



HP 120 Installation Guide



Manual Part No.
45600-90002

Federal Communications Commission Radio Frequency Interference Statement

Warning: This equipment has been certified to comply with the limits for a Class B computing device, pursuant to Subpart J of Part 15 of FCC Rules. Only peripherals (computer input/output devices, terminals, printers, etc.) certified to comply with the Class B limits may be attached to this computer. Operation with non-certified peripherals is likely to result in interference to radio and TV reception.

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Printing History

New editions of this manual will incorporate all material updated since the previous edition. Update packages may be used between editions and contain replacement and additional pages to be merged into the manual by the user. Each updated page will be indicated by a revised date at the bottom of the page. Note that pages which are rearranged due to changes on a previous page are not considered revised.

The manual printing date and part number indicate its current edition. The printing date changes when a new edition is printed. (Minor corrections and updates which are incorporated at reprint do not cause the date to change.)

First Edition—November 1982

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Chapter 1

INTRODUCTION



Welcome to your Hewlett-Packard Series 100. The Personal Office Computer that you selected should become one of your more valuable office tools. Part of the HP 120's value is the ease of installation designed into the system. This guide assists you with all of the installation procedures.

The *HP 120 Installation Guide* gives you everything you need to know to get your HP 120 ready to use. This guide tells you how to put your computer together and install software; it does not tell you how to run your system. (Information on running your system is in the *Series 100 Owner's Manual*.) Since you are probably anxious to start using your HP 120, let's look at how the rest of this guide is organized and then get started connecting your system.

Chap. 2—Installing Your System Processor

Gives step-by-step instructions on setting up your HP 120 system processor.

Chap. 3—Installing Your Disc Drive(s)

Assists with connecting your disc drive(s) to your system processor.

Chap. 4—Installing Your Printer

Tells how to install the paper, ribbon, and printwheel, as well as how to connect your printer to your HP 120 system.

Chap. 5—Installing Your Plotter

Steps through connecting the plotter to your computer system and installing pens and paper.

Chap. 6—Computer Tutor: An Interactive Disc

Tells how you can use your HP 120 to teach yourself computer concepts and verify your system with a special program.

Chap. 7—Preparing Your Blank Discs for Use

Gives instructions for formatting your discs and installing the operating system.

Chap. 8—Installing Your Software

Helps install your software packages (e.g., Series 100/ Word, VisiCalc®, Graphics), preparing your system for daily activities.

App. A—Environmental and Electrical Suggestions

Reviews the system's requirements for the area in which it will operate (environment) and the electrical conditions necessary for operation.

App. B—Where to Go for Help

Gives an overview of support; e.g., classes offered, what your HP Sales & Service Representatives and your Dealer can do for you, and which support plans are available.

App. C—Providing Other Necessities

Lists areas of special attention such as care and management and computer supplies.

App. D—Setting the Series 100 System Configuration

Gives the instructions for setting the configuration and pictures of the correct configuration screen for each system combination.

The Series 100 computers are designed to operate in a typical office setting. Even though there are no extensive electrical preparations that you need to make for your Personal Office Computer, you should give some thought to the area in which you are installing your computer system. The first three appendices (Electrical and Environmental Suggestions, Where to Go for Help, and Providing Other Necessities) give some extra information about your system. If you have any questions about installing your HP 120, try consulting these appendices.

VisiCalc® is a registered trademark of VisiCorp.

Unpacking Your HP 120

Check your original order; the options listed on the invoice should match the contents of the carton and your original order. Be sure that the options you ordered are the ones which arrive with your system.

If there is any evidence of excessive shipping damage (water marks, crushed, dented, or severely scratched boxes), write on the bill of lading "Apparent Damage—subject to inspection," and arrange for both the carrier's representative and the local Customer Engineer to be present when that item is unpacked.

Unpack each carton separately. Check the carton contents against the packing list and your original order form. Keep the manuals, cords, and cables with the component they came with. Keep the components (and their manuals, cables, and cords) separate from one another. Keep and store the cartons and packing material together in case you need to return a component for maintenance or repairs.

When every component has arrived and you've carefully unpacked each carton, you're ready to install your HP 120 computer system.

IMPORTANT

Before installing each part of the system, please, read the entire procedure for installing that part. Be sure you understand all of the steps in the procedure before you try installing the component. If you have any questions, contact the person from whom you purchased your system before you try to install that portion of your system.

Chapter 2

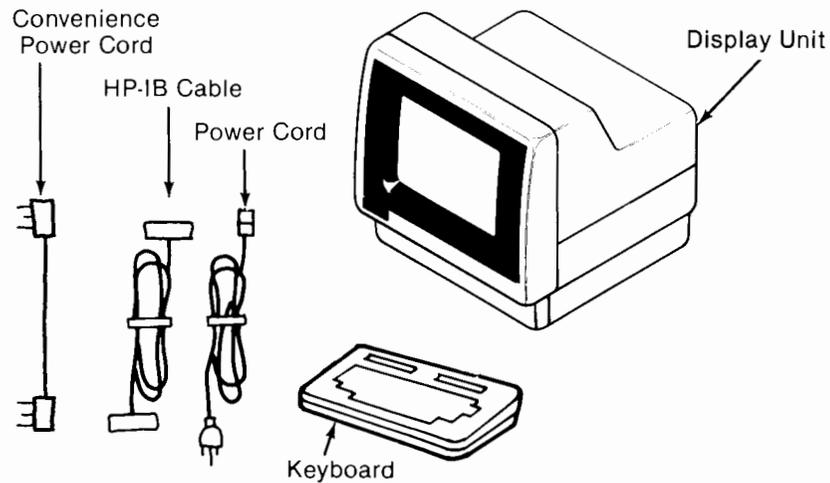
INSTALLING YOUR SYSTEM PROCESSOR



Introduction

Now you are ready to install your HP 120 system. This chapter assists you with connecting the system processor.

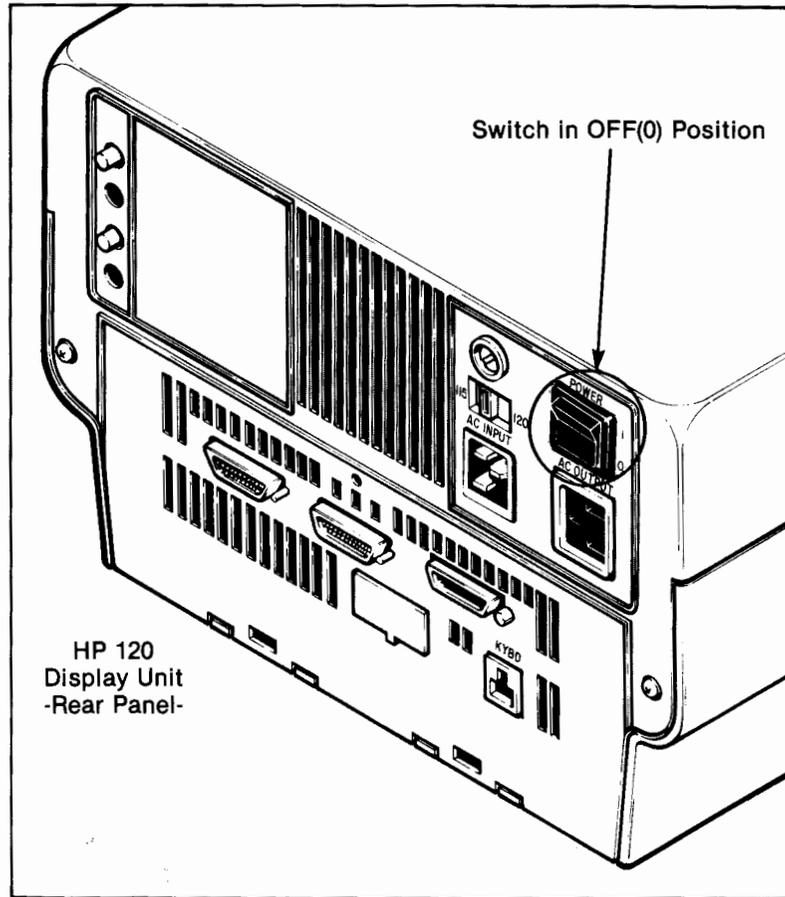
The system processor consists of the keyboard and the display unit.



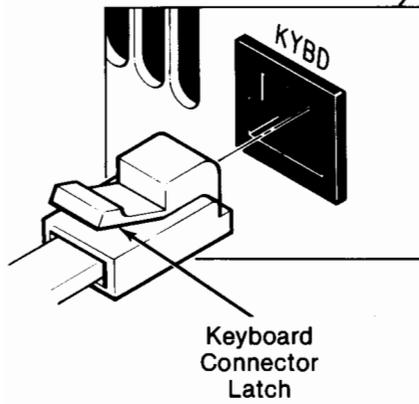
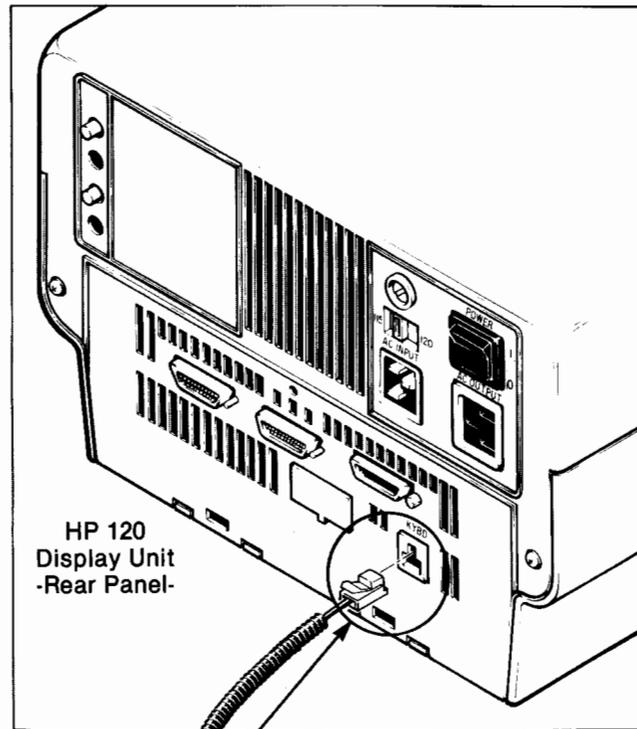
Use the following instructions to connect your system processor.

Installation Procedures

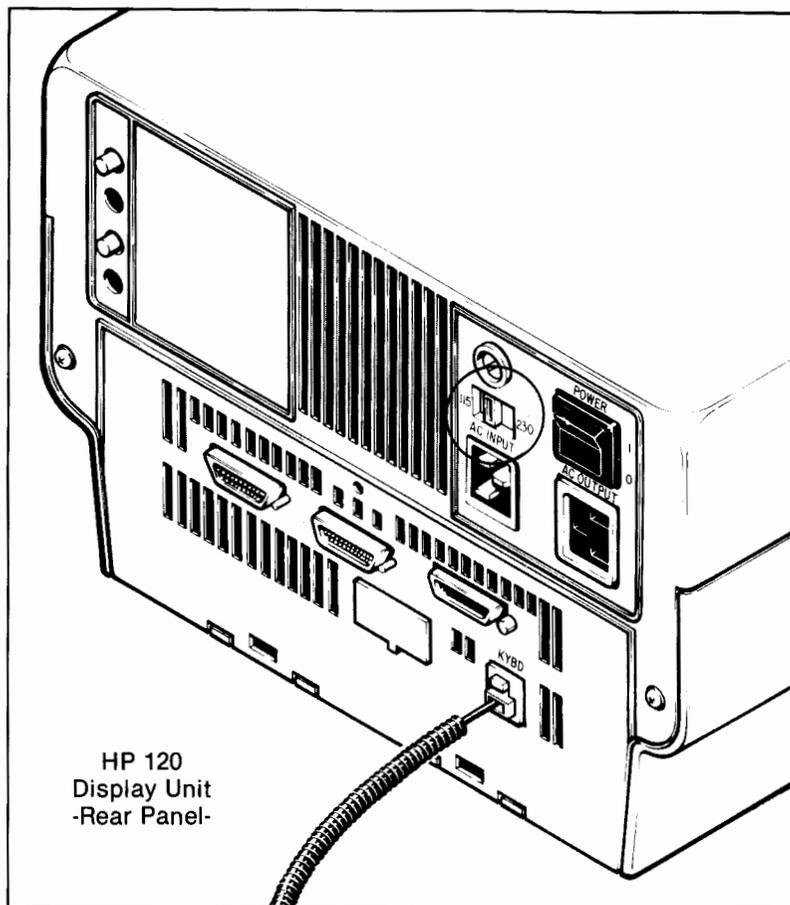
- 1. Be sure the display unit is OFF.



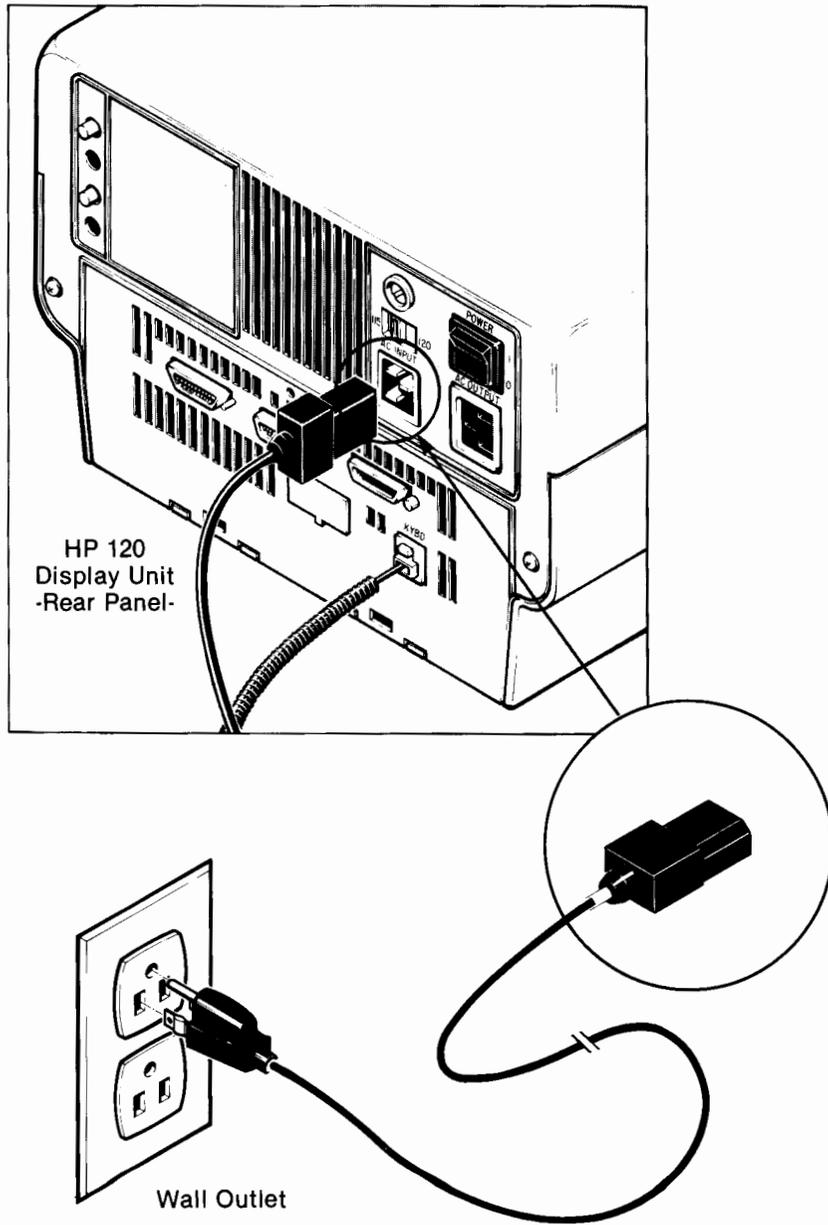
- 2. Connect the keyboard to the display unit's rear panel. Be sure to firmly slide the connector latch in place.



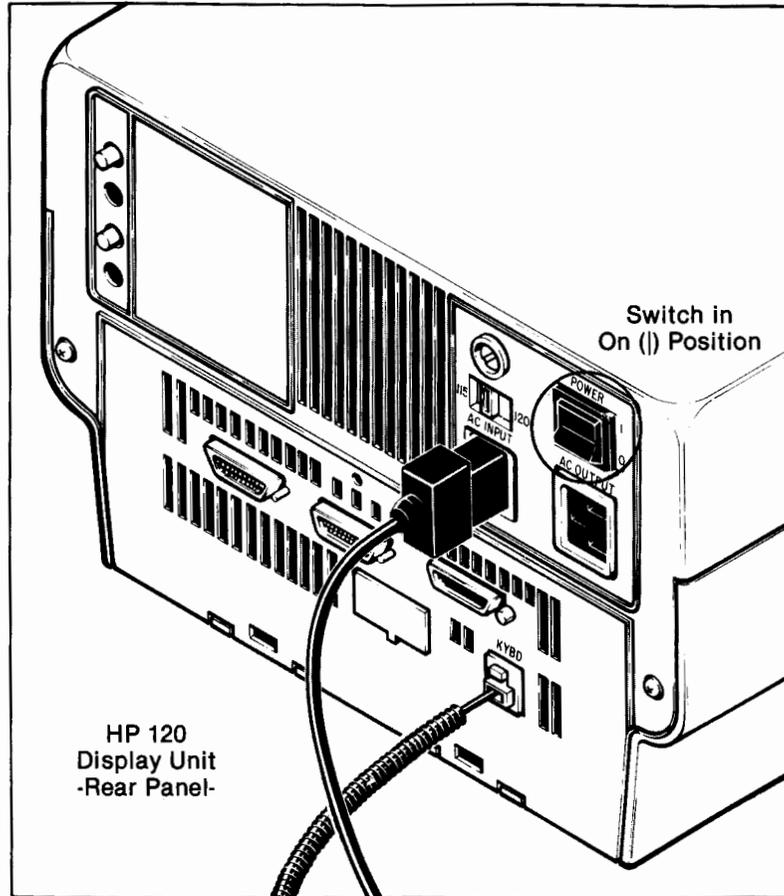
- 3. Set the voltage switch for the voltage in your area. Contact your electric company for your local voltage.



- 4. Remove the tape covering the power cord receptacle. Plug the power cord into the display unit's rear panel and then into the wall outlet.



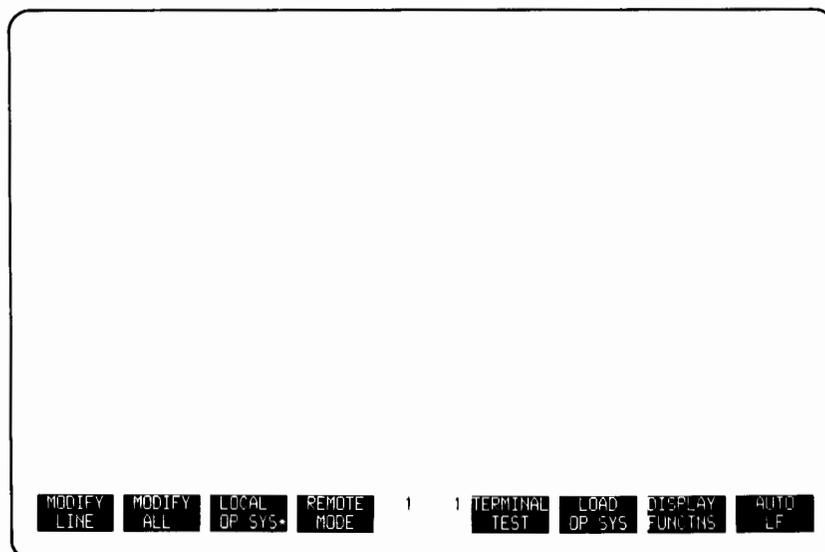
- 5. Turn the display unit ON.



Summary

You have just connected your keyboard and your display unit. You now have a complete system processor.

By now, the following message should appear on the system processor's screen:



If this message or any other message has not appeared, wait another 3 - 5 minutes; new display units sometimes take longer to warm up.

If, after 5 to 10 minutes, there is still no message on the screen, make sure that:

1. The system processor power switch is ON.
2. The system processor is plugged in.
3. The wall outlet's circuit breaker is on.
4. The screen brightness is all the way up. (Adjust the brightness with the knob on the rear panel.)

If all of the above are true, then you need to call the person from whom you purchased your system.

What's Next?

Next you'll connect your disc drives to your system processor. The instructions for "Installing Your Disc Drive(s)" are in Chapter 3.

Chapter 3

INSTALLING YOUR DISC DRIVE(S)



Introduction

In this chapter, you will add a disc drive to your system processor. Any of the following disc drives will work in your HP 120 system:

- HP 9121D**
- HP 9121S**
- HP 9133A
- HP 9134A
- HP 9135A
- HP 9138A*
- HP 9895A
- HP 82901M**
- HP 82902M**

*The HP 9138 disc drive is actually an HP 9134 and an HP 9895 sold together under one model number. Follow the installation instructions under the section "Installing Your HP 9138 Disc Drive."

**You may use the convenience power cord (provided with the system processor) with these models. The convenience power cord plugs into the disc drive and the system processor so that you may turn on your disc drive by turning on the system processor. If you use the convenience power cord, store the power cord supplied with the disc drive.

Each disc drive comes with a set of manuals. Keep the disc drive manuals; you may have questions that are not answered in the Series 100 manuals.

The installation procedures vary for each disc drive, so each model number has its own section of installation instructions in this chapter. The sections appear in the order listed above.

Installing a Second Disc Drive

If you are installing more than one disc drive unit, you need to designate one of the two units as the primary disc drive and the other as the secondary. This lets the computer know where to send and receive information and data.

It does not matter which unit you call primary and which you call secondary. You may have a particular reason for the way you designate your drives. For instance, if you have an HP 9895A (8" dual flexible disc drive) and an HP 82901M (5¼" dual flexible disc drive), you may wish to have your applications running from the drive with the largest capacity, the HP 9895, so that you can fit more applications on your work disc (see Chapter 8 for more on work discs).

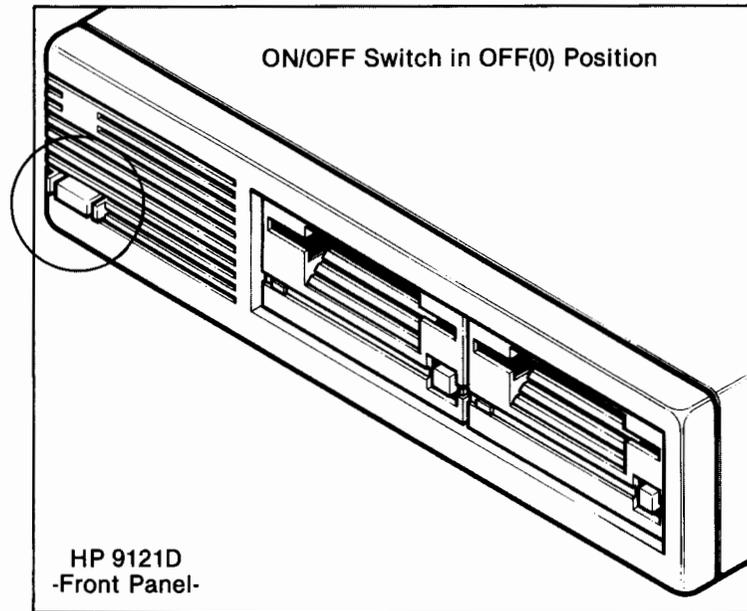
To tell the computer which drive is primary and which is secondary, set the primary drive's address switches according to the model's complete installation instructions in this manual. (Don't worry, the instructions tell you where the switches are.) Set the secondary drive's switches according to the "Secondary Addresses" section which immediately follows the complete installation instructions.

Installation Procedures

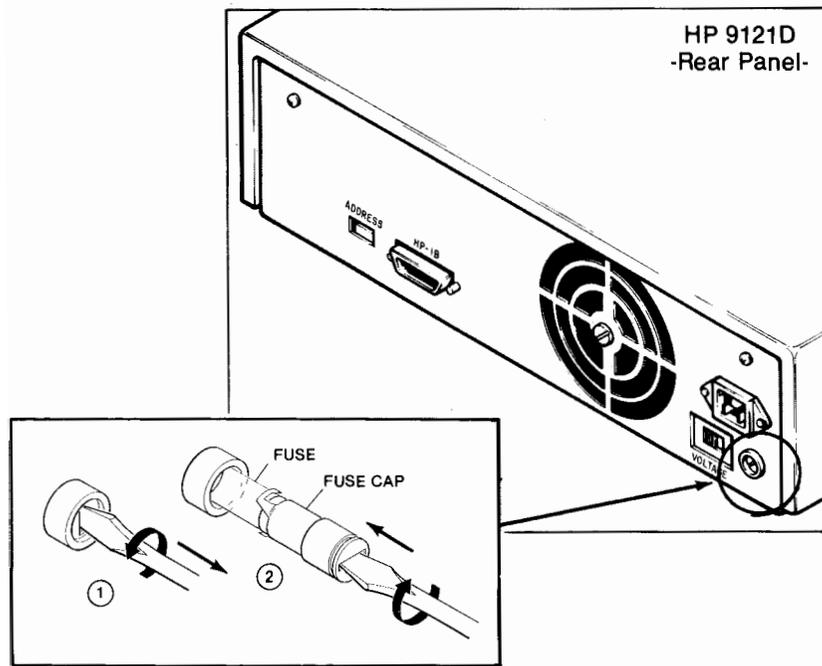
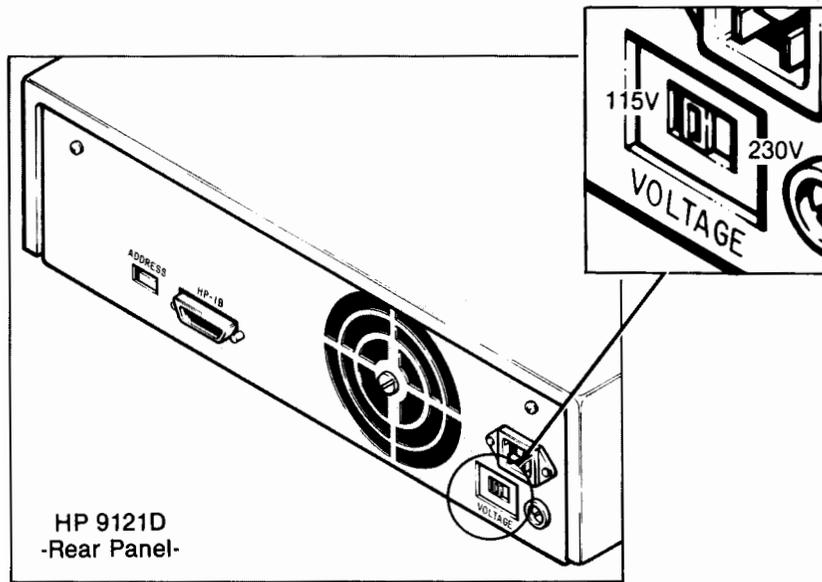
Now, install your disc drive(s) by turning to the section for your disc drive model(s) and follow the directions given there.

Installing Your HP 9121D Disc Drive

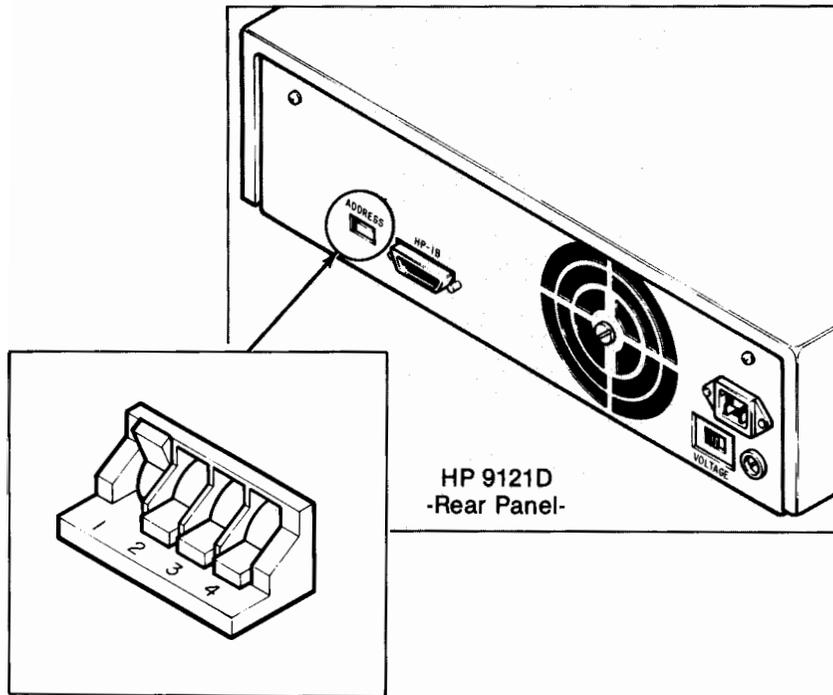
- 1. Be sure the disc drive is OFF.



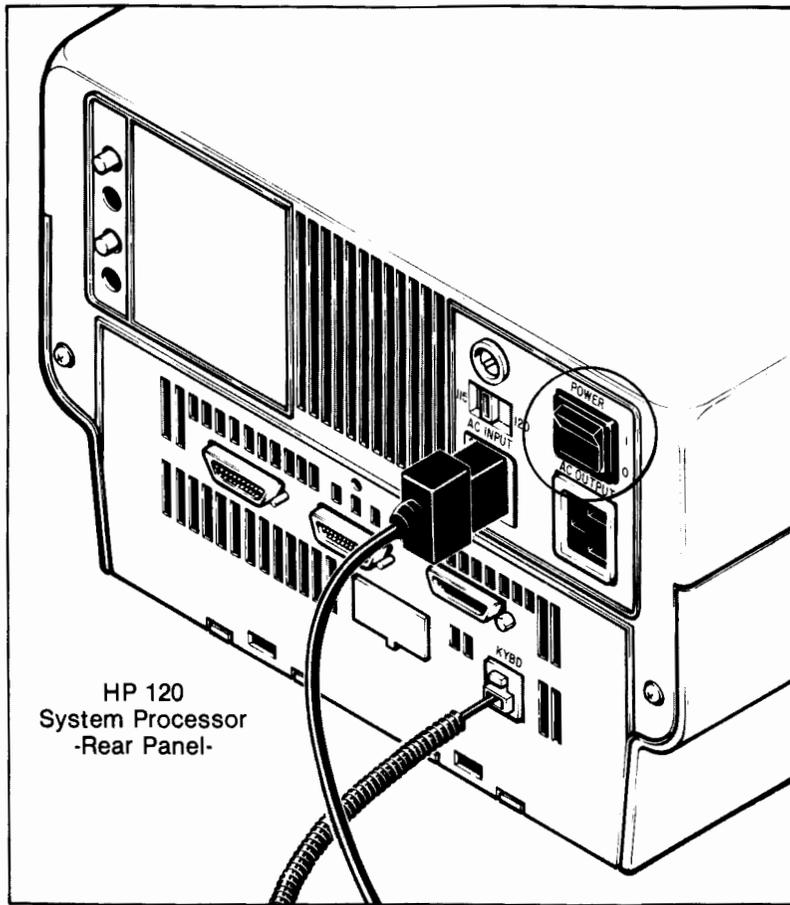
- 2. Install the fuse and set the voltage switches according to the voltage in your area. Ask your local electric company what your area's voltage is.



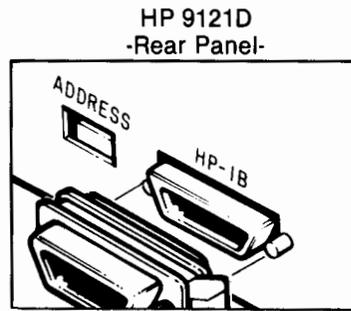
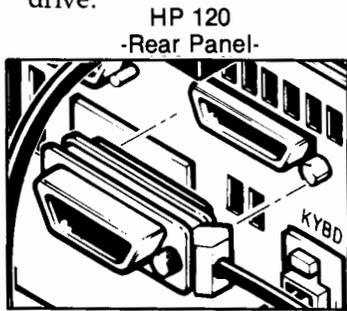
- 3. Set the address switches using a ball-point pen or a small screwdriver.



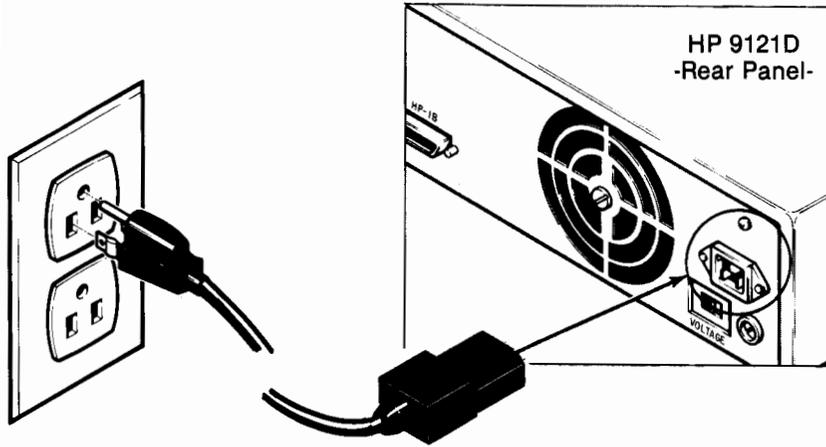
- 4. Turn the system processor OFF.



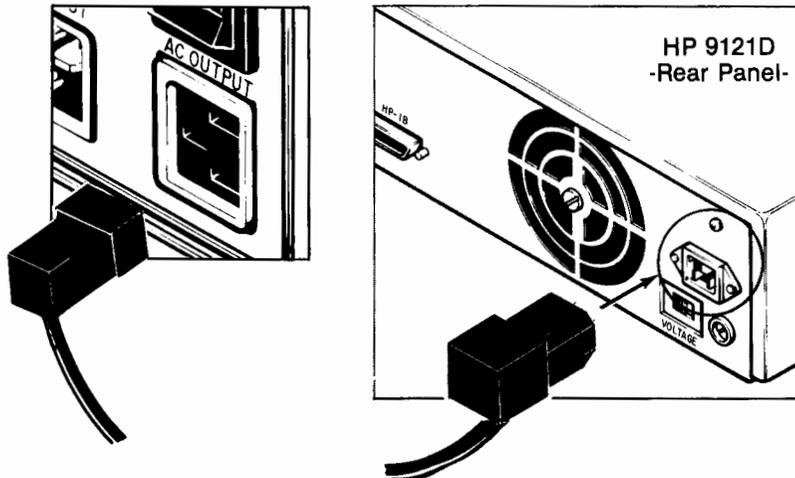
- 5. Connect the HP-IB cable to the system processor and the disc drive.



- 6. Plug the power cord into the disc drive and then into the wall outlet, OR plug the convenience power cord into the disc drive and then the system processor. The system processor's switch now can control the disc drive's power. Leave the disc drive power switch ON and turn the system processor ON and OFF to turn your disc drive on and off. You can still turn your drive on and off with its own power switch, if you wish.



