

SUPERSTACK[®] II ADVANCED RPS MANAGEMENT MODULE USER GUIDE

3C16080

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ABOUT THIS GUIDE




Introduction

This guide describes how to install and use the SuperStack® II Advanced RPS Management Module.

Each procedure is outlined in a series of steps. These procedures are written primarily for network supervisors who are responsible for installing and configuring the Management Module. You should also be familiar with PC hardware and software, and have a basic understanding of your network. Your network should be set up and operating properly.

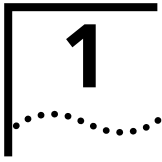
Conventions

The icon conventions that are used in this guide are:

Icon	Notice Type	Alerts you to...
	Information note	Information noted call attention to important features or instructions.
	Caution	Cautions alert you to system danger or loss of data.
	Warning	Warnings alert you to the risk of severe personal injury.
	Avertissement	Les avertissements vous préviennent qu'il existe un risque de blessure grave.
	Warnung	Warnhinweise sollen Sie auf mögliche schwere Körperverletzungen aufmerksam machen.

The text conventions that are used in this guide are:

Convention	Description
“Enter” vs. “Type”	When the word “enter” is used in this guide, it means to type something, then press the [Return] or [Enter] key. Do not press the [Return] or [Enter] key when the instruction simply says “type”.
Text represents as screen display	This typeface is used to represent displays that appear on your screen, for example: <code>Enter the IP address:</code>
Text represents as commands	This typeface is used to represent commands that you enter, for example: IP 191.0.0.172
Keys	When specific keys are referred to in the text, they are shown as [Enter] or [Return].
Italics	Italics are used to denote <i>new</i> terms or <i>emphasis</i> .
Angle brackets	These give a description (either general or specific) of something that you should type in as part of a command, for example <string> means type in some string of letters. They can also be used to give a general description of something liable to change, and so not stated explicitly in this manual for example <software version>.



INTRODUCTION

In the modern business environment, communication and sharing information is crucial. With computer networks becoming larger and more complex, a constant power supply is vital to the operation of your organization. A Redundant Power Supply (RPS) provides a highly reliable resilient power supply to maintain network integrity.

The SuperStack® II Advanced RPS Management Module provides network management of the Advanced RPS through monitoring and control. The Management Module is shipped with default settings that you can change to meet the needs of your organization.

Networking Terminology

A **Network** is a collection of workstations (for example IBM-compatible personal computers) and other equipment (for example, printers), connected for the purpose of exchanging information. Networks vary in size. Some are within a single room, others span continents.

Ethernet is a type of local area network, referring to the technology used to pass information around the network.

10BASE-T is the name given to the Ethernet protocol that runs over **Unshielded Twisted-Pair** (UTP) cable. The Management Module uses an **RJ-45** connector for connecting your network.

Simple Network Management Protocol (SNMP) is a protocol that controls how a management station gains information from a device. SNMP is composed of three areas:

- A set of rules that define how a management station can communicate with a device.
- A **Management Information Base (MIB)** that defines what information can be obtained from the device by the management station. Every SNMP-manageable device has a MIB.
- Unsolicited messages called **Traps**, which work differently to the usual request/reply management communication. You can configure a device so that it generates a Trap if a certain condition occurs; for example, a power overload. The Trap will be sent to the management station to inform it of the occurrence.

Device is a term that is used to refer to a piece of network equipment. Every device has a unique address that is used to identify it on the network.

Internet Protocol (IP) is a data communication protocol used to connect computers and data equipment into computer networks. It is used on a large international network called the Internet, which is composed of universities, government facilities, research institutions, and private companies.

Serial Line Internet Protocol (SLIP) is the protocol for routing IP data down a serial line.

2

INSTALLATION

This chapter describes the SuperStack® II Advanced RPS Management Module and how to install the module in the SuperStack II Advanced RPS.

The SuperStack II Advanced RPS Management Module

The Management Module plugs directly into your SuperStack II Advanced RPS chassis.

The Management Module connects to an Ethernet network with a 10BASE-T cable having an RJ-45 connector.

The module contains a full SNMP agent that implements the relevant portions of MIB II and private extensions for more control. New versions of the agent may be loaded onto the module as they become available.



WARNING: *The RJ-45 connector is a data socket. Only data cables should be connected to it. Do not connect telephone outlets to these connectors.*

AVERTISSEMENT: *Le connecteur RJ-45 est une prise de données. Seuls des câbles de données devraient y être connectés. Ne reliez pas de prises téléphoniques à ces connecteurs.*

WARNUNG: *Bei dem Anschluß RJ-45 handelt es sich um eine Datenbuchse, an die ausschließlich Datenleitungen angeschlossen werden dürfen. Schließen Sie keine Telefonanschlüsse an diese Buchsen an.*

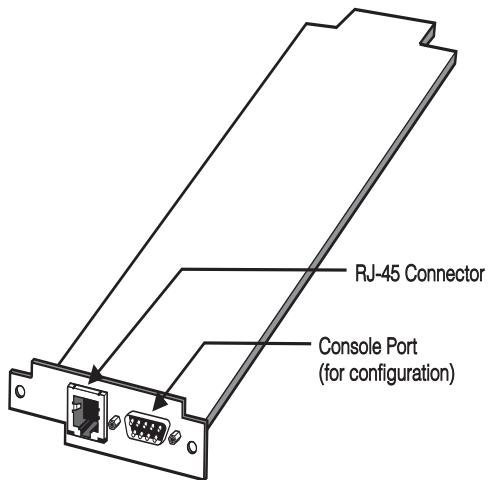


Figure 2-1 Ethernet Module Connections

Before You Start

The SuperStack II Advanced RPS Management Module will only operate with the SuperStack II Advanced RPS. You will need a 10BASE-T cable for connection to your Ethernet network and a serial cable to configure your Management Module. You may also use the serial cable and for management via a modem, if required.

