Kramer Electronics, Ltd.

Ethernet Configuration Guide (Lantronix)

Revision 3

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1 Connecting to the Kramer Device via the Ethernet Port

You can connect the machine via the Ethernet in the following ways:

- For direct connection to the PC, use a crossover cable (see Section 1.1)
- For connection via a network hub or network router, use a straight-through cable (see Section 1.2)

1.1 Connecting the Ethernet Port Directly to a PC (Crossover Cable)

You can connect the Ethernet port of the **Kramer Machine** to the Ethernet port on your PC, via a crossover cable with RJ-45 connectors.

This type of connection is recommended for identification of the factory default IP Address of the **Kramer Machine** during the initial configuration

After connecting the Ethernet port, configure your PC as follows:

1. Right-click the My Network Places icon on your desktop.
2. Select **Properties**.
3. Right-click the relevant Local Area Connection Properties.
4. Select **Properties**.
   The Local Area Connection Properties window appears.
5. Select the Internet Protocol (TCP/IP) and click **Properties** (see Figure 1).

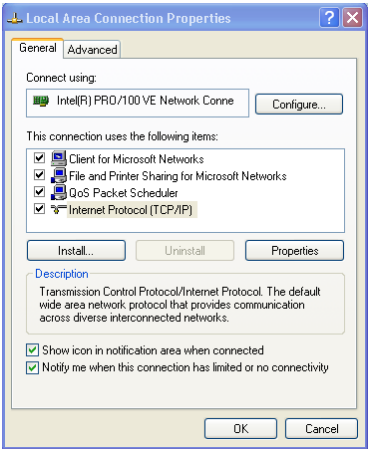

Figure 1: Local Area Connection Properties Window

6. Select **Use the following IP address**, and fill in the details as shown in Figure 2.

7. Click **OK**.

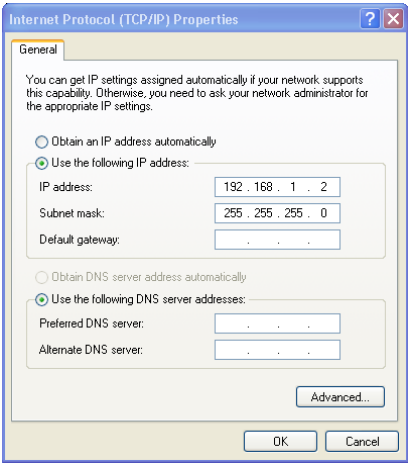

Figure 2: Internet Protocol (TCP/IP) Properties Window

1.2 Connecting via a Straight-through Cable

You can connect the Ethernet port of the Kramer Machine to the Ethernet port on a network hub or network router, via a straight-through cable with RJ-45 connectors.

2 Installing and Running the DeviceInstaller™ Configuration Software

To configure your Kramer Machine via the Ethernet, install the DeviceInstaller™ configuration software and configure your Ethernet Port, and then install the COM Port Redirector to control the Kramer Machine.

To configure the Ethernet Port you must install and run the DeviceInstaller™ configuration software.

It is important to consider the following points before logging into and configuring the Ethernet Port:

- The Kramer Machine IP address must be configured before a network connection is available (if you encounter problems, see Section 1.1)
- Only one person at a time may be logged into the network port. This eliminates the possibility of several people simultaneously attempting to configure the Device Server
- Network port logins can be disabled. The system manager will not be able to access the unit. This port can also be password protected

2.1 Installing the DeviceInstaller™ Installer

To install the DeviceInstaller™ Installer, do the following:

1. Insert the product CD into your CD-ROM drive.
2. Run the DeviceInstaller™ installer setup.
3. Respond to the installation wizard prompts.
4. Restart your system.

2.2 Running the DeviceInstaller™ Installer

Click **Start** on the Task Bar and select **Programs\Lantronix\DeviceInstaller**. The DeviceInstaller™ main dialog box is displayed (Figure 3).

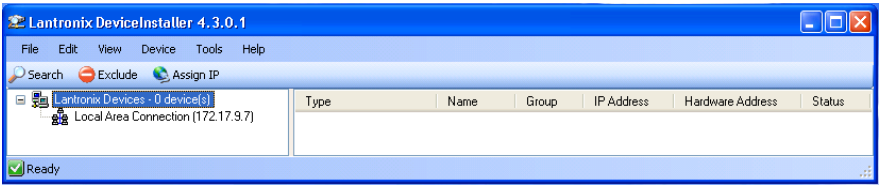

Figure 3: DeviceInstaller Main Dialog Box

To search for devices, click the **Search** icon or select **Search** from the Device menu.

