



Device Driver User Guide

Windows 7
Windows Server 2008
Windows Vista
Windows Server 2003
Windows XP



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First Edition, July 3, 2012

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Table of Contents

Overview.....	5
Control Drivers Management Console	5
Supported Operating Systems.....	5
Products Supported	6
Conventions	6
Downloading the Latest Software and User Guides	7
RocketPort EXPRESS/INFINITY	7
RocketPort and RocketModem (Universal PCI).....	8
Device Driver Installation.....	9
Overview	9
Installation Setup Wizard.....	10
Checking the Device Driver Version	15
Updating the Driver.....	15
Adding an Adapter (Existing Installation)	20
Device Driver Configuration	23
Using the Control Drivers Management Console	23
Accessing the Control Drivers Management Console.....	23
Displaying All Installed Devices	23
Expanding the View	24
How to Configure Device Properties.....	24
Customizing the Device Name	25
Customizing the COM Port Name	25
How to Configure COM Port Properties	26
How to Save Changes	27
Configuring Device Properties	28
Configuring COM Port Properties	30
Verifying and Testing RocketModem IV Adapters.....	35
Verifying the Modems Installed	35
Testing the Modems	40
Testing RocketModem IV Ports	42
Using Configuration Files	45
Saving Configuration Files	45
Loading a Configuration File	45

- Removing the Adapter and Driver.....47**
 - Removing a RocketPort 47**
 - Windows 7 and Windows Vista..... 47
 - Windows Server 2008 R2..... 47
 - Windows Server 2003 47
 - Windows XP 48
 - Not logged into a Domain Controller 48
 - Logged into a Domain Controller 48
 - Removing the Device Driver and Adapter 48**

- Troubleshooting and Technical Support.....51**
 - Troubleshooting Checklist 51**
 - Control Utility 53**
 - Installing the Control Utility 53
 - Using Port Monitor (PMon2)..... 55
 - Testing Control COM Ports 55
 - Using Test Terminal..... 58
 - Opening Ports 58
 - Sending and Receiving Test Data (RS-232/422 and RS-485: 4-Wire)..... 59
 - Loopback Test (RS-232)..... 60
 - Sending and Receiving Data (RS-485: 2-Wire) 60
 - Before Calling Technical Support 63**
 - Technical Support 64**

- Configuring Non-Plug and Play Devices65**
 - Installing Non-Plug and Play Devices 65**
 - Installing Modems 65
 - Installing Printers 66

Overview

This section discusses the following topics:

- [Control Drivers Management Console](#)
- [Supported Operating Systems](#)
- [Products Supported](#)
- [Conventions](#) on Page 6
- [Downloading the Latest Software and User Guides](#) on Page 7

Control Drivers Management Console

This *User Guide* discusses how to install and configure Control device drivers using the *Installation Setup Wizard* and the *Control Drivers Management Console* for the device driver.

The Control Drivers Management Console is accessible through the Windows *Control Panel* using a dedicated shortcut created during the initial device driver installation process. The Control Drivers Management Console allows you to browse all installed and supported Control products in one place and apply any changes quickly.

Note: *This User Guide discusses Control adapters, see the DeviceMaster Device Driver User Guide for Windows for DeviceMaster specific information.*

You can refer to [Using the Control Drivers Management Console](#) on Page 28 for general information about the Control Drivers Management Console.

Supported Operating Systems

The Control Drivers Management Console supports the following operating systems:

- Windows 7
- Windows Server 2008
- Windows Vista
- Windows Server 2003
- Windows XP

Products Supported

These are the products supported by the Control Drivers Management Console:

- DeviceMaster PRO
- DeviceMaster RTS
- DeviceMaster Serial Hub
- DeviceMaster 500
- RocketModem IV
- RocketPort EXPRESS
- RocketPort EXPRESS SMPTE
- RocketPort INFINITY
- RocketPort Plus Universal PCI
- RocketPort Plus/422 Universal PCI
- RocketPort Universal PCI
- RocketPort Universal PCI SMPTE

Conventions

In the remainder of this *User Guide*, the products are referred to accordingly:

- **Control device** unless there is model-specific information
- **DeviceMaster** means the DeviceMaster models listed in the previous subsection
- **RocketPort** means any RocketPort model
- **RocketPort EXPRESS/INFINITY** means RocketPort EXPRESS, RocketPort EXPRESS SMPTE, and RocketPort INFINITY
- **RocketPort and RocketModem (Universal PCI)** means RocketModem IV, RocketPort Universal PCI, RocketPort Plus Universal PCI, RocketPort Plus/422 Universal PCI, and RocketPort Universal PCI SMPTE

The paths in this Guide to locate DeviceMaster software and documentation point to the DeviceMaster RTS paths on the ftp site. All supported DeviceMasters ([Products Supported](#)) models use the same software and documentation.








Downloading the Latest Software and User Guides

You can use the CD or the following tables to locate the latest version of the software and documentation for the appropriate product.

- *RocketPort EXPRESS/INFINITY* (below)
- [RocketPort and RocketModem \(Universal PCI\)](#) on Page 8











RocketPort EXPRESS/INFINITY

The following tables provide a quick reference to locate and download the latest software and documentation.

Software or Document	Description
Device Driver 	The device driver supports: <ul style="list-style-type: none"> • Windows 7 • Windows Server 2008 • Windows Vista • Windows Server 2003 • Windows XP
<i>User Guide for Windows (this Guide)</i> 	This <i>User Guide</i> supports all Comtrol adapters in the Comtrol Drivers Management Console.
Bootable Diagnostics 	You can download and create a bootable Diagnostics CD if you cannot locate the CD shipped with your product.
Comtrol Utility 	You can use the Comtrol Utility to test or monitor ports. The Comtrol Utility includes Test Terminal and Port Monitor.
<i>RocketPort EXPRESS User Guide</i> 	This <i>User Guide</i> provides adapter and interface installation procedures. It also provides information about connecting serial devices.
<i>RocketPort EXPRESS SMPTE User Guide</i> 	This <i>User Guide</i> provides adapter and interface installation procedures. It also provides information about connecting serial devices.
<i>RocketPort INFINITY User Guide</i> 	This <i>User Guide</i> provides adapter and interface installation procedures. It also provides information about connecting serial devices.

RocketPort and RocketModem (Universal PCI)

The following tables provide a quick reference to locate and download the latest software and documentation.

Software or Document	Description
Device Driver 	The device driver supports: <ul style="list-style-type: none"> • Windows 7 • Windows Server 2008 • Windows Vista • Windows Server 2003 • Windows XP
<i>User Guide for Windows (this Guide)</i> 	This <i>User Guide</i> supports all Control adapters in the Control Drivers Management Console.
Bootable Diagnostics 	RocketPort Universal PCI, RocketPort Plus/422 Universal PCI, and RocketPort Universal PCI SMPTE: You can download and create a bootable Diagnostics CD to test your adapter.
Bootable Diagnostics 	RocketModem IV: You can download and create a bootable Diagnostics CD to test your adapter.
Control Utility 	You can use the Control Utility to test or monitor ports. The Control Utility includes Test Terminal and Port Monitor.
<i>RocketPort Universal PCI User Guide</i> 	This <i>User Guide</i> provides adapter and interface installation procedures. It also provides information about connecting serial devices.
<i>RocketPort Plus Universal PCI User Guide</i> 	This <i>User Guide</i> provides adapter and interface installation procedures. It also provides information about connecting serial devices.
<i>RocketPort Plus /422 Universal PCI User Guide</i> 	This <i>User Guide</i> provides adapter and interface installation procedures. It also provides information about connecting serial devices.
<i>RocketPort Universal PCI SMPTE User Guide</i> 	This <i>User Guide</i> provides adapter and interface installation procedures. It also provides information about connecting serial devices.
<i>RocketModem IV Hardware Installation</i> 	This document provides adapter installation procedures. It also provides basic AT commands information.

Device Driver Installation

This section discusses the following topics:

- Overview of the supported products
- [Installation Setup Wizard](#) on Page 16 for initial installation procedures
- [Checking the Device Driver Version](#) on Page 21
- [Updating the Driver](#) on Page 21
- [Adding an Adapter \(Existing Installation\)](#) on Page 26

Overview

Use the following procedure to install the device driver for Windows for the following Comtrol products using the *Installation Setup Wizard*:

- RocketModem IV
- RocketPort Universal PCI
- RocketPort Plus Universal PCI
- RocketPort Plus/422 Universal PCI
- RocketPort Universal PCI SMPTE
- RocketPort EXPRESS
- RocketPort EXPRESS SMPTE
- RocketPort INFINITY

Note: *The above adapters are typically referred to as the RocketPort in this section, unless there is model-specific information.*

If there is a device driver already installed on your system for the RocketPort, see [Updating the Driver](#) on Page 21 or [Adding an Adapter \(Existing Installation\)](#) on Page 26.

Installation Setup Wizard

You can use the following procedure to install the device driver and the *Control Drivers Management Console*, which is used to configure the driver.

1. Locate the latest driver assembly (.exe) for your product and copy it to a location that is available to the host.

You can use one of the following methods to access the latest driver:

- [Download the latest device driver](#) for your adapter.
- The *Software and Documentation* CD contains all of the files for installation, configuration, and troubleshooting. The CD also provides download links to the Control ftp site to locate the latest files.

2. Close any applications that are using serial ports before the device driver installation.

3. Install the adapter and connect the interface (Quadcable, Octacable, or interface box). If you need hardware installation procedures, see [Downloading the Latest Software and User Guides](#) on Page 7) to locate the *User Guide* for your adapter type.

Do not connect RS-422/485 devices until the appropriate port interface type has been configured in the device driver. The RocketPort default port setting is RS-232, except for SMPTE models, which are set to RS-422.



Caution

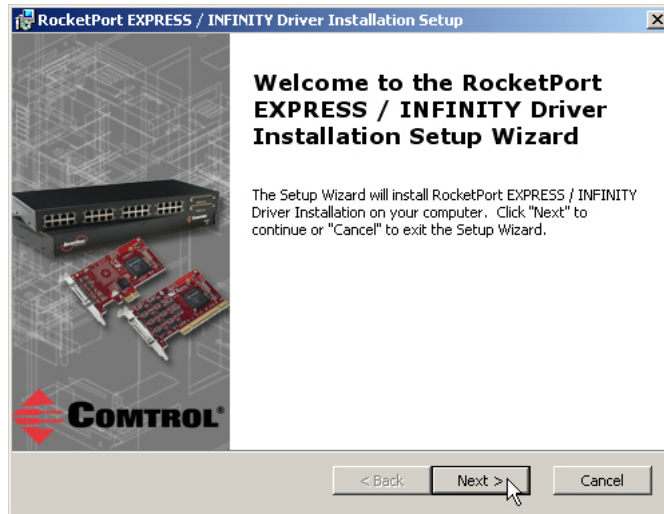
4. Click **Cancel** if a *Found New Hardware* message appears.



5. Start the installation by executing the appropriate .exe file for your adapter. Driver assembly file names include the driver version number.

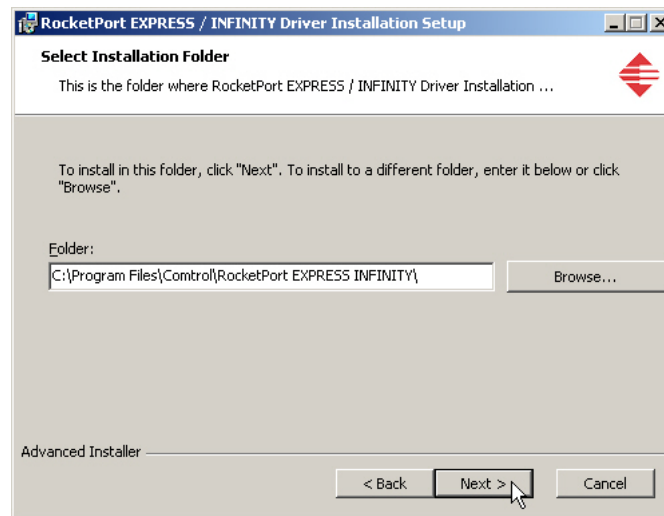
For example, **RocketPort_RocketModem_Windows_x.xx.exe** or **RP_EXPRESS_INFINITY_Windows_x.xx.exe**, where *x.xx* is the driver assembly version.

6. Click **Next** to start the installation process.



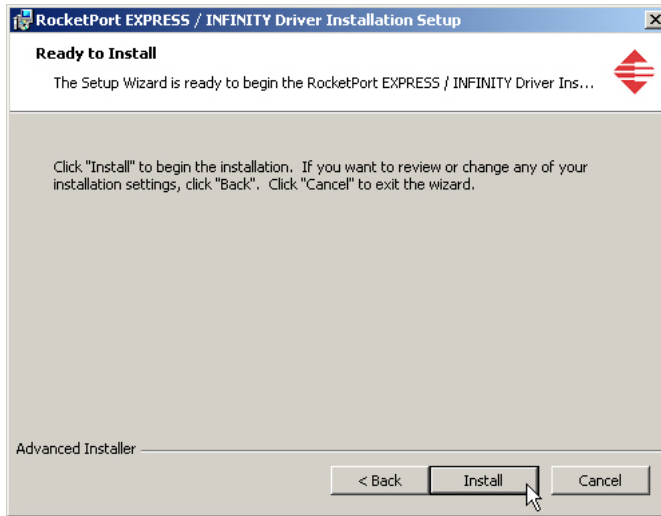
Note: This screen shot displays a RocketPort EXPRESS/INFINITY installation. The RocketPort Universal PCI series/RocketModem IV installation displays as the RocketPort/RocketModem Installation Setup Wizard.

7. Optionally, enter a different location to install the driver files.

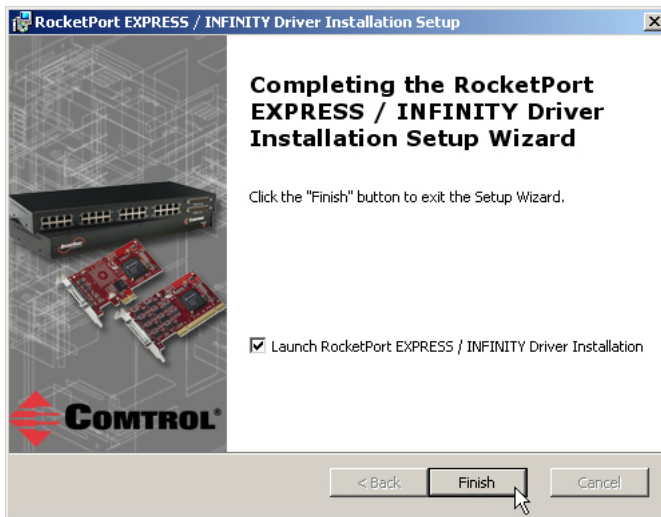


Note: The RocketPort/RocketModem (Universal PCI bus) default installation location is **Program Files\Control\RocketPort**.

8. Click **Install**.



9. Leave the **Launch RocketPort EXPRESS/INFINITY or RocketPort/RocketModem Driver Installation** box checked and click **Finish**.



If you do not check this box, you can use the shortcut under the **Start** button at the location for your adapter type to start the driver installation:

- **Programs> Control> RocketPort EXPRESS INFINITY> Driver Installation Wizard**
- **Programs> Control> RocketPort> Driver Installation Wizard - RocketPort and RocketModem (Universal PCI)**

10. Click Next to install the driver.



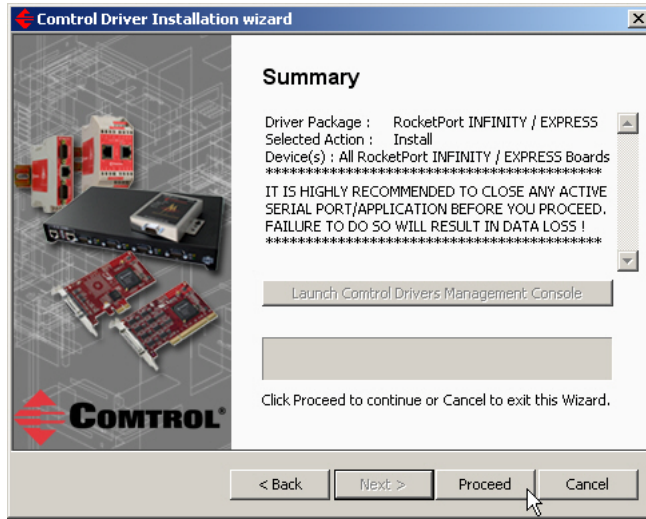
11. Click Install and Next.