Installing the Management Module

To install the Management Module, you need access to the cables that are connected to your network.



WARNING: *Ensure that the Advanced RPS is disconnected from the mains. Both power cables must be removed.*

AVERTISSEMENT: *S'assurer que le système Préliminaire RPS est déconnecté du secteur d'alimentation. Les deux câbles doivent être retirés.*

WARNUNG: *Versichern Sie sich, daß das Advanced RPS von Netz getrennt ist. Beide Netzstecker müssen entfernt werden.*

- 1 Remove the blanking plate on the SuperStack II Advanced RPS rear panel. Retain the blanking plate and screws for re-use if the Management Module is removed. The plate is important to the flow of cooling air to the unit.

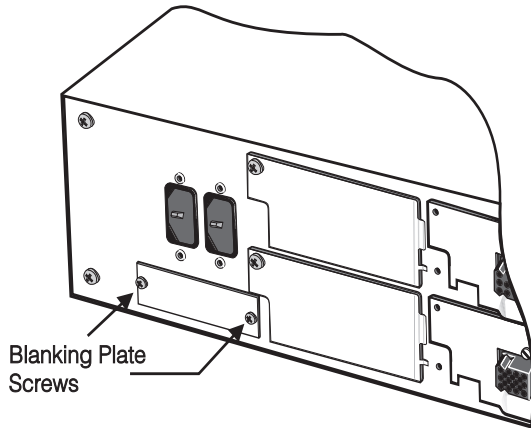


Figure 2-2 Removing the Blanking Plate on Advanced RPS

- 2 Slide the Management Module into the open slot and secure with the screws provided.



Make sure the RJ-45 connector is located on the lefthand side when looking at the rear panel.

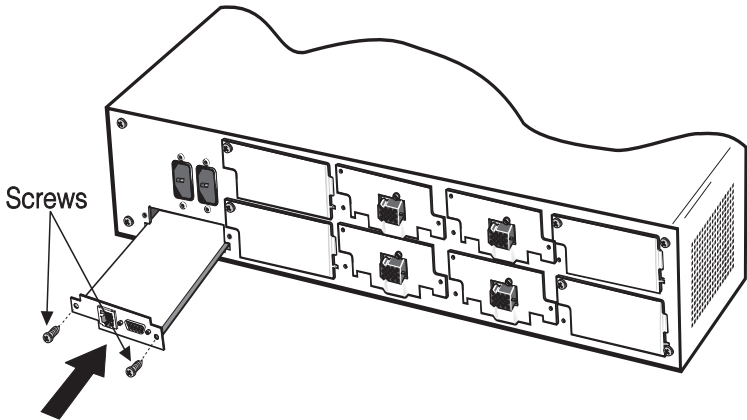


Figure 2-3 Sliding the Module into the Advanced RPS



CONFIGURING THE MANAGEMENT MODULE

You need to configure the SuperStack® II Advanced RPS Management Module before you can use it. The Management Module has a Command Line Interface (CLI) that you can access by connecting the module to a terminal or a computer with a terminal emulation program directly or via a modem.

The CLI provides initial configuration of the Management Module. To manage the Superstack II Advanced RPS, you can use 3Com Transcend or another SNMP network manager.

Before You Start

If your network has a BootP server configured to respond, the Management Module will solicit its addresses automatically.

Otherwise, make sure you ask your network administrator to supply the following values. Space is provided for you to record these values for future reference.

IP address:.....

Subnet mask:.....

Default Router:.....

SLIP address:.....

SLIP mask:.....

You will only need to configure the addresses of the module if there is no configured BootP server on your network. To use the configuration program for the Management Module, you need:

- A serial cable (see Table A-2 in Appendix A).
- A terminal with an RS-232 serial port, or a PC with a terminal emulation program such as Windows Terminal®.

The host serial port should be set to 9600 baud, no parity, 8 bits, and 1 stop bit. The console port always runs at these settings.

Local Configuration

To connect the module to the terminal and start the configuration program:

- 1 Plug the serial cable into the module console port.
- 2 Plug the other end of the serial cable into the serial port on the back of the terminal.
- 3 Press [Return]. The following login prompt should appear (see System Login on page 3-4 for more details).

```
SuperStack II Advanced RPS <software version>  
Copyright © 3Com Ireland 1997.  
Login:
```

If the login prompt does not appear, press [Return] and make sure the Management Module is properly connected to the Advanced RPS, as described in "Installing the Management Module" on page 2-3.

If you still do not see the login prompt, check the following conditions:

- Check the communications settings of the terminal you are using. It should be set to 9600 baud, no parity, 8 bits, and 1 stop bit.
- If the serial configuration is correct, check the cable between the module and terminal to be sure all connections are secure.
- Make sure your terminal program is on the correct communications port for your RS-232 connection.

