

6. EI Diagnostics

USE OF THE EI (EXTENDED ISOLATION) DIAGNOSTIC FLOPPY DISK.

The EI Diagnostics Floppy Disk is used to test and diagnose faults in the 1108 processor the tests are executed selectively and interactively by Xerox service personnel when troubleshooting problems with the Input/Output Processor, Memory Control and Storage Controller, the Central Processor, and the rigid disk.

However, you can load and execute these tests automatically by loading the EI Fixed Disk Diagnostics floppy and performing a 5-boot.

Diagnostics should be run when recovering from hardware errors, as indicated by error codes on the Maintenance Panel (MP). A list of these codes can be found at the end of this section.

The EI floppy can also be used to set the time on a stand-alone Xerox 1108.

ALT-5 AND ALT-2 BOOTS FROM THE EI DIAGNOSTIC FLOPPY DISK

ALAG

Performing an Alternate-5 Boot begins a series of tests known as ALAG (Automatic Load and Go). ALAG is initiated by inserting the EI floppy and performing the alternate 5-boot. ALAG cannot be initiated from the rigid disk. Total run time is about 4 minutes 15 seconds. When the system is loading the diagnostic program, the MP codes will be 0100 to 0299, 0500 to 0599, 0900 to 0990.

The 2-boot eliminates many of the tests run by ALAG and enters an interactive mode where the operator can select the tests to be run. This is especially useful when scanning the system for media defects (bad pages).

The sequence of automatic tests run by ALAG from the EI floppy is:

Pre-boot	5.0 seconds
Boot	46.5 seconds
Memory	1.3 minutes
Utility (Real time clock, etc)	2.0 seconds
Disk (index, seek, etc.)	14.5 seconds (29MB disk)
Disk fault analysis	1.2 minutes
Disk scavenger	1.0 seconds (if no problems found)
Media scan	27.0 seconds

If errors are found during PV Scavenger or Media Scan, the tests will run longer than the 4 minutes 15 seconds mentioned earlier.

During the Boot Diagnostics, the system attempts to set the time from a time server on a network. If your 1108 is a stand-alone system, this time service attempt will halt and the Maintenance Panel will flash code number 0322 alternating with 0002. Simply press the A Reset button to bypass 0322 and continue on to 0333. Booting will continue without further interruption, several more patterns will flash on the CRT, the Memory diagnostics will run for about one minute (0645 MP code) and the following messages will appear on the display:

(Stand Alone 1108 Only):

```

Locating Time Server. . .failed
Please enter local time parameters
Time zone offset from Greenwich (-12 -12):      (type -8 for PST, for example)
Minute offset:                                  (type carriage-return)
Day of DST (0-366):                             (carriage-return)
Last day of DST(0-366):                         (carriage-return)

```

The correct date and time are returned, and you're prompted:

```

Do you wish to change the time
  Confirm (Y/N):                               (usually N)

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System then responds with the following display, which appears immediately after Boot Diagnostics on systems with a network time server:

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nnMegabyte Storage Diagnostic Program 5.0
>Fault Analysis
MP Code:1n99
>PV Scavenger
No problems found
>Bad Page Utility
>Media Scan

0 Soft Errors
0 Hard Errors
>Test Bad Pages
No new pages
>Exit
>
Successful completion

```

The MP reads 1499 for successful completion of the 42 Megabyte Disk configuration, 1799 29 MB and 1199 for the 10 MB.

You may depress STOP during the tests (Fault Analysis, for example), if your sole purpose is to stop the Memory diagnostic test or time set and you wish to boot into Lisp.

Return to the last logout of Lisp from the EI diagnostics by typing Boot.

FAILURES IN ALAG

If ALAG fails during Boot, Utility or Disk tests, the MP will alternate between the fail number and an error code. Xerox Service Representatives will take appropriate action based on the meaning of these failures.

If ALAG fails during Memory test, the failing test number will remain on the MP while an error log is being built. Once the error log is completed, the MP goes to 0699, so if this number is on the MP, the Memory Diagnostic test has failed and your Xerox representative should be notified.

If your display reports the rigid disk error message "New Pages", make note of the page number and notify the Xerox service representative.

Other messages that can appear in the PV Scavenge area are:

Please reconstruct bad page table or irreparable damage--call the Xerox service office.

install software. Try reinstalling software before you call your 1100 Support office.

If you have to terminate ALAG before it is complete, press the STOP key on the righthand the keyboard.. Then press and B RESET key on the Maintenance Panel to return to normal operation.