MIL-3200X Series of FastPort™

Print Servers
Hardware User's Guide
with
FastManage™-Specific Information

Sunnyvale, California
Minnetonka, Minnesota

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Preface

P.1 About this Manual

This manual has instructions on how to physically install a MIL-3200X series of FastPort print server. This document also has specific information on the FastManage™ suite of software as it applies to the MIL-3200X.

The terms “MIL-3200X,” “FastPort” and “print server” are used to describe the device throughout the document. This document assumes that users are familiar with a system administrator’s tasks.

P.2 FastPort Documentation

There are three separate manuals shipped with FastPort:

- *MIL-3XXX FastPort Print Servers Hardware User’s Guide, with FastManage-Specific Information*. This document has the following information:
  - Instructions on how to physically set up FastPort
  - Installation information on any “add-on” device
  - Information on the FastManage suite of software and how it may affect a specific FastPort

  This document is unique to a specific FastPort print server.
- *FastPort User’s Guide:* This document has the following information:
  - The latest firmware information
  - Software information for MS Windows™, Novell™, etc.
  - Configuration and diagnostic information

  This document is generic for all FastPorts.

- *FastManage User's Guide*: Use this guide to setup the FastManage software for FastPort.

  This document is also generic for all FastPorts.

P.3 Contents of this Document

Material covered in this manual includes:

- **Chapter 1:** Provides an overview of MIL-3200X series
- **Chapter 2:** Provides instructions for installing FastPort
- **Chapter 3:** Provides installation information for the micro modules
- **Chapter 4:** This section has specific information on FastManage for the MIL-3200X
- **Appendix A:** Specifications for MIL-3200X series
- **Appendix B:** Technical support. How to contact Digi

P.4 Notation Conventions

This document has certain notation conventions that make it easier to follow instructions and examples. Notation conventions used in this manual are shown in Table P-1.

Table P-1: Notation Conventions

Conventions	Description
[Enter]	Brackets indicate a key to be pressed.
Courier bold	Courier boldface font indicates a system message, options, or instructions to be implemented.
"+" sign	The "+" sign is used to indicate holding down one key while pressing another (e.g., "press [Shift]+[C]").
Italics	Italics designate variables and titles of other documents.
"Quick Reference"	Quotes refer to important information or titles.
CAPS	Capitalized words are either abbreviations, a specific directory, or product markings.

Chapter 1

Introduction

Chapter 1 gives an overall description of the MIL-3200X FastPort print server.

This chapter includes:

1.1 Overview of the MIL-3200X

The MIL-3200X series of FastPort print servers are 10 Mbps, Ethernet and fiber optic print servers. The MIL-3200X allows users to directly connect multiple printers on Ethernet networks using their choice of network media, including:

- 10BASE-T, 10BASE2, and 10BASE5 for Ethernet
- 10BASE-FL for fiber optic media

1.2 Versions of the MIL-3200X

There are three different, pre-configured versions of the MIL-3200X series of FastPort, including:

- MIL-3210X, for 10BASE-T connectivity using a MIL-4310M micro module for its network connection
- MIL-3220X, for 10BASE2 connectivity using a MIL-4320M micro module for its network connection
- MIL-3230X, for 10BASE-FL connectivity using a MIL-4330M micro module for its network connection

Note: For 10BASE5 connectivity, install a MIL-4340M micro module into any the MIL-3200X (see to Chap. 3 for more info. on the micro modules)

1.3 Features

The MIL-3200X FastPort offers the following features:

- FastManage SNMP manager for Windows
- On-board diagnostic utilities can also be accessed on-line
- Apple Macintosh users can configure and modify each unit by downloading configuration files with the supplied LaserWriter™ utility
- Configuration can also be done manually or with the supplied installation program

1.3.1 Shared Printer Features

FastPort give users the widest access to shared printers:

- Windows 95®, Windows NT, and Windows for Workgroups systems
- PCs networked with Novell® NetWare®
- UNIX® support
- Apple® Macintosh® using EtherTalk®
- OS/2® machines with TCP/IP
- PCs running a TCP/IP protocol stack over Ethernet networks
- Microsoft LAN Manager® and IBM LAN Server® systems

The MIL-3200X print servers are configured by using an SNMP management station, such as the FastManage software (included). The MIL-3200X also supports SNMP MIB-II (RFCs 1213) and parallel and serial MIBs (RFCs 1318 and 1317).

