DataGeneral

Customer Documentation

Installing and Operating the Model 10565 Peripheral Housing Unit

Installing and Operating the Model 10565 Peripheral Housing Unit

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Notice

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Revision History:

Original Release - September 1989
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A vertical bar in the margin of a page indicates substantive technical change from the previous revision.

NOTE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

WARNING

Changes or modifications to this unit not expressly approved by the party responsible for complicance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Testing was done with shielded cables. The use of any cable other than the shielded type means that your system will emit excess amounts of radio frequency energy, thereby increasing the likelihood of interference. Therefore, in order to comply with the FCC regulations, it is necessary that you use shielded cables with your installation.

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe B prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

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取扱説明書に従って正しい取り扱いをして下さい。

Dieses Gerät erfüllt in Verbindung mit. (6487/6486 monitors/AViiON STATION CPU / G6488D kybd). die ergonomischen Anforderungen an Bildschirmarbeitsplätze nach ZH 1/618.

Bei Verwendung anderer Komponenten ist die Einhaltung der oben genannten Normen zu gewährleisten.

Preface

This manual is written for the person responsible for installing, operating, or maintaining the Model 10565 Peripheral Housing Unit (also called the mass-storage subsystem). This manual contains step-by-step procedures that explain how to connect one or more peripheral housing units (PHUs) to AViiON™ series or ECLIPSE® MV/Family systems. It also contains information that tells how to power up the PHU using the instructions in the computer and operating system manuals.

The last chapter in this manual contains step-by-step procedures and illustrations that explain how to install customer replaceable units (CRUs). This manual is organized as follows:

Chapter 1 Getting Started

Describes the PHU and explains how to unpack it and verify that you have all the parts needed to install it. Explains how to verify the setting of voltage-selection switch and SCSI device IDs.

Chapter 2 Setting Up and Operating the Peripheral Housing Unit

Explains how to connect the SCSI bus cables between the peripheral housing unit(s) and the computer. Tells where to find the information describing how to handle, protect, and install a cartridge tape. Explains how to turn on the peripheral housing unit and describes what to do when the peripheral housing unit fails to power up properly.

Chapter 3 Removing and Reinstalling the Cover

Explains how to avoid ESD damage to the equipment. Describes how to remove and reinstall the cover.

Chapter 4 Installing Customer Replaceable Units (CRUs)

Describes how to add or replace a mass-storage drive. Explains how to remove and install other customer replaceable units (CRUs).

Appendix A Technical Specifications

Lists environmental, electrical, and mechanical specifications.

Appendix B SCSI Bus Connector Signals

Lists the signals and shows the pin layout for the SCSI bus connectors on the back of the peripheral housing unit.

Related Documents

The sections that follow list hardware manuals, peripheral manuals, and third-party manuals that provide more information about your AViiON series or MV/Family system.

Hardware Manuals

Setting Up and Starting AViiON™ 300 Series Stations (014-001801)

Describes how to unpack and connect system components and options. Explains how to power up the stations, run diagnostics, and load the operating system software. Includes operational, physical, electrical, and environmental specifications of the computer unit, monitor, keyboard, and mouse.

Setting Up and Starting AViiON™ 400 Series Stations (014-001858)

Describes how to unpack and connect system components and optional devices. Explains how to power up the workstation, run diagnostics, and prepare for the operating system installation. Includes electrical and environmental specifications of the workstation, including the computer unit, monitor, keyboard, and mouse.

Information Update: Starting Your ECLIPSE MV/1000™ DC (014-001728)

Updates *Starting and Updating Preinstalled AOS/VS* and *Starting and Updating Preinstalled AOS/VS II.*

Installing and Maintaining Your ECLIPSE MV/1000™ DC System (014-001661)

Describes how to unpack, inventory, and connect system components and options. It also describes how to maintain the ECLIPSE MV/1000™ DC hardware.

Installing and Maintaining Your ECLIPSE MV/1400™ DC, ECLIPSE MV/2000™ DC, or ECLIPSE MV/2500™ DC Computer System (014-001466)

Describes how to unpack, inventory, and connect system components and options. It also describes how to maintain the hardware.

Starting Your ECLIPSE MV/1400™ DC, ECLIPSE MV/2000™ DC, or ECLIPSE MV/2500™ DC Computer System (014-001467)

Describes how to start the system from the SCP System Media and how to solve power-up problems. It also explains how to handle and use diskettes and tape cartridges.

Setting Up and Starting AViiON™ 5000 Series Systems (014-001806)

Describes how to unpack, inventory, and connect system components and connect options. Explains how to power up the station, run diagnostics, and load the operating system. Includes operational, physical, electrical, and environmental specifications of the computer unit.

MC88100 User's Manual, Reduced Instruction Set Computer (RISC) (014-001809)

Describes the Motorola 88100 Central Processing Unit (CPU), including the registers, addressing modes, internal and bus timing, and assembly-language instruction set.

MC88200 User's Manual, Cache/Memory Management Unit (CMMU) (014-001808)

Describes the Motorola 88200 Cache/Memory Management Unit (CMMU), including the CMMU registers, the cache and cache coherency, memory management and user/supervisor space, the Processor bus (Pbus), and the Memory bus (Mbus).

Peripheral Manuals

Installing the Model 6562/6563-Series Diskette Drives (014-001921)

Describes how to install and operate these diskette drives.

Installing the Model 6491 Disk Drive (014-001460)

Describes how to install and operate the full-height, 322-Mbyte disk drive.

Installing Your Model 6554/6555-Series Disk Drive (014-001702)

Describes how to install and operate the full-height, 662-Mbyte disk drive.

Installing and Operating Your Model 6590-Series Cartridge Tape Drive (014-001701)

Describes how to install and operate the full-height, high-capacity cartridge tape drive.

Installing and Operating Your Model 6538/6539 Half-Height Winchester Disk Drive (014-001722)

Describes how to install and operate the half-height, 179-Mbyte disk drive.

Installing and Operating Your 150-Mbyte 1/4" Cartridge Tape Drive (014-001699)

Describes how to install and operate this half-height, 150-Mbyte cartridge tape drive.

Installing and Operating The Multicapacity 1/4-Inch Cartridge Tape Drive (014-001953)

Describes how to install and operate this half-height, muticapacity, cartridge tape drive.

Installing and Operating the CD-ROM Drive (014-002013)

Describes how to install and operate this full-height, compact disk, read-only memory drive.

Contacting Data General

Data General wants to assist you in any way it can to help you use its products. Please feel free to contact the company as outlined below.

Manuals

If you require additional manuals, please use the enclosed TIPS order form (United States only) or contact your local Data General sales representative.

If you have comments on this manual, please use the prepaid Comment Form that appears at the back. We want to know what you like and dislike about this manual.

Telephone Assistance

If you are unable to solve a problem using any manual you received with your system, and you are within the United States or Canada, contact the Data General Service Center by calling 1-800-DG-HELPS for toll-free telephone support. The center will put you in touch with a member of Data General's telephone assistance staff who can answer your questions.

Free telephone assistance is available with your warranty and with most Data General service options. Lines are open from 8:30 a.m. to 8:30 p.m., Eastern Time, Monday through Friday.

For telephone assistance outside the United States or Canada, ask your Data General sales representative for the appropriate telephone number.

End of Preface

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Chapter 1
Getting Started

The Model 10565 Peripheral Housing Unit (PHU), also called the mass-storage subsystem, is a desktop drive enclosure. It can contain as many as three 5-1/4 inch, half-height, mass-storage drives, or one 5-1/4 inch, full-height drive and one 5-1/4 inch, half-height drive. Besides the drives, the PHU also contains its own power supply and cooling fan.

The Model 10565 Peripheral Housing Unit (PHU) uses the small computer system interface (SCSI) standard. A 50-conductor SCSI bus cable carries SCSI bus signals between the computer and the peripheral housing unit. The SCSI bus cable connects from one of the connectors on the rear of the PHU to the SCSI bus connector on the computer. The remaining SCSI bus connector on the back of the PHU lets you connect another peripheral housing unit in daisy-chain fashion. The hardware installation manual for the computer explains how to determine the maximum number of peripheral housing units and drives that the computer supports.

This chapter explains how to unpack the PHU, inventory the parts, review the installation requirements, and verify the setting of the voltage-selection switch and SCSI device ID (DID) numbers.

Unpacking the PHU Components

Follow the next steps to unpack the PHU and to verify that you received the parts required to install the PHU.

1. Figure 1-1 shows the shipping package for the PHU. Open the shipping container, and remove the top foam insert. Slide your hands in between the PHU and the foam insert, and grasp the bottom of the PHU, which is in an antistatic bag. Gently slide the PHU up and out of the shipping container. If possible, save the shipping package in case you ever need to reship the PHU. The shipping package is specially designed to protect the PHU from damage.

2. Remove the plastic antistatic bag, and inspect the unit for any visible damage. If you discover damage, contact Data General.

   If you are within the United States or Canada, contact the Data General Service Center by calling 1-800-DG-HELPS for toll-free telephone support. For more information, refer to the "Telephone Assistance" section of the Preface.

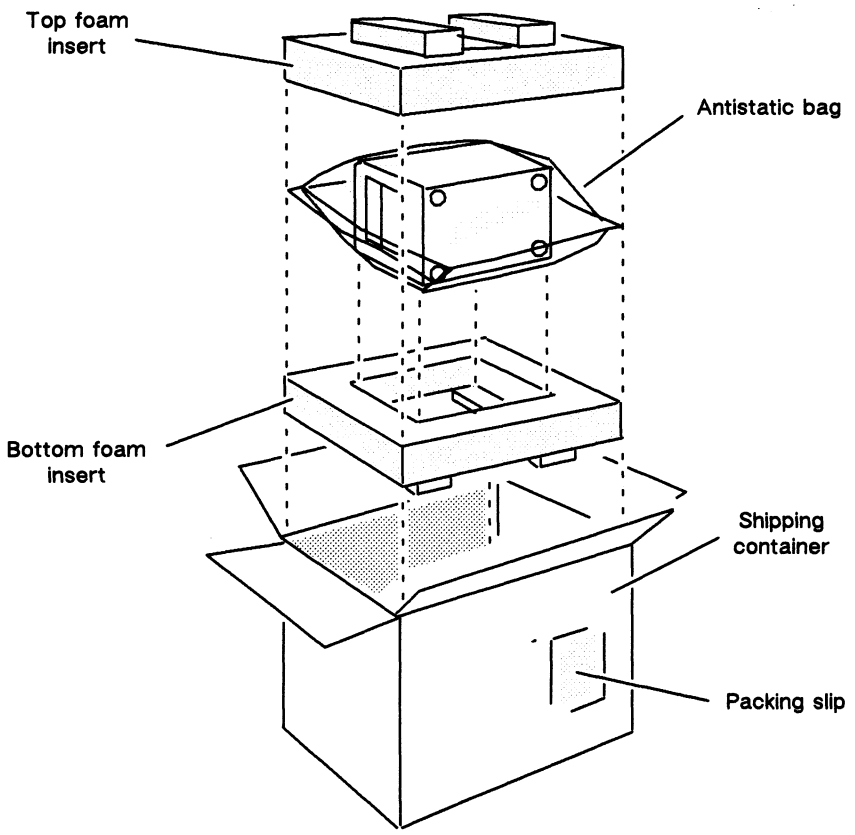


Figure 1–1 Shipping Package

3. Remove the packing slip from the outside of the shipping container and compare the part numbers and model numbers on the packing slip to those on the components and equipment removed from the container. Figure 1–2 shows the parts and equipment. Note that some of the parts are optional. If you discover any missing or incorrect parts, contact Data General.

   If you are within the United States or Canada, contact the Data General Service Center by calling 1–800–DG–HELPS for toll–free telephone support. For more information, refer to the "Telephone Assistance" section of the Preface.

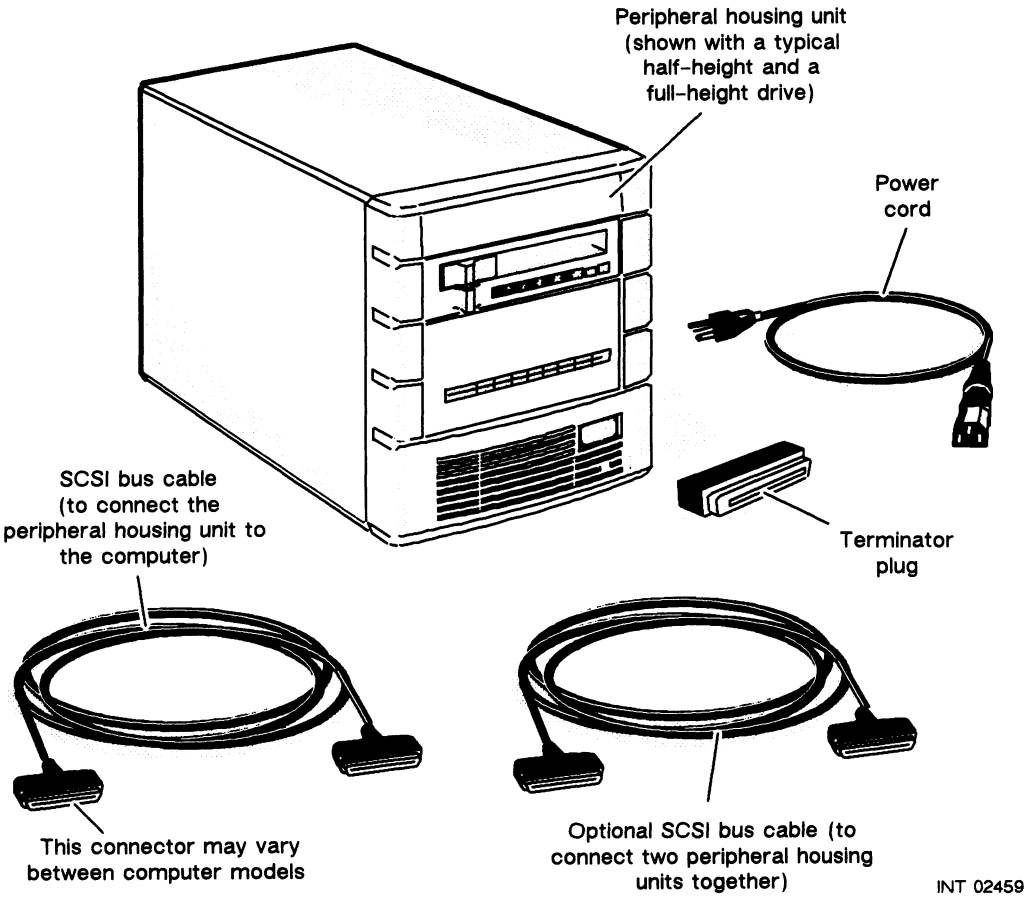


Figure 1–2 Parts and Equipment

Reviewing the Installation Requirements

Most likely you already have chosen an installation site for the computer system, and this is also the location where you will install the peripheral housing unit. However, before connecting the peripheral housing unit to your computer, take a moment to review the installation requirements of the PHU. The requirements described in the next sections include voltage, power, ventilation (which includes heat and humidity), SCSI bus cable, and SCSI bus terminator requirements. Refer to Appendix A, "Technical Specifications," for a complete list of installation requirements.

Voltage Requirements

The peripheral housing unit can operate on 100/120 V ac or 220/240 V ac. A voltage–selection switch on the side of the power supply lets you choose one of these operating voltage groups. Refer to the "Verifying the Setting of the Voltage–Selection Switch" section of this chapter for information about the voltage–selection switch.

Ventilation Requirements

The peripheral housing unit has an internal cooling fan. The fan draws cool air through the grille on the front of the PHU, which cools the drives and the power supply. Heated air is exhausted out the back of the PHU.

Leave about 6 in. (15 cm) of clearance at the front and back of the PHU to maintain adequate air flow. Also, when you remove the cover for any reason, clean out any dust or other foreign substances that have accumulated on the front screen of the cover or on the back grille of the PHU. Finally, avoid positioning the peripheral housing unit so that it is in direct sunlight. Excessive heat buildup may cause damage to the PHU's circuits and components.

During operation, the temperature of the PHU's installation site must be maintained in the range of from 50°F to 100.4°F (10°C to 38°C), and the relative humidity must fall within 20% to 80%. (Note that some mass-storage drives that install in the PHU may have more restrictive temperature and humidity requirements. Refer to the specification section of the drive manual, and use these temperature and humidity requirements when they are more restrictive.)

The power supply in the peripheral housing unit produces heat at the rate of 610 BTU/hr maximum. You can determine the total heating and air-conditioning needs of the installation site by combining this heat output with those of the other equipment in the installation site.

Power Requirements

The Model 10565 Peripheral Housing Unit contains a 125 W power supply. This supply has two models: one for 100/120 V ac and the other for 220/240 V ac. The following lists the input voltage and current requirements for each model.

100/120 V ac power supply draws 3.8 A maximum.
220/240 V ac power supply draws 1.9 A maximum.

External SCSI Bus Cable Requirements

When you connect one or more peripheral housing units to the computer, the length of all the SCSI bus cables, which includes the length of the internal SCSI bus cable for each peripheral housing unit and the internal cable for the computer, cannot exceed the following:

19.68 ft (6 m) for the AViiON™ computer systems

23 ft (7.01 m) for the ECLIPSE® MV/Family computer systems

The example in Figure 1-3 shows two peripheral housing units connected to an AViiON 300 series station. Notice in the figure that the AViiON 300 series station does not have any internal SCSI drives. Therefore the length for that cable is shown as 0 ft. When calculating the length of the SCSI bus for your AViiON or MV/Family computer system, refer to the computer installation manual for the length of the computer's internal SCSI bus cable.

