

USER'S GUIDE

OS-650 V3.0 DISK OPERATING SYSTEM

COMMANDS

ASM LOAD THE ASSEMBLER AND EXTENDED MONITOR.
 TRANSFER CONTROL TO THE ASSEMBLER.

BASIC LOAD BASIC AND TRANSFER CONTROL TO IT.

CALL NNNN=TT, S LOAD CONTENTS OF TRACK, "TT" SECTOR, "S"
 TO MEMORY LOCATION "NNNN".

D9 DISABLE ERROR 9. THIS IS REQUIRED TO READ SOME
 EARLIER VERSION FILES (V1.5, V2.0). PLEASE
 REFER TO COMPATABILITY DISCUSSION LATER.

DIR NN PRINT SECTOR MAP DIRECTORY OF TRACK "NN".

EM LOAD THE ASSEMBLER AND EXTENDED MONITOR.
 TRANSFER CONTROL TO THE EXTENDED MONITOR.

EXAM NNNN=TT EXAMINE TRACK. LOAD ENTIRE TRACK CONTENTS,
 INCLUDING FORMATTING INFORMATION, INTO LOCATION
 "NNNN".

GO NNNN TRANSFER CONTROL (GO) TO LOCATION "NNNN".

HOME RESET TRACK COUNT TO ZERO AND HOME THE CURRENT
 DRIVE'S HEAD TO TRACK ZERO.

INIT INITIALIZE THE ENTIRE DISK. IE. ERASE THE
 ENTIRE DISKETTE (EXCEPT TRACK 0) AND WRITE
 NEW FORMATTING INFORMATION ON EACH TRACK.

INIT TT SAME AS "INIT", BUT ONLY OPERATES ON TRACK "TT".

IO NN, MM CHANGES THE INPUT I/O DISTRIBUTOR FLAG TO "NN",
 AND THE OUTPUT FLAG TO "MM".

IO, MM CHANGES ONLY THE OUTPUT FLAG.

IO NN CHANGES ONLY THE INPUT FLAG.

LOAD FILNAM LOADS NAMED SOURCE FILE, "FILNAM" INTO MEMORY.

LOAD TT LOADS SOURCE FILE INTO MEMORY GIVEN STARTING
 TRACK NUMBER "TT".

MEM NNNN, MMMM SETS THE MEMORY I/O DEVICE INPUT POINTER TO
 "NNNN", AND THE OUTPUT POINTER TO "MMMM".

PUT FILNAM SAVES SOURCE FILE IN MEMORY ON THE NAMED DISK FILE "FILNAM".

PUT TT SAVES SOURCE FILE IN MEMORY ON TRACK "TT" AND FOLLOWING TRACKS.

RET ASM RESTART THE ASSEMBLER.

RET BAS RESTART BASIC.

RET EM RESTART THE EXTENDED MONITOR.

RET MON RESTART THE PROM MONITOR (VIA RST VECTOR).

SAVE TT, S=NNNN/P SAVE MEMORY FROM LOCATION "NNNN" ON TRACK "TT" SECTOR "S" FOR "P" PAGES.

SELECT X SELECT DISK DRIVE, "X" WHERE "X" CAN BE; A, B, C, OR D. SELECT ENABLES THE REQUESTED DRIVE AND HOMES THE HEAD TO TRACK 0.

XQT FILNAM LOAD THE FILE, "FILNAM" AS IF IT WAS A SOURCE FILE, AND TRANSFER CONTROL TO LOCATION \$317E.

