

2 Port 10/100 RIOP Installation Guide

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2 Port 10/100 RIOP Installation Guide, Version 1.0
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Introduction to the 2 Port 10/100 RIOP

The 2 Port 10/100 Routing Input/Output Processor (RIOP), as part of the VSR multigigabit switching router, allows you to connect two local Ethernets at a data speed of either 10 Mbps or 100 Mbps.

This section of the manual contains information specific to the 2 Port 10/100 RIOP. It is divided into the following sections:

Chapter 1: Network Installation

Here you will find step-by-step instructions on how to physically install the 2 Port 10/100 and connect it to your network.

Chapter 2: Quickstart Configuration

The Quickstart section provides a basic list of parameters that must be entered into the 2 Port 10/100 for proper operation.

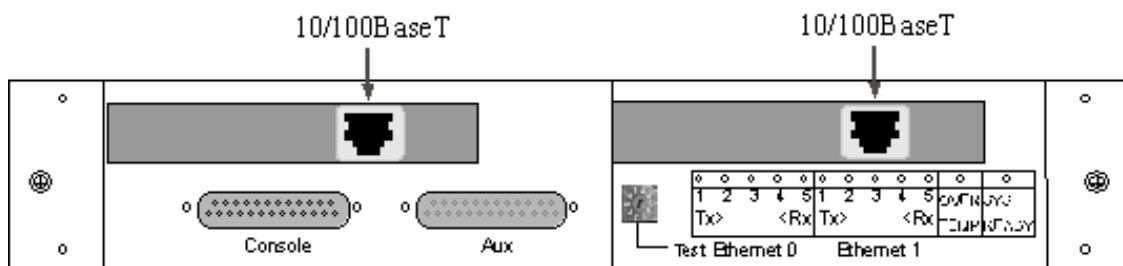
Chapter 3: Shipping Defaults

This section of the manual lists factory defaults for each interface.

Chapter 4: LED Patterns

This section of the manual describes the LED indicators for the 2 Port 10/100.

Chapter 1 - Network Installation



2 Port 10/100 RIOP Front Panel

This section of the manual will help you install the 2 Port 10/100 RIOP to connect one or two local Ethernets. In summary, the steps for installation are:

1. After mounting the router or placing on a desktop, make sure it is not connected to any power source.
2. Connect the router to the Ethernet network(s).
3. Connect a management console to the router (optional).
4. Plug in the power cable and power up the router.

Ethernet Connection Requirements

The 2 10/100 Ethernet interfaces directly support 100BaseTx or 10BaseT twisted-pair Ethernet. To connect one of the router's Ethernet interfaces to twisted-pair Ethernet cabling, you will need one unshielded twisted-pair station cable that is connected to a 10BaseT-compatible twisted-pair hub (for a transmit speed of 10 Mbps) or a 100Mbps Fast Ethernet hub (for a transmit speed of 100 Mbps).

Other Connection Requirements

If connecting any of the firewall's Ethernet interfaces directly to another router, a server or a similar device (*i.e.* not an Ethernet switch or hub), then you must use a cross-over cable to connect the firewall to the other device.

❖ **Note:** *Ethernet cables, crossover cables and cable connectors are not supplied with the 8 port 10/100 RIOP product. Please contact your reseller or your Compatible Systems representative for information on obtaining the correct Ethernet cabling supplies. Cable diagrams for the most commonly used cables are provided in the technical support section of our website.*

Connecting the 2 Port 10/100 RIOP to the Ethernet

If your twisted-pair hub is already in place, you can connect the router to an active network without interrupting network activity. Before connecting the router to twisted-pair cabling you need an unshielded twisted-pair cable that is already connected to your 10BaseT-compatible or 100BaseTx-compatible twisted-pair hub.

To connect the router to the twisted-pair network, simply plug the twisted-pair cable into one of the RJ-45 Ethernet connectors on the front of the unit.

