 94D1 91   A      SUB     C
888 94D2 30 FC A      JR      NC,BCDK10
889 94D4 81   A      ADD     A,C
890 94D5 4F   A      LD      C,A
891 94D6 78   A      LD      A,B
892 94D7 FE 0A A      CP      9+1          ;Zehner > 9?
893 94D9 C9   A      RET              ;wenn ja, RET NC

```

```

895          A;
896          A;;residentes Kommando im ROM und im RAM suchen
897          A; =====
898          A;
899          A; CY = 1, Z = 0 Kommando im ROM gefunden
900          A; RET C, RET NZ DE Startadresse im ROM
901          A;
902          A; CY = 0, Z = 0 Kommando im RAM gefunden
903          A; RET NC, RET NZ DE Anfangsadresse, BC Endadresse der Kopie
904          A;                               verschieben und starten auf 100H im RAM
905          A; CY = 1, Z = 1 Kommando nicht gefunden
906          A; RET C, RET Z DE Tabellenende
907          A; =====
908 94DA 21 005D ARSUCH: LD HL,CFCBF ;Filename im FCB
909 94DD 11 993B A LD DE,RESCI ;interne Kommandotabelle im ROM
910 94E0 06 08 A LD B,LRESO ;Filenamenlaenge im ROM
911 94E2 CD 94F0 A CALL RSUP ;in ROM-Tabelle suchen
912 94E5 C0 A RET NZ ;CY=1 Z=0 intern gefunden --> DE=Startadr.
913          A;
914 94E6 11 E817 A LD DE,RESC2 ;externe Kommandotabelle im RAM
915 94E9 06 08 A LD B,LRESC ;Filenamenlaenge im RAM
916 94EB CD 94F0 A CALL RSUP ;in RAM-Tabelle suchen
917 94EE 3F A CCF ;CY=0 Z=0 extern gefunden --> auf 100H laden
918 94EF C9 A RET
919          A; -----

```



```
921          A;
922          A; Unterprogramm: residentes Kommando in Tabelle suchen
923          A; HL=Filename im FCB, DE=Tabellenanfangsadresse, B=Laenge der Kommandonamen
924          A; CY=0, Z=1 nicht gefunden, CY=1, Z=0 gefunden
925 94F0 E5   ARSUP:   PUSH   HL
926 94F1 C5   A   PUSH   BC
927 94F2 1A   ARSUP1:  LD     A,(DE)      ;naechstes Zeichen
928 94F3 B7   A   OR    A           ;Tabellenende?
929 94F4 28 25 A   JR    Z,RSUP4     ;ja --> nicht gefunden
930 94F6 BE   A   CP    (HL)       ;gleich?
931 94F7 20 19 A   JR    NZ,RSUP3    ;nein
932 94F9 13   A   INC   DE         ;sonst uebergehen
933 94FA 23   A   INC   HL
934 94FB 10 F5 A   DJNZ  RSUP1      ;naechstes Zeichen vergleichen
935          A; -----
936 94FD EB   A   EX    DE,HL      ;gefunden
937 94FE 5E   A   LD    E,(HL)     ;DE:=Kommandoadr.
938 94FF 23   A   INC   HL
939 9500 56   A   LD    D,(HL)
940          A;
941 9501 C1   A   POP   BC
942 9502 04   A   INC   B
943 9503 04   A   INC   B
944 9504 2B   ARSUP2:  DEC    HL          ;Kommandolaenge und
945 9505 10 FD A   DJNZ  RSUP2      ;2 Byte Adresse zurueckzaehlen
946 9507 05   A   DEC   B          ;B=FF, Z=0
947          A;
948 9508 46   A   LD    B,(HL)     ;BC:=Kommandoadr. davor
949 9509 2B   A   DEC   HL
950 950A 4E   A   LD    C,(HL)
951 950B ED 43 E861 A   LD    (DCF98),BC ;merken
952 950F E1   A   POP   HL
953 9510 37   A   SCF
954 9511 C9   A   RET
955          A; -----
956 9512 13   ARSUP3:  INC    DE
957 9513 10 FD A   DJNZ  RSUP3
958 9515 13   A   INC   DE
959 9516 13   A   INC   DE
960 9517 C1   A   POP   BC
961 9518 E1   A   POP   HL
962 9519 18 D5 A   JR    RSUP
963          A; -----
964 951B C1   ARSUP4:  POP    BC
965 951C E1   A   POP   HL
966 951D C9   A   RET
966          ;nicht gefunden
```

```
968 A
969 A; File laden
970 A; =====
971 A
972 951E 11 0065 ALODCOM: LD DE,CFCBT ;Typ
973 9521 1A A LD A,(DE)
974 9522 FE 20 A CP ' ' ;explizit?
975 9524 20 0B A JR NZ,LODTDA ;ja
976 A;
977 9526 21 931C A LD HL,DCF48 ;sonst COM-Endung
978 9529 11 0065 A LD DE,CFCBT ;Typ eintragen
979 952C 01 0003 A LD BC,3
980 952F ED B0 A LDIR
981 A;
982 9531 21 0000 ALODTDA: LD HL,0
983 9534 22 E85F A LD (LFILE),HL ;Filelaenge:=0
984 A;
985 9537 CD 9380 A CALL ICB26 ;LW auswaehlen
986 A;
987 953A CD 9393 ALODFRN: CALL IC8C8 ;Open
988 953D 20 1B A JR NZ,LODFFN ;gefunden
989 A;
990 953F 3A E85C A LD A,(SELUAK) ;schon User 0 probiert?
991 9542 B7 A OR A
992 9543 28 06 A JR Z,LODNFU ;ja
993 A;
994 9545 AF A XOR A
995 9546 CD 9377 A CALL SETUS ;set user 0
996 9549 18 EF A JR LODFRN
997 A;
998 954B 21 E85E ALODNFU: LD HL,SELDAK ; (SELDAK) anfangs = 0
999 954E 3A E85D A LD A,(SYSDVC) ; anfangs = 0
1000 9551 BE A CP (HL) ;schon System-Diskette probiert?
1001 9552 CA 91F3 A JP Z,ICF1B ;ja, nicht da
1002 A;
1003 9555 CD 938A A CALL IC8C3 ;sonst selektieren
1004 9558 18 E0 A JR LODFRN
1005 A;
1006 955A 11 0100 ALODFFN: LD DE,TPA
1007 955D D5 AICAA3: PUSH DE
1008 955E CD 9372 A CALL SETDMA ;Set DMA
1009 9561 CD 93C3 A CALL IC8ED ;Read
1010 9564 E1 A POP HL
1011 9565 20 28 A JR NZ,ICAE2 ;EOF oder Fehler
1012 A;
1013 9567 11 0080 A LD DE,0080H
1014 956A E5 A PUSH HL
1015 956B 2A E85F A LD HL,(LFILE) ;Laenge +80h
1016 956E 19 A ADD HL,DE
1017 956F 22 E85F A LD (LFILE),HL
1018 9572 E1 A POP HL
1019 A;
1020 9573 19 A ADD HL,DE ;Ladeadr. weiter
1021 A;
1022 9574 ED 4B E858 A LD BC,(EXTZ) ;Fuellungsstand EXT
1023 9578 E5 A PUSH HL
1024 9579 2A E815 A LD HL,(TREND)
1025 957C B7 A OR A
```

```
1026 957D ED 42      A   SBC   HL,BC
1027 957F E1         A   POP   HL
1028                A;
1029 9580 28 01      A   JR    Z,ICAC9      ;nein
1030 9582 05         A   DEC   B           ;sonst Seite davor
1031 9583 54         AICAC9: LD    D,H
1032 9584 5D         A   LD    E,L
1033 9585 ED 42      A   SBC   HL,BC      ;noch Platz?
1034 9587 38 D4      A   JR    C,ICAA3     ;ja
1035 9589 CD 9324    A   CALL  NOSPC      ;nein, No Space
1036 958C C3 91DC    A   JP    ENDKB      ;Kommandoende
1037                A;
1038 958F 3D         AICAE2: DEC   A           ;EOF?
1039 9590 C4 931F    A   CALL  NZ,RDERR    ;nein, Read Error
1040 9593 C9         A   RET
1041                A;
```

```

1043      A; der folgende Speicherbereich wird fuer spezielle Dienstprogramme benoetigt
1044      A; z.B. zur Installation der residenten Treiber und zum Aufruf von Unterprogrammen
im ROM
1045      A; -----
1046 9594 18 32  AANW: JR      ANCA      ;Unterprogrammruf DEFW, DEFB
1047 9596 18 68  A      JR      ANRD      ;Byte lesen B=Slot, HL=Adresse, A=Byte, DE bleibt
1048 9598 18 72  A      JR      ANWR      ;Byte schreiben (")
1049 959A 9600  A      DEFW   ANRD      ;ROM-Marken
1050 959C 960C  A      DEFW   ANWR
1051 959E E7F9  A      DEFW   JPHL2     ;OUT (PPIA),A JP (HL)
1052 95A0 8C1D  A      DEFW   TASTMO    ;Tastaturtreiber (physisch)
1053 95A2 0000# A      DEFW   OUTASC    ;Zeichen aus A zum Bildschirm (physisch)
1054 95A4 9025  A      DEFW   CON       ;Treiber CONSOLE
1055 95A6 8C40  A      DEFW   V24PL     ;Treiber V24 PIO LIST
1056 95A8 8CD1  A      DEFW   V24SC     ;Treiber V24 SIO CONSOLE
1057 95AA FFD9  A      DEFW   V24RAM    ;Tabellenanfangsadresse im RAM
1058 95AC 98AC  A      DEFW   RES       ;CCP-Kommando RES
1059 95AE F726  A      DEFW   SLCTRL    ;Adresse SLOT-Control-Byte
1060 95B0 E699  A      DEFW   STTREI    ;Treiberanzeige Statuszeile
1061 95B2 9099  A      DEFW   CCP4      ;CCP Eintritt
1062 95B4 E7FC  A      DEFW   CK12      ;PATCH-RAM je 3 Byte
1063 95B6 FDAD  A      DEFW   XISMON    ;Verbot Monitor
1064 95B8 FDB0  A      DEFW   XNAMON    ;Erlauben Monitor
1065 95BA 0000# A      DEFW   FEMEIN    ;Fehlermeldung in Systemzeile ein DE=Text
1066 95BC 0000# A      DEFW   FEMAUS    ;Fehlermeldung in Systemzeile aus
1067 95BE F88B  A      DEFW   FZELLE    ;Erzwingen Dauerfehleranzeige
1068 95C0 F2AF  A      DEFW   V24FO     ;V24 PIO-Format
1069 95C2 F2DE  A      DEFW   DRUTYP    ;V24 PIO-Drucker Typ
1070 95C4 0000  A      DEFW   0
1071 95C6 0000  A      DEFW   0
1072      A; -----
1073      A; Aufruf Unterprogramm in beliebigem SLOT (C000-FFFF RAM)
1074      A; alle Register werden uebergeben und zurueckgegeben, Aufrufbeispiel:
1075      A; CALL ANW
1076      A; DEFW UP-Adresse
1077      A; DEFB SLOT
1078      A; -----
1079 95C8 E3      AANCA: EX      (SP),HL      ;RET-Adr.+3
1080 95C9 23      A      INC      HL
1081 95CA 23      A      INC      HL
1082 95CB 23      A      INC      HL
1083 95CC E3      A      EX      (SP),HL
1084      A;
1085 95CD ED 73 E7A8 A      LD      (ASTSV),SP
1086 95D1 31 E7A8 A      LD      SP,ASTSV
1087      A;
1088 95D4 E5      A      PUSH   HL
1089 95D5 21 E7F4 A      LD      HL,ANCR2
1090 95D8 E3      A      EX      (SP),HL      ;Adresse zur Stackregenerierung in STACK (-2)
1091      A;
1092 95D9 E5      A      PUSH   HL
1093 95DA F5      A      PUSH   AF
1094 95DB DB A8  A      IN      A,(PPIA)      ;SLOT lesen
1095 95DD 67      A      LD      H,A
1096 95DE F1      A      POP    AF
1097 95DF E3      A      EX      (SP),HL      ;SLOT in STACK (-4)
1098      A;
1099 95E0 E5      A      PUSH   HL
1100 95E1 21 E7E4 A      LD      HL,RTPA2

```

```
1101 95E4 E3      A      EX      (SP),HL      ;RTPA2-Adresse nach UP in STACK (-6)
1102              A;
1103 95E5 E5      A      PUSH    HL          ;(-8)
1104 95E6 F5      A      PUSH    AF          ;(-10)
1105 95E7 D5      A      PUSH    DE          ;(-12)
1106 95E8 2A E7A8  A      LD      HL,(ASTSV)    ;alten SP holen
1107 95EB 5E      A      LD      E,(HL)
1108 95EC 23      A      INC     HL
1109 95ED 56      A      LD      D,(HL)
1110 95EE EB      A      EX     DE,HL        ;HL = neue RET-Adresse
1111              A;
1112 95EF 2B      A      DEC     HL          ;davor steht im Programm die SLOT-Belegung
1113 95F0 7E      A      LD      A,(HL)        ;SLOT aus STACK holen
1114 95F1 2B      A      DEC     HL
1115 95F2 56      A      LD      D,(HL)        ;UP-Adresse aus STACK holen
1116 95F3 2B      A      DEC     HL
1117 95F4 5E      A      LD      E,(HL)
1118              A;
1119 95F5 EB      A      EX     DE,HL        ;HL=UP-Ansprungadresse
1120 95F6 D1      A      POP     DE          ;(-10)
1121 95F7 E6 3F    A      AND     00111111B
1122 95F9 F6 80    A      OR      10000000B
1123 95FB D3 A8    A      OUT    (PPIA),A
1124 95FD F1      A      POP     AF          ;(-8)
1125 95FE E3      A      EX     (SP),HL      ;UP-Ansprungadresse in STACK
1126              A          ;HL regenerieren
1127 95FF C9      A      RET
1128              A          ;Rueckkehr erfolgt auf Adresse RTPA2 (-4)
1129              A          ;dort erfolgt SLOT regenerieren (-2)
1130              A; -----
1131 9600 D5      AANRD:    PUSH    DE          ;Byte von (HL) aus SLOT B in A lesen
1132 9601 C5      A      PUSH    BC
1133 9602 0E A8    A      LD      C,PPIA
1134 9604 ED 58    A      IN     E,(C)
1135 9606 F3      A      DI
1136 9607 ED 41    A      OUT    (C),B
1137 9609 7E      A      LD      A,(HL)
1138 960A 18 0A    A      JR     ANWR1
1139              A; -----
1140 960C D5      AANWR:    PUSH    DE          ;Byte von A auf (HL) in SLOT B schreiben
1141 960D C5      A      PUSH    BC
1142 960E 0E A8    A      LD      C,PPIA
1143 9610 ED 58    A      IN     E,(C)
1144 9612 F3      A      DI
1145 9613 ED 41    A      OUT    (C),B
1146 9615 77      A      LD      (HL),A
1147 9616 ED 59    AANWR1:    OUT     (C),E
1148 9618 FB      A      EI
1149 9619 C1      A      POP     BC
1150 961A D1      A      POP     DE
1151 961B C9      A      RET
1152              A; -----
1153 961C E5      ATRABC:   PUSH    HL          ;Treiberaufruf mit Parametern in A,B,C
1154 961D F5      A      PUSH    AF          ;STACK muss im Bereich C000-FFFF liegen !!
1155 961E DB A8    A      IN     A,(PPIA)    ;alte Slotbelegung lesen
1156 9620 67      A      LD      H,A
1157 9621 3A F726  A      LD      A,(SLCTRL)
1158 9624 D3 A8    A      OUT    (PPIA),A    ;Standardbelegung ausgeben
```

```
1159 9626 F1      A    POP    AF
1160 9627 E3      A    EX     (SP),HL      ;alte Slotbelegung in STACK, HL regenerieren
1161 9628 CD F590 A    CALL   TRBSCH      ;Treiberadresse und SLOT ermitteln, umschalten,
anspringen
1162 962B C3 E7E4  A    JP     RTPA2      ;alte Slotbelegung aus STACK holen und ausgeben
1163
1164 962E          AANWE:
1165          A;
```

```

1167      A;
1168      A; =====
1169      A;;Anfang der Programme, die im RAM laufen (Blocktransport)
1170      A; =====
1171 962E DB A8 ACBCHL: IN A,(PPIA) ;2 Byte von (HL) in BC vom RAM
1172 9630 F5 A PUSH AF
1173 9631 3E AA A LD A,10101010B ;alles RAM
1174 9633 C3 E791 A JP CBCHL2
1175      A;
1176 9636 DB A8 ALDIRU: IN A,(PPIA) ;LDIR
1177 9638 F5 A PUSH AF
1178 9639 3E AA A LD A,10101010B ;alles RAM
1179 963B C3 E7E0 A JP LDIR2
1180      A;
1181 963E DB A8 ALDDRU: IN A,(PPIA) ;LDDR
1182 9640 F5 A PUSH AF
1183 9641 3E AA A LD A,10101010B ;alles RAM
1184 9643 C3 E799 A JP LDDR2
1185      A; -----
1186      A; 5 Byte in RAM (3BH - 3FH) schreiben
1187 9646 21 003B ACTPA: LD HL,3BH
1188 9649 36 C3 A LD (HL),0C3H ;3BH JP Befehl
1189 964B 23 A INC HL
1190 964C 11 E774 A LD DE,TRABC-ANW+COMBF2 ;E/A Treiberaufruf vom Anwenderprogramm
1191 964F 73 A LD (HL),E ;3CH
1192 9650 23 A INC HL
1193 9651 72 A LD (HL),D ;3DH
1194 9652 23 A INC HL
1195 9653 11 E6EC A LD DE,COMBF2 ;CCP-Kommandopuffer
1196 9656 73 A LD (HL),E ;3EH
1197 9657 23 A INC HL
1198 9658 72 A LD (HL),D ;3FH
1199      A; -----
1200 9659 21 E7EC A LD HL,RET2 ;Rueckkehradresse
1201 965C E5 A PUSH HL ;in STACK
1202 965D 3E AA A LD A,10101010B ;alles RAM
1203 965F 21 0100 A LD HL,100H ;Startadresse (TPA)
1204 9662 C3 E7F9 A JP JPHL2 ;OUT (PPIA),A JP (HL)
1205      A;
1206 9665 DB A8 ABDOSJP: IN A,(PPIA) ;BDOS-Ruf im RAM (CALL 5)
1207 9667 F5 A PUSH AF
1208 9668 3E AA A LD A,10101010B
1209 966A C3 E7A0 A JP CBDR2
1210      A; =====
1211      A; ENDE SCPELO.S
1212      A; =====
65      INCLUDE SCPELK.Z80 ;CCP-residente Kommandos
2      A; AUTOR:Lutz Elssner
3      A; STAND:07.04.89
4      A; -----
5      A; CCP residente Kommandos DIR,ERA,TYPE,SAVE,REN,USER,EXT,RES,SWAP,HELP
6      A; =====
7      A;
8      A;; Behandlung "DIR [<File mit *>]"
9      A; =====
10     A
11 966D CD 9409 AICBED: CALL FNHOL ;Filnamen holen
12 9670 CD 9380 A CALL ICB26 ;Select Disk

```

```

13 9673 21 005D  A   LD   HL,CFCBF      ;Filename
14 9676 7E      A   LD   A,(HL)
15 9677 FE 20    A   CP   ' '          ;angegeben?
16 9679 20 07    A   JR   NZ,ICC02     ;ja
17 967B 06 0B    A   LD   B,11         ;sonst ????????.???
18 967D 36 3F    AICBFD: LD   (HL),'?'
19 967F 23      A   INC  HL
20 9680 10 FB    A   DJNZ ICBFD
21 9682 CD 93A8 AICC02: CALL IC8DD      ;suchen erstes passendes File
22 9685 CA 932E  A   JP   Z,IC8A8     ;NO FILE, fertig
23 9688 16 FF    A   LD   D,255       ;D zaehlt ausgeb. Files
24 968A D5      A   PUSH DE
25 968B 3D      AICC0B: DEC   A          ;Dir Entry 0..3 von Search/Next
26 968C 0F      A   RRCA
27 968D 0F      A   RRCA
28 968E 0F      A   RRCA
29 968F E6 60    A   AND  60H         ;*32
30 9691 21 0080 A   LD   HL,DEFDMA
31 9694 85      A   ADD  A,L
32 9695 6F      A   LD   L,A         ;HL:= ^Dir-Eintrag
33 9696 E5      A   PUSH HL
34 9697 DD E1    A   POP  IX
35 9699 DD CB 0A 7EA BIT 7,(IX+10)   ;SYS-Atribut?
36 969D 20 35    A   JR   NZ,ICC59     ;ja, uebergehen
37 969F F1      A   POP  AF          ;ausgegebene Filenamen
38 96A0 3C      A   INC  A          ;zaehlen mod 4
39 96A1 E6 03    A   AND  03H        ;4. File in Zeile?
40 96A3 F5      A   PUSH AF
41 96A4 3E 20    A   LD   A,' '
42 96A6 20 08    A   JR   NZ,ICC35     ;nein
43 96A8 CD 92CD A   CALL NEWLN       ;sonst CR,LF
44 96AB 3A E85E A   LD   A,(SELDK)   ;aktuell selektiertes LW
45 96AE C6 41    A   ADD  A,'A'
46 96B0 CD 92D4 AICC35: CALL PUTCH
47 96B3 3E 3A    A   LD   A,':'
48 96B5 CD 92D4 A   CALL PUTCH
49 96B8 CD 933F A   CALL IC88F
50 96BB 01 0802 A   LD   BC,0802H    ;8 Zeichen Filename, danach Ext.
51 96BE DD 23    AICC43: INC   IX
52 96C0 DD 7E 00 A   LD   A,(IX)      ;Filenamenzeichen
53 96C3 E6 7F    A   AND  7FH        ;ohne Bit 7
54 96C5 CD 92D4 A   CALL PUTCH
55 96C8 10 F4    A   DJNZ ICC43
56 96CA 0D      A   DEC  C
57 96CB 28 07    A   JR   Z,ICC59
58 96CD CD 933F A   CALL IC88F
59 96D0 06 03    A   LD   B,3        ;Typ 3 Zeichen
60 96D2 18 EA    A   JR   ICC43
61      A;
62 96D4 CD 93DB AICC59: CALL IC8FB      ;Taste gedrueckt?
63 96D7 C2 91DC A   JP   NZ,ENDKB     ;ja, Abbruch
64 96DA CD 93AF A   CALL IC8E4       ;sonst naechstes File suchen
65 96DD 20 AC    A   JR   NZ,ICC0B     ;gefunden
66 96DF C3 91DC AICC63: JP   ENDKB      ;Ende residentes Kommando
67      A;
68      A;; Behandlung "ERA <File mit *>"
69      A; =====
70      A

```



```

71 96E2 CD 9409 AICC66: CALL FNHOL ;Filenamem holen
72 96E5 FE 0B A CP 11 ;*. * ?
73 96E7 20 17 A JR NZ,ICC84 ;nein
74 96E9 01 92F1 A LD BC,DCC93 ;ALL (Y/N)?
75 96EC CD 9331 A CALL IC8AB
76 96EF CD 9245 A CALL IC92D ;Antwort (als Kommando!)
77 96F2 21 E6ED A LD HL,COMBL2 ;Anzahl der Zeichen
78 96F5 35 A DEC (HL) ;-1 ?
79 96F6 C0 A RET NZ ;nein
80 96F7 23 A INC HL
81 96F8 7E A LD A,(HL) ;Antwort
82 96F9 FE 59 A CP 'Y' ;Y?
83 96FB C0 A RET NZ ;nein
84 96FC 23 A INC HL
85 96FD 22 E854 A LD (COMPP2),HL
86 9700 CD 9380 AICC84: CALL ICB26 ;Select Disk
87 9703 CD 93B3 A CALL DELETF ;Delete
88 9706 3C A INC A ;A=FF
89 9707 CC 932E A CALL Z,IC8A8 ;ja, NO FILE
90 970A C3 91DC A JP ENDKB ;fertig
  
```

```

92          A
93          A;; Behandlung "TYPE <File>"
94          A; =====
95          A
96 970D CD 9409 AICC9E:   CALL  FNHOL           ;Filenamem holen
97 9710 20 39   A   JR    NZ,ICCE4         ;enthaelt */?
98 9712 CD 9380 A   CALL  ICB26           ;Select Disk
99 9715 CD 9393 A   CALL  IC8C8           ;Open
100 9718 28 31  A   JR    Z,ICCE1         ;nicht da
101 971A CD 92CD A   CALL  NEWLN          ;CR, LF
102 971D 01 0080 A   LD   BC,80H          ;Zeiger in DMA
103 9720 79     AICC3:   LD    A,C
104 9721 FE 80   A   CP    80H            ;alle Zeichen in DMA benutzt?
105 9723 38 08   A   JR    C,ICCC4         ;nein
106 9725 CD 93C3 A   CALL  IC8ED           ;read
107 9728 20 1A   A   JR    NZ,ICCDA        ;Fehler oder EOF
108 972A 01 0000 A   LD   BC,0
109 972D 21 0080 AICC4:   LD    HL,DEFDMA
110 9730 09     A   ADD  HL,BC
111 9731 7E     A   LD   A,(HL)         ;naechstes Zeichen
112 9732 FE 1A   A   CP    1AH           ;Fileende?
113 9734 28 0F   A   JR    Z,ICCDB        ;ja
114 9736 C5     A   PUSH BC
115 9737 CD 92D4 A   CALL  PUTCH          ;sonst ausgeben
116 973A CD 93DB A   CALL  IC8FB          ;Taste gedrueckt?
117 973D C1     A   POP  BC
118 973E C2 91DC A   JP   NZ,ENDKB        ;ja, Abbruch
119 9741 03     A   INC  BC
120 9742 18 DC   A   JR   ICCB3
121          A
122 9744 3D     AICCDA:  DEC   A           ;EOF?
123 9745 CA 91DC AICCDB:  JP    Z,ENDKB        ;ja
124 9748 CD 931F A   CALL  RDERR          ;READ ERROR
125 974B          AICC1:
126 974B C3 91F3 AICC4:   JP    ICF1B          ;Fehler, Param. prot.

```