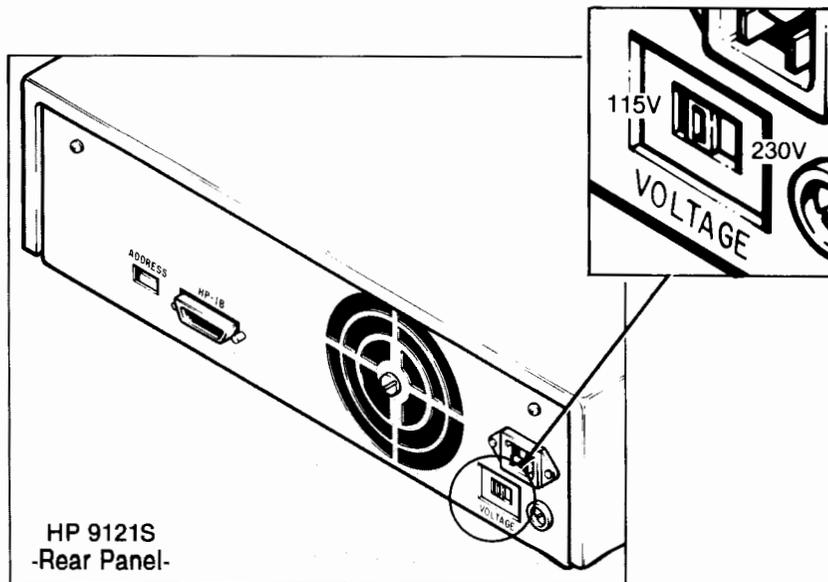
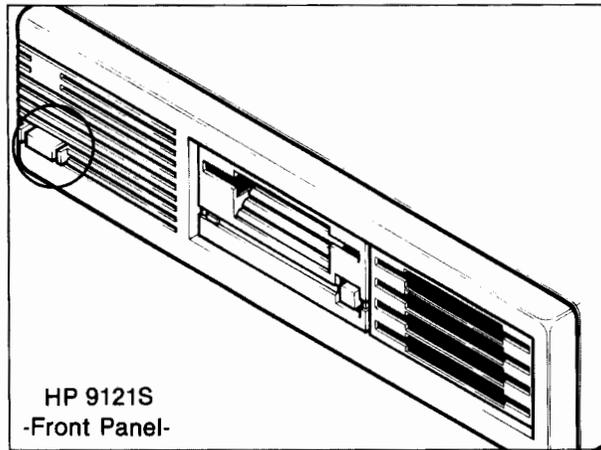
Or



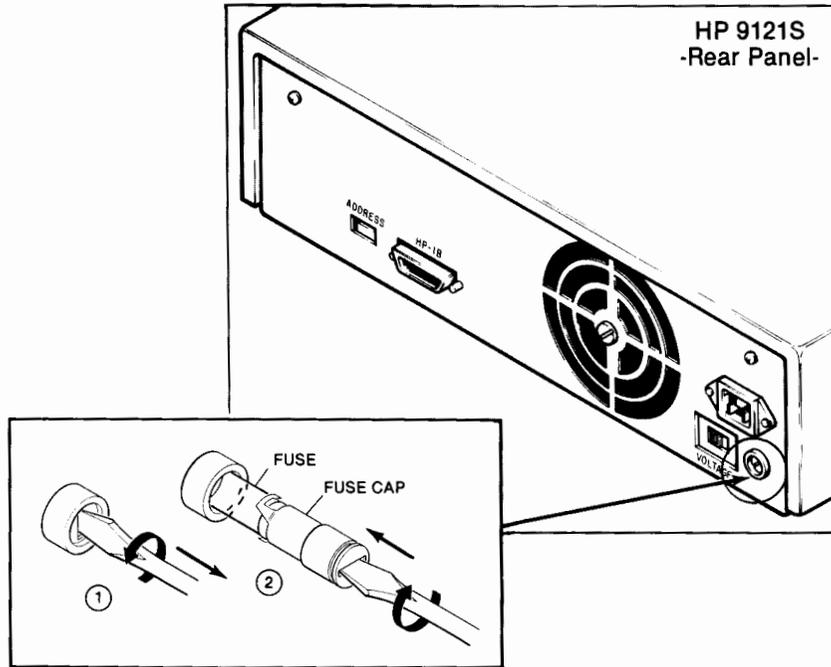
- 7. Be sure to read the summary to this chapter once you've finished installing your disc drive(s).

Installing Your HP 9121S Disc Drive

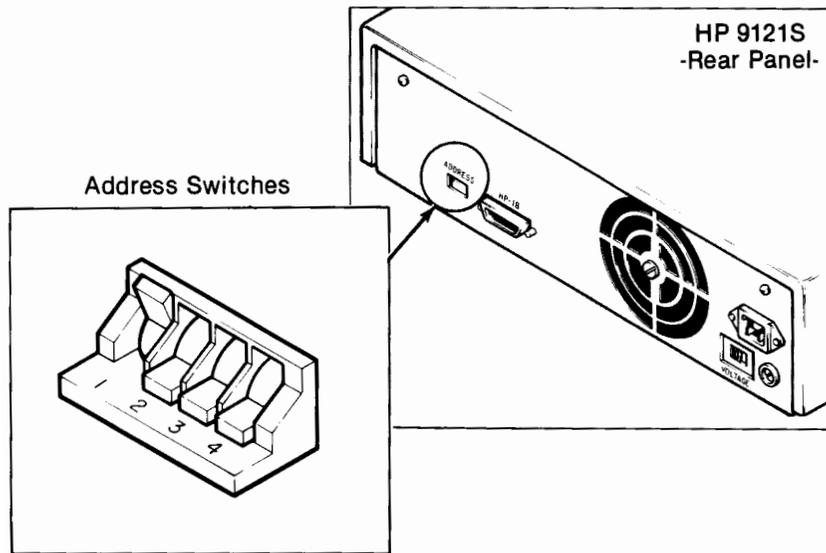
- 1. Be sure the disc drive is OFF.



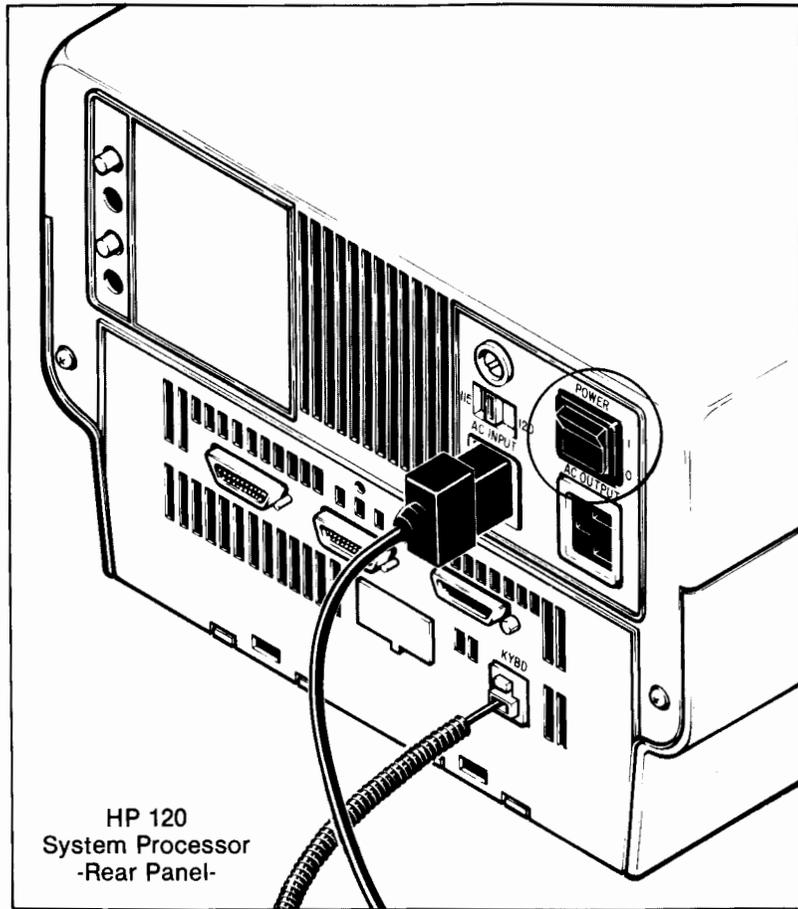
- 2. Install the fuse and set the voltage switches according to the voltage in your area. Ask your local electric company what your area's voltage is.



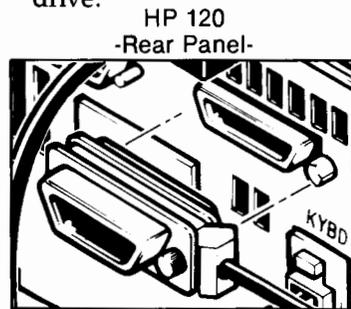
- 3. Set the address switches using a ball-point pen or a small screwdriver.



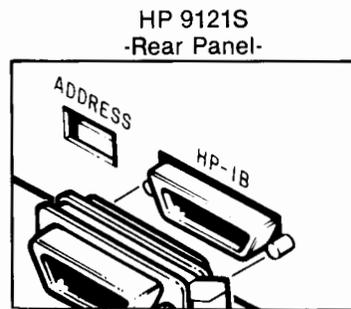
- 4. Turn the system processor OFF.



- 5. Connect the HP-IB cable to the system processor and the disc drive.

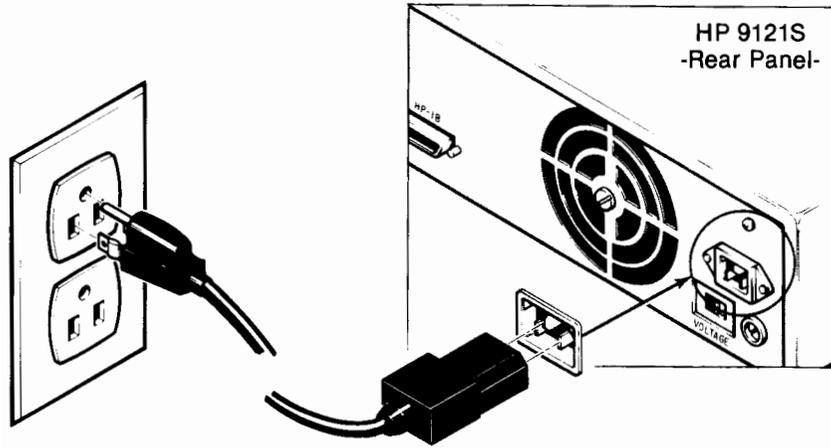


HP-IB
Connector

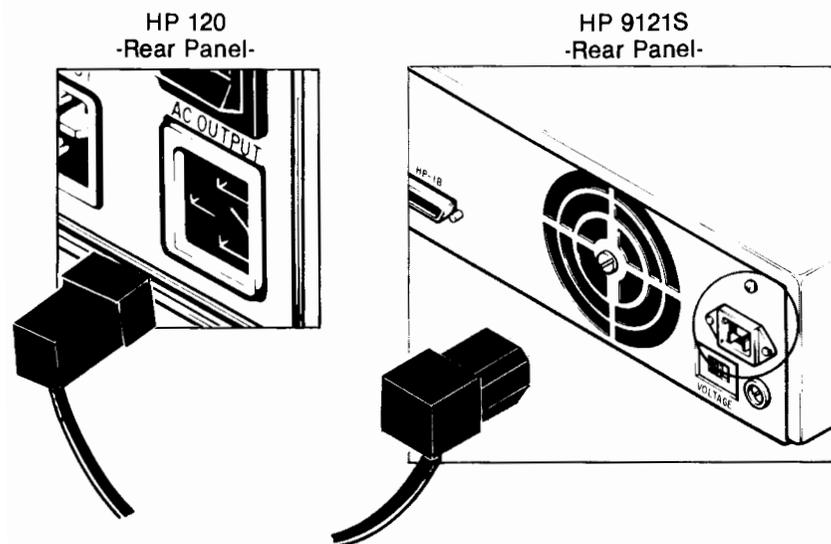


HP-IB
Connector

- 6. Plug the power cord into the disc drive and then into the wall outlet, OR plug the convenience power cord into the disc drive and then the system processor. The system processor's switch now can control the disc drive's power. Leave the disc drive power switch ON and turn the system processor ON and OFF to turn your disc drive on and off. You can still turn your drive on and off with its own power switch, if you wish.



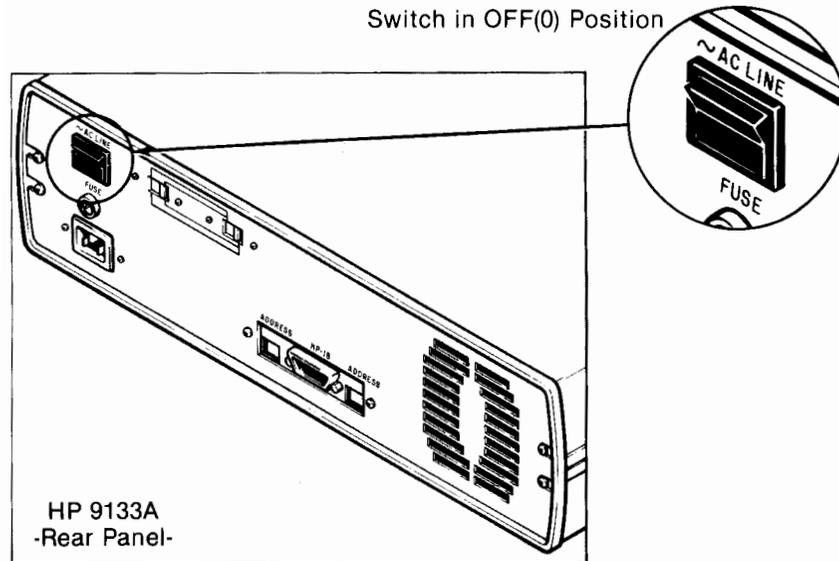
Or



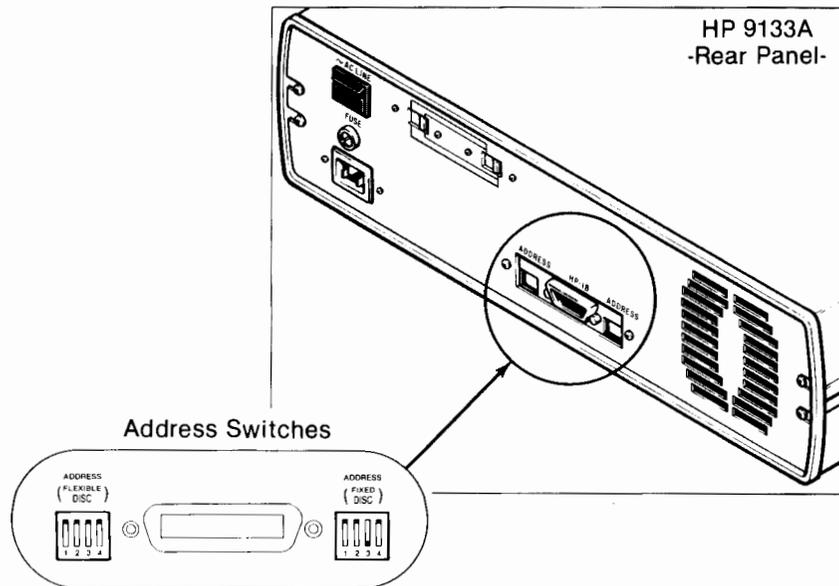
- 7. Be sure to read the summary to this chapter once you've finished installing your disc drive(s).

Installing Your HP 9133A Disc Drive

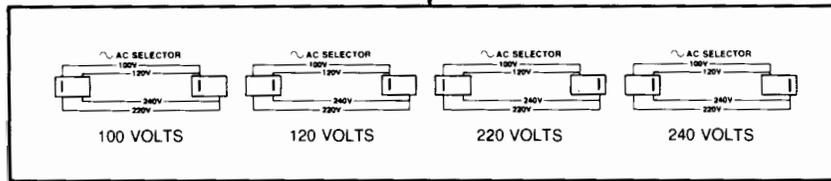
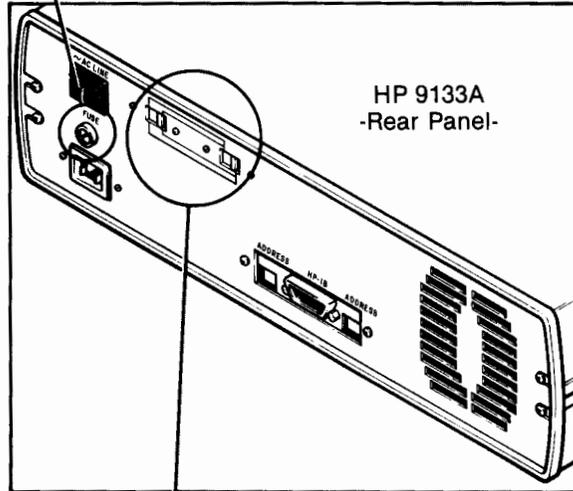
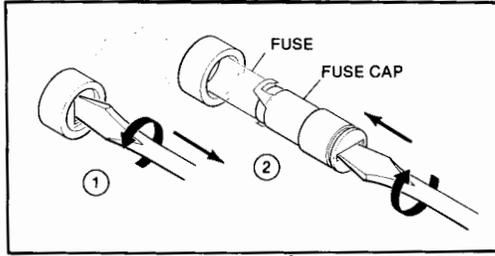
- 1. Be sure the disc drive is OFF.



- 2. Set the address switches using a ball-point pen or a small screwdriver.

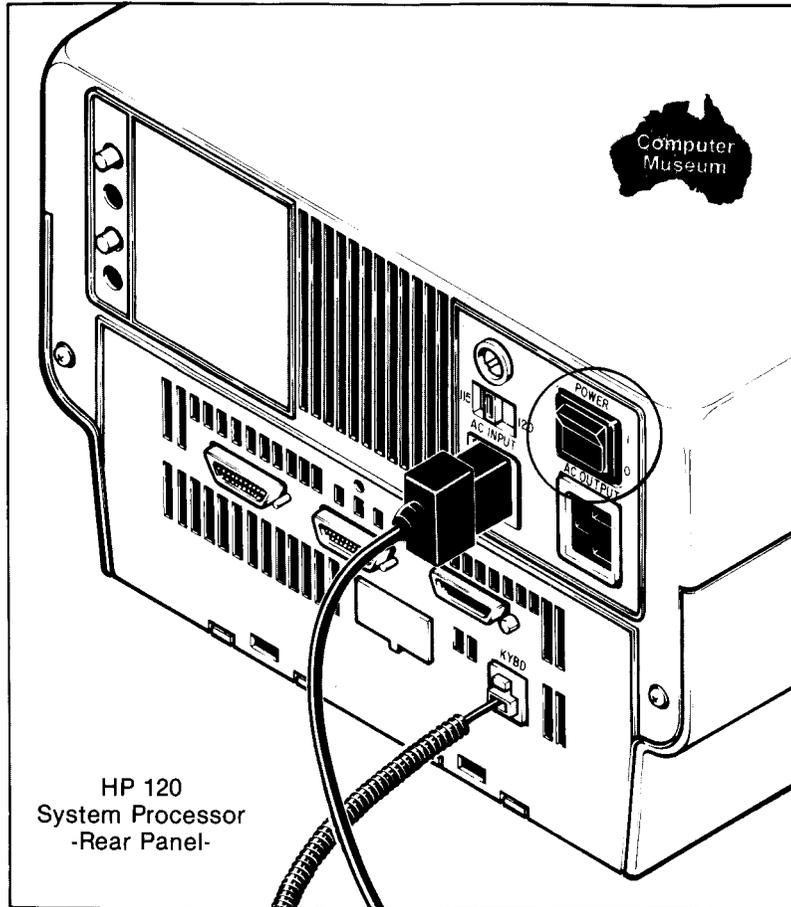


- 3. Install the fuse and set the voltage switches according to the voltage in your area. Ask your local electric company what your area's voltage is.

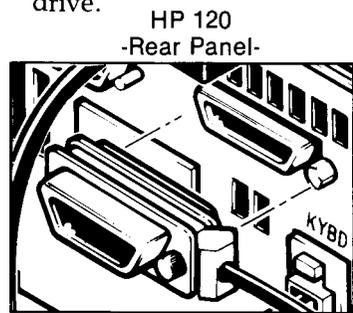


The Four Possible Voltage Settings.

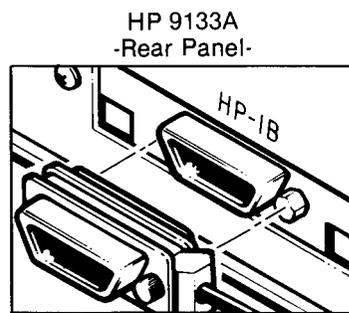
- 4. Turn the system processor OFF.



- 5. Connect the HP-IB cable to the system processor and the disc drive.

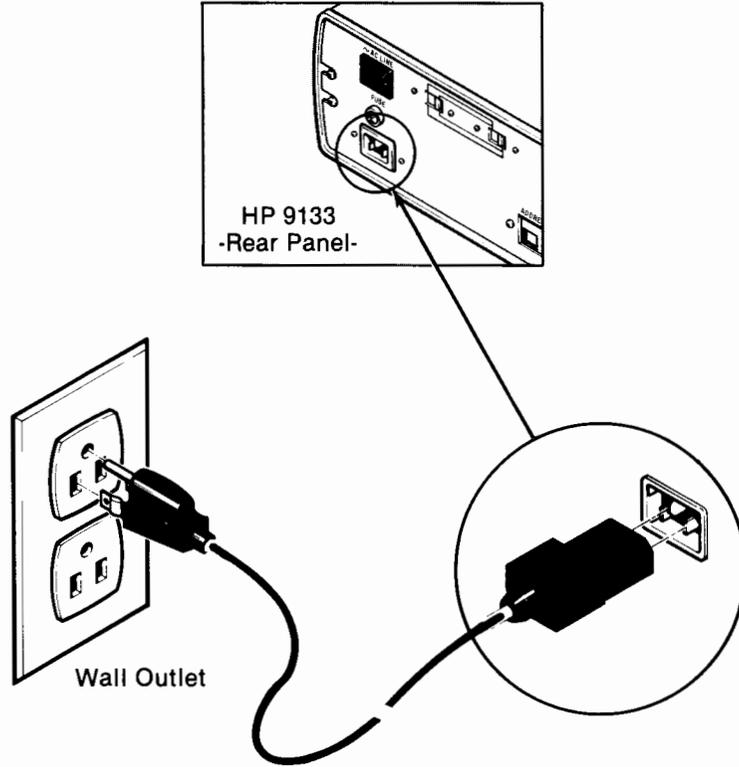


HP-IB Connector



HP-IB Connector

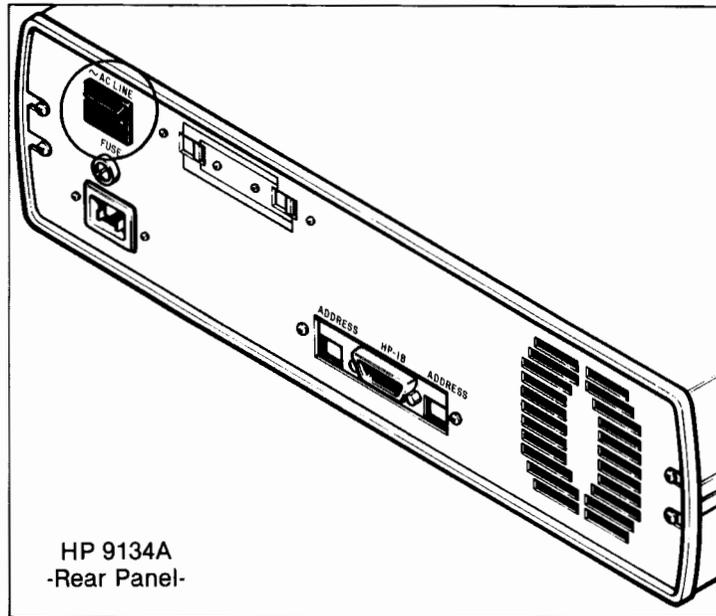
- 6. Plug the power cord into the disc drive and then into the wall outlet.



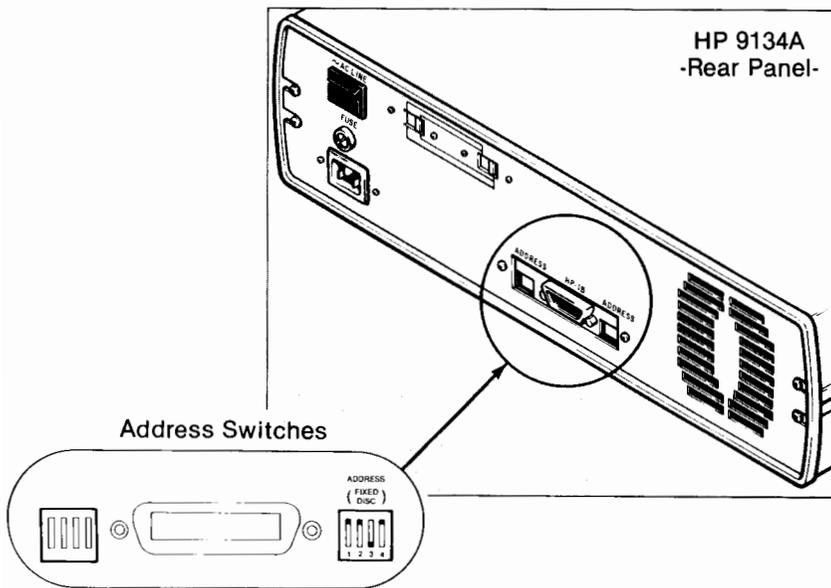
- 7. Be sure to read the summary to this chapter once you've finished installing your disc drive(s).

Installing Your HP 9134A Disc Drive

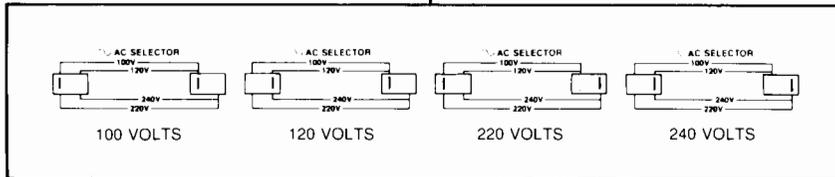
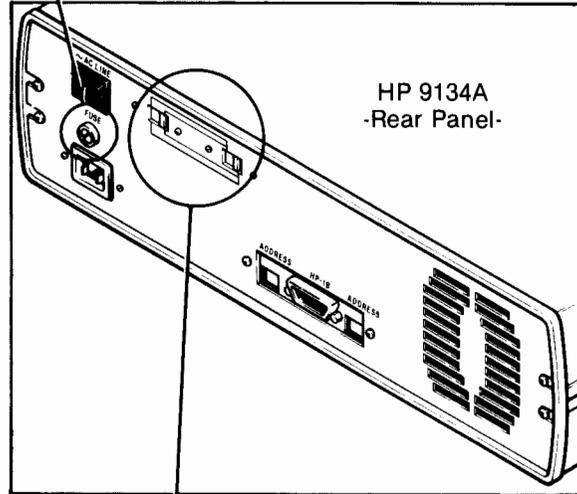
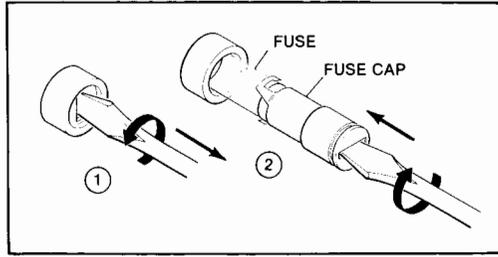
- 1. Be sure the disc drive is OFF.



- 2. Set the address switches using a ball-point pen or a small screwdriver.

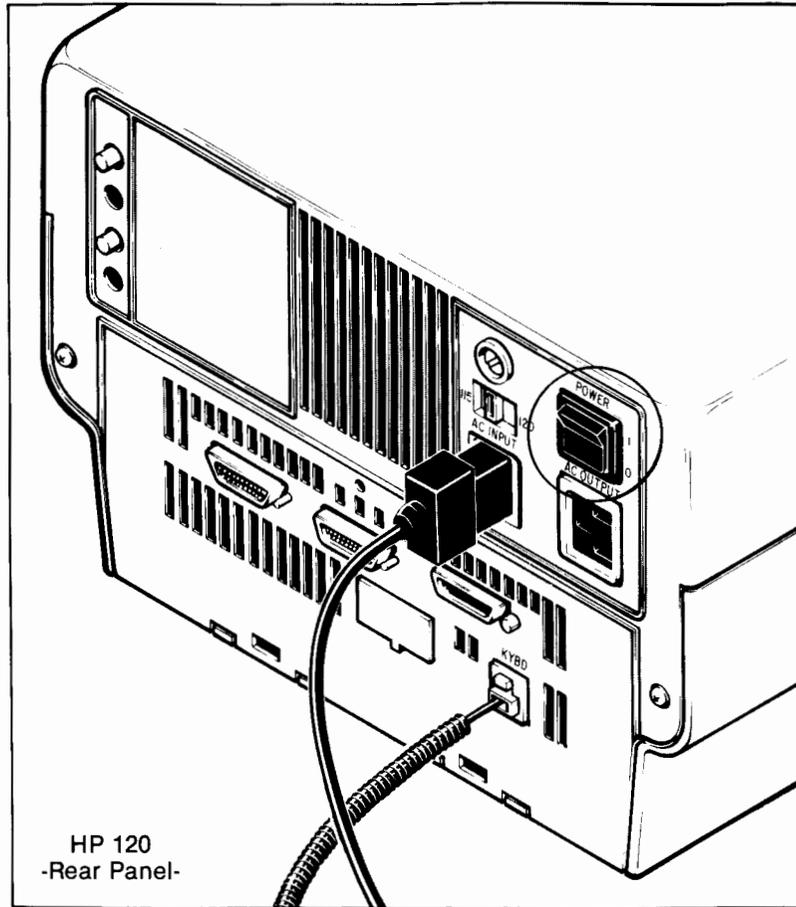


- 3. Install the fuse and set the voltage switches according to the voltage in your area. Ask your local electric company what your area's voltage is.

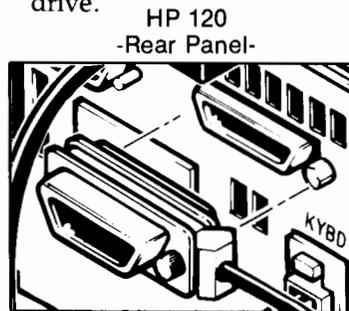


The Four Possible Voltage Settings.

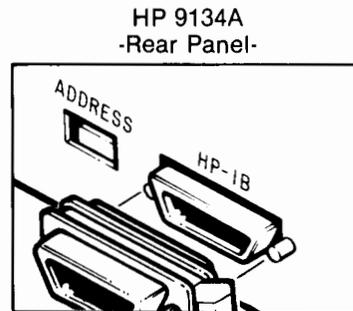
- 4. Turn the system processor OFF.



- 5. Connect the HP-IB cable to the system processor and the disc drive.

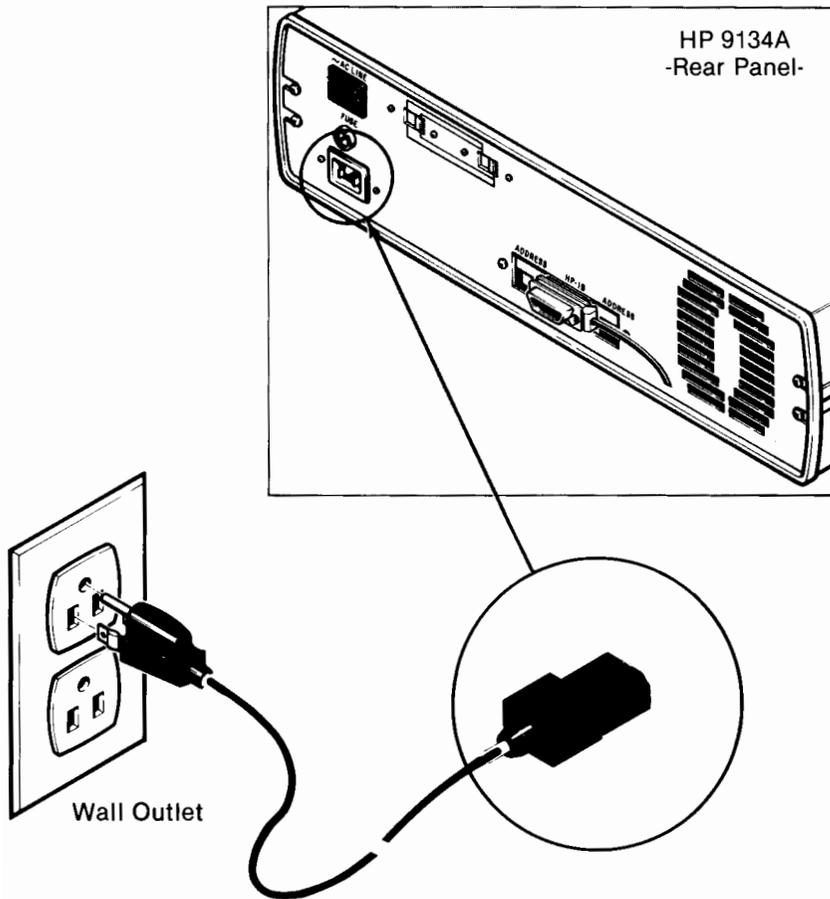


HP-IB
Connector



HP-IB
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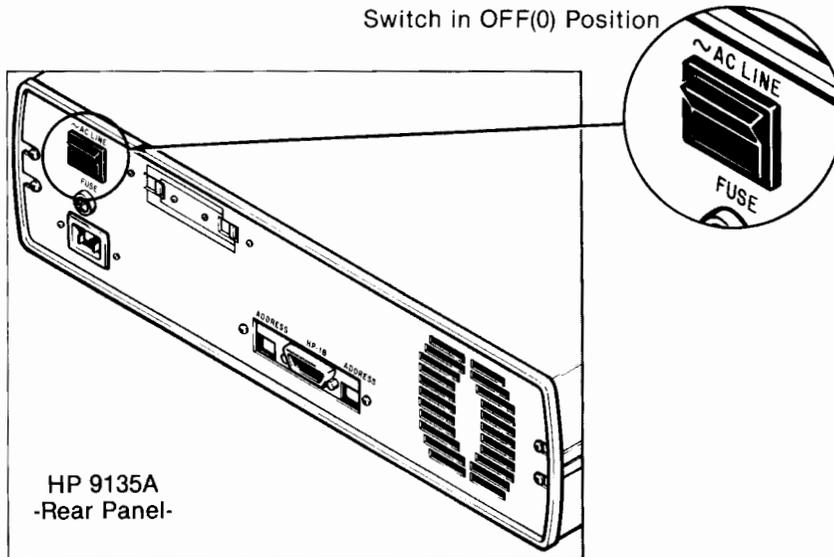
- 6. Plug the power cord into the disc drive and then into the wall outlet.



