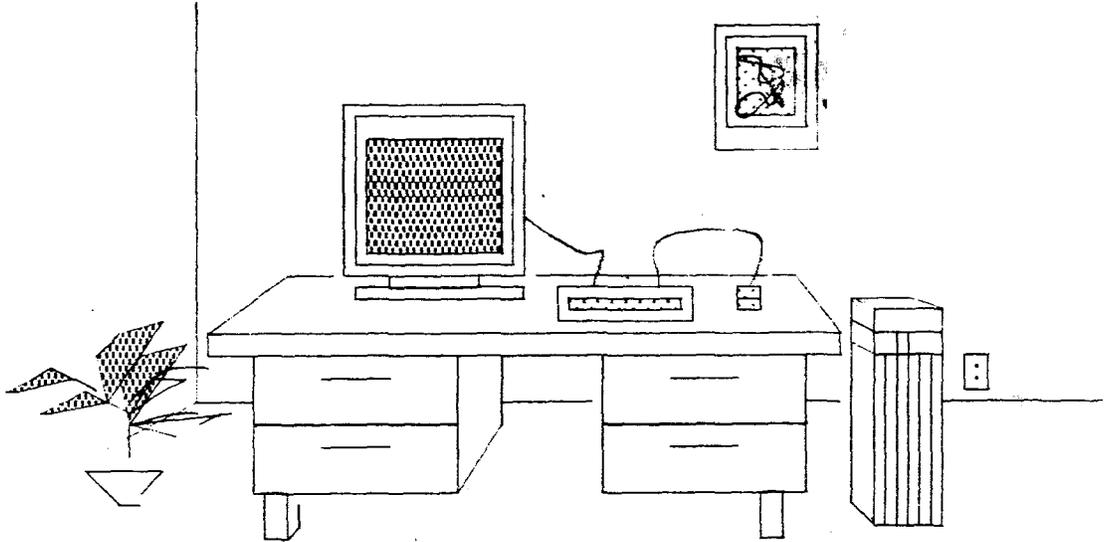# 1186 HARDWARE INSTALLATION

XEROX

XEROX 1186 HARDWARE INSTALLATION
3102465
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Lyric Release

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This manual is set in Modern font, with text written and formatted on Xerox Artificial Intelligence workstations, using Xerox laser printers to produce text masters.

PREFACE

Overview of the Manual

The *1186 Hardware Installation* provides information to aid you in installing the 1186 Artificial Intelligence workstation.

A form for documentation comments is included at the end of this manual.

Organization of the Manual and How to Use It

This manual is divided into chapters, with most chapters focusing on a particular aspect of hardware installation. The manual is organized in sequential order, with preliminary tasks presented first, followed by subsequent tasks.

All readers should carefully read Chapter 1, Hardware Installation Overview, for background and general information. Continue by reading each chapter in order:

- Chapter 2, Installing Standard and Optional Components.

- Chapter 3, System Configuration Utility.

- Chapter 4, New System Checkout.

In addition, several appendices are included to provide a convenient location for frequently used material (Appendix A, Hardware Configuration) and specific tasks not generally part of the installation (Appendix B, Rigid Disk Drive Installation and Appendix C, Control Store Upgrade).

Table of Contents

1. HARDWARE INSTALLATION OVERVIEW

The 1186 Artificial Intelligence workstation is functional when both the hardware and software have been installed.

This chapter provides an overview of the hardware installation procedures for the 1186 Artificial Intelligence workstation. It also provides a flowchart of the hardware installation scenario with references to detailed installation instructions.

A Hardware Checklist, which you will use in the following chapters to record specific information for hardware installation, is located in Appendix A, Hardware Configuration, for ease of reference. The specific instructions for filling in the Hardware Checklist appear in the following chapters.

Installation Scenario

Hardware installation consists of installing and configuring various standard and optional components, and running system diagnostics.

Figure 1-1 on the following page, illustrates the hardware installation scenario.

The left side of the flowchart presents the three basic installation tasks, with references to relevant documentation.

The right side of the flowchart presents the specific steps of each basic task. The specific instructions for completing each step are provided in the remaining chapters of this installation guide. The chapters are as follows:

- Chapter 2, Installing Standard and Optional Components

- Chapter 3, System Configuration Utility

- Chapter 4, New System Checkout

Software Installation

The 1186 Artificial Intelligence workstation has been preinstalled with Xerox Lisp.

Software can be reinstalled on the 1186 after hardware is installed, the configuration is defined, and system checkout is completed.

See the *1186 User's Guide* for detailed procedures on software installation.

GENERAL INSTALLATION TASKS

SPECIFIC INSTALLATION STEPS

INSTALL SYSTEM COMPONENTS

1186 Hardware Installation Manual **Chapter 2, Installing Standard and Optional Components**

- Unpack standard system components
- Unpack optional system components
- Install standard and optional components
- Power on 1186 system

CONFIGURE SYSTEM COMPONENTS

1186 Hardware Installation Manual **Chapter 3, System Configuration Utility**

- Check system configuration
- Install system configuration utility
- Log on and display current configuration
- Change configuration and record changes

RUN NEW SYSTEM CHECKOUT

1186 Hardware Installation Manual **Chapter 4, New System Checkout**

- Run new system checkout
- Run rigid disk confidence test

Figure 1-1. Hardware Installation Scenario

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2.   INSTALLING STANDARD AND OPTIONAL COMPONENTS

Standard System Components

The 1186 consists of six basic system components:

- A processor unit
- A display
- A keyboard
- An optical pointer
- A floppy disk drive
- A memory expansion board

Each component is individually packaged. In addition, several optional system components are available:

- A Personal Computer Emulation (PCE) board
- An Ethernet transceiver
- A drop cable
- A rigid disk drive (See Appendix B, Rigid Disk Drive Installation.)

The following is a list of what is contained in each box of standard and optional components.

- Processor unit box:
  - Processor unit
  - Power cord
  - Screwdriver (packaged with power cord)
  - Hardware unpacking instructions (located on top of the styrofoam packing)

- Display box:
  - Display
  - Display power cord
  - Display signal cable
  - Keyboard cable (attached to the display)

- Floppy disk drive box:
  - Floppy disk drive
  - Signal cable
  - Set of four clips

- Memory expansion box:
  - Memory expansion printed wiring board

- Software documentation

- Installation kit:
  - *1186 Hardware Installation Manual*
  - Software
  - Keyboard
  - Optical Pointer (Mouse)
  - Mouse pads
  - 8K Control Store Upgrade Kit

- Personal computer option:
  - PCE board

If you did not receive the six basic components, any optional components you ordered, the accompanying documentation, or the software, call your Xerox marketing representative.

Electrical Requirements

Voltage requirements are as follows:

- 115V United States/Canada
- 230V Europe

Safety Requirements

Your Xerox 1186 Artificial Intelligence workstation has been designed and tested to meet strict safety requirements. These include safety agency (UL and CSA) examination and approval, as well as compliance to established environmental and safety standards. Follow these recommendations for the continued safe operation and performance of your computer.

- Always connect the computer to a properly grounded power source receptacle.

WARNING

Improper connection of the computer ground conductor can result in risk of electrical shock.

- Never use a grounded adapter plug to connect the computer to a power source receptacle that lacks a ground connection terminal.

- Never attempt any maintenance functions that are not specifically called for in this installation guide.

- Never remove any covers or guards that are fastened with screws, except as explicitly instructed to do so in this installation guide. If you are instructed to remove any covers or guards that are fastened with screws, always follow the instructions exactly as they are presented.

- Never override or "cheat" electrical or mechanical interlock devices.

- Always exercise care in moving or relocating the workstation. Refer to this installation guide for correct procedures for lifting and moving the workstation.

- Never move a workstation when the processor is powered up.

- Never operate the workstation if you notice unusual noises or odors. Disconnect the power cord from the power source receptacle and call your Xerox service representative to correct the problem.

Unpacking Standard Components

The following procedures for unpacking the basic components should be performed sequentially.

Processor Unit

1. Unpack the box labeled Xerox 1186 Processor Unit by tearing the perforations marked on the box and lifting the top portion of the box off. Fold down the styrofoam packing insert at the front of the processor unit (Figure 2-1).
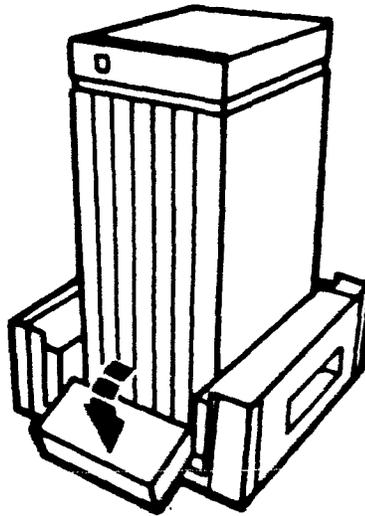
Figure 2-1. Front View of Processor

2. Face the front of the processor unit (look for the Xerox label), and grip the processor by placing your hand in the groove located under the front cover of the processor.

3. Carefully slide the processor unit halfway off the styrofoam.

4. Tilt the processor unit until the bottom of it touches the floor.

5. Hold the processor unit at an angle that allows the packing materials to be pulled away and out from under the processor.

6. Discard the packing materials and then set the processor unit upright.

Display

1. Unpack the box labeled Xerox Display (Figure 2-2) by opening the box and then placing it on its side, so that the display is resting on the styrofoam packing.
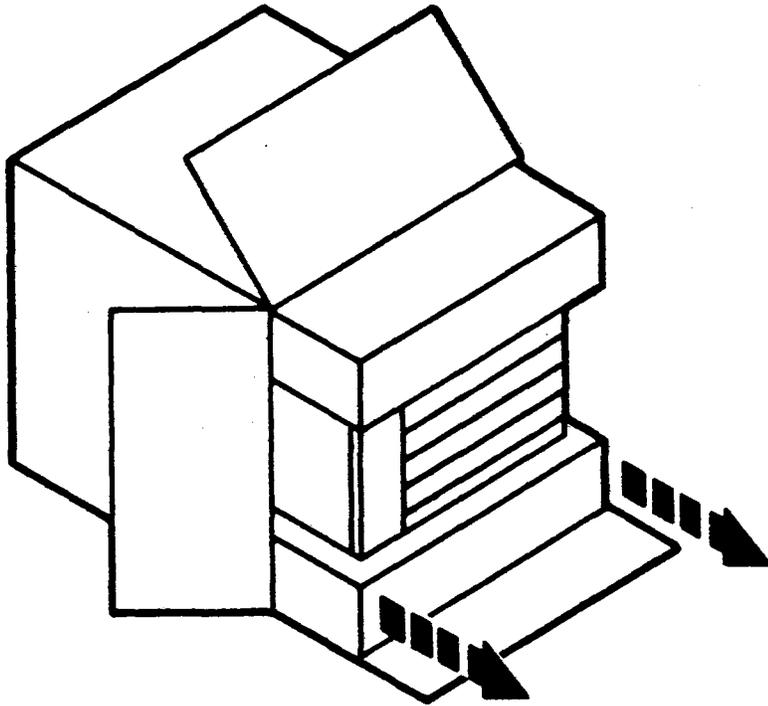
Figure 2-2. Display Box

2. Grasp the styrofoam packing and slide out the display.

3. Discard the packing.

Keyboard

1. Unpack the keyboard and keyboard cable from the box labeled Xerox 1186 Installation Kit (Figure 2-3).
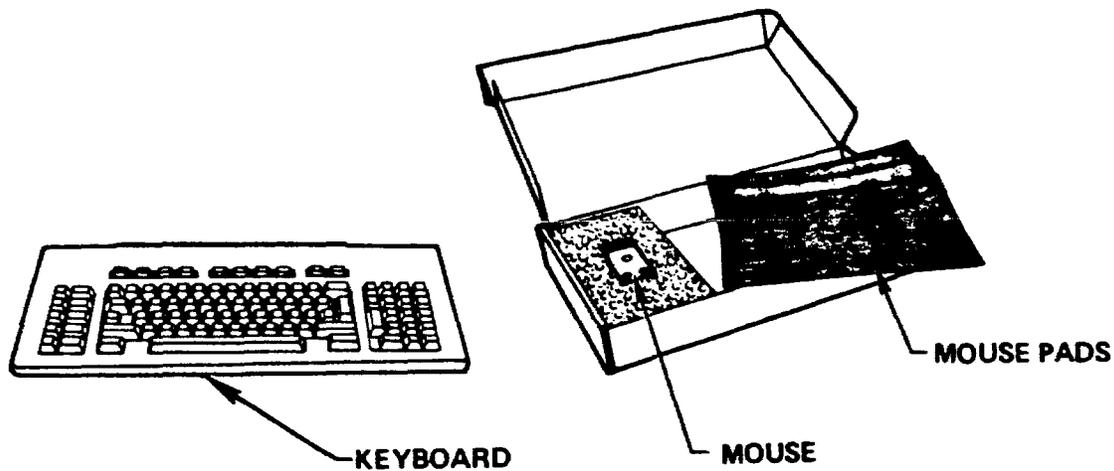
Figure 2-3. Contents of Installation Kit

2. Remove the plastic wrapping and styrofoam packing from the keyboard.

3. Discard the packing.

4. Record the type of keyboard on the Hardware Checklist in Appendix A, Hardware Configuration. Keyboard types are defined as follows:

- AI keyboard has 28 special function keys.