1.3.2 Utilities

To make the units easier to manage, Digi supplies:

- FastManage suite of software, a Windows-based management package
- Advanced Configuration Tool (ACT), a DOS-based menu software application

Configuration of devices can be done by using print utilities on UNIX systems. Firmware upgrades of the flash EPROMs can be done via network connections. Refer to the *FastPort User's Guide* for more information.

1.4 The Next Step

Use this guide to physically setup FastPort. Then consult the *FastPort User's Guide* for the latest software / firmware installation information. Then refer to the *FastManage User's Guide* to configure FastManage for FastPort.

Note: Chapter 4 in this document has FastManage information, but only as it pertains to a specific FastPort. Chapter 4, though, does not have any specific instructions on the FastManage suite of software.

Chapter 2

FastPort Installation

Chapter 2 gives installation information for the FastPort print server.

This chapter includes:

2.1 Installation Requirements

Before installing FastPort, make sure you have the following:

- MIL-3200X series FastPort
- Power supply

  Use a switchable power supply, such as the MIL-16DT desk-top power adapter included with FastPort. Set for 120 VAC in the continental USA (Default is 220 VAC)
- Appropriate Ethernet cabling, which may include T-connectors, terminators, external transceivers, or MAUs
- Serial or parallel printers with cabling

2.2 Installing FastPort

To install the MIL-3200X FastPort print server.

1. Record the Ethernet address (located on the bottom of the unit) for future reference

2. Attach the Ethernet cabling, including:

   – MIL-3210X supports 10BASE-T cabling directly; use category 5 (CAT 5) unshielded twisted pair (UTP) cabling.

   – MIL-3220X supports 10BASE2 cabling directly; use thin net cabling.

   – MIL-3230X supports 10BASE-FL cabling directly; use multi-mode or single-mode fiber cabling.

Note: Install a micro module for any other type of network connection, refer to Chapter 3.

3. Refer to Table 2-1 to select an operating mode with the front panel switches.

Table 2-1: Operating Mode

D3	D4	Mode	Description
Up	Up	Normal	Does not allow a Telnet session. Users can print to the unit. The **SYS** (system) LED and **NET** (network) LED blink.
Down	Up	Telnet Diagnostic Monitor	Allows a Telnet session to monitor FastPort or change its parameters. Users can print to the unit. The **SYS** LED and **NET** LED blink.
Down	Down	Serial Diagnostic Monitor	A terminal can be attached to serial port 2 to run a serial monitor. Print jobs are not accepted. The **NET** LED blink.
Up	Down	Test Page	A test page prints on a power cycle. No print jobs are accepted.

