

## INSTRUCTIONS TO TEST PROCEDURES

The following board test procedures give information of test to be run on DMS boards. Some explanations about the tests are provided. Additional information will be provided by DMS personal.

Some boards may have problems that could cause the fuse to blow or IC's to smoke. Immediately turn power off if this occurs and note problem on error tag.

If a high pitched sound is heard when the power supply is turned on, it is likely that the board under test has a power short. Immediately turn power off and check for a board voltage short.

For the following test procedures, type in dark letters.

Example: A>CRUN2 SER80

You would type in CRUN2 SER80 after you get an A>.

When you type in the program name you must put a space where it is indicated, although one is not necessary before a [RET].

Also, the programs that you want to run must be on the diskette or partition on which you're communicating.

[RET] is the RETURN or NEW LINE key.

[CTRL] is the CONTROL or CTRL key. In many cases the [CTRL] key is pressed at the same time the key following it is pressed.

The **ON SCREEN** column shows what will appear on the monitor or terminal CRT screen.

The **EXPLANATION** column has information about tests that you're running.

The **ERROR CODE** column shows what should be written on a tag to be attached to the board if the test being run fails.

The order of tests to be performed on each board should be close to the order that is listed. This is so the basic functions of the boards can be tested first.

BE SURE TO OPEN THE FLOPPY DISK DOOR WHEN POWER IS TURNED OFF OR TURNED ON. If you do not, you may cause the diskette in the drive to not work properly. To run a program on a floppy diskette, the floppy drive door must be closed.

If several boards being tested consecutively fail with the same failure, test a known good board. If it also fails, something else is probably wrong with the test system. Locate and repair the problem and retest the previously rejected boards.

Some boards may have intermittent problems or problems related to the length of time the board has had power applied. For example, a board may not show a problem when power is first applied, but after power has been on 10 minutes, or even 2 hours, a problem may occur. If a board has a problem like this, please describe the symptoms on the error tag.

HiNet is changing. The following procedures for booting the network may or may not work. Be sure to check the version number and know how it works.

Boards that passed pretest should be identified with a round colored sticker with the tester's initials, date and "OK" on the sticker. Boards are then sent to burn-in.

Boards that passed burn-in should be identified with a green rectangular "PASSED #" sticker. The board should then be put in the stockroom.

## SERIAL PORTS TESTS

### INSTRUCTIONS FOR CRUN2 SERZ80 AND CRUN86 SER8086

#### RS232 AND MODEM SIGNAL TEST

First check for correct cable hook-up for the system that you are testing.

Connect serial port 0 to an external terminal. Note that the HNS 86 and the DMS 4 CPU are already connected to an external terminal.

On 5080 or DMS 4 keyboard with a Z80 CPU:

A)CRUN2 SERZ80 [RET]

For shortened version type SERZ80.

OR

On 5086 or HNS 86 keyboard with an 8086 CPU:

A)CRUN86 SER8086 [RET]

On external terminal keyboard:

MAKE SELECTION 1 [RET] (RS232 test)

Type in any key except @.

Keys pressed should echo on terminal screen.

Move terminal serial cable to serial port 2.

Press a key.

Keys pressed should echo on terminal screen.

Move terminal serial cable to serial port 3.

Press a key.

Keys pressed should echo on terminal screen.

Put terminal serial cable back to serial port 0.

Press @ (to stop RS232 test.)

(C/M)? C [RET] (continue to modem test.)

Install special modem signal connectors into the other two serial ports.

Press a key, [RET]

\$ should appear on screen  
\$

Press @ (to stop modem test.)

Press M [RET] (to get back to menu.)

Press 4 (to stop program and reboot system.)

Keyboard control is transferred back to the 5080 or the 5086.  
For DMS 4 and HNS-86 keyboard control will stay at the external terminal.

DMS 3 CPU BOARD  
ZSBC 3.31  
84-1504

Connectors:

J1 to DB25 I/O board serial port connectors.  
 J2 to floppy disk drive.  
 J3 to hard disk controller board.  
 J4 to parallel printer. J4 is known as the parallel port.  
 J5 to master HiNet cable for booting the network.  
 J6 to power supply.

Jumper blocks:

<p>JP11          :        : Jumper locations at                    JP1 JP2 and JP3 for                    . booting the network.          [::] [::]          JP2    JP3</p>	<p>JP11          :        : Jumper locations at                    JP1 JP2 and JP3 for                    [::] [::] for testing RS232                            and modem ports.          JP2    JP3</p>
---	---

JP4 and JP5 determines how the CPU will start (auto boot) when power is applied.  
 Jumper blocks JP4 off and JP5 off, CPU will attempt boot from floppy drive A.  
 JP4 on and JP5 off, CPU will attempt boot from the network.  
 JP4 off and JP5 on, CPU will attempt boot from the harddisk.

Get the PROM MONITOR by holding down the INT (interupt) switch while toggling the RST (reset) switch.

PRETEST 3 CPU

ON SCREEN	EXPLANATION	ERROR CODE
PROM MONITOR :T800 93EF [RET] ..... [RET]	communicating with prom. testing memory locations 800-93EF. should appear on screen.	NO PM T TEST ERROR
:T9400 FFFF [RET] .....	testing memory locations 9400-FFFF. should appear on screen.	T TEST ERROR
:BN Name:U1 Password:[RET] A>DIR	Check location of JP2 and JP3. boot network. log-in name may be different.  check directory on screen.	NO BN WON'T ACCEPT NAME
PROM MONITOR :BF A>RS232	Change JP2 and JP3 to RS232 test position and put test diskette in the floppy drive A (0). Go back into the prom monitor. boot floppy. serial port test.	NO BF RS232 PORT #___

Follow instructions shown on SERIAL PORTS TESTS sheet "(RS232 test)" section, except test all four ports, 0 thru 3.

To stop RS232 test press INT (interupt) switch to get A prompt. NO INTERUPT

A) PORT

Insert special parallel port test cable between J3 and J4. parallel port test. P PORT ERROR  
Press Q to stop test.

TFORMAT and FDTEST should be done only when high quantities of boards are being tested.

A) TFORMAT

Put a scratch (blank) diskette into drive B (1). Use TFORMAT for floppy disk test. TFORMAT ERROR  
Note: Use FORMAT when copying programs.

DRIVE NUMBER: 1 [RET]

SINGLE OR DOUBLE? D [RET]

[RET]

[CTRL]C

to stop TFORMAT.

A) FDTEST

SAVE ERRORS? N [RET]

SINGLE / DOUBLE? D

DISK NUMBER? 1 [RET]

floppy disk test. FDTEST ERROR

[CTRL]C

Allow test to run thru read, about 1 minute.

A)

to stop FDTEST.

If board passed all tests, turn off power, put round colored sticker with your initials, date and "OK" on sticker and proceed to burn-in.

### BURN-IN 3 CPU

Burn-in done on burn-in racks.

# DMS 4 128K MEMORY BOARD

84-2020

4 Memory board is used with 4 CPU board and plugged into a multibus.

Get the PROM MONITOR by holding down the INT (interupt) switch while toggling the RST (reset) switch.