- US keyboard has 10 keys on the bottom row between the left and right shift keys.

- European keyboard has 11 keys between the left and right shift keys.

- Japanese keyboard has Kanji (Japanese) characters on the keycaps.

Optical Pointer (Mouse)

1. Unpack the mouse and mouse pads (both the optical paper and mechanical plastic pads) from the box labeled Xerox 1186 Installation Kit (Figure 2-4).
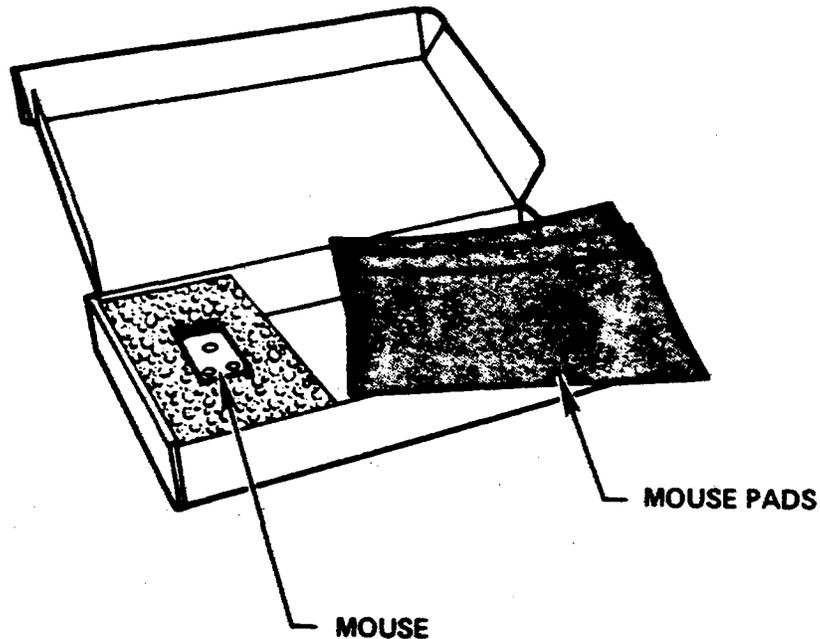
MOUSE PADS

MOUSE

Figure 2-4. Contents of Optical Pointer Box

2. Remove the plastic wrapping from the mouse.

3. Discard the packing.

Positioning Standard Components

1. Place the display, keyboard, optical pointer, and mouse pads, on a tabletop, as shown in Figure 2-5.
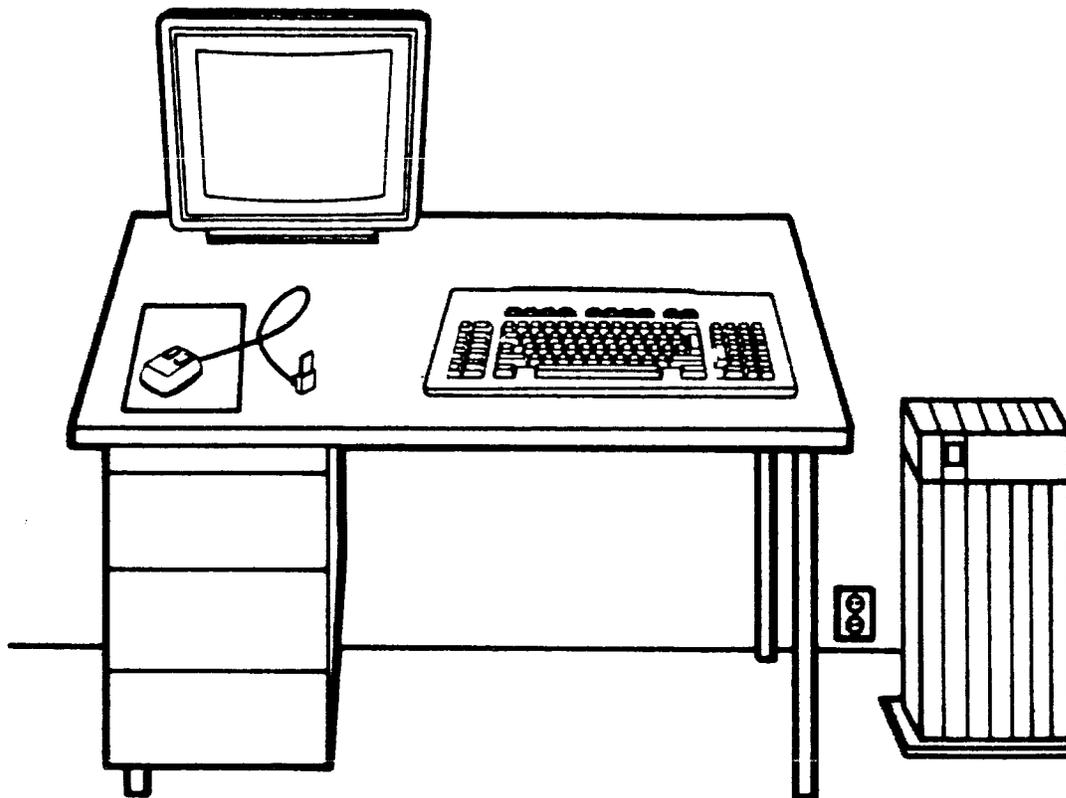
Figure 2-5. Positioning System Components

2. Place the processor unit adjacent to the table, within 8 feet of a grounded wall outlet.

Note: Keep all system components, (standard and optional) accessible until all connections are complete.

Installing Standard and Optional Components

The following procedures for installing the standard and optional components should be performed sequentially.

Connecting the Optical Pointer (Mouse) to the Keyboard

1. Connect the cable that is attached to the optical pointer to the connector located at the rear center of the keyboard (Figure 2-6). The grooves of the connector must be facing down.

   Note: When properly connected, the mouse connector fits securely and is flush with the rear of the keyboard.
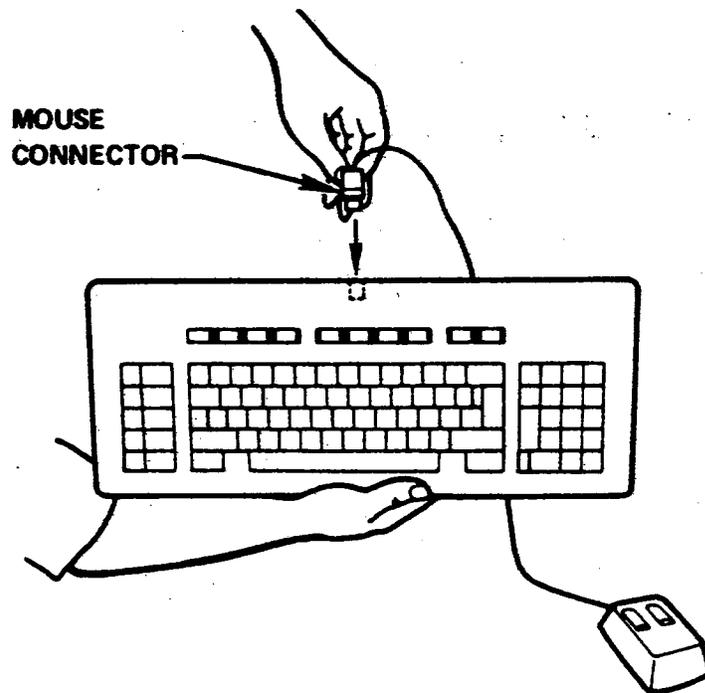
MOUSE
CONNECTOR

Figure 2-6. Connecting Optical Pointer to Keyboard

2. Determine on which side of the keyboard the mouse will be placed for ease of use. Location of the mouse is generally correlated with a person being left- or right-handed. For example, a right-handed person generally prefers the mouse placed on the right side.

3. Turn the keyboard over (Figure 2-7).
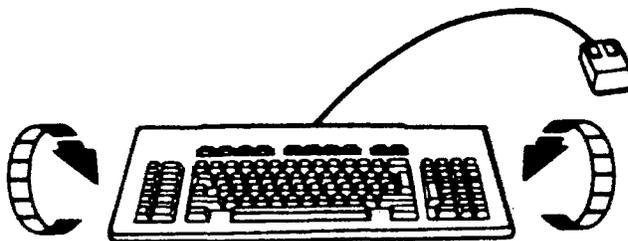
Figure 2-7. Top View of Keyboard

Note: If a long mouse cable is desired, do not thread the mouse cable through the keyboard.

4. Thread the mouse cable through one side of the groove at the back of the keyboard. For example, Figure 2-8 shows the mouse cable threaded to the right side of the keyboard to accomodate a right-handed person.

CAUTION

Using sharp instruments to force the cable into the groove can damage the cable.
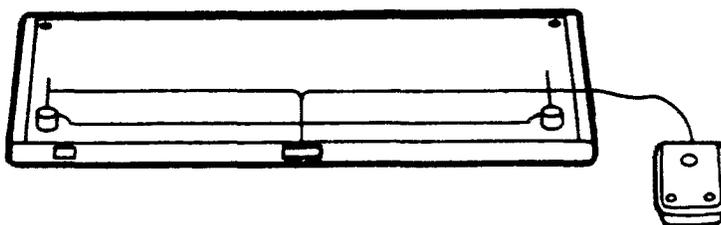
Figure 2-8. Bottom View of Keyboard

5. Adjust the tilt of the keyboard by pressing down on the feet and then turning them clockwise.

6. Turn the keyboard right side up.

Connecting the Keyboard to the Display

1. Attach the keyboard cable to the display at the right side of the display pedestal (Figure 2-9). The notch of the large connector should be on the top when the keyboard cable is connected to the display.

2. Connect the other end of the keyboard cable flush to the connector located at the rear (left side) of the keyboard. The grooves on the connector must be facing down and the silver plate facing up.

DISPLAY PEDESTAL

KEYBOARD CABLE
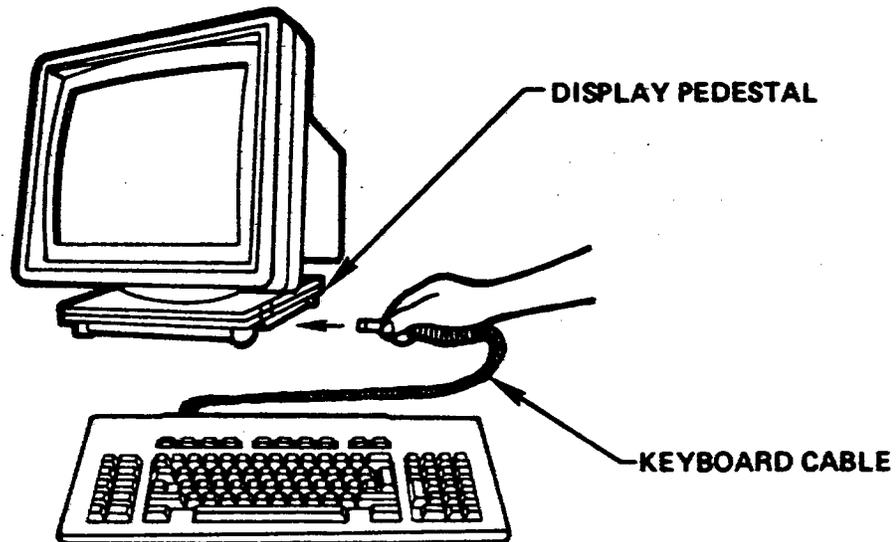
Figure 2-9. Keyboard and Display

Mesa Processor Board Upgrade Kit

The Mesa Processor Board (MPB) assembly is a single circuit board which fits into the 1186 processor unit (slot C3). The MPB contains 4 kilobytes of control store memory.

