Digital FDDIcontroller/PMC
User Information

Order Number: EK-DEFPZ-IN. B01

This manual describes how to install and verify the operation of the Digital FDDIcontroller/PMC.

Revision/Update Information: This is a revised manual.

Digital Equipment Corporation
Maynard, Massachusetts

This document was prepared using VAX DOCUMENT Version 2.1.

Contents

3 Problem Solving

A General Information

B Accessing MIBs and RFCs

C International Technical Support

Index

Figures

Tables

About This Manual

This manual describes how to install the Digital FDDIcontroller/PMC network interface card (NIC) into a 32-bit PCI mezzanine-compatible computer, and how to connect the adapter to a Fiber Distributed Data Interface (FDDI) network.

Intended Audience

This manual assumes that you are familiar with computers and understand the concepts and uses of FDDI networks.

Related Documents

Additional information relative to the Digital FDDIcontroller/PMC and FDDI networks can be found in the following documents:

- *DEC FDDIcontroller/PCI* (Order No. EK-DEFPA-IN)

  This manual describes how to install the DEC FDDIcontroller/PCI adapter into a 32-bit PCI local bus-compatible computer and how to connect it to an FDDI network.

- *DEC FDDIcontroller/EISA* (Order No. EK-DEFEA-IN)

  This manual describes how to install the DEC FDDIcontroller/EISA adapter into a 32-bit EISA-compatible computer and how to connect it to an FDDI network.

- *DECconcentrator 500 Installation* (Order No. EK-DEFCN-IN)

  This manual describes how to configure and install the DECconcentrator 500 unit and how to verify its operation.

- *DECconcentrator 900MX Installation* (Order No. EK-DEF6X-IN)

  This manual describes how to install and configure the DECconcentrator 900MX.

- *Fiber Distributed Data Interface System Level Description* (Order No. EK-DFSLD-SD)

  Describes the FDDI system, how it works, and the role of the individual components.

- *Fiber Distributed Data Interface Network Configuration Guidelines* (Order No. EK-DFDDI-CG)

  This manual describes the guidelines for connecting devices to an FDDI network. It also includes network configuration examples.

- *A Primer on FDDI: Fiber Distributed Data Interface* (Order No. EC-H1580-42/92 07), Version 2.0

  This manual describes the features, topologies, and components of the FDDI local area network (LAN) standard.

- *X3.166-1990 Physical Media Dependent for Multimode Fiber*, American National Standards Institute (ANSI)

  This specification defines the Physical Layer Medium Dependent (PMD) sublayer. This sublayer corresponds to the lower portion of the physical layer of the OSI seven-layer model. This standard provides the specifications for the optical transmitter and receiver used by FDDI, the power levels, allowable bit error rates, fiber-optic transmission wavelength, fiber-optic cable, and connectors.

- *IEEE P1386/Draft 2.0* 04-APR-1995, or subsequent issue, *Draft Standard for a Common Mezzanine Card Family:CMC*

- *IEEE P1386.1/Draft 2.0* 04-APR-1995, or subsequent issue, *Draft Standard Physical and Environmental Layer for PCI Mezzanine Cards:PMC*

Manual Conventions

This manual uses the following conventions:

Convention	Description
Note	A note contains information of special importance.
bold	In interactive examples, bold type indicates text that you must enter exactly as shown.
❶	A number in a black circle in text refers to the corresponding number in an accompanying illustration.
Enter	A word in a box indicates a particular keyboard key. For example, Enter indicates the Enter key.
variables	In command descriptions, italic type indicates a variable that you supply.
`This type`	Text in monospace type indicates text that you enter or text that the system displays.

Safety Statements

The notes in this manual have the following definitions:

Note	Definition
Warning	Contains information to prevent personal injury.
Caution	Contains information to prevent damage to equipment.
Vorsicht	Enthaält Informationen, die beachtet werden müssen, um den Benutzer vor Schaden zu bewahren.
Achtung	Enthält Informationen, die beachtet werden müssen, um die Gerä te vor Schaden zu bewahren.
Danger	Signale les informations destinées à prévenir les accidents corporels.
Attention	Signale les informations destinées à prévenir la deterioration du matériel.
Aviso	Contiene informacion para evitar dañños personales.
Precaución	Contiene informacion para evitar danos al equipo.

You must observe the following precautions:

CAUTION	Static electricity can damage modules and electronic components. Digital recommends using a grounded antistatic wrist strap and a grounded work surface when handling any modules.
ACHTUNG	Module und elektronische Komponenten können durch elektrostatische Entladungen beschädigt werden. Benutzen Sie immer eine antistatische Gelenkmanschette und eine geerdete Arbeitsunterlage, wenn Sie am offenen Gerät arbeiten.
ATTENTION	Les charges excessives d'électricité statique peuvent endommager les modules et les composants electroniques. Digital conseille l'utilisation d'un bracelet de masse et d'un plan de travail mis à la terre lors de lamanipulation des modules.
PRECAUCIÓN	La electricidad estática puede dañar los componentes electronicos y los módulos. Digital recomienda que se utilicen cintas de pasadores y superficies de trabajo conectadas a tierra al trabajar con cualquier módulo.
WARNING	Some fiber-optic equipment can emit laser light that can injure your eyes. Never look into an optical fiber or connector port. Always assume the cable is connected to a light source.
VORSICHT	Schauen Sie niemals direkt in ein Glasfaserkabel oder einen Glasfaseranschluß. Die Laserstrahlen in faser-optischen Geräten können Augenverletzungen verursachen.
DANGER	Certains équipements utilisant les fibres optiques peuvent émettre des rayonne-ment laser dangereux pour les yeux. Ne vous avisez jamais de regarder par l'extremite d'une fibre optique ou dans l'ouverture d'un connecteur. Considerez toujours que le cable est relié a une source lumineuse.