12. Click Next.



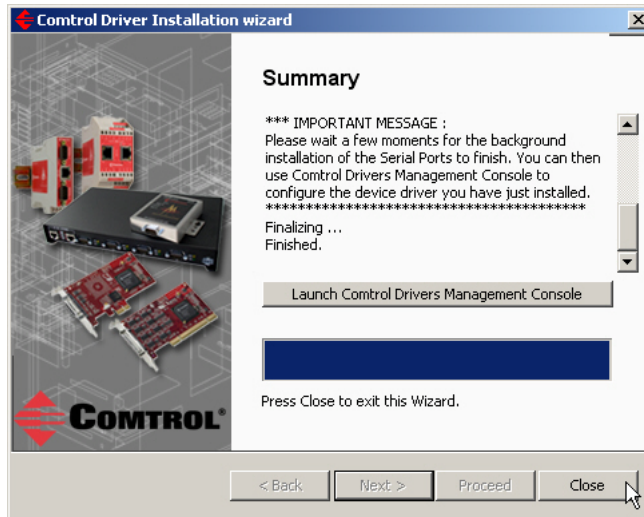
13. Click **Proceed**.



Note: The RocketPort and RocketModem (Universal PCI) Driver Package is displayed as RocketPort and the Device(s) display as RocketPort and RocketModem Boards.

14. Click the **Launch Control Drivers Management Console** button.

15. Return to the *Installation wizard* and click **Close** to exit the wizard.



16. Go to [Configuring COM Port Properties](#) on Page 35 to configure the COM port properties for RocketPort adapters or see [Verifying and Testing RocketModem IV Adapters](#) on Page 35 to verify the RocketModem IV installation.

17. If desired, go to [Configuring Device Properties](#) on Page 33 to set up advanced device properties (device name and starting COM port number).

After driver installation and configuration, connect the serial devices to the ports. For information about the RocketPort connectors, refer to the appropriate *User Guide* (Page 7).

Checking the Device Driver Version

Use the appropriate procedure for your operating system to check the Control device driver version using the *Device Manager*:

1. Access the *Device Manager*:
 - *Windows 7 and Windows Vista*: Right-click **Computer**, click **Manage**, and then highlight the *Device Manager*.
 - *Windows Server 2008 R2*: Click **Start**, right-click **Computer**, and then click **Properties**.
 - *Windows Server 2003*: Right-click **My Computer**, click **Manage**, and then click the **Device Manager** button.
 - *Windows XP: Not logged into a domain controller*: Right-click **My Computer**, click **Manage**, and then highlight the *Device Manager*.
 - *Windows XP: Logged into a domain controller*: Right-click **My Computer**, click **Manage**, and then click the **Device Manager** button.
2. Expand the Multi-port serial adapters entry, right-click the Control device that you want to configure, and then click **Properties**.
3. Click the **Driver** tab to view the device driver version.

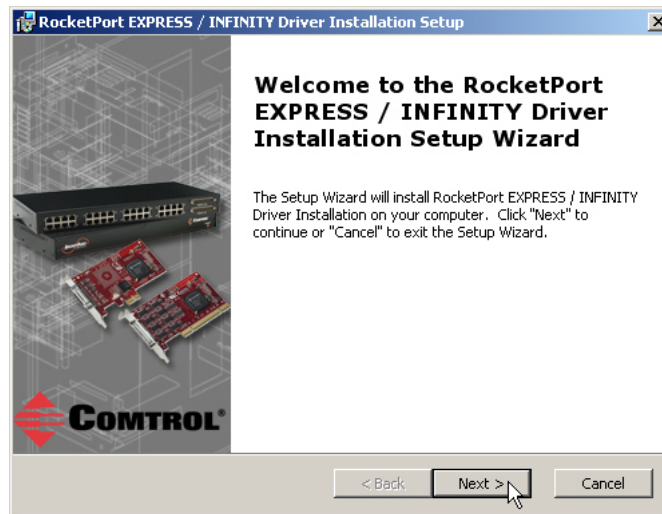
You can check this driver version against the [latest driver](#) for your product.

If necessary, you can update the device driver using the next subsection.

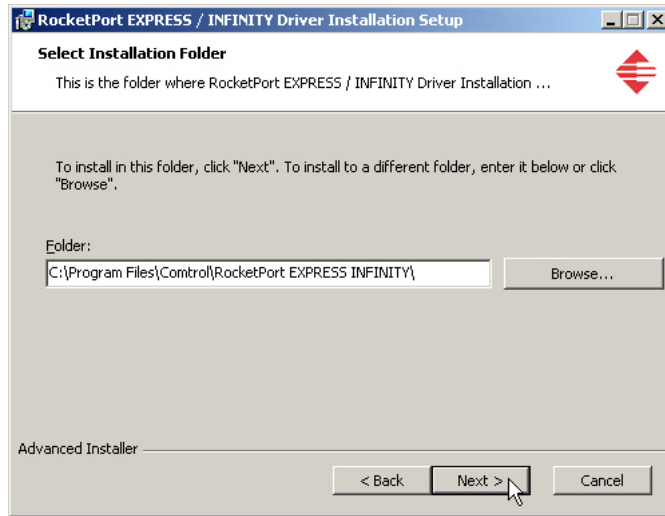
Updating the Driver

Use the following procedure to update the [RocketPort](#) device driver after initial installation.

1. Locate the latest device driver assembly (Page 7) and copy it to a location that is available to the host.
2. Close any applications that are using serial ports before the device driver installation.
3. Start the update by executing the .exe file.
4. Click **Next** to start the *Installation Setup Wizard*.

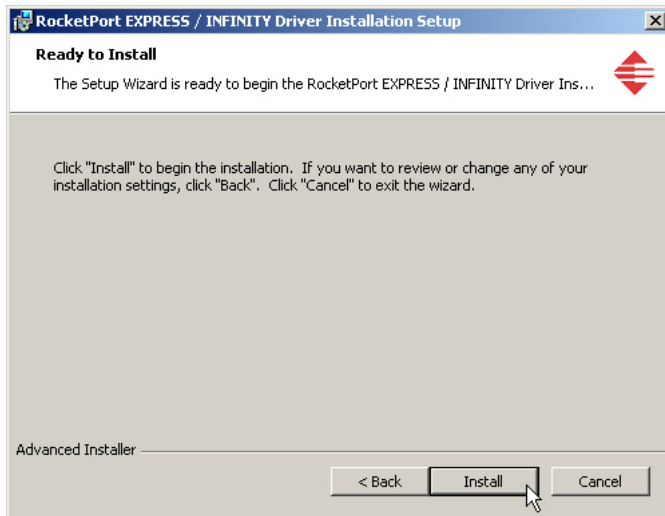


- Optionally, enter a different location to install the latest device driver files.



Note: *RocketPort / RocketModem (Universal PCI bus) default installation location is Program Files\Control\RocketPort.*

- Click Install.



7. Leave the **Launch RocketPort EXPRESS/INFINITY or RocketPort/RocketModem Driver Installation** box checked and click **Finish**.



If you do not check this box, you can use the shortcut under the **Start** button at the location for your adapter type:

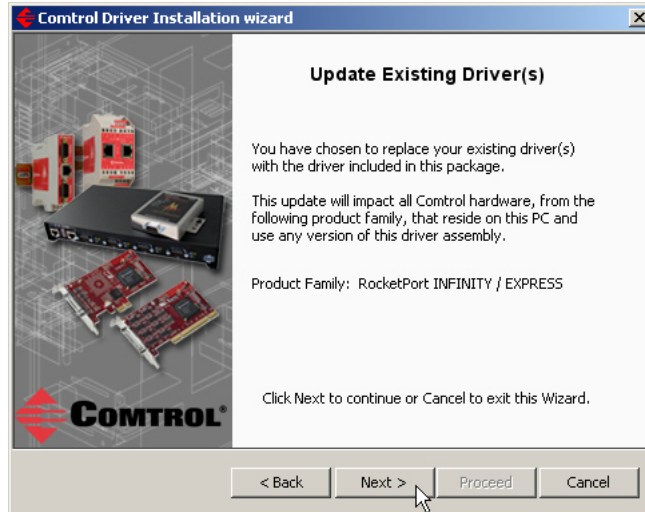
- **Programs> Control> RocketPort EXPRESS INFINITY> Driver Installation Wizard**
 - **Programs> Control> RocketPort> Driver Installation Wizard - RocketPort and RocketModem (Universal PCI)**
8. Click **Next** to update the driver.



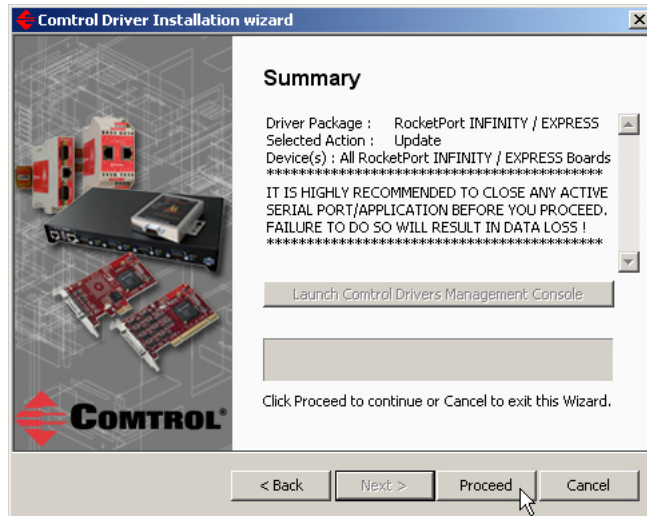
9. Click Update and Next.



10. Click Next to update the driver.



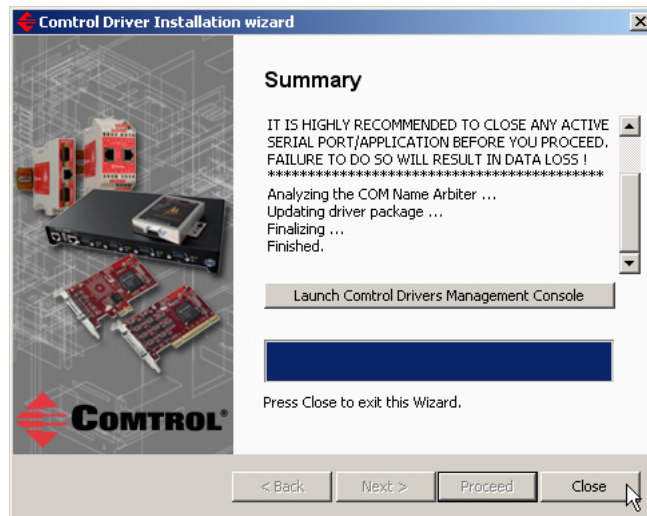
11. Click **Proceed**.



12. Click the **Launch Control Drivers Management Console** button to configure the ports or device properties.

Note: *The RocketPort and RocketModem (Universal PCI) Driver Package is displayed as RocketPort and the Device(s) display as RocketPort and RocketModem Boards.*

13. Return to the *Installation wizard* and click **Close**.



14. If necessary, go to [Configuring COM Port Properties](#) on Page 35 to configure the COM port properties for RocketPort adapters or see [Verifying and Testing RocketModem IV Adapters](#) on Page 35 to verify the RocketModem IV installation.

15. If desired, go to [Configuring Device Properties](#) on Page 33 to set up advanced device properties (device name and starting COM port number).

Adding an Adapter (Existing Installation)

Use the following procedure to add an adapter to an existing [RocketPort](#) installation.

1. Close any applications that are using serial ports before the device driver installation.
2. Install the adapter and connect the interface (Quadcable, Octacable, or interface box).

If you need hardware installation procedures, see [Downloading the Latest Software and User Guides](#) on Page 7).

Do not connect RS-422/485 devices until the appropriate port interface type has been configured in the device driver. The default port setting is RS-232.



3. Click **Cancel** if a *Found New Hardware* message appears.



4. From the **Start** button, click:
 - **Programs> Control> RocketPort EXPRESS INFINITY> Driver Installation Wizard**
 - **Programs> Control> RocketPort> Driver Installation Wizard - RocketPort and RocketModem (Universal PCI)**

5. Click **Next** to start the *Control Driver Installation Wizard*.



6. Click **Install** and **Next**.



7. Click **Next** and follow the *Installation Wizard*. Refer to [Step 11](#) on Page 19, for the remainder of the installation steps if needed.

Device Driver Configuration

This section discusses the following topics:

- [Using the Control Drivers Management Console](#) on Page 27
- [Configuring Device Properties](#) on Page 32
- [Configuring COM Port Properties](#) on Page 34

Using the Control Drivers Management Console

This subsection discusses basic Control Drivers Management Console operations, such as:

- [Accessing the Control Drivers Management Console](#)
- [Displaying All Installed Devices](#) on Page 27
- [Expanding the View](#) on Page 28
- [How to Configure Device Properties](#) on Page 28
- [Customizing the Device Name](#) on Page 29
- [Customizing the COM Port Name](#) on Page 29
- [How to Configure COM Port Properties](#) on Page 30
- [How to Save Changes](#) on Page 31

See [Configuring Device Properties](#) on Page 32 to start configuration procedures for your adapter.

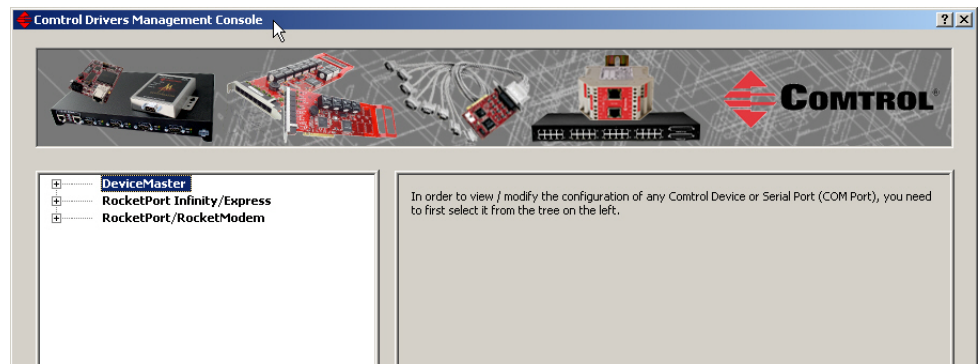
Accessing the Control Drivers Management Console

Accessing the Control Drivers Management Console can be done using one of the following methods:

- *Windows Control Panel*; go to your *Control Panel* and click on the **Control Drivers Management Console**.
- *Shortcut*; located under **Start > Program Files > Control >**
 - **RocketPort [RocketPort/RocketModem (Universal PCI)] > Control Drivers Management Console**
 - **RocketPort EXPRESS INFINITY > Control Drivers Management Console**

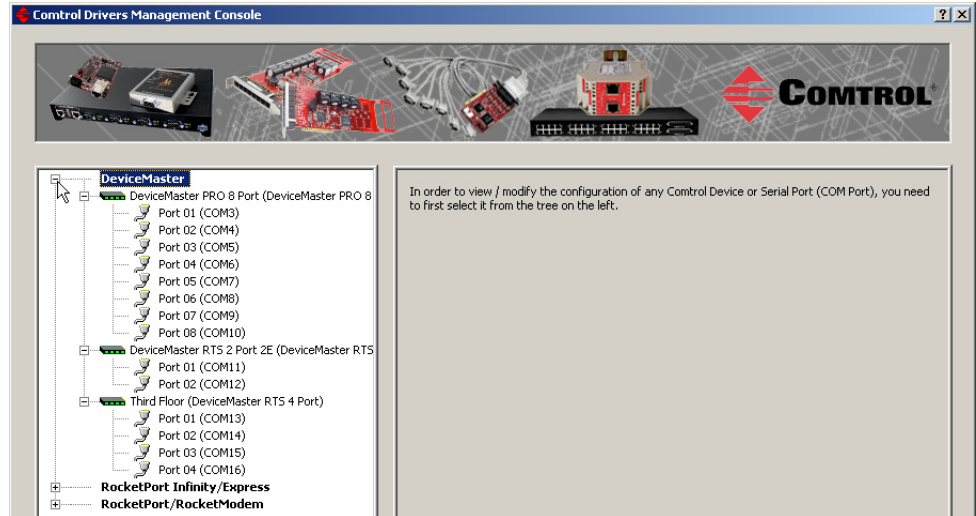
Displaying All Installed Devices

The Control Drivers Management Console opens and displays all products for which a device driver was installed.