The optional upgrade kit extends the control store memory by 4 kilobytes to a maximum of 8 kilobytes.

Unpacking the Control Store Upgrade Kit

1. Unpack the box labeled Xerox Control Store Upgrade Kit.

2. Remove the Integrated Circuit (IC) insertion tool from the foam packing.

3. Remove the static-resistant plastic box that contains the IC chips from the foam packing.

4. Discard the packing.

CAUTION

The memory IC chips can be damaged by static electricity. To prevent damage:

*   ALWAYS handle the IC chip by the body of the chip. DO NOT handle an IC chip by its pins.

*   AVOID contact of an IC chip with metallic or conductive surfaces.

Installing the Control Store Upgrade Kit

Remove MPB and Determine Where IC Chips are to be Installed

1. Unscrew and open the cable retention bar (Figure 2-10).

CABLE
RETENTION
BAR
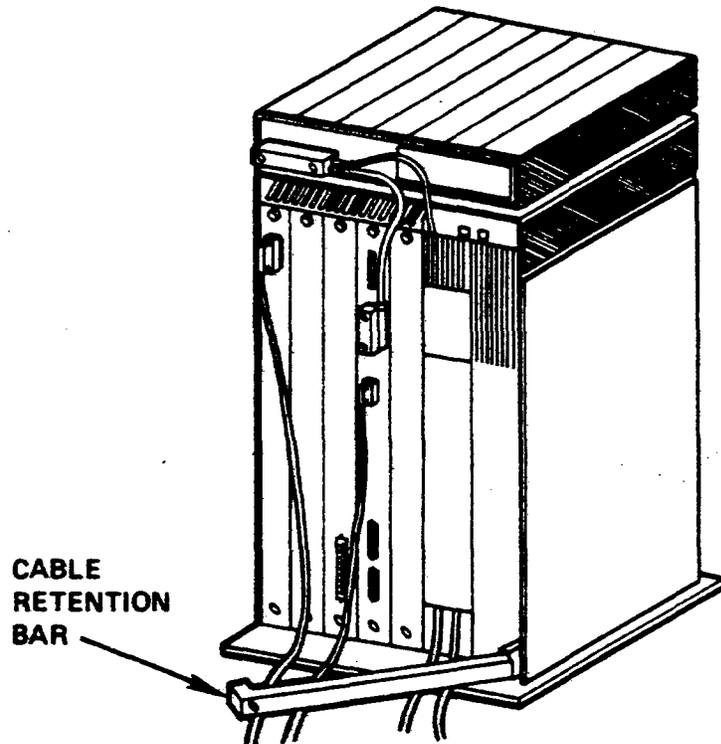
Figure 2-10. Processor Cable Retention Bar

2. Remove the MPB in the third slot (slot C3) of the back of the processor unit by unscrewing its thumbscrews and gently pulling the board out of the processor unit.

3. Lay the Mesa Processor board circuit side up on a non-metallic flat surface with the thumbscrews facing you.

4. Locate the two rows of sockets close to the upper left corner of the board. The sockets should be labeled U95 through U170.

Install Chips

Note: Carefully read steps 1-6 prior to installing the ICs.

1. Remove an IC chip from the static resistant foam in the plastic container. Place the IC chip on a flat, non-metallic surface. Locate the notch on the IC.

2. Place the IC insertion tool on top of the IC chip and pick it up by gently rocking the tool back and forth.

PICK UP
IC CHIP

ROCK

IC CHIP WITH
PINS BENT INWARD

IC CHIP WITH
PINS BENT OUTWARD
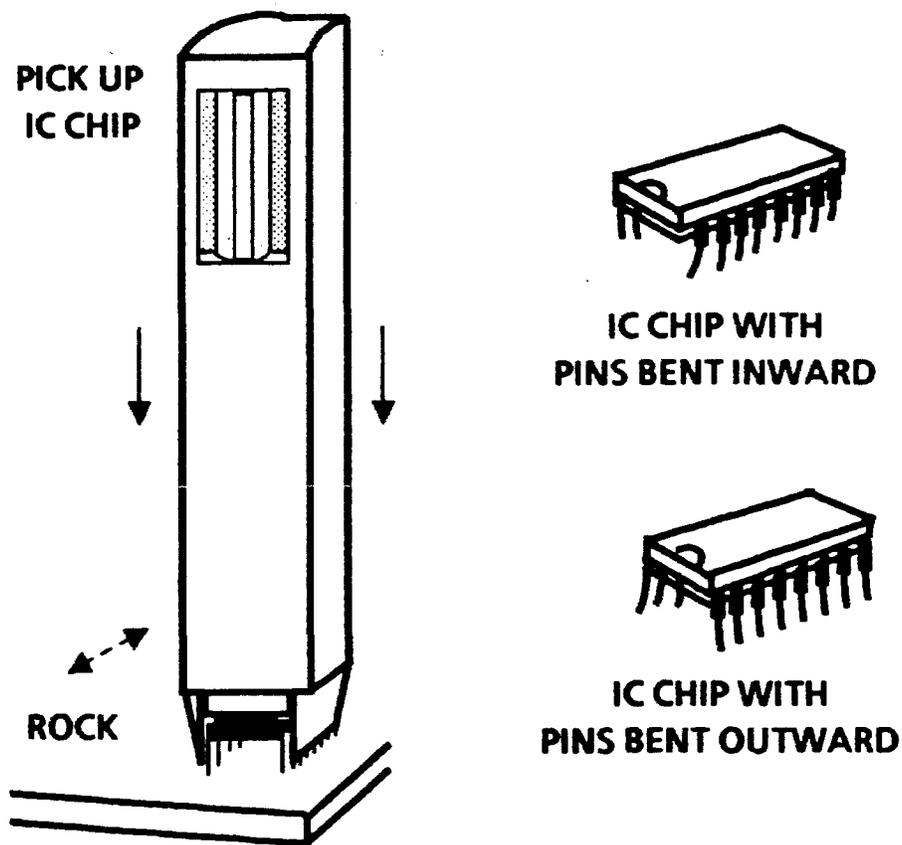
Figure 2-11. IC Insertion Tool and Chips
with Pins Bent

CAUTION

If the pins on the chip are bent inward or outward, they must be straightened by qualified service personnel before they can be inserted on the MPB. Contact your Xerox service representative.

3. Line up the notch on the end of the socket and the notch on the end of the IC chip.

CAUTION

If the IC chip is inserted without the notches aligned, damage to the IC chip could result.

4. Carefully align the pins of the chip with the holes in the socket on the printed wiring board assembly. Make sure that each pin is properly seated in its corresponding socket hole before continuing.

5. Push the IC insertion tool down until the IC chip is firmly seated in the socket (Figure 2-12).

6. Pull gently to remove the IC insertion tool, taking care not to loosen the chip from the socket.

7. Repeat steps 1 through 6 for each chip.

ALIGN IC CHIP
PINS
AND SOCKET
HOLES

PUSH
TOOL
DOWN

ALIGN
NOTCHES
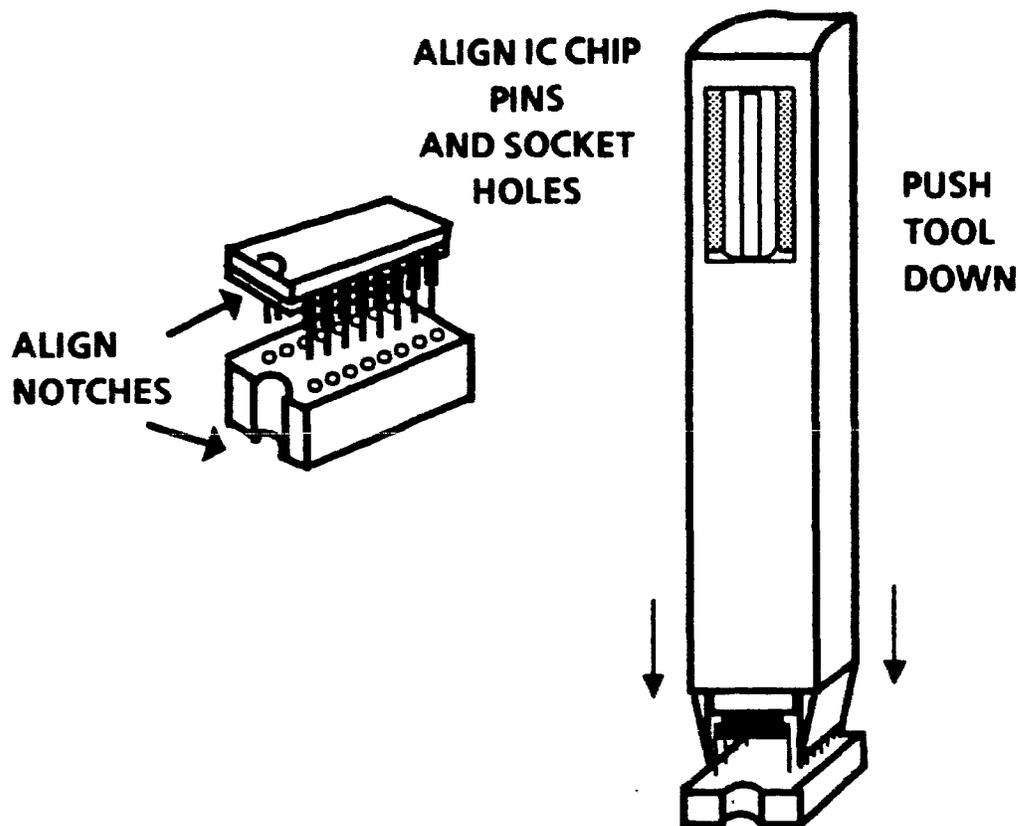
Figure 2-12. Inserting Chip Pins in Socket Holes

Reinstall the MPB

1. Insert the MPB circuit board into slot C3. Make sure that the sheet metal side is on the left side and the board is lined up in the top and bottom tracks inside the slot . Gently slide the board all the way into the processor unit.

CAUTION

Forcing the board into the unit may damage the connectors. If the board does not slide in easily all the way the first time, remove it and try again.

2. Tighten the thumbscrews for the board until they are finger tight.

Installing a Memory Expansion Board (MEB)

1. Unpack the box labeled Xerox 1186 Memory Expansion Board.

2. Remove the plastic wrapping and foam packing from the circuit board.

3. Discard the packing.

4. Unscrew and open the cable retention bar (if not already done, see Figure 2-10).

5. Remove the sheet metal board that is currently in the second slot (slot C2) at the back of the processor unit by unscrewing its thumbscrews and gently pulling the board out of the processor unit.

6. Insert the MEB circuit board into slot C2. Make sure that the sheet metal side is on the left side and the board is lined up in the top and bottom tracks inside the slot . Gently slide the board all the way into the processor unit.

CAUTION

Forcing the board into the unit may damage the connectors. If the board does not slide in easily all the way the first time, remove it and try again.

---

7. Tighten the thumbscrews on the board until they are finger tight.

Recording the Presence of an MEB

8. Record the presence of a MEB in the space provided on the Hardware Checklist in Appendix A, Hardware Configuration.

Personal Computer Emulation (PCE) Board

The PCE board consists of a single circuit board that fits into the 1186 processor unit. This option allows many standard IBM Personal Computer programs to be run on your 1186 system. The option may be installed at the time of initial system installation or may be installed as an upgrade to an existing system.

The Personal Computer Emulation software provides the necessary software to run IBM PC programs.

First, unpack the PCE board, then follow the procedures of the task you want to perform.

● To install a PCE board, follow the procedure titled "Installing a PCE Board in a New System".

● To upgrade your 1186 system with a PCE board, follow the procedures titled "Upgrading an Existing System with a PCE Board".

