RocketPort® and RocketModem™ Driver Installation for Novell® NetWare®

How to Use this Document

You can use the interactive Table of Contents to locate the information you need.

Note: *All blue underlined text are jumps to the information referenced.*

Driver Requirements

This document discusses installing and configuring the RocketPort/RocketModem series driver for the Novell operating system.

- NetWare 4.1x (MPR 3.1A or higher and/or NetWare Connect 2.0.30 or higher)
- IntranetWare I with NIAS (Support Pack V1.0)
- NetWare 5.0

Locating Information

For hardware specific information or the product overview, see the *Hardware Installation* documentation that is available on the Comtrol CD or you can download the current version from the ftp/web site.

Comtrol documents are available in electronic form on the Comtrol web/ftp site. Driver updates can be downloaded at no charge from the Comtrol web/ftp site. Always check the web or ftp sites to make sure that you have the current driver and documentation.

Installation Overview

The driver installation process follows this basic outline:

1. Prepare the installation media. If you received the driver in zipped format (as a single file with a .zip extension), extract the driver files and create an installation diskette or copy the files to the /**system** directory on the server.

   Note: *For information about extracting files, see* *extract.htm*.

2. If you created a diskette, copy the driver files into the /**system** directory on the server.

3. Initialize and configure the driver.

4. If you use NetWare Connect or a similar third-party product, use the **load** command to initialize the driver, then use **nwccon** (4.1.x) or **niascfg** (5.x) to configure the driver and external devices.

   Note: *If you use* **nwccon** *for 5.x, you get a modified version of* **nwccon**.

5. If you use NIAS or MPR, use **inetcfg** (4.1.x) or **niascfg** (5.x) to initialize and configure the driver and external devices.

6. Down and restart the server.

7. Resume normal operations.

Interactive Table of Contents

Installation and Configuration

Use this section to install and configure the RocketPort/RocketModem driver (**AIORCKT.NLM**) for the Novell NetWare operating system.

Installing the Driver

This discussion assumes that you have installed the RocketPort or RocketModem in the server.

Note: *You must have NetWare Connect or MPR installed before installing the driver files. If NWC or MPR are not already installed, do so before continuing.*

To install the **AIORCKT.NLM** driver:

1. Login from a client system with administrator rights.
2. Copy the driver files to the **/system** directory on the server, which is found in the **sys** volume.

   The **/aio** directory is created during NWC/MPR installation. The drive letter for the volume varies, depending on network configuration and drive mapping.
3. If *NetWare Connect* (NWC):

   a. Copy the **AIORCKT.NLM** file to the **/system** directory.
   b. Copy the **AIORCKT.ADI** file to the **/system/aio** directory.
   c. Copy other files as desired.
4. If *NetWare Internet Access Server* or *Multi-Protocol Routing* (NIAS/MPR):

   a. Copy the **AIORCKT.NLM** and **AIORCKT.ADI** files to the **/system** directory.
   b. Copy the **AIORCKT.ADI** file to **/system/aio** directory.

   Note: *While this may appear redundant, the file is needed in both locations in order for MPR configuration to work correctly.*

   c. Copy other files as desired.

You are now ready to load the driver.

Loading the Driver

You can load **AIORCKT.NLM** either manually, by command line from the server console, or automatically, through **AUTOEXEC.NCF** when the server boots.

- If you are using NetWare Connect, you must load the driver manually *before* configuring NetWare Connect.
- If you are using NIAS/MPR, the driver is loaded as part of the configuration process, and you must *not* load the driver manually. Instead, go to the appropriate discussion:
  - *NIAS/MPR Installation and Configuration for NetWare 4.x*
  - *NIAS/MPR Installation and Configuration for NetWare 5.x*

To load the driver manually, enter this command line for each board. The *AIORCKT.NLM Parameters* table provides a description of each parameter.

   load AIORCKT *port*={*IOADDR*} {*PCI*} [{*FINDPCI*} *node*={*NNN*} *name*={*SSS*} *nports*={*PP*} {*fastbaud*} {*hyperbaud*} {*mcc*}=*nnn* or *cccc*]

Note: *Parameters within the [brace set] are optional. If you have a combination of PCI and ISA boards installed, load the drivers for the PCI boards* **before** *loading the drivers for the ISA boards.*

PCI Example:

The following is an example of a PCI **load** command for a RocketPort Octacable:

   load AIORCKT PCI

ISA Example:

The following is an example of an ISA **load** command for a RocketPort Quadcable:

   load AIORCKT port=180 nports=4

AIORCKT.NLM Parameters

Parameter	Description
port=IOADDR **(Required for ISA)**	*IOADDR* is **required for ISA boards** and specifies the hexadecimal I/O address. If you install two or more ISA boards, the *IOADDR* for the *first* ISA board must match the DIP switch setting on the board (for example, **180**). For the second, third, and fourth boards, the DIP switches must be set as described in the *Hardware Installation* documentation, but the *IOADDR* can be any valid address *above* the first board's address. Valid ISA-bus addresses are: 100, 140, 180, 200, 240, 280, 300, 340, and 380.
PCI **(Required for PCI)**	*PCI* is **required for PCI boards**. *PCI* is case-sensitive and must be entered as all capital letters. If it is not supplied, the driver assumes that the board is an ISA board.
hyperbaud **(Required for RocketPort *Plus*)**	This optional parameter applies to RocketPort *Plus* boards only, and **is required** to operate a RocketPort *Plus*. The parameter remaps 50 baud to 230.4K bps, 75 baud to 460.8K bps, and 110 baud to 921.6K bps.
mcc=nnn or *mcc=cccc* **(Required for RocketModem)**	This parameter is required for RocketModem cards that support country code selection. The value can be any of the following: 05 – France 06 – Germany 08 – Italy 14 – Sweden 16 – UK 22 – USA Leading zeroes are not required. The following country names can be used instead (case-insensitive): France, Germany, Italy, Sweden, UK (United Kingdom), GBR (Great Britain—same as UK), US, USA (same as US), Default (ATZ reset init string). Make sure the RocketModem installed is appropriate for the specified country code. All RocketModems on the board will assume the selected country's telephone network attributes. Entering an *mcc* parameter generates additional modem status messages, and enables the use of the **MR.NLM** modem reset utility.
nports=PP *(ISA boards, only)*	This optional ISA parameter sets the number of ports. If not used, **AIORCKT.NLM** defaults to **nports=8**. In addition, this parameter allows the count of the actual number of ports on a board to be overridden with a different value. You can not override with a greater number than are actually present on the board, but you can specify a smaller number.
FINDPCI *(PCI boards, only)*	The *FINDPCI* parameter is optional for PCI boards and lists all Comtrol RocketPort and RocketModem series boards and their address assignments.
fastbaud *(Optional)*	This optional parameter remaps 50 baud to 230.4K bps and 75 baud to 460.8K bps. After you initialize a board with this parameter, if you select 50 or 75 baud in an application, the actual baud rate used is 230.4K or 460.8K.
name=SSS *(Optional)*	The *name* parameter sets the text name for a board. If omitted, the text name is blank. Some applications require a board name and access boards by name rather than by number.
node=NNN *(Optional)*	The *node* parameter overrides the default node number passed to AIO for a particular board. Some applications require that the first board have a node number of 0.

ISA-bus boards only (This does NOT apply to PCI boards):

You can manually enter **load aiorckt** *without any command line parameters. The driver will prompt you for required information. Do not modify the* **AUTOEXEC.NCF** *file if you use this procedure.*

After you have initialized all boards, go to the *NWC/Third-Party Initialization and Configuration* discussion.

NWC/Third-Party Initialization and Configuration

Follow these steps:

1. Load the driver manually, using the command line discussed in *Loading the Driver*.

2. Add the load commands to the **AUTOEXEC.NCF** file, so that they are executed each time the system is restarted.

3. At the command prompt, type **load install**. The Installations Options menu displays.

4. Select **NCF files options**. The Available NCF Files Options menu displays.

5. Select **Edit AUTOEXEC.NCF file**.

6. Scroll down until you find the **load** commands.

7. At the end of the load commands, add a **load** line for each board, using the syntax in the *AIORCKT.NLM Parameters* table. Remember, lines initializing PCI boards must be executed *before* lines initializing ISA boards.

