

# Com Port Redirector v.4

Powered by TruPort™ Technology

## Quick Start

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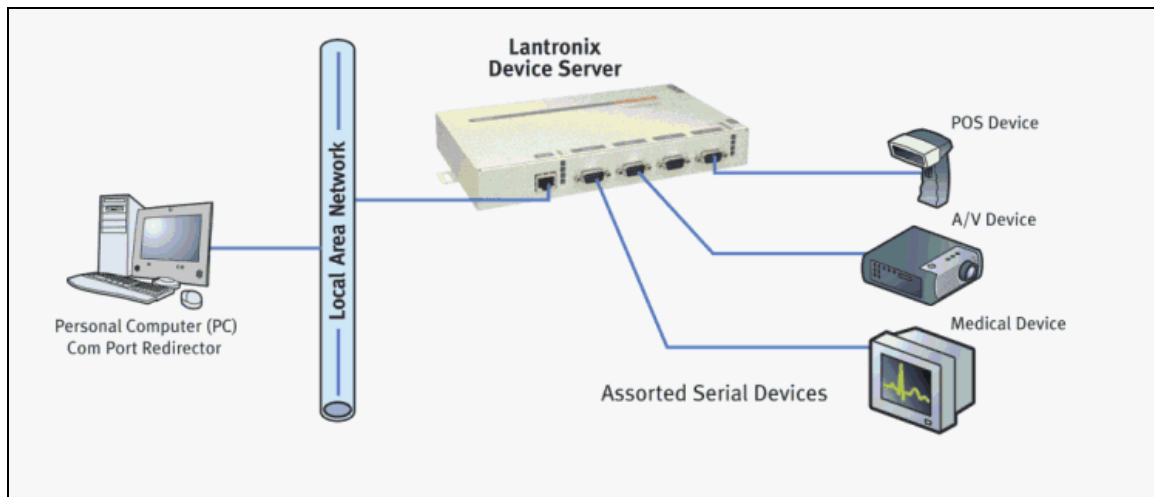
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## Introduction

Lantronix's Com Port Redirector (CPR) v.4, powered by TruPort™ technology, is a software utility for network-enabling software applications that do not have network support. Com Port Redirector installs virtual communication ports; these communication (com) ports are redirected over a network to the serial port of a Lantronix device server. [TruPort® Technology combines RFC2217 Com Port control protocol with Lantronix® data handling, discovery, and device server technology, enabling advanced remote serial interface control.](#)

CPR supports Windows XP, Windows 2000 and 2003 server, and Windows Vista, including Terminal Services.

### Example of How Com Port Redirector Works



Com Port Redirector consists of the following modules:

**CPR Manager** enables you to map com ports to device servers, configure, and test comports.

**CPR Monitor** enables you to identify and troubleshoot problems.

You will find detailed instructions for using the modules in the Com Port Redirector online Help.

## Overall Procedure

The following procedure summarizes the steps for using Com Port Redirector.

1. Install Com Port Redirector on each PC that will communicate with the device server.
2. Review the general usage guidelines for the device server.
3. Configure the device server and Com Port Redirector.
4. Verify the connectivity between Com Port Redirector and the device server.

## Installation

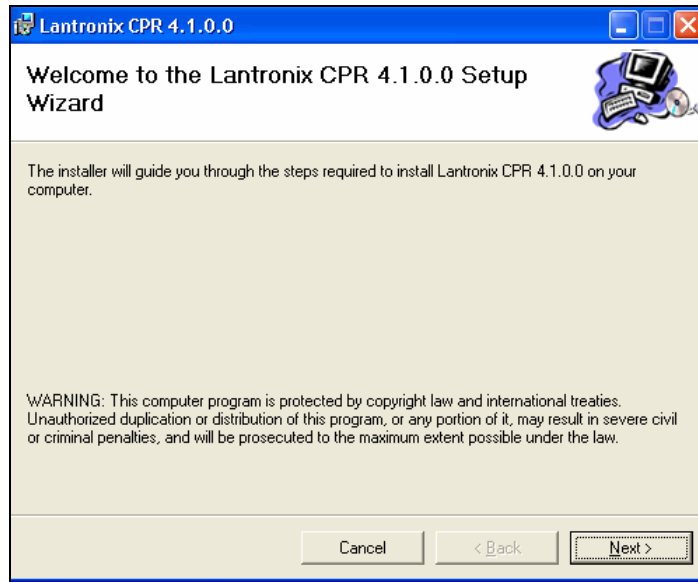
### To install Com Port Redirector:

