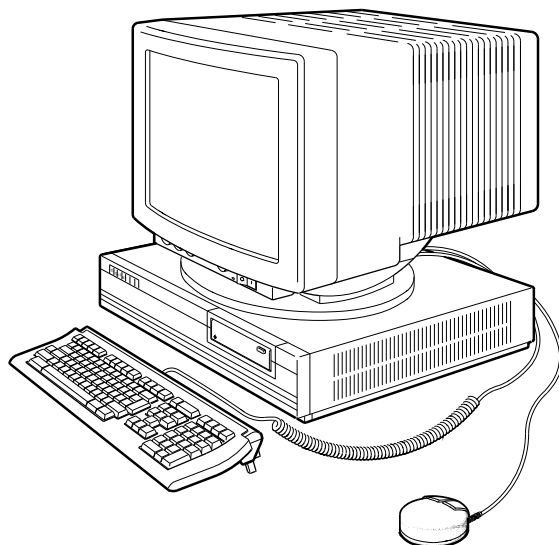




TEOV005

## **DECstation 5000 Model 100 Series Hardware Installation Guide**

EK-PM32B-IN-003

## Parts of the Basic Workstation

The basic workstation includes the following items:



Gray-scale video cable assembly

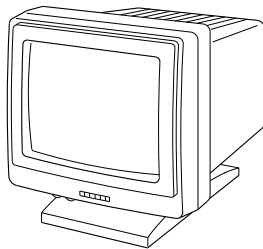


Color video cable assembly

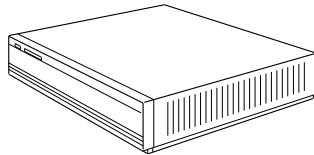


Monochrome video cable assembly

One of these three video cable assemblies



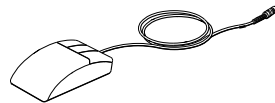
Monitor



System unit



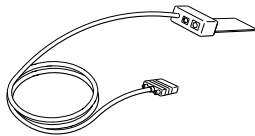
Keyboard with cable  
(Keyboard ordered may  
vary from the one shown)



Mouse with cable



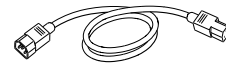
System-unit-to-expansion-box cable



Keyboard-mouse cable assembly



Communication  
connector adapter



Monitor-to-system-unit  
power cable



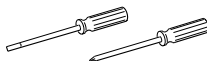
Antistatic wrist strap



SCSI terminator



System unit power cord



Screwdrivers



ThickWire Ethernet  
loopback connector



Monitor power cord  
(This may need to be ordered separately.)

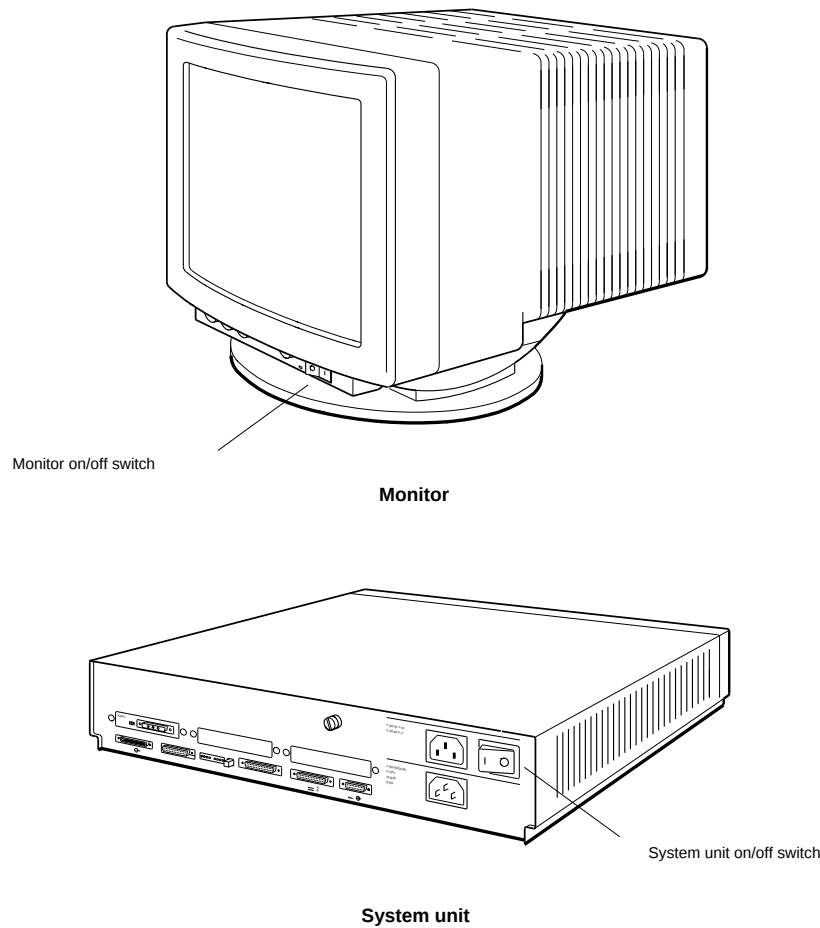
WS331105

## Set up your system unit and monitor.

**Caution:** *It takes two people to unpack the monitor and system unit safely.*

*Placing the system unit on its side blocks air vents and causes the unit to overheat.*

*Placing the monitor near electromagnetic devices, such as printers or electric pencil sharpeners, or near iron or steel objects, such as filing cabinets or beams in walls, can interfere with its performance.*

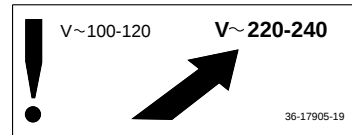


WS331038

1. Check voltage requirements.

The voltage for many devices, including most monitors, must match that of your power source. Where necessary, a yellow voltage label that covers the power connector on your device tells the voltage requirements for that device.

**Caution:** *Connecting a device to a power source that does not meet the voltage requirements of that device can damage the device.*



WS33I093

2. Be sure the on/off switches on the system unit and monitor are in the off position.



Press the 0 on this type of switch.



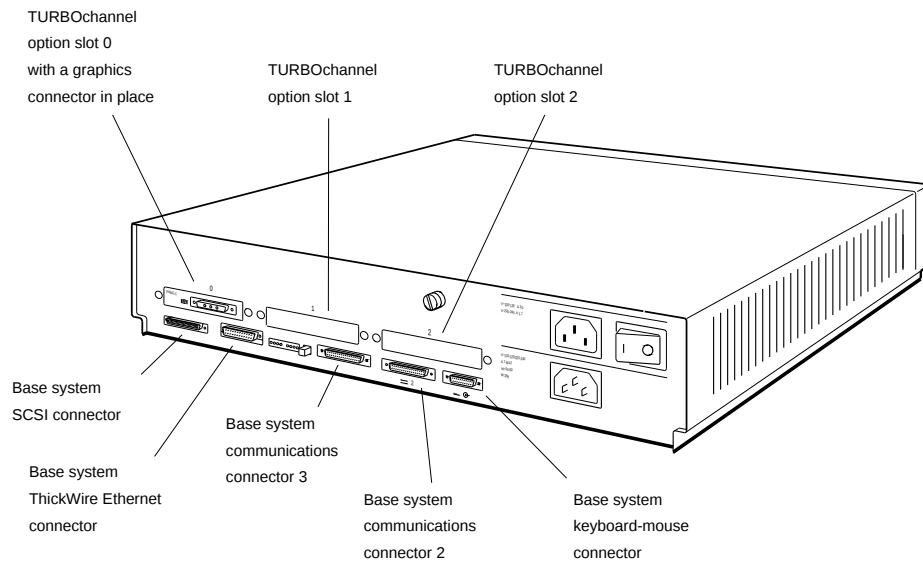
Press and release this type of switch.



Press and release this type of switch until it is in the out position.

WS33I073

3. Locate the five base system connectors and the three TURBOchannel option slots on the back of the system unit.



WS331071

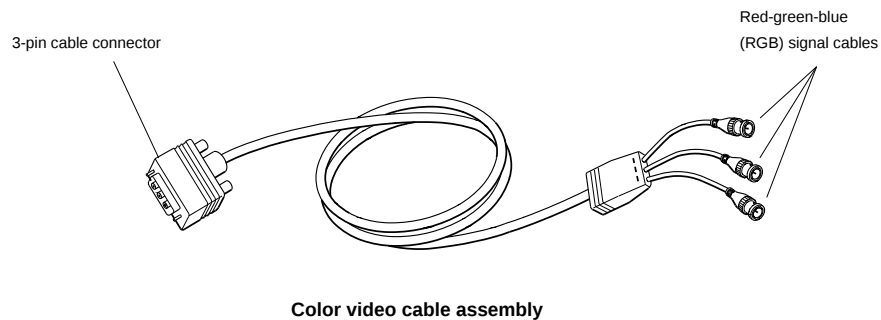
### **Install any option modules inside the system box.**

Most workstations come with internal options installed at the factory. If you have internal options to install, see Chapter 5 of the *DECstation 5000 Model 100 Series Hardware Operator's Guide* for instructions on opening the system unit.

## Connect the monitor to the system unit.

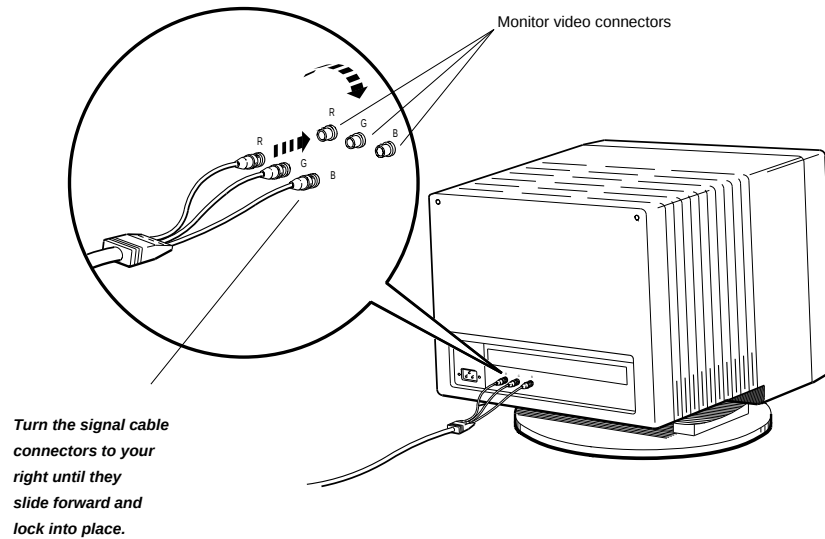
For more detailed instructions on connecting a color, gray-scale, or monochrome monitor, see Chapter 2 of the *DECstation 5000 Model 100 Series Hardware Operator's Guide*. After connecting the monitor, place it to the side of your system unit to leave your system unit more accessible in case you have to change SCSI IDs or you have a problem with a TURBOchannel option slot.

**To connect a color monitor, use the color video cable assembly that came with your shipment.**



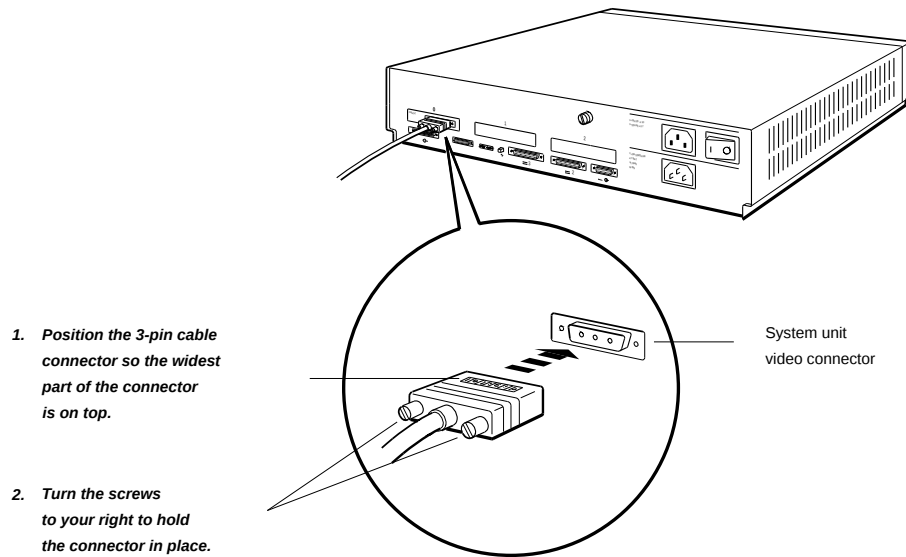
WS331036

1. Connect the red-green-blue (RGB) signal cables to the three small round video connectors on the monitor. If your monitor has two sets of these connectors, use the bottom set, labeled VIDEO IN.