NOTE:

- ONLY THE FIRST 2 CHARACTERS ARE USED IN RECOGNIZING A COMMAND. THE REST UP TO THE BLANK ARE IGNORED.
- THE LINE INPUT BUFFER CAN ONLY HOLD 18 CHARACTERS INCLUDING THE RETURN.
- THE COMMAND LOOP CAN BE REENTERED AT \$2A51.
- FILE NAMES MUST START WITH A "A" TO "Z" AND CAN BE ONLY 6 CHARACTERS LONG.
- THE DICTIONARY IS ALWAYS MAINTAINED ON DISK. THIS PERMITS THE INTERCHANGE OF DISKETTES.
- THE FOLLOWING CONTROL KEYS ARE VALID:
 - CONTROL - Q CONTINUE OUTPUT FROM A CONTROL-S.
 - CONTROL - S STOP OUTPUT TO THE CONSOLE.
 - CONTROL - U DELETE ENTIRE LINE AS INPUT.
 - BACKARROW DELETE THE LAST CHARACTER TYPED.

ERROR NUMBERS

- 1 - CAN'T READ SECTOR (PARITY ERROR).
- 2 - CAN'T WRITE SECTOR (REREAD ERROR).
- 3 - TRACK ZERO IS WRITE PROTECTED AGAINST THAT OPERATION.
- 4 - DISKETTE IS WRITE PROTECTED.
- 5 - SEEK ERROR (TRACK HEADER DOESN'T MATCH TRACK).

- 6 - DRIVE NOT READY.
- 7 - SYNTAX ERROR IN COMMAND LINE.
- 8 - BAD TRACK NUMBER.
- 9 - CAN'T FIND TRACK HEADER WITHIN ONE REV OF DISKETTE.
- A - CAN'T FIND SECTOR BEFORE ONE REQUESTED.
- B - BAD SECTOR LENGTH VALUE.
- C - CAN'T FIND THAT NAME IN DIRECTORY.
- D - READ/WRITE ATTEMPTED PAST END OF NAMED FILE!

TRANSIENT UTILITIES

- BEXEC* - PROGRAM WHICH GAINS CONTROL ON BOOT IN END USER SYSTEMS.
- CHANGE - PERMITS ADJUSTMENT OF THE FOLLOWING:
 - TERMINAL WIDTH FOR BASIC.
 - THE HIGHEST PAGE OF MEMORY AVAILABLE, WHICH IS WHAT BASIC AND ASM USE WHEN LOADED.
 - THE ADJUSTMENT OF THE WORKSPACE LIMITS FOR BASIC. THE RESULT IS A EMPTY WORKSPACE TO THE USER SPECIFICATIONS.
- CREATE - ENTER A FILE NAME INTO THE DIRECTORY. AND ZERO OUT THE CREATED FILE ON DISK.
- DELETE - REMOVE A FILE NAME FROM DIRECTORY.
- DIR - PRINT UNSORTED DISK DIRECTORY.
- DIRSRT - PRINT SORTED (BY NAME OR TRACK) DIRECTORY.
- RANLST - GENERAL RANDOM ACCESS FILE LIST UTILITY.
- RENAME - RENAME A FILE NAME IN DIRECTORY.
- SECDIR - PRINT A SECTOR MAP DIRECTORY OF DISK.
- SEQLST - GENERAL SEQUENTIAL FILE LIST UTILITY.
- TRACE - ENABLE OR DISABLE STATEMENT NUMBER TRACE FEATURE.
- ZERO - INITIALIZE CONTENTS OF A DATA FILE TO ZEROS.

I/O FLAG BIT SETTINGS

INPUT:

- BIT 0 - ACIA ON CPU BOARD (TERMINAL).
- BIT 1 - KEYBOARD ON 440/540 BOARD.
- BIT 2 - UART ON 430 BOARD (TERMINAL).
- BIT 3 - NULL.
- BIT 4 - MEMORY INPUT (AUTO INCREMENTING).
- BIT 5 - MEMORY BUFFERED DISK INPUT.
- BIT 6 - MEMORY BUFFERED DISK INPUT.
- BIT 7 - 550 BOARD ACIA INPUT. AS SELECTED BY "AINDEX"
AT LOCATION \$2323 (8995 DECIMAL).