2.3 Assigning an IP Address

Figure 4 shows a device found on the network, with the IP addresses assigned at the factory. The Hardware Address is an individual permanent address assigned to a particular device on the network. The Hardware Address can be found on the product label inside the unit.

Note: Click on a device to view its attributes (see Figure 4)

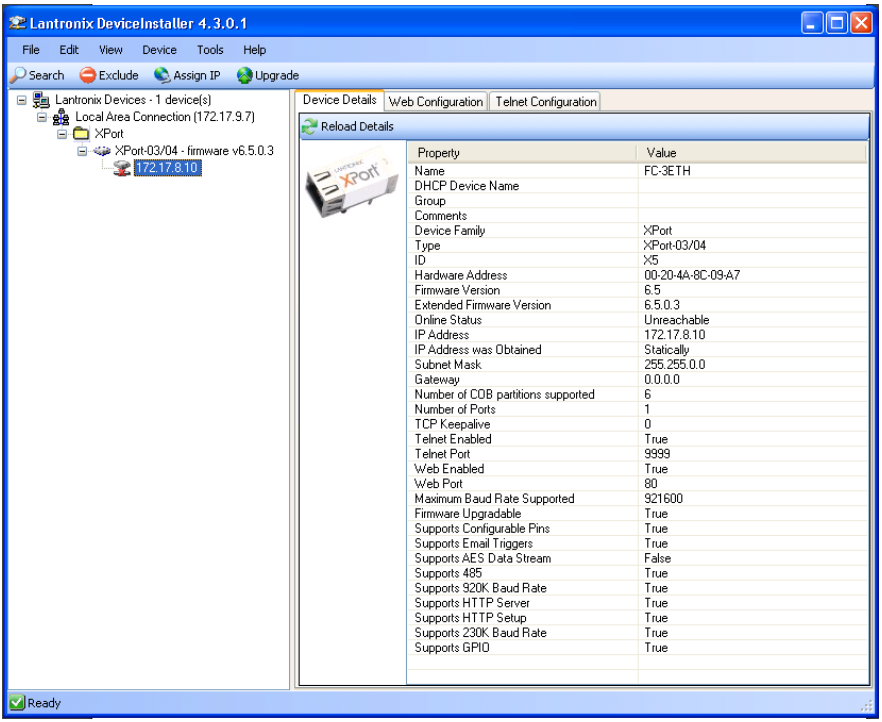

Figure 4: Device Details

Note: The Web Configuration option is recommended.

To change the IP address:

1. Select the device from the list (see Figure 4), then click the **Assign IP** button or select **Assign IP Address** from the Device menu.
2. Select the assignment method and click **Next**.