Expanding the View

To view a device or devices under a product family, click the **+** in the *Tree View* pane to open the selected family.



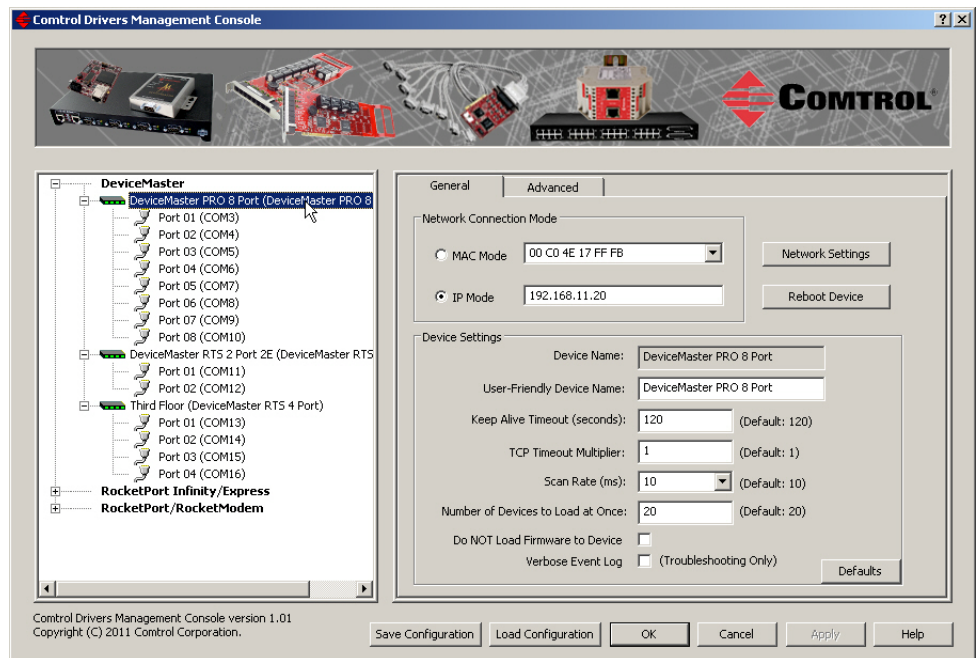
How to Configure Device Properties

This overview discusses changing device properties for a product. Highlight the device name of the product that you want to configure in the *Tree View* pane. Make any necessary changes.

- Click **Apply** to save the changes, which saves the changes and leaves the Control Drivers Management Console open.
- Click **Ok** to save the changes and close the Control Drivers Management Console.
- Click **Cancel** to close the Control Drivers Management Console without saving the changes.

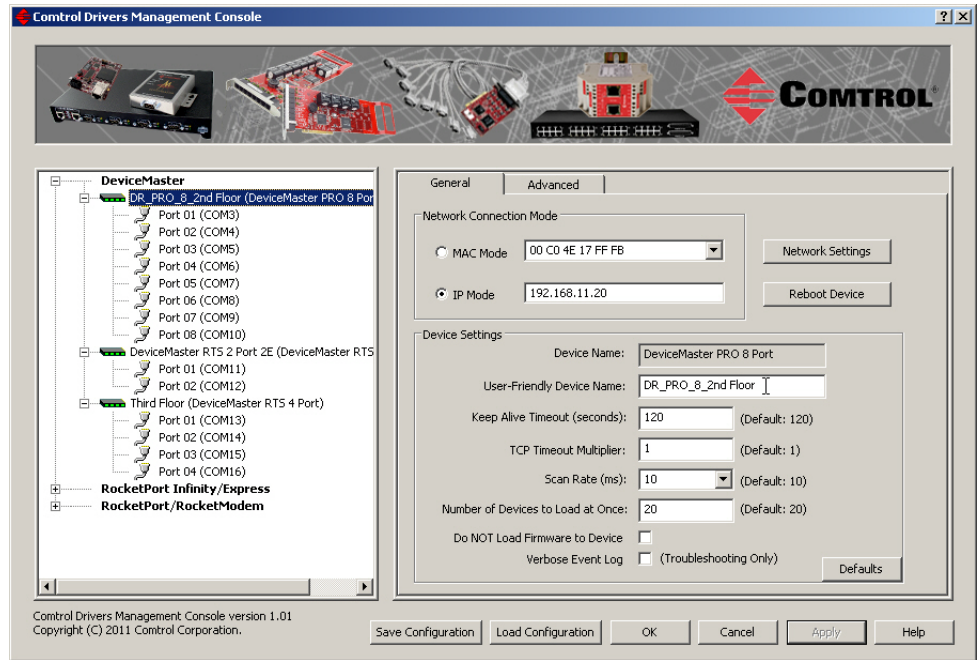
If you click a port or device name without saving the changes, the Control Drivers Management Console will prompt you to **Apply**, **Ignore**, or **Cancel** the changes.

For more information, see [Configuring Device Properties](#) on Page 32.



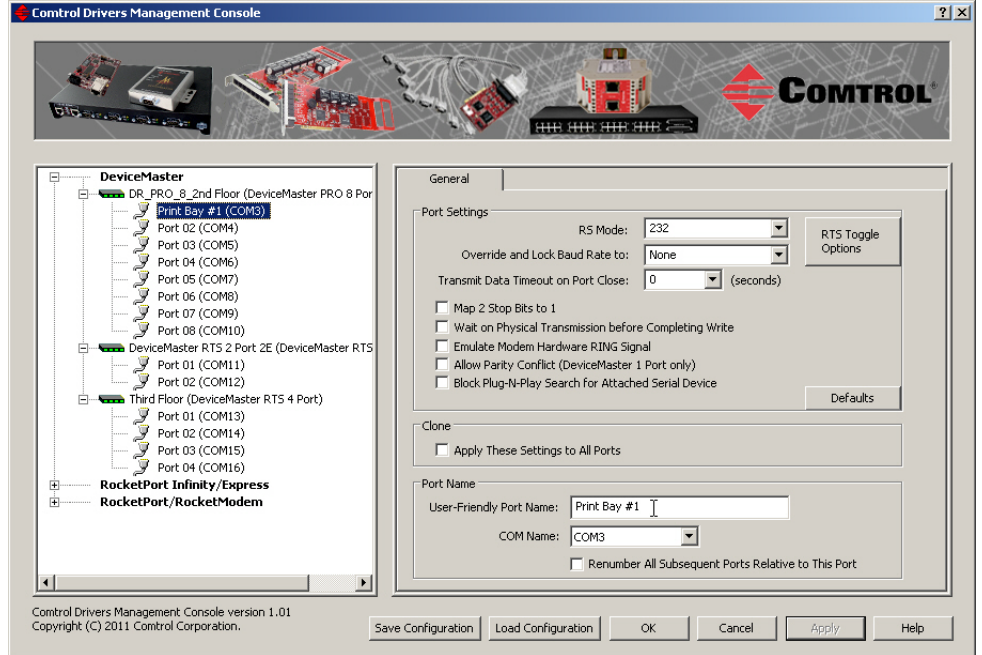
Customizing the Device Name

Change the default *Device Name* on the **Device General** tab by changing the name in the **User-Friendly Device Name** field and saving the change.



Customizing the COM Port Name

Change the default *Port Name* on the **Port Settings General** tab by changing the name in the **User-Friendly Port Name** field and saving the change.



How to Configure COM Port Properties

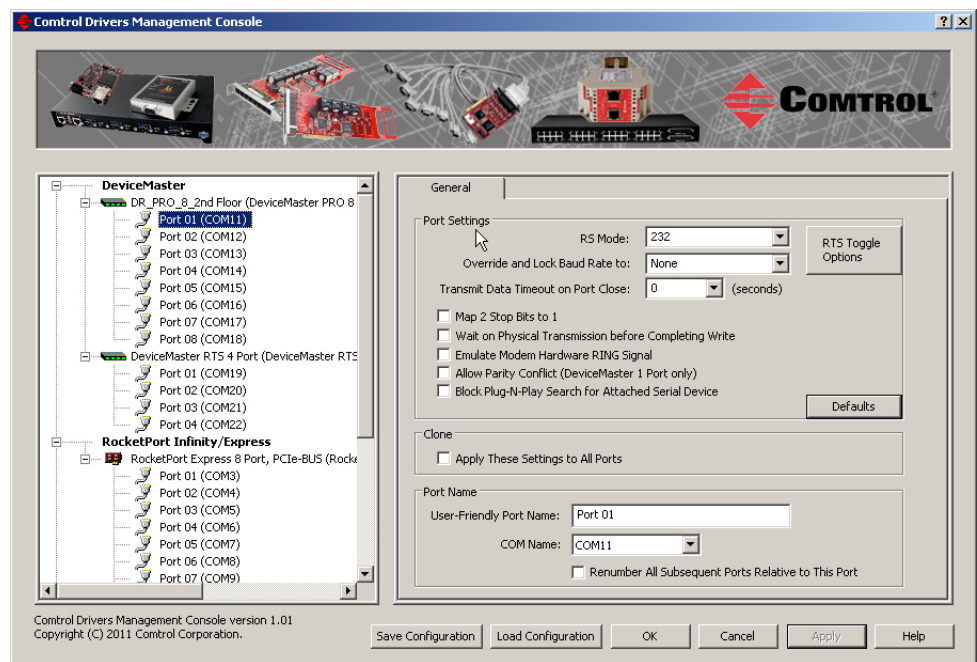
To change a port's properties for a product, highlight the port of the product that you want to configure in the *Tree View* pane. Make any necessary changes:

- Click **Apply** to save the changes, which saves the changes and leaves the Control Drivers Management Console open.
- Click **Ok** to save the changes and close the Control Drivers Management Console.
- Click **Cancel** to undo the changes and close the Control Drivers Management Console.

If you click another port or device name without saving the changes, the Control Drivers Management Console will prompt you to **Apply**, **Ignore**, or **Cancel** the changes.

For more information, see [Configuring COM Port Properties](#) on Page 34.

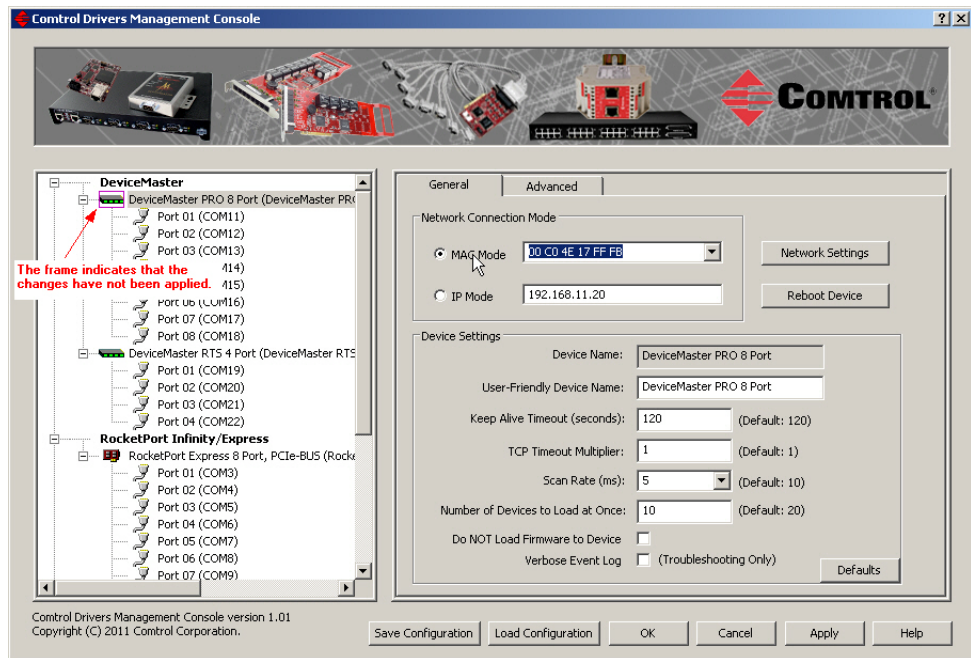
After saving the port changes, if desired, you can click **Apply These Settings to All Ports** to populate the remaining ports with these COM properties.



How to Save Changes

The Control Drivers Management Console indicates that changes have been made on this screen with a red frame that identifies which device's **General** tab you are editing.

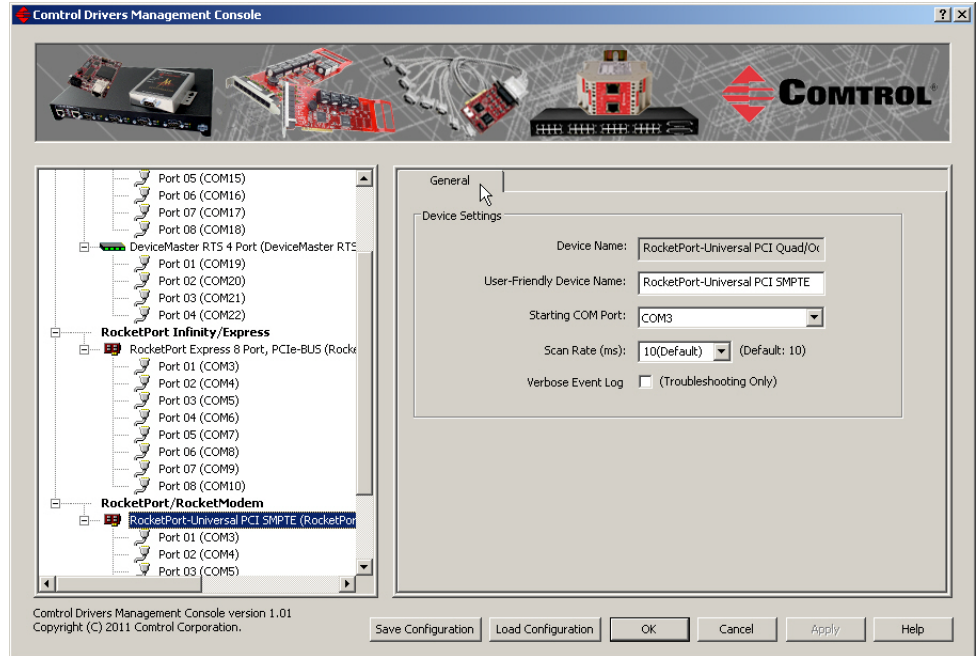
- Clicking the **Apply** button saves the changes on the tab and leaves the Control Drivers Management Console open for further configuration.
- Clicking the **Ok** button saves the changes on that tab and closes the Control Drivers Management Console.
- Clicking the **Cancel** button cancels the changes on that tab and closes the Control Drivers Management Console.



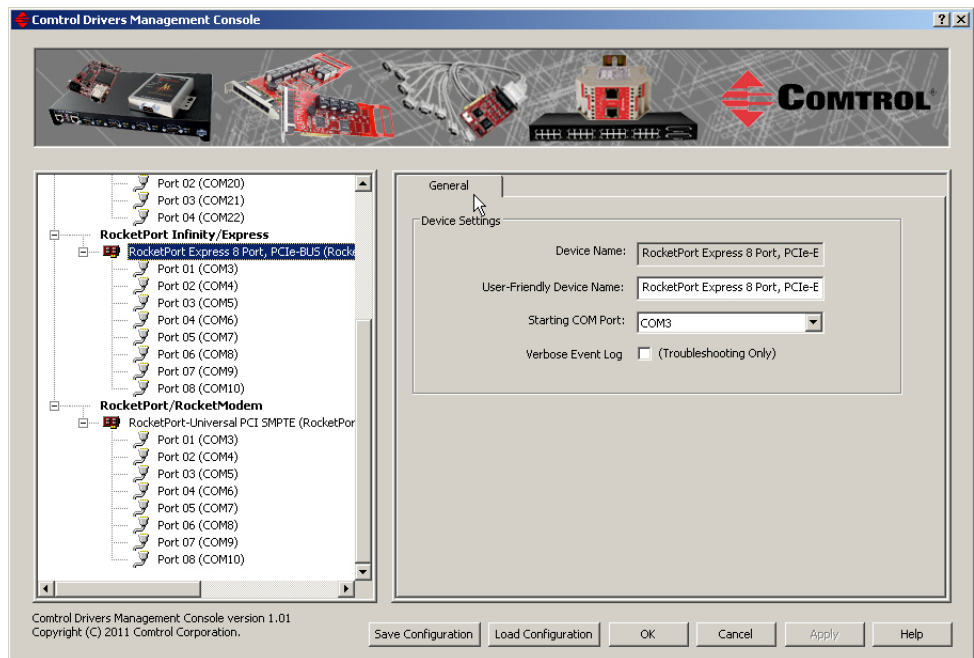
Configuring Device Properties

Use the following procedure to change device settings on an adapter

1. Open Control Drivers Management Console ([Accessing the Control Drivers Management Console](#) on Page 27).
2. Highlight the adapter device name that you want to configure.