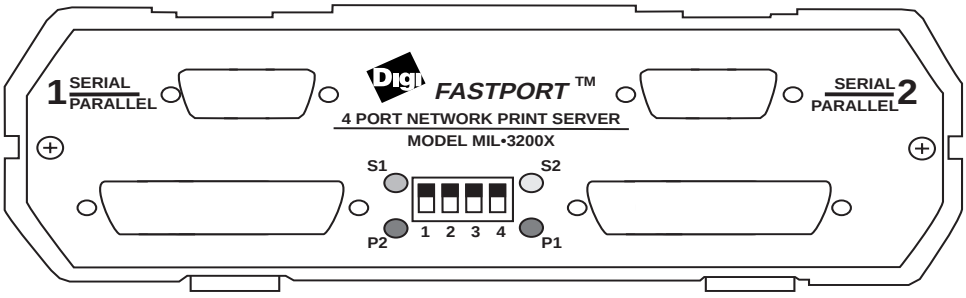


Figure 2-1. MIL-3200X Front Panel

Table 2-2: Flash and Test Page Select

Switch	Position	Mode	Description
D1	Up	Flash Bank	Selects bank 0 (upper) to run the 4 Mb Flash EPROMs for uploading the new firmware image.
	Down		Selects bank 1 (lower) to run the 4 Mb Flash EPROMs for uploading. If the upgrade process fails, use this setting and power cycle the unit to return FastPort to its default settings.
D2	Up	Test Page	MIL-3200X selects parallel port 2 and serial port 2 for test page printing.
	Down		MIL-3200X selects parallel port 1 and serial port 1 for test page printing.

Table 2-3: Default Settings

D1	D2	D3	D4
Up	Down	Down	Up

4. Attach the parallel printer(s) cables.

   Attach the parallel cable to the female DB25 parallel port on the front of the FastPort. Connect the other end of the cable to a standard, centronics port on the printer.

5. Attach the serial printer cables.

   Attach a serial cable to the male DB9 printer port on the front of the unit. The other end of the cable should be connected to a female DB9 with the standard serial interface pinout.

   A null modem cable or adapter is necessary if the printer's serial port is a DTE device. If the cable will work for an IBM PC attached to a printer, then it will work for FastPort.

Note: See Appendix A for serial port pinouts.

6. Set the printer to the defaults for the serial port: 9600 baud, 8 data bits, no parity bits, 1 stop bit, and Xon/Xoff for flow control.

7. Connect the power supply and verify normal boot-up:

   a. Select the proper voltage for the specific country

   b. Place the unit near the printer

   c. Plug the power connector into the receptacle marked **16VAC** on the rear of the unit

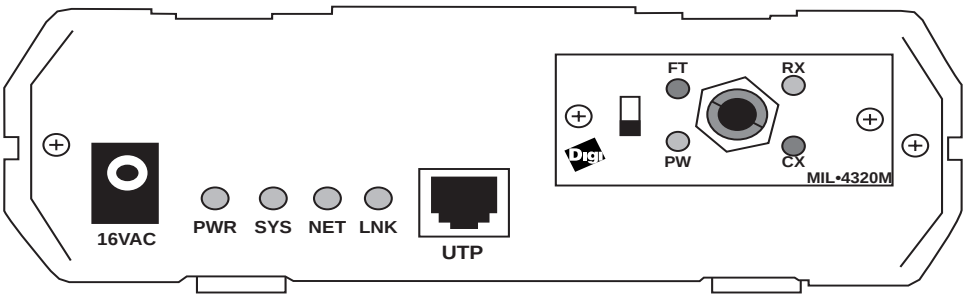


Figure 2-2. MIL-3210X Rear Panel of FastPort

The unit performs POST (power-on self-test) at start-up and tries to resolve its IP addresses.

- If the IP address is set, the **SYS** LED blinks once per second.
- If the IP address is not set, the **SYS** LED blinks five times per second until the address is set either manually or by using *RARP, BOOTP*, or *DHCP*.

FastPort should now be functioning on the network. Consult the *FastPort User's Guide* to continue the installation on a specific client computer.

Chapter 3

MIL-4300M Series Micro Modules

Chapter 3 gives installation information for the MIL-4300M series of micro modules. For more information on micro modules, refer to the *MIL-4300M Series of Micro Modules Installation Guide.*

The chapter includes:

3.1 Introduction

Each version of the MIL-3200X has its own type of micro module for its network connection:

- **MIL-3210X**: Has the MIL-4310M micro module on-board. The MIL-4310M has an RJ-45 connector (Unshielded twisted pair).
- **MIL-3220X**: Has the MIL-4320M micro module on-board. The MIL-4320M has a BNC connector (thin COAX).
- **MIL-3230X**: Has the MIL-4330M micro module on-board. The MIL-4330M has an ST connector (fiber optic).