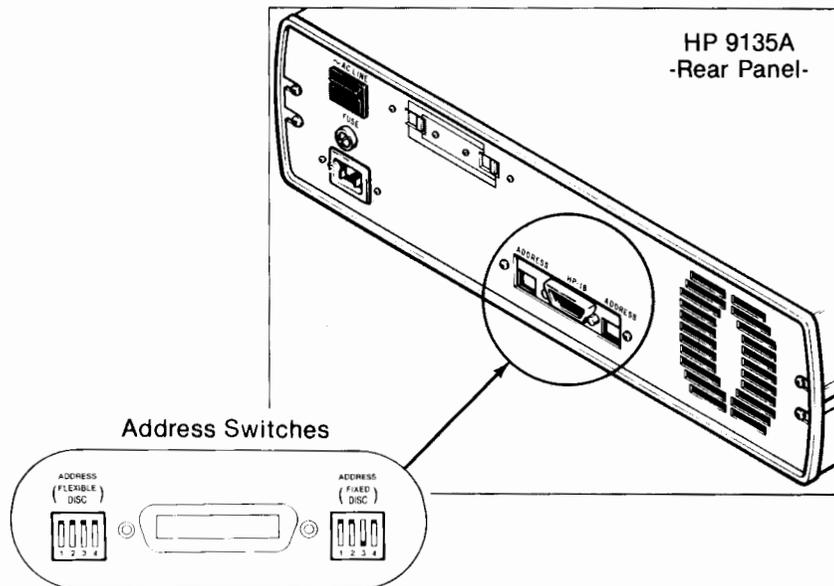
- 7. Be sure to read the summary to this chapter once you've finished installing your disc drive(s).

Installing Your HP 9135A Disc Drive

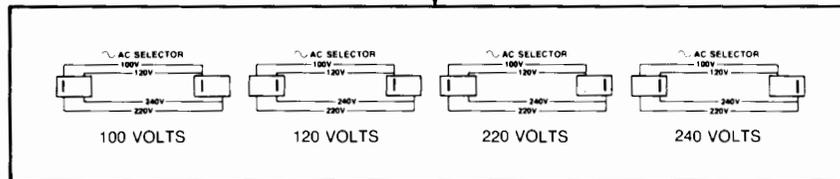
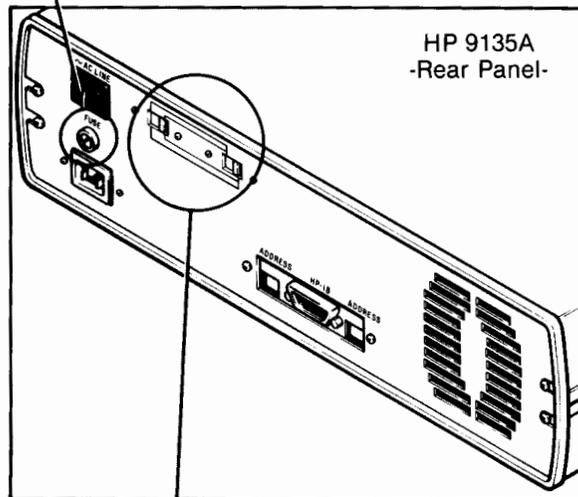
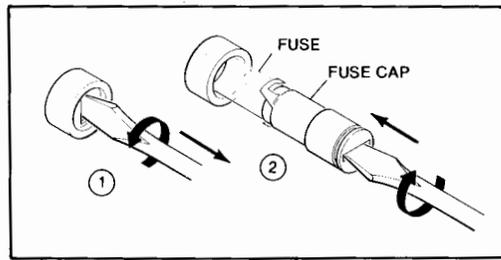
- 1. Be sure the disc drive is OFF.



- 2. Set the address switches using a ball-point pen or a small screwdriver.

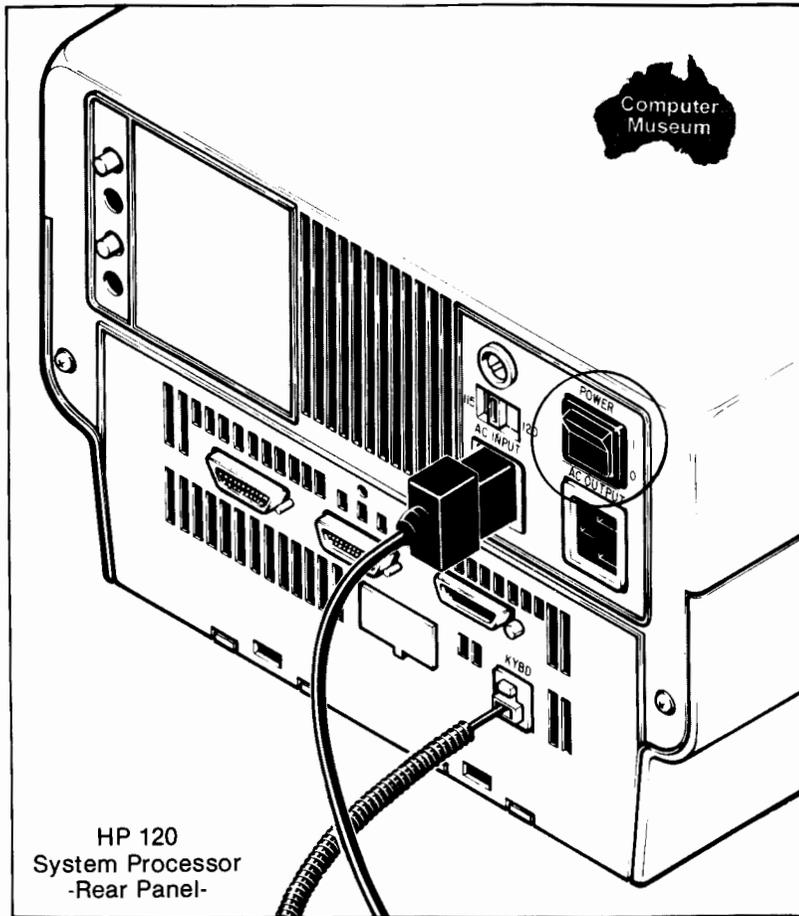


- 3. Install the fuse and set the voltage switches according to the voltage in your area. Ask your local electric company what your area's voltage is.

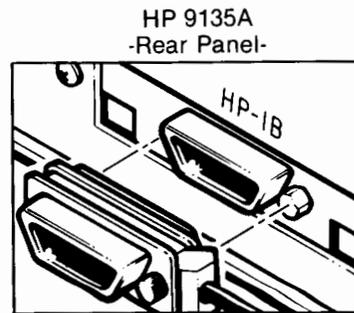
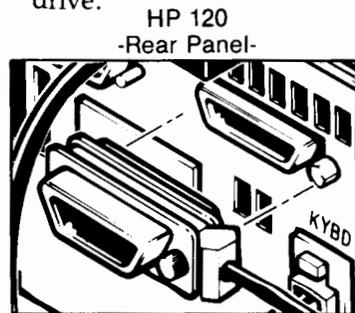


The Four Possible Voltage Settings.

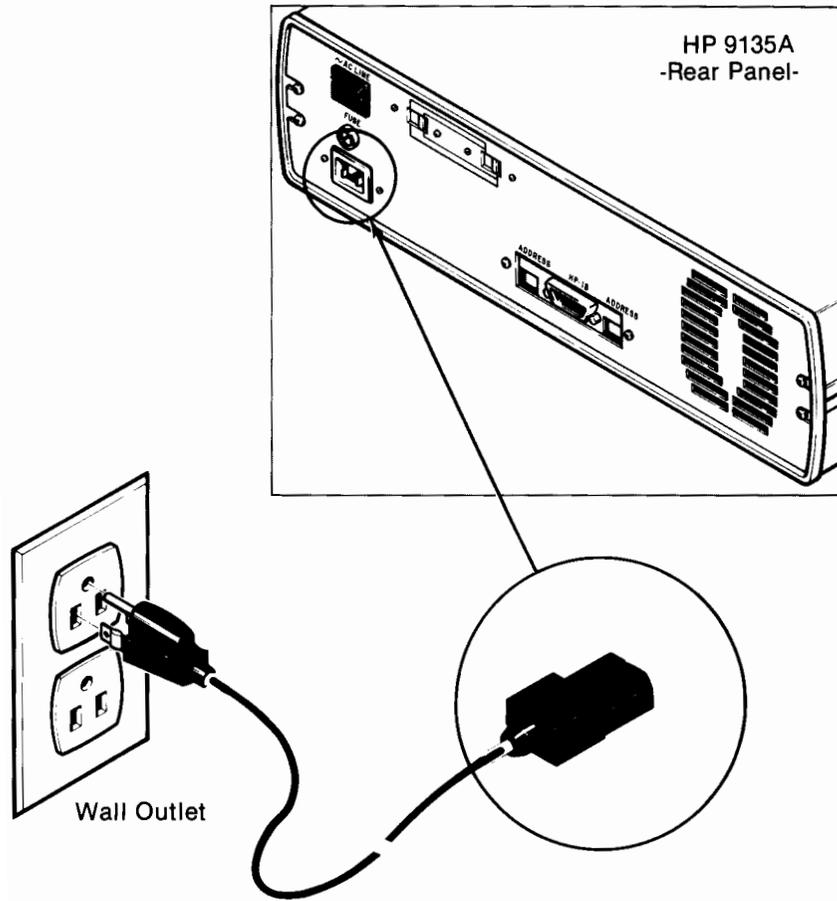
- 4. Turn the system processor OFF.



- 5. Connect the HP-IB cable to the system processor and the disc drive.



- 6. Plug the power cord into the disc drive and then into the wall outlet.



- 7. Be sure to read the summary to this chapter once you've finished installing your disc drive(s).

Installing Your HP 9138A Disc Drive

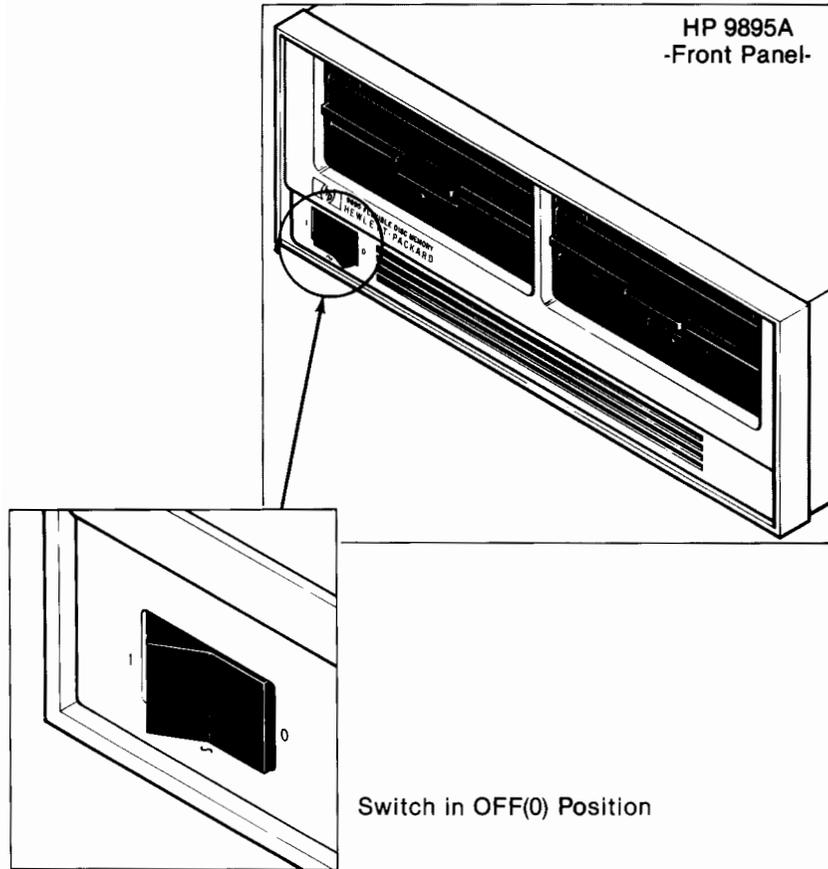
The model 9138 is actually an HP 9134 and an HP 9895. To install your HP 9138 follow these steps:

- a. Connect your HP 9895 as instructed in the section immediately following this. The HP 9895 is your primary disc, for now.
- b. Connect your HP 9134, according to the instructions in the section entitled "Installing Your HP 9134." The HP 9134 is your secondary drive, for now.

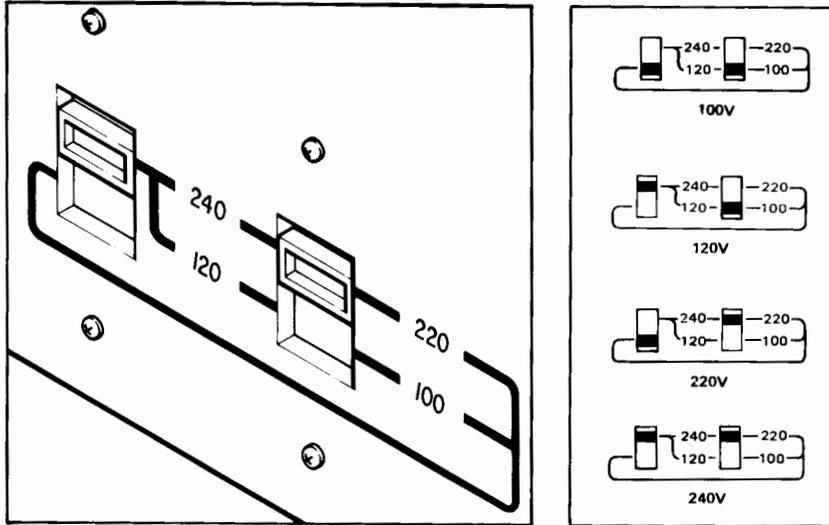
Be sure to read the summary to this chapter to correctly complete your disc drive installation.

Installing Your HP 9895A Disc Drive

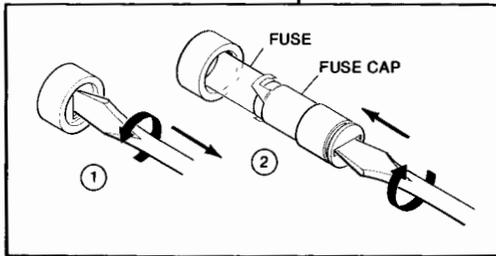
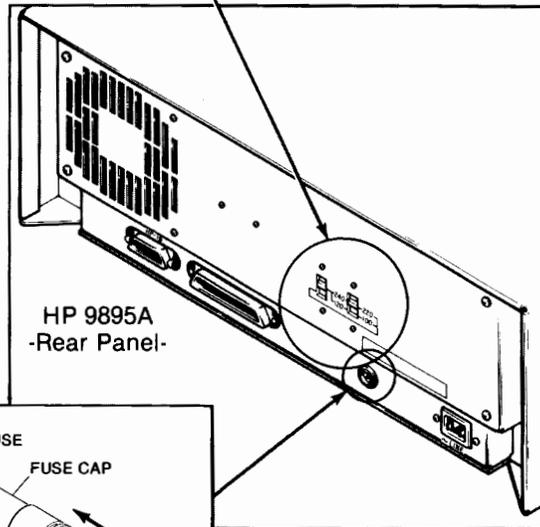
- 1. Be sure the disc drive is OFF.



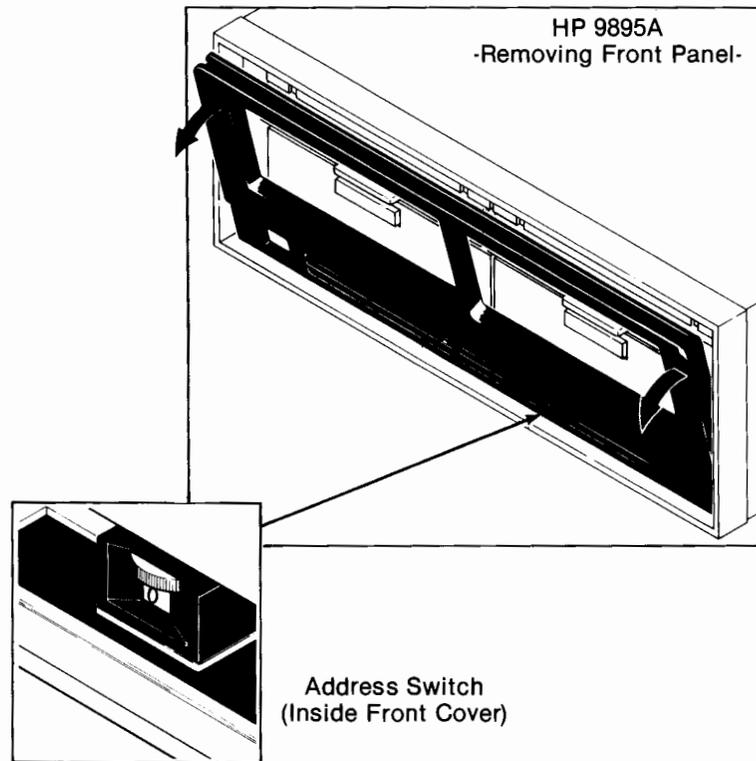
- 2. Install the fuse and set the voltage switches according to the voltage in your area. Ask your local electric company what your area's voltage is.



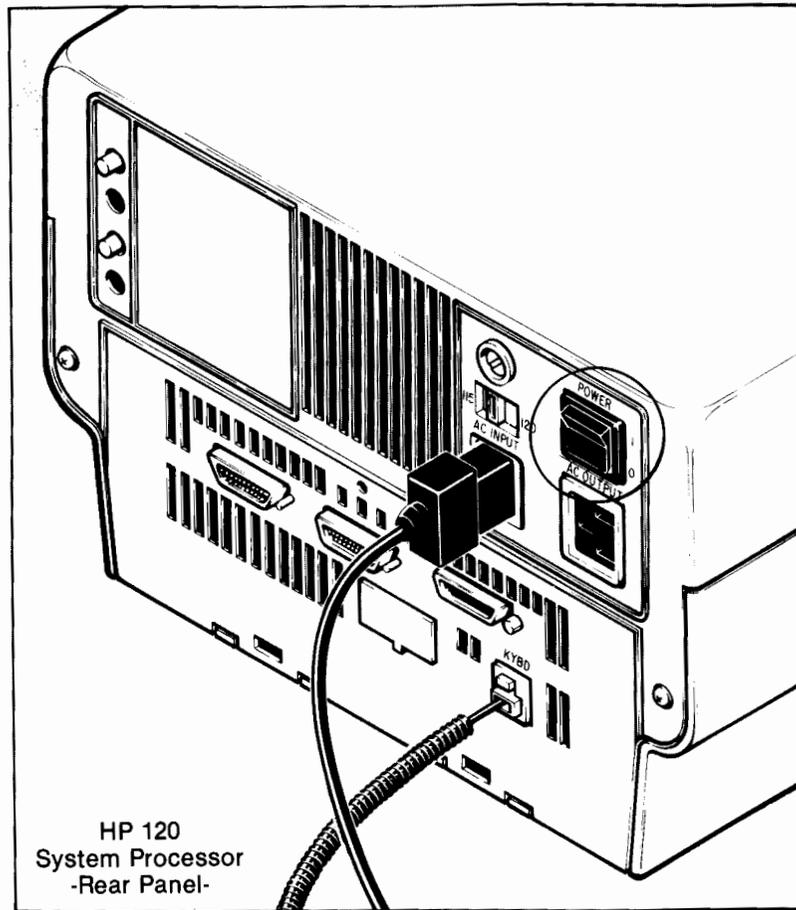
The Four Possible Voltage Settings



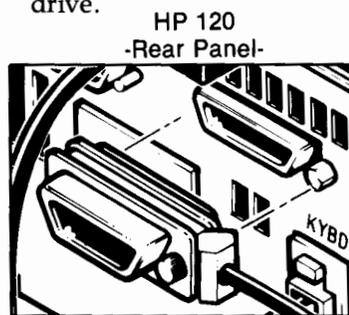
- 3. Remove the front panel and set the switch inside to zero (0).



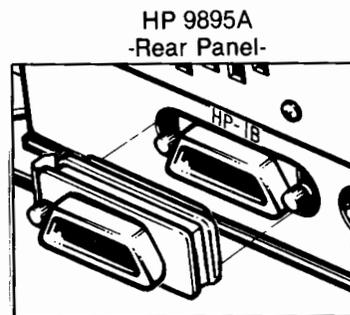
- 4. Turn the system processor OFF.



- 5. Connect the HP-IB cable to the system processor and the disc drive.

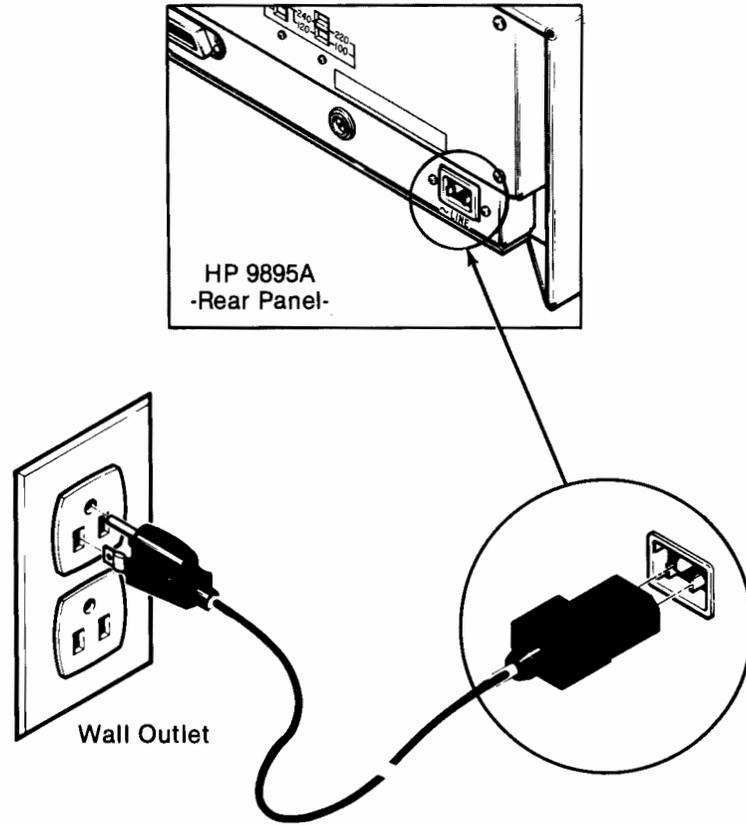


HP-IB
Connector



HP-IB
Connector

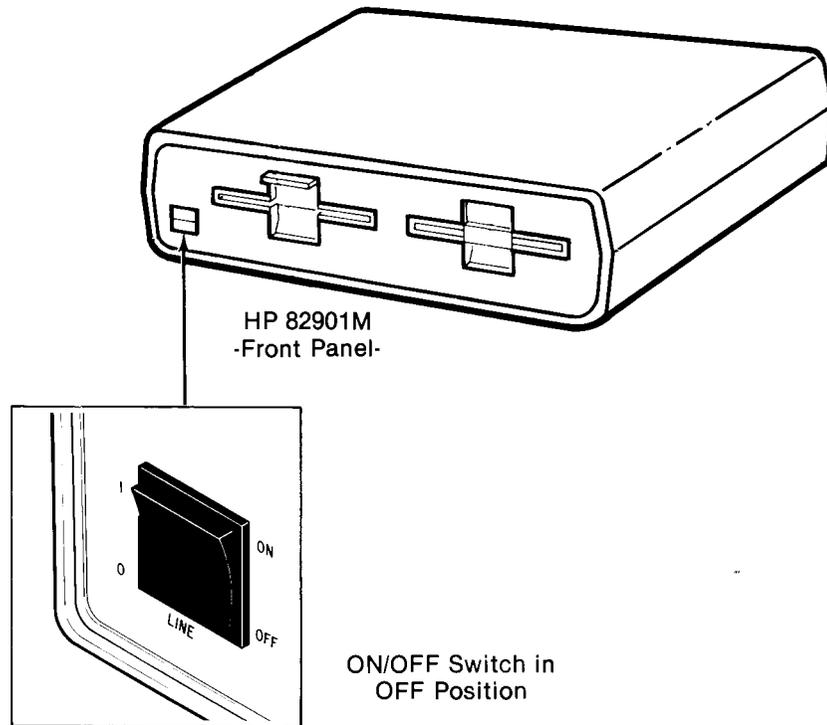
- 6. Plug the power cord into the disc drive and then into the wall outlet.



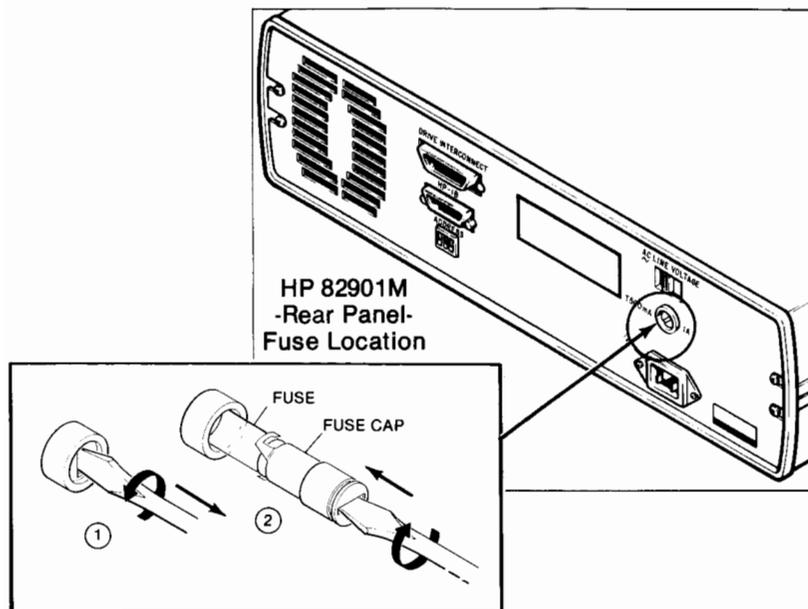
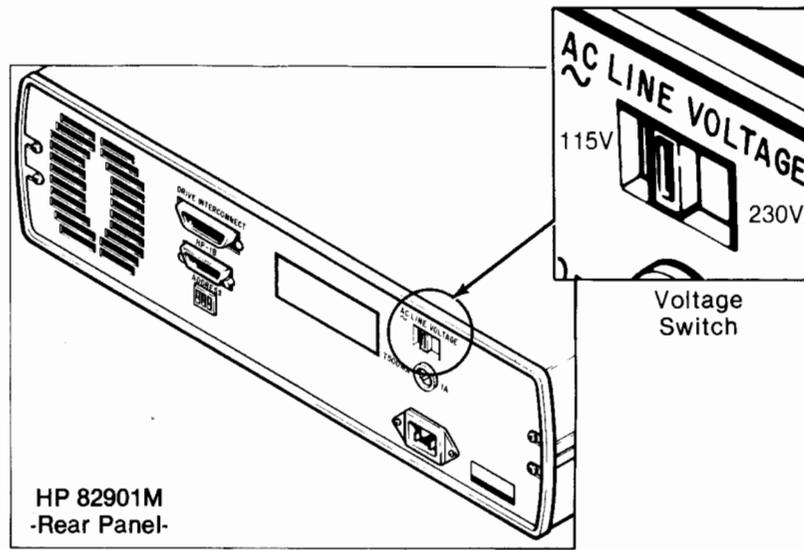
- 7. Be sure to read the summary to this chapter once you've finished installing your disc drive(s).

Installing Your HP 82901M Disc Drive

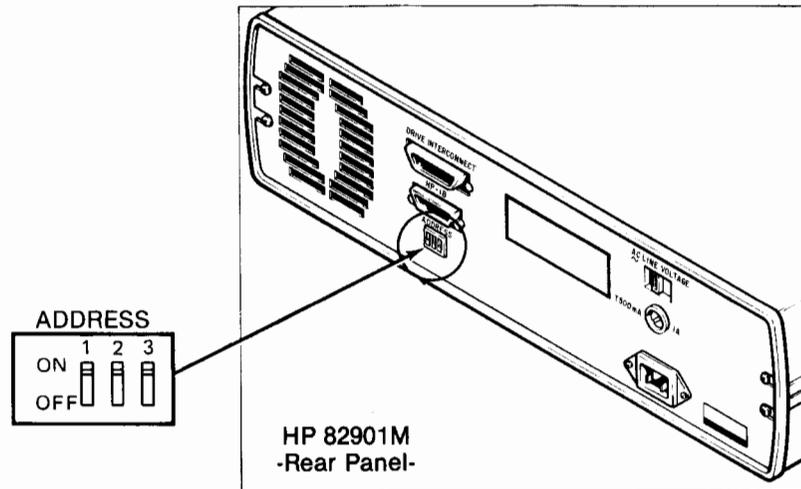
- 1. Be sure the disc drive is OFF.



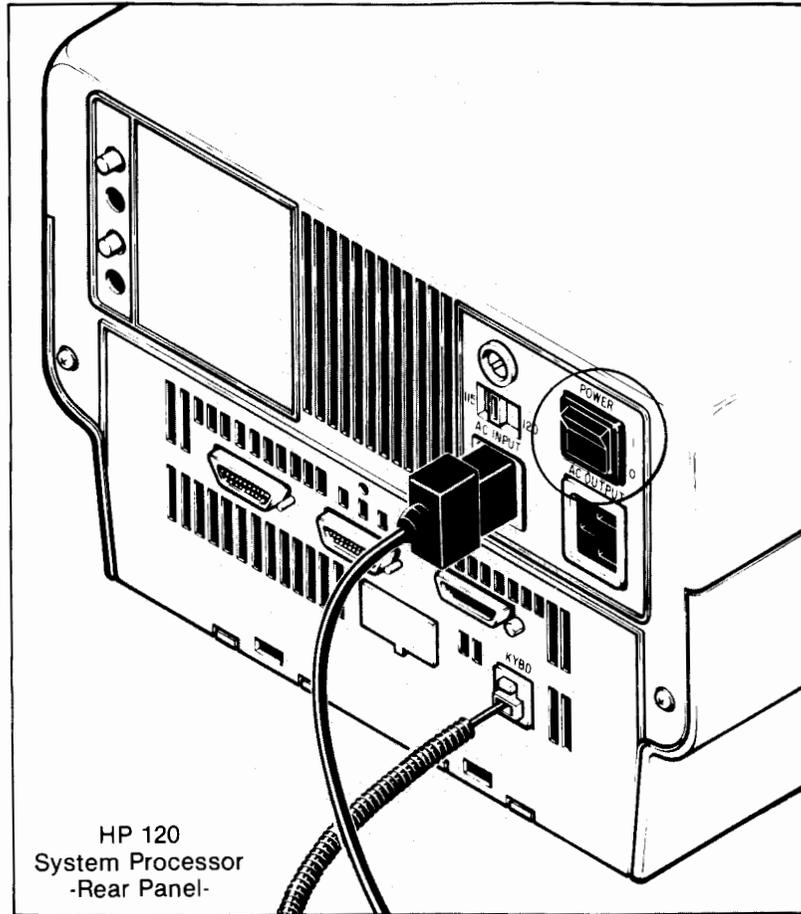
- 2. Install the fuse and set the voltage switches according to the voltage in your area. Ask your local electric company what your area's voltage is.



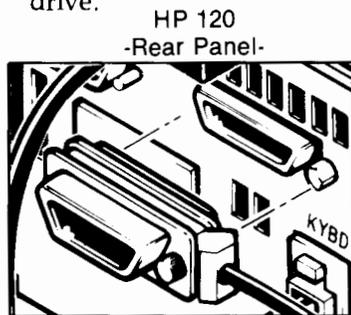
- 3. Set the address switches using a ball point pen or a small screwdriver.



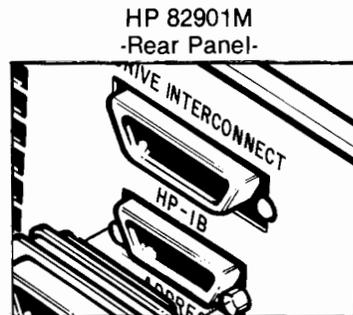
- 4. Turn the system processor OFF.



- 5. Connect the HP-IB cable to the system processor and the disc drive.

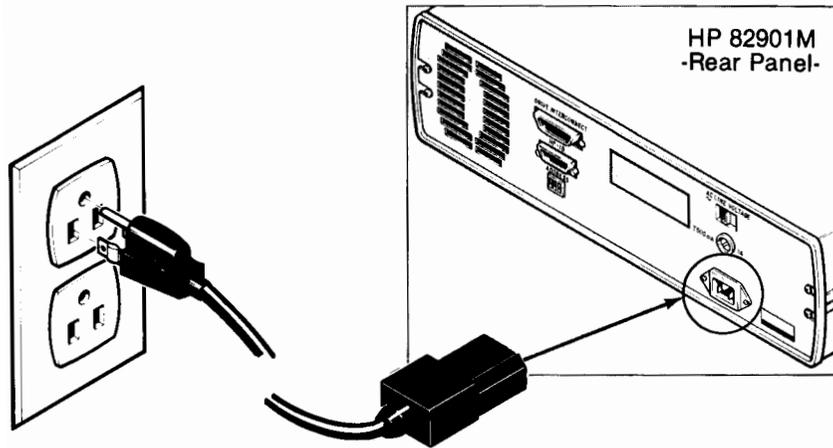


HP-IB
Connector

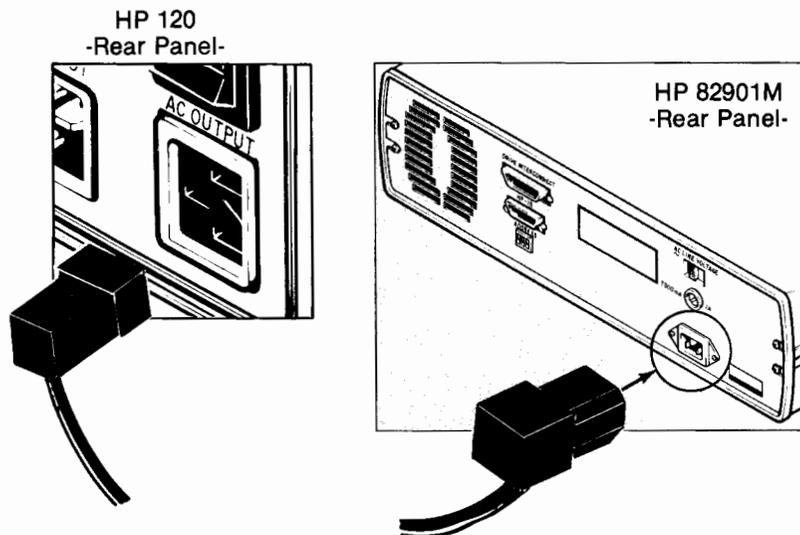


HP-IB
Connector

- 6. Plug the power cord into the disc drive and then into the wall outlet, OR plug the convenience power cord into the disc drive and then the system processor. The system processor's switch now can control the disc drive's power. Leave the disc drive power switch ON and turn the system processor ON and OFF to turn your disc drive on and off. You can still turn your drive on and off with its own power switch, if you wish.



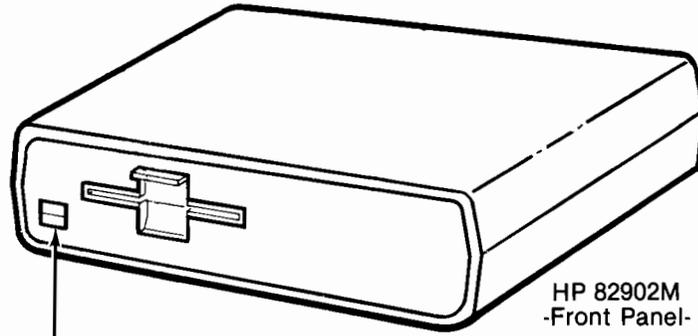
Or



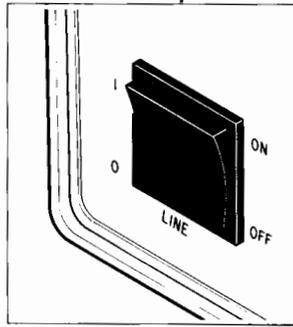
- 7. Be sure to read the summary to this chapter once you've finished installing your disc drive(s).