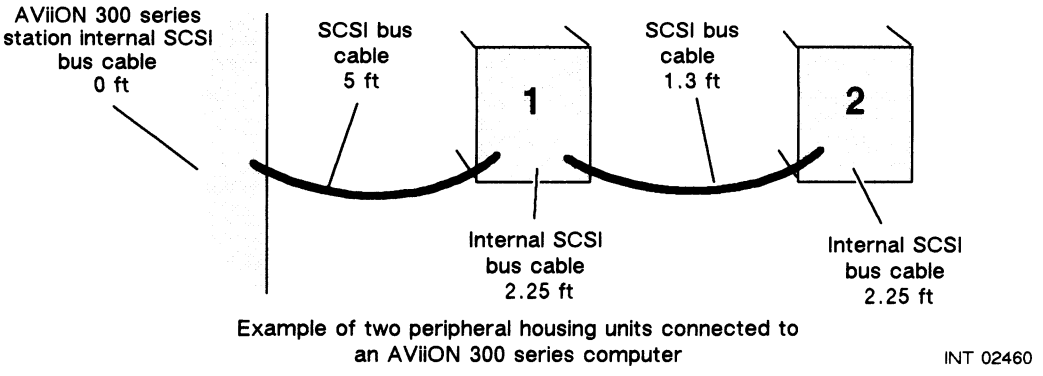


Figure 1–3 Example of Calculating SCSI Bus Length

Table 1–1 shows the calculation for this example. In the table, the lengths of the internal and external cables are added together, making the total length of the SCSI bus 10.80 ft. This result is within the 19.68 ft maximum length for the SCSI bus for an AViiON series computer. Chapter 2 contains a copy of this table that you can use to calculate the SCSI bus length of your installation.

Table 1–1 Example of Calculating SCSI Bus Length

Cable Description	Cable Length (feet)
Computer's internal SCSI bus cable[1]	+ 0
Computer to PHU cable[2]	+ 5
First PHU's internal SCSI bus cable	+ 2.25
PHU to PHU cable[2]	+ 1.3
Second PHU's internal SCSI bus cable	+ 2.25
PHU to PHU cable[2]	NA
Third PHU's internal SCSI bus cable	NA
PHU to PHU cable[2]	NA
Total SCSI bus length for the system	10.80
Maximum SCSI bus length for the AViiON series system 19.68 ft	
Maximum SCSI bus length for the MV/Family system 23 ft	

[1]Refer to the computer installation manual for the length of the computer's internal SCSI bus cable. If the computer does not have an internal SCSI bus, write 0 on this line.
[2]Refer to the computer installation manual for the cables that connect the computer to the PHU.

NA= not applicable

The PHU connects to the computer using a special SCSI bus cable. Refer to the computer's setting-up or installation manual for the lengths and model numbers of cables currently available. You can also connect one or more PHUs together. Table 1-2 contains the model numbers and lengths of the SCSI bus cables required to connect one PHU to another PHU.

Make sure you have received the correct cables for the computer and PHU and that the total length of all cables does not exceed the maximum SCSI bus length allowed for your ECLIPSE MV/Family or AViiON series system.

Table 1-2 PHU to PHU Cable Lengths and Model Numbers

PHU to PHU cable model numbers	Length
15325E001	1.3 ft (.40 m)
15325E005	5 ft (1.52 m)
15325E010	10 ft (3.05 m)

SCSI Bus Termination Requirements

The SCSI bus must have terminator resistors on both ends: at the beginning of the bus, which is inside the computer, and at the end of the bus, which is the drive farthest away from the computer's SCSI bus controller board or SCSI bus controller circuit. The terminator resistors inside the computer are already there; you do not need to be concerned about them. The terminator resistors for the other end of the bus are in a plug that you insert into one of the connectors on the outside of the PHU. Install the terminator plug into one of the connectors as explained in "Connecting the SCSI Bus Cable and Terminator Plug" section of Chapter 2.

NOTE: SCSI mass-storage drives inside the PHU *should not* have any terminator resistors installed in them. However, one or more SA450 bus diskette drives that connect to an SA450-to-SCSI adapter board *should* have terminator resistors installed. These resistors terminate the SA450 bus. The diskette drive manual contains more information about the terminator resistors.

Preparing the PHU

If the computer and PHU(s) were shipped to you at the same time, they were tested together by Data General. No further preparation is required. Skip the next sections and go to Chapter 2, which explains how to connect the cables between the computer and the PHU.

If you are adding the PHU(s) to your present system or a system that was ordered separately without the PHU, you must verify that the voltage-selection switch for the PHU and the SCSI ID jumpers for the drive(s) inside the PHU are set correctly.

To verify the setting of the voltage-selection switch and the settings of the SCSI device ID jumpers, you must remove the cover. The next sections describe how to verify the settings of the voltage-selection switch and the SCSI device ID jumpers. Chapter 3 describes how to remove and reinstall the cover.

Verifying the Setting of the Voltage-Selection Switch

Follow the steps in this section to verify the setting of the voltage-selection switch, and if necessary, to reset it.

1. Remove the cover by following the steps in Chapter 3. Then return here and follow the remaining steps.
2. Figure 1-4 shows the cutout on the side of the base housing assembly that lets you select the voltage setting without removing the power supply. The figure also shows the switch positions. If the installation site has 100 V ac or 120 V ac line voltage, make sure the switch is in the "115V" position as shown in (a). If the site has 220 V ac or 240 V ac line voltage, make sure the switch is in the "230V" position as shown in (b).

CAUTION: An improper setting of the voltage-selection switch can cause equipment damage. If you are unsure of the installation site's line voltage, consult a qualified electrician.

After you have made sure the voltage selection switch is set properly, go to the next section, "Verifying the SCSI ID Jumpers," to make sure the SCSI ID jumpers are set properly.

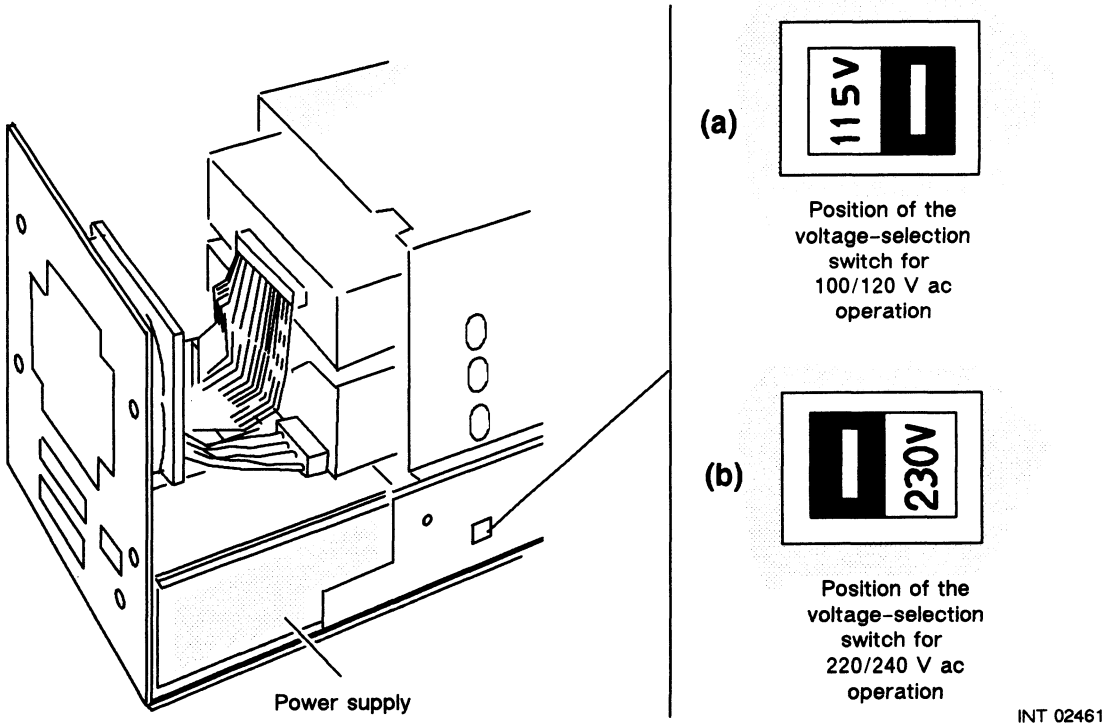


Figure 1-4 The Voltage-Selection Switch

Verifying the Setting of the SCSI ID Jumpers

Each drive in the PHU requires a unique ID number called a SCSI device ID number, or simply a DID (device ID). When you order the PHU separately, the label on the back of the PHU lists the factory-default setting of the SCSI device ID number for each drive.

You may have to reset the SCSI device ID jumpers on one or more drives to a different device ID number, depending on the computer model to which you intend to connect the PHU. To reset the device ID number, refer to the computer installation manual and drive manual(s). The computer installation manual lists the SCSI device ID numbers for tapes and disk drives. The drive manual(s) explains how to set the SCSI device ID jumpers in the drive(s). If you change the device IDs, write the new SCSI device ID number(s) on the label attached to the back of the PHU.

After you make sure the SCSI device ID jumpers are set correctly, reinstall the cover by following the steps in Chapter 3. After the cover is reinstalled, read Chapter 2. It explains how to set up the PHU.

End of Chapter

Chapter 2
Setting Up and Operating the PHU

After you verify the setting of the voltage-selection switch and the SCSI device ID jumpers as described in Chapter 1, follow the steps in this chapter to connect one or more PHUs to the computer.

To connect one PHU, you will need the following materials:

- PHU
- SCSI bus cable that connects the PHU to the computer
- Terminator plug
- Power cord
- Installation manual for the computer (Refer to the "Related Manuals" section of the Preface for the title of the manual that applies to your computer system.)

To connect two or more PHUs, you will need the following materials:

- PHUs
- SCSI bus cable that connects the PHU to the computer
- SCSI bus cable(s) that connects one PHU to another PHU
- Terminator plug
- Power cord
- Installation manual for the computer (Refer to the "Related Manuals" section of the Preface for the title of the manual that applies to your computer system.)

Calculating the SCSI Bus Length

When connecting the PHU to the ECLIPSE MV/Family computers, make sure the total length of the SCSI bus does not exceed 23 ft (7.01 m). When connecting the PHU to the AViiON series computers, make sure the total length of the SCSI bus does not exceed 19.68 ft (6 m).

Use Table 2-1 to record the cable lengths and calculate the SCSI bus length of your system. If the bus length you calculate is longer than allowed, use shorter cables between multiple PHUs or between the computer and PHU. Refer to the "External SCSI Bus Cable Requirements" section of Chapter 1 if you need more information.

Table 2-1 SCSI Bus Length Calculation

Cable Description	Cable Length (feet)
Computer's internal SCSI bus cable[1]	+_____
Computer to PHU cable[2]	+ 5
First PHU's internal SCSI bus cable	+ 2.25
PHU to PHU cable[2]	+_____
Second PHU's internal SCSI bus cable	+ 2.25
PHU to PHU cable[2]	+_____
Third PHU's internal SCSI bus cable	+ 2.25
PHU to PHU cable[2]	+_____
Total SCSI bus length for the system	↓
Maximum SCSI bus length (ft) for the AViiON system family 19.68	
Maximum SCSI bus length (ft) for the MV/ system family 23	

[1]Refer to the computer installation manual for the length of the computer's internal SCSI bus cable. If the computer does not have an internal SCSI bus, write 0 on this line.
[2]Refer to the computer installation manual for the cables that connect the computer to the PHU.

NA= not applicable

After you calculate the total SCSI bus length for the system, connect the PHU to the computer. If you are connecting one PHU to the computer, follow the steps in the section "Setting Up One PHU." If you are connecting two or more PHUs to the computer, follow the steps in the section "Setting Up Two or More PHUs."

Setting Up One PHU

You set up the PHU by plugging the SCSI bus cable, terminator plug, and power cord in the connectors on the back of the PHU. Once the cable, terminator, and plug are connected to the PHU, you connect the other end of the SCSI bus cable to the computer by following the instructions in the computer installation manual. Follow the steps in the next sections to set up a PHU.

Connecting the SCSI Bus Cable and Terminator Plug

1. Position the PHU so that the SCSI bus cable can reach the computer. Never attempt to exceed the reach of a cable: doing so will only strain the cable and connectors, causing equipment damage or failure. If the PHU has a cartridge-tape drive, position the PHU so that you can easily insert or remove a cartridge tape.

2. Plug one end of the SCSI bus cable into either the top or bottom SCSI bus connector located on the back of the PHU, as shown in Figure 2–1. It does not matter which connector you choose.

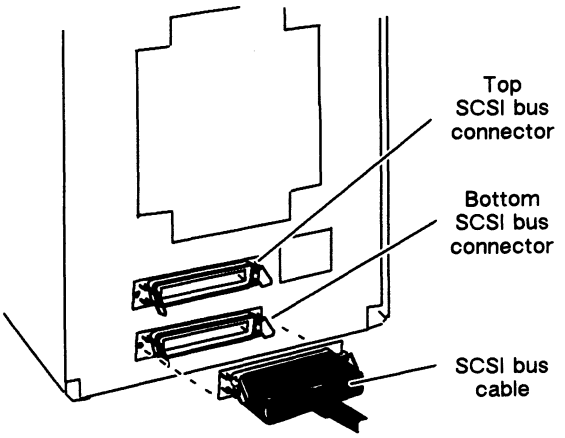


Figure 2–1 Top and Bottom SCSI Bus Connectors

3. Secure the SCSI bus cable's connector by closing over the two spring clips, as shown in Figure 2–2.

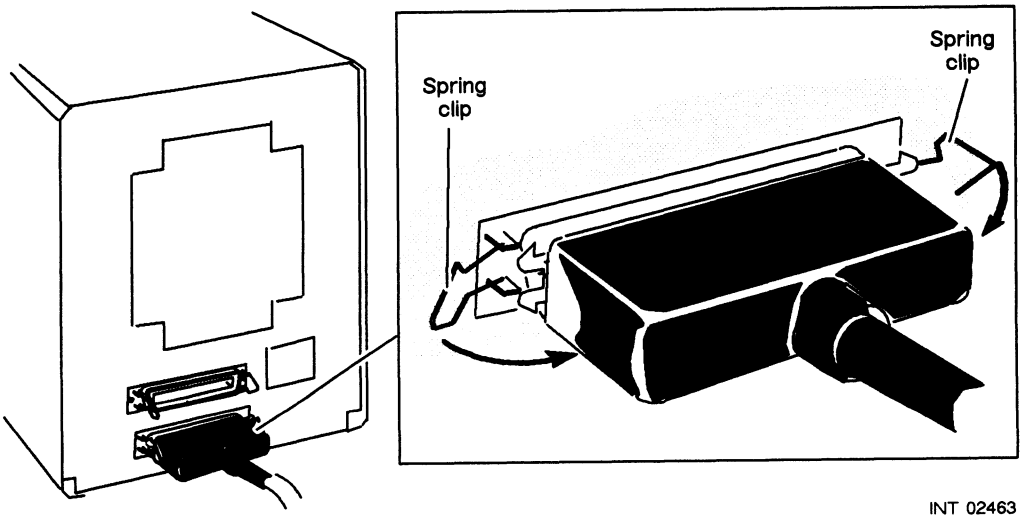


Figure 2–2 Connecting and Securing the SCSI Bus Cable

4. Insert the terminator plug into the remaining empty connector, and secure the terminator plug by closing over the two spring clips in the direction shown in Figure 2–3.

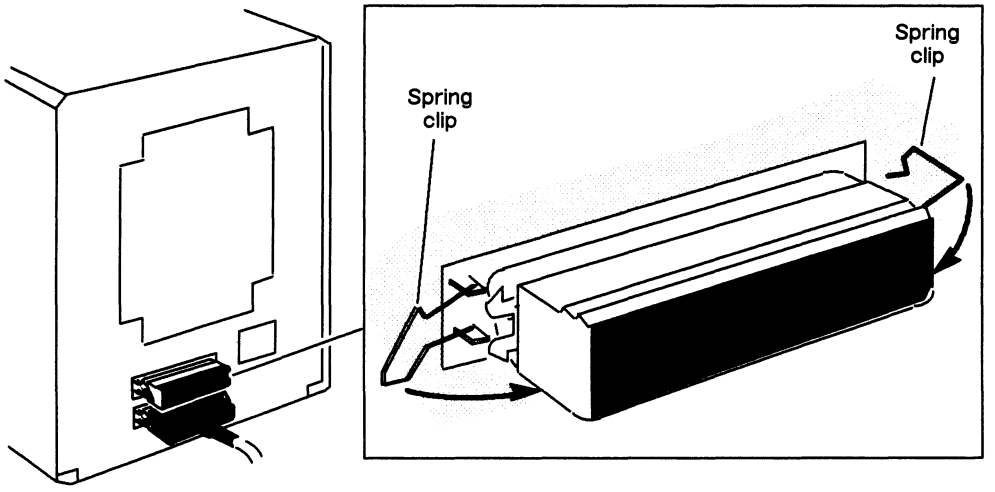


Figure 2–3 Connecting the SCSI Bus Terminator Plug

Connecting the Power Cord

5. Make sure the power switch is turned off. Then plug the power cord into the receptacle on the back of the PHU, as shown in Figure 2–4.

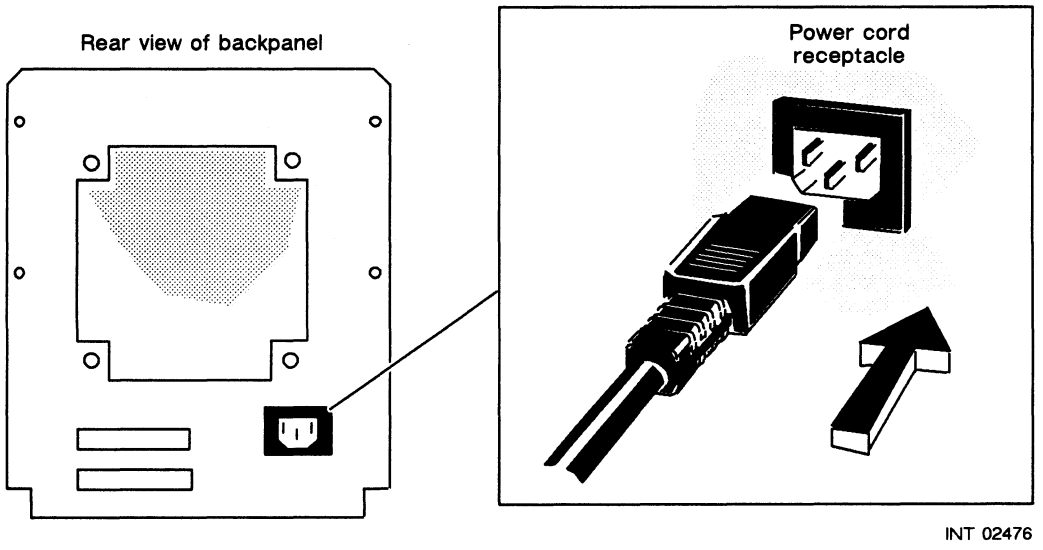


Figure 2–4 Connecting the Power Cord

6. Refer to the section in the computer installation manual that explains how to connect the PHU to the computer. See the "Related Manuals" section of the Preface for a list of computer installation manuals.

