



RocketPort and RocketModem Series Driver Installation

Windows NT Operating System



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Overview

The following subsection gives you information that you need to prepare your system for installing a RocketPort adapter.

How to Use this Document

You can use the interactive [Table of Contents](#) to locate the information you need.

Driver Requirements

This document discusses installing and configuring the RocketPort and RocketModem device driver for the Windows NT operating systems:

- Microsoft® Windows® NT 4.0
- Citrix® WinFrame® (1.8)

This driver supports the following products:

- RocketPort ISA
- RocketPort PCI (4J, 8/16/32-port, and Quad/Octacable models)
- RocketPort Universal PCI (Quad/Octacable models)
- RocketPort Universa PCI Low Profile (4 and 8-port)
- RocketPort PCI/422
- RocketPort 485
- RocketPort *Plus* (2, 4, 8-port andvQuad/octacable)
- RocketModem ISA
- RocketModemII PCI

Note: *The readme.txt file that is delivered with the driver may contain additional information not published in this document.*

[Driver updates](#) can be downloaded at no charge from the Control ftp/web site. Always check the web or ftp sites to make sure that you have the current driver and documentation. Software downloaded from the ftp/web site are self-extracting zipped files that you must extract before installing.

Locating Hardware Installation Documentation

For hardware specific information or product information, see the hardware installation documentation that is available on the Control CD shipped with your product, or you can download the current version from the [ftp/web site](#).

Installation Prerequisites

Before you begin installation, note the following:

1. You must have at least one RocketPort or RocketModem adapter installed before installing this driver. See the [Locating Hardware Installation Documentation](#) discussion.
2. If you are using Windows NT 3.51 or an early version of Windows NT 4.0 with no service packs applied, and are using the adapter to provide dial-in (RAS) access to the NT server, verify that NetBEUI is installed before installing RAS.
***Note:** Under Windows NT 4.0, RAS will not work properly unless you have at least Service Pack 5 applied. For more information about service packs and updates, contact Microsoft.*
3. If you are installing the RocketPortModem in a system without an existing network adapter (NIC), you must install network services and the Microsoft Loopback Adapter software first. See your Microsoft Windows NT documentation for more information.
4. If you are using this driver under Windows NT 3.51, or if you are using the `modem.inf` file under NT 4.0, be advised that the driver installation process creates a backup of the `modem.inf` file named `modem.bak`, before updating the file.
5. Finally, if you are upgrading from an earlier version of the RocketPortModem device driver, you must [remove the old driver](#) before installing this new version. Do not use the *Update* option.

Driver and Adapter Information

The following subsections discuss driver and adapter installation and removal. It also discusses adapter and port configuration. If you have installation problems, see the troubleshooting subsection.

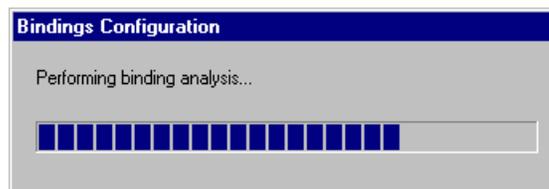
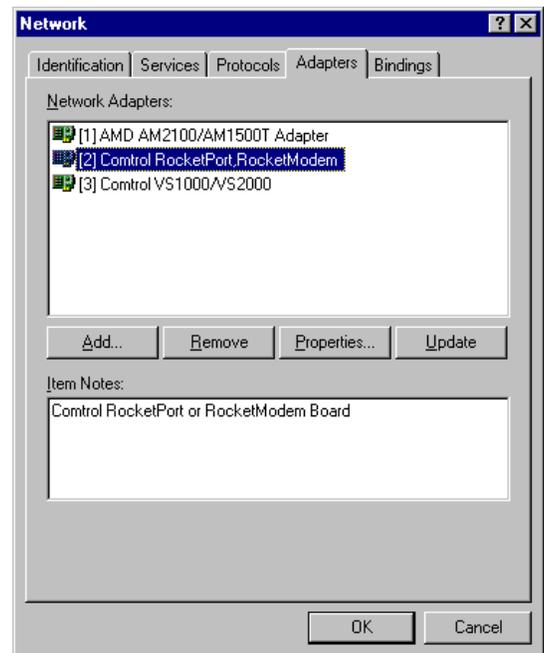
Removing an Existing Driver

Use the following procedure to remove an existing Windows NT driver. If you are updating (not reconfiguring) this driver, make sure that you remove the existing driver before installing the new driver.

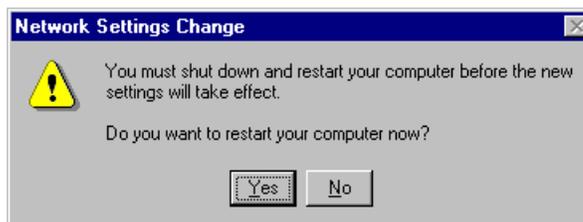
1. Open the Control Panel and double-click on the Network icon.
2. Select the Adapters tab.
3. Highlight Control RocketPort, RocketModem.

Note: If Control RocketPort, RocketModem does not appear in the Adapters window, select the Cancel button, and then go to the [Special Instructions on Page 8](#).

4. Select the Remove button. You are asked to verify the deletion.
5. Select the Yes button. The selected item is deleted.
6. Select the Close button. Several windows are displayed as the system updates its configuration.



7. Select the Yes button to shut down and restart the system, so that your changes take effect.



8. After removing the existing driver, see the *Installing the Device Driver* discussion.

Note: This procedure does not remove the Control RocketPort RocketModem program group. If you wish to do so, see the "Start Menu" topic in the Windows NT help system for more information.

Special Instructions

If Control RocketPort, RocketModem does not appear in the Adapters tab, select **Cancel** to exit from the Network window. Then start the Control RocketPort/RocketModem Setup program, set the droplist for each board to **Not Installed**, and save the changes and reboot.

This should remove the driver and clean up all associated files. If it does not resolve the situation, contact Control [Technical Support](#) for more assistance.

Installing the Device Driver

Use the following instructions to install the RocketPort/RocketModem Windows NT driver.

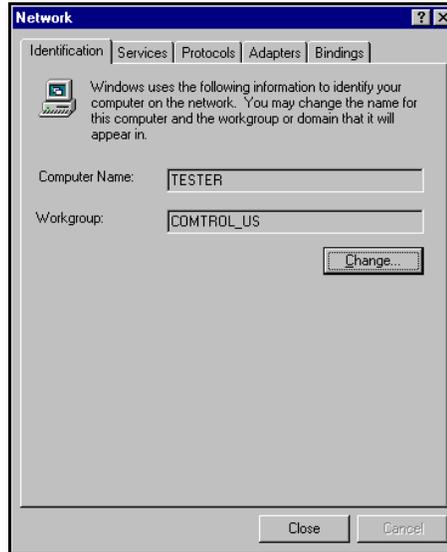
Note: If you are updating the Windows NT driver, remove the existing driver first. Do not use the Update option.

These procedures assume that you have already installed the hardware and determined that it is working properly. If you have not done so, you can use the [Hardware Installation Document](#) for help in installing the hardware.

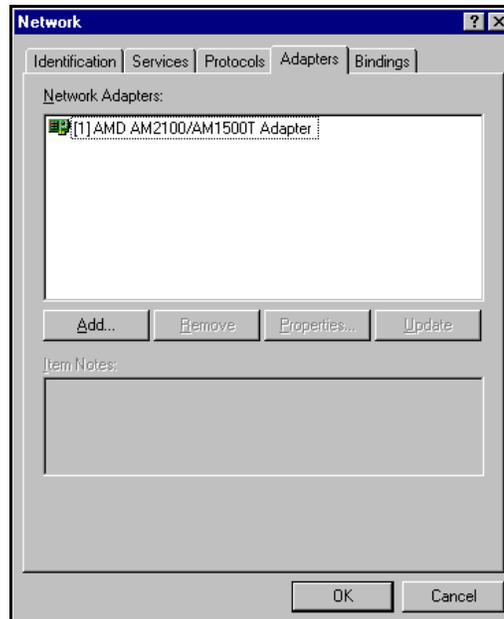
Driver Installation

After you have extracted the driver files (if needed), follow these steps:

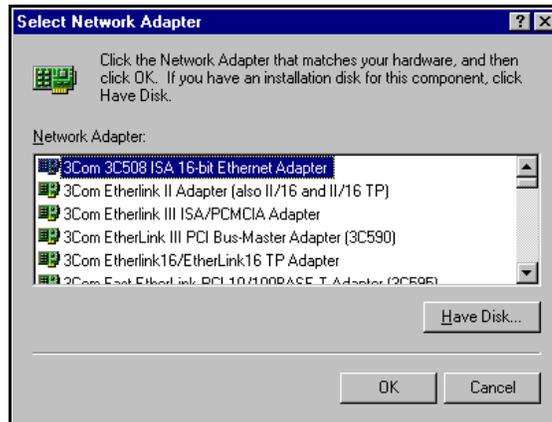
1. Open the Control Panel and double-click the Network icon, or right-click on the Network Neighborhood icon and select the Properties button.



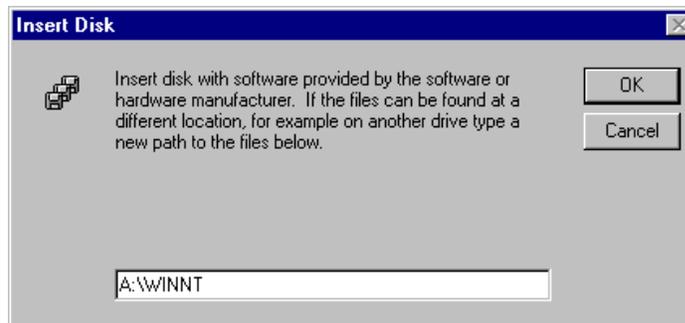
2. Select the Adapters tab.