RocketPort/RocketModem (Universal PCI) Device General Tab



RocketPort EXPRESS/INFINITY Device General Tab

3. If desired, change the **User-Friendly Device Name**.
4. If desired, set a [Starting COM Port](#) number value.
5. If this is *RocketPort/RocketModem (Universal PCI)*, optionally, pick a different [Scan Rate \(ms\)](#) (Page 33).
6. Optionally, click **Verbose Event Log** if you want to log additional RocketPort information into the event log.
7. After making your changes, click **Apply** if you have additional configuration procedures or click **Ok** if you have completed configuring your Control devices.
Note: *If you do not Apply the changes, you will be prompted to Apply, Ignore, or Cancel the changes.*

The following table provides detailed information about **Device General** tab options for the RocketPort.

Device General Tab	Description
Device Name	This is the default name assigned by the driver and it cannot be changed. You can use the User-Friendly Device Name field to provide custom device names for your installation.
User-Friendly Device Name	Use this field to enter a more descriptive name. The name that you assign is not saved until you click Apply or OK .
Starting COM Port Number	You can change the starting COM port number in the drop list for this adapter. In addition, you can use Starting COM Port to set nonsequential starting COM port numbers for each adapter, thus leaving gaps in the COM port numbering sequence. When you change the starting COM port number, the driver assigns that COM port to the first port on this adapter and all other port numbers follow in sequence. Do not overlap COM port numbers between devices or other adapters because if you do so, the overlapping ports are disabled.
Scan Rate (ms)] <i>(RocketPort/ RocketModem Universal PCI)</i> Default = 10ms	Typically, you should leave the scan rate set to the default value (10 ms) for most applications. To adjust latency for time-critical applications, select a longer or shorter interval from the droplist, or type in the rate (2 to 50). If a value larger than 50 is entered, the maximum of 50 is implemented. Note: <i>The faster the scan rate (lower number), the higher the load on the system processor.</i>
Verbose Event Log Default = Disabled	Selecting this option causes detailed messages to be sent to the operating system <i>Event Log</i> . This added information can be useful when debugging communications and configuration problems
Save Configuration	Click Save Configuration to save the <i>Device Settings</i> for use on another similar Control device or to archive a copy of your environments settings.
Load Configuration	Click to Load Configuration to load the <i>Device Settings</i> previously saved using the Save Configuration feature. Note: <i>You cannot a load configuration file from different models. For example, you cannot load a configuration file for a RocketModem IV on a RocketPort EXPRESS or RocketPort Plus/422 Universal PCI.</i>

Device General Tab	Description
Ok	Click Ok to save the changes made on this page and close the Control Drivers Management Console.
Cancel	Cancel any changes made on this page.
Apply	Click Apply to save the settings on this page. If you do not click Apply before leaving this page, you will be prompted to Apply or Cancel the changes.

Configuring COM Port Properties

This section discusses COM port configuration procedures for [RocketPort](#) ports. If you want to change the starting COM port number on the RocketPort, see [Configuring Device Properties](#) on Page 32.

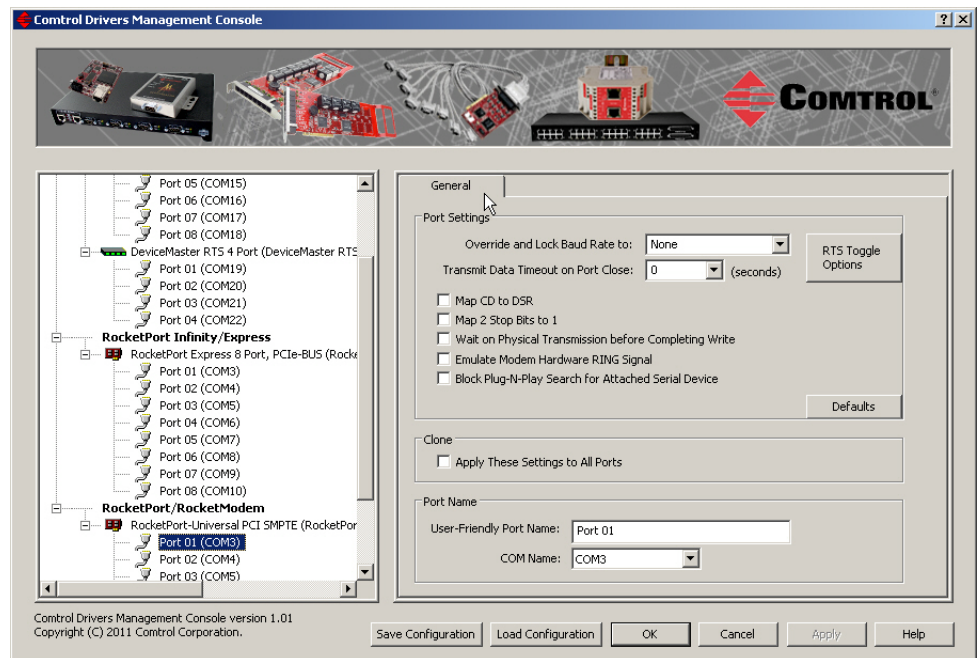
If your application does not set COM port properties, use the *Device Manager* to access Ports (COM & LPT) to change the port parameters. If the application sets COM port properties, those settings take precedence over Windows COM port settings. The exception to this guideline is if you use the **Override and Lock Baud Rate** to option.

Use the following procedure to change COM port settings on a [RocketPort](#) port or ports.



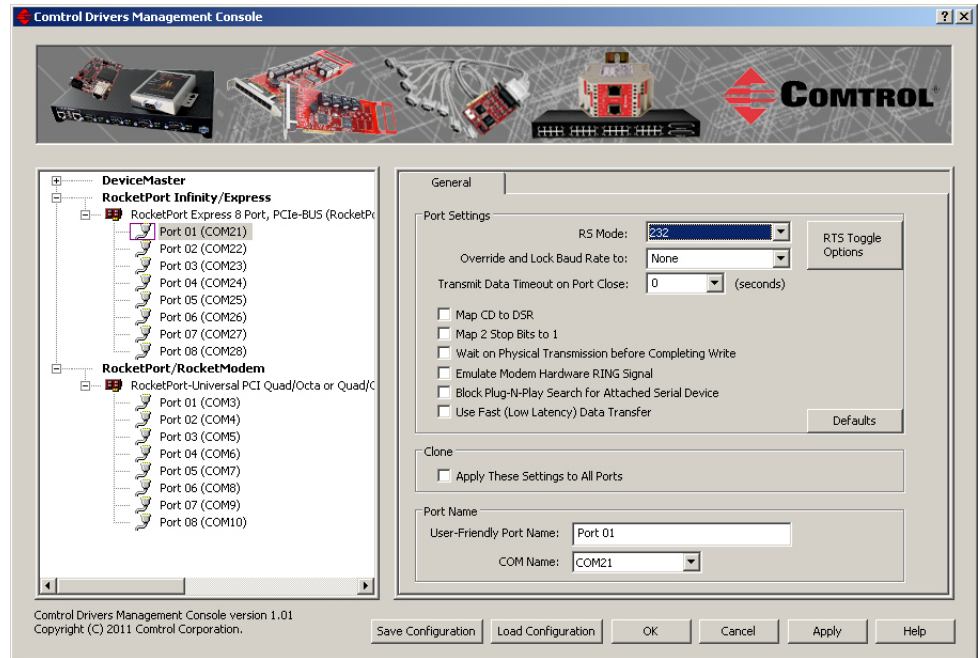
Do not connect RS-422/485 devices until the appropriate port interface type has been configured in the driver. The driver default port setting is RS-232.

1. Open Control Drivers Management Console ([Accessing the Control Drivers Management Console](#) on Page 27).
2. Highlight the appropriate RocketPort.
3. Highlight the first port you want to configure.



RocketPort/RocketModem (Universal PCI) Port General Tab

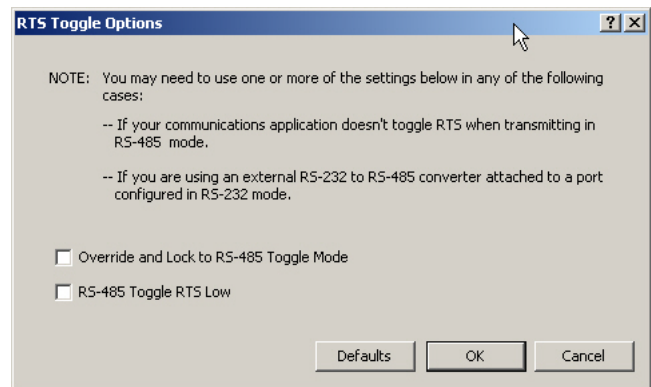
4. *RocketPort EXPRESS/INFINITY*, select the appropriate communications mode.



RocketPort EXPRESS/INFINITY Port General Tab

5. Enable the features that you want to use.

Note: You can use the “What’s this?” help or refer to the [following table](#) for information about each option.
6. *RocketPort EXPRESS/INFINITY*, select the **Use Fast (Low Latency) Data Transfer** option when receiving or sending small blocks of data.
7. Optionally, click the [RTS Toggle Options](#) button:
 - If your communications application does not toggle FTS when transmitting in RS-485 mode.
 - If you are using an external RS-232 to RS-485 converter, which is attached to a port that is configured for RS-232.
 - a. Click the appropriate options for your environment.
 - b. Click **OK** to save the changes and return to the port **General** tab.
8. If desired, click the **Clone** check box to set all of the ports on this Control device to these characteristics.
9. Optionally, change the **User-Friendly Port Name**.
10. If desired, select a different **COM Name** (COM port number). The drop-down list displays (in use) next to COM port numbers that are already in use in this system. Do not duplicate COM port numbers as this will cause the ports to not function.



11. Click **Apply** to save these changes.

Note: *If you selected RS-422 mode, make sure that there is not a device attached to the port and click **Ok**.*

12. Highlight the next port that you want to configure and perform [Steps 4](#) through 11.

The following table provides detailed information about the options on the port **General** tab.

Port Settings General Tab	Description
<p>RS Mode <i>(RocketPort EXPRESS/INFINITY)</i></p>	<p>Use this drop-down list to select the communications mode for the serial device that you will be connecting to this port.</p> <ul style="list-style-type: none"> • RS-232 (default RocketPort EXPRESS, RocketPort INFINITY, RocketPort Universal PCI, RocketPort Plus Universal PCI, and RocketModem IV) • RS-422 (default RocketPort EXPRESS SMPTE, RocketPort Plus/422 Universal PCI, and RocketPort Universal PCI SMPTE) • RS-485 Mode provides these choices: <ul style="list-style-type: none"> - RS-485 2-wire (half-duplex) supports transmit and receive data. When data is transmitted, the Transmit Enable signal is activated, and the Transmit Receive device switches from receive to transmit automatically. - RS-485 4-wire Master (full-duplex master) supports transmit and receive data, which means both signals are always active. The RocketPort EXPRESS/INFINITY is enabled by the Transmit Enable signal. This mode is the same as RS-422. - RS-485 4-wire Slave (full-duplex slave) supports transmit and receive data. When data is transmitted, the Transmit Enable signal is activated, the Transmit device goes active and starts sending data. When the data is not being sent, the Transmit device is inactive. The Receive device is always active. <p>If you click RS-485, you may need to change settings in the RTS Toggle Options screen.</p> <p>The default value is RS-232 for most RocketPort EXPRESS/INFINITY models. The RocketPort EXPRESS SMPTE default value is RS-422.</p> <p>Note: <i>The RocketPort/RocketModem (Universal PCI) RS Mode is controlled by the attached interface.</i></p>
<p>Override and Lock Baud Rate to Default = None</p>	<p>This option allows you to lock selected ports.</p> <p>You can select a value from the drop-down list or enter an appropriate value from the following standard baud rates: 300, 600, 1200, 1800, 2400, 3600, 4800, 7200, 9600, 14400, 19200, 38400, 57600, 115200, 230400, 460800, or 921600.</p> <p>The Quad/Octacable models support up to 921.6Kbps and the 8/16/32-port models with an interface box support up to 460.8Kbps.</p> <p>After locking a baud rate, no matter what baud rate is selected in a host application, the <i>actual</i> rate used is the rate specified here.</p>

Port Settings General Tab	Description
RTS Toggle Options	<p>This button opens the RTS Toggle Options popup, which provides the following features:</p> <ul style="list-style-type: none"> Override and Lock to RS-485 Toggle Mode Use the Override and Lock to RTS Toggle Mode option to lock the port in RTS (Request to Send) toggle mode, then set the mode (low or high) as desired for RS-485 mode. RS-485 Toggle RTS Low Use the RTS Toggle RTS Low option to toggle the RTS output signal low during data transmission, which may be needed for relay devices for RS-485. If the option box is not checked, RTS is toggled high (asserted) during data transmission for RS-485 mode. Defaults Clicking the Defaults button returns all the values in the RTS Toggle Options popup to their default state: <ul style="list-style-type: none"> - Override and Lock to RTS Toggle Mode = Disabled - RTS Toggle RTS Low = Disabled
Transmit Data Timeout Port Close Default = 0	<p>This option allows you 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 serial devices such as printers, to give the data sufficient time to flush through the system.</p>
Map CD to DSR Default = Disabled	<p>This option is used in installations where there is no connection to the port's DSR input.</p> <p>Click 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.</p>
Map 2 Stop Bits to 1 Default = Disabled	<p>If your application is hard-coded to use two stop bits and you receive framing errors, click this check box to map 2 stop bits to 1 bit.</p> <p>Leave this check box blank to enable stop bits to pass through unchanged.</p>
Wait on Physical Transmission before Completing Write Default = Disabled	<p>This option forces all write packets to wait until the transmit data has physically completed the transmission before returning completion to the host application.</p> <p>The default mode (check box not clicked) is to buffer the data in the transmit hardware buffer, and return completion as soon as the packet is in the buffer.</p>
Emulate Modem Hardware RING Signal Default = Disabled	<p>Click this check box to emulate the ring indicator signal.</p> <p>If this box is checked and the port receives a <i>RING</i> signal (or an alternate code, as defined in the AT command set for the modem), it sends an <i>RI</i> signal to the communications application.</p>
Block PnP search for attached serial device Default = Disabled	<p>This option disables plug and play from searching for a device attached to the serial port.</p> <p>For example, data received during device discovery on a device is assumed to be a mouse to plug and play.</p>

Port Settings General Tab	Description
Clone: Apply all the settings to all ports Default = Disabled	If this check box is <i>not</i> clicked, changes apply to the selected port only. If this check box <i>is</i> clicked, changes apply to all ports on this board.
Use Fast (Low Latency) Data Transfer <i>(RocketPort EXPRESS/INFINITY)</i> Default = Disabled	Use this option when you need to send or receive a small block of data on RocketPort EXPRESS/INFINITY adapters.
User-Friendly Port Name	You can enter a custom COM port name to identify this RocketPort in the Control Drivers Management Console.
COM Name	The COM Name drop list allows you to renumber this COM port. If you see a COM port number followed by (in use), this means that Plug and Play sees those COM port numbers in use by another device. If you rename the port to a COM name used by another port, a dialog appears indicating that the port is already in use.
Defaults Default = Disabled	Click the Defaults button to return to the driver default values.

Verifying and Testing RocketModem IV Adapters

If you have not done so, install the RocketPort and RocketModem (Universal PCI) device driver using the *Installation Setup Wizard*, [Device Driver Installation](#) on Page 15.

