**PortServer TS 8
Setup
Card**

Connectware™

About This Card

This card provides the following information on your PortServer TS 8:
- A brief introduction
- A setup overview that identifies the major steps required for device setup
- Guidance on where to find more detailed information that may be required to complete setup and administrative tasks

Key Features

The following are some of the key features of PortServer TS 8:

Console Management

PortServer TS 8 provides the following console management features:
- Secure access to remote systems using SSHv2
- "Solaris Ready" certification from Sun Microsystems
- Inbound and outbound PPP connections for remote access to network equipment
- Port buffering of up to 64 KB per port to diagnose network problems

Terminal Server

PortServer TS 8 provides the following terminal server features:
- Serial ports capable of supporting asynchronous, high-speed connections to printers, modems, terminals, and other devices. Support extends to full modem control and hardware handshaking.
- Local TTY and COM port functionality using Digi RealPort software

General

PortServer TS 8 provides the following general features:
- Auto-sensing 10/100 TX Ethernet connection
- Industry standard surge suppression and ESD protection to 15 kilovolts on all signal pins
- LED indicators to display network information
- Local configuration using a terminal or PC and remote configuration using either a Telnet connection or a web browser
- Remote monitoring and IP address configuration using Digi Port Authority - Remote
- Upgradable firmware using TFTP or HTTP

Package Contents

The package contains the following items:
- One PortServer TS 8
- A power supply
- One RJ-45-to-DB-25 crossover cable and one RJ45-to-DB9 crossover cable. These are intended for connecting a terminal or PC so that you can configure your PortServer TS 8 using the command line interface.

   Note: For additional cables, contact your dealer or distributor.
- One loopback plug
- Access Resource CD
- This card, an Access Resource CD card, and associated paperwork

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Setup Overview

This overview identifies the major steps required to set up your PortServer TS 8. It provides simple methods for accomplishing common setup tasks. For information on alternative methods, see the online documentation.

Step A: Set Up the Hardware

1. Connect the PortServer TS 8 to a proper power source and the PortServer TS 8 to the network. See the Specifications table on the backside of this document for details.
2. Connect peripherals to serial ports.

   See the *Terminal Server Cable Guide* for information on cabling peripherals to serial ports.

Step B: Install and Set Up DPA-Remote

This step is not required if you do not intend to use DPA-Remote to configure the IP address or to monitor ports. **Notes:** (1) DPA-Remote cannot be used to change the IP address of a PortServer TS 8 that has already been assigned one; it can only be used to configure the initial IP address. (2) DPA-Remote cannot configure IP addresses if a DHCP server is active on the network.

For information on installing DPA-Remote, see the online *Digi Port Authority - Remote Device Monitor Setup Guide*.

Step C: Configure an IP Address

The following are 4 methods for configuring an IP address. Use the one that is most convenient for you.

Method 1: Using DPA-Remote

1. Run DPA-Remote.
2. If DPA-Remote is not set for ADDP, choose ADDP as the Discovery Protocol.
3. Choose Discover.

   A list of Digi devices with IP addresses of 0.0.0.0 appears.
4. Select a PortServer TS 8 from the list and then choose Configure.
5. Supply an IP address, subnet mask and default gateway and then choose OK.

   DPA-Remote configures the IP address, subnet mask and default gateway.

Method 2: Using Ping-ARP

Use this section to configure an IP address by manually updating a server's ARP table and then pinging the PortServer TS 8.

1. Record the MAC address of the PortServer TS 8. It is on the back of the unit.
2. Access a server on the same subnet as the PortServer TS 8.
3. Manually update the server's ARP table using the PortServer TS 8's MAC address and the IP address you want assigned to the PortServer. The following is an example of how this is done on a Windows NT 4.0 system:

   ```
   arp -s 143.191.2.1 00-40-9d-22-23-60
   ```
4. Ping the PortServer using the IP address just assigned. The following is an example:

   ```
   ping 143.191.2.1
   ```

   The ping will probably time out before there is a response.
5. Wait a few seconds and then ping again.

   The PortServer TS 8 replies to the ping, indicating that the IP address has been configured.