## PRETEST 4 MEMORY

ON SCREEN	EXPLANATION	ERROR CODE
PROM MONITOR	communicating with prom.	NO PM
:M0 0 [RET]	setting up memory mapping.	
:M9 9 [RET]		
:MA 80 [RET]		
:I0 [RET]		
78	number unimportant.	
:M1 F0 [RET]	set up memory to test row 0.	
:M2 F1 [RET]		
:M3 F2 [RET]		
:M4 F3 [RET]		
:M5 F4 [RET]		
:M6 F5 [RET]		
:M7 F6 [RET]		
:M8 F7 [RET]		
:T1000 8FFF [RET]	to test row 0.	ERROR ROW 0
.....	get 4 rows of dots on screen.	
[RET]	to stop test.	
:DA000 [RET]	to check for parity error.	
A000 00	if "01" is in the first byte at A000.	PARITY ERROR ROW 0
:M1 F8 [RET]	set up memory to test row 1.	
:M2 F9 [RET]		
:M3 FA [RET]		
:M4 FB [RET]		
:M5 FC [RET]		
:M6 FD [RET]		
:M7 FE [RET]		
:M8 FF [RET]		
:T1000 8FFF [RET]	to test row 1.	ERROR ROW 1
.....	get 4 rows of dots on screen.	
[RET]	to stop test.	
:DA000 [RET]	to check for parity error.	
A000 00	if "01" is in the first byte at A000.	PARITY ERROR ROW 1
:M1 E0 [RET]	set up memory to test row 2.	
:M2 E1 [RET]		
:M3 E2 [RET]		
:M4 E3 [RET]		
:M5 E4 [RET]		
:M6 E5 [RET]		

```

:M7 E6 [RET]
:M8 E7 [RET]
:T100 8FFF [RET]
.....
[RET]
:DA000 [RET]
A000 00

```

to test row 2.  
get 4 rows of dots on screen.  
to stop test.  
to check for parity error.  
if "01" is in the first byte at  
A000.

ERROR ROW 2  
PARITY ERROR ROW 2

```

:M1 E8 [RET]
:M2 E9 [RET]
:M3 EA [RET]
:M4 EB [RET]
:M5 EC [RET]
:M6 ED [RET]
:M7 EE [RET]
:M8 EF [RET]
:T1000 8FFF [RET]
.....
[RET]
:DA000 [RET]
A000 00

```

set up memory to test row 3.

to test row 3.  
get 4 rows of dots on screen.  
to stop test.  
to check for parity error.  
if "01" is in the first byte at  
A000.

ERROR ROW 3  
PARITY ERROR ROW 3

```

[RET]
:DA000 [RET]
A000 01

```

To check parity error circuitry  
short U19 pin 12 to pin 13 with a  
small screwdriver. Memory errors  
should appear on screen.  
to stop errors  
to check for parity error.  
if "00" is in the first byte at  
A000.

PARITY DETECTOR  
NOT WORKING

If board passed all tests, turn off  
power, put round colored sticker  
with your initials, date and "OK" on  
sticker and proceed to burn-in.

#### BURN-IN 4 MEMORY

Put test diskette into drive A.  
Boot floppy drive A.

```

A>SUBMIT DSC4MEMS [RET]

```

Long memory test, about 8 hours.

DSC4MEMS ERROR  
(GIVE ERROR LOCATION)  
(GIVE LENGTH OF  
TIME BOARD WAS  
TESTING WHEN ERROR  
OCCURRED.)

```

A>DIR B:

```

appears on screen when the memory  
test is finished. If a diskette is  
in drive B the directory will be

on screen. Press the INT (interrupt) switch to get A).

A)TYPE CONFILE.TXT [RET]

00000000000000  
00000000000000

should appear on screen in 8 groups divided by locations tested.

If board passed burn-in, turn off power, disconnect board and put green rectangular "PASSED #" sticker on board and send to the stockroom.



DMS 4 CPU BOARD  
ZSBC 4.1  
84-2500

4CPU is used with the 128K memory board and plugged into a multibus.

Connectors:

- J1 to DB25 I/O board serial port connectors.
- J2 to floppy disk drive.
- J3 to hard disk controller board.
- J4 to parallel printer. J4 is known as the parallel port.
- J5 to master HiNet cable for booting the network. Note location of pin 1.

Jumper blocks:

JP2 and JP3 are defaulted (shorted on the bottom of the board) to auto boot the network.

JP4 and JP5 determines how the CPU will start (auto boot) when power is applied.

- Jumper blocks JP4 off and JP5 off, CPU will attempt boot from floppy drive A.
- JP4 on and JP5 off, CPU will attempt boot from the network.
- JP4 off and JP5 on, CPU will attempt boot from the harddisk.

Get the PROM MONITOR by holding down the INT (interrupt) switch while toggling the RST (reset) switch.

PRETEST 4 CPU

ON SCREEN	EXPLANATION	ERROR CODE
PROM MONITOR	communicating with prom.	NO PM
:M0 0 [RET]	setting up memory mapping.	
:M9 9 [RET]		
:MA 80 [RET]		
:I0 [RET]		
:M1 F0 [RET]		
:M2 F8 [RET]		
:M3 E0 [RET]		
:M4 E8 [RET]		
:T1000 4FFF [RET]	testing memory locations 1000-4FFF.	T TEST ERROR GIVE LOCATION
:BN	boot network.	NO BN
Name:U1		WON'T ACCEPT NAME
Password:[RET]		
A>DIR	check directory on screen.	
	Put test diskette in floppy drive A (0).	
PROM MONITOR	Go back into the prom monitor.	
:BF	boot floppy	NO BF

A>CRUN2 SERZ80 serial port test. RS232 PORT #\_\_\_  
Follow instructions shown on SERIAL  
PORTS TESTS sheet. Test ports 0,2,3.

A> To check the interupt function NO INTERRUPT  
press the INT (interupt) switch  
to get A prompt (A>).

A>PORT Insert special parallel port test  
cable between J3 and J4. P PORT ERROR  
parallel port test.  
Press Q to stop test.

If board passed all tests, turn off  
power, put round colored sticker  
with your initials, date and "OK" on  
sticker and proceed to burn-in.

#### BURN-IN 4 CPU

Put test diskette into drive A.  
Boot floppy drive A.

A>SUBMIT DSC4MEMS [RET] Long memory test, about 8 hours. DSC4MEMS ERROR  
(GIVE LOCATION)

A>DIR B: appears on screen when the memory  
test is finished. If a diskette is  
in drive B the directory will be  
on screen. Press the INT (interupt)  
switch to get A>. (GIVE LENGTH OF TIME  
BOARD WAS TESTING  
WHEN ERROR OCCURRED)

A>TYPE CONFILE.TXT [RET]  
000000000000 should appear on screen in 8 groups  
000000000000 divided by locations tested.

If board passed burn-in, turn off  
power, disconnect board and put  
green rectangular "PASSED #" sticker  
on board and send to the stockroom.