8. Save the changed file, then press **Esc** until you exit.

9. Go to the appropriate procedure for your installation:

   - *NetWare Connect Configuration for NetWare 4.x*
   - *NetWare Connect Configuration for NetWare 5.x*

NetWare Connect Configuration for NetWare 4.x

After the boards are initialized, follow these steps to configure remote access:

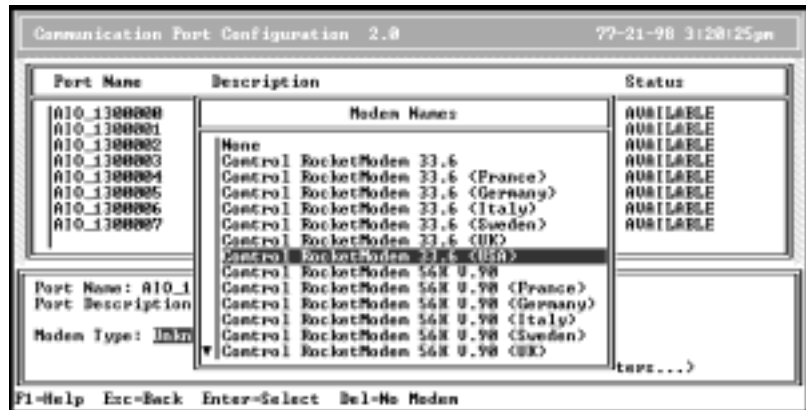1. At the server console, enter **load nwccon.** The NetWare Connect Options menu displays:
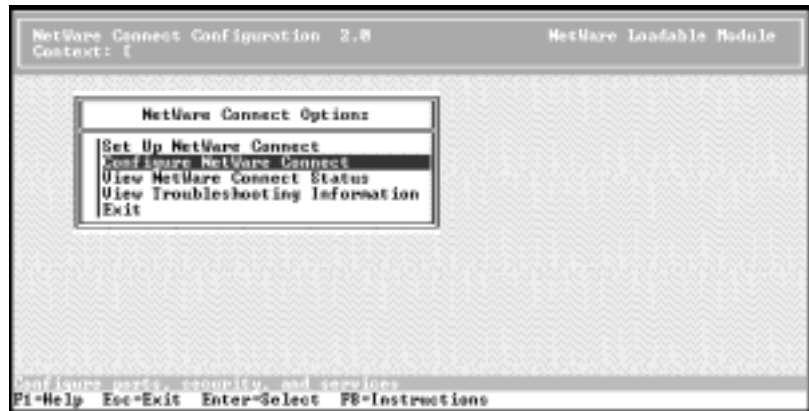
2. Select **Configure NetWare Connect.** The Configuration Options menu displays.

3. Select **Ports.** The Port Configuration screen displays:
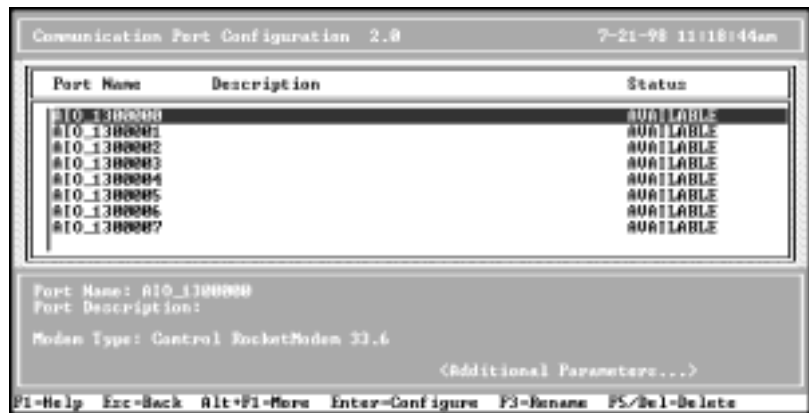
4. If necessary, use the cursor keys to scroll down the screen until the RocketPort or RocketModem ports display. Default port names follow this form: **AIO_130nppp**, where **n** is the NetWare node and **ppp** is the port.

5. Select the port to be configured and press **Enter.** The cursor moves to the lower window and you can edit the Port Name, Port Description, Modem Type, or Additional Parameters.


---
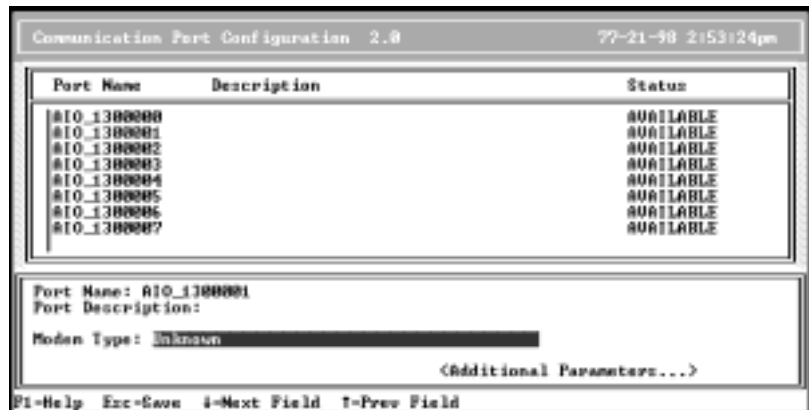
6. To enter or change the modem type, highlight Modem Type and press **Enter**. The list of valid modem types displays:

Scroll through the list to find the appropriate modem name. Press **Enter** to select a modem.

***Note:*** *A RocketModem with a "USA" Modem Country Code is initialized slightly differently than the generic RocketModem board, so be sure the RocketModem is an international board before installing it with the "USA" Modem Country Code. If the driver attempts to initialize a generic board as an international board, certain harmless console messages may display.*

7. To enter other information, highlight Additional Parameters and press **Enter**. A secondary window displays additional setup parameters which you can change as needed:
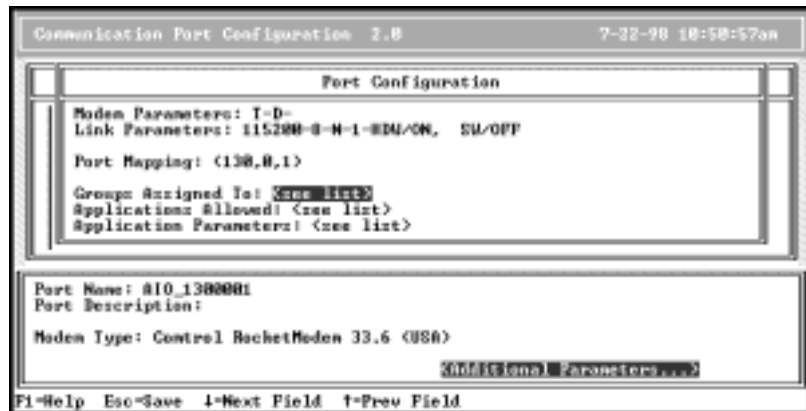
8. Press the **ESC** key when you are finished.

9. Repeat Steps 6 through 9 for each port you want to configure.

10. When you are done, press **Esc** to exit the configuration screen. You are asked if you want to save your changes. Select **Yes** to save any changes you may have made, or **No** to discard them.

11. Press **Esc** to back out to the NetWare Connect Options menu.

12. Select **Set Up NetWare Connect** and press **Enter**. The System Setup Options menu displays.

13. Choose **Select NetWare Connect Ports**. The list of valid NetWare Connect Ports displays:
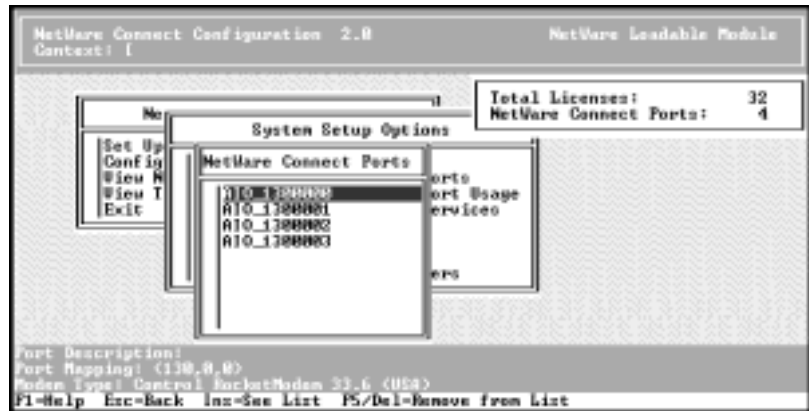
If all ports you configured show up, the ports are set up correctly.