1. Perform the appropriate step to start the installation:
  - ◆ If Com Port Redirector is on a CD-ROM, insert the CD-ROM into the computer's CD-ROM drive and click the **Redirector** button,

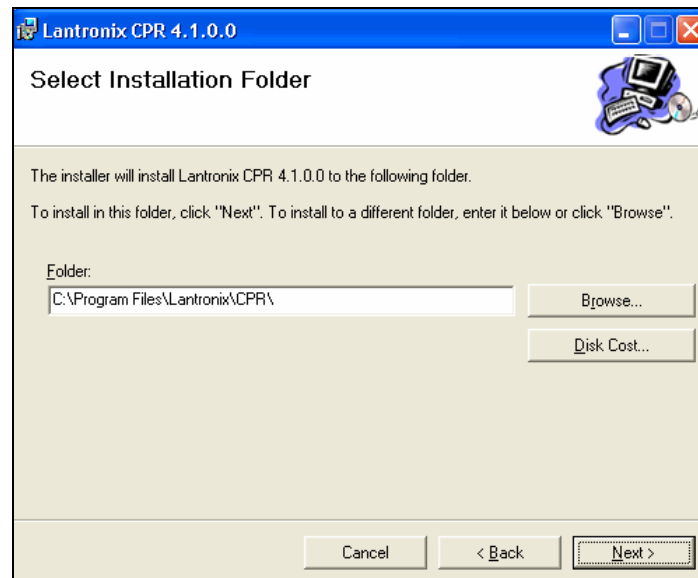
OR

- ◆ If you downloaded Com Port Redirector, double-click the downloaded file.

The Lantronix CPR Welcome window displays.

