RocketPort and RocketModem Series Driver Installation

Windows 2000 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 2000 operating system. The RocketPort or RocketModem requires at least one host system running Windows® 2000.

Note: *This driver supports only one ISA adapter.*

Locating Current Drivers

An upgraded driver may be available from the following:

- Downloaded from the Comtrol ftp/web site.
- Contained on Comtrol media shipped with the product.

Unzip the file into a new subdirectory, for example: **\Comtrol**.

Always check the web or ftp sites to make sure that you have the current driver and documentation.

Driver Features

This driver has the following features:

- Can be installed on multiple systems.
- Supports up to 128 RocketPort or RocketModem ports per system.

  Note: *The critical limit is the number of ports your system can support. In most applications, this is defined by the number of RAS port supported, which is typically 256 ports per primary system.*
- Allows you to inter-mix RocketPort and RocketModem ports.

Locating Hardware Installation Documentation

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

Upgrading Your Operating System to Win2000

If you are upgrading from another operating system, follow these steps:

Note: *Do **not** use the Update Driver feature in the Device Manager to upgrade the driver.*

1. Before upgrading the operating system, remove the driver from the Windows 95/98 or Windows NT operating system. See the *Removing or Disabling the Adapter* discussion.
2. Turn off the system, remove the boards, and set them aside.
3. Upgrade your system to Windows 2000.
4. Install the adapters and turn on the system.

   Note: *If you need information about re-installing adapters, see the* Hardware Installation *documentation.*
5. Use the *Installing the Driver* and Removing or Disabling the Adapter discussions to set up the new driver.

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 or Disabling the Adapter

Adapters cannot be removed through the **Main Setup** window. Use the following procedure to remove adapters:

1. On the Windows desktop, right-click on the **My Computer** icon and select **Manage**.
2. Double-click on the **Device Manager**.
3. Open the **Multi-port serial adapters** entry (select the **[+]** button to expand the list).
4. Right-click on the adapter you want to disable or uninstall.
5. Select on one of the following:
   - **Disable** to disable the device in the current hardware profile but not remove it. To update the driver from the ftp/web site, you must first **Disable** the driver and then use the Device Manager to **Update** the driver.
   - **Uninstall** to completely remove the adapter.
   - **Properties** to display the Device Properties window.

   Note: *If you prefer, you can disable or enable the adapter by changing the* ***Device Usage*** *field on the Device Properties window, General tab.*
6. Exit the Device Manager window and resume normal operations.

Installing the Driver

Adapters cannot be added through the Device Manager or Main Setup window.

PCI Adapters

The computer's Plug and Play feature should recognize the PCI adapters, which should automatically launch the Found New Hardware Wizard. If Windows 2000 does not recognize your PCI adapter, or if you have installed an ISA-bus, follow the procedure below.

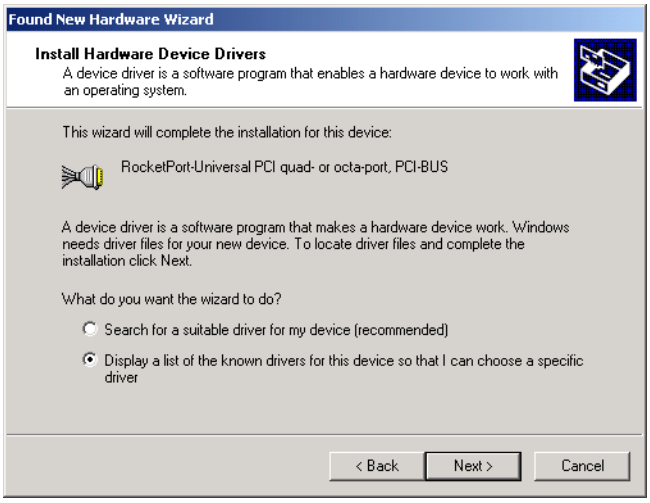
To install the driver for a PCI adapter, first install the adapter using the hardware installation documentation. The system should automatically install the driver. You may need to configure device or port properties.

If you want to upgrade to the latest driver from the ftp site, upgrade the driver before configuring the device or port properties.

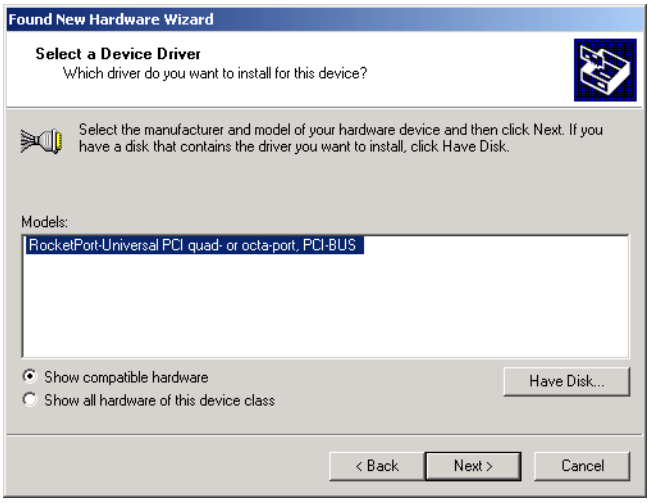
If the operating system finds the adapter but not the driver, use the following procedure:

1. The Found New Hardware Wizard starts.

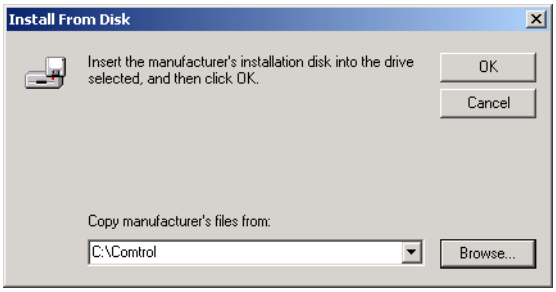
2. If you have not copied the most recent version of the driver on to the hard drive, do it now.
3. Select the **Next** button
4. Select the **Display a list of the known drivers for this device so that I can choose a specific driver** option. Select the **Next** button.



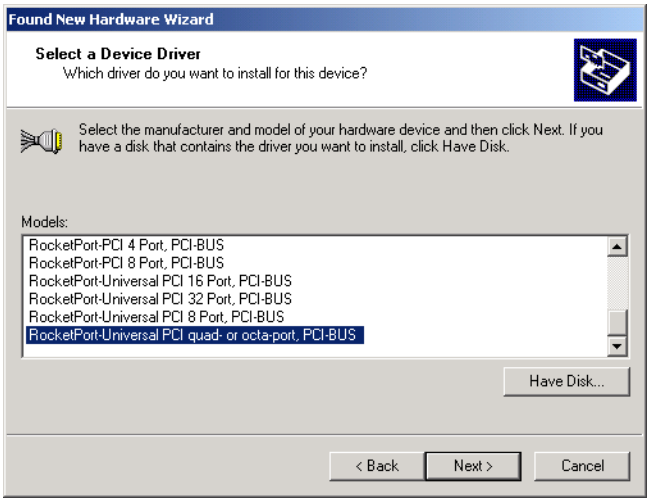
5. Select the desired adapter from the Models list. Select the **Have Disk** button.