Unpacking the PCE Board

1. Unpack the box labeled Xerox PC Emulation Option.

2. Remove the plastic wrapping and foam packing from the circuit board.

3. Discard the packing.

Installing a PCE Board in a New System

1. Unscrew and open the cable retention bar (Figure 2-10).

2. Remove the sheet metal board that is currently in the fifth slot (slot C5) of the back of the processor unit by unscrewing its thumbscrews and gently pulling the board out of the processor unit.

   Note: This board should not be discarded; it will be needed for proper air flow in the processor unit if the PCE board is removed from the system at a later time.

3. Insert the PCE board into slot C5. Make sure that the sheet metal side is on the left side and the board is lined up in the top and bottom tracks inside the slot . Gently slide the board all the way into the processor unit.

CAUTION

Forcing the board into the unit may damage the connectors. If the board does not slide easily all the way the first time, remove it and try again.

---

4. Tighten thumbscrews on the board until they are finger tight.

Recording the Presence of a PCE Board

5. Record the presence of a PCE board in the space provided on the Hardware Checklist in Appendix A, Hardware Configuration.

Upgrading an Existing System with a PCE Board

Upgrading an existing system with a PCE board involves installing the PCE board, setting the hardware configuration options and running diagnostics to make sure that the PCE is functional.

Install the PCE Board

1. Turn system power off.

2. Disconnect the floppy disk drive cable from the C4 circuit board in the back of the processor unit.

3. Remove the sheet metal board that is currently in the fifth slot (slot C5) of the back of the processor unit by unscrewing its thumbscrews and gently pulling the board out of the processor unit.

    Note: Keep this board; it will be needed for proper air flow in the processor unit if the PCE board is removed from the system at a later time.

4. Insert the PCE circuit board into slot C5. Make sure that the sheet metal side is on the left side and the board is lined up in the top and bottom tracks inside the slot . Gently slide the board all the way into the processor unit.

CAUTION

Forcing the board into the unit may damage the connectors. If the board does not slide easily all the way the first time, remove it and try again.

---

5. Tighten thumbscrews on the board until they are finger tight.

6. Reconnect the floppy disk drive cable to the C4 circuit board and tighten the thumbscrews.

Set Hardware Configuration to Enable PCE

To be sure that the newly installed PCE board is enabled, the System Configuration Utility must be reset with the new configuration options.

7. Turn on system power.

8. Run the System Configuration Utility and set the appropriate configuration options to enable the PCE board option.

Refer to Chapter 3, System Configuration Utility, for complete procedures.

Run PCE Diagnostics

To be sure that the newly installed PCE board is running correctly, the system checkout must be run.

9. Run the system checkout to ensure that your PCE board is fully operational.

Refer to Chapter 4, New System Checkout, for complete checkout procedures.

Connecting the Cables to the Processor Unit

1. Uncoil the three cables (display power cord, display signal cable, and keyboard cable) from the rear of the display (Figure 2-13).
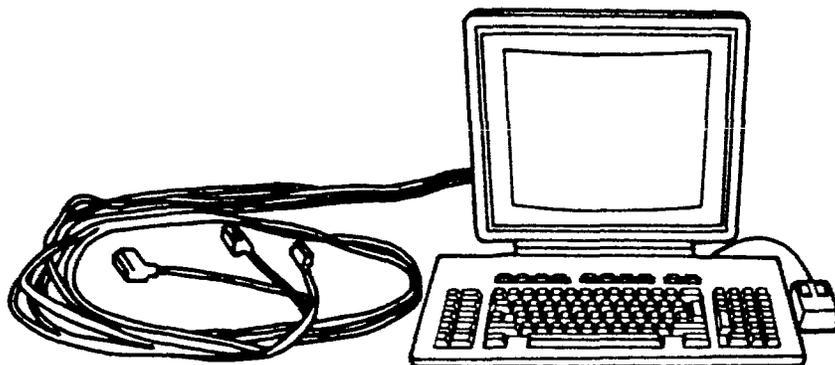
Figure 2-13. Uncoiling Cables Attached to Display

2. If applicable, locate and uncoil the Ethernet drop cable. If you cannot locate an Ethernet cable, or you do not know what an Ethernet drop cable is, contact your System Administrator.

   Note: If you have a remote or standalone workstation, you will not have an Ethernet drop cable.

3. Connect the display signal cable and keyboard cable to the processor unit circuit boards as indicated in Figure 2-14, and tighten the thumbscrews until they are finger tight. (All cables are labeled on their respective plugs.)

CAUTION

Do not connect the power cord at this time.
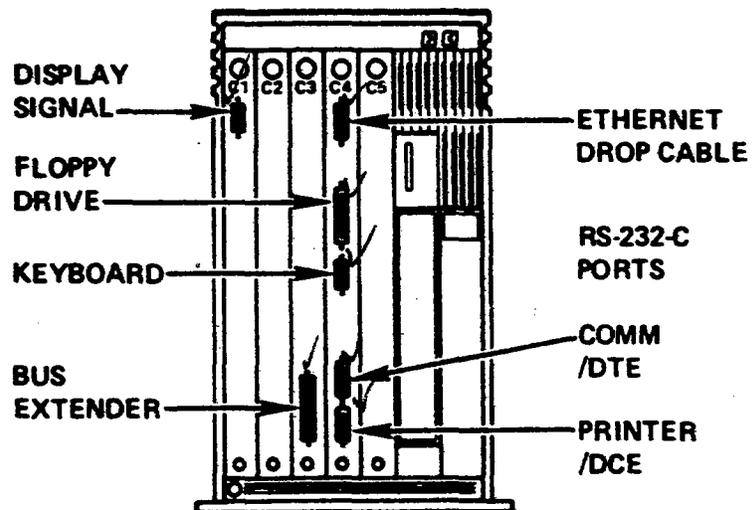
Figure 2-14. Connector Locations on Processor

4. If applicable, connect the Ethernet drop cable to the processor unit circuit board as indicated. Lock the cable into place by pressing the silver slide-lock down.

5. Record the presence of an Ethernet connection on the Hardware Checklist in Appendix A, Hardware Configuration.

6. Use the screwdriver that is supplied with the processor to tighten the display cable, and the keyboard cable.

Opening the Processor Unit's Rear Cover

7. Open the processor unit's rear cover by squeezing the latches and swinging the cover down (Figure 2-15); an inner wall is exposed.
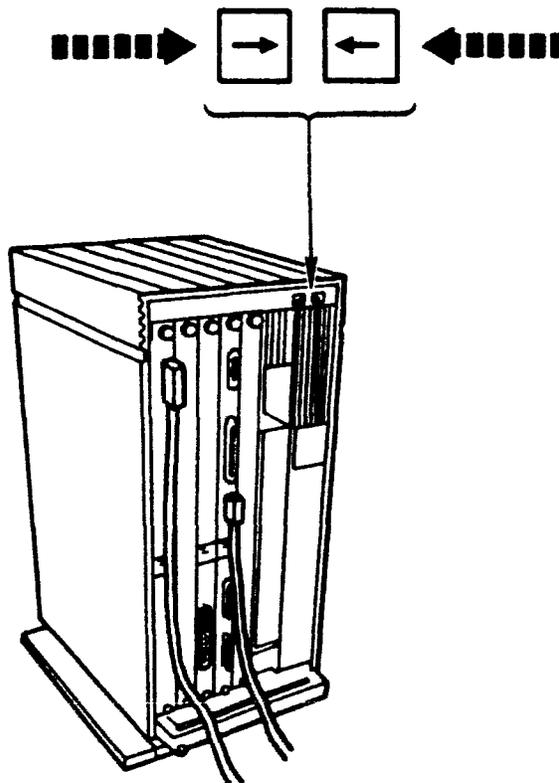
Figure 2-15. Opening the Processor Unit's Rear Cover

8. Record the processor's serial number on the Hardware Checklist in Appendix A, Hardware Configuration. The serial number is engraved on the silver plate at the top left side of the inner wall.

9. Record the type and size of the rigid disk on the Hardware Checklist in Appendix A, Hardware Configuration. A label indicating the rigid disk type and size is located toward the bottom of the exposed inner wall near the C7 label.

10. Connect the power cord (packaged with the processor unit) and the display power cord (attached to the display) to the processor unit. (Figure 2-16).

DISPLAY
POWER
CORD

POWER
CORD
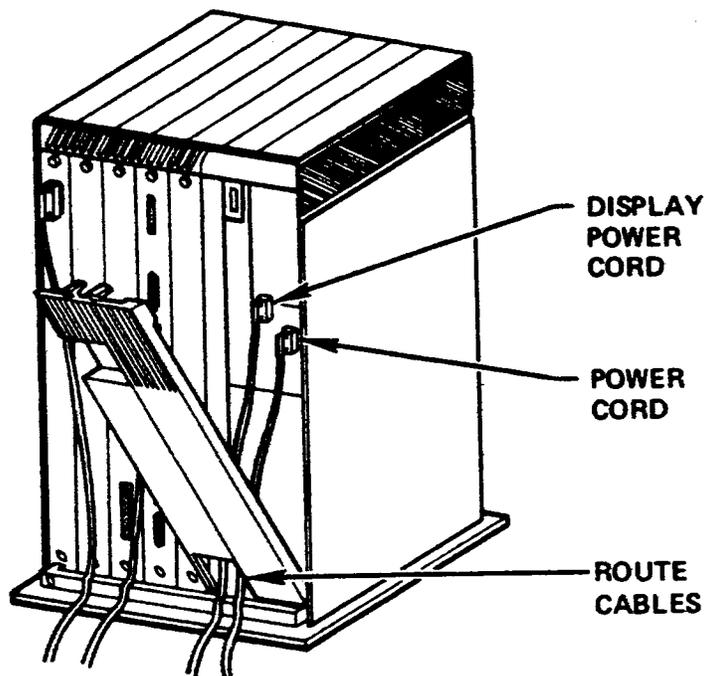
ROUTE
CABLES

Figure 2-16. Power Cords Attached to Processor

11. Route the display power cord and the processor power cable through the opening at the bottom of the rear cover (Figure 2-16). Do not close the cover at this time.

12. Make sure that the power voltage switch is set at the correct voltage, either 115 or 230 volts. The voltage must match the input power in the wall outlet. (The switch is located next to the power cord connection.)

Floppy Disk Drive

Unpacking the Floppy Disk Drive

1. Unpack the floppy disk drive, the floppy disk drive cable, and the four M-shaped clips from the box marked Xerox Floppy Disk Drive (Figure 2-17). Spare M-clips may also be in the box.

FLOPPY DISK DRIVE

FLOPPY DISK DRIVE CABLE

M SHAPED CLIPS
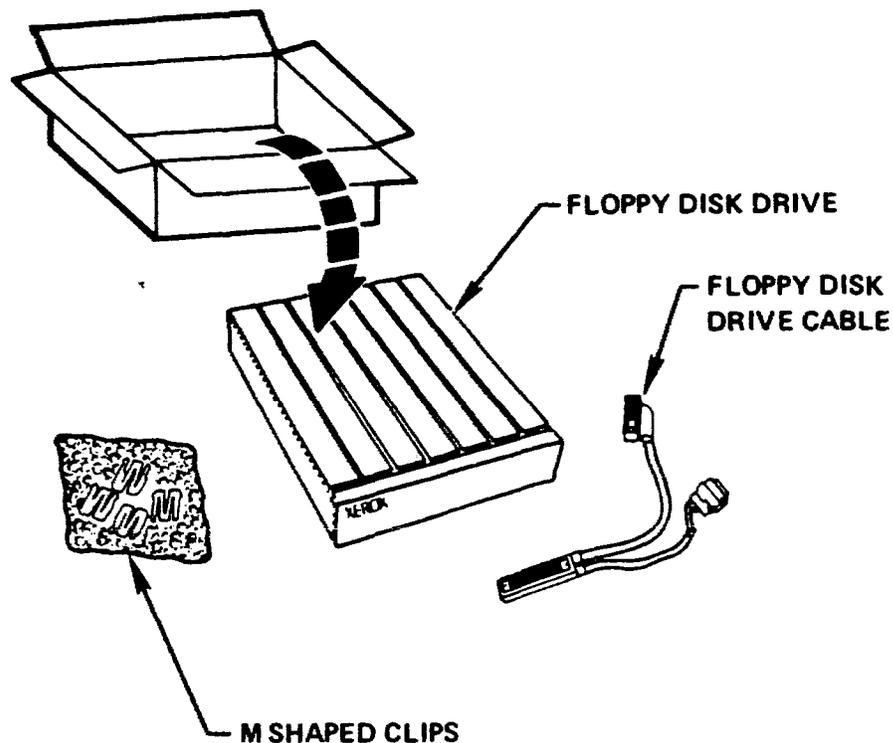
Figure 2-17. Contents of Floppy Disk Drive Box