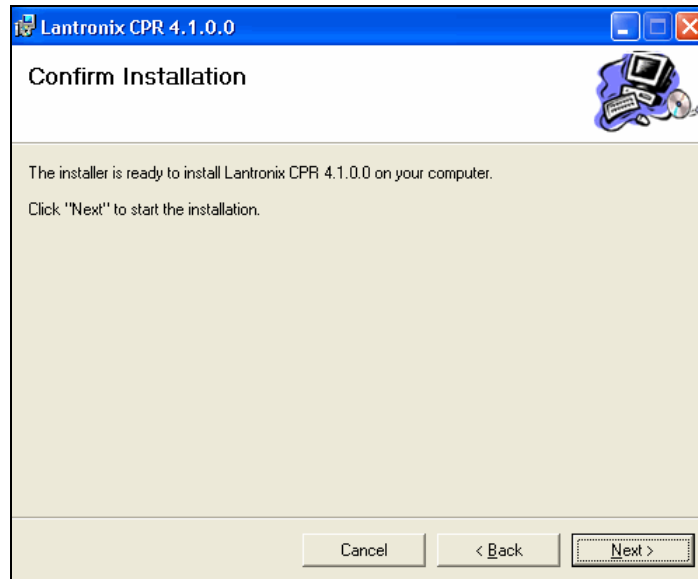


2. Click the **Next** button. The Select Installation Folder window displays.



3. Browse to the folder where you want to install the CPR. We recommend you select the default.

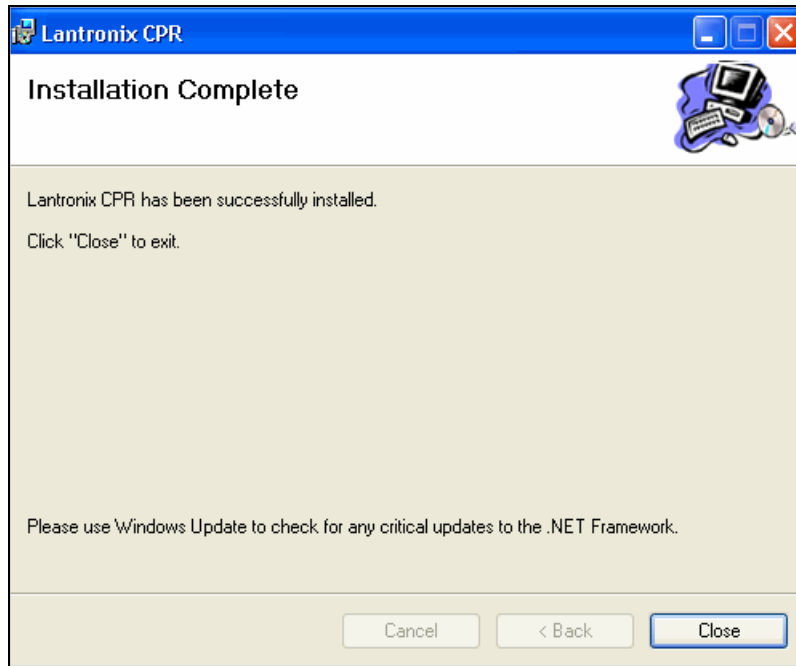
4. To view available disk space on your drives, click the **Disk Cost** button.
5. Click the **Next** button. The Confirm Installation window displays.



6. Click the **Next** button. The installation begins; then a warning message displays indicating that CPR has not passed Windows Logo testing.



7. Click the **Continue Anyway** button. The installation continues and the warning displays again.
8. Click the **Continue Anyway** button again. The installation continues until the Installation Complete window displays.



9. Click the **Close** button.

## Device Server Configuration Guidelines

Observe the following general guidelines when preparing the device server for use with Com Port Redirector:

- ◆ The device server to which Com Port Redirector will connect must have an IP address.
- ◆ The PC running Com Port Redirector must have a good network connection to the device server.
- ◆ If redirecting over a Wide Area Network (WAN), both the PC and the device server must have a correct gateway address configured in their TCP/IP settings.
- ◆ Serial settings on the device server must match the settings of the serial device when RFC2217 is not implemented. Serial settings include:

- Baud rate
- Parity
- Stop bits
- Flow control
- Interface mode (RS-232 or RS-422/485)

Consult your device server documentation for information about configuring these serial settings for your device server.

- ◆ Connect/Disconnect and Access Modes: You must configure the way the device server accepts a connection appropriately for the device server to accept a network connection from Com Port Redirector.
  - CoBox, UDS, XPort, and XPress products: Set the Connect Mode to **C0** and Disconnect Mode to **00**. If the CPR com port is set for Listen Mode, set the Connect Mode to 05.

**Note:** If you are using RFC2217, set the Disconnect Mode to **40**.

- MSS, ETS, and SCS products: Set the access mode to "Dynamic" or "Remote" on the serial port receiving the connection from the Com Port Redirector.

- ◆ Serial cabling between the managed serial device and the device server must be correct. Consult your documentation for the pinouts of your device server.

## Quick Setup

### 1. Com Port List

CPR enables you to create up to 256 com ports. The tree structure in the left pane of the window displays existing com ports, and the **Com Port List** tab lists them on the right, along with additional information, if available.

**To view com port information:**

1. Click the **Com Port List** tab (if not displaying).

Com Port	IP Address	TCP Port	Com Status	Network Status	2217	BfrWr	SvrRec	NoCls	CntTO	TORec	KpAk
Com 1 (Inaccessible)											
Com 2 (Inaccessible)											
Com 4	172.18.11.190	10001	Closed	Disconnected	Yes	Yes			7	Yes	
Com 5	Listen Mode (Auto)	10001	Closed	Disconnected	Yes	Yes			7	Yes	
Com 6			Closed	Disconnected		Yes			7	Yes	
Com 7			Closed	Disconnected		Yes			7	Yes	
Com 8			Closed	Disconnected		Yes			7	Yes	
Com 9			Closed	Disconnected		Yes			7	Yes	
Com 10			Closed	Disconnected		Yes			7	Yes	