7. Once you have connected the PHU to the computer, plug the other end of the PHU's power cord into the installation site's ac power outlet.

Setting Up Two or More PHUs

If you are setting up two or more PHUs, you must connect them together in daisy-chain fashion. Once the PHUs are connected and the terminator plug is installed, connect the other end of the SCSI bus cable to the computer by following the instructions in the computer installation manual. Follow the steps in the next sections to set up two or more PHUs.

Connecting the SCSI Bus Cables and Terminator Plug

1. Position the PHUs so that the SCSI bus cable that connects to the computer and those that connect between the PHUs can easily reach without straining the connectors or the cable.

   Never exceed the maximum SCSI bus length as described in the "External SCSI Bus Cable Requirements" section of Chapter 1. If the PHU(s) has a cartridge-tape drive, position the PHU(s) so that you can easily insert or remove a cartridge tape.

2. Plug the SCSI bus cable that you will use to connect the PHU to the computer into the bottom SCSI bus connector of the first PHU, as shown in Figure 2-5. (Do not connect the other end of the cable to the computer at this time.)

3. Plug one end of the SCSI bus cable that connects between two PHUs into the remaining empty SCSI bus connector of the first PHU, as shown in Figure 2-5.

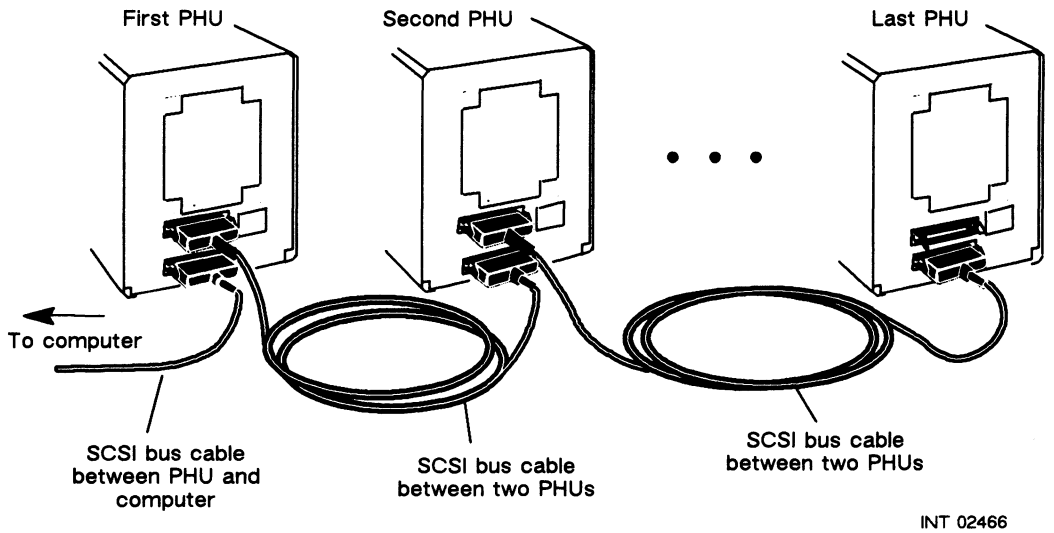


Figure 2-5 Connecting Two or More PHUs

4. Plug the other end of SCSI bus cable into the bottom connector of the second PHU.

5. Repeat step 3 and step 4 for the remaining PHUs. When all PHUs are connected, go to the next step.

6. When you have finished connecting all the PHUs together, insert the terminator plug into the remaining empty SCSI bus connector of the last PHU in the daisy chain. Secure the terminator plug by closing over the two spring clips, as shown in Figure 2–6.

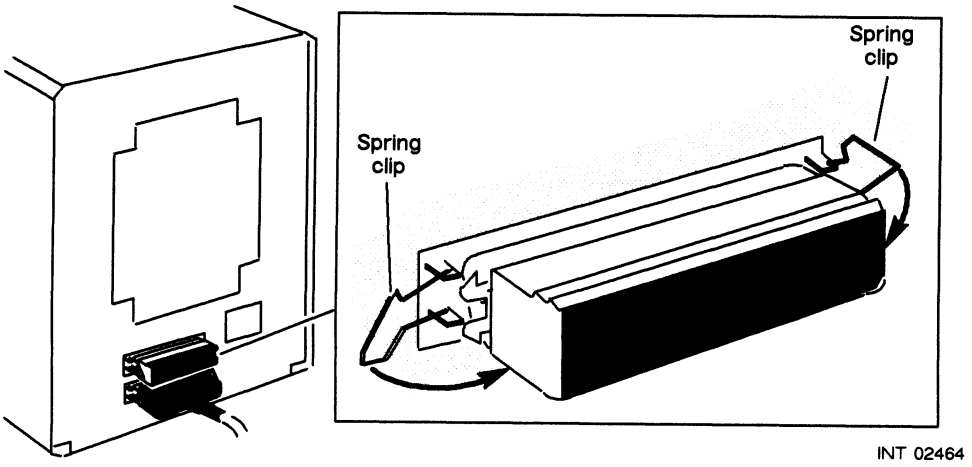


Figure 2–6 Connecting the SCSI Bus Terminator Plug

Connecting the Power Cord

7. Make sure the power switch on each PHU is turned off. Figure 2–8 shows the power switch. Then plug the power cord into the receptacle on the back of the PHU, as shown in Figure 2–7.

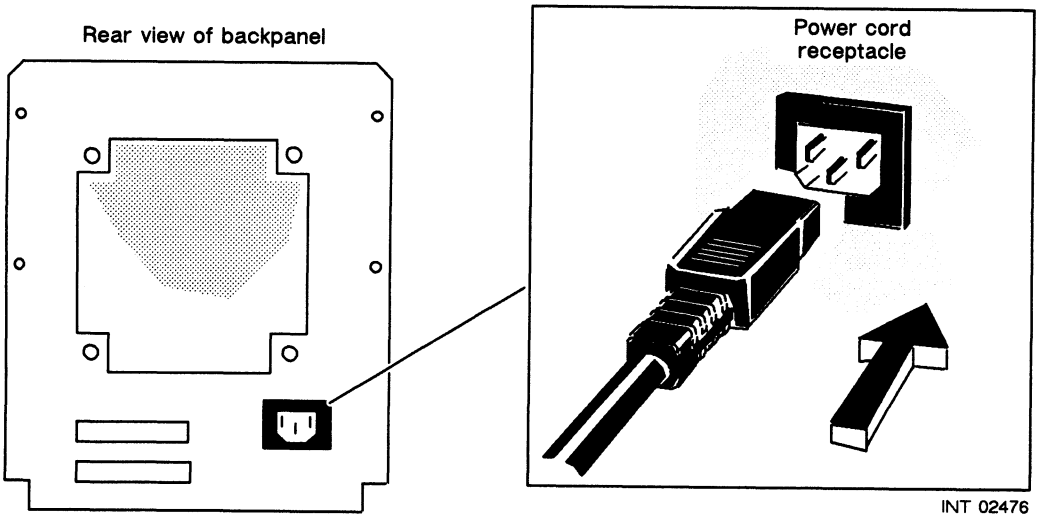


Figure 2–7 Connecting the Power Cord

8. Refer to the section in the computer installation manual that explains how to connect the PHU to the computer. See the "Related Manuals" section in the Preface for a list of computer installation manuals.

9. Once you have connected the PHU to the computer, plug the other end of the PHU's power cord into the installation site's ac power outlet.

Operating the PHU

After you connect the PHU to the computer, follow the instructions in this section to power up the PHU and computer, and to learn how to insert and handle cartridge tapes, and to solve any power-up problems that might occur.

Powering Up the PHU and Computer

Figure 2-8 shows the LED power-on indicator and shows how to turn on the PHU. Once you have connected the PHU to the computer, follow the steps in the power-up section of the operating manual for the computer to power up the computer and the PHU(s). If the LED power-on indicator on the PHU does not light or the fan does not make a whirring sound, refer to the "Solving Power-Up Problems" section.

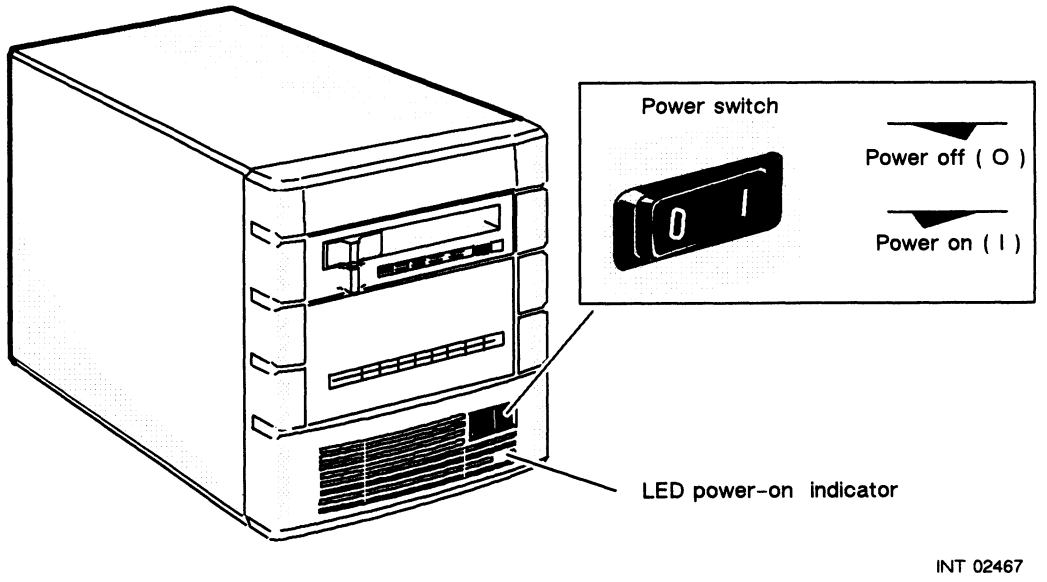


Figure 2-8 LED Power-On Indicator and Power Switch

Inserting and Handling a Cartridge Tape

If your PHU has a cartridge-tape drive, refer to the cartridge-tape drive manual that accompanied the PHU or the add-on, cartridge-tape drive package. The drive manual explains how to insert and remove a cartridge tape, how to protect the information on the tape so that it isn't accidently erased, and how to store a cartridge tape to prevent damage to it.

Solving Power-Up Problems

When you turn on the PHU, the LED power-on indicator should light and you should hear and feel air coming from the fan. If your PHU contains a hard-disk drive, the drive should make a noise and its LED indicator should briefly blink as the computer runs its power-on self test. If the PHU does not behave in this manner and you are unable to power up the PHU along with the computer, verify the following before calling for help.

- Make sure the PHU's power cord is plugged tightly into the power cord receptacle on the back of the PHU and into the installation site's ac power outlet.
- Make sure the ac power outlet that the PHU is plugged into is supplying power. You can test the outlet by plugging a desk lamp into it to see if the desk lamp will light.
- Make sure the voltage-selection switch is in the correct position. Refer to "Verifying the Voltage-Selection Switch" section of Chapter 1 for more information.

  CAUTION: An improper setting of the voltage-selection switch can cause equipment damage. If you are unsure of the installation site's line voltage, consult a qualified electrician.

- Make sure the SCSI bus cable(s) that connects between the PHU(s) and the one that connects between the PHU and the computer are connected properly and tightly.
- If a mass-storage drive was replaced or added to the PHU, make sure the power cable and the internal SCSI bus cable are connected properly and tightly. (The red stripe on the internal SCSI bus cable indicates the proper way to plug the cable into the connector on the drive.) If the cables are correct and tight, make sure the jumpers on the drive are set correctly.

  Refer to the drive manual that came with the PHU or the add-on drive package—it contains cable and jumper information. Also, refer to the computer's installation manual—it contains SCSI device ID information.
- If a customer replaceable unit (CRU) was just installed, review the procedures for installing the CRU to make sure that all internal and external cables were installed correctly and tightly.
- In some computers, a special fuse provides power for the SCSI bus terminator resistors. Make sure the SCSI bus fuse in the computer is not blown. Refer to the computer's installing and maintaining manual for more information.

If you are still unable to power up the PHU after following these suggestions, contact Data General. If you are within the United States or Canada, contact the Data General Service Center by calling 1-800-DG-HELPS for toll-free telephone support. For more information, refer to the "Telephone Assistance" section of the Preface.

End of Chapter

Chapter 3
Removing and Reinstalling the Cover

This chapter describes how to safely remove and reinstall the cover of the PHU. You will need to refer to the instructions in this chapter in order to install customer replaceable units (CRUs).

Removing the Cover

This section explains how to remove the cover from the PHU. If the PHU is connected to the computer and the computer is running, power down the computer by following the procedures in the computer operating manual and operating system software manual. Read the next sections *before* removing the cover.

Avoiding ESD Damage

When the cover(s) and filler panel(s) of your equipment are installed, they protect the electronic circuits inside the equipment from electrostatic discharge (ESD) damage. However, when you remove these protective covers and filler panels to replace or install subassemblies, you can inadvertently damage the sensitive electronic circuits in the equipment by simply touching them. When you touch them, any electrostatic charge that has accumulated on your body may discharge through the circuits.

If the air in the work area is very dry, running a humidifier in the area will help decrease the risk of ESD damage. The next sections contain procedures that you must follow to prevent damage to the equipment.

CAUTION: Read and understand the following before you remove the cover(s) or panel(s) from the equipment.

- Provide enough room to work on the equipment. Clear the work site of any unnecessary materials or materials that naturally build up electrostatic charge. Materials that build up electrostatic charges include foam packaging, foam cups, cellophane wrappers, and similar materials.
- Do not remove replacement or upgrade subassemblies from their antistatic packaging until the exact moment that you are ready to install them.
- Gather all the tools, manuals, and other materials you will need before you remove any covers from the equipment. (After you remove the cover, you should avoid moving away from the work site; otherwise, you may build up an electrostatic charge.) Procedures for removing subassemblies usually list required materials at the beginning.

- Use an ESD kit when handling circuit boards or when touching the electronic circuits inside the equipment. You can order an ESD kit from Data General.
- In an *emergency* when an ESD kit is not available, follow these procedures.

  CAUTION: These procedures are not a substitute for the use of an ESD kit.

  — Before touching any electronic circuits or boards inside the equipment, firmly touch a bare (unpainted) surface of the equipment. Doing so reduces the possibility of an electrostatic discharge because your body and the subassembly are at the same electrostatic potential.

  — Before removing any replacement or upgrade subassembly from its antistatic bag, place one hand firmly on an unpainted surface of the chassis, and at the same time, pick up the replacement or upgrade subassembly while it is still sealed in the antistatic bag. Once you have done this, *do not* move around the room or contact other furnishings, personnel, or surfaces until the subassembly is installed and *secured* in the equipment.

  — When you remove the subassembly from the antistatic bag, handle printed circuit boards by the edges. Avoid touching components and circuits on a printed circuit board.

  — If you must move around the room or touch other surfaces before securing the subassembly in the equipment, first place the subassembly back in the antistatic bag. When you are ready again to install the subassembly repeat these procedures.
- Replace the cover(s) or panel(s) on the equipment as soon as possible to protect the electronic circuits.
- If the equipment has an opening for an optional device such as a mass-storage drive and the device is not installed, make sure a filler panel is installed in the opening before connecting the equipment to the ac power outlet.

Steps for Removing the Cover

After reading the section "Avoiding ESD Damage," follow the steps in this section to remove the cover from the PHU. To remove the cover, you need a Phillips screwdriver.

1. Make sure the power switch is off. Make sure the power cord is removed from the ac power outlet and from the receptacle on the back of the PHU. Disconnect all SCSI bus cable(s) from the back of the PHU.

   WARNING: To avoid electrical shock or equipment damage, always unplug the power cord from the ac power outlet and from the receptacle on the back of the PHU before removing the cover from the PHU.

2. Using a Phillips screwdriver, remove the four Phillips screws and washers, shown in Figure 3–1, that attach the cover to the back of the PHU.

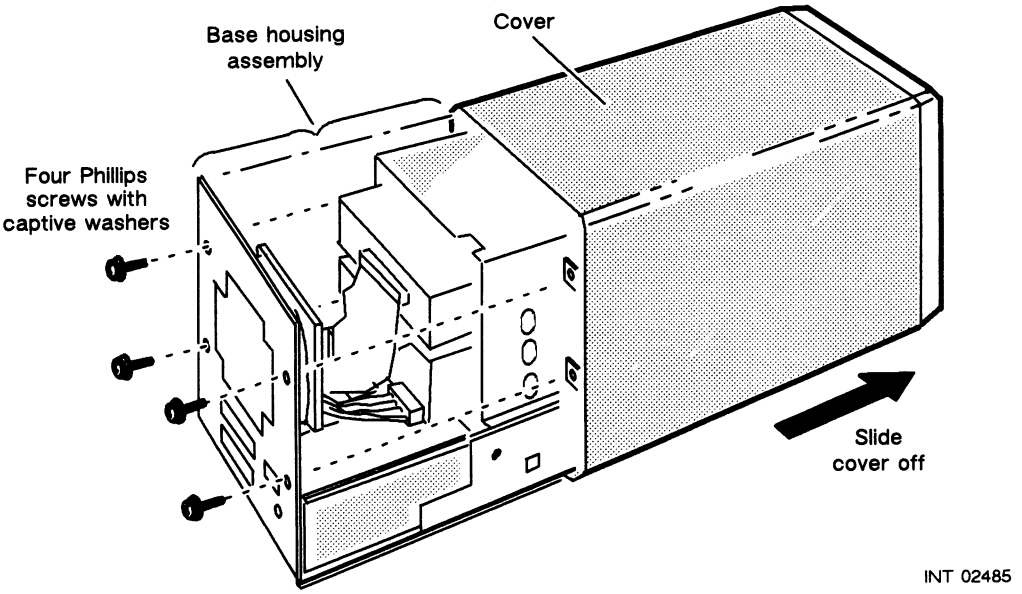


Figure 3–1 Removing the Cover from the PHU

3. With the screws completely removed, carefully slide the cover off the base housing assembly.

   If you are replacing or installing a customer replaceable unit (CRU), return to that section of this manual.