```
128      A
129      A;; Behandlung "SAVE <256er Bloecke> <File>"
130      A; =====
131      A
132 974E CD 947C AICCE7:   CALL   ICAE9           ;Zahl holen
133 9751 38 41  A      JR      C,SAVEEXT       ;keine Zahl --> SAVE EXT Kommando
134 9753 F5     A      PUSH   AF
135 9754 CD 9409 A      CALL   FNHOL           ;File holen
136 9757 C2 91F3 A      JP      NZ,ICF1B        ;nicht eindeutig
137      A; *****
138 975A CD 9787 A      CALL   SAVEUP
139      A;CALL   ICB26           ;Select Disk
140      A;CALL   MAKEF          ;Make
141      A;JR     Z,ICD2F        ;kein Platz
142      A;XOR   A
143      A;LD   (CFCBCR),A      ;aktueller Record :=0
144 975D 67     A      LD     H,A
145 975E F1     A      POP    AF
146 975F 6F     A      LD     L,A
147 9760 29     A      ADD   HL,HL           ;hl:= Anzahl der Records
148 9761 11 0100 A      LD     DE,TPA
149 9764 7C     AICD0C:  LD      A,H
150 9765 B5     A      OR     L             ;fertig?
151 9766 28 13  A      JR     Z,ICD26        ;ja
152 9768 2B     A      DEC   HL
153 9769 E5     A      PUSH  HL             ;merken Restanzahl
154 976A 21 0080 A      LD     HL,0080H
155 976D 19     A      ADD   HL,DE
156 976E E5     A      PUSH  HL             ;merken naechstes DMA
157 976F CD 9372 A      CALL  SETDMA          ;Set DMA
158 9772 CD 93CD A      CALL  IC8F7          ;write
159 9775 D1     A      POP    DE
160 9776 E1     A      POP    HL
161 9777 20 08  A      JR     NZ,ICD2F        ;Fehler
162 9779 18 E9  A      JR     ICD0C
163      A
164 977B CD 93A1 AICD26:  CALL   CLOSEF           ;Close
165 977E 3C     A      INC   A             ;ok?
166 977F 20 03  A      JR     NZ,ICD35        ;ja
167 9781 CD 9324 AICD2F:  CALL   NOSPC           ;No Space
168 9784 C3 91DC AICD35:  JP      ENDKB          ;Komm.ende
169      A; =====
170 9787 CD 9380 ASAVEUP: CALL   ICB26           ;Select Disk
171 978A CD 93E8 A      CALL  MAKEF          ;Make
172 978D 28 F2  A      JR     Z,ICD2F        ;kein Platz
173 978F AF     A      XOR   A
174 9790 32 007C A      LD     (CFCBCR),A      ;aktueller Record :=0
175 9793 C9     A      RET
176      A; =====
177      A; Programmteil fuer SAVE der EXT-Kommandos
178 9794 CD 9409 ASAVEXT: CALL   FNHOL           ;Filename von Parameterzeile in FCB
179 9797 C2 91F3 A      JP      NZ,ICF1B        ;nicht eindeutig
180 979A CD 94DA A      CALL  RSUCH           ;suchen des Dateinamens in Tabelle
181 979D DA 91F3 A      JP      C,ICF1B        ;im ROM gefunden oder nicht gefunden
182 97A0 69     A      LD     L,C             ;BC=Adresse des vorhergehenden
183 97A1 60     A      LD     H,B             ;EXT Kommandos bzw.TREND
184 97A2 B7     A      OR     A             ;CY=0
185 97A3 ED 52  A      SBC   HL,DE
```

```
186 97A5 D5      A   PUSH  DE      ;DE=Anfangsadresse
187 97A6 E5      A   PUSH  HL      ;HL=Laenge in Bytes (Vielfaches von 80H)
188 97A7 CD 9787 A   CALL  SAVEUP ;Datei anlegen
189 97AA E1      A   POP   HL      ;HL/128
190           A;
191 97AB CB 15    A   RL    L        ;CY <-- L <-- CY
192 97AD 6C      A   LD    L,H      ;
193 97AE CB 15    A   RL    L
194 97B0 26 00    A   LD    H,0
195 97B2 CB 14    A   RL    H
196           A;
197 97B4 D1      A   POP  DE
198 97B5 18 AD    A   JR   ICD0C
```

```
200 A
201 A;; Behandlung "REN <neues File>=<altes File>"
202 A; =====
203 A
204 97B7 CD 9409 AICD44: CALL FNHOL ;Filnamen holen
205 97BA 20 51 A JR NZ,ICDA3 ;Fehler, enth. *
206 97BC 3A E865 A LD A,(DCF6E) ;expl. LW merken
207 97BF F5 A PUSH AF
208 97C0 CD 9380 A CALL ICB26 ;Select Disk
209 97C3 CD 93A8 A CALL IC8DD ;Search for first
210 97C6 20 48 A JR NZ,ICDA6 ;File exists
211 97C8 21 005C A LD HL,CFCBD ;sonst neuen Filnamen als 2.
212 97CB 11 006C A LD DE,CFCB0
213 97CE 01 0010 A LD BC,0010H
214 97D1 ED B0 A LDIR
215 97D3 2A E854 A LD HL,(COMPP2)
216 97D6 EB A EX DE,HL
217 97D7 CD 94C4 A CALL IC9D4 ;naechstes Zeichen <> ' '
218 97DA FE 3D A CP '='
219 97DC 28 04 A JR Z,ICD70
220 97DE FE 5F A CP '-'
221 97E0 20 2B A JR NZ,ICDA0
222 97E2 EB AICD70: EX DE,HL
223 97E3 23 A INC HL
224 97E4 22 E854 A LD (COMPP2),HL
225 97E7 CD 9409 A CALL FNHOL ;zweiten Filnamen
226 97EA 20 21 A JR NZ,ICDA0 ;enthaelt *
227 97EC C1 A POP BC ;gemerktes expl. LW
228 97ED 21 E865 A LD HL,DCF6E ;zweites expl. LW
229 97F0 7E A LD A,(HL)
230 97F1 B7 A OR A ;angegeben?
231 97F2 28 04 A JR Z,ICD86 ;nein
232 97F4 B8 A CP B ;gleich erstem?
233 97F5 70 A LD (HL),B
234 97F6 20 15 A JR NZ,ICDA0 ;nein
235 97F8 70 AICD86: LD (HL),B
236 97F9 AF A XOR A
237 97FA 32 006C A LD (CFCB0),A ;Standard-LW in FCB
238 97FD CD 93A8 A CALL IC8DD ;Search for first
239 9800 28 06 A JR Z,ICD9B ;File nicht da
240 9802 CD 93BB A CALL RENAMF
241 9805 C3 91DC AICD98: JP ENDKB ;Kommando-Ende
242 A
243 9808 CD 932E AICD9B: CALL IC8A8 ;NO FILE
244 980B 18 F8 A JR ICD98
245 A
246 980D AICDA0:
247 980D C3 91F3 AICDA3: JP ICF1B ;Fehler
248 A
249 9810 CD 9329 AICDA6: CALL FILEX ;File exists
250 9813 18 F0 A JR ICD98
```

```
252          A
253          A;; Behandlung "USER <Nutzernummer 0..15>"
254          A; =====
255          A
256 9815 CD 947C AICDBA: CALL ICAE9          ;Zahl holen
257 9818 DA 91F3 A JP C,ICF1B          ;Fehler, Rest prot.
258 981B FE 10 A CP 16          ;>=16?
259 981D 30 EE A JR NC,ICDA3      ;ja
260 981F 32 E85A A LD (DEFUS),A
261 9822 C9 A RET
262          A
263          A
264          A;; Behandlung "EXT <COM-File>"
265          A; =====
266          A
267 9823 CD 9409 AEXT: CALL FNHOL          ;Filenamem holen
268 9826 C2 91F3 A JP NZ,ICF1B          ;Fehler, enthaelt '?'
269          A;
270          0000 A COND LRESC<8      ;bei Laenge 8 kann Name nicht zu lang sein
274          A ENDC
275          A;
276 9829 CD 94DA A CALL RSUCH          ;residentes Kommando in Tabelle suchen
277 982C C2 9329 A JP NZ,FILEX          ;File exists
278          A;
279 982F 21 E852 A LD HL,ENDX2-2      ;(HL)=letztes Byte des letzten Eintrages
280 9832 ED 52 A SBC HL,DE          ;noch Platz in Tabelle?
281 9834 DA 9324 A JP C,NOSPC          ;No Space
282          A;File ab TPA von Diskette laden
283 9837 D5 A PUSH DE          ;(DE)=0 altes Tabellenendekennzeichen
284 9838 CD 951E A CALL LODCOM          ;File laden
285 983B D1 A POP DE
286          A;Filename von FCB in Tabelle der residenten Kommandos uebertragen
287 983C 21 005D A LD HL,CFCBF          ;Filename
288          A          ;(DE)=0 altes Tabellenendekennzeichen
289 983F 01 0008 A LD BC,LRESC
290 9842 ED B0 A LDIR          ;LRESC Zeichen in Tabelle
291          A;neuer Wert fuer EXT-Zeiger (EXTZ)=(EXTZ)-(LFILE)
292 9844 2A E858 A LD HL,(EXTZ)          ;alt
293 9847 AF A XOR A
294 9848 ED 4B E85F A LD BC,(LFILE)          ;Laenge des geladenen Files, Vielfaches von 80H
295 984C ED 42 A SBC HL,BC
296 984E 22 E858 A LD (EXTZ),HL          ;neu
297          A;Fileanfangsadresse und Endekennzeichen in Tabelle der residenten Kommandos
298 9851 EB A EX DE,HL
299 9852 73 A LD (HL),E          ;Routinenadr. in Tabelle
300 9853 23 A INC HL
301 9854 72 A LD (HL),D
302 9855 23 A INC HL
303 9856 77 A LD (HL),A          ;neues Tabellenende
304          A;wenn Laenge des geladenen Files=0, dann Kommandoende
305 9857 79 A LD A,C
306 9858 B0 A OR B
307 9859 C8 A RET Z
308          A;aktuelle Fehleradressen von (BDOSAD)+3 in (TREND)+3 retten
309 985A D5 A PUSH DE
310 985B C5 A PUSH BC
311 985C CD 98B9 A CALL RESFE          ;Teilprogramm von RES
312 985F C1 A POP BC          ;LFILE
```

```
313 9860 E1      A   POP   HL           ;EXTZ
314              A;File Verschiebung an das TPA-Ende
315 9861 09      A   ADD   HL,BC
316 9862 2B      A   DEC   HL
317 9863 EB      A   EX    DE,HL       ;DE = EXTZ + LFILE - 1 (Endadresse Ziel)
318              A;
319 9864 21 0100 A   LD    HL,TPA
320 9867 09      A   ADD   HL,BC
321 9868 2B      A   DEC   HL           ;HL = TPA + LFILE - 1 (Endadresse Quelle)
322              A;
323 9869 CD 963E A   CALL  LDDRU       ;Verschiebung im RAM BC = LFILE
324              A;Errechnen Laenge Vorspann
325 986C 01 0018 A   LD    BC,LVOR
326              A;Vorspann von (TREND) vor Programm (EXTZ)-LVOR
327 986F 2A E858 A   LD    HL,(EXTZ)
328 9872 B7      A   OR    A
329 9873 ED 42   A   SBC   HL,BC
330 9875 E5      A   PUSH  HL           ;das wird neue BDOS-Sprungadresse
331 9876 EB      A   EX    DE,HL       ;DE=(EXTZ)-LVOR (Anfangsadresse Ziel)
332 9877 2A E815 A   LD    HL,(TREND)   ;HL=(TREND) (Anfangsadresse Quelle)
333 987A CD 9636 A   CALL  LDIRU
334              A;BDOS-Sprungbefehl neu belegen
335 987D D1      A   POP   DE
336 987E ED 53 E868 A   LD    (CBDOS),DE   ;fuer Regenerierung bei Warmstart
337 9882 ED 53 0006 A   LD    (BDOSAD),DE ;neue BDOS-Adresse
338              A;eigenene Fehlerbehandlungsroutinen mit aktuellen Adressen komplett
339              A;in RAM schreiben
340 9886 13      A   INC   DE           ;uebergehen Sprungbefehl zum BDOS im neuen Vorspann
341 9887 13      A   INC   DE
342 9888 13      A   INC   DE           ;DE=Standort der 1.Adresse
343 9889 21 E805 A   LD    HL,ESEC2     ;HL=Beginn der 1.Fehlerbehandlungsroutine
344 988C 06 04   A   LD    B,4         ;B =Anzahl der Routinen
345 988E 36 2A   AEXT1: LD    (HL),2AH     ;Code von LD HL,(nn)
346 9890 23      A   INC   HL
347 9891 73      A   LD    (HL),E      ;Adresse L
348 9892 23      A   INC   HL
349 9893 72      A   LD    (HL),D      ;Adresse H
350 9894 23      A   INC   HL
351 9895 36 E9   A   LD    (HL),0E9H   ;Code von JP (HL)
352 9897 23      A   INC   HL
353              A;
354 9898 13      A   INC   DE           ;Uebergang zur naechsten Adresse
355 9899 13      A   INC   DE
356 989A 10 F2   A   DJNZ  EXT1
357              A;eigene Fehlerbehandlungsroutinenadressen in Vorspann (TREND)+3
358 989C 21 E7A8 A   LD    HL,ETAB2
359 989F ED 5B E815 A   LD    DE,(TREND)
360 98A3 13      A   INC   DE           ;Uebergehen Sprungbefehl zum BDOS
361 98A4 13      A   INC   DE
362 98A5 13      A   INC   DE
363 98A6 01 0008 A   LD    BC,8
364 98A9 C3 9636 A   JP    LDIRU
```

```

366          A;-----
367          A;
368          A;; Behandlung "RES"
369          A; =====
370          A
371 98AC 2A E815  ARES: LD    HL,(TREND)    ;EXT-Zeiger zurueck
372 98AF 22 E858  A    LD    (EXTZ),HL
373 98B2 22 E868  A    LD    (CBDOS),HL    ;fuer Regenerierung bei Warmstart
374 98B5 AF      A    XOR   A
375 98B6 32 E817  A    LD    (RESX2),A    ;Endekennzeichen in Tabelle der res. Kommandos
376          A;Aufruf von EXT zum Zwischenspeichern der Fehleradressen
377 98B9 2A E815  ARESFE: LD    HL,(TREND)
378 98BC ED 5B 0006 A    LD    DE,(BDOSAD)
379 98C0 22 0006  A    LD    (BDOSAD),HL
380          A;
381 98C3 B7      A    OR    A
382 98C4 E5      A    PUSH HL
383 98C5 ED 52   A    SBC  HL,DE
384 98C7 E1      A    POP  HL
385 98C8 C8      A    RET  Z    ;(TREND)=(BDOSAD) kein EXT-Kommando nachgeladen
386          A;
387 98C9 01 0003  A    LD    BC,3
388 98CC 09      A    ADD  HL,BC
389 98CD EB      A    EX  DE,HL    ;Transport der Fehleradressen
390 98CE 09      A    ADD  HL,BC    ;von (BDOSAD)+3 nach (TREND)+3
391 98CF 01 0008  A    LD    BC,8
392 98D2 C3 9636  A    JP   LDIRU
  
```



```
394      A
395      A;; Behandlung "SWAP <Laufwerk>: <Laufwerk>:"
396      A; =====
397      A
398 98D5 CD 9409 ASWAP:      CALL   FNHOL      ;holen LW1
399 98D8 CD 98F1 A      CALL   DSKSEL      ;HL auf DPH
400 98DB E5      A      PUSH   HL          ;merken DPH1
401 98DC CD 9409 A      CALL   FNHOL      ;holen LW2
402 98DF CD 98F1 A      CALL   DSKSEL      ;HL auf DPH
403 98E2 D1      A      POP    DE          ;DE auf DPH1
404 98E3 06 10 A      LD     B,10H        ;Laenge eines DPH
405 98E5 1A      ASWAPZ:   LD     A,(DE)
406 98E6 4E      A      LD     C,(HL)
407 98E7 77      A      LD     (HL),A
408 98E8 79      A      LD     A,C
409 98E9 12      A      LD     (DE),A
410 98EA 13      A      INC   DE
411 98EB 23      A      INC   HL
412 98EC 10 F7 A      DJNZ  SWAPZ
413      A; ( Neueubernahme der DPH's durch Warmstart erzwingen )
414 98EE C3 0000 A      JP     0
415      A;
416      A
417 98F1 3A 005C ADSKSEL:   LD     A,(DEFFCB) ;Laufwerk aus FCB
418 98F4 3D      A      DEC   A          ;A => 0, ...
419 98F5 4F      A      LD     C,A
420 98F6 1E 00 A      LD     E,0          ;LOGIN
421 98F8 CD FD1B A      CALL   ISELDSK      ;seldsk ueber BIOS
422 98FB 7C      A      LD     A,H          ;ex. DPH?
423 98FC B5      A      OR    L
424 98FD C0      A      RET   NZ          ;ja
425 98FE C3 91F3 A      JP     ICF1B        ;nein, Parameterfehler
426      A
427      A
428      A;; Behandlung "HELP"
429      A; =====
430 9901 21 993B AHELP:    LD     HL,RESCI    ;interne Kommandotabelle im ROM
431 9904 06 08 A      LD     B,LRESO      ;Filnamenlaenge im ROM
432 9906 CD 990E A      CALL   HELPZ
433      A;
434 9909 21 E817 A      LD     HL,RESC2     ;externe Kommandotabelle im RAM
435 990C 06 08 A      LD     B,LRESC      ;Filnamenlaenge im RAM
436      A;
437 990E C5      AHELPZ:   PUSH   BC
438 990F E5      A      PUSH   HL
439 9910 CD 92CD A      CALL   NEWLN        ;CR,LF
440 9913 E1      A      POP   HL
441 9914 C1      A      POP   BC
442      A;
443 9915 7E      A      LD     A,(HL)
444 9916 B7      A      OR    A          ;Tab.ende?
445 9917 C8      A      RET   Z          ;ja
446      A;
447 9918 C5      A      PUSH   BC
448 9919 7E      AHELPZ1:  LD     A,(HL)
449 991A C5      A      PUSH   BC
450 991B E5      A      PUSH   HL
451 991C CD 92D4 A      CALL   PUTCH
```

```
452 991F E1      A      POP      HL
453 9920 23      A      INC      HL
454 9921 C1      A      POP      BC
455 9922 10 F5    A      DJNZ     HELPZ1
456 9924 C1      A      POP      BC
457 9925 23      A      INC      HL
458 9926 23      A      INC      HL
459 9927 18 E5    A      JR       HELPZ
460      A; =====
461      A; ENDE SCPELK.S
462      A; =====
67      INCLUDESCPELA.Z80 ;CCP-Kopie des RAM
2      A; AUTOR: Lutz Elssner
3      A; STAND: 14.04.89
4      A; -----
5      A; CCP-Kopie des RAM im ROM
6      A; =====
7      A; alle Marken, die Adressen des ROM bezeichnen, enden mit 0
8      A; alle Marken, die Adressen des RAM bezeichnen, enden mit 2
9      A; alle Marken, die im ROM und im RAM die gleiche Bedeutung haben,
10     A; unterscheiden sich nur im letzten Zeichen (0 oder 2)
11     A; -----
12 9929      ACRAM0: ;ab hier wird alles in den RAM kopiert
13     A; =====
14     A; CCP-Kommandopuffer
15     A; === Laenge = 01 === im RAM von Hand aendern ! ===
16 9929 7F      ACOMBF0:  DEFB   127 ;CCP-Kommandopufferlaenge
17     A; === Laenge = 01 === im RAM von Hand aendern ! ===
18 992A 0D      ACOMBL0:  DEFB   13 ;aktuelle KommandoLaenge (Wert ungleich 0)
19     A; === Laenge = 127 === im RAM von Hand aendern ! ===
20 992B 53 55 42 4D ACOMBT0:  DEFM   'SUBM AUTOEXEC' ;16 Byte + 111 Byte Tabelle = 127 Byte
21 9938 20 4C      A      DEFM   ' L' ;fuellt Tabelle auf 127
22 993A 00      A      DEFB   0 ;Abschlusszeichen
23     A; -----
24     A; Tabelle der echten, internen residenten Kommandos, die im ROM laufen
25     A; diese Tabelle wird im ROM benutzt, die Kopie in den RAM dient als Platzhalter
26 993B 44 49 52 20 ARESCI:  DEFM   'DIR '
27 9943 966D      A      DEFW   ICBED
28 9945 45 52 41 20 A      DEFM   'ERA '
29 994D 96E2      A      DEFW   ICC66
30 994F 54 59 50 45 A      DEFM   'TYPE '
31 9957 970D      A      DEFW   ICC9E
32 9959 53 41 56 45 A      DEFM   'SAVE '
33 9961 974E      A      DEFW   ICCE7
34 9963 52 45 4E 20 A      DEFM   'REN '
35 996B 97B7      A      DEFW   ICD44
36 996D 55 53 45 52 A      DEFM   'USER '
37 9975 9815      A      DEFW   ICDBA
38 9977 45 58 54 20 A      DEFM   'EXT '
39 997F 9823      A      DEFW   EXT
40 9981 52 45 53 20 A      DEFM   'RES '
41 9989 98AC      A      DEFW   RES
42 998B 53 57 41 50 A      DEFM   'SWAP '
43 9993 98D5      A      DEFW   SWAP
44 9995 48 45 4C 50 A      DEFM   'HELP '
45 999D 9901      A      DEFW   HELP
46 999F 47 4F 20 20 A      DEFM   'GO '
47 99A7 0000      A      DEFW   0 ;Adresse 0 wird besonders behandelt
```

```

48 99A9 00      A   DEFB   0                      ;Tabellenende
49             A;=====
50             A;FCB fuer $$$SUB
51             A;=== Laenge = 14 === im RAM von Hand aendern ! ===
52 99AA 00      ASFD0:  DEFB   0                      ;Drive
53 99AB 24 24 24 20A  DEFM  '$$$   SUB' ;Name, Typ
54             A   DFB   0,0          ;EX, S1
55             B   DEFB   0
56             C   DEFB   0
57             A;=== Laenge = 01 === im RAM von Hand aendern ! ===
58 99B8 00      ASFS20:  DEFB   0                      ;S2  BDOS-Flag fuer Schreibzugriff
59             A;=== Laenge = 17 === im RAM von Hand aendern ! ===
60 99B9 00      ASFRC0:  DEFB   0                      ;RC  Record Counter
61             A   DFB   0,0,0,0,0,0,0,0
62             B   DEFB   0
63             C   DEFB   0
64             D   DEFB   0
65             E   DEFB   0
66             F   DEFB   0
67             G   DEFB   0
68             H   DEFB   0
69             I   DEFB   0
70 99C2 00      A   DFB   0,0,0,0,0,0,0,0
71 99C3 00      B   DEFB   0
72 99C4 00      C   DEFB   0
73 99C5 00      D   DEFB   0
74 99C6 00      E   DEFB   0
75 99C7 00      F   DEFB   0
76 99C8 00      G   DEFB   0
77 99C9 00      H   DEFB   0
78 99CA 00      I   DEFB   0
79             A;=== Laenge = 04 === im RAM von Hand aendern ! ===
80 99CB 00      ASFRC0:  DEFB   0                      ;CR  Current Record
81             A   DFB   0,0,0          ;R0...R2 (Reserve fuer Direktzugriff)
82             B   DEFB   0
83             C   DEFB   0
84             D   DEFB   0
85             A; -----
86             A;CCP-Programme, die im RAM abgearbeitet werden
87             A; =====
88             A;Lesen von 2 Byte in anderem SLOT
89             A; PPIA lesen und retten erfolgte bereits im ROM
90             A;=== Laenge = 08 === im RAM von Hand aendern ! ===
91 99CE D3 A8      ACBCHL0:  OUT    (PPIA),A
92 99D0 4E          A   LD    C,(HL)
93 99D1 23          A   INC   HL
94 99D2 46          A   LD    B,(HL)
95 99D3 C3 E7E4     A   JP    RTPA2
96             A; -----
97             A;Blocktransfer im RAM
98             A; PPIA lesen und retten erfolgte bereits im ROM
99             A;=== Laenge = 07 === im RAM von Hand aendern ! ===
100 99D6 D3 A8      ALDDR0:  OUT    (PPIA),A
101 99D8 ED B8      A   LDDR
102 99DA C3 E7E4     A   JP    RTPA2
103             A; -----
104             A;BDOS-Ruf mit RAM-Belegung fuer alle BDOS-Rufe aus dem CCP-ROM
105             A; PPIA lesen und retten erfolgte bereits im ROM

```

```

85      A;=== Laenge = 08 === im RAM von Hand aendern ! ===
86 99DD D3 A8  ACBDR0:  OUT  (PPIA),A
87 99DF CD 0005 A  CALL  5
88 99E2 C3 E7E4 A  JP    RTPA2
89      A; -----
90      A;Adresstabelle der eigenen Fehlerbehandlungsroutinen
91      A; wird hier nur zum Kopieren innerhalb des RAM beim Kommando EXT gebraucht
92      A;=== Laenge = 08 === im RAM von Hand aendern ! ===
93 99E5 E805  AETAB0:  DEFW  ESEC2      ;bad sector
94 99E7 E809  A  DEFW  ESEL2      ;select
95 99E9 E80D  A  DEFW  EDRO2     ;disk r/o
96 99EB E811  A  DEFW  EFRO2     ;file r/o
97      A; =====
98      A;
99      A;
100     A; Der folgende Programmteil wird hinter dem CCP-STACK abgelegt
101     A; =====
102     A;Blocktransfer im RAM
103     A; PPIA lesen und retten erfolgte bereits im ROM
104     A;=== Laenge = 04 === im RAM von Hand aendern ! ===
105 99ED D3 A8  ALDIR0:  OUT  (PPIA),A
106 99EF ED B0  A  LDIR
107     A; -----
108     A; Rueckschalten Speicherkonfiguration ohne Registerveraenderung
109     A;=== Laenge = 08 === im RAM von Hand aendern ! ===
110 99F1 E3    ARTPA0:  EX   (SP),HL      ;HL retten, Slotkonf in HL
111 99F2 F5    A  PUSH  AF           ;AF retten
112 99F3 7C    A  LD   A,H
113 99F4 D3 A8  A  OUT  (PPIA),A      ;Speicher rueckschalten
114 99F6 F1    A  POP  AF           ;AF regenerieren
115 99F7 E1    A  POP  HL          ;HL regenerieren
116 99F8 C9    A  RET
117     A; -----
118     A; Rueckkehr von transientem Kommando
119     A;=== Laenge = 08 === im RAM von Hand aendern ! ===
120 99F9 3A E867 ARET0:  LD   A,(CSLOT)   ;CCP-SLOT
121 99FC D3 A8  A  OUT  (PPIA),A      ;einschalten
122 99FE C3 91CD A  JP    RETPA
123     A; Rueckkehr aus Unterprogramm, das vom Anwender im anderen SLOT gerufen wurde
124     A;=== Laenge = 05 === im RAM von Hand aendern ! ===
125 9A01 ED 7B E7A8 AANCR0: LD   SP,(ASTSV)
126 9A05 C9    A  RET
127     A; -----
128     A; Ansprung eines Programmes im anderen SLOT
129     A; auf STACK muss Rueckkehradresse liegen
130     A;=== Laenge = 03 === im RAM von Hand aendern ! ===
131 9A06 D3 A8  AJPHL0: OUT  (PPIA),A
132 9A08 E9    A  JP    (HL)
133     A; -----
134 9A09     ACCPE0:      ;Ende der Kopien
135     A; =====
136     A; ENDE SCPELA.S
137     A; =====
69      INCLUDESCPLOE.Z80 ;Kaltstart
2       A;*****
3       A;SCP-Kaltstart/ROM-Teil
4       A;-----
5       A;Date: 10.04.89

```

