

## 2. Basic Operations

### COMPONENTS

The Xerox 1108 is a compact, personal Interlisp-D workstation consisting of a processor, keyboard, mouse, floppy disk drive, and a rigid disk drive.

#### The Display

The display is a large format CRT (17" diagonal) with a high resolution bitmap (1024 pixels). Intensity is controlled by a lever under the left side of the screen. The display is tilted back and forth to maximize comfort and minimize glare.

#### The Keyboard

The keyboard consists of 78 keys, 24 of which are function keys. All 78 keys are unencumbered. The maximum distance between keyboard and processor is approximately 8 feet.

#### The Mouse

The mouse is one of three types: 2-button mechanical, 3-button mechanical, or 3-button optical. The middle key of the 2-button mouse is the CENTER key on the keyboard. If you have an optical mouse, use the specially designed grey, hexagon-patterned paper as a mouse pad. The mouse is attached to the keyboard with approximately 2 1/2 feet of thin cable.

#### The Processor

The processor houses a floppy disk drive, a 10 or 43 Megabyte rigid disk, and six printed circuit boards: the IO processor, Central processor, High Speed IO processor, Memory Storage, Memory Control, and the Options board. A serial port (RS232) is located in the rear of the processor. If a 29 Megabyte rigid disk is used, it is housed in a separate box.

#### The Rigid Disk

The rigid disk has 10, 29, or 42 Megabytes capacity. Depending on size, it is divided into one or more logical volumes. Each logical volume has a name and length. Instructions are provided for loading each volume with the appropriate software.

#### The Floppy Disk Drive

The floppy disk drive is located on the front of the processor.

To load a floppy disk:

1. Locate the floppy disk drive on your processor. If the door is not open, press the bar (with the circle in the center) immediately below the drive.
2. Floppy disks normally are labeled to indicate which side should go in and which side is facing up.
3. When the disk is fully into the drive, you will hear a click. When you release the door, the disk will pop out if it was not fully into the drive.

4. Press down on the door firmly to close it.

To Unload a floppy disk:

1. Make sure the red read/write light (circle in the center of the drive door bar) is illuminated.

2. Press the drive door bar.

3. Remove the disk and store it in its jacket.

When storing floppy disks, keep them away from magnets, dust, and heat. Do not bend them. Do not write on their labels with ball-point pens or pencils of any sort. Any of these damage the disk and prevent successful use of it.

#### Service considerations

To make sure the Xerox technical representative has enough room to access the display so position the display so that there is a total of 14 inches minimum on the sides. The should be positioned to provide access to the front panel of the unit. You will need access to the front panel to load floppy disks and to turn the processor on and off, or boot the system. Make sure there is sufficient air movement around the processor, so it is not damaged by the heat it produces. The back of the processor must be at least 6 inches from the wall. If possible, provide enough space around the processor for servicing by the Xerox technical representative. A minimum of 4 feet long by six feet wide, or an area that size in front of the processor so that it can be pulled out, is sufficient for servicing. The processor should be positioned in a permanent location. Bumping and jarring it hard enough, even when turned off, can destroy the magnetic heads on the media. If you must move the processor, take care not to suddenly jolt or bump it.

#### RS232

Two serial ports are available: a standard RS232 port and a TTY port, labeled Printer/DT. Xerox supplies a standard cable for the former; special cabling is required by the latter depending on the particular application. For a complete description of RS232 software support, please consult documentation for the RS232 Lisp Library package.

## OPERATIONS

### Turning on the Processor

Note: Wait at least three minutes if you decide to turn the processor on after turning

1. Pull down on the cover of the Maintenance Panel if the cover is closed.
2. Before turning the system on, simultaneously press both the B RESET and ALT B button the front panel and push the rocker switch to the 1 position. The maintenance panel will show the numbers 8888. Release the B RESET and ALT B key.

### Booting the Processor

The software delivered with your Xerox 1108 is bound into a runnable package called a boot file. The process of loading a boot file into the 1108 is called booting. Boot files may be on either the rigid disk or a floppy disk. Normally, the rigid disk is set up so that power-up of the processor resumes the last Interlisp-D session. If the rigid disk has not been properly set up, the only alternative is to boot from a Xerox-supplied bootable floppy.

Two types of booting are available on the Xerox 1108: normal booting and alternate booting. Normal booting assumes that Interlisp-D has been properly set up in a logical volume of the rigid disk. Alternate booting allows for booting of utility software from the rigid disk or a floppy disk.

If Interlisp-D is properly installed, a normal boot is performed by pressing and releasing the RESET (left) boot button. The maintenance panel will go blank and then display 8888 for a few seconds. A succession of maintenance panel codes will then be displayed during the boot sequence. The booting process completes with 0000 in the maintenance panel. Interlisp-D should be ready within about 10 seconds. If you ended a previous Interlisp-D session by logging out, a normal boot will resume that session. If you are running Interlisp-D for the first time, the most recently installed logical volume will be booted.