3. Select the **Add** button. The list of supported network adapters appears:



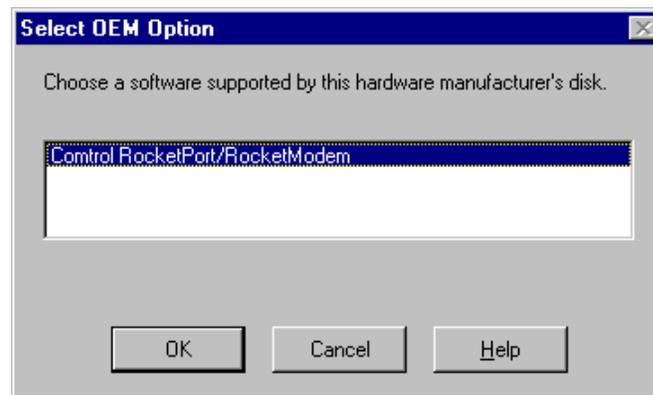
4. Select the **Have Disk** button.
5. If you are installing the driver from a diskette, insert the diskette.
Note: Make sure that you have extracted the files from the Control media or any downloaded file from the ftp/web sites.
6. Enter the drive and directory path to the installation files, and select the **OK** button.



For example, if you used the self-extractor utility to create a c:\control directory, enter:

```
c:\control
```

7. Select the **OK** button with **Control RocketPort/RocketModem** highlighted.



8. Select the Next button when the Add Device Wizard appears and follow the on-screen instructions to configure the adapter type you installed in your system. You must install and configure at least one adapter at this time. If you are installing more than one adapter, install all PCI-bus adapters before installing any ISA-bus adapters.



Depending on the model of adapter you have installed, enter the following information.

Note: *The prompts that display and the options associated with each prompt change depending on your selections. If you reach a point where the available options do not match your product, you probably selected an incorrect choice on an earlier page. In this case, select the **Back** button to backtrack and review your selections, and correct as needed.*

- a. **Bus Type.** Select ISA or PCI, and select the **Next** button.
- b. **Model.** Use the droplist to select the Control product you have installed, and select the **Next** button.
- c. **Number of Ports.** Use the droplist to select the number of ports on the product you have installed, and select the **Next** button.
- d. **Base I/O Address.** (*ISA-bus products only.*) Use the droplist to select the I/O address you set using the DIP switches on the adapter. (See the [Hardware Installation Document](#).)

If you are installing a PCI adapter and this prompt appears, you selected the wrong **Bus Type** in Step a. Select the **Back** button to go back and change your selection.

- e. **Country.** (*Control modem products only.*) Use the droplist to select the country or region where the modem will be used.

Note: *Not all Control modem products support all country selections. Check your packaging to make sure that your modem supports the country you wish to select.*

- When you have finished entering adapter configuration information, select the **Finish** button. The appropriate *Device Setup* tab appears:



RocketPort PCI Example

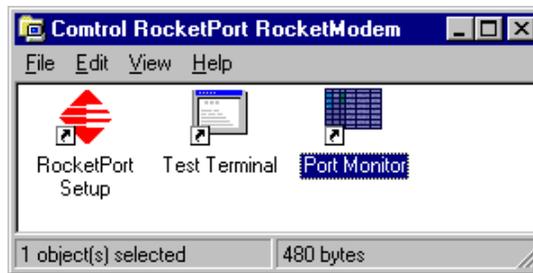
- Review the information shown. If desired, you can enter a more descriptive name for the adapter, change the base I/O address setting (ISA-bus only), or change the COM number assigned to the first port on the adapter.
- Select the **OK** button to save the device configuration. The **Main Setup** tab appears:



- If you have installed more than one adapter, you may configure more adapters at this time. Select the **Add** button, then repeat [Steps 8](#) through [11](#) for each additional adapter installed.

Note: If you are installing more than one adapter, install all PCI-bus adapters before installing any ISA-bus adapters.

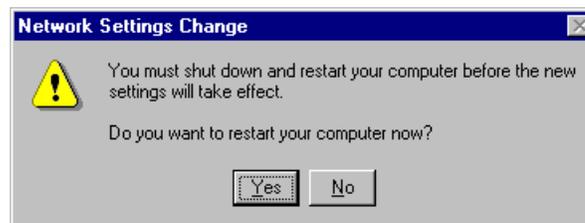
13. If you have installed a RocketPort adapter that is capable of speeds over 230.4K bps, you can configure the driver for high-speed operation at this time. Follow these steps:
 - a. Select the **Options** tab.
 - b. Use the **Scan Rate** droplist to select a driver servicing rate. For example, to use an Octacable at 460.8K bps, select 4. To use a RocketPort *Plus* at 921.6K bps, select 2 or 1.
 For more information about the Options tab and Scan Rate control, see [Changing or Viewing Driver Configuration](#).
 - c. Select the **Main Setup** tab. The Device Setup tab reappears.
14. Select the **OK** button to close the Setup window.
15. Select the **Yes** button when the confirmation window appears, asking you to verify that you want to save the configuration and exit. The setup process creates and displays the program group:



16. Select the **OK** button when this reminder appears.



17. Select the **Close** button when the Network Adapters window appears, showing the Control adapter.
18. Select the **Yes** button to shut down and restart the server, or the **No** button to put it off until a more convenient time.



Note: You must shut down and restart the server before your changes take effect. Do not use the Control Setup program until you have done so.

Verifying Installation

After you shut down and restart the server, access the Windows NT Administrative Tools menu and open the Event Viewer.

-  If the installation was successful, there is an “i” type log entry stating that the driver successfully initialized the hardware.
-  If the installation failed, there is a stop or “!” type event log entry. Double-click on the log entry for more information. If the Verbose Event Log option is enabled, additional details may be listed.

If the cause of the problem is not immediately apparent, see the discussion on [Troubleshooting](#) on Page 44.

Further Configuration

After you restart the server:

- If you are using a **standard RocketPort or RocketPort Plus**, review the information under [Changing or Viewing Port Configuration](#) and fine-tune the port configuration as needed. Then proceed with installing and configuring peripheral devices.
- If you are using a **RocketModem**, review the information on Modem Reset under [Changing or Viewing Port Configuration](#). Then proceed with [configuring the modems](#).
- If you are using a RocketPort 485 or an external RS-485 converter, you must configure both the driver and the individual ports for RS-485 operation. See [Changing or Viewing Driver Configuration](#) for information on enabling RS-485 at the driver level, then [Changing or Viewing Port Configuration](#) for information on enabling RS-485 on selected ports.

Changing or Viewing Driver Configuration

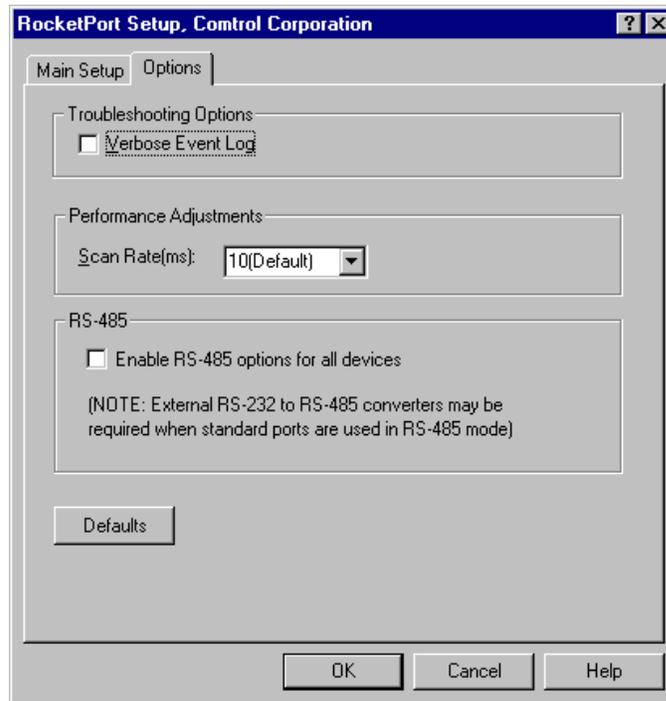
To view or change the driver configuration after installation, follow these steps:

1. Use one of these methods to start the **Control Setup** program:
 - a. From the **RocketPort/RocketModem** program group, double-click on the **RocketPort Setup** icon.
 - b. From the **Start** button menu, select **Programs**, then **Control RocketPort/RocketModem**, then **RocketPort Setup** command.
 - c. From the desktop, right-click on the **Network Neighborhood** icon and select **Properties**. The **Network** window appears. Select the **Adapters** tab, then select **Control RocketPort, RocketModem** from the **Network Adapters** list. Then select the **Properties** button.



2. Select the **Options** tab.

3. Select, clear, or set the following as desired:



- a. **Verbose Event Log.** Select this check box to cause longer messages to be sent to the Windows NT Event Log. This added information can be useful when debugging communications and configuration problems.
- b. **Scan Rate.** Use this droplist to set the driver servicing rate. As a general rule this is changed only if you are driving ports at rates in excess of 230.4 Kbps. For example, if you are using a RocketPort OctaCable running at 460.8 Kbps, select **4** ms. If you are running a RocketPort *Plus* at 921.6 Kbps, select **2** ms.

Note: Earlier versions of the Control Windows NT driver also required an interrupt (IRQ) setting in order to achieve high baud rates. The improved servicing routine in the 4.x driver no longer requires an IRQ.

- c. If you are using a RocketPort 485, or if you are using a standard RocketPort with an external RS-232 to RS-485 converter, select the **Enable RS-485** check box to permit RS-485 operation, and you want to use RS-485 mode. If you are not using RS-485, leave this box blank.

Note: This sets the driver to support RS-485. You must also configure each port that you plan to use for RS-485.

4. When you are done working with the driver configuration options, select the **Main Setup** tab to return to the Main Setup window, or the **OK** button to save your configuration changes and exit.

Changes to RS-485 status take effect immediately on exit. Changes to the scan rate or event log status require that you save your changes and restart the server before your changes take effect.

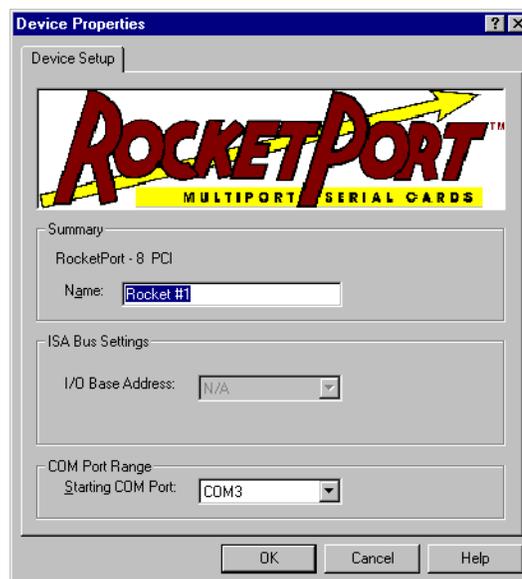
Changing or Viewing Adapter Configuration

To view or change adapter configuration after installation, follow these steps:

1. Start the Control Setup program. The Main Setup tab appears:



2. In the Configuration list, select on the adapter you want to work with and select the Properties button.



Note: The Summary group displays the basic device configuration, as entered using the Add Device Wizard. If this information is not correct, you must remove and re-add the device.