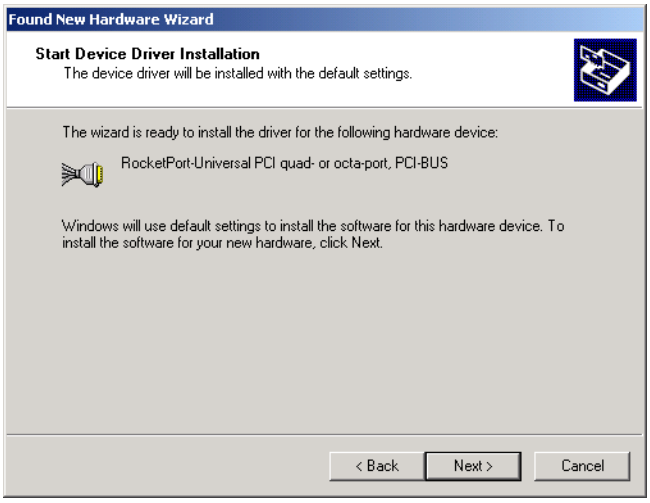
6. Select the Browse button to display the Open window. Go to the directory where the driver files are located and select the **OK** button.
7. The **Install from Disk** page reappears. Select the **OK** button.



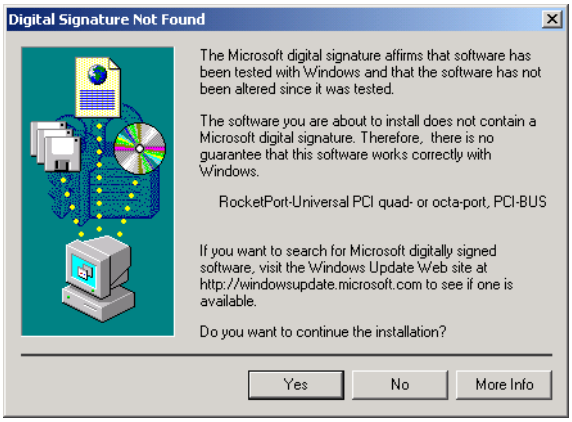
8. The Select a Device Driver page reappears. Confirm that the desired adapter is selected, and select the **Next** button.



9. Select the **Next** button to start the installation process.

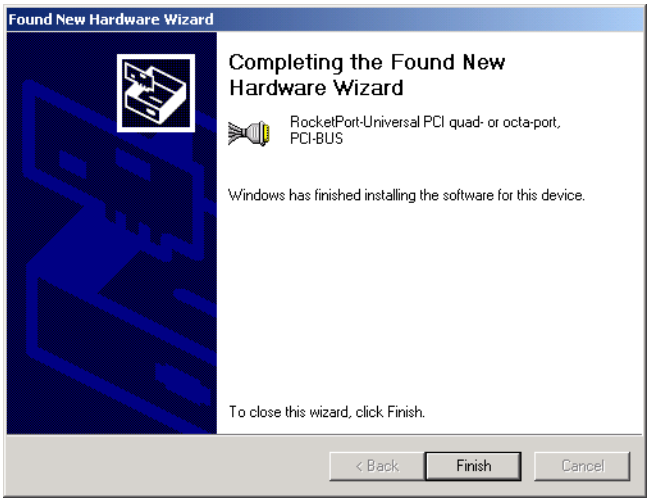


10. If the procedure displays the Digital Signature Not Found dialog box, select the **Yes** button to complete the driver installation.



11. Select the **Finish** button.The new driver is now installed and the system starts to configure the COM Ports.

Note: *You may have to shut down and restart your system before the changes take effect.*



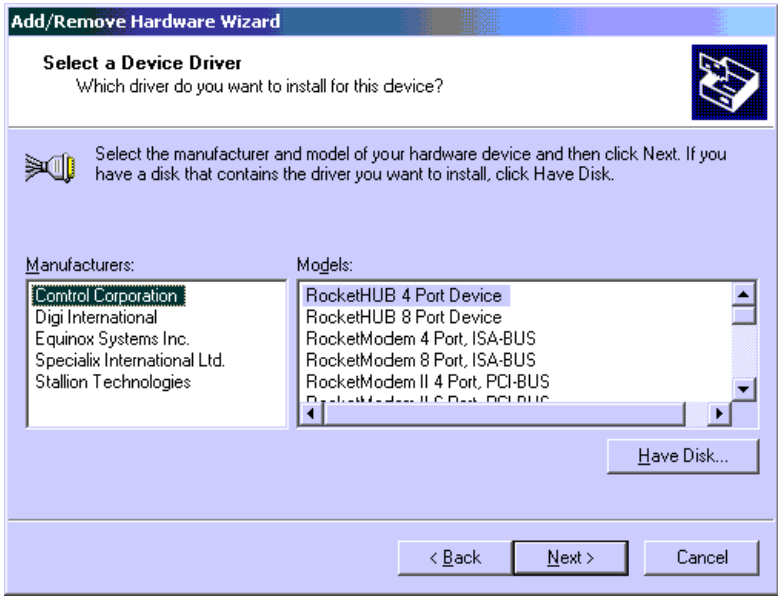
ISA Adapters

Before installing the driver, you should install the hardware and restart the system. To install the driver, use the **Add/Remove Hardware** wizard.

Note: *This driver only supports one ISA adapter. If installing an ISA board, you must set the I/O DIP switch and you may need to change the software setting. See Setting I/O Addresses and DIP Switches (ISA Only), if necessary.*

1. On the Windows desktop, right-click the **My Computer** icon.
2. Select the **Properties** button.
3. Select the **Hardware** tab.
4. Select the **Hardware Wizard** button.
5. Select the **Next** button when the *Add/Remove Hardware* wizard appears.
6. Select the **Add/Troubleshoot a device** option and the **Next** button.
7. Select the **Add a new device** option and the **Next** button.
8. Select the **No, I want to select the hardware from a list** option and the **Next** button.
9. Highlight **Multi-port serial adapters** when asked to choose the type of hardware to install and the **Next** button.