## 5000 CRT CONTROLLER BOARD

84-5001

### Connectors:

G18 (26 pin) to J4 on 5080 CPU.

G9 (34 pin) to J1 on 5080 CPU.

G5 is serial port 0.

G4 is serial port 3.

G3 is serial port 2.

9 pin D connector by C23 to mater HiNet cable for booting the network.

G16 to keyboard.

:3 to fan.

:) to speaker.

G1 to monitor CRT board.

G43 to power supply.

G37 on bottom of board to parallel printer cable. Use special 50 pin adapter cable to the parallel printer cable.

Jumper block G42, two top pins closest to the middle of G5:

- off without memory daughter board.

- on with memory daughter board.

The following test procedures are descriptions of a 5080 system using a 84-5003 CPU board. The 5080 CPU board should be jumpered (jumper block J4 on 5080) to boot the network at power turn on and the prom serial number should be in the machine table.

### CENTRONIC AND OKIDATA PRINTER NOTES:

Assign printer port to port 0, selection 3 on the machine table.

ENABLE 5080 [RET] needs to be run.

As of 6/27/84 ENABLE 5080 is in U5080 type ahead buffer on the pretest master and the port is assigned to serial port 0 as required.

[CTRL] P DIR [RET] should print the directory on the printer and screen.

### OPTIONAL OKIDATA PRINTER PARALLEL PRINTER TEST METHOD:

(This method will not work on the Centronics 702 printer.)

Use wide paper.

Press CTRL SHIFT F9 keys at the same time when in the PROM MONITOR.

Check a few lines of print.

Get the PROM MONITOR by pressing down on RST (reset) toggle switch by the power connector (G43), then pressing up on INT (interupt) toggle switch.

### PRETEST 5000 CRT CONTROLLER

#### ON SCREEN

#### EXPLANATION

#### ERROR CODE

Connect power (G43) and speaker.  
Turn on power.

NO BEEP  
PARITY (one long  
beep)]  
1 BEEP

1 BEEP, PARITY (1  
beep then a long  
beep)  
2 BEEPS  
2 BEEPS, PARITY (2  
beeps then a long  
beep)  
3 BEEPS, PARITY (3  
beeps then a long  
beep)

If 3 beeps occur in the right  
sequence,  
plug in the other cables,  
the parallel printer cable (G37  
on the bottom of the board) to a  
printer,  
the serial port 0 cable (G5) to an  
external terminal,  
plug in the daughter board,  
install jumper block G42 (two top  
pins closest to the middle of G5).

Turn on power and check video  
display.

NO VIDEO  
BAD VIDEO

Check fan.  
Check LEDs (lights by RST switch)

NO FAN  
NO LEDs

Check for log-in message.

NO AUTO BOOT

NAME:U5080 [RET]  
PASSWORD:[RET]  
A>2ND [RET]

Log-in name may be different.

NO KEYBD INPUT  
NO BN  
WON'T WORK WITH  
DAUGHTER BD.  
BAD VIDEO WITH  
DAUGHTER BD.

to test communication with  
memory daughter board.  
Look for proper scrolling and  
blinking and non-blinking lines.

SEE CENTRONICS AND OKIDATA PRINTER NOTES AT TOP OF 5000 CRT INSTRUCTIONS.  
(If you are using the Okidata printer you may choose to test the parallel  
port using the OPTIONAL OKIDATA TEST METHOD shown below.)

[CTRL] P  
A>DIR [RET]

to turn on parallel printer port.  
You should see directory print on  
screen and on printer paper.

P PORT BAD

[CTRL] P

to turn off parallel printer port.

A>CRUN2 SERZ80 [RET]

to test RS232 and modem signals.  
Follow instructions on SERIAL PORTS  
TESTS sheet.

S PORT 0 BAD  
S PORT 2 BAD  
S PORT 3 BAD  
CHANNEL 1 BAD  
CHANNEL 2 BAD

PROM MONITOR  
:

Get PROM MONITOR as described  
above.

BAD INTERRUPT SWITCH

SEE OPTIONAL OKIDATA PRINTER NOTES AT TOP OF 5000 CRT INSTRUCTIONS.  
(This method does not work on the Centronics 702 printer.)

[CTRL] [SHIFT] [F9] Press CTRL SHIFT F9 keys at the same time to test the parallel printer port (G37) functions. Check a few lines on printer. P PORT BAD

DO NEXT STEPS ON ALL 5000 CRT CONTROLLER BOARDS.

[CTRL] [SHIFT] [F1] Press CTRL SHIFT F1 keys at the same time to dim screen text. Hold down the CTRL SHIFT deys while toggling the F1 key to check for 6 even dim steps. NO DIM  
BAD DIM STEPS

[CTRL] [SHIFT] [F2] Press CTRL SHIFT F2 keys at the same time to brighten screen text. Hold down the CTRL SHIFT keys while toggling the F2 keys to check for 6 even bright steps. NO BRIGHT  
BAD BIGHT STEPS

Disconnect serial and parallel port cables, fan and speaker.

Turn board over and toggle the RST (reset) switch.

Screen characters should scroll across the bottom of the screen.

Check the LEDs. Two should turn off and the other two should turn on.

VERTICAL MODE BAD

VERTICAL LEDs BAD

A)DIR [RET]

Hold down [RET] key to see proper scrolling on screen.

VERTICAL SCROLL BAD

If board passed all tests, turn off power, put round colored sticker with your initials, date and OK on sticker and proceed to burn-in.

### BURN-IN 5000 CRT CONTROLLER

Connect 5000 CRT board to burn-in test system. Plug in serial port 0 (G5) to external terminal.

Turn power on.

ON 5000 KEYBOARD:

NAME:U2 [RET]

PASSWORD:[RET]

A)TEST5000 [RET]

Use a different log-in name for each system.

to run the long memory test.

ON EXTERNAL TERMINAL KEYBOARD:

[RET] Hit RETURN to start test  
to start test.

ON 5000 KEYBOARD:

[CTRL] [SHIFT] [F15] Press CTRL SHIFT F15 to stop cursor  
blinking.

[ESC]  
^ Press ESC key then let up  
Press ^ key then let up  
to make the screen dark.

ON EXTERNAL TERMINAL SCREEN:

4000 When test is complete 4000 will (GIVE ERROR SHOWN)  
appear on external terminal screen. (GIVE LENGTH ON TIME  
BOARD WAS TESTING)

S for status of test.  
R for test results. 4000 should  
appear on external screen if test  
completed with no errors.  
Note: if 7000 appears on screen (GIVE LENGTH ON TIME  
BOARD WAS TESTING)  
and there is no daughter board,  
a problem exists. 7000 IN LONG TEST  
ERROR BUFFER

ON 5000 CRT KEYBOARD:

[RET] to varify that the 5000 CRT  
screen is still good.

If board passed burn-in, turn off  
power, disconnect board and put  
green rectangular "passed #" sticker  
on board and send to the stockroom.

## 5000 CRT MEMORY DAUGHTER BOARD

84-5002

The 5000 memory daughter board is plugged into the 5000 CRT controller board. Jumper block G42, two top pins closest to the middle of G5 on the 5000 CRT controller board must be installed.