3. You can view or change the following as desired:
 - a. **Name.** The default device name is assigned by the Add Device Wizard. If desired, you can enter a more descriptive name.

- b. **Base I/O Address.** (*ISA-bus adapters only.*) If desired, use the droplist to select a different base I/O address.

If this is the *first* ISA-bus adapter in the system, the I/O address DIP switch setting on the adapter must match the DIP switch illustration shown to the right of the entry field.

If this is the second or subsequent ISA-bus adapter, you may select any available I/O address range. The address you select here does *not* have to match the DIP switches on the adapter.

However, the DIP switches on second and subsequent adapters must be set in correct relation to the DIP switch settings used on the *first* adapter, as described in the hardware installation instructions.

- c. **Starting COM Port.** Use the droplist to select the COM port number to assign to the first port on the adapter. All other port numbers will follow in sequence.

If you have more than one adapter installed, the numbering on subsequent adapters will follow from the first adapter. (For example, if the first adapter has COM5 through COM12, the second adapter will begin with COM13.)

If desired, you can use this control to set nonsequential starting COM port numbers for each adapter, thus leaving gaps in the COM port numbering sequence.

Do *not* use this control to overlap COM port numbers. If you do so, the overlapping ports will be disabled.

- 4. When you are done, select the **OK** button to close the Device Setup tab and return to the Setup window.

Your changes are not saved until you select the **OK** button to save and exit from the Setup window. When you do so, your changes take effect immediately. No reboot is required.

Changing or Viewing Port Configuration

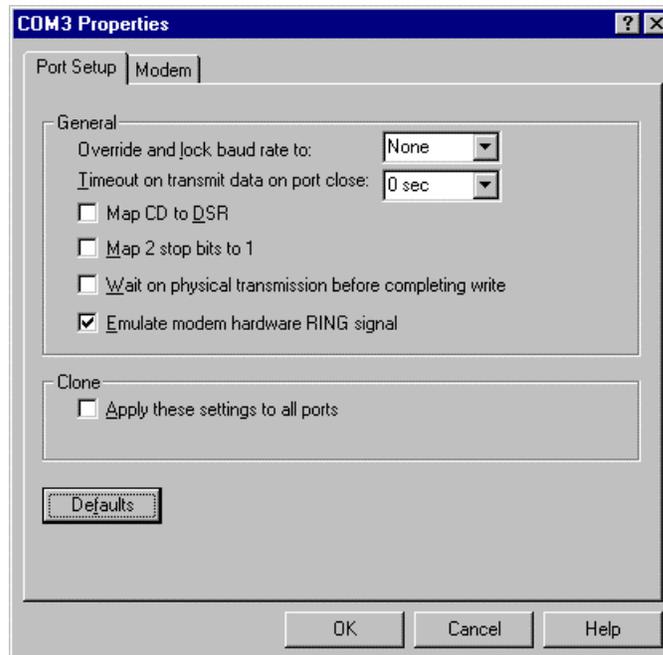
To view or change individual port configuration, follow these steps:

1. Start the Setup program. The Main Setup tab appears:



2. If necessary, click the [+] button in front of the adapter name so that the ports on the adapter are displayed.
Note: To hide the list of ports, click the [-] button in front of the adapter name.
3. In the Configuration list, select the port you want to work with. Then select the Properties button.

The COM Properties window appears:



Note: The tabs and options present in this window depend on the adapter model and driver options selected.

4. View or change the port properties as desired. For reference, see the following discussions. When you are done, select the OK button to close the Port Setup tab and return to the Main Setup tab.

If you have selected the **Clone** check box, the changes you make are applied to all Control ports controlled by this driver.

Your changes are not saved until you save and exit from the Main Setup tab. When you do, your changes take effect immediately. No reboot is required.

General Port Setup

Override and lock baud rate

This option replaces the Baud Rate Mapping option used in earlier versions of this driver, and lets you lock selected ports to specific baud rates. After you do so, no matter what baud rate is selected in a host application, the *actual* rate used is the rate specified here.

Note: Not all rates are supported by all Control products. See your hardware documentation to determine if your adapter supports the desired rate. To use rates above 230.4 Kbps, you must also reset the scan rate (page 15).

Timeout on transmit data on port close

Use this droplist to select the length of time to wait for data to clear the transmit buffer after a host application has closed the port.

This is typically used with peripheral devices such as printers, to give the data sufficient time to flush through the system.

Map CD to DSR

This option is used in installations where there is no connection to the port's DSR input. Select this check box to cause the CD input to appear as DSR to the host application, and to perform hardware handshaking with CD rather than DSR. This is ignored if flow control is not enabled via IOCTL_SERIAL_SET_HANDFLOW.

Map 2 stop bits to 1

If the application you use is hardcoded to use two stop bits and you receive framing errors, select this check box to map 2 stop bits to 1 bit.

Otherwise, leave this box unchecked.

Wait on physical transmission before completing write

This option forces all write packets to wait until the transmit data has physically completed the transmission before returning completion to the host application. The default mode (check box not selected) is to buffer the data in the transmit hardware buffer, and return completion as soon as the packet is in the buffer.

Emulate modem hardware RING signal

Select this check box to emulate the ring indicator signal. If this feature is enabled, the driver monitors the data stream and outputs a software RI whenever the "ring" AT command is received.

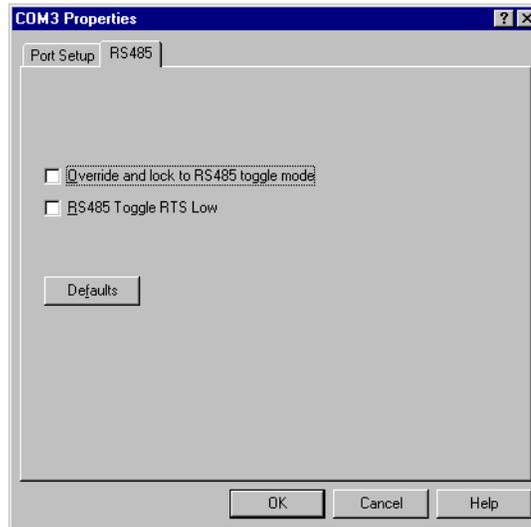
Clone

If this check box is *not* selected, changes apply to the selected port only.

If this check box *is* selected, changes apply to all Control ports in the system.

RS-485 Tab

This tab appears if RS-485 is enabled in the driver Options tab. Use it to enable and configure RS-485 on specific ports.



If you want to use RS-485, you must have:

- hardware that supports RS-485, and
- RS-485 enabled on the Options tab and the individual port.

Override and lock to RS-485 toggle mode

Select this check box to switch the selected port to RS-485 mode.

RS-485 Toggle RTS Low

Select this check box to toggle the RTS output signal low during data transmission. If this box is not checked, RTS is toggled high (asserted) during data transmission.

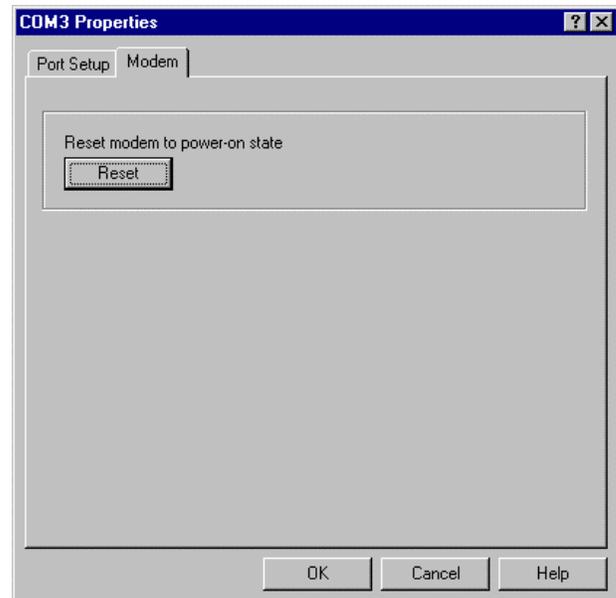
Modem Tab

This tab appears if the selected port is a Control modem product.

There is one control: the **Reset** button. To reset the selected modem to its default (power-on) state, select the button.

This resets only the modem on the selected COM port, on the selected adapter. This option cannot be used to reset non-Control modems.

Note: *Some Control modems do not support reset. To determine whether your modem supports Reset, see the readme file.*



Adding an Adapter

To add adapters to an existing installation, follow these steps:

1. Shut down the server, switch off the power, and remove the cover.
2. If you are installing an ISA-bus adapter, set the I/O address DIP switches as indicated in the hardware installation instructions.
3. Install the new adapter in an available slot of the correct bus type.
4. Replace the cover and power up the server.
5. Start Windows NT and log in as the system administrator.
6. Start the Setup program. The Main Setup tab appears.
7. Select the **Add** button.
8. The Add Device Wizard starts. Follow the instructions on-screen to configure the newly installed adapter. When the wizard finishes, you are returned to the Setup window.
9. Select the **OK** button to save and exit from the Setup program.
10. Shut down the program and restart the server, so that your changes take effect.

Removing an Adapter

To remove an adapter, follow these steps:

1. Start the Setup program. The Main Setup tab appears.
2. In the Configuration window, select on the adapter to be removed.
3. Select the **Remove** button.
To change your mind, select the **Cancel** button immediately. When you re-enter the Setup program, the adapter is restored.
4. To permanently remove the selected adapter, select the **OK** button to save and exit from the Setup window.

Windows NT Configuration Overview

Configuring Modems

After installing the hardware and driver for Windows NT, you can use this discussion to configure modem COM ports.

The Control device can support any asynchronous serial modem for use by any application that uses TAPI. For information regarding port pinouts and signals, see [Locating Hardware Installation Documentation](#) on Page 5.

Working with NT RAS

Control products are frequently used to provide Dial-Up Networking access with NT RAS (Remote Access Service).