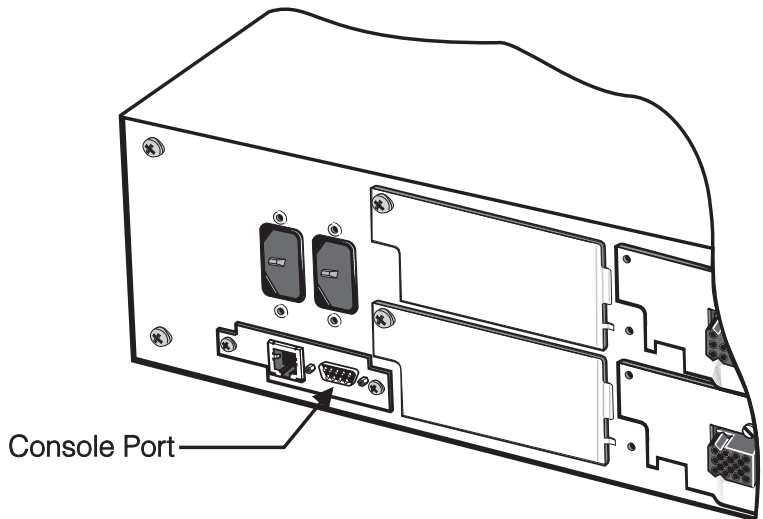


Figure 3-1 Console Port Location

Command Line Interface

The CLI allows configuration of the Management Module, for example assigning an IP address. It also allows recovery, in an emergency, to factory defaults.

System Login

To activate the CLI, press [Return]. You are presented with the title screen, showing the product name, the 3Com copyright and the software version number, and a `login:` prompt, as shown below:

```
SuperStack II Advanced RPS <software version>  
Copyright © 3Com Ireland 1997.  
Login:
```

You must login with the user name **admin**. After you have entered the user name, you are prompted for a password. The default password is [Return], so press this to continue.

For security, we recommended that you change the default password using the `PASSWD` command. The password you enter is shown as asterisks (*).

If you enter an invalid user name or password from the login prompt, the login prompt is redisplayed. For security reasons no error message is given to indicate what was wrong.

Once you have entered a valid user name and password, the prompt changes to the following:

```
3C16080>
```

You can now enter commands at this prompt.

Commands

The available commands are described in more detail.

Help

Usage:	help
Abbreviation:	? or HE
Description:	Lists all of the available commands, as below:
	HElP <command>
	IPAddress <a.b.c.d>
	SUBnetmask <a.b.c.d>
	TRApdestination <a.b.c.d>
	DEFaultrouter <a.b.c.d>
	SLIPAddress <a.b.c.d>
	SLIPMask <a.b.c.d>
	DEFaultrouter <a.b.c.d>
	COMMunitystring <string>
	FACTorydefaults
	DISplay
	PASSWD
	LOgout
	RESET
	FLOWctrl ON OFF
	SWUpdate

IP Address

Usage:	ipaddress a.b.c.d
Abbreviation:	IPA
Description:	Enters the IP address for the device.
Value takes effect from:	Reset Command
Value retained during Power cycle:	Yes

Password

Usage:	PASSWD
Abbreviation:	None
Description:	Change the password for the current user. The CLI prompts you for the new password which, when typed in, is concealed by asterisks (*). You are prompted for the password twice before it is accepted. The minimum length of the password is 4 characters and the maximum length is 16 characters. Valid characters are; a to z, A to Z, and 0 to 9. If the password is lost, contact your supplier.
Value takes effect from:	Reset Command
Value retained during Power cycle:	Yes

Display

Usage:	Display																				
Abbreviation:	DIS																				
Description:	Lists the current configuration of the Management Module, similar to the following: <table> <tr> <td>User Name</td> <td>admin</td> </tr> <tr> <td>MAC Address</td> <td>xxxxxxxxxxx</td> </tr> <tr> <td>Community Strings</td> <td>private,public</td> </tr> <tr> <td>IP Address</td> <td>0.0.0.0</td> </tr> <tr> <td>SubNetMask</td> <td>0.0.0.0</td> </tr> <tr> <td>Default Router</td> <td>0.0.0.0</td> </tr> <tr> <td>SLIP Address</td> <td>192.168.101.2</td> </tr> <tr> <td>SLIP Mask</td> <td>255.255.255.0</td> </tr> <tr> <td>TRApdestination</td> <td>0.0.0.0</td> </tr> <tr> <td>ModemCtrl</td> <td>ON</td> </tr> </table>	User Name	admin	MAC Address	xxxxxxxxxxx	Community Strings	private,public	IP Address	0.0.0.0	SubNetMask	0.0.0.0	Default Router	0.0.0.0	SLIP Address	192.168.101.2	SLIP Mask	255.255.255.0	TRApdestination	0.0.0.0	ModemCtrl	ON
User Name	admin																				
MAC Address	xxxxxxxxxxx																				
Community Strings	private,public																				
IP Address	0.0.0.0																				
SubNetMask	0.0.0.0																				
Default Router	0.0.0.0																				
SLIP Address	192.168.101.2																				
SLIP Mask	255.255.255.0																				
TRApdestination	0.0.0.0																				
ModemCtrl	ON																				

Subnet Mask

Usage:	<code>subnetmask a.b.c.d</code>
Abbreviation:	SUB
Description:	Enters the Sub Net Mask for the device.
Value takes effect from:	Reset Command
Value retained during Power cycle:	Yes