Connect a 5080 CRT system as shown on the 5000 CRT instruction sheet.

### PRETEST 5000 CTR MEMORY DAUGHTER BOARD

ON SCREEN	EXPLANATION	ERROR CODE
	Turn on power.	NO BEEP PARITY (one long beep) 1 BEEP 1 BEEP, PARITY (1 beep then a long beep) 2 BEEPS 2 BEEPS, PARITY (2 beeps then a long beep) 3 BEEPS, PARITY (3 beeps then a long beep)
	Check video	NO VIDEO BAD VIDEO
NAME:U5080 [RET] PASSWORD:[RET] A>2ND [RET]	Log-in name may be different.  to test communication with 5000 CRT mother board. Look for proper scrolling and blinking and non-blinking lines.	NO BN  WON'T WORK WITH MOTHER BD. BAD VIDEO WITH MOTHER BD.
	If board passed all tests, turn off power, put round colored sticker with your initials, date and "OK" on sticker and proceed to burn-in.	

### BURN-IN 5000 CRT MEMORY DAUGHTER BOARD

Connect 5000 memory daughter board  
to burn-in 5080 test system.  
Plug in serial port 0 (G5)  
to external terminal.  
Turn power on.

ON 5000 KEYBOARD:

NAME:U2 [RET] Use a different log-in name  
PASSWORD:[RET] for each system.  
A>TEST5000 [RET] to run the long memory test.

ON EXTERNAL TERMINAL KEYBOARD:

[RET] Hit RETURN to start test  
to start test.

ON 5000 KEYBOARD:

[CTRL] [SHIFT] [F15] Press CTRL SHIFT F15 to stop cursor  
blinking.

[ESC] Press ESC key then let up  
^ Press ^ key then let up  
to make the screen dark.

ON EXTERNAL TERMINAL SCREEN:

7000 When test is complete 7000 will (GIVE ERROR SHOWN)  
appear on external terminal screen. (GIVE LENGTH ON TIME  
BOARD WAS TESTING)

S for status of test.  
R for test results. 7000 should  
appear on external screen if test  
completed with no errors.

ON 5000 CRT KEYBOARD:

[RET] to varify that the 5000 CRT  
screen is still good.

If board passed burn-in, turn off  
power, disconnect board and put  
green rectangular "passed #" sticker  
on board and send to the stockroom.



**5080 CPU BOARD**  
**ZSBC 3.31**  
**84-5003**

**Connectors:**

J1 to G9 (34 pin) on 5000 CRT controller.  
 J4 to G18 (26 pin) on 5000 CRT controller.  
 J6 to power supply.

**Jumper blocks:**

JP4 and JP5 determine how the 5080 CPU will start (auto boot) when power is applied.

JP4 on and JP5 off, CPU will attempt boot from the network.

Get the PROM MONITOR by pressing down on RST (reset) toggle switch by the power connector on the 5000 CRT controller, then pressing up on INT (interupt) toggle switch.

**PRETEST 5080 CPU**

ON SCREEN	EXPLANATION	ERROR CODE
PROM MONITOR :T800 93EF [RET] ..... [RET]	communicating with prom. testing memory locations 800-93EF. should appear on screen.	NO PM T TEST ERROR
:T9400 FFFF [RET] .....	testing memory locations 9400-FFFF. should appear on screen.	T TEST ERROR
	Check that J4 is on and J5 is off. Press RST (reset) switch for auto network boot.	NO AUTO BOOT
NAME:U5080 [RET] PASSWORD:[RET] A>DIR [RET]	Log-in name may be different.  Check directory on screen.	NO BN WON'T ACCEPT NAME
A>CRUN2 SERZ80 [RET]	to test RS232 and modem signals. Follow instructions on SERIAL PORTS TESTS sheet.	S PORT 0 BAD S PORT 2 BAD S PORT 3 BAD CHANNEL 1 BAD CHANNEL 2 BAD
A>	Press INT (interupt) switch to get another A> (prompt).	NO INTERRUPT

Parallel port is tested through talking to the 5000 CRT controller.

**BURN-IN 5080 CPU**

Burn-in is done in final test.

## 5086 - 256K CPU BOARD

### 84-5086

Two rows of memory IC's, row 0 and row 1.

#### Connectors:

J4 (26 pin) to G18 on 5000 CRT controller.

J6 (34 pin) to G9 on 5000 CRT controller.

Power connector to power supply.

#### Jumper blocks:

JPF and JPG on to boot through the parallel port to the 5000 CRT controller.

Get the HARDWARE MONITOR by pressing down on RST (reset) toggle switch on the 5000 CRT controller board, then pressing up on INT (interrupt) toggle switch.

### PRETEST 5086 - 256K CPU BOARD

ON SCREEN	EXPLANATION	ERROR CODE
HARDWARE MONITOR 86>M0 800 3000 FFFF [RET]	Get hardware (prom) monitor. to run M memory test.	NO PM
Errors sent to console? Y		
Test to repeat? N		
00	Test for 0A passes.	M MEM TEST ERRORS
NMI INTERRUPT	Press up on INT (interrupt) to stop M test.	NO INT
86>L 0 [RET]	Run L memory test on row 0 for 1 minute.	ROW 0 L MEM TEST ERROR
NMI INTERRUPT	Press INT (interrupt) switch to stop L test.	
86>L 1 [RET]	Run L memory test on row 1 for 1 minute.	ROW 1 L MEM TEST ERROR
NMI INTERRUPT	Press INT (interrupt) switch to stop L test.	
86>B [RET]	to boot network.	NO BN
NAME=>US086 [RET]	User name may be different.	
PASSWORD=> [RET]	User serial number may need to be put in the machine table.	
A>DIR [RET]	Check for good directory listing.	
A>CRUN86 SER8086 [RET]	to test RS232 and modem signals. Follow instructions on SERIAL PORTS TESTS sheet.	S PORT 0 BAD S PORT 2 BAD S PORT 3 BAD CHANNEL 1 BAD CHANNEL 2 BAD

If board passed all tests, turn off power, put round colored sticker with your initials, date and "OK" on sticker and proceed to burn-in.

The parallel port is tested when 5086 communicates with the 5000 CRT controller.

### BURN-IN 5086 - 256K CPU BOARD

Connect the 5086 board to a 5086 burn-in test system.

#### HARDWARE MONITOR

86>L 0 1 [RET]

Get a hardware (prom) monitor. to run long memory test. It will take about 1 day.

L MEM TEST ERROR  
(GIVE ERROR SHOWN)  
(GIVE LENGTH OF TIME BOARD WAS TESTING)

TEST FINISHED

TEST FINISHED

When TEST FINISHED scrolls on screen, L test is finished.

86>D4A0 [RET]

Press [RET] to stop test. to display location 4A0. Check for parity or memory errors.

4A2 and 4A3 should be 00 00.

51B and 51C should be 00 00.