- If RAS is *not* installed, note that you must install at least one RAS-capable device (for example, modem) before installing and configuring RAS.
- If RAS *is* installed, note that the modem installation process automatically launches RAS Setup after modem installation is complete.

Installing Modems

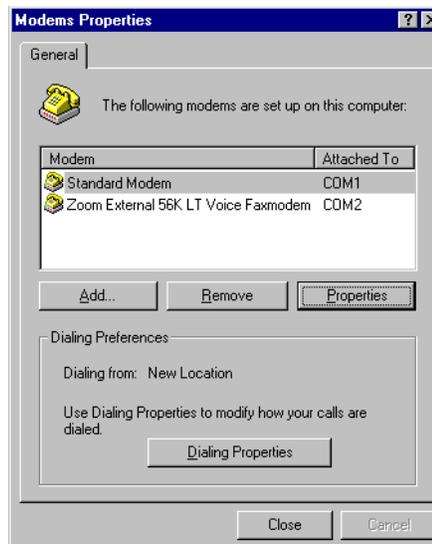
The following instructions were developed using Control modem products. If you are using another brand of modem, note that some prompts and window descriptions may differ from those shown.

Follow these steps:

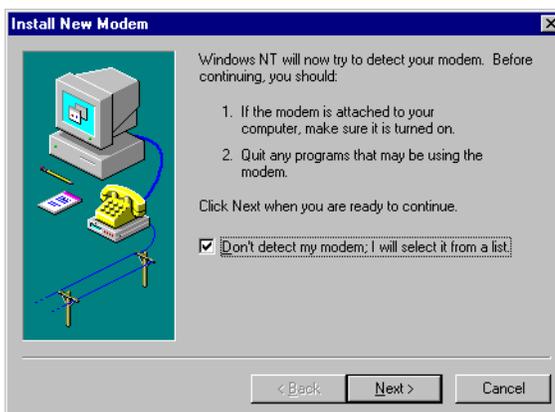
1. Connect the modem to the desired port.
2. Power up the modem.
3. Open the **Control Panel** window.
4. Double-click the **Modems** icon.

If you have no other modems installed, skip to [Step 5](#).

If you have already installed another modem, the Modems Properties window appears. Select the **Add** button. The Install New Modem wizard appears.

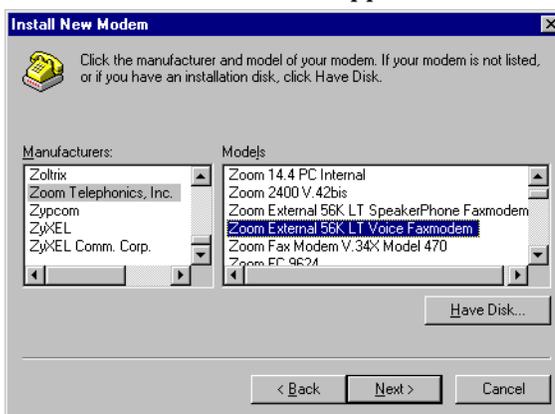


5. Check the “Don’t detect my modem...” box and select the Next button.

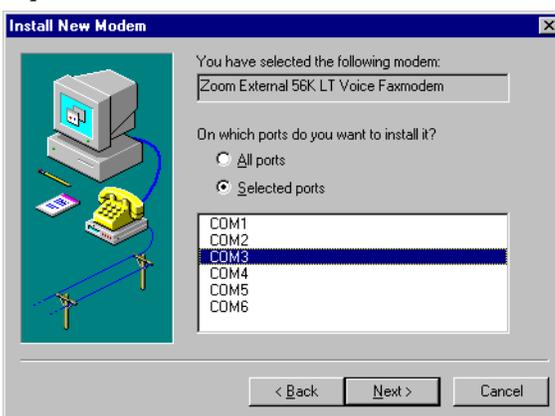


Note: While Windows NT can automatically detect modems, we advise against using this option as auto-detect feature may cause some multiprocessor systems to lock up, and the modems may be installed in reverse order.

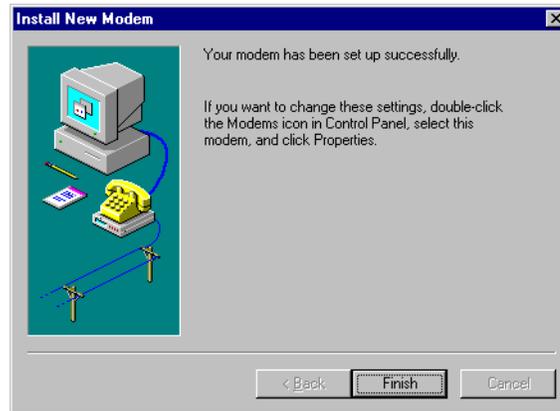
6. Select the appropriate manufacturer and model and select the OK button. If the correct manufacturer and model do not appear on the list, select Have Disk to install software from a manufacturer-supplied installation diskette.



7. Select the COM port number.



8. Select the **Finish** button. The modem software is installed on the selected ports.



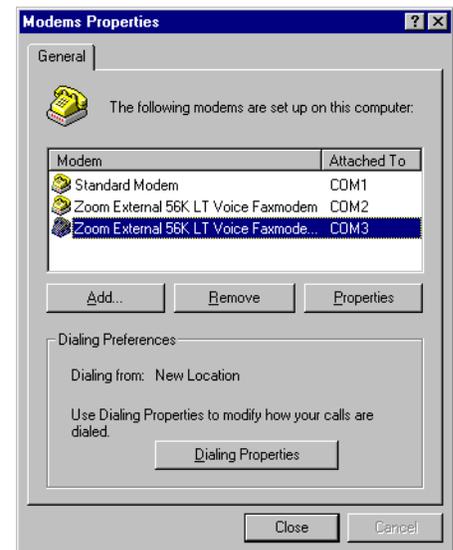
Depending on prior configuration, you may be asked to enter your country of use, area code, the number you dial to get an outside line, and whether you have tone or pulse dialing at this time.

9. If you need to configure modem properties (maximum baud rate, data bits, parity, and so on), select the **Properties** button, make the needed changes, then select **OK** to return to this window.

Note: For help configuring modem properties, see the *Windows Help System*.

10. If you need to configure dialing properties (country, area code, calling card number, and so on), select the **Dialing Properties** button, make the needed changes, then select the **OK** button to return to this window.

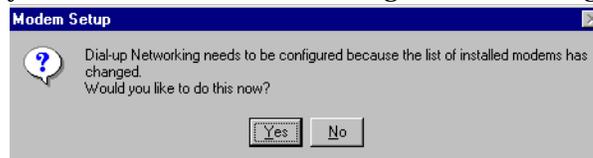
11. Select the **Close** button.



Further Modem Configuration

At this point:

- If you are not using RAS, you are now finished. Reboot the system so that your changes take effect and resume normal operations.
- If you plan to use RAS but do not have it installed yet, reboot your system, then go to [Installing RAS Initially](#).
- If you already have RAS installed and configured, this dialog box appears.



If you do *not* want to configure this modem for use with RAS at this time, select the **No** button, then reboot and resume normal operations.

If you *do* want to configure this modem for use with RAS, do *not* reboot. Instead, select the **Yes** button, then go directly to [Adding or Reconfiguring a RAS Device](#).

Installing and Configuring RAS

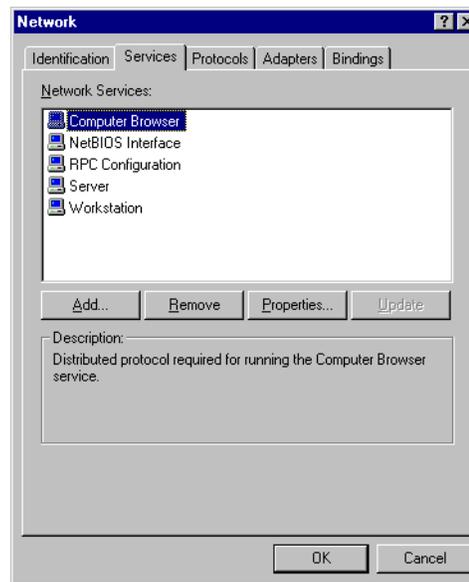
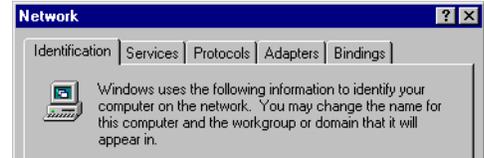
After installing the hardware and driver, and installing and configuring at least one RAS device (for example, a modem), use this section to install and configure Remote Access Service (RAS).

Installing RAS Initially

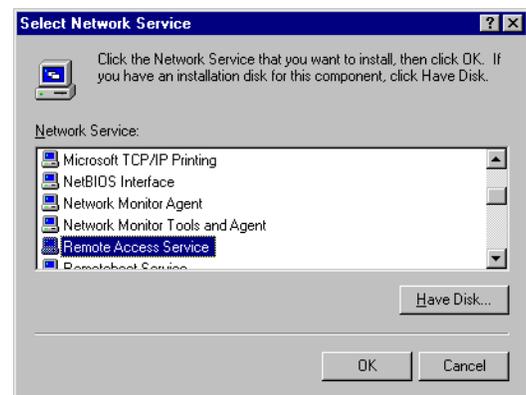
If you have not previously installed RAS in your Windows NT system, log into the system with Administrative rights and follow these steps:

Note: This example shows how to install and configure RAS for use with modems, but you can use it as a guide to setting up other serial devices.

1. Open the Control Panel and double-click the **Network** icon, or right-click on the Network Neighborhood and select the **Properties** button.
2. Select the **Services** tab, and select the **Add** button.



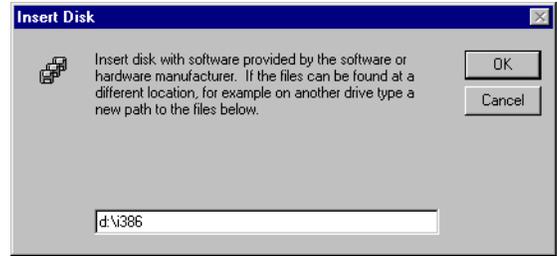
3. Highlight **Remote Access Service**, and select the **OK** button.



4. Enter the location of the Windows NT files (for example, `d:\i386`) and select the **Continue** button.

The appropriate files are copied onto your hard drive.

