Synetic Designs Company

FDS-2

MANUAL

P.O.B 2627, Pomona, CA 91766   phone 714-629-1974
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SPECIFICATIONS

FEATURES:
IBM 3740 Format and Media Compatible
Contains Full Formatter and Controller
Plug compatible interface available for popular microcomputers
Software Operating Systems available for 8080 and 6800 systems
Up to 4 drives with 1 million bytes online storage
Full Sector Read/Write Buffers allow asynchronous or DMA transfers
Individual Drive Write Protect capability.

FORMAT:
• 256,256 Bytes/Diskette
• 77 Tracks/Diskette
• 26 Sectors/Track
• 128 Bytes/Sector
• Uses IBM 3740 initialized media commonly available
• Fully IBM Format Compatible

HARDWARE STATUS:
• Busy Indicator
• Selected Unit Indicators
• CRC Error Indicator
• Drive Status Indicator
• Individual Protect Switches
• Onboard PROM minimonitor

PERFORMANCE:
• 360 RPM Rotation
• 10 ms Track to Track Access
• 40 ms Head Load

CABINET:
• 8.75 x 19 x 20 inches
• Black Textured Front Panel
• IBM Standard Blue Textured Cover
• Dual Horizontal Drives
• 40 Pounds shipping weight w/o Drives.
• Rackmount Option Available

POWER:
• 115 VAC,
• EMI Filter provided.
• Power Supplies Fan Cooled

CONTACT:
• Your local computer store or
• SYNETIC DESIGNS COMPANY
  Post Office Box 2627
  Pomona, CA 91766
• Phone 714-629-1974

Due to UPS shipping limitations, the FDS-2 is normally shipped separately from the iCOM FF36 Frugal Floppy. This allows easier handling and provides better protection when shipping. About 10 minutes is required to mount the two drives and plug in the required connectors and interface board. The system diskette provides Ready-to-use software.
INSPECTION and ASSEMBLY

Shipping
The SDC FDS-2 Floppy Disk System is shipped separate from the iCOM FS36 Frugal Floppy (iCOM trademark). This avoids shipping limitations and provides better protection to the equipment.

Inspection
Upon receipt, the user should inspect the product and its shipping container for any signs of damage or abuse. Each unit is throughly inspected and tested before it is shipped from the factory. If any signs of damage or abuse are evident the user should notify the carrier immediately to request settlement since the carrier assumes responsibility when the unit leaves the factory.

Tools
The only tool required for assembly is either a stubby or offset straight blade screwdriver.

Assembly
1. Unpack and layout all the components of both the FDS-2 and the FS36 systems.

2. Install the two MUX boards behind the floppy drives as shown in Figure 1 using the two screws provided with each MUX board.

3. Remove the four rubber feet from the bottom of each of the floppy drives. These will not be used.

4. Note the small Drive Select Jumper on the MUX boards as shown on Figure 1. One drive should be selected (jumpered) as unit 0 and the other drive should be selected as unit 1.
5. Install drive unit 1 in the lower opening of the front panel carefully sliding it into the cradle. The MUX board connector J2 should be pointing up as illustrated in figure 1.

6. Insert the four 1/4"x8-32 screws through the cradle and into the side of the drive. Adjust the drive position until the bezel is flat against the front panel. Now tighten the four screws,

7. Install drive unit 0 in the upper opening of the front panel repeating steps 5 and 6.
8. Locate the flat drive cable, unroll it and work it until it lays flat. Refer to figure 2 below and install the drive cable using 45° bends to form corners as shown in the photograph. Start by installing connector P2-1 as shown on figure 2.

![View of Floppy Drives Mounted in Cradle](image)

**VIEW OF FLOPPY DRIVES MOUNTED IN CRADLE**

**FIGURE 2**

9. Refer to figure 3 on the next page and install the two board-to-board jumpers on the two controller boards Z1 and Z2. The controller boards may now be lowered into the card guides as illustrated in figure 4. Board Z2 should be nearest the drives.
10. Connect P1 shown in figure 2 to the controller boards as shown in figure 4.

11. Connect the two connectors P3-1 and P3-2 of the cabinet power supply wiring harness to the MUX boards making sure that the polarization keys are in the connector blocks.
12. Connect the wiring harness connector P8 to the controller board Z2 making sure that the polarization key is properly installed.

13. Visually inspect the connections to the front panel led displays and switches and replace any connections that may have become dislodged.