2. View information about each listed com port, if available:

Com Port List Setting	Description
<b>IP Address</b>	IP address of the device server to which the com port is connected.
<b>TCP Port</b>	TCP port on the device server to which the com port is connected (for example, 10001 if using channel 1 or 10002 if using channel 2 on a UDS or XPort device server).
<b>COM Status</b>	Indicates whether the com port is open or closed.
<b>Network Status</b>	Status of the connection between the com port and the device server, e.g., Disconnected.
<b>2217</b>	<b>Yes</b> indicates RFC 2217 is enabled.
<b>BfrWr</b>	<b>Yes</b> indicates buffer writes is enabled.
<b>SvrRec</b>	<b>Yes</b> indicates CPR will attempt reconnecting to the device server if the device server disconnects from CPR.
<b>NoCls</b>	<b>Yes</b> indicates that when an application closes the com port, CPR will not close the network connection.
<b>CntTO</b>	Number of seconds the com port will wait before attempting to connect to the next device server in the list, or before aborting

Com Port List Setting	Description
	the connection attempt.
<b>TORec</b>	<b>Yes</b> indicates CPR will re-establish the connection if a connection times out.
<b>KpAlv</b>	<b>Yes</b> indicates TCP KeepAlive is enabled.

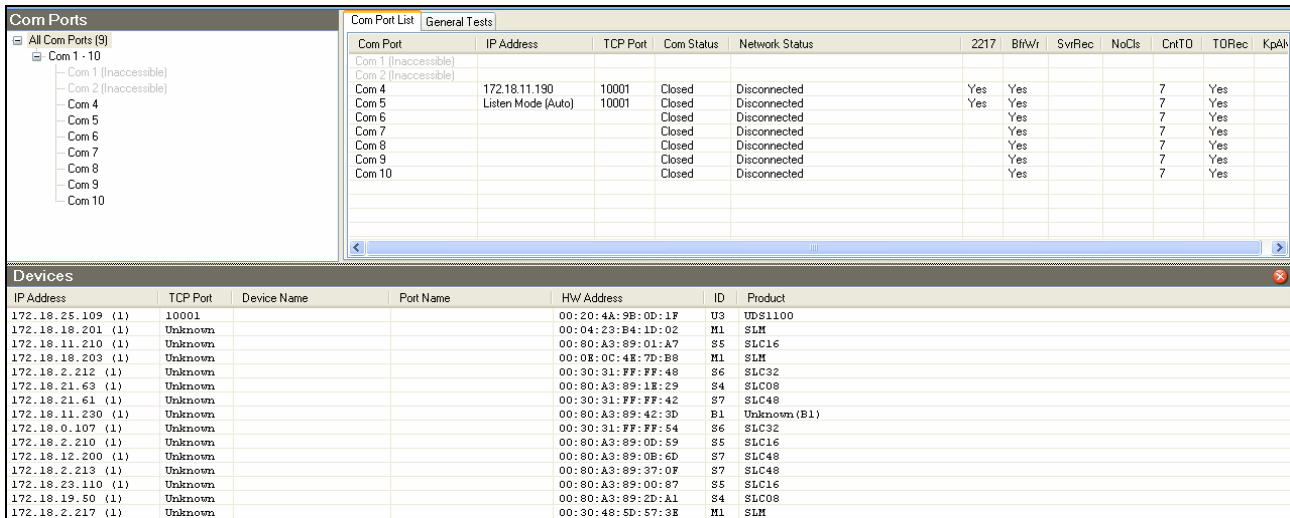
## 2. Search for Device Servers

Use the search feature to list the Lantronix device servers currently on the network. You can name a device server and its TCP port and hide or display the list of devices servers.

**Note:** This version of CPR does not detect the following Lantronix products: MSS, ETS, SCS, MPS, and EPS.

To list device servers:

1. Click the **Search** icon . A list of Lantronix device servers on the local network displays in the bottom pane of the window.



The screenshot shows a software window with two main panes. The top pane is titled 'Com Ports' and contains a tree view on the left and a table on the right. The tree view shows 'All Com Ports (9)' expanded to 'Com 1 - 10', with 'Com 1 (Inaccessible)' and 'Com 2 (Inaccessible)' selected. The table on the right is titled 'Com Port List' and has columns: Com Port, IP Address, TCP Port, Com Status, Network Status, 2217, BtrWr, SvrRec, NoCls, CntTO, TORec, and KpAk. The table lists Com 1 through Com 10, with Com 4 and Com 6 showing IP addresses and TCP ports.