The RAS installation process automatically launches the Add RAS Device process. Go to [Adding or Reconfiguring a RAS Device, Step 5](#).



Note: If you install or reinstall RAS from your original Windows NT 4.0 distribution media, you must install or reinstall the latest Windows NT Service Pack **after** installing/reinstalling RAS. This is necessary because most Service Packs include RAS-related files that are newer than the files on the NT distribution media.

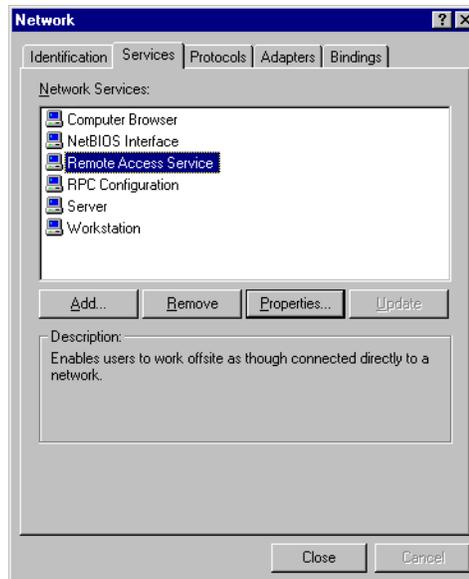
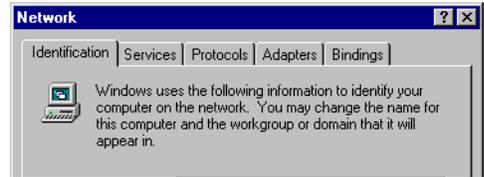
Adding or Reconfiguring a RAS Device

There are several different ways to start this procedure:

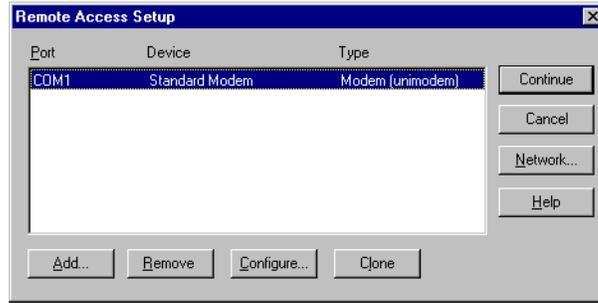
- If you have previously installed RAS and configured at least one RAS device, and are now adding or reconfiguring RAS devices, begin with [Step 1](#).
- If you have previously installed RAS and were in the process of installing a modem when this process started automatically, begin with [Step 3](#).
- If you were in the process of installing RAS when this process started automatically, begin with [Step 5](#).

Follow these steps:

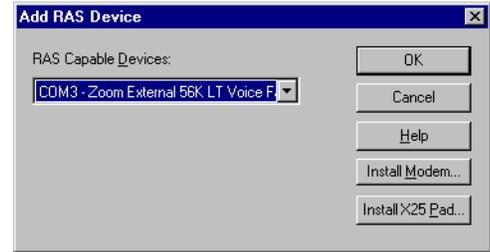
1. Open the Control Panel and double-click the Network icon, or right-click on the Network Neighborhood and select the **Properties** button. The Network window appears.
2. Select the **Services** tab.
3. Highlight **Remote Access Service** and select the **Properties** button.



- To reconfigure an existing RAS port, highlight the port/device and select the **Configure** button. Then go to [Step 7](#).

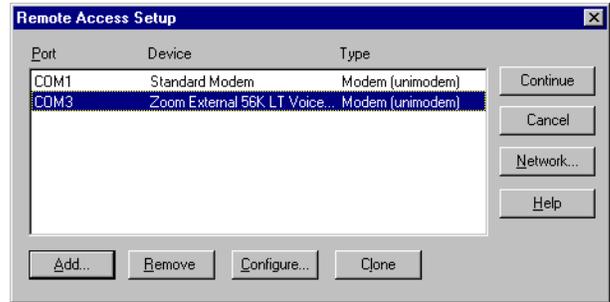


- To add a new RAS device—for example, if you are configuring a new modem—select the **Add** button. The Add RAS Device window appears:
- Use the droplist to select the COM port (modem) that you want to configure and select the **OK** button.

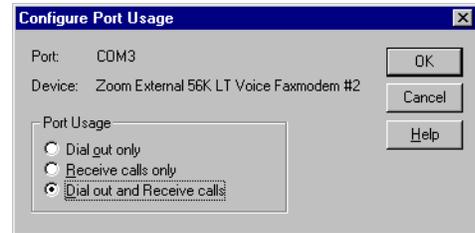


Note: If no modems appear on this list, you need to install a modem, see [Installing Modems](#).

The Remote Access Setup window reappears.



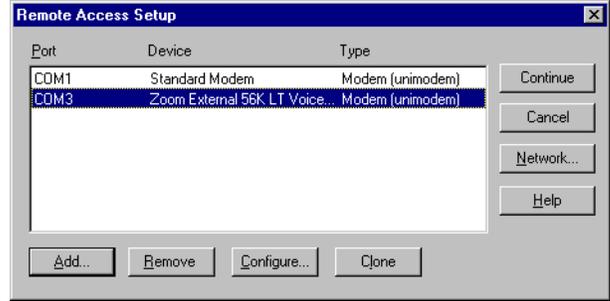
- Highlight the desired COM port (Modem) and select the **Configure** button. The Configure Port Usage window appears.
- Select the appropriate option, based on the role the modem will perform, and select the **OK** button.



Note: When configuring multiple simultaneous RAS dial-in ports, configure the ports to “Receive calls only” not “Dial out and Receive.” Configuring a port to dial-out requires a separate memory pool for each dial-out port, while all ports configured for receive-only share the same memory pool.

If you configure too many ports for dial-out unnecessarily, resources can become an issue. If you require dial-out on the RAS server, configure one port to “Dial out and Receive” and all the other ports to “Receive calls only.”

The Remote Access Setup window reappears.



9. Highlight the COM port (modem) again and select the Network button.
10. Select the appropriate dial out protocols, dial in protocols, logon security levels, enable multilink (if required) and select the OK button

Note: Only previously configured protocols are selectable. If you want to set up a protocol that is grayed out, you must first add it using the Network Protocols tab.

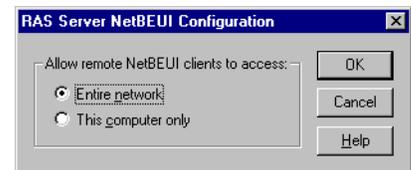
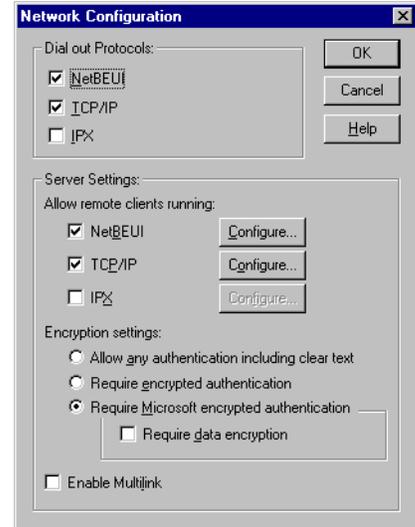
If you selected “Receive calls only” on all ports while configuring the port usage, the “Dial out Protocols” area will be shaded.

If you want to use Multilink PPP (bonding), make sure that you select the Enable Multilink check box.

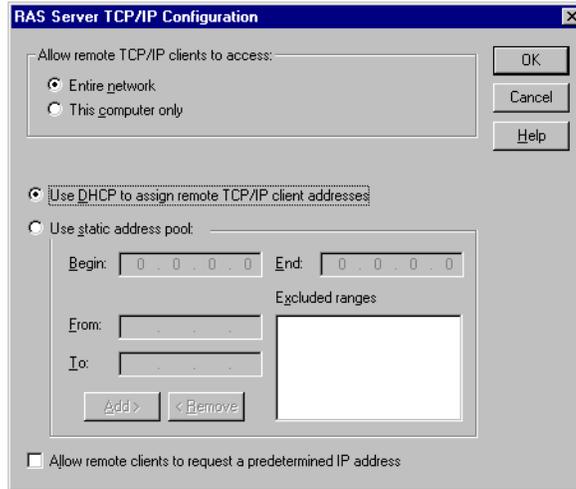
For detailed information about the configuration windows, use the Help button or the Windows NT CD-ROM (Support/books/server.hlp file to locate information).

Note: The following steps are dependent upon the protocol selections made in this window.

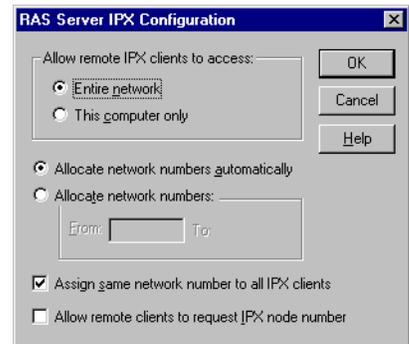
11. If you select NetBEUI on the Network Configuration window, the following window appears. Make the appropriate selection for your environment and select the OK button.



12. If you select TCP/IP, the following window appears. Make the appropriate selections for your environment and press the OK button.



13. If you select IPX, the following window appears. Make the appropriate selection for your environment and select the OK button.



14. Select the OK button to exit the Network Configuration window and return to the Remote Access Setup window.

Note: Choices made during network configuration will effect the entire system.

15. If you want to duplicate the configuration you just created on any other COM port (modem), highlight the COM port number and select the Clone button. Otherwise, repeat [Steps 7](#) through 14 for each COM port (modem) you want to set up.
16. After setting up all the COM ports, select the Continue button.
17. Select the Close button at the Network/Services tab to complete the RAS installation.
18. Select the Yes button when asked to reboot the computer. Windows NT RAS installation is complete.
19. If necessary, install the latest NT Service Pack or Packs from Microsoft.

Configuring Printers

Use this subsection to configure printers for the Control device after installing the hardware and driver.

Adding Serial Printers

Follow these steps to configure a serial printer in Windows NT:

1. Connect the printer to the desired port. Use a DTE-to-DTE null modem cable unless the printer maker specifies otherwise.
2. Open the Printers control panel and double-click on the Add Printer icon.
3. Select the My Computer check box, then the Next button.

