

VAX 4000 Model 200 (BA215) Installation

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Contents

Preface	vii	
1	Verify Site Preparation	1
2	Check the Shipment	1
3	Position the System	4
4	Install the Console Terminal	5
4.1	Perform Setup Operations	5
4.2	Connect the Terminal to the System	6
5	Set the System Controls	8
6	Connect Additional Devices to the System	10
6.1	Connecting Terminals and Serial Printers	13
6.2	Connecting Parallel Printers to the System	17
6.3	Connecting Synchronous Modems to the System	18
6.3.1	DSV11 Module	18
6.3.2	DPV11 or KMV1A Module	18
6.4	Connecting Asynchronous Modems to the System	18
6.5	Connecting an Internal Modem to Telephone Lines	20
6.5.1	DFA01 Modems	20
6.5.2	RJ11C/CA11A, RJ12C/CA12A, and RJ13C/CA13A Telephone Service	21
6.5.3	RJ41S/CA41A and RJ45S/CA45A Telephone Service	24
6.5.4	Setting Up Terminal Lines	28
6.6	Connecting to an Ethernet Network at the CPU Cover Panel	29
6.6.1	Making a ThinWire Network Connection at the CPU Cover Panel	30
6.6.2	Making a Standard Network Connection at the CPU Cover Panel	34
6.7	Connecting to an Ethernet Network at the DESQA Module	36
6.7.1	Making a ThinWire Network Connection at the DESQA Module	37

6.7.2	Making a Standard Network Connection at the DESQA Module	43
7	Connect the DSSI Cable — Dual Host Only	45
8	Connect the System Power Cable	48
9	Turn On the System and Select a Language	50
10	Attach the Front Panel to the System	53
11	After Installation	54

Appendix A Starting and Modifying VMS Factory-Installed Software

A.1	Pre-Startup Requirements	A-1
A.2	Startup Procedure	A-2
A.2.1	Modifying FIS for a Standalone System	A-3
A.2.2	Modifying FIS for a Simple VAXcluster Network	A-7
A.2.3	Modifying FIS for a Complex Network or Dual-Host System	A-11
A.2.3.1	Configuring for Dual-Host Systems	A-12
A.2.3.2	Checking Your Modification Work	A-12

Index

Figures

1	Shipping Carton Contents	3
2	Sliding the System into Position	4
3	Connecting a VT300-Series or VT400-Series Console Terminal	7
4	System Controls and Indicators — Integrated Storage Elements, System Controls, and CPU Cover Panel	9
5	System Controls and Indicators — TK-Series Tape Drives	10
6	Connecting Devices to the CXA16 Module	15
7	Connecting Devices to the Cable Concentrator	16
8	Mounting the Cable Concentrator	17
9	Connecting a Modem to a CXY08 Module	19
10	Disconnecting the Telephone Line — Single Line and Multiline Service	21

11	Installing the Telephone Cord — Single Line and Multiline Service	22
12	Connecting a Modem to a Telephone — Single Line and Multiline Service	23
13	Connecting a Modem to a Wall-Mounted Jack (Data Jack Service) — Telephone to Wall-Jack Connection	25
14	Connecting a Modem to a Wall-Mounted Jack (Data Jack Service) — Telephone to DFA01 Connection	27
15	Ethernet Connector Switch on the CPU Cover Panel	29
16	ThinWire Cable, T-Connector, and Terminator	30
17	Making a ThinWire Ethernet Connection at the CPU Cover Panel	31
18	Grounding the ThinWire Ethernet at the CPU Cover Panel	33
19	Making a Standard Ethernet Connection at the CPU Cover Panel	35
20	DESQA ThinWire/Standard Ethernet Connector Switch	37
21	ThinWire Cable, T-Connector, and Terminator	38
22	Making a ThinWire Ethernet Connection at the DESQA Module	39
23	Forming the Upper Cable in a Loop at the DESQA Module	40
24	Grounding the ThinWire Ethernet at the DESQA Module	42
25	Making a Standard Ethernet Connection at the DESQA Module	44
26	Removing the DSSI Terminators	46
27	Connecting the DSSI Cable	47
28	Power Cables	49
29	Attaching the Power Cable to the System	50
30	Language Selection Menu	51
31	Successful Self-Tests	52
32	Saving the Language	52
33	Attaching the Front Panel	53

Tables

1 Module Identification Labels 11

Preface

This manual tells you how to install your system, using the following steps.

1. Verify site preparation
2. Check the shipment
3. Position the system
4. Install the console terminal
5. Set the system controls
6. Connect additional devices to the system
7. Connect the DSSI cable — dual host only
8. Connect the system power cable
9. Turn on the system and select a language
10. Attach the front panel

If you are installing a dual-host system, you must repeat each step for each host. For more information on dual-host systems, refer to your system *Operation* manual and to *VAX 4000 Dual-Host Systems*.

A glossary in your system *Operation* manual will help you understand new words and abbreviations that appear in this manual.

CAUTION: *Before installing the system, review your system warranty. The terms of your agreement with Digital may require that a Digital service representative install the system. Contact your local Digital representative if you have any questions.*

NOTE: *Some of the devices mentioned in this manual are designed for timesharing systems and may not be suitable for server systems. If you have a server system, contact your Digital representative if you have any questions about whether a device is appropriate for your system.*

Conventions

The following conventions are used in this manual.

Convention	Meaning
<code>Key</code>	A terminal key used in text and examples. For example, <code>Break</code> indicates that you press the Break key on your terminal keyboard.
<code>XXXX</code> <code>Return</code>	Bold, monospaced type and the symbol for the Return key indicate interactive input that you must supply. For example: <code>>>> BOOT MUA0</code> <code>Return</code> That line tells you to enter the command <code>BOOT MUA0</code> at the console terminal.
NOTE	Provides general information about the current topic.
CAUTION	Provides information to prevent damage to equipment or software.
WARNING	Provides information to prevent personal injury.

The following warning symbols appear on the power supply. Please review their meaning:



Indicates risk of electric shock.



To reduce the risk of injury, do not remove modules, Integrated Storage Elements (ISEs), or the power supply. No user-serviceable parts are inside. Refer servicing questions to your Digital service representative or your qualified self-maintenance personnel.

The equipment is not designed for connection to an IT power system (a power system without a directly grounded neutral conductor). The equipment should be plugged into a dedicated (isolated) ground circuit.

1 Verify Site Preparation

You may have received a copy of the system *Site Preparation* manual, which describes the physical, environmental, and electrical requirements for your system. A copy of that manual is also included in your Customer Hardware Information Kit. If you have not done so, read that manual and follow its instructions for preparing your site.

- The installation instructions that follow assume your site meets all the requirements listed in the *Site Preparation* manual.
- These instructions also assume all terminal data lines, telephone lines, and network lines that you plan to connect to your system are in place and clearly labeled.

You will need the following tools to install your system. They are not included in your shipment.

- Scissors
- Phillips (cross point) screwdriver
- Adjustable wrench

If you are installing a dual-host system, you must repeat each step in the installation procedure for each host.

2 Check the Shipment

Before unpacking your system, find the Product Delivery Document. It is attached to the outside of a carton and is labeled with a blue "i" symbol. That document lists your order and how it breaks out into the items shipped.

Your shipment may include several cartons:

- One carton contains the system.
- A smaller carton contains the console terminal, if ordered.
- Another carton contains hardware documentation, software documentation, and software licenses. That carton also contains system software and diagnostic software if you ordered those items separately.

Depending on your order, your shipment may also include cartons containing:

- Additional terminal(s)
- Printer(s)
- Modem(s)
- Expander(s)

Make sure your shipment is complete by checking that each item listed as shipped on the Product Delivery Document appears on a Content Listing or on a barcode label on the outside of one of the cartons in your shipment.

NOTE: *Save all packing materials until you are sure you will not reship any items in the shipment. And save all items in the shipment until you are sure you will not use them.*

Use the unpacking illustrations on the cartons as a guide to unpack your shipment, one carton at a time. Check the contents of each carton against the Content Listing on its side to ensure you received all items.

Release the shipping brackets according to the instructions on the yellow label attached to the front of the system. Then remove the yellow label.

WARNING: *The system weighs 38.5 kilograms (85 pounds) with all options installed. Two or more people should move the system.*

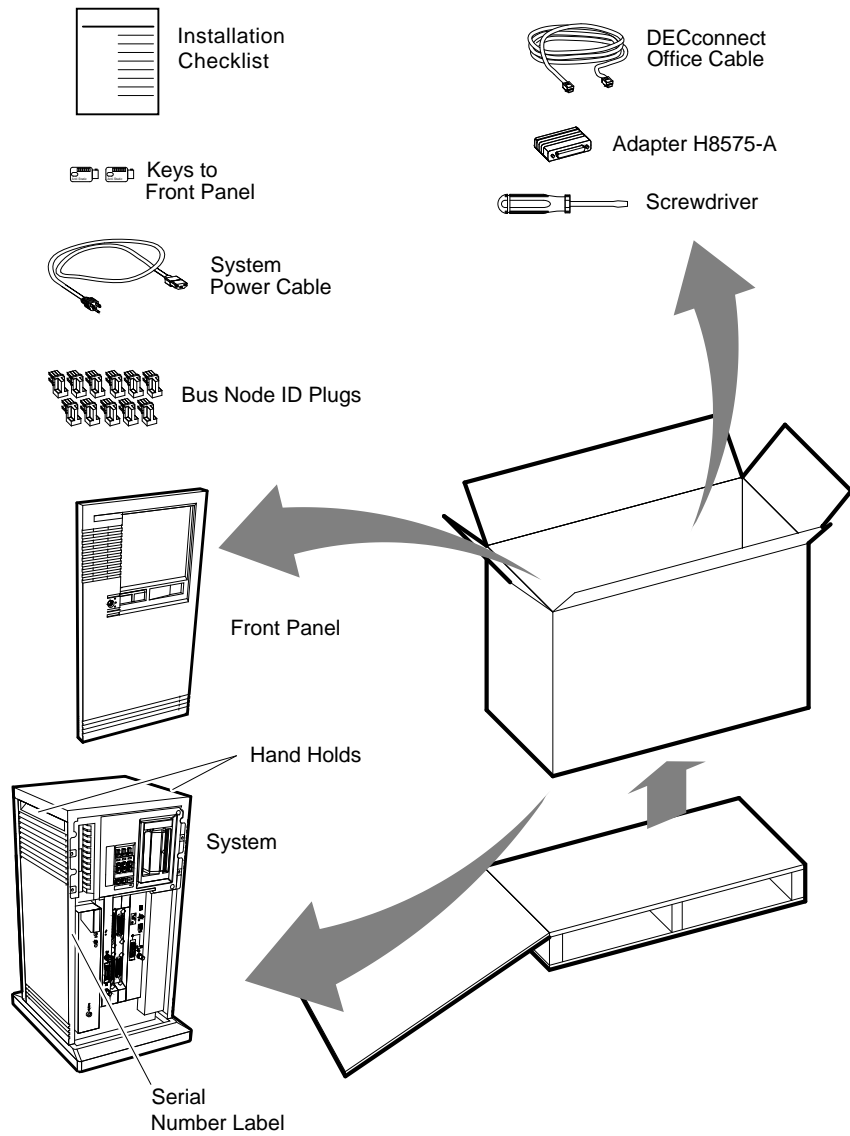
If any item is missing or damaged:

- Contact your delivery agent.
- Contact your Digital sales representative.

If you ordered a dual-host system, the carton containing the second system includes the same items as the first carton plus a BC21M-09 DSSI cable. DSSI stands for Digital Storage Systems Interconnect.

Figure 1 shows the contents of the shipping carton.

Figure 1: Shipping Carton Contents



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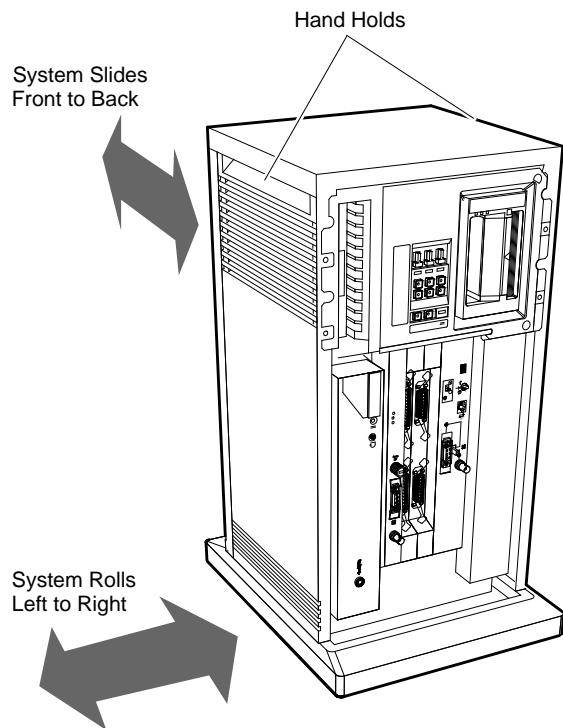
CAUTION: Before continuing the installation, verify that your system power requirements match your power source. The correct voltage for the system is listed on the serial number label next to the power supply (see Figure 1).

- If the voltage matches your power source, continue the installation.
- If the voltage does not match your power source, do not continue the installation. Contact your Digital sales representative.

3 Position the System

You can move your system into position in one of two ways as shown in Figure 2.

Figure 2: Sliding the System into Position



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4 VAX 4000 Model 200 (BA215) Installation

WARNING: *Do not use the hand holds to lift the system.*

- Roll it sideways.
- Slide or walk it backward or forward by gripping the hand holds on the side.

Leave space behind the system for routing cables. Once installation is complete, you can place the system base directly against a wall. The oversized base ensures enough space for proper ventilation.

The next step in installing your system is to install the console terminal.

4 Install the Console Terminal

You will use the console terminal to communicate with your system.

1. Unpack the terminal and its documentation.
2. Use the instructions in the terminal installation guide to connect the various parts of the terminal.
3. Turn on the terminal.

The terminal performs a self-test. The documentation for the terminal describes a successful self-test and error messages you receive if the terminal is not operating properly.

Once the terminal passes its self-test, you are ready to perform setup operations.

4.1 Perform Setup Operations

Setup instructions for terminals vary according to model or according to which read-only memory (ROM) is installed in the terminal. Be sure to:

- Read the documentation provided with your terminal.
- Follow the setup instructions for your terminal.

NOTE: *A new terminal from Digital has the baud rate set to 9600. If your terminal is new and you want to use that rate, you can skip the baud rate setup instructions.*

If you have a dual-host system, you can use one terminal with dual sessions instead of two terminals. See your terminal documentation for instructions.

Once you test the terminal and perform setup operations, you are ready to connect the terminal to your system.