   Note: *All Comtrol products are considered multi-port serial adapters.*
10. Select **Comtrol Corporation** as the manufacturer, the **appropriate Comtrol product** you wish to install, and the **Next** button.



11. Select the **Next** button at the Start Hardware Installation screen.

    Note: *It may take up to several minutes for Windows 2000 to load the driver.*
12. Select the **Finish** button to complete the driver installation process.

    Note: *You may have to shut down and restart your system before the changes take effect.*

After you complete driver installation, additional steps may be necessary to configure the ports through the Main Setup tab.

Setting I/O Addresses and DIP Switches (ISA Only)

This discussion concerns ISA adapters only. This driver supports only one ISA adapter. When you install an ISA adapter, you must set the base I/O address in two places

- In the driver software
- On the adapter itself, using a block of DIP switches.

Software I/O Address

During installation, the software base I/O address is set to default values by the Add/Remove Hardware Wizard.

After you finish the software installation, you can use the Device Properties Resources tab to view or change the Input/Output Range resource setting. If the default values prove incorrect:

1. Select the Input/Output Range from the Resource Type list.
2. Select the **Change Setting** button.
3. You may need to choose a hardware configuration from the **Setting Based On** drop-down list box to activate the Edit Input/Output Range widow.

Note: *The I/O range setting is based on your hardware configuration setting. You can have multiple hardware configuration settings, and this control may be locked in some configurations.*

Hardware I/O Address

The hardware base I/O address is set using a block of DIP switches on the adapter circuit board. See your Hardware Installation documentation for instructions on how to set the DIP switches.

The software and hardware I/O address settings must match each other. For example, if you set the DIP switches to 180 (hex), you must select 180 (hex) in the software.

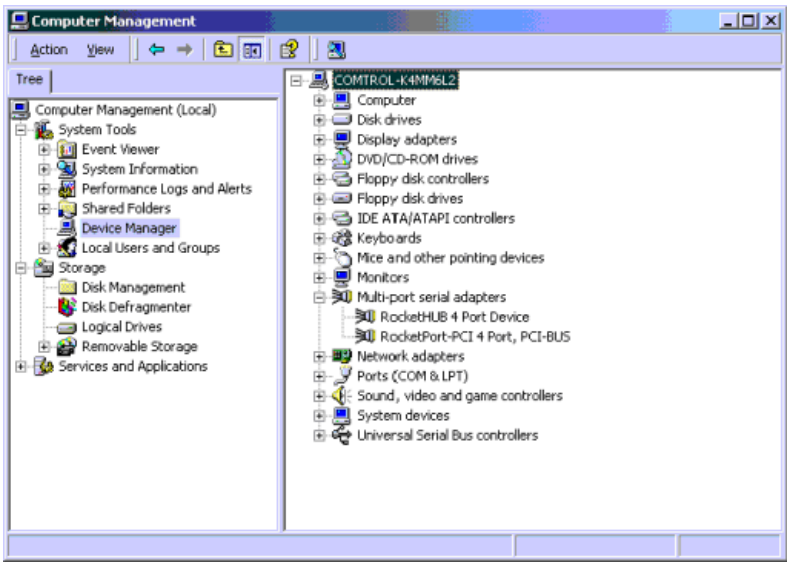
Upgrading the Driver

Use this procedure if you want to upgrade the driver in the Windows 2000 operating system.

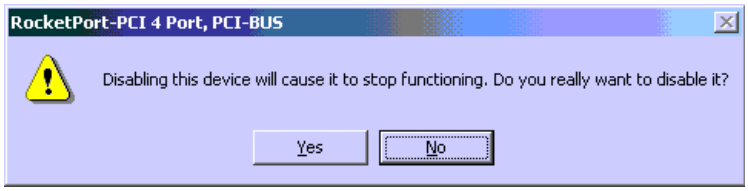
Use the following procedure to install a new driver:

1. Unzip the file into a new subdirectory, for example: **\Comtrol**.
2. On the Windows desktop, right-click on the **My Computer** icon and select **Manage**.
3. Select the **Device Manager**.
4. Open the **Multi-port serial adapters** item.
5. Right-click the device entry for which you want to update the driver, and select the **Disable** option.