Each micro module can be swapped so that the user can change the network connection. However, always power down the device before swapping a micro module. FastPort is not capable of “hot-swappable” maneuvers.

3.2 Configuration

The micro modules come with five different type of connectors: RJ-45, ST, SMA, AUI, and thin COAX (BNC). Refer to the *MIL-4300M Series of Micro Modules Installation Guide* for configuration and specification information.

3.3 Versions of the Micro Modules

Versions of MIL-4300M series of micro modules supported by the MIL-3200X series, includes:

- MIL-4310M: 10BASE-T, with an RJ-45 connector (versions C, D and E)
- MIL-4320M: 10BASE2, with a COAX (BNC) connector (versions A and B)
- MIL-4330M: 10BASE-FL multi-mode, with an ST connector (versions A and B)

- MIL-4340M: 10BASE5, with an AUI connector (version B)
- MIL-4350M: 10BASE-FL multi-mode, with an SMA connector (versions A, B and C)
- MIL-4360M: Single-mode, half-duplex; with an ST connector (versions A and B)
- MIL-4370M: Single-mode, half- and full-duplex; with an ST connector (versions A and B)

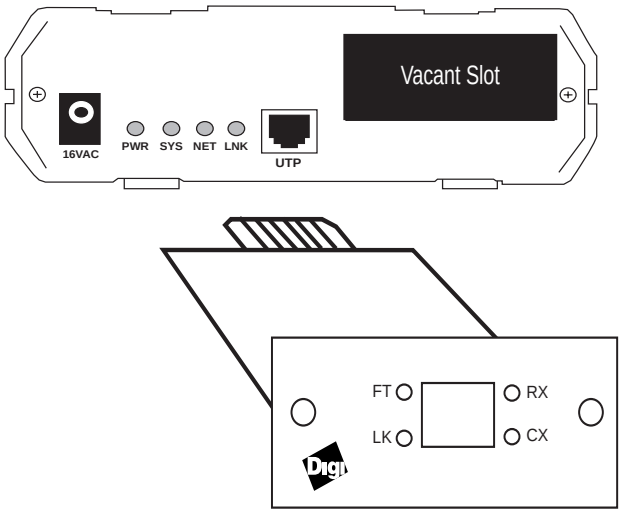


Figure 3-1. MIL-4300M Micro Module

3.4 Installation

Do the following to install any of the following micro module:

1. Use a phillips head screwdriver to remove the screws securing the faceplate of the base unit.
2. Remove the faceplate.
3. Make any configuration changes to the module.
4. Slide the module into the port.

5. Insert the module into the card-edge connector (port bay). Make sure it is seated firmly.

6. Secure with the #4-40 X 3/16" phillips-type screws.

With the micro module now installed and ready to use, the user can install the proper network connection.

Chapter 4

FastManage for the MIL-3200X

Chapter 4 discusses FastManage-specific software; however, only as it applies to the MIL-3200X series of FastPort print servers. This chapter does not give detailed instructions on the software. Refer to the *FastManage User's Guide* for installation and configuration instructions for the FastManage suite of software.

This chapter includes:

4.1 Overview of FastManage

The FastManage suite of software allows configuration and network management for most SNMP-type devices, including print servers, fax servers, hubs, and stackable hubs.

When the software is started, an icon appears that represents each SNMP device. This section discusses the specific icon for this specific FastPort: the MIL-3200X FastPort print servers.

Note: This section only has an overview of the software for a specific Digi SNMP device.

4.2 Starting FastManage

There are two ways to start the FastManage suite of software:

- Discover icon:

  a. Start by double-clicking on the **`Discovery`** icon. The system "discovers" all of the SNMP manageable devices on the subnet.