Reinstalling the Cover

This section explains how to reinstall the cover on the PHU. To reinstall the cover you need a Phillips screwdriver.

1. Position the flanges on the cover between the guides on the base housing assembly, as shown in Figure 3–2.
2. Make sure that the internal cables are neatly positioned out of the way so that they do not get caught when you slide the cover on. Then gently slide the cover along the guides until it contacts the back of the base housing assembly.

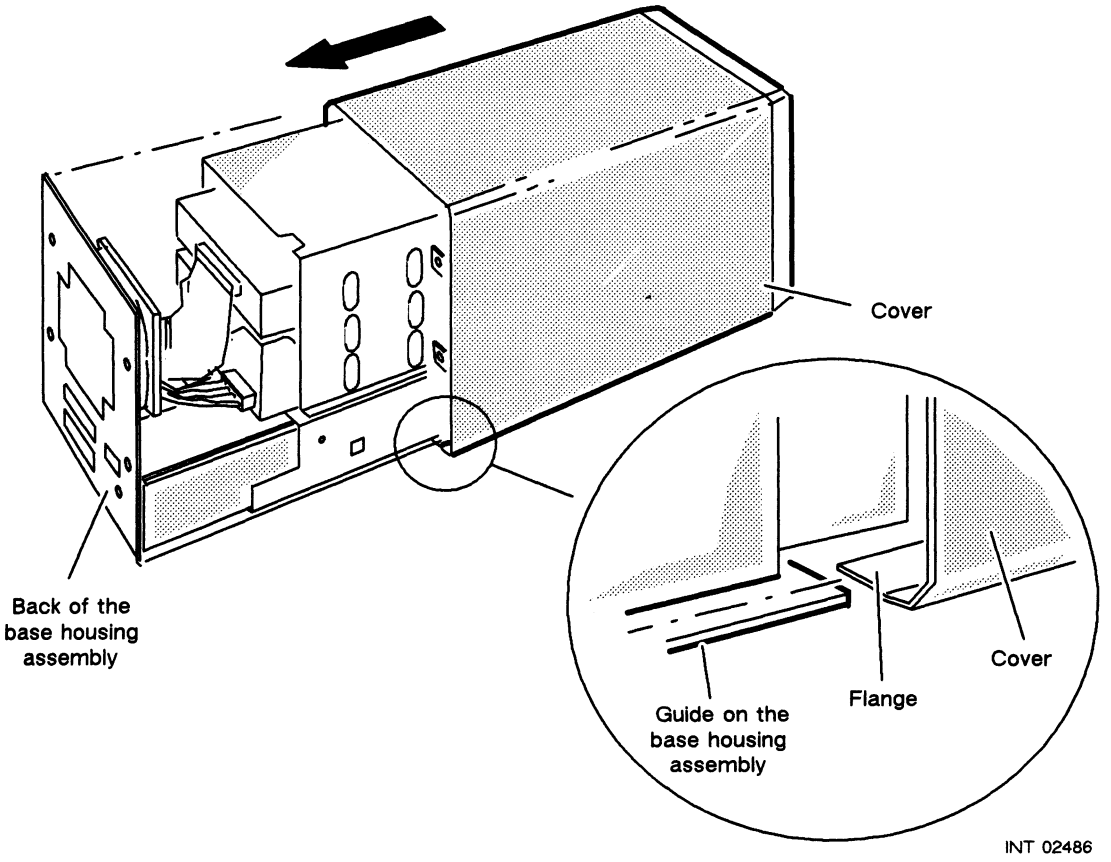


Figure 3–2 Reinstalling the Cover

3. Attach the cover with the four Phillips screws and washers, as shown in Figure 3–3.

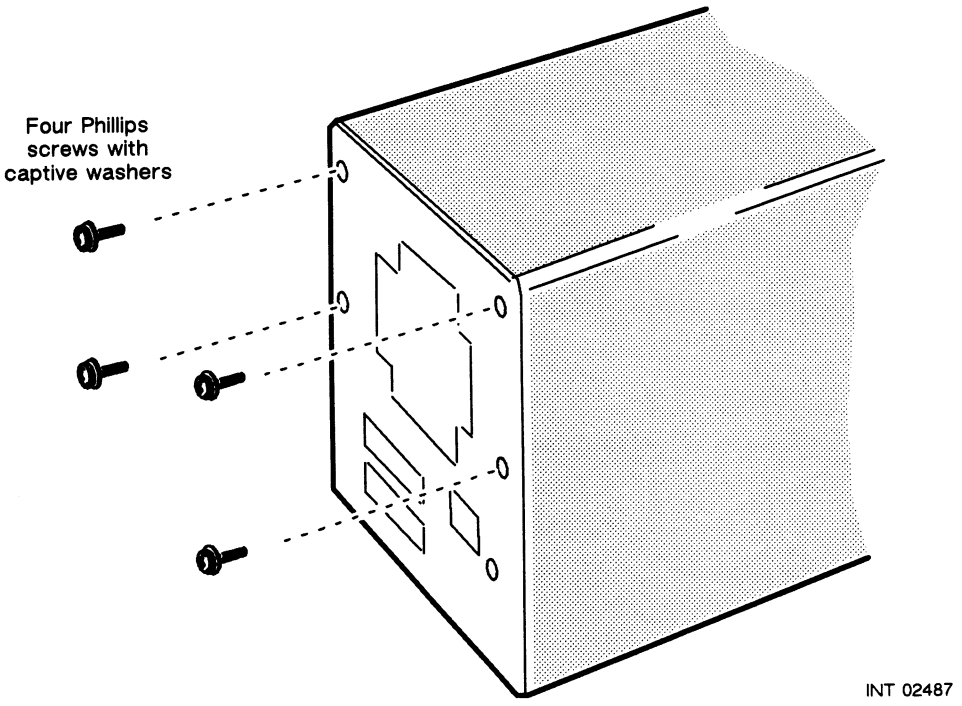


Figure 3–3 Attaching the Cover to the Base Housing Assembly

End of Chapter

Chapter 4
Installing Customer Replaceable Units (CRUs)

The Model 10565 Peripheral Housing Unit (PHU) contains customer replaceable units (CRUs). CRUs are subassemblies that are easily removed and installed by the person responsible for operating or maintaining the PHU. The following subassemblies are CRUs that you can order from Data General:

Tape drives	Internal SCSI bus cable	SCSI bus cables
Disk drives	Power cords	Internal power cable
Printed circuit boards	Power supply	Blank filler panel
Terminator plug	Fan	

WARNING: To avoid electrical shock or equipment damage, always unplug the power cord from the ac power outlet and from the receptacle on the back of the PHU before removing the cover from the PHU.

The next sections explain how to remove and install the CRUs.

Adding or Replacing Drives

The PHU's drive cage can accommodate either one to three half-height drives, or one half-height drive and one full-height drive, as shown in Figure 4-1. When the PHU has only one half-height drive or one full-height drive, any unused drive slots are covered by blank half-height covers.

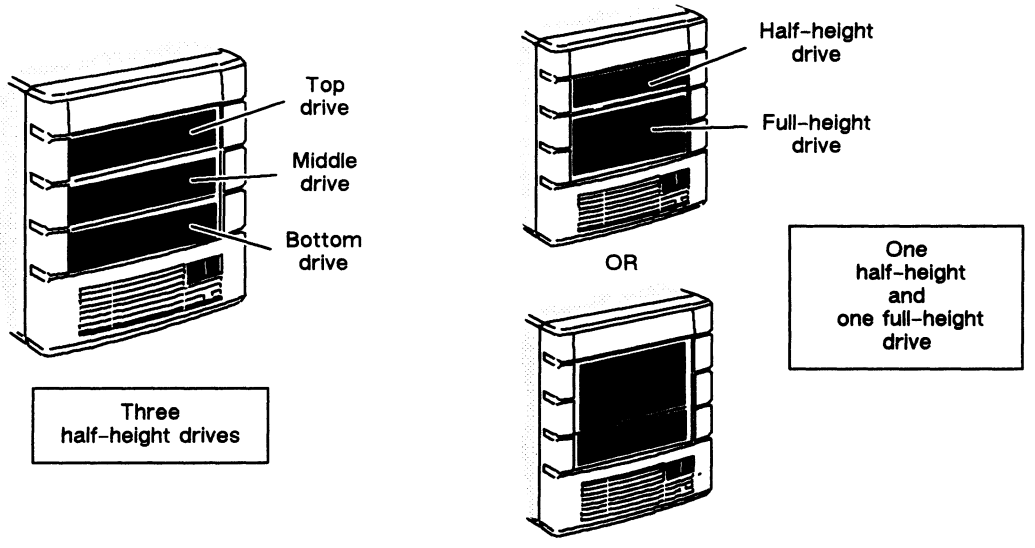


Figure 4-1 PHU Drive Configurations

To install an add-on drive or replace a defective drive, you will need a Phillips screwdriver. If the computer and PHU(s) are running, power them down. Refer to the operating manual for the computer and the operating manual for the operating system software for the proper power-down procedure.

The following steps explain how to set the jumpers on the add-on or replacement drive, remove a drive, and install a drive.

Preparing a Drive

1. Set the jumpers on the add-on drive or replacement drive, and attach any special mounting brackets required to mount the drive in the PHU.

   The procedures for setting jumpers and attaching any required mounting brackets are in the drive manual that came with the PHU or that came with the add-on drive. Also, refer to the "Verifying the SCSI ID Jumpers" section of Chapter 1. It contains more information about the SCSI device ID numbers.

   NOTE: SCSI mass-storage drives inside the PHU should *not* have any terminating resistors installed in them. The PHU uses a terminator plug, which is installed in one of the connectors as explained in "Connecting the SCSI Bus Cable and Terminator Plug" section of Chapter 2. Refer to the drive manual that came with the system or the add-on drive for more information about terminator resistors.

2. Once the jumpers are set, remove the PHU's cover by following the steps in Chapter 3. Then return here and continue these steps.

3. If you are adding a drive, go to the "Installing a Drive" section. If you are replacing a drive, go to the next section, "Removing a Drive."

   WARNING: To avoid electrical shock or equipment damage, always unplug the power cord from the ac power outlet and from the receptacle on the back of the PHU before removing the cover from the PHU.

Removing a Drive

4. With the cover removed, unplug the internal SCSI bus cable and the power cable from the drive. (Refer to manual that came with the drive if you cannot locate these cables. Also refer to Figure 4-2. It shows typical drive connections for a SCSI bus cable and a drive power cable.)

   Some drives would require you to twist the PHU's internal cable so that the cable's red stripe aligns properly with the drive's SCSI bus connector. Rather than twist the cable, always use the special short-length adapter cable that is shown in Figure 4-2.

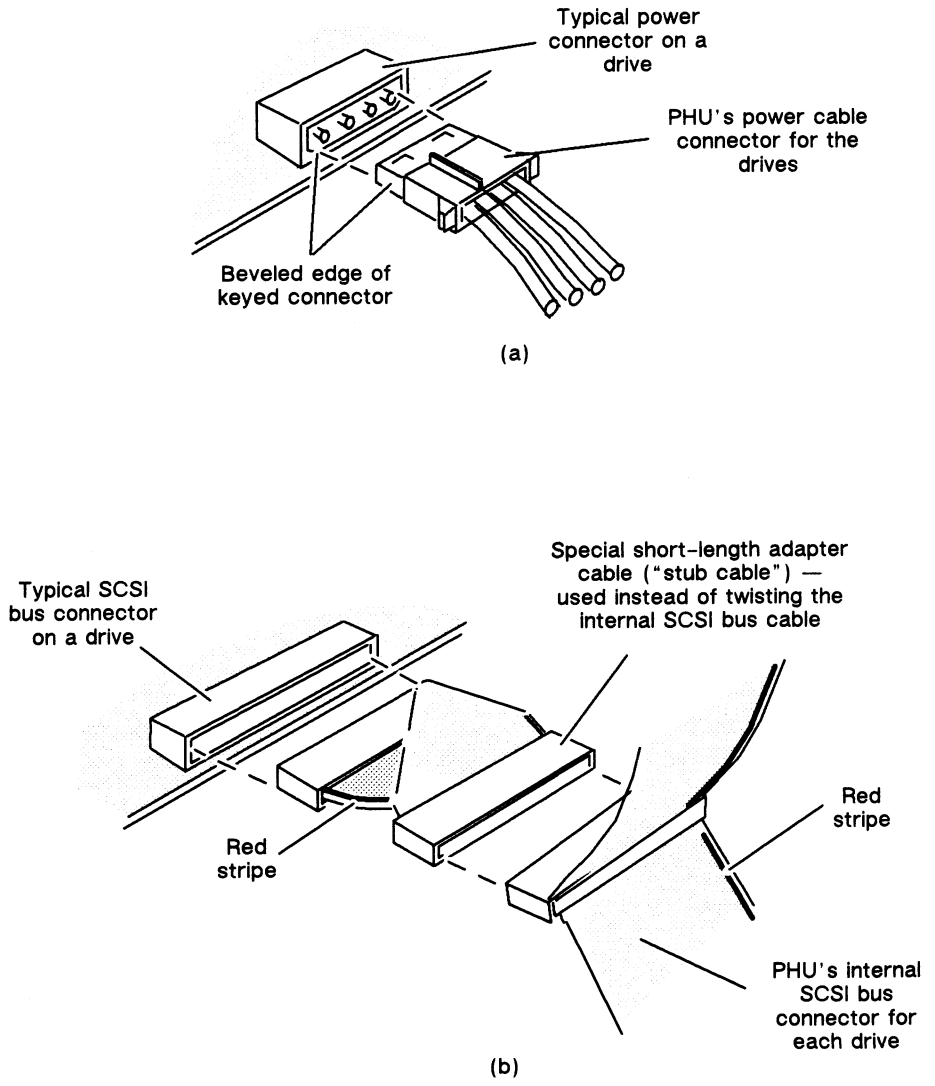


Figure 4–2 Typical Connections on Drives (a) Power Connection (b) SCSI Bus Cable Connection

5. If you are replacing a drive, carefully support the defective drive and remove the screws that attach the drive to the PHU's drive cage. With the screws completely removed, slowly slide the drive out of the front of the PHU's drive cage. Be careful not to drop the drive on top of any other drives in the drive cage as you slide it out.

Installing a Drive

6. Slide the add-on or replacement drive into the drive cage, and attach it with the mounting screws. Figure 4-3 shows the mounting holes for the top, middle, and bottom half-height drives. (These drives were shown in Figure 4-1.) Figure 4-3 also shows the mounting holes for either the top full-height drive or the bottom full-height drive. (The PHU cannot accommodate more than one full-height drive at a time.)

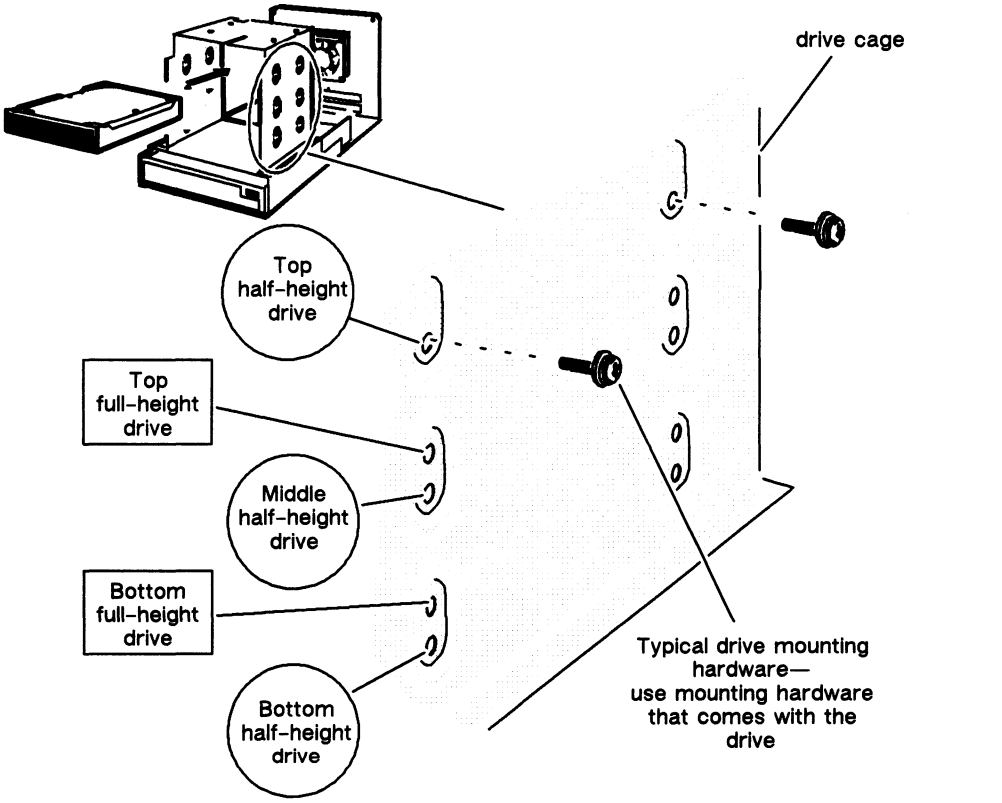


Figure 4-3 Mounting Holes for a Full-Height Drive or a Half-Height Drive

7. Connect the drive power cable and the internal SCSI bus cable to the drive. Position the red stripe on the internal SCSI bus cable as shown in the drive manual.

   Don't forget to use the special short-length adapter cable shown in Figure 4-2 instead of twisting the internal SCSI bus cable.

8. Neatly position the internal power cable, the fan's power cable, and the internal SCSI bus cable so that they are not blocking the cooling fan.