Com Port	IP Address	TCP Port	Com Status	Network Status	2217	BtrWr	SvrRec	NoCls	CntTO	TORec	KpAk
Com 1 (Inaccessible)											
Com 2 (Inaccessible)											
Com 4	172.18.11.190	10001	Closed	Disconnected	Yes	Yes			7	Yes	
Com 5	Listen Mode (Auto)	10001	Closed	Disconnected	Yes	Yes			7	Yes	
Com 6			Closed	Disconnected		Yes			7	Yes	
Com 7			Closed	Disconnected		Yes			7	Yes	
Com 8			Closed	Disconnected		Yes			7	Yes	
Com 9			Closed	Disconnected		Yes			7	Yes	
Com 10			Closed	Disconnected		Yes			7	Yes	

The bottom pane is titled 'Devices' and contains a table with columns: IP Address, TCP Port, Device Name, Port Name, HW Address, ID, and Product. It lists 17 device servers with their respective IP addresses, ports, and hardware addresses.

IP Address	TCP Port	Device Name	Port Name	HW Address	ID	Product
172.18.25.109 (1)	10001			00:20:4A:9B:0D:1F	U3	UDS1100
172.18.18.201 (1)	Unknown			00:04:23:B4:1D:02	M1	SLM
172.18.11.210 (1)	Unknown			00:80:A3:89:01:A7	S5	SLC16
172.18.18.209 (1)	Unknown			00:08:0C:4E:7D:88	M1	SLM
172.18.2.212 (1)	Unknown			00:30:31:FF:FF:48	S6	SLC32
172.18.21.63 (1)	Unknown			00:80:A3:89:1E:29	S4	SLC08
172.18.21.61 (1)	Unknown			00:30:31:FF:FF:42	S7	SLC48
172.18.11.230 (1)	Unknown			00:80:A3:89:42:3D	B1	Unknown (B1)
172.18.0.107 (1)	Unknown			00:30:31:FF:FF:54	S6	SLC32
172.18.2.210 (1)	Unknown			00:80:A3:89:0D:59	S5	SLC16
172.18.12.200 (1)	Unknown			00:80:A3:89:0B:6D	S7	SLC48
172.18.2.213 (1)	Unknown			00:80:A3:89:37:0F	S7	SLC48
172.18.23.110 (1)	Unknown			00:80:A3:89:00:87	S5	SLC16
172.18.19.50 (1)	Unknown			00:80:A3:89:2D:A1	S4	SLC08
172.18.2.217 (1)	Unknown			00:30:48:5D:57:3E	M1	SLM

2. View the following information about the device server, if available:

Device Setting	Description
<b>IP Address</b>	IP address of the device server to which the com port is connected.
<b>TCP Port</b>	Serial port (channel 1 or channel 2) on the device server to which the com port is connected. All MSS products use port 3001 for channel 1 and 3002 for channel 2. All CoBos products (UDS, CoBox, and XPress) and XPort products use port 10001 for channel 1 and 10002 for channel 2.
	<b>Note:</b> For instructions on configuring port numbers using Telnet or a web interface, see the user guide for the Lantronix device server.
<b>Device Name</b>	A user-supplied name that identifies the device server.

Device Setting	Description
Port Name	A user-supplied name that identifies the port.
HW Address	Hardware address (also called MAC or Ethernet address) that identifies the unit. It is on the product label, in the format: 00-20-4a-XX-XX-XX, where the XXs are unique numbers assigned to the product.
ID	Device server type identifier (ID of the product).
Product	Product name, for example, UDS200, XPort-O3, or SDS1100.

**To name a device server and port:**


1. In the Device pane, right-click in the device's row. A pop-up menu displays.
2. Select **Name Device and Port**. The Change Names dialog box displays.
3. Enter the **Device Name** and **Port Name** and click **OK**.