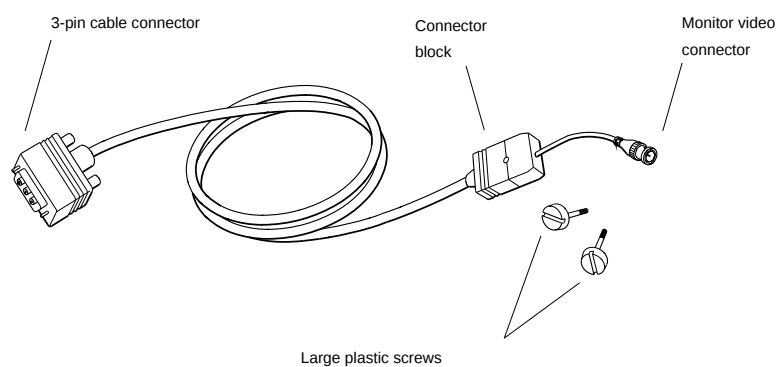
WS331033

2. Connect the 3-pin connector to the system unit video connector.



WS331034

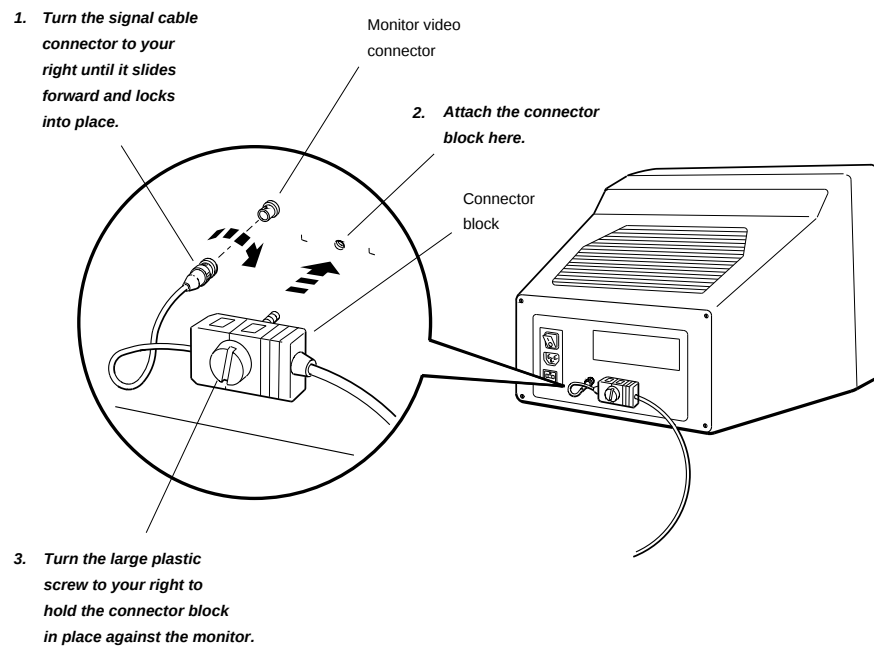
**To connect a gray-scale monitor, use the gray-scale cable assembly that came with your shipment.**



**Gray-scale video cable assembly**

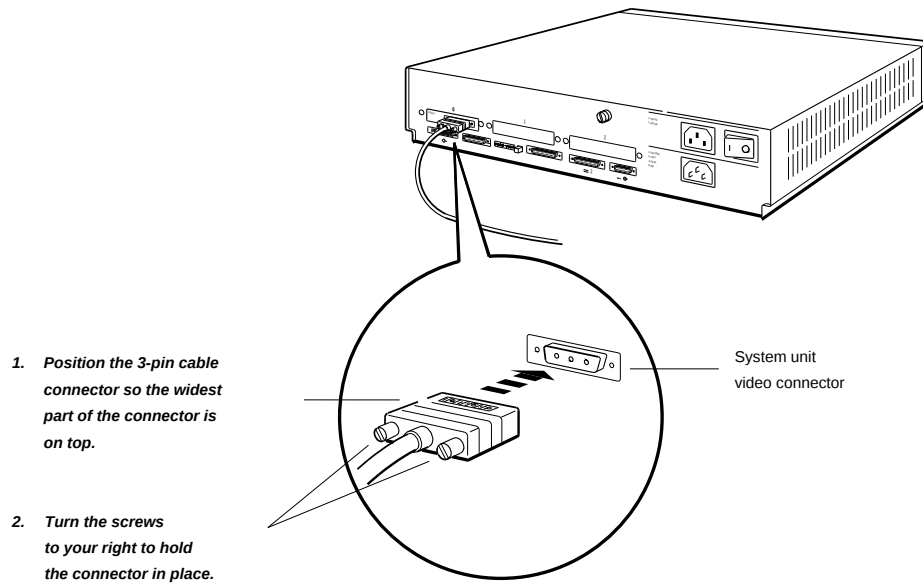
WS331037

1. Attach the round signal cable connector to the monitor.
2. Attach the connector block to the back of the monitor.



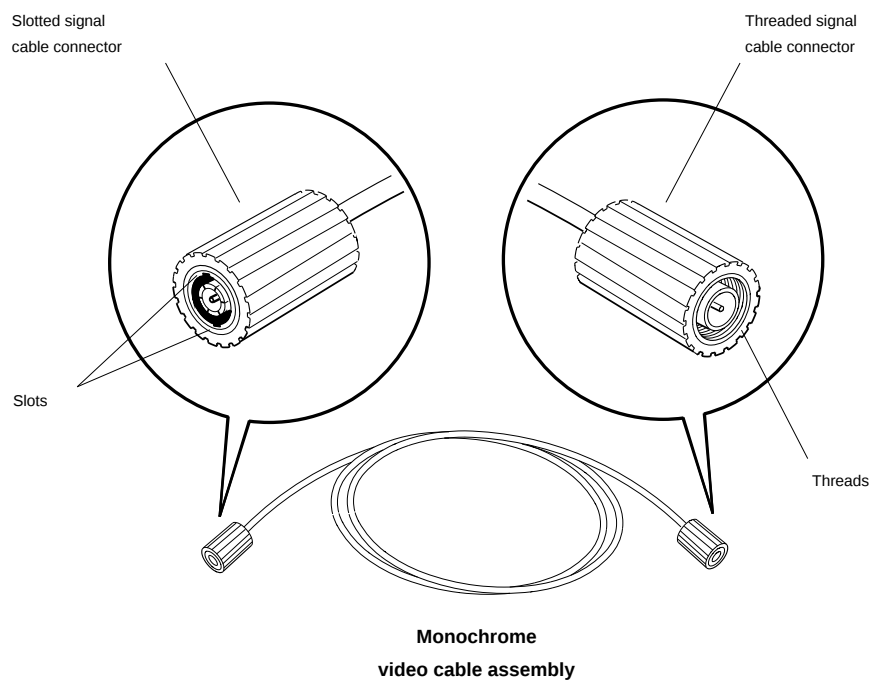
WS331031

3. Attach the 3-pin cable connector to the video connector on the system unit.



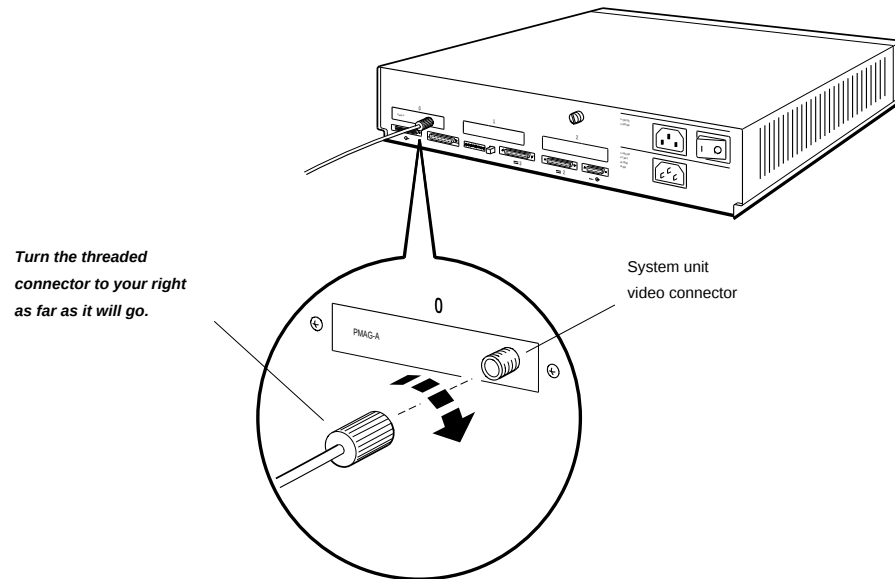
WS331032

**To connect a monochrome monitor, use the monochrome video cable assembly that came with your shipment.**



WS331035

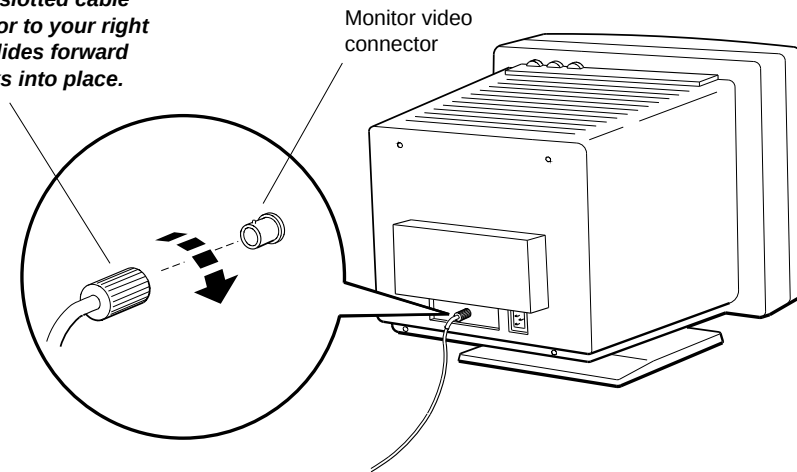
1. Attach the threaded signal cable connector to the system unit video connector.



WS331030

2. Attach the slotted signal cable connector to the monitor video connector.

*Press the slotted cable connector onto the monitor connector and turn the slotted cable connector to your right until it slides forward and locks into place.*

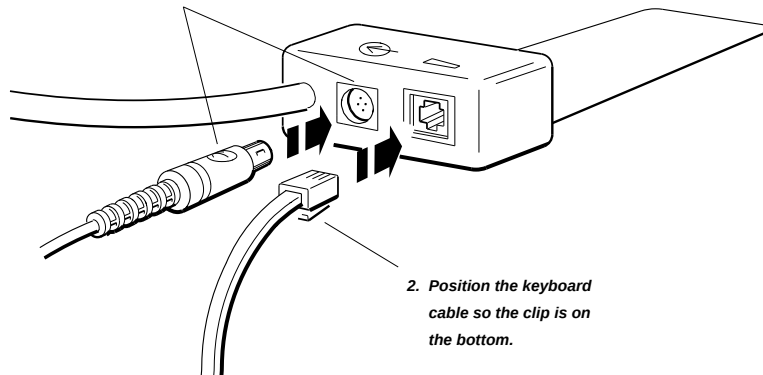


WS33I029

## Connect the keyboard and the mouse or tablet to the system unit.

1. Insert the mouse cable connector and the keyboard cable connector into the connector block of the keyboard-mouse cable assembly.

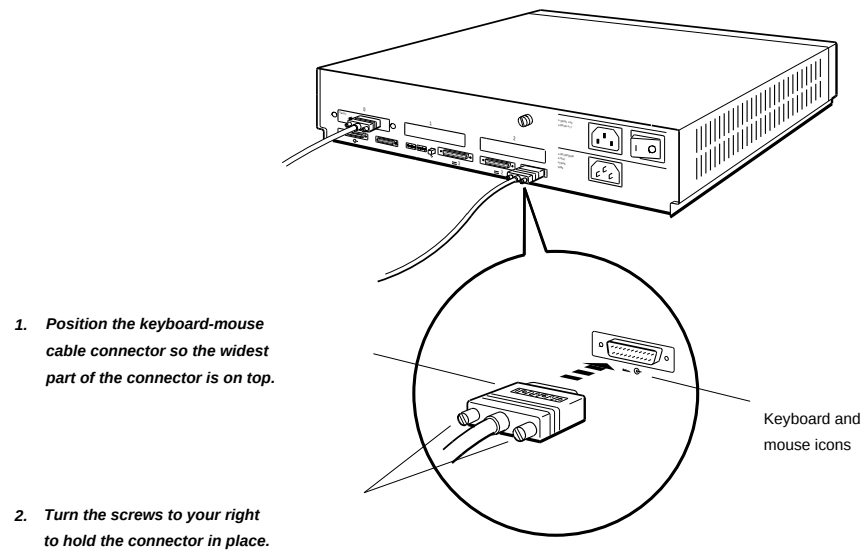
*1. Position the mouse cable connector so the icon on it is under the mouse icon on the connector block.*



*2. Position the keyboard cable so the clip is on the bottom.*

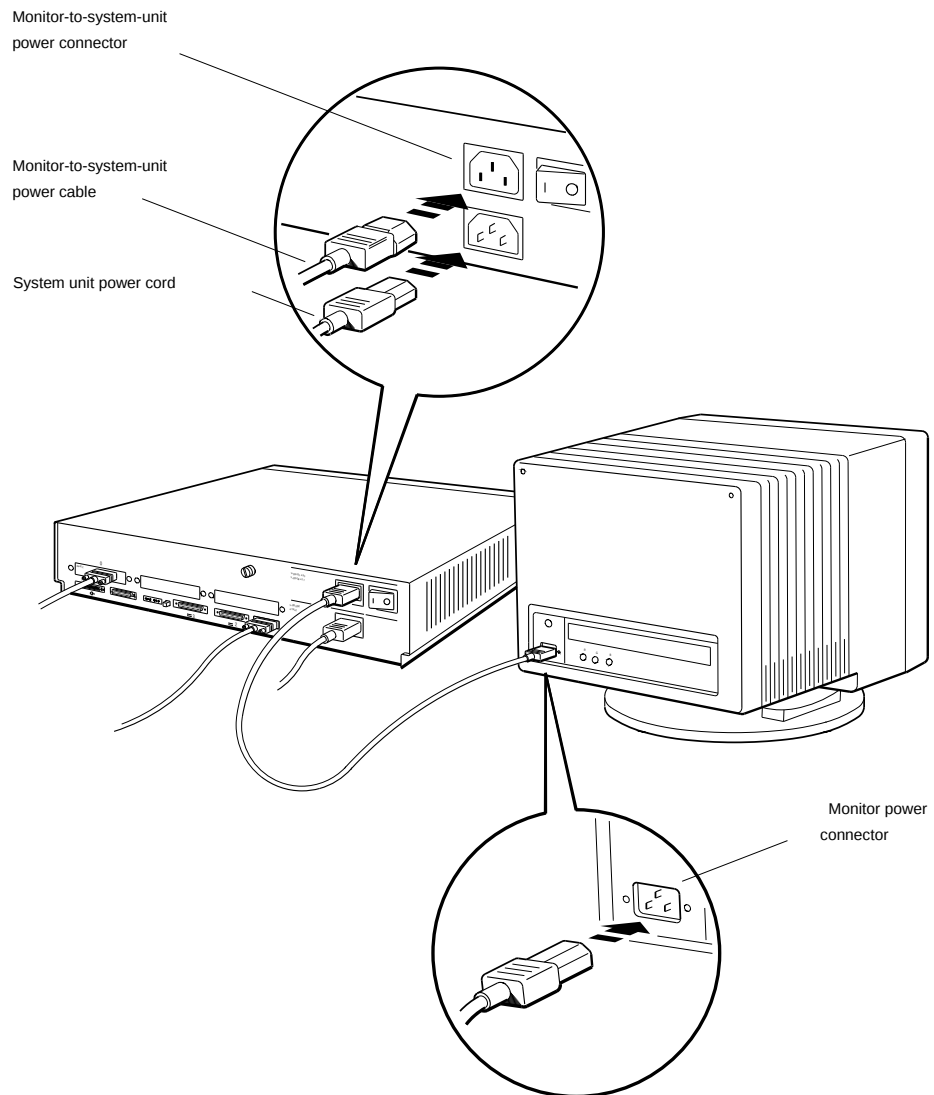
WS331043

2. Plug the keyboard-mouse cable assembly connector into the keyboard-mouse connector on the system unit.



WS331042

**Connect the power cord to the system unit and monitor.**



WS331045

## Connect the Ethernet network cables to the system unit.

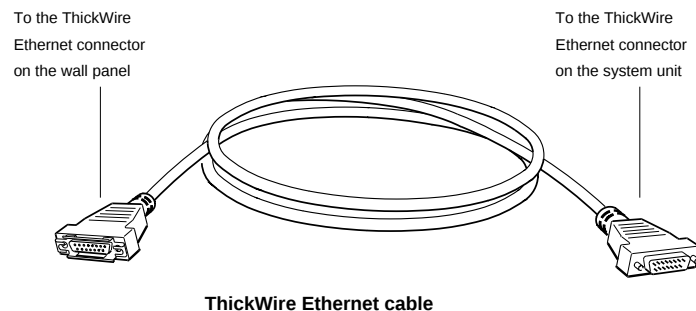
The workstation comes with a base system ThickWire Ethernet connector in place in the system unit, as well as any additional ThickWire connectors you ordered for TURBOchannel option slots 0, 1, or 2.