Note: *The list of ports is sorted alphabetically. If you have changed any Port Names, the ports may appear in different order here than they did on the Port Configuration screen.*

14. Press **Esc** to return to the System Setup Options menu.

15. Next, select **Define NetWare Connect Port Usage.** The Port Usage Options menu displays:

16. Select port usage options as desired.

17. Press **Esc** twice to back out to the NetWare Connect Options menu.
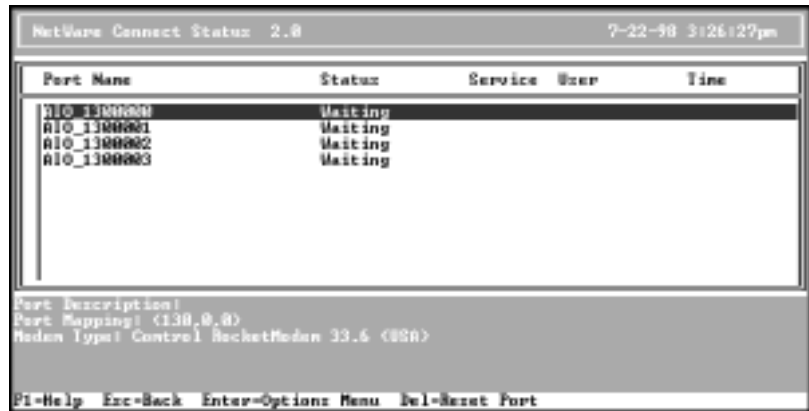
18. Select **Configure NetWare Connect.**

19. Use the options on this menu to configure **Port Groups** and **Security** as needed. For more information, see the Novell documentation.

20. Press **Esc** to back out to the NetWare Connect Options menu.

21. Select **View NetWare Connect Status.** The Status Options menu displays.

22. Select **Display Port Status**. The Port Status window displays:

If the status of all configured ports is "Waiting," you have correctly completed setup and configuration. At this point, the system is ready for users to dial in and access the server.

NetWare Connect Port Status Messages

| Message	Description
Acquired	The port is acquired by an NWC service.
Acquired Other	The port is acquired by another application.
Answering	The port is answering an incoming call.
Broken	The modem did not initialize (hardware error).
Connecting	A remote caller is trying to make a connection.
Connected	The connection is established successfully.
Dialing	NetWare Connect is dialing out.
Disconnecting	The connection is being reset.
Disconnected	The connection is completely disconnected.
Idle	Available but not in use. (RNS not loaded.)
Initializing	The modem is being initialized.
Startup	NWC is loading; NWCSTART not run yet.
Unavailable	No modems attached or driver not loaded.
Waiting	The port is waiting for an incoming call.

23. Press **Esc** to back out of the menu system and exit **nwccon**.

At this point, the RocketPort or RocketModem is fully operational.

NetWare Connect Configuration for NetWare 5.x

After the boards are initialized, follow these steps to configure remote access:

1. Exit the GUI.

2. Load the driver as discussed in *NWC/Third-Party Initialization and Configuration*.

3. Load the **NIASCFG** program.

4. Select **Configure NIAS**.

5. Select **Remote Access**.

6. Select **Configure Ports.** The Port Configuration screen displays:
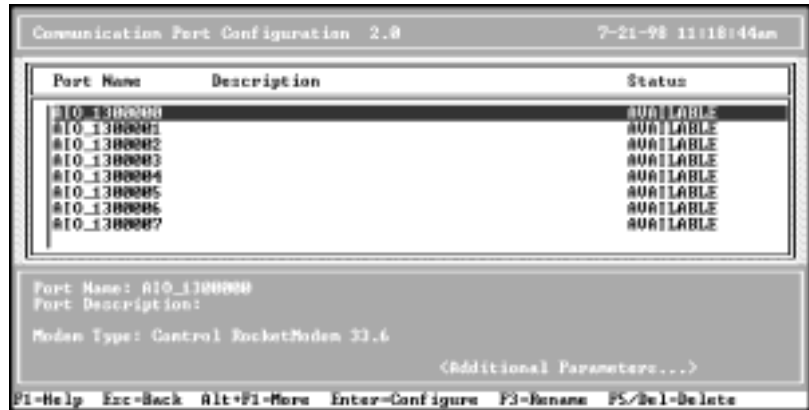
7. If necessary, use the cursor keys to scroll down the screen until the RocketPort or RocketModem ports display. The default port names follow this form: **AIO_130***nppp*, where *n* is the NetWare node and *ppp* is the port.

8. Select the port to be configured and press **Enter**. The cursor moves to the lower window and you can edit the Port Name, Port Description, Modem Type, or Additional Parameters.
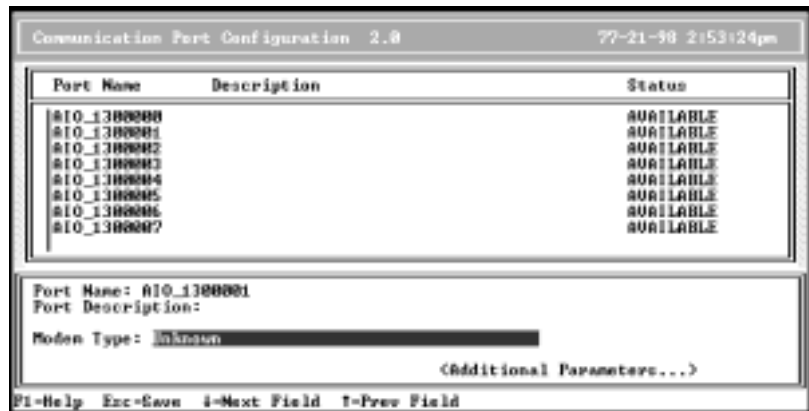
9. To enter or change the modem type, highlight Modem Type and press **Enter**. The list of valid modem types displays:
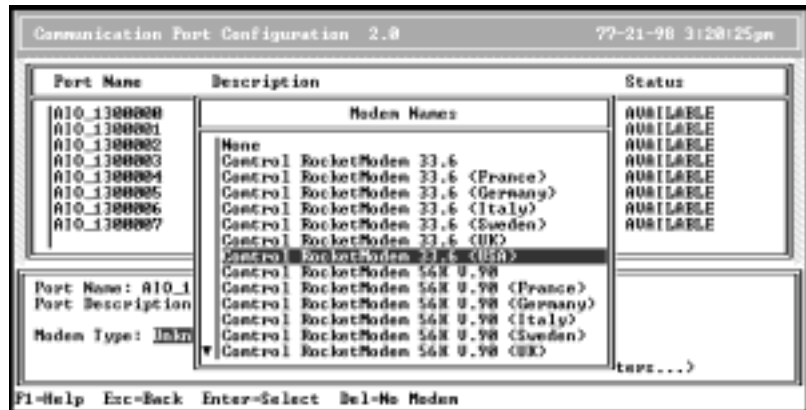
*Note:* *The default modem type may appear differently in this screen.*

Scroll through the list to find the appropriate modem name. Press **Enter** to select a modem.

Note: *A RocketModem with a "USA" Modem Country Code is initialized slightly differently than the generic RocketModem board, so be sure the RocketModem is an international board before installing it with the "USA" Modem Country Code. If the driver attempts to initialize a generic board as an international board, certain harmless console messages may display.*

10. To enter other information, highlight Additional Parameters and press **Enter**. A secondary window displays additional setup parameters which you can change as needed:
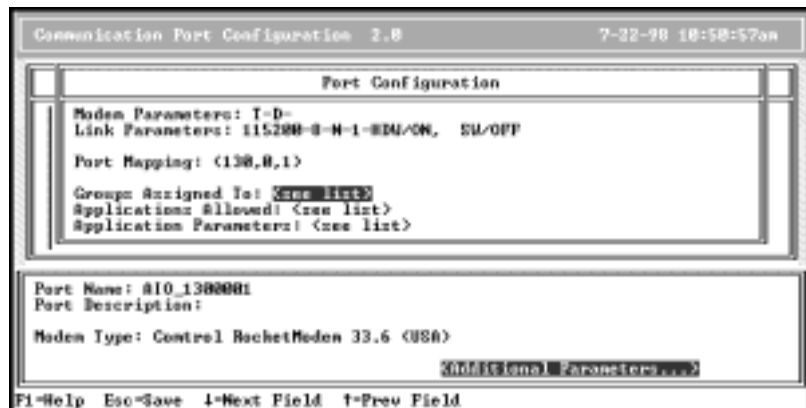
11. Repeat Steps 8 through 10 for each port you want to configure.