14. Check the cabinet for any foreign matter and clean as required.

15. Connect the interface cable to the controller cards as shown in figure 3. The cable connector blocks are smaller than the board connector housings. Polarizing pins are located in the cable connector blocks to help in orientation. When finished with the connections drape the interface cable over the rear panel.

16. The cabinet may now be covered with the aluminum shell using the remaining six 3/8"x8-32 screws provided.

************ CAUTION ************

NEVER ATTEMPT REPAIRS WITH THE POWER CORD PLUGED IN. Lethal high voltage is exposed within the cabinet.

ALWAYS DISCONNECT THE POWER CORD.
UPPER FLOPPY DRIVE WITH DISKETTE

CONTROLLE ROARDS

24 V SUPPLY

5 V SUPPLY

FAN

EMI FILTER

INTERIOR VIEW OF FDS-2 FLOPPY DRIVE CABINET

FIGURE 4
The FDS-2 Disk System comes ready-to-use and no software patches are required. All necessary I/O vectors, I/O routines, Initialization, and relocation routines necessary for operation on an IMSAI Microcomputer are on the supplied SDC IMSAI MASTER Diskette. As soon as the system is up the user should copy the MASTER Diskette producing a WORKING Diskette. Use the WORKING Diskette normally and should a mistake be made the user can simply copy the MASTER again.

Configuration
1. Standard IMSAI Mainframe and MPU board.
2. IMSAI SIO Serial I/O board using ports 2 and 3 (this is the standard console port).
3. 12K (minimum suggested) RAM memory, 16K or more preferred.
4. No options located in address locations C000H thru C47FH. This space is reserved since the interface board ROM and RAM memory is located there.

Preparation
1. Check that the console I/O port is at 2 and 3 and working.
2. Check that minimum RAM memory (starting at location 0000H) is properly working. The iCOM mini-monitor has a memory test routine.
3. Check that all disk system board and connectors are properly connected.

Operation
1. Turn the computer and disk power on.
2. STOP the computer
3. Insert the MASTER diskette into the upper drive with the label up and still showing when fully inserted.
4. Close the drive door and the motor should start.
5. RESET the computer.
6. EXAMINE location C000H. A C3 instruction should be indicated.
7. RUN The drive READY light should come on indicating that the system is loading into RAM working memory. After several seconds the console should print:

SDC AVAILABLE MEMORY IS Ø THRU XXXXH
ICOM FDOSII/8080-0 1.0

Where XXXX indicates the size of contiguous RAM memory starting at 0000H.
SDC IMSAI EXECUTIVE HANDLER

The following brief description and source copy of the SDC EXECUTIVE HANDLER (copyright 1977) is provided to aid the more advanced user in developing a more sophisticated executive handler. Refer to the Memory Map while reading the description.

1.0 LOADING
When the FDOS-II (iCOM DISK OPERATING SYSTEM) and SDCEX (Synetic Designs Company Executive Handler) are loaded into RAM memory part of the SDCEX program overlays the FDOS-II program jump vectors. This overlay causes the vectors to be initialized. SDCEX gains control by overlaying two instructions (6 bytes); the start vector for FDOS-II (at 40H) and the update vector (at 43H).

1.1 UPDATE VECTOR
When control is gained through the update vector the following sequence occurs:
   a) The stack pointer is set to 1EFFH.
   b) All the registers are saved.
   c) Routine "REL" is called (refer to 1.3)
   d) All the registers are restored.
   e) Control is given to the update vector.

1.2 START VECTOR
The following sequence is effected when control is gained through the start vector.
   a) The stack pointer is set to 1EFFH.
   b) The routine "REL" is called.
   c) The routine "REST" is called.
   d) Control is given to the FDOS-II start vector.

1.3 ROUTINE "REL"
   a) The FDOS-II start vector and the update vector are set to values FDOS-II gives them.
   b) Memory is measured in 256 byte increments starting from location 0000H.
1.3 CONTINUED

c) The I/O routines are moved close to the top of measured memory. Enough room is left at the top of memory for the FDOS-II binary loader.

d) The I/O routines are relocated by modifying the jump instruction.

e) Control is returned to the calling routine.