Default Router

Usage:	<code>defaultrouter a.b.c.d</code>
Abbreviation:	DEF
Description:	Enters the default router's IP address..
Value takes effect from:	Reset Command
Value retained during Power cycle	Yes

SLIP Address

Usage:	<code>slipaddress a.b.c.d</code>
Abbreviation:	SLIPA
Description:	Enters the SLIP address for the device.
Value takes effect from:	Reset Command
Value retained during Power cycle:	Yes

SLIP Mask

Usage:	<code>slipmask a.b.c.d</code>
Abbreviation:	SLIPM
Description:	Enters the SLIP mask for the device.
Value takes effect from:	Reset Command
Value retained during Power cycle:	Yes

Factory Defaults

Usage:	<code>factorydefaults</code>
Abbreviation:	FACT
Description:	Return the unit's configuration to the factory defaults.
Value takes effect from:	Reset Command
Value retained during Power cycle:	Yes

Flow Control

Usage:	<code>FLOWctrl ON or OFF</code>
Abbreviation:	<code>FLO</code>
Description:	<p>Change the Console data flow signal to ON or OFF. The default is OFF. When enabled, the modem control signals are enabled (see Appendix A) along with XON and XOFF.</p> <p>If the DSR signal goes low when in the enabled state, the Management Module automatically logs you out.</p>
Value takes effect from:	Reset Command
Value retained during Power cycle:	Yes

Community String

Usage:	<code>communitystring <string></code>
Abbreviation:	<code>COM</code>
Description:	<p>Sets the community string for the current user to the specified string. The string you enter, which can be up to 64 characters, is displayed and you are asked to confirm the entry.</p> <p>There are two default settings for the community string: <code>public</code> and <code>private</code>. Only the <code>private</code> string is user-definable.</p> <p>The <code>public</code> community string only gives read access to the MIB, whereas a user configured community string gives read and write access to the MIB.</p>
Value takes effect from:	Immediately
Value retained during Power cycle:	Yes

Reset

Usage:	RESET
Abbreviation:	None.
Description:	Resets the Management Module. Any changed network parameters are then implemented as described previously. You are automatically logged-out of the system during the reset.
Value retained during Power cycle:	No

Trap Destination

Usage:	trapdestination a.b.c.d
Abbreviation:	TRA
Description:	Enters the Trap destination address for the device.
Value takes effect from:	Reset Command
Value retained during Power cycle:	Yes

Logout

Usage:	logout
Abbreviation:	LO
Description:	Exit the command parser and return to the login: prompt.

Changing the Configuration Fields

The first fields you must configure depend on the method of network connection that you are using. For Ethernet, you need to configure the IP address, Subnet mask and Default Router. For SLIP, you need to configure the SLIP address and SLIP mask.

To change the value of a setup option, enter the command (or abbreviation) followed by the new value. If you enter a command without a new value or an invalid value, an error message is displayed. For example, to change the IP address, enter:

IP a.b.c.d

where *a*, *b*, *c* and *d* are numbers between 0 and 255. To display the new value, use the `Display` command.



For the changes to become effective, the module must be reset using the `RESET` command. You are recommended to log on to the Management Module again to ensure that the new addresses are correct.

The configuration settings you can change are described in the following sections.

IP Address

To change the IP address, type **IPA** followed by a space and the new address assigned to the Management Module.

Use the format *a.b.c.d*, where *a*, *b*, *c* and *d* are numbers between 0 and 255. If you type a number that is not in this range, an error message appears. The default IP address is 0.0.0.0 .



If you do not know the IP address to use, contact your network administrator.

Press [Enter] to save the new setting.

Subnet Mask

To change the Subnet mask value, type **SUB** followed by a space and the Subnet mask value.

Use the format *a.b.c.d*, where *a*, *b*, *c* and *d* are numbers between 0 and 255. If you type a number that is not in this range, an error message appears. If your local network is partitioned into subnets, be sure to set this value to show that (for example, 255.255.0.0). The default Subnet mask is 0.0.0.0 .



If you do not know the Subnet mask value to use, contact your network administrator.

Press [Enter] to save the new setting.

Default Router

To change the default router, type **DEF** followed by a space and the default router's IP address. The default router is the default destination for all packets not addressed to the local network segment. This address **must** be set if you have routers in your network.

Use the format *a.b.c.d*, where *a*, *b*, *c* and *d* are numbers between 0 and 255. If you type a number that is not in this range, an error message appears. If there is no primary gateway, type **DEF 0.0.0.0**. The default router's IP address is 0.0.0.0 .



If you do not know the default router to use, contact your network administrator.

Press [Enter] to save the new setting.

SLIP Address

To change the SLIP address, type **SLIPA** followed by a space and the SLIP address assigned to the Management Module.

Use the format *a.b.c.d*, where *a*, *b*, *c* and *d* are numbers between 0 and 255. If you type a number that is not in this range, an error message appears. The default SLIP address is 192.168.101.2.



If you do not know the SLIP address to use, contact your network administrator.

Press [Enter] to save the new setting.

SLIP Mask

To change the SLIP mask value, type **SLIPM** followed by a space and the SLIP mask value.

Use the format *a.b.c.d*, where *a*, *b*, *c* and *d* are numbers between 0 and 255. If you type a number that is not in this range, an error message appears. The default SLIP mask is 255.255.255.0 .