4.2 Connect the Terminal to the System

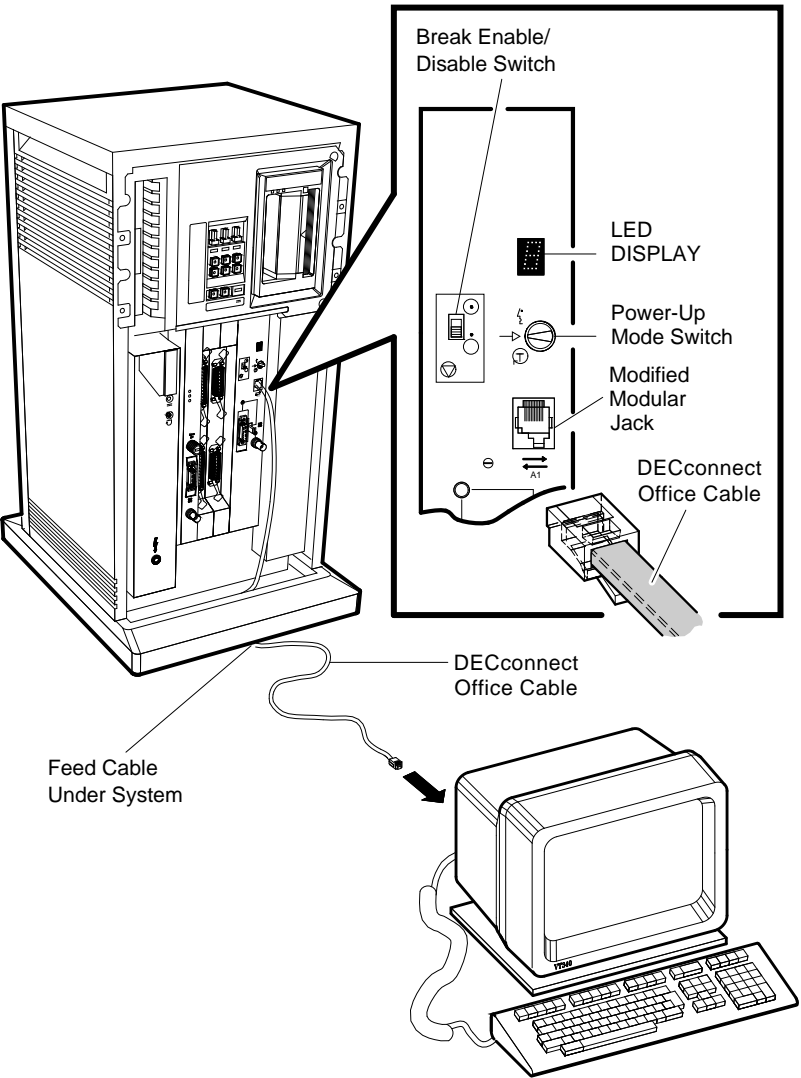
You will attach one end of a cable to the CPU cover panel and the other end of the cable to a communication port on the back of the terminal.

- The CPU cover panel is on the front of the system and covers backplane slots 1 and 2.
- The port on the back of the terminal varies with the type of terminal.

Refer to the instructions that follow to connect a VT300-series or VT400-series terminal.

1. Turn off the terminal.
2. Find the console terminal cable. It is labeled DECconnect Office Cable, has a DEC-423 modular plug on each end, and can be found in the accessories package.
3. Connect the terminal cable to the DEC-423 modular jack labeled 1 on the rear of the terminal, according to the instructions in your terminal installation guide.
4. Feed the other end of the cable under the system base, from behind or from the side. Then draw up the cable and insert it into the modified modular jack shown in Figure 3.

Figure 3: Connecting a VT300-Series or VT400-Series Console Terminal



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You are now ready to set the controls on your system.

5 Set the System Controls

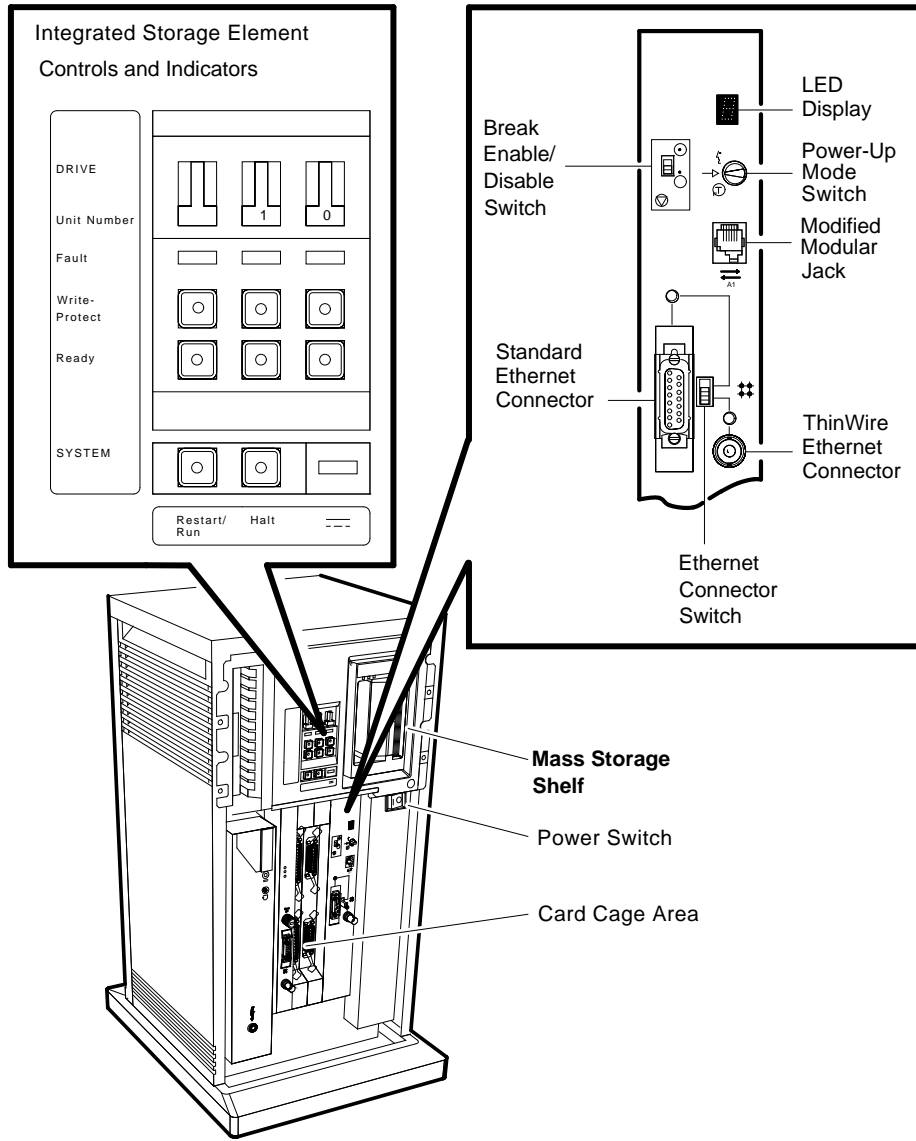
The system controls are on the mass storage shelf and in the card cage area.

1. On the mass storage shelf, check the setting of the Write-Protect button, Ready button, and Halt button shown in Figure 4 and the Cartridge Insert/Release handle shown in Figure 5.
 - Write-Protect button — Make sure that button is in the out (write-enabled) position.
 - Ready button — Make sure that button is in the out (on-line) position.
 - Halt button — Make sure that button is set to the out (run) position.
 - Cartridge Insert/Release handle — If a TK-series tape drive is installed, make sure that handle is closed (pushed in).

Verify that a bus node ID plug is inserted into each Integrated Storage Element (see DRIVE Unit Number in Figure 4).

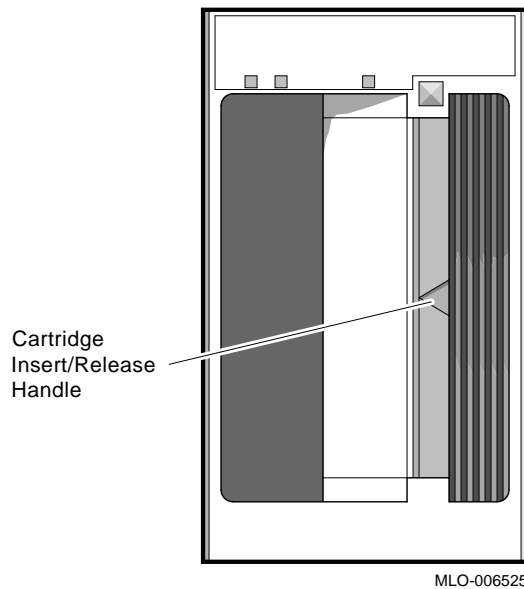
2. In the card cage area, check the setting of the Power switch, Power-Up Mode switch, and Break Enable/Disable switch shown in Figure 4.
 - Power switch — It should be off (set at 0).
 - Power-Up Mode switch — Set that switch to the Language Inquiry mode (uppermost position, indicated by a human profile).
 - Break Enable/Disable switch — Set that switch to break enabled (up, indicated by a dot inside a circle).

Figure 4: System Controls and Indicators — Integrated Storage Elements, System Controls, and CPU Cover Panel



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Figure 5: System Controls and Indicators — TK-Series Tape Drives



You are now ready to connect additional devices to the system.

6 Connect Additional Devices to the System

You can connect additional devices at this time, or you can complete the installation (skip to step 7) before connecting additional devices.

- If you have devices that must be installed before you load system software, install them now.
- Otherwise, skip to step 7 if you prefer to connect additional devices later.

Use the following instructions when you are ready to connect the devices.

CAUTION: *Make sure the Power switch is off (set at 0).*

Make all connections directly to the appropriate module cover.

- Begin with the module at the far right.
- As you complete connections for each module, move left to the next module.

The following numbered sections tell you how to connect each type of device.

To help you make the proper connections, each module cover has an identifying label at the top. That label contains the module number and option number. Table 1 lists the identifying labels for all modules you can use on your system. Use the table to identify the modules as you connect additional devices to your system. Not all modules require additional connections.

Table 1: Module Identification Labels

Module Number	Option Number	Description
CPU and Memory		
M7622-AA	MS650-BA	System memory, 16 megabytes
M7622-BA	MS650-BB	System memory, 8 megabytes
M7626-AA	KA660-AA	System CPU (multiuser)
M7626-BA	KA660-BA	System CPU (server)
M8578-00	MRV11	Programmable read-only memory
Mass Storage		
M5976-SA	KZQSA	TLZ04/RRD-series adapter
M7164, M7165	KDA50	Intelligent board controller (RA-series disks and ESE20)
M7206-PA	TSV05	TS05 tape drive controller (old)
M7530	TSV05	TS05 tape drive controller (new)
M7546-00	TQK50	TK50 tape drive controller
M7552-PA	KRQ50	RRD-series disc drive controller
M7559-00	TQK70	TK70 tape drive controller
M7740-PA	KLESI	RV20 write-once optical disk (or TU81E tape) controller
M7769	KFQSA	DSSI mass-storage adapter
Communications		
M3108-PA	DSV11	2-line synchronous serial interface (full modem support)
M3118-YA	CXA16	16-line asynchronous serial interface (RS-423-A, no modem support)

Table 1 (Cont.): Module Identification Labels

Module Number	Option Number	Description
M3118-YB	CXB16	16-line asynchronous serial interface (RS-422, noise immune)
M3119-YA	CXY08	8-line asynchronous serial interface (full modem support)
M3121-PA	DFA01	2-line asynchronous serial interface with integral modem
M3127-PA	DESQA	Ethernet adapter
M7500-PA	KMV1A	Programmable data communication interface
M7531-PA	DIV32	ISDN controller
M7651-PA	DRV1W	Real-time parallel interface
M8020-PA	DPV11	Synchronous serial line interface
M8049-PA	DRV1J	Parallel I/O interface, 64-line
Miscellaneous		
A026-PA	AXV11	D/A and A/D converter
A030-PA	ADQ32	32-channel, single-ended, or 16-differential-channel analog to digital converter
A1008-PA	ADV11	16-channel, single-ended, or 8-differential-channel analog to digital converter
A1009-PA	AAV11	Digital to analog converter
M3125-PA	IBQ01	BITBUS to Q-bus DMA controller
M4002-PA	KWV11	Programmable real-time clock
M7168, M7168, M7169	VCB02-J	Graphics controller, 8-plane
M7168, M7169	VCB02-K	Graphics controller, 4-plane
M7533-AB	DEQRA	DEC TRNcontroller 100 (token ring adapter)
M7616	KXJ11	J11 CPU, 512-kilobyte RAM, 64-kilobyte programmable read-only memory, Q-bus peripheral processor
M7658-PA	DRQ3B	Real-time parallel interface
M8086-PA	LPV11	Dual parallel printer interface
M8634-PA	IEQ11	IEEE instrument bus DMA controller

Table 1 (Cont.): Module Identification Labels

Module Number	Option Number	Description
M9404, M9405	None	BA21X-SF Q-bus expansion kit

CAUTION: *Do not operate the system without Digital module covers. They are required to protect the equipment and to meet international regulatory standards. Do not substitute other covers as they may not meet the required specifications.*

6.1 Connecting Terminals and Serial Printers

You can connect up to 16 terminals and/or serial printers for each CXA16 or CXB16 module installed in the system. If your site was prepared properly, the lines for the additional terminals and printers are clearly labeled and terminate near the system.

- You do not connect the terminals and printers directly to the system, but to a cable concentrator (H3104) that has connections for up to eight terminals and printers.
- You then connect the cable concentrator to the system with a BC16D cable.

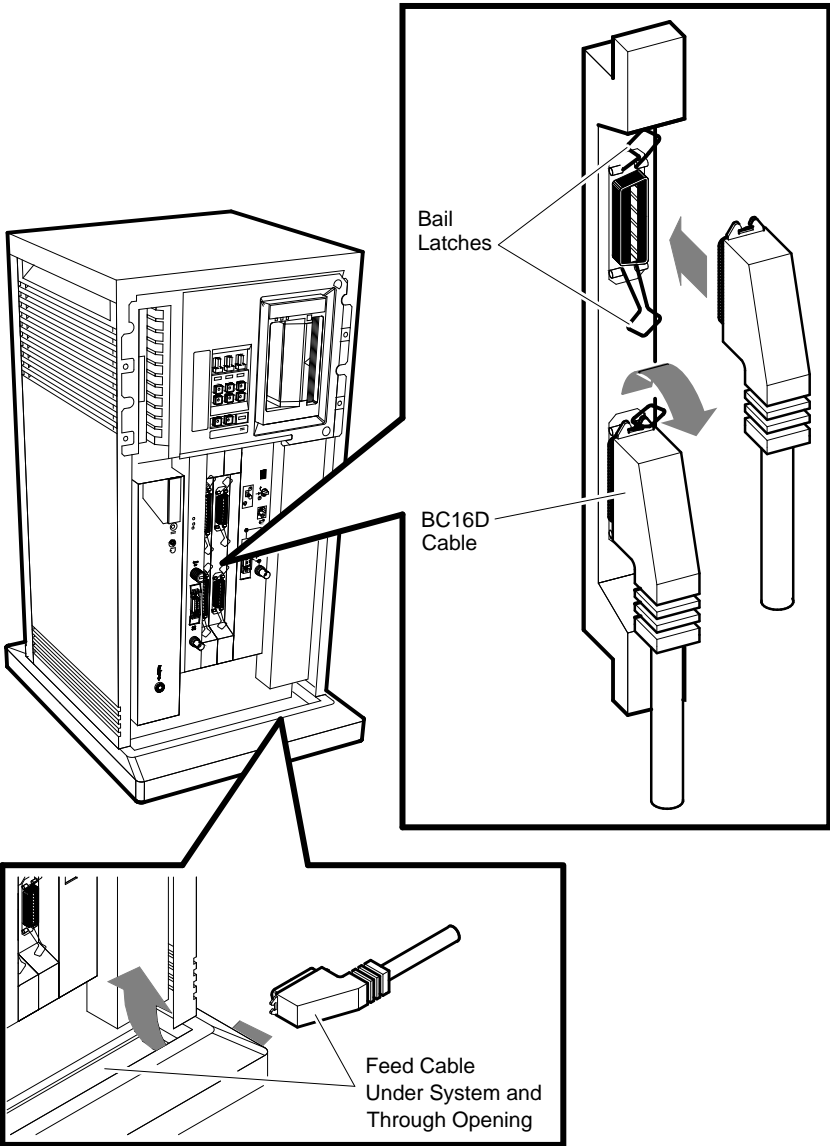
For each CXA16 or CXB16 module, two H3104 cable concentrators and two BC16D cables are shipped with your system.