9. Reinstall the cover by following the steps in Chapter 3. Then plug the power cord back into the ac power outlet and into the receptacle on the back of the PHU.

10. Power up the computer and PHU by following the instructions in the "Powering Up the PHU and Computer" section in Chapter 2.

Replacing a Filler Panel

When the drive cage of the PHU has one or more empty drive "slot" openings, you must cover each empty opening with a half-height filler panel. This section explains how to install and remove the half-height filler panel.

To install the filler panel, gently press the panel into the drive-cage opening as shown in Figure 4-4. The tab on each end of the filler panel will lock into a square hole on each side of the drive cage.

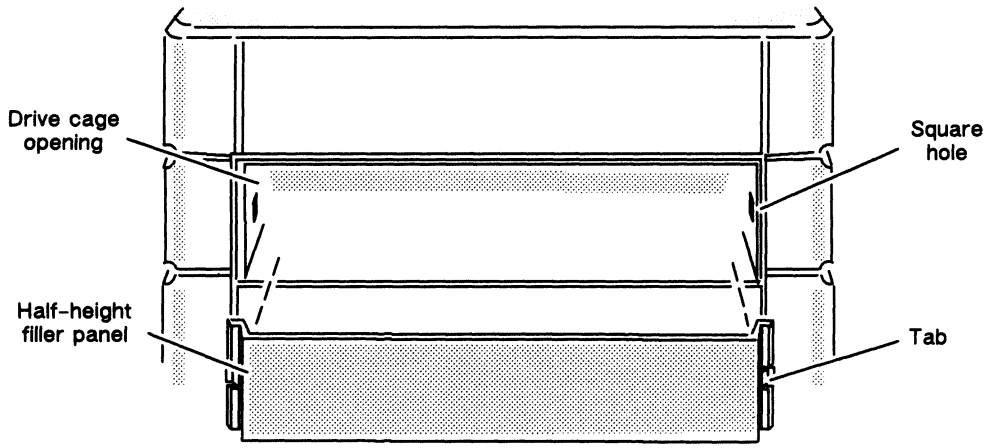


Figure 4-4 Installing the Half-Height Filler Panel

To remove the filler panel, press the tab with a small, flat-blade screwdriver, and gently pry the panel from the opening as shown in Figure 4-5.

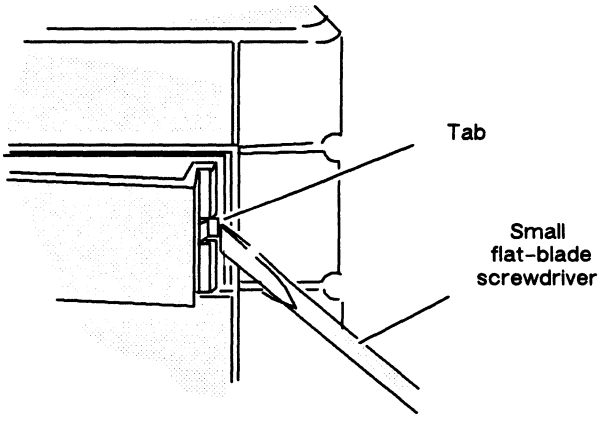


Figure 4-5 Removing the Half-Height Filler Panel

Adding or Replacing a PC Board

Some drives require a special optional printed circuit (PC) board. This PC board could be an SCSI bus adapter board or a terminator power adapter board. Figure 4–6 shows the location above the top drive where the PC board and bracket assembly mount. The method of mounting the board to the bracket in the PHU may vary from board to board. If you add a drive, refer to the manual for the drive or computer to see if the drive requires a special PC board. Directions for preparing, removing, or adding a special PC board are also included in these manuals.

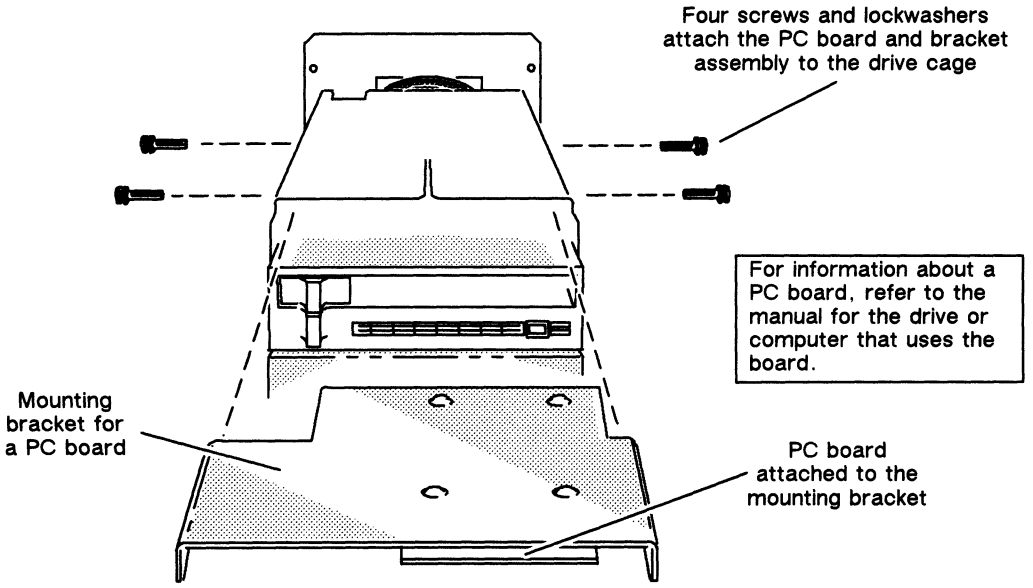


Figure 4–6 PC Board Mounting Location

Replacing the Terminator Plug

The terminator plug is installed in either the top or bottom SCSI bus connector of a PHU. When there are two or more PHUs connected to the computer, the terminator plug is installed on the last PHU in the daisy chain, in either SCSI bus connector. The following steps explain how to replace the terminator plug.

1. If the computer and PHU(s) are running, power them down. Refer to the operating manual for the computer and the operating manual for the operating system software for the proper power-down procedure.

2. Release the spring clips on each side of the terminator plug, as shown in Figure 4–7, and remove the terminator plug from the SCSI bus connector. Insert the replacement terminator plug back into the same connector, and close over the two spring clips to hold the replacement terminator plug in place.

3. Power up the computer and PHU. Follow the instructions in the "Powering Up the PHU and Computer" section in Chapter 2.

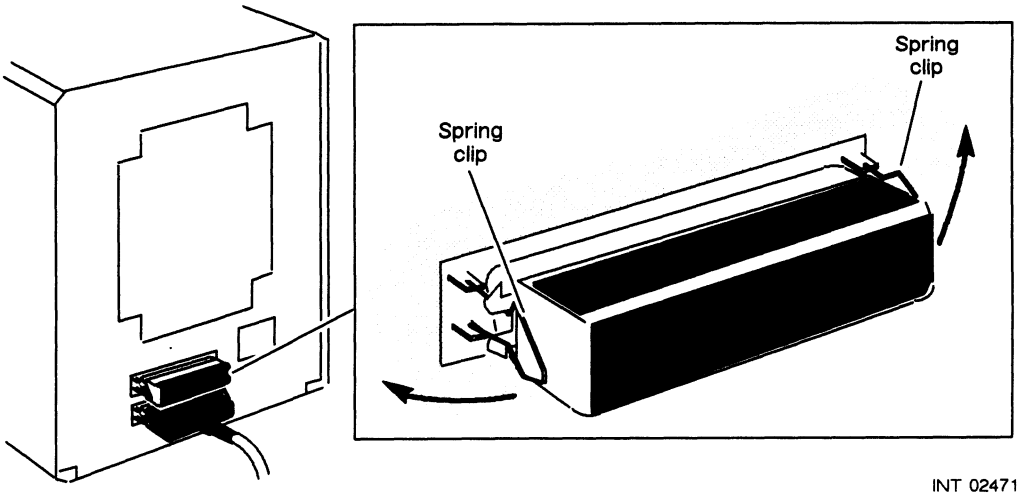


Figure 4–7 Disconnecting the SCSI Bus Terminator Plug

Replacing the SCSI Bus Cables

The following steps explain how to remove and install the PHU's SCSI bus cable.

Removing and Installing the External SCSI Bus Cable

1. If the computer and PHU(s) are running, power them down. Refer to the operating manual for the computer and the operating manual for the operating system software for the proper power-down procedure.

2. Release the spring clips on each side of the SCSI bus cable connector, as shown in Figure 4–8, and unplug the SCSI bus cable connector from the SCSI bus connector. If the other end of the cable is connected to another PHU, follow this procedure for the other end of the cable.

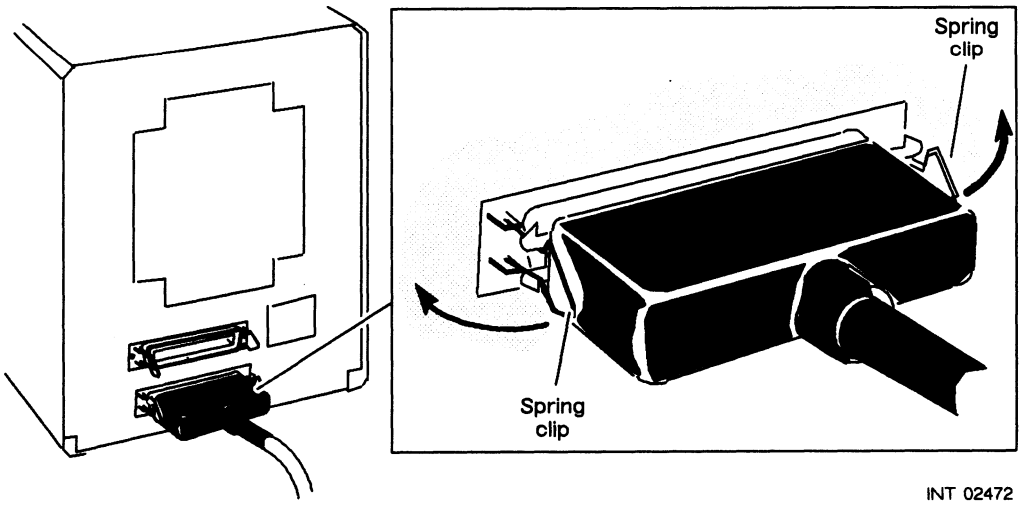


Figure 4–8 Disconnecting the SCSI Bus Cable

If the other end of the SCSI bus cable is connected to the computer, refer to the section in the computer setting up or installation manual that explains how to disconnect the SCSI bus cable from the computer. See the "Related Manuals" section of the Preface for a list of computer setting up or installation manuals.

3. To install a replacement cable of the *same length*, plug each end of the cable into the connector that the original cable used. Close over the spring clips to secure the connectors.

   If the other end of the SCSI bus cable is connected to the computer, refer to the section in the computer installation manual that explains how to connect the SCSI bus cable to the computer.

   To install a replacement cable of a different length, you must recalculate the length of the SCSI bus to make sure that the SCSI bus length does not exceed 19.68 ft (6 m) when connecting to an AViiON series computer or 23 ft (7.01 m) when connecting to an ECLIPSE MV/Family computer. Refer to the "External SCSI Bus Cable Requirements" section of Chapter 1 to find out how to calculate the SCSI bus length.

Replacing the Internal SCSI Bus Cable

To replace the internal SCSI bus cable, you will need a Phillips screwdriver. The following steps explain how to remove and install the PHU's internal SCSI bus cable.

Removing the Internal SCSI Bus Cable

1. If the computer and PHU(s) are running, power them down. Refer to the operating manual for the computer and the operating manual for the operating system software for the proper power-down procedure.

2. Refer to Figure 4-7, and release the spring clips on each side of the terminator plug. Remove the terminator plug from the SCSI bus connector.

3. Refer to Figure 4-8, and release the spring clips on each side of the SCSI bus cable connector. Unplug the SCSI bus cable connector from the SCSI bus connector.

4. Remove the PHU's cover by following the steps in Chapter 3. Then return here and complete the remaining steps.

   WARNING: To avoid electrical shock or equipment damage, always unplug the power cord from the ac power outlet and from the receptacle on the back of the PHU before removing the cover from the PHU.

5. After removing the cover, disconnect the internal SCSI bus cable from each of the drives. Refer to Figure 4-2; it shows a typical SCSI bus cable connection.

6. Remove the two screws that attach the bottom and top SCSI bus connectors to the back of the subsystem, as shown in Figure 4–9. Carefully lift the internal SCSI bus cable out of the subsystem.

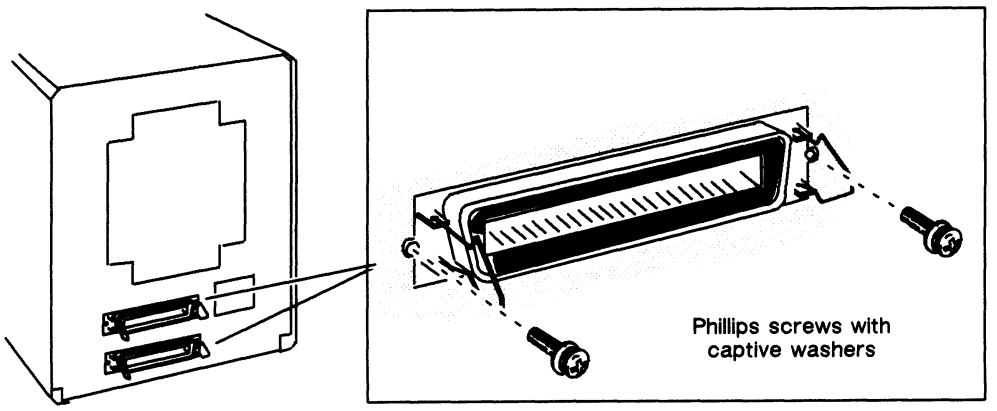


Figure 4–9 Removing the Internal SCSI Bus Connectors' Screws

Installing the Internal SCSI Bus Cable

7. Figure 4–10 identifies the connectors on the internal SCSI bus cables. From inside the subsystem, install the bottom SCSI bus connector of the replacement cable in the bottom–connector opening, as shown in Figure 4–11. Reattach the connector with the two Phillips screws and washers.

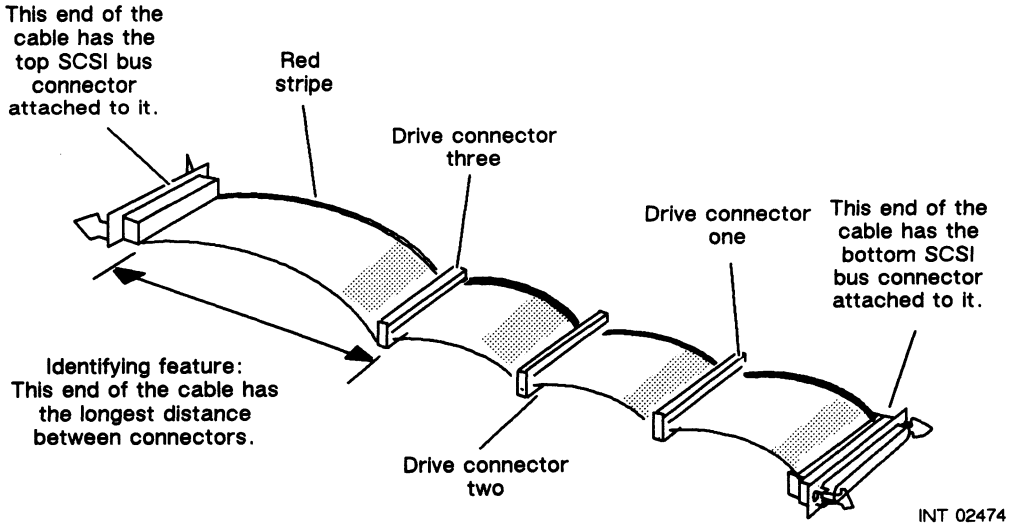


Figure 4–10 Connectors on the Internal SCSI Bus Cable

8. From inside the subsystem, install the top SCSI bus connector of the replacement cable into the top-connector opening, as shown in Figure 4-11. Reattach the connector with the two Phillips screws and washers.

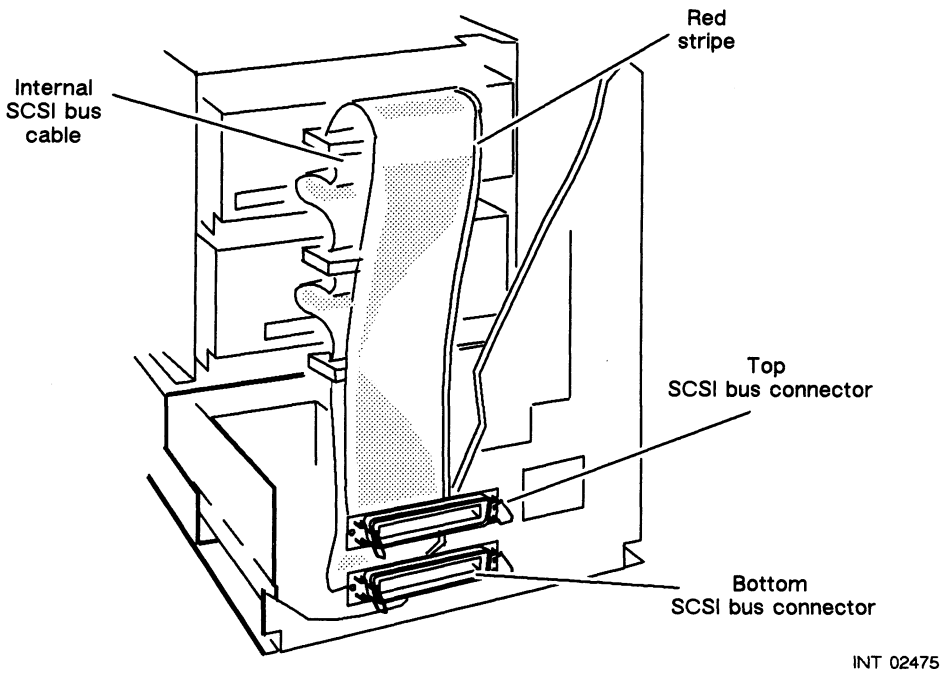


Figure 4-11 Internal SCSI Bus Cable

9. Plug each drive connector into the proper drive: plug drive-connector one into the bottom drive, drive-connector two into the next drive from the bottom, and drive-connector three into the remaining drive. If your system has fewer than three drives, simply tuck any unused connectors out of the way. Refer to the cable drawing in Figure 4-10 to identify the drive connectors. Refer to the drive manual(s) that accompanied your subsystem if you are not sure of where to plug the drive cable connectors in the drives.