If you do not know the SLIP mask value to use, contact your network administrator.

Press [Enter] to save the new setting.



*For these addresses to become effective, the module must be reset using the **RESET** command. You are recommended to log on to the Management Module again to ensure that the new addresses are correct.*

Trap Destination

Traps occur on power-up of the Management Module and on any change of state of the RPS modules. Any SNMP Traps are sent to the specified address.

The default Trap address is 0.0.0.0, which disables Traps. Any change to the default results in Traps being sent to the newly specified Trap address.

To change the Trap destination, type **TRA** followed by a space and the new address for the Traps. This should be the IP address of your Network Management Station.

Use the format *a.b.c.d*, where *a*, *b*, *c* and *d* are numbers between 0 and 255. If you type a number that is not in this range, an error message appears.

Press [Enter] to save the new setting.

Software Upgrade

The Management Module has the ability to accept a new version of its software. If a new version is released, instructions for downloading it to the Module will be contained in the software.

The latest version of the software can be found on a 3Com bulletin board or the World Wide Web page, details of which are in Appendix C, "Technical Support".

Exiting the Configuration Program



*For the changes to become effective, the module must be reset using the **RESET** command. You are recommended to log on to the Management Module again to ensure that the new addresses are correct.*

Enter **LO**. This will return you to the login prompt.

4

MANAGING YOUR ADVANCED RPS

Be sure you have the appropriate cables and connectors, as described in “Before You Start” on page 2-3.

Connecting to the Network

To connect the Management Module to the network:

- 1 Plug one end of a twisted-pair cable into the RJ-45 port on the Management Module.
- 2 Plug the other end into an appropriate port on your network device.

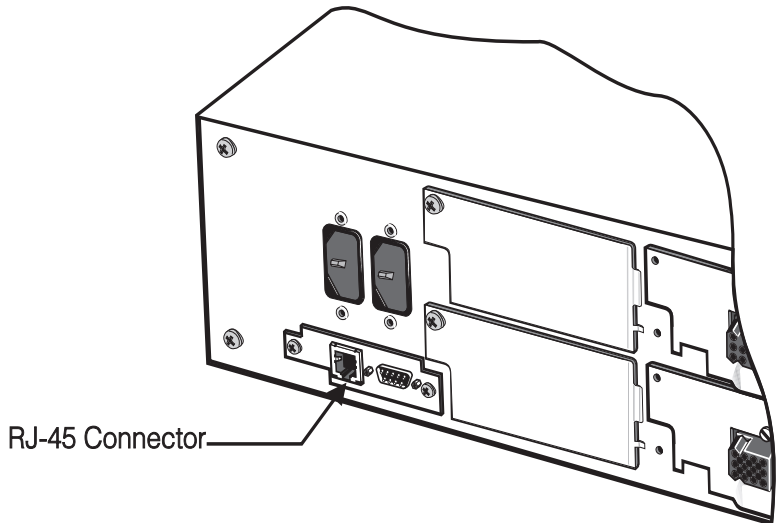


Figure 4-1 RJ-45 Connector Position

Managing Your Advanced RPS

For day-to-day management of the SuperStack® II Advanced RPS system, we recommend Transcend Enterprise Manager. For more details on this and other products, please contact your supplier.



TECHNICAL SPECIFICATIONS

Standards

The SuperStack® II Advanced RPS Management Module has been designed to comply with the following standards:

Safety	UL 1950	
	CSA C22.2.-950	
	EN 60950	
EMC	EN 55022	Class B*
	FCC Part 15	Class A
	CSA C108-8	Class A
	EN 50082-1	
	VCCI	Class 2*
	AS/NZS 3548	Class B*

Environmental EN 60068

** Category 5 shielded cables are required to meet the Class B limits of this standard. The use of unshielded cables (category 3 or 5) complies with the Class A limits.*

Physical Properties

Table A-1 Advanced RPS Management Module Specifications

Physical Specifications	
Width	7.4 cm (2.91 in)
Height	2.45 cm (0.96 in)
Depth	25.5 cm (10.04 in)
Weight	100 g (0.22 lb)
Operating environment	0-90% (non-condensing) humidity
Operating temperature	0-50°C (32-120°F)

Console Port Pin Out

Table A-2 Console Port Pin Out

Pin Number	Signal
1	DCD
2	RD
3	TD
4	DTR
5	Ground
6	DSR
7	RTS
8	CTS
9	No connection

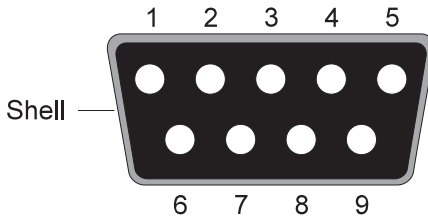


Figure A-1 Console Port Numbering



The console port has the same configuration as an IBM PC Com port.



Only the TD, RD and ground pins need be connected to use the CLI from a terminal.