Method 3: Using DHCP or RARP

1. Record the MAC address of the PortServer TS 8, which is located on the back of the unit.
2. Set up an entry on a DHCP or RARP server. If you intend to use RealPort, do the following:
   - Reserve a permanent IP address.
   - Record the IP address. You will need it when you configure the RealPort driver.
3. Power on the PortServer.

Method 4: Using the Command Line

1. Connect a terminal or PC to a serial port on the PortServer TS 8.
   - For a terminal, use the cable that came in your package.
   - For a Windows Hyperterminal connection, use the cable that came in the package, a straight-through DB25-to-DB9 modem cable, and gender changers as required.
2. Configure the parameters of the terminal or terminal emulation software to work with the serial port. The default port settings are:

   - VT 100 emulation
   - 9600 baud
   - 8-bit character
   - 1 stop bit
   - No parity

3. Log into the PortServer TS 8 as root by entering the following commands: (You may have to press the Enter key to get a Login prompt.)
   - At the login prompt, type `root`.
   - At the password prompt, type `dbps` (which is the default password. If the password has been changed, use the new password.)

   See the newpass command in the online *Command Reference* for information on changing the root password.
4. Configure an IP address with the following command:

   ```
   set config dhcp=off ip=ip-addr submask=mask
   ```

where `ip-addr` is the IP address to configure and `mask` is the subnet mask used by the network

   Example

   ```
   set config dhcp=off ip=192.10.7.3
   submask=255.255.255.0
   ```
5. Reboot at the reboot prompt.

Step D: Configuring Ports Using the Web Interface

1. Access the PortServer TS 8 from a web browser by specifying the unit's IP address in the URL window.
2. Log into the PortServer TS 8 as root by entering the following:
   - At the login prompt, type `root`.
   - At the password prompt, type `dbps` (which is the default password. If the password has been changed, use the new password.)
3. Use the web interface to configure ports. See the online help for information on configuration fields.
4. If you intend to use RealPort, install RealPort software on a server. See the online RealPort library for more information.

Step E: Configure other Features as Required

See "Where to Find Information" on this card for ideas on additional features to configure and directions as to where to find setup information.

Step F: Troubleshoot Setup Problems

Ensure that your setup works as you intend. If you encounter setup problems, see the troubleshooting section in the online *Configuration and Administration Guide*.

PortServer TS 8 Library

Access Resource CD Card

This card provides information on the contents of the Access Resource CD. It includes the CD mounting instructions required to access the CD on many Unix systems.

Digi One/PortServer TS Command Reference

This online manual, available on the Access Resource CD, provides complete information on commands.

PortServer TS 8/16 Configuration and Administration Guide

This online manual, available on the Access Resource CD, provides procedural information for setup.

RealPort Setup Guides

These online manuals provide information on setting up servers for RealPort software.

Digi Port Authority - Remote Device Monitor Setup Guide

This online manual provides information on installing and using Digi Port Authority - Remote software.

Online Help for the Web UI

This online help provides information on configuration fields used with the web browser configuration interface.

Terminal Server Cable Guide

This online manual provides cabling information for PortServer TS 8 and other products.

Where to Find Information

To set up...	See...
An IP address	• The web interface and associated help. Note: The initial IP address cannot be set up with the web interface. • The set config command in the online *Command Reference* • The section on configuring the Ethernet interface in the online *Configuration and Administration Guide*
autoconnection	• The web interface and associated help • The set user and set ports commands in the online *Command Reference* • The section on configuring autoconnection in the online *Configuration and Administration Guide*
DPA - Remote	• The online *Digi Port Authority - Remote Device Monitor Setup Guide*
Menus	• The web interface and associated help • The set menu command in the online *Command Reference*
Ports	• The web interface and associated help • The set ports, set flow, and set line commands in the online *Command Reference* • The sections on configuring ports for RealPort, modems, terminals, and printers in the online *Configuration and Administration Guide*
Port Buffering	• The web interface and associated help • The set buffers commands in the online *Command Reference* • The section on Console Management in the online *Configuration and Administration Guide*
PPP	• The web interface and associated help • The set user command in the online *Command Reference* • The PPP section in the *Configuration and Administration Guide*
RealPort	• The web interface and associated help • The set ports command in the online *Command Reference* • The online RealPort library
SSH	• The web interface and associated help • The set user command in the online *Command Reference* • The sections on Security Features and Console Management in the online *Configuration and Administration Guide*
SNMP agent	• The set snmp command in the online *Command Reference* • The section on configuring the SNMP agent in the online *Configuration and Administration Guide*
Users	• The web interface and associated help • The set user and newpass commands in the online *Command Reference* • The section on configuring users in the *Configuration and Administration Guide*.