2. Remove the plastic wrapping from the components.

3. Discard the packing material.

Installing the Floppy Disk Drive

1. Carefully turn the floppy disk drive over and insert the tops of the M-shaped clips into the bottom slots of the floppy disk drive, as shown in Figure 2-18.
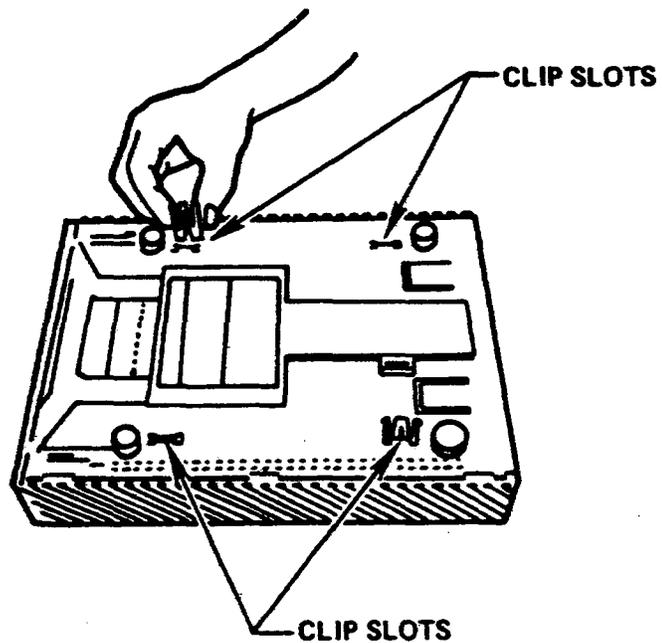
Figure 2-18. Bottom View of Floppy Disk Drive

2. Place the floppy disk drive on top of the processor unit by aligning the four clips in the floppy disk drive with the four corresponding slots on top of the processor unit, as shown in Figure 2-19.

CAUTION

To secure the floppy disk drive, make sure that the clips fit snugly.
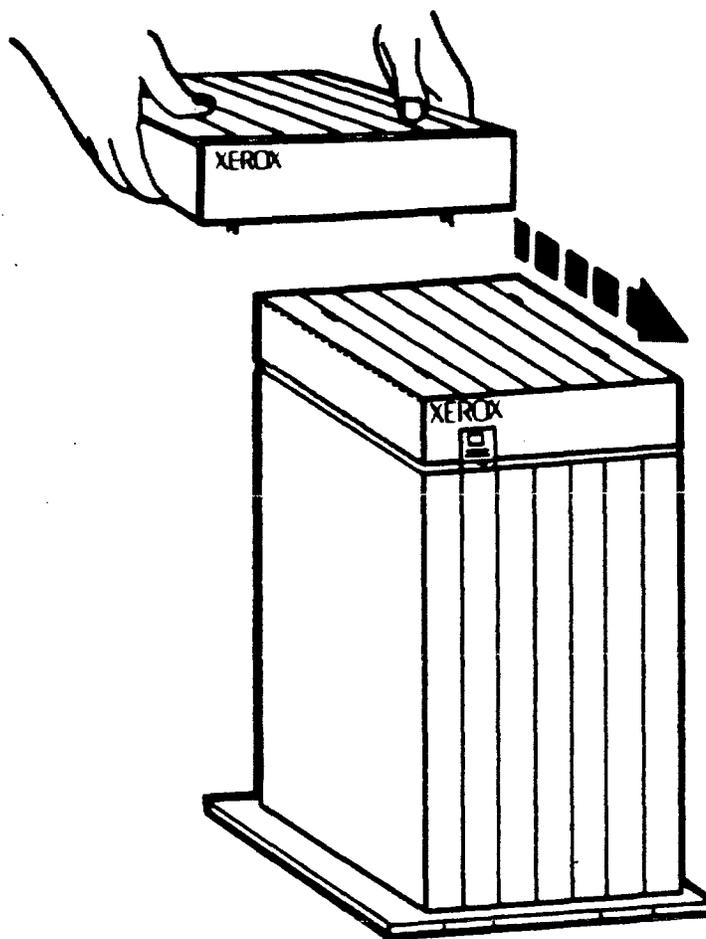
Figure 2-19. Placing Floppy Disk Drive on Processor

3. Connect the appropriate end of floppy disk drive cable to the floppy disk drive, as shown in Figure 2-20 (remove tie-wrap if necessary).
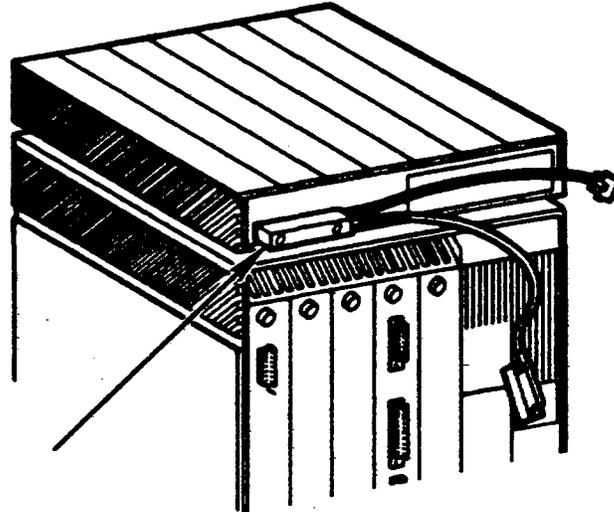
Figure 2-20. Connecting Cable to Floppy Disk Drive

4. Connect the appropriate end of floppy disk drive cable to the C4 circuit board as shown in Figure 2-21.
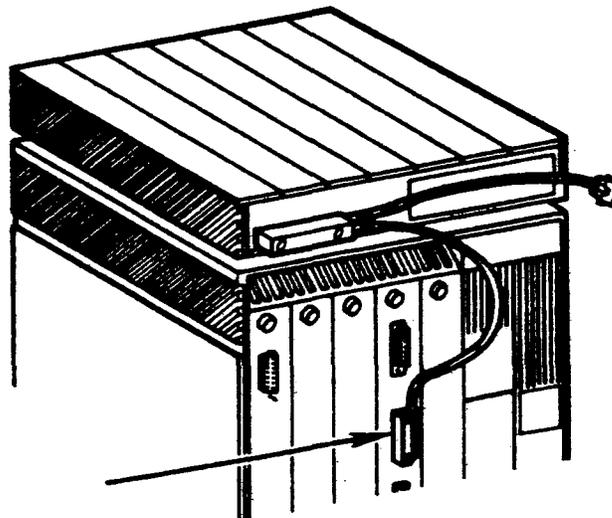
Figure 2-21. Connecting Cable to C4 Circuit Board

5. Open the processor unit's rear cover, if it is not already open, by squeezing the latches and swinging the cover down.

6. Connect the remaining end of floppy disk drive cable to the topmost socket behind the rear cover of the processor unit, as shown in Figure 2-22.
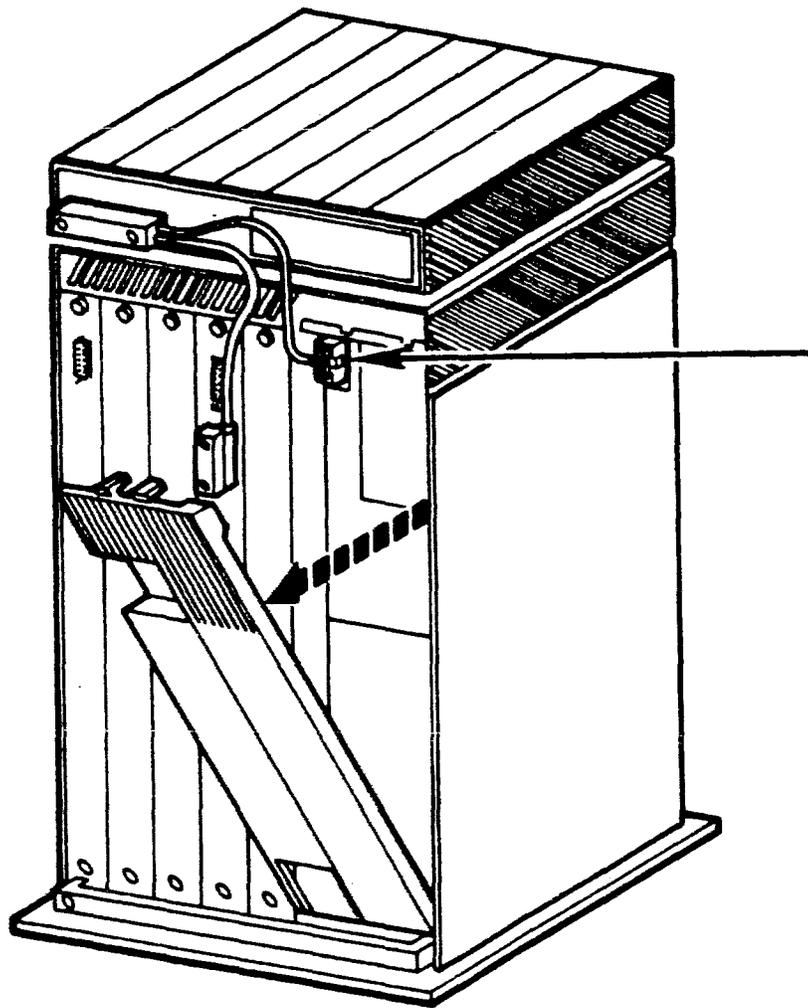
Figure 2-22. Connecting Cable to Processor

7. Tighten the four thumbscrews on all connections of the floppy disk drive cable until they are finger tight.

8. Flip the front cover of the floppy disk drive down, and slide it back, as shown in Figure 2-23.
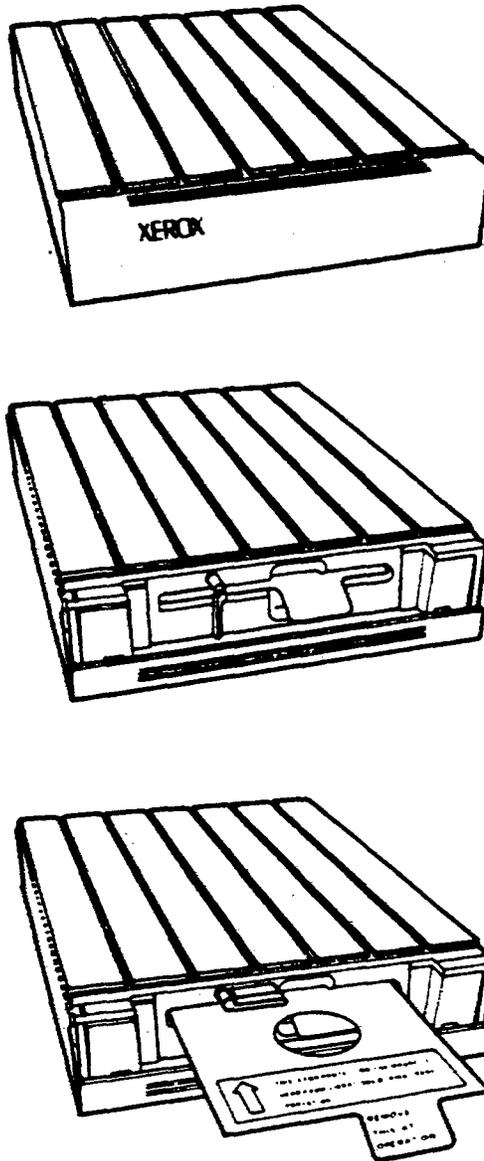
Figure 2-23. Discarding the Shipping Disk

9. Move the lever to the horizontal position and remove the cardboard shipping disk from inside the floppy disk drive. Discard the shipping pack.

10. Record the presence of the floppy disk drive in the space provided on the Hardware Checklist in Appendix A, Hardware Configuration.

