

**XEROX**



**Diagnostics**

# **Dove Boot Diagnostics User's Manual**

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**Version 1.B  
10 February 1986**

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## Introduction

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This document describes how to run the Boot diagnostic program. This diagnostic is used in the boot sequences from the rigid disk, the floppy disk and the ethernet. The Boot diagnostics provide a comprehensive set of tests for all resources necessary to load the operational software. Boot diagnostics include a test of all data paths, the primitive functions needed for Mesa operation, and controller electronics. Critical errors (i.e., those that would prevent the operational software from running) encountered in Boot diagnostics are indicated on the Maintenance Panel with isolation to the field replaceable units (FRUs) tested by Boot diagnostics.

### 1.1 Basic Diagnostic Description

The Boot diagnostic is divided into nine files: **Boot4, Boot5, Boot6, Boot7, Boot8, Boot9, Boot11, Boot12.**

Each Boot diagnostic test is totally controlled by a set of 11 parameters each a word in length. Each word and its purpose are described in the **Control Blocks and MP Fault Codes** section of this document.

### 1.2 Extended Diagnostic Description

The Extended diagnostics are divided into eight files: **Memory, Ethernet, Floppy, RS232, PCE, Disk, Printer and a System Test.**

Each EI-diagnostic test is totally controlled by a set or sets parameters each a word in length. Each word and its purpose are described in the **Control Blocks and MP Fault Codes** section of this document.

**Changing the parameter set of any test will alter the execution of that test. In changing the parameters of a test, the tech spec can create the exact test sequence desired.**



## **References**

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### **2.1 Mandatory**

[1]

### **2.2 Informational**

[2]



## User Interface

The user interface for the Dove Boot diagnostics includes a means of transmitting error and status information. The error and status information are available through the IOP Maintenance Panel, UART Maintenance Panel and the Cursor.

### [TEMP] Burdock Im's

MoonF4.lm ---DaisyCS Test  
 MoonF4d.lm ---Daybreak IOP Map Reg Test and CS Test  
 MoonF5.lm ---Daisy CP Test  
 MoonF6.lm ---Daisy CP Test  
 MoonF7.lm ---Daisy CP Test  
 MoonF8D.lm --- Daybreak CP Test  
 MoonF9D.lm ---Daybreak CP Test  
 MoonF10.lm ---Daisy Memory Test  
 MoonF10d.lm ---Daybreak Memory Test  
 MoonF11D.lm ---Daybreak CP, Memory Interface  
 MoonF12.lm ---Daisy CP and Memory Interface Test  
 MoonF13D.lm --- Daybreak Ethernet Test  
 MoonF14D.lm --- Daybreak Floppy Test  
 MoonF15D.lm --- Daybreak RS232 Test  
 MoonF16.lm ---Daisy System Test  
 MoonF16d.lm ---Daybreak SystemTest  
 MoonF17D.lm --- Daybreak DiskTest  
 MoonF18D.lm --- Daybreak PCETest  
 MoonF19D.lm --- Daybreak Printer Test

### 3.1 Booting from the Rigid Disk

Push the Boot Buton and Then push Function Key Number Five. Once for a Short and Twice for a Long Diagnostic Boot. Typing the "*STOP*" key while the boot diagnostics are running will bring you into the Boot monitor input mode.

### 3.2 Booting from the Floppy Disk

Push the Boot Buton and Then push Function Key Number Six. Once for a Short and Twice for a Long Diagnostic Boot. Typing the "*STOP*" key while the boot diagnostics are running will bring you into the Boot monitor input mode.

### 3.3 Booting from the Ethernet

Push the Boot Buton and Then push Function Key Number Seven. Once for a Short and Twice for a Long Diagnostic Boot. Typing the "*STOP*" key while the boot diagnostics are running will bring you into the Boot monitor input mode..

### 3.4 Output to the User

All output from these diagnostics is handled via the Maintenance Panel (MP). The numbers displayed by the Boot diagnostics in the Maintenance Panel range from **XX00** through **XX99**. (See section 4 below for a more complete description of the Boot MP Codes.)