Safety Considerations and Warnings

Follow the warnings and guidelines below to ensure safe operation of your PortServer TS 8.
• Do not attempt to service the power supply that comes with PortServer TS 8. This sealed unit contains no user-serviceable parts or adjustments. Do not open or tamper with the power supply.
• Carefully inspect the work area in which the PortServer TS 8 will be located to ensure against hazards such as damp floors, ungrounded power extension cords, and missing ground connections.
• Before operating PortServer TS 8, ensure that external power sources comply with the requirements listed in the specifications. If you are not sure of the type of power source, contact your dealer or power company.
• Ensure that the power supply is connected with the 3-wire, ground-connection plug that comes with PortServer TS 8. If you are unable to insert this plug into an outlet, have an electrician replace the obsolete outlet. Do not attempt to defeat the safety feature of the plug.
• Ensure that the ampere rating of all equipment plugged into wall outlets does not exceed the capacity of the outlet.
• If you require an extension cord, ensure that the ampere rating of all equipment plugged into the extension cord does not exceed the ampere rating of the cord.
• If PortServer TS 8 is exposed to moisture or condensation, disconnect it from the power source immediately and obtain service assistance.
• If PortServer TS 8 exhibits unexpected behavior, such as smoking or becoming extremely hot, disconnect it from power sources immediately and then obtain service assistance.
• Ensure that the cover is secure on completion of installation to reduce safety hazards.

CAUTION! This product contains a lithium-ion battery that is embedded in one of the components on the printed circuit board. The battery is not field-replaceable, and improperly installing the component could result in an explosion.

Environmental Considerations and Cautions

The following is a list of environmental considerations that will ensure safe and efficient operation of your PortServer:
• Ensure that the PortServer TS 8 has at least 12 inches (30 centimeters) of clearance on all sides to allow for proper ventilation. These devices generate heat and require adequate circulation to maintain proper operating temperatures. For the same reason, never cover or obstruct ventilation slots.
• Do not position the PortServer near high-powered radio transmitters or electrical equipment, such as electrical motors or air conditioners. Interference from electrical equipment can cause intermittent failures.
• Avoid exceeding the maximum cabling distances discussed in the online cable guide.
• Do not install the PortServer in areas where condensation, water, or other liquids may be present. These may cause safety hazards and equipment failure.

Specifications

Power Requirements
12 VDC , .4 Amp (max) internal power supply

Environmental	
Ambient temperature	60°F (15.6°C) to 90°F (32.2°C)
Relative humidity	20% to 80% non-condensing
Altitude	0 to 7,000 feet (0 to 2,134 meters)

Mechanical
Width: 8.25 inches (20.955 cm) Height: 1.125 inches (2.858 cm) Depth: 3.75 inches (9.526 cm) Weight: 1.21 pounds (0.549 kg)

FCC Part 15 Class A

Radio Frequency Interference (RFI) (FCC 15.105)

This equipment has been tested and found to comply with the limits for Class A digital devices pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential environment. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:
• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and the receiver.
• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
• Consult the dealer or an experienced radio/TV technician for help.

Labeling Requirements (FCC 15.19)

This device complies with Part 15 of FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Modifications (FCC 15.21)

Changes or modifications to this equipment not expressly approved by Digi may void the user's authority to operate this equipment.

Cables (FCC 15.27)

Shielded cables *must* be used to remain within the Class A limitations.

ICES 003 Class A

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

Le present appareil numerique n'emet pas de bruits radioelectriques depassant les limites applicables aux appareils numeriques de la class A prescrites dans le Reglement sur le brouillage radioelectrique edicte par le ministere des Communications du Canada.