If you are connecting a ThinWire Ethernet cable, turn to page 20 for instructions.

If you are connecting a twisted-pair Ethernet cable, turn to page 26 for instructions.

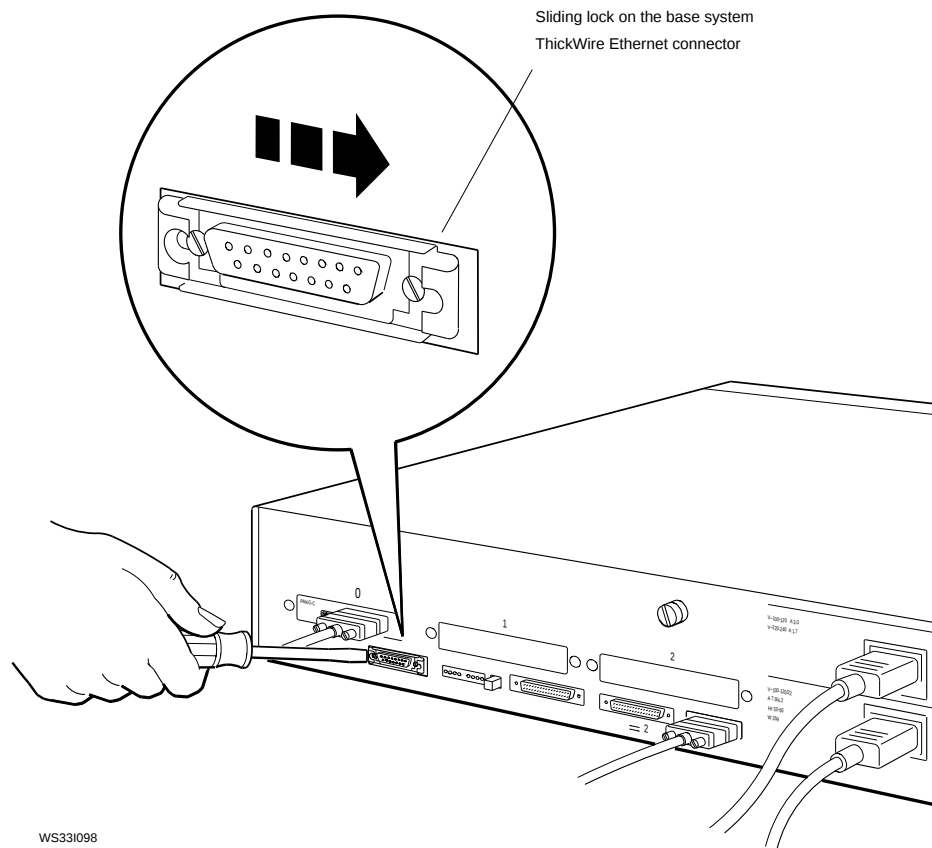
If you are using the workstation as a standalone system, turn to page 29 for instructions.

**To connect a ThickWire Ethernet cable, use the ThickWire cable that came with your shipment.**

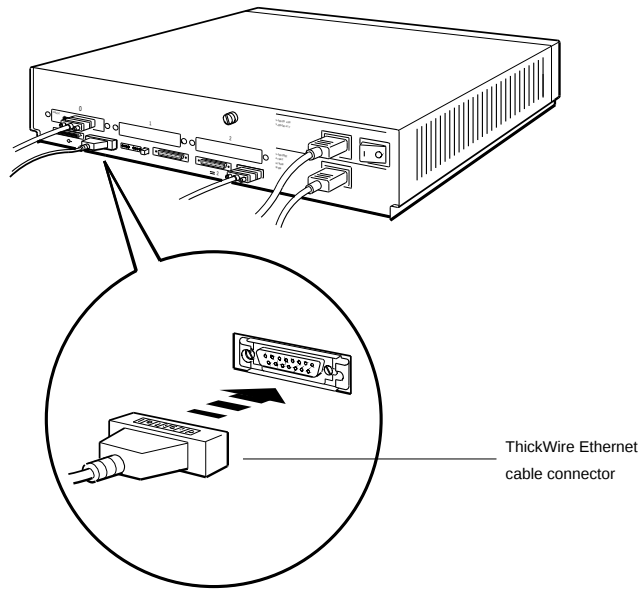


WS331039

1. Use a simple tool, such as a flat-blade screwdriver, to slide the lock on the base system ThickWire Ethernet connector to the right.

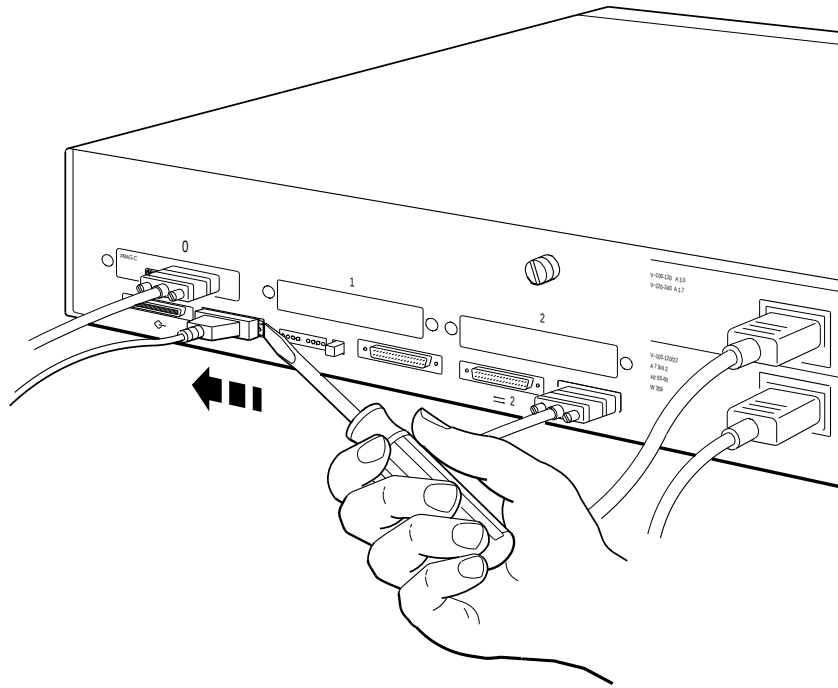


2. Hold the ThickWire Ethernet cable connector so that the widest part is on top and push the connector directly into the base system ThickWire connector.



WS331099

3. Slide the lock on the base system ThickWire Ethernet connector to the left.



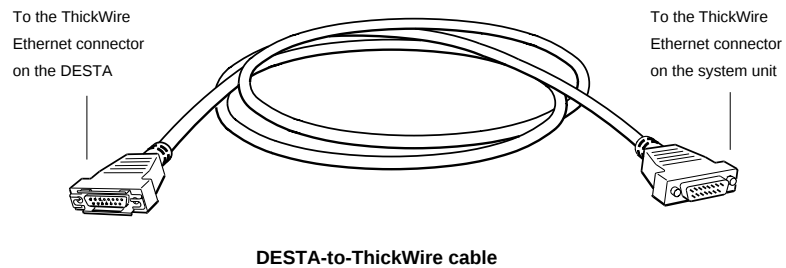
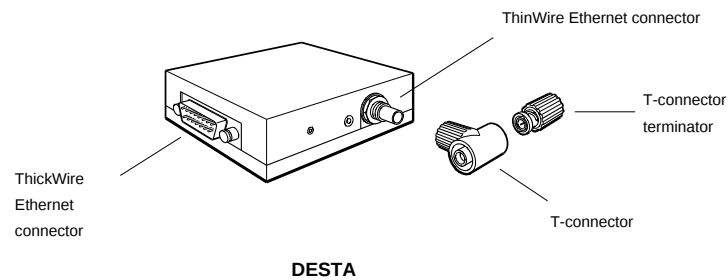
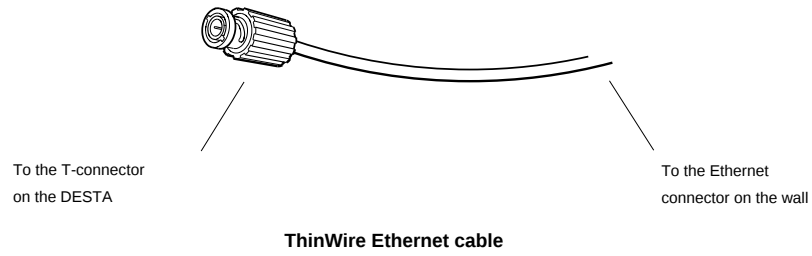
WS331100

4. Connect the other end of the ThickWire Ethernet cable to the Ethernet cable coming from the wall.

After you test the workstation, see “Test the Workstation.”, starting on page 48, you must find the Ethernet station address of your workstation, give the address to your system manager, and ask the manager to complete the network connection.

For instructions on finding the Ethernet station address, see “To install the worksystem software from a network”, on page 55.

To connect a ThinWire Ethernet cable, use the ThinWire cable and the ThinWire-to-ThickWire adapter (DESTA) that you ordered as an option for your workstation.

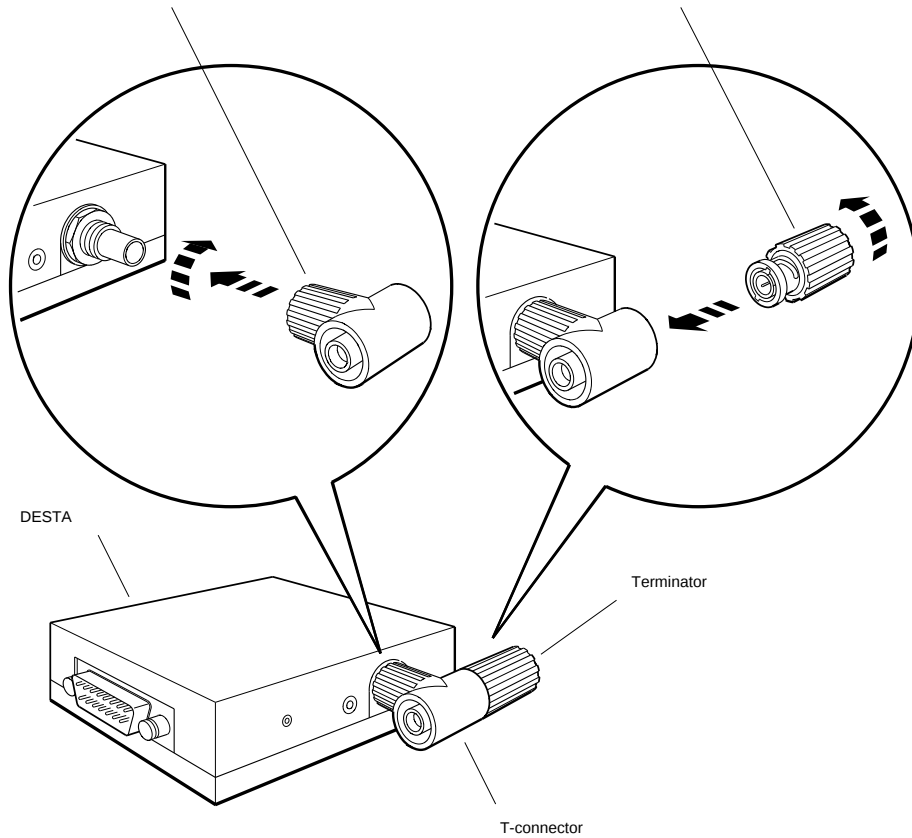


WS331078

1. Attach the T-connector to the ThinWire Ethernet connector on the DESTA and then attach the T-connector terminator to the T-connector.

1. Press the T-connector onto the DESTA and turn the connector to the right until it slides forward and locks into place.

2. Press the T-connector terminator into the T-connector and turn the terminator to the right until it slides forward and locks into place.

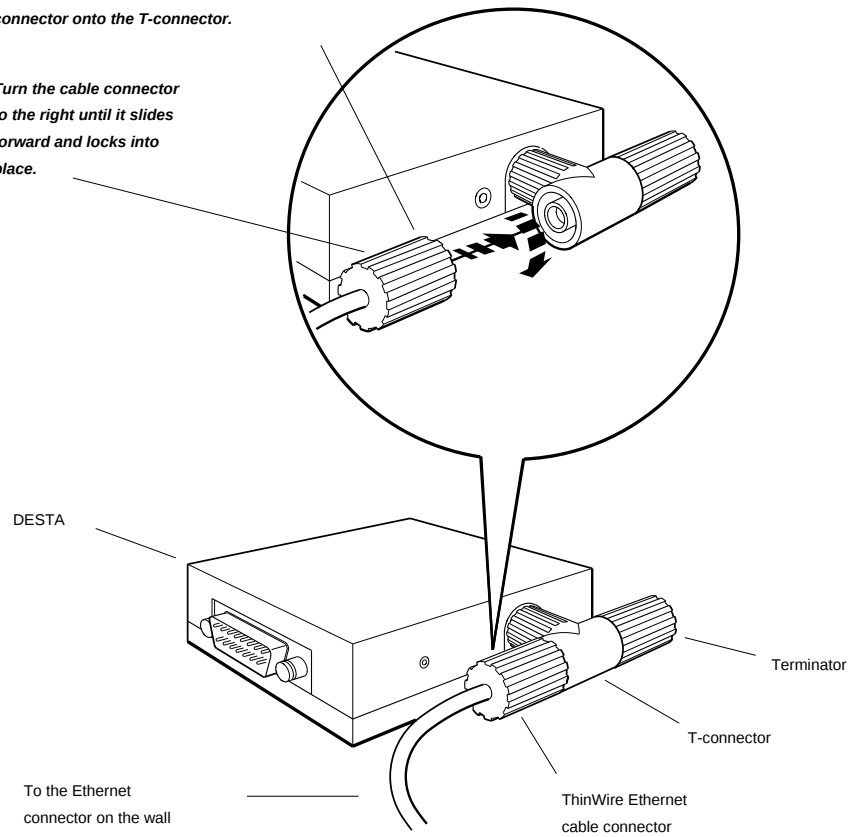


WS331079

2. Attach the ThinWire Ethernet cable connector to the T-connector on the DESTA.

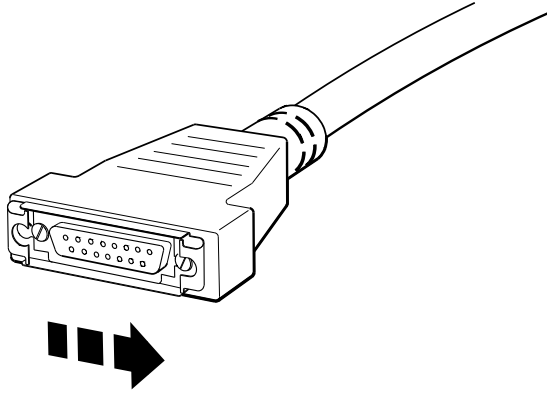
1. Press the ThinWire cable connector onto the T-connector.