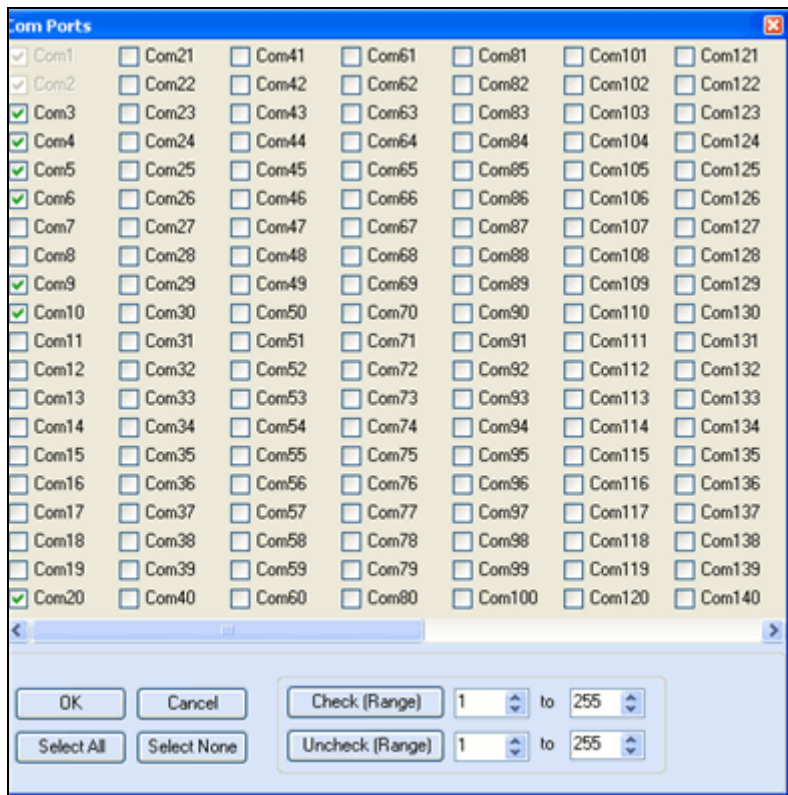
### 3. Add or Remove Com Ports

CPR allows up to 256 com ports.


*Note:* Any com ports on the system that are not CPR virtual com ports are inaccessible to CPR Manager.

**To add com ports:**



1. Click the **Add or Remove** icon , or select **Add and Remove** from the **Com Port** menu. A window displaying a list of numbered com ports opens.





2. Do one of the following:
  - ◆ To select com ports individually, select the appropriate checkboxes.
  - ◆ To select a range of com ports, enter the beginning and end of the range to the right of the **Check (Range) button** and click the button.
  - ◆ To select all of the com ports, click the **Select All** button.
  - ◆ To clear all checkboxes, click the **Select None** button.
3. Click the **OK** button. The dialog box closes. The added com ports display in red and are identified as new. The word "Modified" displays at the bottom of the window.
4. To save the settings, click the **Save** icon .