MDI 10BASE-T RJ-45 Connector Pin Out

Table A-3 RJ-45 Connector Pin Out

Contact	MDI Signal
1	TD+
2	TD-
3	RD+
4	No connection
5	RD-
6	No connection
7	No connection
8	No connection

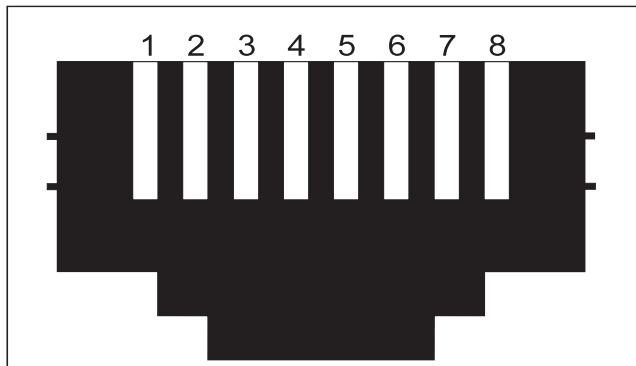


Figure A-2 RJ-45 Connector Numbering

Cabling

10BASE-T Cabling



Pins 4, 6, 7 and 8 are not used

Figure A-3 10BASE-T Cabling

Serial Cable

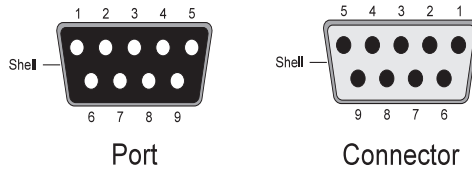


Figure A-4 Pin Numbering for Serial Cable

Examples of null modem cables you can use follow.

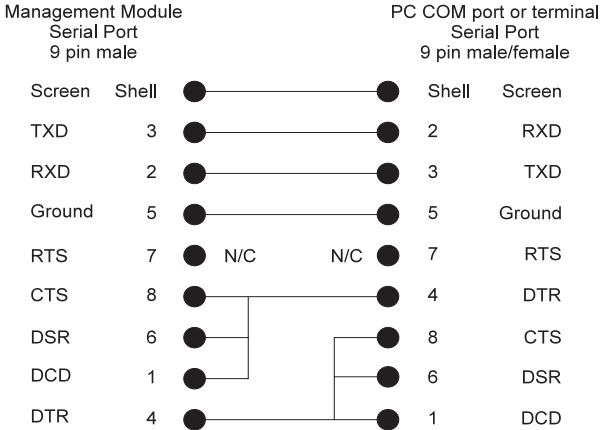


Figure A-5 Null Modem Cabling Example for 9 Pin Port

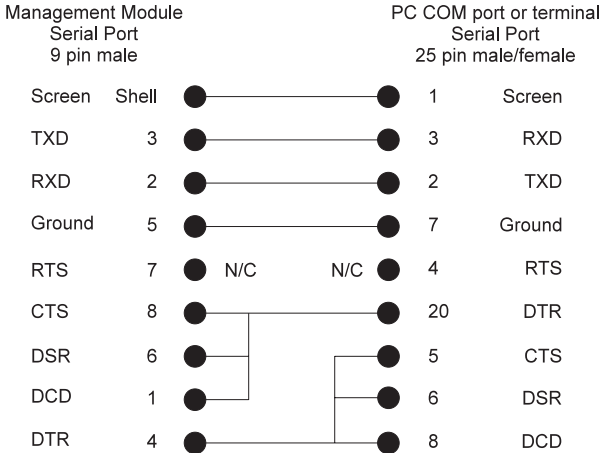
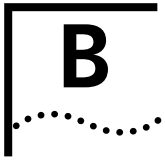


Figure A-6 Null Modem Cabling Example for 25 Pin Port

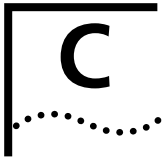


TROUBLESHOOTING

Use the following troubleshooting chart to help you solve any problems that may occur with the SuperStack® II Advanced RPS Management Module.

Problem	Possible Cause	Corrective Action
The Management Module does not initialize	Bad cable connection	Verify cable connections at the Management Module
Login prompt does not appear	Incorrect cable.	Replace cable.
	Bad cable connections	Check security of connection. Replace cable if required.
	Incorrect modem or terminal settings	Check setup.
	Module not installed properly	Reinstall module.

Problem	Possible Cause	Corrective Action
Management Module does not respond to SNMP Get requests, but does respond to Pings.	Wrong community name string being used. The Get-community name community strings that were set during the module configuration does not match the ones being used by your network management system (NMS) for Get requests. (NMS)	To verify that the community name is strings are mismatched, connect a terminal to the module (see "Local Configuration" on page 3-2). If the authentication failed, SNMP source: x.x.x.x:y message appears (where x.x.x.x is the IP address of your NMS) does an SNMP request, then correct the Get community name used by the NMS. Note that community names are case sensitive, and non-alphanumeric characters (such as spaces) are included in the count. Please refer to your NMS user's guide for more information on configuring community strings.



TECHNICAL SUPPORT

3Com provides easy access to technical support information through a variety of services. This appendix describes these services.

Information contained in this appendix is correct at the time of publication. For the very latest details, we recommend you access 3Com Corporation's World Wide Web site as described below.

On-line Technical Services

3Com offers worldwide product support seven days a week, 24 hours a day, through the following on-line systems:

- 3Com Bulletin Board Service (3ComBBS)
- World Wide Web site
- ThreeComForum on CompuServe®
- 3ComFactsSM automated fax service

3Com Bulletin Board Service

3ComBBS contains patches, software and drivers for all 3Com products, as well as technical articles. This service is available via modem or ISDN seven days a week, 24 hours a day.

Access by Modem

To reach the service by modem, set your modem to no parity, 8 bits, and 1 stop bit. Call the telephone number nearest you.