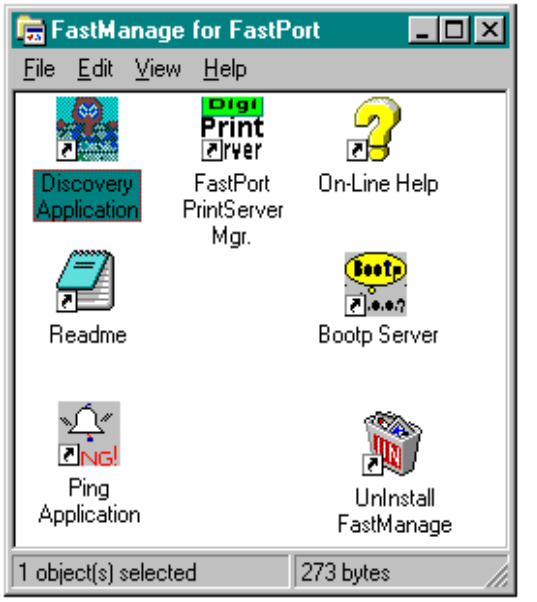


Figure 4-1. FastManage for FastPort

b. The devices will now appear on *Map 1* as “thumbnails,” which represents each SNMP device.

c. Double-click on a thumbnail to display a full-screen image of that particular SNMP device (see Figure 4-2).

- FastPort PrintServer Mgr. Icon:

a. Also start the software by double-clicking on the **`FastPort PrintServer Mgr.`** icon.

b. Enter the IP Address of the device.

c. A full-screen image of that device appears (Figure 4-2).

4.3 MIL-3200X FastPort Graphical Icon

The following appears when the MIL-3200X is retrieved:

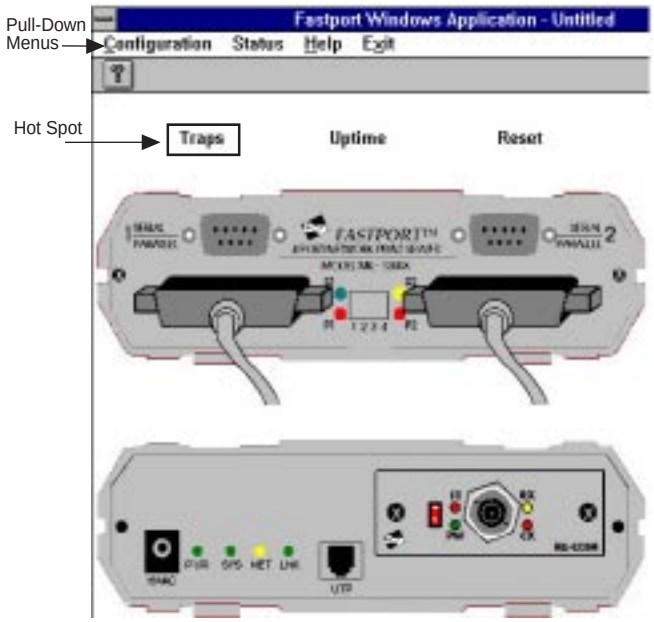


Figure 4-2. MIL-3200X Graphical Icon

4.4 Configuration Pull-down Menu

There are many different options available from the pull-down menus, including TCP/IP, Novell, and SMB configurations. Refer to the *FastManage User's Guide* for more information.