Installing Your HP 82902M Disc Drive

- 1. Be sure the disc drive is OFF.

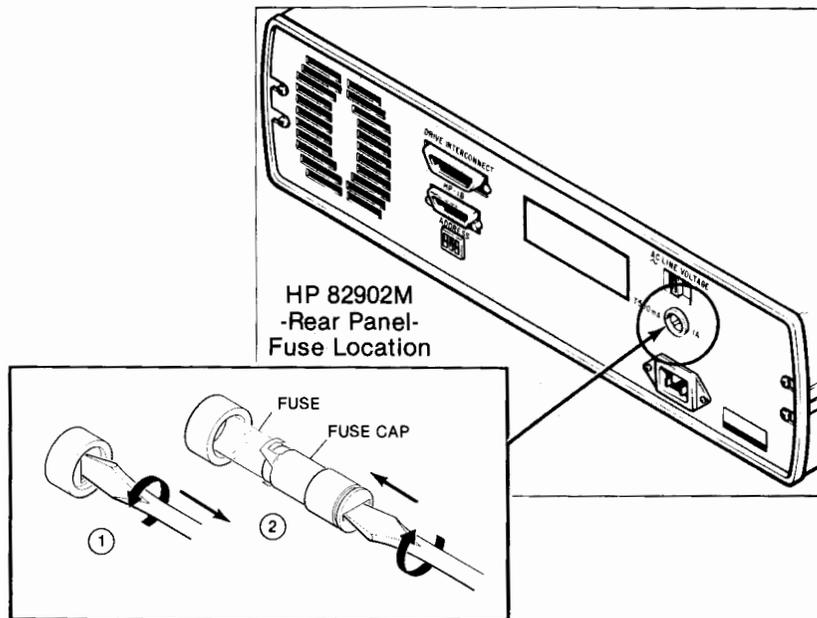
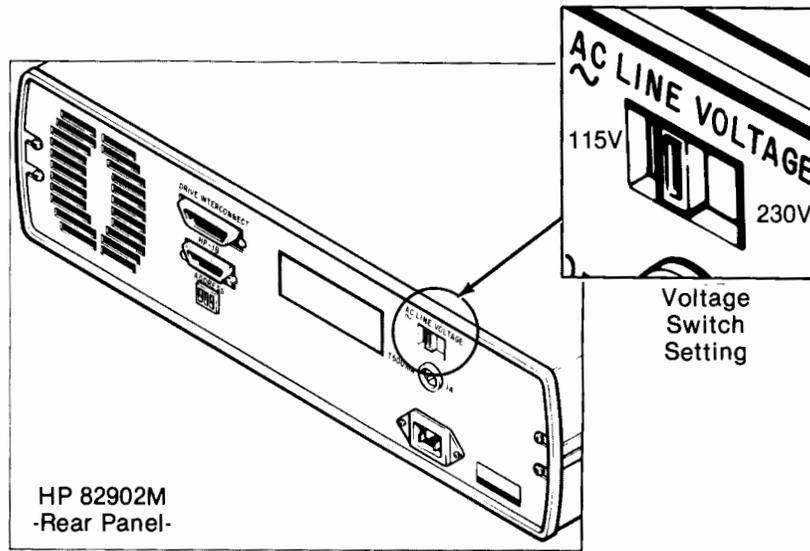


HP 82902M
-Front Panel-

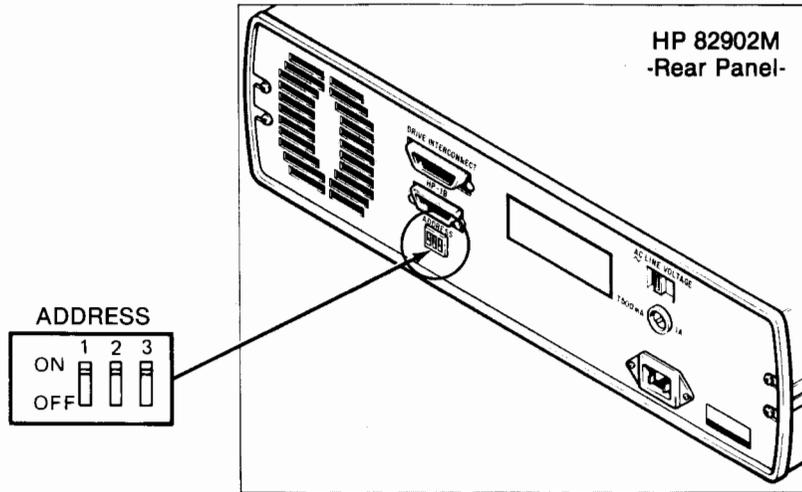


ON/OFF Switch in
OFF Position

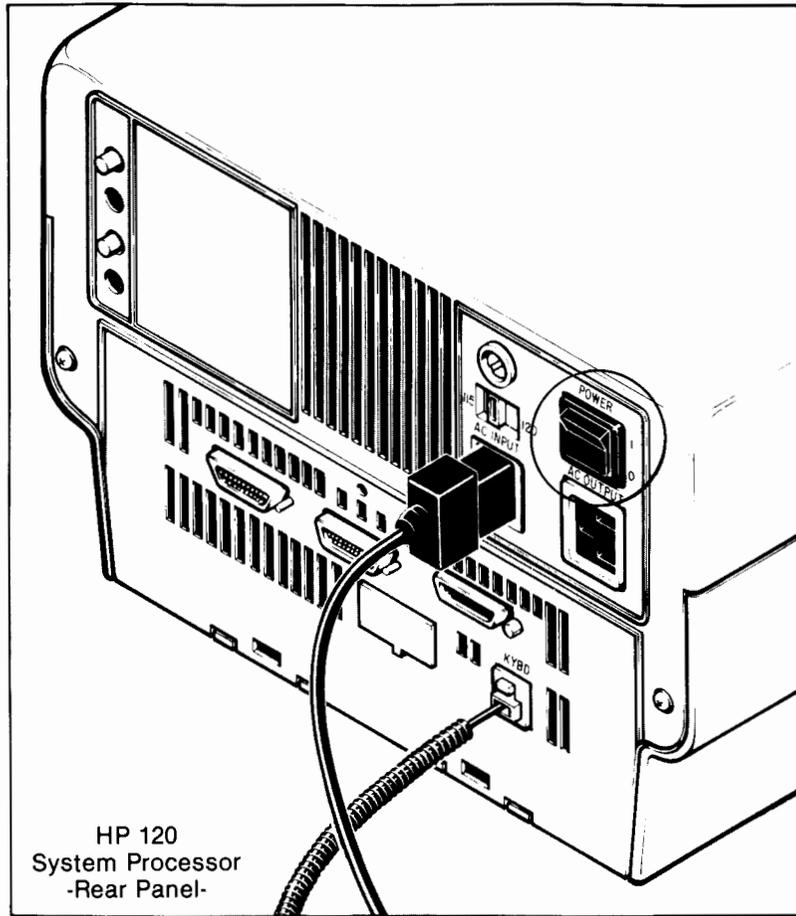
- 2. Install the fuse and set the voltage switches according to the voltage in your area. Ask your local electric company what your area's voltage is.



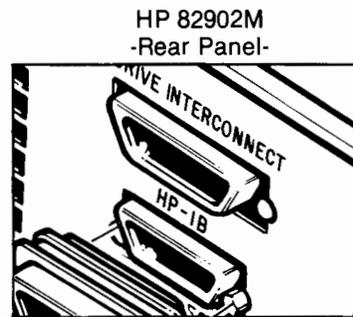
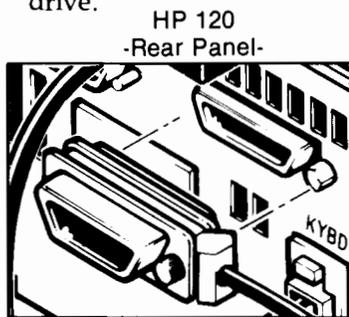
- 3. Set the address switches using a ball point pen or a small screwdriver.



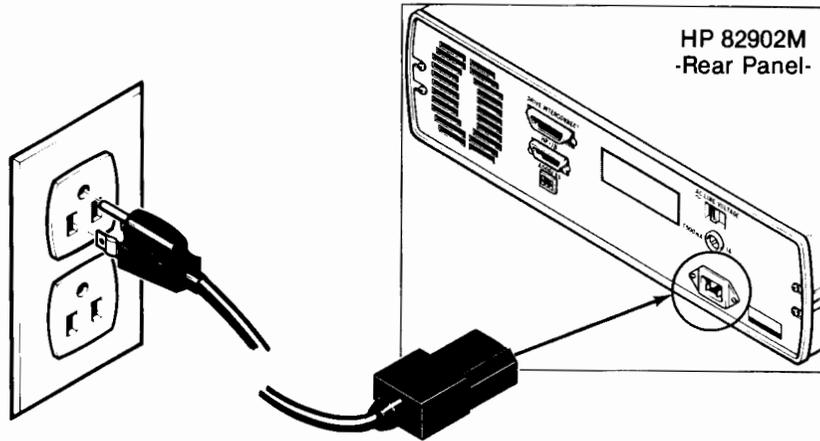
- 4. Turn the system processor OFF.



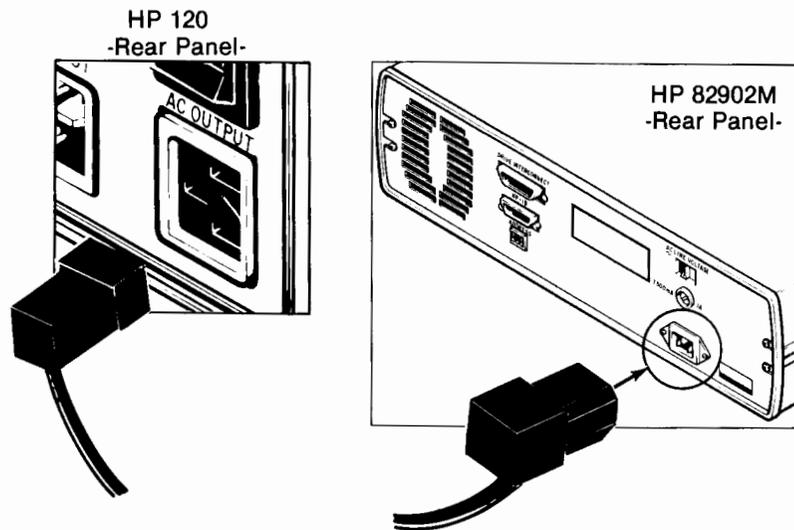
- 5. Connect the HP-IB cable to the system processor and the disc drive.



- 6. Plug the power cord into the disc drive and then into the wall outlet, OR plug the convenience power cord into the disc drive and then the system processor. The system processor's switch now can control the disc drive's power. Leave the disc drive power switch ON and turn the system processor ON and OFF to turn your disc drive on and off. You can still turn your drive on and off with its own power switch, if you wish.



Or

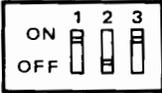
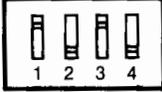


- 7. Be sure to read the summary to this chapter once you've finished installing your disc drive(s).

Secondary Addresses

This section lists the address switch settings for your secondary disc drive. Install the secondary disc drive according to the instructions given earlier in this chapter. Everything is the same except for the address switch settings.

The secondary disc drive address switch settings are listed by model number.

On Rear Panel	Inside Front Cover
<p>HP 82901M</p> <p>HP 82902M</p>	<p>HP 9895A</p> 
<p>ADDRESS</p>  <p>ON 1 2 3</p> <p>OFF</p>	
<p>HP 9121S/D</p>  <p>1 2 3 4</p>	

Summary

You've just connected your disc drive to your system processor. Turn on the drive (or the system processor, if you used the convenience power cord).

You should hear a whirring noise (that is the drive and fan starting) and see a light blink on and off once or twice, rather quickly.

If you don't hear the whir or see the light blink (though you may have missed the light), check the following items:

1. The disc drive power switch is ON.
2. The disc drive is plugged into an AC power outlet.
3. The controlling circuit breaker is on.

If you still are not getting a response from your disc drive, contact the person from whom you purchased your system.

If your disc drive is whirring, proceed to the next step.

The Next Step

Your next step is to install your remaining components (i.e., printer, plotter). Follow the instructions in Chapter 4 to install your printer. Instructions for connecting your plotter are in Chapter 5.

The final steps for preparing your discs and disc drives for use with your software (i.e., Series 100/VisiCalc, WORD, etc.) are in Chapter 7. Be sure you follow the instructions in Chapter 7 so that your disc drives will work with the rest of your Series 100 Personal Computer.

If you do not have a printer or plotter to install, proceed to Chapter 6.

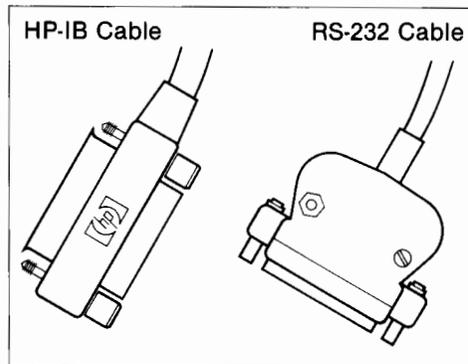
Chapter 4

INSTALLING YOUR PRINTER



Introduction

In this chapter, you will connect your printer(s) to your HP 120 system processor. There are two different ways to install printers: HP-IB or RS-232. HP-IB and RS-232 are two different types of cables used to connect printers; the cable ends differ distinctly (see the picture below). When a printer may be installed with either HP-IB or RS-232, there will be separate instructions; a picture of the cable appears with the corresponding instruction.



The following table lists the printers that you may install on your HP 120 and tells the cable type they use.

Printer	HP-IB	RS-232
HP 2601A		*
HP 2602A		*
HP 2631B	*	*
HP 2671A	*	
HP 82905B	*	

Each printer model has its own installation section, so that you only need to follow the installation instructions for your printer(s). The instructions are given in the order listed above.

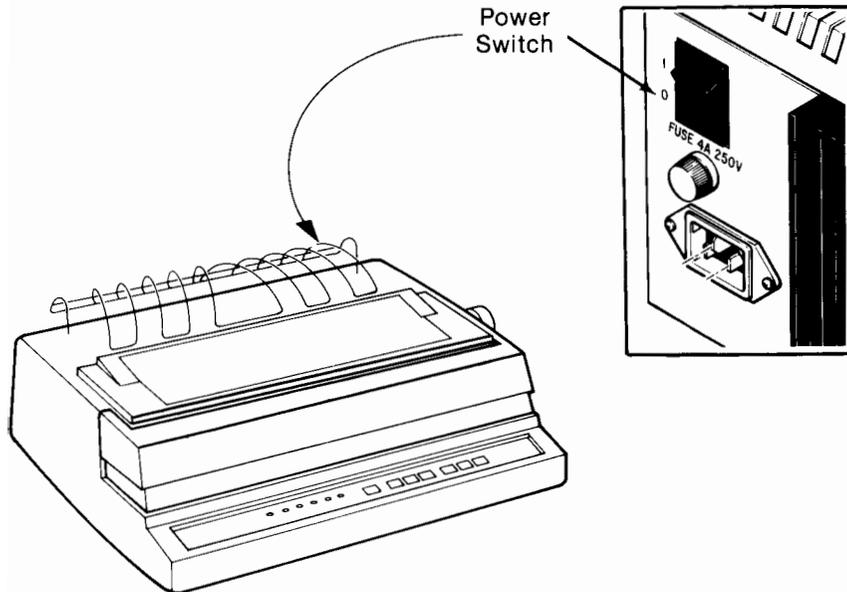
Remember, you may only have one HP-IB printer connected to your system at a time. You can connect an RS-232 and an HP-IB printer to your system if you need two printers.

Each printer comes with its own manual set. If you have questions that are not answered in the Series 100 manuals, refer to the printer's manuals.

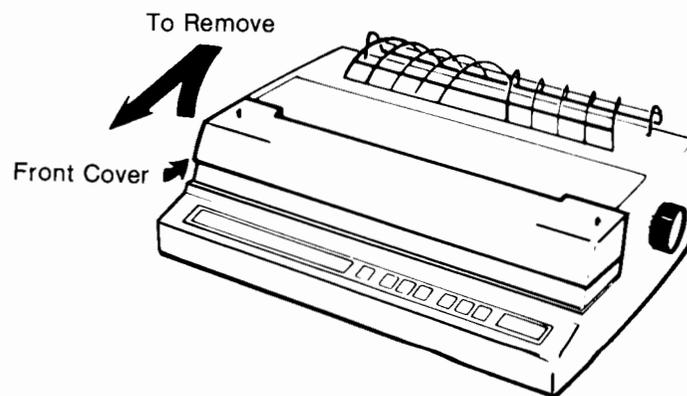
Installation Procedures

Installing Your HP 2601A Printer

- 1. Be sure the printer power switch is OFF.



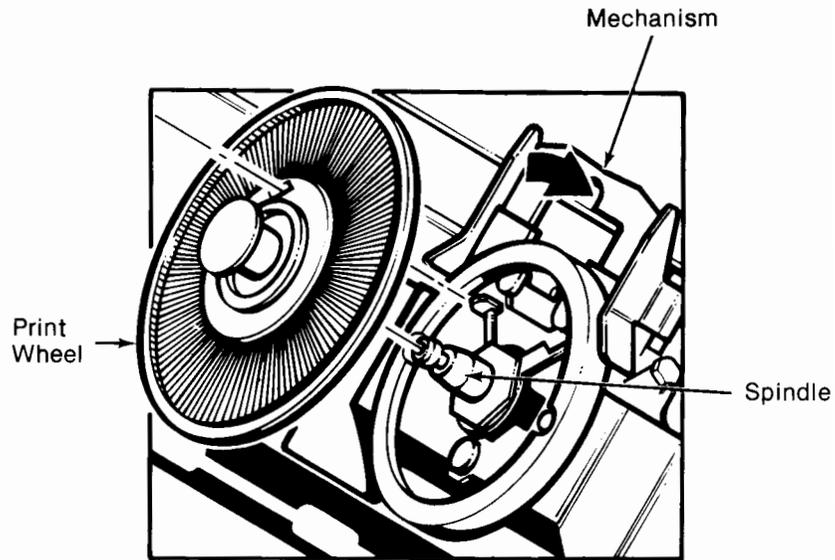
- 2. Remove the front cover.



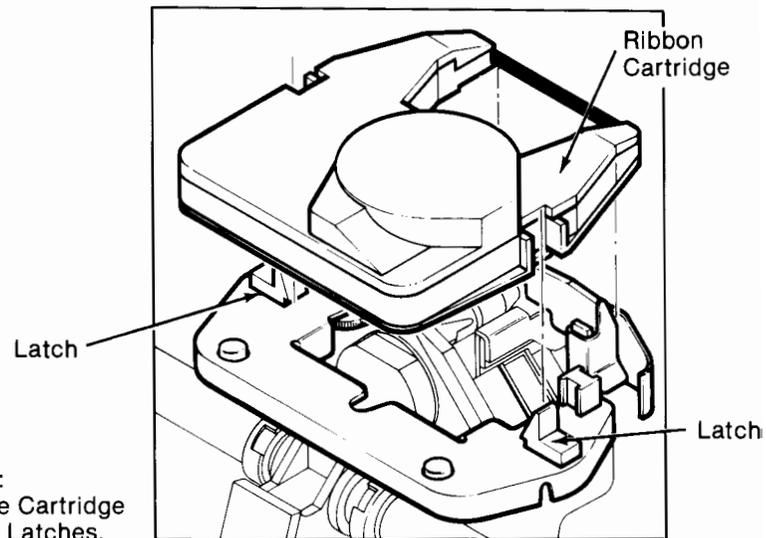
□ 3. Install the print wheel.

a. Rock Mechanism Back...

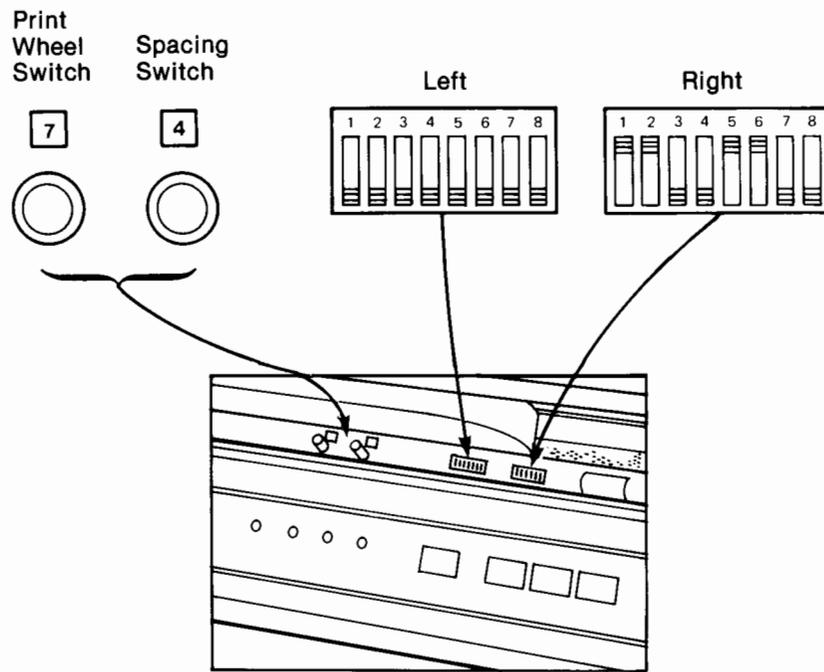
b. Press Print Wheel
Onto Spindle.



□ 4. Install the ribbon cartridge.

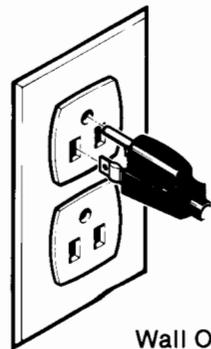


□ 5. Set the switches.

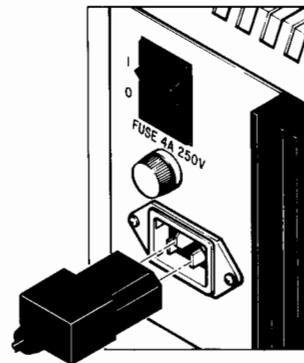


□ 6. Replace the front cover.

□ 7. Plug the power cord into the printer and then the wall outlet.

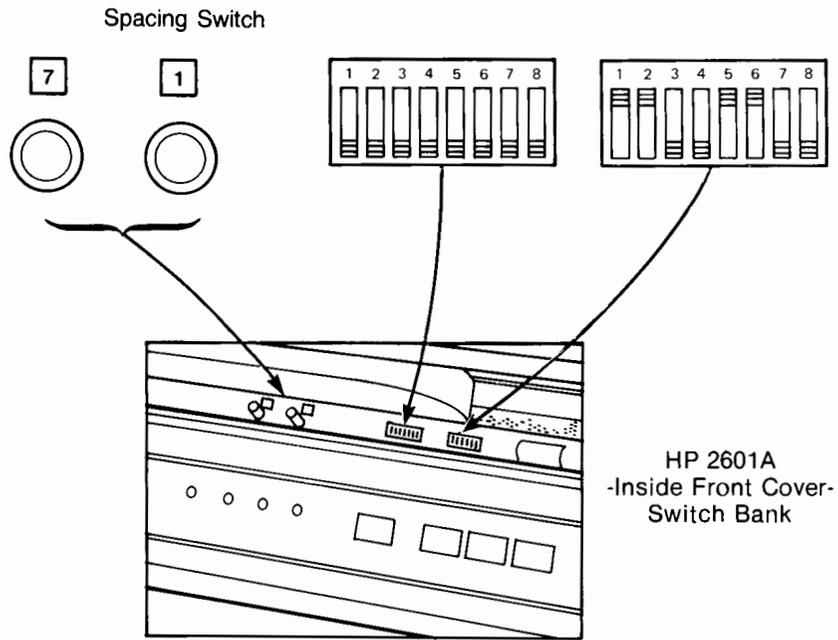


Wall Outlet



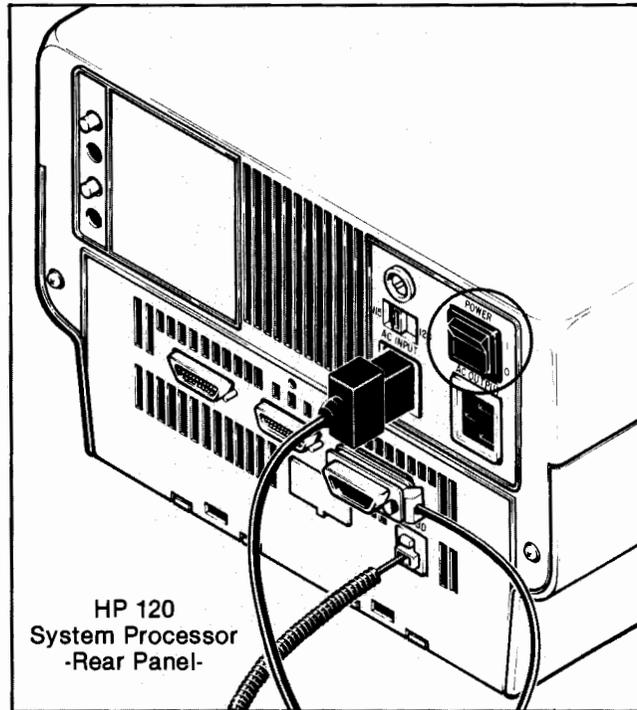
HP 2601A
-Rear Panel-
Power Cord Receptacle

- 11. Remove the front cover and set the spacing switch to 1.

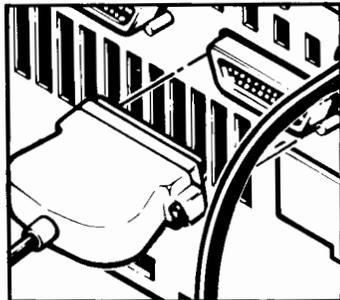


- 12. Replace the front cover.

- 13. Be sure the system processor is OFF.

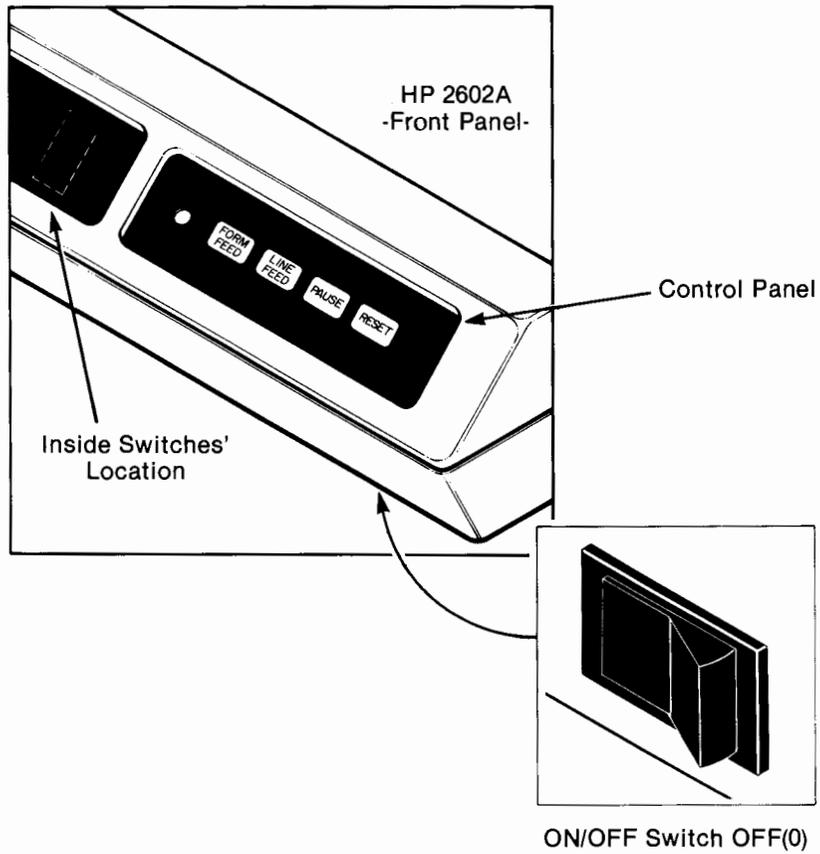


- 14. Connect the RS-232 cable to the system processor and then the printer.

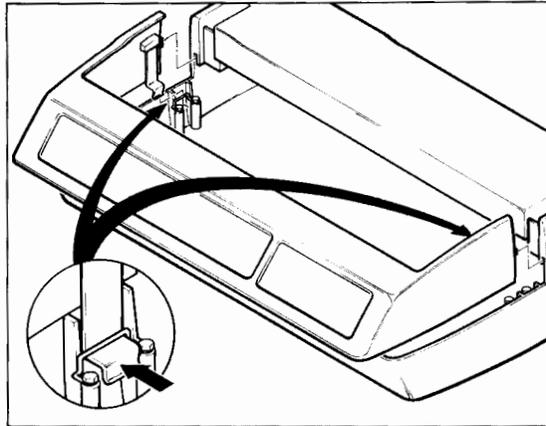


Installing Your HP 2602A Printer

- 1. Be sure the printer power switch is OFF.



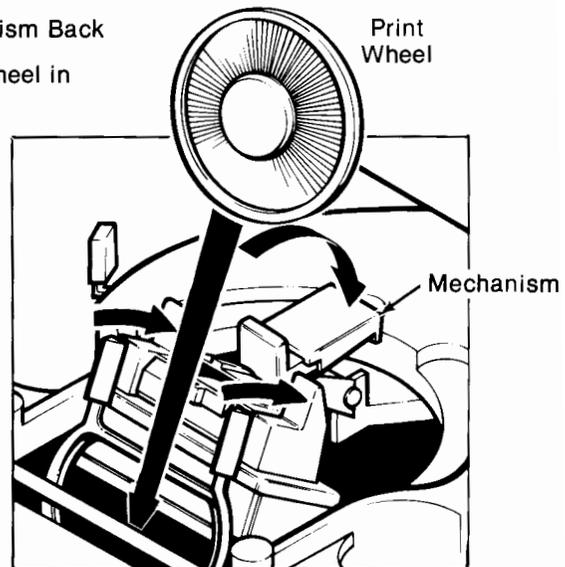
- 2. Remove the front cover.



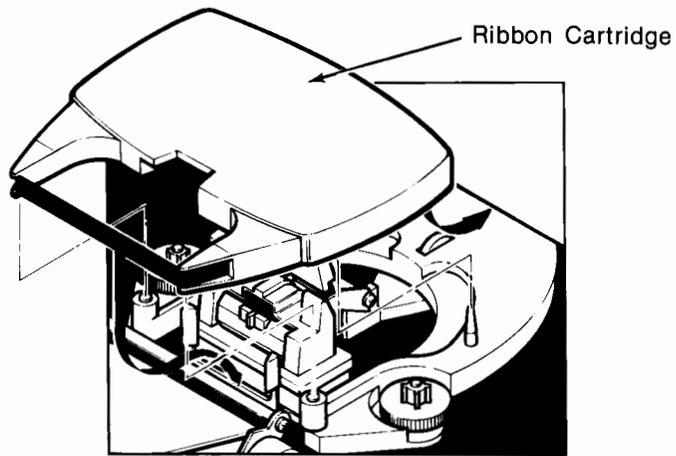
- 3. Install the print wheel.

a. Rock Mechanism Back

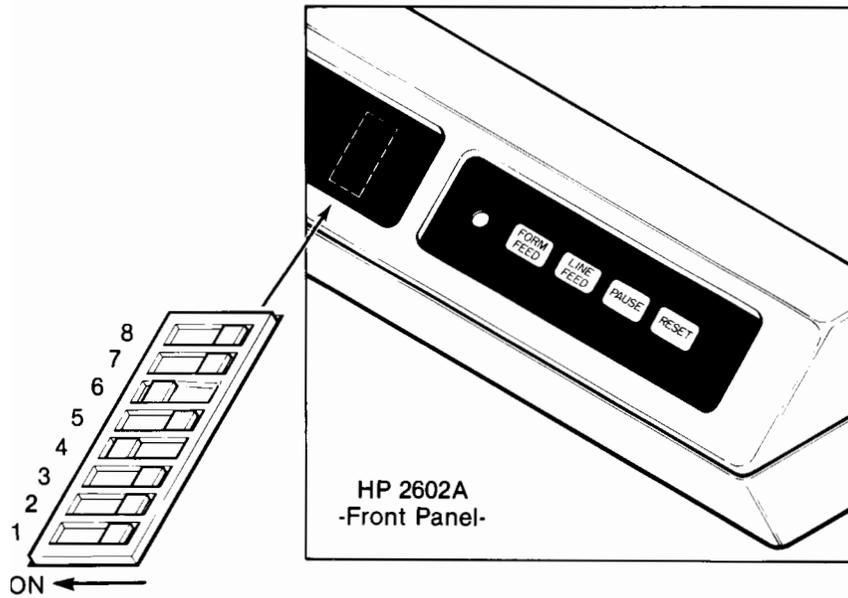
b. Slide Print Wheel in



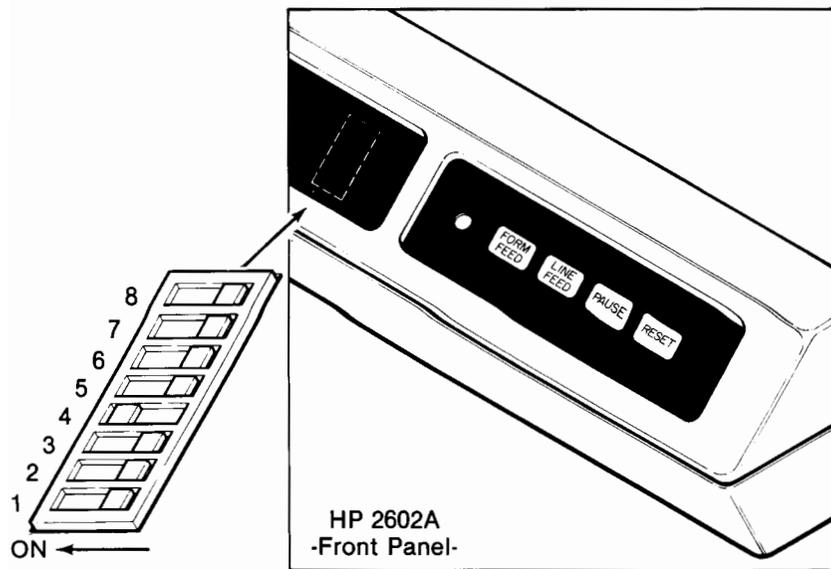
- 4. Install the ribbon cartridge.



- 5. Set the switches.