L TEST OFFSET ERROR  
(GIVE NUMBERS SHOWN)  
L TEST SEGMENT ERROR  
(GIVE NUMBERS SHOWN)

86>B [RET]

NAME=>U1 [RET]

PASSWORD=> [RET]

Boot network. Log-in name may vary. Use a different log-in name for each user being tested. User serial number may need to be put the machine table.

A>SUBMIT W [RET]

to run network test. Test 3 hours.

NET ERRORS  
(GIVE INFORMATION SHOWN ON SCREEN)

If board passed burn-in, turn off power, disconnect board and put green rectangular "PASSED #" sticker on board and send to the stockroom.

FOX CRT CONTROLLER BOARD  
REV 1.4  
84-5600

Connectors:

J1 to 501 CPU or Fox CPU.  
J1 to monitor CRT board.  
P1 to power supply.

PRETEST FOX CRT CONTROLLER

ON SCREEN	EXPLANATION	ERROR CODE
	<p>Before testing boards, run BRIDE program using a known good board to check for proper program functioning. Notice CRT screen operations and listen to speaker sounds.</p>	
	<p>Connect Fox CRT controller board and turn on power. Does the screen look normal?</p>	ALL WHITE SCREEN
A) BRIDE [RET]	<p>Boot floppy diskette with BRIDE program on diskette as shown on Fox CPU test procedures. Make sure that video is working right. Listen for correct speaker tones.</p>	<p>NO VIDEO TO DIM LINES ON SCREEN REVERSE VIDEO BAD (DESCRIBE PROBLEM)</p>
[RST]	<p>Reset system to stop program. You may need to turn power off to make the screen go back to normal operation.</p> <p>Be sure to open floppy drive door before turning power on or off.</p> <p>If board passed all tests, turn off power, put round colored sticker with your initials, date and "OK" on sticker and proceed to burn-in.</p>	

BURN-IN FOX CRT CONTROLLER

Burn-in is done in final test.

FOX CPU BOARD  
ZSBC 3.31  
84-7305

Connectors:

- J1 to DB25 I/O board serial port connectors.
- J2 to floppy disk drive.
- J3 to parallel printer. J4 is known as the parallel port. To make it work assign P Port F.
- J4 to Fox CRT controller board.
- J5 to master HiNet cable for booting the network.
- J6 to power supply.

Jumper blocks:

<pre> JP11 :      :       JP1 .      . [:]    [:] JP2    JP3         </pre>	<pre> JP11 :      :       JP1 [:]    [:] JP2    JP3         </pre>
<p>Jumper locations at JP2 and JP3 for booting the network.</p>	<p>Jumper locations at JP2 and JP3 for testing RS232 and modem ports.</p>

JP4 and JP5 determine how the Fox CPU will start (auto boot) when power is applied.  
 Jumper blocks JP4 off and JP5 off, CPU will attempt boot from floppy drive A.  
 JP4 on and JP5 off, CPU will attempt boot from the network.  
 JP4 off and JP5 on, is not used because there is no harddisk.

Get the PROM MONITOR by holding in the INT (interrupt) switch while pressing in and letting go of the RST (reset) switch.

PRETEST FOX CPU

ON SCREEN	EXPLANATION	ERROR CODE
PROM MONITOR :T800 93EF [RET] ..... [RET]	communicating with prom. testing memory locations 800-93EF. should appear on screen. to stop test.	NO PM T TEST ERROR
:T9400 FFFF [RET] .....	testing memory locations 9400-FFFF. should appear on screen.	T TEST ERROR
PROM MONITOR :BN Name:U1 Password:[RET] A>DIR	go back to the prom monitor. boot network. log-in name may be different. check directory on screen.	WON'T ACCEPT NAME
PROM MONITOR :BF A>DIR [RET]	go back to the prom monitor. boot floppy drive. check directory on screen.	NO BF
A>	Press int (interrupt) switch to get another A) (prompt) on screen.	NO INTERRUPT

If board passed all tests, turn off power, put round colored sticker with your initials, date and "OK" on sticker and proceed to burn-in.

Format and FD testing is done in final test.  
RS232, called emulate, is done in final test.  
Parallel port test is done during burn-in.

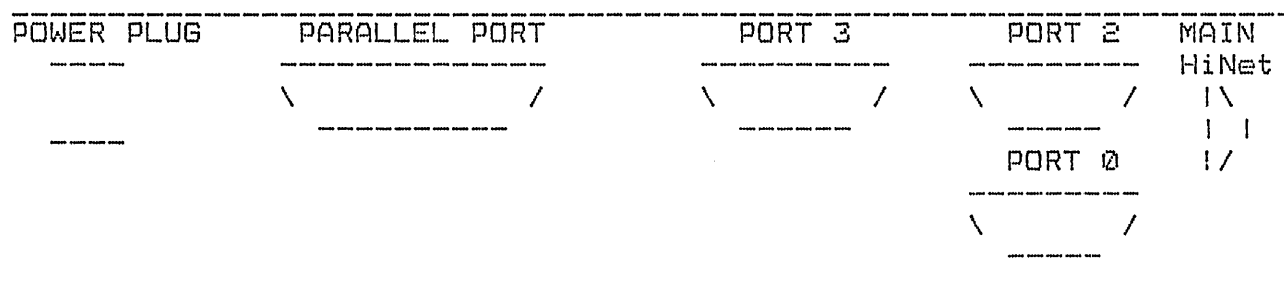
#### BURN-IN FOX CPU

Burn-in is done on the burn-in racks.

HNS-86 - 512K CPU BOARD

84-8601

BACK PANEL HNS-86 CHASSIS



Four rows of memory IC's, row 0 and row 1, row 2, and row 3.  
 The HNS-86 is tested in an HNS chassis or with an HNS chassis back panel.

Connectors to HNS-86 CPU board:

Chassis back panel 50 pin ribbon cable is divided into two sections.

26 pin section goes to J4.

34 pin section goes to J6.

Power supply goes to the power connector on the board.

Back panel connectors:

Power cord to power plug.

Parallel printer cable to parallel port.

Serial cable from external terminal to port 0.

HiNet cable to main HiNet port.

Jumper blocks:

JPF and JPG off to boot through the serial port to an external terminal.

Get the HARDWARE MONITOR by holding in the INT (interrupt) switch while pressing in and letting go of the RST (reset) switch.