2. Turn the cable connector to the right until it slides forward and locks into place.



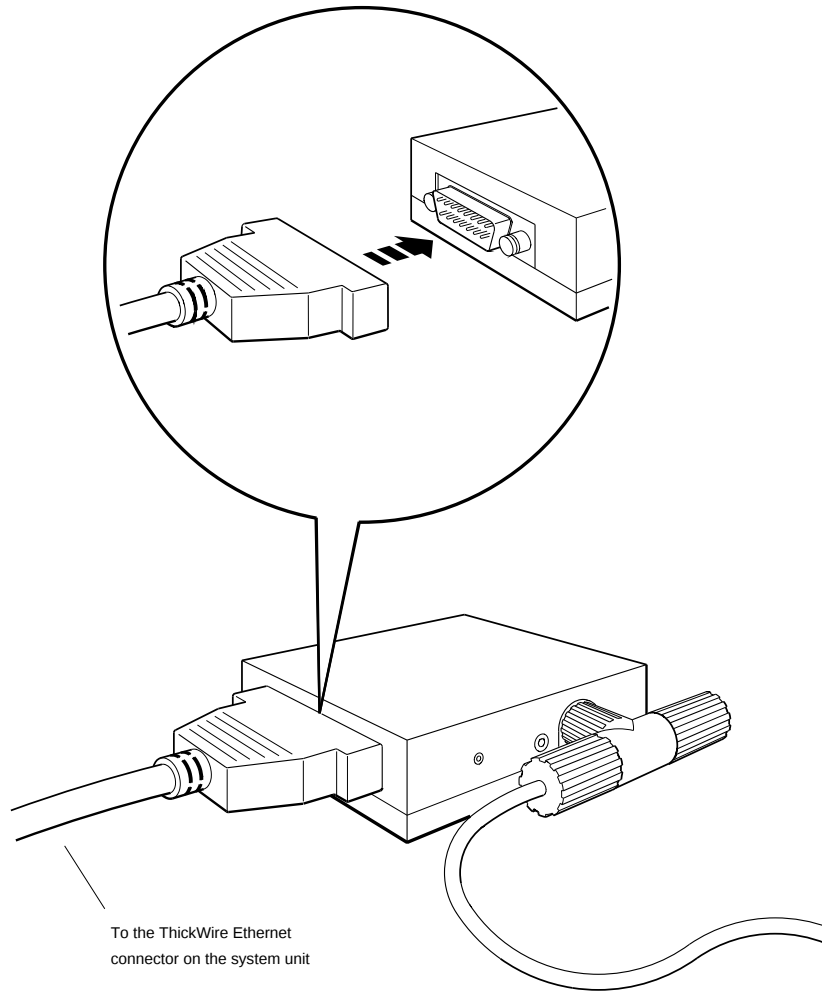
WS331081

3. Use a simple tool, such as a flat-blade screwdriver, to slide the lock on the DESTA-to-ThickWire Ethernet cable connector to the right.



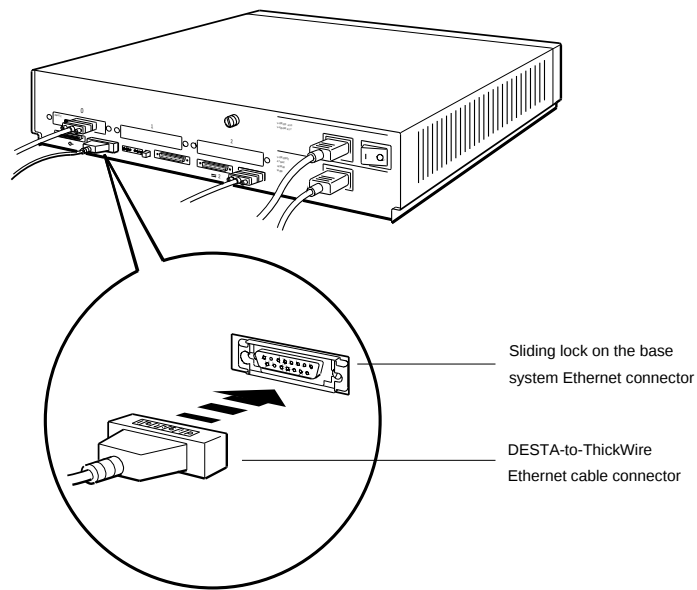
WS331102

4. Hold the DESTA-to-ThickWire Ethernet cable connector so that the widest part is on top and push the connector directly into the ThickWire Ethernet connector on the DESTA.



WS331091

5. Slide the lock on the DESTA-to-ThickWire Ethernet cable connector to the left.
6. Plug the other connector on the DESTA-to-ThickWire cable into the ThickWire Ethernet cable connector on the system unit.

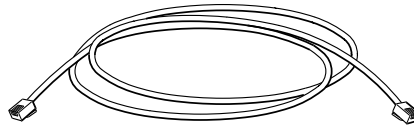


WS331101

You must find the Ethernet station address of your workstation, give the address to your system manager, and ask your system manager to complete the network connection after you've tested the workstation.

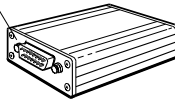
For instructions on finding the Ethernet station address, see "To install the worksystem software from a network", on page 55.

To connect a twisted-pair Ethernet cable, use the twisted-pair Ethernet cable and the ThickWire-to-twisted-pair adapter that you ordered as options with your shipment.



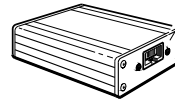
Twisted-pair Ethernet cable

ThickWire Ethernet connector



Front view

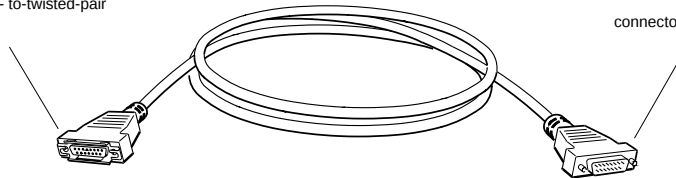
Twisted pair phone-jack type of connector



Back view

ThickWire-to-twisted-pair adapter

To the ThickWire Ethernet connector on the ThickWire-to-twisted-pair adapter

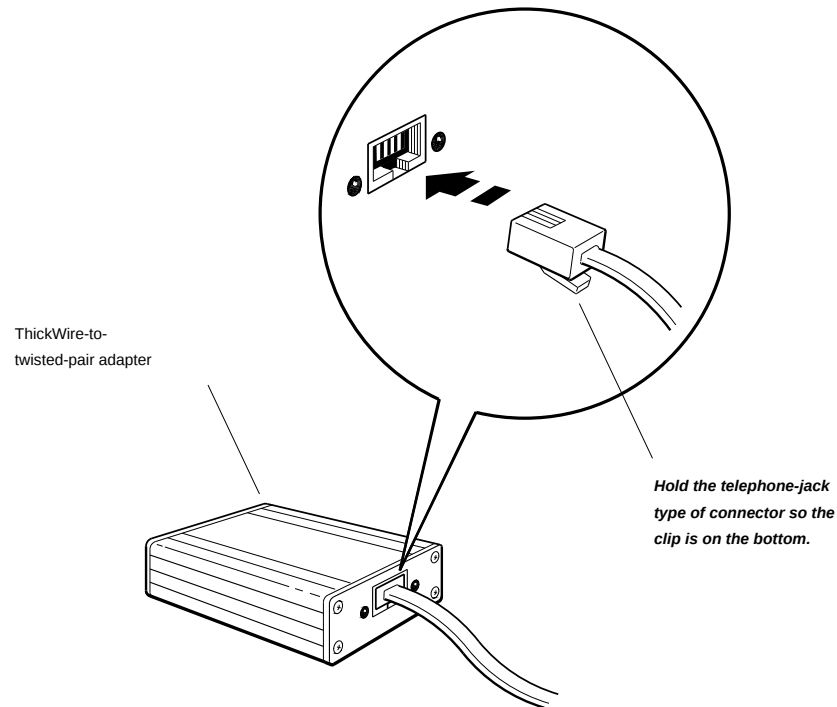


To the base system ThickWire Ethernet connector

Twisted-pair-adapter-to-ThickWire cable

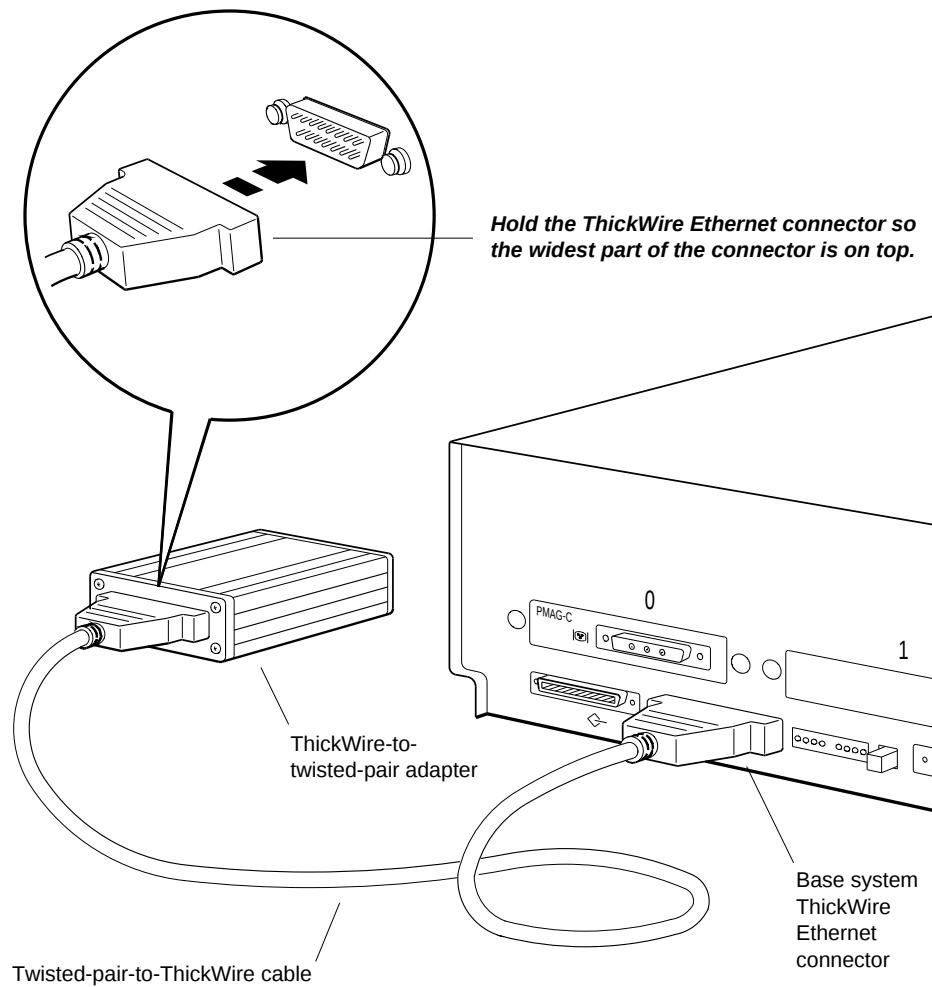
WS331048

1. Plug one end of the twisted-pair Ethernet cable into the twisted-pair phone-jack type of connector on the ThickWire-to-twisted-pair adapter. Plug the other end of the twisted-pair Ethernet cable into the phone-jack type of connector on the wall panel.



WS331065

2. Plug the ThickWire connector on the twisted-pair-adapter-to-ThickWire cable into the base system ThickWire Ethernet connector.
3. Plug the ThickWire connector on the twisted-pair-adapter-to-ThickWire cable into the ThickWire Ethernet connector on the ThickWire-to-twisted-pair adapter.



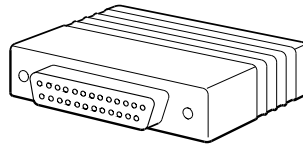
WS33I064

You must find the Ethernet station address of your workstation, give it to your system manager, and ask your system manager to complete the network connection after you've tested the workstation.

For instructions on finding the Ethernet station address, see "To install the worksystem software from a network", on page 55.

For more information on connecting to a network, see Chapter 6, "Optional Network Connections" of the *DECstation 5000 Model 100 Series Hardware Operator's Guide*.

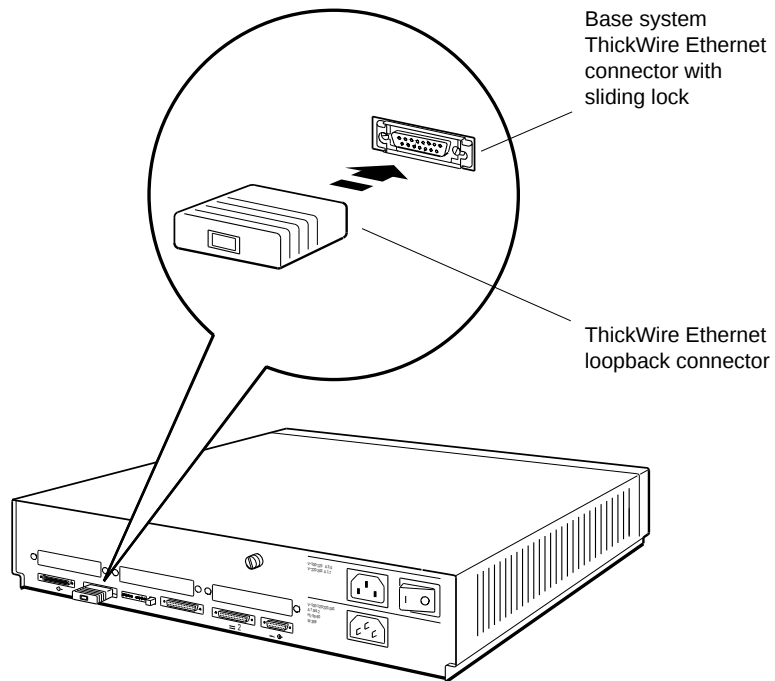
**To use the workstation as a standalone system, use the ThickWire Ethernet loopback connector that came with your shipment.**



**ThickWire Ethernet loopback connector**

WS331040

1. Hold the ThickWire Ethernet loopback connector so the widest part is on top and push the connector directly into the TURBOchannel ThickWire connector.

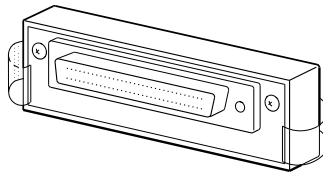


WS331096

2. Put a ThickWire Ethernet loopback connector on any ThickWire Ethernet connectors in TURBOchannel option slot 0, 1, or 2.