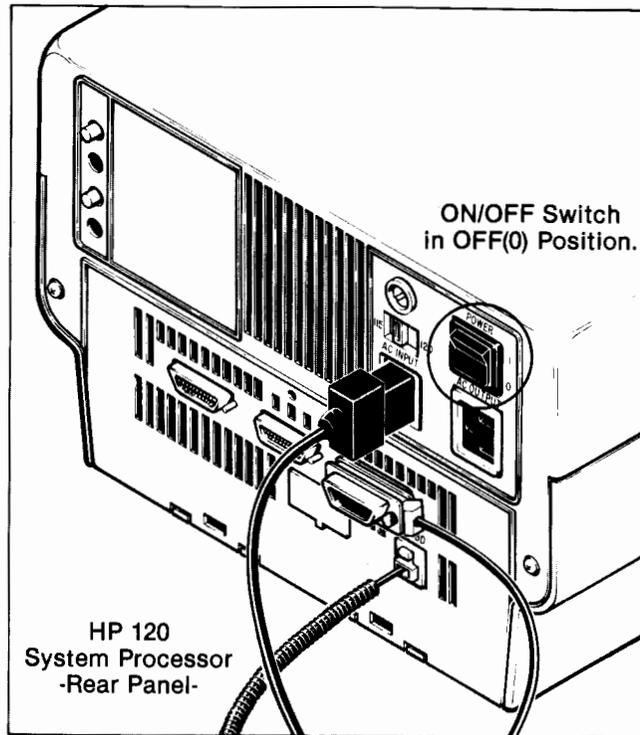
10. Remove the front cover and set the switches.



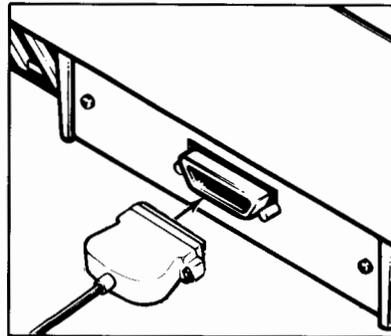
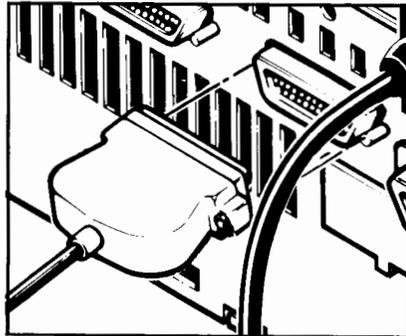
11. Replace the front cover.



- 12. Be sure the system processor is OFF.

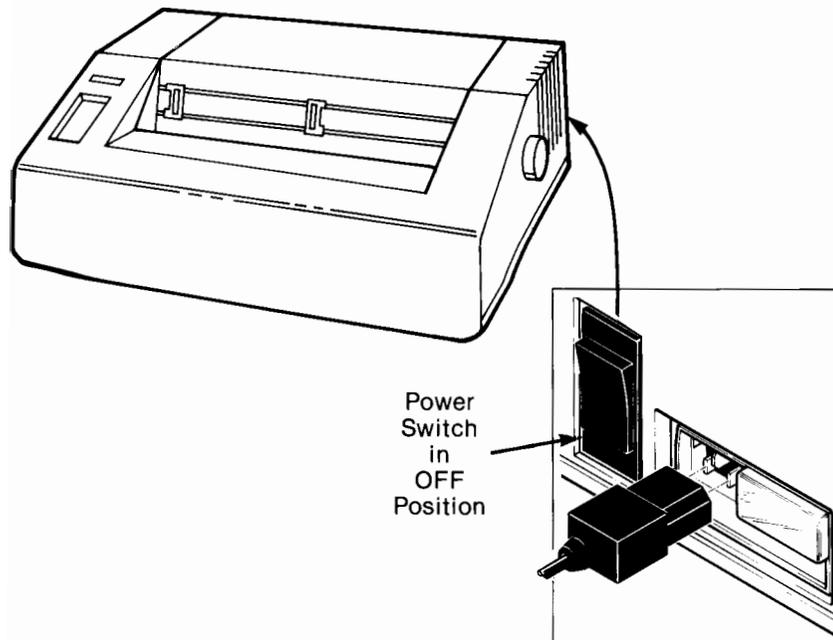


- 13. Connect the RS-232 cable to the system processor and then the printer.

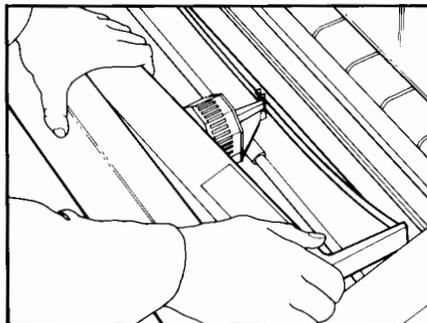


Installing Your HP 2631B Printer

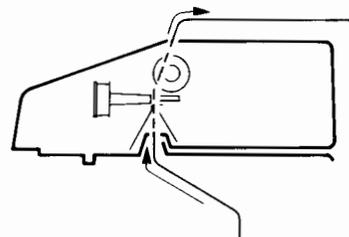
- 1. Be sure the printer power switch is OFF.



- 2. Install the ribbon cartridge and paper. If you have trouble, refer to the printer's manual.

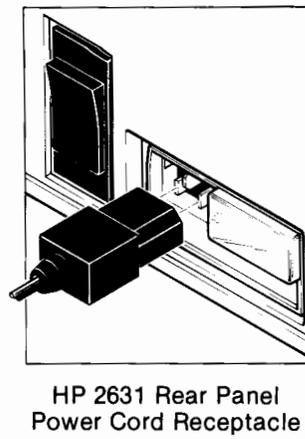
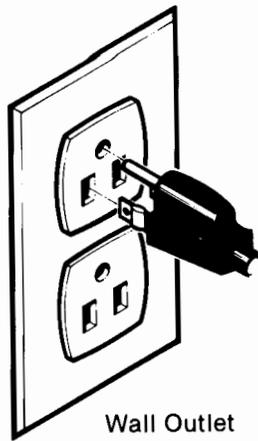


Inside Front Cover

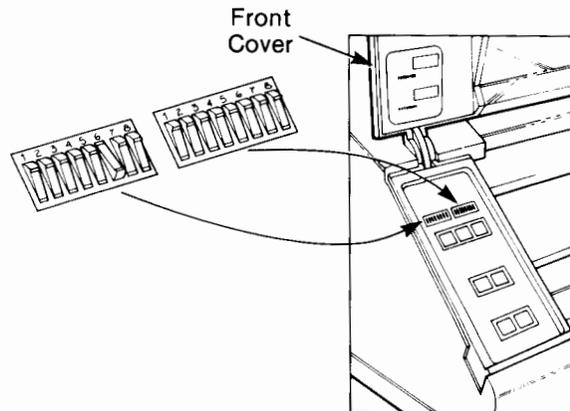


Paper Installation Path

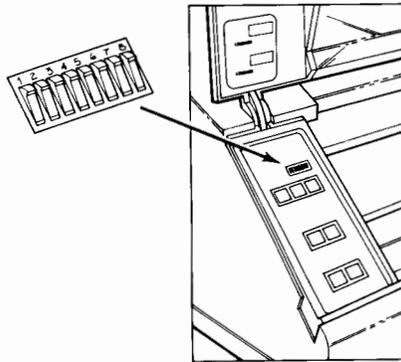
- 3. Plug the power cord into the printer and then the wall outlet.



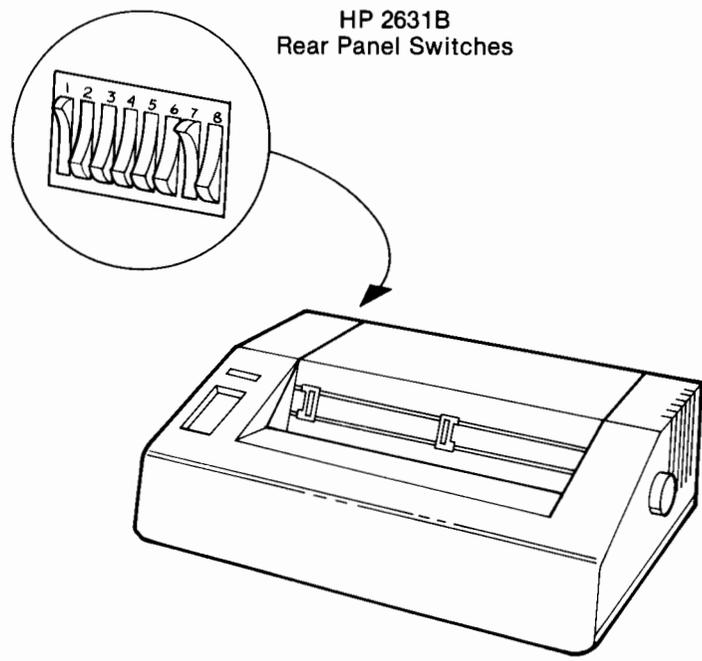
- 4a. If you have an RS-232 printer (), set the switches found inside the front cover.



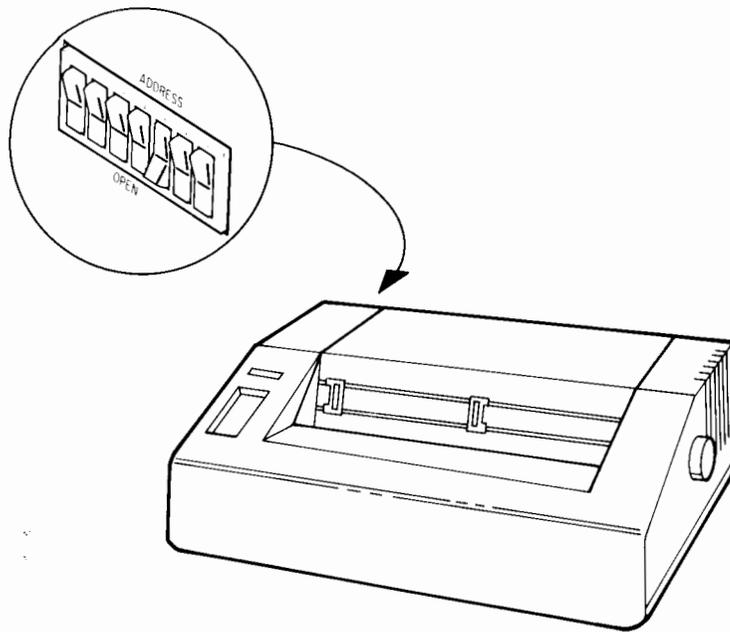
- 4b. If you have an HP-IB printer (), set the switches found inside the front cover.



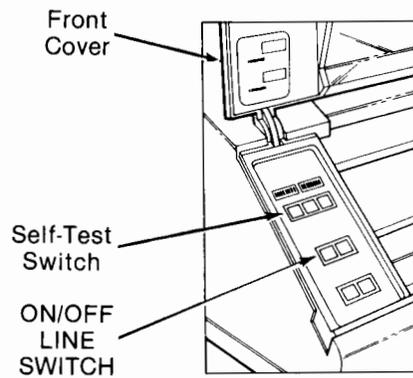
- 5a. For an RS-232 printer (), set the switches on the rear panel.



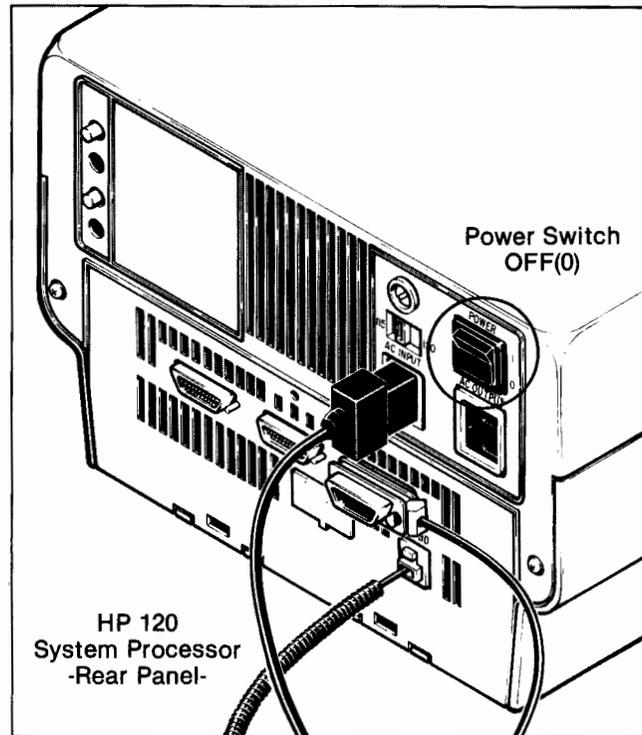
- 5b. For an HP-IB printer (), set the switches on the rear panel.



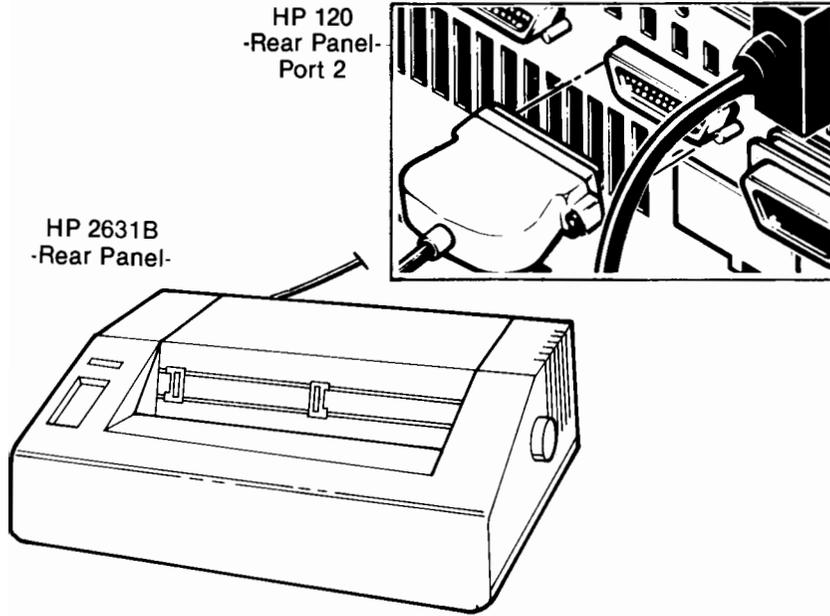
- 6. Run the printer's self-test.
- Turn the printer ON.
 - Press the ON LINE/OFF LINE button until the red light is off.
 - Press the SELF-TEST button.



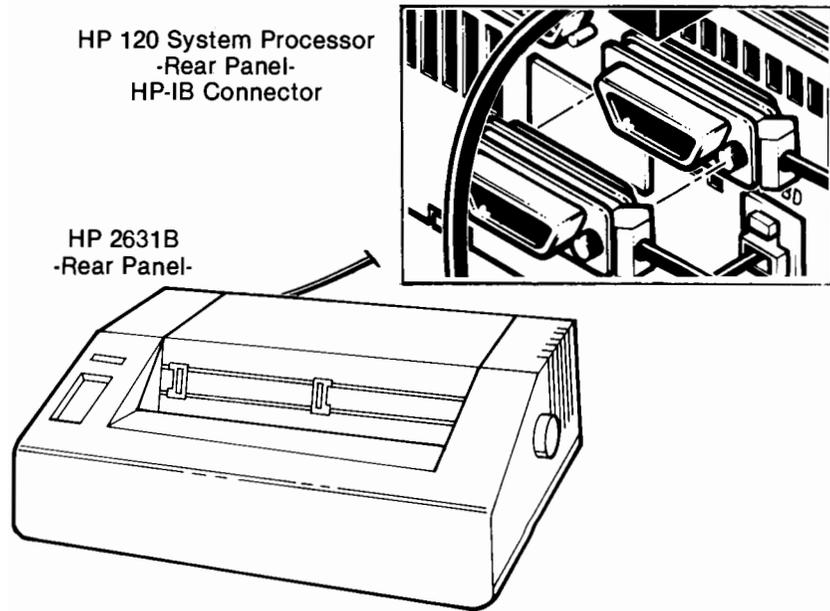
- 8. Be sure the system processor is OFF.



- 9a. For an RS-232 printer (), connect the cable to the printer and then the system processor.

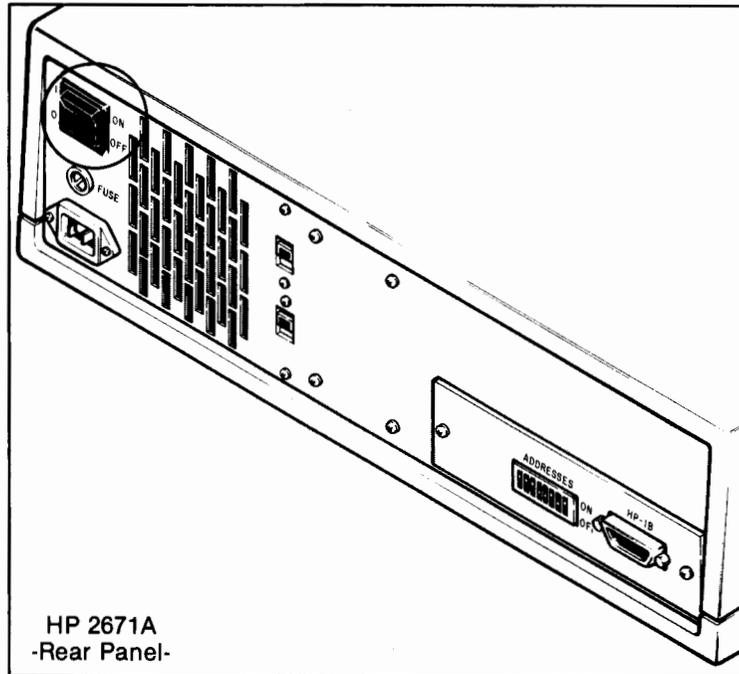


- 9b. For an HP-IB printer (), connect the cable to the printer and then the system processor.

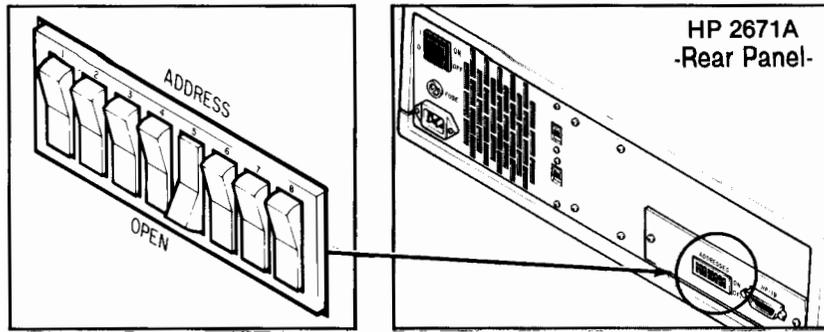


Installing Your HP 2671A Printer

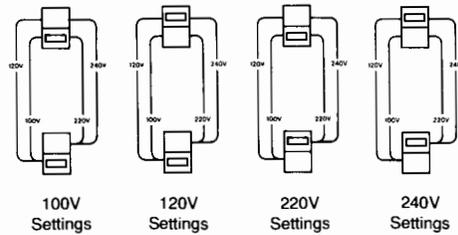
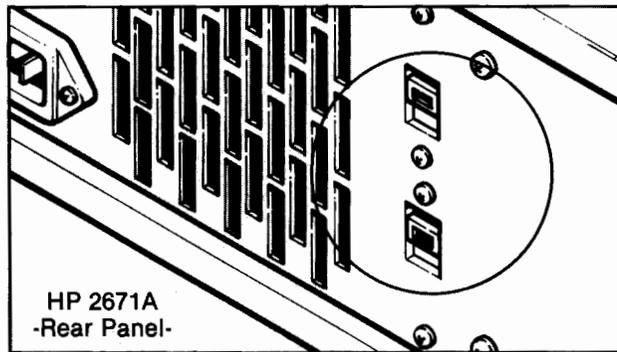
- 1. Be sure the printer is OFF.



2. Set the address switches.

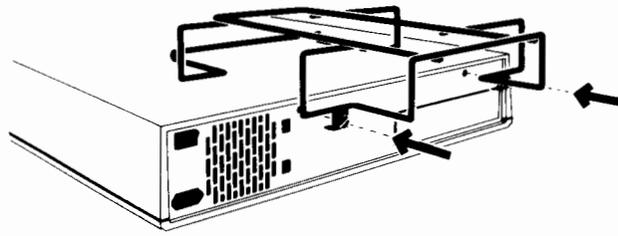


3. Set the voltage switch for the voltage in your area. Contact your electric company for your local voltage.



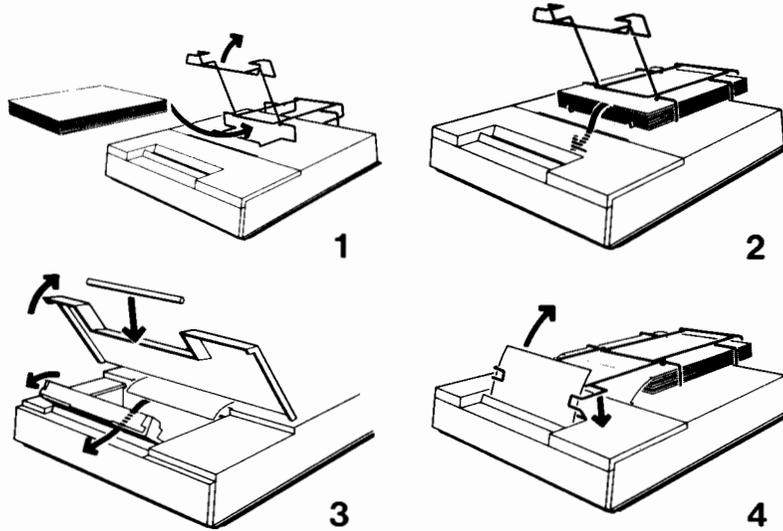
The Four Voltage Settings

□ 4. Install the separator.

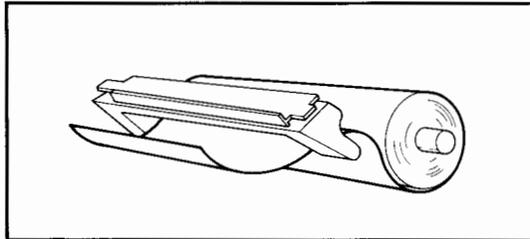


□ 5. Install paper.

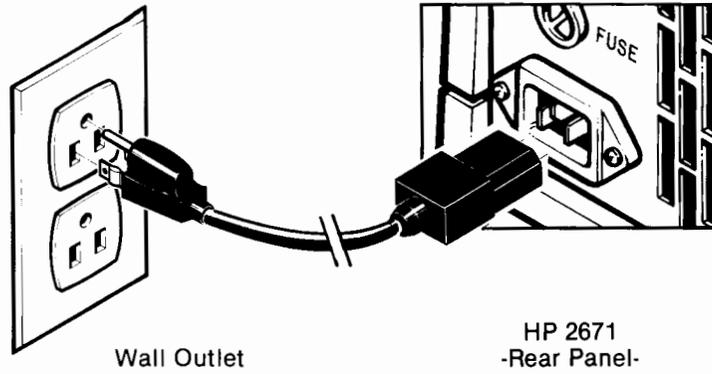
A. For Fan-fold Paper



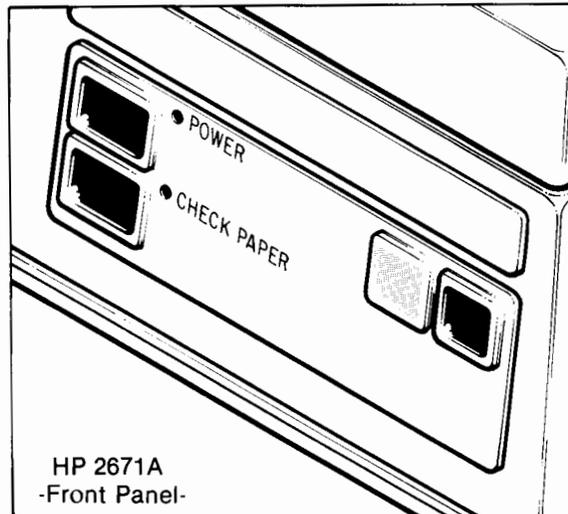
B. For Roll Paper



- 6. Plug the power cord into the printer and then the wall outlet.



- 7. Run the printer's self-test.
- Turn the printer ON.
 - Press the TEST button.
 - After a few lines of the test pattern have printed, turn the printer OFF.



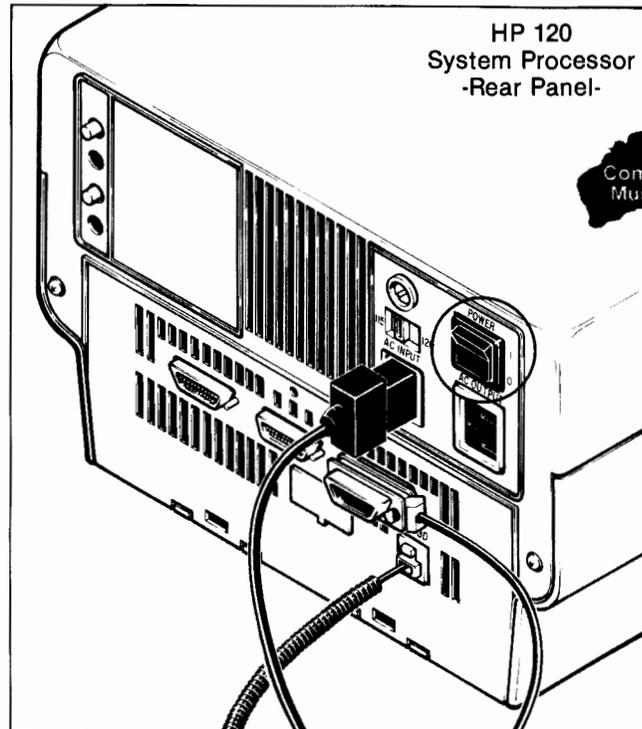
NOTE

If nothing happens check the following:

- a. the printer is ON.
- b. the printer is plugged in.
- c. the wall outlet's circuit breaker is ON.

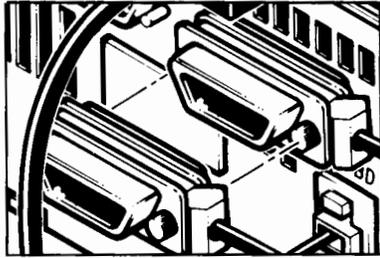
If all of the above are OK and your plotter still fails to function, contact the person from whom you purchased your system.

8. Be sure the system processor is OFF.



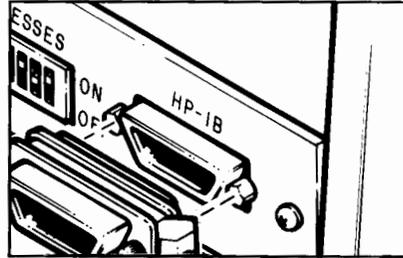
- 9. Connect the HP-IB cable to the system processor and then the printer.

HP 120
- Rear Panel -



HP-IB Connector

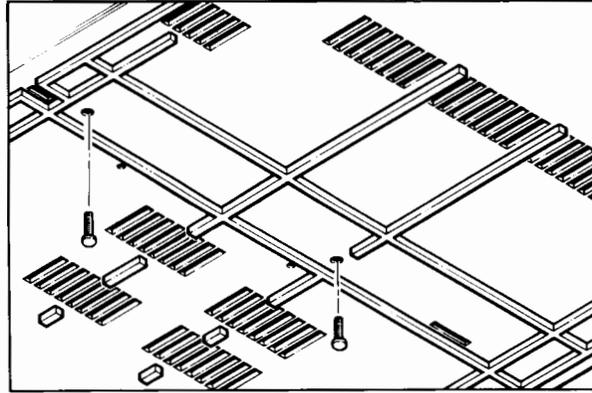
HP 2671A
-Rear Panel-



HP-IB Connector

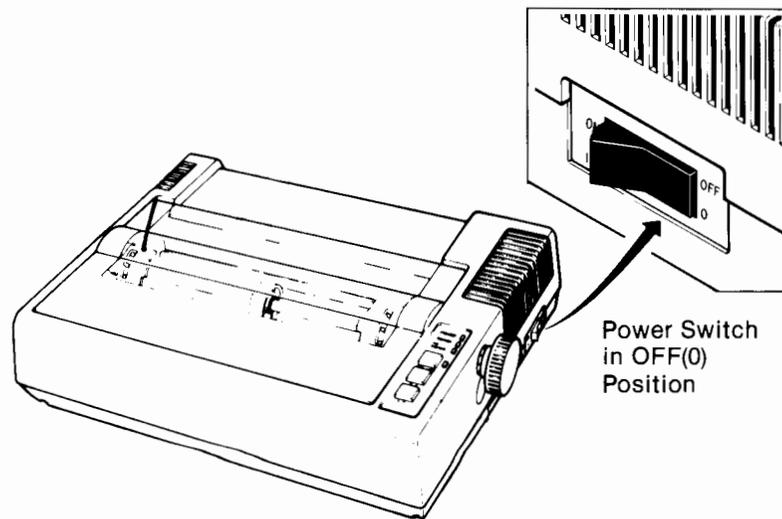
Installing Your HP 82905B Printer

- 1. Remove the shipping screws.



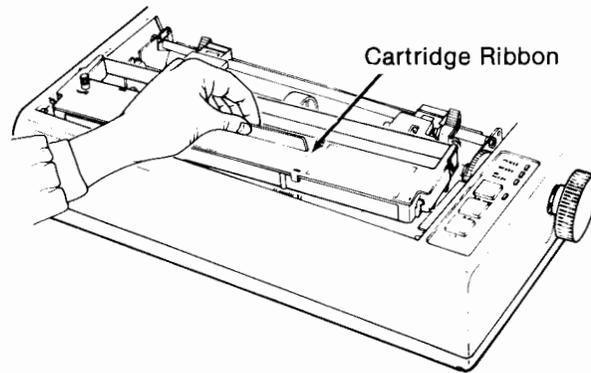
HP 82905
-Bottom Panel-

- 2. Remove the tape covering the top panel control buttons.
- 3. Be sure the printer power switch is OFF.

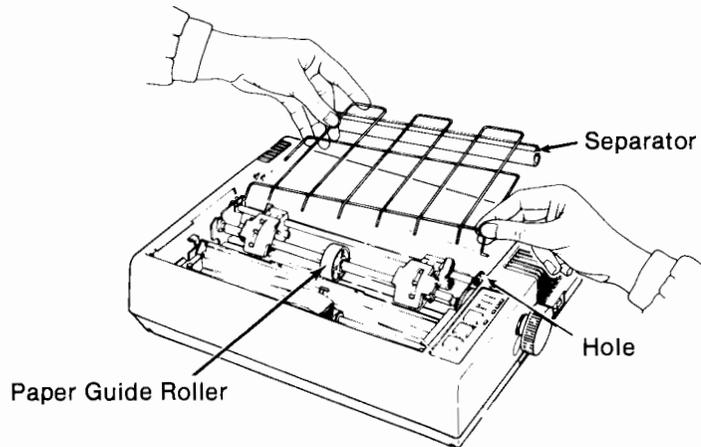


□ 4. Remove the front cover.

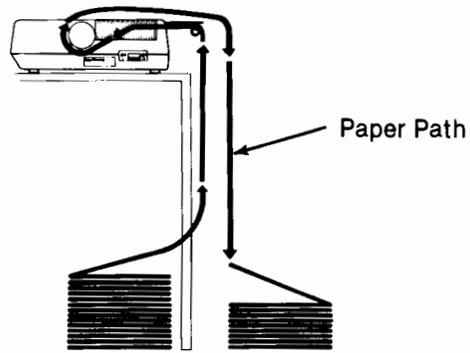
□ 5. Install the ribbon cartridge.



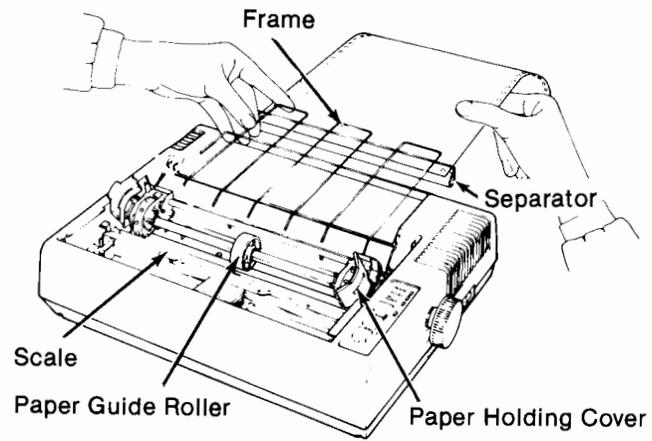
□ 6. Install the separator. If you have trouble, refer to the printer's manual.



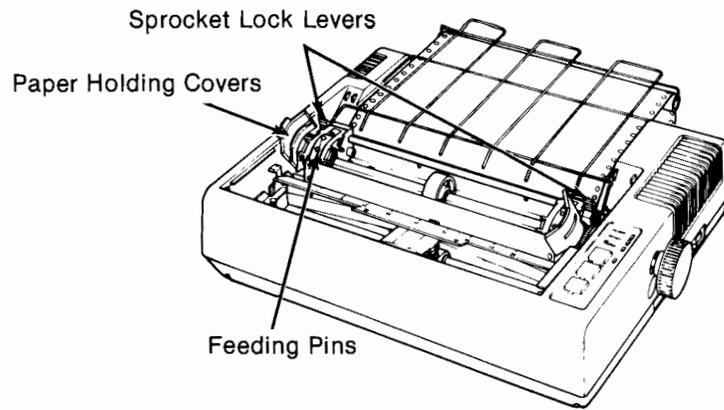
□ 7. Install paper.



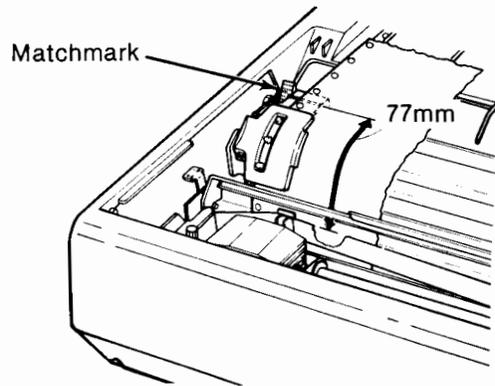
a.



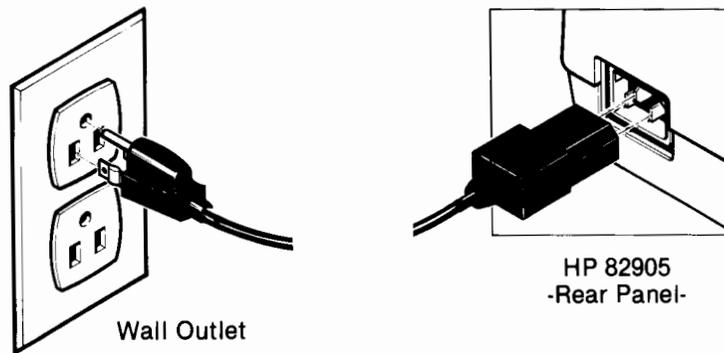
b.