Connecting a Management Console

If you wish to connect an out-of-band management console, use the supplied cable and connect to the Console interface on the 2 port 10/100 RIOP. You can use a dumb terminal or a computer equipped with VT100 terminal emulation.

The default settings for the Console interface are VT100 terminal emulation, 9600 bps, 8 bits, no parity, 1 stop bit and no Flow Control.

❖ **Note:** *The 2 port 10/100 RIOP also has an AUX interface. This is a modem connection which should only be used in consultation with Compatible Systems Technical Support staff, who will provide instruction on its use.*

Powering Up the Router

Connect the supplied power cord to the front of the VSR and set the power switch to “On.” At power-up, the router will take approximately one minute to become visible to CompatiView.

❖ **Note:** *If you want to use telnet as a management method, you must first configure an IP address into the router with either an out-of-band console, CompatiView, or with a reconfigured IP host or workstation on the same Ethernet segment as the router. See the appropriate VSR chassis section of the manual for more information on Command Line Management.*

Chapter 2 - Quickstart Instructions

This Quickstart chapter briefly discusses the major parameters that must be set in order to use the 2 Port 10/100 RIOP as part of your VSR multigigabit switching router.

Detailed information on the meaning of the router's parameters is provided in the *CompatiView Management Software Reference Guide* and the *Text-Based Configuration and Command Line Management Reference Guide*. You should use this list as a starting point to look up more specific information in the other documents.

If you need more general information on IP, IPX, AppleTalk or wide area protocols, see the Appendices in the *CompatiView Management Software Reference Guide*.

There are a number of parameter settings which are optional, in the sense that they are not required for all installations. These settings are not covered in this chapter.

In this chapter:

CV = CompatiView

TB = Text-Based Configuration

Ethernet Interface Configuration

With proper planning, you should be able to configure both of the Ethernet interfaces at once. Once you have saved the configuration in the router, run some quick tests from workstations on the configured segments to check your configuration parameters (*i.e.* IP ping tests, mounting IPX servers, etc.).

IP Protocol

Required for IP

These parameters set the basic address characteristics of the interface. They provide enough information for another IP node to find the interface (such as a telnet client), but not enough information for routing to take place.

- IP address
- IP subnet mask
- IP broadcast address

CV: Use the TCP/IP Routing: Ethernet Dialog Box to set these parameters.

TB: Use the **configure** command and the **IPAddress**, **SubnetMask**, and **IPBroadcast** keywords in the **IP Ethernet 0** (and/or Ethernet 1) section.

Suggested for IP

These parameters help supply information about the segment that the interface is connected to. With this information, routing can take place.

- Set IP RIP 1, IP RIP 2 or OSPF (Open Shortest Path First)
- IP static routes

CV: Use the TCP/IP Routing: Ethernet Dialog Box to set RIP, and the IP Static Routing Dialog Box (under Global/IP Static Routes) to set static routes. OSPF can only be configured using text-based configuration.

TB: Use **configure** and set either the **RIPVersion** keyword or the **OSPFEnabled** keyword for the **IP Ethernet 0** (and/or Ethernet 1) section. Use **edit config** and add static routes in the **IP Static** section.

IPX Protocol

Required for IPX

Generally, there are no required changes from the shipping Ethernet configuration for IPX. The Ethernet interface will autoconfigure to use the two most common IPX frame types, and will auto-adapt to conditions on the Ethernet.

Suggested for IPX

You may want to set your own network numbers, rather than using the autoconfigured values. You may also want to turn off unused frame types.

CV: Use the IPX Routing: Ethernet Dialog Box.

TB: Use **configure** and set keywords in the **IPX Ethernet 0** (and/or Ethernet 1) section.

AppleTalk Protocol

Required for AppleTalk

Generally, there are no required changes from the shipping Ethernet configuration for AppleTalk. The Ethernet interface will autoconfigure to use AppleTalk Phase 2, and will autoadapt to conditions on the Ethernet.

Suggested for AppleTalk

You may want to set your own network numbers, rather than using the autoconfigured values. You may also want to use more meaningful zone names.