AVISO	Algunos equipos de fibra óptica pueden emitir luz láser que daña los ojos. No sedebe mirar en una puerta de conector o fibra optica. Siempre se debe suponer que el cable está conectado a la luz.
CAUTION	When adding any option module to your computer, verify that the combined power (wattage) required for all modules in your computer does not exceed the power supply rating. Check your computer documentation for this information.
ACHTUNG	Wenn Sie Zusatzmodule in Ihren Computer einbauen, darf die gemeinsame Leistung (in Watt) aller eingebauten Module die Nennleistung nicht überschreiten. Weitere Informationen finden Sie in der Dokumentation zu Ihrem Computer.
ATTENTION	Si vous ajoutez des options à votre système, assurezvous que le nombre de watts total n'excede pas la puissance nominale du bloc d'alimentation. Reportezvous à la documentation de votre systeme pour obtenir plus d'information.
PRECAUCIÓN	Al añadir cualquier modulo de opciones al ordenador, es preciso comprobar que la potencia combinada (vatios) necesaria para todos los modulos del ordenador no sobrepasa las condiciones normales del suministro de energia. Consúltense estos datos en la documentación del ordenador.
WARNING	To prevent personal injury or equipment damage, do not insert telecommunications cabling into the optical bypass relay connector.
VORSICHT	Um Personen oder Geräteschaden zu vermeiden, dürfen Sie das Telefonkabel AUF KEINEN FALL am Anschluß des optischen Bypass-Relais anschließen.
DANGER	Pour éviter tout risque d'accident corporel ou de dommage matériel, NE BRANCHEZ PAS de cable de télecommunication sur le connecteur de relais selectif optique (optical bypass relay connector).
AVISO	Para evitar daños personales o al equipo, NO se debe introducir cableado de telecomunicaciones en el conector óptico de reles de derivación.

1
Introduction

The Digital FDDIcontroller/PMC provides direct connection
of industry standard computers with a peripheral component
interconnect (PCI) mezzanine adapter connection to a 100-megabits
/second FDDI network. The Digital FDDIcontroller/PMC is hereafter
referred to as the mezzanine adapter or adapter. Drivers for
supported operating systems provide the configuration flexibility
required in multivendor networks.

Table 1–1 describes the Digital FDDIcontroller/PMC models available
from Digital Equipment Corporation.

Table 1–1   Adapter Models

Model	Description
DEFPZ-AA	One-card, single attachment station (SAS) adapter with multimode optics and bayonet ST type connectors.
DEFPZ-UA	One-card, single attachment station (SAS) adapter with low-profile 8-pin connector. This connector, in conjunction with a 1-meter adapter connecting cable, accepts Category 5 unshielded twisted-pair (UTP) or Category 5 sheath-shielded, 100-ohm twisted-pair (TP) cable with TP-MIC plug.

Product Features

The main features of the Digital FDDIcontroller/PMC are as follows:

- Low price–reduces the cost of entry for FDDI

- Full duplex capability

- DMA engine–supports high throughput and low CPU utilization

- 1 MB buffer RAM

- On-board CPU

- Digital UNIX and OpenVMS drivers

- Includes a Limited Lifetime Warranty

Fiber-Optic SAS Adapter (DEFPZ-AA)

The fiber-optic SAS adapter (Figure 1–1) consists of one card that plugs into a single PCI mezzanine slot. Two bayonet ST type connectors ❶ interface with the FDDI fiber-optic cable.

The adapter contains onboard diagnostics that execute when power is applied. A two-color (green or amber) light-emitting diode (LED) ❷ on the adapter mounting bracket indicates the operating status of the adapter and its PHY port. Refer to the LED Descriptions section of this chapter for information about the mezzanine adapter's LED.

Figure 1–1 Fiber-Optic SAS Adapter (DEFPZ-AA)

LJ-04440-TI0
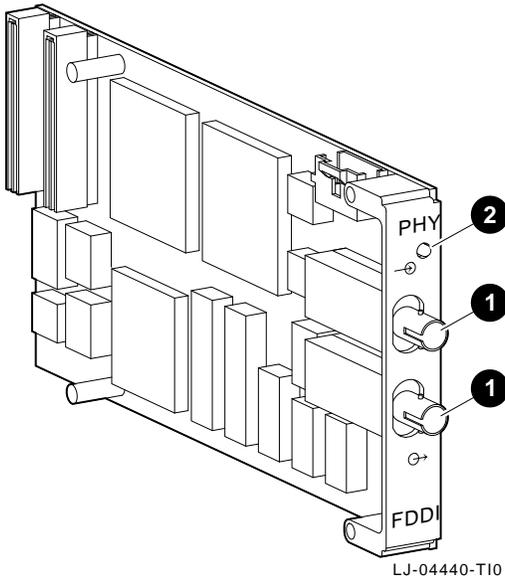
UTP SAS Adapter (DEFPZ-UA)

The UTP SAS adapter (Figure 1–2) consists of one card that plugs into a single PCI mezzanine slot. A low profile 8-pin connector ❶ (PN 12-44439-01) interfaces with Category 5 UTP copper cable through an adapter connecting cable (PN 17-04160-01) provided with the unit.