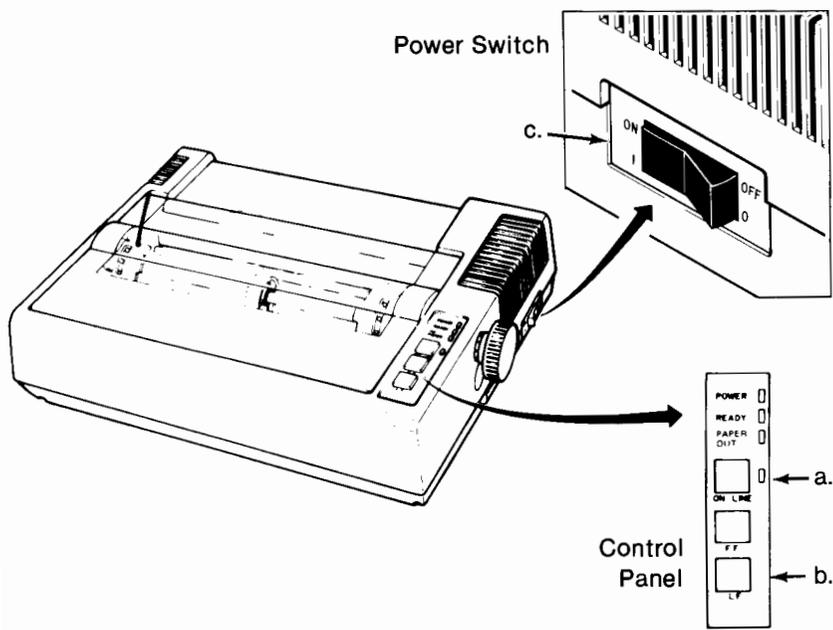
c.



- 8. Plug the power cord into the printer and then the wall outlet.



- 9. Run the printer's self-test.

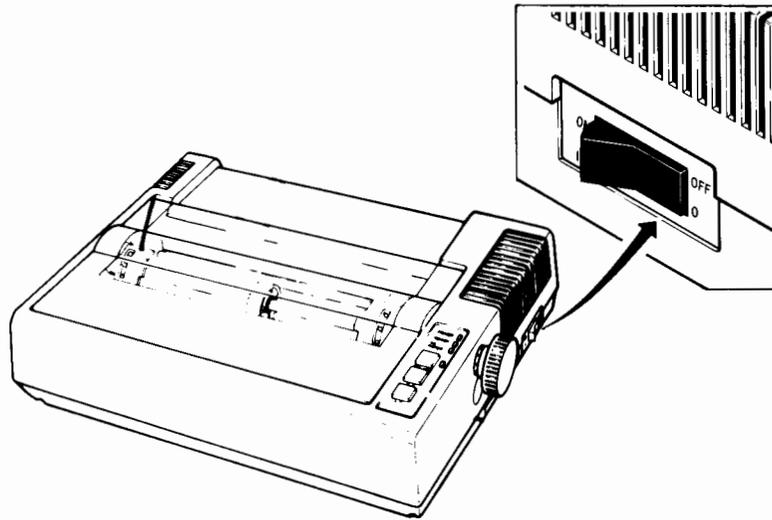


- Press the ON LINE button so the light is OFF.
- Press the LF button while you...
- ... Turn ON the power switch.

HP 82905 Self-Test Pattern

```
789: ; <=> ? @ ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`' abcdefg  
89: ; <=> ? @ ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`' abcdefgh  
9: ; <=> ? @ ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`' abcdefghi  
: ; <=> ? @ ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`' abcdefghij  
; <=> ? @ ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`' abcdefghijk
```

10. After a few lines of the test pattern have printed, turn the printer OFF.



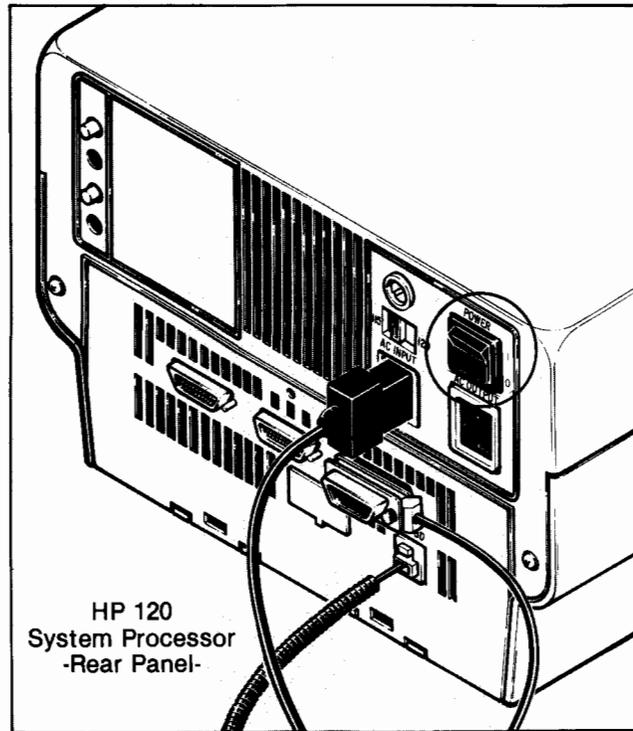
NOTE

If your printer does not start the self-test, try the following:

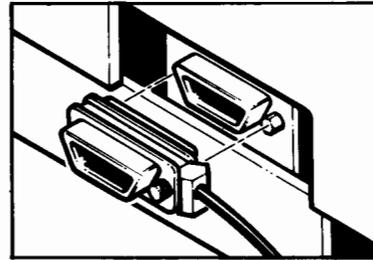
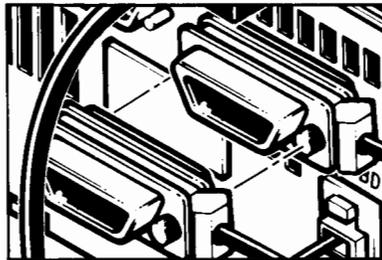
1. Be sure the ON LINE button is OFF.
2. Be sure that you are holding the LF button down while you turn the printer ON.
3. Be sure the printer is plugged in.
4. Be sure the circuit breaker controlling the printer's outlet is on.

If none of the items above solve your problem, contact the person from whom you purchased your system.

- 11. Be sure the system processor is OFF.



- 12. Connect the HP-IB cable to the system processor and then the printer.



Summary

Now that you have finished connecting your printer(s) to your system, you have a few choices as to what you want to do next. First, if you have a plotter, you should go ahead and install it (see Chapter 5) to complete your HP 120 computer system. Next, learn about using the HP 120, configure the system automatically, or verify that your system is working properly now that it has been completely connected.

If you wish to manually set the system configuration, refer to Appendix D. The special program disc you will use in Chapter 6 sets the system configuration for you, automatically.

Chapter 5

INSTALLING YOUR PLOTTER



Introduction

There are three models of Hewlett-Packard plotters that you may install on your Series 100 system. All of these plotters are connected with an HP-IB cable. The installation instructions are sectioned by model number and are given in the following order:

HP 7225B

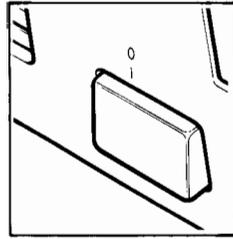
HP 7470A

HP 9872C

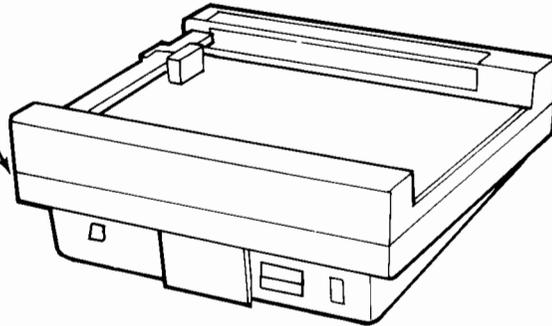
Installation Procedures

Installing Your HP 7225B Plotter

- 1. Be sure the plotter is OFF.

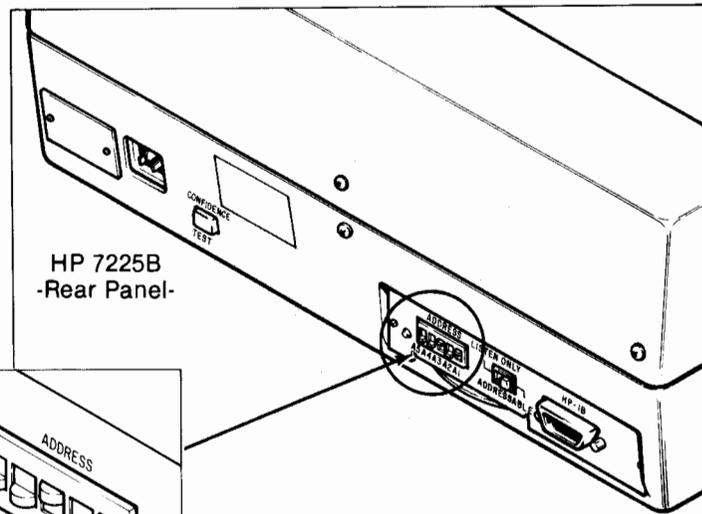


HP 7225B
ON/OFF Button
in OFF (Out) Position

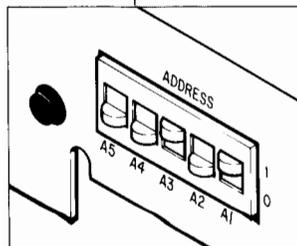


HP 7225B
-Rear Panel View-

- 2. Set the address switches.

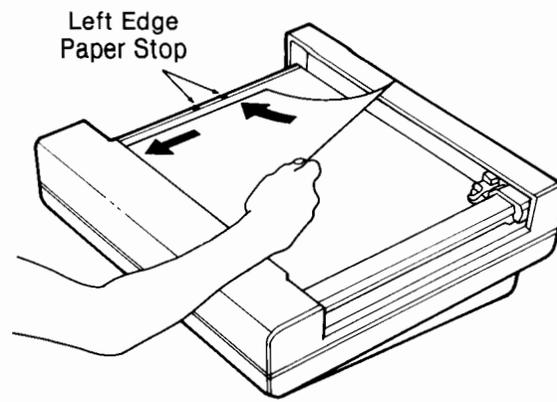


HP 7225B
-Rear Panel-



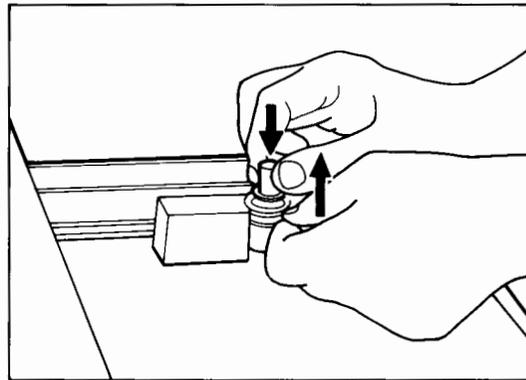
HP 7225B Address Switch

- 3. Install paper.

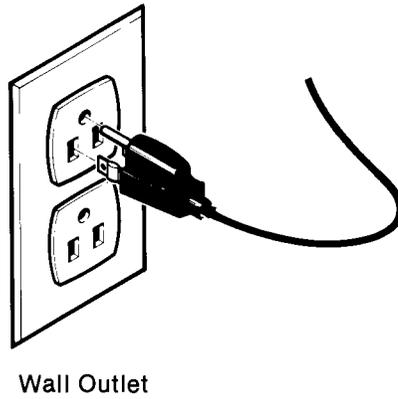
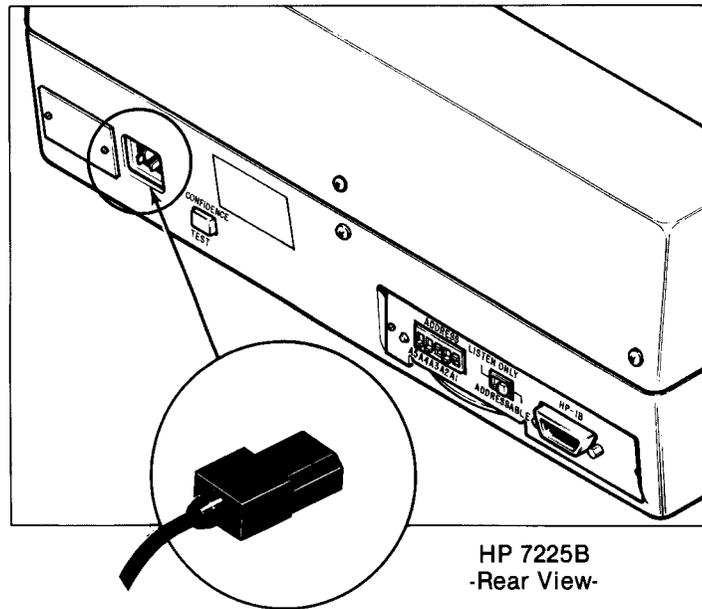


HP 7225B -Front View-

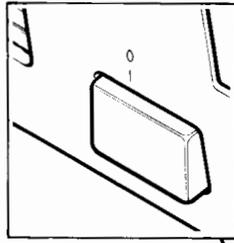
- 4. Install pen(s).



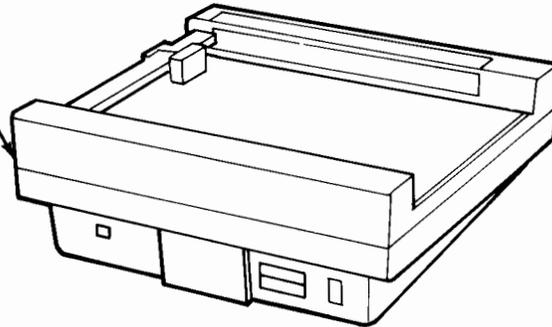
- 5. Plug the power cord into the plotter and then the wall outlet.



- 6. Turn the plotter ON.

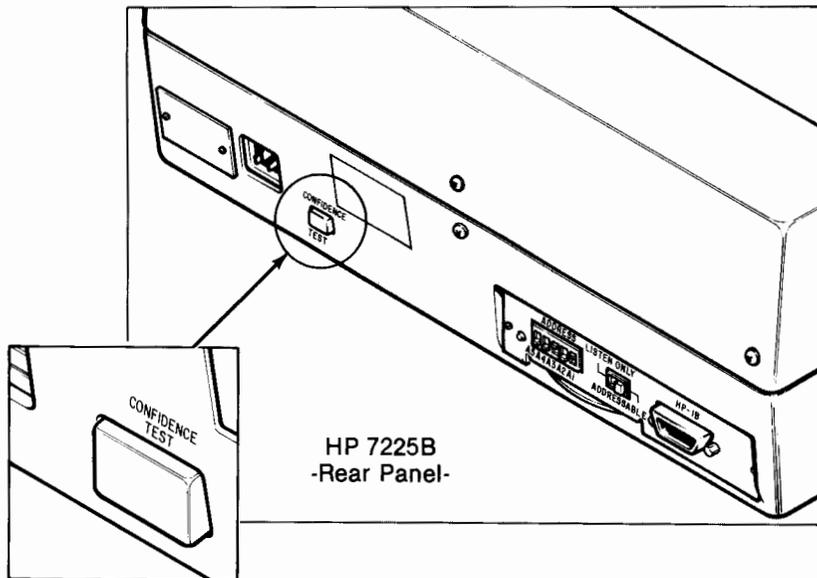


HP 7225B
Power Switch
in ON (In) Position



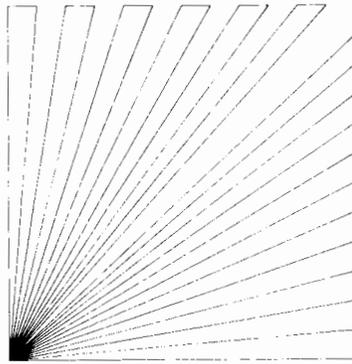
HP 7225B
-Rear View-

- 7. Press the Confidence Test switch.



HP 7225B
-Rear Panel-

END OF TEST



Confidence Test Example



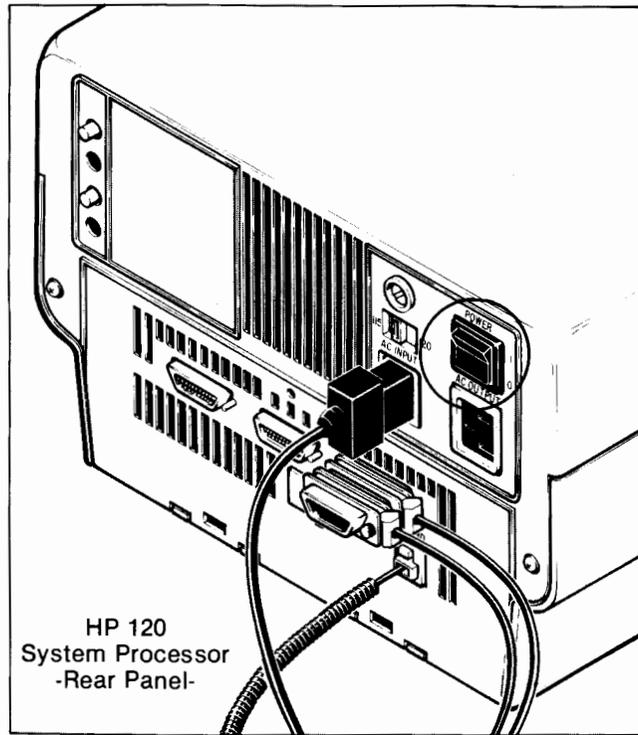
NOTE

If nothing happens check the following:

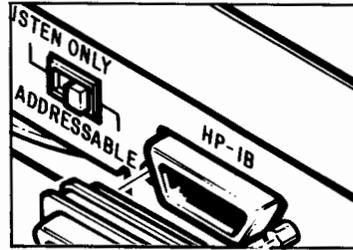
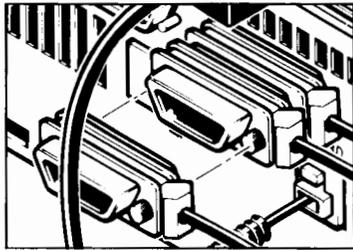
- a. the plotter is ON.
- b. the plotter is plugged in.
- c. the wall outlet's circuit breaker is ON.

If all of the above are OK and your plotter still fails to function, contact the person from whom you purchased your system.

- 8. Be sure the system processor is OFF.

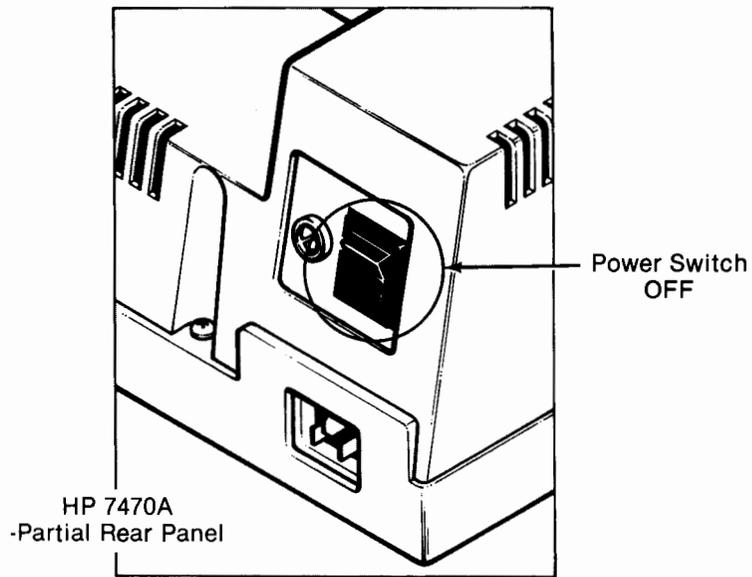


- 9. Turn the plotter OFF. Connect the HP-IB cable to the plotter and then the system processor.

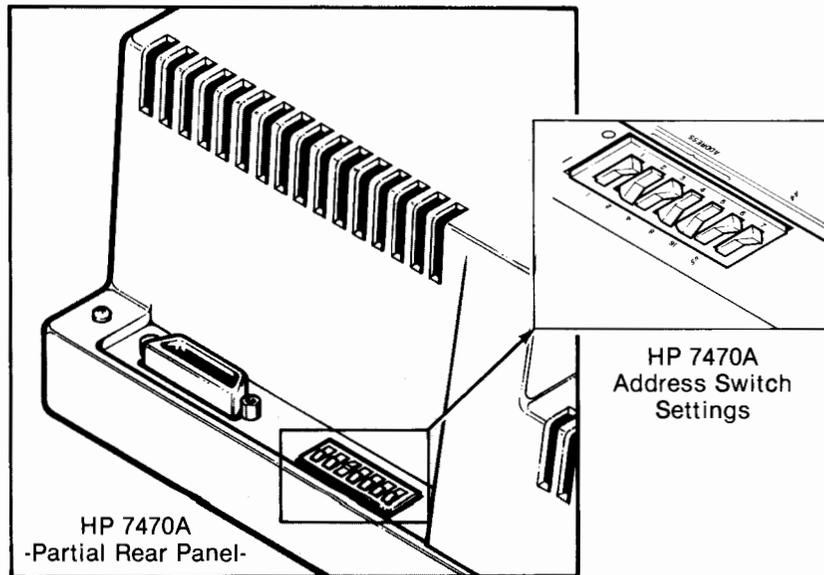


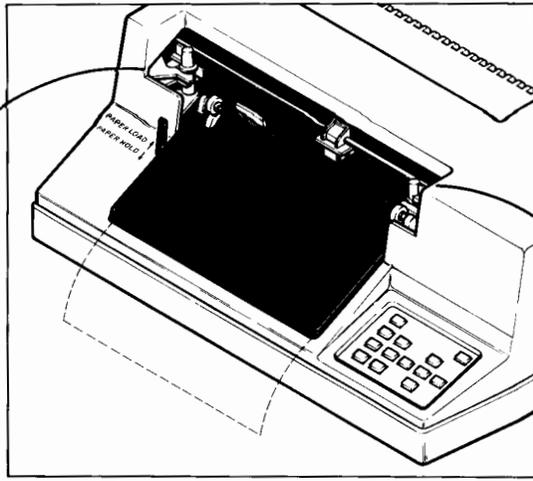
Installing Your HP 7470A Plotter

- 1. Be sure the plotter is OFF.



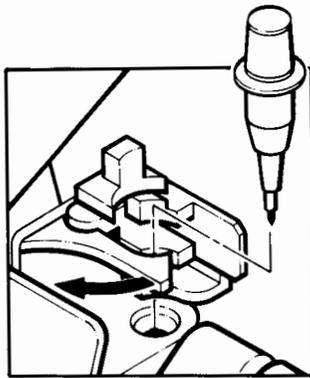
- 2. Set the address switches.



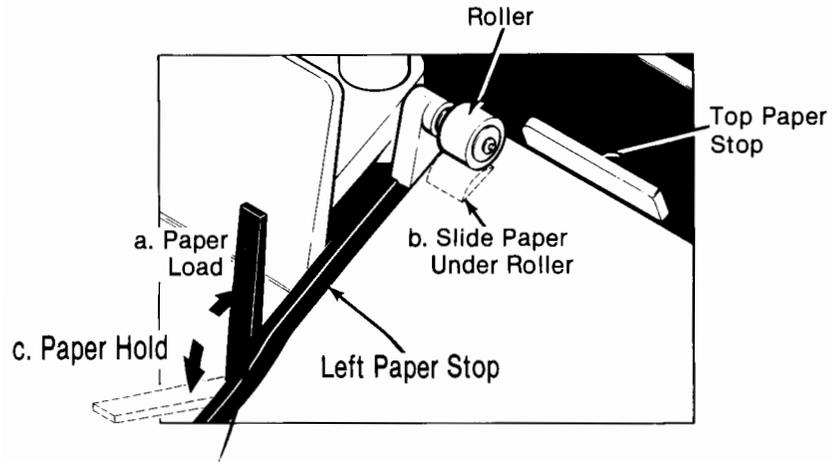


HP 7470A -Front Panel-
Paper and Pens in Place

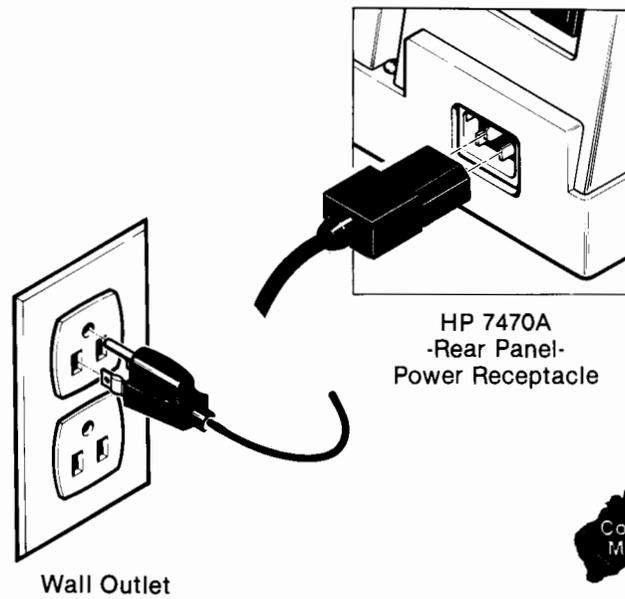
□ 3. Install pen(s).



□ 4. Install paper.

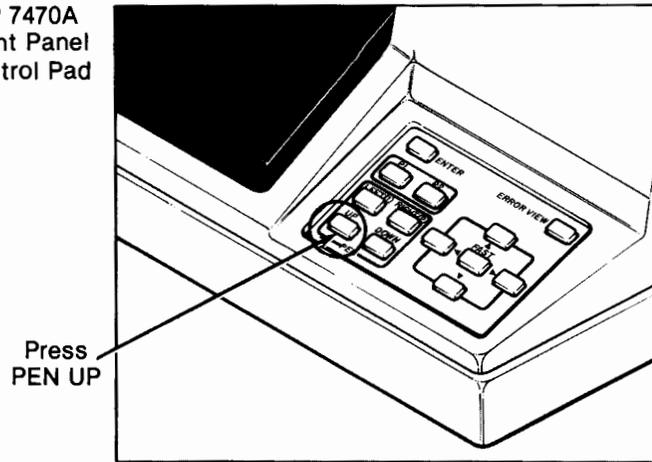


□ 5. Plug the power cord into the printer and then the wall outlet.



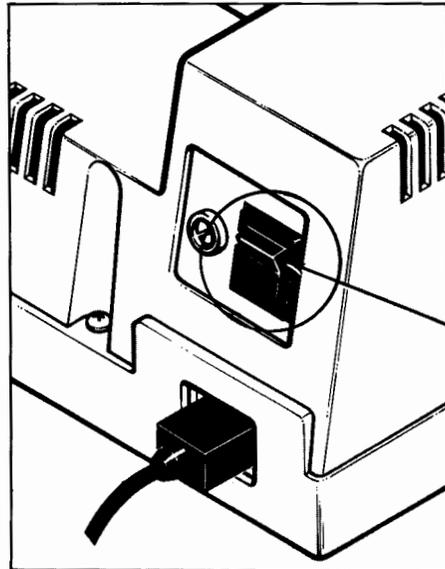
- 6. Run the Confidence Test.

HP 7470A
Front Panel
Control Pad



Press
PEN UP

While...



...Turning On the Plotter

HP 7470A
-Partial Rear Panel-



Self-Test Example

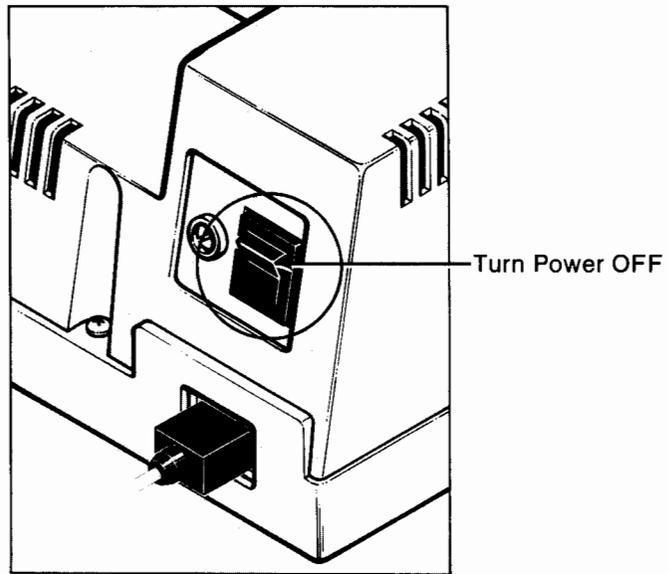
NOTE

If nothing happens check the following:

- a. the plotter is ON.
- b. the plotter is plugged in.
- c. the wall outlet's circuit breaker is ON.

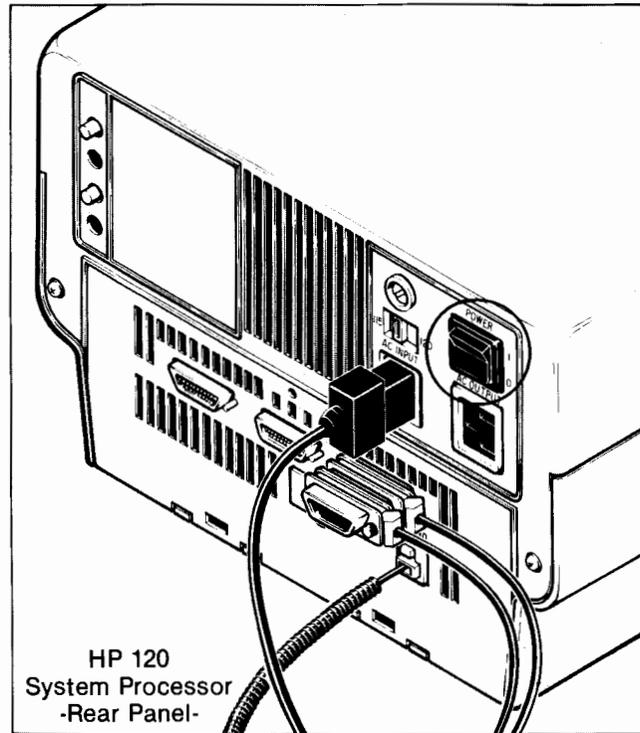
If all of the above are OK and your plotter still fails to function, contact the person from whom you purchased your system.

□ 7. Turn the plotter OFF.

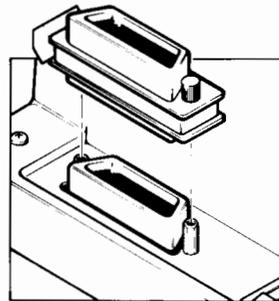
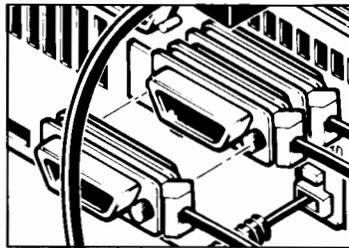


HP 7470A
-Partial Rear Panel-

- 8. Be sure the system processor is OFF.

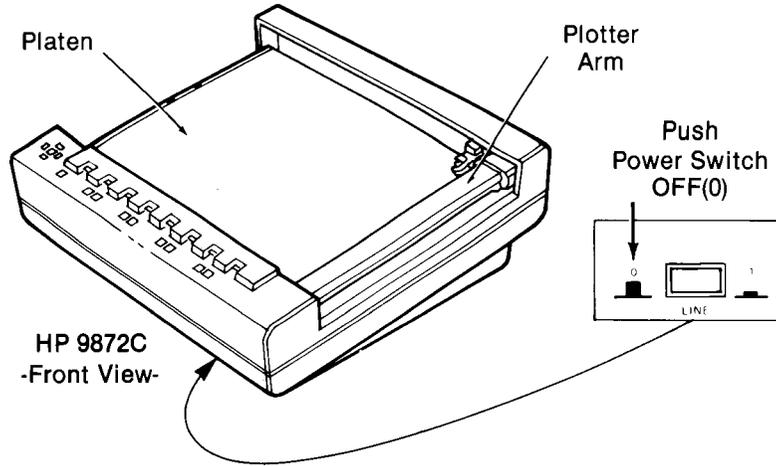


- 9. Connect the HP-IB cable to the plotter and then the system processor.

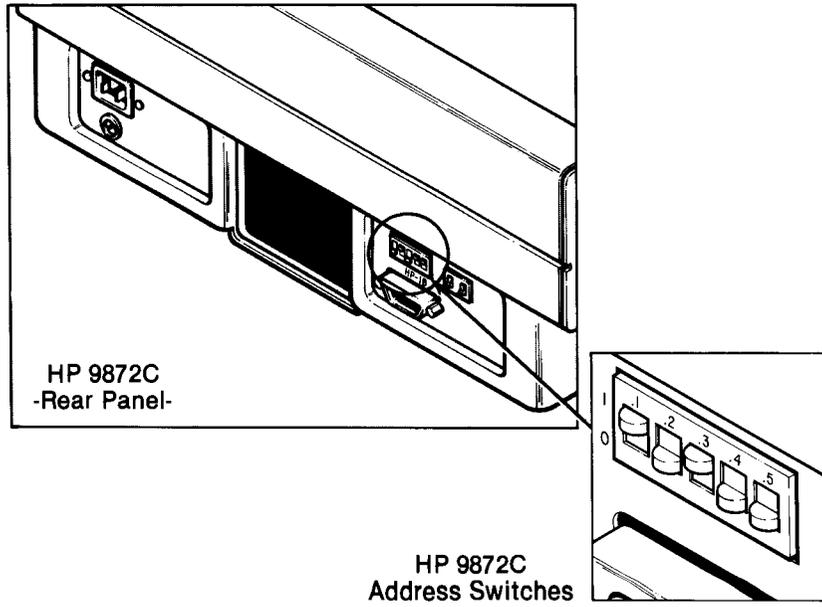


Installing Your HP 9872C Plotter

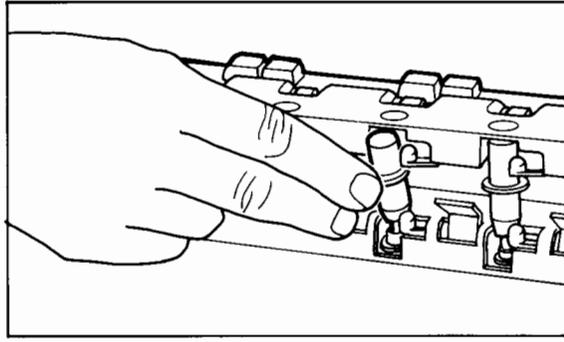
- 1. Be sure the plotter is OFF.



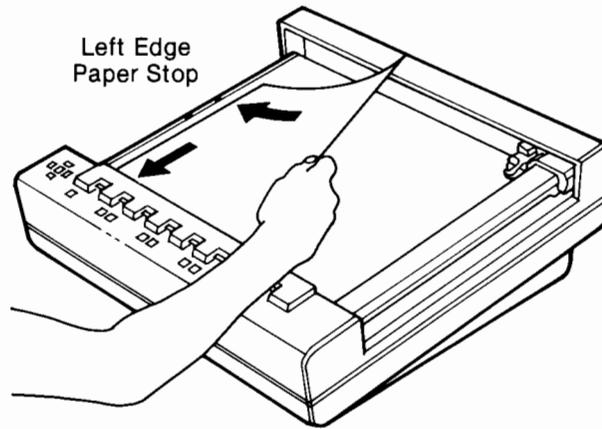
- 2. Set the address switches.