PRETEST HNS-86 - 512K CPU BOARD

ON SCREEN	EXPLANATION	ERROR CODE
HARDWARE MONITOR	Get hardware (prom) monitor.	NO PM
86>M0 800 7000 FFFF [RET]	to run M memory test.	
Errors sent to console?		
Y		
Test to repeat?		
N		
00	Test for 0A passes.	M MEM TEST ERRORS
NMI INTERRUPT	Press up on INT (interrupt) to stop M test.	NO INT
86>L 0 [RET]	Run L memory test on row 0 for 1 minute.	ROW 0 L MEM TEST ERROR

NMI INTERRUPT	Press INT (interupt) switch to stop L test.	
86>L 1 [RET]	Run L memory test on row 1 for 1 minute.	ROW 1 L MEM TEST ERROR
NMI INTERRUPT	Press INT (interupt) switch to stop L test.	
86>L 2 [RET]	Run L memory test on row 2 for 1 minute.	ROW 2 L MEM TEST ERROR
NMI INTERRUPT	Press INT (interupt) switch to stop test.	
86>L 3 [RET]	Run L memory test on row 3 for 1 minute.	ROW 3 L MEM TEST ERROR
NMI INTERRUPT	Press INT (interupt) switch to stop test.	
86>B [RET]	to boot network.	NO BN
NAME=>U86 [RET]	User name may be different.	
PASSWORD=> [RET]	User serial number may need to be put in the machine table.	
A>DIR [RET]	Check for good directory listing.	
A>CRUN86 SER8086 [RET]	to test RS232 and modem signals. Follow instructions on SERIAL PORTS TESTS sheet.	S PORT 0 BAD S PORT 2 BAD S PORT 3 BAD CHANNEL 1 BAD CHANNEL 2 BAD
[CTRL] P	to turn on parallel printer port.	
A>DIR [RET]	You should see the directory print on screen and on the printer paper.	P PORT BAD
[CTRL] P	to turn off parallel printer port.	
	If board passed all tests, turn off power, put round colored sticker with your initials, date and "OK" on sticker and proceed to burn-in.	

#### BURN-IN HNS-86 - 512K CPU BOARD

Burn-in is done on the rack after the HNS-86 CPU board is put into a chassis, so return boards to the stockroom.



## HNS-86 CPU MEMORY DAUGHTER BOARD

84-9072

The HNS-86 memory daughter board is plugged into the top of the HNS-86 CPU board. Put paper or bubble plastic between daughter board and CPU mother board to protect daughter board from shorting to the CPU mother board.

Get the HARDWARE MONITOR by holding in the INT (interrupt) switch while pressing in and letting go of the RST (reset) switch.

### PRETEST HNS-86 MEMORY DAUGHTER BOARD

ON SCREEN	EXPLANATION	ERROR CODE
HARDWARE MONITOR 86>M8000 0 E000 FFFF	Get hardware (prom) monitor. to run M memory test.	NO PM
Errors sent to console? Y Test to repeat? N 00	Test to 0A passes.	
NMI INTERRUPT	Press up on INT (interrupt) to stop M test.	NO INT
86>B [RET] Name=>U86 [RET] PASSWORD=> [RET] A>DIR [RET]	to boot network. User name may be different. User serial number may need to be put in the machine table. Check for good directory listing.	NO BN
	If board passed all tests, turn off power, put round colored sticker with your initials, date and "OK" on sticker and proceed to burn-in.	

### BURN-IN HNS-86 MEMORY DAUGHTER BOARD

Burn-in is done on the rack after the HNS-86 CPU board is put into a chassis, so return boards to the stockroom.

## 5086 CPU MEMORY DAUGHTER BOARD

84-9075

The 5086 memory daughter board is plugged into the bottom of the 5086 CPU board. Put paper or bubble plastic between daughter board and CPU mother board to protect daughter board from shorting to the CPU mother board.

Get the HARDWARE MONITOR by pressing down on RST (reset) toggle switch on the 5000 CRT controller board, then pressing up on INT (interrupt) toggle switch.

### PRETEST 5086 MEMORY DAUGHTER BOARD

ON SCREEN	EXPLANATION	ERROR CODE
-----------	-------------	------------

HARDWARE MONITOR 86>M8000 0 E000 FFFF	Get hardware (prom) monitor. to run M memory test.	NO PM
--	---	-------

Errors sent to console?

Y

Test to repeat?

N

00	Test to 0A passes.	
----	--------------------	--

NMI INTERRUPT	Press up on INT (interrupt) to stop M test.	NO INT
---------------	--	--------

86>B [RET] Name=>U5086 [RET] PASSWORD=> [RET] A>DIR [RET]	to boot network. User name may be different. User serial number may need to be put in the machine table. Check for good directory listing.	NO BN
--	--	-------

If board passed all tests, turn off power, put round colored sticker with your initials, date and "OK" on sticker and proceed to burn-in.

### BURN-IN 5086 MEMORY DAUGHTER BOARD

Connect the 5086 memory daughter board using an insulation between the CPU and memory daughter board to a 5086 burn-in test system.

HARDWARE MONITOR 86>L 4 7 [RET]	Get a hardware (prom) monitor. to run long memory test. It will take about 2 days.	L MEM TEST ERROR (GIVE ERROR SHOWN) (GIVE LENGTH OF TIME BOARD WAS TESTING)
------------------------------------	--	--

TEST FINISHED TEST FINISHED	When TEST FINISHED scrolls on screen, L test is finished.	
--------------------------------	--	--

86>D4A0 [RET]

Press [RET] to stop test.  
to display location 4A0.  
Check for parity or memory errors.

4A2 and 4A3 should be 00 00.

L TEST OFFSET ERROR  
(GIVE NUMBERS SHOWN)

51B and 51C should be 00 00.

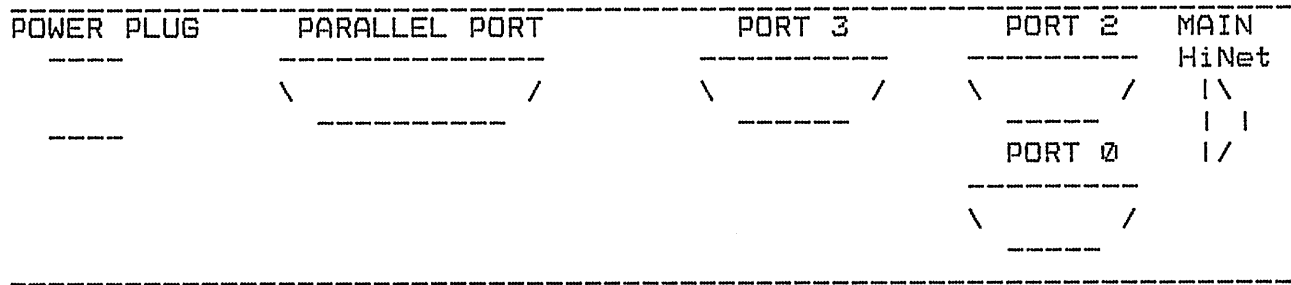
L TEST SEGMENT ERROR  
(GIVE NUMBERS SHOWN)

If board passed burn-in, turn off  
power, disconnect board and put  
green rectangular "PASSED #" sticker  
on board and send to the stockroom.

HNS-86 - 256K CPU BOARD

84-9076

BACK PANEL HNS-86 CHASSIS



Two rows of memory IC's, row 0 and row 1.  
 The HNS-86 is tested in an HNS chassis or with an HNS chassis back panel.

Connectors to HNS-86 CPU board:  
 Chassis back panel 50 pin ribbon cable is divided into two sections.  
 26 pin section goes to J4.  
 34 pin section goes to J6.  
 Power supply goes to the power connector on the board.

Back panel connectors:  
 Power cord to power plug.  
 Parallel printer cable to parallel port.  
 Serial cable from external terminal to port 0.  
 HiNet cable to main HiNet port.