The adapter contains onboard diagnostics that execute when power is applied. A two-color (green or amber) LED ❷ on the adapter mounting bracket indicates the operating status of the adapter and its PHY port. Refer to the LED Descriptions section in this chapter for information about the mezzanine adapter's LED.

Figure 1–2 UTP SAS Adapter (DEFPZ-UA)

LJ-04441-TI0
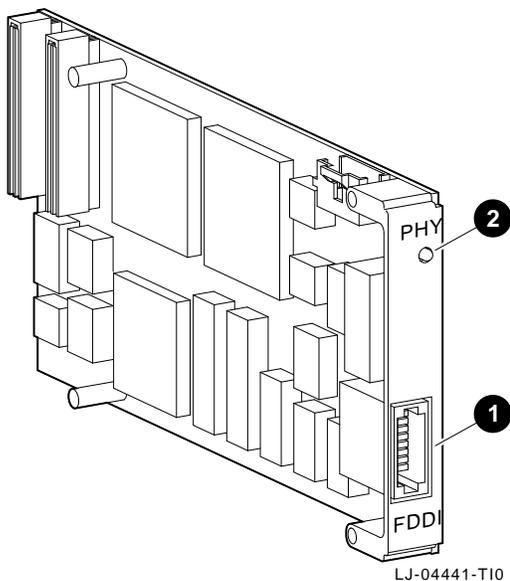
LED Descriptions

The mezzanine adapter's LED is used to indicate the status of the adapter and the FDDI ports. The LED is visible on the adapter's front panel (at the back of your computer).

Table 1–2 describes the possible LED states for both adapter models.

Table 1–2 LED States

LED	Color	Normal	Description
PHY/PHY A	Green	On	PHY connection complete
	Green	Flashing	PHY connection in progress (or no cable attached)
	Amber	On	If on after system boots, indicates failed port or Link Confidence Test (LCT) failure; retry loop
			If on before system boots, indicates self-test failure
	Amber	Flashing	Illegal topology
	Green Amber	Off	Port disabled by management, or LED/adapter failure

Software Description

The software packages required to operate the adapter on the network are:

- **Operating system software**

  This is your system software (Digital UNIX or OpenVMS) that provides network services, such as Transmission Control Protocol /Internet Protocol (TCP/IP).

- **Device driver software**

  For Digital UNIX and OpenVMS on Alpha server platforms, the device drivers are included with the operating system. Consult the installation guide and release notes for the applicable operating system and hardware platform for detailed installation instructions.

2
Installation

This chapter describes how to install the Digital FDDIcontroller/PMC into a PCI mezzanine-compatible computer and how to connect it to the network.

The steps to install the mezzanine adapter are as follows:

1. Verify the system and software requirements.

2. Install the adapter into a PCI mezzanine slot.

3. Install the driver software. (Refer to the applicable installation guide and release notes.)

4. Connect to the network.

5. Verify the hardware and software installations.

Checking Package Contents

Check the contents of your shipment as follows:

1. Remove the contents from the box and place them nearby until you are ready to install the adapter.

Caution

Static electricity can damage modules and electronic components. Digital recommends using a grounded antistatic wrist strap and a grounded work surface when handling any modules.

---

2. Check the shipment for damage and missing parts.

The kit contains the following items (see Figure 2–1):

- Owner's manual ❶.

- The Digital FDDIcontroller/PMC adapter packaged inside an antistatic bag ❷.

- A 1-meter adapter connecting cable (PN 17-04160-01) ❸, for DEFPZ-UA model only.

Notify your carrier immediately if there is any shipping damage. If the kit is incomplete, contact your reseller or authorized Digital distributor.

Figure 2–1   Contents of Shipping Package (DEFPZ-UA Model)
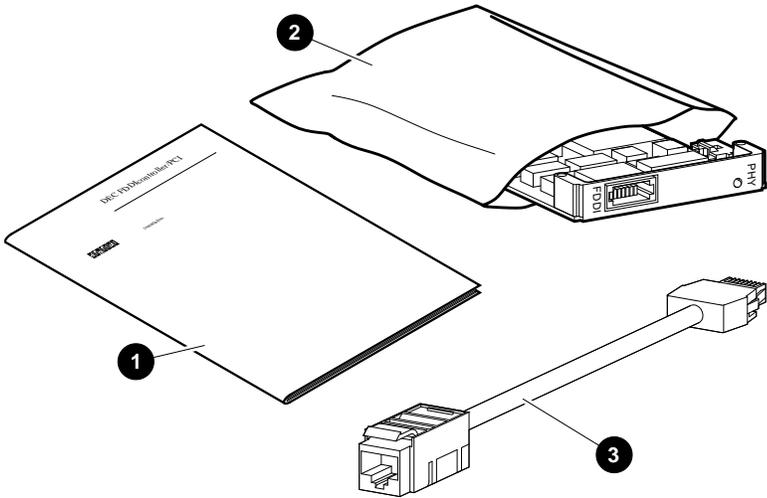
LJ-04476-TI0

Preparing to Install the Adapter

To prepare your system for installing the mezzanine adapter:

1. Perform an orderly shutdown of the operating system and wait until the console prompt appears before removing power.

   _____ **Caution** _____

   Make sure you turn off power to the computer when inserting or removing the adapter to avoid permanent damage to the module or other computer circuitry.