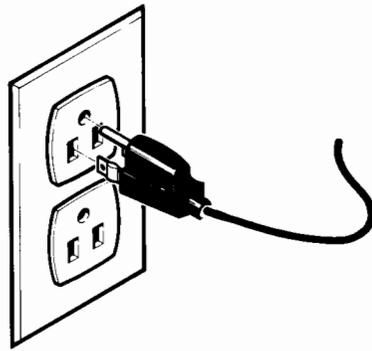
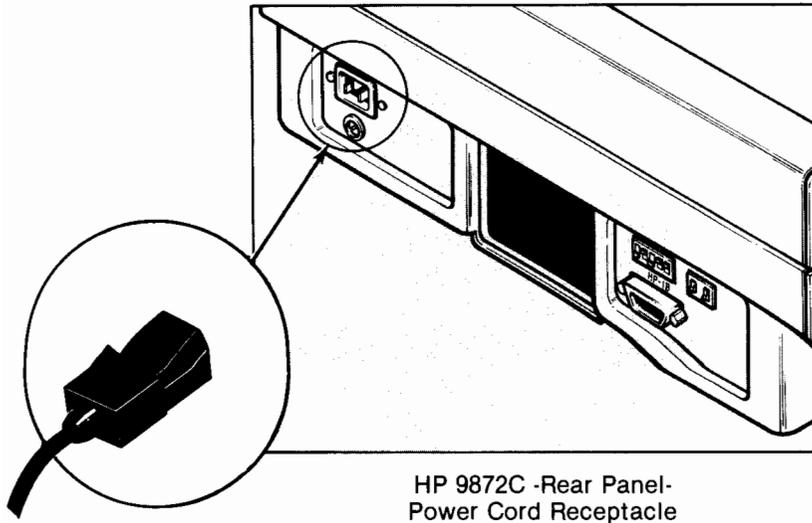
□ 3. Install pen(s).



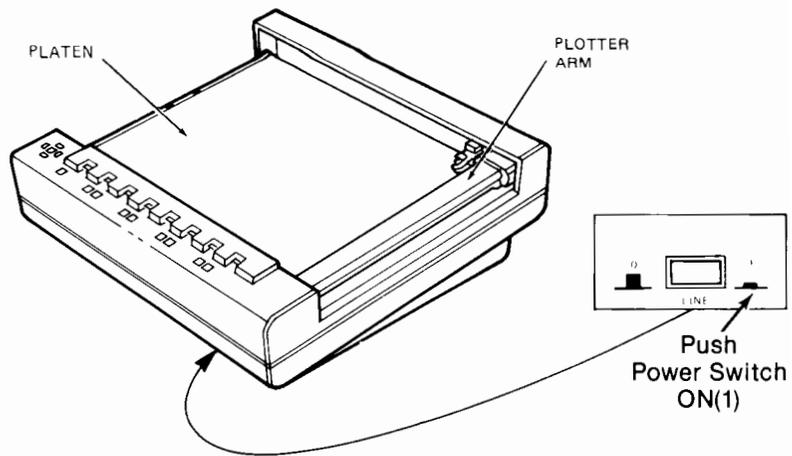
□ 4. Install paper.



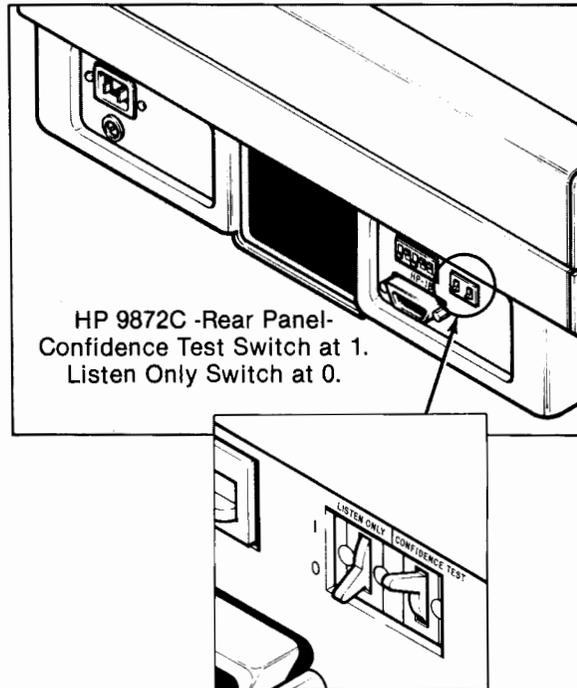
- 5. Plug the power cord into the plotter and then the wall outlet.

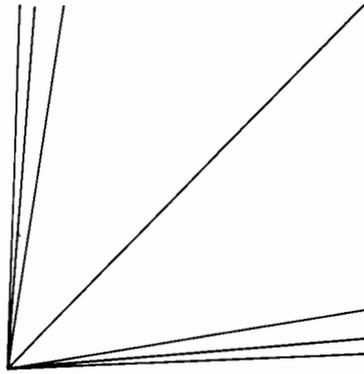


□ 6. Turn the plotter ON.



□ 7. Press the Confidence Test switch.





Self-Test Example

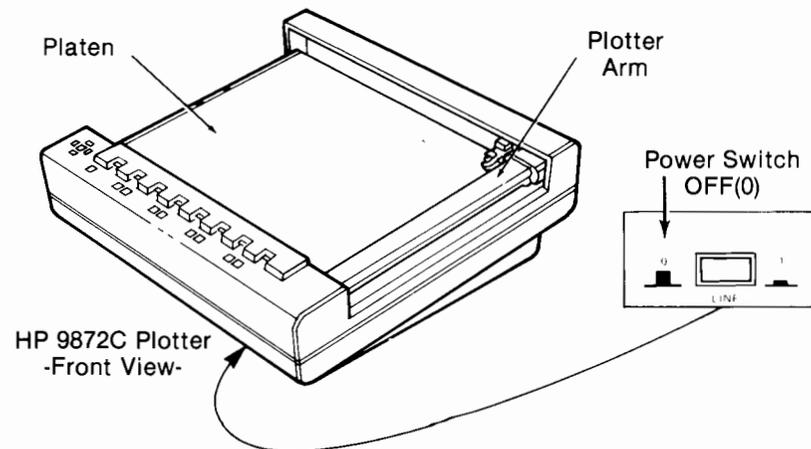
NOTE

If nothing happens check the following:

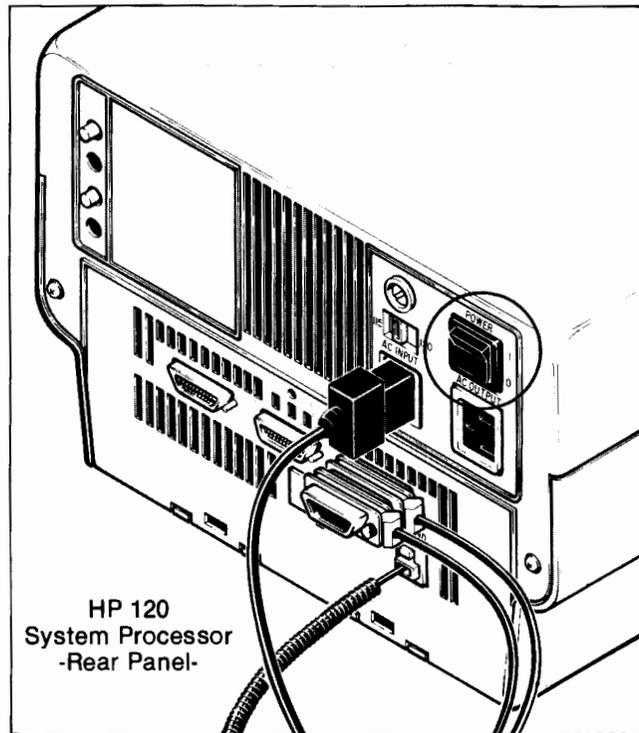
- a. the plotter is ON.
- b. the plotter is plugged in.
- c. the wall outlet's circuit breaker is ON.

If all of the above are OK and your plotter still fails to function, contact the person from whom you purchased your system.

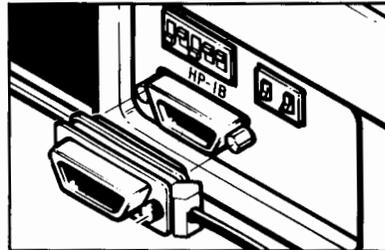
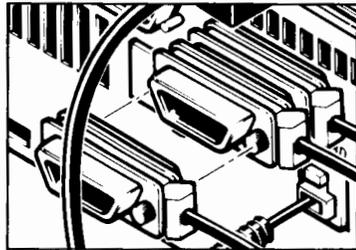
8. Turn the plotter OFF.



- 9. Be sure the system processor is OFF.



- 10. Connect the HP-IB cable to the plotter and then the system processor.



Summary

Now that you have completely connected your Series 100 computer, you are ready to prepare the system for the software programs (i.e., Series 100/Word, VisiCalc, etc.) you'll install later in this book. The next two steps for preparing your system are configuring the system and installing the operating system.

You may set the system configuration automatically or manually. Use the disc described in Chapter 6 to automatically configure your system, or follow the instructions in Appendix D to manually set the configuration.

Chapter 7 covers installing the operating system on both flexible and fixed discs. Your system should be configured before proceeding to Chapter 7.

Chapter 6

COMPUTER TUTOR— AN INTERACTIVE DISC



What Is an Interactive Disc?

An interactive disc is a flexible disc containing a special computer program. The program is specially designed so that you “learn by doing.” In this case, *Computer Tutor* teaches you about the Series 100 computer by letting you actually perform some day-to-day computer activities. *Computer Tutor* also correctly sets your system configuration and verifies that your printer and plotter are working with your HP 120.

Why Use the Disc?

There are two basic reasons for using the interactive disc.

- You want to learn about basic computer concepts.
- You want to set the system configuration automatically and verify that your system is in working order.

As a teaching tool, *Computer Tutor* defines computer terms found in the manuals and gives you experience using the special keys with which you control your system.

As a verification tool, the interactive disc lets you select whether you want to go through the lessons or simply verify that your printer and/or plotter is working correctly with your HP 120.

Computer Tutor automatically sets the system configuration when you run either the lesson portion or the verification portion.

NOTE

If you do not want to set the system configuration using the interactive disc, see Appendix D for instructions and proper settings to configure your system manually.

Using the Disc

1. Remove the flexible disc labeled *Computer Tutor* from the plastic sleeve in the rear of the owner's manual.
2. For 8" and 5¼" discs, remove the disc from its storage envelope. For 3½" discs, slide over the metal portion of the disc to expose the disc surface.
3. Turn ON the disc drive. (If you used the convenience power cord, turn ON the system processor and ignore step #6.)
4. Insert the disc in a flexible disc drive. If you have more than one flexible disc drive, place the disc in the left drive of the primary unit. (See Chapter 3 for more on primary and secondary drives.)
5. Close the drive door.
6. Turn ON the system processor.

USING A SERIES 100

... an interactive learning program.

Are you using this disc for the first time? Press YES (f1 on the upper row of the keyboard) or NO (f8 on the upper row of the keyboard).

YES 1 1 NO

7. When you finish with *Computer Tutor*, remove the disc from the disc drive and store it safely for future use.

Your next step (Chapter 7) is preparing the discs and disc drives for installing your applications, the final step.



Chapter 7

PREPARING YOUR BLANK DISCS FOR USE



Introduction

In this chapter you will prepare your discs for the application programs that you'll install in Chapter 8. Please, read "Media Storage" and "Protection of Valuable Records" in Appendix C before proceeding.

There are two types of discs: flexible and fixed. You can remove flexible discs from the disc drive; you cannot remove a fixed disc from the disc drive.

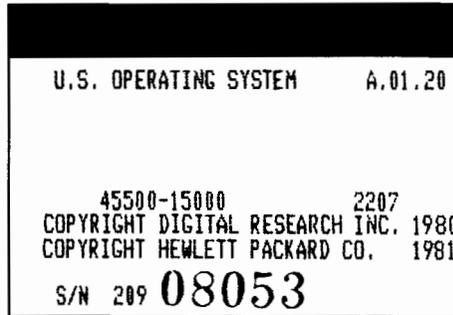
To prepare a disc for use, you need to (1) format a blank disc and (2) install an operating system on it. Once the operating system is installed you may then use the disc to store data or run applications (once they're installed).

Formatting a Flexible Disc

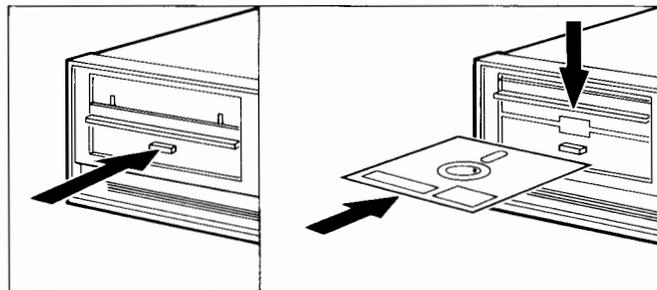
Formatting a disc means that you are preparing a completely blank disc ready for use. All you need to do is press a few buttons; the HP 120 takes care of the rest.

Here are the step-by-step instructions for formatting your flexible disc.

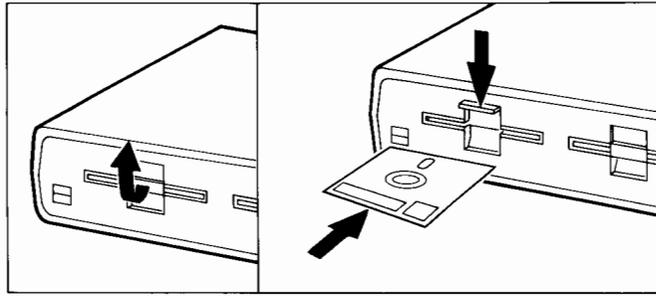
1. Find the flexible disc labeled OPERATING SYSTEM. The number A.01.20 (or greater) should be on the same line as the words OPERATING SYSTEM. If the number is lower than A.01.20, the operating system will not work on your computer and you should contact the person from whom you purchased your Series 100.



2. Place the OPERATING SYSTEM disc (A.01.20) near your disc drive, but not on the drive.
3. Turn on the disc drive. (If you used the convenience power cord, turn on the system processor and ignore step #7.)
4. Insert the operating system disc as follows:



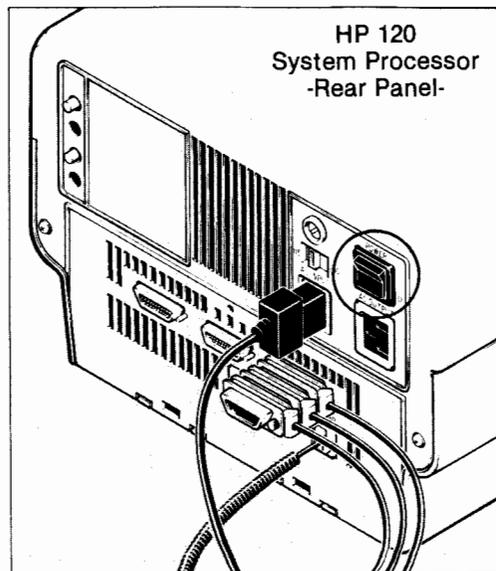
Or



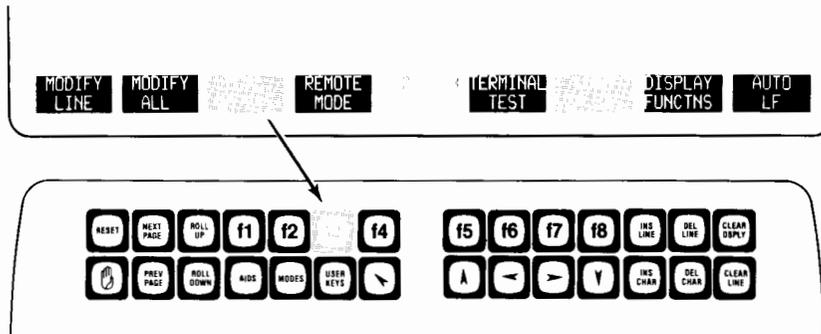
If you are using a 3½" flexible disc, remove the plastic tab in the lower right corner of the disc's back side, then slide over the disc's metal cover to expose the disc surface.

Slide the disc in with gentle, even pressure until the disc clicks into place. If the disc is all of the way in, it will stay in place.

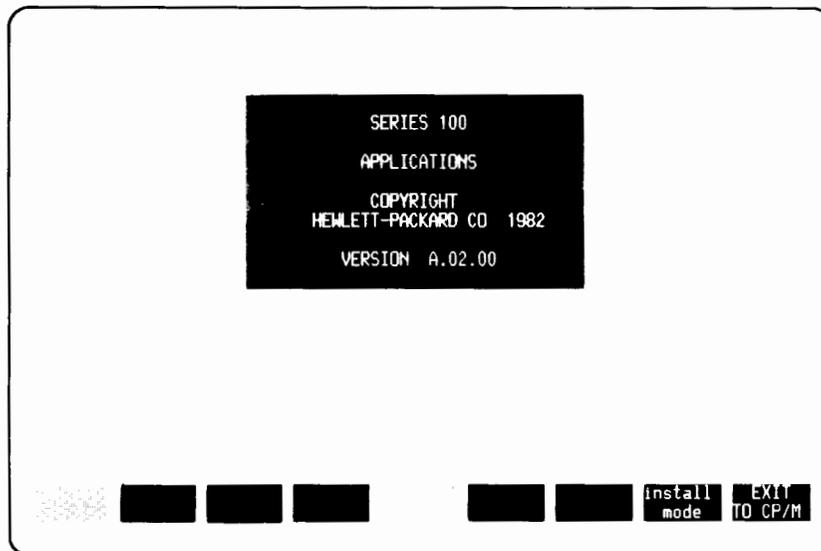
5. Shut the drive door.
6. Insert a blank flexible disc in the other drive and close the door.
7. Turn on the system processor. The system processor's power switch is on the rear panel.



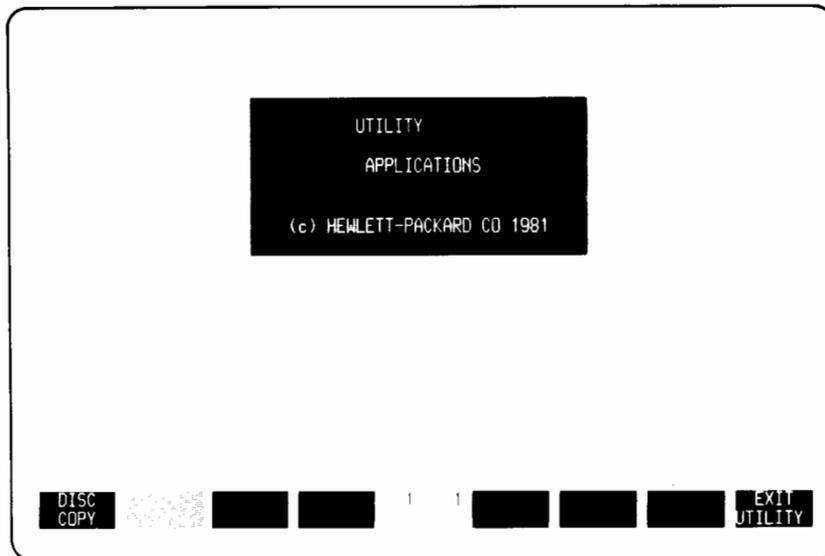
The system processor will beep after approximately 15 seconds, and a row of labels will appear at the bottom of the screen. If an * is not in the same label with LOCAL OP SYS, press the f3 key at the top of your keyboard.



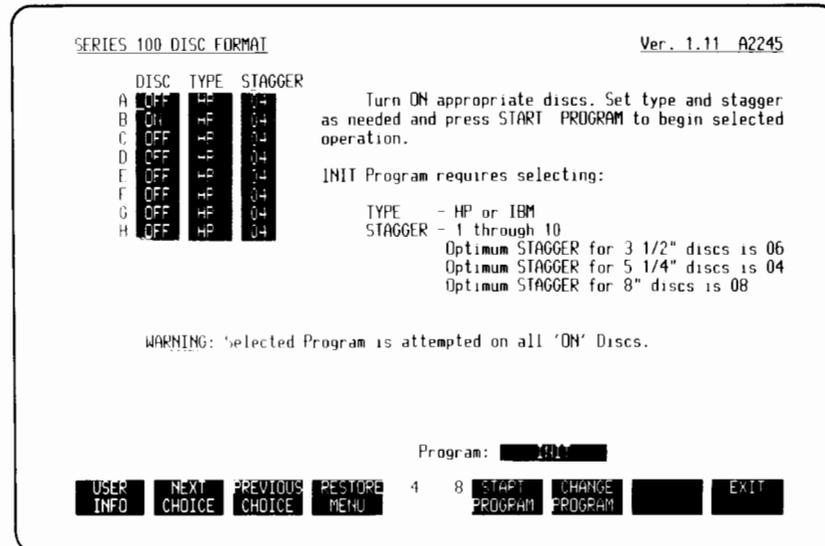
8. Press f6. The screen changes and a new set of labels appears.



9. Press f1. The following screen appears:



10. Press f2. The screen changes again to this:

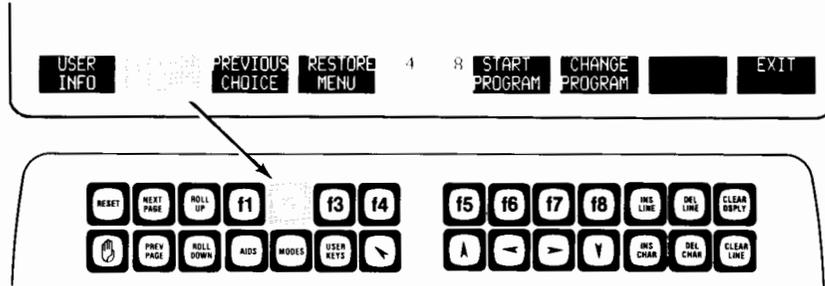


Before proceeding, let's go over some of the terms used in the next few pages.

Cursor—the blinking underline between the A and the OFF in the first row of highlighted columns on the screen.

Cursor Control Keys—the keys with the arrows on them in the second row from the top on the keyboard. These keys move the cursor in the direction of the arrow.

Function Key—the f1-f8 keys on the top row of your keyboard. The labels at the bottom of your screen correspond to the function keys on your keyboard. (EXAMPLE: f2= NEXT CHOICE)

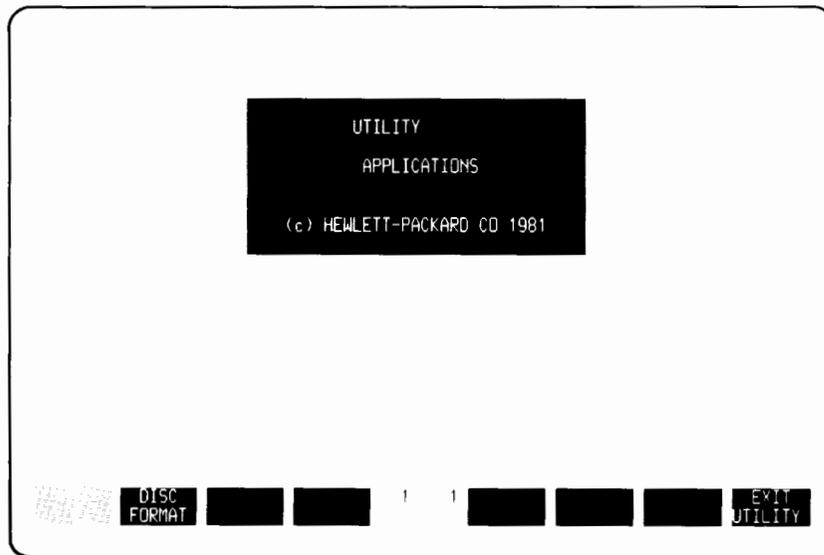


11. Notice that DISC B is ON. If DISC B is OFF, move the cursor using the cursor control keys, to row B, column DISC and press the NEXT CHOICE function key (f2).

SERIES 100 DISC FORMAT

	DISC	TYPE	STAGGER
A	---	--	-
B	---	--	-
C	---	--	-
D	---	--	-
E	---	--	-
F	---	--	-
G	---	--	-
H	---	--	-

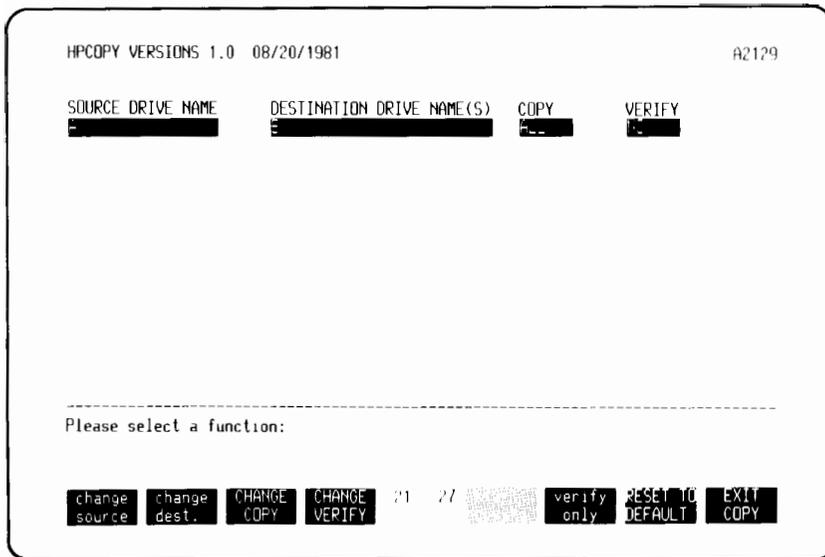
16. Press DISC COPY (f1).



The SOURCE DRIVE should be A and the DESTINATION DRIVE should be B. If not, then change the SOURCE to A and the DESTINATION to B by following these instructions:

- A. Press the *change source* (f1) function key.
- B. Type A and then press the return key (on the keyboard).
Notice that your source drive name changed to A.
- C. Press the *change dest.* (f2) function key.
- D. Type B and then press the [RETURN] key (on the keyboard).
Notice that your destination drive name changed to B.

17. Press *start copying* (f5).



18. Press PROCEED W/COPY (f6). As the Operating System is copied, several messages are displayed on the screen. Your system will beep quietly when it is finished copying.
19. Press the EXIT function key (f8).
20. Remove the discs from the drives.
21. Turn the drive(s) OFF.

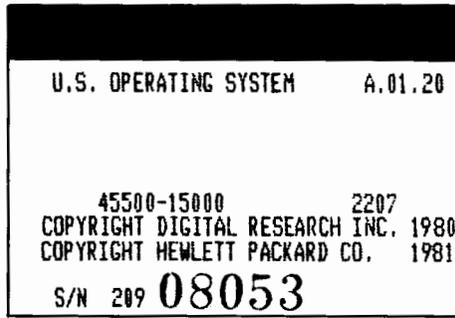
Formatting a Fixed Disc

Formatting a disc means that you are preparing a completely blank disc ready for use. All you need to do is press a few buttons; the HP 120 takes care of the rest.

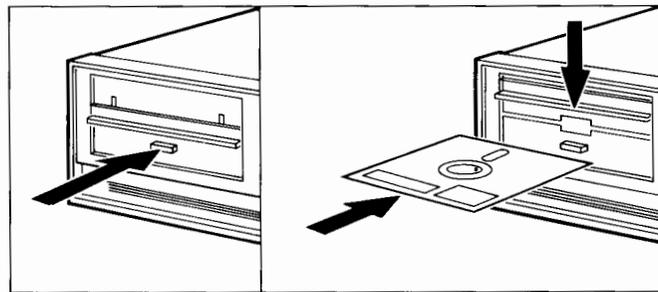
Here are the step-by-step instructions for formatting your fixed disc.

1. Find the flexible disc labeled OPERATING SYSTEM. The number A.01.20 (or greater) should be on the same line as the words OPERATING SYSTEM. If the number is lower than

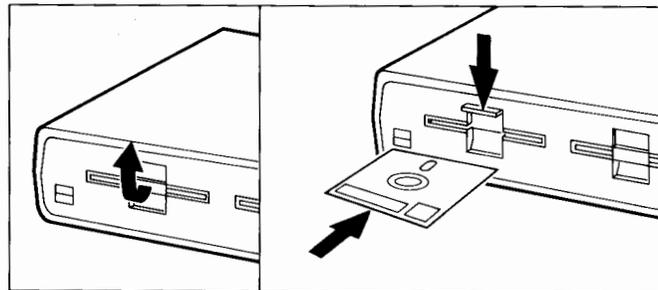
A.01.20, the operating system will not work on your computer and you should contact the person from whom you purchased your Series 100.



2. Place the OPERATING SYSTEM disc (A.01.20) near your disc drive, but not on the drive.
3. Turn on the disc drive.
4. Insert the disc as follows:



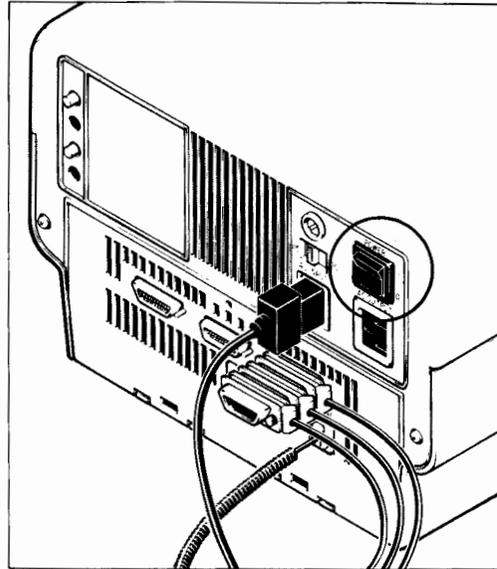
Or



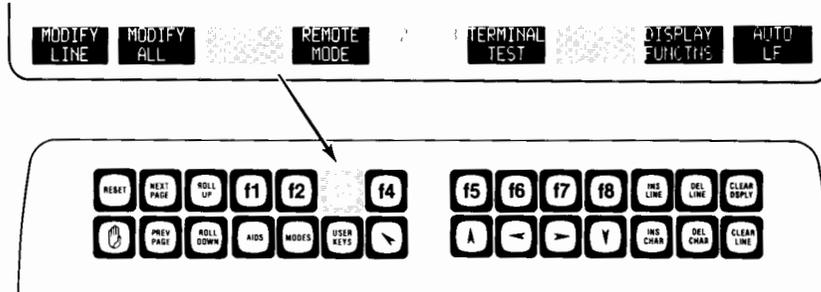
If you are using a 3½" flexible disc, remove the plastic tab in the lower right cover of the disc's back side, then slide over the disc's metal cover to expose the disc surface.

Slide the disc into the drive with gentle, even pressure until the disc clicks into place. If the disc is all of the way in, it will stay in place.

5. Shut the drive door. (HP 9121 and HP 9133 flexible disc drives don't have doors; the disc stays in place without a door.)
6. Turn on the system processor. The system processor's power switch is on the rear panel.



The system processor will beep after approximately 15 seconds, and a row of labels will appear at the bottom of the screen. If an * is not in the same label with LOCAL OP SYS, press the f3 key at the top of your keyboard.



7. Press f6. The screen changes and a new set of labels appears.

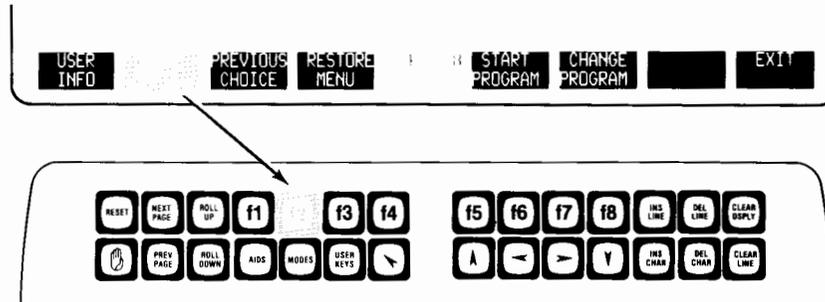


Before proceeding, let's go over some of the terms used in the next few pages.

Cursor—the blinking underline between the A and the OFF in the first row of highlighted columns on the screen.

Cursor Control Keys—the keys with the arrows on them in the second row from the top on the keyboard. These keys move the cursor in the direction of the arrow.

Function Key—the f1–f8 keys on the top row of your keyboard. The labels at the bottom of your screen correspond to the function keys on your keyboard. (EXAMPLE: f2=NEXT CHOICE)



10. Move the cursor (using the cursor control keys) to row B in the DISC column keys.

11. Press NEXT CHOICE (f2 on the keyboard). DISC B is now OFF.

SERIES 100 DISC FORMAT Ver. 1.11 A2245

DISC	TYPE	STAGGER
A	OFF	04
B	HP	04
C	OFF	04
D	OFF	04
E	OFF	04
F	OFF	04
G	OFF	04
H	OFF	04

Turn ON appropriate discs. Set type and stagger as needed and press START PROGRAM to begin selected operation.

INIT Program requires selecting:

TYPE - HP or IBM
 STAGGER - 1 through 10
 Optimum STAGGER for 3 1/2" discs is 0b
 Optimum STAGGER for 5 1/4" discs is 04
 Optimum STAGGER for 8" discs is 08

WARNING: Selected Program is attempted on all 'ON' Discs.

Program: **001**

USER INFO NEXT CHOICE PREVIOUS CHOICE RESTORE MENU 5 8 START PROGRAM CHANGE PROGRAM [] EXIT

12. Now, move the cursor with the cursor control keys to row E in the same column.

13. Press NEXT CHOICE (f2). Notice that DISC E is now ON.

SERIES 100 DISC FORMAT Ver. 1.11 A2245

DISC	TYPE	STAGGER
A	OFF	04
B	OFF	04
C	OFF	04
D	OFF	04
E	HP	04
F	OFF	04
G	OFF	04
H	OFF	04

Turn ON appropriate discs. Set type and stagger as needed and press START PROGRAM to begin selected operation.

INIT Program requires selecting:

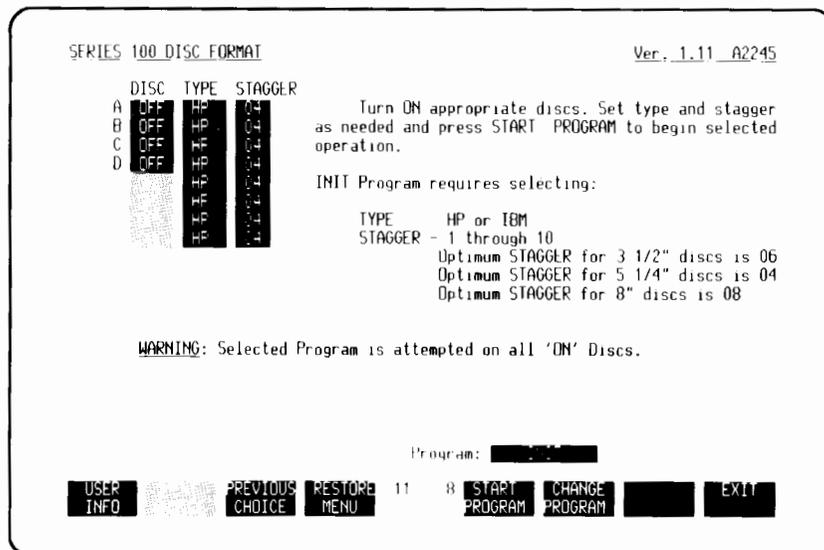
TYPE - HP or IBM
 STAGGER - 1 through 10
 Optimum STAGGER for 3 1/2" discs is 0b
 Optimum STAGGER for 5 1/4" discs is 04
 Optimum STAGGER for 8" discs is 08

WARNING: Selected Program is attempted on all 'ON' Discs.