OUTPUT:

- BIT 0 - ACIA ON CPU BOARD (TERMINAL).
- BIT 1 - VIDEO OUTPUT ON 440/540 BOARD.
- BIT 2 - UART ON 430 BOARD (TERMINAL).
- BIT 3 - LINE PRINTER INTERFACE.
- BIT 4 - MEMORY OUTPUT (AUTO INCREMENTING).
- BIT 5 - MEMORY BUFFERED DISK OUTPUT.
- BIT 6 - MEMORY BUFFERED DISK OUTPUT.
- BIT 7 - 550 BOARD ACIA OUTPUT. AS SELECTED BY "AINDEX"

SOURCE FILE FORMAT

RELATIVE DISK ADDRESS	MEMORY ADDRESS	USAGE
0	\$3179	SOURCE START (LOW)
1	\$317A	SOURCE START (HIGH)
2	\$317B	SOURCE END (LOW)
3	\$317C	SOURCE END (HI)
4	\$317D	NUMBER OF TRACKS REQ.
5 AND ON...	\$317E AND ON...	SOURCE TEXT.

DIRECTORY FORMAT

TWO SECTORS (1 AND 2) ON TRACK 8 HOLD THE DIRECTORY. EACH ENTRY REQUIRES 8 BYTES. THUS THERE ARE A TOTAL OF 64 ENTRIES BETWEEN THE TWO SECTORS. THE ENTRIES ARE FORMATTED AS FOLLOWS:

- 0 - 5 ASCII 6 CHARACTER NAME OF FILE.
- 6 BCD FIRST TRACK OF FILE.
- 7 BCD LAST TRACK OF FILE (INCLUDED IN FILE).

MEMORY ALLOCATION

0000 - 22FF BASIC OR ASSEMBLER/EXTENDED MONITOR.
2200 - 22FE COLD START INITIALIZATION ON BOOT.
2300 - 265B INPUT/OUTPUT HANDLERS.
265C - 2A4A FLOPPY DISK DRIVERS.
2A4B - 2E78 OS-65D V3.0 OPERATING SYSTEM KERNEL.
2E79 - 2F78 DIRECTORY BUFFER.
2F79 - 3178 PAGE 0/1 SWAP BUFFER.
3179 - 317D SOURCE FILE HEADER.
317E - SOURCE FILE.

DISKETTE ALLOCATION

0 OS-65D V3.0 (BOOTSTRAP FORMAT LOADS TO 2200 FOR 8 PAGES).
1 SECTOR 1 - REMAINDER OF OS-65D V3.0 (LOADS TO 2A00 FOR 5 PAGES).
SECTOR 2 - TRACK ZERO READ/WRITE UTILITY AND COPIER.
(LOADS TO 0200 FOR 5 PAGES).
2 - 4 9 DIGIT MICROSOFT 6502 BASIC.
5 - 6 6502 RESIDENT ASSEMBLER/EDITOR.
7 EXTENDED MONITOR.
8 SECTOR 1 - FIRST PAGE OF DIRECTORY.
SECTOR 2 - SECOND PAGE OF DIRECTORY.
SECTOR 3 - OVERLAY PAGE FOR 9 DIGIT BASIC.
SECTOR 4 - PUT/GET OVERLAY FOR 9 DIGIT BASIC.
9 - 76 USER PROGRAMS AND OS-65D UTILITY BASIC PROGRAMS.

9 DIGIT BASIC EXTENSIONS

INPUT PNDSGN<DEVICE NUMBER>,

<INPUT IS SET TO NEW DEVICE,
OUTPUT IS SET TO NULL DEVICE
IF DEVICE NUMBER > 3, AND
NULL INPUTS ARE IGNORED IF
DEVICE NUMBER > 3.>

INPUT "TEXT";PNDSGN<DEVICE NUMBER>, <PRINT "TEXT" AT CURRENT
 OUTPUT DEVICE, THEN FUNCTION
 AS ABOVE>

PRINT PNDSGN<DEVICE NUMBER>, <PRINT OUTPUT FOR THIS COMMAND
 AT NEW DEVICE>

LIST PNDSGN<DEVICE NUMBER>, <LIST PROGRAM OR SEGMENTS OF
 PROGRAM TO NEW DEVICE>

WHERE <DEVICE NUMBER> FOR OUTPUT IS:

- 1 - ACIA TERMINAL
- 2 - 440/540 VIDEO TERMINAL
- 3 - 430 UART PORT
- 4 - LINE PRINTER
- 5 - MEMORY OUTPUT
- 6 - MEMORY BUFFERED DISK OUTPUT (BIT 5)
- 7 - MEMORY BUFFERED DISK OUTPUT (BIT 6)
- 8 - 550 ACIA OUTPUT
- 9 - NULL OUTPUT

<DEVICE NUMBER> FOR INPUT IS:

- 1 - ACIA TERMINAL
- 2 - 440/540 KEYBOARD
- 3 - 430 UART PORT
- 4 - NULL DEVICE
- 5 - MEMORY INPUT
- 6 - MEMORY BUFFERED DISK INPUT (BIT 5)
- 7 - MEMORY BUFFERED DISK INPUT (BIT 6)
- 8 - 550 ACIA INPUT
- 9 - NULL INPUT

AND WHERE PNDSGN IS A POUND SIGN.

EXIT	EXIT TO OS-65D V3.0
RUN <STRING>	LOAD AND RUN FILE WITH NAME IN <STRING>.
DISK ! <STRING>	SEND <STRING> TO OS-65D V3.0 AS A COMMAND LINE.
DISK OPEN, <DEVICE>, <STRING>	OPEN SEQUENTIAL ACCESS DISK FILE WITH FILE NAME, <STRING>, USING MEMORY BUFFERED DISK I/O DISTRIBUTOR DEVICE NUMBER 6 OR 7. READS FIRST TRACK OF FILE TO MEMORY AND SETS UP THE MEMORY POINTERS TO START OF BUFFER.
DISK CLOSE, <DEVICE>	FORCES A DISK WRITE OF THE CURRENT BUFFER CONTENTS TO CURRENT TRACK.
DISK GET, <RECORD NUMBER>	USING LAST FILE OPENED ON THE LUN 6 DEVICE, A CALCULATED TRACK IS READ INTO MEMORY. WHERE THAT TRACK IS: INT<<REC. NUM.>/24>+BASE TRACK GIVEN IN LAST OPEN COMMAND

IT ALSO SETS BOTH MEMORY POINTERS TO:
 128*((<REC. NUM.>-INT(<REC. NUM.>/24))
 +BASE BUFFER ADDRESS FOR LUN 6 DEVICE.

DISK PUT

WRITE DEVICE 6 BUFFER OUT TO DISK.
 THE EFFECT IS THE SAME AS A
 "DISK CLOSE, 6".

 END USER POKES TO BASIC

LOCATION	OLD	NEW	FUNCTION
2972	58	13	DISABLE , AND : TERMINATORS ON STRING INPUT
2976	44	13	
2073 819	173	96	IGNORE CONTROL-C
2893	55	28	DISABLE BREAK ON NULL INPUT. "REDO FROM START"
2894	08	11	
741	76	10	REMOVE KEYWORDS, "NEW" AND "LIST"
750	78	10	

 OTHER POKES TO BASIC

LOCATION FUNCTION

23 TERMINAL WIDTH

2888, 8722 IF BOTH ARE 0 A NULL INPUT TO A "INPUT" STATEMENT
 YIELDS AN EMPTY STRING OR A 0. IF BOTH ARE 27 THEN
 THE INPUT STATEMENT FUNCTIONS AS NORMAL.