```

6          A;*****
7          A;
8          A EXTERNAL  INISCR,INIBIOS, STINI,      SFLINI
9          A;
10 9A09    ACBOOT:
11 9A09    F3          A    DI
12 9A0A    3E 03      A    LD    A,3
13 9A0C    32 FF91    A    LD    (BSKENN),A    ;SCP-Kennzeichen
14 9A0F    CD 9008    A    CALL  COPTRA    ;BIOS-Treibertabellen u. Progr. in RAM
15 9A12    CD 0000#   A    CALL  INIBIOS
16 9A15    CD 0000#   A    CALL  INISCR    ;Screen-Loeschen
17 9A18    CD 0000#   A    CALL  STINI     ;Statuszeile init
18 9A1B    CD 8BFA    A    CALL  INITST    ;Tastatur-Init.
19 9A1E    CD 8C67    A    CALL  INIV24    ;V24 und Drucker-Init. (SCPELV.S)
20 9A21    CD 0000#   A    CALL  SFLINI    ;Floppy init (nach STINI u. INITST !)
21 9A24    CD 8833    A    CALL  INITSB    ;SCP-BDOS-Anlauf
22          A;
23 9A27    3A F726    A    LD    A,(SLCTRL)    ;RAM Page0/Slot 2 einschalten
24 9A2A    E6 FC      A    AND    0FCH
25 9A2C    F6 02      A    OR    02H
26 9A2E    D3 A8      A    OUT   (PPIA),A
27          A;
28 9A30    01 0008    A    LD    BC,8          ;WBOOT/Kaltst.-LW/IO-BYTE/TPA
29 9A33    11 0000    A    LD    DE,00H        ;ab Adr. 0 eintragen
30 9A36    21 9A8F    A    LD    HL,CB0
31 9A39    ED B0      A    LDIR
32          A;
33 9A3B    3E 24      A    LD    A,'$'
34 9A3D    F5          A    PUSH  AF
35 9A3E    21 9A96    A    LD    HL,CBMSG0-1    ;Kaltstartmeldung
36 9A41    CD 9A65    A    CALL  CB00
37 9A44    21 8870    A    LD    HL,Vors0+4    ;Versionsnr. aus BDOS-Vorspann
38 9A47    E5          A    PUSH  HL
39 9A48    CD 9A72    A    CALL  CB02
40 9A4B    0E 2E      A    LD    C,'.'
41 9A4D    CD FD0C    A    CALL  ICONOUT
42 9A50    E1          A    POP   HL
43 9A51    2B          A    DEC   HL
44 9A52    CD 9A72    A    CALL  CB02
45 9A55    F1          A    POP   AF
46 9A56    21 9AB6    A    LD    HL,CBMSG1-1
47 9A59    CD 9A65    A    CALL  CB00
48          A;
49 9A5C    3A F726    A    LD    A,(SLCTRL)
50 9A5F    D3 A8      A    OUT   (PPIA),A    ;Bankbelegung auf Anfangsbelegung
51 9A61    FB          A    EI
52 9A62    C3 8F06    A    JP    KW1BOOT     ;JMP zum verkuerzten Warmstart
53          A;-----
54 9A65    23          ACB00:    INC    HL
55 9A66    4E          A    LD    C,(HL)
56 9A67    B9          A    CP    C
57 9A68    C8          A    RET   Z
58 9A69    F5          A    PUSH  AF
59 9A6A    E5          A    PUSH  HL
60 9A6B    CD FD0C    A    CALL  ICONOUT    ;BIOS-Ruf CONOUT, C: auszugebendes Z.
61 9A6E    E1          A    POP   HL
62 9A6F    F1          A    POP   AF
63 9A70    18 F3      A    JR    CB00

```

```
64          A;
65 9A72 7E    ACB02:    LD      A,(HL)
66 9A73 E6 F0  A      AND    0F0H
67 9A75 CB 3F  A      SRL    A
68 9A77 CB 3F  A      SRL    A
69 9A79 CB 3F  A      SRL    A
70 9A7B CB 3F  A      SRL    A
71 9A7D C6 30  A      ADD    A,30H
72 9A7F 4F     A      LD     C,A
73 9A80 E5     A      PUSH   HL
74 9A81 CD FD0C A      CALL  ICONOUT
75 9A84 E1     A      POP    HL
76 9A85 7E     A      LD     A,(HL)
77 9A86 E6 0F  A      AND    0FH
78 9A88 C6 30  A      ADD    A,30H
79 9A8A 4F     A      LD     C,A
80 9A8B CD FD0C A      CALL  ICONOUT
81 9A8E C9     A      RET
82          A; -----
83 9A8F C3 FD03 ACB0: JP     IWBOOT      ;Wboot-Adr.in Sprungleiste
84 9A92 95     A      DEFB   95H      ;IO-Byte
85 9A93 00     A      DEFB   0        ;User 0/Drive A
86 9A94 C3 E606 A      JP     SBDOS     ;TPA-Adr.(RAM-Adr!)/JMP zu Bankumsch.
87          A      ;dort JMP zum BDOS im ROM
88          A;
89 9A97          ACBMSG0:
90 9A97 0D0A   A      DEFW   0D0AH
91 9A99 0D0A   A      DEFW   0D0AH
92 9A9B 52 4F 42 4FA DEFM   'ROBOTRON A 5105'
93 9AAA 0D0A   A      DEFW   0D0AH
94 9AAC 53 43 50 20A DEFM   'SCP VERS. '
95 9AB6 24     A      DEFB   '$'
96 9AB7 0D0A   ACBMSG1: DEFW   0D0AH
97 9AB9 24     A      DEFB   '$'
98          A;
99          A;-----
71          INCLUDE SCPMUE.Z80
1          A;*****
2          A; AUTOR: Michael Mueller 1EKE
3          A; STAND: 04.05.89
4          A; FILE: SCPMUE.S
5          A;*****
6          A;
7          A; extrn IRSPL3, STZEIL, VFTINI, STATUP
8          A; extrn KEYOFF, TCONIN, LDIRU
9          A; extrn STFLAG, FUFLAG, FZELLE
10         A;
11         A EXTERNAL PTVRA1, PTVRA2,FEMEIN,FEMAUS, KEYON, STNEU
12         A EXTERNAL BICOP
13         A;
14         A;OUTASC EQU 0A2H
15         015C AVFTINI EQU 15CH
16         A;
17         A; Tasten und Zeichen
18         A; -----
19         A;
20         00DB ASTOP equ 0DBH
21         0018 ADOWN equ 18H
```

```
22      0005      AUP  equ   05H
23      000D      ACR  equ   0DH
24      001B      AESCC equ  1BH
25      0020      ASPACE equ  20H
26      00A0      ASPX  equ  SPACE+80H
27      007F      ADELC equ  7FH
28      A;
29      A;
30      A; UP fuer Routineanzeige
31      A; -----
32      A;
33 9ABA 21 F892  AFUNKTA: ld  hl,FUFLAG      ;Anzeige Funktionstasten
34 9ABD 7E      A    ld    a,(hl)
35 9ABE B7      A    or    a
36 9ABF C8      A    ret   z
37 9AC0 36 00   A    ld    (hl),0
38 9AC2 C3 015C A    jp    VFTINI
39      A;
40 9AC5 CD 0000# ASTATUS      CALL  STNEU      ;IO-Byte, LW, User evtl. neu
41 9AC8 21 F891 A    ld    hl,STFLAG      ;Anzeige Statuszeile
42 9ACB 7E      A    ld    a,(hl)
43 9ACC B7      A    or    a
44 9ACD C8      A    ret   z
45 9ACE 36 00   A    ld    (hl),0
46 9AD0 11 E64A A    ld    DE,STZEIL      ;SCP-Statuszeile
47 9AD3 18 0E   A    jr    PUTMSG
48      A;
49 9AD5 2A F906 AMEMZ:      ld    HL,(MADR)      ;16 Byte Speicher
50 9AD8 3E 0D   A    ld    a,CR
51 9ADA CD 9DD7  A    call  CO
52 9ADD CD 9B7F  A    call  DCM05      ;ab (MADR)
53 9AE0 11 F924 APUTPUF:   ld    DE,PUFF      ;Ausgabe des Puffers
54      A;
55 9AE3 D5      APUTMSG:   push  DE      ;Ausgabe in Zeile 25, 2*80 Zeichen
56 9AE4 CD 0000# A    call  PTVRA1      ;Eing: DE Adr Puffer
57 9AE7 D1      A    pop   DE
58 9AE8 CD 0000# A    call  PTVRA2
59 9AEB C9      ALEERZ:   ret
60      A;
61      A GLOBAL  BIOSMC
62 9AEC CD 9E1B ABIOSMC:   call  RPUSH      ;Eintritt BIOS-Monitor
63 9AEF 2A F88F A    ld    HL,(STATUP)      ;Retten Register
64 9AF2 22 F908 A    ld    (STATU1),HL      ;Retten STATUP
65 9AF5 21 9AEB A    ld    HL,LEERZ      ;-> ret
66 9AF8 22 F88F A    ld    (STATUP),HL
67 9AFB CD 0000# A    call  KEYON      ;Zeile 25 ein
68 9AFE AF      A    xor   a      ;Fehlermeld. aus
69 9AFF 32 F88B A    ld    (FZELLE),a
70 9B02 11 9E80 ABIOSM1:   ld    DE,XTPR      ;Prompt
71 9B05 CD 9DBF A    call  STRNG
72 9B08 CD 9D66 A    call  CI
73 9B0B 38 05   A    jr    c,BIOSM2
74 9B0D CD 9B2D A    call  BIOSM3      ;Verteiler
75 9B10 18 F0   A    jr    BIOSM1
76 9B12 2A F908 ABIOSM2:   ld    HL,(STATU1)
77 9B15 22 F88F A    ld    (STATUP),HL      ;STATUP zurueck
78 9B18 11 9AEB A    ld    DE,LEERZ
79 9B1B A7      A    and  A
```

```
80 9B1C ED 52      A   sbc   HL,DE           ;falls LEERZ ->
81 9B1E CC 0000#  A   call  Z,KEYOFF       ;Zeile 25 aus
82 9B21 3E FF      A   ld    a,0FFh        ;Anzeige ein
83 9B23 32 F892   A   ld    (FUFLAG),a
84 9B26 32 F891   A   ld    (STFLAG),a
85 9B29 CD 9E41   A   call  RPOP           ;Register zurueck
86 9B2C C9        A   ret
87              A;
88 9B2D 21 F893   ABIOSM3 LD    HL,SYNS2
89 9B30 35        A   DEC   (HL)
90 9B31 34        A   INC   (HL)
91 9B32 C0        A   RET   NZ           ;BIOS-MONITOR gesperrt
92 9B33 E6 5F      A   and   5Fh
93 9B35 FE 44      A   cp    'D'
94 9B37 28 28     A   jr    z,DCMDO
95 9B39 FE 53      A   cp    'S'
96 9B3B 28 7A     A   jr    z,SCMDO
97 9B3D FE 49      A   cp    'I'
98 9B3F CA 9C08   A   jp    z,ICMDO
99 9B42 FE 4F      A   cp    'O'
100 9B44 CA 9C2A   A   jp    z,OCMDO
101 9B47 FE 50     A   CP    'P'
102 9B49 CA 9C4C   A   JP    Z,PCMDO
103 9B4C FE 52     A   cp    'R'
104 9B4E CA 9C5A   A   jp    z,RCMDO
105 9B51 FE 58     A   cp    'X'
106 9B53 CA 9CA0   A   jp    z,XCMDO
107 9B56 FE 46     A   cp    'F'
108 9B58 CA 9CDA   A   jp    z,FCMDO
109 9B5B FE 51     A   cp    'Q'
110 9B5D CA 9D0C   A   jp    z,QCMDO
111 9B60 C9        A   ret
112              A;
113              A; D-Kdo Speicher anzeigen
114              A; -----
115              A;
116 9B61 CD 9D43   ADCMDO: call  GETADC           ;Eingabe Speicheradresse
117 9B64 D8        A   ret   c             ;stop
118 9B65 CD 9B7A   ADCMDO1: call  DCM00          ;Anzeige 16 Byte
119 9B68 CD 9D66   ADCMDO2: call  CI
120 9B6B C8        A   ret   z             ;stop/enter
121 9B6C FE 18     A   cp    DOWN
122 9B6E 28 F5     A   jr    z,DCMDO1      ;naechster Bereich
123 9B70 FE 05     A   cp    UP
124 9B72 20 F4     A   jr    nz,DCMDO2
125 9B74 11 FFE0   A   ld    DE,-20H       ;vorheriger Bereich
126 9B77 19        A   add   HL,DE
127 9B78 18 EB     A   jr    DCMDO1
128              A;
129              A; UP 16 Byte aus Speicher anzeigen
130              A; -----
131              A; (auch bei Routineanzeige gerufen!)
132              A;
133 9B7A 3E 44     ADCM00: ld    A,'D'           ;Kdo-Zeichen
134 9B7C CD 9DCA   A   call  OPENK         ;Eing HL Speicheradresse
135 9B7F CD 9DA7   ADCM05: call  PUTAD        ;Speicheradresse anzeigen
136 9B82 CD 9DD5   A   call  SPOUT
137 9B85 11 F974   A   ld    DE,DPUFF      ;umladen 16 Byte in DPUFF
```



```
138 9B88 01 0010 A ld BC,16
139 9B8B CD 9636 A call LDIRU ;(HL) Speicher
140 9B8E 06 10 A ld B,16
141 9B90 11 F974 A ld DE,DPUFF
142 9B93 1A ADCM10: ld A,(DE) ;Anzeige als Byte
143 9B94 13 A inc DE
144 9B95 CD 9DD2 A call PUTBS
145 9B98 10 F9 A djnz DCM10
146 9B9A 11 F974 A ld DE,DPUFF
147 9B9D CD 9DD5 A call SPOUT
148 9BA0 06 10 A ld B,16
149 9BA2 1A ADCM20: ld A,(DE) ;Anzeige als Zeichen
150 9BA3 13 A inc DE
151 9BA4 FE 20 A cp 20H
152 9BA6 38 04 A jr c,DCM30
153 9BA8 FE 7E A cp 7EH
154 9BAA 38 02 A jr c,DCM40
155 9BAC 3E 2E ADCM30: ld A, '.' ;kein Zeichen -> Punkt
156 9BAE CD 9DD7 ADCM40: call CO
157 9BB1 10 EF A djnz DCM20
158 9BB3 CD 9DD5 A call SPOUT
159 9BB6 C9 A ret
160 A;
161 A; S-Kdo RAM anzeigen und aendern
162 A; -----
163 A;
164 9BB7 CD 9D43 ASCM0: call GETADC ;Eingabe Speicheradresse
165 9BBA D8 A ret c ;stop
166 9BBB 3E 53 ASCM00: ld A,'S' ;Kdo-Zeichen
167 9BBD CD 9DCA A call OPENK
168 9BC0 CD 9DA7 A call PUTAD ;Speicheradresse anzeigen
169 9BC3 06 08 A ld B,8
170 9BC5 CD 9DD5 ASCM10: call SPOUT
171 9BC8 CD 9BE8 A call LDAHL ;Byte holen
172 9BCB CD 9DAC A call PUTBY ;Byte anzeigen
173 9BCE 3E 2D A ld A,'-'
174 9BD0 CD 9DD7 A call CO
175 9BD3 EB A ex DE,HL
176 9BD4 CD 9D46 A call GETAD ;Eingabe neues Byte
177 9BD7 EB A ex DE,HL
178 9BD8 D8 A ret c ;stop
179 9BD9 28 05 A jr z,SCM20 ;keine Eingabe
180 9BDB 4F A ld C,A ;Trennzeichen merken
181 9BDC CD 9BF7 A call LDHLE ;Byte in RAM
182 9BDF 79 A ld A,C
183 9BE0 23 ASCM20: inc HL
184 9BE1 FE 0D A cp CR
185 9BE3 C8 A ret z ;war enter
186 9BE4 10 DF A djnz SCM10 ; <8 mal
187 9BE6 18 D3 A jr SCM00 ;neue Zeile
188 A;
189 9BE8 C5 ALDAHL: push BC
190 9BE9 11 F974 A ld DE,DPUFF
191 9BEC 01 0001 A ld BC,1
192 9BEF CD 9636 A call LDIRU
193 9BF2 1B A dec DE
194 9BF3 2B A dec HL
195 9BF4 1A A ld A,(DE)
```

```

196 9BF5 C1      A    pop    BC
197 9BF6 C9      A    ret
198             A;
199 9BF7 C5      ALDHLE:   push   BC
200 9BF8 7B      A    ld     A,E
201 9BF9 EB      A    ex     DE,HL
202 9BFA 21 F974 A    ld     HL,DPUFF
203 9BFD 77      A    ld     (HL),A
204 9BFE 01 0001 A    ld     BC,1
205 9C01 CD 9636 A    call   LDIRU
206 9C04 EB      A    ex     DE,HL
207 9C05 2B      A    dec   HL
208 9C06 C1      A    pop    BC
209 9C07 C9      A    ret
210             A;
211             A; I-Kdo Eingabe von Port
212             A; -----
213             A;
214 9C08 CD 9D43 AICMDO:   call   GETADC           ;Eingabe Portadresse
215 9C0B D8      A    ret     c           ;stop
216 9C0C 4D      A    ld     C,L
217 9C0D 3E 49  AICM00:   ld     A,'I'           ;Kdo-Zeichen
218 9C0F CD 9DCA A    call   OPENK
219 9C12 79      A    ld     A,C
220 9C13 CD 9DD2 A    call   PUTBS        ;Anzeige Portadresse
221 9C16 06 10  A    ld     B,16
222 9C18 ED 78  AICM10:   in     A,(C)         ;Einlesen Port
223 9C1A CD 9DD2 A    call   PUTBS        ;Anzeige Daten
224 9C1D CD 9D66 AICM20:   call   CI
225 9C20 D8      A    ret     c           ;stop
226 9C21 20 FA  A    jr     nz,ICM20    ;kein Trennzei
227 9C23 FE 0D  A    cp     CR
228 9C25 C8      A    ret     z           ;enter
229 9C26 10 F0  A    djnz  ICM10        ;<16 mal
230 9C28 18 E3  A    jr     ICM00        ;neue Zeile
231             A;
232             A; O-Kdo Ausgabe auf Port
233             A; -----
234             A;
235 9C2A CD 9D43 AOCMDO:   call   GETADC           ;Eingabe Portadresse
236 9C2D D8      A    ret     c           ;stop
237 9C2E 4D      A    ld     C,L
238 9C2F 3E 4F  AOCM00:   ld     A,'O'           ;Kdo-Zeichen
239 9C31 CD 9DCA A    call   OPENK
240 9C34 79      A    ld     A,C
241 9C35 CD 9DD2 A    call   PUTBS        ;Anzeige Portadresse
242 9C38 06 08  A    ld     B,8
243 9C3A CD 9D46 AOCM10:   call   GETAD          ;Eingabe Daten
244 9C3D D8      A    ret     c           ;stop
245 9C3E 28 02  A    jr     z,OCM20     ;keine Eingabe
246 9C40 ED 69  A    out   (C),L        ;Ausgabe auf Port
247 9C42 FE 0D  AOCM20:   cp     CR             ;Ende ?
248 9C44 C8      A    ret     z           ;ja
249 9C45 CD 9DD5 A    call   SPOUT
250 9C48 10 F0  A    djnz  OCM10        ;< 8 mal
251 9C4A 18 E3  A    jr     OCM00        ;sonst neue Zeile
252             A;
253             A; P-Kdo Bildschirmkopie

```

```

254      A; -----
255      A;
256 9C4C CD 9DD7 APCMD0      CALL CO      ;Kdo-Zeichen anzeigen
257 9C4F CD 9D66 APCMD02     CALL CI
258 9C52 D8      A      RET      C      ;RET bei STOP
259 9C53 FE 0D   A      CP      CR
260 9C55 20 F8   A      JR      NZ,PCMD02
261 9C57 C3 0000# A      JP      BICOP      ;Bildkopie bei ENTER
262      A;
263      A; R-Kdo Registeranzeige
264      A; -----
265      A;
266 9C5A CD 9C6C ARCMD0:      call RCM10      ;Anzeige 1. Registersatz
267 9C5D CD 9D66 ARCMD01:     call CI
268 9C60 C8      A      ret      z
269 9C61 FE 05   A      cp      UP
270 9C63 28 F5   A      jr      z,RCMDO
271 9C65 FE 18   A      cp      DOWN
272 9C67 CC 9C76 A      call   z,RCM20      ;Anzeige 2. Registersatz
273 9C6A 18 F1   A      jr      RCMDO1
274      A;
275 9C6C 21 F918 ARCM10:      ld      HL,A1RET+1      ;1. Registersatz
276 9C6F 11 9E73 A      ld      DE,TXTRC1
277 9C72 3E 52   A      ld      A,'R'
278 9C74 18 08   A      jr      RCM30
279      A;
280 9C76 21 F924 ARCM20:      ld      HL,A2RET+1      ;2. Registersatz
281 9C79 11 9E67 A      ld      DE,TXTRC2
282 9C7C 3E 72   A      ld      A,'r'
283      A;
284 9C7E D5      ARCM30:      push DE      ;Kdo-Zeichen ausgeben
285 9C7F CD 9DCA A      call   OPENK
286 9C82 D1      A      pop      DE
287 9C83 06 0A   A      ld      B,10      ;Anzahl
288 9C85 CD 9DD5 ARCM40:      call SPOUT
289 9C88 1A      A      ld      A,(DE)
290 9C89 4F      A      ld      C,A
291 9C8A 3E 3A   A      ld      A,':'
292 9C8C CD 9DCD A      call   STRCO      ;Registername + ":"
293 9C8F 2B      A      dec      HL
294 9C90 7E      A      ld      A,(HL)
295 9C91 CD 9DAC A      call   PUTBY      ;Register anzeigen
296 9C94 CB 79   A      bit      7,C      ;Doppelregister ?
297 9C96 20 05   A      jr      nz,RCM50      ;ja
298 9C98 2B      A      dec      HL
299 9C99 7E      A      ld      A,(HL)
300 9C9A CD 9DAC A      call   PUTBY
301 9C9D 10 E6   ARCM50:      djnz RCM40
302 9C9F C9      A      ret
303      A;
304      A; X-Kdo Register anzeigen und aendern
305      A; -----
306      A;
307 9CA0 11 9E73 AXCMD0:      ld      DE,TXTRC1      ;DE Text
308 9CA3 21 F918 A      ld      HL,A1RET+1      ;HL Rettungszellen
309 9CA6 1A      A      ld      A,(DE)
310 9CA7 B7      A      or      A
311 9CA8 20 06   A      jr      nz,XCM20      ;Ende der Tabelle ?

```

```
312 9CAA 11 9E67 A ld DE, TXTRC2 ;Tabellenanfang
313 9CAD 21 F924 A ld HL, A2RET+1
314 9CB0 3E 58 AXCM20: ld A, 'X' ;Kdo-Zeichen
315 9CB2 D5 A push DE
316 9CB3 CD 9DCA A call OPENK ;anzeigen
317 9CB6 D1 A pop DE
318 9CB7 06 01 A ld B, 1
319 9CB9 CD 9C85 A call RCM40 ;Reg anzeigen
320 9CBC 3E 2D A ld A, '-'
321 9CBE CD 9DD7 A call CO
322 9CC1 D5 A push DE
323 9CC2 EB A ex DE, HL
324 9CC3 CD 9D46 A call GETAD ;Eingabe
325 9CC6 EB A ex DE, HL
326 9CC7 38 0A A jr c, XCM30 ;stop
327 9CC9 28 08 A jr z, XCM30 ;keine Eingabe
328 9CCB 73 A ld (HL), E ;1.Byte
329 9CCC CB 79 A bit 7, C
330 9CCE 20 03 A jr nz, XCM30 ;Doppelregister ?
331 9CD0 23 A inc HL
332 9CD1 72 A ld (HL), D ;2.Byte
333 9CD2 2B A dec HL
334 9CD3 D1 AXCM30: pop DE
335 9CD4 D8 A ret c
336 9CD5 FE 0D A cp CR ;enter ?
337 9CD7 20 CD A jr nz, XCM10 ;nein, weiter
338 9CD9 C9 A ret
339 A;
340 A; F-Kdo Einstellen Funktionstasten
341 A; -----
342 A;
343 9CDA CD 9DD7 AFCMD0: call CO ;Kdo-Zeichen
344 9CDD CD 9D66 AFCMD01: call CI
345 9CE0 D8 A ret c ;stop
346 9CE1 CD 9D98 A call TEZIF ; "0"... "9"
347 9CE4 38 F7 A jr c, FCMD01
348 9CE6 CD 9DFB A call CO2 ;Echo
349 9CE9 4F A ld C, A
350 9CEA 3E 1B A ld A, ESCC ;Folge "ESC, ESC, Nr, ..., 0"
351 9CEC CD 0000# A call OUTASC
352 9CEF CD 0000# A call OUTASC
353 9CF2 79 A ld A, C
354 9CF3 CD 0000# A call OUTASC
355 9CF6 06 0F A ld B, 15 ;15 Zeichen
356 9CF8 CD 9D66 AFCMD02: call CI
357 9CFB FE 1B A cp ESCC ;Abbruch
358 9CFD 28 08 A jr z, FCMD03
359 9CFF CD 9DFB A call CO2
360 9D02 CD 0000# A call OUTASC
361 9D05 10 F1 A djnz FCMD02
362 9D07 AF AFCMD03: xor A ;NUL anhaengen
363 9D08 CD 0000# A call OUTASC
364 9D0B C9 A ret
365 A;
366 A; Q-Kdo Einstellen Anzeigemodus der 25. Zeile
367 A; -----
368 A;
369 9D0C CD 9DD7 AQCMD0: call CO ;Kdo-Zeichen anzeigen
```

```
370 9D0F CD 9D66 AQCMD01: call CI
371 9D12 C8 A ret z ;wenn stop, enter
372 9D13 E6 5F A and 5Fh
373 9D15 21 9AC5 A ld HL,STATUS
374 9D18 FE 53 A cp 'S' ;Anzeige SCP-Status
375 9D1A 28 1D A jr z,QCMD03
376 9D1C 21 9ABA A ld HL,FUNKTA
377 9D1F FE 46 A cp 'F' ;Anzeige Funtionstasten
378 9D21 28 16 A jr z,QCMD03
379 9D23 21 9AEB A ld HL,LEERZ
380 9D26 FE 4C A cp 'L' ;keine Anzeige
381 9D28 28 0F A jr z,QCMD03
382 9D2A FE 44 A cp 'D' ;Anzeige Speicherbereich
383 9D2C 20 E1 A jr nz,QCMD01 ;kein guelt Modus
384 9D2E CD 9D43 A call GETADC ;Eingabe Adr dazu
385 9D31 22 F906 A ld (MADR),HL
386 9D34 21 9AD5 A ld HL,MEMZ
387 9D37 18 06 A jr QCMD04
388 9D39 CD 9DD7 AQCMD03: call CO
389 9D3C CD 9D66 A call CI
390 9D3F 22 F908 AQCMD04: ld (STATU1),HL ;Ablegen UP-Adresse
391 9D42 C9 A ret
392 A;
393 A;Eingabe Adresse von Tastatur
394 A;-----
395 A;
396 9D43 CD 9DD7 AGETADC: call CO ;mit Ausgabe Kdo-Zeichen
397 A;
398 9D46 21 0000 AGETAD: ld HL,0
399 9D49 CD 9D66 A call CI ;keine Eingabe ?
400 9D4C C8 A ret z ;Z=1, falls stop -> CY=1
401 9D4D CD 9D86 AGETA1: call TEHEX ;Test auf Hex-Ziffer
402 9D50 38 0C A jr c,GETA2 ;nein
403 9D52 CD 9DD7 A call CO ;Echo
404 9D55 CD 9D9F A call ASHEX ;Wandlung
405 9D58 29 A add HL,HL
406 9D59 29 A add HL,HL
407 9D5A 29 A add HL,HL
408 9D5B 29 A add HL,HL
409 9D5C 85 A add A,L
410 9D5D 6F A ld L,A
411 9D5E CD 9D66 AGETA2: call CI ;naechste Eingabe
412 9D61 20 EA A jr nz,GETA1 ;Trennzeichen ?
413 9D63 D8 A ret c ;wenn stop CY=1
414 9D64 B7 A or A
415 9D65 C9 A ret ;sonst Z=0, CY=0
416 A;
417 A;Tastatureingabe mit Setzen des Cursors im Puffer
418 A;-----
419 A;
420 9D66 E5 ACI: push HL
421 9D67 2A F904 A ld HL,(CURSR)
422 9D6A 36 5F A ld (HL),5FH ;"_"
423 9D6C CD 9E0F A call COPY ;Puffer anzeigen
424 9D6F C5 A push BC
425 9D70 CD 8C33 A call TCONIN ;Warten auf Zeichen
426 9D73 C1 A pop BC
427 9D74 36 20 A ld (HL),20H ;"_" weg
```