#### To remove a com port:

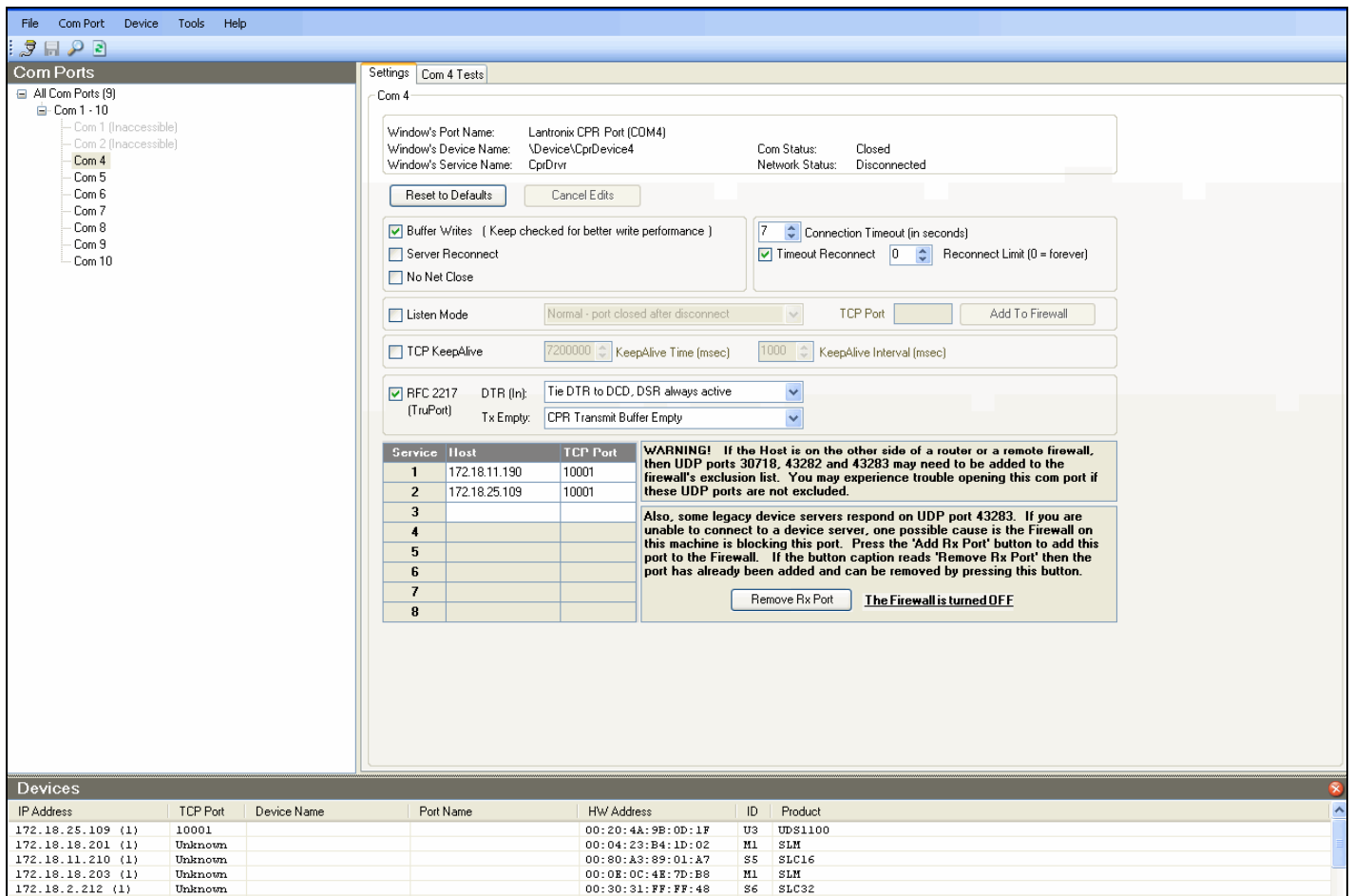
1. Click the **Add or Remove** icon , or select **Add and Remove** from the **Com Port** menu.
2. Do one of the following:
  - To remove com ports individually, clear the appropriate checkboxes.
  - To remove a range of com ports, enter the beginning and end of the range to the right of the **Uncheck (Range) button** and click the button.
  - To select no checkboxes, click the **Select None** button.
3. Click the **OK** button. The dialog box closes. Removed com ports that were never saved no longer display. Removed com ports that were saved previously have "marked for deletion." beside their names.
4. To save the changes, click the **Save** icon . The removed com ports no longer display.

## 4. Configure the Com Port

You must configure a new com port before it can be used by any communications software.

#### To configure com port settings:

1. Click the com port in the tree structure. The **Settings** tab displays.  
*Note: Alternatively, double-click the com port on **Com Port List** tab.*



## 2. Enter the following information:

Com Port Settings	Description
<b>Buffer Writes</b>	If selected, when an application opens a COM port and starts writing to that port, CPR will buffer those writes and try to send as many as possible in a single TCP packet (speeds processing).
<b>Server Reconnect</b>	If selected, enables the com port to reconnect to the device server after the device server disconnects from CPR.
<b>No Net Close</b>	If selected, when an application closes the com port, CPR does not close the network connection. To disconnect CPR from the device server, right-click the com port in the com port tree view on the left or in the Com Port List on the right, or select <b>Disconnect</b> on the <b>Com Port</b> menu.
<b>Connection Timeout (in seconds)</b>	Number of seconds the com port should wait before attempting to connect to the next device server in the list, or before aborting the connection attempt.
<b>Timeout Reconnect</b>	If selected, CPR re-establishes the connection if the connection times out. When auto-reconnecting, CPR tries to reconnect until the connection succeeds or the number of tries reaches the value in <b>Reconnect Limit</b> .