Program: **001**

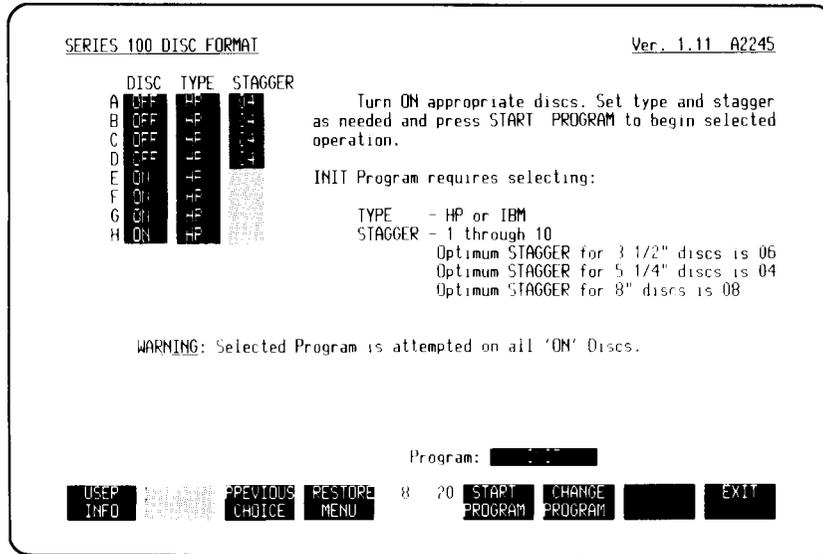
USER INFO PREVIOUS CHOICE RESTORE MENU 8 8 START PROGRAM CHANGE PROGRAM [] EXIT

14. Turn on discs F, G, and H by moving the cursor to the appropriate row and pressing the NEXT CHOICE (f2) key. The screen should now look like this:



15. Move the cursor with the cursor control keys to the STAGGER column in row E.
16. Press the NEXT CHOICE (f2) key until 08 appears in the column.

- Change the STAGGER for F, G, and H to 08 using the cursor control keys and the NEXT CHOICE (f2) key. The screen should look like this:



- Press the START PROGRAM function key (f5). The screen changes and, as the program starts, various messages appear on the screen. The initialization process takes approximately 10-15 minutes, so this would be a good time to take a break. Your system will beep quietly when it is finished.
- After your fixed disc is formatted, press EXIT (f8).

22. Press the *change dest.* (f2) function key.

```
HPCOPY VERSIONS 1.0 08/20/1981                                A2129

SOURCE DRIVE NAME      DESTINATION DRIVE NAME(S)  COPY  VERIFY
-----              -
-                    B-

-----
Please select a function:

change  change  CHANGE  CHANGE  21  27  start  verify  RESET TO  EXIT
source  dest.  COPY   VERIFY  copying only  DEFAULT  COPY
```

23. Type E and then press the [RETURN] key (on the keyboard).
Notice that your destination drive name changed to E.

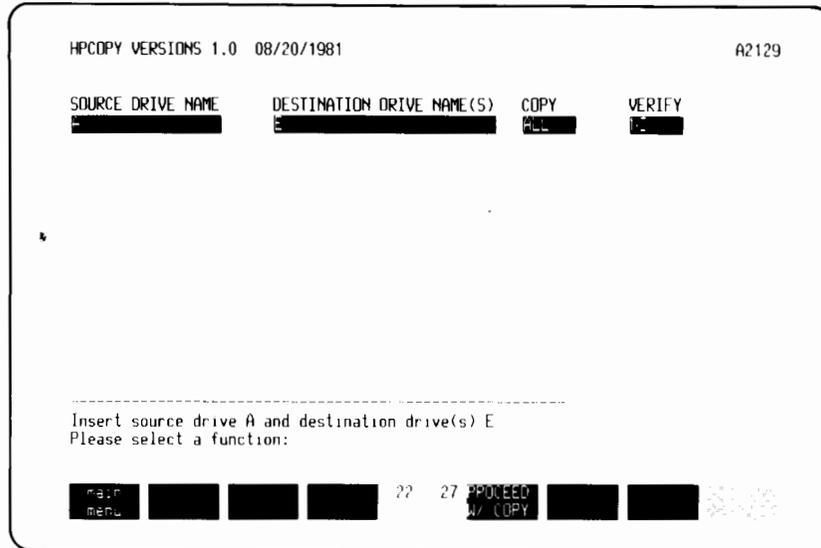
```
HPCOPY VERSIONS 1.0 08/20/1981                                A2129

SOURCE DRIVE NAME      DESTINATION DRIVE NAME(S)  COPY  VERIFY
-----              -
-                    E-

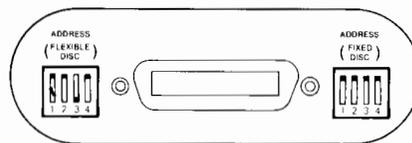
-----
Please select a function: _

change  change  CHANGE  CHANGE  21  27  start  verify  RESET TO  EXIT
source  dest.  COPY   VERIFY  copying only  DEFAULT  COPY
```

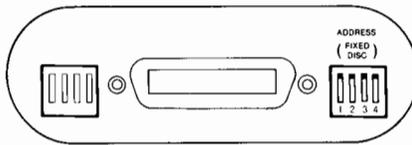
24. Press *start copying* (f5).
25. Press *PROCEED W/COPY* (f6). As the operating system is copied, several messages are displayed on the screen. Your system will beep quietly when it is finished copying.
26. Press the *EXIT* function key (f8).



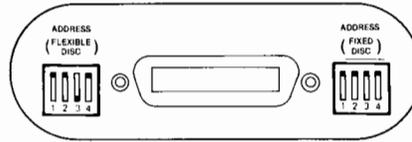
27. Remove the flexible discs from the drive(s).
28. Turn the drive OFF.
29. Now, change your disc drives' address switches as follows:
For the 9135:



For the 9134:



For the 9133:



Labeling Your Disc Drives

Now, label your disc drives with the lettered stickers provided with your system. The labeling scheme is as follows:

If you have only flexible disc drives,
the primary drives are labeled A and B;
the secondary drives are E and F.

If you have fixed disc and flexible disc drives,
the primary drives (the fixed disc drives) are A, B, C, and D;
the secondary drives (flexible disc drives) are E and F.

The drives must be lettered in the alphabetical order, so that the computer knows which drive you are referencing (i.e., storing information on or retrieving data from).

Place the stickers on the front panel of the drive close to the drive you are labeling. Do not cover any air vents or drive door openings.

Chapter 8

INSTALLING YOUR APPLICATIONS



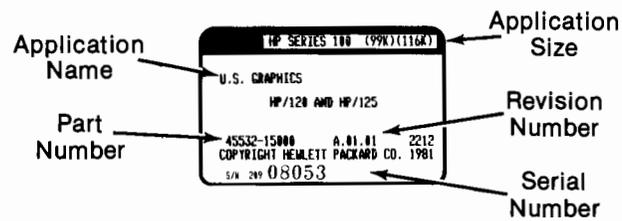
Introduction

The Series 100 Personal Office Computer can help you in a wide variety of applications, from word processing and business graphics to financial analysis. To use an application it must first be installed on the Series 100. Once installed, you will be able to access the application through a single keystroke. The master system disc and master application discs shipped from Hewlett-Packard have been write-protected for your safety. This ensures that you do not accidentally overwrite or destroy the master copies of your programs and files.

At this point you should have everything you need for installing the applications: a disc drive connected to your system processor, formatted discs that contain an operating system, and master application discs.

The master application discs are the discs which contain the applications that you purchased. A sample label is shown below.

The label contains important information that you should know how to locate.



Since you cannot work from the master disc, you will use it to make Work Discs out of the discs that you formatted and installed the operating system on in Chapter 7.

You'll use the Work Discs in your day-to-day computer tasks. You should store your master discs in a safe place (see Appendix C), in case you need to make more Work Discs or wish to exchange for updated versions of the application.

The installation procedure is the same for both flexible and fixed discs. You just need to know the name of the drive that you are installing to and from. If you cannot remember or do not know what your drive names are, refer to the section "Labeling Your Disc Drives" at the end of Chapter 7.

Installation Instructions

- 1 Turn your disc drive ON.
2. Place a work disc in drive A. (If you have a fixed disc, you should already be in A.)
3. This screen should still be on your system processor:

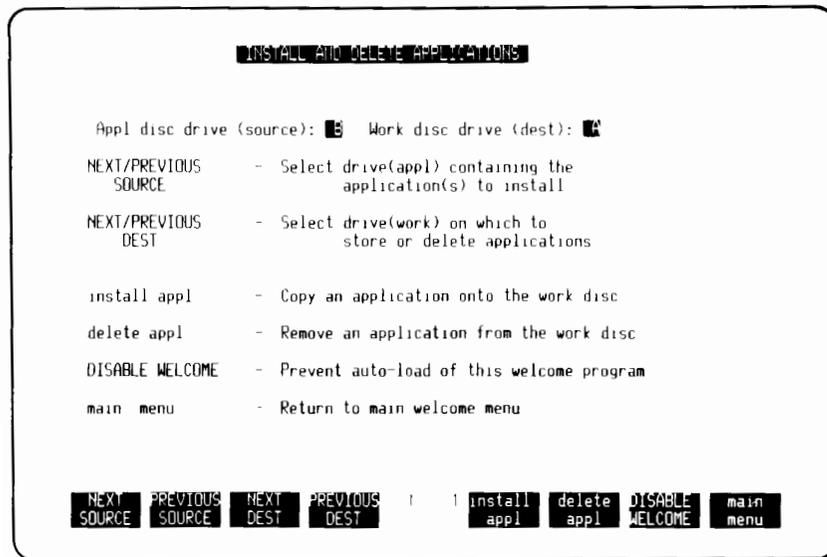


If it is, press *install mode* (f7).

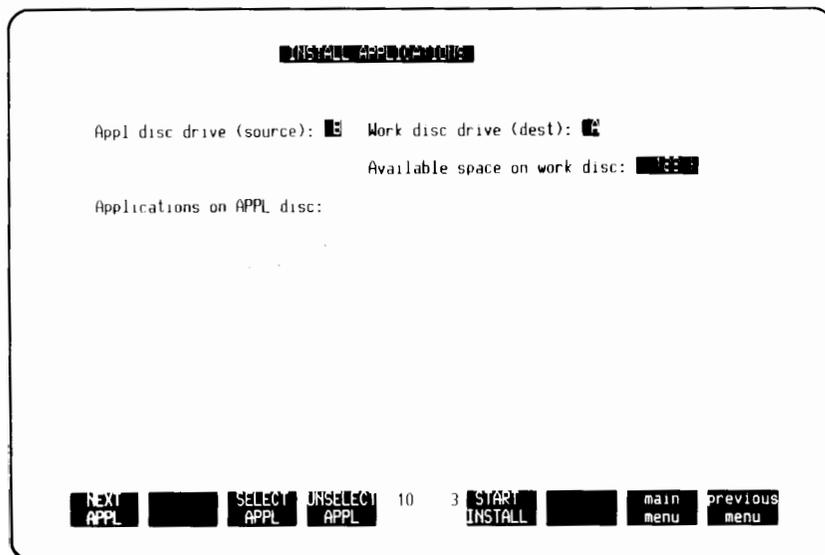
If it is not and you just have a row of function key labels, be sure an * appears with LOCAL OP SYS and then press the LOAD OP SYS function key (f6).

4. Insert the master application disc in drive B (if it is a flexible disc system) or drive E (if it is a fixed disc system).

5. Change the source and destination drives, if necessary, by pressing the function keys described on the screen.



6. When you are ready to install the application, press f5, install appl. The screen changes to:



7. Be sure that you have enough available space on your Work Disc (destination) to hold the application that you are installing. The application's size, a number followed by a K, is on the master disc [source] label.
The name of the application is highlighted to tell you what you are installing, so double-check the application.
8. Press START INSTALL (f5).
When the application is installed, the message "Installation Completed" is highlighted at the top of the screen.
9. Remove and safely store the master application disc.

Summary

CONGRATULATIONS!!!!!! Your Series 100 Personal Office Computer is ready to use. Your system is connected and your applications are installed.

The Series 100 Owner's Manual contains all of the information about operating your system. It is the next manual you should read. If you read the Owner's Manual while using the system, you'll soon be familiar with your computer's capabilities.



Appendix A

ENVIRONMENTAL AND ELECTRICAL SUGGESTIONS



This appendix covers your computer's requirements for the area that it will operate in. If these requirements are met, your system should last longer, operate more reliably, and need fewer repairs.

Environment

Fundamental safeguards for the computer system include a location within a building that will be away from outside sources of potential damage. The HP 120 System should not be installed or operated in an area where there is a hazard of fire or explosion due to the existence of highly flammable gases, flammable volatile liquids, or combustible dust.

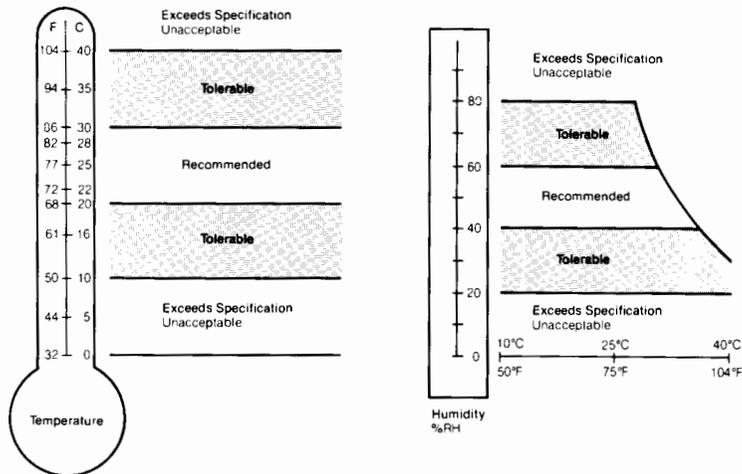
Airborne Contaminants

Airborne contaminants and particles of a certain size and hardness may scratch either the coating on the flexible disc or the disc drive head and cause premature wear on the disc, resulting in data errors.

Some of the most common contaminants are dust, smoke, ashes, eraser crumbs, salt air, and bread crumbs. Solvent vapors, such as those from liquid spirit duplicating equipment, wet process copiers, or other volatile liquids, can soften disc coatings over a period of time. To prevent excessive wear, avoid bringing these contaminants into contact with your computer.

Temperature and Humidity

Operating temperature and humidity requirements are shown in the following figure.



The system will operate most reliably if the room temperature is maintained between 10 and 30 degrees Celsius (50 to 86 degrees Fahrenheit). Higher operating temperatures increase the failure rate of electronic circuitry.

Avoid extremes in relative humidity. High humidity levels can cause improper feeding and stacking of printer paper or improper operation of disc drives. Low humidity levels aggravate problems of static electricity and cause excessive flexible disc wear.

Carpeting can be a source of static electricity, especially in dry and cold climates. Static discharge can often be reduced significantly by a humidifier. Other ways to minimize static discharge include using mats (with a ground strap) in front of the system or treating the carpet with anti-static spray. Spray is not recommended, however, because it finds its way into the system and coats the circuitry. If spray is used, it should be applied while the system is turned off.

If the building air conditioning is turned down or off on weekends, and you intend to use your system, we recommend you check the temperature and humidity of the computer site during a weekend to determine whether the operating specifications are exceeded. If the specifications are exceeded, you should provide auxiliary air conditioning to prevent system shutdown or damage to equipment. You can purchase an inexpensive thermometer and humidity gauge at a hardware or department store to determine the temperature and humidity of your site.

Electrical Considerations

You should take some time to observe the electrical aspects of the area in which you are installing your HP 120.

Are there electrical outlets close by? The HP power cords provided with your system are approximately 8 feet (2.4 meters) long.

DO NOT USE EXTENSION CORDS UNDER ANY CIRCUMSTANCES. Try to locate any connecting cables or power cords so that they don't cross entrances, aisles, other walkways or under carpeting. For cables, all of these areas are safety hazards and could cause wiring damage. All of the cables and power cords enter and exit from the rear of the equipment. Therefore, it is favorable to locate the equipment in a large system along walls where power outlets are easily accessible and where interconnecting cables will be out of the way.

Electrical Interference

Power outlets for other electrical equipment (vacuum cleaners, coffee makers, etc.) should be separate from the computer system's wall outlets. If separate wall outlets are not provided, operation of the equipment can cause electrical interference and abnormal operation of the computer system.

Circuit Breakers

Separate circuit breakers for the system are suggested, but not required. There are two reasons for separate circuit breakers.

The first is to ensure that no other electrical devices are connected to the same circuit, which prevents unnecessary tripping of a circuit breaker. For example, in your own kitchen, if you brew coffee in an automatic coffee maker (12 amperes) at the same time as you are making toast in a toaster (10 amperes), you would trip the circuit breaker if both appliances are on the same circuit.

The second reason for dedicated circuits is to ensure that there is sufficient power to run the system. Lack of separate circuit protection and inadequate wiring cause low voltage (insufficient power) and can cause intermittent system operation (e.g., system failures, disc errors).

Circuit breakers are rated in amperes. In the U.S.A., typical circuit breakers are 15 or 20 amperes. The ampere load in each individual circuit breaker should allow a margin for startup and surge currents drawn by the system. Power requirements for each component are labeled on the rear panel or are listed in the Owner's Manual. Contact your local electric company for your area's voltage.

Lightning

In some geographical areas it may be advisable to install lightning protection for personnel and the computer. In the U.S.A. the installation of lightning arrestors on power and communication lines is described in the National Electrical Code, Article 280. The principles of lightning protection and personnel safety are given in the lightning protection code contained in the National Fire Protection Association (NFPA) Handbook.

Radiated Interference

Radiated interference causes a variety of problems in computer systems. Most commonly, disc read/write errors can occur because of radiation. The most common sources of radiation are airports, which have communications and radar installations, business two-way radio transmitters, or broadcast radio/TV transmitters. Handheld transceivers (i.e., "walkie-talkies") produce the same effect as radio stations when used near computer equipment and should therefore be prohibited from the areas in which computer equipment is installed. Additionally, a microwave link is sometimes aimed from adjacent buildings—this presents trouble for the computer system if it is installed in the transmission path.

HP 120 Computer Systems are designed to withstand levels of radiation up to 0.5 volt/meter over a frequency range of 14 KHz to 1 GHz.

If you think there could be a problem with radiated interference at your site, you may need the assistance of an outside consultant for radiation measurements and recommendations on shielding the system from external interference. The person from whom you purchased your system may be able to recommend an electrical interference consultant in your area.

Local Codes

In some localities, special codes and regulations may exist for computers. It is your responsibility to ensure that the requirements of all local laws, regulations, and codes for mechanical, building, and electrical distribution systems have been complied with for your area prior to the system delivery.

Appendix B

WHERE DO I GO FOR HELP?



You Can Help Yourself

Hewlett-Packard and your HP Authorized Dealer have several programs designed to teach you about your system. Since you've made a substantial investment, you will probably want to know everything possible to keep your system up and running. The following section outlines the services offered to you from HP. To order any of the following services from Hewlett-Packard, contact your local sales office. Many authorized dealers offer similar assistance; talk to your dealer and see what they recommend.

User and Programmer Training

To assist you in making the best use of your HP 120, training at both the user and programmer level is available. Hewlett-Packard offers classes for the HP 120. Among them are several courses covering topics like an introduction to the Series 100 Personal Office Computers, the use of Series 100 application software designed for first-time computer users, and a Program Development Course.

These courses are taught at an HP facility using HP-provided equipment or they can be taught at your facility using your own Series 100 systems. An Authorized HP Dealer may teach similar courses or may arrange for a Hewlett-Packard instructor to teach courses in your area.

Software Support

Software support services improve your productivity by providing continuing information and by giving access to professional consultation. You may choose from three alternative plans: HP System Information Service, HP Write-In Support, or Dealer Software Support.

HP System Information Service

Hewlett-Packard's System Information Service includes:

- **Phone-In Consulting Service**—a trained member of your staff is given a special HP telephone number. The number is used to contact a Phone-In Consulting Center in your region or country, where an HP Systems Engineer will answer questions and provide advice on HP 120 operation and programming. For installations which have several HP 120 systems, the users can channel their questions through one authorized caller under a single agreement.
- **The *Series 100 Communicator***—this periodical contains application information, operational tips, programming techniques, information on software updates, and Software Status Bulletins on any known software problems and their solution.
- Pertinent manual updates as they are published.

Write-In Support

For those users who have an occasional need for assistance, HP provides write-in support at no charge. Hewlett-Packard will respond to your questions by mail; address them to:

Hewlett-Packard
General Systems Division
978 E. Arques Avenue
Sunnyvale, CA 94086 U.S.A.
Attn: Technical Support

Under this program, your ongoing information is obtained by purchasing *Series 100 Communicator* issues and manual corrections from HP's Computer Supplies Operation (see the Computer User's Catalog, part number 5953-2450).

Dealer Software Support

Authorized HP Dealers provide software support services similar to those available from Hewlett-Packard: they will answer your questions and can provide copies of *Series 100 Communicator* issues and manual corrections. If you have purchased application software not distributed by Hewlett-Packard, your supplier—the dealer, OEM, or software house—will provide any support for that application.

Software Updates

To keep your Series 100 software at the most current level, software updates are available via a software exchange program. You continue operating as usual with your work copy of the software and mail your master disc plus a nominal payment to one of the following depending on your location. In the U.S., Software Update Kits are ordered through your dealer or directly from HP's Computer Supplies Operation. Outside the U.S., order through your dealer or through the local HP Sales and Service Office. The *Series 100 Communicator* lists the current revision levels and provides ordering information. When we receive your master copy, we'll ship a new master disc and relevant manual updates to you.

Series 100 Software Consulting

You may require technical assistance beyond the scope of the training courses and the Phone-In Consulting Service. HP's Business Computer Consulting Service, available by the hour or by the day, provides personalized assistance in system operation, recommendations for improved performance, or suggestions on application design.

Your Authorized HP Dealer, OEM, or software supplier may also have consulting services available.

Hardware Support

Hewlett-Packard systems are designed and built to the highest industry standards of quality and reliability. Your equipment comes with a 90-day limited warranty. The brochure, **If Your Series 100 Needs Service**, (supplied with your system processor) gives the warranty terms, procedures, and HP repair centers. In case of difficulty, it is always best to contact the person from whom you purchased your system. Recognizing that mechanical parts do wear, and that electronic devices do occasionally fail, high-quality professional hardware support is provided through Authorized HP Dealers and the worldwide network of HP Sales and Service Offices.

HP Hardware Maintenance

Maintenance from Hewlett-Packard is available either at your location or at an HP facility, at a monthly fixed price or on a per-incident basis:

- Under a Field Repair Center Maintenance Agreement, you send the product to an HP Field Repair Center, where it is repaired within three working days.
- On-Site Maintenance Agreements are available with various levels of response time and coverage, so that you may select the support level best suited for your HP 120 usage. For example, if you are within 100 miles of a primary service office, the available plans range from next-weekday repair to four-hour response, 24 hours per day, seven days a week.

If you purchase an On-Site Maintenance Agreement within ten days of your equipment purchase, your warranty will be upgraded from Return-to-HP to On-Site free of charge.

- If you prefer, service on-site or at a Field Repair Center is also available on a per-incident, rather than contract, basis.

Call your HP Sales and Service Office for details on the Maintenance Agreements available in your area.

Dealer Repair Centers

The Authorized HP Dealers may provide repair and/or maintenance at their location; they may also provide additional services such as pickup and delivery or loaner equipment.

Others Who May Help

Local Hewlett-Packard People

To assist you in understanding the Hewlett-Packard organization, listed below are descriptions of HP people who are available to help you. Each member of the HP team is a well-trained expert dedicated to seeing that you get the maximum benefit from your HP 120.

Sales Representative—If you purchased your system directly from Hewlett-Packard, an HP Sales Representative is your primary contact. Your Sales Representative coordinates HP resources to ensure successful delivery of your system. Later, when you need additional system capabilities or staff training, your Sales Representative is the person to call.

Customer Engineer (CE)—A Customer Engineer is an expert in computer and peripheral equipment service, with the tools, parts, and know-how to maintain your HP 120. An HP Maintenance Agreement for hardware can be purchased which provides hardware maintenance, repair, and problem diagnosis by CEs.

Systems Engineer (SE)—A Systems Engineer is a technical specialist in all HP 120 software and the programming language. Your local SE organization provides training courses and technical consulting on applications, programming languages, utility programs, system management, and system performance.

HP Authorized Dealers

HP Authorized Dealers—If you purchased an HP 120 computer system and/or application software from a dealer, they will provide consultation services on system operation and application software (programs). In this situation, a Maintenance Agreement for hardware is available from Hewlett-Packard.

Appendix C

PROVIDING OTHER NECESSITIES



Media Storage

Provide storage for flexible discs in or near the area where work is performed. These items will require a clean, dust-free area. The magnetic media storage environment should be similar to that of the computer (e.g., not exposed to extremes of heat or cold). Extreme humidity or temperature differences in the working and storage areas may alter the size of the media when they are moved from one area to the other. This rapid change can result in system errors, or damage to the discs.

If the working and storage areas cannot be kept at the same relative humidity and temperature, allow ample time (typically one hour or more) for the media to achieve a moisture and temperature balance with the system room atmosphere before using the media. The maximum rate of temperature change for the media must not exceed 20 degrees Celsius per hour.

The data on magnetic media can be erased by magnetic fields, so do not place your media (flexible discs) near such fields. Magnetic fields are found in power generating equipment such as motors, alternators, transformers, and data processing equipment such as disc drives. Hence, do not place flexible discs on top of disc drives.

Protection of Valuable Records

Safety precautions are suggested because the investment represented by the equipment, installation, and data deserves appropriate protection. Safeguards should be taken to protect vital data such as business records, media, or other information that is either very expensive or impossible to duplicate. Backup files should be maintained from which the necessary information can be taken to resume operation quickly in case of an accident. (See the *Series 100 Owner's Manual* for backup procedures.) Copies of vital data should be stored well away from the computer area, normally in some type of fireproof storage. A regular updating program is necessary to maintain the value of such duplicate data storage.

Computer Supplies

The computer supplies most important to reliable operation of your system are the flexible discs. HP seeks to provide the best possible disc performance through extensive testing, selection, and control over all of the critical components that make up HP disc products. Understandably, Hewlett-Packard cannot cover warranty for damage sustained by disc drive heads or media when non-HP media are used.

You should order your computer supplies prior to the arrival of your system. Necessary items for your system include printer ribbon, printer paper, and flexible discs. Talk with your sales representative or dealer about a complete list of supplies. For information about computer supplies, ask your HP Sales and Service Office or dealer for the HP Computer User's Catalog (part number 5953-2450).

Telephone

It is a good idea to locate a telephone with a long cord near your HP 120, so that you may easily consult with an HP Customer Engineer or Systems Engineer.

Appendix D

SETTING THE SERIES 100 SYSTEM CONFIGURATION

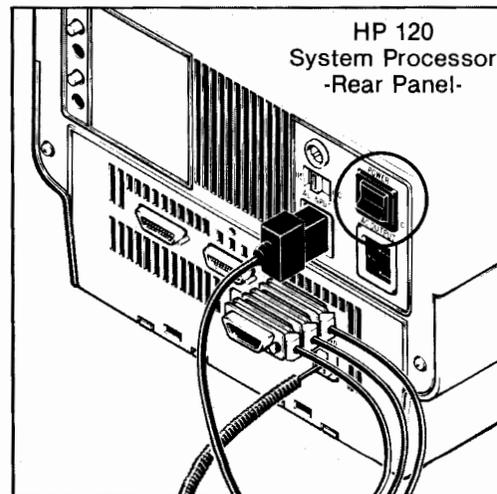


This appendix helps you configure your Series 100 Computer System.

Configuring your system tells your computer what peripherals (e.g., printers, plotters, other computers) are connected to it. Each of the components that you just installed (using this manual) plus the HP 3000 and HP 1000 are covered in this appendix. The proper connecting cable numbers are also listed.

To set the configuration you need to get to the configuration menu.

1. Turn on the system processor



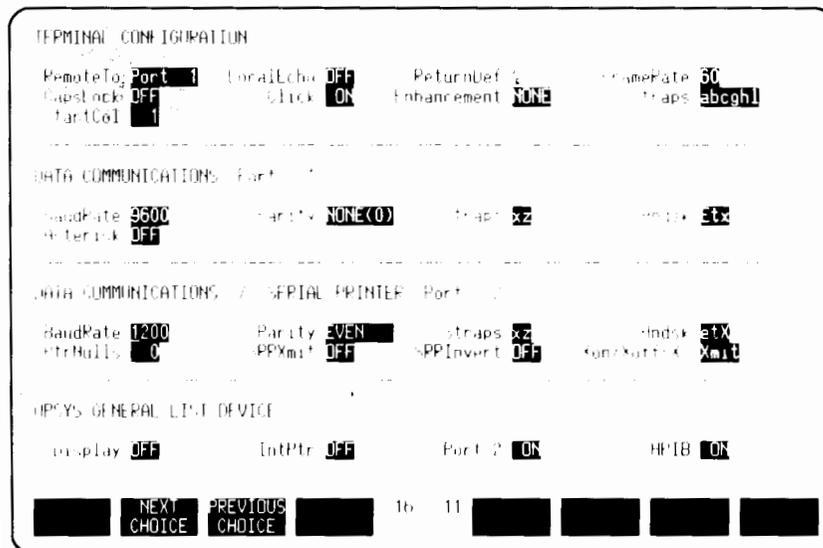
The following labels appear on the screen:



2. Press the AIDS key on the keyboard. The function key labels change.



3. Press the *config* function key (f8). The following screen appears:



Setting Terminal Configuration

This is the configuration menu. It may look quite confusing but don't worry; changing it is really simple:

1. Move the cursor (with the cursor control keys) to the field (highlighted area) that you want to change.
2. Press NEXT CHOICE (f2) or PREVIOUS CHOICE (f3) to change the value(s) in the field that the cursor is in.

The screens below show the correct settings for the Series 100 computer.

***2601A and 2602A (printers)**

Connecting Cable 13242 G

```
-----  
DATA COMMUNICATIONS / SERIAL PRINTER Port 2  
-----  
BaudRate 1200      Parity EVEN      Straps xz      Hndsk etX  
PtrNulls 0        SRRXmit OFF      SRRInvert OFF Xon/Xoff(X) Xmit  
-----  
OPSYS GENERAL LIST DEVICE  
Display OFF      IntPtr OFF      Port 2 ON      HPiB OFF  
-----  
[ ] NEXT CHOICE [ ] PREVIOUS CHOICE [ ] 21 69 [ ] [ ] [ ] [ ]
```

***2631B (RS-232) (Printer)**



Connecting Cable 13242G

```
-----  
DATA COMMUNICATIONS / SERIAL PRINTER Port 2  
-----  
BaudRate 2400      Parity NONE(0)   Straps xz      Hndsk etX  
PtrNulls 0        SRRXmit OFF      SRRInvert OFF Xon/Xoff(X) Xmit  
-----  
OPSYS GENERAL LIST DEVICE  
Display OFF      IntPtr OFF      Port 2 ON      HPiB OFF  
-----  
[ ] NEXT CHOICE [ ] PREVIOUS CHOICE [ ] 17 69 [ ] [ ] [ ] [ ]
```

***2631B (HP-IB), 2671B, 82905A (Printers)
7225B, 7470A, 9872C (Plotters)**

Connecting Cables 45529A/B (A is 1 meter and B is 2 meters)

```
-----  
OPSYS GENERAL LIST DEVICE  
Display OFF      IntPtr OFF      Port 2 OFF     HPiB ON  
-----  
[ ] NEXT CHOICE [ ] PREVIOUS CHOICE [ ] 22 50 [ ] [ ] [ ] [ ]
```

***Note:** You should also set the printer control configuration. Instructions for it follow the HP 1000 and 3000 configuration.

Connecting Cable 13242 N

```
TERMINAL CONFIGURATION
RemoteTo Port 1 LocalEcho OFF ReturnDefns FrameRate 60
CapsLock OFF Click ON Enhancement NONE Straps abcghj
StartCol 1
-----
DATA COMMUNICATIONS Port 1
BaudRate 9600 Parity NONE(O) Straps xz rmdsk stx
Asterisk OFF
-----
```

Setting "Printer Control" Configuration

1. If you are at the TERMINAL CONFIGURATION screen, press the AIDS KEY on the keyboard. The following labels appear:

```

margins/ service 2 3 enhance LOAD config
tabs/col keys [ ] select OP SYS [ ]
```

2. Press the *printer control* function key (f1).

```

ADVANCE 2 3 ADVANCE COPY COPY COPY
PAGE LINE ALL PAGE LINE
```

3. Press *printer modes* (f1).
4. Press PORT2 PRINTER (RS-232) and HPIB PRINTER until an * appears with the printer type connected to your system.

```

Printer control PORT2 PRINTER* HPIB PRINTER* 2 3 LOG LOG
BOTTOM TOP [ ] [ ]
```

5. Press the MODES key on the keyboard to finish the configuration.

Your system is now configured. For information on the meaning of each of the configuration fields, see the *Series 100 Owner's Manual*.

Appendix E

SWITCH SETTING INDEX



Disc Drives

HP 9121D

Address 0 (Primary Drive)	3-5
Address 2 (Secondary Drive)	3-44

HP 9121S

Address 0 (Primary Drive)	3-10
Address 2 (Secondary Drive)	3-44

HP 9133A

Address 0 (Primary Drive)	
Flexible Disc	3-13
Fixed Disc	7-21
Address 2 (Secondary Drive)	
Flexible Disc	7-21
Fixed Disc	3-13

HP 9134A

Address 0 (Primary Drive)	7-21
Address 2 (Secondary Drive)	3-17

HP 9135A

Address 0 (Primary Drive)	
Flexible Disc	3-21
Fixed Disc	7-20
Address 2 (Secondary Drive)	
Flexible Disc	7-20
Fixed Disc	3-21

HP 9138A

Address 0 (Primary Drive—HP 9134)	7-21
Address 2 (Secondary Drive—HP 9895)	3-44

HP 9895A

Address 0 (Primary Drive)	3-29
Address 2 (Secondary Drive)	3-44

HP 82901M	
Address 0 (Primary Drive)	3-35
Address 2 (Secondary Drive)	3-44
HP 82902M	
Address 0 (Primary Drive)	3-41
Address 2 (Secondary Drive)	3-44

Printers

HP 2601A	
Self-Test	4-5
Normal	4-7
HP 2602A	
Self-Test	4-11
Normal	4-13
HP 2631B	
RS-232	
Inside Front Panel	4-16
Rear Panel	4-17
HP-IB	
Inside Front Panel	4-17
Rear Panel	4-18
HP 2671A	4-24

Plotters

HP 7225B	5-3
HP 7470A	5-9
HP 9872C	5-17