Closing the Processor Unit's Rear Cover

1. Close the rear cover of the processor by squeezing the latches together and then firmly pressing the rear cover to the back of the processor. When the door is properly closed the cover is flush with the rear panel of the processor.

   Note: If you installed a floppy disk drive, route the floppy disk drive cable through the top left side of the rear cover.

Securing the Cables

1. Unscrew the cable retention bar (Figure 2-10) at the bottom rear of the processor unit, and place all the cables beneath the cable retention bar.

2. Screw the cable retention bar back onto the processor unit (Figure 2-24).
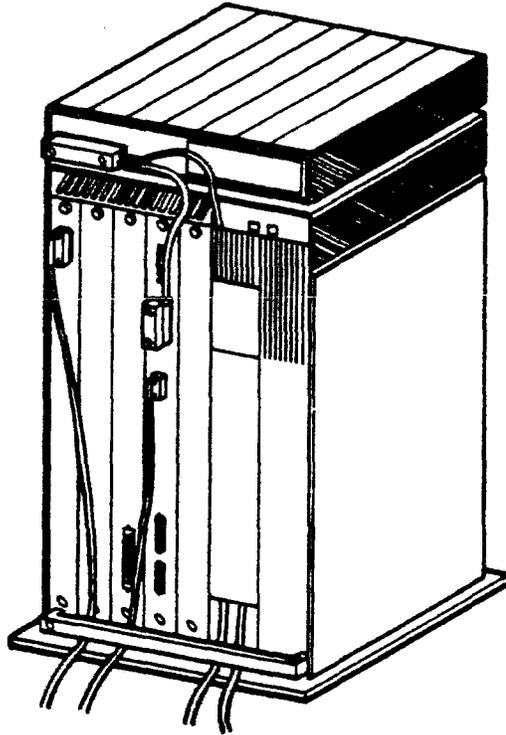
Figure 2-24. Cable Retention Bar Secured

Powering Up the System

CAUTION

The power switch on the processor unit must be set at the correct voltage. The voltage must match the input power in the wall outlet (115 or 230).

1. Make sure that your processor is in its permanent location before powering up the system.

CAUTION

Never move a workstation when the processor is powered up.

---

2. Insert the end of the power cord into the wall outlet and switch the power button on the processor unit to 1. This turns on the processor (Figure 2-25).

   Note: The screen should illuminate, the green power light on the front of the processor should illuminate, and three red lights below the power switch should cycle through an on-off sequence.

POWER-ON SWITCH
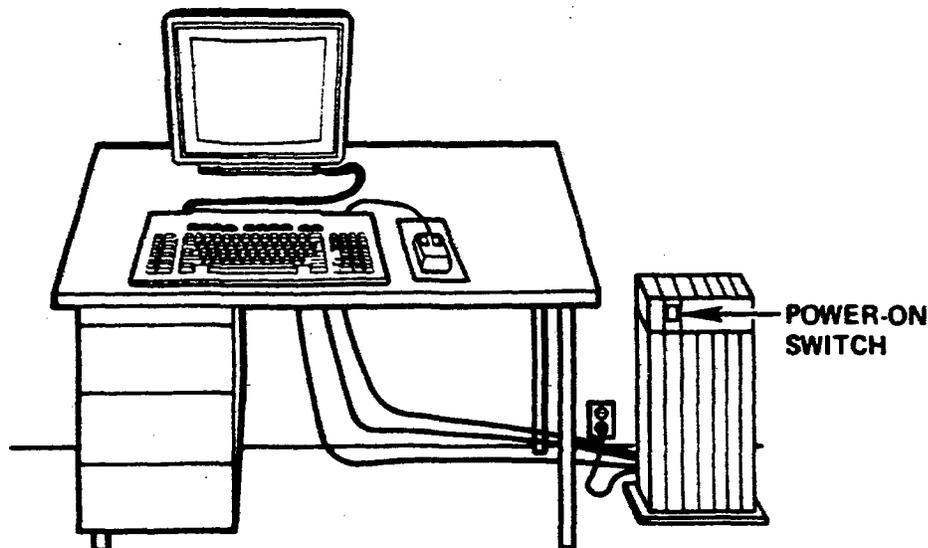
Figure 2-25. Powering On Processor

3. Swivel and tilt the screen to adjust it for your comfort. Adjust the screen intensity by turning the brightness control knob, located behind the screen on the right side (Figure 2-26).

BRIGHTNESS
CONTROL
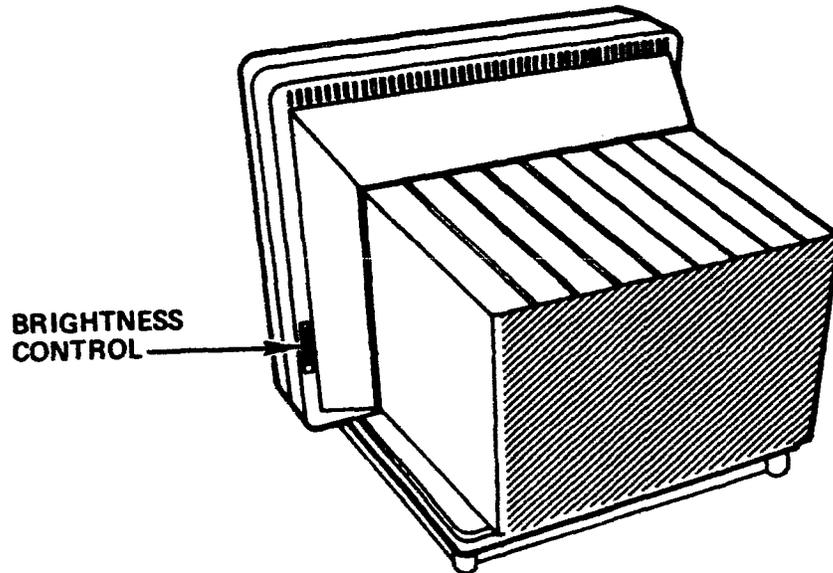
Figure 2-26. Brightness Control Knob

System Configuration Utility and Diagnostics

After all standard and optional hardware components are installed, and the system is powered up, the system configuration utility must be run, followed by system checkout. Software cannot be installed until these steps are completed.

● To run the System Configuration Utility, see Chapter 3, System Configuration Utility.

● To run new system checkout, see Chapter 4, New System Checkout.

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3. SYSTEM CONFIGURATION UTILITY

Your 1186 Artificial Intelligence workstation consists of a display, keyboard, and other components which you have selected from a variety of options. These components, along with certain software parameters, form a system configuration. After installing the hardware, a description of your particular system's configuration must be recorded on your workstation processor for use by the software. The System Configuration Utility is used for this purpose.

If you are configuring an existing system that has been upgraded and your Hardware Checklist in Appendix A, Hardware Configuration, is not up-to-date, proceed to Checking Your System Configuration, and then continue to run the System Configuration Utility. The System Configuration Utility must be run whenever a system component is upgraded.

If you are configuring a new system, that is, you have just completed installing your hardware and have recorded all requested information on the Hardware Checklist in Appendix A, Hardware Configuration, proceed to the section "Running the System Configuration Utility".

If you have just installed the Control Store Upgrade Kit on the Mesa Processor Board, you also need to perform the tasks described in Appendix C, Control Store Upgrade, in addition to the tasks described in this chapter.

Note: Hardware must be installed and powered on before running the System Configuration Utility.

Checking Your System Configuration

If you are not sure of your system configuration, or if this is not an initial installation, check the system components before you run the System Configuration Utility. As you check each system component, record the information in the Configuration Table in Appendix A, Hardware Configuration. You will need this information to run the System Configuration Utility.

Keyboard

Four types of keyboards are defined as follows:

- AI keyboard has 28 special function keys.

- US keyboard has 10 keys on the bottom row between the left and right shift keys.

- European keyboard has 11 keys between the left and right shift keys.

- Japanese keyboard has Kanji (Japanese) characters on the keycaps.

Rigid Disk

Seven types of rigid disks are available:

- 10Mb Rigid Disk Model-1
- 20Mb Rigid Disk Model-1
- 20Mb Rigid Disk Model-2
- 20Mb Rigid Disk Model-3
- 40Mb Rigid Disk Model-1
- 40Mb Rigid Disk Model-2
- 80Mb Rigid Disk Model-1

Open the rear cover on the back of the processor unit. Locate the C7 label towards the bottom. C7 is the rigid disk. On the rigid disk (C7) is a label that identifies the type and size of rigid disk.

Note: Unless you replaced the disk or upgraded your processor to a different disk, your configuration is preset with the correct disk type.

Memory Size

Six memory sizes are available:

- 1.1 Mb
- 1.6 Mb
- 2.1 Mb
- 2.6 Mb
- 3.2 Mb
- 3.7 Mb

Look at the C2 slot on the back of the processor unit. If there is no special label on the C2 slot, you have 1.1 Mb of memory. If the C2 slot has a Memory Expansion Board (MEB) installed, there will be an MEB label as shown in Figure 3-1 on the following page. The presence of the label indicates a memory size of 1.6 Mb.

Memory can be further expanded in increments of 0.512 Kb with Memory Expansion Chip Kits. Each 0.512 Kb memory increment corresponds to one Memory Expansion Chip Kit.

Above the MEB label are grids with letters in it. The grids are marked off to reflect each 0.512 Kb increment of memory obtained by installing Memory Expansion Chip Kits. A single grid is marked off for each Memory Expansion Chip Kit installed (0.512 Kb increment). For example,

Grid Letter Marked	Memory Size on MEB	No. of IC Rows	Total Memory
(no mark)	1.1 MB	1	1.6 MB
A	1.6 MB	2	2.1 MB
B	2.1 MB	3	2.6 MB
C	2.6 MB	4	3.2 MB
D	3.2 MB	5	3.7 MB

The label in Figure 3-1 has no grids marked off, and therefore represents 1.6 Mb of memory.

Circuit Boards:
MEB - C2
PCE - C5
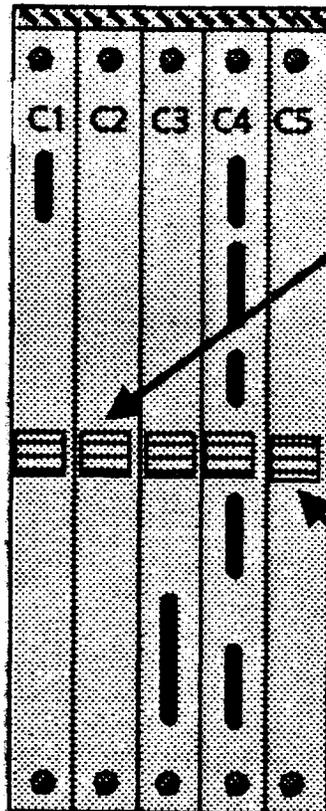
A	B	C
D	E	F

MEB		
140K01000		P/N
1	2	3
4	5	6
7	8	9

A	B	C
D	E	F

PCE		
140K03220		P/N
1	2	3
4	5	6
7	8	9

Figure 3-1. Circuit Board Slots on the Processor Unit

Ethernet Network Connection

At the top of the C4 slot on the back of the processor is a cable connector outlet labeled "Enet". If you have a cable connected to this outlet and the cable is also attached to an Ethernet, then you have a networked workstation.

PCE Board

If you have a PCE board installed in the C5 slot on the back of your processor, then you will have a label marked PCE as shown in Figure 3-1.

Automatic Diagnostics

Not implemented at this time.

Running the System Configuration Utility

Running the System Configuration Utility consists of the following tasks:

● Install the System Configuration Utility.

● Log In.

● Display the current configuration.

● Set or change the configuration to reflect the configuration of your system.

● Record your configuration on the processor.

The procedures to perform the above tasks are described below.

Install the System Configuration Utility

For workstations that are not connected to a network supporting software downloading, install the utility with the System Configuration Utility floppy disk. (Workstations must have floppy disk drives.) Follow the procedure described in "Installation from Floppy Disks", below.

For workstations that are connected to a network supporting software downloading, retrieve the System Configuration Utility from the network. Follow the procedure described in "Installation from the Network", below.

Installation from Floppy Disks

1. Insert the disk labeled *Offline Diagnostics Disk #1* in the floppy disk drive and close the door.

2. Press the B Reset button on the processor front panel. Boot icons, which represent the function keys at the top of your keyboard, appear across the bottom of your screen.