1.4 ROUTINE "REST"

The IMSAI SIO board is initialized including the removal of the first character from the USART which is a garbage character. The USART is programmed for the following characteristics.

a) Baud Rate Factor is 16X.

b) Eight (8) bit data word.

c) Received Parity Check is disabled.

d) Transmitted Parity is set to ODD.

e) Two (2) Stop bits are generated.

f) All Error Flags are Reset.

g) Receive is Enabled.

h) Data Terminal is set READY.

i) Transmit is Enabled.

The first part of the SOC memory message is sent utilizing the FDOS-II output routine.

The routine "MOUT" is called which prints the actual memory size. Control is then returned to the calling routine.
HEX MEMORY ADDRESS

0000
0040
0140
2000
C000
C400
C47F
FFFF

TYPICAL MEMORY MAP

NOT TO SCALE

iCOM FDOS-II START VECTORS

iCOM FDOS-II

BEGINNING OF USER PROGRAM

WORKING RAM MEMORY

iCOM & SDC ROUTINES (top of working memory)

END OF USER MEMORY

I/O ROUTINES

FDOS-II LOADER

END OF CONTIGUOUS RAM MEMORY

* START POINT FOR LOADING FDOS-II

iCOM PROM ROUTINES (1K byte)

I/O & VECTOR TABLE

iCOM RAM (256 bytes)

KEY

CONTIGUOUS RAM MEMORY

iCOM FDOS-II

SDC Executive Handler

iCOM PROM

iCOM RAM
The source copy of the SDC Executive Handler is provided to act as a guide in developing more sophisticated software.

0000

; SDC EXEC
; COPYRIGHT 1977 SYNETIC DESIGNS COMPANY
;
; SOFTWARE PROVIDED HEREUNDER INCLUDING ANY SUBSEQUENT IMPROVEMENTS OR UPDATES, IS FURNISHED TO CUSTOMER UNDER A LICENSE FOR USE ON A SINGLE DISK SYSTEM AND MAY ONLY BE COPIED, IN WHOLE OR IN PART, (WITH THE INCLUSION OF SYNETIC DESIGNS COMPANY COPYRIGHT NOTICE) FOR USE ON SUCH SYSTEM.
; CUSTOMER SHALL NOT PROVIDE OR MAKE AVAILABLE THE SOFTWARE OR ANY PART THEREOF IN ANY FORM TO ANY THIRD PARTY EXCEPT THAT THE CUSTOMER MAY PROVIDE SOFTWARE TO A THIRD PARTY TO WHOM CUSTOMER TRANSFERS A SYSTEM.
; TITLE TO AND OWNERSHIP OF THE SOFTWARE AND ANY MODIFIED PARTS THEREOF SHALL AT ALL TIMES REMAIN WITH SYNETIC DESIGNS COMPANY.
THIS PROGRAM INITIALIZES AN IMSAI SIO,
CHECKS MEMORY SIZE, SETS UP THE I/O
VECTORS AND I/O ROUTINES AND RELOCATES
THE I/O ROUTINES TO THE END OF WORKING
MEMORY AS PER THE MEMORY MEASURE ROUTINE.

0003 TTS EQU 3 ; CONSOLE STATUS PORT
0002 TTYDA EQU 2 ; DATA AVAILABLE MASK
0002 TTI EQU 2 ; CONSOLE INPUT PORT
0001 TTYTR EQU 1 ; DATA TRANSMIT MASK
0002 TTO EQU 2 ; CONSOLE OUTPUT PORT

038F FDOUT EQU 38FH ; FDOS-II OUTPUT ROUTINE

0040 ORG 40H ; START ADDRESS OF FDOS-II
0040 C31120 JMP SDCEX ; TRAP EXEC VECTOR
0043 C30020 JMP SDCRS ; TRAP UPDATE TOO!

2000 ORG 2000H ; END OF FDOS-II
2000 31FF1E SDCRS: LXI SP,EFFH ; SET STACK POINTER
2003 F5 PUSH PSW ; SAVE REGISTERS
2004 F5 PUSH H
2005 D5 PUSH D
2006 C5      PUSH  B
2007 CD1D20   CALL REL   ; DO RELOCATION
200A C1      POP  B     ; RESTORE REGISTERS
200B D1      POP  D
200C E1      POP  H
200D F1      POP  PSW
200E C34300   JMP  43H   ; JUMP TO UPDATE VECTOR

2011 31FF1E   SDCEX: LXI  SP, 1EFFH ; SET STACK POINTER
2014 CD1D20   CALL REL   ; DO RELOCATION
2017 CD5B20   CALL REST   ; INIT SIO AND TYPE MESS
201A C34000   JMP  40H   ; JUMP TO EXEC VECTOR