This section discusses the following RocketModem IV topics:

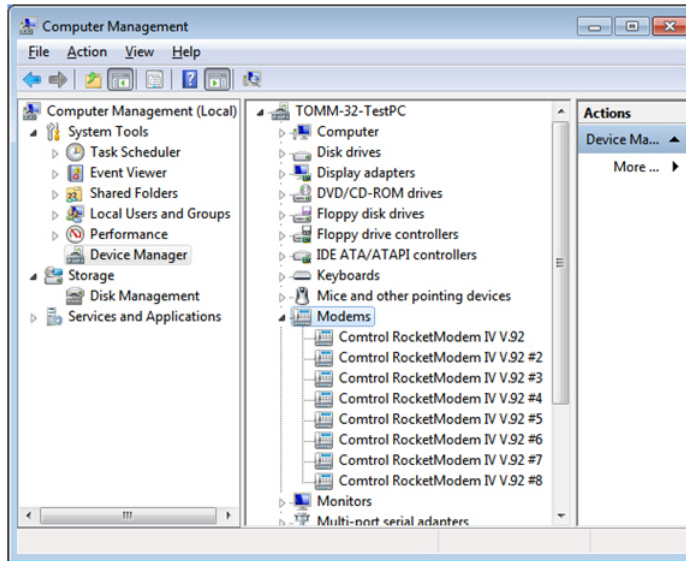
- *Verifying the Modems Installed*
- [Testing the Modems](#) on Page 40
- [Testing RocketModem IV Ports](#) on Page 42

Verifying the Modems Installed

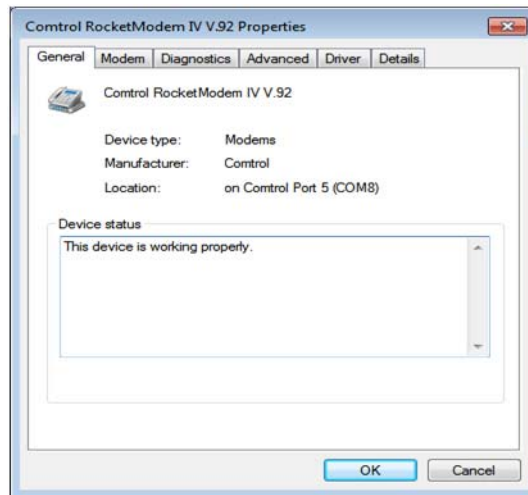
To verify that the modems were detected and installed, perform the following steps:

1. Access the Windows *Device Manager*.
 - [Windows 7 and Windows Vista](#): Right-click **Computer**, click **Manage**, and then highlight the **Device Manager**.
 - [Windows Server 2008 R2](#): Click **Start**, right-click **Computer**, and then click **Properties**.
 - [Windows Server 2003](#): Right-click **My Computer**, click **Manage**, and then click the **Device Manager** button.
 - [Windows XP](#):
Not logged into a domain controller: Right-click **My Computer**, click **Manage**, and then highlight the **Device Manager**.
Logged into a domain controller: Right-click **My Computer**, click **Manage**, and then click the **Device Manager** button.

2. Click the **Modems** folder, the modems should appear as shown below.

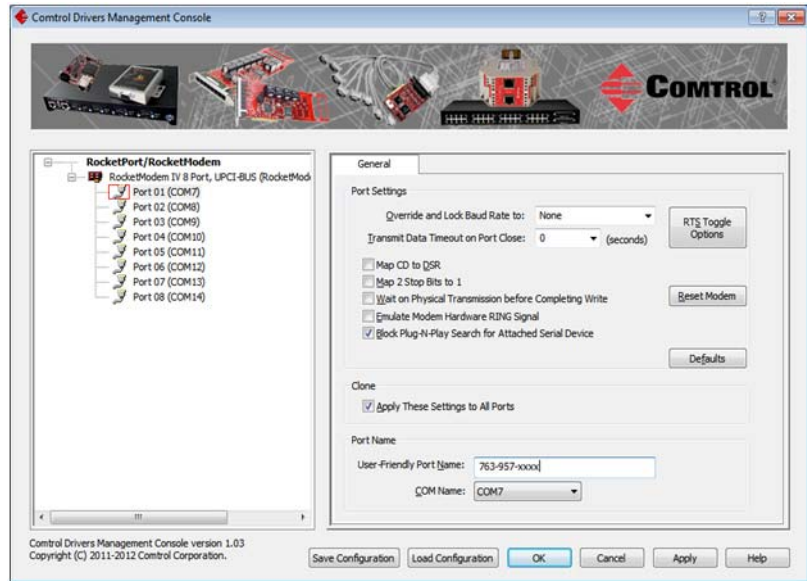


3. Highlight one of the modems and select **Properties**.

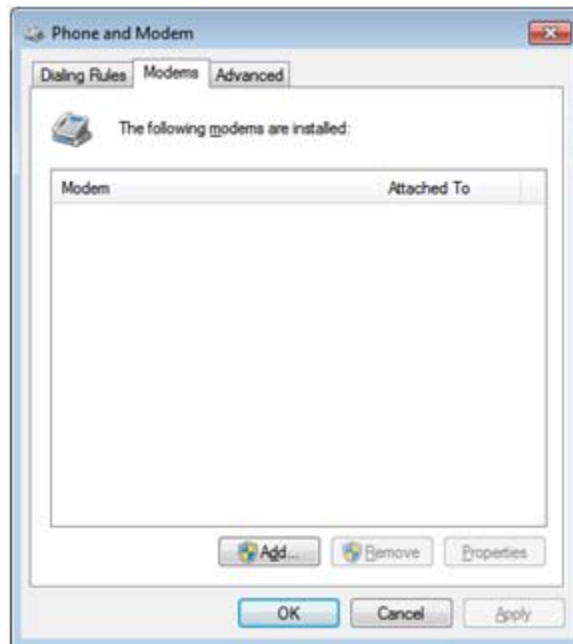


4. Check to see if the Microsoft Plug-N-Play has installed the modems in the correct order.
 - If the order of the modems is not important, then you can go to [Testing the Modems](#) on Page 40.
 - If the modems were in the order you would like them to be in, use the procedure below to reinstall the modems.
5. Configure the RocketModem IV ports to disable Plug & Play detection of serial ports.
 - a. Open the *Control Drivers Management Console*.
 - b. Click one of the ports.
 - c. Check the **Block Plug-N-Play Search for Attached Serial Device** box.
 - d. Check the **Apply These Settings to All Ports** box.

e. Click **OK**.

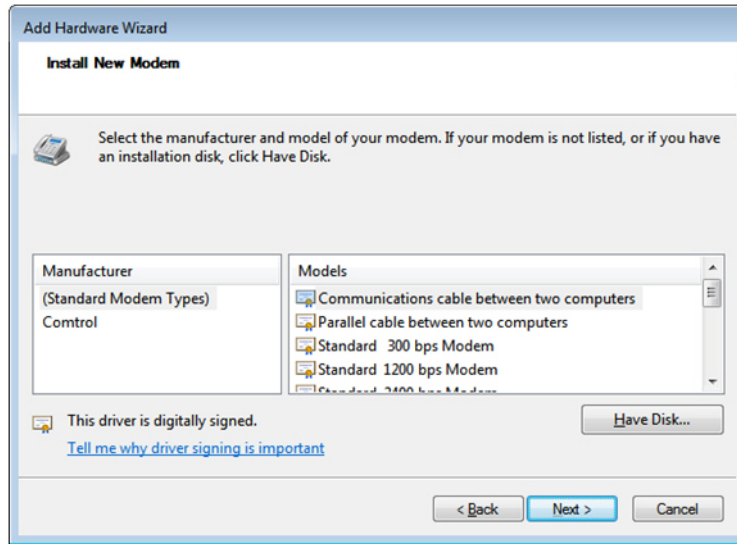


6. Go to the *Control Panel* and click **Phone and Modem**.
7. Select the **Modems** tab.
8. Select the modems you want to remove (most likely you will want to remove all of the modems).
9. Reboot the system.
10. After rebooting, return to the *Control Panel* and click **Phone and Modem**.
11. Select the **Modems** tab.
12. Select **Add** and **Ok**.

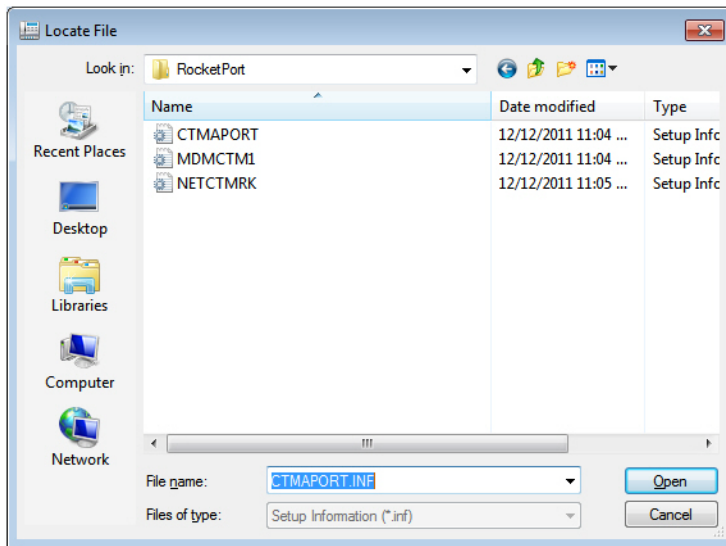


13. In the *Add New Modem Wizard*, check **Don't detect my modem; I will select it from a list**.

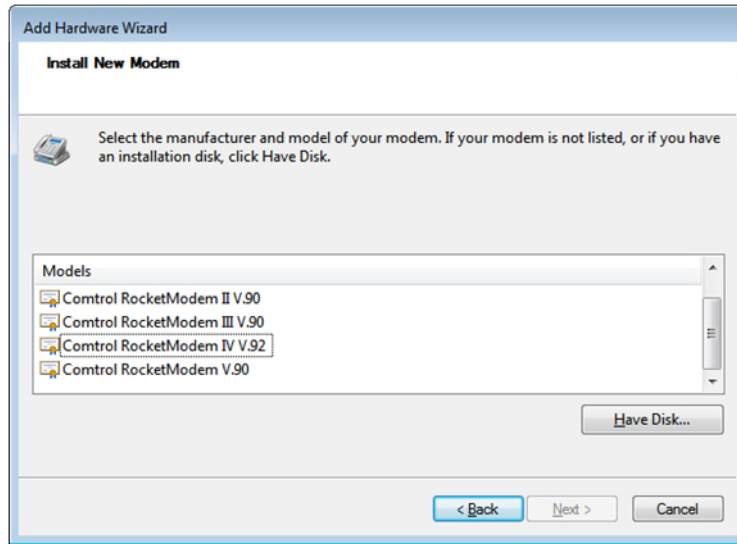
14. Click **Have Disk**.



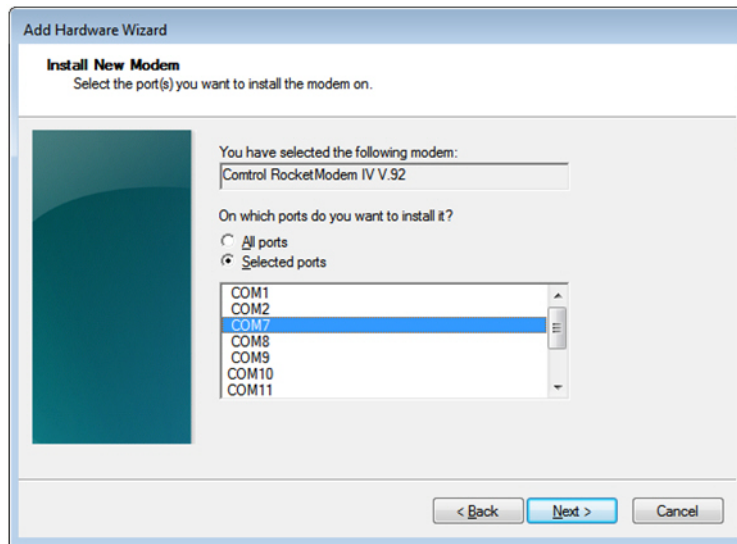
15. Browse to **\Program Files\Control\RocketPort**, highlight **CTMAPORT.inf**, and click **Open**.



16. Highlight **Control RocketModem IV V.92** and click **Next**.



17. Select **Selected ports**, choose the COM port you want to associate with this modem, and click **Next**.



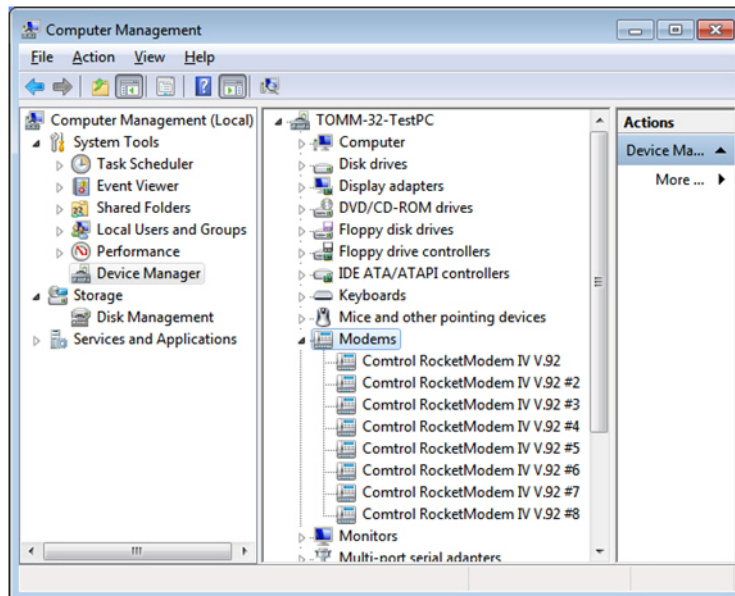
18. Select **Finish** then repeat this procedure for every modem you want to install.

19. Make sure you select the right COM port for each modem so they will be in order.

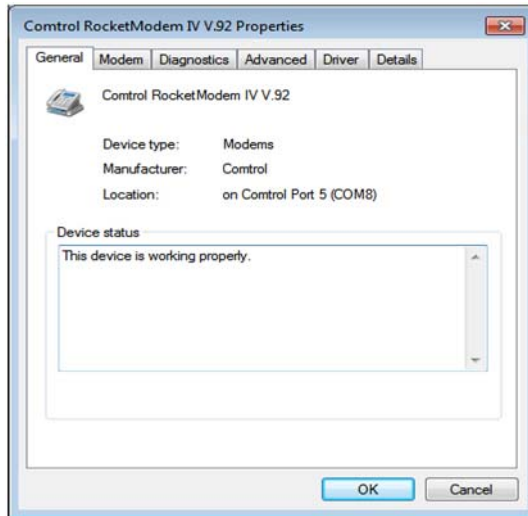
Testing the Modems

You can use the following procedure to test modems.

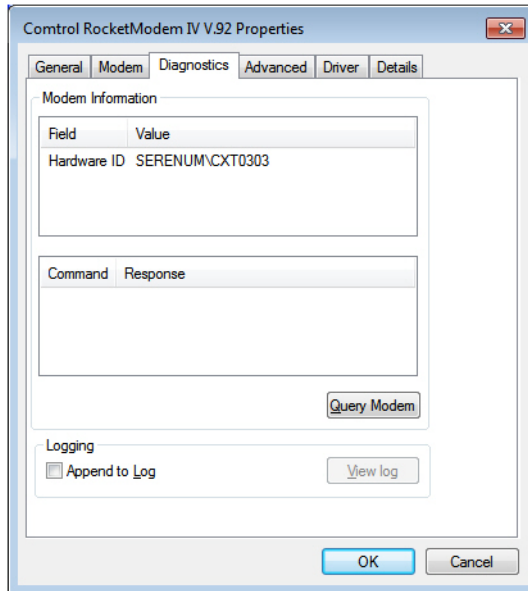
1. Access the Windows *Device Manager*.
 - Windows 7 and Windows Vista: Right-click **Computer**, click **Manage**, and then highlight the **Device Manager**.
 - Windows Server 2008 R2: Click **Start**, right-click **Computer**, and then click **Properties**.
 - Windows Server 2003: Right-click **My Computer**, click **Manage**, and then click the **Device Manager** button.
 - Windows XP:
Not logged into a domain controller: Right-click **My Computer**, click **Manage**, and then highlight the **Device Manager**.
Logged into a domain controller: Right-click **My Computer**, click **Manage**, and then click the **Device Manager** button.
2. Click the **Modems** folder, select one of the modems and chose **Properties**.