3. Press the F2 key in the top row of function keys.

   A small window with numbers cycling through it will appear in the top left corner of your screen. When the number cycle reaches 0990, a new window will appear, with the word RUNNING in the upper left corner. This indicates that the *Offline Diagnostics Disk #1* is being loaded.

   The following message is displayed when the disk has been loaded:

   Please insert second diagnostic floppy disk. Is the floppy disk ready? Y

4. Open the door of the floppy disk drive and remove the disk. Insert the disk labeled *Offline Diagnostics Disk #2* into the floppy disk drive, close the door, and press <RETURN>. The following message appears on your screen:

   Loading diagnostics from the second floppy disk
   ....

   Wait for completion of loading, then proceed to "Log In", below.

Installation from the Network

1. Press the B Reset button on processor front panel. Boot icons, which represent the function keys at the top of your keyboard, appear across the bottom of the screen.

2. Press the F3 key in the top row of function keys.

3. Proceed to "Log In", below.

Log In

After the System Configuration Utility software is copied and loaded, the following menu appears on the screen:

What class of user do you belong to?

> *1 - Normal User*

> *2 - System Administrator*

> *3 -Technical Support*

Please enter selection:

1. Type *1* and press <RETURN> to select the option *Normal User*.

    The following menu appears on the screen:

    Available Selections

    > *1 - Ethernet Tests*

    > *2 - Floppy Disk Tests*

    > *3 - Floppy Disk Utility*

    > *4 - Formatter, Scavenger and Bad Page Utilities*

    > *5 - Rigid Disk Tests*

    > *6 - KeyboardIDisplayIMouseIBeeper Tests*

    > *7 - System Configuration Utility*

    Please enter selection:

2. Type *7* and press <RETURN> to select *System Configuration Utility*.

    The following menu appears on the screen:

    Available Selections

    > *1 - Set Configuration*

    > *2 - Show Configuration*

    > *3 - Go To Previous Menu*

    Please enter selection:

3. Proceed to "Show the Current Configuration", below.

Show the Current Configuration

1. Type *2* and press <RETURN> to select the option ***Show Configuration***. The current configuration data appears.

2. Check that the data displayed corresponds to the system configuration data you recorded in one of the following places:

   - On the Hardware Checklist in Appendix A, Hardware Configuration (for new systems just installed)

   - In the Configuration Table in Appendix A, Hardware Configuration (for existing systems that have been upgraded)

3. If the configuration information displayed does not correspond. to your actual configuration, press <RETURN>. The System Configuration Utility menu appears. Skip step 4 and proceed to "Set the Configuration", below.

4. If the configuration information correctly corresponds to your actual configuration, then you do not have to configure your hardware. Press the B Reset button on the processor front panel and proceed to run system checkout (see Chapter 4, New System Checkout).

Set the Configuration

The next series of messages contains questions about the configuration you require. Answer each question using the information you have recorded in one of the following places:

- On the Hardware Checklist in Appendix A, Hardware Configuration (for new systems just installed)

- In the Configuration Table in Appendix A, Hardware Configuration (for existing systems that have been upgraded)

As each question appears, a number is displayed next to the cursor indicating the current configuration option set for that item.

CAUTION

If you do not answer the configuration questions correctly as instructed, your workstation will not know about its correct configuration. This may cause your system to work improperly at some later time.

---

1. Type *1* and press <RETURN> to select the *Set Configuration* option.

   A menu appears on the screen, asking for the type of keyboard.

   What language is your keyboard?

2. Type the number corresponding to the type of keyboard you have and press <RETURN>.

   A menu appears on the screen, asking for the type of rigid disk.

   Which rigid disk do you have?

3. If this is the initial installation of your system, the response has been preset to reflect the rigid disk type you have. Press <RETURN> to continue.

   If you have upgraded or changed your rigid disk, type the number corresponding to the type of rigid disk you have and press <RETURN>.

   A menu appears on the screen, asking for the size of installed memory.

   What is the installed memory size?

4. Type the number corresponding to the memory size you have and press <RETURN>.

   A question appears on your screen, asking about a floppy drive.

Which floppy disk drive do you have?

5. Type the number corresponding to the memory size you have and press <RETURN>.

   A question appears on the screen, asking about an Ethernet network connection.

   Do you have an Ethernet network connection? [YIN]

6. If you have a network connection, type *Y*. If you have a standalone system which is not on a network, type *N*.

   A question appears on the screen, asking about the personal computer option.

   Do you have a PC Option? [YIN]

7. Type *Y* if you have a PCE board installed, or type *N* if you do not have a PCE board installed.

   A question appears on the screen, asking about the local printer option.

   Do you have the LP Option? [YIN]

8. Type *Y* if you have a local printer attached to your processor, or type *N* if you do not have local printer attached.

   A question appears on the screen, asking how many bits are needed for virtual memory.

   How many bits are needed for virtual memory?

9. Type the number corresponding to the bits you need and press <RETURN>.

   A question appears on the screen, asking about how you want diagnostics run.

   Do you want diagnostics to be run automatically when you reset or turn on your processor? [YIN]

10. Type *N*. Automatic diagnostics are not implemented.

CAUTION

Hardware diagnostics from the rigid disk is not implemented at this time. Answering **Y** to this question will cause unpredictable results. See Chapter 4, New System Checkout, for more information.

---

11. Proceed to "Record Your Configuration on the Processor", below.

Record Your Configuration on the Processor

At this point, you have indicated the options you want to have set, but they have not been recorded on your processor. The new configuration answers you have selected along with the currently set configuration data are displayed at the bottom portion of the display.

1. A question appears on the screen, asking whether you want your workstation to be reconfigured.

   Do you want your workstation reconfigured with the option you have selected? [Y/N]

   - Type **Y** if you want to record your new configuration and have it replace the current configuration. Proceed to step 2 below.

   - Type **N** if you do not want to record your new configuration and have it replace the current configuration. If you type **N**, the following message appears:

     The user has aborted the hardware configuration store process

     Press any key to return to the System Configuration Utility menu to choose an option.

- Choose the option *Show Configuration*, which will display the configuration data you started with.

- Choose the option *Set Configuration* to reset the configuration of your system. If you choose this option, you return to Set Configuration, above, and follow the instructions. Do not continue with the following steps.

2. A prompt appears on the screen, asking you to confirm your selection.

Please confirm that you want your workstation reconfigured with the options you have selected. [Y/N]

- Type *Y* to confirm and record your new configuration, or type N to abort.

  A message appears indicating that the hardware configuration has been completed. A table shows the current configuration (which has been replaced) along with the new configuration (which you have just recorded on your processor). Go to step 3, below.

- Type *N* to abort. Follow the information in the note in step 1, above.

3. Press any key to return to the System Configuration Utility menu.

Note: You may now choose the *Show Configuration* option to see that the new configuration data is shown. If you have to correct any errors, choose the *Set Configuration* option again.

Your system configuration data should now reflect the actual system configuration you have. If you installed the utility from a floppy disk, remove the disk from the floppy disk drive. Press the B Reset button on the processor front panel and proceed to run system checkout (see Chapter 4, New System Checkout).

After the workstation is installed and configured, certain system diagnostics must be run to verify that the hardware is functioning properly. These system diagnostics can be run from a floppy disk or the network. Two types of system diagnostics are available:

- System checkout
- Rigid disk confidence test

System checkout takes between 11 and 25 minutes to complete, depending on memory size, and is run first. The rigid disk confidence test takes about 4 minutes to complete, and is run second. If any problems are detected during either procedure, contact Customer Support for further instructions.

To run these system diagnostics from floppy disks, see the following sections:

- "Running New System Checkout from a Floppy Disk", page 54.

- "Installing the Rigid Disk Confidence Test from Floppy Disks", page 56.

- "Running the Rigid Disk Confidence Test", pages 57-58.

To run these system diagnostics from the network, see the following sections:

- "Running New System Checkout from the Network", page 55.

- "Installing the Rigid Disk Confidence Test from the Network", page 57.

- "Running the Rigid Disk Confidence Test", pages 57-58.

Running New System Checkout
from a Floppy Disk

Volume 4

1. Insert the disk labeled *Offline Diagnostics Disk #2* in the floppy disk drive and close the door.

2. Press the B Reset button on the processor front panel. Boot icons, which represent the function keys at the top of your keyboard, appear across the bottom of your screen.

3. Press the F6 key within 30 seconds after the boot icons appear. This initiates a special diagnostic boot from the floppy and automatically starts the system checkout.

   While these diagnostics are running, various maintenance codes will be displayed at the top center of the screen. In addition, various patterns will appear on the screen at different times. During the test, there will be extended periods of time (up to three minutes on large memory systems) during which there is no change in the state of the display. This is normal and is no cause for concern.

4. If the test completes successfully (the boot icons will appear on the screen), proceed to "Installing the Rigid Disk Confidence Test from Floppy Disk", below.

5. If an error is detected, the system alternately displays two sets of 4-digit alphanumeric characters at the top center of the screen. Each set of characters is displayed for approximately one second.

6. Type *R*. The system displays a single 4-digit number representing a maintenance action code. Call Customer Support and provide them with this information. Customer Support will provide you with further instructions.

Running New System Checkout
from the Network

1. Press the B Reset button on the processor front panel. Boot icons, which represent the function keys at the top of your keyboard, appear at the bottom of your screen.

2. Press the F7 key within 30 seconds after the boot icons appear. This initiates a special diagnostic boot from the network and automatically starts the system checkout.

    While these diagnostics are running, various maintenance codes will be displayed at the top center of the screen. In addition, various patterns will appear on the screen at different times. During the test, there will be extended periods of time (up to three minutes on large memory systems) during which there is no change in the state of the display. This is perfectly normal and is no cause for concern.

3. If the test completes successfully (the boot icons will appear on the screen), proceed to "Running Rigid Disk Confidence Test from the Network", below.

4. If an error is detected, the system alternately displays two sets of 4-digit alphanumeric characters at the top center of the screen. Each set of characters is displayed for approximately one second.

5. Type *R*. The system displays a single 4-digit number representing a maintenance action code. Call Customer Support and provide them with this information. Customer Support will provide you with further instructions.

Installing the Rigid Disk Confidence Test from Floppy Disks

Volume 4

1. Insert the disk labeled *Offline Diagnostics Disk #1* in the floppy disk drive and close the door.

2. Press the B Reset button on the processor front panel. Boot icons, which represent the function keys at the top of your keyboard, appear across the bottom of your screen.

3. Press the F2 key on your keyboard when the boot icons appear.

   A small window with numbers cycling through it will appear in the top left corner of your screen. When the number cycle reaches 0990, a new window will appear, with the word RUNNING in the upper left corner. This indicates that the *Offline Diagnostics Disk #1* is being loaded.

   The following message is displayed when the disk has been loaded:

   Please insert second diagnostic floppy disk. Is the floppy disk ready? Y

4. Open the door of the floppy disk drive and remove the disk. Insert the disk labeled *Offline Diagnostics Disk #2* into the floppy drive, close the door, and press <RETURN>. The following message appears on your screen:

   Loading diagnostics from the second floppy disk....

5. Press the F2 key within 30 seconds after the boot icons appear. This initiates a normal boot from the floppy disk. After the boot completes, the following message appears on the screen:

   Enter any key to continue.

6. Time parameters will have to be entered at this time; type **?** if you are unsure of the parameters. Press <RETURN>.

7. Proceed to "Running the Rigid Disk Confidence Test", below.

Installing the Rigid Disk Confidence Test from the Network

1. Press the B Reset button on the processor front panel. Boot icons, which represent the function keys at the top of your keyboard, appear at the bottom of your screen.

2. Press the F3 key within 30 seconds after the boot icons appear. This inititates a normal boot from the network.

3. Proceed to "Running the Rigid Disk Confidence Test", below.

Running the Rigid Disk Confidence Test

After the Rigid Disk Configuration Test software is copied and loaded, the following menu appears on the screen:

What class of user do you belong to?