   Note: *All Comtrol products are considered multi-port serial adapters.*

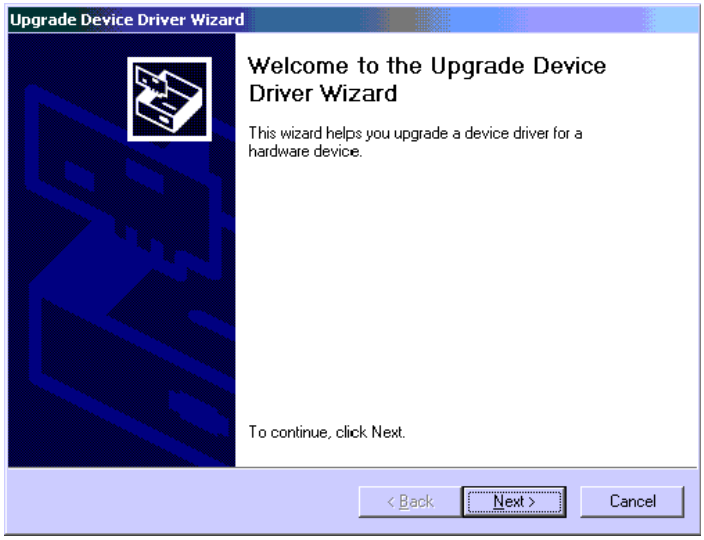


6. Select **Yes** when the following dialog box appears:

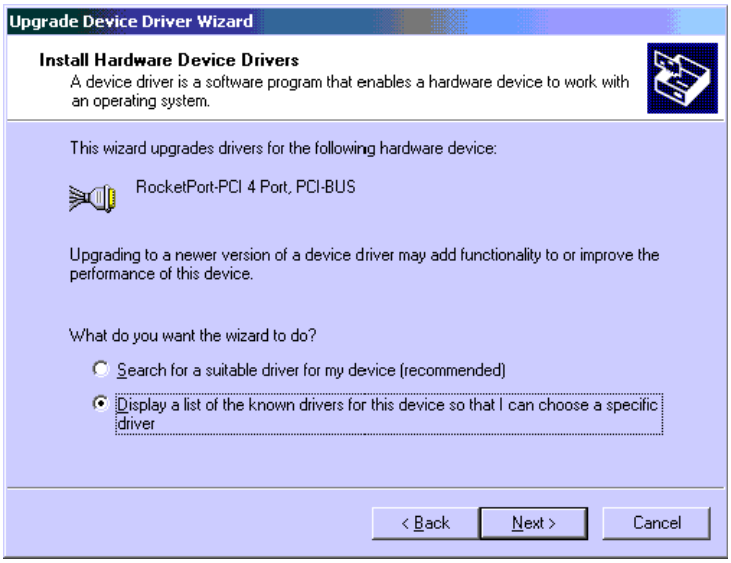


7. Double-click on the disabled device, and select the **Driver** tab.
8. Select the **Update Driver** button.

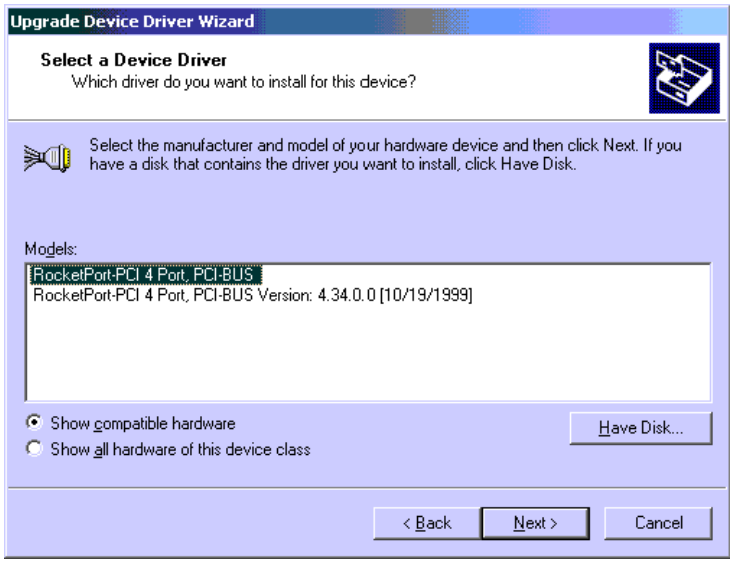
9. Select the **Next** button to start the Upgrade Driver Wizard.



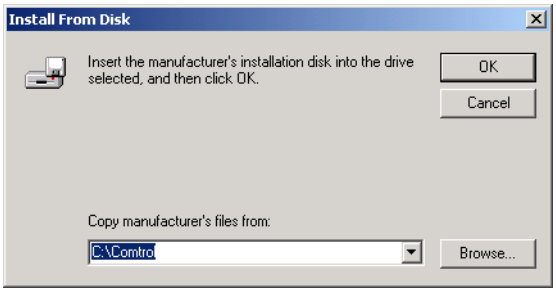
10. Select the **Display a list of the known drivers for this device so that I can choose a specific driver** option and the **Next** button.



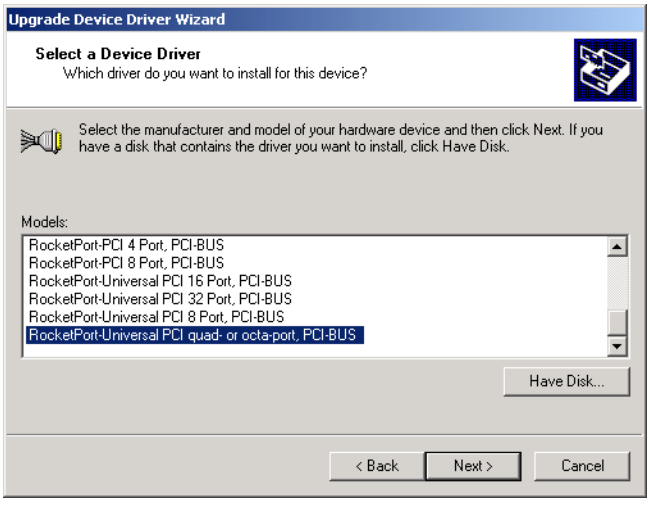
11. Select the **Have Disk** button.



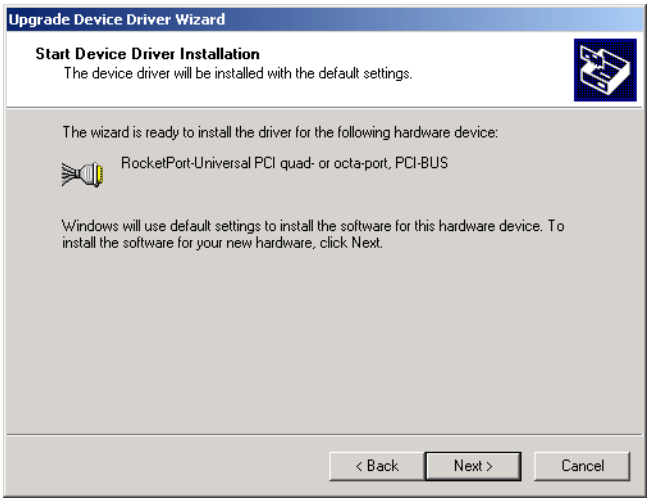
12. Browse to the location of the driver file that you extracted, and then select the **Open** button.
13. Select the **OK** button.



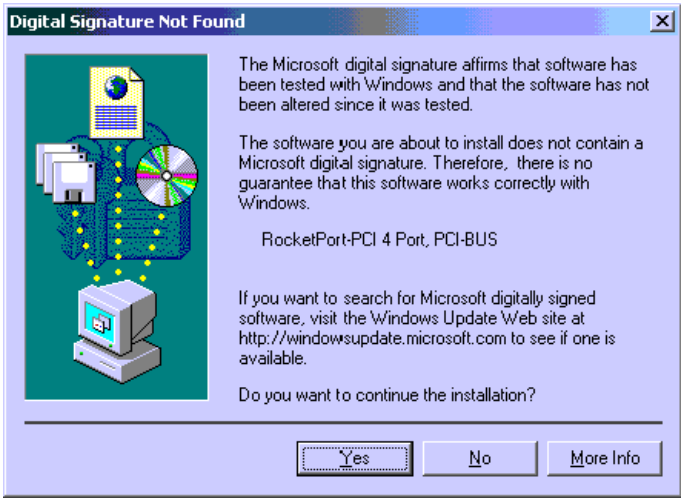
14. Highlight the device and select the **Next** button.