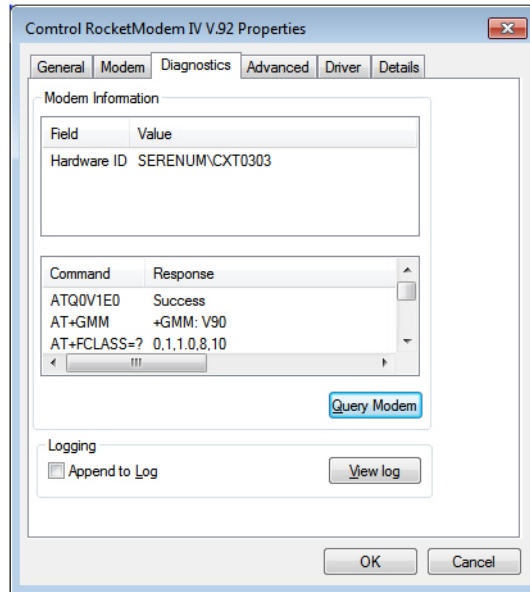
3. Select the **Diagnostics** tab.



4. Click **Query Modem**.



- The modem should respond to several commands issues by the **Query** command.



- You can click **View log** to see all of the responses to the **Query** command.
- Repeat the **Query Modem** command for each of the modems to verify that they respond.

This tests the ability for the device driver to communicate through the COM port or ports to the RocketModem IV and receive an intelligent response from the modem.

If this test fails, run the bootable RocketModem IV Diagnostics from a CD or bootable floppy diskette. If necessary, you can download the bootable Diagnostics from [ftp://ftp.control.com/html/RM4_diag.htm](http://ftp.control.com/html/RM4_diag.htm).

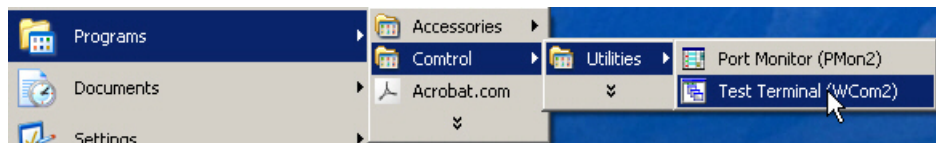
Testing RocketModem IV Ports

You can test the RocketModem IV using a terminal emulator such as the Control Corporation's Test Terminal (Wcom2) program or Hyperterminal. The following procedure shows using Test Terminal.

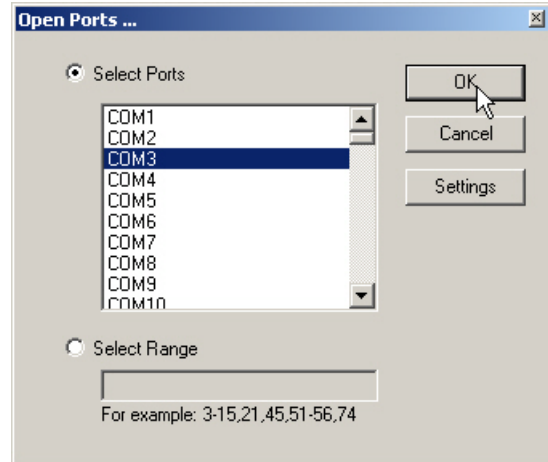
- If necessary, install Test Terminal, [Installing the Control Utility](#) on Page 53.
- Stop all applications that may be accessing the ports such as RRAS or any faxing, or production software. See the appropriate help systems or manuals for instructions on stopping these services or applications.

If another application is controlling the port, then **Test Terminal** will be unable to open the port and an error message will be shown.

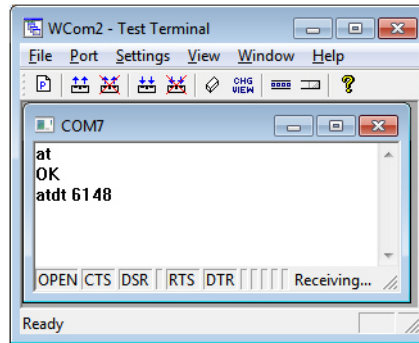
- Start Test Terminal (WCom2), from the **Start** menu, select **Programs > Control > Utilities > Test Terminal (WCom2)**.



4. Select **File > Open Port**, the appropriate port (or ports) from the *Open Ports* drop-down list and click **Ok**.
5. Type **AT** and press **Enter**.
All further commands should be followed by a (CR) (carriage return or **Enter**).
You should see a response of **OK**.
 - a. If you do not see the **AT** but you see the **OK**, type **AT E1**.
 - b. Type **AT** again.
You should then see the **AT** and the **OK**.



6. Type **ATDT** and a telephone number of a convenient phone.
You should observe the phone ringing. This shows that the RocketModem IV is capable of going *Off Hook* and dial a number.



7. Dial the telephone number of a modem you want to test.
The word *Ring* should appear on the WCom2 screen each time the phone rings.
 - a. Type **ATA** to answer the call.
You should hear the modem try to synchronize with the telephone. If you are not using a modem to try to connect with the RocketModem IV, you will not be able to proceed further.
 - b. Hang up the phone.
8. Type **+++** in WCom2 to return the modem to command mode. You will get an **OK** response.
9. Type **ATH0** to hang up the modem.
This completes the RocketModem IV testing.
10. You are now ready to configure your communications application according to the operators manual and test the modems and phone lines using your application.

Using Configuration Files

The Control Drivers Management Console supports saving configuration files, which provides:

- Back-up for existing configurations
- Ability to configure multiple of the same devices with the same configuration parameters

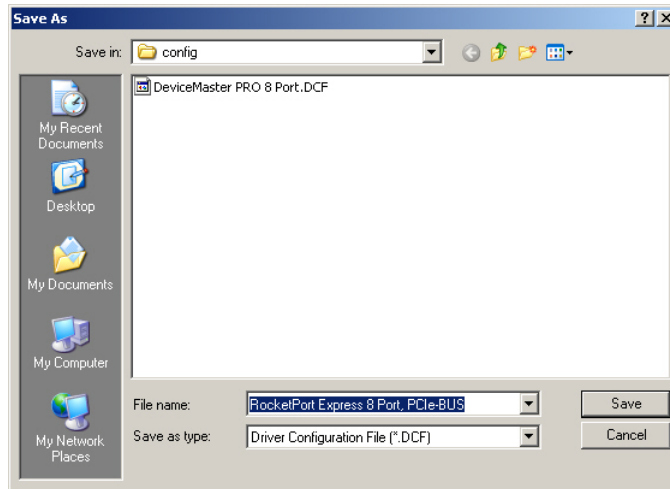
Note: Configuration files must be for the same model with the same port density. For example, you cannot load a RocketPort EXPRESS configuration file onto a RocketPort EXPRESS SMPTE or a configuration file for a 32-port RocketPort INFINITY onto a 4-port RocketPort INFINITY.

Configuration files are saved with a .DCF extension.

Saving Configuration Files

Use the following procedure to create and save a configuration file.

1. After configuring the device and ports, click **Save Configuration**.
2. Optionally, change the default file name and click **Save**.



Loading a Configuration File

Use the following procedure to load a configuration file for your device. You must have previously saved a configuration file before you can load a configuration file.

1. In the left pane, click the device that you want to load the configuration file upon.
2. Click **Load Configuration**.
3. Browse to the location of the configuration file that you want to load.
4. Highlight the configuration file and click **Open**.

The configuration file will load in a few moments.

Removing the Adapter and Driver

This section discusses:

- Removing a RocketPort from an installation without removing the device driver from your system
- [Removing the Device Driver and Adapter](#) from your system

Removing a RocketPort

Use the *Device Manager* if you want to remove a RocketPort from the Control Drivers Management Console. You will need to close the Control Drivers Management Console before you can remove a RocketPort.

You can use the appropriate discussion, to locate the procedure for your operating system.

- [Windows 7 and Windows Vista](#)
- [Windows Server 2008 R2](#)
- [Windows Server 2003](#)
- [Windows XP](#) on Page 54

Note: *Administrative privileges are required to remove device drivers on Windows 7, Windows Server 2008, and Windows Vista.*

Windows 7 and Windows Vista

You can use this method to access the *Device Manager* to remove a RocketPort from the Control Drivers Management Console.

1. Close the Control Drivers Management Console.
2. Right-click **Computer**.
3. Click **Manage** and highlight *Device Manager*.
4. Expand the **Multi-port serial adapters** entry.
5. Right-click the RocketPort that you want to remove and click **Uninstall**.
6. [Windows Vista](#) users should click the check box to remove the software from the system on the last (or only) device.

Windows Server 2008 R2

You can use this method to access the *Device Manager* to remove a RocketPort from the Control Drivers Management Console.

1. Close the Control Drivers Management Console.
2. Click **Start**, right-click **Computer**.
3. Click **Properties**.
4. Expand the **Multi-port serial adapters** entry, right-click the RocketPort that you want to remove and click **Uninstall**.

Windows Server 2003

You can use this method to access the *Device Manager* to remove a RocketPort from the Control Drivers Management Console.

1. Close the Control Drivers Management Console.
2. Right-click **My Computer**, click **Manage**.

3. Click the **Device Manager** button.
4. Expand the **Multi-port serial adapters** entry, right-click the RocketPort that you want to remove and click **Uninstall**.

Windows XP

You can use the appropriate method to access the *Device Manager* to remove a RocketPort from the Control Drivers Management Console.

Not logged into a Domain Controller

1. Close the Control Drivers Management Console.
2. Right-click **My Computer**.
3. Click **Manage** and highlight the *Device Manager*.
4. Expand the **Multi-port serial adapters** entry, right-click the RocketPort that you want to remove and click **Uninstall**.

Logged into a Domain Controller

1. Close the Control Drivers Management Console.
2. Right-click **My Computer**, click **Manage**, and then click the **Device Manager** button.
3. Expand the **Multi-port serial adapters** entry, right-click the RocketPort that you want to remove and click **Uninstall**.

Removing the Device Driver and Adapter

Use the following procedure to remove the RocketPort EXPRESS/INFINITY device driver.

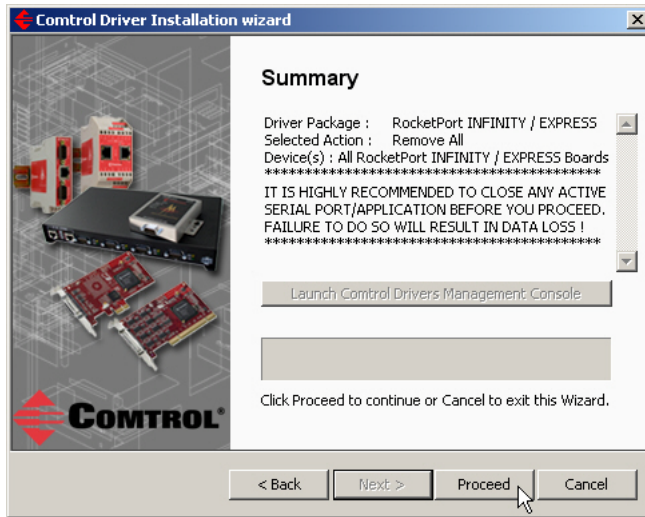
1. From the **Start** button, click the appropriate shortcut for your adapter:
 - **Programs>Control>RocketPort EXPRESS INFINITY>Driver Installation Wizard**
 - **Programs>Control>RocketPort>Driver Installation Wizard - RocketPort and RocketModem (Universal PCI)**
2. Click **Next** to start the *Control Driver Installation Wizard*.
3. Click **Remove All** and **Next**.



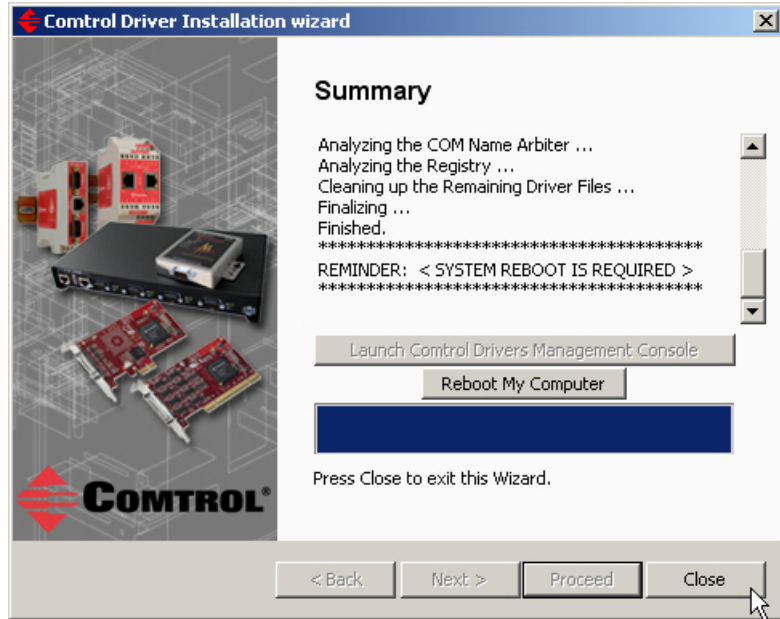
4. Click **Next** to remove the driver.



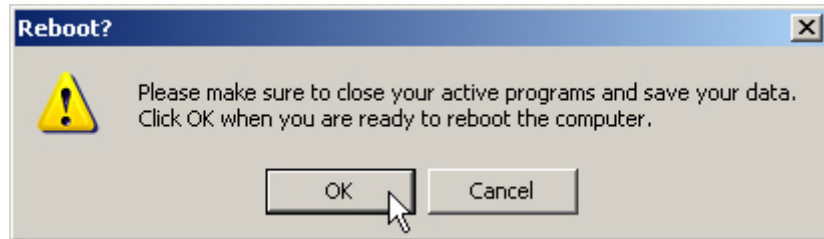
5. Click **Proceed** to continue the driver removal process.



6. Click the **Reboot My Computer** button or **Close**.



- If you click **Close**, make sure that you reboot the system and remove the adapter to complete the driver removal.
- If you click **Reboot My Computer**, click **Ok**.



7. Shutdown the system and remove the RocketPort adapter.
8. If you want to totally remove the .exe driver assembly:
 - a. Delete any copies of the .exe driver assembly file residing on the system.
 - b. Delete the driver and devices using the **Add> Remove Programs Control Panel**.

Troubleshooting and Technical Support

This section contains the following topics:

- [Troubleshooting Checklist](#)
- [Control Utility](#) on Page 53
 - [Installing the Control Utility](#) on Page 53
 - [Using Port Monitor \(PMon2\)](#) on Page 55
 - [Using Test Terminal](#) on Page 58
- [Before Calling Technical Support](#) on Page 63
- [Technical Support](#) on Page 64

Troubleshooting Checklist

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

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

Issue	Troubleshooting
Correct cabling?	Verify that you are using the <i>correct types of cables</i> in the correct places and that all cables are tightly connected. Refer to the appropriate <i>RocketPort User Guide</i> on the CD or download the latest version (Page 7) to verify cabling.
Correct Port Addressing?	Verify that you are <i>addressing the port correctly</i> . 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.
Control Drivers Management Console?	Verify that the RocketPort has installed using the Control Drivers Management Console to confirm that the adapter displays. Install the device driver, if the adapter is not displayed.
Verify the Hardware?	Run the bootable diagnostics. <ul style="list-style-type: none">• The RocketPort EXPRESS/INFINITY is shipped with a bootable CD that executes the hardware diagnostics. If you cannot locate the CD, you can download and burn the bootable Diagnostics CD.• You can download and burn a bootable Diagnostics CD for the RocketPort and RocketModem (Universal PCI). The appropriate <i>RocketPort User Guide</i> provides procedures about running the Diagnostics.
Test the Port or Ports?	Install the Control Utility (Page 53) and use Test Terminal (Page 58).
Is this the Latest Driver?	See Checking the Device Driver Version on Page 21.

Issue	Troubleshooting
Port Does Not Open?	<p>1. Open the <i>Device Manager</i>.</p> <ul style="list-style-type: none"> • Windows 7 and Windows Vista: Right-click Computer, click Manage, and then highlight the Device Manager. • Windows Server 2008 R2: Click Start, right-click Computer, and then click Properties. • Windows Server 2003: Right-click My Computer, click Manage, and then click the Device Manager button. • Windows XP: <i>Not logged into a domain controller:</i> Right-click My Computer, click Manage, and then highlight the Device Manager. <i>Logged into a domain controller:</i> Right-click My Computer, click Manage, and then click the Device Manager button. <p>2. Double-click Ports (COM & LPT) to expand the view. Control ports are displayed in the <i>Device Manager</i>, accordingly:</p> <ul style="list-style-type: none"> • DeviceMaster ports are Control NS-Link ports • RocketPort EXPRESS/INFINITY are Control RocketPort Unity ports • RocketPort and RocketModem (Universal PCI) are Control ports <p>If a yellow exclamation mark represents the port, right-click on the exclamation mark, and click Update Driver. See Updating the Driver on Page 21 for detailed procedures.</p>
Monitor Port Activity?	Install the Control Utility (Page 53) and use Port Monitor.
Enable Verbose mode	<p>You can optionally enable the Verbose Event Log option on the Device General tab for diagnostic purposes to initiate longer messages to be sent to the <i>Event Log</i> for your operating system. The added information can be useful when debugging communications and configuration problems.</p> <p>Access the event log through the <i>Administrative Tools Event Viewer</i> option.</p>

Control Utility

The Control Utility Package is innovative software for serial port communication, testing, monitoring and reporting for the RocketPort families.