To connect additional terminals and printers:

1. Find an H3104 cable concentrator and a BC16D cable.
2. Feed one end of the BC16D cable under the system from the back or side and insert it into the connector as shown in Figure 6.
 - If you are connecting two BC16D cables, connect the first to the connector labeled 8–15 on the module cover.
 - If you are connecting one BC16D cable, connect that cable to the connector labeled 0–7.

Lock the connector in place by using the bail latches.

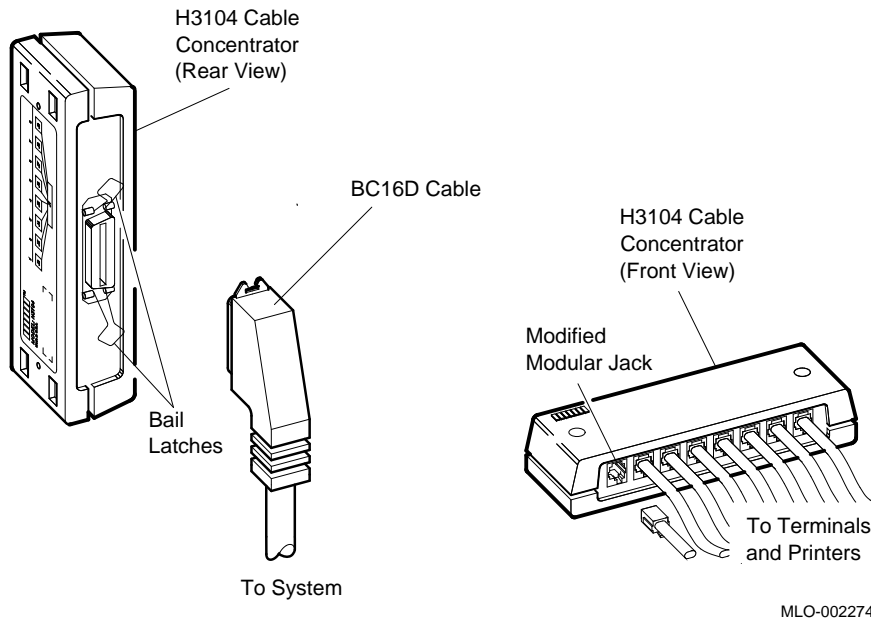
Figure 6: Connecting Devices to the CXA16 Module



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3. Insert the other end of the BC16D cable into the cable concentrator shown in Figure 7. Lock the connector in place by using the bail latches.

Figure 7: Connecting Devices to the Cable Concentrator



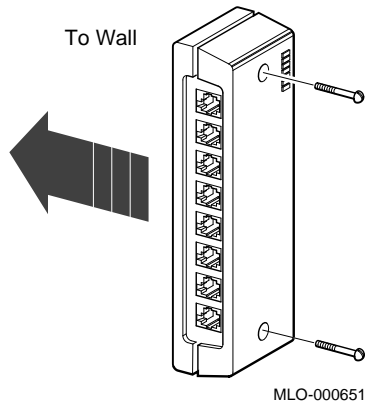
4. Insert each printer and terminal cable into one of the modified modular jacks on the cable concentrator as shown in Figure 7.
5. If you have not done so, connect the terminal or printer to the other end of the cable. Your terminal or printer documentation shows how to connect the cable.

If the printer or terminal does not have a modified modular jack connection, use a passive adapter (H8575-A), available in 25-pin and 9-pin models.

Follow the same procedure for connecting a second BC16D cable to the module, except insert the cable into the connector labeled 0-7.

You can mount the cable concentrator on a wall. Wall mounting keeps cables off the floor. Use two screws as shown in Figure 8.

Figure 8: Mounting the Cable Concentrator



NOTE: Be sure you mount the cable concentrator less than 7.6 meters (25 feet) from the system, to ensure the BC16D cable reaches the system.

6.2 Connecting Parallel Printers to the System

You can connect up to two parallel printers for each LPV11 module installed in your system.

To connect parallel printers to the LPV11 module:

1. Find a BC27L-30 cable.
2. Feed one end of that cable under the system from the back or side. Then insert it into the connector labeled J1 on the module cover. Lock the connector in place by using the bail latches.
3. Insert the other end of the cable into the printer.

Follow the same procedure for connecting a second printer to the LPV11 module, except insert the cable into the connector labeled J2 on the module cover.

6.3 Connecting Synchronous Modems to the System

You can connect to a DSV11, DPV11 or KMV1A module.

6.3.1 DSV11 Module

You can connect up to two synchronous modems for each DSV11 module installed in your system.

To connect a synchronous modem to a DSV11 module, using a protocol adapter and extension cable:

1. Feed the socket end of the 0.6-meter (24-inch) adapter cable (BC19–B/D/E/F) under the system from the back or side and connect it to the module. Tighten the two screws on the cable connector using a screwdriver.
2. Connect the extension cable (BC55D, BC22F or BC19L) to the other end of the adapter cable. Secure the cables by tightening the two screws at the connection.
3. Connect the other end of the extension cable to the modem. Refer to your modem documentation for the location of the connector.

6.3.2 DPV11 or KMV1A Module

You can connect one synchronous modem for each DPV11 or KMV1A module installed in your system.

To connect a synchronous modem to a DPV11 or KMV1A module:

1. Find a BC22E or BC22F cable.
2. Feed one end of the cable under the system from the back or side and insert it into the connector on the DPV11 or KMV1A module cover. Lock the connector in place by using the bail latches.
3. Insert the other end of the cable into the modem. Refer to your modem document for the location of the connector.

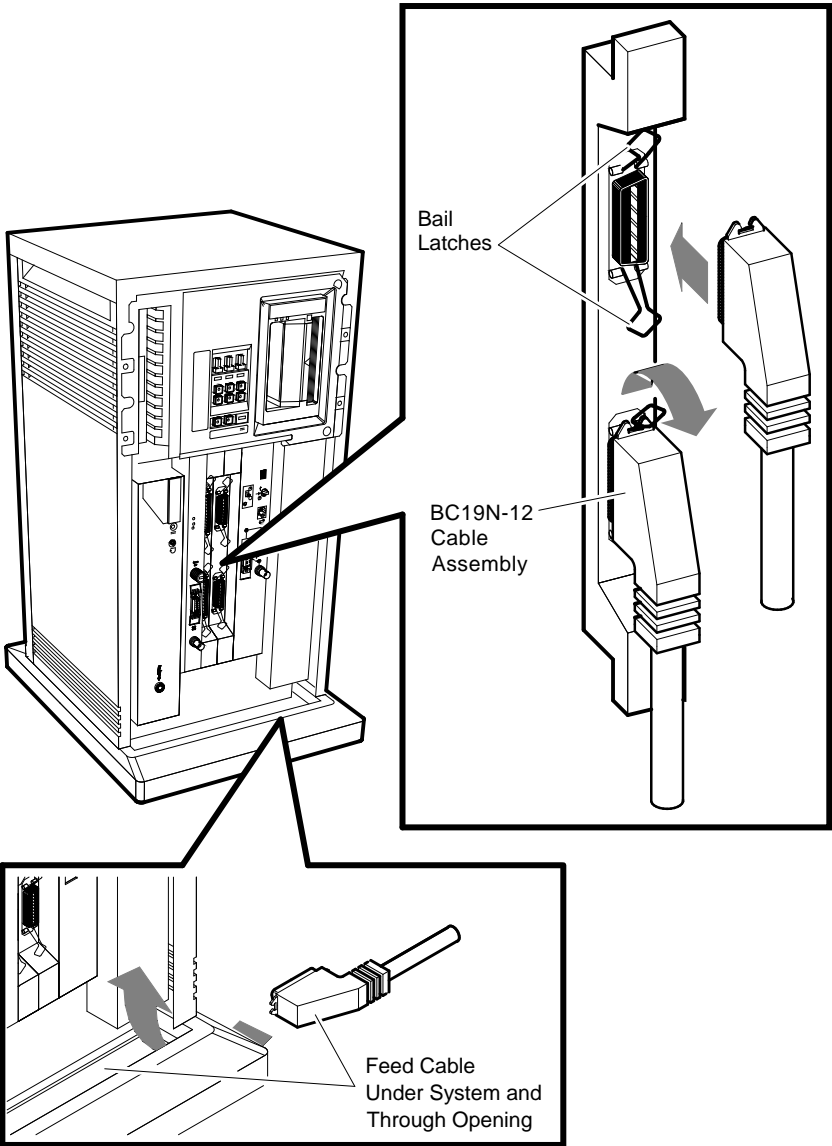
6.4 Connecting Asynchronous Modems to the System

You connect asynchronous modem lines to the CXY08 module which supports up to eight lines.

To connect a modem to a CXY08 module:

1. Find a BC19N–12 cable.
2. Feed one end of the cable under the system from the back or side and insert it into the connector as shown in Figure 9.

Figure 9: Connecting a Modem to a CXY08 Module



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- If you are connecting two BC19N-12 cables, connect the first to the connector labeled 4-7 on the module cover.
- If you are connecting one cable, connect it to the connector labeled 0-3.

Lock the connector in place with the bail latches.

3. Attach a modem to one of the four connectors at the opposite end of the cable. If you want to place the modem farther away from the system, attach a BC22F modem cable between the cable assembly and the modem. Refer to your modem documentation for the location of the connector.

Repeat the same procedure for connecting a second BC19N cable, except insert the cable into the connector labeled 0-3.

6.5 Connecting an Internal Modem to Telephone Lines

NOTE: *The DFA01 modem is available for U.S. and Canadian customers. Depending on the country you live in, the Telecommunication Administration (PTT) may not let you connect private integral modems to the public switched telephone network. Call your Digital representative for information on modem availability in your country.*

6.5.1 DFA01 Modems

The DFA01 module contains two modems, A and B. Each requires its own telephone.

Each DFA01 modem connects to one of the following dial-up telephone services.

- RJ11C (United States) and CA11A (Canada) standard single-line telephone service. The switchpacks are factory set for that service. If you have it, you have one wall-mounted modular telephone jack per telephone.
- RJ12C/RJ13C (United States) and CA12A/CA13A (Canada) telephone service. The switchpacks are factory set for that service. If you have it, you have one wall-mounted modular telephone jack per telephone.
- RJ41S/RJ45S (United States) and CA41A/CA45A (Canada) data jack telephone service. If you have it, you have two wall-mounted modular telephone jacks per telephone.

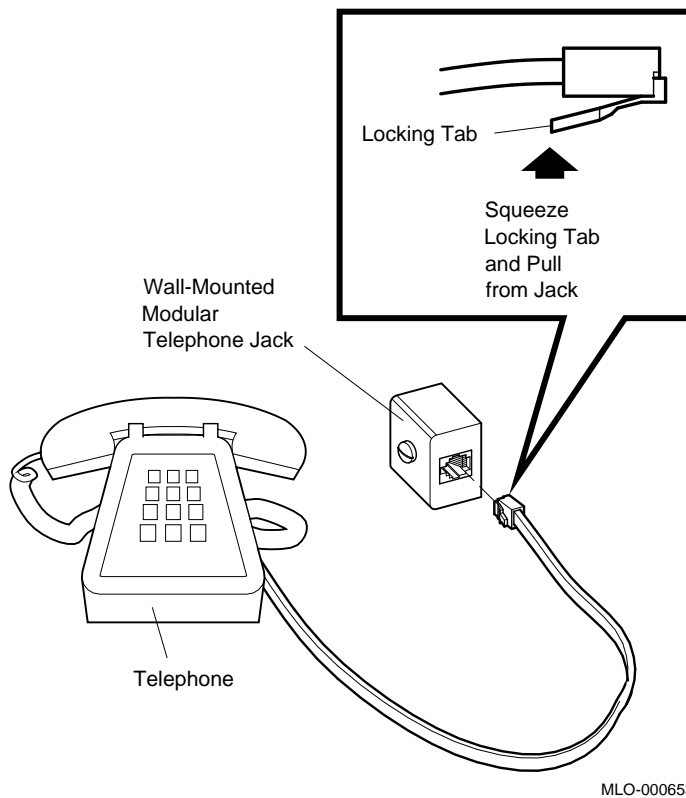
NOTE: *If you do not know which telephone service you are using, call your telephone company.*

6.5.2 RJ11C/CA11A, RJ12C/CA12A, and RJ13C/CA13A Telephone Service

Use the following procedure to connect the DFA01 modem to RJ11C/CA11A, RJ12C/CA12A or RJ13C/CA13A telephone service.

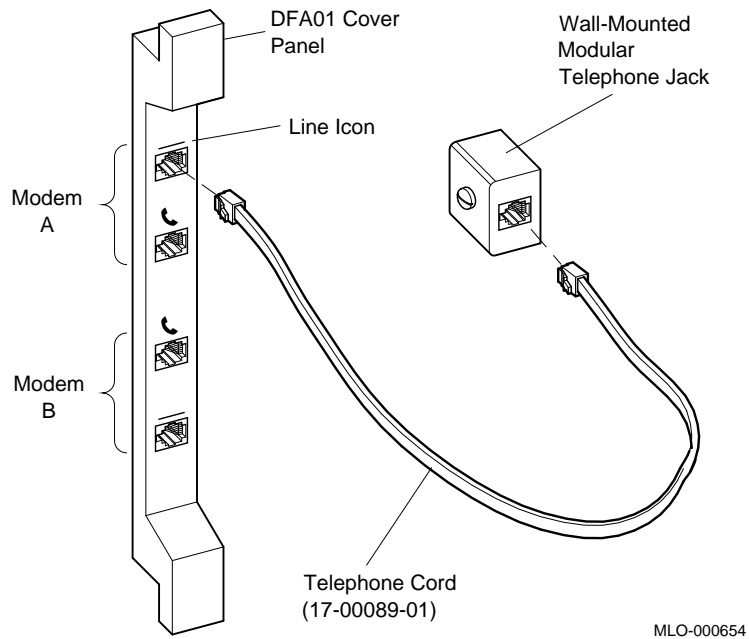
1. Disconnect the telephone line from the wall-mounted modular telephone jack. Leave the other end of the telephone line connected to the telephone as shown in Figure 10.

Figure 10: Disconnecting the Telephone Line — Single Line and Multiline Service



2. Take one end of one of the cords included with the modem (17-00089-01) and insert it into the top jack on the module cover (modem A). The top jack is marked with the line icon as shown in Figure 11.