12. Press the **ESC** key when you are finished.

13. When you are done, press **Esc** to exit the configuration screen. You are asked if you want to save your changes. Select **Yes** to save any changes you may have made, or **No** to discard them.

14. Press **Esc** to back out to the NetWare Connect Options menu.

15. Select **Configure Port Groups** and configure as needed. For more information, see the Novell documentation.

16. Press the **ESC** key to return to the Remote Access Options menu.

17. Select **Configure Services** and configure as needed. For more information, see the Novell documentation.

18. Press the **ESC** key to return to the Remote Access Options menu.

19. Select **Configure Security** and setup Remote Access Services, NCS, or PPPRAS, as needed. For more information, see the Novell documentation.

20. Press the **ESC** key to return to the Remote Access Options menu.

21. Select **Setup**, which brings up the System Setup Options menu.
22. Select **Select Remote Access Ports**. The list of valid NetWare Connect Ports displays:
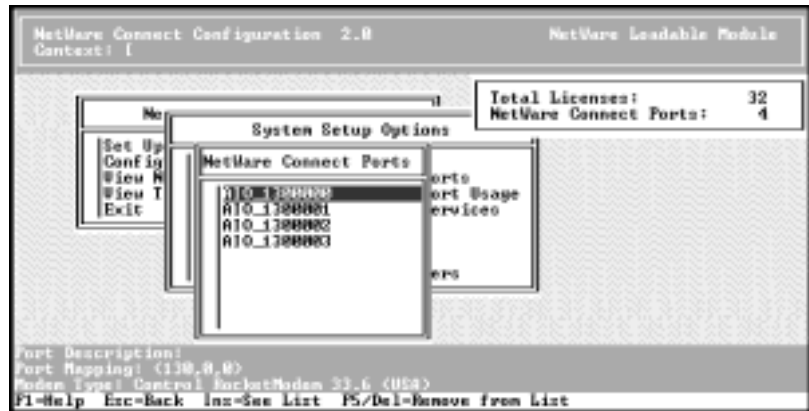
If all ports you configured show up, the ports are set up correctly.

Note: *The list of ports is sorted alphabetically. If you have changed any Port Names, the ports may appear in different order here than they did on the Port Configuration screen.*

23. Press **ESC** to return to the System Setup Options menu.
24. Select **Define Remote Access Port Usage.** The Port Usage Options menu displays:

25. Select port usage options as desired.
26. Press **ESC** to return to the System Setup Options menu.
27. Select **Select Remote Access Services** and set up services as needed.
28. Press **ESC** to return to the System Setup Options menu.
29. Press **ESC** to return to the Remote Access Options menu.
30. Press **ESC** to return to the Select Component to Configure menu.
31. Press **ESC** to return to the NIAS Options menu.
32. Select **View Status for NIAS.**

33. Select **Display Port Status**. The Port Status window displays:

If the status of all configured ports is "Waiting," you have correctly completed setup and configuration. At this point, the system is ready for users to dial in and access the server.

NetWare Connect Port Status Messages

Message	Description
Acquired	The port is acquired by an NWC service.
Acquired Other	The port is acquired by another application.
Answering	The port is answering an incoming call.
Broken	The modem did not initialize (hardware error).
Connecting	A remote caller is trying to make a connection.
Connected	The connection is established successfully.
Dialing	NetWare Connect is dialing out.
Disconnecting	The connection is being reset.
Disconnected	The connection is completely disconnected.
Idle	Available but not in use. (RNS not loaded.)
Initializing	The modem is being initialized.
Startup	NWC is loading; NWCSTART not run yet.
Unavailable	No modems attached or driver not loaded.
Waiting	The port is waiting for an incoming call.

34. Press **ESC** to return to the NIAS Options menu.

35. Select **Exit** to close **NIASCFG**.

At this point, the RocketPort or RocketModem is fully operational.

NIAS/MPR Installation and Configuration for NetWare 4.x

This discussion assumes the following:

- You have installed the RocketPort or RocketModem board(s) in the server
- The board(s) have passed the hardware diagnostic
- You have installed the driver (**AIORCKT.NLM**)
- You have determined which I/O addresses are used by the boards you have installed
- You have *not* loaded the driver manually, using the **load aiorckt** command

The **inetcfg** module provides the proper mechanisms for loading and configuring the driver. If necessary, down and restart the server to make sure that the driver is not loaded.

The following instructions assume a single RocketPort or RocketModem board, but the process is similar when multiple boards are installed. Follow these steps:

1. At the server console, enter **load inetcfg**.The Internetworking Configuration menu displays:

2. Select **Boards**. The list of configured boards displays:

---
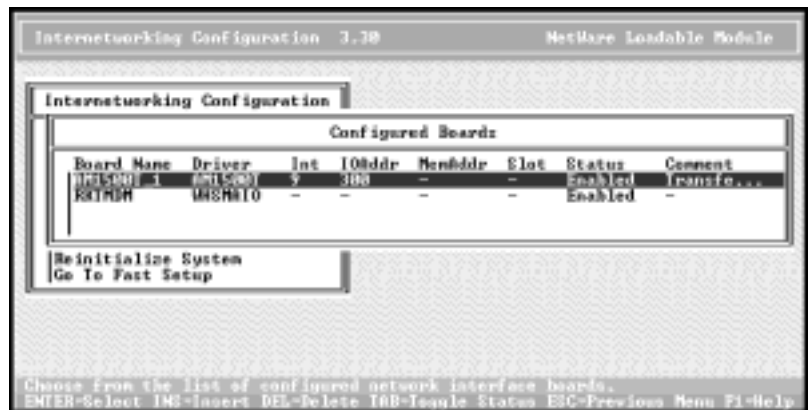
3. Press the **Insert** key to add a new board. The list of available drivers displays:

4. Scroll down the list, highlight **WHSMAIO**, and press **Enter**.

5. Enter a logical board name and press **Enter**. For example, if this is your first RocketModem, you could type **RCKTMDM-1** and press **Enter**.
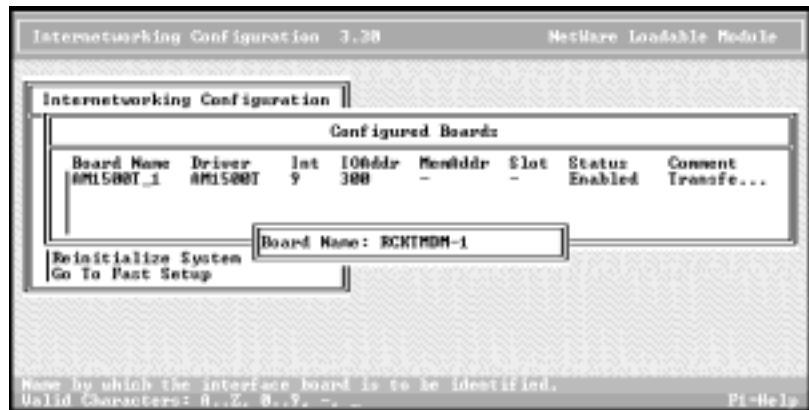
The WHSMAIO Board Configuration window displays.

6. Highlight **AIO Board Options** and press **Enter**:

This prompt appears:

Should INETCFG automatically load the AIO driver?

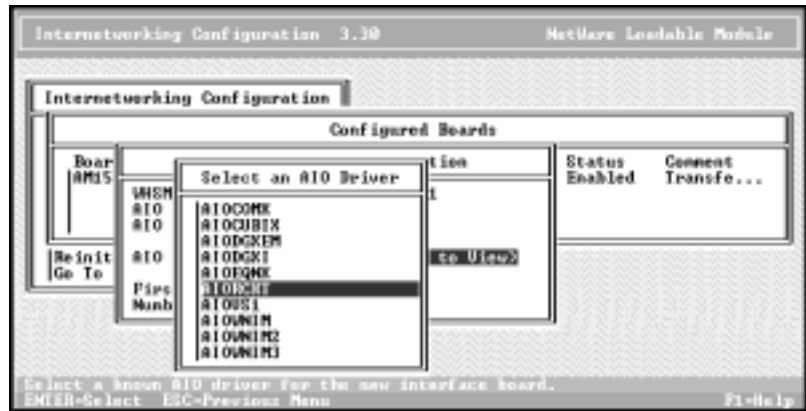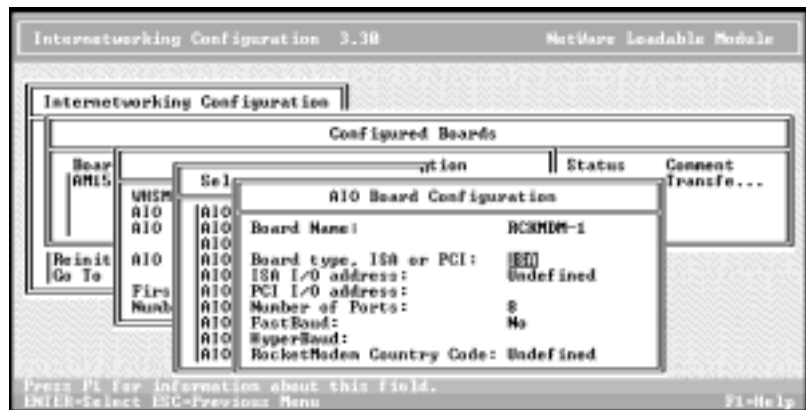7. Select **Yes** and press **Enter**. The list of AIO drivers displays:

8. Scroll down the list, highlight **AIORCKT**, and press **Enter**. The AIO Board Configuration window displays:

Select the appropriate values. Context-sensitive help is available for each field by tabbing to the field and pressing **Enter**, then **F1**.

a. Select the board bus type: **ISA** or **PCI**.

b. Enter the I/O address.