Numbers are posted prior to the running of the tests to indicate that a particular test is running. When an error occurs, the Maintenance Panel is updated with the error output sequence to indicate the presence of the error. (See **4.0 Error Sequence**.)

### 3.5 User Input

All inputs to the boot diagnostics user interface ("monitor") are via keyboard. If the Maintenance Panel displays the code **"XX99"**, you can select which input(s) to type. The choices are:

- "I"** Reload Mesa control store and run test stream.(Start tests from beginning.)
- "S"** Specify the test stream. See the **"Specify Test Sequence"** section of the **Appendices** for further information.
- "T"** Display for updating the test stream. See the **"Test Stream"** section of the **Appendices** for further information.
- "F"** Boot File stream. See the **"Bootting File Streams"** section of the **Appendices** for further information.

The following keys are always active:

If the Maintenance Panel displays an error sequence you can select what to do next.

The choices are:

Program Control:

- "STOP"** Stop testing, break alag, truncate file stream , UnTelescope CP and enter MONITOR Input Mode .
- "SKIP/NEXT"** Skip to next test in the stream .
- "L"** Set/Reset loop on current test
- "N"** Set/Reset loop on the test stream.
- "O"** Set/Reset exit error loop after displaying each error once.
- "E"** Display for updating or control. See the **"Editor Sequence"** section of the **Appendices** for further information.
- "Z"** Telescope current CP Test into a smaller test . See the **"Telescope Sequence"** section of the **Appendices** for further information.
- "R"** Display the F.R.U. Change List .See the **"F.R.U. Report"** section of the **Appendices** for further information.
- "Q"** Analyze a Memory error and build a Chip Failure log. The Log can be Read with the Editor Sequence .
- "M"** Swap the between the Top and Bottom Border

The following keys are used by the Test Stream, Editor and the Accumulator Sequence:

- <CR>** Used by Accumulator Sequence. See the **"Accumulator Sequence"** section of the **Appendices** for further information.
- <SP>** Used by Accumulator Sequence. See the **"Accumulator Sequence"** section of the **Appendices** for further information.
- "0" through "9"** Used by Accumulator Sequence. See the **"Accumulator Sequence"** section of the **Appendices** for further information.
- "A" through "F"** Used by Accumulator Sequence. See the **"Accumulator Sequence"** section of the **Appendices** for further information.



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## Error Sequence

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An error forces the program monitor to repeat the error sequence loop until notified by an input to continue. Type (o) or (skip/to/next) or (Z) or (stop) to exit error sequence.

**The error sequence is:**

1. Display the current test number.
2. Display the error code, stored in the "Fault" byte of the current Test Control Block. See the "**Control Blocks And MP Fault Codes**" section for further information.

**Note:** No further testing is done while in the "Error Sequence Loop". You must type some input to run or re-run a test.



# Test MP Codes

The following codes appear in the Maintenance Panel (MP) when the particular test is running

## 5.1 Boot File 4

<u>Test Index</u>	<u>MP Code</u>	<u>Description</u>
Index 0,	A400	DayBreak Display Vertical Event Interrupt
Index 1,	A401	DayBreak IOP/PCF Map Reg Test
Index 2,	A402	DayBreak Host Prom Test
Index 3,	A403	Daisy Shift Reg Test
Index 4,	A404	Dove CS, Constant data (0000) Test
Index 5,	A405	Dove CS, Constant data (FFFF) Test
Index 6,	A406	Dove CS, Constant data (AAAA) Test
Index 7,	A407	Dove CS, Constant data (5555) Test
Index 8,	A408	Dove CS, Address data Test
Index 9,	A409	Dove CS, Random data Test
Index A,	A40A	Dove CS, Bank Test

\*\*\*\*\*

## 5.2a Thru 5.8a Only IF Files Are Booted From Bermuda

### 5.2a Boot File 5

<u>Test Index</u>	<u>MP Code</u>	<u>Description</u>
Index 0,	B500	Daisy CP, Moonrise1
Index 1,	B501	Daisy CP, Moonrise1