8917 USR(X) DISK OPERATION CODE:
 0 - WRITE TO DRIVE A
 3 - READ FROM DRIVE A
 6 - WRITE TO DRIVE B
 9 - READ FROM DRIVE B

9826 TRACK NUMBER FOR USR(X) DISK OPERATION

9822 SECTOR NUMBER FOR USR(X) DISK OPERATION

9823 PAGE COUNT FOR USR(X) DISK WRITE, OR
 NUMBER OF PAGES READ IN BY DISK READ

9824 LOW BYTE OF ADDRESS OF MEMORY BLOCK FOR USR(X)
 DISK OPERATION

9825 HIGH BYTE OF ADDRESS OF MEMORY BLOCK FOR
 USR(X) DISK OPERATION

8954 LOCATION OF JSR TO A USR FUNCTION. PRESET TO
JSR \$22D4. IE. SET UP FOR USR(X) DISK OPERATION

8993 \$2321 I/O DISTRIBUTOR INPUT FLAG

8994 \$2327 I/O DISTRIBUTOR OUTPUT FLAG

8995 \$2323 INDEX TO CURRENT ACIA ON 550 BOARD. IF NUMBERED
FROM 0 TO 15 THE VALUE POKED HERE IS 2 TIMES THE
ACIA NUMBER.

8996 LOCATION OF A RANDOM NUMBER SEED. THIS LOCATION
IS CONSTANTLY INCREMENTED DURING KEYBOARD POLLING

8960 HAS PAGE NUMBER OF HIGHEST RAM LOCATION FOUND ON
06-65D'S COLD START BOOT IN. THIS IS THE DEFAULT
HIGH MEMORY ADDRESS FOR THE ASSEMBLER AND BASIC

9098 LOW BYTE ADDRESS FOR MEMORY INPUT
9099 HIGH BYTE ADDRESS FOR MEMORY INPUT

9105 LOW BYTE ADDRESS FOR MEMORY OUTPUT
9106 HIGH BYTE ADDRESS FOR MEMORY OUTPUT

9132 LOW BYTE ADDRESS FOR MEMORY BUFFERED DISK INPUT
9133 HIGH BYTE ADDRESS FOR MEMORY BUFFERED DISK INPUT
BIT 5 DEVICE. DEFAULTS TO \$317E.

9155 LOW BYTE ADDRESS FOR MEMORY BUFFERED DISK OUTPUT
9156 HIGH BYTE ADDRESS FOR MEMORY BUFFERED DISK OUTPUT
BIT 5 DEVICE. DEFAULTS TO \$317E.

9213 LOW BYTE ADDRESS FOR MEMORY BUFFERED DISK INPUT
9214 HIGH BYTE ADDRESS FOR MEMORY BUFFERED DISK INPUT
BIT 6 DEVICE. DEFAULTS TO \$3D7E.

9233 LOW BYTE ADDRESS FOR MEMORY BUFFERED DISK OUTPUT
9239 HIGH BYTE ADDRESS FOR MEMORY BUFFERED DISK OUTPUT
BIT 6 DEVICE. DEFAULTS TO \$3D7E.

8998 MEMORY BUFFERED DISK I/O BIT 5 DEVICE PARAMETERS:
8998-8999 - BUFFER START ADDRESS (\$317E)
9000-9001 - BUFFER END ADDRESS (\$3D7E)
9002 - FIRST TRACK OF FILE
9003 - LAST TRACK OF FILE
9004 - CURRENT TRACK IN BUFFER
9005 - DIRTY BUFFER FLAG (0=CLEAN)

9006 MEMORY BUFFERED DISK I/O BIT 6 DEVICE PARAMETERS:
9006-9007 - BUFFER START ADDRESS (\$3D7E)
9008-9009 - BUFFER END ADDRESS (\$497E)
9010 - FIRST TRACK OF FILE
9011 - LAST TRACK OF FILE
9012 - CURRENT TRACK IN BUFFER
9013 - DIRTY BUFFER FLAG (0=CLEAN)

12042 LOCATION OF THE 24 USED BY THE RANDOM ACCESS FILE
CALCULATION ROUTINES. THIS LOCATION SHOULD ONLY
BE ALTERED AFTER THE OPEN HAS OCCURRED FOR THE
RANDOM ACCESS FILE BECAUSE THE PUT GET CODE IS LOAD-

ED INTO THE DIRECTORY BUFFER. THIS IS WHERE THIS
24 RESIDES. MAKING IT A 48 GIVES ONE 64 BYTE RECORDS.