201D 214001   REL: LXI  H, 140H ; FDOS-II ORIG JUMP ADDR.
2020 224100   SHLD  41H ; RESTORE TRAPPED MEMORY
2023 21DC06   LXI  H, 6DCH ; FDOS-II ORIG RESTART JUMP
2026 224400   SHLD  44H ; RESTORE UPDATE VECTOR

; MEASURE MEMORY

2029 21E920   LXI  H, 20E9H ; START HERE
202C 3EAA     MVI  A, 0AAH ; CHECK PATTERN

202E 46       MOV  B, M   ; SAVE MEMORY
202F 77       MOV  M, A
2030 BE    CMP    M
2031 C23920  JNZ    MTOP
2034 70    MOV    M, B  ; RESTORE MEMORY
2035 24    INR    H
2036 C22E20  JNZ    M1  ; LOOP TILL END OF MEMORY
;
; TOP OF MEMORY FOUND
;
2039 25    MTOP:   DCR    H   ; SET H, L TO LAST AVAILABLE
; NOTE: LEAVE ROOM FOR THE FDIS LOADER
203A 22AF20  SHLD    SIZE  ; SAVE FOR MEMORY MESSAGE
203D 018D20  LXI    @IOEND
2040 1617    MVI    D, 23  ; NO. OF I/O INSTRUCTIONS
;
2042 0A    IO1:   LDAX    B   ; MOVE I/O ROUTINES
2043 77    MOV    M, A   ; ONE BYTE AT A TIME
2044 2B    DCX    H   ; DECREMENT SOURCE ADDR.
2045 0B    DCX    B   ; DECREMENT DESTINATION ADDR.
2046 15    DCR    D   ; DECREMENT BYTE COUNTER
2047 C24220  JNZ    IO1
;
204A 2ED9    MVI    L, OD9H  ; RELOCATE TWO JUMPS
204C 74    MOV    M, H
204D 2EE5    MVI    L, 0E5H
204F 74    MOV    M, H
; INITIALIZE CI AND CO VECTORS

2050 2ED3 MVI L,0D3H ; START ADDRESS OF CI ROUTINE
2052 2201C4 SHLD OC401H ; STORE IN CI VECTOR
2055 2EDF MVI L,0DFH ; START ADDRESS OF CO ROUTINE
2057 2204C4 SHLD OC404H ; STORE IN CO VECTOR
205A C9 RET ; END OF RELOCATION

; INITIALIZE SIO PORT

205B 3EAA REST: MVI A,0AAH ;************************
205D D303 OUT TTS ; *
205F 3E40 MVI A,40H ; *
2061 D303 OUT TTS ; * SIO *
2063 3ECE MVI A,0CEH ; * INITIALIZATION *
2065 D303 OUT TTS ; *
2067 3E17 MVI A,17H ; *
2069 D303 OUT TTS ;************************
206B 218E20 LXI H,MES
206E 1E21 MVI E,MESLN
2070 CDBF03 CALL FOUT ; TYPE MESSAGE
2073 CDB120 CALL MOUT ; TYPE UPPER MEM ADDR.
2076 C9 RET ; DONE WITH SIO INIT AND MESS
I/O ROUTINES

2077 DB03 INB: IN TTS ; THIS IS THE INPUT ROUTINE
2079 E602 ANI TTYDA ; TO BE RELOCATED
207B CAD300 JZ OD3H
207E DB02 IN TTI
2080 E67F ANI 127
2082 C9 RET

2083 DB03 OUTB: IN TTS ; THIS IS THE OUTPUT ROUTINE
2085 E601 ANI TTYTR ; TO BE RELOCATED
2087 CADF00 JZ ODFH
208A 79 MOV A, C
208B 1302 OUT TTO
208D C9 IOEND: RET

0021 MESLN EQU 33 ; MESSAGE LENGTH

208E 0A0D MESS: DW 0DOAH ; CR LF
2090 53444320 DB 'SDC AVAILABLE MEMORY IS 0 THRU '
20AF 0000 SIZE: DW 0000H ;SPACE FOR MEMORY SIZE