10. Neatly position the internal power cable, the fan's power cable, and the internal SCSI bus cable so that they are not blocking the cooling fan.

11. Reinstall the cover by following the steps in Chapter 3. Then plug the power cord back into the receptacle on the back of the PHU and into the ac power outlet.

12. Power up the computer and PHU. Follow the instructions in the "Powering Up the PHU and Computer" section in Chapter 2.

Replacing the Power Cord

The following steps explain how to remove and install the PHU's power cord.

1. If the computer and PHU(s) are running, power them down. Refer to the operating manual for the computer and the operating manual for the operating system software for the proper power-down procedure.

2. With the PHU turned off, unplug the power cord from the installation site's power outlet and from the receptacle on the back of the subsystem, as shown in Figure 4–12.

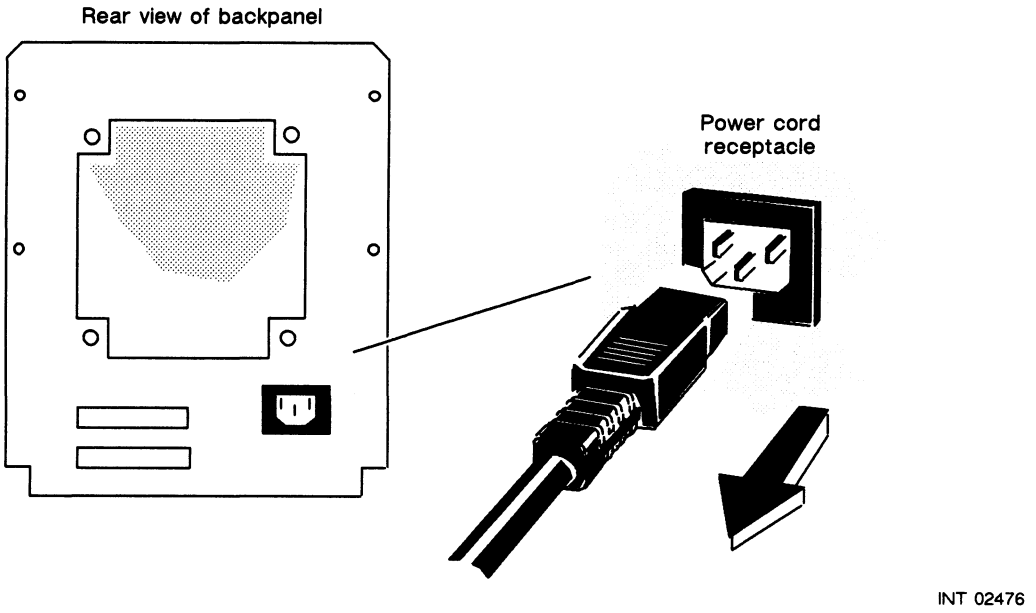


Figure 4–12 Removing the Power Cord

3. Plug the replacement power cord into the power cord receptacle on the back of the subsystem. Plug the subsystem back into the ac power outlet.

4. Power up the computer and PHU by following the instructions in the "Powering Up the PHU and Computer" section in Chapter 2.

Replacing the Internal Power Cable

To replace the internal power cable, you will need a Phillips screwdriver. The following steps explain how to remove and install the PHU's internal power cable.

Removing the Internal Power Cable

1. If the computer and PHU(s) are running, power them down. Refer to the operating manual for the computer and the operating manual for the operating system software for the proper power-down procedure.

2. Remove the subsystem's cover by following the steps in Chapter 3. Then return here and follow the remaining steps.

   WARNING: To avoid electrical shock or equipment damage, always unplug the power cord from the ac power outlet and from the receptacle on the back of the PHU before removing the cover from the subsystem.

3. With the cover removed, disconnect the internal power cable from the power supply connector by releasing the two lock tabs on each side of the connector and gently pulling the connector upward, as shown in Figure 4–13.

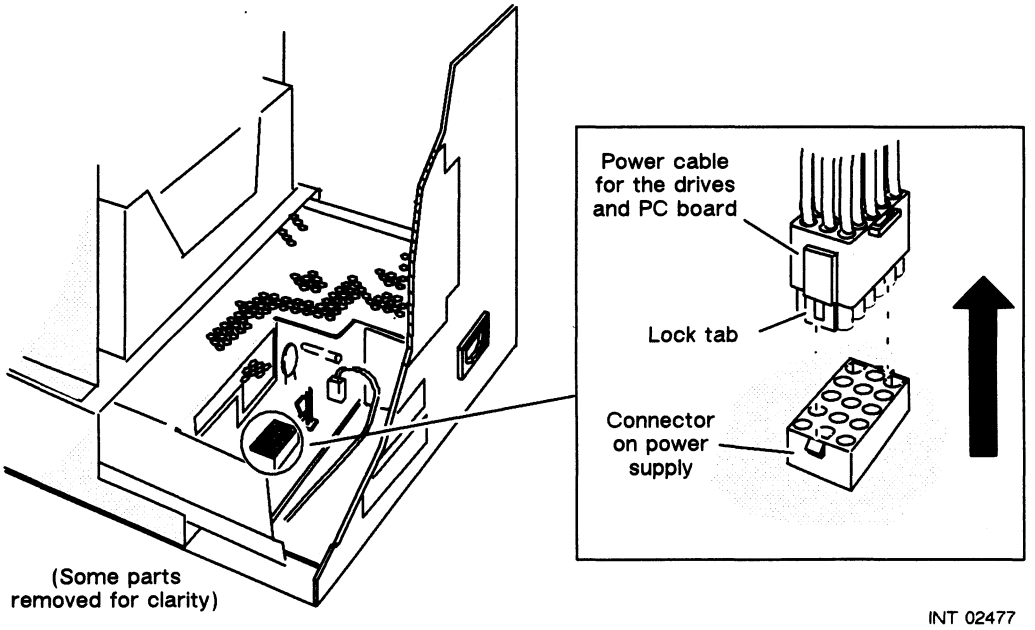


Figure 4–13 Disconnecting or Connecting the Internal Power Cable

4. Disconnect each power cable connector from each drive, and carefully remove the power cable from the subsystem. Refer to Figure 4–2; it shows a typical power connection for a drive.

Installing the Internal Power Cable

5. Connect the replacement power cable into each drive and into the power supply connector.

   Neatly position the internal power cable, the fan's power cable, and the internal SCSI bus cable so that they are not blocking the cooling fan.

6. Reinstall the cover by following the steps in Chapter 3. Then plug the power cord back into the ac power outlet and into the receptacle on the back of the PHU.

7. Power up the computer and PHU by following the instructions in the "Powering Up the PHU and Computer" section in Chapter 2.

Replacing the Power Supply

To replace the power supply, you will need a Phillips screwdriver. The following steps explain how to remove and install the PHU's power supply.

WARNING: **The inside of the power supply contains high voltage that can be present even after the supply is disconnected from the ac power source. Never remove the cover of the power supply, attempt to service the power supply, or replace the fuse in the power supply.**

Removing the Power Supply

1. If the computer and PHU(s) are running, power them down. Refer to the operating manual for the computer and the operating manual for the operating system software for the proper power-down procedure.

2. Remove the subsystem's cover by following the steps in Chapter 3. Then return here and follow the remaining steps.

   WARNING: To avoid electrical shock or equipment damage, always unplug the power cord from the ac power outlet and from the receptacle on the back of the PHU before removing the cover from the subsystem.

3. With the cover removed, disconnect the internal power cable from the power supply connector by releasing the two lock tabs on each side of the connector and gently pulling the connector upward. Refer to Figure 4-13.

4. Disconnect the fan's power leads from the power supply, as shown in Figure 4-14.

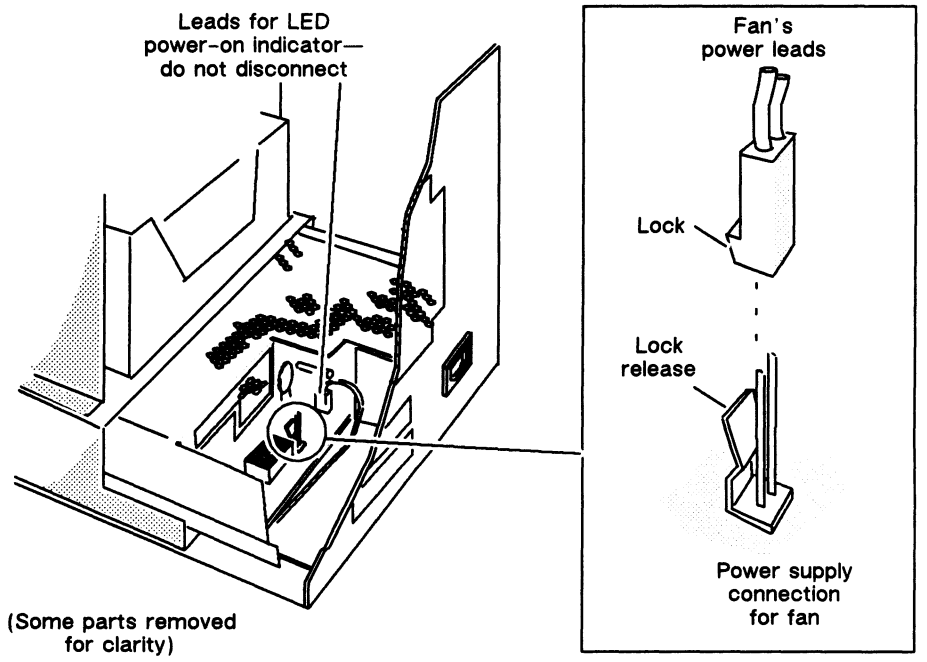


Figure 4-14 Disconnecting or Connecting the Fan's Power Leads

5. Remove the three Phillips screws and washers that hold the power supply in the base housing assembly, and slide the power supply out of the base housing assembly, as shown in Figure 4–15.

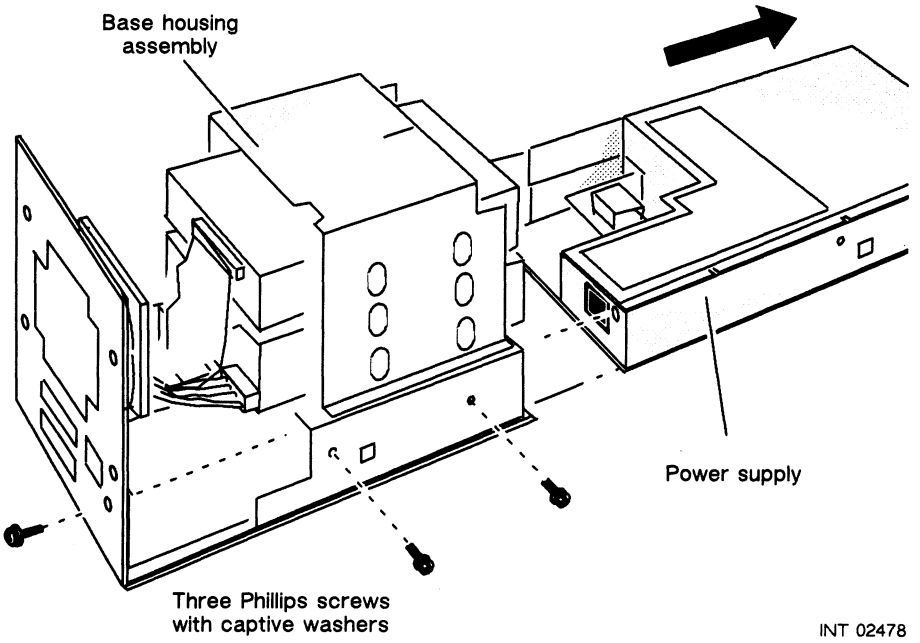


Figure 4–15 Removing the Power Supply

Installing the Power Supply

6. Gently slide the replacement power supply into the base housing assembly. Make sure that all cables or wires are out of the way and not wedged between the power supply and the base housing assembly.

7. Align the three holes that attach the power supply, and fasten the power supply in place with the three Phillips screws and lock washers.

8. Connect the fan's power leads to the power supply. Refer to Figure 4–14.

9. Connect the internal power cable to the power supply. Refer to Figure 4–13.

10. Neatly position the internal power cable, the fan's power leads, and the internal SCSI bus cable so that they are not blocking the cooling fan.

11. Make sure the power supply's voltage-selection switch is set to the proper voltage. Refer to "Verifying the Voltage-Selection Switch" section of Chapter 1, which explains how to verify and set the voltage-selection switch.

12. Reinstall the cover by following the steps in Chapter 3. Then plug the power cord back into the ac power outlet and into the receptacle on the back of the PHU.

13. Power up the computer and PHU by following the instructions in the "Powering Up the PHU and Computer" section in Chapter 2.

Replacing the Fan

To replace the fan, you will need a Phillips screwdriver. The following steps explain how to remove and install the PHU's cooling fan.

Removing the Fan

1. To replace the fan, remove the subsystem's cover by following the steps in Chapter 3. Then return here and complete the remaining steps.

   WARNING: **To avoid electrical shock or equipment damage, always unplug the power cord from the ac power outlet and from the receptacle on the back of the PHU before removing the cover from the subsystem.**

2. With the cover removed, disconnect the fan's power leads from the power supply. Refer to Figure 4–14.

3. While holding the fan, remove the four Phillips screws that attach the fan to the back of the base housing assembly, as shown in Figure 4–16. Remove the fan assembly from the subsystem.

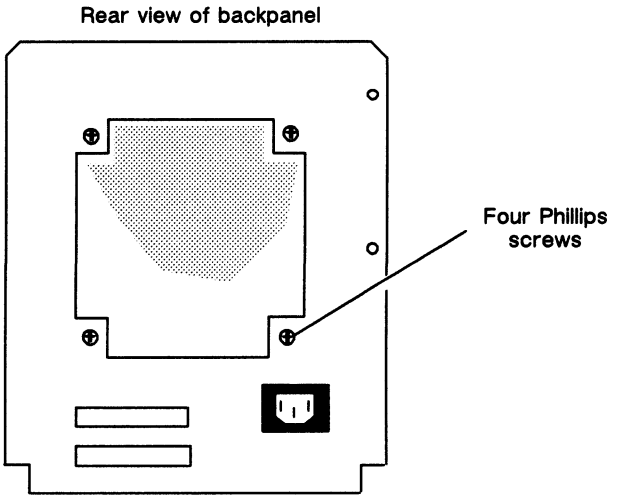


Figure 4–16 Removing the Phillips Screws that Attach the Fan

Preparing the Replacement Fan

4. With the fan assembly removed from the subsystem, remove the four Phillips screws that attach the cable bracket and fan guard, as shown in Figure 4–17. Disconnect the fan's power leads.

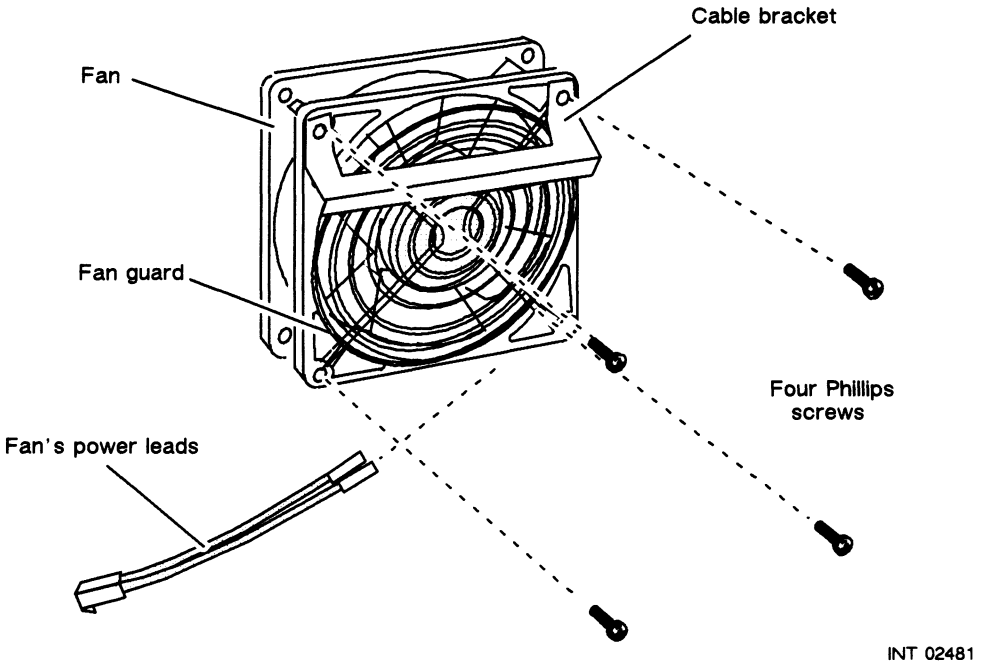


Figure 4–17 Removing the Fan Assembly's Cable Bracket, Guard, and Power Leads

5. Connect the power leads to the positive (+) and negative (–) terminals of the replacement fan, as shown in Figure 4–18.