```
428 9D76 CD 9E0F A call COPY ;Puffer anzeigen
429 9D79 E1 A pop HL
430 9D7A FE 0D A cp CR ;Test enter
431 9D7C C8 A ret z
432 9D7D FE 20 A cp SPACE ;Test space
433 9D7F C8 A ret z
434 9D80 FE DB A cp STOP ;Test stop -> CY=1
435 9D82 37 A scf
436 9D83 C8 A ret z
437 9D84 B7 A or A ;sonst Z=0, CY=0
438 9D85 C9 A ret
439 A;
440 A;Test auf ASCII-Hex-Ziffer
441 A;-----
442 A;
443 9D86 FE 67 ATEHEX: cp 67h ;Eing A Zeichen
444 9D88 3F A ccf
445 9D89 D8 A ret c
446 9D8A FE 61 A cp 61h
447 9D8C 38 03 A jr c,TEHEX1
448 9D8E D6 20 A sub 20h
449 9D90 C9 A ret
450 9D91 FE 47 ATEHEX1: cp 47H ;Eing A Zeichen
451 9D93 3F A ccf
452 9D94 D8 A ret c ;Ausz CY=0 wenn Hex-Ziffer
453 9D95 FE 41 A cp 41H ; =1 sonst
454 9D97 D0 A ret nc
455 9D98 FE 3A ATEZIF: cp 3AH
456 9D9A 3F A ccf
457 9D9B D8 A ret c
458 9D9C FE 30 A cp 30H
459 9D9E C9 A ret
460 A;
461 A;Wandlung ASCII - Hex
462 A;-----
463 A;
464 9D9F D6 30 AASHEX: sub 30H ;Eing A Zeichen
465 9DA1 FE 0A A cp 10 ;Ausz A Hex
466 9DA3 D8 A ret c
467 9DA4 D6 07 A sub 7
468 9DA6 C9 A ret
469 A;
470 A;Adresse ausgeben auf Puffer
471 A;-----
472 A;
473 9DA7 7C APUTAD: ld A,H ;Eing HL
474 9DA8 CD 9DAC A call PUTBY
475 9DAB 7D A ld A,L
476 A;
477 A;Byte ausgeben auf Puffer
478 A;-----
479 A;
480 9DAC F5 APUTBY: push AF ;Eing A Byte
481 9DAD 0F A rrca
482 9DAE 0F A rrca
483 9DAF 0F A rrca
484 9DB0 0F A rrca
485 9DB1 CD 9DB5 A call PUTBY1
```

```
486 9DB4 F1      A    pop    AF
487 9DB5 E6 0F    APUTBY1:   and    0FH
488 9DB7 C6 90      A    add    A,90H
489 9DB9 27        A    daa
490 9DBA CE 40      A    adc    A,40H
491 9DBC 27        A    daa
492 9DBD 18 18      A    jr     CO
493              A;
494              A;Zeichenkette auf Puffer
495              A;-----
496              A;
497 9DBF F5        ASTRNG:    push   AF                ;Eing DE Puffer
498 9DC0 1A        ASTRN1:    ld     A,(DE)          ;Abbruch mit BIT 7
499 9DC1 13        A    inc    DE
500 9DC2 CD 9DD7   A    call   CO
501 9DC5 87        A    add    A,A                ;Ende ?
502 9DC6 30 F8     A    jr     nc,STRN1
503 9DC8 F1        A    pop    AF
504 9DC9 C9        A    ret
505              A;
506              A;Kdo-Zeichen ausgeben
507              A;-----
508              A;
509 9DCA 11 9E80   AOPENK:    ld     DE,XTTPR        ;Eing A Kdo-Zeichen
510 9DCD CD 9DBF   ASTRCO:    call   STRNG
511 9DD0 18 05     A    jr     CO
512              A;
513              A;BYTE + SPACE auf Puffer
514              A;-----
515              A;
516 9DD2 CD 9DAC   APUTBS:    call   PUTBY
517              A;
518              A;SPACE auf Puffer
519              A;-----
520              A;
521 9DD5 3E 20     ASPOUT:    ld     A,SPACE
522              A;
523              A;Zeichenausgabe auf Puffer
524              A;-----
525              A;
526 9DD7 F5        AC0:  push   AF                ;Eing A Zeichen
527 9DD8 E5        A    push   HL
528 9DD9 E6 7F     A    and    7FH
529 9ddb 2A F904   A    ld     HL,(CURSR)
530 9DDE FE 0D     A    cp     CR
531 9DE0 CC 9E02   A    call   z,CLEAR
532 9DE3 FE 20     A    cp     20H
533 9DE5 38 0E     A    jr     c,C01
534 9DE7 77        AC00: ld     (HL),A
535 9DE8 D5        A    push   de
536 9DE9 EB        A    ex     de,hl
537 9DEA 21 F972   A    ld     hl,PUFF+LPUF-2 ;Test Pufferende
538 9DED A7          A    and    a
539 9DEE ED 52     A    sbc   hl,de
540 9DF0 EB        A    ex     de,hl
541 9DF1 D1        A    pop    de
542 9DF2 38 01     A    jr     c,C01
543 9DF4 23        A    inc    HL
```

```
544 9DF5 22 F904 AC01: ld (CURSR),HL
545 9DF8 E1 A pop HL
546 9DF9 F1 A pop AF
547 9DFA C9 A ret
548 9DFB F5 AC02: push af
549 9DFC E5 A push hl
550 9DFD 2A F904 A ld hl,(CURSR)
551 9E00 18 E5 A jr C00
552 A;
553 9E02 C5 ACLEAR: push BC ; Puffer loeschen
554 9E03 21 F974 A ld HL,PUFF+LPUF
555 9E06 06 50 A ld B,LPUF
556 9E08 2B ACLEAR1: dec HL
557 9E09 36 20 A ld (HL),20H
558 9E0B 10 FB A djnz CLEAR1
559 9E0D C1 A pop BC
560 9E0E C9 A ret
561 A;
562 A; Ausgabe des Puffers
563 A;
564 9E0F E5 ACOPY: push HL
565 9E10 D5 A push DE
566 9E11 C5 A push BC
567 9E12 F5 A push AF
568 9E13 CD 9AE0 A call PUTPUF
569 9E16 F1 A pop AF
570 9E17 C1 A pop BC
571 9E18 D1 A pop DE
572 9E19 E1 A pop HL
573 9E1A C9 A ret
574 A;
575 A; Register ablegen
576 A; -----
577 A;
578 9E1B F3 ARPUSH: di
579 9E1C ED 73 F90A A ld (BIOSP),SP
580 9E20 31 F924 A ld SP,A2RET+1
581 9E23 08 A ex AF,AF'
582 9E24 D9 A exx
583 9E25 F5 A push AF
584 9E26 C5 A push BC
585 9E27 D5 A push DE
586 9E28 E5 A push HL
587 9E29 D9 A exx
588 9E2A 08 A ex AF,AF'
589 9E2B DD E5 A push IX
590 9E2D FD E5 A push IY
591 9E2F F5 A push AF
592 9E30 C5 A push BC
593 9E31 D5 A push DE
594 9E32 E5 A push HL
595 9E33 2A F888 A ld HL,(IRSPL3)
596 9E36 E5 A push HL ;user SP
597 9E37 5E A ld E,(HL)
598 9E38 23 A inc HL
599 9E39 56 A ld D,(HL)
600 9E3A D5 A push DE ;PC
601 9E3B ED 7B F90A A ld SP,(BIOSP)
```



```
602 9E3F FB      A      ei
603 9E40 C9      A      ret
604              A;
605              A; Register restaurieren
606              A; -----
607              A;
608 9E41 F3      ARPOP:      di
609 9E42 ED 73 F90A A      ld      (BIOSP),SP
610 9E46 31 F90C  A      ld      SP,PC1RET
611 9E49 D1      A      pop     DE          ;PC
612 9E4A E1      A      pop     HL          ;SP
613 9E4B 22 F888  A      ld      (IRSPL3),HL
614 9E4E 73      A      ld      (HL),E
615 9E4F 23      A      inc     HL
616 9E50 72      A      ld      (HL),D
617 9E51 E1      A      pop     HL
618 9E52 D1      A      pop     DE
619 9E53 C1      A      pop     BC
620 9E54 F1      A      pop     AF
621 9E55 FD E1   A      pop     IY
622 9E57 DD E1   A      pop     IX
623 9E59 08      A      ex      AF,AF'
624 9E5A D9      A      exx
625 9E5B E1      A      pop     HL
626 9E5C D1      A      pop     DE
627 9E5D C1      A      pop     BC
628 9E5E F1      A      pop     AF
629 9E5F 08      A      ex      AF,AF'
630 9E60 D9      A      exx
631 9E61 ED 7B F90A A      ld      SP,(BIOSP)
632 9E65 FB      A      ei
633 9E66 C9      A      ret
634              A;
635 9E67 E1      ATXTRC2:  defb    0E1H          ;a Reihenfolge
636 9E68 E6      A      defb    0E6H          ;f muss bleiben !
637 9E69 E2      A      defb    0E2H          ;b
638 9E6A E3      A      defb    0E3H          ;c
639 9E6B E4      A      defb    0E4H          ;d
640 9E6C E5      A      defb    0E5H          ;e
641 9E6D E8      A      defb    0E8H          ;h
642 9E6E EC      A      defb    0ECH          ;l
643 9E6F 49      A      defb    'I'          ;IX
644 9E70 D8      A      defb    0D8H
645 9E71 49      A      defb    'I'          ;IY
646 9E72 D9      A      defb    0D9H
647 9E73 C1      ATXTRC1:  defb    0C1H          ;A 1. Registersatz
648 9E74 C6      A      defb    0C6H          ;F
649 9E75 C2      A      defb    0C2H          ;B
650 9E76 C3      A      defb    0C3H          ;C
651 9E77 C4      A      defb    0C4H          ;D
652 9E78 C5      A      defb    0C5H          ;E
653 9E79 C8      A      defb    0C8H          ;H
654 9E7A CC      A      defb    0CCH          ;L
655 9E7B 53      A      defb    'S'          ;SP
656 9E7C D0      A      defb    0D0H
657 9E7D 50      A      defb    'P'          ;PC
658 9E7E C3      A      defb    0C3H
659 9E7F 00      A      defb    0          ;Tab.ende
```

```
660          A;
661 9E80 0D    ATXTPR:   defb   CR           ;Prompt
662 9E81 53 54 4F 50A   defm   'STOP:'
663 9E86 A0    A       defb   SPX
664          A;*****
72          ;
73          0000      COND   $ GT 0A000H
75          ENDC
77          0000      RSOLO   EQU    0           ;RAM nicht allein
78          0001      DSE    equ    1
79          0001      DSE1RA  equ    1
80          0001      DSE2RA  equ    1
81          0000      DISKLU  EQU    0           ;BICDITR nicht enthalten
82          0001      SCP     equ    1
83          0001      ELS     EQU    1           ;SCPEL* enthalten
```

# SYMRAM E600-FFFF

Z80ASM SuperFast Relocating Macro Assembler  
SYMRAM Z80

Z80ASM 1.30 Page 1

```

1          ;*****
2          ;
3          ;Steuerfile fuer Erzeugen eines Symbolfiles
4          ;des gesamten BIC-RAM-Bereiches
5          ;
6          ;Stand: 09.05.89
7          ;File: SYMRAM.S
8          ;
9          ;*****
10         INCLUDE ORG.Z80
11        A;*****
12        A;Symbol. Vereinbarung aller ORG's
13        A;Stand: 22.11.89
14        A;File: ORG.S
15        A;-----
16        2300 ABIC1 EQU    2300H    ;R-BASIC (Busch)
17        A;
18        6420 ADSE2 EQU    6420H    ;Floppy-Treiber (Ludewig,Loeber)
19        7880 ADSE3 EQU    7880H    ;Bildteil SCP (Gaertner)
20        A      ;BIOS,Disk (Ludewig)
21        8000 ASCPROM     EQU    08000H ;Erweiterung SCP-ROM
22        A;
23        E606 ABDOSCP     EQU    0E606H ;Achtung: XX06H !!!
24        A      ;RAM fuer BDOS nur in SCP
25        A      ;RAM fuer SCP-ROM-Treiber
26        E880 ADSK1RA     EQU    0E880H ;Disk-RAM 1 (Busch,Kersten)
27        EA27 ADSK2RA     EQU    0EA27H ;Disk-RAM 2 (Ludewig,Loeber)
28        F235 ASYSRAM     EQU    0F235H ;Grund-RAM
29        A;
30        BFF9 APLOT EQU    0C000H-7;Plotteranschluss
31        A;*****
32        ;
33        0001 RSOLO      equ    1      ;RAM allein uebersetzen
34        0001 DSE      equ    1
35        0001 DSE1RA     equ    1
36        0001 DSE2RA     equ    1
37        0000 DISKLU     equ    0      ;BICDITR nicht enthalten
38        0001 SCP      equ    1
39        0000 ELS      EQU    0      ;SCPEL* nicht enthalten
40        ;
41        INCLUDE BICRAM.Z80
42        A .LIST
43        A
44        A;*****
45        A;RAM-File fuer BIC A 5105
46        A;Stand: 09.05.89
47        A;File: BICRAM.Z80
48        A;*****
49        A;*****
50        A; SCP-RAM BIC (nur fuer SCP !)
51        A;-----
52        A;
53        E606 A      ORG    BDOSCP
54        0001 A      COND  SCP
55        A      INCLUDE BDOSSCRA.Z80 ;Kersten
56        B;*****
57        B;!HEAD MODULE

```

```

3          B;FILE                BDOSSCP.RAM.S
4          B;DISK
5          B;AUTHOR              Kersten -> Ludwig
6          B;DATE                09.05.89
7          B;VARIABLES (hier nicht aufgefuehrt)
8          B;END
9          B;!
10         B; File enthaelt den nur fuer SCP benoetigten RAM-Teil
11         B; (D.h. den BDOS-Rahmen. Wird aus ROM geladen.)
12         B;*****
13         B;
14 E606    0003    BSBDOS:      DEFS 3                ;JP SBDOS0 ; BDOS-Eintritt SCP (i. RAM)
15         B;=====
16 E609    0002    BSBDSSEC:   DEFS 2                ;DEFW  ERRBAD
17 E60B    0002    BSBDSSEL:   DEFS 2                ;DEFW  ERRSEL
18 E60D    0002    BSDISKRO:DEFS 2                ;DEFW  ERRDRO
19 E60F    0002    BSFILERO:DEFS 2                ;DEFW  ERRFRO
20         B;=====
21 E611    000D    B   DEFS 13                ; BWS-Vorsatz
22         B;=====
23 E61E    0018    BSBDOS0:   DEFS 24                ; Bank-Umschaltung, Ansprung ROM-BDOS
24         B;
25         B;SBD1      LD      (UST0),SP          ; Retten SP
26         B; LD      SP,STACK0                ; Ist erforderlich, da User-Stack
27         B;                                     ; nur Platz fuer 1xCALL zu haben
28         B;                                     ; braucht.
29         B; IN      A,(PPIA)                  ; ( zugehoerige RAM-Adr. = SBDOS0 )
30         B; LD      (RettMem),A              ; Retten Speicherbelegung
31         B; LD      A,(SLCTRL)                ; SCPX-Bank-Belegung mit SCP-RAM
32         B; AND     0FCh                      ; 0 bis 0FFh auf Bank 2
33         B; OR      2
34         B; OUT     (PPIA),A
35         B; JP      SBDOS1                    ; Sprung zu ROM-BDOS
36         B;=====
37 E636    0014    BSBDOSE   DEFS 20
38         B;
39         B;SBD01:   LD      SP,(UST0)          ;SBD0SE: Endebehandlung fuer SCP-BDOS
40         B; LD      DE,(RettDE)
41         B; LD      (RettA),A
42         B; LD      A,(RettMem)
43         B; OUT     (PPIA),A
44         B; LD      A,(RettA)
45         B; RET
46         B;SBD2:
47         B;
48         B;*****
49         B;; Sprung zur Fehlerbehandlung im SCP-Vorspann
50         B; (RAM liegt im RBASIC parallel zu FNDBUF !)
51         B;
52         B;SBSEC   DEFS 5                      ! s. FNDBUF !
53         B;SSBSEC:ld hl,SBSEC
54         B; jr      Sbder
55         B;-----
56         B;SBSEL   DEFS 5                      ! s. FNDBUF !
57         B;SSBSEL:ld hl,SBSEL
58         B; jr      Sbder
59         B;-----
60         B;SDRO    DEFS 5                      ! s. FNDBUF !
    
```

```

61      B;SSDRO:   ld    hl,SDISKRO
62      B;   jr    Sbder
63      B;-----
64      B;SFRO     DEFS   3                      ! s. FNDBUF !
65      B;SSFRO:   ld    hl,SFILERO
66      B;-----
67      B;Sbder    DEFS   7                      ! s. FNDBUF !
68      B;SSbder   LD     A,0AAH
69      B;   OUT   (PPIA),A
70      B;   jp    ie34a
71      B;=====
72      B;ERRBAD   DEFS   25                     ! s. FNDBUF !
73      B;
74      B;SERRBAD:ld hl,MBad      ;bad sector
75      B;   LD    A,(SLCTRL)
76      B;   AND   0FCH
77      B;   OR    2
78      B;   OUT   (PPIA),A
79      B;   call  SFMELD      ; Aufruf Fehlerbehandlg.
80      B;   cp    03h
81      B;   ret   nz
82      B;   LD    A,0AAH
83      B;   OUT   (PPIA),A
84      B;   JP    0
85      B;-----
86      B;ERRSEL   DEFS   5                      ! s. FNDBUF !
87      B;SERRSEL:ld hl,MSel      ;select
88      B;   jr    ERRRES
89      B;-----
90      B;ERRDRO   DEFS   5                      ! s. FNDBUF !
91      B;SERRDRO:ld hl,MRO      ;r/o
92      B;   jr    ERRRES
93      B;-----
94      B;ERRFRO   DEFS   3                      ! s. FNDBUF !
95      B;SERRFRO:ld hl,MFRO     ;file r/o
96      B;-----
97      B;ERRRES   DEFS   19                     ! s. FNDBUF !
98      B;SERRRES:LD A,(SLCTRL)
99      B;   AND   0FCH
100     B;   OR    2
101     B;   OUT   (PPIA),A
102     B;   call  SFMELD
103     B;   LD    A,0AAH
104     B;   OUT   (PPIA),A
105     B;   jp    0
106     B;=====
107     B;
108     B;; BDOS-Fehlermeldungen ( ->RAM)
109     B;
110     B;MERR0     DEFS   12                     ! s. FNDBUF !
111     B;   defm  'BDOS err on '      ;werden aus ROM geladen
112     B;MERR1     DEFS   4                      ! s. FNDBUF !
113     B;   defm  ' : $'              ;dort MERR00 u. MERR10
114     B;*****
115     B;(RAM liegt im RBASIC parallel zu FIRERL !)
116     B;
117     B;RettDE:DEFS      2                      ! s. FIRERL !
118     B;RettA:   DEFS    1                      ! s. FIRERL !

```

```
119          B;RettMem:DEFS      1                      ! s. FIRERL !
120          B;*****
121          B; (RAM liegt im RBASIC parallel zu ACTZN !)
122          B;
123          B;UST0:      DEFS    2                      ! s. ACTZN !
124          B;      DEFS    10*2
125          B;STACK0:                      ! s. ACTZN !
126          B;-----
127          B;ZFCB:      DEFS    36                      ;Zwischenpuffer fuer FCB's          ! s.
ACTZN !
128          B;DZRET      DEFS    3                      ;Direktzugriffsp parameter (r0..r2) ! s. ACTZN !
129          0102  B;STRLEN EQU    258
130          B;ZSTR:      DEFS    STRLEN+1              ;Zwischenpuffer fuer Strings (getrennt ! s.
ACTZN !
131          B;                      ; wegen BDOS-Ruf 18 !!!)
132          B;
133          B; ----- Ende BDOSSCP.RAM.S -----
```

```

19      A      INCLUDESCPRAM.Z80                      ;Gaertner, Luetzner, Elssner, Schlegel,
Ludewig
1      B;*****
2      B; RAM-Bereiche fuer SCPX
3      B; Stand: 17.05.89
4      B; File: SCPRAM.S
5      B;*****
6      B; (RAM liegt im RBASIC parallel zu MUPUK0 !)
7      B;
8      B;IRSP3E      defs      1                      ! s. MUPUK0 !
9      B;      defs      82      ;Stack BIOS-Monitor      ! s. MUPUK0 !
10     B;IRSPL3      defs      2                      ! s. MUPUK0 !
11     B;=====
12     B; (RAM liegt im RBASIC parallel zu FIRERL !)
13     B;
14     B;ZEISFL      defs      1      ;7F - normaler, 80 - alternat. ZS      ! s. FIRERL !
15     B;ZEISA      defs      1      ;normal ?                      ! s. FIRERL !
16     B;INVEFL      defs      1      ;akt. Zustand Farbbyte                      ! s. FIRERL
!
17     B;FKTAN1      defs      1      ;Hilfszelle Fehleranzeige                      ! s. FIRERL !
18     B;=====
19     B; (RAM liegt im RBASIC parallel zu MUPUK0 !)
20     B;
21     B;IRZ240      defs      1      ;Zeitzaeehler 240 ms                      ! s. MUPUK0 !
22     B;FZELLE      defs      1      ;Fehlerzelle fuer Anzeige                      ! s. MUPUK0 !
23     B;SYNSEM      defs      1      ;Verbot Stop-Zustand + BIOS-Monitor      ! s. MUPUK0 !
24     B;SYNFLG      defs      1      ;Monitor-Flag                      ! s. MUPUK0 !
25     B;H2PPIA      defs      1      ;Merkzelle Systemzustand                      ! s. MUPUK0 !
26     B;STATUP      defs      2      ;Adresse fuer Anzeige                      ! s. MUPUK0 !
27     B;STFLAG      DEFS      1      ;Neuanzeige SCP-Statuszeile                      ! s. MUPUK0 !
28     B;FUFLAG      DEFS      1      ;      "      Fkt-Tastenbelegung                      ! s. MUPUK0
!
29     B;SYNS2      DEFS      1      ;Verbot BIOS-Monitor                      ! s. MUPUK0 !
30     B;
31     B;BIOSMO      DEFS      7      ;BIOS-Monitor (Eintritt mit Taste) ! s. MUPUK0 !
32     B;PCRET      DEFS      4      ;Adr, wo System-IR eingeschoben wurde      ! s. MUPUK0
!
33     B;MONCAL      DEFS      41     ;BIOS-Monitor (Eintritt mit RST 38H)      ! s. MUPUK0
!
34     B;DECHL      DEFS      22     ;
35     B;XSTOP4      DEFS      24     ;PCALT <-> BIOSMO tauschen      ! s. MUPUK0 !
36     B;
37     B;DISM01      DEFS      7      ;Verbieten BIOS-Monitor                      ! s. MUPUK0
!
38     B;ENAM01      DEFS      7      ;Erlauben BIOS-Monitor                      ! s. MUPUK0
!
39     B;
40     B;=====
41     B;BIOS-Monitor
42     B; (RAM liegt im RBASIC parallel zu MUPUK0 !)
43     B;
44     B;CURSR      DEFS      2      ;Kursor in Puffer                      ! s. MUPUK0 !
45     B;MADR      DEFS      2      ;anzuweisende Speicheradr      ! s. MUPUK0 !
46     B;STATU1      DEFS      2      ;Zwischenspeicher fuer STATUP      ! s. MUPUK0
!
47     B;BIOSP      DEFS      2      ;SP bei Aufruf                      ! s. MUPUK0 !
48     B;PC1RET      DEFS      11     ;1.Registersatz (PC,SP,HL,DE,BC,AF) ! s. MUPUK0 !
49     B;A1RET      DEFS      1      ;
50     B;      DEFS      11     ;2.Registersatz (IY,IX,HL,DE,BC,AF) ! s. MUPUK0 !
51     B;A2RET      DEFS      1      ;
52     B;
53     B;LPUF      EQU      80      ;Pufferlaenge                      ! s. MUPUK0 !
54     B;PUFF      DEFS      LPUF    ;Zeilenpuffer fuer Monitor      ! s. MUPUK0 !
55     B;DPUFF      DEFS      16     ;Puffer fuer D-Kdo                      ! s. MUPUK0 !
56     B;=====
57     B;

```

```
58 E64A 0050 BSTZEIL defs 80 ;Statuszeile fuer Anzeige in BS-Zeile 25
59 E64A BSTALW equ STZEIL ;aktuelles LW
60 E64B BSTUSER equ STZEIL+1 ;akt. user
61 E64D BSTSATZ equ STZEIL+3 ;akt. Zeichensatz
62 E64F BSTLW equ STZEIL+5 ;LW-Verteilung
63 E655 BSTIO equ STZEIL+11 ;Stellung IO-Byte
64 E658 BSTDSKF equ STZEIL+14 ;Disk-Formate
65 E670 BTTAST equ STZEIL+38 ;Tastatur-Puffer
66 E699 BTTREI equ STZEIL+79 ;Verklemmungsanzeige Treiber
67 B;-----
68 E69A 0001 BIOPRET DEFS 1 ;Kopie SCP-Adr. 3
69 E69B 0001 BLWRET DEFS 1 ;Kopie SCP-Adr. 4
70 E69C 0050 BDFEPU DEFS 80 ;Disketten-Fehlerpuffer
71 B;=====
```



```

73      B;
74      B;;CCP-RAM: Kopien aus ROM
75      B;
76      B;alle Marken, die Adressen des ROM bezeichnen, enden mit 0
77      B;alle Marken, die Adressen des RAM bezeichnen, enden mit 2
78      B;-----
79      B;
80 E6EC      BCRAM2:                ;Anfang des CCP-RAM
81      B;-----
82 E6EC      0001      BCOMBF2:      DEFS      1      ;CCP-Kommandopufferlaenge
83 E6ED      0001      BCOMBL2:      DEFS      1      ;aktuelle Kommandolaenge
84 E6EE      007F      BCOMBT2:      DEFS      127     ;Beginn des Kommandopuffers (1.Zeichen)
85      B;
86 E76D      000E      BSFD2:        DEFS      14      ;$$$SUB FCB Drive, Name, Typ, EX, S1
87 E77B      0001      BSFS22:       DEFS      1      ;                S2 (BDOS-Flag Schreibzugriff)
88 E77C      0011      BSFRC2:       DEFS      17      ;                RC (Record Counter)
89 E78D      0004      BSFCR2:       DEFS      4      ;                CR (Current Record)
90      B;
91 E791      0008      BCBCHL2:      DEFS      8      ;2 Byte ab (HL) in BC von anderem SLOT lesen
92 E799      0007      BLDDR2:       DEFS      7      ;LDDR
93 E7A0      0008      BCBDR2:       DEFS      8      ;CALL 5
94 E7A8      BASTSV:
95 E7A8      0008      BETAB2:       DEFS      8      ;Fehleradresstabelle
96      B;-----
97 E7B0      0030      B      DEFS      30H     ;CCP-STACK
98 E7E0      BCST2:                ;Vor dem Stack liegen konstante Daten im RAM.
99      B      ;Diese werden bei Warmstart des CCP regeneriert,
100     B      ;um vom Anwenderprogramm verursachte Stack-
101     B      ;ueberlaeufer zu reparieren.
102     B      ;Hinter dem Stack liegen veraenderliche Daten,
103     B      ;die erhalten bleiben muessen !
104     B;-----
105 E7E0      0004      BLDIR2:       DEFS      4      ;LDIR
106 E7E4      0008      BRTPA2:       DEFS      8      ;Slotrueckschaltung ohne Registerveraenderung
107 E7EC      0008      BRET2:        DEFS      8      ;Rueckkehr aus transientem Kommando
108 E7F4      0005      BANCR2:       DEFS      5      ;LD SP,(ASTSV) RET
109 E7F9      0003      BJPHL2:       DEFS      3      ;OUT (PPIA),A JP (HL)
110 E7FC      0003      BCK12:        DEFS      3      ;PATCH Warmstart CCP
111 E7FF      0003      BCK22:        DEFS      3      ;PATCH CCP-Kommando-Warteschleife
112 E802      0003      BCK32:        DEFS      3      ;PATCH CCPDEF vor Einstellen DRIVE/USER/DMA
113     B;-----
114 E805      0004      BESEC2:       DEFS      4      ;Fehlerbehandlungsprogramme
115 E809      0004      BESEL2:       DEFS      4      ;LD HL,(nn)
116 E80D      0004      BEDRO2:       DEFS      4      ;JP (HL)
117 E811      0004      BEFRO2:       DEFS      4
118     B;
119     B; ##### Achtung !!! ##### TREND muss direkt vor der Tabelle stehen #####
120     FFFF      B      COND      (RSOLO EQ 1) OR (ELS EQ 0)
121     0006      BNRESC      EQU      6      ;ACHTUNG: Auch im ROM definiert !
122     0008      BLRESC      EQU      8
123     B      ENDC
124     B;
125 E815      0002      BTREND:       DEFS      2      ;kleinste Adresse fuer nachgeladene Treiber
126 E817      003D      BRES2:        DEFS      NRESC*(LRESC+2)+1 ;RAM-Tabelle der nachgeladenen residenten
Kommandos
127     E817      BRESX2      EQU      RESC2      ;1. Tabellenplatz
128     E854      BENDX2      EQU      $      ;Tabellenende + 1
129     B; #####
130 E854      0002      BCOMPP2:      DEFS      2      ;Entschl. Zeiger Kommandopuffer

```