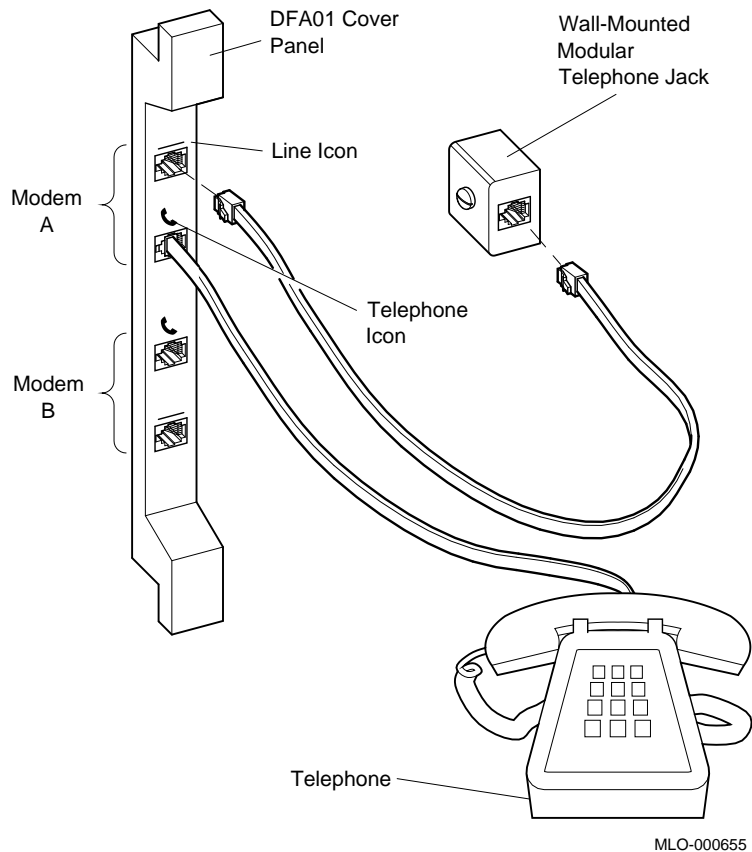
Figure 11: Installing the Telephone Cord — Single Line and Multiline Service



3. Insert the other end of the cord into the wall-mounted telephone jack.

4. To install voice communication on modem A, take the end of the telephone line that you disconnected from the wall jack in step 1 and insert it into the second jack from the top of the module cover as shown in Figure 12. That jack is marked with the telephone icon.

Figure 12: Connecting a Modem to a Telephone — Single Line and Multiline Service



If you do not plan to use modem B, do not perform the following step.

5. Set up modem B by following the same procedure you used to set up modem A. Notice, however, that the jack positions on the module cover

are reversed for modem B. The bottom jack is marked with a line icon; the second jack from the bottom is marked with a telephone icon.

- a. Connect the wall-mounted modular jack to the bottom jack on the module cover.
- b. Connect the telephone line to the second jack from the bottom of the module cover.

6.5.3 RJ41S/CA41A and RJ45S/CA45A Telephone Service

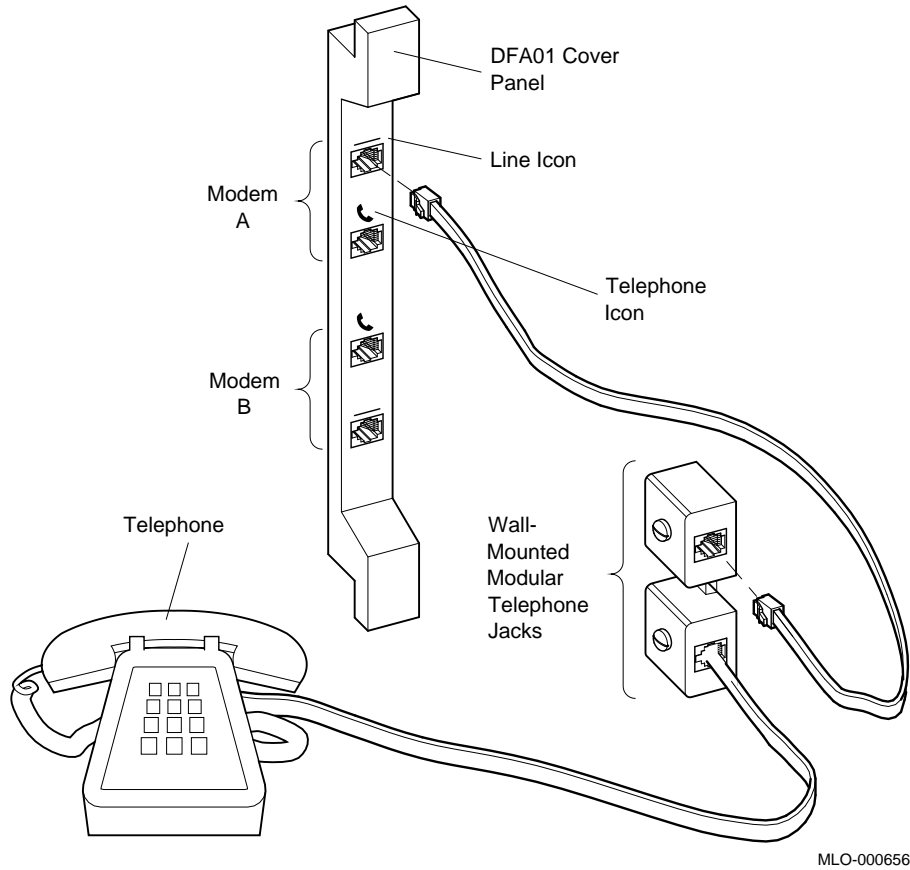
Use the following procedure to connect the DFA01 modem to RJ41S/CA41A or RJ45S/CA45A data-jack telephone service.

- You need a standard eight-wire telephone cord (not supplied with the modem).
- If you plan to use modems A and B, you need two telephones, one for each modem.

Do not unplug the telephone line from the wall-mounted modular telephone jack.

1. Insert one end of the telephone cord into the top jack on the module cover (modem A) as shown in Figure 13. The top jack is marked with the line icon.

Figure 13: Connecting a Modem to a Wall-Mounted Jack (Data Jack Service) — Telephone to Wall-Jack Connection



2. Insert the other end of the telephone cord into a second wall-mounted modular telephone jack.

If you require voice communication on modem A, refer to step 4.

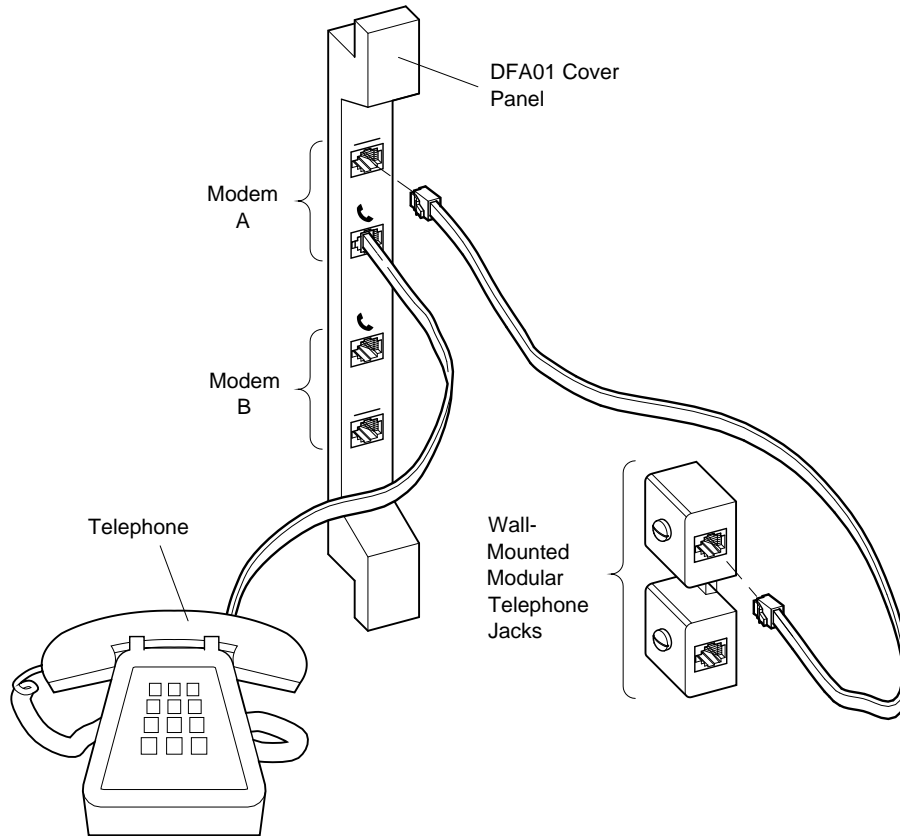
If you do not plan to use modem B, skip step 3 and proceed with step 4.

3. If you plan to use modem B:
 - a. Insert a second eight-wire telephone line into the bottom jack on the module cover, marked with a line icon. (Notice that the jack positions are reversed for modem B.)
 - b. Insert the other end of the cord into a wall-mounted modular telephone jack.

If you require voice communication on modem B, refer to step 4.

4. If you require voice communication with a modem, you can install it in one of two ways:
 - The first way of installing voice communication is established for modems A and B in the preceding steps. The telephone is connected to the wall-mounted modular telephone jack, which is in turn connected to the module cover (see Figure 13).
 - The second way of installing voice communication is by connecting the telephone to the module cover, which is in turn connected to the wall-mounted modular telephone jack as shown in Figure 14.

Figure 14: Connecting a Modem to a Wall-Mounted Jack (Data Jack Service) — Telephone to DFA01 Connection



MLO-000657

- a. Leave connected the eight-wire telephone cord that attaches the module cover to a wall-mounted modular telephone jack.
- b. Disconnect the telephone line from the wall-mounted modular telephone jack. Leave the telephone line connected to the telephone.

- c. Connect the telephone line from the telephone to the module cover.
 - To install voice communication on modem A, insert the telephone line into the second jack from the top of the module cover, marked with the telephone icon.
 - To install voice communication on modem B, insert the telephone line into the second jack from the bottom of the module cover, marked with the telephone icon.

6.5.4 Setting Up Terminal Lines

Before you can use the DFA01 modem, you must set up the operating system software to recognize the modem.

Set up the operating system software to support the following four terminal lines for the modem.

- Modem A — primary channel
- Modem A — on-line control channel (OLC)
- Modem B — primary channel
- Modem B — on-line control channel (OLC)

Refer to your operating system documentation to determine how to make permanent terminal line definitions, so that every time the system is turned on, the terminal lines are configured for proper operation.

You may need to define the following terminal line characteristics.

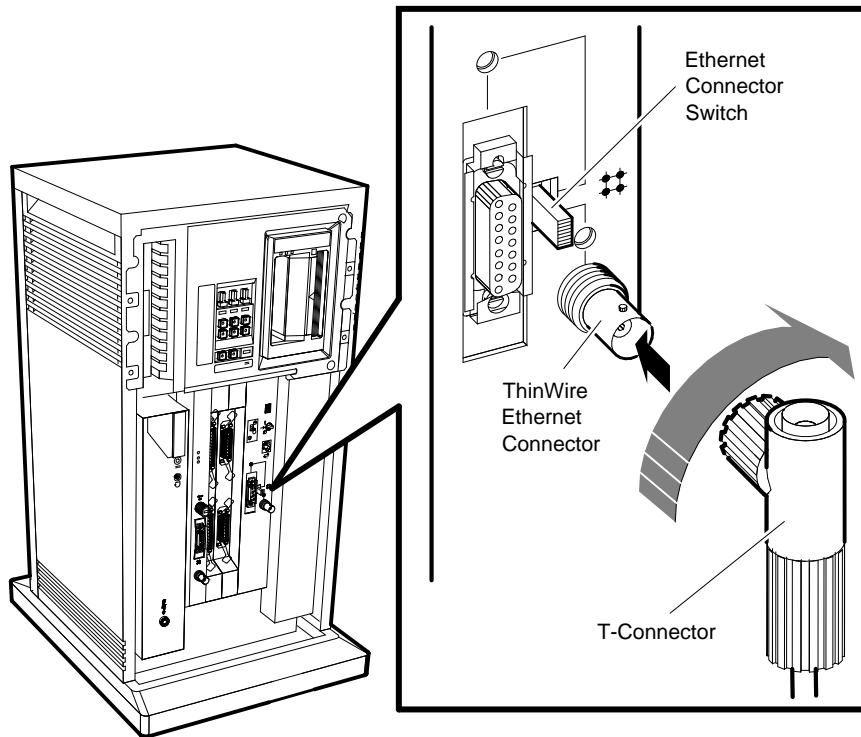
- Modem control — to support full EIA modem control.
- Speed, parity, and data bits — terminal lines should be set to 2400 baud, parity disabled, and 8 data bits to coincide with the modem power-up defaults.
- Dial up — to support dial-up operation.
- Hang up — to disable automatic hang up of the lines when logging out or when completing a dialog with the modem using terminal emulation software.

With automatic hang up disabled, you can modify the modem operating parameters (from application software or when using a terminal emulator). You can then exit the program without the modem resetting those parameters to power-up default values.

6.6 Connecting to an Ethernet Network at the CPU Cover Panel

An Ethernet Connector switch on the CPU cover panel (Figure 15) selects a standard or ThinWire connector. You must select one or the other.

Figure 15: Ethernet Connector Switch on the CPU Cover Panel



MLO-005698

- To select the ThinWire connector, slide the switch down. Then go to Section 6.6.1.
- To select the standard connector, slide the switch up. Then go to Section 6.6.2.

An indicator next to the selected connector lights when your system is turned on, indicating an active connection.

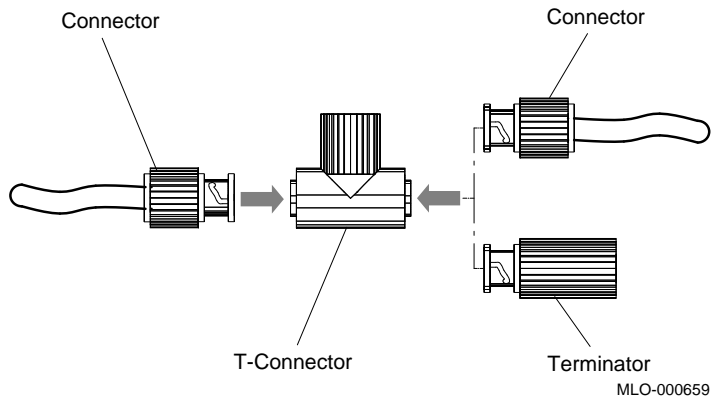
6.6.1 Making a ThinWire Network Connection at the CPU Cover Panel

To make a ThinWire network connection at the CPU cover panel:

1. Find the T-connector and two terminators. They are on the ThinWire connector, below the Ethernet Connector switch.

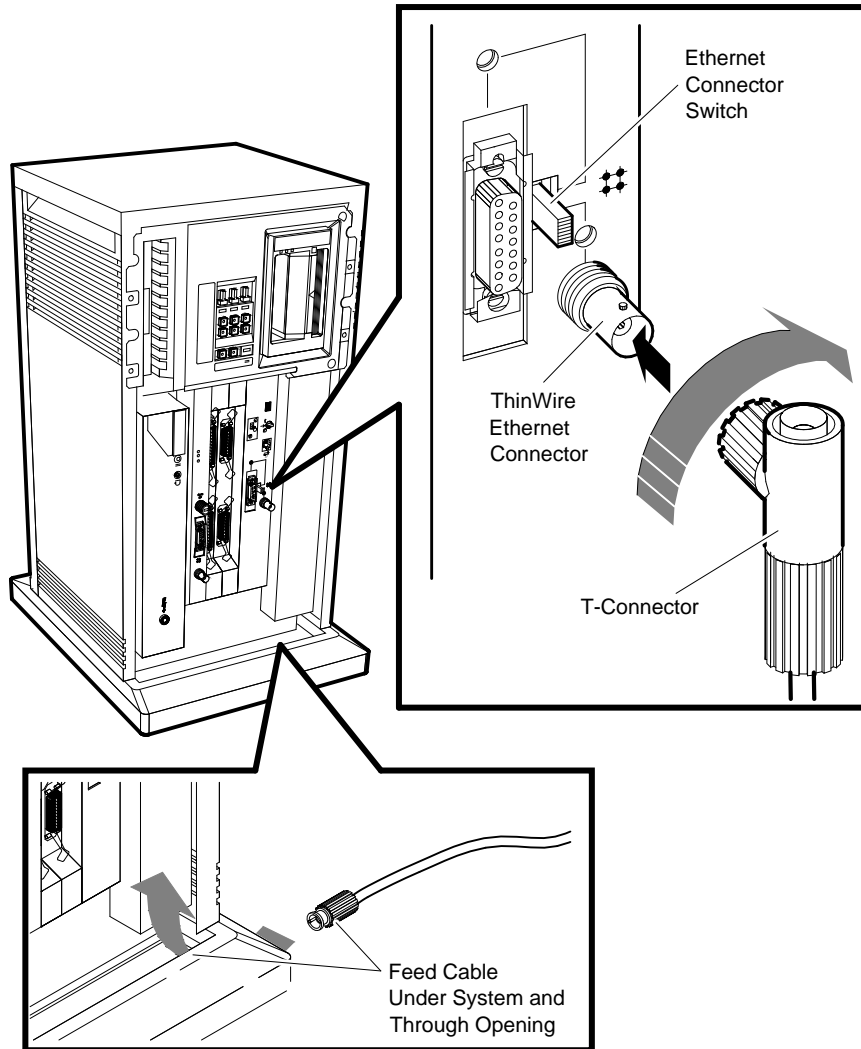
Figure 16 shows how the T-connector, terminators, and ThinWire cable connectors fit together.