   _____

2. Remove the motherboard from the computer chassis (refer to your computer documentation).

3. Attach the antistatic ground strap to your wrist and clip the other end of the strap to the computer's chassis ground.

4. Remove the option slot cover from the computer's selected PMC slot. Save the removed screw for securing the adapter later in this procedure.

5. Remove the adapter from the protective bag. Remove the optical dust cap(s) from any fiber optic model ST connectors.

   _____ **Note** _____

   The mounting hardware for the PCI mezzanine adapter should come with the adapter. If the mounting hardware is misplaced, the replacement hardware consists of M2.5x5 mm screws (PN 90-10959-01) and M2.5 mm standoffs (PN 74-49014-04).

   _____

Installing the Adapter

To install a SAS mezzanine adapter into a PCI-based computer with a
mezzanine slot, complete the following steps:

1. Insert the adapter's bezel into the cutout on the front panel of the
   motherboard ❶, Figure 2–2.

2. Engage the connectors, making sure that they are fully seated ❷.

3. Secure the four screws ❸ through the clearance holes on the
   reverse side of the motherboard.

4. Replace the motherboard in the backplane.

**Figure 2–2 Installing a DEFPZ-UA Adapter on an AXPvme
Motherboard**

LJ-04444-TI0
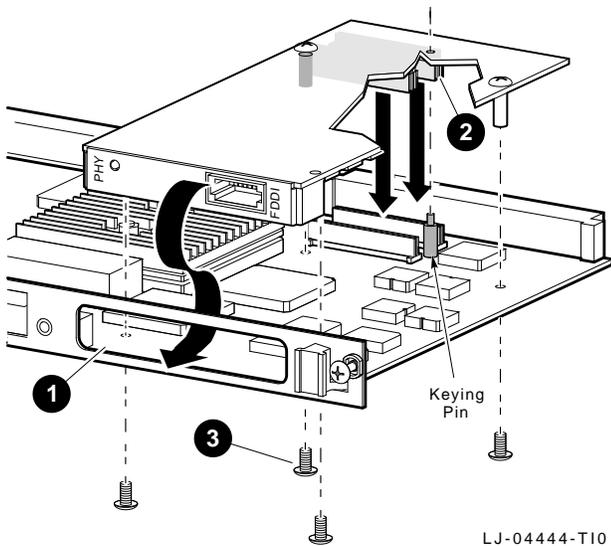
Figure 2–2 shows how to install the DEFPZ-UA adapter; however,
both SAS models (DEFPZ-UA and DEFPZ-AA) are installed similarly.

Verifying the Installation

Complete the following steps to verify that the adapter is installed and operating properly in your computer:

1. Turn on power to the computer and observe the adapter LED.

2. Note the following events (within 10 seconds after the computer power is turned on):

   a. The adapter LED on the mounting bracket flashes green (three flashes) for approximately 1 second.

   b. The LED turns off when the adapter passes the powerup self-test.

   A steady amber LED indicates a powerup self-test failure.

If you observe any indication other than a successful self-test, turn off power to the computer, reseat the adapter, then repeat step 1.

If the self-test fails repeatedly, refer to Chapter 3, Table 3–1, for problem solving information.

Connecting to the Network

This section describes how to connect the FDDI cables
(Category 5 UTP and fiber-optic multimode) to the mezzanine
adapter and how to verify a good connection to a network device.

If the other end of the FDDI cable is not already connected to
the appropriate FDDI network or network device (typically a
concentrator), contact the network manager to connect the cable.

FDDI ST Connectors

The FDDI multimode fiber-optic cable connectors are used with SAS
PCI mezzanine adapters.

When the adapter's ST type connectors are attached to a wiring
concentrator, hub, or FDDI switch, make sure that the fiber-optic
cable is connected from the transmit side of one adapter to the receive
side of the second adapter.

The SAS adapter can be connected as follows:

- Point-to-point with another FDDI adapter in a two-station
  network using a single pair of MMF cables or Category 5 UTP
  FDDI office crossover cable.

- To an FDDI dual-ring backbone through an FDDI-compliant
  wiring concentrator (such as the DECconcentrator 900MX), a
  hub, or switch using multimode fiber-optic cable (for DEFPZ-AA
  model), or Category 5 UTP copper cable (for DEFPZ-UA model).

Figure 2–3 shows an example of how a SAS-configured, PCI-compatible
computer interfaces to the FDDI network using fiber-optic or
Category 5 cable.

Figure 2–3   SAS Adapters Configured in an FDDI Network
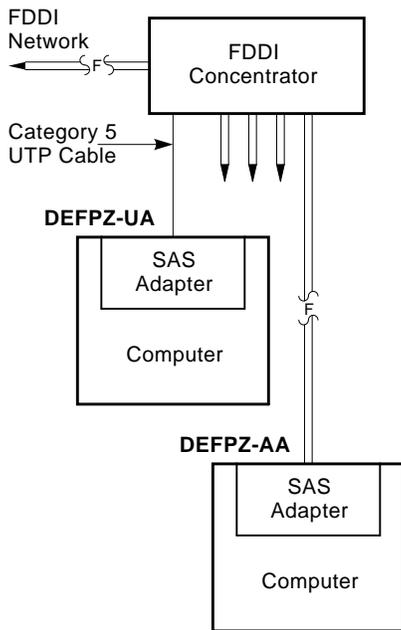
LJ-04445-TI0

_____ **Note** _____

Copper Category 5 UTP and Category 5 sheath-shielded,
100-ohm TP cable comply with FDDI standards and
interoperate with products that implement the American
National Standards Institute (ANSI) Twisted Pair-Physical
Medium Dependent (TP-PMD) standard.