```

131 E856 0002 BDCF71: DEFS 2 ;Parameterbeginn fuer Fehlermeldung
132 E858 0002 BEXTZ: DEFS 2 ;Fuellstand EXT, Anfangsadresse des
133 B; ;zuletzt geladenen Kommandos
134 E85A 0001 BDEFUS: DEFS 1 ;default user
135 E85B 0001 BDEFDV: DEFS 1 ;default drive, 0 entspricht Laufwerk A
136 E85C 0001 BSELUAK: DEFS 1 ;ausgewaehlter User bei SETUS (BDOS 32)
137 E85D 0001 BSYSVVC: DEFS 1 ;Kaltstart-Laufwerk, 0 entspricht LW A
138 E85E 0001 BSELDAK: DEFS 1 ;ausgewaehltes LW bei SELDSK (BDOS 14)
139 E85F 0002 BLFILE: DEFS 2 ;Filelaenge nach LODCOM, Vielfaches von 80H
140 E861 0002 BDCF98: DEFS 2 ;Adresse des vorhergehenden Kommandos in
141 B; ;der Tabelle der residenten Kommandos
142 E863 0002 BPARBEG: DEFS 2 ;Parameterbeginnadresse im Kommandopuffer
143 E865 0001 BDCF6E: DEFS 1 ;ist explizit LW angegeben ?
144 B; ;0..nein, 1..LW A, 2..LW B, u.s.w.
145 E866 0001 BDCF70: DEFS 1 ;ist SUB aktiv ?
146 B; ;0..nein, 1..ja in LW A, u.s.w.
147 E867 0001 BCSLOT: DEFS 1 ;CCP-interne SLOT-Zuordnung
148 E868 0002 BCBDOS: DEFS 2 ;zur Regenerierung der BDOS-Adresse bei Warmstart
149 B;-----
150 E86A BCRAME: ;Ende des CCP-RAM
151 017E BCRAML EQU CRAME-CRAM2 ;Gesamtlaenge CCP-RAM
152 B;
153 B;=====

```

```

155      B;=====
156      B;Koepfe der BIOS-Rufe RAM
157      B; (RAM liegt im RBASIC parallel zu MUPUK0 !)
158      B;
159      B;BIORRA                                ! s. MUPUK0 !
160      B;KCIBOOT:DEFS      5      ;0          ! s. MUPUK0 !
161      B;KWBOOT   DEFS      5          ! s. MUPUK0 !
162      B;KCONST   DEFS      5      ;2          ! s. MUPUK0 !
163      B;KCONIN   DEFS      5          ! s. MUPUK0 !
164      B;KCONOUT:DEFS     5      ;4          ! s. MUPUK0 !
165      B;KLIST    DEFS      5          ! s. MUPUK0 !
166      B;KPUNCH   DEFS      5      ;6          ! s. MUPUK0 !
167      B;KREADER:DEFS     5          ! s. MUPUK0 !
168      B;KHOME    DEFS      5      ;8          ! s. MUPUK0 !
169      B;KSELDSK:DEFS     5          ! s. MUPUK0 !
170      B;KSETTRK:DEFS     5      ;10         ! s. MUPUK0 !
171      B;KSETSEC:DEFS     5          ! s. MUPUK0 !
172      B;KSETDMA:DEFS     5      ;12         ! s. MUPUK0 !
173      B;KREAD    DEFS      5          ! s. MUPUK0 !
174      B;KWRITE   DEFS      5      ;14         ! s. MUPUK0 !
175      B;KLISTST:DEFS     5          ! s. MUPUK0 !
176      B;KSECTAN:DEFS     5      ;16         ! s. MUPUK0 !
177      B;KCONOST:DEFS     5          ! s. MUPUK0 !
178      B;KAUXIST:DEFS     5      ;18         ! s. MUPUK0 !
179      B;KAUXOST:DEFS     5          ! s. MUPUK0 !
180      B;KDEVTBL:DEFS     5      ;20         ! s. MUPUK0 !
181      B;-----
182      B;
183      B;BIOS-Rahmen RAM (muss auf "Koepfe der BIOS-Rufe" folgen!)
184      B; (RAM liegt im RBASIC parallel zu MUPUK0 !)
185      B;
186      B;BIORA     DEFS      33      ;BIOS-Rahmen          ! s. MUPUK0 !
187      B;JPHLR    DEFS       1          ! s. MUPUK0 !
188      B;-----
189      B;
190      B;BIOS-Stack
191      B; (RAM liegt im RBASIC parallel zu MUHLP !)
192      B;
193      B;   DEFS      2*40+2 ;BIOS-Stack (40 Plaetze)      ! s. MUHLP !
194      B;BIORST   DEFS       2      ;Rettzelle SP          ! s. MUHLP !
195      B;-----
196      B; (RAM liegt im RBASIC parallel zu FNPTR !)
197      B;
198      B;TRBSCH   defs      29      ;Verteilung ueber IO-Byte      ! s. VARFOR !
199      B;TRRUF2   defs      32      ;Ein/Ausschaltung Statuszeichen ! s. VARFOR
!
200      B;                                     ; Warmst. bei Fehler      ! s. VARFOR !
201      B;TRTAB    defs      32      ;Adresztabelle Treiber          ! s. VARFOR
!
202      B;SLTAB    defs      16      ;Slottabelle Treiber          ! s. VARFOR !
203      B;-----
204 E86A  0000  BRAMEND    defs      0
205      B;*****
20   A   ENDC          ;SCP
21   A   COND  $ GT DSK1RA
23   A   ENDC
25   A;*****
26   A;
27   A; Disketten-RAM BIC (nur fuer SCP und Disk-BASIC !)
28   A; Teil 1

```

```

29          A;-----
30          A;
31      E880  A    ORG    DSK1RA
32      0001  A    COND  DSE AND DSE1RA
33          A    INCLUDESKRAM.Z80          ;Busch
1          B;*****
2          B;RAM-Bereich fuer Diskette
3          B;in RBASIC
4          B;Stand: 02.03.89
5          B;-----
6  E880          BARAMDS
7  E880  0005  BJPBDOS      defs  5          ;externer Ansprung BDOS
8  E885  0002  BDMAADR      defs  2          ;dma-Adresse
9  E887  0001  BDEFDRV      defs  1          ;default drive
10 E888  0002  BRECLEN      defs  2          ;user set record size
11 E88A  0001  BTAST defs  1          ;Ergebnis dir. Tastenabfrage
12 E88B  0001  BSCPDA?      defs  1          ;scpx da ?
13 E88C  0001  BRESDOK      defs  1          ;reset disk ok ?
14 E88D  0001  BAKTBNK      defs  1          ;aktuelle Bank
15 E88E  0002  BADFCB0      defs  2          ;erster bdos-fcb
16 E890  0002  BHIADR      defs  2          ;Hilfsadresse
17 E892  0001  BHPUGE      defs  1          ;PUT oder GET ?
18 E893  0001  BHFLAG      defs  1          ;Hilfsflag
19 E894  0002  BHRECNU      defs  2          ;help rec number
20 E896  0002  BHFIELD      defs  2          ;help field
21 E898  0002  BHMAB      defs  2          ;help dma buffer
22 E89A  0000  BERAMDS      defs  0
23          B;*****
    
```

```

35      A      INCLUDE BDOS_RAM.Z80                ;Kersten
1      B;*****
2      B;!HEAD MODULE
3      B;FILE          BDOS.RAM.S
4      B;DISK
5      B;AUTHOR          Kersten -> Ludewig
6      B;DATE            10.05.89
7      B;VARIABLES (hier nicht aufgefuehrt)
8      B;END
9      B;!
10     B; File enthaelt den bei RBASIC und SCP i m m e r  benoetigten RAM-Teil
11     B;
12     B;*****
13     B;
14 E89A  0003  BBBDOS:      DEFS 3 ;JP      BDOS1  ;BDOS-Eintritt Disk-BASIC
15     B;
16     B;=====
17     B;; Fehlerreaktionsadressen (bei BASIC alle BFMELD)
18     B;
19 E89D  0002  BBADSEC:      DEFS 2;DEFW  SBSEC  ; Bad sector (RAM)
20 E89F  0002  BBADSEL:      DEFS 2 ;DEFW  SBSEL  ; Bad select (RAM)
21 E8A1  0002  BDISKRO:      DEFS 2 ;DEFW  SDRO   ; Disk R/O   (RAM)
22 E8A3  0002  BFILERO:      DEFS 2 ;DEFW  SFRO   ; File R/O   (RAM)
23     B;
24 E8A5  0005  Bie34a      DEFS 5                ;Hilfsprogramm Fehlerbehandlung
25     B;  ld      e,(hl)
26     B;  inc    hl
27     B;  ld      d,(hl)
28     B;  ex     de,hl
29     B;  jp     (hl)                ; Ansprung Fehlerbehandlung
30     B;=====
31 E8AA  0001  BBDV0:      defs 1
32 E8AB  0001  BBDV1:      defs 1
33 E8AC  0001  BBDV2:      defs 1
34 E8AD  0001  BBDV3:      defs 1
35     B;-----
36 E8AE  0002  BUSTACK:    DEFS 2                ; Rettung Anwender-STACK
37 E8B0  00A0  B  defs 80*2                ; BDOS-STACK
38 E950  BSTACK:
39     B;-----
40 E950  0001  BUSER:      defs 1
41 E951  0001  BCURRD:     defs 1                ;aktuelles laufwerk
42 E952  0002  BDEPARG:    DEFS 2                ; Input-Parameter
43 E954  0002  BHLPARM:    DEFS 2                ; Return-Parameter
44     B;
45 E956  0002  BHILFV1:    DEFS 2                ; Hilfsvariable 1
46 E958  0002  BHILFV2:    DEFS 2                ;                2
47     B;
48 E95A  0080  BBDMA DEFS 80H
    
```

```

50 E9DA 0001 BERASE:      defs  1 ; defb 0e5h
51 E9DB 0002 BROVEKT:     DEFS  2          ;r/o vector (bei reset disk auf 0)
52 E9DD 0002 BLOGVEKT:DEFS  2          ;login-vector ( " )
53 E9DF 0002 BDMAADD:     DEFS  2 ; defw 80h ;(bzw. = BDMA bei BASIC)
54 E9E1 0002 BSTDDMA:     DEFS  2 ; defw 80h ;(bzw. = BDMA bei BASIC)
55
56          B;-----
57 E9E3 0002 BADJOB1:     DEFS  2          ;adr(dphwork1) akt dir-entries
58 E9E5 0002 BADJOB2:     DEFS  2          ;adr(dphwork2) rel track zu offset
59 E9E7 0002 BADJOB3:     DEFS  2          ;adr(dphwork3) rel sector zu offset
60 E9E9 0002 BADDIR:      DEFS  2          ;adr(dirbuf)
61 E9EB 0002 BADDPB:      DEFS  2          ;adr(dph)
62 E9ED 0002 BADCHECK:DEFS  2          ;adr(checksvectortable)
63 E9EF 0002 BADALLOC:DEFS  2          ;adr(alloc)
64 E9F1 0002 BCSPT:      DEFS  2          ;sectors per track
65 E9F3 0001 BCBSH:      defs  1          ;block shift
66 E9F4 0001 BCBLM:      defs  1          ;block mask
67 E9F5 0001 BCEXM:      defs  1          ;extnt mask
68 E9F6 0002 BCDSM:      DEFS  2          ;disk size -1
69 E9F8 0002 BCDRM:      DEFS  2          ;dirmax -1
70 E9FA 0002 BCAL12:     DEFS  2 ; DFB0,0 ;alloc 0,1
71 E9FC 0002 BCKKS:      DEFS  2          ;checksize
72 E9FE 0002 BCOFF:      DEFS  2          ;offset
73 EA00 0002 BADXLT:     DEFS  2          ;adr(translate)
74
75 EA02 0001 Bdedd2:      defs  1
76 EA03 0001 BRWMODE:     defs  1
77 EA04 0001 Bdedd4:      defs  1
78 EA05 0001 BSRMODE:     defs  1
79 EA06 0001 BENTBYTE:defs  1
80 EA07 0001 Bdedd7:      defs  1
81 EA08 0001 BNMSRCH:defs  1
82 EA09 0004 BENTFCB:     DEFS  4 ; DFB0,0,0,0
83 EA0D 0001 BBLOCK:     defs  1
84 EA0E 0001 BIFDISK:     defs  1          ;<>0, wenn fcb[0] veraendert
85 EA0F 0001 BOLDDISK:defs  1 ; defb 0ffh ;keller curdsk
86 EA10 0001 BFCB_0:      defs  1          ;gerett. fcb[0]
87 EA11 0001 BCOUNTR:     defs  1
88 EA12 0001 BEXTMAS:     defs  1
89 EA13 0002 BRECORD:     DEFS  2
90 EA15 0002 BNMBREC:     DEFS  2
91 EA17 0002 Bdede7:      DEFS  2
92 EA19 0001 BFCBOFFS:defs  1          ;dirent*32
93 EA1A 0002 BNMBDIR:     DEFS  2          ;akt. dir-nr
94 EA1B EA1B      Bdedeb      equ  NMBDIR+1
95 EA1C 0002 Bdedec:      DEFS  2
96 EA1E 0001 BSYSVDV:     defs  1 ; defb 0 ;kaltstart-laufwerk, bei disk-reset ausgewaehlt
97          B ; (hier = A)
98          B; ----- Ende BDOS.RAM.S -----
36          A      ENDC          ;DSE AND DSE1RA
37          0000  A      COND      $ GT DSK2RA
39          A      ENDC
41          A;=====
42          A;
43          A; Disketten-RAM BIC (nur fuer SCP und Disk-BASIC !)
44          A; Teil 2
45          A;-----
46          A;

```

```

47      EA27      A      ORG      DSK2RA
48      0001      A      COND    DSE AND DSE2RA
49      A      INCLUDE BICDIRA.Z80                ;Ludewig
1       B;*****
2       B;RAM fuer logischen Floppy-Treiber fuer BIC
3       B;Filename: BICDIRA.S
4       B;
5       B;STAND: 09.05.89 / Ludewig
6       B;*****
7       B;Vereinbarungen fuer Varianten
8       B;=====
9       B;
10      FFFF      B      COND    DISKLU EQ 0      ;bei DSE2 im ROM
11      B      ;sonst hier im RAM
12      B;
13      0001      BDKSDS     EQU      1          ;Unterstuetzung zweiseitiger LW
14      0001      BDKS80     EQU      1          ;Unterstuetzung 80-spuriger LW
15      0001      BENWRIT    EQU      1          ;Schreiben auf Disk unterstuetzt
16      000A      BDBUFSZ    EQU      10         ;Puffergroesse = 1024
17      0001      BAUTFER    EQU      1          ;Unterstuetzung autom. Formaterkennung
18      0001      BIMFRM     EQU      AUTFER    ;Unterstuetzung IBM-Format von SIOS
19      0001      BERRVAR    EQU      1          ;mit BIOS-Fehlermeldg bei Floppy-Fehler
20      B      ENDC
21      B;*****
22      B;
23      EA27      BLFRAMA:                ;Log. Floppy-RAM Anf.
24      B;*****
25      B;Floppy-LDIR
26      B;
27      EA27      0013      BFLLDIR:      DEFS      19
28      B;
29      B;SFLLDI      PUSH      AF
30      B;      IN      A,(PPIA)
31      B;      PUSH      AF                ;Istbank retten
32      B;SFLLD1     LD      A,0AAH        ;alles Bank 2
33      B;      OUT      (PPIA),A
34      B;
35      B;      LD      A,B
36      B;      OR      C
37      B;      JR      Z,SFLLD2
38      B;      LDIR                ;umspeichern
39      B;
40      B;SFLLD2     POP      AF
41      B;      OUT      (PPIA),A        ;Bank zurueck
42      B;      POP      AF
43      B;      RET
44      B;*****
45      B; Fehlermeldung Disk I/O Error
46      B;
47      0001      BDERRMS     COND      ERRVAR
48      EA3A      0002      B      DEFS      2          ;0dh,0ah
49      EA3C      0009      B      DEFS      9          ;'BIOS-Err '
50      EA45      0004      BDERRCD    DEFS      4          ;'XX: '
51      EA49      0009      BDERRRW    DEFS      9          ;'Write LW=' bzw. 'Read LW='
52      EA52      0004      BDERRLW    DEFS      4          ;'X T='
53      EA56      0006      BDERRTR    DEFS      6          ;'XX Si='
54      EA5C      0005      BDERRSI    DEFS      5          ;'X Se='
55      EA61      0002      BDERRSC    DEFS      2          ;'XX'
    
```

```

56 EA63 0002 B DEFS 2 ;07h,0
57 B ENDC
58 B;*****
59 B; Struktur CDB-Flag
60 B;
61 B; +0: cdbfl ;Flags (Struktur angepasst an ftkom)
62 0000 BDIOF00 EQU 0 ;** frei ** (frueher Verify nach Schreiben) ?s. Puffer-
CDB ?
63 0001 BDIOFID EQU 1 ;fest ;=1, wenn nur Sektid. zu lesen
64 0002 BDIOFWR EQU 2 ;fest ;=1, wenn Schreiben
65 0003 BDIOFFM EQU 3 ;fest ;=1, wenn temporaer FM-Format erzwungen
66 0004 BDIOFTR EQU 4 ;=1, wenn keine Fehlermeldung (und -behandlg)
67 0005 BDIOFHD EQU 5 ;=1, wenn Kopf hochnehmen ("headup")
68 0006 BDIOFPS EQU 6 ;=1, wenn trk,sid,sec schon physisch
69 0007 BDIOFS1 EQU 7 ;fest ;=1, wenn Rueckseite (Aend CP/A !)
70 B;
71 B;*****
72 B; CDB fuer Bestimmung Spurformat (--> DIOCDB)
73 B;
74 0001 BDFRCDB: COND AUTFER
75 EA65 0001 BDFRFLG: DEFS 1 ;(1.SHL.diofid)+(1.SHL.dioftr)
76 B ;Lesen Sektorid., kein Fehlerprotokoll
77 EA66 0001 BDFRDEV: DEFS 1 ;0ffh ;Geraet
78 EA67 0001 BDFRTRK: DEFS 1 ;0ffh ;Spur
79 EA68 0001 B DEFS 1 ;0ffh ;Seite (bel.)
80 EA69 0001 B DEFS 1 ;1 ;Sektor (bel.)
81 EA6A 0001 B DEFS 1 ;0 ;Sektorlaengencode (bel.)
82 EA6B 0001 B DEFS 1 ;1 ;Sektoranzahl (>0)
83 EA6C 0002 B DEFS 2 ;fl02 ;dorthin Sektorid hinterlegt
84 B ENDC
85 B;*****
86 B; Puffer-CDB (--> DIOCDB)
87 B;
88 FFFF BDBCDB: COND AUTFER OR (DBUFSZ GT 7)
89 EA6E 0001 BDBFLG: DEFS 1 ;0
90 B; -----
91 0000 BDBF00 EQU DIOF00 ;=1, wenn Puffer erst gelesen
92 B ; werden muss ?s. DSKTRA ??
93 0002 BDBFWR EQU DIOFWR ;=1, wenn Puffer durch
94 B ; Schreiben veraendert
95 0003 BDBFFM EQU DIOFFM ;=1, wenn temporaer FM zu erzwingen
96 0004 BDBFTR EQU DIOFTR ;=1, wenn mit Fehlerprotokoll
97 B ;restliche Bits immer =0
98 B; -----
99 EA6F 0001 BDBDEV: DEFS 1 ;0ffh ;Geraet
100 EA70 0001 BDBTRK: DEFS 1 ;0ffh ;Spur
101 EA71 0001 BDBSID: DEFS 1 ;0ffh ;Seite
102 EA72 0001 BDBSEC: DEFS 1 ;0ffh ;Sektor
103 EA73 0001 BDBSLC: DEFS 1 ;0ffh ;Sektorlaengencode
104 EA74 0001 BDBSNB: DEFS 1 ;0ffh ;Sektoranzahl
105 B ENDC
106 B; -----
107 FFFF B COND DBUFSZ GT 7
108 EA75 0002 BDBDMA: DEFS 2 ;dbuf ;Transferadresse
109 B ENDC
110 B; -----
111 0000 B COND AUTFER AND ( NOT (DBUFSZ GT 7))
112 B ENDC
113 B;*****
114

```



```
115          B; CDB fuer ungepufferte E/A (-->DIOCDB)
116          B;
117 EA77      BDUADB:
118 EA77      0001  BDUFLG:      DEFS    1      ;0
119          B; -----
120          BDUFWR      EQU     DIOFWR      ;=1, wenn write-Aufruf
121          0003  BDUFFM      EQU     DIOFFM      ;=1, wenn temporaer FM zu erzwingen
122          B          ;restliche Bits immer =0
123          B; -----
124 EA78      0001  BDUDEV:      DEFS    1      ;0      ;Geraet
125 EA79      0001  BDUTRK:      DEFS    1      ;0ffh   ;Spur
126 EA7A      0001  B          DEFS    1      ;0ffh   ;Seite
127 EA7B      0001  BDUSEC:      DEFS    1      ;0ffh   ;Sektor
128 EA7C      0001  B          DEFS    1      ;0      ;128 Bytes Sektorlaenge
129 EA7D      0001  B          DEFS    1      ;1      ;immer nur 1 Sektor
130 EA7E      0002  BDUDMA:      DEFS    2      ;0ffffh;Transferadresse
131          B;*****
132          B; Pufferzugriff
133          B;
134          0001  B          COND  ENWRIT AND (DBUFSZ GT 7)
135 EA80      0004  BUNACNT:      DEFS    4      ;0,0ffh,0ffh,0
136          EA81  BUNADEV      EQU     UNACNT+1
137          EA82  BUNATRK      EQU     UNACNT+2
138          EA83  BUNASEC      EQU     UNACNT+3
139          B          ENDC
140          B; -----
141          0001  B          COND  DBUFSZ GT 7
142 EA84      0001  BDBNB:      DEFS    1      ;0ffh
143 EA85      0001  BDWRTYP:      DEFS    1      ;0ffh
144 EA86      0001  BDBERRF:      DEFS    1      ;0      ;Ergebnisflag letztes dbtran
145          B          ENDC
146          B;*****
147          B;%%% Abbildung mehrerer log. LW auf phys. LW 0
148          B;
149 EA87      0001  BLPTAB:      DEFS    1      ;log. LW fuer phys. LW 0
150 EA88      0002  BLPCHNG:      DEFS    2      ;0dh,0ah
151 EA8A      0006  B          DEFS    6      ;'Disk. '
152 EA90      0020  BLPCHLG      DEFS    32     ;'X in DSE stecken; dann Taste "*"
153 EAB0      0002  B          DEFS    2      ;07h,0
154          B;*****
155          B;Anzeige Diskettenkapazitaet
156          B;
157 EAB2      0002  BDISKAP      DEFS    2      ;0DH,0AH
158 EAB4      0003  B          DEFS    3      ;'LW '
159 EAB7      0006  BDISKA5      DEFS    6      ;'X=XXXK'
160 EABD      0003  B          DEFS    3      ;0DH,0AH,0
161          B;*****
162          B;Paramterfeld fuer phys. floppy-Routine (Aend CP/A !)
163          B;
164 EAC0      0001  BFLKDO:      DEFS    1      ;80h   ;Kommando
165 EAC1      0001  BFLDEV:      DEFS    1      ;0     ;Laufwerk
166 EAC2      0001  BFLTRK:      DEFS    1      ;0     ;Spur
167 EAC3      0001  BFLSID:      DEFS    1      ;0     ;Seite
168 EAC4      0001  BFLSEC:      DEFS    1      ;1     ;Sektor
169 EAC5      0001  BFLSLC:      DEFS    1      ;0     ;Sektorlaengencode
170 EAC6      0001  BFLGAP:      DEFS    1      ;0eh   ;gap 3
171 EAC7      0001  BFLSNB:      DEFS    1      ;1     ;Sektorzahl
172 EAC8      0001  BFL08:      DEFS    1      ;1     ;0/1 FM/MFM (BIC: nur MFM!)
```

```

173 EAC9 0001 BFL09: DEFS 1 ;1 ;Schritte von Spur zu Spur
174 EACA 0002 BFLDMA: DEFS 2 ;0 ;Transferadresse
175 EACC 0002 BFL12: DEFS 2 ;0 ;Adresse Drive Param Block
176 EACE 0001 BFL14: DEFS 1 ;0 ;Ergebnis-Status
177 B;*****
178 B; Tabelle der Adressen der DPH's
179 B;
180 EACF 0020 BDPHATB: DEFS 32 ;defw dpha...dphp
181 B;*****
182 B;
183 B;DISK-PARAMETER-BLOECKE - S T R U K T U R
184 B;=====
185 B;
186 B;CP/M-STANDARD-DISK-PARAMETER-BLOCK - S T R U K T U R
187 B;
188 0000 BDPBSPT EQU 0 ;(dw) 128-Sektoren pro Spur (Formaterk)
189 0002 BDPBBL S EQU 2 ;(db) blockshift (3=1K, 4=2K) (Formaterk)
190 0003 BDPBBLM EQU 3 ;(db) blockmask (Formaterk)
191 0004 BDPBEXM EQU 4 ;(db) extentmask (Formaterk)
192 0005 BDPBSIZ EQU 5 ;(dw) Kapazitaet -1 in Bloecken (Formaterk)
193 0007 BDPBDIR EQU 7 ;(dw) Anzahl -1 DIR-Eintraege (Formaterk)
194 0009 BDPBALC EQU 9 ;(dw) Allocation-Bits fuer DIR (Formaterk)
195 000B BDPBCHK EQU 11 ;(dw) Check-Size fuer 'R/O'-Test (Formaterk)
196 000D BDPBOFS EQU 13 ;(dw) Zahl der Systemspuren (Formaterk)
197 B;-----
198 B;DISKETTEN-PARAMETER (NICHT-STANDARD-DBP) - S T R U K T U R
199 B;
200 000F BXDPBI DEFL 15
201 000F BDPBFLG EQU XDPBI ;(db) Flags, i.a. alle =0
202 B; -----
203 0003 BDPBFMS EQU 3 ; 0..3 Zahl der abweichend vom
204 B ; restlichen Spurformat mit
205 B ; 26*128 formatierten Spuren (Formaterk)
206 0002 BDPBFFM EQU 2 ; =1, wenn FM-Aufzeichnung zu erzwingen
207 B ; (d.h. FM-Disk in MFM-Laufwerk) (FORMATB)
208 0003 BDPBFVS EQU 3 ; =1, wenn Double sided zu betreiben,
209 B ; indem von aussen nach innen
210 B ; und auch Rueckseite von aussen
211 B ; nach innen
212 B ; =0, wenn Double sided zu betreiben,
213 B ; indem zunaechst von aussen nach
214 B ; innen und Rueckseite von innen
215 B ; nach aussen
216 B ; immer mit dpbf86+dpbfds zusammen setzen! (FORMATB)
217 0004 BDPBF86 EQU 4 ; =1, dpbfsv benutzen
218 B ; =0, wenn Double sided zu betreiben,
219 B ; indem ungerade logische Spuren
220 B ; auf der Rueckseite liegen
221 B ; immer mit dpbfds zusammen setzen! (FORMATB)
222 0005 BDPBFDS EQU 5 ; =1, wenn Double sided zu betreiben (Formaterk)
223 0006 BDPBFRM EQU 6 ; =1, wenn keine autom. Format-
224 B ; erkennung in Seldsk (FORMATB)
225 0007 BDPBFND EQU 7 ; =1, wenn abweichende DPB-Struktur
226 B ; (keine Disketten) (FORMATB)
227 B; -----
228 0010 BXDPBI DEFL XDPBI+1
229 0010 BDPBSLC EQU XDPBI ;(db) Sektorlaengencode (Formaterk)
230 B;
    