If it is the *first* ISA board, the I/O address must match the DIP switch setting used when installing the board.

If it is the second, third, or fourth ISA board, the DIP switches on the board must be set as described in the *Hardware Installation Card*, but the address used here can be any valid address *above* the first ISA board's address. Valid values are: 100, 140, 180, 200, 240, 280, 300, 340, and 380.

c. Select the appropriate number of ports. This entry defaults to **8** for ISA boards.

d. Select desired speed options. The **fastbaud** option applies only to Quadcable or Octacable boards. The **hyperbaud** option applies only to RocketPort *Plus* boards.

Note: *At this time, Novell MPR does not support baud rates below 1200 or above 115.2K. Therefore, while you must set the hyperbaud toggle to enable a RocketPort* Plus*, you cannot use rates above 115.2 Kbps. Contact Novell for more information regarding this feature.*

e. If you are installing a RocketPort board, ignore the RocketModem Country Code field.

For generic (as opposed to international) RocketModem boards, use the default RocketModem country code of **Undefined**. For international RocketModem boards, select the appropriate country code from the RocketModem country code menu. The modem country code selection must match the RocketModem type selected later in the Network Interfaces choices.

Note: *A RocketModem with a "USA" modem country code is initialized slightly differently than the generic RocketModem board, so be sure the RocketModem is an international board before installing it with the "USA" modem country code. If the driver attempts to initialize a generic board*

as an international board, certain harmless console messages may display.

9. Press the **Esc** key. The WHSMAIO Board Configuration window displays, this time including the board and driver names.

10. If the first AIO port number is not 1, enter the first port number.

11. Enter the number of AIO ports and press **Enter**.

12. Press the **Esc** key.

13. When you are asked if you want to save your changes, select **Yes** and press **Enter**.

    You are returned to the Configured Boards window and the RocketPort or RocketModem you just installed displays on the list of configured boards:

14. If you have more RocketPort or RocketModem boards to configure, repeat <u>Steps 3</u> through 14 as needed.

15. When you are done, press **Esc**. You are asked if you want to save your changes. Select **Yes** and press **Enter**. This returns you to the Internetworking Configuration menu.

16. Go to <u>Configuring Network Interfaces</u>.

# NIAS/MPR Installation and Configuration for NetWare 5.x

This discussion assumes the following:

- You have installed the RocketPort or RocketModem board(s) in the server
- The board(s) have passed the hardware diagnostic
- You have installed the driver (**AIORCKT.NLM**)
- You have determined which I/O addresses are used by the boards you have installed
- You have *not* loaded the driver manually, using the **load aiorckt** command

The **inetcfg** module provides the proper mechanisms for loading and configuring the driver. If necessary, down and restart the server to make sure that the driver is not loaded.

The following instructions assume a single RocketPort or RocketModem board, but the process is similar when multiple boards are installed. Follow these steps:

1. At the server console, enter **load NIASCFG**.

2. Select **Configure NIAS.**

3. Select **Protocols and Routing.**The Internetworking Configuration menu displays:
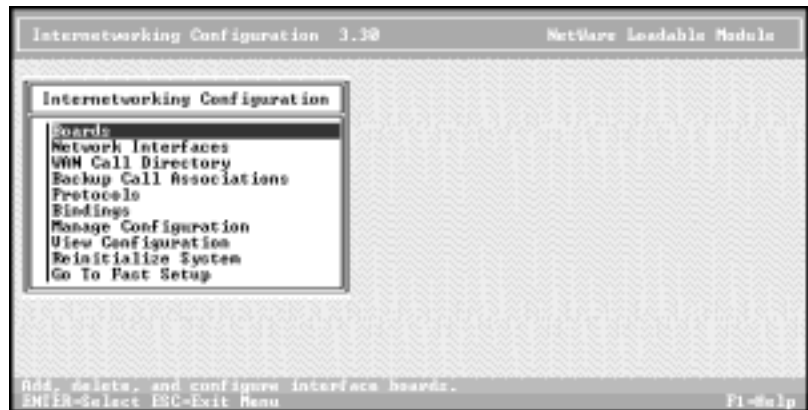
4. Select **Boards**. The list of configured boards displays:
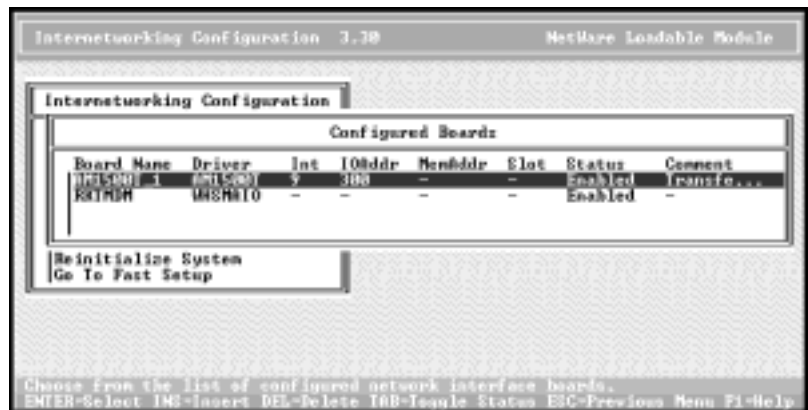
5. Press the **Insert** key to add a new board.

The list of available drivers displays:

6. Scroll down the list, highlight **WHSMAIO**, and press **Enter**.
7. Enter a logical board name and press **Enter**. For example, if this is your first RocketModem, you could type **RCKTMDM-1** and press **Enter**.
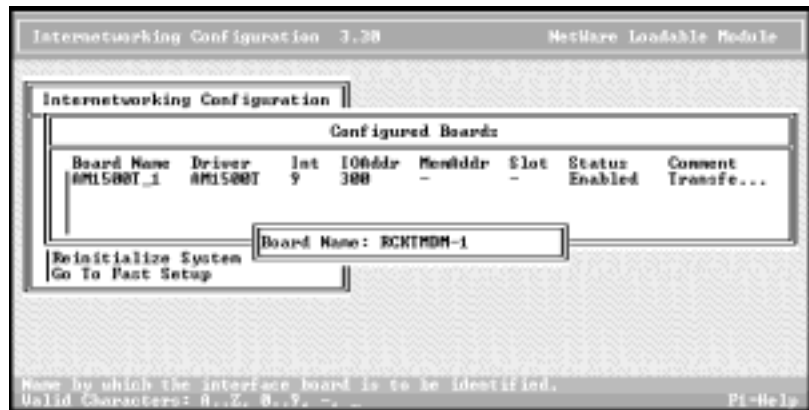
The WHSMAIO Board Configuration window displays.

8. Highlight **AIO Board Options** and press **Enter**:

This prompt appears:

   Should INETCFG automatically load the AIO driver?