1 - Normal User

2 - System Administrator

3 - Technical Support

Please enter selection:

1. Type *1* and press <RETURN> to select *Normal User*. The following menu appears on the screen:

Available Selections

   1 - Ethernet Tests

   2 - Floppy Disk Tests

   3 - Floppy Disk Utility

   4 - Formatter, Scavenger and Bad Page Utilities

   5 - Rigid Disk Tests

   6 - Keyboard/Display/Mouse/Beeper Tests

   7 - System Configuration Utility

Please enter selection:

2. Type **5** and press <RETURN> to select **Rigid Disk Tests**. The following menu appears on the screen:

   Rigid Disk Tests

      1 - Confidence Test

      2 - Display Options

      3 - Go To Previous Menu

   Please enter selection:

3. Type **1** and press <RETURN> to select **Confidence Test**.

   The test displays various subtest descriptions as it runs them. If the test is successful, the word **PASSED** will appear in large block letters.

   If **PASSED** appears, continue to step 4.

   If **FAILED** appears, skip step 4 and continue to step 5.

4. System diagnostics are now complete. Ignore the message **Enter any key to continue** that appears on the screen and proceed to the section on software installation in the *1186 User's Guide*.

5. If a problem is encountered, a message indicating the problem will be displayed on the screen. Call Customer Support and provide them with this information. Customer Support will provide you with further instructions.

A.   HARDWARE CONFIGURATION

This appendix contains two places to record your hardware configuration:

- Hardware Checklist
- Configuration Table

Hardware Checklist

Record your hardware configuration by placing a checkmark in the appropriate boxes. The recorded information will be necessary when you run the System Configuration Utility after all hardware is installed. Consult your System Administrator if you have any questions.

Processor Serial #: _____

Keyboard Type:

[ ] AI (configure as U.S.)
[✓] U.S.
[ ] European
[ ] Japanese

Ethernet Connection:

[ ] Yes
[✓] No

Rigid Disk Type and Size:

[ ] 10Mb Rigid Disk Model-1
[ ] 20Mb Rigid Disk Model-1
[ ] 20Mb Rigid Disk Model-2
[ ] 20Mb Rigid Disk Model-3
[ ] 40Mb Rigid Disk Model-1
[ ] 40Mb Rigid Disk Model-2
[ ] 40Mb Rigid Disk Model-1

Floppy Disk Drive:

[✓] Yes
[ ] No

Personal Computer Emulation (PCE) Board:

[ ] Yes
[✓] No

Memory Expansion Board:

[✓] Yes

Memory sizes available:

[ ] 1.1 Mb (without Memory Expansion Board)
[ ] 1.6 Mb
[ ] 2.1 Mb
[ ] 2.6 Mb
[ ] 3.2 Mb
[✓] 3.7 Mb

Configuration Table

Hardware Component	Configuration
Keyboard	_____
Rigid Disk*	_____
Memory	_____
Floppy Disk Drive	_____
Ethernet Connection	_____
Personal Computer Emulation (PCE)	_____
Automatic Diagnostics	_____
Display Size	_____

* The rigid disk option is preset to indicate the rigid disk size shipped as part of the initial system. Do not change this option unless the rigid disk is upgraded or replaced.

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B. RIGID DISK DRIVE INSTALLATION

CAUTION

The replacement of the rigid disk drive deletes all of your current files from the machine. Before replacing the rigid disk drive, make sure all files are backed up, either to a floppy or a file server.

---

1. Switch off system power and unplug the power cord from the wall.

2. Access the back of the processor.

3. Remove the processor's rear cover by squeezing the latches and swinging the cover down. An inner wall is exposed.

4. Unplug the AC and display power cords from the power supply.

5. Use a small screwdriver to pry the lower right of the cover (your right as you face the rear of the processor unit) at the pivot point between the cover and the frame. Remove the cover.

6. Unscrew the cable retention bar at the bottom rear of the processor unit. Remove all the cables beneath the bar.

7. Unscrew the disk drive retaining screw.

8. Slide the rigid disk out of the processor.

Note: Before installing the disk drive, write down the model number and the bad page table located on the disk drive.

Disk Drive Model: _____
Bad Page Table: _____
Bad Page Table: _____
Bad Page Table: _____

---

9. Slide the new rigid disk into the processor.

10. Screw in the disk drive retaining screw.

11. Tighten the thumbscrews on the disk drive until they are finger tight.

12. Plug in the AC and display power cords.

13. Install the rear cover by installing the lower left side of the cover first (your left as you face the rear of the procesor unit). Pry the lower right side of the pivot point inward and push the cover into place.

14. Place all the cables beneath the cable retention bar and tighten the screw securing the cables under the retention bar.

15. Close the rear cover of the processor by squeezing the latches together and then firmly pressing the rear cover to the back of the processor. When the door is properly closed, the cover is flush with the rear panel of the processor.

16. Insert the end of the power cord into the wall outlet and switch the power button on the processor unit to ON.

17. If upgrading, run the System Configuration Utility and set the appropriate configuration options to enable the rigid disk drive. See Chapter 3, System Configuration Utility, for information on running the System Configuration Utility.

18. Run diagnostics to ensure that your disk drive is fully operational. See Chapter 4, New System Checkout, for complete diagnostic procedures.

C.   CONTROL STORE UPGRADE

When you install the Control Store Upgrade Kit on the Mesa Processor Board, you need to run the System Configuration Utility to inform your workstation processor of this upgrade. This running of the System Configuration Utility is in addition to the tasks you performed in Chapter 3, System Configuration Utility.

Running the System Configuration Utility consists of the following tasks:

- Install the System Configuration Utility.
- Log in.
- Set the control store parameters.
- Write the EEPROM.

The procedures to perform the above tasks are described below.

Install the System Configuration Utility

For workstations that are not connected to a network supporting software downloading, install the utility with the System Configuration Utility floppy disk. (Workstations must have floppy disk drives.) Follow the procedure described in "Installation from Floppy Disks", below.

For workstations that are connected to a network supporting software downloading, retrieve the System Configuration Utility from the network. Follow the procedure described in "Installation from the Network", below.

Installation from Floppy Disks

1. Insert the disk labeled *Offline Diagnostics Disk #1* in the floppy disk drive and close the door.

2. Press the B Reset button on the processor front panel. Boot icons, which represent the function keys at the top of your keyboard, appear across the bottom of your screen.

3. Press the F2 key in the top row of function keys.

   A small window with numbers cycling through it will appear in the top left corner of your screen. When the number cycle reaches 0990, a new window will appear, with the word RUNNING in the upper left corner. This indicates that the *Offline Diagnostics Disk #1* is being loaded.

   The following message is displayed when the disk has been loaded:

   Please insert second diagnostic floppy disk. Is the floppy disk ready? Y

4. Open the door of the floppy disk drive and remove the disk. Insert the disk labeled *Offline Diagnostics Disk #2* into the floppy drive, close the door, and press <RETURN>. The following message appears on your screen:

   Loading diagnostics from the second floppy disk....

   Wait for completion of loading, then proceed to "Log In", below.

Installation from the Network

1. Press the B Reset button on processor front panel. Boot icons, which represent the function keys at the top of your keyboard, appear across the bottom of your screen.

2. Press the F3 key in the top row of function keys.

3. Proceed to "Log In", below.

Log In

After the System Configuration Utility software is copied and loaded, the following menu appears on the screen:

What class of user do you belong to?

1 - Normal User

2 - System Administrator

3 - Technical Support

Please enter selection:

1. Type **2** and press <RETURN> to select the option **System Administrator**. Type **rgmsn** and press <RETURN> in response to the prompt **Please enter password:**

    The following menu appears on the screen:

    Available Selections

    1 - Ethernet Tests

    2 - Floppy Disk Tests

    3 - Floppy Disk Utility

    4 - Formatter, Scavenger and Bad Page Utilities

    5 - Rigid Disk Tests

    6 - Keyboard/Display/Mouse/Beeper Tests

    7 - System Configuration Utility

    Please enter selection:

2. Type **7** to select **System Configuration Utility**.

The following menu appears on the screen:

System Configuration Utility

1 - Set RAM Bad Pages

2 - Set Boot Device Parameters

3 - Set Default Boot Diagnostics Parameters

4 - Set Display Parameters

5 - Set Floppy Disk Parameters

6 - Set Keyboard Parameters

7 - Set Memory Size

8 - Set PC and Other Option Boards Parameters

9 - Set Rigid Disk Parameters

10 - Set VM and Control Store Parameters

11 - Set Hardware Version Number

12 - Recalculate And Display EEPROM Checksum

13 - Read Actual EEPROM Contents and abort all modifications

14 - Show modified EEPROM Contents (in Hex format) to be written

15 - Show modified EEPROM Contents to be written

16 - Write EEPROM with Manufacturing Defaults

17 - Write EEPROM

18 - Go To Previous Menu

Please enter selection:

3. Type *10* and press <RETURN> to select the option *Set VM and Control Store Parameters.*

4. Proceed to "Set Control Store Parameters", below.

Set Control Store Parameters

CAUTION

If you do not answer the configuration questions correctly as instructed, your workstation will not know about its correct configuration. This may cause your system to work improperly at some later time.

---

1. Type **10** and press <RETURN> to select the option *Set VM and Control Store Parameters*.

    The following menu appears on your screen:

    Set VM and Control Store Parameters

    > *1 - Set Virtual Memory Size*

    > *2 - Set Control Store Size*

    > *3 - Return To The Previous Menu*

    Enter selection choice

2. Type **2** and press <RETURN> to select the option *Set Control Store Size*.

    At this point, the following menu appears on the screen:

    > *Set Control Store Size*

    > *1 - 4K*

    > *2 - 8K*

    Enter selection choice

3. Type **2** and press <RETURN> to select the option *8K*.

The following menu appears on the screen:

Set VM and Control Store Parameters

1 - Set Virtual Memory Size

2 - Set Control Store Size

3 - Return To The Previous Menu

Enter selection choice

4. Type *3* and press <RETURN> to select the option *Return to Previous Menu*.

The following menu appears on the screen:

System Configuration Utility

1 - Set RAM Bad Pages

2 - Set Boot Device Parameters

3 - Set Default Boot Diagnostics Parameters

4 - Set Display Parameters

5 - Set Floppy Disk Parameters

6 - Set Keyboard Parameters

7 - Set Memory Size

8 - Set PC and Other Option Boards Parameters

9 - Set Rigid Disk Parameters

10 - Set VM and Control Store Parameters

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13 - Read Actual EEPROM Contents and abort all modifications

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15 - Show modified EEPROM Contents to be written

16 - Write EEPROM with Manufacturing Defaults

17 - Write EEPROM

18 - Go To Previous Menu

Please enter selection:

5. Proceed to *Write EEPROM,* described below.

Write EEPROM

1. Type *17* and press <RETURN> to select the option *Write EEPROM.*

   The following menu appears on the screen:

   Write EEPROM

   > *1 - Confirm the Write EEPROM Selection*
   >
   > *2 - Return To The Previous Menu*

   Enter selection choice

2. Type *1* and press <RETURN> to select the option *Confirm the Write EEPROM Selection.*

   The following prompt appears on your screen:

   > *Booting will use new EEPROM values. Do you still wish to continue? [Y/N]*

3. Type *Y.* The following message appears on the screen:

   > *EEPROM has been successfully written. Please note that you must RE-BOOT the workstation in order for the changes you have made to take effect.*

4. Reboot the system and run Boot Diagnostics to check the new configuration. See the *1186 User's Guide* for complete instructions.

CAUTION

Use the Boot Diagnostics software marked Version 1.2h or later.

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B Reset	Meaning "boot reset", the red button on the front of your processor unit.
boot	Short for bootstrap, a machine-level software routine that facilitates system start-up. Also describes the process of loading a boot file onto a computer.
boot icons	The pictorial representations on the bottom of your display screen that show the boot types available on your system. Same as **boot soft keys** below.
boot soft keys	The on-screen representations of the ten function keys on the keyboard.
CRT	Abbreviation for Cathode-Ray Tube. Your display screen is an example of a cathode-ray tube. An electron beam focused on a small cross-section of a luminescent screen produces a visible pattern. The beam can be varied in intensity and location to display any form.
cursor code	Displayed in a small square on the screen. The cursor changes to a four-character display to indicate progress, failures, and to help trace problems. Cursor codes are not always displayed. They appear during booting to indicate the progress of the boot operation; when running some diagnostics; and when hardware or software failures occur. On some Xerox machines, these codes are displayed in the maintenance panel of the processor unit, and are therefore called MP codes.
DCE	Abbreviation for Data Communications Equipment. An interface suitable for connection to local printers.

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