```

```

231      0011    BXDPBI      DEFL    XDPBI+1
232      0011    BDPBBFM      EQU     XDPBI  ;(db) Puffermaske, d.h. Anzahl der 128er
233      B      ;           ;   Sektoren im Puffer -1 (konst/FORMATB)
234      B      ;           ;   - muss < 2**(dbufsz-7) sein,
235      B      ;           ;   - muss < 2**dpbslc sein, wenn phys.
236      B      ;           ;   Sektornummern in dpbstr nicht monoton
237      0012    BXDPBI      DEFL    XDPBI+1
238      0012    BDPBSTP      EQU     XDPBI  ;(db) Stepimpulse pro Spurpositionierung
239      B      ;           ;   1 oder 2 (Formaterk)
240      0013    BXDPBI      DEFL    XDPBI+1
241      0013    BDPBSN0      EQU     XDPBI  ;(db) Verschiebung der Sektor-Numm. auf Rueckseite
242      B      ;           ;   wenn <>0, so statt side =1 side=0 im SektId!
(konst/FORMATB)
243      0014    BXDPBI      DEFL    XDPBI+1
244      0014    BDPBTRK      EQU     XDPBI  ;(db) log. Anzahl Spuren (Formaterk)
245      B      ;-----
246      B;PHYS. LAUFWERKSNUMMER - S T R U K T U R
247      B;
248      0015    BXDPBI      DEFL    XDPBI+1
249      0015    BDPBDNR      EQU     XDPBI  ;(db) physische Laufwerksnummer
250      B      ;-----
251      B;LAUFWERKS-PARAMETER (SCP1715-DRIVE-PARAMETER-BLOCK) - S T R U K T U R
252      B; fuer MFS 1.6
253      B;
254      0016    BXDPBI      DEFL    XDPBI+1
255      0016    BDPBDRT      EQU     XDPBI  ;(db) Laufwerkstyp:
256      B; -----
257      0000    BDPBTDS      EQU     0      ; =0 bei SS, =1 bei DS
258      0003    BDPBTDD      EQU     3      ; =0 bei SD (FM), =1 bei DD (MFM)
259      0004    BDPBT5Z      EQU     4      ; =0 bei 8", =1 bei 5"
260      0005    BDPBT80      EQU     5      ; =0 bei nicht 80-Spur, =1 bei 80-Spur
261      0007    BDPBT52      EQU     7      ; =0 bei max 26 ,=1 bei max 52 Sekt./Spur (8" MFM)
262      B; -----
263      0017    BXDPBI      DEFL    XDPBI+1
264      0017    BDPBTRA      EQU     XDPBI  ;(db) 1. Spur mit Praekompensation
265      B;
266      0018    BXDPBI      DEFL    XDPBI+1
267      0018    BDPBSTI      EQU     XDPBI  ;(db) Schrittzeit SRT in ms
268      B;
269      0019    BXDPBI      DEFL    XDPBI+1
270      0019    BDPBHLA      EQU     XDPBI  ;(db) Kopfberuhigung nach Anddruck HLT in ms
271      B;
272      001A    BXDPBI      DEFL    XDPBI+1
273      001A    BDPBSPA      EQU     XDPBI  ;(db) Kopfberuhigung nach Step in ms
274      B;
275      001B    BXDPBI      DEFL    XDPBI+1
276      001B    BDPBCUA      EQU     XDPBI  ;(db) 1. Spur mit Schreibstrombegrenzung
277      B;
278      001C    BXDPBI      DEFL    XDPBI+1
279      001C    BDPBOPT      EQU     XDPBI  ;(db) Optionen
280      B; -----
281      B      ;Bit 0-2 frei (=0)
282      0003    BDPBONV      EQU     3      ; =0 mit Verify, =1 ohne Verify nach Schreiben
283      B      ;Bit 4-7 frei (=0)
284      B; -----
285      001D    BXDPBI      DEFL    XDPBI+1
286      001D    BDPBDU7      EQU     XDPBI  ;(db) Kopfentladezeit HUT in ms
287      B;
288      001E    BXDPBI      DEFL    XDPBI+1

```

```
289      001E      BDPBPRT      EQU      XDPBI      ;(db) Praecompenationszeit (bei BIC ign.)
290      B;
291      001F      BXDPBI      DEFL      XDPBI+1
292      001F      BDPBDU9      EQU      XDPBI      ;(db) frei (=0)
293      B;
294      0020      BXDPBI      DEFL      XDPBI+1
295      0020      BDPBPTR      EQU      XDPBI      ;(db) Gesamtzahl physische Spuren (40/77/80)
296      B;-----
297      B;PHYSISCHE SEKTOR-TRANSLATE-TABELLE - S T R U K T U R
298      B;
299      0021      BXDPBI      DEFL      XDPBI+1
300      0021      BDPBSTR      EQU      XDPBI      ;(ds26)entspr. phys. Sektoren pro Seite (Formaterk)
301      003B      BXDPBI      DEFL      XDPBI+26
302      B;=====
303      003B      BDPBLNG      EQU      XDPBI      ;(max.) Laenge eines DPB
304      B;*****
305      B; Die Steuertabellen sind so dimensioniert, dass folgende Parameter
306      B; moeglich sind (durch Dienstprogramm FORMATB von aussen setzen):
307      B; 800k Kapazitaet
308      B; 256 Dir-Eintraege
309      B; 26 phys. Sektoren pro Spur(seite)
310      B; Damit sind alle gaengigen Formate (800, 780, 624, 200, 148) einstellbar!
311      B;*****
312      B;
313      B; Laufwerk A: phys. LW in DSE
314      B;=====
315      B;
316      B;DISK-PARAMETER-HEADER LW A
317      B;
318      EAEF      0002      BDPHA:      DEFS      2 ;defw 0      ;kein Sektortranslate
319      EAF1      0006      B      DEFS      6      ;BDOS Spur, Sektor, Dir
320      EAF7      0002      B      DEFS      2 ;defw DIRBUF
321      EAF9      0002      B      DEFS      2 ;defw DPBA
322      EAFB      0002      B      DEFS      2 ;defw CHKA
323      EAFD      0002      B      DEFS      2 ;defw ALVA
324      B;
325      B;CP/M-STANDARD-DISK-PARAMETER-BLOCK LW A
326      B; fuer BIC Standard: 5*1024*160, 4 Systemspuren
327      B;
328      EAFF      0002      BDPBA:      DEFS      2 ;defw 40      ;Sekt/Spur
329      EB01      0001      B      DEFS      1 ;defb 4      ;2k Bloecke
330      EB02      0001      B      DEFS      1 ;defb 15
331      EB03      0001      B      DEFS      1 ;defb 0
332      EB04      0002      B      DEFS      2 ;defw 780/2-1
333      EB06      0002      B      DEFS      2 ;defw 128-1 ;Dir Entries
334      EB08      0002      B      DEFS      2 ;defb 0C0h,0
335      EB0A      0002      B      DEFS      2 ;defw 128/4
336      EB0C      0002      B      DEFS      2 ;defw 4      ;Systemspuren
337      B;
338      B;DISKETTEN-PARAMETER (NICHT-STANDARD-DBP) LW A
339      B;
340      EB0E      0001      B      DEFS      1 ;defb 00100000b ;Floppy-DPB, DS betreiben
341      EB0F      0001      B      DEFS      1 ;defb 3      ;1k Sektorlaenge
342      EB10      0001      B      DEFS      1 ;defb 8-1      ;8 128er Sektoren im Puffer
343      EB11      0001      B      DEFS      1 ;defb 1      ;1 Stepimpuls von Spur zu Spur
344      EB12      0001      B      DEFS      1 ;defb 0      ;kein Weiternummerieren auf Rueckseite
345      EB13      0001      B      DEFS      1 ;defb 160      ;160 log. Spuren
346      B;
```

```

347          B;PHYS. LAUFWERKSNUMMER LW A
348          B;
349 EB14      0001  B   DEFS   1 ;defb0           ;phys. LW-Nr.
350          B;
351          B;LAUFWERKS-PARAMETER (SCP1715-DRIVE-PARAMETER-BLOCK) LW A
352          B; fuer MFS 1.6
353          B;
354 EB15      0001  B   DEFS   1 ;defb00111001b ;80 Spur/5"/MFM/DS
355 EB16      0001  B   DEFS   1 ;defb80           ; 1. Spur mit Praekompensation
356 EB17      0001  B   DEFS   1 ;defb4           ;Schrittzeit SRT in ms
357 EB18      0001  B   DEFS   1 ;defb4           ;Kopfberuhigungszeit nach Andruck HLT in ms
358 EB19      0001  B   DEFS   1 ;defb10          ;Kopfberuhigungszeit nach Step in ms
359 EB1A      0001  B   DEFS   1 ;defb80          ; 1. Spur mit Schreibbegrenzung (bei BIC ign.)
360 EB1B      0001  B   DEFS   1 ;defb0           ;Optionen, mit Verify nach Schreiben
361 EB1C      0001  B   DEFS   1 ;defb32          ;Kopfladezeit HUT in ms
362 EB1D      0001  B   DEFS   1 ;defb0           ;Praekompzeit (bei BIC ignoriert)
363 EB1E      0001  B   DEFS   1 ;defb0           ;frei
364 EB1F      0001  B   DEFS   1 ;defb80          ;LW hat 80 phys. Spuren
365          B;
366          B;PHYSISCHE SEKTOR-TRANSLATE-TABELLE LW A
367          B;
368 EB20      001A  B   DEFS   26           ;Reihenfolge fuer Sektorzugriff
369          B;
370          B;CHECK- U. ALLOCATION-VEKTOR LW A
371          B;
372 EB3A      0030  BCHKA:   DEFS   192/4           ;reicht fuer 192 Dir-Entries
373 EB6A      0032  BALVA:   DEFS   (800/2)/8       ;reicht fuer 800k
374          B;*****
375          B;
376          B; Laufwerk B: 1. phys. Beistell-LW oder zusaetzlich in DSE
377          B;=====
378          B;
379          B;DISK-PARAMETER-HEADER LW B
380          B;
381 EB9C      0002  BDPHB:   DEFS   2 ;defw 0           ;kein Sektortranslate
382 EB9E      0006  B   DEFS   6           ;BDOS Spur, Sektor, Dir
383 EBA4      0002  B   DEFS   2 ;defw DIRBUF
384 EBA6      0002  B   DEFS   2 ;defw DPBB
385 EBA8      0002  B   DEFS   2 ;defw CHKB
386 EBAA      0002  B   DEFS   2 ;defw ALVB
387          B;
388          B;CP/M-STANDARD-DISK-PARAMETER-BLOCK LW B
389          B; fuer BIC Standard: 5*1024*160, 4 Systemspuren
390          B;
391 EBAC      0002  BDPBB:   DEFS   2 ;defw 40          ;Sekt/Spur
392 EBAE      0001  B   DEFS   1 ;defb 4           ;2k Bloecke
393 EBAF      0001  B   DEFS   1 ;defb 15
394 EBB0      0001  B   DEFS   1 ;defb 0
395 EBB1      0002  B   DEFS   2 ;defw 780/2-1
396 EBB3      0002  B   DEFS   2 ;defw 128-1 ;Dir Entries
397 EBB5      0002  B   DEFS   2 ;defb 0C0h,0
398 EBB7      0002  B   DEFS   2 ;defw 128/4
399 EBB9      0002  B   DEFS   2 ;defw 4           ;Systemspuren
400          B;
401          B;DISKETTEN-PARAMETER (NICHT-STANDARD-DBP) LW B
402          B;
403 EBBB      0001  B   DEFS   1 ;defb 00100000b ;Floppy-DPB, DS betreiben
404 EBBC      0001  B   DEFS   1 ;defb 3           ;1k Sektorlaenge
    
```

```

405 EBBD 0001 B DEFS 1 ;defb 8-1 ;8 128er Sektoren im Puffer
406 EBBE 0001 B DEFS 1 ;defb 1 ;1 Stepimpuls von Spur zu Spur
407 EBBF 0001 B DEFS 1 ;defb 0 ;kein Weiternummerieren auf Rueckseite
408 EBC0 0001 B DEFS 1 ;defb 160 ;160 log. Spuren
409 B;
410 B;PHYS. LAUFWERKSNUMMER LW B
411 B;
412 EBC1 0001 B DEFS 1 ;defb0/1 ;phys. LW-Nr.
413 B;
414 B;LAUFWERKS-PARAMETER (SCP1715-DRIVE-PARAMETER-BLOCK) LW B
415 B; fuer MFS 1.6
416 B;
417 EBC2 0001 B DEFS 1 ;defb00111001b ;80 Spur/5"/MFM/DS
418 EBC3 0001 B DEFS 1 ;defb80 ; 1. Spur mit Praekompensation
419 EBC4 0001 B DEFS 1 ;defb4 ;Schrittzeit SRT in ms
420 EBC5 0001 B DEFS 1 ;defb4 ;Kopfberuhigungszeit nach Andruck HLT in ms
421 EBC6 0001 B DEFS 1 ;defb10 ;Kopfberuhigungszeit nach Step in ms
422 EBC7 0001 B DEFS 1 ;defb80 ; 1. Spur mit Schreibbegrenzung (bei BIC ign.)
423 EBC8 0001 B DEFS 1 ;defb0 ;Optionen, mit Verify nach Schreiben
424 EBC9 0001 B DEFS 1 ;defb32 ;Kopfladezeit HUT in ms
425 EBCA 0001 B DEFS 1 ;defb0 ;Praekompzeit (bei BIC ignoriert)
426 EBCB 0001 B DEFS 1 ;defb0 ;frei
427 EBCC 0001 B DEFS 1 ;defb80 ;LW hat 80 phys. Spuren
428 B;
429 B;PHYSISCHE SEKTOR-TRANSLATE-TABELLE LW B
430 B;
431 EBCD 001A B DEFS 26 ;Reihenfolge fuer Sektorzugriff
432 B;
433 B;CHECK- U. ALLOCATION-VEKTOR LW B
434 B;
435 EBE7 0030 BCHKB: DEFS 192/4 ;reicht fuer 192 Dir-Entries
436 EC17 0032 BALVB: DEFS (800/2)/8 ;reicht fuer 800k
437 B;*****
438 B;
439 B; Laufwerk C: 2. phys. Beistell-LW
440 B;=====
441 B;
442 B;DISK-PARAMETER-HEADER LW C
443 B;
444 EC49 0002 BDPHC: DEFS 2 ;defw 0 ;kein Sektortranslate
445 EC4B 0006 B DEFS 6 ;BDOS Spur, Sektor, Dir
446 EC51 0002 B DEFS 2 ;defw DIRBUF
447 EC53 0002 B DEFS 2 ;defw DPBC
448 EC55 0002 B DEFS 2 ;defw CHKC
449 EC57 0002 B DEFS 2 ;defw ALVC
450 B;
451 B;CP/M-STANDARD-DISK-PARAMETER-BLOCK LW C
452 B; fuer BIC Standard: 5*1024*160, 4 Systemspuren
453 B;
454 EC59 0002 BDPBC: DEFS 2 ;defw 40 ;Sekt/Spur
455 EC5B 0001 B DEFS 1 ;defb 4 ;2k Bloecke
456 EC5C 0001 B DEFS 1 ;defb 15
457 EC5D 0001 B DEFS 1 ;defb 0
458 EC5E 0002 B DEFS 2 ;defw 780/2-1
459 EC60 0002 B DEFS 2 ;defw 128-1 ;Dir Entries
460 EC62 0002 B DEFS 2 ;defb 0C0h,0
461 EC64 0002 B DEFS 2 ;defw 128/4
462 EC66 0002 B DEFS 2 ;defw 4 ;Systemspuren

```

```

463          B;
464          B;DISKETTEN-PARAMETER (NICHT-STANDARD-DBP) LW C
465          B;
466 EC68      0001  B   DEFS   1 ;defb 00100000b ;Floppy-DPB, DS betreiben
467 EC69      0001  B   DEFS   1 ;defb 3      ;1k Sektorlaenge
468 EC6A      0001  B   DEFS   1 ;defb 8-1    ;8 128er Sektoren im Puffer
469 EC6B      0001  B   DEFS   1 ;defb 1      ;1 Stepimpuls von Spur zu Spur
470 EC6C      0001  B   DEFS   1 ;defb 0      ;kein Weiternummerieren auf Rueckseite
471 EC6D      0001  B   DEFS   1 ;defb 160    ;160 log. Spuren
472          B;
473          B;PHYS. LAUFWERKSNUMMER LW C
474          B;
475 EC6E      0001  B   DEFS   1 ;defb2      ;phys. LW-Nr.
476          B;
477          B;LAUFWERKS-PARAMETER (SCP1715-DRIVE-PARAMETER-BLOCK) LW C
478          B; fuer MFS 1.6
479          B;
480 EC6F      0001  B   DEFS   1 ;defb00111001b ;80 Spur/5"/MFM/DS
481 EC70      0001  B   DEFS   1 ;defb80     ; 1. Spur mit Praekompensation
482 EC71      0001  B   DEFS   1 ;defb4      ;Schrittzeit SRT in ms
483 EC72      0001  B   DEFS   1 ;defb4      ;Kopfberuhigungszeit nach Andruck HLT in ms
484 EC73      0001  B   DEFS   1 ;defb10     ;Kopfberuhigungszeit nach Step in ms
485 EC74      0001  B   DEFS   1 ;defb80     ; 1. Spur mit Schreibbegrenzung (bei BIC ign.)
486 EC75      0001  B   DEFS   1 ;defb0      ;Optionen, mit Verify nach Schreiben
487 EC76      0001  B   DEFS   1 ;defb32     ;Kopfentladezeit HUT in ms
488 EC77      0001  B   DEFS   1 ;defb0      ;Praekompzeit (bei BIC ignoriert)
489 EC78      0001  B   DEFS   1 ;defb0      ;frei
490 EC79      0001  B   DEFS   1 ;defb80     ;LW hat 80 phys. Spuren
491          B;
492          B;PHYSISCHE SEKTOR-TRANSLATE-TABELLE LW C
493          B;
494 EC7A      001A  B   DEFS   26      ;Reihenfolge fuer Sektorzugriff
495          B;
496          B;CHECK- U. ALLOCATION-VEKTOR LW C
497          B;
498 EC94      0030  BCHKC:   DEFS   192/4      ;reicht fuer 192 Dir-Entries
499 ECC4      0032  BALVC:   DEFS   (800/2)/8    ;reicht fuer 800k
500          B;*****
501          B;
502          B; Laufwerk D: RAM-Floppy im Bildspeicher (128K)
503          B;=====
504          B;
505          B;DISK-PARAMETER-HEADER LW D
506          B;
507 ECF6      0002  BDPHD:   DEFS   2 ;defw 0      ;kein Sektortranslate
508 ECF8      0006  B   DEFS   6      ;BDOS Spur, Sektor, Dir
509 ECFE      0002  B   DEFS   2 ;defw DIRBUF
510 ED00      0002  B   DEFS   2 ;defw DPBD
511 ED02      0002  B   DEFS   2 ;defw CHKD
512 ED04      0002  B   DEFS   2 ;defw ALVD
513          B;
514          B;CP/M-STANDARD-DISK-PARAMETER-BLOCK LW D
515          B; fuer 128K: 16*128*64, 0 Systemspuren
516          B;
517 ED06      0002  BDPBD:   DEFS   2 ;defw 16     ;Sekt/Spur
518 ED08      0001  B   DEFS   1 ;defb 3      ;1k Bloecke
519 ED09      0001  B   DEFS   1 ;defb 7
520 ED0A      0001  B   DEFS   1 ;defb 0

```

```

521 ED0B 0002 B DEFS 2 ;defw 128/1-1
522 ED0D 0002 B DEFS 2 ;defw 64-1 ;Dir Entries
523 ED0F 0002 B DEFS 2 ;defb 0C0h,0
524 ED11 0002 B DEFS 2 ;defw 64/4
525 ED13 0002 B DEFS 2 ;defw 0 ;Systemspuren
526
527 B;DISKETTEN-PARAMETER (NICHT-STANDARD-DBP) LW D
528 B;
529 ED15 0001 B DEFS 1 ;defb 80H ;RAM-Floppy-DPB
530 ED16 0005 B DEFS 5 ;Reserve
531 B;
532 B;CHECK- U. ALLOCATION-VEKTOR LW D
533 B;
534 ED1B 0010 BCHKD: DEFS 64/4 ;reicht fuer 64 Dir-Entries
535 ED2B 0010 BALVD: DEFS (128/1)/8 ;reicht fuer 128k
536 B;*****
537 B;
538 B; Laufwerk E: RAM-Floppy-Modul 64k (256k)
539 B; (nicht Speicherresident !!)
540 B;=====
541 B;
542 B;DISK-PARAMETER-HEADER LW E
543 B;
544 B;DPHE: DEFS 2 ;defw 0 ;kein Sektortranslate
545 B; DEFS 6 ;BDOS Spur, Sektor, Dir
546 B; DEFS 2 ;defw DIRBUF
547 B; DEFS 2 ;defw DPBE
548 B; DEFS 2 ;defw CHKE
549 B; DEFS 2 ;defw ALVE
550 B;
551 B;CP/M-STANDARD-DISK-PARAMETER-BLOCK LW E
552 B; fuer BIC Standard: 5*1024*160, 4 Systemspuren
553 B;
554 B;DPBE: DEFS 2 ;defw 16 ;Sekt/Spur
555 B; DEFS 1 ;defb 3 (4) ;1k (2k) Bloecke
556 B; DEFS 1 ;defb 7 (15)
557 B; DEFS 1 ;defb 0
558 B; DEFS 2 ;defw 64/1-1 (256/2-1)
559 B; DEFS 2 ;defw 64-1 (128-1) ;Dir Entries
560 B; DEFS 2 ;defb 0C0h,0
561 B; DEFS 2 ;defw 64/4 (128/4)
562 B; DEFS 2 ;defw 0 ;Systemspuren
563 B;
564 B;DISKETTEN-PARAMETER (NICHT-STANDARD-DBP) LW E
565 B;
566 B; DEFS 1 ;defb 80H ;RAM-Floppy-DPB
567 B; DEFS 5 ;Reserve
568 B;
569 B;CHECK- U. ALLOCATION-VEKTOR LW E
570 B;
571 B;CHKE: DEFS 128/4 ;reicht fuer 128 Dir-Entries
572 B;ALVE: DEFS (256/2)/8 ;reicht fuer 256k
573 B;*****
574 B;
575 B;CDB-Hilfsspeicher fuer diskio-Aufruf (-->FLKDO) (Aend CP/A !)
576 B;
577 ED3B BDIOCDB
578 B; -----

```



```
579 ED3B 0001 BDIOfLG DEFS 1 ;Flag
580 ED3C 0001 BDIODEV DEFS 1 ;Geraet
581 ED3D 0001 BDIOTRK DEFS 1 ;Spur
582 ED3E 0001 BDIOSID DEFS 1 ;Seite
583 ED3F 0001 BDIOfSEC DEFS 1 ;Sektor
584 ED40 0001 BDIOfSLC DEFS 1 ;Sektorlaengencode
585 ED41 0001 BDIOfSNB DEFS 1 ;Sektoranzahl
586 ED42 0002 BDIOfDMA DEFS 2 ;Transferadresse
587 B; -----
588 0009 BDIOfCDL EQU $-DIOfCDB ;Anzahl der Bytes
589 B;*****
590 B;
591 ED44 0080 BDIRBUF: DEFS 80H ;Dir-Puffer
592 B;
593 B;*****
594 B;
595 EDC4 0400 BDBUF: DEFS 1 SHL DBUFsz ;Diskettenpuffer (400H)
596 B;
597 B;*****
```

```

51      A      INCLUDE FDDAT1.Z80                      ;Loeber
1      B;*****
2      B; Daten fuer FD-Modul                          *
3      B;*****
4      B;file:      FDDAT1.S
5      B;date:      02.05.89
6      B;
7      B;*****
8      B;Interne Schnittstelle (ACHTUNG: ab IX+12 anders als die v.Block.-Modul) fuer:
9      B;~~~~~                      ;Lesen / Schreiben          I Formatieren
10     B;*****
11     B;
12 F1C4  0001  BSCHN:      DEFS  1      ; 0      :KOMMANDO (RD,WR,..) (ix) I
13 F1C5  0001  BLAUFW:     DEFS  1      ; 1      :LAUFWERK          (ix+1) I
14 F1C6  0001  BSPUR:      DEFS  1      ; 2      :SPUR              (ix+2) I
15 F1C7  0001  BKOPF:      DEFS  1      ; 3      :KOPF              (ix+3) I
16 F1C8  0001  BSKT1:      DEFS  1      ; 4      :SEKTOR            (ix+4) I Sektorinhalt
17 F1C9  0001  BDFLDL:     DEFS  1      ; 5      :rel.DATENFELDLAENGE (ix+5) I
18 F1CA  0001  BGAP: DEFS  1      ; 6      :LUECKE (GAP 3)      (ix+6) I Luecke 3
19 F1CB  0001  BSANZL:     DEFS  1      ; 7      :SEKTORANZAHL      (ix+7) I
20 F1CC  0001  BVERF:      DEFS  1      ; 8      :VERFAHREN (FM/MFM) (ix+8) I
21 F1CD  0001  BSPUD:      DEFS  1      ; 9      :SCHRITTE/SPUR      (ix+9) I
22 F1CE  0001  BPUFFL:     DEFS  1      ; 10     :PUFFERADRESSE (LOW) (ix+10)I
23 F1CF  0001  BPUFFH:     DEFS  1      ; 11     :PUFFERADRESSE (HIGH)(ix+11)I
24     B;
25     B;-----
26     B;
27 F1D0  0001  BDRPB:      DEFS  1      ; 12     :LW-Typ MFS 1.6
28 F1D1  0001  B      DEFS  1      ; 13     :1.Spur m.Praekomp.
29 F1D2  0001  B      DEFS  1      ; 14     :Schrittzeit SRT = 4 ms ( 4 MHz-FDC !!)
30 F1D3  0001  B      DEFS  1      ; 15     :Kopfberuhigungszeit n.Andruck HLT = 4 ms
31     B;
32     B;
33 F1D4  0001  B      DEFS  1      ; 16     :dto.nach Step SPA = 10 ms (lt.LOGI 8,8 ms!)
34 F1D5  0001  B      DEFS  1      ; 17     :1.Spur m.Schreibstrombegrenzg.
35 F1D6  0001  B      DEFS  1      ; 18     :Option f.Kontrolllesen (B3=0: mit Kontr.RD)
36 F1D7  0001  B      DEFS  1      ; 19     :Kopfentladezeit HUT (32ms-Schritte)
37 F1D8  0001  B      DEFS  1      ; 20     :Praekomp.zeit
38 F1D9  0001  B      DEFS  1      ; 21     :frei
39     B;
40     B;Tabellen fuer FDC - Befehle
41     B;-----
42 F1DA  0001  BSPEZT:      DEFS  1      ;Spezifizierung des FDC U8272 (4 MHz-Version)
43 F1DB  0001  BK1SPEZ:     DEFS  1      ;Kommando
44 F1DC  0001  BK2SPEZ:     DEFS  1      ;SRT / HUT = 6/32 ms = d0(F=2ms,E=4ms,..) + 01(32ms) =
d1h
45 F1DD  0001  BK3SPEZ:     DEFS  1      ;HLT / ND = 4 ms/01 = 02h(1*4ms) + Nicht-DMA (01h) =
03h
46 F1DE  0001  BHOMET:      DEFS  1      ;HOME
47 F1DF  0001  B      DEFS  1      ;Kommando
48 F1E0  0001  B      DEFS  1      ;LW
49 F1E1  0001  BSEEKT:      DEFS  1      ;SEEK
50 F1E2  0001  B      DEFS  1      ;Kommando
51 F1E3  0001  B      DEFS  1      ;LW / Kopf
52 F1E4  0001  B      DEFS  1      ;NCN (Spur)
53 F1E5  0001  BSENSET:     DEFS  1      ;SENSE
54 F1E6  0001  B      DEFS  1      ;Kommando
55 F1E7  0001  BIDLEST:     DEFS  1      ;LESE ID
56 F1E8  0001  B      DEFS  1      ;Kommando
57 F1E9  0001  B      DEFS  1      ;LW / Kopf
    