**Caution:** *Your workstation will not perform correctly if you do not install an Ethernet loopback connector on every Ethernet connector on the system unit that is not connected to a network cable.*

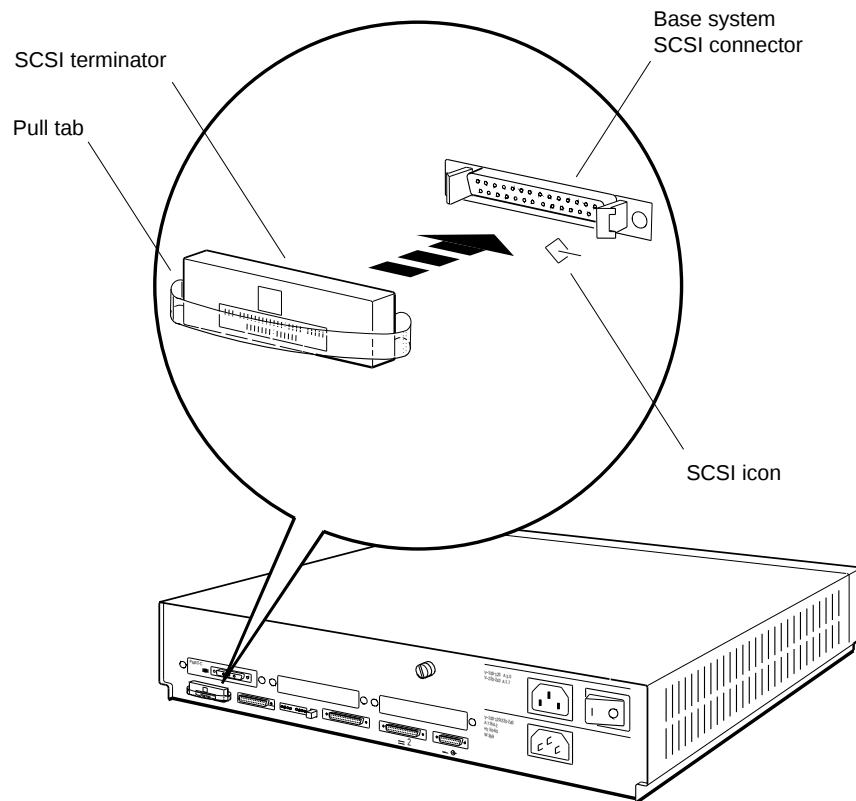
**Attach a SCSI terminator to the base system SCSI connector.**



**SCSI terminator**

WS331041

If you are not attaching any storage expansion boxes, put a SCSI terminator on the base system small computer system interface (SCSI) connector. You can remove the terminator later if you want to connect SCSI devices to this connector.

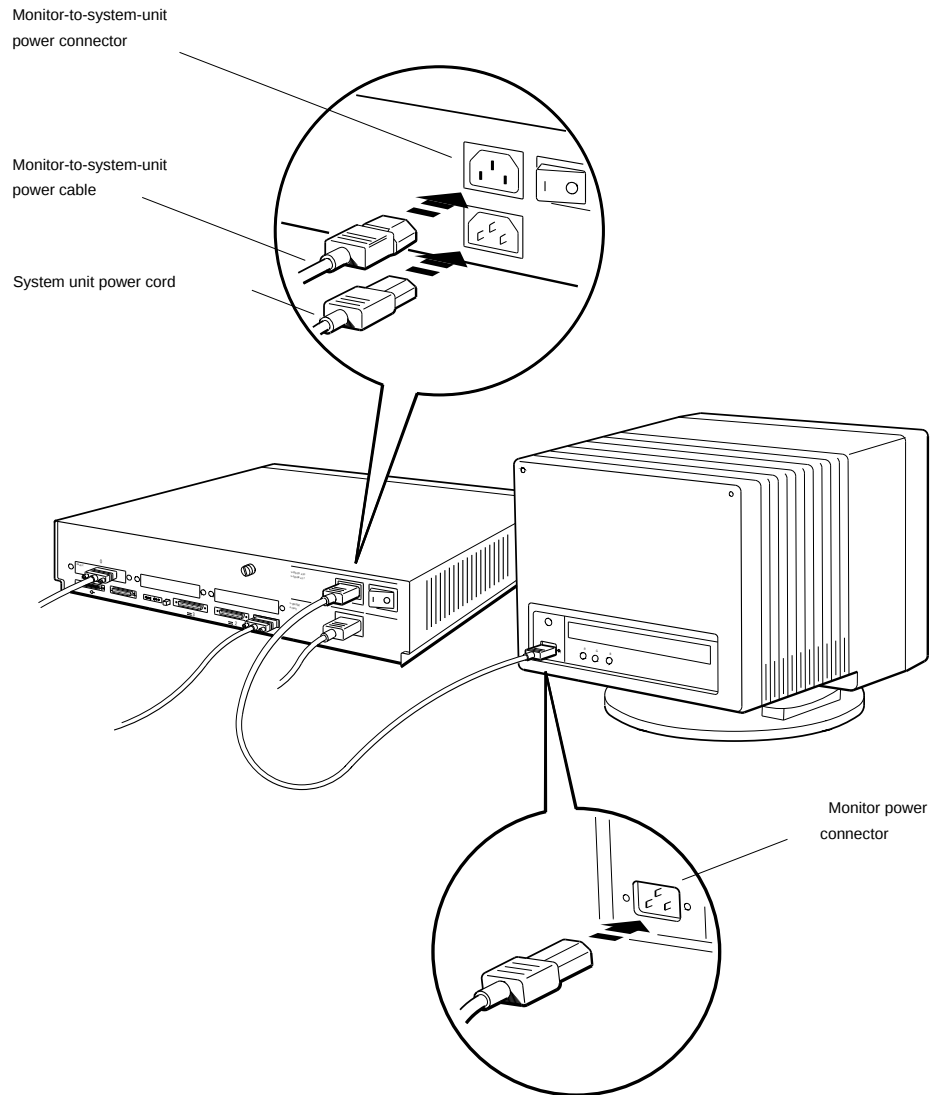


WS331092

Do not put a SCSI terminator on any SCSI connector in TURBOchannel option slot 0, 1, or 2 at this time.

## **Connect the power cables to the monitor and system unit.**

1. Plug the monitor-to-system-unit power cable into the monitor power connector on the monitor.
2. Plug the monitor-to-system-unit power cable into the monitor-to-system-unit power connector on the system unit.
3. Plug the system unit power cord into the power connector on the system unit.
4. Plug the system unit power cord into a power outlet.



WS331045

## Set up any storage expansion boxes and cables.

If you do not have storage expansion boxes, turn to page 45 “Connect communication devices to the system unit.”

Some storage expansion boxes, such as a tape drive box or a floppy disk drive box have only one drive inside. The BA42 expansion box can have up to two drives preinstalled at the factory. For a list of those types of drives, see the *BA42 Storage Expansion Box Installation Guide*.

You install SCSI devices, such as storage expansion boxes, in chains.

You connect each chain of devices to a separate SCSI connector on the system unit: one chain to the base system SCSI connector and a chain to each of the three connectors you may have in TURBOchannel option slots 0, 1, and 2.

### To arrange storage expansion boxes and cables,

1. Set up your expansion boxes so the drives inside them are distributed evenly among the SCSI connectors on the system unit.

For example, if you have seven drives and two SCSI connectors, plan to install four drives on one connector and three drives on the other connector. If your workstation has internal drives, count them as drives connected to the base system SCSI connector.

2. Lay out your expansion box cables.

Use Table 1, on page 36 to compute the total cable length for each chain. If any chain length exceeds 236 inches (6 meters), rearrange the devices in the chain or put some of them in another chain.

**Caution:** *Using more than 236 inches (6 meters) of SCSI cable on one SCSI connector makes the drives attached to that connector unreliable.*

**Table 1. Expansion Box Cables**

| <b>Cable</b>                                      | <b>Length</b>                    |
|---------------------------------------------------|----------------------------------|
| Internal cable for the base system SCSI connector | 52 inches<br>(132.1 centimeters) |
| BA42 (SZ12) expansion box internal cable          | 31 inches<br>(78.7 centimeters)  |
| BA40 expansion box internal cable                 |                                  |
| - For TK50Z tape/drive                            | 14 inches<br>(35.6 centimeters)  |
| - For RRD40 optical compact disk drive            | 2.5 inches<br>(6.4 centimeters)  |
| - For TLZ04 tape drive                            | 38 inches<br>(96.5 centimeters)  |
| Box-to-box expansion cable                        | 26 inches<br>(66.0 centimeters)  |
| System-unit-to-expansion-box cable                | 74 inches<br>(188.0 centimeters) |
| TZK08 tape drive external butterfly cable         | 10 inches<br>(25.4 centimeters)  |

## **Identify the SCSI ID of each internal and external drive.**

The workstation distinguishes each internal and external drive connected to a SCSI connector by the SCSI ID number (0 to 6) assigned to the drive. Each drive comes from the factory with a SCSI ID already set.

Table 2, on page 37, lists the SCSI IDs set at the factory for each type of internal drive, and Table 3, on page 37, lists the SCSI IDs for external drives. Use Tables 2 and 3, on page 37, to make sure you have arranged your expansion boxes so that no SCSI ID is assigned to more than one drive in the same chain.

**Table 2. Default SCSI IDs for Internal Drives**

| Device | Type               | Default Setting |
|--------|--------------------|-----------------|
| RZ23L  | Hard disk          | 2 (and 3)*      |
| RZ24   | Hard disk          | 2 (and 3)*      |
| RZ25   | Hard disk          | 2 (and 3)*      |
| RRD42  | Compact disc drive | 4               |
| RX23   | Floppy disk drive  | 5               |
| RX33   | Floppy disk drive  | 5               |
| TZK10  | Tape drive         | 5               |

\* The system unit can contain either one or two drives of this type inside the box.

**Table 3. Default SCSI IDs For External Drives**

| Device | Type               | Default Setting |
|--------|--------------------|-----------------|
| RZ55   | Hard drive         | 0 (and 1)*      |
| RZ56   | Hard drive         | 0 (and 1)*      |
| RZ57   | Hard drive         | 0 (and 1)*      |
| RRD42  | Compact disc drive | 4               |
| TLZ04  | Tape drive         | 5               |
| TK50Z  | Tape drive         | 5               |
| TKZ08  | Tape drive         | 5               |
| RRD40  | Compact disc drive | 4               |

\* An expansion box can contain either one or two drives of this type inside the box

### **Reset any duplicate SCSI ID number.**

If two drives within the same chain have the same SCSI ID number, you will need to change one of them. You set a SCSI ID number by placing switches on an expansion box or on the drive inside the box in the on or off position. The location and number of switches varies, depending on the type of drive and the expansion box it is in.

For instructions on setting SCSI ID numbers on storage expansion boxes, see Chapter 8, of the *DECstation 5000 Model 100 Hardware Operator's Guide*. For switch settings for a floppy disk, tape drive, or compact disc drive inside the BA42 expansion box, see Chapter 1 of the *BA42 Storage Expansion Box Installation Guide*.

**Turn the power switches on the storage expansion boxes off.**



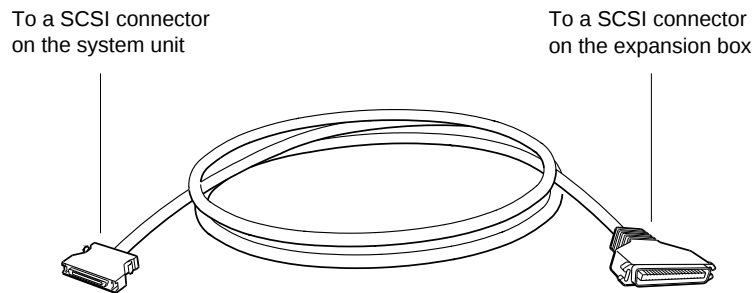
Press the 0 on this type of switch.



Press and release this type of switch until it is in the out position.

WS331095

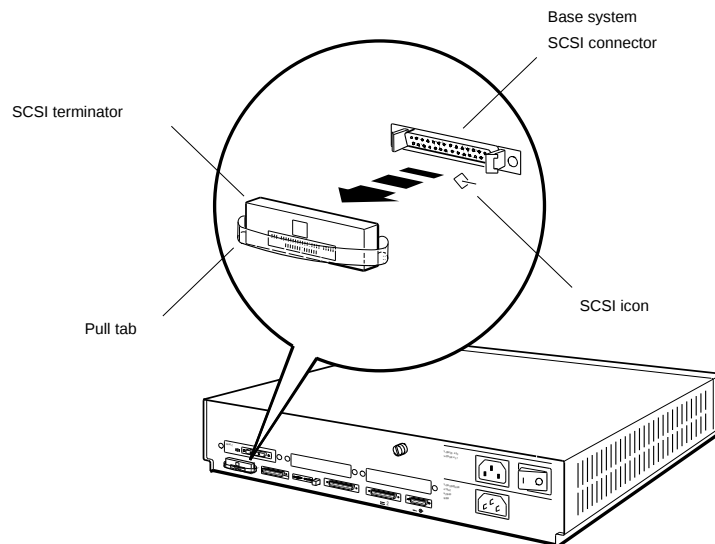
**Connect the system-unit-to-expansion-box cable to a SCSI connector on the system unit.**