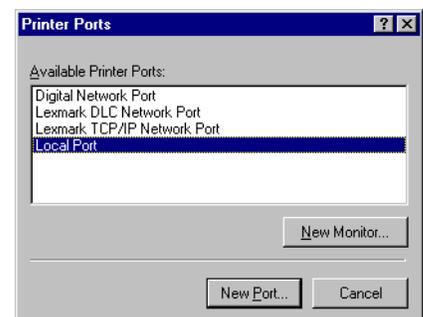
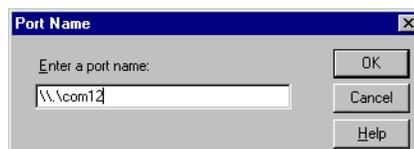


4. If the desired COM port is on this window, select it, select on the Next button, and skip to [Step 6](#).



5. If the desired COM port is not on this list, select the Add Port button and follow these steps:

- a. A list of printer ports appears. Select Local Port.
- b. Select the New Port button.
- c. Type in the name of the port.



Note: Port names above COM9 require

the \\.\ prefix. For example, to reference COM12, enter \\.\COM12: (make sure that you add the colon)

- d. Select the **OK** button.
- e. Select the **Close** button to return to the Add Printer Wizard.
- f. Select the **Next** button.



6. Select the printer make and model and select the **Next** button.

If your printer is not on the make and model lists, but you have a manufacturer-supplied printer diskette, select the **Have Disk** button.

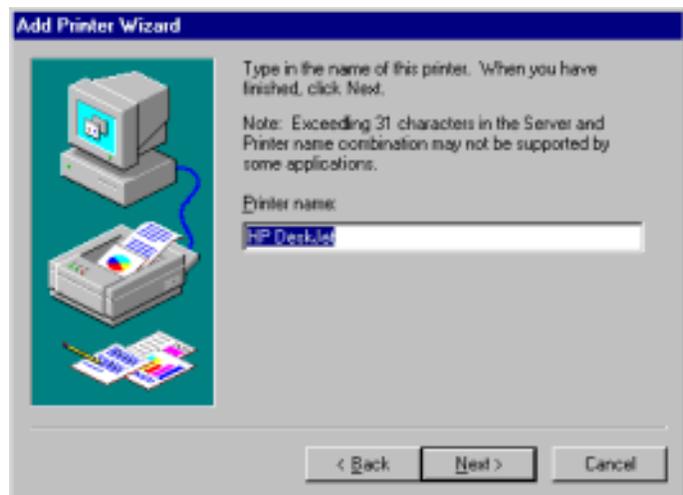
If you have already installed another printer using this driver, you are asked if you want to keep the existing driver.

7. To keep driver: select **Keep existing driver** check box, select the **Next** button, and go to [Step 8](#).



If you choose **Replace existing driver**, or if you have not previously installed this driver, you are prompted to insert either the Windows NT CD-ROM or the manufacturer's printer diskette. Do so and select the **Next** button.

8. Select whether you want this printer to be the Windows NT default printer, and select on the **Next** button.
9. Select whether or not you want to share this printer with other computers on the network. If you select **Shared**, you are asked to indicate the operating systems of all the computers that will be sharing this printer. (You may



also be required to insert the operating system media so that Windows NT can extract the necessary driver files.)

10. Select whether to print a test page and select the **Finish** button.
You are now ready to begin using the printer. No reboot is needed.

Changing Printer Port Configuration

If the printer does not successfully print the test page, it may be necessary to change the port baud rate, parity, and so on. If the Ports wizard does not configure the port properly, you may have to use the **mode** command from a DOS prompt. Also check the printer for DIP switches or other hardware configuration options.

Changing Printer Port Assignment

To change the port assigned to a printer, follow these steps:

1. Open the Printers control panel.
2. Right-click on the icon for the printer you want to change.
3. Select the **Properties** option from the shortcut menu. The Properties window appears.
4. Select the **Ports** tab.
***Note:** The Properties window also gives you access to printer test and setup options that can be very helpful when debugging a serial printer installation.*
5. Check the port you want to switch to. Remember to change your cabling accordingly.
***Note:** The **Configure** button on the Ports tab does not recognize Control ports. This is a limitation of Windows NT. If you need to reconfigure the port, use the Ports option on the Control Panel.*
6. Select the **OK** button. Any changes you make take effect immediately. No reboot is needed.

Control Tools

This section discusses the following utilities that are installed with most Control drivers for Microsoft operating systems:

- Test Terminal program (`wcom32.exe`), which can be used to troubleshoot communications on a port-by-port basis ([Using Test Terminal](#) on Page 34).
- Port Monitor program (`portmon.exe`), which checks for errors, modem control, and status signals ([Using Port Monitor](#) on Page 37). In addition, it provides you with raw byte input and output counts.
- Peer Tracer program (`peer.exe`), which traces driver events ([Using Peer Tracer](#) on Page 42).

Using Test Terminal

WCOM32 is a terminal program that enables you to open a port, send characters and commands to the port, and toggle the control signals.

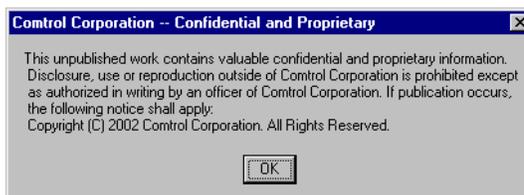
Note: *WCOM32 will not work on ports used by RAS if Remote Access Service is running or any other application is using the port. If you are using RAS, you must stop the service before starting WCOM32 to test RAS COM ports. To test ports that are not used by RAS, you do not need to stop RAS.*

Follow these steps:

1. Start Test Terminal (`wcom32.exe`) from the Control program group for your product.

Product	Operating System	Program Group
RocketModem and RocketPort	Windows 98, Windows NT	Control RocketPort RocketModem Test Terminal
RocketModem and RocketPort	Windows 2000, Windows XP	Control Utilities Wcom32 wcom32.exe
DeviceMaster RTS, RocketPort Serial Hub <i>ia</i> , and RocketPort Serial Hub <i>Si</i>	Windows 98, Windows NT, Windows 2000, Windows XP	Control NS-Link Test Terminal

2. Select the OK button if this screen appears:



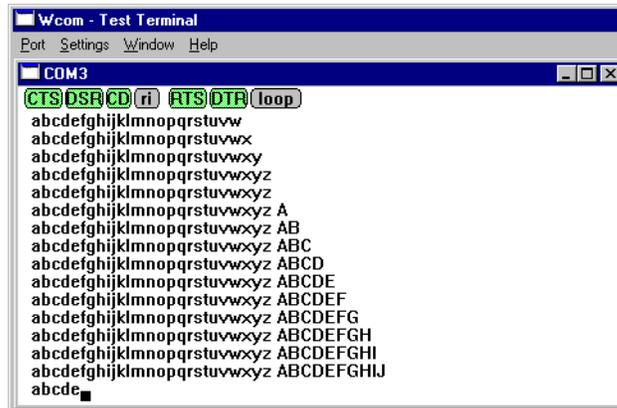
3. From the **Port** menu, select **Open Port**. A list of possible COM port numbers appears.

- Select the COM port you want to test.



If the COM port does not exist or if it is currently being used by another program, a *Create File Error* message appears.

If the COM port is available, a terminal window appears:



Note: Notice the <loop> button in the terminal window. If this option is activated, it is green and uppercase (**LOOP**), the COM port internal loopback feature is activated, and the data is returned by the COM port hardware. If this option is deactivated, it is gray and lowercase (**loop**), the internal loopback is deactivated, and the data is sent out of the COM port.

Testing a Control Device

Use the following procedure to test the Control device.

- Place a loopback plug on the COM port that you are testing. Make sure all connectors are seated firmly and that the loop button is off.

Note: Test terminal works for RS-232 and RS-422 mode.

To build loopback plugs, see the hardware installation document for the Control device.

- From the Port menu, select Send Test Data. The program sends out a repeating data stream.

Note: To stop the data stream, select the Send Test Data option again.

- If the loopback plug is in place and the port is working correctly, the test data should be echoed back to the screen.
- If the loopback plug is **not** in place or the port is not working correctly, no data or garbled data is echoed back to the screen.

Note: If no characters appear, try putting the loopback plug on an adjacent port. It may be that you have the ports mixed up.

- If further testing is required, select **Loopback Test** from the **Port** menu.



If the loopback plug is in place and the port is working correctly, the system should return the message *Passed*.

If the loopback plug is not in place or the port is not working correctly, the system will return the message *Failed*.



Testing a Control Device (RS-485)

Perform the following procedure to determine if a port or ports are functioning properly.

- Connect a straight-through cable from Port 1 to Port 2.

Note: See the hardware installation document for the Control device if you need to build a cable.
If testing ports other than Ports 1 and 2, simply connect the cable between any two ports.

- Open a session for each port.
- Enter data into the Port 1 session. The data should appear in the *Port 2* window.
- Enter data into the Port 2 session. The data should appear in the *Port 1* window.

Note: If the data appears as described in Steps 3 and 4, the hardware is functioning properly.

Test Terminal Modem Control Signals

The terminal window displays the modem control signals as gray or green lights at the top of the window. The first four are inputs: **cts dsr cd ri**

The lights are green if they are turned on, or gray if turned off.

The text on the light also changes from uppercase (CTS), which is on, to lowercase (cts), which is off.

The next two lights are outputs: **ris dir**

Note: If you have a loopback plug connected and you click on one of the outputs, the corresponding signal is sent to the input and the input lights should toggle accordingly.

The right most light is the loop indicator: **loop**

If this is on, the COM port internal loopback feature is activated and any information or code entered in the terminal window loops back through the COM port circuitry. If this is off, the COM port internal loopback is deactivated, and any information or code entered in the terminal window is sent out of the port.

Using Port Monitor

The Port Monitor program (`portmon.exe`) offers a summary of all Control device statistics in one spreadsheet view. It also enables you to verify operation of all Control device ports from a single window.

The Port Monitor display follows the familiar spreadsheet model: each COM port is a horizontal row, and each vertical column displays a variable or value for the respective COM port. For definitions of the abbreviations used, see [Port Monitor Variables](#) on Page 41.