Jumper blocks:  
 JPF and JPG off to boot through the serial port to an external terminal.

Get the HARDWARE MONITOR by holding in the INT (interrupt) switch while pressing in and letting go of the RST (reset) switch.

PRETEST HNS-86 - 256K CPU BOARD

ON SCREEN	EXPLANATION	ERROR CODE
HARDWARE MONITOR 86)M0 800 3000 FFFF [RET]	Get hardware (prom) monitor. to run M memory test.	NO PM
Errors sent to console? Y		
Test to repeat? N		
00	Test for 0A passes.	M MEM TEST ERRORS
NMI INTERRUPT	Press up on INT (interrupt) to stop M test.	NO INT
86)L 0 [RET]	Run L memory test on row 0 for 1 minute.	ROW 0 L MEM TEST ERROR

NMI INTERRUPT	Press INT (interupt) switch to stop L test.	
86>L 1 [RET]	Run L memory test on row 1 for 1 minute.	ROW 1 L MEM TEST ERROR
NMI INTERRUPT	Press INT (interupt) switch to stop L test.	
86>B [RET]	to boot network.	NO BN
NAME=>U86 [RET]	User name may be different.	
PASSWORD=> [RET]	User serial number may need to be put in the machine table.	
A>DIR [RET]	Check for good directory listing.	
A>CRUN86 SER8086 [RET]	to test RS232 and modem signals. Follow instructions on SERIAL PORTS TESTS sheet.	S PORT 0 BAD S PORT 2 BAD S PORT 3 BAD CHANNEL 1 BAD CHANNEL 2 BAD
[CTRL] P	to turn on parallel printer port.	
A>DIR [RET]	You should see the directory print on screen and on the printer paper.	P PORT BAD
[CTRL] P	to turn off parallel printer port.	
	If board passed all tests, turn off power, put round colored sticker with your initials, date and "OK" on sticker and proceed to burn-in.	

#### BURN-IN HNS-86 - 256K CPU BOARD

Burn-in is done on the rack after the HNS-86 CPU board is put into a chassis, so return boards to the stockroom.

5086 - 512K CPU BOARD

84-9079

Four rows of memory IC's, row 0, row 1, row 2, and row 3.

Connectors:

J4 (26 pin) to G18 on 5000 CRT controller.

J6 (34 pin) to G9 on 5000 CRT controller.

Power connector to power supply.

Jumper blocks:

JPF and JPG on to boot through the parallel port to the 5000 CRT controller.

Get the HARDWARE MONITOR by pressing down on RST (reset) toggle switch on the 5000 CRT controller board, then pressing up on INT (interrupt) toggle switch.

PRETEST 5086 - 512K CPU BOARD

ON SCREEN	EXPLANATION	ERROR CODE
HARDWARE MONITOR 86>M0 800 7000 FFFF [RET]	Get hardware (prom) monitor. to run M memory test.	NO PM
Errors sent to console? Y		
Test to repeat? N		
00	Test for 0A passes.	M MEM TEST ERRORS
NMI INTERRUPT	Press up on INT (interrupt) to stop M test.	NO INT
86>L 0 [RET]	Run L memory test on row 0 for 1 minute.	ROW 0 L MEM TEST ERROR
NMI INTERRUPT	Press INT (interrupt) switch to stop L test.	
86>L 1 [RET]	Run L memory test on row 1 for 1 minute.	ROW 1 L MEM TEST ERROR
NMI INTERRUPT	Press INT (interrupt) switch to stop L test.	
86>L 2 [RET]	Run L memory test on row 2 for 1 minute.	ROW 2 L MEM TEST ERROR
NMI INTERRUPT	Press INT (interrupt) switch to stop test.	
86>L 3 [RET]	Run L memory test on row 3 for 1 minute.	ROW 3 L MEM TEST ERROR
NMI INTERRUPT	Press INT (interrupt) switch to stop test.	
86>B [RET]	to boot network.	NO BN
NAME=>US086 [RET]	User name may be different.	
PASSWORD=> [RET]	User serial number may need to be put in the machine table.	

A) DIR [RET] Check for good directory listing.

A) CRUN86 SER8086 [RET] to test RS232 and modem signals.  
Follow instructions on SERIAL  
PORTS TESTS sheet.

S PORT 0 BAD  
S PORT 2 BAD  
S PORT 3 BAD  
CHANNEL 1 BAD  
CHANNEL 2 BAD

If board passed all tests, turn off power, put round colored sticker with your initials, date and "OK" on sticker and proceed to burn-in.

The parallel port is tested when 5086 communicates with the 5000 CRT controller.

### BURN-IN 5086 - 512K CPU BOARD

Connect the 5086 board to a 5086 burn-in test system.

HARDWARE MONITOR  
86) L 0 3 [RET]

Get a hardware (prom) monitor to run long memory test. It will take about 2 days.

L MEM TEST ERROR  
(GIVE ERROR SHOWN)  
(GIVE LENGTH OF TIME BOARD WAS TESTING)

TEST FINISHED  
TEST FINISHED

When TEST FINISHED scrolls on screen, L test is finished.

86) D4A0 [RET]

Press [RET] to stop test to display location 4A0. Check for parity or memory errors.

4A2 and 4A3 should be 00 00.

51B and 51C should be 00 00.

L TEST OFFSET ERROR  
(GIVE NUMBERS SHOWN)  
L TEST SEGMENT ERROR  
(GIVE NUMBERS SHOWN)

86) B [RET]  
NAME=> U1 [RET]  
PASSWORD=> [RET]

Boot network. Log-in name may vary. Use a different log-in name for each user being tested. User serial number may need to be put the machine table.

A) SUBMIT W [RET]

to run network test. Test 3 hours.

NET ERRORS  
(GIVE INFORMATION SHOWN ON SCREEN)

If board passed burn-in, turn off power, disconnect board and put green rectangular "PASSED #" sticker on board and send to the stockroom.

HARD DISK CONTROLLER BOARD  
HDC 1.5  
84-9084

HDC is tested in a DMS 3 single hard disk system. Please note the size of the hard disk drive.

Connectors:

P1h to J3 on CPU board.

P1d to hard disk drive.

P2 to power supply.

Jumper block beside RD8: on for single hard disk drive.  
off for multiple hard disk drive.

Notes about HARDHELP version 4.00:

G100 [RET] shows menu for programs in hardhelp.

S [RET] shows status of test being run.

R[RET] stops test being run and returns to hardhelp.

G104 [RET] shows locations of buffers.

Dxxxx [RET] will display contents of buffer. For example

D6000 [RET] will display contents of the error buffer.

G16C [RET] shows error number descriptions.

WAIT ABOUT 30 SECONDS AFTER POWER IS APPLIED TO BOARD BEFORE PROCEEDING.

Put the diskette with the latest version of hardhelp 4.0 in the floppy drive.  
Boot floppy.