Country	Data Rate	Telephone Number
Australia	Up to 14400 bps	(61) (2) 9955 2073
France	Up to 14400 bps	(33) (1) 01 69 86 69 54
Germany	Up to 9600 bps	(49) (89) 627 32 188 or (49) (89) 627 32 189
Hong Kong	Up to 14400 bps	(852) 537 5608
Italy (fee required)	Up to 14400 bps	(39) (2) 273 00680
Japan	Up to 14400 bps	(81) (3) 3345 7266
Singapore	Up to 14400 bps	(65) 534 5693
Taiwan	Up to 14400 bps	(886) (2) 377 5838
U.K.	Up to 28800 bps	(44) (1442) 438278
U.S.	Up to 28800 bps	(1) (408) 980 8204

Access by ISDN

ISDN users can dial-in to 3ComBBS using a digital modem for fast access up to 56 Kbps. To access 3ComBBS using ISDN, dial the following number:

(408) 654-2703.

World Wide Web Site

Access the latest networking information on 3Com's World Wide Web site by entering our URL into your internet browser:

<http://www.3com.com/>

This service features news and information about 3Com products, customer service and support, 3Com's latest news releases, selected articles from 3TECH™ (3Com's award-winning technical journal), and more.

3ComForum on CompuServe

3ComForum is a CompuServe-based service containing patches, software, drivers, and technical articles about all 3Com products, as well as an interactive forum for technical questions. To use 3ComForum, you need a CompuServe account.

To use 3ComForum:

- 1 Log on to CompuServe.
- 2 Enter **go threecom**.
- 3 Press [Return] to see the Ask3ComForum main menu.

3ComFacts Automated Fax Service

3Com Corporation's interactive fax service, 3ComFacts, provides data sheets, technical articles, diagrams, and troubleshooting instructions on 3Com products 24 hours a day, seven days a week.

Call 3ComFacts using your touch-tone telephone. International access numbers are:

Country	Fax Number
Hong Kong	(852) 2537 5610
U.K.	(44) (1442) 438279
U.S.	(1) (408) 727 7021

Local access numbers are available within the following countries:

Country	Fax Number	Country	Fax Number
Australia	800 123853	Netherlands	06 0228049
Belgium	0800 71279	Norway	800 11062
Denmark	800 17319	Portugal	0505 442607
Finland	98 001 4444	Russia (Moscow only)	956 0815
France	05 90 81 58	Spain	900 964445
Germany	0130 8180 63	Sweden	020 792954
Italy	1678 99085	U.K.	0800 626403

Support from Your Network Supplier

If additional assistance is required, contact your network supplier. Many suppliers are authorized 3Com service partners who are qualified to provide a variety of services, including network planning, installation, hardware maintenance, application training and support services.

When you contact your network supplier for assistance, have the following information ready:

- Diagnostic error messages
- A list of system hardware and software, including revision levels
- Details about recent configuration changes, if applicable

If you are unable to contact your network supplier, see the following section on how to contact 3Com.

Support from 3Com

If you are unable to receive support from your network supplier, technical support contracts are available from 3Com.

In the U.S. and Canada, call **(800) 876-3266** for customer service.

If you are outside the U.S. or Canada, contact your local 3Com sales office to find your authorized service provider:

Country	Telephone Number	Country	Telephone Number
Australia (Sydney)	(61) (2) 959 3020	Japan	(81) (3) 3345 7251
Australia (Melbourne)	(61) (3) 653 9515	Mexico	(525) 531 0591
Belgium*	0800 71429	Netherlands*	06 0227788
Brazil	(55) (11) 546 0869	Norway*	800 13376

Canada	(416) 498 3266	Singapore	(65) 538 9368
Denmark*	800 17309	South Africa	(27) (11) 803 7404
Finland*	0800 113153	Spain*	(34) (1) 3831700
France*	05 917959	Sweden*	(45) (8) 632 91 00
Germany*	0130 821502	Taiwan	(886) (2) 577 4352
Hong Kong	(852) 868 9111	United Arab Emirates	(971) (4) 349049
Ireland*	1 800 553117	U.K.*	0800 966197
Italy*	1678 79489	U.S.	(1) (408) 492 1790

* These numbers are toll-free

Returning Products for Repair

A product sent directly to 3Com for repair must first be assigned a Return Materials Authorization (RMA) number. A product sent to 3Com without an RMA number will be returned to the sender unopened, at the sender's expense.

To obtain an RMA number, call or fax:

Country	Telephone Number	Fax Number
U.S. and Canada	(800) 876 3266	Option 2
Europe	31 30 60 29900	Option 5
Outside Europe, U.S. and Canada	(1) (408) 492 1790	(1) (408) 764 7290

Limited Warranty

HARDWARE: 3Com warrants its hardware products to be free from defects in workmanship and materials, under normal use and service, for the following lengths of time from the date of purchase from 3Com or its Authorized Reseller:

Internetworking products	One Year
Network adapters	Lifetime
Ethernet stackable hubs and Unmanaged Ethernet fixed port repeaters	Lifetime*
*Power supply and fans in these stackable hubs and unmanaged repeaters	(One Year if not registered)
	One Year
Other hardware products	One Year
Spare parts and spares kits	90 days

If a product does not operate as warranted during the applicable warranty period, 3Com shall, at its expense, correct any such defect by repairing the defective product or part or, at its option, by delivering to the Customer an equivalent product or part to replace the defective item. All products that are replaced will become the property of 3Com. Replacement products may be new or reconditioned. Any replaced or repaired product or part has a ninety (90) day warranty or the remainder of the initial warranty period, whichever is longer.