15. Select the **Next** button.

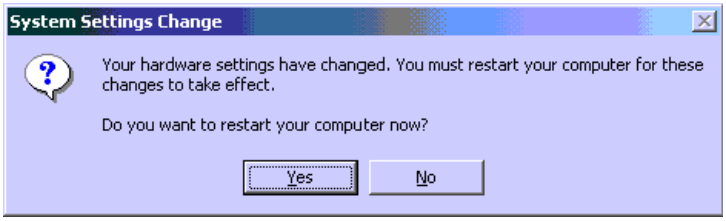


16. Select **Yes** at the Digital Signature Not Found dialog box.



17. Select the **Finish** button to complete the driver installation process.

18. Select the **Close** button when you return to the Properties window.
19. Select **Yes** to restart your system.

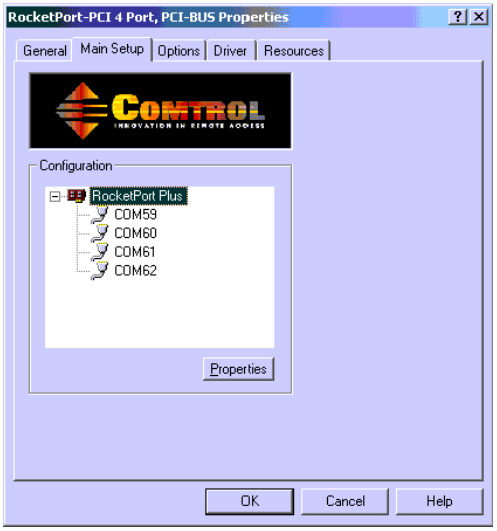


20. After you restart the computer, return to the Device Manager, and select the **Enable** option for the adapter.

After you complete the driver installation, additional steps may be necessary to configure the ports using the Main Setup tab.

Accessing the Main Setup Tab

1. On the Windows desktop, right-click the **My Computer** icon and select **Manage** from the short-cut menu.
2. Select the **Device Manager** entry.
3. Select the [+] button for the adapter under Multi-port serial adapters to expand the view.
4. Right-click the adapter that you want to access and select **Properties** from the short-cut menu.
5. Select the **Main Setup** tab.



Note: *For information on using port options, use the context-sensitive help in the Main Setup or Options tabs.*

Changing Device Properties

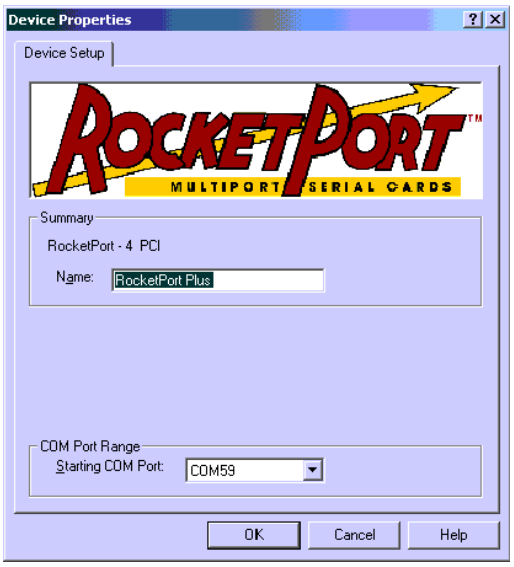
You can change the following device properties:

- Device name
- Starting COM port number.

In addition, you can configure primary and back up systems and establish a time out period.

To change device properties, follow this procedure to access the Device Setup tab:

1. Access the Main Setup tab.
2. Highlight the device name and select the **Properties** button.

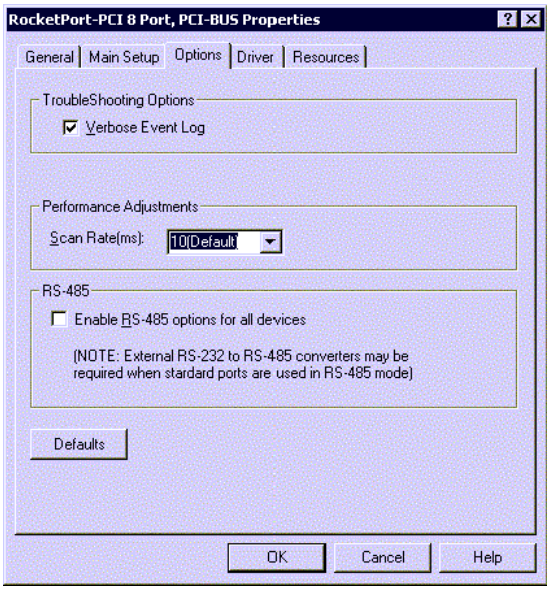


3. After making your changes, select the **OK** button and follow any other driver prompts.

   Note: *Select the **Help** button if you need detailed information about procedures or use context-sensitive help for any field.*

Configuring Device Properties

You can optionally configure the following Device Properties:



- Verbose event log for diagnostic purposes.
- Scan rate to adjust latency for timing-critical applications.
- Enable RS-485 mode.

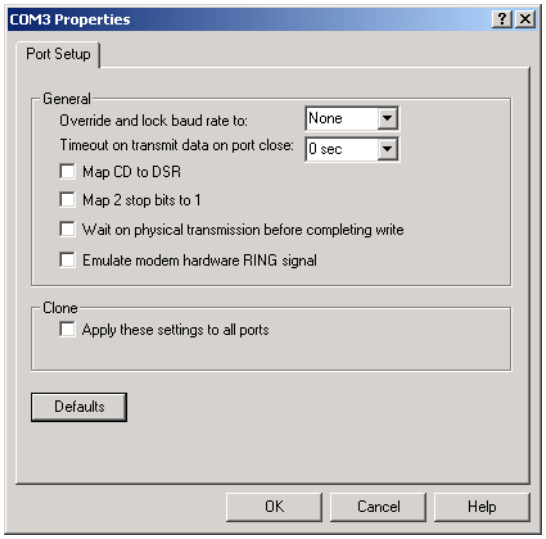
To set the previous options, use the following procedure:

1. Access the Main Setup tab.
2. Select the **Options** tab.
3. Enable the features you want to use.
4. If you enable the RS-485 feature, an RS485 tab appears behind the Port Setup tab that you may need to configure.

   Note: *Select the **Help** button if you need detailed information about procedures or use context-sensitive help for any field.*

Configuring Port Properties

You can also configure specific port properties for this adapter:



- Override and lock baud rate to ...
- Timeout on transmit data on port close
- Map CD to DSR
- Map 2 stop bits to 1
- Wait on physical transmission before completing write
- Emulate modem hardware RING signal
- Clone all Comtrol ports for this system

Use the following procedure to access the Port Properties tab:

1. Access the Main Setup tab.
2. Highlight the port you want to configure and select the **Properties** button.
3. Enable the features you want to use and select the **OK** button. To configure all ports on the *adapter* with the same features, select the **Clone** check box.

   Note: *Select the **Help** button if you need detailed information about procedures or use context-sensitive help for any field.*

Adding Additional Adapters

Install the adapter and configure the ports.