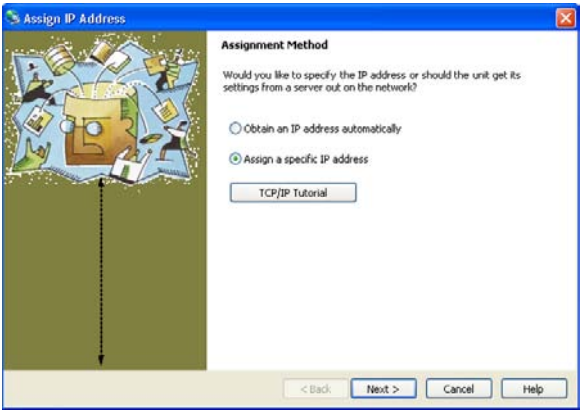

Figure 5: Selecting the Assignment Method

3. Fill-in the IP address, Subnet mask and Default gateway to assign to the device and click **Next**.

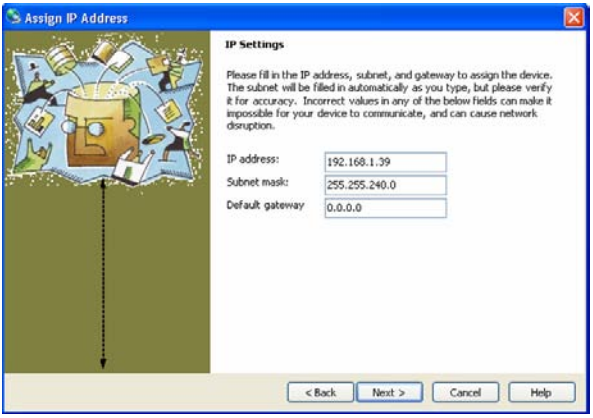

Figure 6: Fill in IP Settings

4. If the Address Unreachable window appears, click **Yes**.

Figure 7: Address Unreachable Window

5. Click **Assign** to complete the process.

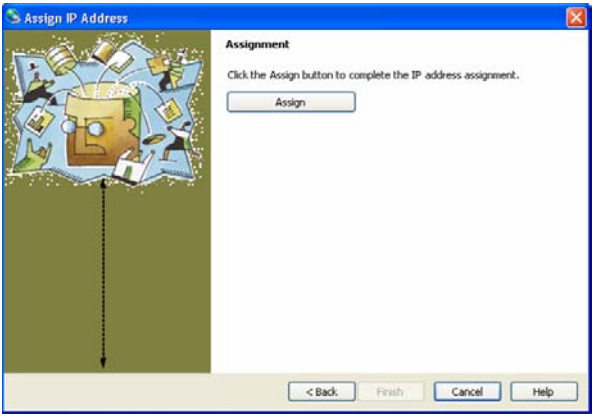

Figure 8: Assign IP Address

The assignment progress bar is displayed.

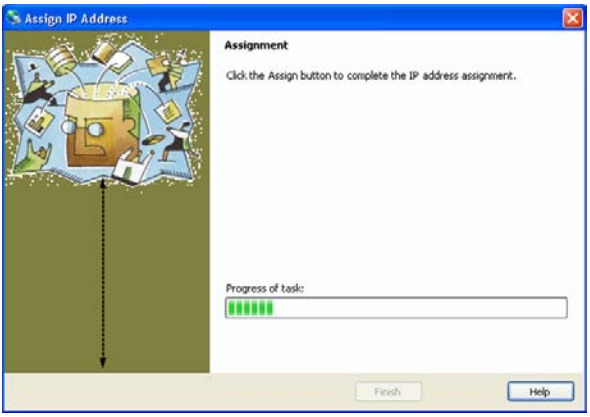

Figure 9: IP Address Assignment Process

2.3.1 Testing the IP Address

To test the IP Address, do the following:

1. Select the device from the main window list.
2. Click **Ping**[1] from the Tools menu. The Ping Device dialog box shows the IP Address of the selected device.

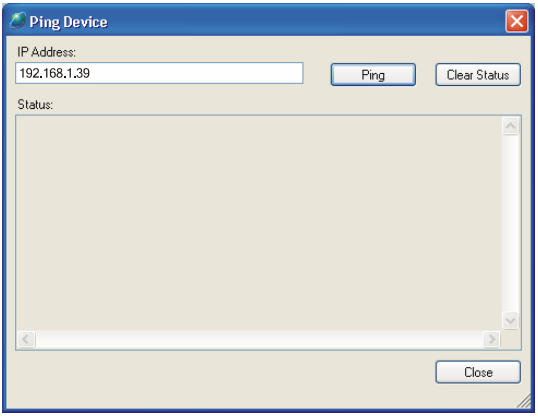

Figure 10: Ping Device Window

3. Click **Ping**. The results will be displayed in the Status window. Click **Clear Status** to clear the window so you can ping the device again.

1 The Ping program lets you verify that the IP address of the selected device exists on the network

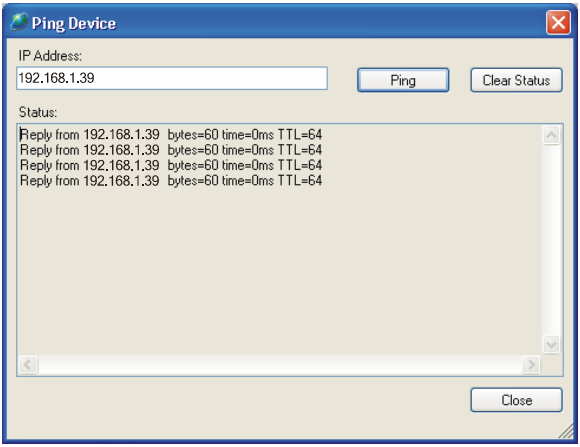

Figure 11: Ping Device Status

4. Click **Close** to close the dialog box and return to the main window.

Note: If you do not receive "Reply" messages, make sure the unit is properly attached to the network and that the IP address assigned is valid for the particular network segment you are working with. If you are not sure, check with your Systems Administrator