The Control Utility Package contains three useful software applications named Test Terminal, Port Monitor, and Peer Tracer for communicating directly, monitoring, and reporting statistics of any COM, RS-232, RS-422, and RS-485 serial ports you have installed in a system.

The Control Utility Package supports the following operating systems:

- Windows 2000
- Windows XP
- Windows Server 2003
- Windows Vista
- Windows Server 2008
- Windows 7

The Control Utility is available on the *Software and Documentation CD* or you can download the latest version from: ftp://ftp.comtrol.com/utilities/windows/control_utility.

This subsection discusses the following topics:

- [Installing the Control Utility](#) on Page 53
- [Using Port Monitor \(PMon2\)](#) on Page 55
- [Using Test Terminal](#) on Page 58

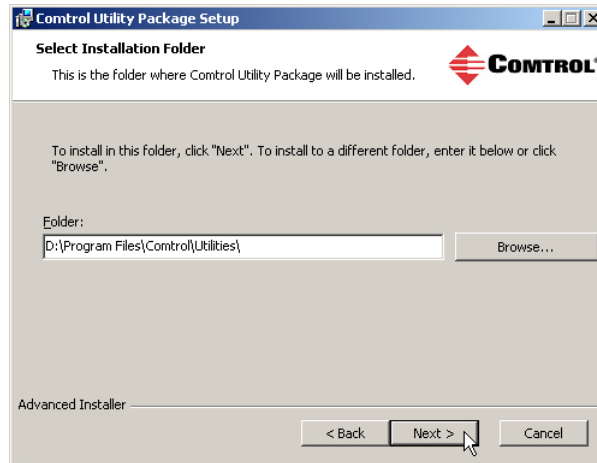
Installing the Control Utility

Use the following procedure to install the Control Utility package.

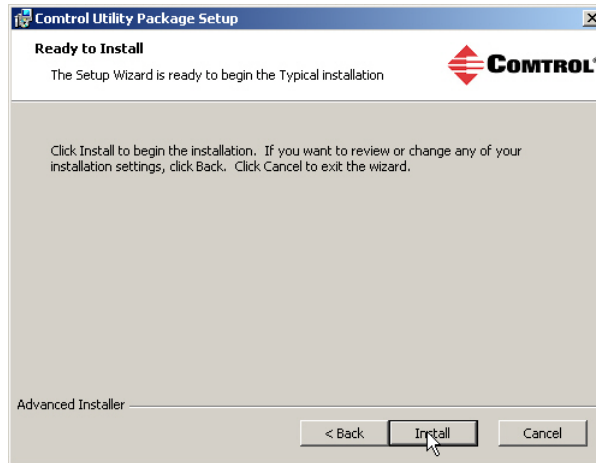
1. Execute the **Control_Utility_Package_x.xx.msi** file, where x_xx is the Control Utility version number.
2. Click **Next**.



3. Click Next.



4. Click Install.



5. Click Finish.

It is not necessary to reboot the PC after installation.

6. Go to [Using Port Monitor \(PMon2\)](#) on Page 55 or [Using Test Terminal](#) on Page 58 for procedures on using these applications.

Note: See [Verifying and Testing RocketModem IV Adapters](#) on Page 35 to test RocketModem IV ports.



Using Port Monitor (PMon2)

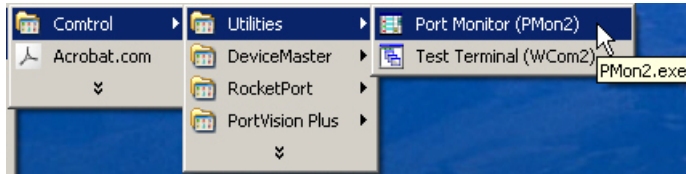
This procedure will check whether the RocketPort can:

- Communicate through the RocketPort device driver
- Determine if a port is open with an application

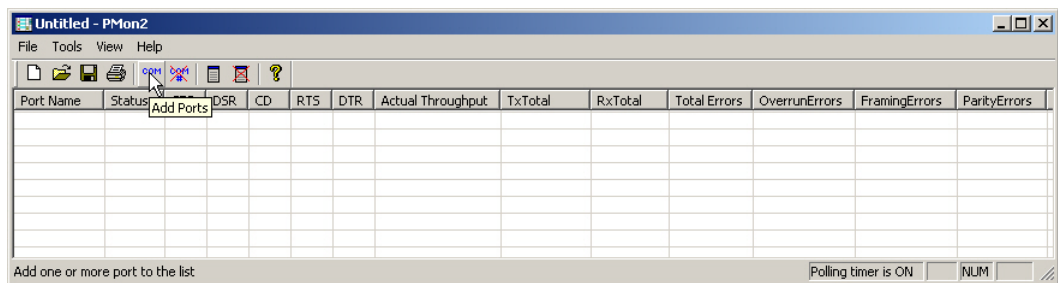
Testing Control COM Ports

If necessary, use [Installing the Control Utility](#) on Page 53 to install Port Monitor.

1. Start Port Monitor, from the **Start** menu, select **Programs > Control > Utilities > Port Monitor (PMon2)**.

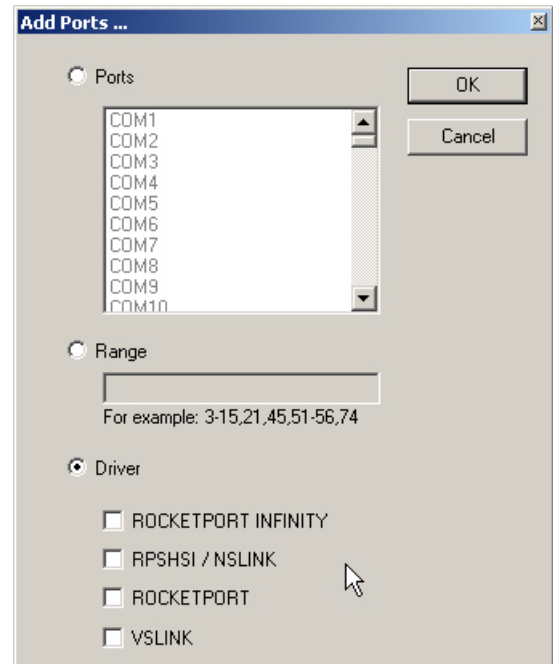


2. Click **Add Ports** using the icon or **Tools > Add Ports**,



3. Click **Driver**, the appropriate product (or products), and click **Ok**.

- *RocketPort EXPRESS/ INFINITY*: click **ROCKETPORT INFINITY**
- *DeviceMaster*: click **RPSHSI/ NSLINK**
- *RocketPort and RocketModem (Universal PCI)*: click **ROCKETPORT**



- If the RocketPort is communicating with the device driver for Windows, Port Monitor should display **CLOSED** status. If a port is open for an application, it displays as **OPEN**, and displays **Actual Throughput**, **TxTotal** and **RxTotal** statistics.

Port Name	Status	CTS	DSR	CD	RTS	DTR	Actual Throughput	TxTotal	RxTotal	Total Errors	OverrunErrors
COM11	OPEN	ON	ON	ON	ON	ON	114600	205891	205638	0	0
COM12	CLOSED	OFF	OFF	OFF	OFF	OFF	0	0	0	0	0
COM13	CLOSED	OFF	OFF	OFF	OFF	OFF	0	0	0	0	0
COM14	CLOSED	OFF	OFF	OFF	OFF	OFF	0	0	0	0	0
COM15	CLOSED	OFF	OFF	OFF	OFF	OFF	0	0	0	0	0
COM16	CLOSED	OFF	OFF	OFF	OFF	OFF	0	0	0	0	0
COM17	CLOSED	OFF	OFF	OFF	OFF	OFF	0	0	0	0	0
COM18	CLOSED	OFF	OFF	OFF	OFF	OFF	0	0	0	0	0

Normally, there should be no data errors recorded or they should be very small. To find out what the actual errors are, scroll to the right. You will see three columns: **Overrun Errors**, **Framing Errors**, and **Parity Errors**.

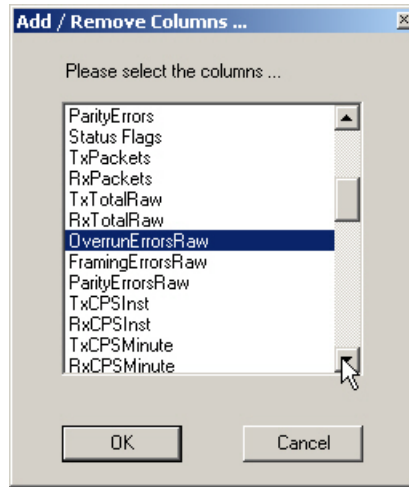
If the errors are:

- Overrun Errors** represent receive buffer overflow errors. If this is the case, you will have to configure either software or hardware handshaking to control the flow of data. The most common errors are Overrun errors.
- Framing Errors** indicate that there is an synchronization error between the beginning of a data frame and the end of the data frame. A frame usually consists of a start bit, 8 data bits, and a stop bit or two. The framing error occurs if the stop bit is not detected or it occurs in the wrong time frame. Most causes for framing errors are electrical noise on the data lines, or differences in the data clocks of the RocketPort and the connected device.
- Parity Errors** occur when parity is used and the parity bit is not what is expected. This can also be caused by noise on the data lines.

- You can view additional statistics to Port Monitor by adding columns. Click **Tools** and **Add Columns**.

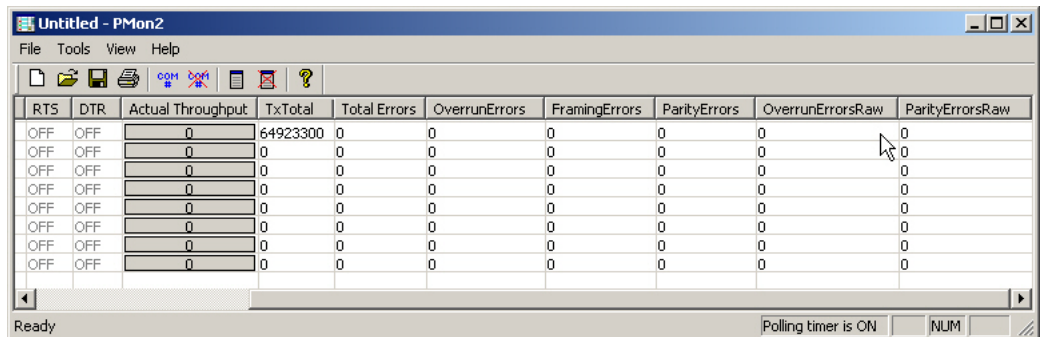
Port Name	Status	CTS	DSR	CD	RTS	DTR	Actual Throughput	TxTotal	RxTotal	Total Errors	OverrunErrors	FramingErrors	ParityErrors
COM11	OPEN	ON	ON	ON	ON	ON	0	64923300	64923300	0	0	0	0
COM12	CLOSED	OFF	OFF	OFF	OFF	OFF	0	0	0	0	0	0	0
COM13	CLOSED	OFF	OFF	OFF	OFF	OFF	0	0	0	0	0	0	0
COM14	CLOSED	OFF	OFF	OFF	OFF	OFF	0	0	0	0	0	0	0
COM15	CLOSED	OFF	OFF	OFF	OFF	OFF	0	0	0	0	0	0	0
COM16	CLOSED	OFF	OFF	OFF	OFF	OFF	0	0	0	0	0	0	0
COM17	CLOSED	OFF	OFF	OFF	OFF	OFF	0	0	0	0	0	0	0
COM18	CLOSED	OFF	OFF	OFF	OFF	OFF	0	0	0	0	0	0	0

- Highlight or shift-click to add multiple statistics and click **Ok**.




Note: See the Port Monitor help system if you need an explanation of a column.


- Scroll to the right to view the new columns.



- If you want to capture this session, you can save a current session as a report. To do this, select one of the following save options:

- **File > Save As**
- **File > Save** - if the report already exists in an older format
- **Save Active Session**  button

Reports can be opened, viewed and re-used when needed. To open and view a report:

- Select **File > Open** or the **Open Existing Session**  button. The *Open Session* dialog appears.
- Locate the session (table), you want to open and click the **Open** button.

Optionally, if you want to continue monitoring for an existing session, you need to activate the *Polling Interval*.

- Select **Tools > Settings** to access the PMon2 *Settings* dialog
- Change the **Polling Interval** field to a value other than zero (0)

- Leave Port Monitor open so that you can review events when using *Test Terminal* to test a port or ports.

Using Test Terminal

Test Terminal (WCom2) allows you to open a port, send characters and commands to the port, and toggle the control signals. This application can be used to troubleshoot communications on a port-by-port basis.

Note: See [Verifying and Testing RocketModem IV Adapters](#) on Page 35 to test RocketModem IV ports.

- **Send and Receive Test Data:** This sends data out the transmit line to the loopback plug, which has the transmit and receive pins connected thus sending the data back through the Rx line to Test Terminal, which then displays the received data in the terminal window for that port. This test is only testing the Tx and Rx signal lines and nothing else. This test works in either RS-232 or RS-422 modes as both modes have transmit and receive capability. A failure in this test will essentially prevent the port from working in any manner.
- **Loopback Test:** This tests all of the modem control signals such as RTS, DTR, CTS, DSR, CD, and RI along with the Tx and Rx signals. When a signal is made HI in one line the corresponding signal line indicates this. The Loopback Test changes the state of the lines and looks for the corresponding state change. If it successfully recognizes all of these changes, the port passes.

A failure on this test is not necessarily critical as it will depend on what is connected and how many signal lines are in use. For example, if you are using RS-232 in 3-wire mode (Transmit, Receive and Ground) a failure will cause no discernible issue since the other signals are not being used. If the port is configured for use as either RS-422 or RS-485 this test will fail and is expected to fail since RS-422 and RS-485 do not have the modem control signals that are present in RS-232 for which this test is designed.

The following procedures require a loopback plug to be placed on the port or ports that you want to test. A loopback plug was shipped with your RocketPort. If you need to build a replacement or additional loopback plugs, refer to the appropriate User Guide for your Control device. See [Downloading the Latest Software and User Guides](#) on Page 7, if you need to build loopback plugs.

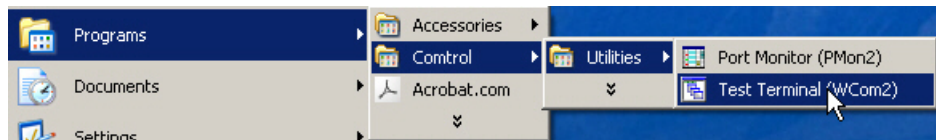
Opening Ports

The following procedure shows how to use **Test Terminal** to send and receive test data to the serial ports. If necessary, use [Control Utility](#) on Page 9 or [PortVision Plus](#) on Page 13 to install Test Terminal.

1. Stop all applications that may be accessing the ports such as RRAS or any faxing, or production software. See the appropriate help systems or manuals for instructions on stopping these services or applications.

If another application is controlling the port, then **Test Terminal** will be unable to open the port and an error message will be shown.

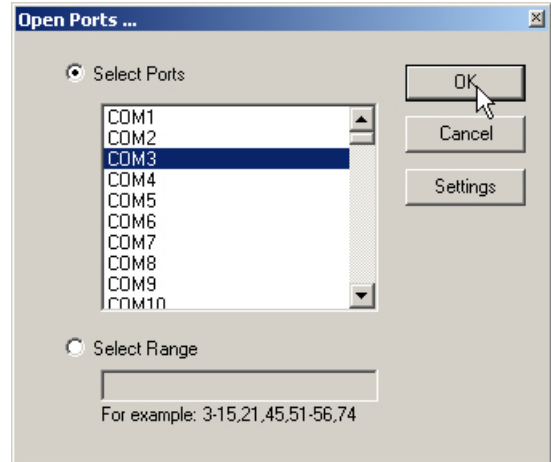
2. Start Test Terminal (WCom2), from the **Start** menu, select **Programs > Control > Utilities > Test Terminal (WCom2)**.