; MEMORY OUTPUT ROUTINE
; THIS ROUTINE PRINTS THE MEMORY ADDRESS
; STORED IN MEMORY LOCATION SIZE

20B1 21B020 MOUT: LXI H, SIZE+1
20B4 7E MOV A, M ;PICK UP THE DIGITS
20B5 0F RRC ;*
20B6 0F RRC ;* SHIFT RIGHT 4 BITS
20B7 0F RRC ;*
20B8 0F RRC ;*
20B9 E60F ANI OFH ;ISOLATE ONE HEX DIGIT
20BB FE0A CPI OAH
20BD 1AC520 JC HEX ;GO THIS WAY FOR HEX
20CC C637 ADI 37H ;GO THIS WAY FOR DECIMAL
20C2 C3C720 JMP HEX+2
20C5 C630 HEX: ADI 30H ;CONVERT TO ASCII
20C7 4F MOV C, A
20C8 CD03C4 CALL CO ;OUTPUT UPPER HEX DIGIT
20CB 7E MOV A, M ;*
20CC E60F ANI OFH ;*
20CE FE0A CPI OAH ;*
20D0 DAD820 JC HEX1 ;* DO SAME FOR NEXT DIGIT
20D3 C637 ADI 37H ;*
20D5 C3DA20 JMP HEX1+2 ;*
20D8 C630  HEX1:  ADI  30H ; *
20DA 4F     MOV  C, A ; *
20DB 0D03C4 CALL CO ; *
20DE 0E46   MVI  C, 46H ; OUTPUT ASCII F
20E0 0D03C4 CALL CO
20E3 0E46   MVI  C, 46H ; OUTPUT ASCII F
20E5 0D03C4 CALL CO
20E8 0E48   MVI  C, 48H ; OUTPUT ASCII H
20EA 0D03C4 CALL CO
20ED 0E0D   MVI  C, 0DH ; OUTPUT ASCII CR
20EF 0D03C4 CALL CO
20F2 0E0A   MVI  C, 0AH ; OUTPUT ASCII LF
20F4 0D03C4 CALL CO
20F7 C9     RET ; END OF ADDRESS OUTPUT

; INITIAL VECTORS

; PURPOSE: TO SET IMPORTANT PROCEDURE VECTORS FOR FDOS
; TO INTERFACE WITH USER SYSTEM.

C400 ORG 0C400H ; JUMP TABLE STARTING ADDRESS
SOURCE COPY CONTINUED

DO00 CI EQU OD000H ; ADDR OF CONSOLE INPUT ROUTINE
C292 CO1 EQU OC292H ; ADDR OF CONSOLE OUTPUT ROUTINE
C3CC RI EQU OC3CCH ; ADDR OF READER DEVICE ROUTINE
C3CF LO EQU OC3CFH ; ADDR OF LIST DEVICE ROUTINE
C3D2 PO EQU OC3D2H ; ADDR OF PUNCH DEVICE ROUTINE
C3E4 EXIT EQU OC3E4H ; RE-ENTRY ADDR OF USER MONITOR
C109 DKI EQU OC109H ; ADDR OF DISK INPUT ROUTINE
C194 DKO EQU OC194H ; ADDR OF DISK OUTPUT ROUTINE
0040 ASMED EQU 40H ; ADDR OF ASSEMBLER OR EDITOR
0040 EXEC EQU 40H ; ADDR OF EXECUTIVE
0043 UPDAT EQU 43H ; ADDR OF UPDATE ROUTINE

C400 C300D0 JMP CI ; VECTORS ARE STORED AT C400H.
C403 C392C2 JMP CO1 ; SO FDOS KNOWS WHERE IT IS...
C406 C3CCC3 JMP RI ; THESE ARE THE EQUATES ABOVE
C409 C3CFC3 JMP LO
C40C C3D2C3 JMP PO
C40F C3E4C3 JMP EXIT
C412 C309C1 JMP DKI
C415 C394C1 JMP DKO
C418 C34000 JMP ASMED
C41B C34000 JMP EXEC
C41E C34300 JMP UPDAT

END ; END OF SDC EXEC
FDS-2 Executive Handler Modification

The following steps describe how to assemble, edit, and "XGEN" your own executive handler or a modified version of the SDC Executive Handler. A good understanding of assembly language, the iCOM Text Editor, and the "XGEN" statement is desirable and descriptions of each may be found in the iCOM documentation. Several points should be remembered:

1. **ALWAYS SAVE AN UNMODIFIED COPY OF THE "MASTER" SDC EXECUTIVE HANDLER.**
2. **ALWAYS SAVE A COPY OF YOUR PROGRAMS OR DATA TO PREVENT LOSS.**
3. **COPY YOUR MODIFIED VERSION IMMEDIATELY TO PREVENT LOSS.**

The listing below shows all commands and responses just as they would appear on a CRT or hardcopy terminal. All statements following an exclamation mark (iCOM FDOS-II Executive prompter) are commands, and all statements following a @ symbol (iCOM FDOS-II Text Editor prompter) are editing commands. Typewritten comments have been added to describe the procedures involved.

```
!LIST

NAME        ATTR TRAK SCTR  SIZE
ASMB        00  05  01    00A1
EDIT        00  06  06    0044
EXEC        00  06  16    005A
DIAGS       00  11  08    0046
DIAGO       00  13  1A    001C
SDCS        00  15  02    0028
```

This is a listing of the directory contents.
Assemble the modified executive handler under the new name "SDCO".

No assembly errors.

Merge the iCOM executive system with the new handler under the new file name "SCR1".

Enter the editor mode.

Append the SCR1 file into working memory.

Advance to line 250 and display 10 lines.

Old EOF (end-of-file) which must be removed.

Beginning of new handler.
Advance 4 lines, kill 3 lines, go back 5 lines, and display 10 lines.

Go forward 5 lines, delete 38 characters, go back 5 lines, and display 10 lines.

End of iCOM executive.

Start of new handler.

Save file (SDCX1) and exit editor mode.

Copy the files onto a new diskette.
```
!LIST

<table>
<thead>
<tr>
<th>NAME</th>
<th>ATTR</th>
<th>TRAK</th>
<th>SCTR</th>
<th>SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASMB</td>
<td>00</td>
<td>05</td>
<td>01</td>
<td>00A1</td>
</tr>
<tr>
<td>EDIT</td>
<td>00</td>
<td>06</td>
<td>06</td>
<td>0044</td>
</tr>
<tr>
<td>EXEC</td>
<td>00</td>
<td>16</td>
<td>06</td>
<td>005A</td>
</tr>
<tr>
<td>DIAGS</td>
<td>00</td>
<td>11</td>
<td>08</td>
<td>0046</td>
</tr>
<tr>
<td>DIAGO</td>
<td>00</td>
<td>13</td>
<td>1A</td>
<td>001C</td>
</tr>
<tr>
<td>SDCS</td>
<td>00</td>
<td>15</td>
<td>02</td>
<td>0028</td>
</tr>
<tr>
<td>SDCO</td>
<td>00</td>
<td>16</td>
<td>10</td>
<td>0007</td>
</tr>
<tr>
<td>SCR1</td>
<td>00</td>
<td>16</td>
<td>17</td>
<td>0061</td>
</tr>
<tr>
<td>SDCX1</td>
<td>00</td>
<td>1A</td>
<td>10</td>
<td>0060</td>
</tr>
</tbody>
</table>

!XGEN, SDCX1: 1

XGEN. Place the new executive system in operation.
List the directory, it will be empty.

!LIST

<table>
<thead>
<tr>
<th>NAME</th>
<th>ATTR</th>
<th>TRAK</th>
<th>SCTR</th>
<th>SIZE</th>
</tr>
</thead>
</table>
```
CREAT each file in the old directory as described in the iCOM documentation.

!CREAT, ASMB, A1
!CREAT, EDIT, 44
!CREAT, EXEC, 5A
!CREAT, DIAGS, 46
!CREAT, DIAGO, 1C
!CREAT, SDCS, 28
!CREAT, SDCO, 7
!CREAT, SCR1, 61
!CREAT, SDCX1, 60
!LIST

<table>
<thead>
<tr>
<th>NAME</th>
<th>ATTR</th>
<th>TRAK</th>
<th>SCTR</th>
<th>SIZE</th>
</tr>
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<tbody>
<tr>
<td>ASMB</td>
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<td>05</td>
<td>01</td>
<td>00A1</td>
</tr>
<tr>
<td>EDIT</td>
<td>00</td>
<td>08</td>
<td>06</td>
<td>0044</td>
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<tr>
<td>EXEC</td>
<td>00</td>
<td>0D</td>
<td>16</td>
<td>005A</td>
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<td>15</td>
<td>02</td>
<td>0028</td>
</tr>
<tr>
<td>SDC0</td>
<td>00</td>
<td>16</td>
<td>10</td>
<td>0007</td>
</tr>
<tr>
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!EXIT

Go to the mini-monitor

>GC000

Execute the new system starting at C0000 Hex.