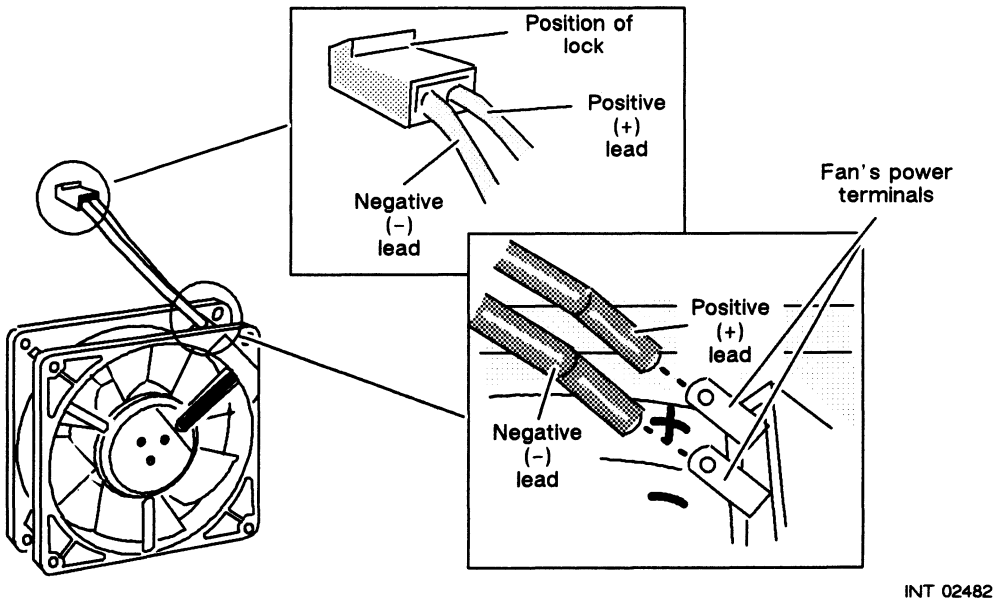


Figure 4–18 Connecting the Fan's Power Leads

6. Position the replacement fan, as shown in Figure 4–19, with the fan's power leads in the lower left corner and the air–flow arrow on the fan pointing away from where the cable bracket and the fan guard will attach.

7. Attach the cable bracket and fan guard to the fan with the four Phillips screws, as shown in Figure 4–19.

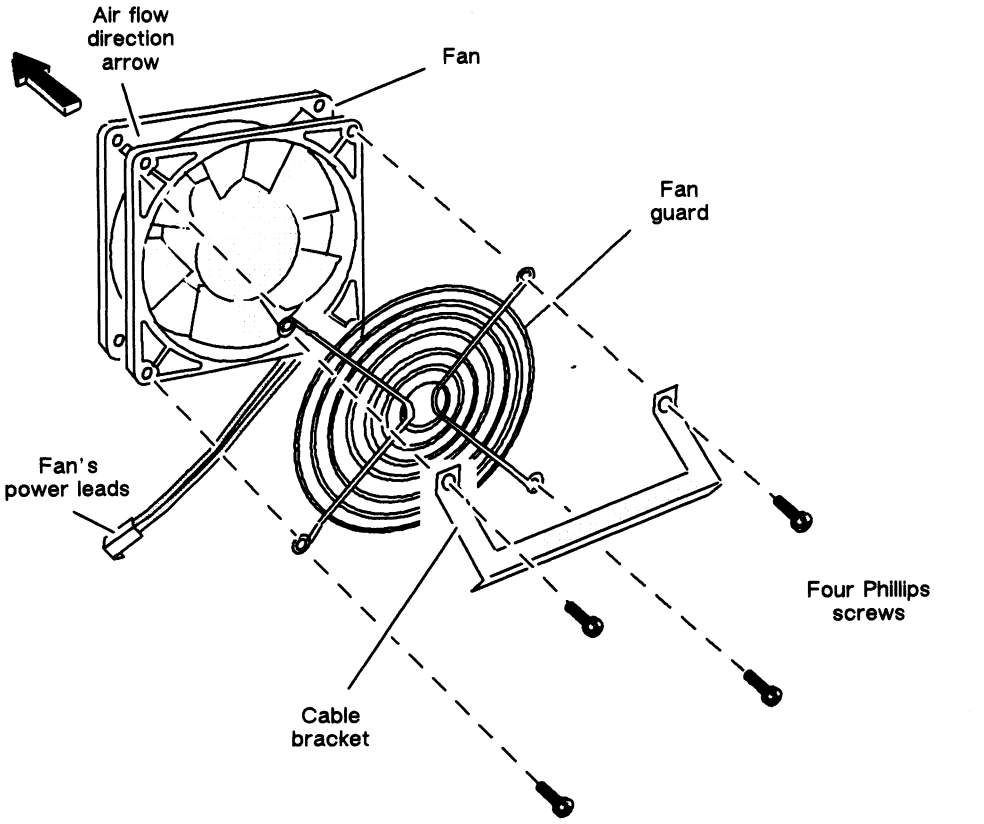


Figure 4–19 Fan Assembly

Installing the Fan

8. Position the fan assembly on the back of the base housing assembly and attach it with the four Phillips screws, as shown in Figure 4–20.

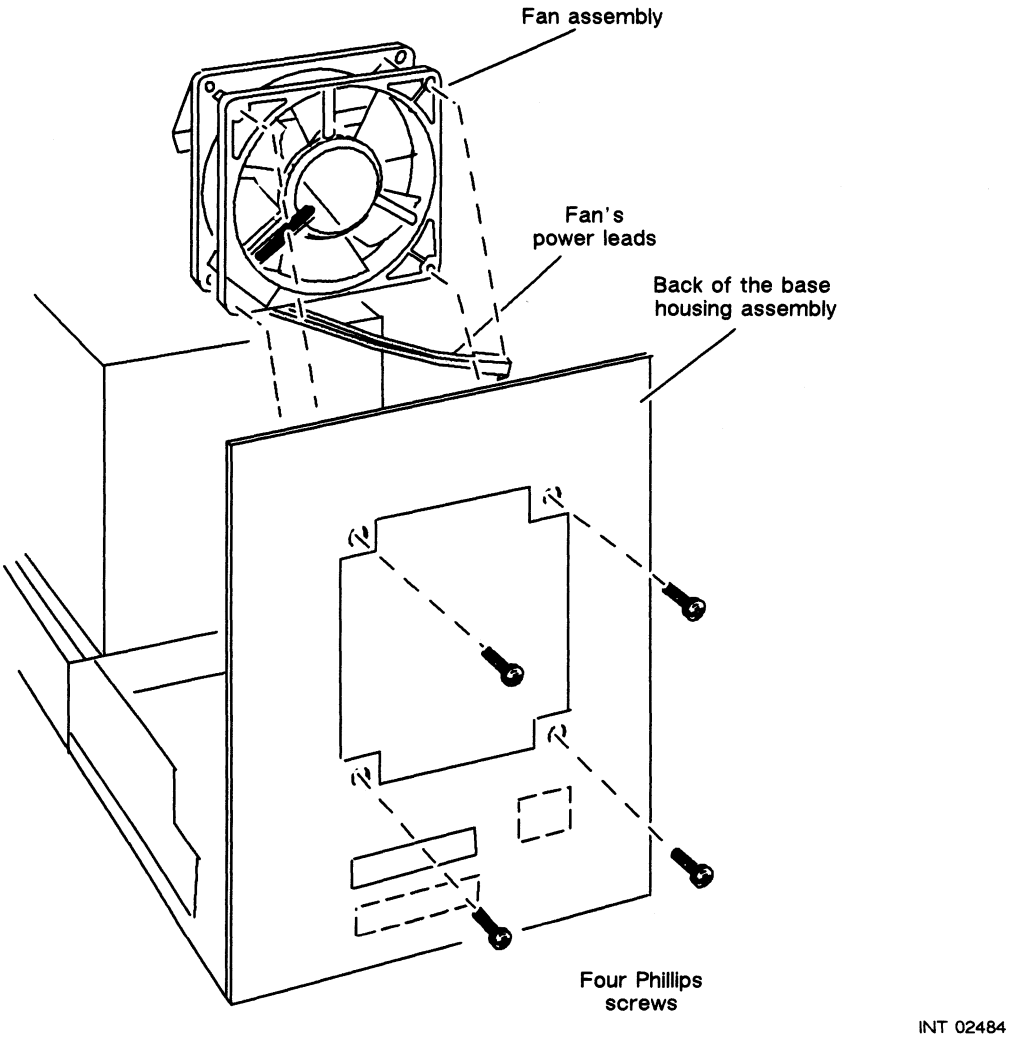


Figure 4–20 Attaching the Fan to the Back of the Subsystem

9. Plug the fan's power leads into the power supply. Refer to Figure 4–14 for the location of the connector for the fan's power leads.

10. Neatly position the internal power cable, the fan's power leads, and the internal SCSI bus cable so that they are not blocking the cooling fan.

11. Reinstall the cover by following the steps in Chapter 3. Then plug the power cord back into the ac power outlet and into the receptacle on the back of the PHU.

12. Power up the computer and PHU by following the instructions in the "Powering Up the PHU and Computer" section in Chapter 2.

End of Chapter

Appendix A
Technical Specifications

The following sections list the environmental, electrical, and mechanical specifications for the peripheral housing unit (PHU) only. For the environmental specifications of the mass-storage drives that install in the PHU, refer to the specific mass-storage drive manual.

PHU Environmental Specifications

Ambient Temperature	
Operating	+50°F to +100.4°F (+10°C to +38°C)
Non-operating	-40°F to +149°F (-40°C to +65°C)
Temperature Gradient (maximum)	
Operating	18°F (10°C)/h
Non-operating	45°F (25°C)/h
Relative Humidity	
Operating	20% to 80% (non-condensing) maximum wet-bulb limit 80°F (26.7°C)
Non-operating	10% to 90% (non-condensing)
Altitude Range	
Operating	-1000 ft to 8000 ft (-305 m to 2440 m)
Non-operating (storage and transit)	-1000 ft to 25000 ft (-305 m to 7620 m)
Shock	
Operating	3.0 G at 11 ms half sine in each axis (X-Y-Z) positive and negative, three shocks in each direction not to exceed 1/min
Packaged	ASTM drop test

PHU Electrical Specifications

100/120 V ac subsystem	
Input voltage range	90 V ac to 138 V ac
Current draw	3.8 A maximum
Line frequency	50/60 Hz
Power supply output	+5 V dc, +12 V dc, 125 W total
220/240 V ac subsystem	
Input voltage range	187 V ac to 276 V ac
Current draw	1.9 A maximum
Line frequency	50/60 Hz
Power supply output	+5 V dc, +12 V dc, 125 W total

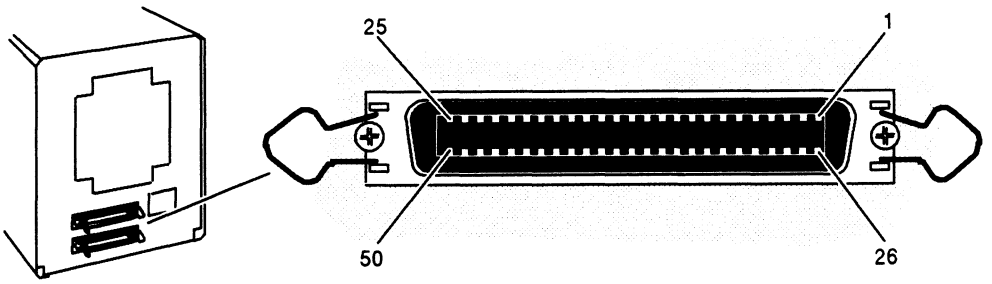
PHU Mechanical Specifications

Outside dimensions	12.75" L × 8.00" W × 10.00" H (32.39 cm × 20.32 cm × 25.40 cm)
Weight	16.75 lbs (7.6 kg)

End of Appendix

Appendix B
SCSI Bus Connector Signals

The peripheral housing unit (PHU) has two SCSI bus connectors at the back. Each is a 50-pin connector. The SCSI bus standard describes two types of pin assignments: one for devices that use single-ended drivers and another for devices that use differential drivers. Figure B-1 identifies the pin numbers on the SCSI bus connectors at the back of the PHU and lists the signals for the single-ended pin assignment, which are the signals currently used by the PHU.



Pin	Signal	Pin	Signal
26	DB0	41	ATN
27	DB1	43	BSY
28	DB2	44	ACK
29	DB3	45	RST
30	DB4	46	MSG
31	DB5	47	SEL
32	DB6	48	C/D
33	DB7	49	REQ
34	DBP	50	I/O
38	TERMPWR		

Note: Pin 13 is not used. The remaining pins connect to ground.

Figure B-1 Pin Numbers and Signals for the Two 50-Pin SCSI Bus Connectors on the Back of the PHU

End of Appendix

Index

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V

Documentation Set

This section lists the documents currently available for the hardware and software you might use with a Model 10565 Peripheral Housing Unit. These related manuals are grouped by product and listed alphabetically.

Some of the following manuals, sold separately, provide additional information. You can order manuals produced by Data General by completing a TIPS form. To order manuals produced by other companies, refer to the section "Other Organizations' Documents" for details.

Documentation for AViiON 300 Series Stations

This section lists the documents currently available for the AViiON 300 series stations. Those documents specifically referred to in the text of this manual are also listed in the "Related Manuals" section of the Preface.

Hardware Manuals

AViiON™ 300 and 400 Series Stations: Programming System Control and I/O Registers (014-001800)

Describes the workstation architecture and explains how to program the system control logic, monochrome and color graphics controller subsystems, keyboard port, mouse port, serial and parallel ports, LAN interface, and SCSI port.

Ethernet/IEEE 802.3 Local Area Network Installation Guide (014-000793)

Explains how to install both the coaxial cable plant of an Ethernet local area network (LAN) and the transceivers that connect the network to a node communication controller.

Maintaining AViiON™ 300 Series Stations (014-001803)

Explains how system administrators can replace components (mouse, keyboard, monitor, memory modules, system board assembly, power supply, SCSI bus fuse, and fan).

MC88100 User's Manual, Reduced Instruction Set Computer (RISC) (014-001809)

Describes the Motorola 88100 Central Processing Unit (CPU), including the registers, addressing modes, internal and bus timing, and assembly-language instruction set.

MC88200 User's Manual, Cache/Memory Management Unit (CMMU) (014-001808)

Describes the Motorola 88200 Cache/Memory Management Unit (CMMU), including the CMMU registers, the cache and cache coherency, memory management and user/supervisor space, the Processor bus (Pbus), and the Memory bus (Mbus).

Setting Up and Starting AViiON™ 300 Series Stations (014-001801)

Describes how to unpack and connect system components and optional devices. Explains how to power up the workstation, run diagnostics, and prepare for the operating system installation. Includes electrical and environmental specifications of the workstation, including the computer unit, monitor, keyboard, and mouse.

Using AViiON™ System Diagnostics (014-001863)

Describes how technical users can use menu-based utilities to verify system hardware, test terminal or graphics display, test the functionality of a graphics keyboard and mouse, check for faults in LAN connections, and maintain cartridge tape and diskette media on AViiON hardware models.

Using the AViiON™ System Control Monitor (SCM) (014-001802)

Describes how technical users can use the commands and menus of the firmware monitor program to bring up software, control their system environment, and debug programs.

Software Manuals

88open Binary Compatibility Standard (069-701043)

Describes the binary standards for developing portable 88K code using the C programming language.

Finding Your Way Around the DG/UX™ Documentation (069-701013)

Contains a task index that guides users to the appropriate DG/UX™ manual and chapter. Describes the manuals in the DG/UX documentation set and explains how to use manual (man) pages.

Installing and Managing the DG/UX™ System (093-701052)

Shows how to install and manage the DG/UX operating system on AViiON hosts that will run as stand-alone, server, or client systems. Intended for system administrators who are familiar with the UNIX operating system.

Installing the DG/UX™ System on an AViiON™ Workstation with a Hard Disk (069-000520)

Describes installing the DG/UX operating system on an AViiON workstation with a preloaded hard disk. Assumes that the workstation will operate in a stand-alone environment since the workstation is not connected to an Ethernet LAN and, therefore, does not require the installation of network software. Supports those who are unfamiliar with UNIX, and assumes no previous knowledge of the DG/UX system or UNIX. But does assume the reader has some familiarity with another operating system, such as MS-DOS®.

Other Organizations' Documents

The source of this documentation follows.

AIC-6250 High-Performance SCSI Protocol Chip

Describes the AIC-6250 SCSI controller and how to program it. This document is available from Adaptec, Inc.

AM7990 Local Area Network Controller (LANCE) Technical Manual

Describes the AM 7990 LAN controller and how to program it. This document is available from Advanced Micro Devices, Inc.

Brooktree® Product Databook

Contact Brooktree Corporation if you want to obtain this manual.

Local Area Controller Am7990 (LANCE) Technical Manual

Contact Advance Micro Devices if you want to obtain this manual.

Memory Products Databook

Describes the MK48T02B 2Kx8 Zeropower/Timekeeper RAM and how to program it. This document is available from SGS–Thompson Microelectronics.

Microprocessor Data Manual

Contact Signetics if you want to obtain this manual.

SCN2661 Enhanced Programmable Communications Interface (EPCI) Product Specification

Describes the SCN2661 DUART and how to program it. This document is available from Signetics, Inc.

SCC2692 Dual Asynchronous Receiver Transmitter (DUART) Product Specification

Describes the SCC2692 universal synchronous/asynchronous data communications controller and how to program it. This document is available from Signetics, Inc.

The VMEbus Specification (Motorola document number HB212)

Describes Motorola's Versa Modula Europa bus (VMEbus), and how to program using the VMEbus. This document is available from Motorola Corp.

μPD72120 Advanced Graphics Display Controller User's Manual

Describes the *μPD72120* graphics controller and how to program it. This document is available from NEC Electronics, Inc.

Z8536 CIO Counter/Timer and Parallel I/O Unit

Describes the Z8536 CIO and how to program it. This document is available from Zilog, Inc.

Documentation for AViiON 400 Series Stations

This section lists the documents currently available for the AViiON 400 series stations. Those documents specifically referred to in the text of this manual are also listed in the "Related Manuals" section of the Preface.

Hardware Manuals

AViiON™ 300 and 400 Series Stations: Programming System Control and I/O Registers (014-001800)

Describes the workstation architecture and explains how to program the system control logic, monochrome and color graphics controller subsystems, keyboard port, mouse port, serial and parallel ports, LAN interface, and SCSI port.

Expanding and Maintaining AViiON™ 400 Series Stations (014-001859)

Explains how system administrators can add or replace components (mouse, keyboard, monitor, drives, memory modules, system board assembly, CPU board, Z-buffer board, graphics board, power supply, fan assembly, and PROM).