9368 HIGH BYTE ADDRESS FOR INDIRECT FILE INPUT (LOW=00)
9554 HIGH BYTE ADDRESS FOR INDIRECT FILE OUTPUT (LOW=00)

EXTENSIONS TO ASSEMBLER

E EXIT TO OS-65D V3. 0.

H<HEX NUM> SET HIGH MEMORY LIMIT TO <HEX NUM>.

M<HEX NUM> SET MEMORY OFFSET FOR A3 ASSEMBLY TO <HEX NUM>.

!<CMD LINE> SEND <CMD LINE> TO OS-65D V3. 0 AS A COMMAND TO
BE EXECUTED AND THEN RETURN TO ASSEMBLER.

CONTROL-I TAB 8 SPACES. ALSO:

- CONTROL-U 7 SPACES.
- CONTROL-Y 6 SPACES.
- CONTROL-T 5 SPACES.
- CONTROL-R 4 SPACES.
- CONTROL-E 3 SPACES.

CONTROL-C ABORT CURRENT OPERATION

EXTENDED MONITOR

!TEXT SENT "TEXT" TO OS-65D V3. 0 AS A COMMAND.

@NNNN OPEN MEMORY LOCATION "NNNN" FOR EXAMINATION.
SUBCOMMANDS:
LF - OPEN NEXT LOCATION.
CR - CLOSE LOCATION.
DD - PLACE "DD" INTO LOCATION.
" - PRINT ASCII VALUE OF LOCATION.
/ - REOPEN LOCATION.
UPARROW - OPEN PREVIOUS LOCATION.

A PRINT AC FROM BREAKPOINT.

BN, LLLL PLACE BREAKPOINT "N" (1-8) AT LOCATION, "LLLL".

C CONTINUE FROM LAST BREAKPOINT.

DNNNN, MMMM DUMP MEMORY FROM "NNNN" TO "MMMM".

EN ELIMINATE BREAKPOINT "N".

EXIT EXIT TO OS-65D V3. 0.

FNNNN, MMMM=DD FILL MEMORY FROM "NNNN" TO "MMMM"-1 WITH "DD".

G

IN STD MONITOR RET CONT TO BASIC IF

GNNNN

TRANSFER CONTROL TO LOCATION "NNNN".

PREV BOOTED

HNNNN, MMMM<OP>

HEXDECIMAL CALCULATOR PRINTS RESULT OF:
"NNNN"<OP>"MMMM" WHERE <OP> IS + - * /.

I

PRINT BREAK INFORMATION FOR LAST BREAKPOINT.

K

PRINT STACK POINTER FROM BREAKPOINT.

L

LOAD MEMORY FROM CASSETTE.

MNNNN=MMMM, LLLL

MOVE MEMORY BLOCK "MMMM" TO "LLLL"-1 TO LOCATION
"NNNN" AND UP IN MEMORY

BELOW

END ADDR

NHEX>NNNN, MMMM

SEARCH FOR STRING OF BYTES "HEX" (1-4) BETWEEN
MEMORY LOCATION "NNNN" AND "MMMM"-1.

O

PRINT OVERFLOW/REMAINDER FROM HEX CALCULATOR.

P

PRINT PROCESSOR STATUS WORD FROM BREAKPOINT.

QNNNN

DISASSEMBLE 23 LINES FROM LOCATION "NNNN".
A LINEFEED CONTINUES DISASSEMBLY FOR 23 MORE.

RMMMM=NNNN, LLLL

RELOCATE "NNNN" TO "LLLL"-1 TO LOCATION "MMMM".

SMMMM, NNNN

SAVE MEMORY BLOCK, "MMMM" TO "NNNN"-1 ON CASSETTE.

T

PRINT BREAKPOINT TABLE.

V

VIEW CONTENTS OF CASSETTE.

WTEXT>MMMM, NNNN

SEARCH FOR ASCII STRING "TEXT" BETWEEN "MMMM" AND
AND "NNNN"-1.

X

PRINT X INDEX REGISTER FROM LAST BREAK.