### 5.3a Boot File 6

<u>Test Index</u>	<u>MP Code</u>	<u>Description</u>
Index 2,	B602	Daisy CP, Moonrise2
Index 3,	B603	Daisy CP, Moonrise3

**5.4a Boot File 7**

<u>Test Index</u>	<u>MP Code</u>	<u>Description</u>
Index 4,	B704	Daisy CP, Moonrise4
Index 5,	B705	Daisy CP, Moonrise5

**5.5a Boot File 12**

<u>Test Index</u>	<u>MP Code</u>	<u>Description</u>
Index 6,	BC06	Daisy CP, Moonrise6
Index 7,	BC07	Daisy CP, Memory Interface Moonrise7

**5.6a Boot File 8**

<u>Test Index</u>	<u>MP Code</u>	<u>Description</u>
Index 0,	B800	DayBreak CP, MoonBus
Index 1,	B801	DayBreak CP, MoonSun1
Index 2,	B802	DayBreak CP, MoonSun2

**5.7a Boot File 9**

<u>Test Index</u>	<u>MP Code</u>	<u>Description</u>
Index 3,	B903	DayBreak CP, MoonSun3
Index 4,	B904	DayBreak CP, MoonSun4
Index 5,	B905	DayBreak CP, MoonSun5

**5.8a Boot File 11**

<u>Test Index</u>	<u>MP Code</u>	<u>Description</u>
Index 6,	BB06	DayBreak CP, Real Time Clock ,MoonTime
Index 7,	BB07	DayBreak CP, Memory Interface ,MoonMR

\*\*\*\*\*

**5.2 Boot File 5**

<u>Test Index</u>	<u>MP Code</u>	<u>Description</u>
Index 0,	B500	DayBreak CP, MoonBus or Daisy CP, MoonriseI
Index 1,	B501	DayBreak CP, MoonSun1 or Daisy CP, Moonrise1
Index 2,	B502	DayBreak CP, MoonSun or Daisy CP, Moonrise2
Index 3,	B503	DayBreak CP, MoonSun3 or Daisy CP, Moonrise3
Index 4,	B504	DayBreak CP, MoonSun4 or Daisy CP, Moonrise4
Index 5,	B505	DayBreak CP, MoonSun or Daisy CP, Moonrise5
Index 6,	B506	DayBreak CP, Real Time Clock ,MoonTime or Daisy CP, Moonrise6
Index 7,	B507	DayBreak CP, Memory Interface ,MoonMR or Daisy CP, Mem Int, Moonrise7

### 5.9 Memory File 10

<u>Test Index</u>	<u>MP Code</u>	<u>Description</u>
Index 0,	CA00	[1 Pass Block Data = 0000 ,DISPLAY OFF, CP, Write only, ignor Parity Error]
Index 1,	CA01	[1 Pass Block Data = 0000 ,DISPLAY On, CP]
Index 2,	CA02	[1 Pass Block Data = FFFF ,DISPLAY On, CP]
Index 3,	CA03	[1 Pass Block Data = AAAA ,DISPLAY On, CP]
Index 4,	CA04	[1 Pass Block Data = 5555,DISPLAY On, CP]
Index 5,	CA05	[1 Pass Block Data = AAAA,DISPLAY On,IOP ]
Index 6,	CA06	[1 Pass Block Data = 5555,DISPLAY On,IOP ]
Index 7,	CA07	[128 Passes Inc Block Data = AAAA,DISPLAY On, CP]
Index 8,	CA08	[4 Passes Address Test ,DISPLAY On, CP]
Index 9,	CA09	[1 Pass Address Test ,DISPLAY On,IOP ]
Index A,	CA0A	[4 Passes Address Test ,DISPLAY On,IOP and CP]
Index B,	CA0B	[2 Passes Bank Test ,DISPLAY ON, CP]
Index C,	CA0C	[1 Pass Bank Test ,DISPLA Y ON,IOP ]
Index D,	CA0D	[2 Passes Bank Test ,DISPLAY ON,IOP and CP]
Index E,	CA0E	[128 Passes Random Data = ABCD,DISPLAY On, CP]
Index F,	CA0F	[2 Passes Random Data = ABCD,DISPLAY On,IOP and CP]
Index 10,	CA10	[128 Passes Random Data = 1234,DISPLAY On, CP]
Index 11,	CA11	[5 Passes Map Inc Data Type Inc Data = DCBA,DISPLAY On, CP]
Index 12,	CA12	[1 Pass Map Read only Data = E0BE,DISPLAY On, IOP ]
Index 13,	CA13	[5 Passes Map Inc Data Type Inc Data = 4321,DISPLAY On, IOP and CP]
Index 14,	CA14	[1 Pass Memory Size,DISPLA Y OFF,IOP and CP]