Figure 16: ThinWire Cable, T-Connector, and Terminator



2. Remove the terminator from the bottom of the T-connector shown in Figure 17. Push in and turn it counterclockwise until it unlocks.

Figure 17: Making a ThinWire Ethernet Connection at the CPU Cover Panel



MLO-000660

3. Plug the T-connector into the ThinWire connector. Turn the T-connector clockwise until it locks in place.

4. Connect the ThinWire cable to the T-connector as shown in Figure 17.
 - If your system requires one connection to the network:
 - a. Connect the ThinWire cable to the lower end of the T-connector.
 - b. Connect a terminator to the other end of the T-connector.Push in and turn the connector or terminator clockwise until it locks in place.
 - If your system is a link in a network and connects to two additional components:
 - a. Connect a ThinWire cable to one end of the T-connector.
 - b. Remove the terminator from the other end and connect a second ThinWire cable to it.Push in and turn the connectors clockwise until they lock in place.
5. Connect the ThinWire cable to one of the following devices.
 - A ThinWire Ethernet Multiport Repeater (DEMPR), which can be connected to a baseband Ethernet cable and which connects up to eight ThinWire segments in a local area network
 - A ThinWire Ethernet Singleport Repeater (DESPR), which can be connected to a baseband Ethernet cable and which connects one ThinWire segment
 - A ThinWire Ethernet adapter in another system or workstation

NOTE: *Contact your network manager or Digital service representative if you have questions about network configurations.*

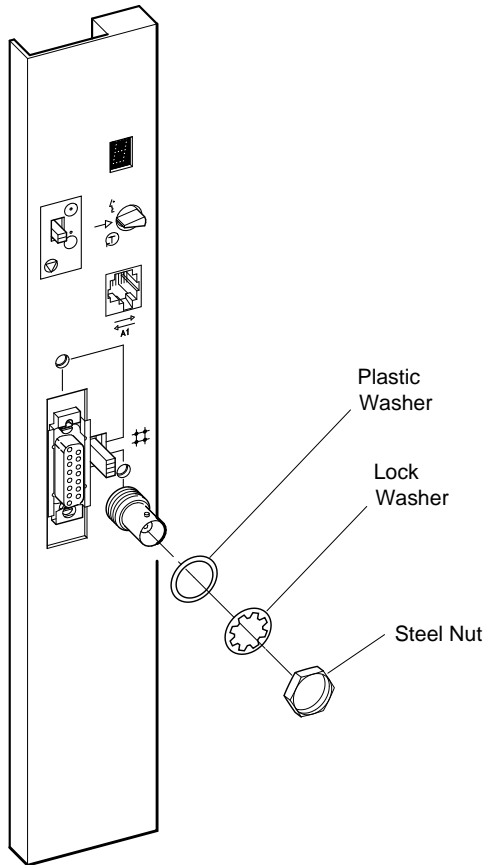
When the ThinWire cable is connected to a DEMPR or DESPR, the ground is provided by the DEMPR or DESPR chassis. If you are using a single-segment ThinWire Ethernet local area network (LAN) with no DEMPR or DESPR, you may need to ground the ThinWire connector on the CPU cover panel.

CAUTION: *Each ThinWire Ethernet segment must have only one grounding point.*

To ground a single-segment ThinWire network at the CPU cover panel:

1. Remove the steel nut, lock washer, and plastic washer from the ThinWire Ethernet connector on the CPU cover panel as shown in Figure 18.

Figure 18: Grounding the ThinWire Ethernet at the CPU Cover Panel



MLO-000706

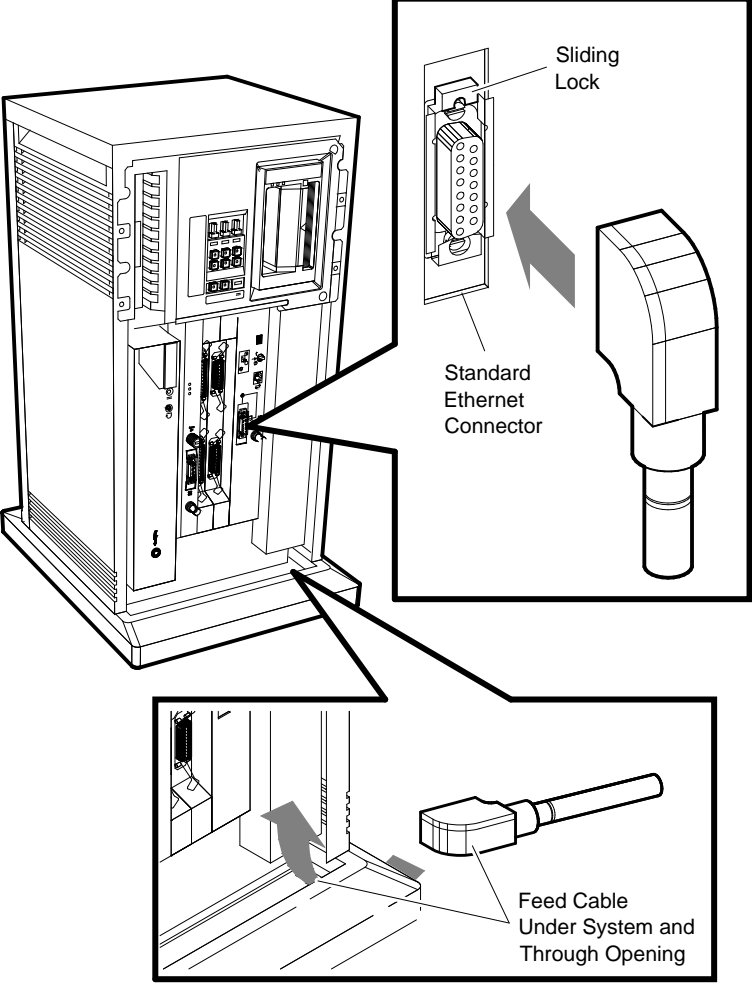
2. Discard the plastic washer.
3. Replace and tighten the lock washer and the steel nut.

6.6.2 Making a Standard Network Connection at the CPU Cover Panel

To make a standard network connection at the CPU cover panel:

1. Find the Ethernet transceiver cable. It has a plug at one end and a socket at the other end.
2. Make sure the sliding lock on the standard Ethernet connector on the CPU cover panel (Figure 19) is in the up position. Then feed the plug end of the cable under the system from the back or side and insert it into the connector. Slide the lock down to secure the connection.

Figure 19: Making a Standard Ethernet Connection at the CPU Cover Panel



MLO-000658

3. Connect the other end of the cable to one of the following devices.
 - An H4000 or H4005 transceiver on a traditional baseband Ethernet cable
 - A DELNI interconnect, which can be connected to a baseband Ethernet cable and which connects up to eight systems in a local area network
 - A DESTA adapter, which can connect the Ethernet transceiver cable to ThinWire Ethernet cabling
 - A standard adapter in another system or workstation

NOTE: *Contact your network manager or Digital service representative if you have questions about network configurations.*

6.7 Connecting to an Ethernet Network at the DESQA Module

If your DESQA module does not have an Ethernet Connector switch (Figure 20):

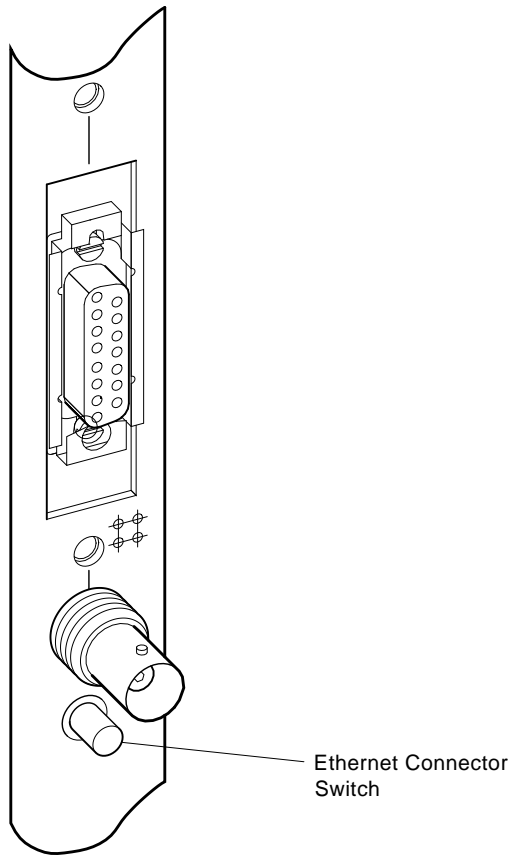
- If you want to connect to ThinWire Ethernet, go to Section 6.7.1.
- If you want to connect to standard Ethernet, call your Digital service representative.

If your DESQA module has an Ethernet Connector switch, you must select a ThinWire or a standard connector:

- To select the ThinWire connector, set that switch to the out position. Then go to Section 6.7.1.
- To select the standard connector, set that switch to the in position. Then go to Section 6.7.2.

An indicator next to the selected connector lights when your system is turned on, indicating an active connection.

Figure 20: DESQA ThinWire/Standard Ethernet Connector Switch

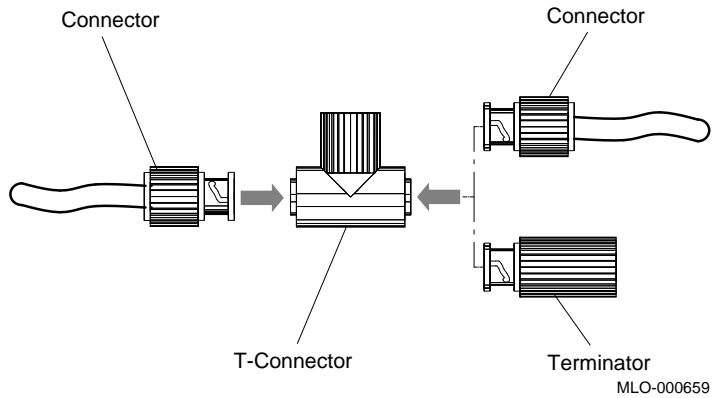


6.7.1 Making a ThinWire Network Connection at the DESQA Module

If your DESQA module has an Ethernet Connector switch, make sure that switch is set to the out position.

A T-connector and two terminators are on the DESQA module. Figure 21 shows how the T-connector, terminators, and ThinWire cable connectors fit together.

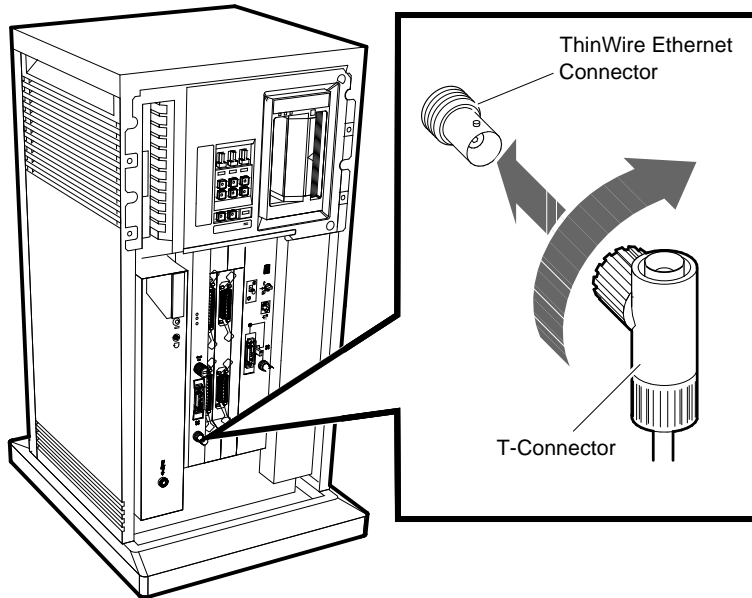
Figure 21: ThinWire Cable, T-Connector, and Terminator



To make a ThinWire network connection at the DESQA module:

1. Remove the T-connector from the module. Push in and turn it counterclockwise until it unlocks.
2. Remove the terminators from the T-connector. Push in and turn them counterclockwise until they unlock.
3. Connect the ThinWire cable to the T-connector as shown in Figure 22.

Figure 22: Making a ThinWire Ethernet Connection at the DESQA Module

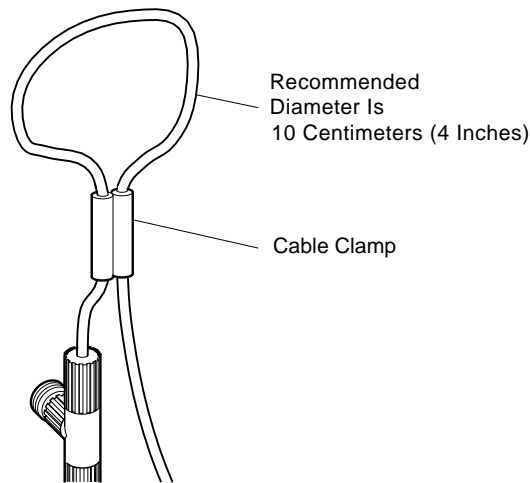


MLO-005581

- If your system requires one connection to the network:
 - a. Connect the ThinWire cable to the upper end of the T-connector.
 - b. Connect a terminator to the other end of the T-connector.Push in and turn the connector or terminator clockwise until it locks in place.
 - If your system is a link in a network and connects to two additional components:
 - a. Connect a ThinWire cable to one end of the T-connector.
 - b. Connect a second ThinWire cable to the other end of the T-connector.Push in and turn the connectors clockwise until they lock in place.
4. Insert the T-connector into the ThinWire connector on the module as shown in Figure 22. Push in and turn the T-connector clockwise until it locks in place.

5. Use the cable clamp shipped with the module to form the upper cable in a loop approximately 10 centimeters (4 inches) in diameter as shown in Figure 23.