Y

PRINT Y INDEX REGISTER FROM LAST BREAK.

NOTE: ALL COMMANDS ARE LINE BUFFERED BY OS-650.
THUS ONLY 18 CHARACTERS PER LINE ARE ALLOWED.
AND CONTROL-U AND BACKARROW APPLY.

DISKETTE COPIER

THE DISKETTE COPY UTILITY IS FOUND ON TRACK 1 SECTOR 2. IT
SHOULD BE LOADED INTO LOCATION 200 WITH A "CA 0200=01,2". TO START IT
TYPE, "GO 0200". TO SELECT THE COPIER TYPE A "1". THE COPIER
AUTOMATICALLY FORMATS THE DESTINATION DISKETTE BEFORE WRITING ON IT.

TRACK 0 READ/WRITE UTILITY

THIS UTILITY PERMITS THE READING OF DATA ON TRACK 0 ANYWHERE INTO MEMORY. ALSO THE CAPABILITY IS AVAILABLE TO WRITE ANY BLOCK OF MEMORY TO TRACK 0 SPECIFYING A LOAD ADDRESS AND PAGE COUNT.

THE TRACK ZERO FORMAT IS AS FOLLOWS:

- 1 MILLISECOND DELAY AFTER THE INDEX HOLE.
- THE LOAD ADDRESS OF THE TRACK IN HIGH-LOW FORM
- THE PAGE COUNT OF HOW MUCH DATA IS ON TRACK ZERO.

TRACK FORMATTING

THE REMAINING TRACKS ARE FORMATTED AS FOLLOWS:

- 1 MILLISECOND DELAY AFTER THE INDEX HOLE.
- A 2 BYTE TRACK START CODE, \$43 \$57.
- BCD TRACK NUMBER.
- A TRACK TYPE CODE, ALWAYS A \$58.

THERE CAN BE ANY MIXTURE OF VARIOUS LENGTH SECTORS HEREAFTER. THE TOTAL PAGE COUNT CAN NOT EXCEED 12 PAGES IF MORE THAN ONE SECTOR IS ON ANY GIVEN TRACK. 13 PAGES CAN BE PLACED ON A TRACK IF ONLY ONE SECTOR RESIDES ON A TRACK. EACH SECTOR IS WRITTEN IN THE FOLLOWING FORMAT:

- PREVIOUS SECTOR LENGTH (4 IF NONE BEFORE) TIMES 800 MICROSECONDS OF DELAY.
- SECTOR START CODE, \$76.
- SECTOR NUMBER IN BINARY.
- SECTOR LENGTH IN BINARY.
- SECTOR DATA.

COMPATABILITY WITH EARLIER OS-65DS

THE EARLIER VERSIONS OF OS-65D (IE. EARLIER THAN 3.0) HAD A QUIRK OF OPERATION. WHEN THEY ATTEMPTED TO DO A READ THE HEAD WAS LOADED AND THE ACIA INITIALIZED AT THE RISING EDGE OF THE INDEX HOLE. SINCE THE EARLIER 65D'S FORMAT INCLUDED NO GAP AFTER THE INDEX HOLE, THE ACIA MAY BE INITIALIZED IN THE MIDDLE OF A BYTE. THIS WOULD SET THE ACIA OUT OF SYNC WITH THE DATA. IT WOULD THEN TAKE SEVERAL REVOLUTIONS OF THE DISKETTE BEFORE THE ACIA GOT BACK IN SYNC AND THE TRACK HEADER FOUND. FOR THIS REASON THERE MAY BE PROBLEMS IN READING EARLIER VERSION FILES. THE ERROR ENCOUNTERED IS ERROR 9. THIS ERROR INDICATES THAT THE TRACK HEADER WAS NOT FOUND IN ONE REVOLUTION. SO THAT EARLIER VERSION FILES CAN BE COPIED OVER TO THE NEW SYSTEM, THE D9 COMMAND IS AVAILABLE. IT PREVENTS THE ERROR 9 ERROR CHECKING.