Port Monitor can also produce statistics and reports that can help you verify the operation of the COM ports and connected peripherals. Some immediate feedback includes:

- The state of the modem control and status signals
- Open ports
- Raw byte input and output counts obtained from the device driver
- Port errors

The available statistics include:

- Instantaneous characters per second (CPS) calculations
- Minute, hour, and day CPS averages and peaks
- Carrier detect (CD) signal runtime and transition count

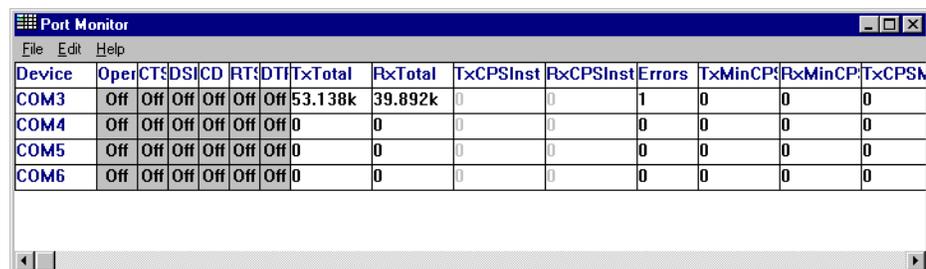
Reports can be automatically generated on an hourly and/or daily basis, and can cover all ports collectively or a separate report for each port. You can also set how often the values are recalculated, fine-tuning thoroughness against system efficiency, and automatically run external batch files to perform additional processing and analysis.

Starting Port Monitor

To run Port Monitor, select Port Monitor (or `Portmon.exe`) from the appropriate Control program group.

Product	Operating System	Program Group
RocketModem and RocketPort	Windows 98, Windows NT	Control RocketPort RocketModem Port Monitor
RocketModem and RocketPort	Windows 2000, Windows XP	Control Utilities Portmon Portmon.exe
DeviceMaster RTS, RocketPort Serial Hub <i>ia</i> , and RocketPort Serial Hub <i>Si</i>	Windows 98, Windows NT, Windows 2000, Windows XP	Control NS-Link Port Monitor

The Port Monitor window appears:



Device	Oper	CTS	DSR	CD	RTS	DTI	TxTotal	RxTotal	TxCPSInst	RxCPSInst	Errors	TxMinCP	RxMinCP	TxCPSk
COM3	Off	Off	Off	Off	Off	Off	53.138k	39.892k	0	0	1	0	0	0
COM4	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0
COM5	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0
COM6	Off	Off	Off	Off	Off	Off	0	0	0	0	0	0	0	0

Note: To change the appearance of the window, see the following discussion.

Once the monitor window appears, Port Monitor is active and collecting data. If any cumulative data has been saved from previous sessions, it is automatically brought in and used.

Port Monitor continues to run and collect data until you terminate it, at which point all accumulated data is automatically saved for use in the next session.

Changing Screen Appearance

While Port Monitor is running, there are a number of commands and controls that change the appearance of the screen.

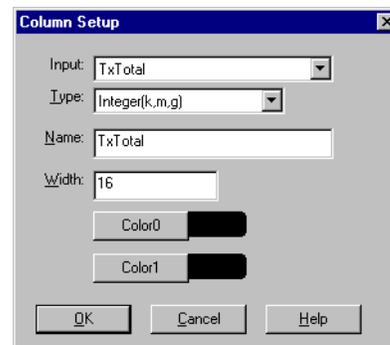
Desired Change	Procedure
Change the monitor window font.	Select Font from the Edit menu.
Change width of a single column.	Click on the column separator (vertical) line and drag it to the desired width.
Change column placement.	Click in the middle of the column you want to move and drag it to the desired location.
Remove a column.	Right-click on the column you want to remove and select Remove from the shortcut menu.
Clear all fields and reset them to null values.	Right-click on the upper left cell in the table and select Reset from the shortcut menu.*
Clear any single field <i>except</i> the upper left cell.	Right-click on the field to be cleared and select Reset from the shortcut menu.*
Add a column.	Right-click on the column now occupying the desired location and select Add from the shortcut menu. You are prompted to name the variable you want to display, as well as other information. (See the following <i>Column Setup</i> discussion.) After you click OK , the column is inserted in the selected location and the existing column is moved to the right.
Change other properties of a column.	Right-click on the column and select Properties from the shortcut menu. (See <i>Column Setup</i> , below.)

* *The Reset command does not clear raw data from the calcs.dat file. It simply resets the selected display fields to their null values. For more information regarding calcs.dat, see page 40.*

Column Setup

When you select **Add** or **Properties** from the column shortcut menu, the Column Setup window appears:

- Use the **Input** droplist to select the variable displayed in the column.
- Use the **Type** droplist to select the way in which the value displays: either as an integer, as an on/off state, as an integer with a kilo, mega, or giga suffix, or as an hh:mm:ss time stamp. This defaults to the appropriate type for the selected Input variable.
- Use the **Name** variable to change the column heading name.
- Use the **Width** variable to specify the column width in characters.
- Use **Color0** to set the column character color when the value is zero.
- Use **Color1** to set the column character color when the value is not zero.
- When you are done, click **OK** to save your changes and return to Port Monitor.



Report Configuration

To configure reports, select **Config** from the **Edit** menu.

The **Single** report options cover all ports and are overwritten each time the reports are generated. The **Multiple** report options generate a separate report for each port, and each report file is appended each time the report is generated.

For **Hour** reports, use the **Single** and **Multiple** droplists to select whether you are generating single or multiple reports, or both. For each report type, select from the following types of data to include:

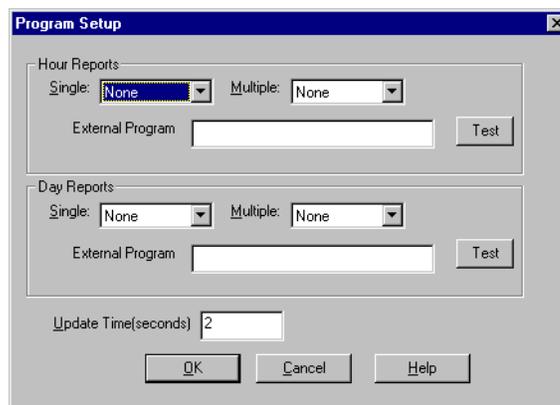
- **None**: no report is generated.
- **Hour Data**: only variables with “Hour” in the name are included.
- **All Data**: all variables are included.
- **View Data**: only variables that appear on-screen are included.

The **External Program** field is used to enter a command line to run another program after the hourly reports have been generated. For example, you can use this to run a batch file that performs custom report processing. The **Test** button causes the command line to be executed immediately.

For **Day** reports, the single and multiple droplists behave the same, but your choices are:

- **None**: no report is generated.
- **Day Data**: only variables with the words “Day” or “Raw” in the names are included.
- **All Data**: all variables are included.
- **View Data**: only the variables that appear in the Port Monitor window are included.

Likewise, the **External Program** field is used to enter a command line to be



executed after the daily reports have been generated.

The **Update Time** option allows you to set the rate at which the port information is obtained and the calculations performed. There is a trade-off between Port Monitor efficiency and response time. If you are using Port Monitor to view the port activity on the screen, you may want to set the update time to 1 or 2 seconds, so that the screen is updated frequently. If you are concerned about the monitor program using CPU resources, set this to a higher value, (6 to 20 seconds) in order to decrease the time required by the program to perform the calculations and update the screen.

If Port Monitor is left active to generate reports, minimizing or reducing the display area of the program will help reduce the CPU overhead of updating the screen.

Port Monitor Files

Port Monitor creates and uses the following files:

- **portmon.view**
- **calcs.dat**

The default column layout is saved in **portmon.view**. If you have been experimenting with the appearance of the monitor screen, you can use the **Save** option from the **File** menu to save your customized layout in another **.view** file. You can retrieve this file later by selecting the **Open** option from the **File** menu, or you can select the **View Default** option from the **Edit** menu to retrieve **portmon.view** and restore the default view.

All Port Monitor calculations are saved at program exit and on the hour in a binary file named **calcs.dat**. This enables you to halt Port Monitor execution without losing accumulated data.

Port Monitor also creates a **\REPORTS** directory. All hourly and daily reports are saved in this directory, under the following names:

- **hall.txt** — hourly single report
- **dall.txt** — daily single report
- **hcomx.txt** — hourly multiple reports, where *x* is the port number
- **dcomx.txt** — daily multiple reports, where *x* is the port number

Caution: *Since multiple reports append new data each time they are written, the multiple report files grow in size. It is up to you to delete them periodically.*

Some safeguards are built into the program to avoid filling up a hard disk drive due to growing report files. The monitoring program stops writing additional data to the multiple reports if they reach a size of 2 MB. Also, the program will not write out data files to the disk drive if the spare room on the drive is less than 2 MB in size.

To view or edit an hourly or daily report, select the **Edit Report** option from the **File** menu, or use a system tool such as Microsoft Notepad.

For more information, see the Port Monitor **Help** file.

Port Monitor Variables

The following table lists Port Monitor variables.

Variable	Description
Open	Open status, on if open, off if closed.
Cts	Input CTS pin status.
Dsr	Input DSR pin status.
Cd	Input CD (carrier detect) pin status.
Rts	Output RTS pin status.
Dtr	Output DTR pin status.
TxTotal	Total bytes transmitted.
RxTotal	Total bytes received.
TxCPSInst	Instantaneous average of transmit characters per second.
RxCPSInst	Instantaneous average of receive characters per second.
Errors	Total hardware receive errors (parity, framing, and overruns.)
TxMinCPS	Last minute average of transmit characters per second.
RxMinCPS	Last minute average of receive characters per second.
TxCPSMinAvMax	Peak TxCPSInst for the last minute.
RxCPSMinAvMax	Peak RxCPSInst for the last minute.
TxCPSHourAvMax	Peak TxMinCPS for the last hour.
RxCPSHourAvMax	Peak RxMinCPS for the last hour.
TxCPSDayAvMax	Peak TxMinCPS for the last day.
RxCPSDayAvMax	Peak RxMinCPS for the last day.
TxTotalRaw	Total number of transmit bytes raw data from the device driver.
RxTotalRaw	Total number of receive bytes raw data from the device driver.
TxMinCnt	Count of transmit bytes sent in last minute.
TxHourCnt	Transmit bytes count sent in the last hour.
TxDayCnt	Transmit bytes count sent in the last day.
RxMinCnt	Receive bytes count sent in the last minute.
RxHourCnt	Receive bytes count sent in the last hour.
RxDayCnt	Receive bytes count sent in the last day.
TxMinCntWrk	Transmit bytes count sent in this minute.
TxHourCntWrk	Transmit bytes count sent in this hour.
TxDayCntWrk	Transmit bytes count sent in this day.
RxMinCntWrk	Receive bytes count sent in this minute.
RxHourCntWrk	Receive bytes count sent in this hour.
RxDayCntWrk	Receive bytes count sent in this day.