### 5.10 Ethernet File 13

<u>Test Index</u>	<u>MP Code</u>	<u>Description</u>
Index 0,	0D00	[1 Pass ,IA Set UP]
Index 1,	0D01	[1 Pass ,Configure,Dump Command]
Index 2,	0D02	[1 Pass ,Transmit With Recieve]
Index 3,	0D03	[1 Pass ,Transmit With Out Recieve]
Index 4,	0D04	[1 Pass ,Transmit With Recieve,interface loopback]
Index 5,	0D05	[1 Pass ,Transmit With Out Recieve,interface loopback]
Index 6,	0D06	[1 Pass ,Diagnose Command]
Index 7,	0D07	[1 Pass ,IA Set UP]
Index 8,	0D08	[1 Pass ,Configure,Dump Command]
Index 9,	0D09	[1 Pass ,Transmit With Recieve]
Index A,	0D0A	[1 Pass ,Transmit With Out Recieve]
Index B,	0D0B	[1 Pass ,Transmit With Recieve,interface loopback]
Index C,	0D0C	[1 Pass ,Transmit With Out Recieve,interface loopback]
Index D,	0D0D	[1 Pass ,Transmit With Recieve,( Connect to Net or Loopback Cable)]
Index E,	0D0E	[1 Pass ,Transmit With Out Recieve,( Connect to Net or Loopback Cable)]
Index F,	0D0F	[1 Pass ,Diagnose Command]
Index 10,	0D10	[1 Pass ,All Test ,Net Loopback,( Connect to Net or Loopback Cable)]

### 5.11 Floppy File 14

<u>Test Index</u>	<u>MP Code</u>	<u>Description</u>
Index 0,	0E00	[1 Pass,FDC NOConnection Test ]
Index 1,	0E01	[1 Pass ,Recalibrate]
Index 2,	0E02	[1 Pass ,Read ID]
Index 3,	0E03	[1 Pass ,Write ]
Index 4,	0E04	[1 Pass ,Read]
Index 5,	0E05	[1 Pass ,Write Deleted Data]
Index 6,	0E06	[1 Pass ,Read Deleted Data]

Index 7,	0E07	[1 Pass , FDC NOConnection Test]
Index 8,	0E08	[1 Pass ,Recalibrate]
Index 9,	0E09	[1 Pass ,Format]
Index A,	0E0A	[1 Pass ,Write ]
Index B,	0E0B	[1 Pass ,Read ]