4.4.1 Auxiliary Port Sub-Menu

The "Auxiliary Port" sub-menu (Figure 4-3) differs from other FastPorts, because the MIL-3200X series has two serial and two parallel ports. To view the "Auxiliary Port" sub-menu from the "Configuration" pull-down menus, go to:

```
TCP/IP Config.--> fpfilter Configuration-->Auxiliary ports
```

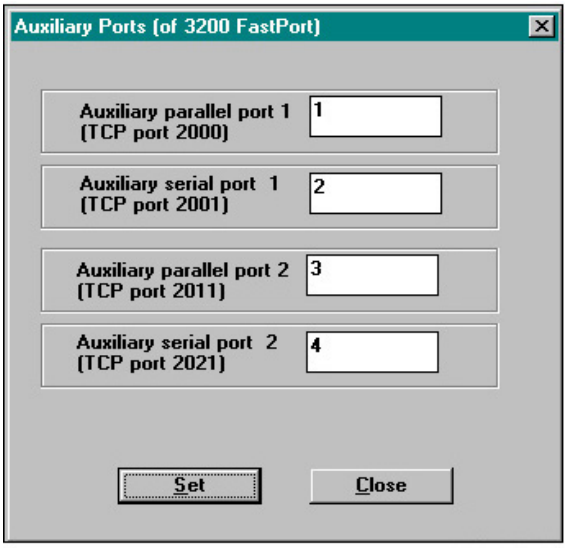


Figure 4-3. Auxiliary Port Menu

This parameter specifies an auxiliary port for parallel or serial port printing.

4.4.2 Parallel/Serial Printer Setup Sub-Menu

Again, both the “Parallel Printer Setup” (Figure 4-4) and the “Serial Printer Setup” sub-menus differ from other FastPorts, because the MIL-3200X series has two serial and two parallel ports. To view these sub-menus from the “Configuration” pull-down menu, go to:

`Ethertalk Config.-->Parallel Printer Setup/Serial Printer Setup (Figure 4-4)`

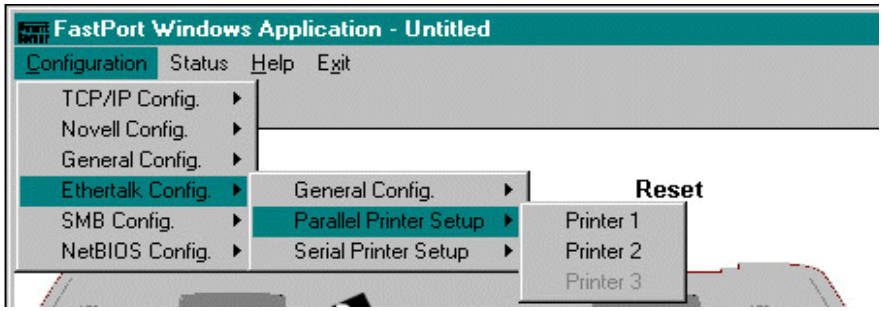


Figure 4-4. Parallel Printer Setup Menu

This parameter sets-up the port for parallel or serial port printing. **`Printer 1`**, **`Printer 2`**, **`Serial 1`** and **`Serial 2`** are your choices.

4.5 Hot Spots

Hot spots on the graphical representation of the MIL-3200X series (Figure 3-2) are used to gain status of the device. Use the mouse to highlight the selection (a block around the area will appear), and click on it to obtain the information.

Hot spots function the same way on all FastPorts, even though they may appear in different locations. The following describes the hot spots applicable for the MIL-3200X. Refer to the *FastManage User’s Guide* for more information.

- **Traps:** This selection alerts the user to any problem associated with the device.

- **Uptime:** This selection informs the user of how long the device has been running.

- **Reset:** When this hot spot is clicked on, a warning message appears asking whether or not the user want to reset FastPort. Select **Yes** to continue, **No** to stop.

- **Digi/MiLAN Logo:** Depending on the model of your FastPort, either a "MiLAN" or a "Digi" appears on the top, right-hand side of the graphic. When this Logo is clicked on, FastPort specifications appear. Reset **Name**, **Location**, and **Contact**. Press **Set** after the changes are made (Figure 4-5).