Variable	Description
TxCPSMinAvMaxWrk	Peak TxCPSInst for the current minute.
TxCPSHourAvMaxWrk	Peak TxMinCPS for the current hour.
TxCPSDayAvMaxWrk	Peak TxHourCPS for the current day.
RxCPSMinAvMaxWrk	Peak RxCPSInst for the current minute.
RxCPSHourAvMaxWrk	Peak RxMinCPS for the current hour.
RxCPSDayAvMaxWrk	Peak RxHourCPS for the current day.
CDRuns	Carrier detect turn-on count.
CDDayRuns	Carrier detect turn-on count in the last day.
CDDayRunsWrk	Carrier detect turn-on count in the current day.
CDRunTime	Time in seconds carrier detect has been on.
CDHourRunTime	Time in seconds carrier detect has been on in the last hour.
CDDayRunTime	Time in seconds carrier detect has been on in the last day.
CDHourRunTimeWrk	Time in seconds carrier detect has been on this hour.
CDDayRunTimeWrk	Time in seconds carrier detect has been on this day.
StatusFlags	Bit flags, Open, CTS, DSR, CD, RTS, DTR
TxPkts	Raw count of total transmit packets sent.
RxPkts	Raw count of total receive packets sent.
OverrunErrors	Total count of receive overrun errors.
FramingErrors	Total count of receive framing errors.
ParityErrors	Total count of receive parity errors.
OverrunErrorsRaw	Total count of receive overrun errors, from the device driver.
FramingErrorsRaw	Total count of receive framing errors, from the device driver.
ParityErrorsRaw	Total count of receive parity errors, from the device driver.

Using Peer Tracer

The Peer Tracer program (`peer.exe`) is specifically designed to view the internal operations of the device driver for the purpose of troubleshooting communications on Windows NT, Windows 2000, and Windows XP systems. Peer enables you to see:

- Receive and transmit data
- Internal driver event traces
- Advanced configuration and status information

Like Test Terminal, Peer acts as a simple terminal session, and is used to send and receive text information to and from the device driver. To use Peer, you type in commands, and status and information are sent back.

Unlike Test Terminal, Peer enables you to keep a continuous log of the commands sent and the results received in a file named `peer.log`. Control Technical Support may ask you to run Peer in order to help diagnose reported problems.

Starting Peer

Peer Tracer does not appear in most Control program groups and you may need to start the application from the Windows Explorer. Use the table below to determine whether you can start Peer from a program group or where to locate the executable.

Product	Operating System	Starting Peer
DeviceMaster RTS, RocketPort Serial Hub <i>ia</i> , RocketPort Serial Hub <i>Si</i>	Windows NT, Windows 2000, Windows XP	\\WINNT\system32\rpshSi\peer.exe
RocketModem and RocketPort	Windows NT	\\WINNT\system32\rocket\Peer.exe
RocketModem and RocketPort	Windows 2000, Windows XP	Control Utilities peer.exe

To start Peer, you may need to open the Windows Explorer, access a specific directory, and double-click on peer.exe or start peer using the Control Utilities program group. The Peer Tracer window displays (at right).

**Log Functions**

All logging functions are found under the **File** menu. To start keeping a log, select **Log to Disk** from the File menu. The other options on this menu are View Disk Log, Clear Disk Log, Clear Screen, and Exit.

Using Peer

To use peer, simply type in commands at the **: prompt**. (It may be necessary to press Enter to make the **: prompt** appear.) For example, to examine COM5, type: **PORT COM5 <Enter>**

To gather some information about the port, type: **STAT <Enter>**. This should return details about the port.

To turn on monitoring of any calls into driver (events), type: **MON EV <Enter>**

To send strings and commands to attached peripherals—for example, to send “ATH0” to a modem—type: **SEND ATH0 <Enter>**. A return and line feed are always appended to each string sent.

Other Peer Commands

Enter commands at the **: prompt** and follow each command with Enter.

Command	Effect
MON TX	Monitor data being transmitted through the selected port.
MON RX	Monitor data being received through the selected port.
M	Turn off all monitoring.
?	Display Peer Tracer command summary.
PORT COM xx	Change port being examined to COM xx .

Keep in mind that all commands are processed in the device driver, and that Peer simply acts as a conduit for this information.

For more information, see the Peer.hlp help file.

Troubleshooting and Technical Support

This section contains troubleshooting information for your Control device. You should review the following subsections before calling Technical Support because they will request that you perform many of the procedures or verifications before they will be able to help you diagnose the problem.

Troubleshooting

If you are having trouble with a RocketPort or RocketModem, try the following.

Note: Most customer problems reported to [Technical Support](#) are traced to cabling or network problems.

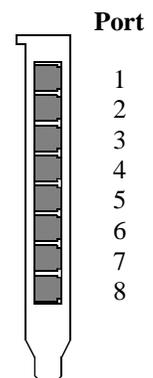
1. Follow the instructions in the *Hardware Installation* document to run the Diagnostic and verify that the hardware is working correctly, independently of the driver and operating system.
2. Make sure the adapter is seated firmly in the expansion slot and that the expansion slot screw is in place. Also, try moving the adapter to another slot, if one of the correct bus type is available, and rerunning the Diagnostic.

Note: If the board fails to pass the Diagnostic, stop now and contact Control Technical Support. All of the following steps assume that the board is functional and that the problem is either a configuration or connection issue.

3. Verify that you are using the correct types of cables in the correct places and that all cables are tightly connected.
4. If you have an ISA adapter, make sure that you set the I/O DIP switch correctly.
5. Enable the **Verbose Event Log** feature under the Setup Options tab and then reboot the server.
6. Verify that you are addressing the port correctly. In many applications, device names above COM9 require the prefix `\\.\` to be recognized. For example, to reference COM20, use `\\.\COM20` as the file or port name.
7. Verify that you have obtained and installed all Microsoft service packs for your operating system.
8. Verify that you have obtained and installed the latest Control driver for your adapter and operating system. Current versions of all Control drivers can be downloaded at no charge from the [Control ftp/web sites](#).
9. Verify that you are using the correct ports. The RocketPort 8J mounting bracket and port numbering scheme are shown in the illustration at right. The port on the “top” edge of the card is Port 1, and the port at the “bottom” edge of the card, nearest the bus connector, is Port 8.

RocketPort and RocketModem products use a variety of mounting brackets, and in some cases unused ports may be blocked with dummy plugs, but in *all* cases, the port or modem at the “top” edge of the adapter is Port or Modem 1.

10. If you are using ISA-bus adapters, verify that the DIP switches on the adapters are set as described in the hardware installation instructions and the base I/O addresses in the Device Setup window are set as described under *Changing or Viewing Adapter Configuration*.



11. If you are using a PCI-bus adapter, check the Summary in the Device Setup window to verify that the correct bus type was selected during installation.
12. Use the *Main Setup Options* to reset the Scan Rate to 10 ms.
13. Remove the driver and reinstall it, using a different I/O address (ISA-bus adapters only).
14. If your RocketModem model supports the reset function, use the **Reset** function (page 21) to reset the modem to its default (power-on) state.
15. Use the [Test Terminal](#) program (wcom32.exe) to troubleshoot communications on a port-by-port basis.
16. Use the [Port Monitor](#) program (portmon.exe) to check for errors, modem control, and status signals. In addition, it provides you with raw byte input and output counts.

Device Driver and OS Capabilities and Limitations

This device driver supports the Win32 API. The following tables list known device driver and operating system capabilities and limits. This information is not relevant to ordinary users, but is important to software developers.

Note: In Windows NT, device names above COM9 require the \\.\ prefix in order to be recognized by the system. For example, to reference COM20, use \\.\COM20 as the file name.

Device Control Block Settings	Status
BaudRate	Variable depending on RocketPort or RocketModem model installed
ByteSize	7 or 8
ErrorChar	Supported
EofChar	Not supported, supports only binary
EvtChar	Supported
fAbortOnError	Supported
fBinary	Always binary mode
fDtrControl	Supported
fDsrSensitivity	Not supported
fErrorChar	Supported
fInX, fOutX	Supported
fNull	Supported
fParity	Supported
fOutxCtsFlow	Supported
fRtsControl	RTS_CONTROL_DISABLE, RTS_CONTROL_ENABLE, RTS_CONTROL_HANDSHAKE, RTS_CONTROL_TOGGLE
fTXContinueOnXoff	Supported as always TRUE
Parity	EVENPARITY, NOPARITY, or ODDPARITY
StopBits	ONESTOPBIT or TWOSTOPBITS

Device Control Block Settings	Status
XonChar, XoffChar	Supported

Unsupported IOCTL Functionality	Status
IOCTL_SERIAL_XOFF_COUNTER	Not supported
IOCTL_SERIAL_SET_HANDFLOW (unsupported options)	SERIAL_DSR_HANDSHAKE, SERIAL_DCD_HANDSHAKE, SERIAL_DSR_SENSITIVITY
IOCTL_SERIAL_GET_COMMSTATUS (unsupported options)	fDsrHold, fRlsdHold

Before calling Technical Support

Control has a staff of support technicians available to help you.

You should review *Troubleshooting* and run through the diagnostics before calling Technical Support. In addition, the web site has [On-Line Technical Support](#) available. If you call for Technical Support, please have the following information available.

Item	Information
Hardware Type	
Hardware Serial Number*	
Operating system type	
Driver part number and revision level of Rocket.sys	
Server computer make, model, and speed	
Other serial port adapters installed in the server and their COM port numbers	
Devices connected to the board	

Technical Support

If you need technical support, contact Control using one of the following methods.

Contact Method	Corporate Headquarters	Control Europe
FAQ/Online	http://support.control.com/support.asp	
Downloads	http://support.control.com/download.asp	
Email	support@control.com	support@control.co.uk
Web site	http://www.control.com	http://www.control.co.uk
Fax	(763) 494-4199	+44 (0) 1 869-323-211
Phone	(763) 494-4100	+44 (0) 1 869-323-220

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