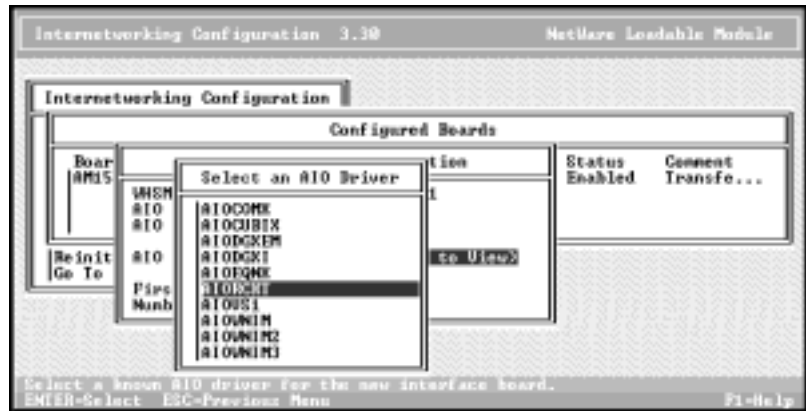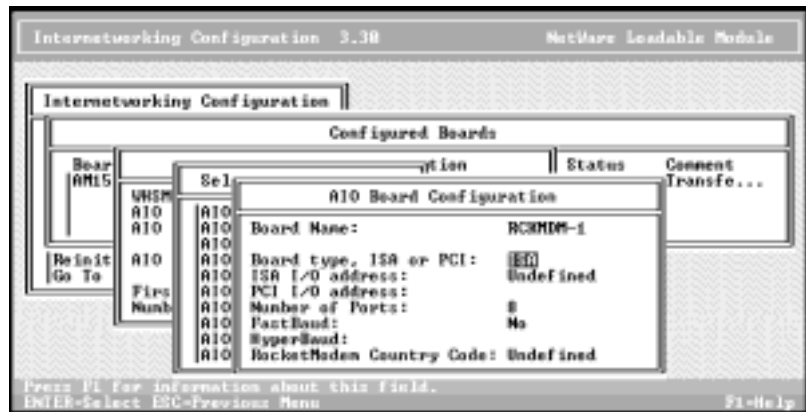9. Select **Yes** and press **Enter**. The list of AIO drivers displays:

10. Scroll down the list, highlight **AIORCKT**, and press **Enter**.

    The AIO Board Configuration window displays:

Select the appropriate values. Context-sensitive help is available for each field by tabbing to the field and pressing **Enter**, then **F1**.

a. Select the board bus type: **ISA** or **PCI**.

b. Enter the I/O address.

   If it is the *first* ISA board, the I/O address must match the DIP switch setting used when installing the board.

   If it is the second, third, or fourth ISA board, the DIP switches on the board must be set as described in the *Hardware Installation Card*, but the address used here can be any valid address *above* the first ISA board's address. Valid values are: 100, 140, 180, 200, 240, 280, 300, 340, and 380.

c. Select the appropriate number of ports. This entry defaults to **8** for ISA boards.

d. Select desired speed options. The **fastbaud** option applies only to Quadcable or Octacable boards. The **hyperbaud** option applies only to RocketPort *Plus* boards.

Note: *At this time, Novell MPR does not support baud rates below 1200 or above 115.2K. Therefore, while you must set the hyperbaud toggle to enable a RocketPort* Plus*, you cannot use rates above 115.2 Kbps. Contact Novell for more information regarding this feature.*

e. If you are installing a RocketPort board, ignore the RocketModem Country Code field.

   For generic (as opposed to international) RocketModem boards, use the default RocketModem Country Code of **Undefined**. For international RocketModem boards, select the appropriate country code from the RocketModem Country Code menu. The Modem Country code selection must match the RocketModem type selected later in the Network Interfaces choices.

Note: *A RocketModem with a "USA" Modem country code is initialized slightly differently than the generic RocketModem board, so be sure the RocketModem is an international board before*

installing it with the "USA" Modem country code. If the driver attempts to initialize a generic board as an international board, certain harmless console messages may display.

11. Press the **Esc** key. The WHSMAIO Board Configuration window displays, this time including the board and driver names.

12. If the first AIO port number is not 1, enter the first port number.

13. Enter the number of AIO ports and press **Enter**.

14. Press the **Esc** key.

    You are asked if you want to save your changes.

15. Select **Yes** and press **Enter**.

    You are returned to the Configured Boards window and the RocketPort or RocketModem you just installed displays on the list of configured boards:
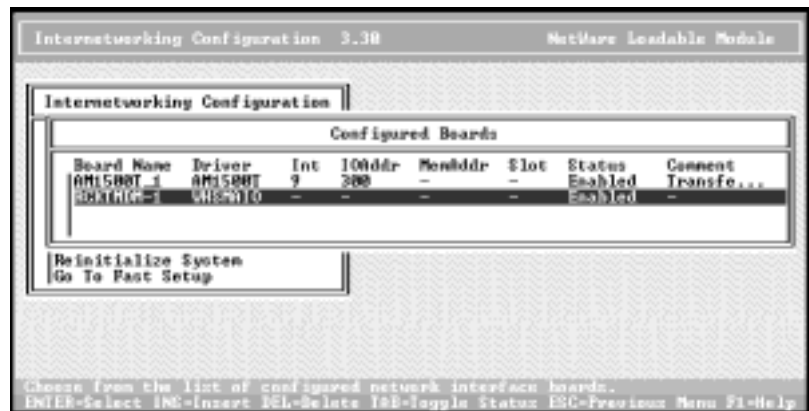

16. If you have more RocketPort or RocketModem boards to configure, repeat Steps 5 through 16 as needed.

17. When you are done, press **Esc**. You are asked if you want to save your changes. Select **Yes** and press **Enter**. This returns you to the Internetworking Configuration menu. Go to Configuring Network Interfaces.

Configuring Network Interfaces

Follow these steps to configure each port:

1. From the Internetworking Configuration menu, select **Network Interfaces**. The Network Interfaces status window displays:
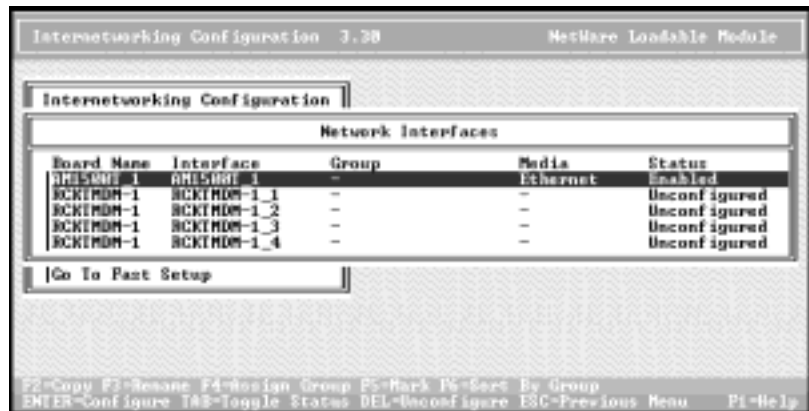
Each line is a port on your RocketPort or RocketModem. At this point the status of each port should be *Unconfigured.*

2. Select the first port to configure and press **Enter**.

   For example, if you named the board **RCKTMDM-1**, the first port is **RCKTMDM-1_1**.

   You are asked to select a medium.

3. Select **PPP** and press **Enter**. The PPP Network Interface Configuration window displays:
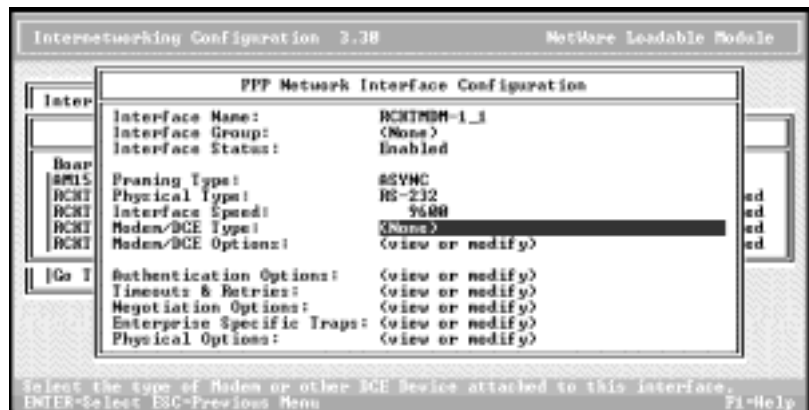
   Note: *If this is a NetWare 5 system, the title of this screen is different.*

4. Move the cursor to **Modem/DCE Type** and press **Enter.** The list of available PPP Modem/DCE Device Types displays:
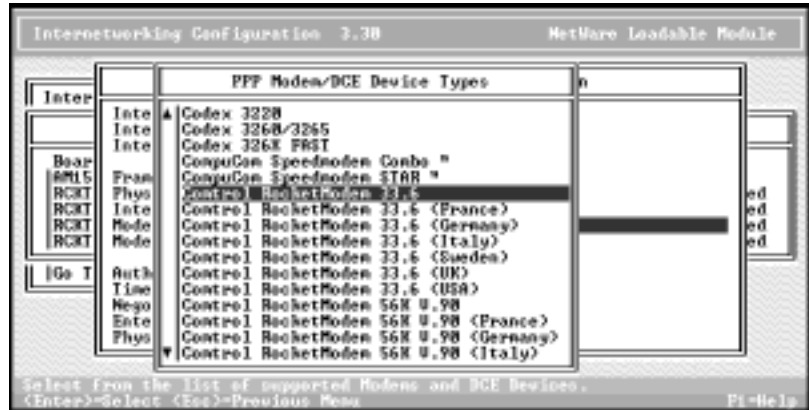
5. Select the modem or DCE device attached to the port and press **Enter.**For an international RocketModem board, select the appropriate country.