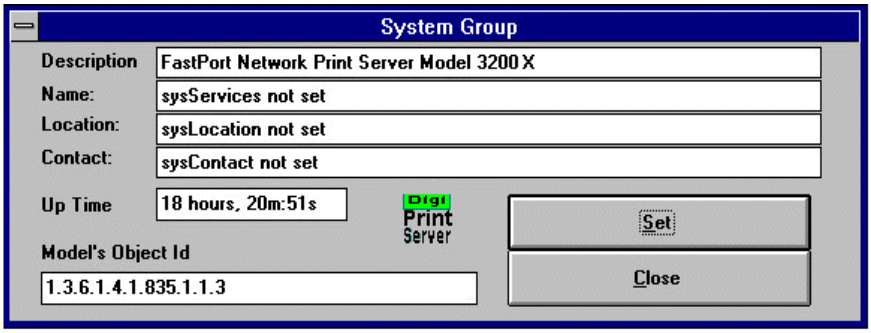


Figure 4-5. Digi/MiLAN Logo Message

- **Parallel Port:** Depending on which button is clicked, this parameter displays the status of the Parallel port.

- **Serial Port:** Depending on which mouse button is clicked, this parameter displays the status of the Serial port.

Appendix A

Specifications

A.1 Hardware Features

- The 3200X motherboard, with Ethernet controller, serial port, parallel port interfaces
- CPU: An Intel 80186 processor, with a 16 MHz clock
- Flash: Flash devices are 29F040. Each device are 4 Mbps and arranged in 2 × 256k × 8 format.
- Memory: 1 MB
- MAC chipsets: Ethernet controller is 10 Mbps, with DRAM for data buffering, and its own memory management