Note: *This driver supports only one ISA adapter.*

Configuring Modems Overview

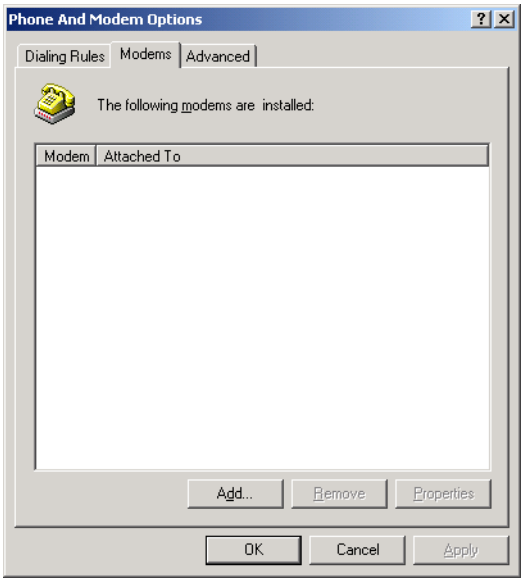
After installing the hardware and driver for Windows 2000, you can use this discussion to configure modem COM ports.

Installing Modems

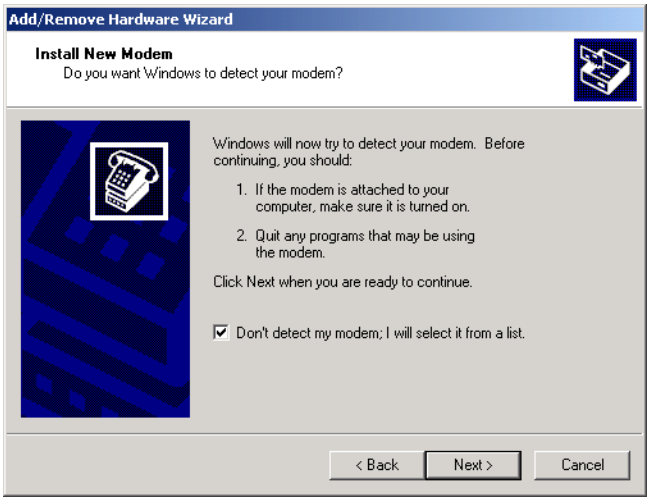
The following instructions were developed using Comtrol modem products. If you are using another brand of modem, note that some prompts and screen descriptions may differ from those shown.

Follow these steps:

1. Connect the modem to the desired port.
2. Turn on the modem.
3. Open the Control Panel window and double-click the Phone and Modem Options icon. Select the **Add** button. The Add/Remove Hardware Wizard starts.

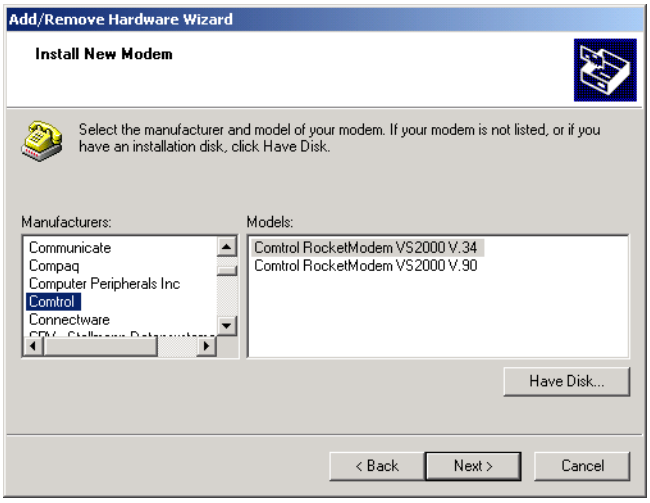


4. Select the **Don't detect my modem; I will select it from a list** check box, and select the **Next** button.

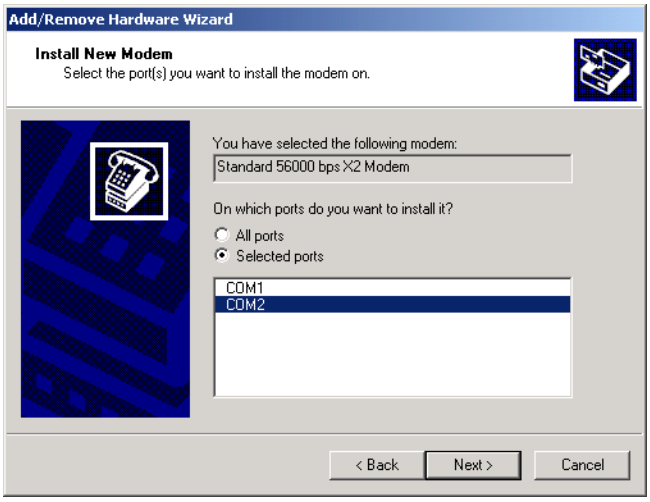


Note: *While Windows 2000 can automatically detect modems, we advise against using this option as auto-detect feature may cause some multiprocessor systems to lock up.*

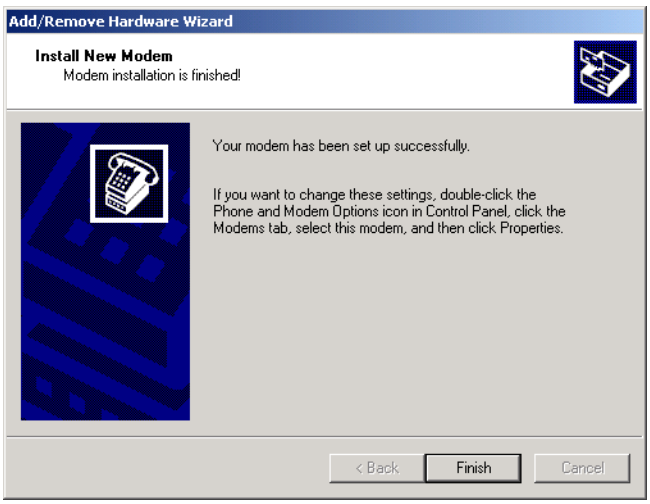
5. Select the appropriate manufacturer and model, and select the **OK** button. If the correct manufacturer and model do not appear on the list, select the **Have Disk** button to install software from a manufacturer-supplied installation diskette.