### 5.12 RS232 File 15

<u>Test Index</u>	<u>MP Code</u>	<u>Description</u>
<b>TXA To RXB And TXB To RXA ( Connect RS232 Standard Cable As A Looback Cable )</b>		
Index 0,	0F00	[1 Pass,Async,Polling ]
Index 1,	0F01	[1 Pass,Async,Polling ]
Index 2,	0F02	[1 Pass,Async,Polling ]
Index 3,	0F03	[1 Pass,Async,Polling ]
Index 4,	0F04	[1 Pass,Async,Polling ]
Index 5,	0F05	[1 Pass,Async,Polling ]
Index 6,	0F06	[1 Pass,Async,Interrupts ]
Index 7,	0F07	[1 Pass,SDLC,Interrupts ]
Index 8,	0F08	[1 Pass,SDLC,Interrupts ]
Index 9,	0F09	[1 Pass,SDLC,Interrupts ]
<b>TXA To RXA ( Connect Dandelion Looback Cable )</b>		
Index A,	0F0A	[1 Pass,Async,Polling ]
Index B,	0F0B	[1 Pass,Async,Polling ]
Index C,	0F0C	[1 Pass,Async,Polling ]
Index D,	0F0D	[1 Pass,Async,Polling ]
Index E,	0F0E	[1 Pass,Async,Polling ]
Index F,	0F0F	[1 Pass,Async,Polling ]
Index 10,	0F10	[1 Pass,Async,Interrupts ]
Index 11,	0F11	[1 Pass,SDLC,Interrupts ]
Index 12,	0F12	[1 Pass,SDLC,Interrupts ]
Index 13,	0F13	[1 Pass,SDLC,Interrupts ]
<b>TXB To RXB ( Connect Dandelion Looback Cable )</b>		
Index 14,	0F14	[1 Pass,Async,Polling ]
Index 15,	0F15	[1 Pass,Async,Polling ]
Index 16,	0F16	[1 Pass,Async,Polling ]
Index 17,	0F17	[1 Pass,Async,Polling ]
Index 18,	0F18	[1 Pass,Async,Polling ]
Index 19,	0F19	[1 Pass,Async,Polling ]
Index 1A,	0F1A	[1 Pass,Async,Interrupts ]
Index 1B,	0F1B	[1 Pass,SDLC,Interrupts ]
Index 1C,	0F1C	[1 Pass,SDLC,Interrupts ]
Index 1D,	0F1D	[1 Pass,SDLC,Interrupts ]

### 5.13 System File 16

<u>Test Index</u>	<u>MP Code</u>	<u>Description</u>
Index 0,	1A00	[CP]
<b>( For The Following Tests Install A Scratch Floppy Disk And Connect A RS232 Standard Cable As A Looback Cable )</b>		
Index 1,	1A01	[DisplayVI, Floppy, Rs232 ,Ethernet ]
Index 2,	1A02	[ CP]
Index 3,	1A03	[ DisplayVI ,Ethernet,CP]
Index 4,	1A04	[ DisplayVI, Floppy, Rs232 ,Ethernet,CP]
Index 5,	1A05	[ DisplayVI, Flopp ,Ethernet,CP]

Index 6,	1A06	[ Floppy,CP]
Index 7,	1A07	[ Format Floppy]

### 5.14 Disk File 17

<u>Test Index</u>	<u>MP Code</u>	<u>Description</u>
Index 0,	1B00	[Fifo Test]
Index 1,	1B01	[Non-Destructive Disk Test ]
Index 2,	1B02	[Format Read Check]
Index 3,	1B03	[Write,Read Log]
Index 4,	1B04	[Full Format , Write,Read Log]
Index 5,	1B05	[Seek,Read Headers On Cyc 0]
Index 6,	1B06	[Seek,Read Headers On The Diagnostic Cyc ]
Index 7,	1B07	[Seek The Safe Landing Zone ]

### 5.15 PCE File 18

<u>Test Index</u>	<u>MP Code</u>	<u>Description</u>
Index 0,	1C00	[PCE Test]
Index 1,	1C01	[ PCE Test]
Index 2,	1C02	[ PCE Test]
Index 3,	1C03	[ PCE Test]
Index 4,	1C04	[ PCE Test]
Index 5,	1C05	[ PCE Test]
Index 6,	1C06	[ PCE Test]
Index 7,	1C07	[ PCE Test]
Index 8,	1C08	[ PCE Test]
Index 9,	1C09	[ PCE Test]
Index A,	1C0A	[ PCE Test]