**System-unit-to-expansion-box cable**

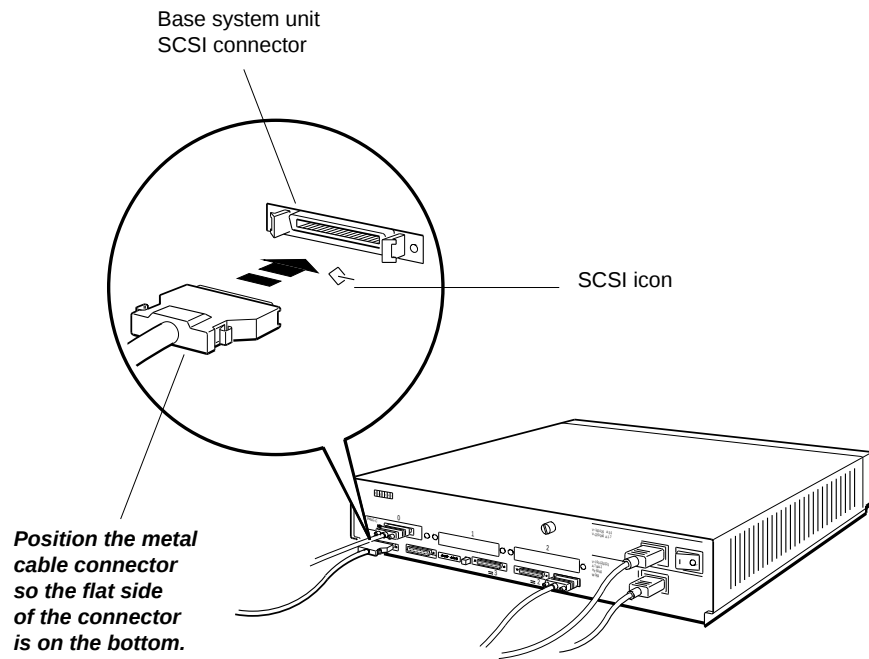
WS331046

1. Remove the SCSI terminator from the base system SCSI connector if you previously terminated the connector.



WS331094

2. Connect the system-unit-to-expansion-box cable to the base system SCSI connector on the system unit.

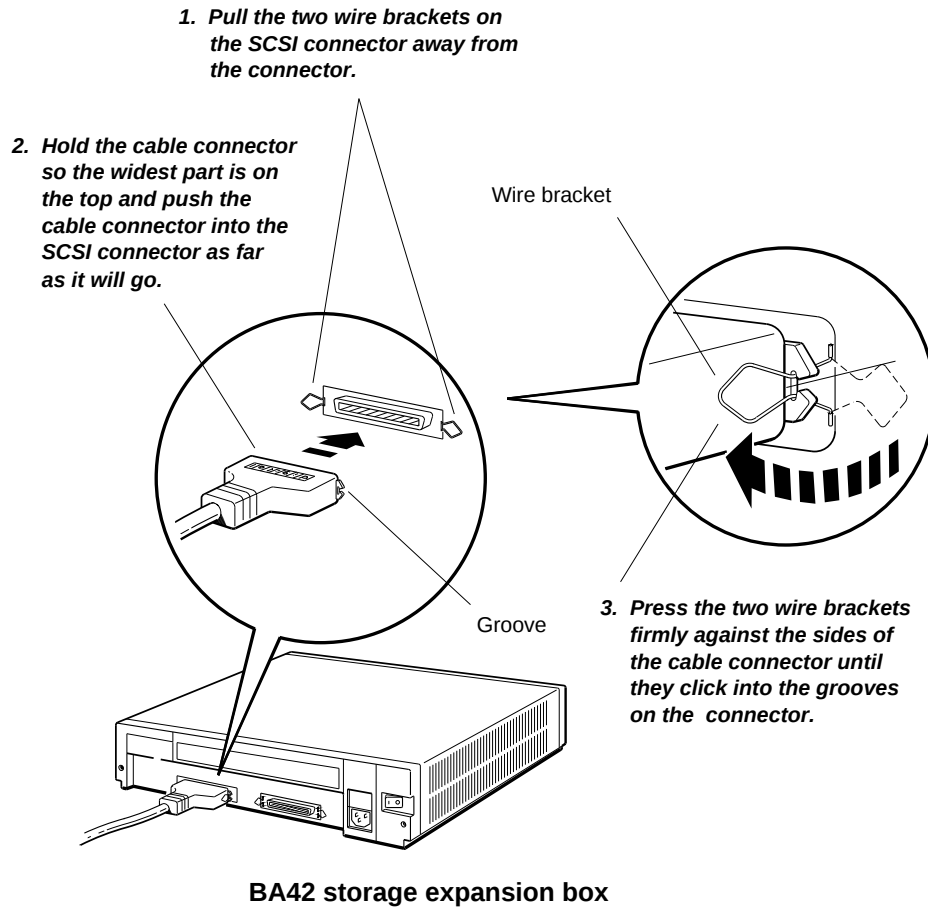


WS331049

## Connect the system-unit-to-expansion-box cable to a storage expansion box.

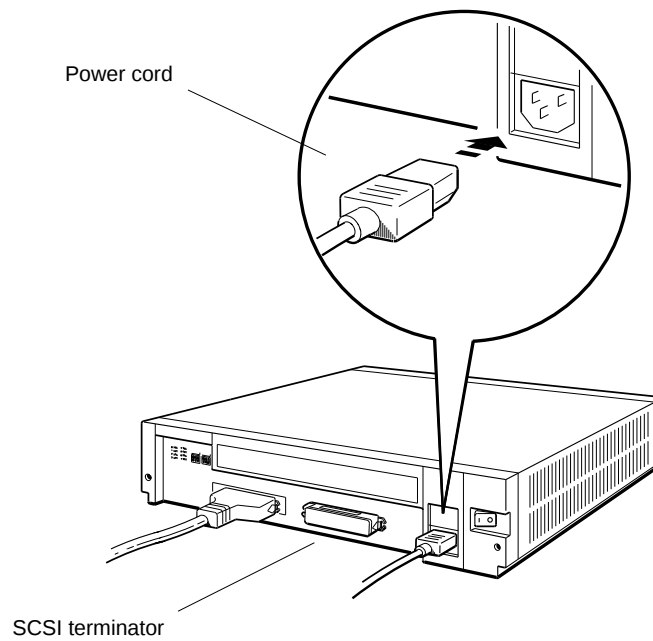
To connect to only one storage expansion box,

1. Connect the appropriate end of the system-unit-to-expansion-box cable to one of the SCSI connectors on the back of the expansion box.



WS33I053

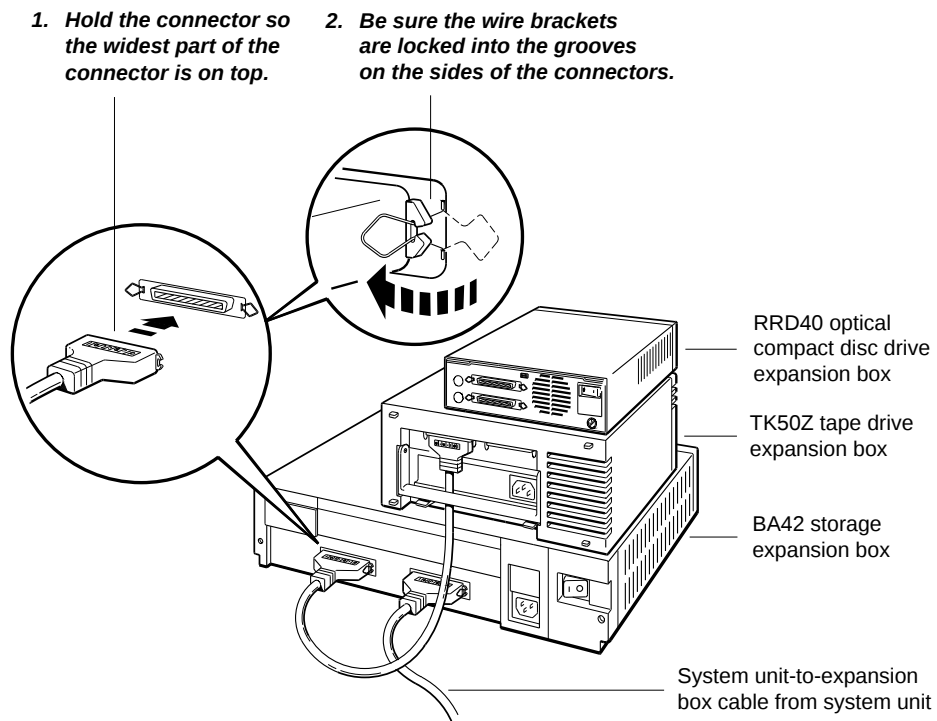
2. Put an expansion box SCSI terminator on the empty SCSI connector on the expansion box as shown in the following figure.
3. Connect a power cord to the expansion box and to a power outlet.



WS331097

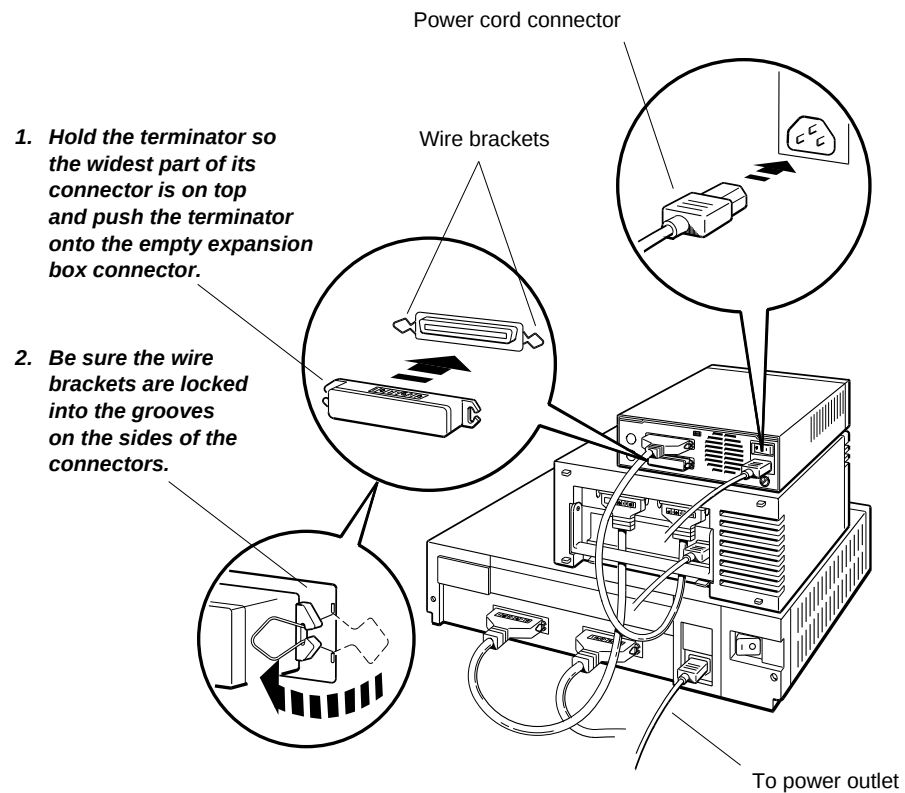
### To connect to multiple storage expansion boxes,

1. Connect the system-unit-to-expansion-box cable to one of the SCSI connectors on the back of the first box.
2. Connect a SCSI box-to-box expansion cable to the other SCSI connector on the first box and connect the other end of the cable to one of the SCSI connectors on the second box.



WS33I083

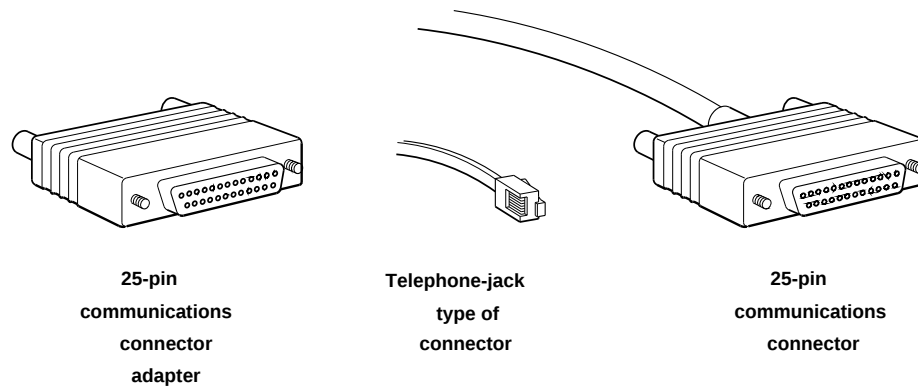
3. Connect each of the remaining boxes with SCSI box-to-box expansion cables as explained in step 2.
4. Put an expansion box SCSI terminator on the unused SCSI connector on the last box as shown in the following figure.
5. Connect power cables to the boxes and to power outlets.



WS331084

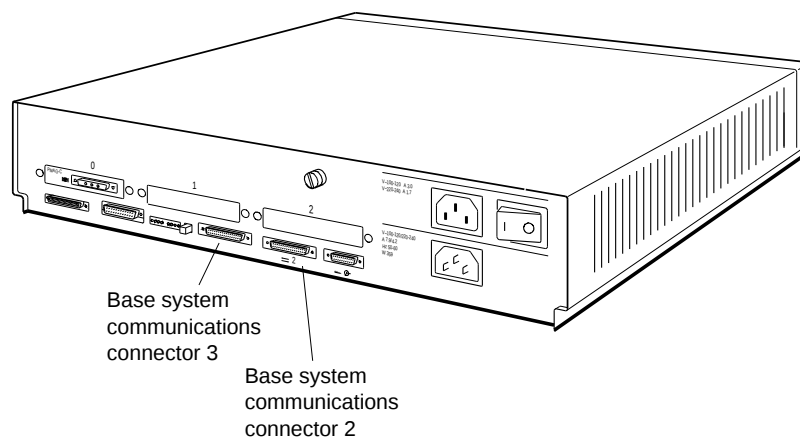
## Connect communication devices to the system unit.

If you have no optional communication devices, such as modems or printers, turn to “Test the workstation”, on page 48.



WS331061

You can connect a modem or a printer to either base system communications connector on the system unit.



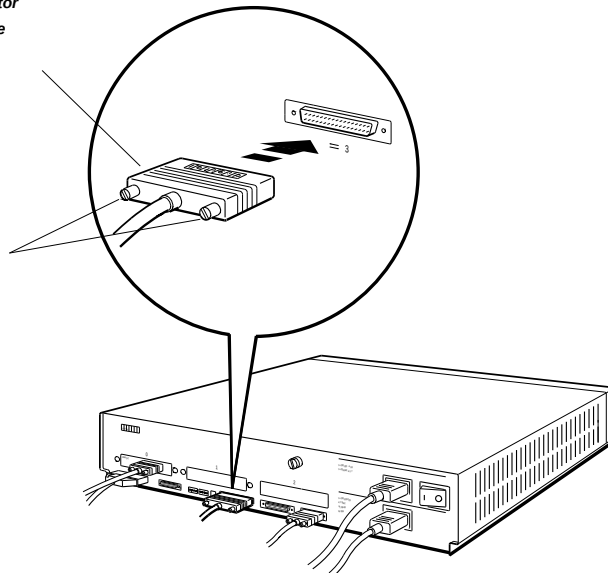
WS331075

**To connect a device directly to the system unit,**

1. Attach the 25-pin connector on the communication device cable to one of the two base system communications connectors on the system unit.

1. *Hold the 25-pin connector so the widest part of the connector is on top.*

2. *Turn the screws to your right to hold the connector in place.*

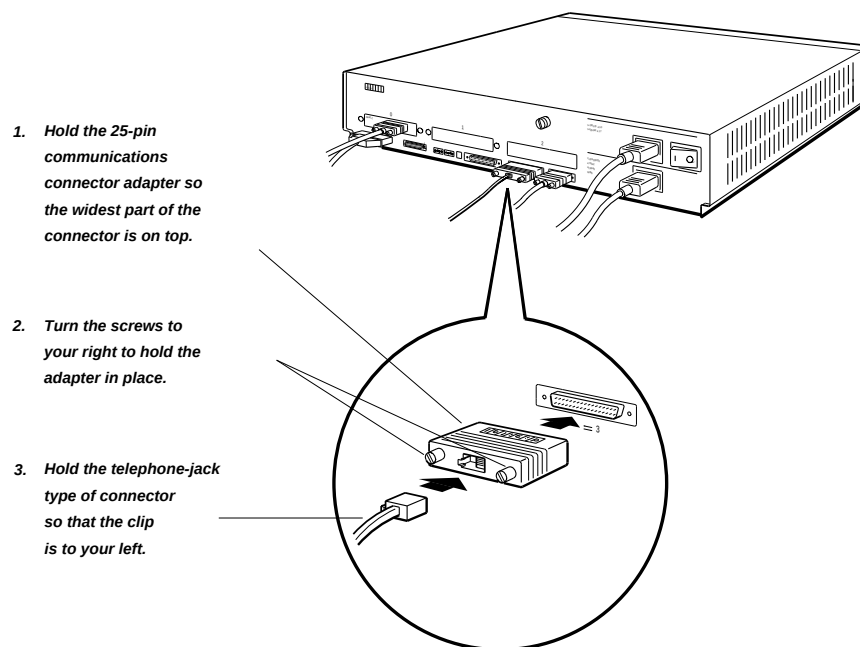


WS331051

2. Connect a power cable to the communication device.

**To use a communications connector adapter to connect a device,**

1. Attach a communications connector adapter to one of the communications connectors on the system unit.
2. Attach the telephone-jack type of connector on the end of the communication device cable to the adapter.