6. Move the cursor up to Interface Speed and press **Enter.**

    The list of interface speeds displays.
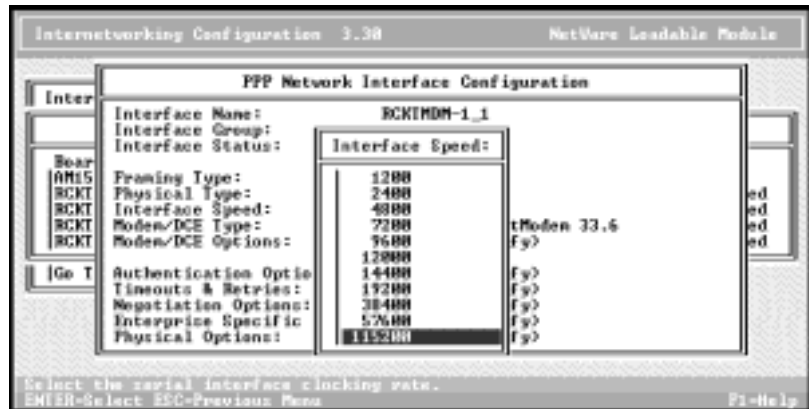
7. Set the interface speed to the highest available value and press **Enter.** Note that this is *not* the same as modem speed, and therefore you should select the highest value on the list for the RocketPort or RocketModem installation.

8. Modify other areas of the PPP Network Interface Configuration as appropriate.

9. Press **Esc** to exit the PPP Network Interface Configuration screen. You are asked to save your changes. Select **Yes** and press **Enter.**

    You are returned to the Network Interfaces window. The Media type should be **PPP** and the port status should be **Enabled**.

10. Repeat this process as needed for other ports. When done, press **Esc** to exit to the Internetworking Configuration menu.

Configuring Protocols

Follow these steps to configure the protocols:

1. From the Internetworking Configuration menu, select **Protocols**.

2. The list of available protocols displays. Select **TCP/IP** or other protocols as needed. Press **Enter**.

3. The configuration screen for the protocol you have selected displays. Modify the values as needed.

4. Press **Esc** to exit the configuration screen.

5. If NetWare 4.x, select **Yes** and press **Enter** when you are queried to save your changes. If NetWare 5, save your changes.

6. Repeat this process for each protocol to be configured. When done, press **Esc** to exit to the Internetworking Configuration menu.

Configuring WAN Call Destinations

Follow these steps to create WAN Call Destinations:

1. From the Internetworking Configuration menu, select **WAN Call Directory**. The list of Configured WAN Call Destinations displays.

2. Press **Insert** to create an entry.

3. Enter the New Call Destination Name and press **Enter**.

4. Select one supported wide-area medium (for example, **PPP**) and press **Enter**. The PPP Call Destination Configuration screen displays.
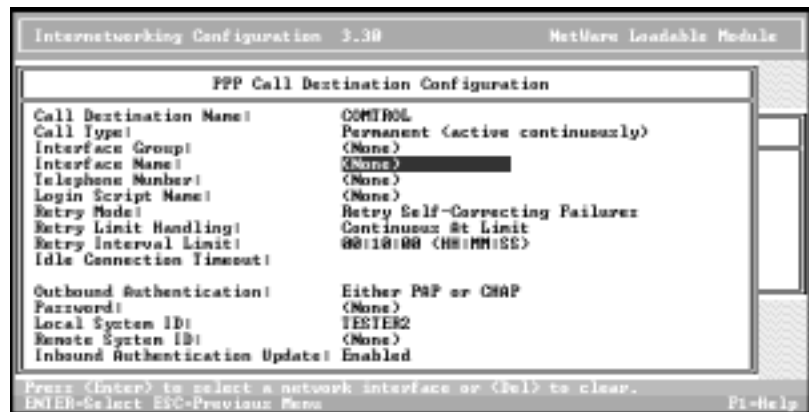
5. Move the cursor to the Interface Name field and press **Enter**. The list of PPP Network Interfaces displays.

6. Select the desired port by name and press **Enter**.

7. Select Telephone Number and enter the target server's telephone number.

8. Set authentication and other parameters on the PPP Call Destination Configuration screen as needed. If authentication is enabled, you must enter a password in order to save your changes.

9. When you are done, press **Esc** to exit. You are asked if you want to save your changes. Select **Yes** and press **Enter**.

    The updated list of WAN Call Destinations displays.

10. Repeat Steps 2–9 to add more destinations as needed, or press **Esc** to exit to the Internetworking Configuration menu.

Configuring Bindings

Follow these steps to configure the bindings:

1. From the Internetworking Configuration menu, select **Bindings**.The Protocol To Interface/Group Bindings window displays.
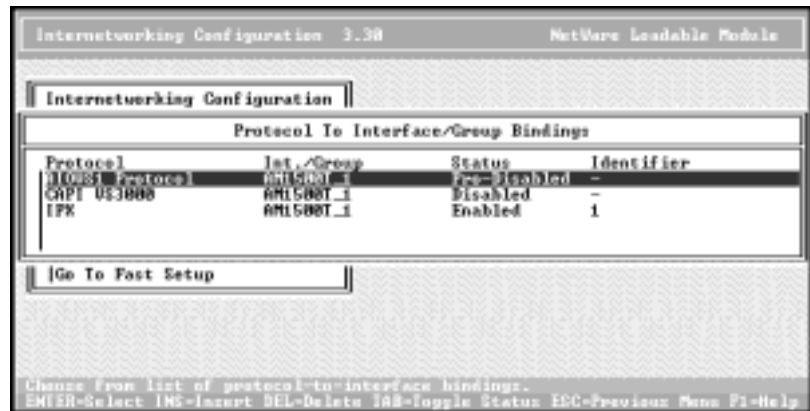
2. Press the **Insert** key to add a new binding.

3. The list of configured protocols displays. Select a protocol (**IPX**, for example) and press **Enter**.

4. Select the appropriate interface entity to bind to. Press **Enter**.

5. Select the configured network interface to bind to. Add the appropriate configuration information for the selected protocol.

6. Repeat Steps 2 through 5 until all requested protocols are assigned to all required ports. Multiple protocols may be bound to a single interface.

7. If NetWare 5, press the **ESC** key to return to the Internetworking Configuration menu. If NetWare 4, press ESC (press Yes to save, when asked) until the Exit query displays. Select Yes.

Reinitializing the System

After you have finished configuring MPR for the RocketPort or RocketModem, it is not necessary to edit the **autoexec.ncf** file or down and restart the server. Instead, select **Reinitialize System** from the Internetworking Configuration menu.

When the system has completed the reinitialization process, you are ready to begin normal operations.

NetWare 5.x:

1. Press **ESC** to exit INETCFG.

2. Press **ESC** to return to the Select Componet to Configure menu.

3. Press **ESC** to return to the NIAS Options menu.

4. Select **Exit**.

Adding Boards

To add more RocketPort or RocketModem boards to an existing and operating system, use one of the following procedures.

Adding a PCI-Bus Board

Follow these steps:

1. Use the instructions in the *Hardware Installation Card* to install the board in the server and verify that it passes diagnostics.

2. Add a line to **AUTOEXEC.NCF** to initialize the new board. Remember, lines initializing PCI boards must come before any lines initializing ISA boards.

3. You may now boot the network and verify installation.

Adding an ISA-Bus Board

Follow these steps:

1. Use the instructions in the *Hardware Installation Card* to install the board in the server and verify that it passes diagnostics. Pay special attention to the I/O address DIP switch settings.