To perform an alternate boot, press both B RESET and ALT B buttons, then let go of B RESET. The maintenance panel will go blank, show 8888, then cycle slowly and repeatedly through the sequence 0000, 0001, ..., 0010. Release the ALT B button when the desired number is shown. The options are:

0000 Boot Interlisp-D from a logical volume on the rigid disk. Usually, the logical volume selected will be the one containing the most recently used Interlisp-D system; i.e., if you terminate an Interlisp-D session with LOGOUT, then 0-boot will resume that session from where you left off. However, if the most recent activity was installing a fresh Interlisp-D system on a logical volume, 0-boot will boot from that logical volume. (Note, to boot Interlisp-D from a logical volume, use the Install Lisp Tool.)

0001 Boot the 1108 into its base state. From this state it is possible to start utilities such as diagnostics, or a tool to install and start Interlisp-D on different logical volumes.

0002 Floppy boot (suppress diagnostics). Only specially configured Xerox floppies, such as the Installation Utility, or EI Fixed Disk Diagnostics, may be booted this way.

0005 Floppy boot (with diagnostics). This is identical to a 2-boot, except that machine diagnostics are run automatically before the floppy is booted.

0010 Floppy disk drive head cleaning function (see below.)

### Turning off the Processor

1. Make sure you are logged off and see the bouncing white square on your display.
2. Before you turn the system OFF, press both the B RESET and ALT B buttons on the workstation front panel and push the rocker switch to the 0 position. Continue to press B RESET and ALT B buttons for approximately 20 seconds, then release them. This procedure allows the disk to spin down properly.

## ROUTINE MAINTENANCE

### Cleaning the Floppy Disk Drive Heads

Once a month, or after every twentieth time that you use the floppy disk drive, you should clean the floppy disk drive heads.

If the magnetic heads are not kept clean, they can accumulate deposits that will cause slow and erasure of data on the disks while reading and writing.

Use the following procedure to clean the floppy disk drive heads with a Xerox head cleaning disk.

1. Remove the cleaning disk from its white jacket.
2. If you are using a disk that has not been used before, remove the perforated tab from the disk jacket.
3. Turn the head cleaning disk over and dispense about 1/2 teaspoon of the disk cleaning solution over the large cutout area.
4. Insert the head cleaning disk into the floppy disk drive with the perforated tab facing the front of the drive.
5. Do a 10-boot.
6. When the maintenance panel displays 0076, press the ALT B button. 0077 will be displayed for about 15 seconds while the drive is being cleaned, then 0076 will be displayed once again.
7. Press the floppy disk drive latch and remove the head-cleaning disk. Place an X in the appropriate usage box on the disk. When the disk has been used 13 times, it should be discarded.

Note: Head cleaning can also be performed by running diagnostics from the base state, selecting Floppy Disk Drive, and then selecting Clean Heads. Explicit prompting is supplied by the Clean Heads command.

### Cleaning the Mouse Pad, and Checking the Mouse

Brush or wipe the dust from the surface of the plastic mouse pad, since dust can interfere with the ball bearings of the two-button mouse, and the lens of the three-button mouse. Move the mouse in circles on the mouse pad and check the movement of the cursor on the display screen to make sure it is operating smoothly. If you see any hesitation in the movement of the cursor or feel the ball bearings rubbing (two-button mouse), it should be cleaned by a Xerox technical representative.

### Cleaning the Display Screen

Lightly wipe your display screen with a damp cloth or spray it with window cleaner. CAUTION: do not allow any liquid to drip down into the housing around the screen.

### Cleaning the Keyboard

Brush off the keyboard to keep dust from building up under the keys.

## BASIC TROUBLESHOOTING

Problem: The display is black, with no bouncing white square.

1. Check the intensity lever to see if it is pulled all the way toward you.
2. Check to make sure the processor is plugged in.
3. Check to make sure the processor is turned on.
4. Do a 5-boot from the EI Fixed Disk Diagnostic.
5. Note the Maintenance Panel code if the diagnostics fail and report this to your designated Principal User, or the Xerox service representative.

Problem: The cursor will not move.

1. Make sure the ball bearings of the two-button mouse are moving freely by moving the mouse in circles on the plastic pad.
2. Make sure the two-button mouse is on the special plastic pad or other nonslip surface. The three-button mouse must be on its special optical paper (grey-colored with small, hexagonal pattern.)
3. Make sure the thin cable is attached securely to the mouse and the keyboard.
4. Check the Maintenance Panel code for reporting the problem to your site's designated Principal User, or the Xerox service representative.

## REPORTING PROBLEMS

The Interlisp-D support team is committed to providing full support services to the entire Interlisp-D user community. Users are encouraged to report problems with the system, errors in the documentation, and their general observations. Messages may be sent to us in several ways.

At most places using Interlisp-D, there is one person designated as the Interlisp-D system administrator, typically an experienced user. If the system administrator is not able to help with your problem, he or she should be able to contact the Interlisp-D support team for assistance.

Users with access to the ARPANET are encouraged to send mail to our net address:

1100Support@PARC-MAXC.

Users without ARPANET sponsorship should call (818)351-2351 ext. 2222 collect or write to:

1100 Support  
Xerox Special Information Systems  
250 North Halstead Street  
Pasadena CA 91109