Check the contents of the new directory and your done.
Due to the sophisticated electronics and precision electro-mechanical hardware only a trained service technician should attempt detailed repair.

To help isolate problems, the user may preform the following checks.

1. Check the fuse and power source.
2. Check that all plugs and connectors are firmly seated, both within the drives and the interface board.
3. If power supply problems are suspect:
   a) Disconnect the power plugs P3 to both drives
   b) Disconnect the power plug P8 to the controller board
   c) Refer to drawing number D-770100 and check voltages at the plug
   d) Adjust the power supplies as required.
4. Check that all LED indicator connector blocks are firmly seated.
5. Switch the MUX boards behind the drives if drive problems are suspect.
6. Consult Synetic Designs Company or iCOM Microperipherals.

PREVENTATIVE MAINTENANCE

1. Periodically remove the cover and vacuum the inside of the cabinet to remove collected dust particles.
2. Check power supply voltages as outlined in paragraph 3 above.
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<th>ITEM</th>
<th>NOMENCLATURE</th>
<th>P/N, DESCRIPTION</th>
<th>MATERIAL/SPECIFICATION</th>
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4. BLANK COVER PANEL IS OPTIONAL FOR SINGLE DRIVE SYSTEMS.
3. REFER TO DRAWING NUMBERS D-770100 & D-770101 FOR WIRING HARNESS NOTES.
CHECK INDICATES PART NOT SHOWN ON PARTS LAYOUT DRAWING.
NOTE: 1. LETTER SYMBOL NUMBERS INDICATE ICOM SUPPLIED PARTS, REFER TO PAGE 3.
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REFER TO PAGE 1 FOR GENERAL NOTES.
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REFER TO PAGE 1 FOR GENERAL NOTES.
HARNESS TOOLING

ITEM | DESCRIPTION | VENDOR | P/N | QTY.
--- | --- | --- | --- | ---
1 | RETAINER, BUNDLE | T&B | TC-61 | 1
2 | GUIDE, TIE | T&B | TC-60 | 2
3 | BOARD HARNESS | 1/2" PLYWOOD | 24x36" | 1
4 | TOOL, CRIMPER | BERG | HT-65 | 1
5 | TOOL, CABLE TIE | PANDUIT | GS-28 | 1

-12 VOLT SUPPLY
STRIpped AND TIN 3/8" G PEEES.
AWG #18 WIRE

+5 VOLT SUPPLY
STRIpped AND TIN 3/8" G PEEES.
AWG #18 WIRE
WHITE/ORN POSITIVE
WHITE/ORN NEGATIVE

IDENTIFICATION CABLE TIE
MARK "SDC PN 770100"

J-3 BOTTOM MUX
J-3 TOP MUX
J-8 BOARD Z-2

CABLE TIE
TOP 24 SHOWN FOR J-ARTY

STRIP 1/16" AND SOLDER HEAT SHRINK AS REQ'd.

NEGATIVE W/O
POSITIVE W/O
1. STRIP AND CRIMP USING BERG H-105 TOOL - 12 PLUGS.

2. STRIP 1/4" AND SOLDER NEXT CABLE AS REQUIRED.

3. +24-VOLT SUPPLY

4. RECOMMEND TO A-770105 FOR WIRING LIST

NOTE: 1. DO NOT USE REDUCED PRINT.

FDS-2 FLOPPY DISK SYSTEM
SYNETIC DESIGNS COMPANY D-770100
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A-770104 1/2

WIRING HARNESS FDS-2

PARTS LIST

SYNETIC DESIGNS CO.

ASS'Y SDC 770100
NEXT ASS'Y FDS-2

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3. REFER TO A-770104 FOR PARTS LIST.
2. TWO (2) P-3 MUX BOARD CONNECTORS ARE REQUIRED.

NOTE: 1. REFER TO D-770100 FOR WIRING HARNESS DWG.
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<th>POWER SUPPLIES</th>
<th>WIRE COLOR/SIZE</th>
<th>FUNCTION</th>
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SEE NOTE

A-770105 2/2

WIRING HARNESS FDS-2

WIRING LIST

SYNETIC DESIGNS CO.

ASS'Y SDC 770100

NEXT ASS'Y FDS-2

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