```

```

58          B
59 F1EA 0001 BSTATT: DEFS 1 ;LW - STATUS
60 F1EB 0001 B DEFS 1 ;Kommando
61 F1EC 0001 B DEFS 1 ;LW / Kopf
62          B;
63          B;Komm.-Tab f.RD/WR/FORMAT/SCAN-Op.
64          B;-----
65 F1ED 0001 BCODET: DEFS 1 ;Laenge der Code-Tab.f.RD/WR-Op.
66 F1EE 0001 BK1CODE: DEFS 1 ;Kommando FORMATIEREN
67 F1EF 0001 BK2CODE: DEFS 1 ;LW/Kopf -----
68 F1F0 0001 BKSINFO: DEFS 1 ;Spur Bytes/Sektor
69 F1F1 0001 B DEFS 1 ;Kopf Sektoren/Spur
70 F1F2 0001 B DEFS 1 ;Sektor Luecke 3
71 F1F3 0001 BKN: DEFS 1 ;Byte/Sektor Datenbyte
72 F1F4 0001 BKEOT: DEFS 1 ;End ofTrack
73 F1F5 0001 BKGPL: DEFS 1 ;Gap 3
74 F1F6 0001 BKDTL: DEFS 1 ;128
75          B;-----
76 F1F7 0001 BRSTAT: DEFS 1 ;Status-Reg.
77          B ;Aufbau von rstat (Statusregister 3)
78          B ; BIT 7 fault write
79          B ; 6 write protect
80          B ; 5 ready
81          B ; 4 track 0
82          B ; 3 side-signal
83          B ; 2 head-adresse
84          B ; 1/0 drive
85          B;
86 F1F8 0001 BSEEKST: DEFS 1 ;Status f.SEEK (PCN muss folgen!)
87 F1F9 0001 BPCN: DEFS 1 ;momentane Spur-Nr.
88 F1FA 0001 BNCN: DEFS 1 ;next Spur-Nr.FDC
89 F1FB 0001 BSTATB: DEFS 1
90 F1FC 0002 BAISSP: DEFS 2 ;Adr.f.akt.ISSP0
91 F1FE 0001 BISSP0: DEFS 1 ;Istspur LW 0
92 F1FF 0001 BISSP1: DEFS 1 ;LW1
93 F200 0001 BISSP2: DEFS 1 ;LW2
94 F201 0001 BZRES: DEFS 1 ;Zaehler f.Resultatbytes
95 F202 0007 BIDF: DEFS 7 ;ID-Feld
96 F209 0001 BHOMEZ: DEFS 1 ;nicht mehr als drei aut.HOME n.geles.ID-Feld.Bei Vers.
97          B ;OHNE vorh.ID-Feldlesen b.Sec-Arbeit ist im F.-Fall home
98          B ;unwirksam,wenn log.ISTsp.in Var.PCN = SOLLsp.in (IX+2),
99          B ;Kopf aber falsch steht (z.B.sogar ausserh.Spurber./Disk)
100 F20A 0001 BHOMEZ1: DEFS 1 ;falls FDC ausserhalb Spurber.,dann nach lesz-mal
vergebl.
101          B ;Sec-RD/WR-Versuch nochmal wiederh.m.Spur0-Anf.entspr.homez1
102          B ;(bei SecRD/WR-Op.ohne vorh.ID-Feldlesen w.homez n.wirksam)
103 F20B 0001 BHOMEZ2: DEFS 1 ;HOME-Zaehler f.Real.HOME nach fehlerh.Kontrolllesen
eines Sec
104 F20C 0001 BLESZ: DEFS 1 ;Leseversuche
105 F20D 0001 BSCANZ: DEFS 1 ;Pruef-Leseversuche
106 F20E 0007 BRESULT: DEFS 7 ;7 Resultatsbytes
107 F215 0002 BSKTGR: DEFS 2
108 F217 0002 BBLCKL: DEFS 2
109 F219 0001 BZREGSP: DEFS 1 ;Zw.-Speicher f.SW/ZREG m.akt.Motorcode + Praekomp.bit
110 F21A 0001 BFREI2: DEFS 1
111 F21B 0002 BIX00: DEFS 2 ;Zelle f.IX
112 F21D 0002 BSP00: DEFS 2
113 F21F 0002 BDE000: DEFS 2
114 F221 0002 BXXX: DEFS 2
115 F223 0002 BYYY: DEFS 2

```

```

116          B;
117          B;*****
52          A      ENDC          ;DSE AND DSE2RA
53          0000   A      COND    $ GT SYSRAM
54          A      ENDC
55          A;*****
56          A; SYSTEM-RAM BIC (fuer SCP, Disk-BASIC und BASIC !)
57          A;
58          F235   A      org      SYSRAM
59          A      INCLUDESYSRAM.Z80          ;Alle Bearbeiter
60          B;*****
61          B; SYSTEM-RAM BIC (fuer SCP, Disk-BASIC und BASIC !)
62          B; Stand: 17.05.89
63          B;*****
64          B;
65          B;
66          F235   0005   BLREUP      defs    5      ;LONGREAD-UP
67          F23A   0007   BLWRUP      defs    7      ;LONGWRITE-UP
68          F241   000C   BLCAUP      defs    12     ;LONGCALL-UP
69          F24D   0002   BJPIX defs    2      ;JP (IX)
70          F24F   0014   BUSRADR      defs    20     ;ADRESSEN FUER USR(X)
71          B;-----
72          F263   0001   BSPFIRS      defs    1      ;1.SPALTE
73          F264   0001   BSPLAST      defs    1      ;LETZTE SPALTE
74          F265   0001   BZLFIRS      defs    1      ;1.ZEILE
75          F266   0001   BZLLAST      defs    1      ;LEZTE ZEILE
76          F267   0001   BCRSZL      defs    1      ;AKTUELLE KURSORSZEILE
77          F268   0001   BCRSSP      defs    1      ; " KURSORSPALTE
78          F269   0001   BLSTTAB      defs    1      ;lezte zulaessige Tabulatorposition
79          F26A   0002   BWIDTH      defs    2      ;LAENGE BS-ZEILE
80          F26C   0002   BVVRAM      defs    2      ;ANFANGSADR. VISUELLE SEITE
81          F26E   0002   BAVRAM      defs    2      ; " AKTIVE SEITE
82          F270   0001   BPAGEVI      defs    1      ;NR. VISUELLE SEITE
83          F271   0001   BSCRNRV      defs    1      ;MODUS VISUELL
84          F272   0001   BPAGEAK      defs    1      ;NR. AKTIVE SEITE
85          F273   0001   BSCRNRA      defs    1      ;MODUS AKTIV
86          B;-----
87          F274   0001   BPAL11      defs    1
88          F275   0001   BPAL12      defs    1
89          F276   0001   BPAL13      defs    1
90          F277   0001   BPAL21      defs    1
91          F278   0001   BPAL22      defs    1
92          F279   0001   BPAL23      defs    1
93          F27A   0002   BPALCOL      defs    2
94          F27C   0002   BPVIEW1      defs    2
95          F27E   0002   BPVIEW2      defs    2
96          F280   0002   BPVIEW3      defs    2
97          F282   0002   BPVIEW4      defs    2
98          F284   0001   BKCLKSW      defs    1      ;KEYCLICK 0-AUS, 1-EIN
99          F285   0001   BFKTANZ      defs    1      ;FKTTAST-ANZEIGE 0-AUS, FF-EIN
100         F286   0001   BHSTRIG      defs    1      ;MERKZELLE FUER STRIG
101         F287   0001   BACTINK      defs    1      ;INK fuer Grafik
102         F288   0001   BINK defs    1      ;VORDERGRUNDFARBE
103         F289   0001   BPAPER      defs    1
104         F28A   0001   BBORDER      defs    1
105         F28B   0001   BJPLIN1      defs    1      ;SPRUNG ZU RICHTUNG 1
106         F28C   0002   BADLIN1      defs    2      ;ADR UP RICHTUNG1
107         F28E   0001   BJPLIN2      defs    1
108         F28F   0002   BADLIN2      defs    2

```

```

49 F291 0001 BACTCOL      defs 1      ;AKTUELLE FARBE
50 F292 0002 BAMUPOK      defs 2      ;ADR MUSIKPUFFER-KOPF
51 F294 0001 BHLPEXP      defs 1      ;HILFSZELLE BCD-EXPONENT
52 F295 0001 BTSTIRZ      defs 1      ;VORTEILER TASTENABFR./IR
53 F296 0001 BTSTPRZ      defs 1      ;TASTENDRUCKWIEDERHOLZAEHLER
54 F297 0002 BSCHRIP      defs 2      ;SCREIBZEIGER IN RINGPUF. TASTATUR
55 F299 0002 BLESRIP      defs 2      ;LESEZEIGER      "
56 F29B 000A BTBSTCS      defs 10     ;TAB STANDARDWERTE KASS (2*)
57 F2A5 0002 BNUBIFR      defs 2      ;NULL-BIT-FREQUENZ KASSETTE
58 F2A7 0002 BEIBIFR      defs 2      ;EINS-BIT      "
59 F2A9 0001 BVOTOL      defs 1      ;VORTONLAENGE KASS.
60 F2AA 0002 BELLIX      defs 2      ;ELLIPSENPARAMETER STANDARD
61 F2AC 0002 BELLIY      defs 2
62 F2AE 0001 BHOMECO      defs 1      ;HOME-Code
63 F2AF 0001 BV24FO      defs 1      ;V24-Format Drucker
64 F2B0 0005 BHLPBER      defs 5      ;2 BYTE INIT AUF 00 3A
65      B;*****
66      B;          NICHT INITIALISIERTE VARIABLE (GLOBAL AUF 00H GELOESCHT)
67      B;
68 F2B5 0010 BPPARAM      defs 16
69 F2C5 000F BSYNBER      defs 15
70 F2D4 0003 BPCHAR      defs 3
71 F2D7 0001 BPATXAK      defs 1      ;LETZTE TEXTSEITE
72 F2D8 0001 BSCRNTX      defs 1      ;LETZTER TEXTMODUS
73 F2D9 0002 BCRSTX      defs 2
74 F2DB 0001 BERRNR      defs 1      ;ERR
75 F2DC 0001 BLPTPOS      defs 1      ;DRUCKPOSITION LPOS
76 F2DD 0001 BPTORSC      defs 1      ;DRUCKER OD. BILDSCHIRM
77 F2DE 0001 BDRUTYP      defs 1      ;DRUCKERTYP
78 F2DF 0002 BHIADZK      defs 2
79 F2E1 0001 BHIZEZK      defs 1
80      B;
81 F2E2 0002 BACTZN      defs 2      ;AKTUELLE ZEILENNR.          ;! BASIC !
82 F2E4 0001 B      defs 1          ;! BASIC !
83 F2E5 0002 BLINBUF      defs 2      ;LINEBUFFER          ;! BASIC !
84 F2E7 013C B      defs 13CH          ;! BASIC !
85      B;
86      F2E2 BUST0 EQU ACTZN          ;! SCP !
87      F2F8 BSTACK0 EQU UST0+22          ;! SCP !
88      F2F8 BZFCB EQU STACK0          ;! SCP !
89      F31C BDZRET EQU ZFCB+36          ;! SCP !
90      F31F BZSTR EQU DZRET+3          ;! SCP !
91      B; DEFS 259          ;! SCP !
92      B;
93 F423 0001 BHEDIBU      defs 1
94 F424 0100 BEDIBUF      defs 100H ;EDITLINEBUFFER
95 F524 0002 B      defs 2      ; auch fuer COPY,FORMAT,SPRITE,PLOTTER
96 F526 0001 BENDEBU      defs 1
97 F527 0001 BCRSSPI      defs 1      ;KURSORPALTE -- 1
98 F528 0001 BDIMFL      defs 1      ;DIM-AFH...FFH, SONST 0
99 F529 0001 BTYP      defs 1      ;TYP-BYTE 2,3,4,8
100 F52A 0001 BMODUS1      defs 1
101 F52B 0001 BMODUS2      defs 1
102 F52C 0002 BHPROAD      defs 2      ;ZEIGER IN QUELLTEXT
103 F52E 0001 BHKBZNR      defs 1      ;KENNBYTE ZLNR IN QUELLTEXT
104 F52F 0001 BHTYPZN      defs 1      ;TYP ZLNR IN QUELLZ. (NACH GOTO)
105 F530 0008 BHARVAL      defs 8      ;HILFSBER ARITHM WERT (AUSW AUSDR)
106 F538 0002 BRAMTOP      defs 2      ;ZEIGER UNTER FCB'S

```

```

107 F53A 0002 BSTDPTR      defs 2      ;OBERKANTE STACK
108 F53C 0002 BPSTBEG      defs 2      ;PROGRAMMANFANG
109 F53E 0002 BPDENBU      defs 2      ;ZEIGER IN DENBUF
110 F540 001E BDENBUF      defs 30     ;DEVICE NAME BUFFER
111 F55E 0001 BLENZK       defs 1      ;LAENGE STRING
112 F55F 0002 BADRZK       defs 2      ;ADRESSE STRING
113 F561 0002 BSWAPTR      defs 2      ;FUELLZEIGER IM STRING-BEREICH
114 F563 0002 BHARI4       defs 2
115 F565 0002 BHARI5       defs 2
116 F567 0002 BHELPTTR     defs 2      ;HILFSZEIGER POSITION IN ZEILE
117 F569 0002 BHPTZL       defs 2      ;HILFSZEIG AUF ZEILE (DATA/ERR/INPUT)
118 F56B 0001 BFORFLG      defs 1      ;DATA BIT7, FOR BIT6,5,3
119 F56C 0001 BRDIPFL      defs 1      ;READ/INPUT FLAG 0-INPUT <>0-READ
120 F56D 0002 BCUSTMT      defs 2      ;ADR AKT STATEMENT
121 F56F 0001 BDATFLG      defs 1
122 F570 0001 BAUTOFL      defs 1      ;AUTO-FLAG, 1-AUTO
123 F571 0002 BAUTOZN      defs 2      ;AUTO-ZEILENNR AKTUELL
124 F573 0002 BAUTOAB      defs 2      ;AUTO-ABSTAND
125 F575 0002 BHLPTR       defs 2      ;HILFSZEIG (AUF ANW BEI GOSUB)
126 F577 0002 BHELPSP      defs 2      ;MERKZELLE STACKPOINTER
127 F579 0002 BERLNR       defs 2      ;ZN FEHLERZEILE
128 F57B 0002 BHELPZN      defs 2      ;ZN ZWISCHENSPEICHER
129 F57D 0002 BHLPERL      defs 2
130 F57F 0002 BZNRESU      defs 2      ;FORTSETZUNG NACH ERROR
131 F581 0001 BERRFLG      defs 1      ;ERROR-FLAG
132 F582 0002 BHELPMO      defs 2      ;MODUS-ZWISCHENSPEICHER
133 F584 0002 BHPTZL2      defs 2      ;HILFSZEIG AUF ZEILE (STOP/CONT)
134 F586 0002 BHPTAW2      defs 2      ;HILFSZEIG AUF ANWEISUNG (CONT)
135 F588 0002 BSVARPT      defs 2      ;ANFANG EINF VARIABLE
136 F58A 0002 BDVARPT      defs 2      ;ANFANG FELDVAR.
137 F58C 0002 BFSLPTR      defs 2      ;ANFANG FREIER BEREICH
138 F58E 0002 BREADPT      defs 2      ;READ-ZEIGER
139      B;
140 F590 001A BVARFOR      defs 26     ;ANFANGSBUCHSTABE - TYP      ;! BASIC !
141 F5AA 0002 BFNPTR       defs 2      ;! BASIC !
142 F5AC 0002 BFNCNT      defs 2      ;! BASIC !
143 F5AE 0064 BFNDBUF      defs 64H    ;! BASIC !
144      B;
145      F590 BTRBSCH      EQU  VARFOR      ;! SCP !
146      F5AD BTRRUF2     EQU  TRBSCH+29    ;! SCP !
147      F5CD BTRTAB      EQU  TRRUF2+32    ;! SCP !
148      F5ED BSLTAB      EQU  TRTAB+32     ;! SCP !
149      B;   DEFS      16                ;! SCP !
150      B;
151 F612 0002 BHPTSTR      defs 2
152 F614 0002 BFNCNT1     defs 2
153      B;
154 F616 0064 BFNSBUF      defs 64H      ;! BASIC !
155      B;
156      F616 BSBSEC      EQU  FNSBUF      ;! SCP !
157      F61B BSBSEL      EQU  SBSEC+5     ;! SCP !
158      F620 BSDRO EQU   SBSEL+5         ;! SCP !
159      F625 BSFRO EQU   SDR0+5         ;! SCP !
160      F628 BSbder      EQU  SFR0+3     ;! SCP !
161      F62F BERRBAD     EQU  Sbder+7     ;! SCP !
162      F648 BERRSEL     EQU  ERRBAD+25   ;! SCP !
163      F64D BERRDRO     EQU  ERRSEL+5    ;! SCP !
164      F652 BERRFRO     EQU  ERRDRO+5    ;! SCP !

```

```

165      F655      BERRRES      EQU      ERRFRO+3          ;! SCP !
166      F668      BMERR0      EQU      ERRRES+19          ;! SCP !
167      F674      BMERR1      EQU      MERR0+12          ;! SCP !
168      B;      DEFS      4          ;! SCP !
169      B;
170 F67A  0001      BDIMBYT      defs     1
171 F67B  0002      BDIMPTR      defs     2
172 F67D  0001      BHDIMFN      defs     1
173 F67E  0002      BHPTRST      defs     2
174 F680  0002      BHPTRFN      defs     2
175 F682  0008      BHSWAP       defs     8
176 F68A  0001      BTRACFL      defs     1
177 F68B  0002      BHLPPTR      defs     2
178 F68D  0029      BAUKOBU      defs     29H
179 F6B6  0002      BHARI1       defs     2
180 F6B8  0002      BHARI2       defs     2
181 F6BA  0001      BHARI3       defs     1
182 F6BB  0001      BHDIV      defs     1
183 F6BC  0008      BAC1      defs     8          ;BCD-AKKU-1
184      F6BC      BAC1SNG      equ      AC1
185      F6BE      BAC1INT      equ      AC1+2
186      F6BE      BAC1STR      equ      AC1INT
187 F6C4  0040      BARIBU       defs     40H
188 F704  0008      BHLPRND      defs     8          ;RND(-)ZWISCHENSPEICHER
189 F70C  0001      B      defs     1
190 F70D  0008      BAC2      defs     8          ;BCD-AKKU-2
191      F70D      BAC2SNG      equ      AC2
192      F70F      BAC2INT      equ      AC2+2
193      F70F      BAC2STR      equ      AC2INT
194 F715  0008      BHLPCNV      defs     8          ;HILFSSP BCD-KONVERTIERUNG
195 F71D  0008      BLSTRND      defs     8          ;LETZTER WERT VON RND
196 F725  0001      BMAXFIL      defs     1
197 F726  0001      BSLCTRL      defs     1          ;Slotcontrol-Byte
198 F727  0002      BATBFCB      defs     2          ;ADR ADRESSTAB FCB'S
199 F729  0002      BACTDMA      defs     2          ;ADR AKT DMA-BER (IM AKT FCB)
200 F72B  0002      BACTFCB      defs     2          ;ADR AKTUELLER FCB
201 F72D  0001      BAUTSTL      defs     1          ;AUTOSTART BEI LOAD/MERGE
202 F72E  0002      BPAIHL1      defs     2
203 F730  0013      BPAIHL2      defs     19
204      F72D      BCANAB1      equ      AUTSTL
205      F738      BCANAB2      equ      CANAB1+11
206 F743  0001      BLMAFL       defs     1          ;LOAD/MERGE:81-AUTOST,01 OHNE AUTOST
207 F744  0002      BLADBSA      defs     2          ;LAST ADDRESS BSAVE
208 F746  0010      BFKEY1       defs     16          ;FTASTEN-BELEGUNG 1
209 F756  0010      BFKEY2       defs     16
210 F766  0010      BFKEY3       defs     16
211 F776  0010      BFKEY4       defs     16
212 F786  0010      BFKEY5       defs     16
213 F796  0010      BFKEY6       defs     16
214 F7A6  0010      BFKEY7       defs     16
215 F7B6  0010      BFKEY8       defs     16
216 F7C6  0010      BFKEY9       defs     16
217 F7D6  0010      BFKEY10      defs     16
218 F7E6  0001      BZGBANK      defs     1          ;ZIELBANK ZEICHENGEGENERATOR
219 F7E7  0002      BZGADR       defs     2          ;ZIELADR "
220 F7E9  0002      BZLSCA       defs     2          ;ZEILENLAENGE AKTUELLER SCREEN
221 F7EB  0002      BZGSCA       defs     2          ;ADR ZG AKT SCREEN
222 F7ED  0002      BSPRADA      defs     2

```

```

223 F7EF 0002 BSPRATA      defs 2
224 F7F1 0002 BPOIADR      defs 2      ;ADR PIXEL
225 F7F3 0001 BPOIMA      defs 1      ;PUNKTMASKE
226 F7F4 0016 BTBTXT      defs 22     ;Textscreen-Modus
227 F80A 0002 BHLPLI1     defs 2      ;HILFSZELLE IN LINE
228 F80C 0002 BHLPLI2     defs 2
229 F80E 0002 BELLIPA     defs 2      ;ELLIPSENPARAMETER
230 F810 0002 BENDWI      defs 2      ;ENDWINKEL KREISBOGEN
231 F812 0001 BVORWI      defs 1      ;VORZEICHEN WINKEL
232 F813 0002 BRAD2      defs 2      ;RADIUS*SQR(2)
233 F815 0001 BRICWI      defs 1      ;ZEICHENRICHTUNG WINKEL
234 F816 0002 BHLPCI1     defs 2      ;HILFSZELLE KREIS
235 F818 0002 BHLPCI2     defs 2
236 F81A 0002 BHLPCI3     defs 2
237 F81C 0002 BANFWI      defs 2      ;ANFWINKEL KREISBOGEN
238 F81E 0001 BELLIRI     defs 1      ;RICHTUNG ELLIPSE
239 F81F 0002 BHLPPA1     defs 2
240 F821 0001 BHLPPA2     defs 1
241 F822 0002 BYKOOR      defs 2      ;HILFSZELLE Y-KOORDINATE
242 F824 0002 BXKOOR      defs 2
243 F826 0001 BHLPPA3     defs 1
244 F827 0001 BHLPPA4     defs 1
245 F828 0002 BHLPPA5     defs 2
246 F82A 0002 BHLPPA6     defs 2
247 F82C 0002 BHLPPA7     defs 2
248 F82E 0002 BHLPPA8     defs 2
249 F830 0001 BHLPPA9     defs 1
250 F831 0001 BHLPPAA     defs 1
251 F832 0001 BHLPPAB     defs 1
252 F833 0002 BHLPDR1     defs 2
253 F835 0001 BHLPDR2     defs 1
254      B;
255 F836 0006 BMUPUK0      defs 6      ;KOPF FUER PUFFER MUSIK          ;! BASIC !
256 F83C 0006 BMUPUK1      defs 6          ;! BASIC !
257 F842 0006 BMUPUK2      defs 6          ;! BASIC !
258 F848 000A B          defs 10          ;! BASIC !
259 F852 0080 BMUPU0       defs 80H     ;MUSIKPUFFER 0          ;! BASIC !
260 F8D2 0080 BMUPU1       defs 80H     ;! BASIC !
261 F952 0080 BMUPU2       defs 80H     ;! BASIC !
262 F9D2 0040 BMUPU3       defs 40H     ;! BASIC !
263      B;
264      F836 BIRSP3E      EQU MUPUK0          ;! SCP !
265      F888 BIRSPL3      EQU IRSP3E+82       ;! SCP !
266      B;
267      F88A BIRZ240      EQU IRSPL3+2          ;! SCP !
268      F88B BFZELLE      EQU IRZ240+1          ;! SCP !
269      F88C BSYNSEM      EQU FZELLE+1          ;! SCP !
270      F88D BSYNFLG      EQU SYNSEM+1          ;! SCP !
271      F88E BH2PPIA      EQU SYNFLG+1          ;! SCP !
272      F88F BSTATUP      EQU H2PPIA+1          ;! SCP !
273      F891 BSTFLAG      EQU STATUP+2          ;! SCP !
274      F892 BFUFLAG      EQU STFLAG+1          ;! SCP !
275      F893 BSYS2        EQU FUFLAG+1          ;! SCP !
276      F894 BBIOSMO      EQU SYNS2+1          ;! SCP !
277      F89B BPCRET       EQU BIOSMO+7          ;! SCP !
278      F89F BMONCAL      EQU PCRET+4          ;! SCP !
279      F8C8 BDECHL       EQU MONCAL+41         ;! SCP !
280      F8DE BXSTOP4      EQU DECHL+22          ;! SCP !

```