Figure 23: Forming the Upper Cable in a Loop at the DESQA Module



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6. Connect the ThinWire cable to one of the following devices.
 - A ThinWire Ethernet Multiport Repeater (DEMPR), which can be connected to a baseband Ethernet cable and which connects up to eight ThinWire segments in a local area network
 - A ThinWire Ethernet Singleport Repeater (DESPR), which can be connected to a baseband Ethernet cable and which connects one ThinWire segment
 - A ThinWire Ethernet adapter in another system or workstation

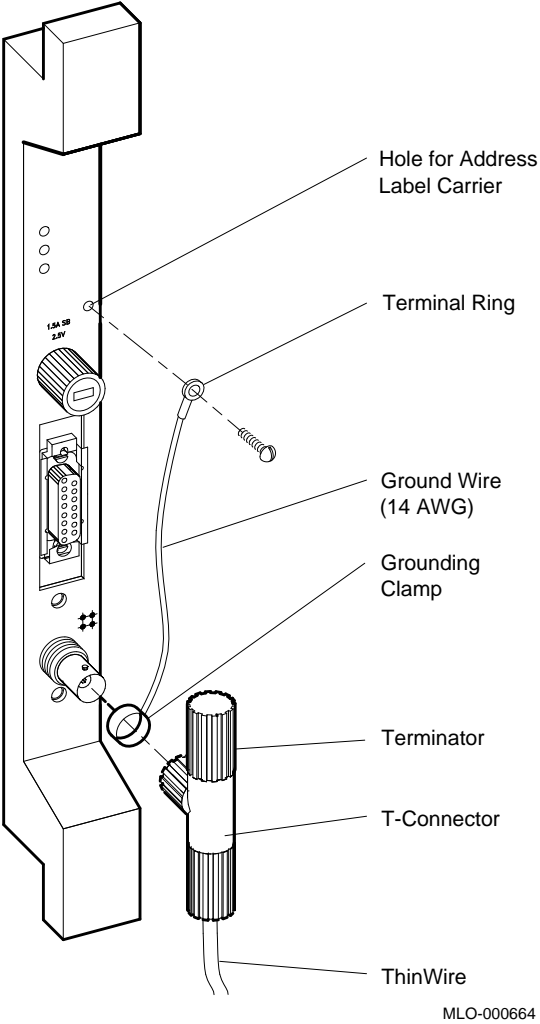
NOTE: *Contact your network manager or Digital service representative if you have questions about network configurations.*

When the ThinWire cable is connected to a DEMPR or DESPR, the ground is provided by the DEMPR or DESPR chassis. If you are using a single-segment ThinWire Ethernet local area network with no DEMPR or DESPR, you may need to ground the ThinWire connector on the DESQA module.

CAUTION: *Each ThinWire Ethernet segment must have only one grounding point.*

To ground a single-segment ThinWire network on the DESQA module, connect a grounding clamp (90-08927-00) and an unshrouded T-connector (12-25534-01) as shown in Figure 24, next page. Contact your Digital sales representative concerning those parts.

Figure 24: Grounding the ThinWire Ethernet at the DESQA Module



6.7.2 Making a Standard Network Connection at the DESQA Module

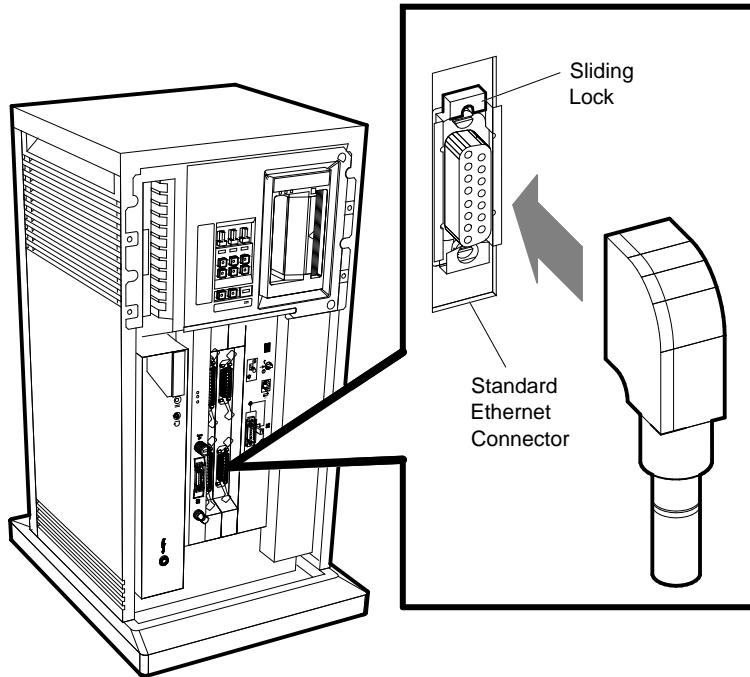
If your DESQA module does not have an Ethernet Connector switch, call your Digital service representative.

If your DESQA module has an Ethernet Connector switch and you set it to the in (standard) position:

1. Find the Ethernet transceiver cable. It has a plug at one end and a socket at the other end.
2. Make sure the sliding lock on the standard Ethernet connector on the module is in the up position.

3. Feed the plug end of the cable under the system from the back or side and insert it into the connector as shown in Figure 25. Slide down the lock to secure the connection.

Figure 25: Making a Standard Ethernet Connection at the DESQA Module



MLO-005582

4. Connect the other end of the cable to one of the following devices.
 - An H4000 transceiver on a traditional baseband Ethernet cable
 - A DELNI interconnect, which can be connected to a baseband Ethernet cable and which connects up to eight systems in a local area network

NOTE: *Contact your network manager or Digital service representative if you have questions about network configurations.*

7 Connect the DSSI Cable — Dual Host Only

If you are not installing a dual-host system, skip to step 8.

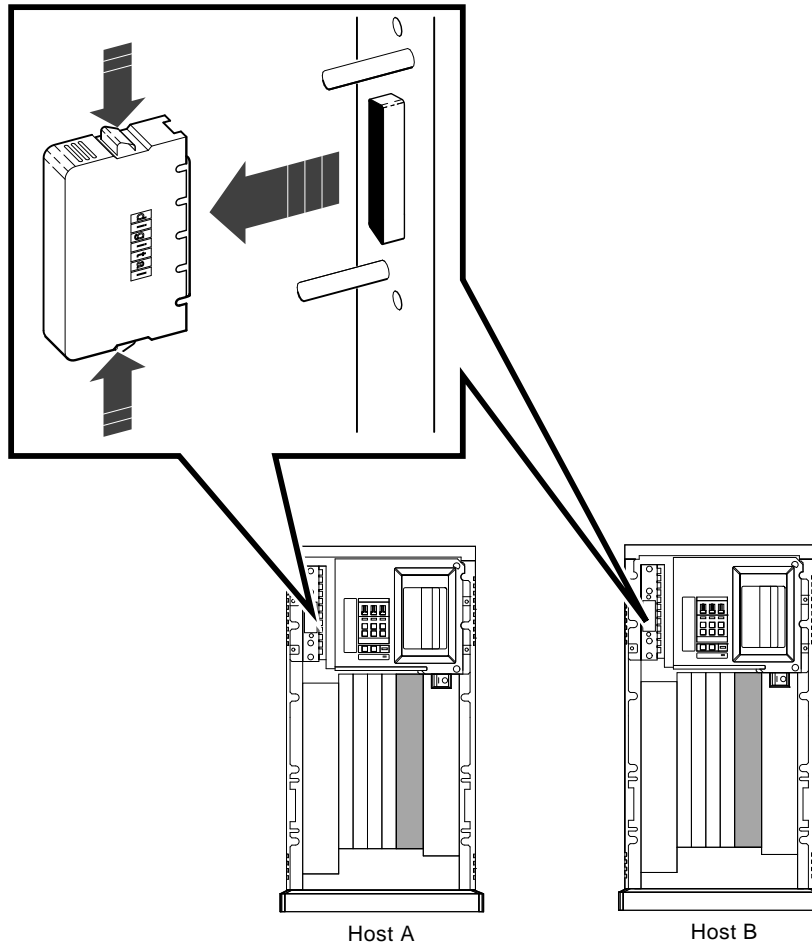
If you are installing a dual-host system:

NOTE: *If you want to renumber the system ISEs, refer to your Operation manual.*

1. For ease of discussion, call one of the systems host A, the other host B.

2. Remove the DSSI terminator from the host A DSSI In/Out connector shown in Figure 26. Squeeze the spring clips at the top and bottom of the terminator as you pull it straight out.

Figure 26: Removing the DSSI Terminators

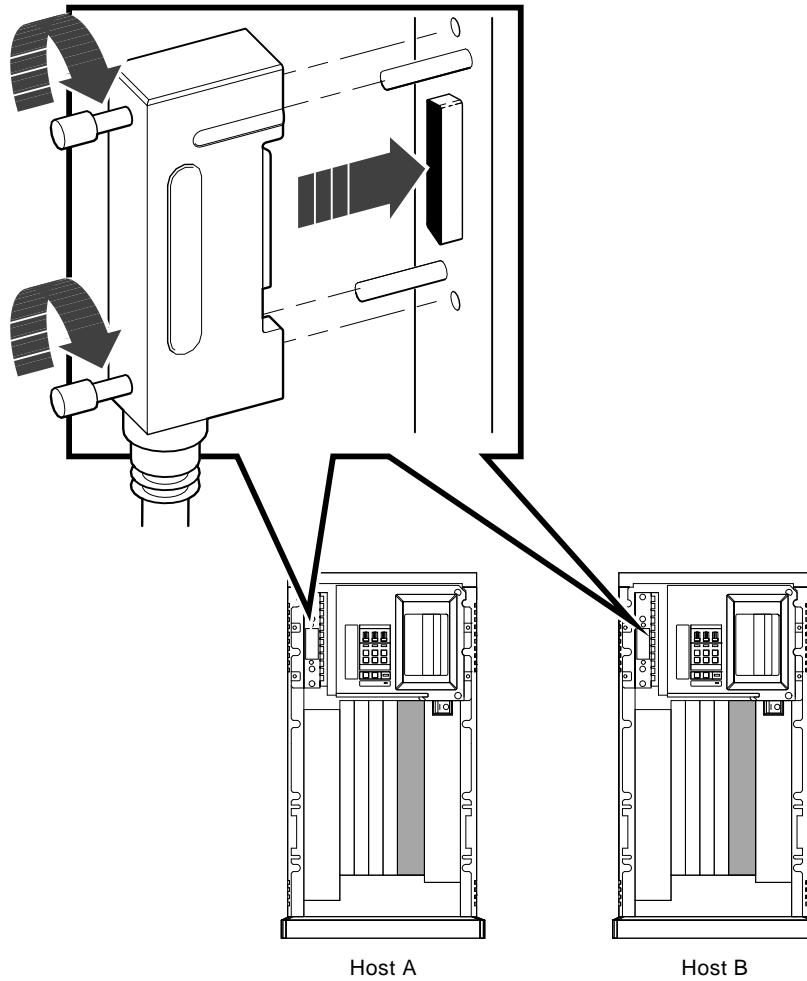


MLO-005583

3. Repeat the previous step for host B.
4. Find the 2.74-meter (9-foot) DSSI cable labeled BC21M-09, shipped with your system.

5. Feed either end of that cable under host A from the back or side. Then insert the cable connector into the DSSI In/Out connector by fitting the cable connector over the two guide pins shown in Figure 27.

Figure 27: Connecting the DSSI Cable



MLO-005584

Tighten the screws by hand, then use a screwdriver to secure the connection.

6. Repeat the previous step for host B using the opposite end of the DSSI cable.

8 Connect the System Power Cable

CAUTION: *Before continuing the installation, verify that your system power requirements match your power source. The correct voltage for the system is listed on the serial number label next to the power supply (see Figure 1).*

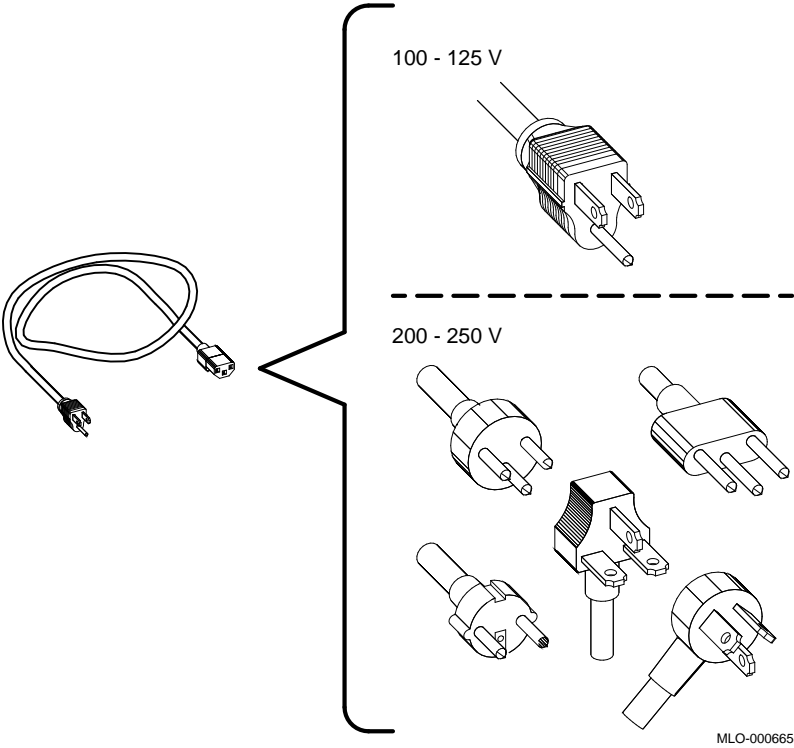
- *If the voltage matches your power source, continue the installation.*
- *If the voltage does not match your power source, do not continue the installation. Contact your Digital sales representative.*

Connect the power cable to your system as follows.

1. Make sure the Power switch is set to off (0).
2. Make sure all devices connected to your system are turned off.
3. Find the power cable shipped with your system.

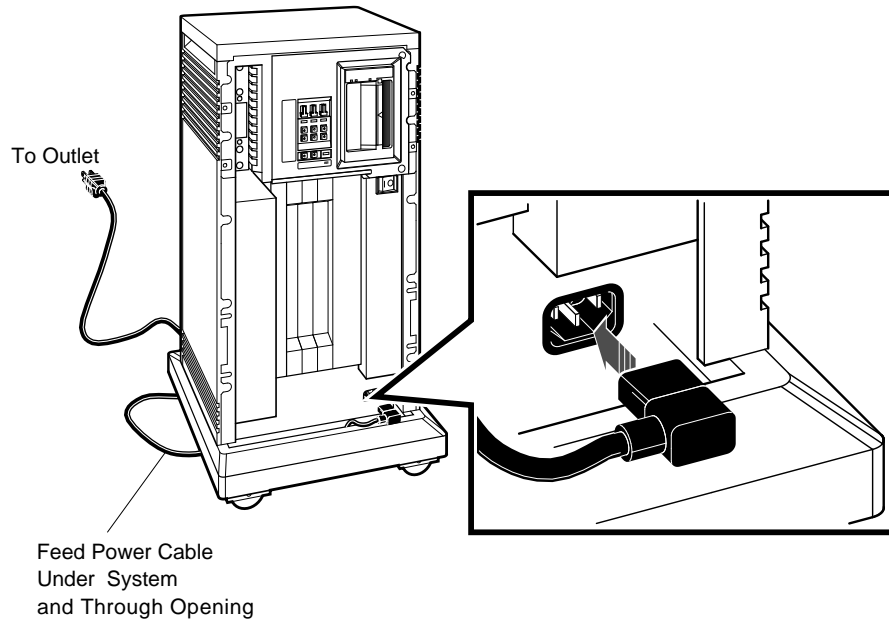
4. Make sure the plug end of that cable matches your wall outlet or other power source. Several types of plugs are shown in Figure 28.

Figure 28: Power Cables



5. Feed the socket end of the cable under the system from the back or side, and insert the cable into the power supply as shown in Figure 29.

Figure 29: Attaching the Power Cable to the System



MLO-000666

6. Insert the plug end of the cable into your wall outlet or other power source.

You are now ready to turn on your system and select a language.

9 Turn On the System and Select a Language

The language you select controls only the language of the console program which is part of the firmware in the CPU. That firmware lets you give commands to the system and also generates error messages.