6. Select the port you to which you want to install the modem. Select the **Next** button

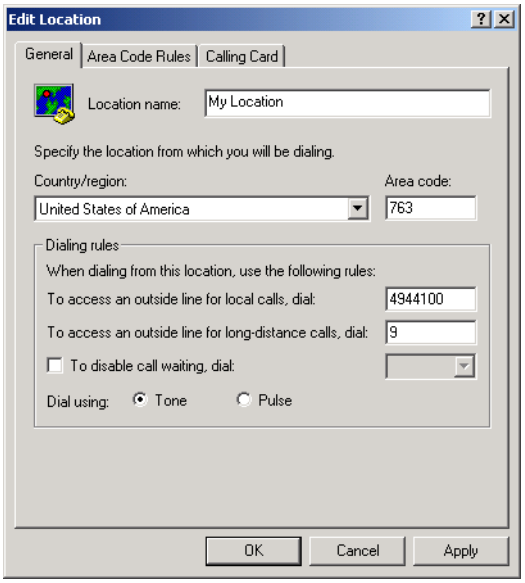


7. Select the **Finish** button. The modem software is installed on the selected ports.



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

8. If you need to configure dialing properties (country, area code, calling card number, and so on), select the **Dialing Rules** tab, make the needed changes, then select the **OK** button.



9. When the Phone and Modem Options window reappears, select the **Close** button.

Comtrol Tools

This section discusses the following utilities that are installed with most Comtrol 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 27).
- Port Monitor program (**portmon.exe**), which checks for errors, modem control, and status signals (Using Port Monitor on Page 30). 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 35).

Note: *If you are using a device driver for the Windows 2000 or Windows XP operating system, you may need to download and install these utilities.*

Installing the Utilities (Windows 2000 and Windows XP)

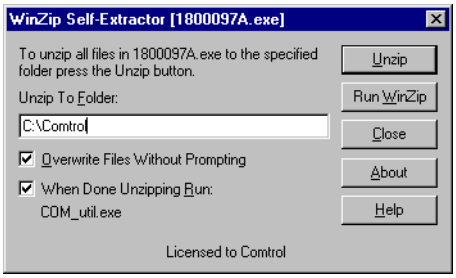
You can download the latest Comtrol Utility package from ftp://ftp.comtrol.com/Utilities/ or locate the Utilities directory at the root of your Comtrol CD.

Use the following procedure to install the Comtrol Utilities:

1. Run the self-extracting utility file. You can optionally change the path that you want to extract the files.

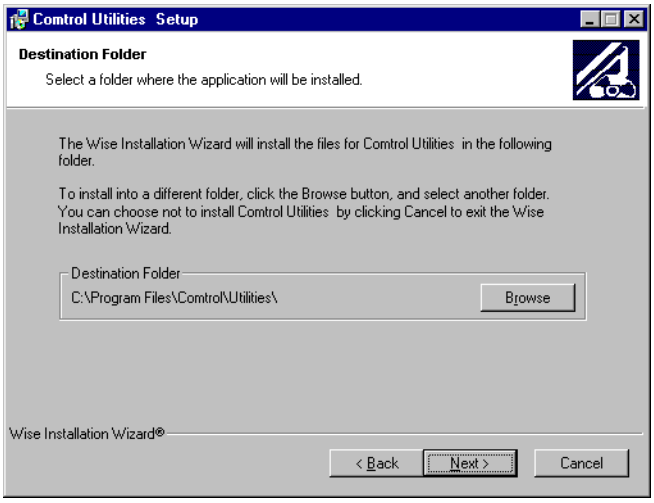
   Note: *Allow WinZip to run the COM_util.exe file to start the Utilities installation.*

   The file name may be different than the illustration.

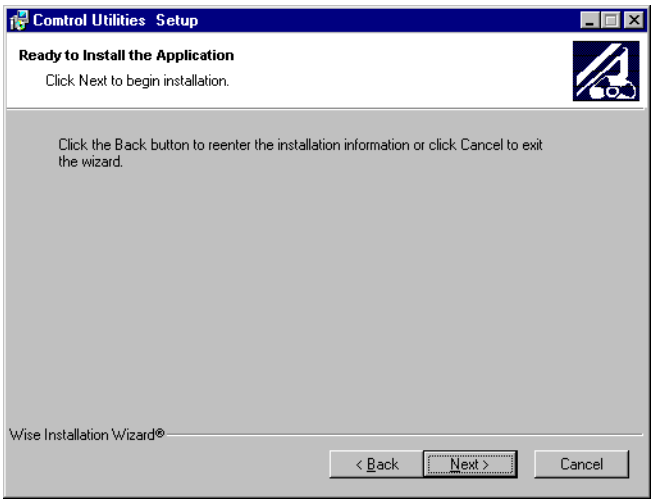


2. Select the **Next** button to begin the Comtrol Utilities installation.

3. Select the **Next** button to install the Utilities in the default subdirectory.



4. Select the **Next** button to begin the installation.



5. Select the **Finish** button to complete the Utilities installation.

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.

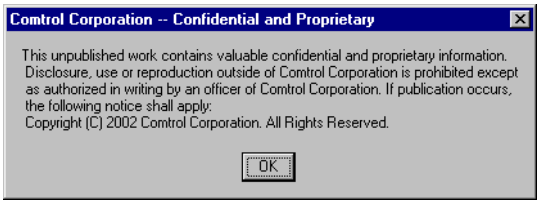
Note: *WCOM32 will* ***not*** *work on ports used by RAS* ***if Remote Access Service is running*** *or any other application is using the port. If you are using RAS, you must stop the service before starting WCOM32 to test RAS COM ports. To test ports that are not used by RAS, you do not need to stop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

Follow these steps:

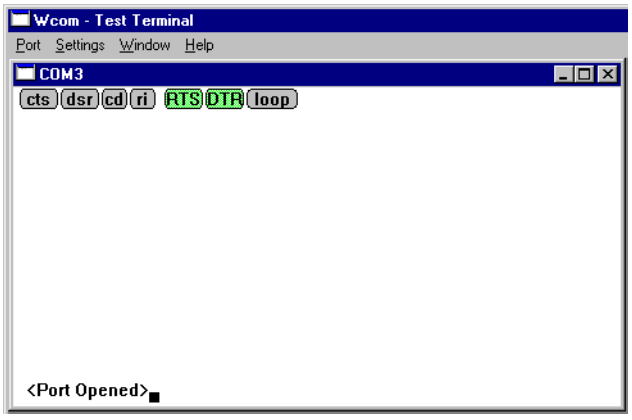
1. Start **Test Terminal (wcom32.exe)** from the Comtrol program group for your product.