WS331052

3. Connect a power cable to the communication device.

Follow the instructions in the documentation that came with your communication device to start using the device.

## Test the workstation.

1. Turn on first, the monitor then any expansion boxes, and finally the system unit.

If you have multiple monitors connected to your workstation, the monitor in the lowest-numbered option slot will display all system test information.

The monitor must run for 10 to 15 seconds before it is warmed up enough for the display to be visible. The system runs the automatic power-up self-tests that can take from 1 to 15 minutes. As each subtest runs, its name flashes at the bottom of the screen. Some tests display asterisks (\*) and other symbols or cause the screen to flicker.

- At the end of the system power-up self-test, messages explaining any errors that occurred during any of the subtests appear. Turn to Chapter 10 of the *DECstation 5000 Model 100 Hardware Operator's Guide* for troubleshooting instructions.
- If you are installing the workstation for the first time, the screen displays the following language menu for setting the keyboard language:

|                            |                              |
|----------------------------|------------------------------|
| 1) Dansk                   | 9) Français (Suisse Romande) |
| 2) Deutsch                 | 10) Italiano                 |
| 3) Deutsch (Schweiz)       | 11) Nederlands               |
| 4) English (American)      | 12) Norsk                    |
| 5) English (British/Irish) | 13) Português                |
| 6) Español                 | 14) Suomi                    |
| 7) Français                | 15) Svenska                  |
| 8) Français (Canadien)     | 16) Vlaams                   |

(1..16): \_

Type the number that corresponds to your language and press Return. The console prompt (>>) appears on the screen when the language is set.

- If the workstation has been installed before, the screen displays the console prompt (>>) or the restricted console prompt (R>).

If the restricted console prompt (R>) appears, users who don't know the password can use only the boot and password console commands. To change to the console prompt, enter the console password and press Return. If you don't know the password, contact your system manager or a Digital service representative.

If anything other than the language menu, console prompt (>), or restricted console prompt (R>) appears when you turn on the system unit and monitor, turn to Chapter 10 of the *DECstation 5000 Model 100 Hardware Operator's Guide* for troubleshooting instructions.

2. When the console prompt appears, type **erl** and press Return to display a complete list of the error messages that flashed across the screen during the self-test.

If a message that begins with ?TFL: appears, turn to Chapter 10 of the *DECstation 5000 Model 100 Hardware Operator's Guide* for troubleshooting instructions or contact your system manager. After correcting the error, turn the machine off and then turn it back on again.

3. If no error messages appear, type **cnfg** at the console prompt and press Return to see what kind of hardware is installed in the workstation. A display similar to the following sample will appear on your screen:

```
>>cnfg
3: KN02-BA    DEC  V5.7e  TCF0    ( 24 MB)
              {enet: 08-00-2b-0f-45-72)
              {SCSI = 7)
1: PMAG-DA    DEC  V5.3d  TCF0    {DA:PXG - D=8 z=24)
2: PMAG-AA    DEC  V5.3d  TCF0    {enet: 08-00-2b-0f-45-39)
>>
```

The 3: in column 1 of the display tells you that this line describes the memory modules, Ethernet, and SCSI modules present in the base system (slot 3). Look at the rightmost column in that line. The first entry tells you how much memory you have (in this example, 24 megabytes); the second entry tells you the Ethernet station address (in this example, 08-00-2b-0f-45-72), and the third entry tells you the SCSI ID (in this example, 7) of the base system SCSI controller.

The 0: in column 1 of the display refers to TURBOchannel option slot 0. To find out what kind of module is present there, look at the entry in the rightmost column of the line. Then compare it with the entry in the leftmost column of Table 4.

The 2: in column 1 refers to TURBOchannel option slot 2. Follow the same procedure to find out what kind of module is present there.

- a. Look at the cnfg display for your workstation to determine whether the amount of memory in your base system is the amount ordered.
- b. Make sure the modules you ordered are listed in the display. Codes for the modules are displayed in parentheses at the end of each line. Compare them with the codes in Table 4. Table 4 shows some examples of TURBOchannel option module codes. Refer to the documentation that came with your option module for more information.

**Table 4. Base System and TURBOchannel Option Modules**

|       |                                                                                                                                                                                                                                                                                                                            |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MB    | Memory module. Memory modules are preinstalled in the base system. Additional memory may also be installed. This entry describes how many megabytes of memory you have available. In the example, 24 MB of memory are present.                                                                                             |
| SCSI  | SCSI module. One is built into the base slot; others may be installed in TURBOchannel option slots. The SCSI ID of the base system SCSI controller in the example is 7.                                                                                                                                                    |
| enet: | ThickWire Ethernet module. One is built into the base system; others may be installed in TURBOchannel option slots. In the example, two Ethernet modules are installed: the one in the base system has station address 08-00-2b-0f-45-72, and the one in TURBOchannel option slot 2 has station address 08-00-2b-0f-45-39. |
| MX    | Monochrome frame buffer. Can be installed in any TURBOchannel option slot.                                                                                                                                                                                                                                                 |
| CX    | Color frame buffer. Can be installed in any TURBOchannel option slot.                                                                                                                                                                                                                                                      |

(continued on next page)

**Table 4 (Cont.). Base System and TURBOchannel Option Modules**

|         |                                                                                                                                                                                                                           |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PX      | 2D graphics accelerator. Can be installed in any TURBOchannel option slot.                                                                                                                                                |
| DA: PXG | Low 3D graphics accelerator. Physically occupies the space of two TURBOchannel option slots, but is plugged into only one slot. In the example, a low 3D graphics accelerator is plugged into TURBOchannel option slot 1. |
| EA: PXG | Mid 3D graphics accelerator. Physically occupies the space of two TURBOchannel option slots.                                                                                                                              |
| FA: PXG | High 3D graphics accelerator. Physically occupies the space of all three TURBOchannel option slots.                                                                                                                       |

If the modules you ordered are not listed in the cnfg display, turn to Chapter 10 of the *DECstation 5000 Model 100 Hardware Operator's Guide* for troubleshooting instructions.

4. Type **cnfg 3** at the console prompt (>>) and press Return to see that your internal SCSI drives are connected to the base system hardware (slot 3) and to check the SCSI ID of each drive connected to the base system SCSI connector. The following is the relevant part of a sample cnfg 3 display:

```

-----
DEV  PID  VID  REV  SCSI DEV
=====
rz0  RZ55  (C) DEC  DEC  0700  DIR
rz2  RZ24  (C) DEC  DEC  0700  DIR
rz4  RRD40 (C) DEC  DEC  0700  CD-ROM
tz5                                     SEQ

```

- a. Look in the column labeled DEV for the device code of each of the drives connected to the base system SCSI connector: rz0, rz2, rz4, and tz5. The last character of the code is the SCSI ID number of the drive. Thus, the SCSI IDs of the drives in this example are 0, 2, 4, and 5.
- b. Look in the column labeled SCSI DEV for a coded description of the type of drive.

Your display should list the internal drives as well as all drives installed in storage expansion boxes connected to the base system SCSI connector. Table 5, on page 52, lists the

device codes, device descriptions, and types of drives you may see in your cnfg 3 display.

**Table 5. Codes for Different Types of Drives**

| Device Code (DEV) | Device Description (SCSI DEV) | Type of Drive        |
|-------------------|-------------------------------|----------------------|
| rx                | DIR                           | Floppy disk          |
| rz                | CD-ROM                        | Optical compact disc |
| rz                | DIR                           | Hard disk            |
| tz                | SEQ                           | Tape                 |

- c. If the internal drives you ordered for your workstation are not listed on the screen, turn to Chapter 10 of the *DECstation 5000 Model 100 Hardware Operator's Guide* for troubleshooting instructions or contact your system manager for help.
- d. If any of the external drives you connected to the base system SCSI connector is not listed, it may have the same SCSI ID as another drive. To avoid this problem, don't put more than one optical compact disc drive or tape drive in the chain connected to the base SCSI connector.

Check Table 4, starting on page 50, to find the SCSI ID number the factory sets for each type of external drive. If all the SCSI IDs are different, check to make sure all the cables are properly connected.

- If two drives have the same ID, turn off the workstation and all its components and change one of the IDs to an unused number from 0 to 6. Then turn on all the components and test the workstation with the cnfg 3 command again.
- If a drive has an ID outside the range of 0-6, turn off the workstation and all its components, and change the ID to a number from 0 to 6 that you have not assigned.

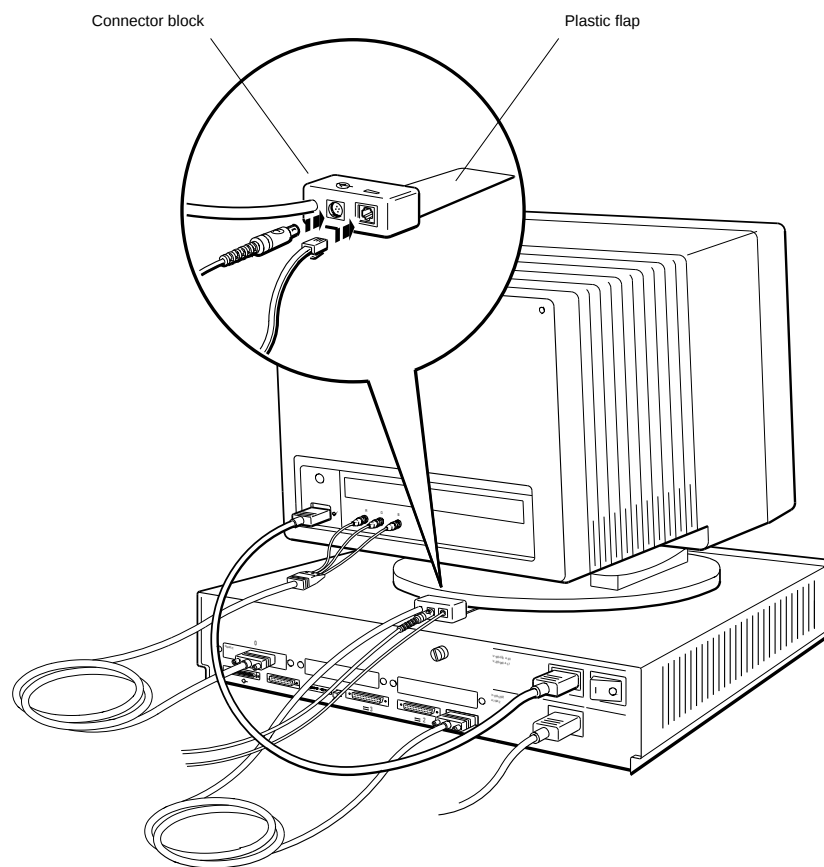
You set a SCSI ID number by placing switches on an expansion box or a drive inside the box in the on or off position. The location and number of switches varies, depending on the type of drive and the expansion box it is in.

For instructions on setting SCSI ID numbers on storage expansion boxes, see Chapter 8 of the *DECstation 5000 Model 100 Series Hardware Operator's Guide*. For switch settings for a floppy disk tape drive, or compact disc drive inside the BA42 expansion box, see Chapter 1 of the *BA42 Storage Expansion Box Installation Guide*. Turn on all the components and test the workstation again with the `cnfg 3` command.

- If all the drives have different IDs and all the cables are connected properly, turn to Chapter 10 of the *DECstation 5000 Model 100 Series Hardware Operator's Guide* for further troubleshooting instructions.
5. Check the SCSI ID of each external drive connected to a SCSI connector in a TURBOchannel option slot by typing **cnfg #** at the console prompt (`>>`), substituting the number of the slot for #, and press Return. Follow the instructions in Step 4 above.
  6. Repeat step 5 to check that all the drives you installed are listed.

**Place the monitor on top of the system unit and position the keyboard-mouse connector block.**

1. Center the monitor on top of the system unit.
2. Tilt the front of the monitor forward slightly.
3. Slide the plastic flap on the connector block under one of the feet on the base of the monitor.



WS331050

## Install the worksystem software.

You need the following ULTRIX manuals to perform the installation:

- *Guide to Installing ULTRIX*
- ULTRIX release notes

### To install the worksystem software from a network,

1. Make sure that you connected the Ethernet cable to your workstation.
2. Find out your Ethernet station address or addresses and report them to your system manager, who will finish connecting your workstation to the network and install the worksystem software.

Type **cnfg** at the console prompt (>>) and press Return.

A display similar to the following will appear on the screen:

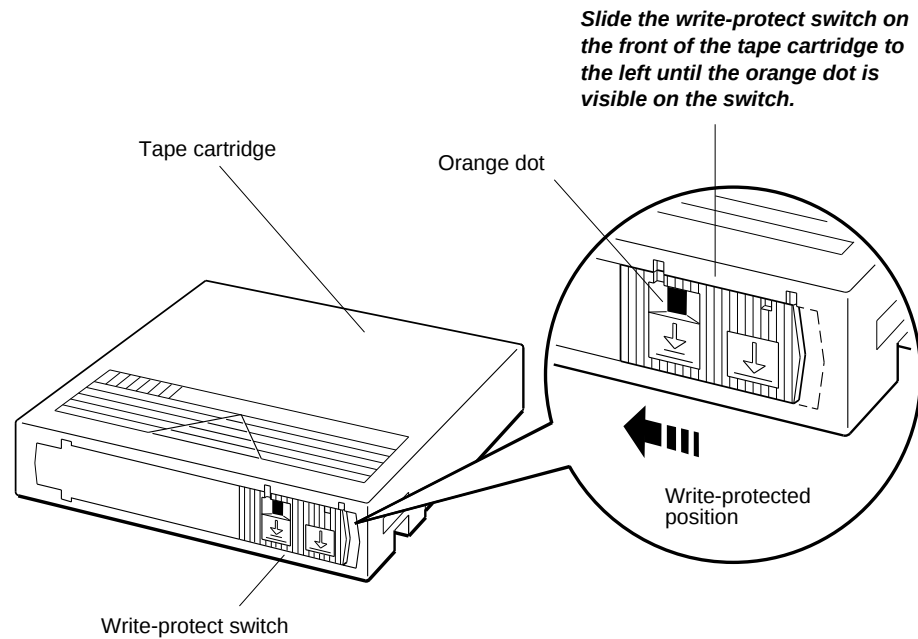
```
>>cnfg
3:  KN02-BA  DEC    V5.7e   TCF0   ( 24 MB)
      (enet: 08-00-2b-0f-45-72)
      (SCSI = 7)
0:  PMAG-BA  DEC    V5.3d   TCF0   (CX -- d=8)
1:  PMAZ-AA  DEC    V5.3d   TCF0   (SCSI = 7)
2:  PMAD-AA  DEC    V5.3d   TCF0   (enet: 08-00-2b-0f-45-31)
>>
```

The sample display shows two Ethernet station addresses, both of which you should report to your system manager.