PRETEST HDC 1.5

ON SCREEN	EXPLANATION	ERROR CODE
A>ZDTI HARDHELP.COM [RET]	to load test program.	
-G [RET]		TIMED OUT
ENTER 0,1,2,OR 3 - 0	to access diagnostic routines.	
-G130 [RET]	to test CPU to HDC interface.	G130 ERRORS
00	Errors are indicated if many numbers	
\$\$\$\$	scroll down the screen. Run test a	
	minute or so.	
R	to stop test.	
-G134 [RET]	to test HDC memory.	G134 ERRORS
OKOKOKOK	Errors will scroll on screen.	
	Run test a minute or so.	
R	to stop test.	
-G10C [RET]	to read one track. Look at last	G10C _____
	byte. It should be 00 to indicate	(PUT CONTENTS
	no error on read.	OF LAST BYTE IN
	This also shows if the board can	SPACE.)
	read what the last board wrote.	
	If several boards fail in the same	



way, put on a known good board.  
If it also fails, the board that  
last wrote to the drive is bad.  
If so, reformat the drive with the  
known good board and retest the  
boards that failed due to the bad  
data written.

-G114 [RET] to read all tracks.

ENTER VOLUME TO SELECT (0-3):0  
ENTER NUMBER OF TRACKS, CR FOR DEFAULT: [RET]  
ERROR CORRECTION (Y OR N):N  
00

If no errors, all tracks will be  
read, about 10 minutes.  
"S" shows status, "R" stops test.

G114 ERROR \_\_\_\_

-G158 [RET]

to check for bad sectors in the  
bad sector table. If so make a note  
them so that they can be reloaded  
after a [CTRL] X format.

VOLUME TO SELECT:0  
DEFECTIVE SECTORS  
TRACK, HEAD, SECTOR  
XX XX XX

Make a note of numbers in these  
columns.

TRACK - FF [RET]

to go back to hardhelp.

-G118 [RET]

to format drive.

ENTER VOLUME SIZE - 4

if hard disk drive is 46 meg.

ENTER VOLUME TO BOOT:0

DO YOU WISH TO CONTINUE? [CTRL] X

Hold down the control key while  
pressing the X key. This will  
cause the bad sector table and  
firmware to be lost, so they must  
be reloaded after format.

ENTER NUMBER OF TRACKS: [RET]

to format entire disk.

G118 ERROR \_\_\_\_

-G12C [RET]

to load the firmware.

ENTER VOLUME TO BOOT:0

ENTER VOLUME SIZE - 4

if 46 megabyte drive

ENTER VOLUME LABEL: VOL 0 [RET]

INFO FOR 00:... LABEL: VOL 0

Check for correct label.

WON'T LOAD FIRMWARE

Do not do the following step G158  
if there are no bad track, head,  
and sectors on the hard disk drive.

-G158 [RET]

Reload bad sector table if  
needed.

ENTER VOLUME TO SELECT:0

TRACK - xx Add bad track number in xx spot.  
HEAD - xx Add bad head number in xx spot.  
SECTOR - xx Add bad sector number in xx spot.

When all bad data has been entered type FF to stop. Note that mistakes cannot be erased. If a mistake is made clear the whole table and reload.

-G148 [RET] to check error correction.

ENTER VOLUME TO SELECT:0

XX XX XX XX XX XX XX 00 NO ERROR CORRECTION  
XX XX XX XX XX XX XX 00  
XX XX XX XX XX XX XX 40

The last byte of the last row should show a 40 error to indicate that an error was created. The other two rows should end in 00 to indicate that the correction was made.

If board passed all tests, turn off power, put round colored sticker with your initials, date and "OK" on sticker and proceed to burn-in.

### BURN-IN HDC 1.5

-G120 [RET] to do the entire disk read/write test.

DO YOU WISH TO CONTINUE? Y

ENTER VOLUME TO SELECT:0

ENTER NUMBER OF TRACKS:[RET]

USE ERROR CORRECTION:N

XX....

If errors occur they will scroll on screen.  
Run test until loop count is at least 8000, or about 2 hours.

G120 ERROR \_\_\_\_  
(IF ERRORS DO NOT OCCUR RIGHT AFTER TEST STARTS, INDICATE HOW LONG TEST RAN BEFORE ERRORS OCCURRED.)

S to get summary. Last byte should be 00 if no errors. If last byte is not 00 type D6000 [RET] to see errors after you stop test.

R to stop test.

[RET] Before turning off power, reset system so that the hard disk drive head will return to track 0.

If board passed burn-in, turn off power, disconnect board and put green rectangular "PASSED #" sticker on board and send to the stockroom.

DMS 501 CPU BOARD  
ZSBC 3.31  
84-9088

Connectors:

- J1 to DB25 I/O board serial port connectors.
- J2 to floppy disk drive.
- J3 to hard disk drive.
- J4 to CRT controller.
- J5 to master HiNet cable for booting the network.
- J6 to power supply.

If J3 is not connected to the harddisk drive, the 501 will not be able to boot the network. However, with a good board the system will be able to boot the floppy drive if J3 is not connected.

Jumper blocks:

JP11 :        : JP1 .        . [:]    [:] JP2    JP3	Jumper locations at JP2 and JP3 for booting the network.	JP11 :        : JP1 [:]    [:] JP2    JP3	Jumper locations at JP2 and JP3 for for testing RS232 and modem ports.
---	--	---	---

JP4 and JP5 determine how the 501 CPU will start (auto boot) when power is applied.  
 Jumper blocks JP4 off and JP5 off, CPU will attempt boot from floppy drive.  
 JP4 on and JP5 off, CPU will attempt boot from the network.  
 JP4 off and JP5 on, CPU will attempt boot from the harddisk drive.

Get the PROM MONITOR by holding in the INT (interrupt) switch while pressing in and letting go of the RST (reset) switch.

PRETEST 501 CPU

ON SCREEN	EXPLANATION	ERROR CODE
PROM MONITOR	communicating with prom.	NO PM
:T800 93EF [RET]	testing memory locations 800-93EF.	T TEST ERROR
.....	should appear on screen.	
[RET]	to stop test.	
:T9400 FFFF [RET]	testing memory locations 9400-FFFF.	T TEST ERROR
.....	should appear on screen.	
:BH	boot harddisk drive.	NO BH
A>DIR [RET]	check directory on screen.	
PROM MONITOR	go back to the prom monitor.	
:BN	boot network.	
Name:U1	log-in name may be different.	WON'T ACCEPT
Password:[RET]		NAME
A>DIR	check directory on screen.	

PROM MONITOR  
:BF  
A>DIR [RET]

go back to the prom monitor.  
boot floppy drive.  
check directory on screen.

NO BF

A>

Press **int** (interupt) switch to  
get another A) (prompt) on screen.

NO INTERRUPT

If board passed all tests, turn off  
power, put round colored sticker  
with your initials, date and "OK" on  
sticker and proceed to burn-in.

Format and FD testing is done in final test.  
RS232, called emulate, is done in final test.  
Since the harddisk and the CRT controller use the parallel ports, there is no  
parallel printer port available.

#### BURN-IN 501 CPU

Burn-in is done on burn-in racks.