### 5.16 Printer File 19

<u>Test Index</u>	<u>MP Code</u>	<u>Description</u>
Index 0,	1D00	[Mantaince Byte Test]
Index 1,	1D01	[Mantaince Word Test]
Index 2,	1D02	[Printer Byte Test]
Index 3,	1D03	[ Printer Word Test]
Index 4,	1D04	[ Fault Interrupt Test]



## Appendices

### 8.1 Sources

#### DAYBREAK SOURCES:

Filed:[UCLA]<Moonrise>Daybreak>Moon\*.CM Moon\*.DFN Moon\*.MC Moon\*.FT

#### DAISY SOURCES:

Filed:[UCLA]<Moonrise>Daisy>Moon\*.CM Moon\*.DFN Moon\*.MC Moon\*.FT

Load Moon Files and look at Moonrise.cm and moonrise1.cm to see how source binaries were made.

#### DOVE SOURCES:

Filed: [UCLA]<Moonrise>Daybreak>Moon\*.asm Moon\*.lm Moon\*.com  
Moon\*.def

Load Moon Files and look at Moon\*.com to see how Moonrise.db was made.

### 8.4 Editor Sequence

The Editor sequence spins the **MP** and waits for a second Key input

Type 0 to edit the current Test Control Block.

Type 1 to edit the Monitor Control Block.

Type 2 to edit the Monitor File Control Block .

Type 3 to edit the Monitor File Stream Control Block.

Type 4 to edit the SRam.

Type 5 to edit the Dram.

Type 6 to edit the CS.

Type 7 to Read and Write a Byte Port.

Type 8 to Read and Write a Word Port.

Type 9 to Read the current CS Address.

Type C to edit the Memory Configuration Word.

Type P to edit the EEPROM.

Type L to edit the Memory Analysis Chip Failure Log.

Type A to edit the Memory Analysis Address Failure Log.

[The **MP** will always Spin before showing an Index and will not spin on Data]

#### 8.4.0 Edit A Control Block.

1. Type the word address followed by a <CR>.
2. Type the word data followed by a <CR>.
3. Repeat steps 1 and 2 untill ready to exit.
4. Type <SP> or a <STOP> to exit.

#### 8.4.1 Edit SRAM.

1. Type the Segment Offset followed by a <CR>.
2. Type the byte address followed by a <CR>.
3. Type the byte data into lower byte followed by a <CR>.
4. Repeat steps 2 and 3 until ready to exit.
5. Type <SP> or a <STOP> to exit.

#### 8.4.2 Edit DRAM.

*This edit displays DRAM as the Mesa Processor sees it and expects memory addresses as the Mesa Processor would present. i.e. real BANK PAGE WORD.*

1. Type the Mesa Bank address followed by a <CR>.
2. Type the Mesa Page /Word address followed by a <CR>.
3. Type the word data followed by a <CR>.
4. Repeat steps 2 and 3 until ready to exit.
5. Type <SP> or a <STOP> to exit.

#### 8.4.3 Edit CS.

1. Type the CS word address followed by a <CR>.
2. Type a <CR>.
3. Type the word data for CS word Bits 48...32 followed by a <CR>.
4. Type a <CR>.
5. Type the word data for CS word Bits 31...16 followed by a <CR>.
6. Type a <CR>.
7. Type the word data for CS word Bits 15...0. **(On a Daybreak bits 3...0 are inverted)**
8. Type <SP> or a <STOP> to exit.

#### 8.4.4 Edit Byte Port.

1. Type the I/O port address followed by a <CR>.
2. Type the port data into lower byte followed by a <CR>.
3. Repeat steps 1 and 2 until ready to exit.
4. Type <SP> or a <STOP> to exit.

#### 8.4.5 Edit Word Port.

1. Type the I/O port address followed by a <CR>.
2. Type the port word data followed by a <CR>.
3. Repeat steps 1 and 2 until ready to exit.
4. Type <SP> or a <STOP> to exit.