A.2 Serial Printer and Terminal Cables

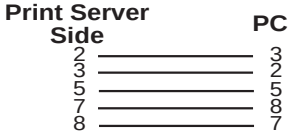


Figure A-1.Common Dumb Terminal Connection

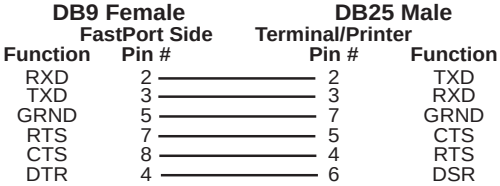


Figure A-2.Cable for Terminal and Serial Printers

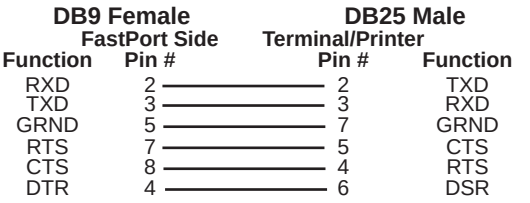


Figure A-3.DCE Device, Dumb Terminal or Serial Port: DB9 Male

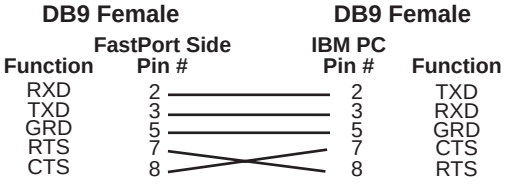


Figure A-4.Wyse 60 Dumb Terminal

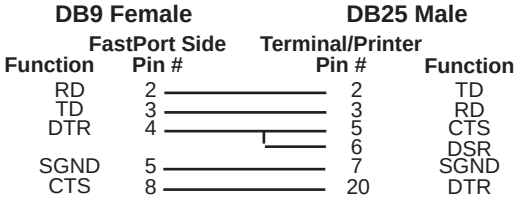


Figure A-5.DTE Printer/Plotter and PC Null: DB25 Male

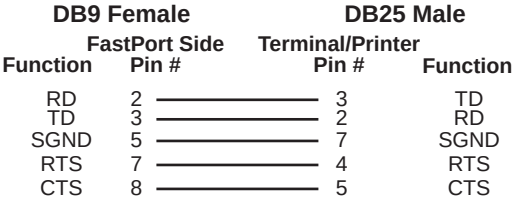


Figure A-6.DCE Printer/Plotter: DB25 Female

A.3 Pinouts

A.3.1 Serial Port

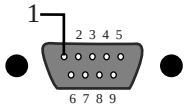


Figure A-7.Serial Port Pinouts

PIN Number	Signal
1	NC
2	RXD
3	TXD
4	DTR/RTS
5	GND
6	NC
7	RTS/DTR
8	CTS
9	NC

A.3.2 Parallel Port Connector

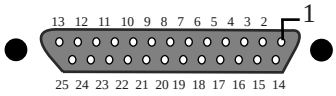


Figure A-8. Parallel Port Pinouts

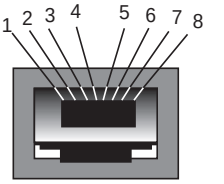
PIN #	Signal	PIN #	Signal
1	PASTB	14	AUTO FEED
2	PAD0	15	FAULT
3	PAD1	16	INIT
4	PAD2	17	SLCTIN
5	PAD3	18	GND
6	PAD4	19	GND
7	PAD5	20	GND
8	PAD6	21	GND
9	PAD7	22	GND
10	ACK	23	GND
11	BUSY	24	GND
12	PE	25	GND
13	ONLINE		

A.3.3 MotherBoard LEDs

LED	Functioned	Color
PWR	Unit is receiving power	Green
SYS	Indicate whether or not the IP address is correct	Green
NET	There is activity on the network port	Yellow
LNK	There is an active connection on the UTP port	Green

A.3.4 RJ-45 Connector

- Pin 1: Transmit data +
- Pin 2: Transmit data -
- Pin 3: Receive data +
- Pin 6: Receive data -



A.4 Micro Module Specifications

A.4.1 LEDs

The MIL-3200X is shipped standard with the MIL-4340M micro module. The following are the LEDs and what they indicate. Consult the *MIL-4300M Series of Micro Modules Installation Guide* for the correct LED and other information.

Table A-1: MIL-4340 Indicators

LED	Functioned	Color
PWR	Unit is receiving power	Green
FT	The segment has faulted	Red
CX	Collision is occurring on the network	Red
RX	Unit is receiving packets from the network	Yellow

A.4.2 Serial Connector

PIN Number	Signal	PIN Number	Signal
1	M2	9	CD-
2	CX+	10	TX-
3	TX+	11	CR
4	M2	12	RX-
5	RX+	13	20V
6	GND	14	VCC
7	M0	15	LC
8	M1	16	LF

Appendix B

Technical Support Services

B.1 World Wide Web Server

Product information, manuals, new product announcements, programs, applications stories and more can be obtained through the world wide web. Our address is:

http://www.dgii.com

B.2 Internet FTP Server

Digi has set up an anonymous FTP server for those with access to the internet. The address is **ftp.milan.com** or **206.40.59.2**. Log-in as anonymous, and enter an email address when asked for a password. Drivers and installation tips are located in the **/pub/fastport/software** and **/pub/fastport/faq** directories.

Note: To ensure binary transfer of files, switch to binary mode by entering bin or binary before downloading.

B.3 Contacting Technical Support

To contact Digi's technical support:

- By Phone: 408 / 744-2751
- By Fax: 408 / 744-2771
- By email: support@milan.com

B.4 Expediting Technical Support Service

For faster service when calling our technical support department:

- Be in a position where the computer and the print server are accessible
- Know the type and versions of software you are using.
- Know your hardware specification, including memory and disk space.
- Note any and all error messages.
- Be specific about the problem(s).

B.5 Returning Procedures

To return a unit to Digi:

1. Call technical support at 408 / 744-2751

2. Technical support engineers will work with users to find the problem. If technical support determines that the unit is defective, a return materials authorization (RMA) will be issued by our RMA administrator who will also provide shipping instructions.

Note: It is required that any return has an RMA number or it will be rejected and returned to the sender.

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