2.4 Configuring the Ethernet Port Using DeviceInstaller™

You must configure the Ethernet Port so that it can communicate on a network with your serial device. For example, you must set the way the unit will respond to serial and network traffic, how it will handle serial packets, and when to start or close a connection. You can configure your unit locally or remotely using the following procedures:

- Use the DeviceInstaller™ to configure the unit. Some features are only available through the DeviceInstaller™ Installer menus
- Use a standard Web browser to access the unit's internal Web pages and configure the unit over the network (see Section 2.5). This is the easiest and preferred method
- Make sure that the Java™ 2 Runtime Environment (Standard Edition, Version 1.4.1 or higher) software is installed on your PC. If not, download it from http://java.sun.com

The unit's configuration is stored in non-volatile memory and is retained without power. The unit performs a reset after the configuration has been changed and stored.

2.5 Configuring the Ethernet Port Using the Web Manager Page

To configure the Ethernet Port via a Web browser:

1. Select the **Web Configuration** tab (see Figure 12).

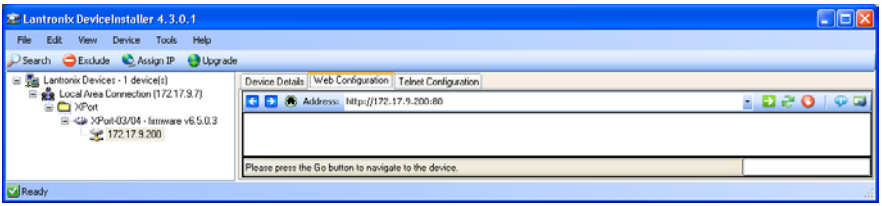

Figure 12: The Web Configuration Tab

2. Select either the internal Web browser (GO) or the External Browser.
3. After clicking **GO** (for the internal browser), the "Connect to…" window appears.

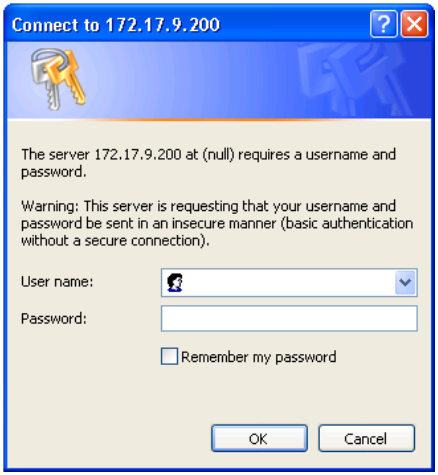

Figure 13: The Connect to… Window

4. Click **OK**.

The Web Manager window is displayed.

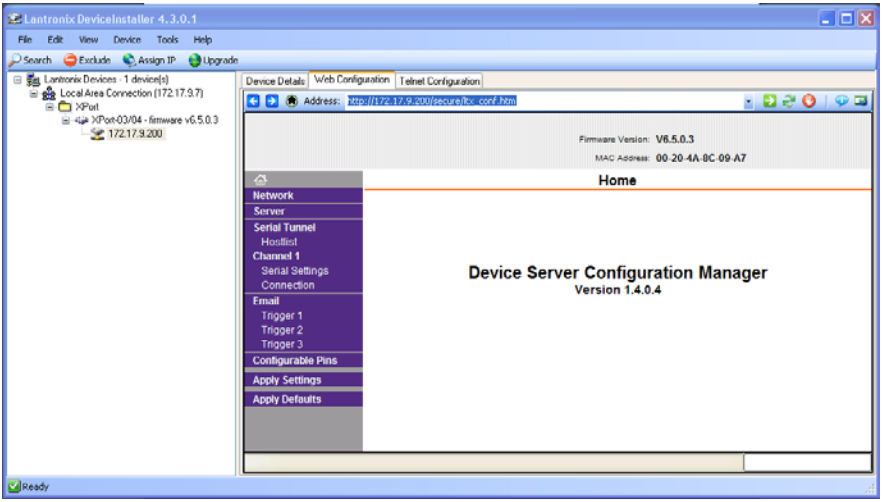

Figure 14: The Web Manager Window

Figure 15 shows the Network Settings window.