Com Port Settings	Description
<b>Reconnect Limit (0 = forever)</b>	The number of times CPR attempts to re-establish the connection. A value of 0 means CPR will continuously attempt to connect.
<b>Listen Mode</b>	<p>If selected, CPR listens on the configured TCP port for incoming connection requests. There are two kinds of Listen Mode. From the drop-down list, select one of the following:</p> <p><b>Normal - port closed after disconnect:</b> The TCP port will close once the connection to the device server is broken.</p> <p><b>Auto- back to listen mode after disconnect:</b> CPR goes back into Listen Mode once the connection is broken.</p>
<b>TCP Port</b>	The number of the TCP port you want CPR to listen on. Click the <b>Add to Firewall</b> button to add the TCP port to the firewall's exclusion list if the firewall is turned on. The firewall will then allow traffic on this TCP port.
<b>TCP KeepAlive</b>	CPR uses the TCP protocol to detect when connections are no longer valid. To enable this capability, select the checkbox. (See the device server's user guide for more information.)
<b>KeepAlive Time (msec)</b>	The time, in milliseconds, that TCP will poll the connection with the device server.
<b>KeepAlive Interval (msec)</b>	<p>If TCP detects a connection failure, it will poll for the connection every KeepAlive Interval milliseconds that you specify here. If, after 5 tries, the connection is still invalid, TCP will notify CPR, and CPR will tear down the connection socket.</p> <p>If the CPR port is in Listen Mode - Auto, the CPR port will go back to listening on the appropriate TCP port.</p>
<b>Use RFC 2217</b>	<ul style="list-style-type: none"> <li>◆ Com port control option protocol that controls:</li> <li>◆ Device server serial port settings (baud rate, data bits, parity, stop bits, flow control)</li> <li>◆ DTR relationships to DCD and DSR serial port signals across the network.</li> </ul> <p><i>Note: To use RFC2217, the device server must support this protocol. To find out whether your device server supports RFC2217, please see the documentation that comes with the unit or the Lantronix web site (<a href="http://www.lantronix.com">www.lantronix.com</a>).</i></p>
<b>Connection Timeout</b>	Number of seconds the com port should wait before attempting to connect to the next device server in the list, or before aborting the connection attempt.
<b>DTR</b>	If you selected <b>Use RFC 2217</b> , select one of the options to tie the remote DTR with the DCD and DSR of the virtual com port. The default is to tie DTR to DCD and keep DSR always active.


Com Port Settings	Description
<b>Tx Empty</b>	<p>If you selected Use RFC 2217, select one of the following options from the drop-down list:</p> <ul style="list-style-type: none"> <li>◆ <b>CPR Transmit Buffer Empty:</b> CPR notifies the application when the CPR has transmitted data and its buffer is empty.</li> <li>◆ <b>Device Server Transmit Buffer Empty:</b> CPR notifies the application when the device server has transmitted data and its buffer is empty.</li> </ul> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>◆ <i>Overlapped and non-overlapped writes remain pending until the transmit empty event occurs.</i></li> <li>◆ <i>Only applications that have registered to receive transmit empty events through Microsoft Windows' APIs are notified of transmit empty events.</i></li> </ul>

- To redirect the com port to up to eight device servers, double-click each desired device server in the Devices pane. The following information displays for each device server:

**Note:** Alternatively, right-click the device server in the list of devices and select **Add to Settings**.

Service Settings	Description
<b>Service</b>	<p>Number of the device server in the list of device ports that the com port can connect to.</p> <p><b>Note:</b> When a com port is open, it attempts to connect to the first device server in the list. If the com port does not make a successful connection in the time specified in <b>Connection Timeout</b> (above), it tries the next device server. This procedure continues with each device server in turn until the com port makes a successful connection or tries all the listed device servers.</p>
<b>Host</b>	IP address of the device server.
<b>TCP Port</b>	Port on the device server to which the com port will connect.

- You have the following options:

- ◆ To return the settings to default values, click the **Reset to Defaults** button.
- ◆ To cancel your changes, click the **Cancel Edits** button.
- ◆ To save your changes, click the Save icon , and in response to the confirmation message, click **OK**. The completed Settings window displays. The "Modified" message displays in the progress bar at the bottom of the window.

**Note:** Once you save the com port configuration, system names and information display at the top of the window.