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 Car
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 co
the Maintenance Panel (MP). A list of these codes can be found at the send of this sect

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 an
Go). ALAG is initiated by inserting the EI floppy and performing the alternate 5-boot.
cannot be initiated from the rigid disk. Total run time is about 4 minutes 15 seconds.
system is loading the diagnostic program, the MP codes will be 0100 to 0299, 0500 to 059
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 specially useful when scanning the
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 th
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
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 furt
interruption, several more patterns will flash on the CRT, the Memory diagnostics will r
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)

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

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 purpos
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 ba
the meaning of these failures.

If ALAG fails during Memory test, the failing test number will remain on the MP while an
log is being built. Once the error log is completed, the MP goes to 0699, so if this num
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
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.