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

2. Select the **OK** button if this screen appears:

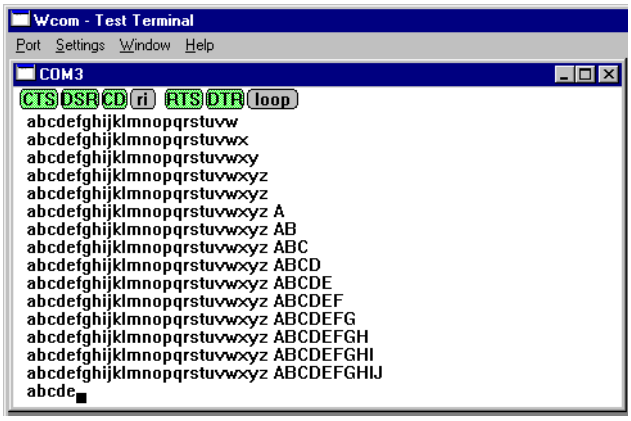


3. From the **Port** menu, select **Open Port**. A list of possible COM port numbers displays.
4. Select the COM port you want to test.



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

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 Comtrol Device

Use the following procedure to test the Comtrol device.

1. 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 Comtrol device.

2. 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.*

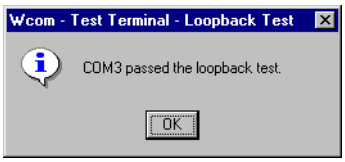
   - If the loopback plug is in place and the port is working correctly, the test data should be echoed back to the screen.
   - If the loopback plug is **not** in place or the port is not working correctly, no data or garbled data is echoed back to the screen.

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

3. 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 Comtrol Device (RS-485)

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

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

   Note: *See the hardware installation document for the Comtrol 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.

2. Open a session for each port.
3. Enter data into the Port 1 session. The data should appear in the *Port 2* window.
4. 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:

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:

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:

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 Comtrol device statistics in one spreadsheet view. It also enables you to verify operation of all Comtrol 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 33.

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

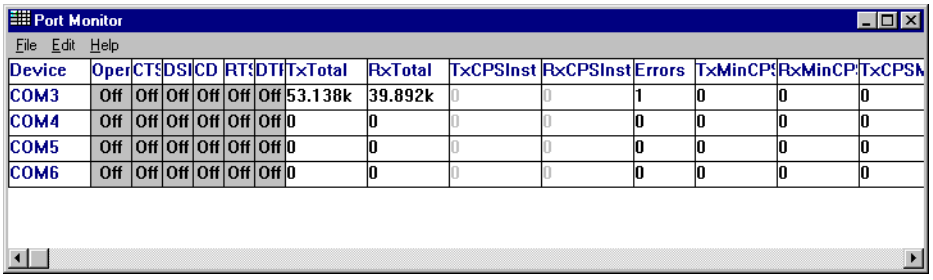
Reports can be automatically generated on an hourly and/or daily basis, and can cover all ports collectively or a separate report for each port. You can also set how often the values are recalculated, fine-tuning thoroughness against system efficiency, and automatically run external batch files to perform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

Starting Port Monitor

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

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

The Port Monitor window appears:



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

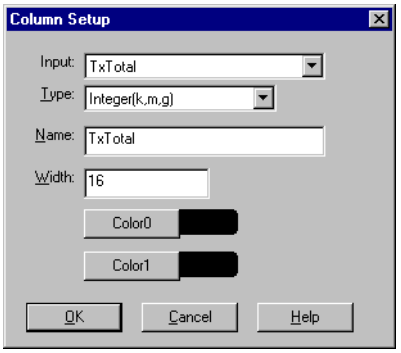
While Port Monitor is running, there are a number of commands and controls that change the appearance of the screen.

Desired Change	Procedure
Change the monitor window font.	Select **Font** from the **Edit** menu.
Change width of a single column.	Left-click on the column separator (vertical) line and drag it to the desired width.
Change column placement.	Left-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 pop-up 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 pop-up menu.*
Clear any single field *except* the upper left cell.	Right-click on the field to be cleared and select **Reset** from the pop-up menu.*
Add a column.	Right-click on the column now occupying the desired location and select **Add** from the pop-up menu. You are prompted to name the variable you want to display, as well as other information. (See the following *Column Setup* 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 pop-up menu. (See *Column Setup*, 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 33.*

Column Setup

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

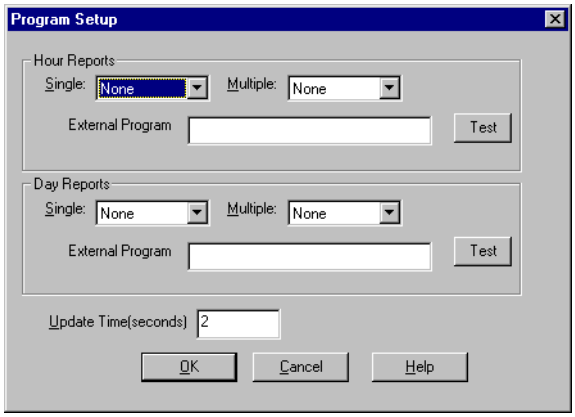


- Use the **Input** droplist to select the variable displayed in the column.
- Use the **Type** droplist to select the way in which the value displays: either as an integer, as an on/off state, as an integer with a kilo, mega, or giga suffix, or as an hh:mm:ss time stamp. This defaults to the appropriate 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 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.vew**
- **calcs.dat**

The default column layout is saved in **portmon.vew**. If you have been experimenting with the appearance of the monitor screen, you can use the File menu **Save** option to save your customized layout in another **.vew** 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.vew** 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.

Variable	Description
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.
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

Variable	Description
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**. Comtrol Technical Support may ask you to run **Peer** in order to help diagnose reported problems.

Starting Peer

Peer Tracer does not appear in most Comtrol 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 *ia*, RocketPort Serial Hub *Si*	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	Comtrol Utilities peer 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 Comtrol 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 linefeed 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 Comtrol 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. Verify that you are using the correct types of cables in the correct places and that all cables are tightly connected.
2. If you have an ISA adapter, make sure that you set the I/O DIP switch correctly.
3. Enable the **Verbose Event Log** feature under the Setup Options tab and then reboot the system.
4. 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.
5. Use the Test Terminal program (**wcom32.exe**) to troubleshoot communications on a port-by-port basis.
6. 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.
7. Use the Peer Tracer program (**peer.exe**) to trace driver events.
8. Remove and reinstall the driver.

Before calling Technical Support

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

You should review the *Troubleshooting* section 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 Comtrol using one of the following methods.

Contact Method	Corporate Headquarters	Comtrol Europe
FAQ/Online	http://support.comtrol.com/support.asp	
Downloads	http://support.comtrol.com/download.asp	
Email	support@comtrol.com	support@comtrol.co.uk
Web site	http://www.comtrol.com	http://www.comtrol.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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