_____

For further FDDI configuration information, refer to the following
publications:

• *Fiber Distributed Data Interface Network Configuration Guidelines*
  Order No. EK-DFDDI-CG

• *A Primer on FDDI: Fiber Distributed Data Interface*
  Order No. EC-H1580-42/92 07, Version 2.0

Connecting Fiber-Optic SAS Adapters

To connect the fiber-optic SAS adapter (DEFPZ-AA model):

1. Connect the connectors (❶, ❷) at one end of the cable to the ports (❸, ❹) on your adapter (see Figure 2–4). Note the color coding of the connector that attaches to the transmit side of the port.

2. Connect the connectors at the other end of the cable to the other FDDI device. Make sure that the connector noted in step 1 is attached to the receive side of the port on the other FDDI device.

3. Observe the adapter LED ❺.

   The LED should be a steady green, indicating a proper connection to the FDDI network device. If you observe any other indication, refer to Chapter 3, Table 3–2, to isolate and correct the problem.

Figure 2–4 Connecting Network, Terminal, and FDDI MMF to an AXPvme
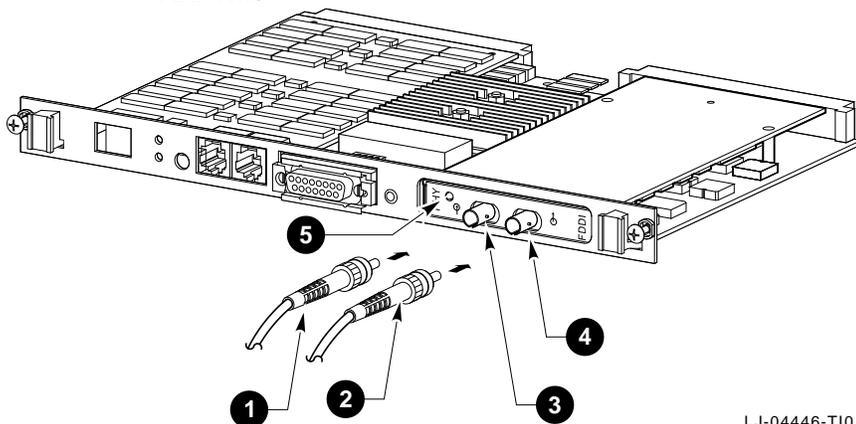
LJ-04446-TI0

Connecting UTP SAS Adapters

To connect the UTP SAS adapter (DEFPZ-UA model):

1. Connect the adapter connecting cable ❶ to the low-profile 8-pin connector ❷ on your adapter (see Figure 2–5).

2. Attach the other end of the adapter connecting cable to a standard FDDI Category 5 UTP cable, such as unshielded twisted-pair office crossover cable (PN BNG25H-03), or 8-pin MP to 8-pin MP TIA-EIA straight cable (PN BNG25G).

3. Observe the adapter LED ❸.

    The LED should be a steady green, indicating a proper connection to the FDDI network device. If you observe any other indication, refer to Chapter 3, Isolating Network Connection Faults, to isolate and correct the problem.

Figure 2–5   Connecting Network, Console Terminal, and FDDI UTP Adapter to AXPvme
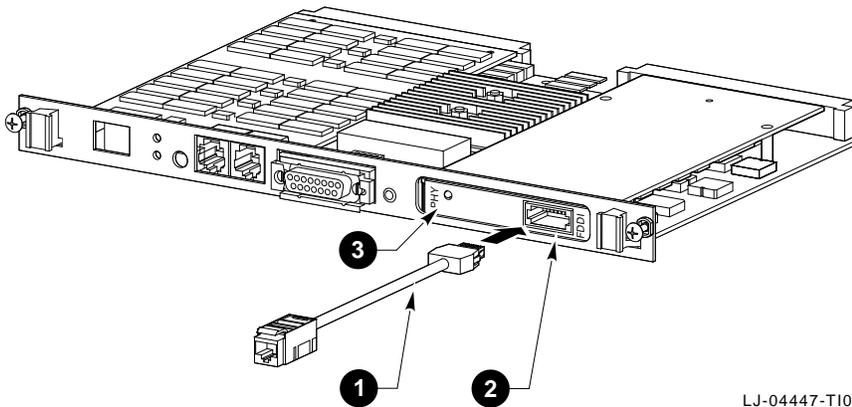
LJ-04447-TI0

Verifying the Adapter Operation on the Network

To verify that your adapter is operational in the network, use the ping, telnet/rlogin, and ftp services in your TCP/IP environments, or the analogous services in your DECnet environment, to verify connectivity with remote nodes.

If you cannot establish and maintain communications with another node, refer to Chapter 3, Table 3–3, to isolate and correct the problem. If the problem persists, contact your reseller or authorized Digital distributor.

Installation of the adapter is now complete.

3
Problem Solving

This chapter contains tables describing possible problems with the
adapter hardware/software installation, connection to the network
access device, and network interconnection (communication with
a target node). The tables suggest causes and solutions for each
symptom.