3. Select **File > Open Port**, the appropriate port (or ports) from the *Open Ports* drop-down list and click **Ok**.

Note: *If you left Port Monitor open from the previous subsection, you should show that the port is open.*

Go to the next procedure to send and receive test data.



Sending and Receiving Test Data (RS-232/422 and RS-485: 4-Wire)

You can use this procedure to send and receive test data through the port or ports that you want to test.

1. If you have not done so, perform [Steps 1](#) through [2](#) on Page 58.
2. Install the loopback plug onto the port (or ports) that you want to test.
See [Downloading the Latest Software and User Guides](#) on Page 7 if you need to build loopback plugs.
3. Select **Port > Send and Receive Test Data**.

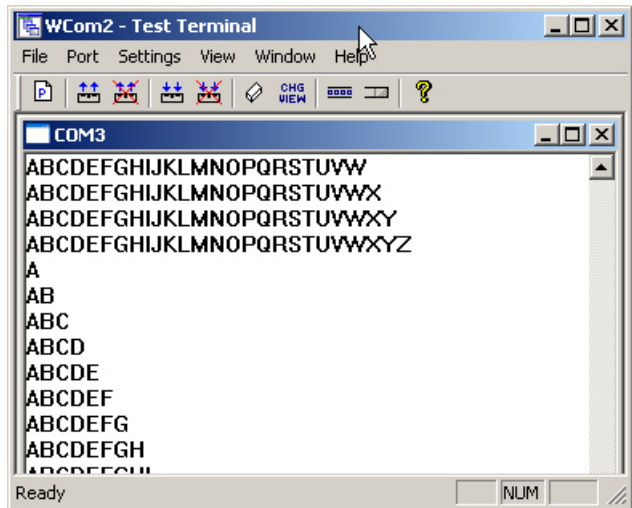
You should see the alphabet scrolling across the port. If so, then the port installed properly and is operational.

Note: *If you left Port Monitor running, it should show data sent and received and show the average data throughput on the port.*

4. Select **Port > Send and Receive Test Data** to stop the scrolling data.
5. You can go to the next procedure to run the *Loopback Test* on Page 60 if this is an RS-232 port.

If this test successfully completed, then the port is operational as expected.

Note: *Do NOT forget to restart the communications application.*



Loopback Test (RS-232)

The **Loopback Test** tests the modem control (hardware handshaking) signals. It only has meaning in RS-232 mode on serial connector interfaces with full RS-232 signals. If performed under the following conditions, the test will always fail because full modem control signals are not present:

- RS-422
- RS-485
- RJ11 connectors

Use the following steps to run the Loopback Test.

1. If necessary, start Test Terminal (Page 58, [Steps 1](#) through [2](#)).
2. Click **Port > Loopback Test**.

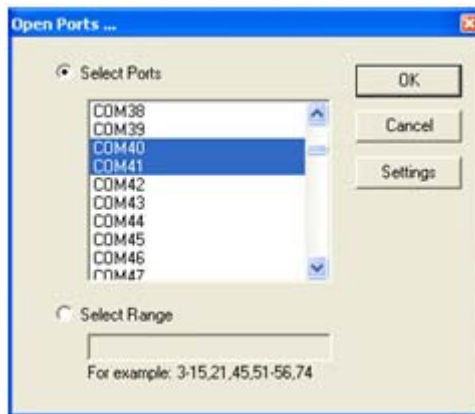
This is a pass fail test and will take a second or two to complete. Repeat for each port that needs testing.

If the Loopback Test and the Send and Receive Test Data tests successfully complete, then the port is operational as expected.

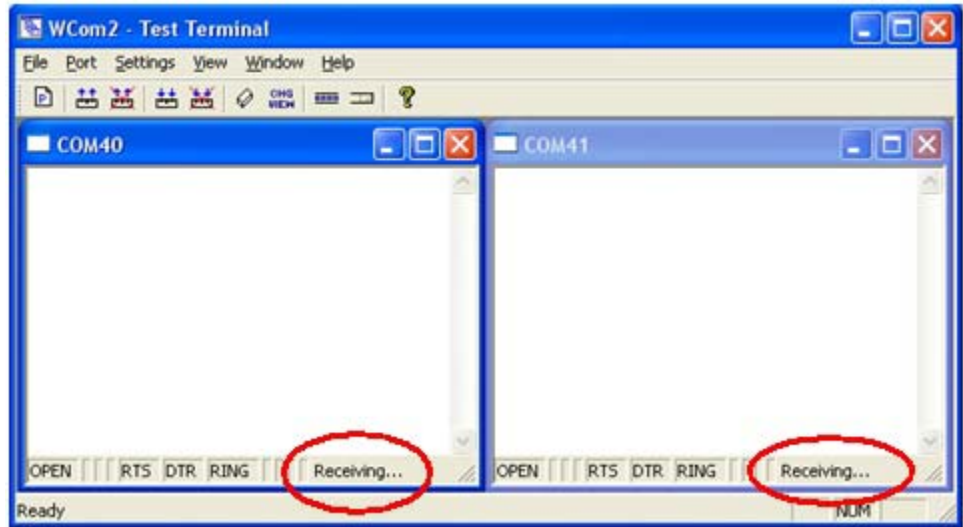
Sending and Receiving Data (RS-485: 2-Wire)

This procedure shows how to use Test Terminal (WCom2) to test two RS-485 (2-wire, half-duplex) ports.

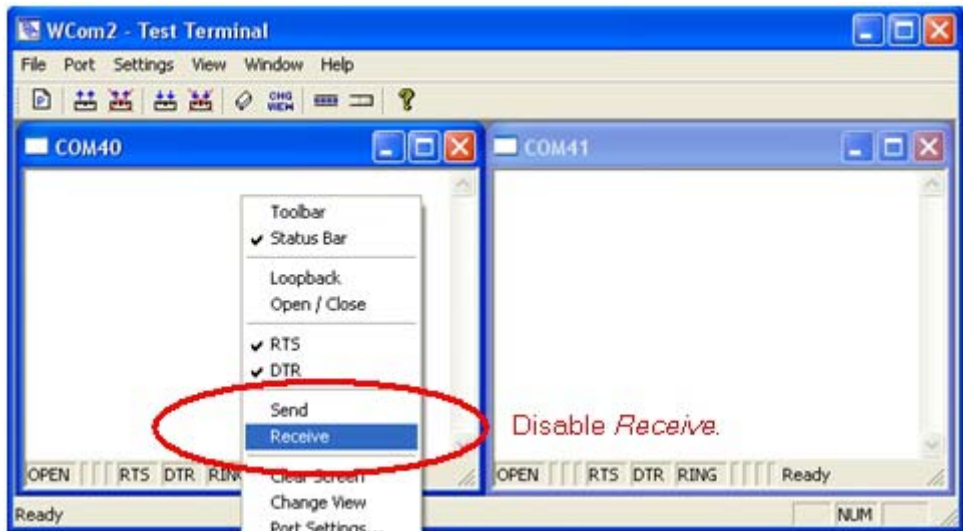
1. Start Test Terminal.
2. Open two ports RS-485 ports. This example uses COM40 and COM41.



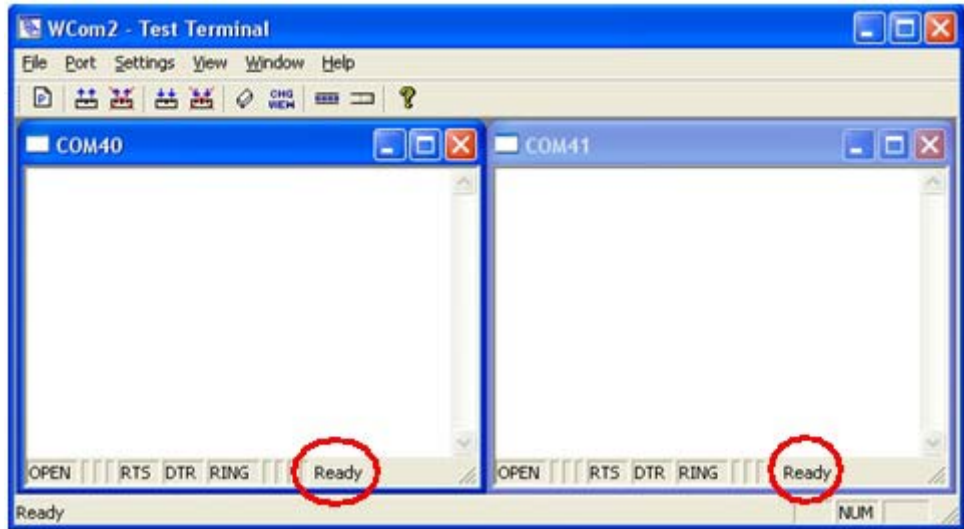
Test Terminal will open two windows, note that both ports show *Receiving* on the status bar.



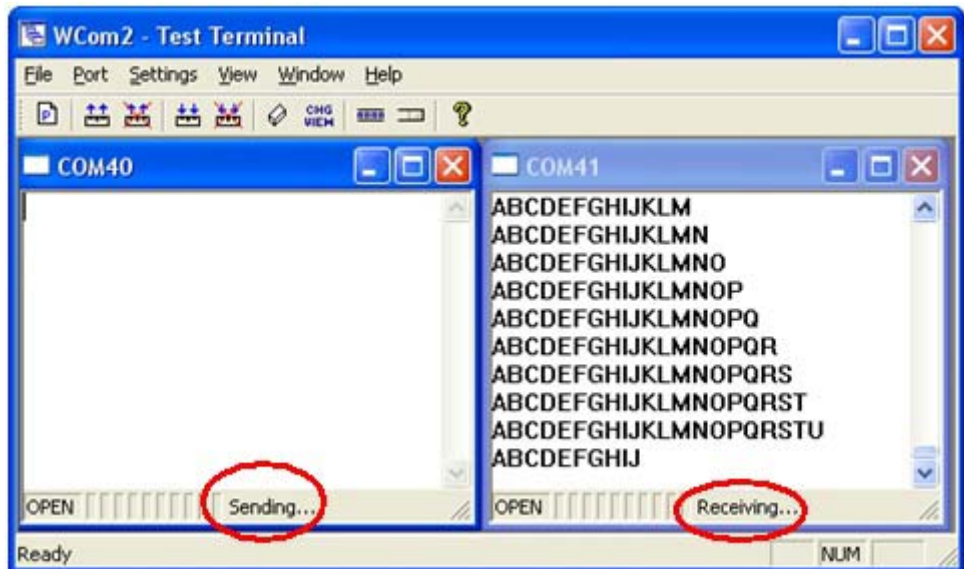
3. Right-click both COM windows and remove the check mark for **Receive**.



Both COM ports show *Ready* on the status bar.



4. Right-click in ONE window and select the **Receive** option from the pop up.
5. Right-click the OPPOSITE window and click **Send**.



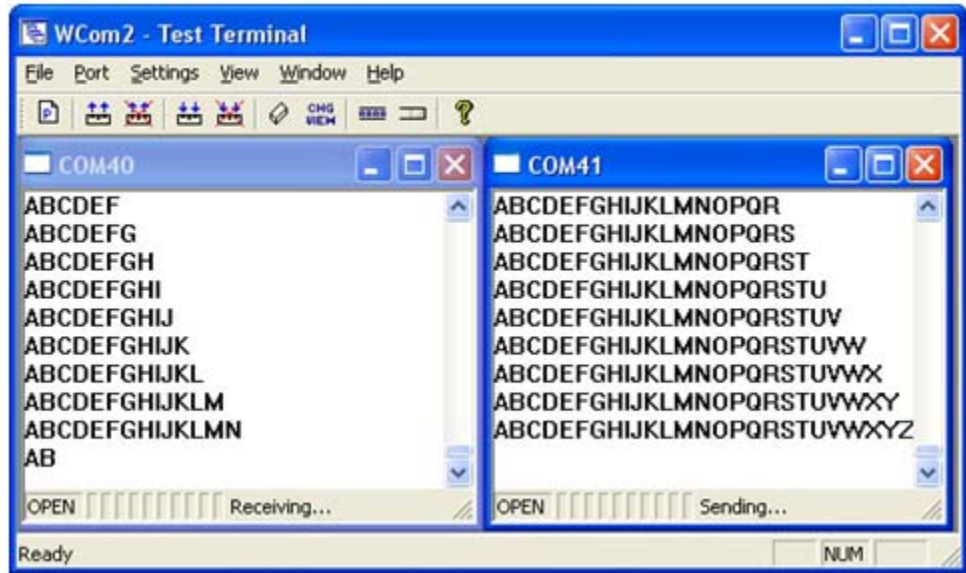
The *Status* line shows *Sending* or *Receiving*.

In this case, COM40 is sending data and COM41 is receiving the data which is visually confirmed by the data scrolling across the COM41 window.

Note: *If you do not see the data being received it MAY be necessary to also disable the RTS and DTR options from the right-click pop-up menu in each COM port.*

6. Right-click and remove the check mark on the *Sending* COM port.

- Right-click and remove the check mark on the *Receiving* COM port.



Neither COM port is sending or receiving data but shows *Ready* on the *Status* bar.

- Reverse the sending/receiving windows one at a time. Set the **Receive** option first, then in the opposite window, select the **Send** option.

The *Status* line shows *Sending* or *Receiving* in the reverse windows.

Data is now scrolling in the COM40 window. COM41 is static as it is not receiving data but transmitting data.

Before Calling Technical Support

Control has a staff of support technicians available to help you. You should review [Troubleshooting Checklist](#) on Page 51 before calling Technical Support. If you call for Technical Support, please have the following information available.

Item	Information
Adapter type	
Adapter serial number	
Driver part number and revision or version	
Server computer make, model, and speed	
Other serial port adapters installed in the server and their COM port numbers	
Devices connected to the adapter	

Technical Support

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

Contact Method	Corporate Headquarters
Support	http://www.comtrol.com/pub/en/Support
Downloads	ftp://ftp.comtrol.com/html/default.htm
Web site	http://www.comtrol.com
Phone	763. 957.6000 CST: 8AM-6PM (Excluding US Holidays)

Configuring Non-Plug and Play Devices

After installing the hardware and driver for Windows operating systems, you can use this discussion to configure non-plug and play COM ports.

Installing Non-Plug and Play Devices

Use the following procedure to install non-plug and play devices.

1. If you have not so yet, connect the device to a RocketPort port and turn on the device.
2. Open the *Control Panel*.
3. Go to the appropriate subsection to install non-plug and play modems or printers:
 - [Installing Modems](#) on Page 79
 - [Installing Printers](#) on Page 80

Installing Modems

Use the following procedure to install non-plug and play modems.

1. If you have not done so yet, connect the modem (or modems) to the desired RocketPort port (or ports) and turn on the modem (or modems).

Note: This may take a few minutes, depending upon your system and the number of modems you are installing.

2. Open the *Control Panel* and click the **Phone and Modem Options** icon.
3. Click the **Modems** tab.
4. Click **Add**.
5. Click **Don't detect my modem. I will select it from a list** and then click **Next**.
6. Click an appropriate modem model and then click **Next**.

Note: If you have a driver from the modem manufacturer, click **Have Disk** and browse to the location of the driver. If your modem is not listed, go to the modem manufacturer's web site and download the appropriate driver.

7. Highlight the port or ports on to which you have connected modems.
8. Click **Finish** to complete the modem installation.
9. Configure modem properties as necessary. For assistance, use the Windows help system.

To use this modem or modems with RRAS, you can refer to the Control [RRAS Configuration Overview for Windows XP](#) document.

Installing Printers

Use the following procedure to install a non-plug and play printer.

Note: *If you want to install a plug and play printer, connect the printer to the appropriate serial port and the driver should automatically install. If it does not automatically install, use the following procedure as a guide with the printer manufacturer's documentation.*

1. Open the *Control Panel* and click the **Printers and Faxes** icon.
2. Click **Next** when this screen appears.
3. Click the **Local printer attached to this computer** item.
4. Click the COM port that corresponds to the port to which the printer is connected.
5. Click the Manufacturer, Printer type, and then click **Next**.

Note: *If you have a driver from the printer manufacturer, click **Have Disk** and browse to the location of the driver. If your printer is not listed, go to the printer manufacturer's web site and download the appropriate driver.*

6. Optionally, enter a printer name and then click **Next**.
7. Click **Yes** if you want to print a test page.
8. Click **Finish** to complete the installation.
9. Close the **Printer and Faxes Control Panel**.