Ethernet/IEEE 802.3 Local Area Network Installation Guide (014-000793)

Explains how to install both the coaxial cable plant of an Ethernet local area network (LAN) and the transceivers that connect the network to a node communication controller.

MC88100 User's Manual, Reduced Instruction Set Computer (RISC) (014-001809)

Describes the Motorola 88100 Central Processing Unit (CPU), including the registers, addressing modes, internal and bus timing, and assembly-language instruction set.

MC88200 User's Manual, Cache/Memory Management Unit (CMMU) (014-001808)

Describes the Motorola 88200 Cache/Memory Management Unit (CMMU), including the CMMU registers, the cache and cache coherency, memory management and user/supervisor space, the Processor bus (Pbus), and the Memory bus (Mbus).

Setting Up and Installing VMEbus Options in AViiON™ Systems (014-001867)

Describes how to jumper VME controllers to operate in an AViiON environment. Explains how to install and remove the controller boards in the system's VME card cage, and how to jumper the VME printed circuit backplane when necessary. Also supplies instructions for connecting external devices to the controller boards.

Setting Up and Starting AViiON™ 400 Series Stations (014-001858)

Describes how to unpack and connect system components and optional devices. Explains how to power up the workstation, run diagnostics, and prepare for the operating system installation. Includes electrical and environmental specifications of the workstation, including the computer unit, monitor, keyboard, and mouse.

Using AViiON™ System Diagnostics (014-001863)

Describes how technical users can use menu-based utilities to verify system hardware, test terminal or graphics display, test the functionality of a graphics keyboard and mouse, check for faults in LAN connections, and maintain cartridge tape and diskette media on AViiON hardware models.

Using the AViiON™ System Control Monitor (SCM) (014-001802)

Describes how technical users can use the commands and menus of the firmware monitor program to bring up software, control their system environment, and debug programs on AViiON hardware models.

Software Manuals

88open Binary Compatibility Standard (069-701043)

Describes the binary standards for developing portable 88K code using the C programming language.

Finding Your Way Around the DG/UX™ Documentation (069-701013)

Contains a task index that guides users to the appropriate DG/UX™ manual and chapter. Describes the manuals in the DG/UX documentation set and explains how to use manual (man) pages.

Installing and Managing the DG/UX™ System (093-701052)

Shows how to install and manage the DG/UX operating system on AViiON hosts that will run as stand-alone, server, or client systems. Intended for system administrators who are familiar with the UNIX operating system.

Installing the DG/UX™ System on an AViiON™ Workstation with a Hard Disk (069-000520)

Describes installing the DG/UX operating system on an AViiON workstation with a preloaded hard disk. Assumes that the workstation will operate in a stand-alone environment since the workstation is not connected to an Ethernet LAN and, therefore, does not require the installation of network software. Supports those who are unfamiliar with UNIX, and assumes no previous knowledge of the DG/UX system or UNIX. But does assume the reader has some familiarity with another operating system, such as MS-DOS®.

Other Organizations' Documents

The source of this documentation follows.

AIC-6250 High-Performance SCSI Protocol Chip

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AM7990 Local Area Network Controller (LANCE) Technical Manual

Describes the AM 7990 LAN controller and how to program it. This document is available from Advanced Micro Devices, Inc.

Brooktree® Product Databook

Contact Brooktree Corporation if you want to obtain this manual.

Local Area Controller Am7990 (LANCE) Technical Manual

Contact Advance Micro Devices if you want to obtain this manual.

Memory Products Databook

Contact SGS-Thompson Microelectronics if you want to obtain this manual.

Microprocessor Data Manual

Contact Signetics if you want to obtain this manual.

The VMEbus Specification (Motorola document number HB212)

Describes Motorola's Versa Modula Europa bus (VMEbus), and how to program using the VMEbus. This document is available from Motorola Corp.

uPD72120 Advanced Graphics Display Controller User's Manual

Contact NEC Inc. if you want to obtain this manual.

Z8536 Z-CIO/Z8536 CIO Counter/Timer and Parallel I/O Unit

Contact Zilog, Inc. if you want to obtain this manual.

Documentation for AViiON 5000 and 6000 Series Stations

This section lists the documents currently available for the AViiON 5000 and 6000 series systems. Those documents specifically referred to in the text of this manual are also listed in the "Related Manuals" section of the Preface.

Hardware Manuals

AViiON™ 5000 and 6000 Series Systems: Programming System Control and I/O Registers (014-001805)

Describes the system board architecture, including the CPU, memory, registers, I/O, address decode, and bus arbitration. Discusses how to program the system board registers for addressing, interrupts, I/O, and system board control and status.

Expanding the AViiON™ 5000 Series System (014-001850)

Explains how to open and close the computer, plan a configuration, and install add-on boards. Includes a description of the computer subassemblies.

Ethernet/IEEE 802.3 Local Area Network Installation Guide (014-000793)

Explains how to install both the coaxial cable plant of an Ethernet local area network (LAN) and the transceivers that connect the network to a node communication controller.

HPS Application Installation Manual (069-000348)

Contains information about transferring software to Data General VAC/16 and VDA/128 host adapters.

HPS Cluster Controller Download Package User Manual (069-000361)

Contains information about transferring code from the host computer to HPS cluster controllers.

HPS Diagnostic Application User Manual (069-000349)

Contains information about the interface provided by the Diagnostic Application software for the host system.

HPS Downloadable Cluster Controller Technical Manual (014-001813)

Contains information about installing, programming, and operating the HPS Downloadable Cluster Controller hardware.

HPS Downloadable Cluster Controller Installation Guide (014-001814)

Describes how to install the HPS Downloadable Cluster Controller hardware.

HPS Terminal Control Software, Version 03A User's Manual (069-000347)

Contains information about the interface provided by the Terminal Controller software for the host system. This interface allows access to the asynchronous communication channels of Data General's VAC/16 controller and the VDA/128 host adapter board with its cluster controllers.

HPS VMEbus Host Adapters Technical Manual (014-001815)

Contains information about installing, programing, and operating the HPS VMEbus Host Adapter hardware.

HPS VMEbus Multiplexor (HPS-6236/6237) Technical Manual (014-001817)

Contains information about installing and operating the HPS VMEbus Multiplexor hardware.

MC88100 User's Manual, Reduced Instruction Set Computer (RISC) (014-001809)

Describes the Motorola 88100 Central Processing Unit (CPU), including the registers, addressing modes, internal and bus timing, and assembly-language instruction set.

MC88200 User's Manual, Cache/Memory Management Unit (CMMU) (014-001808)

Describes the Motorola 88200 Cache/Memory Management Unit (CMMU), including the CMMU registers, the cache and cache coherency, memory management and user/supervisor space, the Processor bus (Pbus), and the Memory bus (Mbus).

Setting Up and Starting AViiON™ 5000 Series Systems (014-001806)

Describes how to connect and configure system components and optional devices. Explains how to power up the AViiON 5000 series system, run diagnostics, and prepare for the operating system installation. Includes electrical, technical and environmental specifications for the computer unit.

Starting AViiON™ 6000 Series Systems (014-001819)

Describes the basic AViiON 6000 series computer system, hardware components, and maximum configurations. Explains how to power up the computer unit and respond to common power-up problems. Includes electrical, technical and environmental specifications for the computer unit.

Using the AViiON™ System Control Monitor (SCM) (014-001802)

Describes how technical users can use the commands and menus of the firmware monitor program to bring up software, control their system environment, and debug programs.

Using AViiON™ System Diagnostics (014-001863)

Describes how to use menu-based utilities to verify system hardware, test terminal or graphics display, test the functionality of a graphics keyboard and mouse, check for faults in LAN connections, and maintain cartridge tape and diskette media on AViiON hardware models.

V/Ethernet 3207 Hawk Local Area Network Controller for Ethernet User's Guide (014-001818)

Contains information about programming and installing the V/Ethernet 3207 Hawk Local Area Network Controller.

VMEbus Data Communications Processor (DCP-8820) Technical Manual (014-001816)

Contains information about installing the VMEbus Data Communications Processor.

Software Manuals

88open Binary Compatibility Standard (069-701043)

Describes the binary standards for developing portable 88K code using the C programming language.

Finding Your Way Around the DG/UX™ Documentation (069-701013)

Contains a task index that guides users to the appropriate DG/UX™ manual and chapter. Describes the manuals in the DG/UX documentation set and explains how to use manual (man) pages.

Installing and Managing the DG/UX™ System (093-701052)

Shows how to install and manage the DG/UX operating system on AViiON hosts that will run as stand-alone, server, or client systems. Intended for system administrators who are familar with the UNIX operating system.

Other Organizations' Documents

The source of this documentation follows.

Memory Products Databook

Describes the MK48T02B 2Kx8 Zeropower/Timekeeper RAM and how to program it. This document is available from SGS-Thompson Microelectronics.

SCN2681 Dual Asynchronous Receiver Transmitter (DUART) Product Specification

Describes the SCN2681 DUART and how to program it. This document is available from Signetics, Inc.

The VMEbus Specification (Motorola document number HB212)

Describes Motorola's Versa Modula Europa bus (VMEbus), and how to program using the VMEbus. This document is available from Motorola Corp.

Z8536 CIO Counter/Timer and Parallel I/O Unit

Describes the Z8536 CIO and how to program it. This document is available from Zilog, Inc.

Documentation for AOS/VS and AOS/VS II

This section lists the documents currently available for AOS/VS and AOS/VS II. Those documents specifically referred to in the text of this manual are also listed in the "Related Manuals" section of the Preface.

For Users

Learning to Use Your AOS/VS System (069-000031)

A primer for all users, this manual introduces AOS/VS (but the material applies to AOS/VS II) through interactive sessions with the CLI, the SED and SPEED text editors, programming languages, Assembler, and the Sort/Merge utility. *Using the CLI (AOS and AOS/VS)* is a good follow-up.

Using the CLI (AOS and AOS/VS) (093-000646)

For all users, this manual explains the AOS/VS and AOS/VS II file and directory structure and how to use the CLI, a command line interpreter, as the interface to the operating system. This manual explains how to use the CLI macro facility, and includes a dictionary of CLI commands and pseudomacros.

Using the AOS/VS System Management Interface (SMI) (069-000203)
Using the AOS/VS II System Management Interface (SMI) (069-000311)

For those working with preinstalled systems and those on regular systems who want an alternative to the CLI, the SMI is an easy-to-use, menu-driven program that helps you with system management functions and some file maintenance tasks.

AOS/VS and AOS/VS II Glossary (069-000231)

For all users, this manual defines important terms used in AOS/VS and AOS/VS II manuals, both regular and preinstalled.

OIS CONNECTION User's Guide (014-001426)

Using this manual, all users in North America can use the OIS CONNECTION software, a communications product that lets users access the On-line Information System from the CLI or CEO. Templates are *OIS CONNECTION* template (D200-SERIES) (093-000603) and *OIS CONNECTION* template (D210-series) (093-000604).

SED Text Editor User's Manual (AOS and AOS/VS) (093-000249)

For all users, this manual explains how to use SED, an easy-to-use screen-oriented text editor that lets you program function keys to make repetitive tasks easier. The *SED Text Editor* template (093-000361) accompanies this manual.

For System Managers and Operators

Starting and Updating Preinstalled AOS/VS (069-000293)
Starting and Updating Preinstalled AOS/VS II (069-000294)

For those working with preinstalled (as opposed to regular) systems, these manuals explain how to start, update, and change certain system parameters on systems that come with AOS/VS or AOS/VS II preinstalled and with the System Management Interface (SMI) enabled. The manuals help interpret power-up errors. *Using the AOS/VS System Management Interface* and *Using the AOS/VS II System Management Interface* are companion manuals.

Information Update: Starting Your ECLIPSE MV/1000 DC (014-001728)

Updates *Starting and Updating Preinstalled AOS/VS* and *Starting and Updating Preinstalled AOS/VS II.*

Installing, Starting, and Stopping AOS/VS (093-000675)
Installing, Starting, and Stopping AOS/VS II (093-000539)

For system managers and operators of regular (as opposed to preinstalled) systems, these manuals explain the steps necessary to format disks, install a tailored operating system, create the multiuser environment, update the system or microcode, and routinely start up and shut down the system. *AOS/VS and AOS/VS II Error and Status Messages* and *Managing AOS/VS and AOS/VS II* are companions to these manuals.

AOS/VS and AOS/VS II Menu-Based Utilities (093-000650)

A template. A number of system management programs, such as Disk Jockey, VSGEN, and the SMI, use the function keys indicated on this template.

AOS/VS and AOS/VS II Error and Status Messages (093-000540)

For all users, but especially for system managers and operators of regular systems, this manual lists error and status messages, their source and meaning, and appropriate responses. This manual complements *Installing, Starting, and Stopping AOS/VS, Installing, Starting, and Stopping AOS/VS II,* and *Managing AOS/VS and AOS/VS II.*

Managing AOS/VS and AOS/VS II (093-000541)

For system managers and operators, this manual explains managing an AOS/VS or AOS/VS II system. Programmers will also find material of interest to them. Managing tasks include such topics as editing user profiles, backing up and restoring files, using runtime tools, and so forth. Separate supplements describe the EXEC program, which manages the multiuser environment. This manual complements the "Installing" manuals, whether for regular or preinstalled systems.

Supplement I to Managing AOS/VS and AOS/VS II (093-000714)

For system managers and operators of regular (as opposed to preinstalled) AOS/VS II systems, this supplement describes the new EXEC program that manages the multiuser environment. Insert this supplement as Chapter 3 in the manual *Managing AOS/VS and AOS/VS II.*

Supplement II to Managing AOS/VS and AOS/VS II (093-000715)

For system managers and operators of regular (as opposed to preinstalled) AOS/VS systems, this supplement describes the EXEC program that manages the multiuser environment. Insert this supplement as Chapter 3 in the manual *Managing AOS/VS and AOS/VS II.*

For Programmers

SPEED Text Editor (AOS and AOS/VS) User's Manual (093-000197)

For programmers, this manual explains how to use SPEED, a powerful (but unforgiving) character-oriented text editor.

AOS/VS Macroassembler (MASM) Reference Manual (093-000242)

For assembly language programmers, this reference manual describes the use and operation of the MASM utility, which works under AOS/VS and AOS/VS II.

AOS/VS Link and Library File Editor (LFE) User's Manual (093-000245)

For AOS/VS and AOS/VS II programmers, this manual describes the Link utility, which builds executable program files from object modules and library files, and which can also be used to create programs to run under the AOS, MP/AOS, RDOS, RTOS, or DG/UX™ operating systems. This manual also describes the Library File Editor utility, LFE, for creating, editing, and analyzing library files; and the utilities CONVERT and MKABS, for manipulating RDOS and RTOS files.

AOS/VS Debugger and File Editor User's Manual (093-000246)

For assembly language programmers, this manual describes using the AOS/VS and AOS/VS II debugger for examining program files, and the file editor FED for examining and modifying locations in any kind of disk file, including program and text files. The *AOS/VS Debug/FED* template (093-000396) accompanies this manual.

AOS/VS System Concepts (093-000335)

For system programmers and application programmers who write assembly-language subroutines, this manual explains basic AOS/VS system concepts, most of which apply to AOS/VS II as well. This manual complements both volumes of the *AOS/VS, AOS/VS II, and AOS/RT32 System Call Dictionary.*

AOS/VS, AOS/VS II, and AOS/RT32 System Call Dictionary, ?A through ?M (093-000542)
AOS/VS, AOS/VS II, and AOS/RT32 System Call Dictionary, ?N through ?Z (093-000543)

For system programmers and application programmers who want to use system calls, this two-volume manual provides detailed information about system calls, including their use, syntax, accumulator input and output values, parameter packets, and error codes. *AOS/VS System Concepts* is a companion manual.

Other Related Documents

AOS/VS and AOS/VS II Performance Package User's Manual (093-000364)

For system managers, this manual explains how to use the AOS/VS and AOS/VS II Performance Package (Model 30718), a separate product that is useful for analyzing and perhaps improving the performance of AOS/VS and AOS/VS II systems.

Backing Up and Restoring Files With DUMP_3/LOAD_3 (093-000561)

For system managers, operators, and experienced users, this manual explains how to use the DUMP_3/LOAD_3 product, separately available, which provides backup and enhanced restoration functions, including precise indexing of files on a backup tape set.

Configuring Your Network with XTS (093-00689)

Describes how to manage and operate Data General's XODIAC™ Transport Service (XTS) under AOS/VS. Intended for network administrators, managers, or operators responsible for designing, configuring, or maintaining a network management system.

Installing and Administering DG TCP/IP (093-701027)

For network managers and operators, explains how to install and manage a TCP/IP network under AOS/VS.

Managing AOS/VS II ONC™/NFS® Services (093-000667)

For network managers and operators, explains how to install and manage a TCP/IP network under AOS/VS II.

Managing AOS/VS II TCP/IP (093-000704)

For network managers and operators, explains how to install and manage a TCP/IP network under AOS/VS II.

Managing and Operating the XODIAC™ Network Management System (093-000260)

For network managers and operators, describes how to install and manage the Data General proprietary network software.

Managing XTS II with DG/OpenNMS (093-000698)

Explains how to use DG/OpenNMS to manage the XTS II transport service for large communications networks. Identifies the XTS components and explains how to use the NMI menus and screens to manage the XTS subsystems and the Message Transport Agent (MTA).

Managing Your Network with DG/OpenNMS (093-000486)

Describes how to use the Data General/Open Network Management System (DG/OpenNMS) software. Explains how to load the software, create the DG/OpenNMS environment, and use the Network Management Interface (NMI) to manage the network. Intended for network managers, administrators, and operators.

Managing Your XODIAC™ Network with DG/ONMS (093-000625)

Explains how to manage XTS II, MTA, and the XODIAC agents (FTA, RMA, and SVTA) with DG/OpenNMS.

Using CLASP (Class Assignment and Scheduling Package) (093-000422)

For system managers, this manual explains how to use the AOS/VS and AOS/VS II Class Assignment and Scheduling Package (Model 31134), a separate product that is useful for tailoring process scheduling to the needs of a specific site.

Using the Dump Tool (093-000519)

For experienced system programmers and operating system experts, this manual explains how to use the Dump Tool to find and display the values of locations in memory dump and break files.

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