CV: Use the AppleTalk Routing: Ethernet Dialog Box.

TB: Use **configure** and set keywords in the **AppleTalk Phase 2 Ethernet 0** (and/or Ethernet 1) section.

DECnet Protocol

Required for DECnet

The router's shipping configuration does not have DECnet turned on. In order to be used, DECnet must be turned on both globally and for a particular port.

- Set DECnet on (globally, and for this port)
- Set DECnet area
- Set DECnet node

CV: Use the DECnet Routing Dialog Box (under Global/DECnet Routing) and the DECnet: Ethernet Dialog Box.

TB: Use **configure** and set the **Mode** keyword in the **DECnet Ethernet 0** (and/or Ethernet 1) section. Use **configure** and set the **Enabled**, **Area**, and **Node** keywords in the **DECnet Global** section.

Suggested for DECnet

Setting the parameters above should be adequate for most installations.

❖ **Note:** *Setting DECnet on for any port with the command line also sets DECnet on globally. In CompaView you must set a global parameter and a port-specific parameter.*

Saving a Configuration File to Flash ROM

Once a configuration is complete, you can save it to the router's Flash ROM. Until saved, all changes are made in a separate buffer and the actual router interfaces continue to run as before the changes were made.

CV: Use the Download to Device option from the Configuration menu.

TB: Use the **save** command.

Chapter 3 - Shipping Defaults

Ethernet Interfaces

IP Routing Defaults

- Off, both interfaces

IP Bridging Defaults

- On, both interfaces
- Address: 198.41.12.1
- Subnet Mask: 255.255.255.0
- Broadcast Address: 198.41.12.255
- IP RIP off

IPX Routing Defaults

- 802.3 on, autoseeding, both interfaces
- 802.2 on, autoseeding, both interfaces
- Type II on, nonseeding
- 802.2 SNAP on, nonseeding

IPX Bridging Defaults

- Off, both interfaces

AppleTalk Routing Defaults

- Phase 1 off, both interfaces
- Phase 2 on, autoseeding, both interfaces

AppleTalk Bridging Defaults

- Off, both interfaces

DECnet Defaults

- Off, both interfaces

Chapter 4 - LED Patterns

Some of the LEDs on the front of the VSR multigigabit switching router serve dual functions. In addition to indicating certain router-wide operating conditions and they may also display port-specific information.

❖ **Note:** *Any continuous flashing pattern not noted in this chapter may be caused by a hardware failure. Please call Compatible Systems Technical Support if your router shows a hardware failure.*

Router LED Patterns

The following LEDs and light patterns provide information about the VSR's physical state and operating conditions.

Over Temp

The router is above the proper operating temperature. The filter needs changing. See the appropriate VSR chassis section of the manual for instructions.

Sys Ready

The router booted properly without detecting any failures.

General Indicators

Ethernet 0 Lights	Ethernet 1 Lights	Indication
5 flashing	1 flashing	Router stacks starting up.
3&4 flashing	2&3 flashing	No OS loaded. Running from ROM.
1&4 flashing	2&5 flashing	Erasing OS in Flash ROM.
5 flashing	1,2&3 flashing	Erasing config in Flash ROM.
1 - 5 scanning	5 - 1 scanning	Flash ROM erase due to switch setting five or six is complete. Set switch to zero and cycle power.

2 Port 10/100 RIOP LED Patterns

The following LEDs and light patterns provide information about the 2 Port 10/100 RIOP interfaces.

The 2 Port 10/100 RIOP uses several card-specific light patterns to indicate operating conditions.

Ethernet 0 and Ethernet 1 Traffic Indicators

Scan from 1 to 3: Ethernet transmit packet

Scan from 5 to 3: Ethernet receive packet

Ethernet Connection Indicators

Link: The Link light indicates that there is a good connection to the hub.

Activity: The Activity light indicates that there is activity across the link.

100: The 100 light indicates that the interface is operating at 100 Mbps.