2. Using this address, add a line to **AUTOEXEC.NCF** to initialize the new board. Remember, lines initializing PCI boards must come before any lines initializing ISA boards.

   If you are adding ISA-bus boards, remember that the *first* ISA-bus board must be initialized with the I/O address corresponding to the DIP switch setting used on the board. Second and subsequent ISA boards must have the DIP switches set as described in the *Hardware Installation Card*, but can be initialized with any valid I/O address *above* the address used by the first board. Valid values are: 100, 140, 180, 200, 240, 280, 300, 340, and 380. Do not attempt to use the same address for more than one board.

   If you are mixing PCI- and ISA-bus boards, note that the first *ISA* board is considered the "first" board for purposes of setting DIP switches and I/O addresses, even if it is actually the second, third, or fourth board physically installed in the server.

3. Down and restart the network, and verify installation.

Verifying Installation

If the driver loads correctly, NetWare responds with a message stating that the RocketPort or RocketModem board initialized successfully. Likewise, a failure to load results in a message stating as such.

Almost all instances of driver load failure result from either the absence of, or incorrect parameters in, the AIORCKT load line. If you experience a driver load failure, review the information on the **load aiorckt** command, correct your loading parameters, and try again.

If the problem persists, many users find they can resolve issues using **NASIDIAG**. You can also use **NWCCON** to generate a table of ports. In such a table, RocketPort or RocketModem serial ports appear as follows:

AIO_{htype}{node}{port}

For example:

AIO_130384002

The parameters are:

NWCCON Parameters

Parameter	Description
AIO	Indicates an asynchronous I/O port.
{hytpe}	The Novell hardware type number. The ID for the Comtrol RocketPort or RocketModem product line is always **130**.
{node}	The node address (the decimal equivalent of the board's hexadecimal I/O address). This is sometimes called the board number, and depending on the driver, may be set to 0, 1, 2, or 3. Some applications require that node be set to **0** in the load statement. The length of this parameter is variable, up to 4 digits. ***Note:*** *PCI boards are identified in a similar way; the difference is in the length of the node address. PCI boards also reside at higher I/O addresses than ISA boards.*
{port}	The last three digits are always the port number. The first port on a board is always **000**, and additional ports are numbered sequentially.

Troubleshooting

If you are still unable to resolve the problem, try the following:

- Check to make sure that you are using the correct cables, and that the cables are connected properly.
- If using ISA boards, check to make sure the DIP switches are set to the desired addresses.
- Reseat the board in the expansion slot, or try moving the board to another slot of the same bus type.
- Make sure that the expansion slot screw is replaced after inserting or moving the board.
- Use **RCKTTERM** to determine whether the ports are functioning properly.

If you are still unable to resolve the problem, contact *Technical Support*. When you contact Comtrol, please have the following information available:

- NetWare Connect or MPR revision number
- SPACK (Support Pack) revision number
- **AIORCKT.NLM** version number

To determine the **AIORCKT.NLM** version number:

1. At the server console prompt, enter:

   modules aiorckt.nlm

2. If necessary, scroll down the list until the **aiorckt.nlm** version number displays.

To generate a system Configuration Report:

1. At the server console prompt, enter **load techwalk**

2. This generates a Configuration Report (**techwalk.out**) that is stored in the **/etc** directory. This report contains much useful and valuable information and may be requested by Comtrol Technical Support.

RCKTTERM Overview

RCKTTERM is a simple AIO application similar to the Novell **AIOTERM.NLM**, which has been modified to work with the RocketModem/Port boards and the **AIORCKT.NLM** driver. **RCKTTERM** supports up to four RocketModem/Port boards with up to 32 ports on each board. **RCKTTERM** displays information on the currently loaded **AIORCKT** driver and the boards.

RCKTTERM has the following capabilities:

- You can specify the board and port you want to test, review, or reconfigure.
- View the port's capabilities and current configuration.
- Reconfigure ports.
- Perform simple data transfers.
- Send data out to a RocketPort port that has a loopback plug connected to verify that the port is functioning properly when it is echoes back to the screen.
- Connect two ports together with a NULL MODEM cable, which allows data to be sent out one of the ports from the keyboard. Then you can select the receiving port and it can be verified on the screen.
- Test modem operations.

Testing Modem Operations

You can use **RCKTTERM** to test modem operations by selecting a port and issuing **AT'** modem commands. Responses can be verified as they are echo back and display on the screen.

If two modems are connected to phone lines or a line simulator, the dial command can be issued from the first modem and the second modem should answer the call. The modem must be configured with the number of rings to answer using the **ATS0=** command and negotiate a connection. Selecting the port for the second modem you should be able to see the **RINGs** displayed on the screen. Once this connection has been established, any data entered on the keyboard for one port displays on the screen when looking at the second port. The connection can be terminated by entering the +++ **escape** sequence on one of the ports. This allows that modem to recognize **AT'** commands again. At this point if the **ATH** command is issued to the modem, it hangs up and the connection terminates.

Using RCKTTERM

Use the following procedure to use **RCKTTERM**:

1. Load the **AIORCKT** driver for each of the installed RocketPort/RocketModem boards.

2. Load the **RCKTTERM NLM**.

3. Select the desired board from the list of boards.

4. Select a port from the available ports on the board.

5. Make a selection from the menu that displays the port capabilities, statistics, current configuration, reconfigure the port or go to terminal mode to preform data transfers.

   Note: *The ESC key allows you to jump up a level in the menu and exit if you decide to NOT select another port.*

RocketModem Manual Reset

There are times when it is useful to be able to issue a hardware reset to a RocketModem:

• When an application is incapable of resetting a RocketModem

• If an invalid or illegal initialization string (AT command) has been sent to the RocketModem

• If the modem appears unresponsive to the application or an incoming call

International-type RocketModems have a hardware reset capability.

Note: *You can tell if your RocketModem has this capability by looking at the model number on the packaging or on a tag on the RocketModem circuit board. The following models do not support reset: 96860-3 and 96850-4.*

Reset an Inactive Modem on a Specific Board

To reset an inactive modem on a specific board, enter the command:

    load MR b m

    where: **b** is the physical board number (1–4) **m** is the physical modem number (1–8)

This resets the particular inactive RocketModem.

Reset All Inactive Modems on a Specific Board

To reset all inactive modem on a specific board, enter the command:

    load MR b all

    where: **b** is the physical board number (1–4)

This resets all inactive RocketModems on the board specified.

Reset an Inactive Modem by Node Number

To reset an inactive modem by node number, enter the command:

    load MR AIO_130nppp

    where: **n** is the board AIO NetWare node number (0–7) and **ppp** is the AIO port number (0–7)

This resets the particular inactive RocketModem.

Reset All Inactive Modems by Node Number

To reset all inactive modem on by node number, enter the command:

    load MR AIO_130n

    where: **n** is the board AIO NetWare node number (0–7)

This resets all inactive RocketModems on the AIO NetWare node specified.

Forced Reset

The **force** option should be used for specific modems that have already been allocated (acquired) by an application. The application must be able to recognize call termination, and issue the appropriate modem initialization strings, as defined in the **AIORKT.MDC** descriptor file. Only individual modems can be forced down.

To force reset a modem by board number, enter the command:

> **load MR b m force**

> *where*: **b** is the physical board number (1–4) and **m** is the physical modem number (1–8)

To force reset a modem by AIO node number, enter the command:

> **load MR AIO_130nppp force**

> *where*: **n** is the board AIO NetWare node number (0–7) and **ppp** is the AIO port number (0–7)

Technical Support

Comtrol has a staff of support technicians available to help you. Before you call, please have the following information available:

Item	Your System Information
Model number	
Serial number	
Interface type	
I/O address and IRQ	
Operating system type and release	
Device driver version	
PC make, model, and speed	
List other devices in the PC and their addresses	

Comtrol	Headquarters	Europe
Phone	(763) 494-4100	+44 (0)1869 323220
FAX	(763) 494-4199	+44 (0)1869 323211
Email	support@comtrol.com	support@comtrol.co.uk
Web support	Searchable Solution Database and FAQs	
Web site	www.comtrol.com	www.comtrol.co.uk
FTP site	ftp.comtrol.com	

Trademark Notices

RocketPort is a registered trademark of Comtrol Corporation. RocketModem is a trademark of Comtrol Corporation.

NetWare and Novell are registered trademarks of Novell. Other product names mentioned herein may be trademarks and/or registered trademarks of their respective owners.

2000102 Revision B