The diagnostic tables are grouped in the following categories:

- Adapter and Installation Faults

  Refer to Table 3–1 if you experience problems during installation
  and no FDDI connection has been made.

- Network Connection Faults

  Refer to Table 3–2 if you experience problems when the adapter is
  first connected to a network access device.

- Network Interconnect Faults

  Refer to Table 3–3 if you cannot communicate with a target node.

Refer to the Diagnosing Problems with a Previously Operational
Adapter section if you suspect this node/link is causing a
communication failure in a network that was previously functional.

Diagnosing Problems with a Previously Operational Adapter

This section provides information to aid in isolating faults to the optimum field replaceable unit (FRU) or to an associated device that can be the source of the problem.

Normal Powerup and Self-Test

During system powerup, or during a node reset, the adapter automatically initiates its self-test and verifies the CPU logic in the unit. The self-test checks the CPU-associated hardware up to (but not including) the network interface power optics and connector circuits.

The adapter's LED indicate whether the adapter passed or failed the self-test.

Problem-Solving Tips

Consider the following tips before you begin the problem-solving procedures:

- To prevent damage to the adapter, use the antistatic ground strap when handling the adapter.

- Power fluctuations, high ambient temperatures, and interference from other equipment could be responsible for possible environmental problems.

Problem-Solving Tools

The following tools are not supplied but can be ordered from Digital Equipment Corporation:

- A nonattenuated FDDI ST bayonet loopback. One side of a BN24E cable may be used.

- A UTP loopback connector, used in conjunction with the adapter cable for DEFPZ-UA models, option number H4082-AC (PN 12-35619-03).

Isolating Adapter and Installation Faults

Table 3–1 lists problems that you may encounter when installing the adapter.

Note

The fault analysis in Table 3–1 assumes that the computer was operating properly before you began the adapter installation process and that no FDDI cable is connected to the adapter.

Table 3–1   Isolating Adapter and Installation Faults

Symptom	Probable Cause	Corrective Action
System is on; adapter is not recognized by firmware or operating system.	The adapter is not seated firmly.	Turn off the system and reseat the adapter.
System is on; LED is amber.	With no FDDI cable connected, the adapter is suspect.	Reboot the system and watch the self-test. If the problem persists, contact your reseller or authorized Digital distributor.

Isolating Network Connection Faults

Table 3–2 lists problems that you may encounter when you connect the adapter to a network device, such as a concentrator, through an FDDI cable.

Note

The fault analysis in Table 3–2 assumes that the computer was operating properly before you began the adapter installation process and that the adapter self-test passes with the FDDI cable attached.

Table 3–2   Isolating Network Connection Faults

Symptom	Probable Cause	Corrective Action
Adapter LED sequentially cycles to solid amber (for 50 seconds), then to solid green for a period of time, and then to solid amber again (repeatedly).	Faulty cable between the adapter and concentrator (Link Error Rate threshold exceeded).	Replace the cable. If the fault persists, a problem with either the concentrator port or the adapter is likely.
System is on. Adapter LED is flashing amber.	Invalid topology.	Make sure you are using a valid topology configuration.
System is on. Adapter LED is steady amber.	Network problem.	Disconnect the adapter cable. If the LED flashes green, the adapter is functional. Reconnect the cable, try a new cable, or connect to a different concentrator port.

Table 3–2 (Cont.)   Isolating Network Connection Faults

Symptom	Probable Cause	Corrective Action
	Adapter problem.	Disconnect the adapter cable. If the LED remains amber, the adapter may be at fault. Reboot the system and watch the self-test.
		If the problem persists, contact your reseller or authorized Digital distributor.
Adapter LED continues to flash green and does not change to solid green when the cable is connected.	Driver not installed correctly.	Refer to your software documentation.
	Faulty adapter cable or connection.	Verify the integrity of the adapter cable. Replace if defective. Verify that the FDDI connection is between transmit to receive and receive to transmit.
	Faulty FDDI concentrator.	Verify the integrity of the concentrator. Replace if defective.

(continued on next page)

Table 3–2 (Cont.)   Isolating Network Connection Faults

Symptom	Probable Cause	Corrective Action
	Faulty adapter.	Connect a loopback connector: use one side of a BN24E cable for the ST connector; use PN 12-35619-03, in conjunction with the adapter connecting cable, for the UTP connector.
		If the port LED for the connector changes to solid green, a problem exists with the cable or the concentrator.
		If the port LED continues flashing green, replace the adapter.
		If no loopback connector is available, test the cable between the concentrator and the adapter.
		If you verify that the cable is good, test the concentrator. If the concentrator is functional, replace the adapter.

Isolating Network Interconnect Faults

Table 3–3 lists problems that you may encounter when you establish communication with a target node. Fault isolation at this level is beyond the scope of installing the adapter.

Note

The fault analysis in Table 3–3 assumes that the computer was operating properly before you began the installation process, and that the adapter self-test passes with the FDDI cable attached.

Table 3–3 Isolating Network Interconnect Faults

Symptom	Probable Cause	Corrective Action
Cannot establish a connection to another node.	Target node is not in network operating system database.	Add the node to the database.
	A physical path does not exist between the host and target node.	Verify that the target node is running and on the network.

This information is supplied as a transition to network node configuration considerations because the functional operation of an FDDI-connected node involves the performance and integrity of the network. Some but not all considerations include the network address (duplicate address) and adapter token rotation time.