NOTE: *For a dual-host system: You must turn on each host separately. If you want a language other than English (United States/Canada), you must select a language for each host.*

Turn on your system(s) and select a language for each as follows.

1. Turn on your console terminal and wait until it performs its self-tests successfully.
2. Turn on your system by setting the Power switch to on (1).

The switch should glow orange.

Within a few moments a language selection menu should appear on your console terminal as shown in Figure 30.

NOTE: *If you are using an older terminal that does not support multiple languages, the language selection menu does not appear and the system defaults to English (United States/Canada).*

Figure 30: Language Selection Menu

```
KA660-A Vn.n VMB n.n
1) Dansk
2) Deutsch (Deutschland/Österreich)
3) Deutsch (Schweiz)
4) English (United Kingdom)
5) English (United States/Canada)
6) Español
7) Français (Canada)
8) Français (France/Belgique)
9) Français (Suisse)
10) Italiano
11) Nederlands
12) Norsk
13) Português
14) Suomi
15) Svenska
(1..15):
```

3. Select a language by typing its number and .

NOTE: *If you do not select a language within 30 seconds, the system defaults to English (United States/Canada).*

Within a few moments the console terminal should display a series of numbers as the system tests itself. The example in Figure 31 shows that display after successful testing.

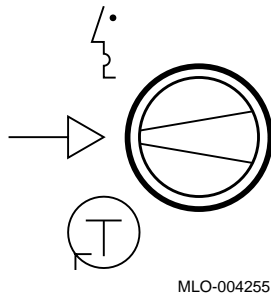
Figure 31: Successful Self-Tests

```
KA660-A Vn.n, VMB n.n
Performing normal system tests.
95..94..93..92..91..90..89..88..87..86..85..84..83..82..81..80..
79..78..77..76..75..74..73..72..71..70..69..68..67..66..65..64..
63..62..61..60..59..58..57..56..55..54..53..52..51..50..49..48..
47..46..45..44..43..42..41..40..39..38..37..36..35..34..33..32..
31..30..29..28..27..26..25..24..23..22..21..20..19..18..17..16..
15..14..13..12..11..10..09..08..07..06..05..04..03..
Tests completed.
>>>
```

If the self-tests do not start or do not complete successfully, as shown in Figure 31, your system may have a problem. For instructions on finding the source of the problem, refer to your system *Troubleshooting and Diagnostics* manual which is included in the Customer Hardware Information Kit.

4. If the self-tests complete successfully and you want to save the language you selected (so you need not select it each time you turn on the system), turn the Power-Up Mode switch to Run mode, which is indicated by an arrow on the CPU cover panel as shown in Figure 32.

Figure 32: Saving the Language



Now you are ready to attach the front panel.

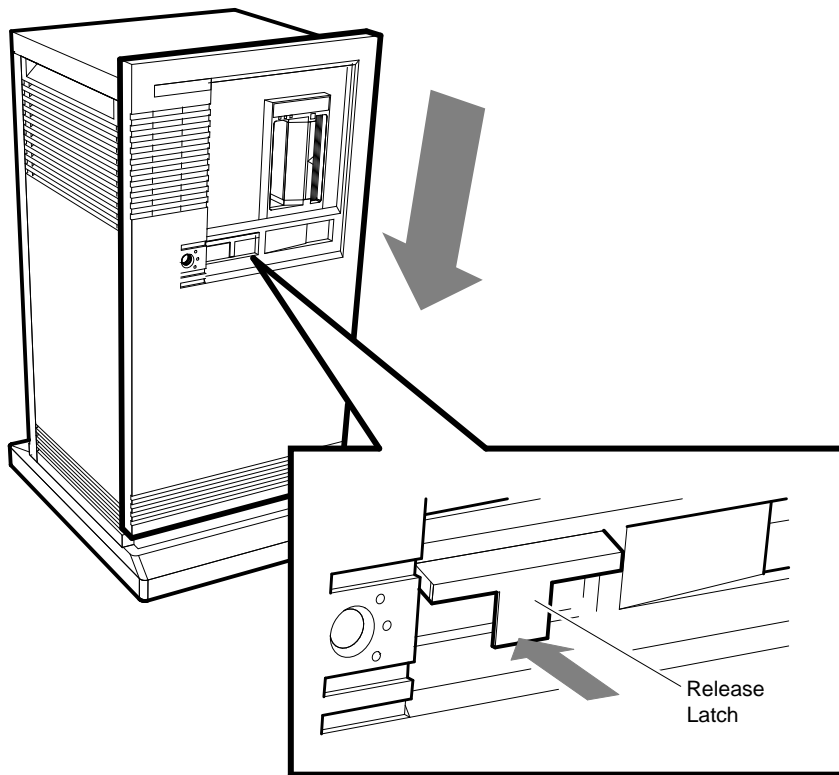
10 Attach the Front Panel to the System

If you plan to start up factory-installed software immediately following the installation, do not attach the front panel at this time.

Attach the front panel as shown in Figure 33.

NOTE: *The window on the front panel must be open. Instructions for operating the window controls are provided in your system Operation manual.*

Figure 33: Attaching the Front Panel



MLO-000669

1. Pull out the release latch on the front panel.

2. Holding the panel with both hands, place it flush against the front of the system, about an inch above the bottom.
3. Insert the hooks on the rear of the panel into the slots on the system. Then slide the panel down until it locks in place.
4. Secure the panel by pushing in the release latch.

11 After Installation

Digital strongly recommends that you run the diagnostic software for your system before you install system software or start factory-installed software the first time. The diagnostics:

- Verify the system configuration.
- Check to see if each device is working properly.

The diagnostic software is on a tape cartridge labeled MV DIAG CUST TK50. Your system *Troubleshooting and Diagnostics* manual tells you how to run the diagnostic software.

You should now read your system *Operation* manual to learn how to use the system. You must know how to operate the system controls and the disk or tape drive before you install system software or run diagnostic software.

If you have factory-installed software on your system, see Appendix A for the startup procedure. Otherwise, install the software that you ordered with your system.

NOTE: *A system with VMS factory-installed software has a yellow sticker on the front of the system.*

Appendix A

Starting and Modifying VMS Factory-Installed Software

This appendix tells you how to start and modify VMS factory-installed software (FIS), which is on your system disk if you ordered one or more ISEs.

FIS must be modified to accommodate customized passwords and system environment particulars. You make the modifications during a startup procedure that is executed when you start FIS the first time.

The requirements for modifying FIS depend on how your system will be used. For example, your system can be configured as a:

- Standalone system
- Dual-host system
- Simple VAXcluster network
- System in a more complex VAXcluster network with distributed resource sharing and sophisticated disk management

CAUTION: *If you want to modify FIS to obtain a dual-host or VAXcluster system, you should have a good understanding of DSSI architecture and VAXcluster software operation. If you do not have that understanding, you should read the manuals listed in Section A.1 or call your Digital service representative.*

A.1 Pre-Startup Requirements

Before you begin the startup procedure, you should:

1. Determine how your system will be configured.
2. Read through the startup procedure to make sure you have the correct information to enter for your configuration.

3. If your system will be part of a cluster or network, ask your network coordinator or system administrator for your system:
 - DECnet node name
 - DECnet node address
 - Cluster group number
 - Cluster password
4. If you are not familiar with networking and clustering, examine the following manuals.
 - VMS VAXcluster Manual*
 - Guide to DECnet-VAX Networking*
 - VMS Networking Manual*

A.2 Startup Procedure

If you have a dual-host system, you can start with either host.

1. Enter the console mode.
 - a. Set the Power switch to off (0).
 - b. Set the Break Enable/Disable switch to enable (up, dot inside circle).
 - c. Set the Power switch to on (1).Wait for your system to complete its self-tests and display the console prompt (>>>).
2. Make sure the system disk is on line and is not write-protected.
 - The Run/Ready button should be in (lit).
 - The Write-Protect button should be out (not lit).
3. If your system will be configured as a cluster with a nonzero allocation class, see your system *Operation* manual for information on how to program parameters for ISEs.
4. Define the system disk as the default boot device.

```
>>> SET BOOT DIA0 
```
5. Boot the FIS.

```
>>> BOOT 
```


6. Set the Break Enable/Disable switch to disable (down, dot outside circle).

The system displays a banner and then prompts you for the date and time.

```
VAX/VMS Version Vn.n Major version id = 1 Minor version id = 0
Please enter date and time (DD-MMM-YYYY HH:MM):
```

7. Enter the date and time in the format shown. For example:

```
Please enter date and time (DD-MMM-YYYY HH:MM): 03-JUL-1991 12:00 
```

Some messages are displayed, followed by a prompt:

```
=====
Modifying Factory Installed Software for Customer Use

%SET-I-NEWAUDSRV, identification of new audit server.....
%LICENSE-F-EMTLDB, license database contains no license records
.
.
.
Do you want to enter Customer's cluster and password information(Y/N)?
```

8. Refer to the appropriate section to complete the startup procedure for a:
 - Standalone system, Section A.2.1
 - Simple VAXcluster network, Section A.2.2
 - Dual-host system or complex VAXcluster network, Section A.2.3

A.2.1 Modifying FIS for a Standalone System

The following procedure modifies FIS for a standalone system.

```
Do you want to enter Customer's cluster and password information(Y/N)?
```

1. Enter Y (type Y and).

The system asks you to confirm the date and time.

```
The system time is dd-mmm-yyyy hh:mm:ss:ss
Is this correct? (Y/N)
```

2. If the date and time are incorrect, enter N. With that answer, the system reprompts you to enter the correct date and time and then to review it.

If you enter Y, the system displays the following prompt.

```
Will this node be a cluster member (Y/N)?
```

3. Enter N.

If DECwindows is on the system disk, you will see the following prompt.

```
Do you want DECwindows as the default windowing system? (Y/N)
```

NOTE: *It is easy to set DECwindows as the default windowing system at a later stage. To do that, you must modify the VMS system generation parameter, WINDOW_SYSTEM, generate a new set of bootstrap parameters, and boot the system again. See the VMS Installation and Operations Manual, the Guide to Setting Up a VMS System, or the VMS System Generation Utility Manual for more information.*

4. If you want DECwindows as the default windowing system, enter Y. Otherwise, enter N.

The system displays prompts asking for account passwords.

5. Enter them as shown below.

NOTE: *The passwords shown are samples. You should enter your own passwords. Remember to record them. If you forget a password, you cannot log in.*

```
Enter new password for account SYSTEM: PANCAKES 
Re-enter the password for account SYSTEM: PANCAKES 
%UAF-I-MDFYMSG, user record(s) updated
```

```
Enter new password for account SYSTEST: BRATHWURST 
Re-enter the password for account SYSTEST: BRATHWURST 
%UAF-I-MDFYMSG, user record(s) updated
```

```
Enter new password for account FIELD: ZIRHUMBA 
Re-enter the password for account FIELD: ZIRHUMBA 
%UAF-I-MDFYMSG, user record(s) updated
```

The system verifies the passwords and rejects any that can be easily guessed. The following status messages are displayed if the passwords are acceptable.

```
%VMS-I-PWD_OKAY, account password for SYSTEM verified
%VMS-I-PWD_OKAY, account password for SYSTEST verified
%VMS-I-PWD_OKAY, account password for FIELD verified
```

Then the following status message is displayed.

```
Creating RIGHTS database file, SYS$SYSTEM:RIGHTSLIST.DAT
```

Ignore any messages of this type.

```
%SYSTEM-F-DUPIDENT, duplicate identifier
```

The following status message is displayed when the FIS setup procedure completes.

```
%UAF-I-RDBDONEMSG, rights database modified
```

The system then displays messages that remind you to perform certain tasks after the software is installed:

- Register any Product Authorization Keys (PAKs).
- Back up the system disk.
- Tailor the system disk.

Finally, the system displays the following message, followed by other status messages.

```
Running AUTOGEN -- Please wait
```

At this point the system shuts itself down and then reboots from the default boot device. The process takes several minutes, and the system displays a series of information messages:

```
SHUTDOWN -- Perform an Orderly System Shutdown
.
.
.
VAX/VMS Version Vn.n   Major version id = 1 Minor version id = 0
.
.
SYSTEM          job terminated at 24-JUL-1991 14:47:28.34

Accounting information:
Buffered I/O count:    133   Peak working set size:    401
Direct I/O count:     12    Peak virtual size:      2379
Page faults:          325   Mounted volumes:        0
Charged CPU time: 0 00:00:55.23  Elapsed time:      0 00:01:31.24
```

6. Press .

The system prompts you for a username and password.

7. Log in to the SYSTEM account as shown below.

```
Welcome to VAX/VMS
USERNAME:  SYSTEM 
PASSWORD:  PANCAKES 

%LICENSE-I-NOLICENSE, no license is active for this software product
%LOGIN-LOGOPRCON, login allowed from OPA0:

Welcome to VAX/VMS
$
```

The system prompt (\$) indicates the completion of the startup procedure.

If you do not enter the correct password, the system displays the following message.

```
User authorization failure
```

If you forget your password, follow the instructions for breaking into the system given in *Guide to Setting Up a VMS System*.

8. You should now perform the following operations.
 - Register any PAKs you received with your system.
 - Back up the system disk.
 - Delete unwanted files.

To register PAKs:

```
$ @SYS$UPDATE:VMSLICENSE 
```

If you make a mistake while entering a PAK:

1. Continue the data entry sequence.
2. Reject the data at the end of the sequence when your system asks you to confirm the data.

Your system then gives you an opportunity to reenter the data correctly. See the *VMS License Management Utility Manual* for any additional information you may need.

Your system *Operation* manual provides information on backing up the system disk and deleting unwanted files. Read carefully to determine the exact sequence of backup and tailoring functions needed, based on the amount of tailoring required and the backup resources available to you.

See the *VMS Installation and Operations Manual* for more information on entering PAKs, customizing and testing your system, startup and shutdown, and backup procedures.

Later you can use the NETCONFIG.COM and CLUSTER_CONFIG.COM command procedures to include your system in a network and cluster, provided you have the appropriate software licenses and PAKs. See the *VMS VAXcluster Manual*, the *Guide to DECnet-VAX Networking*, and the *VMS Networking Manual* for more information.

A.2.2 Modifying FIS for a Simple VAXcluster Network

If you want to use your system as part of a simple VAXcluster network, where disks are shared between different systems in the same network, you need a node name and node ID which you can obtain from your network coordinator.

The following procedure configures FIS for use as a server in a simple VAXcluster network. The configuration can be modified later, if required, using standard VMS procedures.

Do you want to enter Customer's cluster and password information(Y/N)?

1. Enter Y (type Y and

The system asks you to confirm the date and time.

The system time is dd-mmm-yyyy hh:mm:ss

Is this correct? (Y/N)

2. If the date and time are incorrect, enter N. With that answer, the system reprompts you to enter the correct date and time and then to review it.

If you enter Y, the system displays the following prompt.

Will this node be a cluster member (Y/N)?

3. Enter Y.

A series of system prompts are displayed.

4. Respond to those prompts as listed below.

What is the node's DECnet node name?

Enter the DECnet node name (for example, JUPITR). It can be from one to six alphanumeric characters long and cannot include dollar signs or underlines.

What is the node's DECnet node address?

Enter the DECnet node address (for example, 2.2). You can obtain it from your network coordinator.

Will the Ethernet be used for cluster communications (Y/N)?

Enter Y. The Ethernet is required for cluster (SCS internode) communications in local area and mixed-interconnect configurations.

Enter this cluster's group number:

Enter a number in the range of 1 to 4095 or 61440 to 65535. You can obtain the number from your network coordinator.

Enter the cluster's password:

Enter the password. It can be from 1 to 31 alphanumeric characters long and can include dollar signs and underlines. You can obtain it from your network coordinator.