- The first Ethernet address is in the second line that describes the base system (3:). The address is in the parentheses at the end of the line. It is 08-00-2b-0f-45-72.
- The second Ethernet address is in the line for TURBOchannel option slot 2 (2:). The address is 08-00-2b-0f-45-31.

**To install the worksystem software from a tape drive,**

1. Remove the tape cartridge labeled **ULTRIX/UWS V4.2. (RISC) SUPPORTED SUBSETS VOLUME ONE** from your tape cartridge kit and make sure it is write-protected.



WS331080

2. Find out the device code for the tape drive you are using.

At the console prompt (>>), type **cnfg #**, replacing # with the number of the slot in which the tape drive is installed. Then press Return. For example, if the drive is in TURBOchannel option slot 1, type **cnfg 1**.

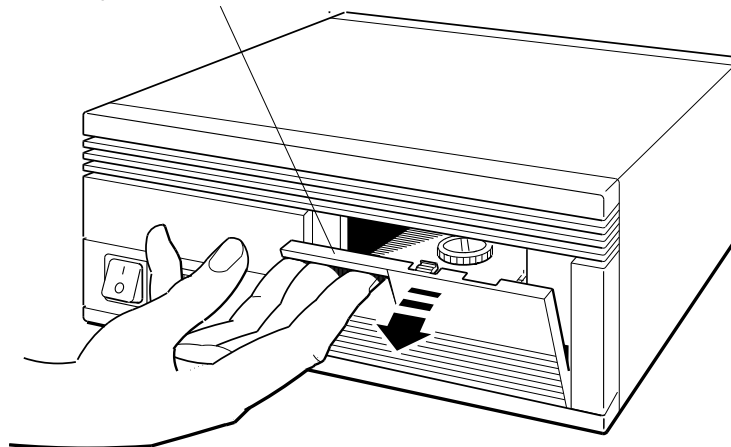
A display similar to the following will appear on the screen:

```
>>cnfg 1
1: PMAZ-AA DEC V5.3d TCF0 (SCSI = 7)
  DEV  PID  VID  REV  SCSI DEV
  ----  -
  rz0   RZ55  (C) DEC DEC 0700 DIR
  rz4   RRD40 (C) DEC DEC 0700 CD-ROM
  tz5                                     SEQ
>>
```

The device codes of all SCSI devices connected in this display appear in column 1. The device code for all tape drives begin with tz. In the example, the device code for the tape drive is tz5.

3. Open the door to the tape drive.

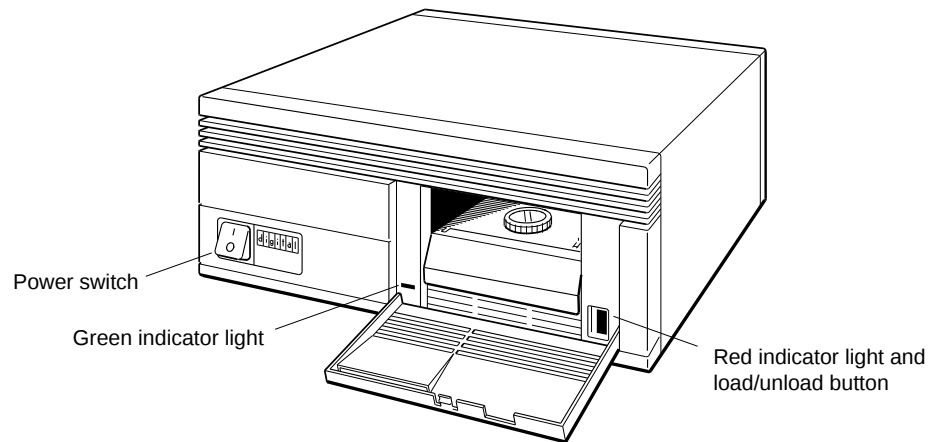
*Insert 3 fingers behind the lip on the left side of the top of the drive door and pull the door away from the drive to open it.*



WS331087

4. Make sure the load/unload button on the tape drive is in the unload (out) position and turn the power on by pressing the power button.

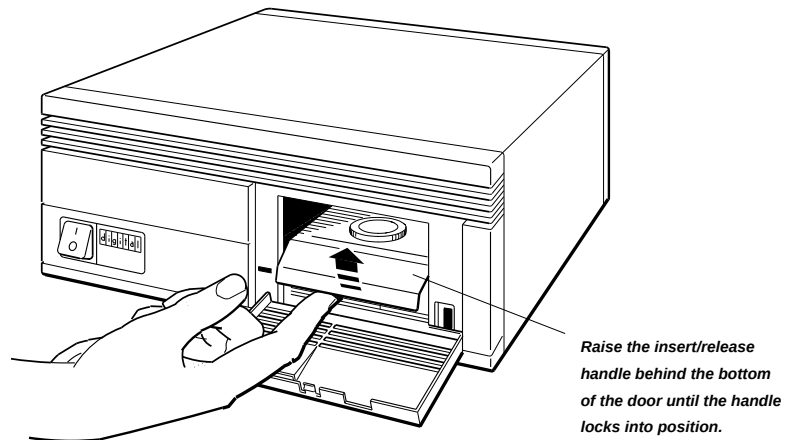
The red indicator light shines steadily for 5 to 15 seconds while an internal self-test runs. Then the red indicator light goes off and the green indicator light comes on. If at any time the red light flashes rapidly, there is a problem with the tape drive. See the troubleshooting section of the tape drive owner's manual for help or contact your Digital service representative.



WS331089

5. Lift the cartridge insert/release handle.

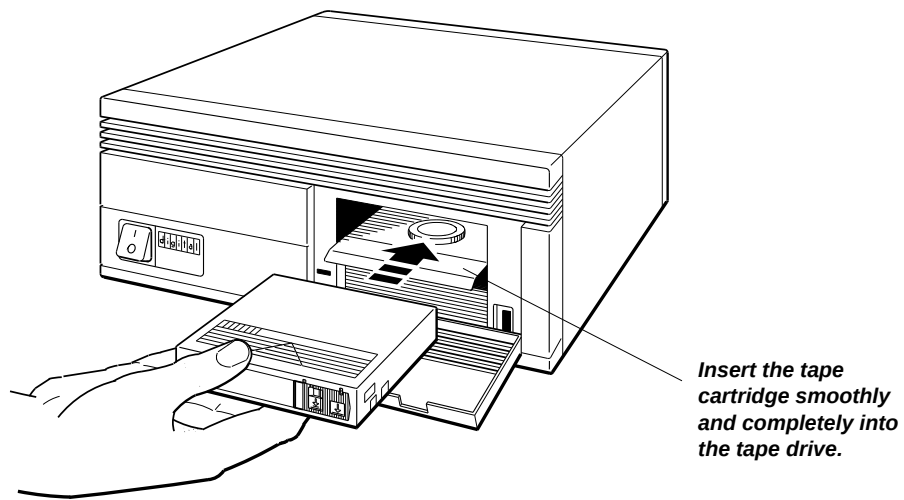
**Caution:** *Never lift the handle when the red light is on or blinking, since this may cause a fault or damage the drive.*



WS331088

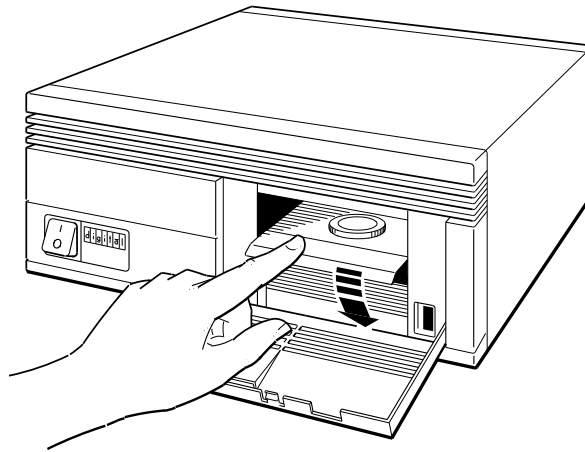
6. With the arrow on the tape cartridge pointing away from you, load the tape cartridge into the drive. (The owner's manual for the drive fully explains how to insert and remove tapes.)

**Caution:** *You will feel some resistance as you push the cartridge into place. It is very important not to stop at this point, but to continue pushing the cartridge firmly until it locks into place.*



WS331086

7. When the red indicator light turns on and the green indicator light goes off, lower the cartridge insert/release handle to the locked (closed) position.

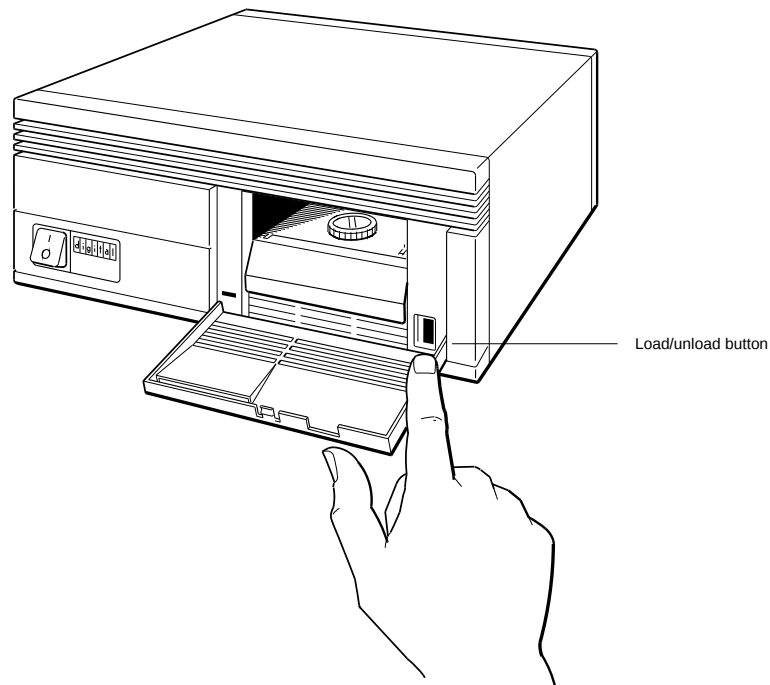


WS331085

After several seconds, the green indicator light glows steadily and the red indicator light turns off.

8. Press the load/unload button so it is in the load (in) position.

The tape goes through a load process that takes 5 to 7 seconds. Both lights come on and glow steadily when the tape reaches its beginning and is ready for use.



WS331076

9. Type **boot**, followed by a space, the slot number, a slash (/), and the device code for the tape drive. Then press Return. For the drive in the example you would type **boot 1/tz5**.

If the message `?I0: 1/tz5 (bb rd)` appears on the screen, make sure that the proper tape cartridge labeled **ULTRIX/UWS V4.2 (RISC) SUPPORTED SUBSETS VOLUME ONE** is in the drive and the red and green lights are glowing steadily. If retyping the boot command still causes the message to appear, contact your Digital service representative.

10. Follow the instructions on your screen to complete the basic installation.

The basic installation procedure takes about an hour.  
For further instructions, turn to the *Guide to Installing ULTRIX*.

When the installation is complete, the login screen with the DIGITAL logo appears on your monitor.

Remove the tape from the drive after completing the installation. Follow the instructions in the tape drive owner's guide.

**To install the worksystem software from a compact disc drive,**

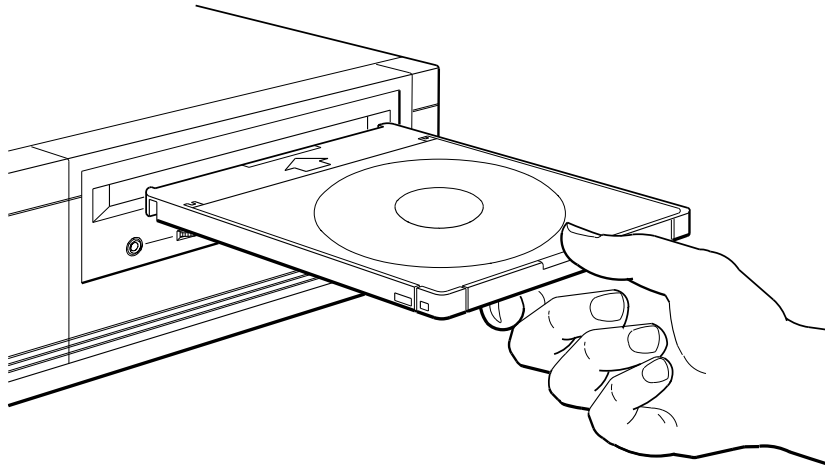
1. Remove the disc labeled ULTRIX/UWS SUPPORTED (RISC) from your ULTRIX Optical Compact Disc Kit.
2. At the console prompt (>>), type **cnfg** and the number of the slot in which the drive is installed. Then press Return. If, as in this example, the drive is connected to the base system hardware, type **cnfg 3**.

A configuration display similar to the following will appear on the screen:

```
>>cnfg
3:  KN02-BA    DEC      V5.7e    TCF0 ( 24 MB)
                                   (enet: 08-00-2b-0f-45-72)
                                   (SCSI = 7)
-----
DEV  PID          (C) DEC  VID          REV      SCSI DEV
=====
rz0  RZ55          (C) DEC  DEC          0700    DIR
rz4  RRD42        (C) DEC  DEC          0700    DIR
tz5
dcache( 64 KB),  icache( 64KB)
mem( 0):  a0000000: a0ffffff  ( 16Mb)
>>
```

The drive with the CD-ROM device description is the CD-ROM drive. Its device code is rz4.

3. Load the ULTRIX/UWS SUPPORTED (RISC) compact disc into the drive. (The owner's manual for the drive explains how to insert and remove discs.)



WSEBAI71

4. After the green indicator light stops glowing, type **boot**, a space, the slot number, a slash (/), the device code, and **vmunix** (the worksystem software file name). Then press Return. For the drive in the example, you would type **boot 3/rz4/vmunix**.
5. Follow the instructions that appear on the screen to complete the basic installation.  
For further instructions, look in the *Guide for Installing ULTRIX*.

When the installation is complete, the login screen with the DIGITAL logo appears on your monitor.

To remove the compact disc from the device drive after completing the installation, follow the instructions in the disc drive owner's guide.

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