The host in which the adapter is installed may not be configured properly in the network. An inappropriate network configuration can result in symptoms that make it appear that the adapter is malfunctioning when the problem is elsewhere.

A
General Information

This appendix provides general Digital FDDIcontroller/PMC physical characteristics, and operating environment and power requirements.

Physical Description

The Digital FDDIcontroller/PMC is a PCI mezzanine form-factor adapter that uses two 64-pin connectors to implement a 32-bit PCI bus. The adapter measures 2.9 inches (74 mm) by 5.9 inches (149 mm), and is constructed using 8-layer circuit board technology.

Functional Components

The major components on the adapter are as follows:

- 1 megabyte of packet memory
- 68000 onboard processor
- DMA control
- 32-bit, 33 MHz PCI bus interface
- FDDI interface chipset
- IEEE address ROM

- Onboard, nonvolatile memory for firmware storage

- Multimode Physical Layer Medium Dependent (for DEFPZ-AA model)

- ANSI TP-PMD (for DEFPZ-UA model)

Specifications

Table A–1 lists the operating environment and power requirements for the adapter.

Table A–1   Operating Environment and Power Requirements

Specification	Rating
Operating temperature (at sea level)	10°C to 40°C (50°F to 104°F)
Nonoperating temperature	-40°C to 85°C (-40°F to 185°F)
Relative humidity	8% to 80% (noncondensing)
Radiated emissions	FCC Class A VDE Class A CE Class A
Power requirements	DC @ +5.0 V, 1.2 A–SAS MMF, 1.1 A–UTP DC @ +12.0 V, 0.1 A (maximum) Bus loading, per PCI standard, Revision 2.0

_____ **CAUTION** _____

When adding any option module to your computer, verify that the combined power (wattage) required for all modules in your computer does not exceed the power supply rating. Check your computer documentation for this information.
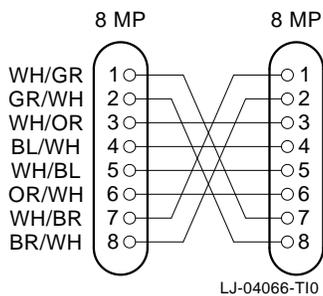
_____

UTP SAS Adapter Pin Assignments

The Digital FDDIcontroller/PMC (DEFPZ-UA) adapter requires 100-ohm Category 5 twisted-pair media with a single crossover in the cable. For the office environment, 3 meter crossover office cables are available from Digital in the following constructions:

- Shielded twisted-pair cable (PN BN26S-03)

- Unshielded twisted-pair cable (PN BN25H-03)

Refer to Figure A–1 for the shielded twisted-pair cable pin assignments.

Figure A–1 Crossover Pin Assignments for BN25H Office Cable

```
              8 MP              8 MP

    WH/GR    1○          ○1
    GR/WH    2○          ○2
    WH/OR    3○          ○3
    BL/WH    4○          ○4
    WH/BL    5○          ○5
    OR/WH    6○          ○6
    WH/BR    7○          ○7
    BR/WH    8○          ○8

                LJ-04066-TI0
```

When connecting a DEFPZ-UA adapter to another TP-PMD device, an EIA/TIA-568 Category 5 cable must be used in conjunction with an adapter connecting cable. The link may be made up of patch cable and behind-the-wall cable with the following restrictions:

- Maximum patch cable length—10 meters

- Maximum behind-the-wall cable length—90 meters

Note

Before creating your own UTP cables for connecting to the DEFPZ-UA connector, review the cabling constructions shown in the *OPEN DECconnect Applications Guide* (part number EC-G2570-42).

Related Products

The Digital FDDIcontroller/PMC adapters are part of a complete family of low-cost network interface cards developed by Digital Equipment Corporation. Other products include:

Digital FDDIcontroller/PCI, a high performance 32-bit adapter for PCI bus I/O connections. Three models are available: SAS UTP (DEFPA-UA), SAS SC (DEFPA-AA), and DAS SC (DEFPA-DA).

Digital FDDIcontroller/EISA, a high performance 32-bit adapter for FDDI EISA connections. Three models are available: SAS UTP (DEFEA-UA), SAS MMF (DEFEA-AA), and DAS MMF (DEFEA-DA).

Digital also offers FDDI adapters to support TURBOchannel, FUTUREBUS+, XMI, and Q–bus systems.

To order these products, contact an authorized Digital distributor or Digital sales representative. For more information, call 800-457-8211 in the U.S. and Canada, 508-692-2562 in other locations, or your local sales office.

B

Accessing MIBs and RFCs

This appendix describes how to access Digital's private Management
Information Base (MIB) and Request For Comments (RFCs).

Public MIBs can be accessed over the Internet network using any of
the following methods:

- Electronic mail

- ftpmail

- Anonymous ftp

- Diskette (for some Digital products)

You can use these methods to access up-to-date FDDI MIBs, as
described in the following sections.

Using Electronic Mail

The DDN Network Information Center (NIC) of SRI International
provides automated access to NIC documents and information through
electronic mail. This is especially useful for people who do not have
access to the NIC from a direct Internet link, such as BITNET,
CSNET, or UUCP sites.