#### 8.4.6 Read CS Address.

1. Observe the current CS address, Type a <CR>.
2. Repeat step 1 until ready to exit.
3. Type <SP> or a <STOP> to exit.

#### 8.4.7 Edit Memory Configuration Word.

Bits on in the Configuration Word are the 64K BANKS present.

- Bit 0 = 0 to 64k words
- Bit 1 = 64 to 128k words
- Bit 2 = 128 to 192k words
- Bit 3 = 192 to 256k words

E.C.T.

1. Type the data for the first 1024k words followed by a <CR>.
2. Type the data for the second 1024k words followed by a <CR>.

#### 8.4.8 Edit The EEPROM.

1. Type the word address followed by a <CR>.
2. Observe the word data followed by a <CR>.
3. Repeat steps 1 and 2 until ready to exit.
4. Type <SP> or a <STOP> to exit.

#### 8.4.9 Edit The Memory Analysis Chip Failure Log.

1. Observe the Memory Chip Failure , Type a <CR>. ( This is Bank/ Bit in Hex)
  2. Repeat step 1 until ready to exit . ( Will Exit When No More Errors To Report)
  3. Type <SP> or a <STOP> to exit.
- \* All Banks Are Reported In 64K Increments.

#### 8.4.9 Edit The Memory Analysis Address Failure Log.

1. Observe the Memory Chip Failure , Type a <CR>. ( This is Page/ Word in Hex for Data Failures and Port-Bank/Page For Parity Failures|
2. Repeat step 1 until ready to exit . ( Will Exit When No More Errors To Report)
3. Type <SP> or a <STOP> to exit.

### 8.5 Enter Test Stream

The Numbers entered must be legal for the current file and the last number of the stream must be greater or equal to the first number entered.

1. Type the Starting Test / Ending Test data followed by a <CR>.

### 8.8 Accumulator Sequence

The accumulator sequence displays the accumulator register and accepts inputs from "0" to "F" to change the data by hex values, displaying the new value after every change until a <CR> or a <SP> after which it will exit.

### 8.9 Specify Test Sequence

This is a means of selecting a pre-set test stream.

#### Boot Files

Type 0 and <CR> for tests in this file.  
Type desired test number in hex and a <CR> to run any test.

#### Memory File

Type 0 and <CR> Dove Short ALAG Memory test.  
Type 1 and <CR> Dove Long ALAG Memory test.  
Type 2 and <CR> Dove Compleat Memory test.  
Type 3 and <CR> IOP Only Memory Data test.  
Type 4 and <CR> IOP Only Memory Address test.  
Type 5 and <CR> IOP Only Memory Bank test.

#### Eithernet File

Type 0 and <CR> InternalEthernet test.  
Type 2 and <CR> ExternalEthernet test. (Connect to net or loopback cable)

**Floppy File**

Type 0 and <CR> Non -Destructive test.

**WARNING THE FOLLOWING WILL DESTROY YOUR FLOPPY DISK**

Type 8 and <CR> **Destructive** test on first seven cylinders. (Does not Format)

Type F and <CR> **Destructive** test on All cylinders. (Formats, Writes and Reads)

**RS232 File**

**For a TXA to RXB and a TXB to RXA** (Connect a Standard Rs232 Cable as a loopback cable)

Type 0 and <CR> Dove all test.

Type 1 and <CR> Dove Async test.

Type 2 and <CR> Dove SDLC test.

**For a TXA to RXA** (Connect a Dandelion Loopback Cable To The DTE Port)

Type 3 and <CR> Dove all test.

**For a TXB to RXB** (Connect a Dandelion Loopback Cable To The DCE Port)

Type 4 and <CR> Dove all test.

**PCE File**

Type 0 and <CR> To run all PCE Test One at a time.

Type F and <CR> To run all PCE Test with one TCB

**Disk File**

Type 0 and <CR> Non-Destructive FIFO Test

Type 1 and <CR> Non-Destructive Seek/Read Headers/Seek Safe Landing Zone

Type 2 and <CR> Non-Destructive Seek Safe Landing Zone

**WARNING THE FOLLOWING WILL DESTROY YOUR DISK**

Type E and <CR> **Destructive** Short Test

Type F and <CR> **Destructive** Long Test

**Printer File**

Type 0 and <CR> Maintance Test (Printer Need Not Be Connected).

