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10 REM ** HEADREAD.BAS ** CASSETT
   E OR DISC PROGRAM HEADER READER **
20 REM      Version 1.3,  by Ian Jardine,  September 1985
30 IF PEEK(HIMEM+1)=&DD AND PEEK(HIMEM+2)=&55 THEN 190' Ignore if Loaded
40 CALL &SB46' Disable *Break*
50 SYMBOL AFTER 256' Delete Symbol Table
60 oldmem=HIMEM' Get Old Memsize
70 MEMORY HIMEM-&B37' Set New Memsize
80 headread=HIMEM+1:addr=headread:READ bytes' Set Pointers & Read 1st Byte
90 WHILE bytes<>"END": Read M/Code into Protected Memory
100  byte=VAL("&" + bytes):POKE addr,byte:addr=addr+1:READ bytes
110 WEND' Loop Here Until Done
120 REM ** Hex Bytes for M/Code Headread Routine **
130 DATA DD,E5,DD,6E,04,DD,66,05,4

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6,23,5E,23,56,21,00,00,EB,CD,7
7,BC,DD,E1
140 DATA 30,0F,28,0D,E5,DD,6E,02,D
D,66,03,D1,73,23,72,18,0C,DD,6
E,00,DD,66
150 DATA 01,11,FF,FF,73,23,72,CD,7
D,BC,C9,END
160 POKE headread+&E,UNT(headread+
&37)AND &FF' Adjust Non-Absolu
te Address
170 POKE headread+&F,INT((headread
+&37)/256) ' for Relocation
180 REM ** Check if a Disc System
**
190 disc=(1=1):ON ERROR GOTO 200:
DISC:GOTO 210
200 IF ERR=28 THEN disc=(1=0):RESU
ME NEXT
210 ON ERROR GOTO 0
220 IF NOT disc THEN tape=(1=1)' I
t's a Tape System
230 MODE 1:INK 0,13:INK 1,0:INK 2,
0,13:PEN 1:BORDER 13:rev$=CHR$
(24)
240 IF tape THEN 320 ELSE LOCATE 1
2,1:PRINT"Read File from ?"
250 PRINT:PRINT TAB(5)"[I] --> TAP
E or [D] --> DISC"
260 match$="TD":GOSUB 810' Select
Disc or Tape
270 IF select=1 THEN tape=(1=1):T
APE.IN' Set up for Read from T
ape
280 LOCATE 5-(select=2)*18,3:PEN 2
:PRINT rev$+"[selects]"1"rev$
290 PEN 1:PRINT:PRINT TAB(2)
" [ENTER] to Confirm - [DEL] to
Change"
300 match$=CHR$(13)+CHR$(127):GOSU
B 810' Make Sure Customer is S
atisfied
310 CLS:IF select=2 THEN tape=(1=0
):GOTO 240' Changed Mind!
320 LOCATE 5,2:PRINT rev$+"[ENTER]"
rev$' Filename of "
330 IF tape THEN PRINT"TAPE";ELSE
PRINT"DISC";
340 PRINT" Program":PRINT:PRINT TA
B(5)"to be Analysed?";:x=POS(#
0)
350 KEY DEF 66,0,0,0,0,0' Disable [E
SC] Key During Input
360 INPUT" ",filename$:filename$=U
PPER$(filename$)' Get Filename
370 IF NOT tape AND(filename$=""OR
LEN(filename$)>12)THEN LOCATE