To use the mail service, follow these instructions:

1. Send a mail message to `service@nic.ddn.mil`.

2. In the SUBJECT field, request the type of service that you want,
   followed by any needed arguments.

Normally the message body is ignored, but if the SUBJECT field is empty, the first line of the message body is taken as the request. The example at the end of the Using ftpmail section lists some of the services available.

Requests are processed automatically once a day. Large files are broken down into separate messages. However, a few files are too large to be mailed.

Using ftpmail

Digital offers Internet ftpmail access to private MIB information, in ASCII text form, at `ftp.digital.com`, with up-to-date documents stored in the `/pub/DEC/mib` directory. Check the INDEX file and the README file for the current contents. To use ftpmail, follow these instructions:

1. Send a mail message to:

   ```
   ftpmail@ftp.digital.com
   ```

2. Ignore the subject line.

3. Include the word "connect" in the first line of the body.

4. Include get commands for each document required; for example:

   ```
   get /pub/DEC/mib/README
   ```

   Requests are acknowledged, then queued and processed every 30 minutes. Because of the number of requests, it may take a day or two before you receive a reply.

   _____ **Note** _____

   For more timely access, consider using anonymous ftp (refer to Using Anonymous ftp).

   _____

The following are example SUBJECT lines to obtain DDN NIC documents:

HELP
RFC 822
RFC INDEX
RFC 1119.PS
FYI 1
IETF 1IETF-DESCRIPTION.TXT
INTERNET-DRAFTS 1ID-ABSTRACTS.TXT
NETINFO DOMAIN-TEMPLATE.TXT
SEND RFC: RFC-BY-AUTHOR.TXT
SEND IETF/1WG-SUMMARY.TXT
SEND INTERNET-DRAFTS/DRAFT-IETF-NETDATA-NETDATA-00.TXT
HOST DIIS

Using Anonymous ftp

You can obtain RFCs and up-to-date FDDI MIBs from Digital using anonymous ftp.

Digital offers Internet anonymous ftp access to private MIB information, in ASCII text form, at `ftp.digital.com`, with up-to-date documents stored in the `/pub/DEC/mib` directory. Check the INDEX file and the README file for the current contents.

To use anonymous ftp to copy files, follow these instructions:

---------------- **Note** ----------------

User input is case sensitive; you must type it as shown.

---

1. Use the Internet application ftp to connect to `ftp.digital.com`. The Internet address is 16.1.0.2.

2. Log in as user `anonymous`.

3. Use your electronic mail address as the password.

4. Use the **cd** command to get to the `/pub/DEC/mib` directory.

5. Use the **ascii** command to specify that you are retrieving ASCII text files.

6. Use the **get** command to get the file or files that you require.

7. Use the **quit** command to log out when you are finished.

The following example shows how to copy the README file from the repository:

---------------------------- **Note** ----------------------------

In the following example, user input is shown in **bold** text.

% **ftp ftp.digital.com**
Connected to gatekeeper.dec.com.
220 GATEKEEPER.DEC.COM FTP Service Process
Name: **anonymous**
331 ANONYMOUS user ok, send real ident as password.
Password: **milano@netman.stateu.edu**
230 User ANONYMOUS logged in at Tue 10-Aug-1993 10:24-EST,
job 54.
ftp> **cd /pub/DEC/mib.**
331 Default name accepted. Send password to connect to it.
ftp> **ascii**
220 Type A ok.
ftp> **get README**
200 Port 19.54 at host nnn.nn.nn.nn accepted.
150 ASCII retrieve of /pub/DEC/mib/README started.
226 Transfer completed. 40239 (8) bytes transferred.
40239 bytes received in 23.65 seconds (5.8 Kbytes/s)
ftp> **quit**
%

.

C

International Technical Support

Table C–1 lists the telephone numbers to call for technical support for the Digital FDDIcontroller/PMC adapter.

Table C–1   International Technical Support Telephone Numbers

Country	Telephone Number
United States	1 800 354 9000
Australia	008 252 277
Austria	0222 86630 2000
Belgium	02 729 77 44
Brazil	0800 218499
Canada (English)	1 800 267 5251
Canada (French)	1 800 267 2603
Denmark	80 30 10 05
Finland	9800 2870
France	1 69 87 41 23
Germany	0 89 95 91 2500
Hong Kong	2805 3388
India	91 80 3344077
Indonesia	6221 5721077
Israel	09 59 3300

Table C–1 (Cont.) International Technical Support Telephone Numbers

Country	Telephone Number
Italy	1 678 20062
Japan	0120 500391
Korea	2 3771 2852
Malaysia	800 3248
Mexico	91 800 00210
Netherlands	030 83 2888
New Zealand	0800 801 272
Northern Ireland	0232 381381
Norway	22 76 86 00
People's Republic of China (Beijing)	1 849 2266
People's Republic of China (Guangzhou)	20 666 5666
People's Republic of China (Shanghai)	21 545 7465
Philippines	811 5028
Poland	22 48 74 80
Portugal	1 388 9100
Puerto Rico	800 981 4764
Republic of Ireland	01 381216
Russia	974 76 38
Singapore	336 6129
South Africa	0800 115 339
Spain (Madrid)	900 583 4257
Spain (Barcelona)	900 200 084

Table C–1 (Cont.) International Technical Support Telephone Numbers

Country	Telephone Number
Sweden	08 98 88 35
Switzerland	155 21 61
Taiwan	2 577 8915
Thailand	312 0280
United Kingdom	01 256 57122
Venezuela	800 344482

Index