3Com shall not be responsible for any software, firmware, information, or memory data of the Customer contained in, stored on, or integrated with any products returned to 3Com pursuant to any warranty.

SOFTWARE: 3Com warrants that the software programs licensed from it will perform in substantial conformance to the program specifications therefore for a period of ninety (90) days from the date of purchase from 3Com or its Authorized Reseller. 3Com warrants the magnetic media containing software against failure during the warranty period.

No updates are provided. 3Com's sole obligation hereunder shall be (at 3Com's discretion) to refund the purchase price paid by the Customer for any defective software products, or to replace any defective media with software which substantially conforms to 3Com's applicable published specifications. The Customer assumes responsibility for the selection of the appropriate applications program and associated reference materials. 3Com makes no warranty that its software products will work in combination with any hardware or applications software products provided by third parties, that the operation of the software products will be uninterrupted or error free, or that all defects in the software products will be corrected. For any third party products listed in the 3Com software product documentation or specifications as being compatible, 3Com will make reasonable efforts to provide compatibility, except where the non-compatibility is caused by a "bug" or defect in the third party's product.

STANDARD WARRANTY SERVICE: Standard warranty service for hardware products may be obtained by delivering the defective product, accompanied by a copy of the dated proof of purchase, to 3Com's Corporate Service Center or to an Authorized 3Com Service Center during the applicable warranty period. Standard warranty service for software products may be obtained by telephoning 3Com's Corporate Service Center or an Authorized 3Com Service Center, within the warranty period. Products returned to 3Com's Corporate Service Center must be pre-authorized by 3Com with a Returned Material Authorization (RMA) number marked on the outside of the package, and sent prepaid, insured, and packaged appropriately for safe shipment. The repaired or replaced item will be shipped to the Customer, at 3Com's expense, no later than thirty (30) days after receipt by 3Com.

WARRANTIES EXCLUSIVE: IF A 3COM PRODUCT DOES NOT OPERATE AS WARRANTED ABOVE, THE CUSTOMER'S SOLE REMEDY SHALL BE REPAIR, REPLACEMENT OR REFUND OF THE PURCHASE PRICE PAID, AT 3COM'S OPTION. THE FOREGOING WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, EITHER IN FACT OR BY OPERATION OF LAW, STATUTORY OR OTHERWISE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. 3COM NEITHER ASSUMES, NOR AUTHORIZES ANY OTHER PERSON TO ASSUME FOR IT, ANY OTHER LIABILITY IN CONNECTION WITH THE SALE, INSTALLATION, MAINTENANCE OR USE OF ITS PRODUCTS. 3COM SHALL NOT BE LIABLE UNDER THIS WARRANTY IF ITS TESTING AND EXAMINATION DISCLOSE THAT THE ALLEGED DEFECT IN THE PRODUCT DOES NOT EXIST OR WAS CAUSED BY THE CUSTOMER'S OR ANY THIRD PERSON'S MISUSE, NEGLIGENCE, IMPROPER INSTALLATION OR TESTING, UNAUTHORIZED ATTEMPTS TO REPAIR, OR ANY OTHER CAUSE BEYOND THE RANGE OF THE INTENDED USE, OR BY ACCIDENT, FIRE, LIGHTNING, OR OTHER HAZARD.

Limitation of Liability: IN NO EVENT, WHETHER BASED IN CONTRACT OR TORT (INCLUDING NEGLIGENCE) SHALL 3COM BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL, INDIRECT, SPECIAL, OR PUNITIVE DAMAGES OF ANY KIND, OR LOSS OF REVENUE, LOSS OF BUSINESS, OR OTHER FINANCIAL LOSS ARISING OUT OF OR IN CONNECTION WITH THE SALE, INSTALLATION, MAINTENANCE, USE, PERFORMANCE, FAILURE, OR INTERRUPTION OF ITS PRODUCTS, EVEN IF 3COM OR ITS AUTHORIZED RESELLER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Some states do not allow for the exclusion of implied warranties or the limitation of incidental or consequential damages for consumer products, so the above limitations and exclusions may not apply to you. This warranty gives you specific legal rights which may vary from state to state.

GOVERNING LAW: This Limited Warranty shall be governed by the laws of the state of California.

3Com Corporation
5400 Bayfront Plaza
Santa Clara, CA 95052-8145

FEDERAL COMMUNICATIONS COMMISSION RADIO AND TELEVISION INTERFERENCE STATEMENT FOR CLASS A DEVICES

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 installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is not 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 to correct the interference by one of the following measures:

- User Instructions:
- 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.
- Ensure that card mounting screws, connector attachment screws and all ground wires are secured and tight.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This product was FCC certified under test conditions that included the use of shielded I/O cable and connectors between system components. To be in compliance with FCC regulations, the user must use shielded cables and connectors and install them properly.

CSA Statement

This Class A digital apparatus meets all requirements of the Canadian Interference-causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

VCCI Statement

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しかし、本装置をラジオ、テレビジョン受信機に近接してご使用になると、受信障害の原因となることがあります。

取扱説明書に従って正しい取り扱いをして下さい。