```

281      F8F6      BDISM01      EQU      XSTOP4+24      ;! SCP !
282      F8FD      BENAM01      EQU      DISM01+7      ;! SCP !
283
284      F904      BCURSR      EQU      ENAM01+7      ;! SCP !
285      F906      BMADR EQU      CURSR+2      ;! SCP !
286      F908      BSTATU1      EQU      MADR+2      ;! SCP !
287      F90A      BBIOSP      EQU      STATU1+2      ;! SCP !
288      F90C      BPC1RET      EQU      BIOSP+2      ;! SCP !
289      F917      BA1RET      EQU      PC1RET+11      ;! SCP !
290      F923      BA2RET      EQU      A1RET+12      ;! SCP !
291      F924      BPUFF EQU      A2RET+1      ;! SCP !
292      0050      BLPUF EQU      80      ;! SCP !
293      F974      BDPUFF      EQU      PUFF+LPUF      ;! SCP !
294
295      F984      BBIORRA      EQU      DPUFF+16      ;! SCP !
296      F984      BKCIBOOT      EQU      BIORRA      ;! SCP !
297      F989      BKWBOOT      EQU      KCIBOOT+5      ;! SCP !
298      F98E      BKCONST      EQU      KWBOOT+5      ;! SCP !
299      F993      BKCONIN      EQU      KCONST+5      ;! SCP !
300      F998      BKCONOUT      EQU      KCONIN+5      ;! SCP !
301      F99D      BKLIST      EQU      KCONOUT+5      ;! SCP !
302      F9A2      BKPUNCH      EQU      KLIST+5      ;! SCP !
303      F9A7      BKREADER      EQU      KPUNCH+5      ;! SCP !
304      F9AC      BKHOME      EQU      KREADER+5      ;! SCP !
305      F9B1      BKSELDSK      EQU      KHOME+5      ;! SCP !
306      F9B6      BKSETTRK      EQU      KSELDSK+5      ;! SCP !
307      F9BB      BKSETSEC      EQU      KSETTRK+5      ;! SCP !
308      F9C0      BKSETDMA      EQU      KSETSEC+5      ;! SCP !
309      F9C5      BKREAD      EQU      KSETDMA+5      ;! SCP !
310      F9CA      BKWRITE      EQU      KREAD+5      ;! SCP !
311      F9CF      BKLISTST      EQU      KWRITE+5      ;! SCP !
312      F9D4      BKSECTAN EQU      KLISTST+5      ;! SCP !
313      F9D9      BKCONOST      EQU      KSECTAN+5      ;! SCP !
314      F9DE      BKAXIST      EQU      KCONOST+5      ;! SCP !
315      F9E3      BKAXOST      EQU      KAUXIST+5      ;! SCP !
316      F9E8      BKDEVTBL      EQU      KAUXOST+5      ;! SCP !
317      F9ED      BBIORA      EQU      KDEVTBL+5      ;! SCP !
318      FA0E      BJPHLR      EQU      BIORA+33      ;! SCP !
319      B; DEFS 1      ;! SCP !
320      B;
321 FA12  0001      BHLPL1      defs 1
322 FA13  0002      BHLPL2      defs 2
323 FA15  0001      BMUKA defs 1 ;MUSIKKANAL AKTUELL
324 FA16  0002      BHLPL5      defs 2
325 FA18  0001      BHLPL3      defs 1
326 FA19  0002      BHLPL4      defs 2
327 FA1B  0001      BHEMUKA      defs 1 ;ZWISCHENSP FUER KANALNR PSG
328 FA1C  0001      BMUKAFL      defs 1 ;MUSIKKANAL-FLAG
329
330 FA1D  0001      BMUHLP      defs 1 ;! BASIC !
331 FA1E  0002      BMULA0      defs 2 ;TONLAENGE KANAL 0 ;! BASIC !
332 FA20  000D      B defs 13 ;! BASIC !
333 FA2D  0006      BMUKOP0      defs 6 ;! BASIC !
334 FA33  0010      B defs 16 ;! BASIC !
335 FA43  0002      BMULA1      defs 2 ;! BASIC !
336 FA45  000D      B defs 13 ;! BASIC !
337 FA52  0006      BMUKOP1      defs 6 ;! BASIC !
338 FA58  0010      B defs 16 ;! BASIC !

```

```
339 FA68 0002 BMULA2      defs 2          ;! BASIC !
340 FA6A 000D B      defs 13        ;! BASIC !
341 FA77 0006 BMUKOP2     defs 6          ;! BASIC !
342 FA7D 0010 B      defs 16        ;! BASIC !
343      B;
344      B; DEFS 82          ;! SCP !
345      FA8B BBIORST     EQU MUKOP2+20      ;! SCP !
346      B; DEFS 2          ;! SCP !
347      B;
348 FA8D 0001 BSTOPFL     defs 1      ;STOP EIN/AUS
349 FA8E 0019 BZLSTAT     defs 25      ;ZEILENSTATUS
350 FAA7 0019 BZLSTTX     defs 25      ;ZEILENSTATUS KOMMANDOSEITE
351 FAC0 0002 BCUPOVO     defs 2      ;KURSOR VOR EINGABE
352 FAC2 0001 BCUPOZE     defs 1      ;ZEICHEN AN KURSORPOSITION
353 FAC3 0001 BFTSHI      defs 1      ;Zustand Shifttaste
354      B;
355 FAC4 000A BFIRERL     defs 10     ;FKTSTASTEN-IR ERLAUBT ? ;! BASIC !
356      B;
357      FAC4 BRettDE     EQU FIRERL          ;! SCP !
358      FAC6 BRettA      EQU RettDE+2        ;! SCP !
359      FAC7 BRettMem     EQU RettA+1        ;! SCP !
360      B;
361      FAC8 BZEISFL      EQU RettMem+1      ;! SCP !
362      FAC9 BZEISA       EQU ZEISFL+1      ;! SCP !
363      FACA BINVEFL      EQU ZEISA+1       ;! SCP !
364      FACB BFKTAN1      EQU INVEFL+1     ;! SCP !
365      B; DEFS 1          ;! SCP !
366      B;
367 FACE 0001 BIRVAN      defs 1      ;IR-VORANMELDUNG (BEI IR STOP)
368 FACF 0001 BKCLK1T     defs 1      ;KEYCLICK BEI 1.TASTE
369 FAD0 0009 BLTAMAT     defs 9      ;LETZTE TASTENMATRIX
370      FAD7 BLTMSTP     equ LTAMAT+7      ;Stoptaste
371 FAD9 0009 BATAMAT     defs 9      ;AKTUELLE "
372      FADF BASTAMT     equ ATAMAT+6      ;AKT SONDERTASTEN
373 FAE2 0028 BRINGPU     defs 28H     ;RINGPUFFER
374 FB0A 00A0 BZEILPU     defs 160     ;ZWISCHENPUFFER ZEILE
375 FBAA 0008 BZEIPUF     defs 8      ;ZEICHENZEILEN 0...7
376 FBB2 0002 BANFRAM     defs 2
377 FBB4 0002 BEOFRAM     defs 2      ;ZELLE OBERHALB FCB'S
378 FBB6 0002 BEOFRM1     defs 2      ;Zelle oberhalb bdos-fcb's
379 FBB8 0002 BSYSANF     defs 2      ;Anfang Systembereich
380      B;
381 FBBA 0001 BKEY1SW     defs 1
382 FBBD 0002 BKEY1AD     defs 2
383 FBBD 0001 BKEY2SW     defs 1
384 FBBD 0002 BKEY2AD     defs 2
385 FBBC 0001 BKEY3SW     defs 1
386 FBBC 0002 BKEY3AD     defs 2
387 FBBC 0001 BKEY4SW     defs 1
388 FBBC 0002 BKEY4AD     defs 2
389 FBBC 0001 BKEY5SW     defs 1
390 FBBC 0002 BKEY5AD     defs 2
391 FBBC 0001 BKEY6SW     defs 1
392 FBBC 0002 BKEY6AD     defs 2
393 FBCC 0001 BKEY7SW     defs 1
394 FBCC 0002 BKEY7AD     defs 2
395 FBCC 0001 BKEY8SW     defs 1
396 FBCC 0002 BKEY8AD     defs 2
```

```
397 FBD2 0001 BKEY9SW defs 1
398 FBD3 0002 BKEY9AD defs 2
399 FBD5 0001 BKEY10S defs 1
400 FBD6 0002 BKEY10A defs 2
401 FBD8 0001 BSTOPSW defs 1
402 FBD9 0002 BSTOPAD defs 2
403 FBDB 0001 BSPRISW defs 1
404 FBDC 0002 BSPRIAD defs 2
405 FBDE 0001 BSRG0SW defs 1
406 FBDF 0002 BSRG0AD defs 2
407 FBE1 0001 BSRG1SW defs 1
408 FBE2 0002 BSRG1AD defs 2
409 FBE4 0001 BSRG2SW defs 1
410 FBE5 0002 BSRG2AD defs 2
411 FBE7 0001 BSRG3SW defs 1
412 FBE8 0002 BSRG3AD defs 2
413 FBEA 0001 BSRG4SW defs 1
414 FBEB 0002 BSRG4AD defs 2
415 FBED 0001 BINTVSW defs 1
416 FBEE 0002 BINTVAD defs 2
417 FBF0 0018 B DEFS 18H ;8 IR-Erweiterungen
418 FC08 0001 B DEFS 1 ;? - aber wichtig !
419 B;
420 FC09 0001 BSTCSSW defs 1 ;3-CRTL STOP, 4-STOP
421 FC0A 0001 BPADY defs 1 ;Y-KOORDINATE PAD
422 FC0B 0001 BPADX defs 1
423 FC0C 0002 BVATIME defs 2 ;VARIABLE FUER TIME
424 FC0E 0002 BVAIVAL defs 2 ;INTERVALTIME
425 FC10 0002 BDAUER defs 2 ;AKTUELLE INTERVALL ZEIT
426 FC12 0001 BVKAIN1 defs 1 ;PAR KASSETTENEINGABE
427 FC13 0001 BVKAIN2 defs 1
428 FC14 0001 BGCHSW defs 1 ;MERKZELLE 2BYTE GRAFIK
429 FC15 0001 BESCSW defs 1 ;ESCAPE SWITCH
430 FC16 0001 BINSW defs 1 ;INS MODE
431 FC17 0001 BCURSW defs 1 ;KURSOR EIN/AUS
432 FC18 0001 BCURGK defs 1 ;KURSOR GROSS/KLEIN
433 FC19 0001 BCAPSSW defs 1 ;CAPS EIN/AUS
434 FC1A 0001 BMONSW defs 1 ;Monitor=1 TV=0
435 FC1B 0001 BPSG14 defs 1 ;BIT 4 VON R14 PSG
436 FC1C 0001 BHLPERR defs 1
437 FC1D 0001 BSCRNR defs 1 ;AKTUELLER SCREEN
438 FC1E 0001 BSCRNR2 defs 1
439 FC1F 0001 BVIREG0 defs 1
440 FC20 0001 BVIREG1 defs 1
441 FC21 0001 BVIREG2 defs 1
442 FC22 0001 BVIREG3 defs 1
443 FC23 0001 BVIREG4 defs 1
444 FC24 0001 BVIREG5 defs 1
445 FC25 0001 BVIREG6 defs 1
446 FC26 0001 BHLPCAS defs 1
447 FC27 0002 BPARAND defs 2
448 FC29 0002 BXNEU defs 2 ;NEUE X-KOORDINATE
449 FC2B 0002 BYNEU defs 2
450 FC2D 0002 BXALT defs 2
451 FC2F 0002 BYALT defs 2
452 FC31 0008 BX8ALT defs 8
453 FC39 0008 BY8ALT defs 8
454 FC41 0001 BWINFLG defs 1
```

```
455 FC42 0008 BX0 defs 8
456 FC4A 0008 BY0 defs 8
457 FC52 0008 BSCALEX defs 8
458 FC5A 0008 BSCALEY defs 8
459 FC62 0001 BHLPCR3 defs 1
460 FC63 0001 BDRWSCF defs 1
461 FC64 0001 BHLPCR5 defs 1
462 FC65 0008 BINSCPX defs 8
463 FC6D 0001 BAUTOST defs 1 ;AUTOSTART BEI CLOAD
464 FC6E 0002 BSTADR defs 2 ;START ADRESSE BSAVE
465 FC70 0001 BBASUB defs 1 ;=0
466 FC71 0010 BSUBBST defs 10H ;BANKSTATUS
467 FC81 0010 BNACALL defs 16 ;UPNAME FUER CALL
468 FC91 0001 BHLPBK defs 1 ;HILFSSPEICHER BANKADR
469 B;-----
470 FC92 0001 BIRSP2E defs 1
471 FC93 0040 B defs 64 ;Stack fuer System-IR
472 FCD3 0002 BIRSPL2 defs 2 ;Rett-Zelle Stack
473 FCD5 0001 BH1PPIA defs 1 ;Merkzelle Systemzustand
474 FCD6 0021 BRIRSYS defs 33
475 B;-----
476 B;
477 B; BIOS-Sprungleiste RAM (auf 100H-Grenze !)
478 B;
479 FD00 B ORG ($+0FFH) AND 0FF00H
480 B;
481 FD00 003F BBIORSL defs 63 ;Rufe 0 bis 20 je 3 Byte
482 B;
483 FD00 BICBOOT: EQU BIORSL ;FD00
484 FD03 BIWBOOT: EQU BIORSL+3
485 FD06 BICONST: EQU BIORSL+6
486 FD09 BICONIN: EQU BIORSL+9
487 FD0C BICONOUT: EQU BIORSL+12
488 FD0F BILIST: EQU BIORSL+15
489 FD12 BIPUNCH: EQU BIORSL+18
490 FD15 BIREADER: EQU BIORSL+21
491 FD18 BIHOME: EQU BIORSL+24
492 FD1B BISELDSK: EQU BIORSL+27
493 FD1E BISETTRK: EQU BIORSL+30
494 FD21 BISETSEC: EQU BIORSL+33
495 FD24 BISETDMA: EQU BIORSL+36
496 FD27 BIREAD: EQU BIORSL+39
497 FD2A BIWRITE: EQU BIORSL+42
498 FD2D BILISTST: EQU BIORSL+45
499 FD30 BISECTAN: EQU BIORSL+48
500 FD33 BICONOST: EQU BIORSL+51
501 FD36 BIAUXIST: EQU BIORSL+54
502 FD39 BIAUXOST: EQU BIORSL+57
503 FD3C BIDEVTBL: EQU BIORSL+60 ;XX3C-XX3E
504 B;-----
505 FD40 B org ($+10h) and 0FFF0h ;FD40
506 B;
507 FD40 0008 BIRT defs 8 ;CGG-CTC
508 FD48 0008 B DEFS 8 ;DSE-CTC (Netz, V24) zu ermitteln ueber I-Register
509 FD50 0010 BSIOVEK DEFS 16 ;DSE-SIO (Netz, V24) und SIO RR2, Kanal B
510 FD60 0002 B DEFS 2 ;CGG-PIO Kanal A
511 FD62 0002 B DEFS 2 ; B (System)
512 FD64 0002 B DEFS 2 ;DSE-PIO Kanal A
```

```

513 FD66 0002 B DEFS 2 ; B
514 FD68 0018 B DEFS 18H ; fuer Anwender ;XX60
515 B;
516 FD7F BIRTE EQU $-1 ;XX7F
517 0000 B COND NOT ((IRT AND 0FF00H) EQ (IRTE AND 0FF00H))
519 B ENDC
520 B;----- patches fuer ROM-BIOS
521 FD80 0005 BXIRSY1 defs 5 ;XX80
522 FD85 0005 BXSTB defs 5
523 FD8A 0005 BXJPCDE defs 5
524 FD8F 0005 BXIRSY2 defs 5
525 FD94 0004 BXIRSY4 defs 4
526 FD98 0004 BXFTB defs 4
527 FD9C 0003 BXSTOPB defs 3
528 FD9F 0003 BXRDRP2 defs 3
529 FDA2 0003 BXRDRP4 defs 3
530 FDA5 0002 BXSOTB1 defs 2
531 FDA7 0003 BXGETA5 defs 3
532 FDAA 0003 BXSOTB2 defs 3
533 FDAD 0003 BXISMON defs 3
534 FDB0 0003 BXNAMON defs 3
535 FDB3 0005 BXVFTIN defs 5
536 FDB8 0005 BXNMI defs 5
537 FDBD 0005 BXTAFCB defs 5
538 FDC2 0005 BXDUMM1 defs 5
539 FDC7 0005 BXDUMM2 defs 5
540 FDCC 0005 BXCHRO defs 5
541 FDD1 0005 BXKEYON defs 5
542 FDD6 0005 BXKEYOF defs 5
543 Fddb 0005 BXEDI1 defs 5
544 FDE0 0005 BXEDI2 defs 5
545 FDE5 0005 BXGETST defs 5
546 FDEA 0005 BXRDR11 defs 5
547 FDEF 0005 BXRDR12 defs 5
548 FDF4 0005 BXBSINI defs 5
549 FDF9 0005 BXLATXM defs 5
550 FDFE 0005 BXOUASC defs 5
551 FE03 0005 BXKUSE defs 5
552 FE08 0005 BXKURES defs 5
553 FE0D 0005 BXPRTRE defs 5
554 FE12 0005 BXPRTSTA defs 5
555 FE17 0005 BXPRTOU defs 5
556 FE1C 0003 BXPRT02 DEFS 3 ;!
557 FE1F 0005 BXV240U defs 5
558 FE24 0005 BXWRRAF defs 5 ;write RAM-floppy
559 FE29 0005 BXRDRAF defs 5 ;raed RAM-floppy
560 FE2E 0003 BXBFLIN defs 3 ;!
561 FE31 0003 BXSFLIN defs 3 ;!
562 FE34 0003 BXSELE defs 3 ;Azeige Disk-Format
563 FE37 0003 BXLPLW defs 3 ;Diskwechsel im DSE-LW
564 FE3A 0003 BXDER1 defs 3 ;BIOS-Error u WH bei Not Ready
565 FE3D 0005 BXRST38 defs 5
566 B;----- patches fuer BASIC
567 FE42 0005 BXNAME defs 5
568 FE47 0005 BXKILL defs 5
569 FE4C 0005 BXCOPY defs 5
570 FE51 0005 BXCMD defs 5
571 FE56 0005 BXRESET defs 5

```

572	FE5B	0005	BXCLEAR	defs	5
573	FE60	0005	BXMXFIL	defs	5
574	FE65	0005	BXLSET	defs	5
575	FE6A	0005	BXRSET	defs	5
576	FE6F	0005	BXFIELD	defs	5
577	FE74	0005	BXMKI	defs	5
578	FE79	0005	BXMKS	defs	5
579	FE7E	0005	BXMKD	defs	5
580	FE83	0005	BXCVI	defs	5
581	FE88	0005	BXCVS	defs	5
582	FE8D	0005	BXCVD	defs	5
583	FE92	0005	BXZUGDS	defs	5
584	FE97	0005	BXOPDS	defs	5
585	FE9C	0005	BXOPERW	defs	5
586	FEA1	0005	BXCLODS	defs	5
587	FEA6	0005	BXBLOAD	defs	5
588	FEAB	0005	BXBSAVE	defs	5
589	FEB0	0005	BXFILSA	defs	5
590	FEB5	0005	BXFILLO	defs	5
591	FEBA	0005	BXFILES	defs	5
592	FEBF	0005	BXFILGE	defs	5
593	FEC4	0005	BXFILLS	defs	5
594	FEC9	0005	BXZMODS	defs	5
595	FECE	0005	BXLOC	defs	5
596	FED3	0005	BXLOF	defs	5
597	FED8	0005	BXEOF	defs	5
598	FEDD	0005	BXFPOS	defs	5
599	FEE2	0005	BXLINPD	defs	5
600	FEE7	0005	BXFILDS	defs	5
601	FEED	0005	BXGERST	defs	5
602	FEF1	0005	BXGERDS	defs	5
603	FEF6	0005	BXJPGRD	defs	5
604	FEFB	0005	BXNEW1	defs	5
605	FF00	0005	BXLSTRE	defs	5
606	FF05	0005	BXLING	defs	5
607	FF0A	0005	BXERR1	defs	5
608	FF0F	0005	BXERR2	defs	5
609	FF14	0005	BXLANON	defs	5
610	FF19	0005	BXLANOF	defs	5
611	FF1E	0005	BXLANST	defs	5
612	FF23	0005	BXINSL1	defs	5
613	FF28	0005	BXINSL2	defs	5
614	FF2D	0005	BXSCN1	defs	5
615	FF32	0005	BXINPT	defs	5
616	FF37	0005	BXSNAL1	defs	5
617	FF3C	0005	BXSNAL2	defs	5
618	FF41	0005	BXSNAL3	defs	5
619	FF46	0005	BXSNAL4	defs	5
620	FF4B	0005	BXSNAL5	defs	5
621	FF50	0005	BXRNM3	defs	5
622	FF55	0005	BXLST1	defs	5
623	FF5A	0005	BXLST2	defs	5
624	FF5F	0005	BXSCREEN	defs	5
625	FF64	0005	BXPLAY	defs	5
626	FF69	0005	BXPSET	defs	5
627	FF6E	0005	BXLINE	defs	5
628	FF73	0005	BXPAINTE	defs	5
629	FF78	0005	BXCIRCL	defs	5

```

630 FF7D 0005 BXPOINT      defs 5
631 FF82 0005 BXDRAW       defs 5
632 FF87 0005 BXCOLOR     defs 5
633 FF8C 0005 BXWINDO     defs 5
634 FF91 0001 BBSKENN     defs 1 ;0=RBASIC, 1=DISK-RBASIC, 3=SCP
635 FF92 0001 BSLANST     defs 1
636      B;-----
637 FF93 0040 BSPRT0      defs 64 ;Sprite-Bereich fuer 8 Sprites
638 FFD3 0001 BSZFLAG     DEFS 1
639 FFD4 0001 BCURS00     DEFS 1
640 FFD5 0001 BCURS01     DEFS 1
641 FFD6 0001 BCURS02     DEFS 1
642 FFD7 0001 BCURS03     DEFS 1
643 FFD8 0001 BCURS04     DEFS 1
644      B;-----
645      B;V24-RAM (SCPELV.S) Plotter
646      B;
647 FFD9 000C BV24RAM     DEFS 12 ;Tabelle Portadressen u Initialisierung
648 FFE5 0003 BXV24W:     DEFS 3 ;PATCH V24 Fehleranzeige mit warten
649 FFE8 0003 BXV24E:     DEFS 3 ;PATCH V24 Fehleranzeige mit Eingabe
650      B;*****
63      A;*****
64      A;
65      A; Disketten-RAM BIC (nur fuer Disk-BASIC !)
66      A; zu Teil 1
67      A;-----
68      0001 A COND DSE AND DSE1RA
69      A INCLUDE COPYRAM.Z80 ;Busch
1      B;*****
2      B; RAM fuer BICCOPY.S
3      B; Bereiche liegen in BICRAM.S
4      B; Stand: 09.05.89
5      B;*****
6      F452 BQFCB      equ EDIBUF+2Eh ;(24) Quell-fcb
7      F42E BZIFCB      equ EDIBUF+0Ah ;(24) Ziel-fcb
8      F4A4 BHIDMA     equ EDIBUF+80h ;(80) Hilfs-dma fuer Suche
9      F6BA BBLNRGR    equ HARI3 ;(1) Blocknummerngroesze (0-1, 1-2 byte)
10     F688 BRECMSK    equ HSWAP+6 ;(2) record-Maske im extent (1-besetztes K)
11     F6B6 BBLGROS    equ HARI1 ;(1) record-Anzahl/Block, Blockgroesze
12     F566 BEXTMSK    equ HARI5+1 ;(1) extent-Anzahl/dir-Eintrag-1
13     F563 BZITYP     equ HARI4 ;(3) Zieltyp
14     F6B8 BPUCOPY    equ HARI2 ;(2) Anfang COPY-Puffer
15     F6BB BQULW     equ HDIV ;(1) Quell-LW
16     F682 BBLEXT     equ HSWAP ;(1) blocks/extent
17     F683 BDIRAD     equ HSWAP+1 ;(2) Adr. dir-Eintrag
18     F952 BHI2DMA    equ MUPU2 ;(80) Hilfs-dma 2
19     F685 BLASTEX    equ HSWAP+3 ;(1) letzter extent im Eintrag
20     B;*****
70     A ENDC ;DSE AND DSE1RA
72     A;*****
73     A;
74     A; Disketten-RAM BIC (nur fuer Disk-BASIC !)
75     A; zu Teil 2
76     A;-----
77     0001 A COND DSE AND DSE2RA
78     A INCLUDE BICFORAM.Z80 ;Ludewig
1     B;*****
2     B; RAM fuer Formatieren

```

```

3          B;
4          B; Stand: 09.05.89
5          B;
6          B; File: BICFORAM.S
7          B;*****
8          F424 BLWOK EQU    EDIBUF ;<=0 nach LW-Eigabe
9          F425 BHDPBOP EQU    LWOK+1 ;Merkzelle Verify-Status
10         F426 BASZEH: EQU    HDPBOP+1
11         F427 BASEIN: EQU    ASZEH+1
12         F428 BKLZ: EQU    ASEIN+1;Blockzaehler bei Kontrolllesen
13         F429 BTRACK: EQU    KLZ+1 ;Zaehler f.noch zu format.Spuren
14         F42A BSPFWDH: EQU    TRACK+1;Wdh.-versuche zum Form.einer Spur (nach Status-
15         B          ;fehlern vom Modul 'bifm')
16         F42B BSFWDH: EQU    SPFWDH+1;Wdh.-versuche zum Form.eines Sektors (nach Fehlern
17         B          ;beim sektorweisen Kontrolllesen)
18         F42C BVRM: EQU    SFWDH+1;Unterscheidung Vorder-/Rueckseite d.Disk
19         F42D BSFM: EQU    VRM+1 ;Merker f.fehlerhafte 128-Byte-Sek.beim Kontrolllesen
20         F42E BDEFBL: EQU    SFM+1 ;Zwischenspeicher f.def.-Blocknr.
21         F430 BBLZEIG: EQU    DEFBL+2;Zeiger auf naechste freie Zelle des DBM
22         F432 BDBLLGE: EQU    BLZEIG+2;max.Laenge des DBM
23         B          ;16 Byte lang --> 8 2-K-Blocke = 1 Extent
24         B;Schnittstellen f.RD/WR und Form
25         B;-----
26         F433 BSCHNR: EQU    DBLLGE+1;(ix+ 0)   Befehl
27         B          ;(ix+ 1)   Laufwerk
28         B          ;(ix+ 2)   Spur
29         B          ;(ix+ 3)   Kopf
30         B          ;(ix+ 4)   Sektor
31         B          ;(ix+ 5)   rel.Datenfeldlaenge
32         B          ;(ix+ 6)   Gap 3
33         B          ;(ix+ 7)   Sektoranzahl
34         B          ;(ix+ 8)   Verfahren (FM/MFM)
35         B          ;(ix+ 9)   Schritte/Spur
36         F43D BPUFFR: EQU    SCHNR+10;(ix+10)   Puffadr.(low)
37         B          ;(ix+11)   Puffadr.(high)
38         B          ;(ix+12)   DRPB (low)
39         B          ;(ix+13)   DRPB (high)
40         B          ;(ix+14)   Status
41         B;
42         F442 BSCHNF: EQU    PUFFR+5;(ix+ 0)   Befehl
43         B          ;(ix+ 1)   Laufwerk
44         B          ;(ix+ 2)   Spur
45         B          ;(ix+ 3)   Kopf
46         B          ;(ix+ 4)   Sektorinhalt
47         B          ;(ix+ 5)   rel.Datenfeldlaenge
48         B          ;(ix+ 6)   Gap 3
49         B          ;(ix+ 7)   Sektoranzahl
50         B          ;(ix+ 8)   Verfahren (FM/MFM)
51         B          ;(ix+ 9)   Schritte/Spur
52         F44C BPUFFF: EQU    SCHNF+10;(ix+10)   Puffadr.(low)
53         B          ;(ix+11)   Puffadr.(high)
54         B          ;(ix+12)   DRPB (low)
55         B          ;(ix+13)   DRPB (high)
56         B          ;(ix+14)   Status
57         B;-----
58         B;Puffer f.ID-Felder:
59         B;-----
60         F451 BF3H0: EQU    PUFFF+5          ;C,H,R,N f.Sektor 1,Kopf 0,Spur 0 (C wird bei
    
```



```

61          B          ;          Sektor 4 /jedem Aufruf aktualisiert)
62          B          ;          2
63          B          ;          5
64          B          ;          3
65      F465  BF3H1:    EQU   F3H0+20      ;C,H,R,N f.Sektor 1,Kopf 1,Spur 0 (s.oben)
66          B;
67          B;Bereich zum Anlegen der Sperrdatei
68          B;-----
69      F479  BERRFIL   EQU   F3H1+20      ;User 17
70          B          ;errfile.sav mit gesetztem Bit 7 im Typ
71      F485  BEXTZA    EQU   ERRFIL+12    ;Extentzaehler (hier 0)
72          B          ;Byte 13/14 des Dir.-Eintrages
73      F488  BRECC EQU  EXTZA+3          ;Zaehler f.die belegten 128-Byte-Saetze (0..80h)
74      F489  BDBM EQU  RECC+1           ;Merker f.defekte Bloecke (zum Anlegen v.'errfile.sav')
75      F498  BDBMEND   EQU   DBM+15      ;letztes Byte von DBM
76          B;*****
79          A          ENDC              ;DSE AND DSE2RA
80          A;*****
21          ;*****
    
```

0 Error(s) Detected.