Re-enter the cluster's password for verification:

Reenter the password.

Will JUPITR be a disk server (Y/N)?

Enter Y. In local area and mixed-interconnect configurations, the system disk is served to the cluster. See the *VMS VAXcluster Manual* for information on served cluster disks.

Will JUPITR serve HSC disks (Y)?

Enter N.

Will JUPITR serve RFxx disks (Y)?

Enter Y.

Enter a value for JUPITR's ALLOCLASS parameter:

Enter 0 or the desired allocation class for your system.

Does this cluster contain a quorum disk (Y/N)?

Enter N.

If DECwindows is on the system disk, you will see the following prompt.

Do you want DECwindows as the default windowing system? (Y/N)

NOTE: *It is easy to set DECwindows as the default windowing system at a later stage. To do that, you must modify the VMS system generation parameter, WINDOW_SYSTEM, generate a new set of bootstrap parameters, and boot the system again. See the VMS Installation and Operations Manual, the Guide to Setting Up a VMS System, or the VMS System Generation Utility Manual for more information.*

5. If you want DECwindows as the default windowing system, enter Y. Otherwise, enter N.

The system displays prompts asking for account passwords.

6. Enter them as shown below.

NOTE: *The passwords shown are samples. You should enter your own passwords. Remember to record them. If you forget a password, you cannot log in.*

```
Enter new password for account SYSTEM: PANCAKES 
Re-enter the password for account SYSTEM: PANCAKES 
%UAF-I-MDFYMSG, user record(s) updated
```

```
Enter new password for account SYSTEST: BRATHWURST 
Re-enter the password for account SYSTEST: BRATHWURST 
%UAF-I-MDFYMSG, user record(s) updated
```

```
Enter new password for account FIELD: ZIRHUMBA 
Re-enter the password for account FIELD: ZIRHUMBA 
%UAF-I-MDFYMSG, user record(s) updated
```

Your system verifies the passwords and rejects any that can be easily guessed. The following status messages are displayed if the passwords are acceptable.

```
%VMS-I-PWD_OKAY, account password for SYSTEM verified
%VMS-I-PWD_OKAY, account password for SYSTEST verified
%VMS-I-PWD_OKAY, account password for FIELD verified
```

Then the following status message is displayed.

```
Creating RIGHTS database file, SYS$SYSTEM:RIGHTSLIST.DAT
```

Ignore any messages of this type.

```
%SYSTEM-F-DUPIDENT, duplicate identifier
```

The following status message is displayed when the FIS setup procedure completes.

```
%UAF-I-RDBDONEMSG, rights database modified
```

Then the system displays messages that remind you to perform certain tasks after the software is installed.

- Register any Product Authorization Keys (PAKs).
- Back up the system disk.
- Tailor the system disk.

Finally, the system displays the following message, followed by other status messages.

```
Running AUTOGEN -- Please wait
```

At this point, the system shuts itself down and then reboots from the default boot device. The process takes several minutes, and the system displays a series of information messages.

```
SHUTDOWN -- Perform an Orderly System Shutdown
VAX/VMS Version Vn.n   Major version id = 1 Minor version id = 0
.
.
SYSTEM          job terminated at 24-JUL-1991 14:47:28.34
Accounting information:
Buffered I/O count:    133      Peak working set size:    401
Direct I/O count:      12       Peak virtual size:      2379
Page faults:           325      Mounted volumes:         0
Charged CPU time: 0 00:00:55.23 Elapsed time:      0 00:01:31.24
```

7. Press .

The system prompts you for a username and password.

8. Log in to the SYSTEM account as shown below.

```
Welcome to VAX/VMS
USERNAME:  SYSTEM 
PASSWORD:  PANCAKES 
%LICENSE-I-NOLICENSE, no license is active for this software product
%LOGIN-LOGOPRCON, login allowed from OPA0:
          Welcome to VAX/VMS
$
```

The system prompt (\$) indicates the completion of the startup procedure.

If you do not enter the correct password, the system displays the following message.

```
User authorization failure
```

If you forget your password, follow the instructions for breaking into the system given in *Guide to Setting Up a VMS System*.

9. You should now perform the following operations.

- Register any PAKs you received with your system.
- Back up the system disk.
- Delete unwanted files.

To register PAKs:

```
$ @SYS$UPDATE:VMSLICENSE 
```


If you make a mistake while entering a PAK:

1. Continue the data entry sequence.
2. Reject the data at the end of the sequence when your system asks you to confirm the data.

Your system then gives you an opportunity to reenter the data correctly. See the *VMS License Management Utility Manual* for any additional information you may need.

Your system *Operation* manual provides information on backing up the system disk and deleting unwanted files. Read carefully to determine the exact sequence of backup and tailoring functions needed, based on the amount of tailoring required and the backup resources available to you.

See the *VMS Installation and Operations Manual* for more information on entering PAKs, customizing and testing your system, startup and shutdown, and backup procedures.

In a VAXcluster network, queues for printer and batch processing operations can be configured to work on other systems in the cluster. See your network coordinator for details of queues that are available in your network. If you are setting up a new network, see the *VMS VAXcluster Manual* for a discussion on setting up remote printer and batch processing queues.

You can use the NETCONFIG.COM command procedure to include your system in a network, provided you have the appropriate software licenses and PAKs. See the *VMS VAXcluster Manual*, the *Guide to DECnet-VAX Networking*, and the *VMS Networking Manual* for more information.

A.2.3 Modifying FIS for a Complex Network or Dual-Host System

In a complex network or dual-host system you may want to enter the disk allocation class and quorum disk information for the network. That information lets disks be shared on a selective basis between some systems on the network. Quorum disk information also allows more rigorous definition of cluster operations during the removal of systems from the network.

In addition, queues for printer and batch processing operations can be set up, allowing work to be executed on other systems in the network.

See the *VMS VAXcluster Manual*, the *Guide to DECnet-VAX Networking*, and the *VMS Networking Manual* for information on setting up systems as members of complex networks and setting up remote printer and batch processing queues.

A.2.3.1 Configuring for Dual-Host Systems

The *VMS Installation and Operations* manual tells you how to configure a dual-host system for cluster operation. You can set up the system for operation as a:

- Pair of boot servers for a new local area cluster to which you intend to add satellites
- Two-node cluster to which you do not intend to add satellites
- Pair of boot servers that you want to add to an existing cluster

NOTE: *You must assign the same allocation class to both systems and to the ISEs. The allocation class must be different from that of other systems and hierarchical storage controllers (HSCs) in a cluster. Refer to your system Operation manual for information on setting parameters for ISEs.*

The following software licenses are required to configure a dual-host system.

Host A	Host B
VMS	VMS
VAXcluster	VAXcluster
DECnet full-function	DECnet end-node

A.2.3.2 Checking Your Modification Work

You can use two commands to check your work after you modify FIS for a dual-host system.

- Use SHOW DEVICE D to list the ISEs. Make sure the number of ISEs listed matches the number in your dual-host system.
 - Too many ISEs indicates an incorrect allocation class setting for an ISE.
 - Too few ISEs indicates an incorrect unit number for an ISE.
- Use SHOW DEVICE DI/FULL to check that the alternate host name for your dual-host system is displayed.

Index

A

A026-PA module, 12
A030-PA module, 12
A1008-PA module, 12
A1009-PA module, 12
AAV11 option, 12
Additional devices, connecting, 10
ADQ32 option, 12
ADV11 option, 12
After installation, 54
Asynchronous modems, connecting, 18
Attaching
 See Connecting
AXV11 option, 12

B

BA21X-SF option, 13

C

CA11A, CA12A, and CA13A
 telephone service, 21
CA41A and CA45A telephone
 service, 24
Card cage area, setting controls, 8
Checking
 shipment, 1
 software modification work, A-12
Configuring software for dual-host
 systems, A-12
Connecting
 additional devices, 10
 asynchronous modems, 18
 console terminal, 5, 6
 devices, additional, 10

Connecting (Cont.)

DSSI cable, dual host, 45
Ethernet network at CPU cover
 panel, 29
Ethernet network at DESQA
 module, 36
 front panel, 53
 internal modem, 20
 modems, asynchronous, 18
 modems, synchronous, 18
 parallel printers, 17
 power cable, system, 48
 serial printers, 13
 standard network at CPU cover
 panel, 34
 standard network at DESQA
 module, 43
 synchronous modems, 18
 system power cable, 48
 telephone lines, 20
 terminals and serial printers, 13
ThinWire network at CPU cover
 panel, 30
ThinWire network at DESQA
 module, 37
VT300-series console terminals, 6
VT400-series console terminals, 6
Console terminal
 connecting, 5, 6
 setup operations, 5
Controls
 See System controls
CPU cover panel
 Ethernet network connections, 29
 standard network connections, 34
 ThinWire network connections,
 30

CXA16 option, 11
CXB16 option, 12
CXY08 option, 12

D

DEQRA-CA option, 12
DESQA module
 Ethernet network connections, 36
 standard network connections, 43
 ThinWire network connections,
 37
DESQA option, 12
Devices, connecting additional, 10
DFA01 modem, 20
DFA01 option, 12
DIV32 option, 12
DPV11 option, 12
DPV11 or KMV1A module, 18
DRQ3B option, 12
DRV1J option, 12
DRV1W option, 12
DSSI cable, dual host connection, 45
DSV11 module, 18
DSV11 option, 11
Dual host connection, DSSI cable,
 45

E

Ethernet network connections
 CPU cover panel, 29
 DESQA module, 36

F

Factory-installed software
 See VMS factory-installed
 software
FIS
 See VMS factory-installed
 software
Front panel, connecting, 53

I

IBQ01 option, 12
Identification labels, module, 11
IEQ11 option, 12
Installing
 See Connecting
Internal modem, connecting, 20

K

KA660-AA option, 11
KA660-BA option, 11
KDA50 option, 11
KFQSA option, 11
KLESI option, 11
KMV1A module, 18
KMV1A option, 12
KRQ50 option, 11
KVV11 option, 12
KXJ11 option, 12
KZQSA option, 11

L

Labels, module identification, 11
Language, selecting, 50
LPV11 option, 12

M

M3108-PA module, 11
M3118-YA module, 11
M3118-YB module, 12
M3119-YA module, 12
M3121-PA module, 12
M3125-PA module, 12
M3127-PA module, 12
M4002-PA module, 12
M5976-SA module, 11
M7164 module, 11
M7165 module, 11
M7168 module, 12
M7169 module, 12
M7206-PA module, 11
M7500-PA module, 12
M7530 module, 11
M7531-PA module, 12

M7533-AB module, 12
M7546-00 module, 11
M7552-PA module, 11
M7559-00 module, 11
M7616 module, 12
M7622-AA module, 11
M7622-BA module, 11
M7626-AA module, 11
M7626-BA module, 11
M7651-PA module, 12
M7658-PA module, 12
M7740-PA module, 11
M7769 module, 11
M8020-PA module, 12
M8049-PA module, 12
M8086-PA module, 12
M8578-00 module, 11
M8634-PA module, 12
M9404 module, 13
M9405 module, 13
Mass storage shelf, setting controls,
8
Modems
asynchronous, connecting, 18
DFA01, 20
internal, connecting, 20
synchronous, connecting, 18
Modifying VMS factory-installed
software, A-1
checking modification work, A-12
complex network or dual-host
system, A-11
configuring dual-host systems,
A-12
dual-host system, A-11
simple VAXcluster system, A-7
standalone system, A-3
Module identification labels, 11
Modules
A026-PA, 12
A030-PA, 12
A1008-PA, 12
A1009-PA, 12
DPV11, 18
Modules (Cont.)
DSV11, 18
KMV1A, 18
M3108-PA, 11
M3118-YA, 11
M3118-YB, 12
M3119-YA, 12
M3121-PA, 12
M3125-PA, 12
M3127-PA, 12
M4002-PA, 12
M5976-SA, 11
M7164, 11
M7165, 11
M7168, 12
M7169, 12
M7206-PA, 11
M7500-PA, 12
M7530, 11
M7531-PA, 12
M7533-AB, 12
M7546-00, 11
M7552-PA, 11
M7559-00, 11
M7616, 12
M7622-AA, 11
M7622-BA, 11
M7626-AA, 11
M7626-BA, 11
M7651-PA, 12
M7658-PA, 12
M7740-PA, 11
M7769, 11
M8020-PA, 12
M8049-PA, 12
M8086-PA, 12
M8578-00, 11
M8634-PA, 12
M9404, 13
M9405, 13
MRV11 option, 11
MS650-BA option, 11
MS650-BB option, 11

N

Network

See Ethernet network

O

Options

AAV11, 12
ADQ32, 12
ADV11, 12
AXV11, 12
BA21X-SF, 13
CXA16, 11
CXB16, 12
CXY08, 12
DEQRA-CA, 12
DEQA, 12
DFA01, 12
DIV32, 12
DPV11, 12
DRQ3B, 12
DRV1J, 12
DRV1W, 12
DSV11, 11
IBQ01, 12
IEQ11, 12
KA660-AA, 11
KA660-BA, 11
KDA50, 11
KFQSA, 11
KLESI, 11
KMOV1A, 12
KRQ50, 11
KWV11, 12
KXJ11, 12
KZQSA, 11
LPV11, 12
MRV11, 11
MS650-BA, 11
MS650-BB, 11
TQK50, 11
TQK70, 11
TSV05, 11
VCB02-J, 12

Options (Cont.)

VCB02-K, 12

P

Parallel printers, connecting, 17
Performing console terminal setup operations, 5
Positioning system, 4
Postinstallation requirements, 54
Power cable
See System power cable
Preparation, verifying site, 1
Pre-startup requirements, VMS factory-installed software, A-1
Printers
See Parallel printers *or* Serial printers

R

RJ11C/CA11A, RJ12C/CA12A, and RJ13C/CA13A telephone service, 21
RJ41S/CA41A and RJ45S/CA45A telephone service, 24

S

Selecting language, 50
Serial printers, connecting, 13
Setting system controls
 card cage area, 8
 mass storage shelf, 8
Setting up terminal lines, 28
Setup operations
 console terminal, 5
Shipment, checking, 1
Site preparation, verifying, 1
Software, system
See VMS factory-installed software
Standard network connections
 CPU cover panel, 34
 DEQA module, 43

Starting and modifying VMS factory-
installed software, A-1
Startup procedure, VMS factory-
installed software, A-2
Synchronous modems, connecting,
18
System
 front panel, connecting, 53
 positioning, 4
 selecting language, 50
 turning on and selecting
 language, 50
System controls, setting, 8
System power cable, connecting, 48
System software
 See VMS factory-installed
 software

T

Telephone lines, connecting, 20
Telephone service
 RJ11C/CA11A, RJ12C/CA12A,
 and RJ13C/CA13A, 21
 RJ41S/CA41A and RJ45S/CA45A,
 24
Terminal
 See Console terminal
Terminal lines, setting up, 28
Terminals and serial printers,
 connecting, 13
ThinWire network connections
 CPU cover panel, 30
 DESQA module, 37
TQK50 option, 11
TQK70 option, 11
TSV05 option, 11
Turning on system and selecting
 language, 50

V

VCB02-J option, 12
VCB02-K option, 12
Verifying site preparation, 1
VMS factory-installed software

VMS factory-installed software
(Cont.)
 checking modification work, A-12
 complex network or dual-host
 system, A-11
 configuring dual-host systems,
 A-12
 dual-host system, A-11
 modifying, A-1
 pre-startup requirements, A-1
 simple VAXcluster system, A-7
 standalone system, A-3
 starting and modifying, A-1
 startup procedure, A-2
VT300-series console terminals,
 connecting, 6
VT400-series console terminals,
 connecting, 6