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x+1,4:PEN 3:PRINT CHR$(7)"*ER
ROR*"CHR$(18):FOR delay=0 TO 1
500:NEXT:LOCATE x,4:PEN 1:PRIN
T CHR$(18)CHR$(7);:GOTO 360
380 KEY DEF 66,0,252,252,252' Re-e
nable [ESC] after Input
390 CALL &BB48' Disable *Break*
400 WINDOW#1,5,40,13,13-(NOT tape)
*2:WINDOW SWAP 0,1:PEN 3
410 IF NOT tape THEN PRINT TAB(7)"
Loading "filename$
420 header%=0:flag%=0' Declare Var
iables for M/Code Routine
430 CALL headread,@filename$,@head
er%,@flag%' Call Headread Rout
ine
440 REM ** Header% = Header Address
s **
450 REM ** Flag% = 0 if Load ok, -
1 if Read Fail or [ESC] Presse
d **
460 IF flag% THEN PRINT rev$" READ
ERROR "rev$" OPERATION ABORT
ED"
470 WINDOW SWAP 0,1:PEN 1:IF flag%
THEN 750
480 CLS:PRINT:PRINT TAB(4)rev$" ";
:IF tape THEN PRINT"TAPE";ELSE
PRINT"DISC";
490 PRINT" FILE HEADER -- ANALYS
IS "rev$
500 file$=""
510 FOR lp=0 TO 11-(tape)*4' Read
the Filename
520 file$=file$+CHR$(PEEK(lp+head
er%))
530 IF NOT tape AND lp=8 THEN fil
e$=file$+"." ' Put in a . if Di
sc Used
540 NEXT
550 type=PEEK(header%+18)' Get Fil
e Type
560 loadaddr=PEEK(header%+22)*256+
PEEK(header%+21)' Get Load Add
ress
570 filelen=PEEK(header%+25)*256+P
EEK(header%+24)' Get File Leng
th
580 execaddr=PEEK(header%+27)*256+
PEEK(header%+26)' Get Execute
Address
590 endaddr=loadaddr+filelen-1' Ca
lculate End Address
600 blocks=INT(filelen/2048)-(file
len/2048<)>INT(filelen/2048))'
Calc. No. Of Blocks in File

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610 REM * DISPLAY INFORMATION *
620 LOCATE 1,6:PRINT rev$" PROGRAM
    NAME"SPC(9)rev$" "file$
630 PRINT:PRINT rev$" PROGRAM TYPE
    "SPC(9)rev$" ";
640 IF type=0 THEN PRINT"STANDARD
    BASIC"
650 IF type=1 THEN PRINT"PROTECTED
    BASIC"
660 IF type>1 AND type<6 THEN PRINT"
    MACHINE CODE"
670 IF type=22 THEN PRINT"ASCII TE
    XT":GOTO 730' ASCII so ignore
    the Rest
680 PRINT:PRINT rev$" NUMBER OF BL
    OCKS "rev$" "blocks
690 PRINT:PRINT rev$" PROGRAM LOAD
    ADDRESS "rev$" "loadaddr;TAB(
    32)"(&"HEX$(loadaddr,4)")"
700 PRINT:PRINT rev$" PROGRAM END
    ADDRESS "rev$" "endaddr;TAB(3
    2)"(&"HEX$(endaddr,4)")"
710 PRINT:PRINT rev$" PROGRAM LENG
    TH "rev$" "filelen;TAB(3
    2)"(&"HEX$(filelen,4)")"
720 IF type>1 AND type<6 THEN PRINT
    :PRINT rev$" EXECUTE ADDRESS

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    "rev$" "":IF execaddr=
    HEX PRINT" NOT SPECIFIED"EL
    PRINT execaddr;TAB(32)"(&"HE
    (execaddr,4)")"
730 PRINT:PRINT:PRINT STRING$(35
    5)
740 REM * Do it Again? *
750 tape=(1=0):IF disc THEN :DIS
    IN' Reset Tape Flag & Indire
    ion
760 LOCATE 1,23:PRINT" Do You Wi
    to Analyse Another Program"
770 LOCATE 15,25:PRINT"(Y) or (N)
    "rev$"-"rev$"
780 match$="YN":GOSUB 810
790 ON select GOTO 220,840
800 REM ** Key Selection Routine
    *
810 select=0:WHILE select=0:selec
    t=UPPER$(INKEY$):IF select$>"
    THEN select=INSTR(match$,sele
    t$)
820 WEND:RETURN
830 REM ** Exit Routine **
840 MEMORY oldmem:CALL &BFFP:MODE
    1:PEN 1:SYMBOL AFTER 240
850 END

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