Type 1 and <CR> Printer Test (Printer Must Be Connected).

Type 2 and <CR> Prom Error Interrupt Test (This will not work on all boards).

**System File**

Type 0 and <CR> Dove , Mesa Processor Test

**WARNING THE FOLLOWING WILL DESTROY YOUR FLOPPY DISK**

**Install Scratch Floppy Disk and Rs232 Standard Cable as a Loopback Cable**

Type 2 and <CR> Dove , DisplayVI, Floppy, Rs232, Ethernet, Mesa Processor Test

Type F and <CR> Dove , Floppy Test (Format, Write, Read on Cyl 0)

**8.10 Booting File Streams**

The File Stream sequence spins the MP and waits for a second Key input

Type A to Boot the Mesa Code.

Type B to Boot the Monitor and run the ALAG File Stream.

Type C to Boot the CS File Stream.

Type P to Boot the CP File Stream.

Type M to Boot the Memory File Stream .

Type D to Boot the Disk File Stream .

Type F to Boot the Floppy File Stream.

Type E to Boot the Eithernet File Stream .

Type R to Boot the RS232 File Stream .  
Type S to Boot the SystemFile Stream .  
Type U to Boot PCE File Stream .  
Type J to Boot Printer File Stream .

### 8.11 Telescope Sequence (Only applies to Dove Mesa Processor Tests)

Type Z , When the program ask for data, Type Starting Test Index into first Byte and Ending Test Index into second Byte, followed by a CR or SP. (See CP Test Indexes) If the First Index is zero then the program will automatically find the smallest amount of test loops needed to re-produce the error. If the test range is equal to One Test Loop then the MP will display Test Number / TestIndex , else it will contain Test Number / 01. "Loop on Test" and "Continue After Error "will be set and no error reports will be posted.

If the First Index is not zero then you will run from the first Test Loop to the Ending Test Loop. "Loop on Test "and "Continue After Error "will be set and Error Reports will be posted.

### 8.12 F.R.U. Report

Type R for F.R.U. List. Four Hex Numbers will be displayed. The MS Hex is the First F.R.U. that should be replaced and the LS Hex is the Last F.R.U. that should be replaced. Type "SP" to exit or to recieve Chip replacement data if any. For the Memory Test after the first "SP" the MP will have the 64K Word Bank that failed (XXXB). After the second "SP" the MP will have the Data bits that failed (DDDD).

The F.R.U.s are:

0 = IOP  
1 = MPB  
2 = DCM  
3 = MEB  
4 = PCE  
5 = OPTIONS  
6 = ETHERNET CONTROLLER  
7 = NET / TRANSCEIVER  
8 = HOST PROM  
9 = RIGID  
A = FLOPPY  
B = PRINTER  
C = TBD  
D = TBD  
E = POWER  
F = CABLES / CONNRCTIONS

## 8.10 Booting File Streams

The File Stream sequence spins the **MP** and waits for a second Key input

Type A to Boot the Mesa Code.

Type B to Boot the Monitor and run the ALAG File Stream.

Type C to Boot the CS File Stream.

Type P to Boot the CP File Stream.

Type M to Boot the Memory File Stream .

Type D to Boot the Disk File Stream .

Type F to Boot the Floppy File Stream.

Type E to Boot the Ethernet File Stream .

Type R to Boot the RS232 File Stream .

Type S to Boot the SystemFile Stream .

Type U to Boot PCE File Stream . ( Dummy RS232Program for now)

## 8.11 Telescope Sequence (Only applies to Dove Mesa Processor Tests)

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8 = HOST PROM

9 = RIGID

A = FLOPPY

B = TBD

C = TBD

D = TBD

E = POWER

F = CABLES / CONNRCTIONS