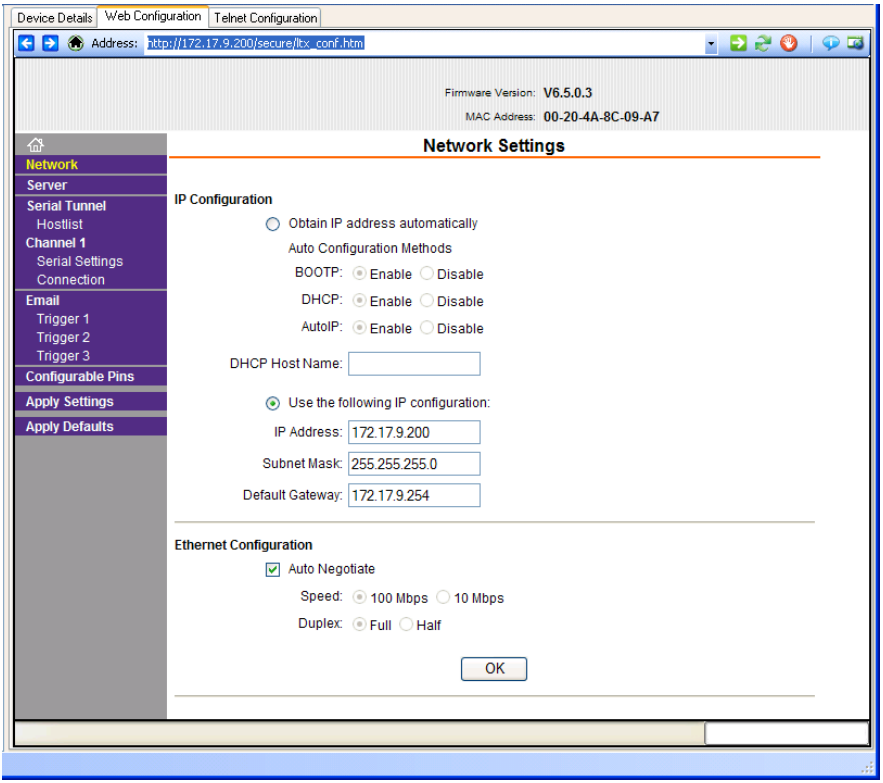

Figure 15: Network Settings Window

Figure 16 Shows the Hostlist Settings window.

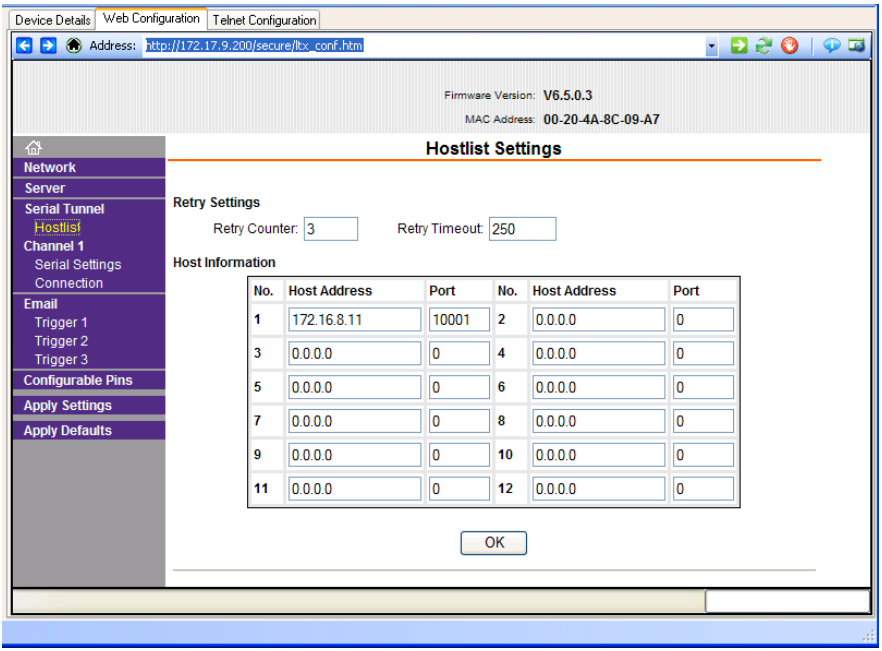

Figure 16: Hostlist Settings Window

Note: In order to work in the active mode, the remote host IP address and port number have to be added to the Hostlist Settings table.

Figure 17 Shows the Connection Settings window.

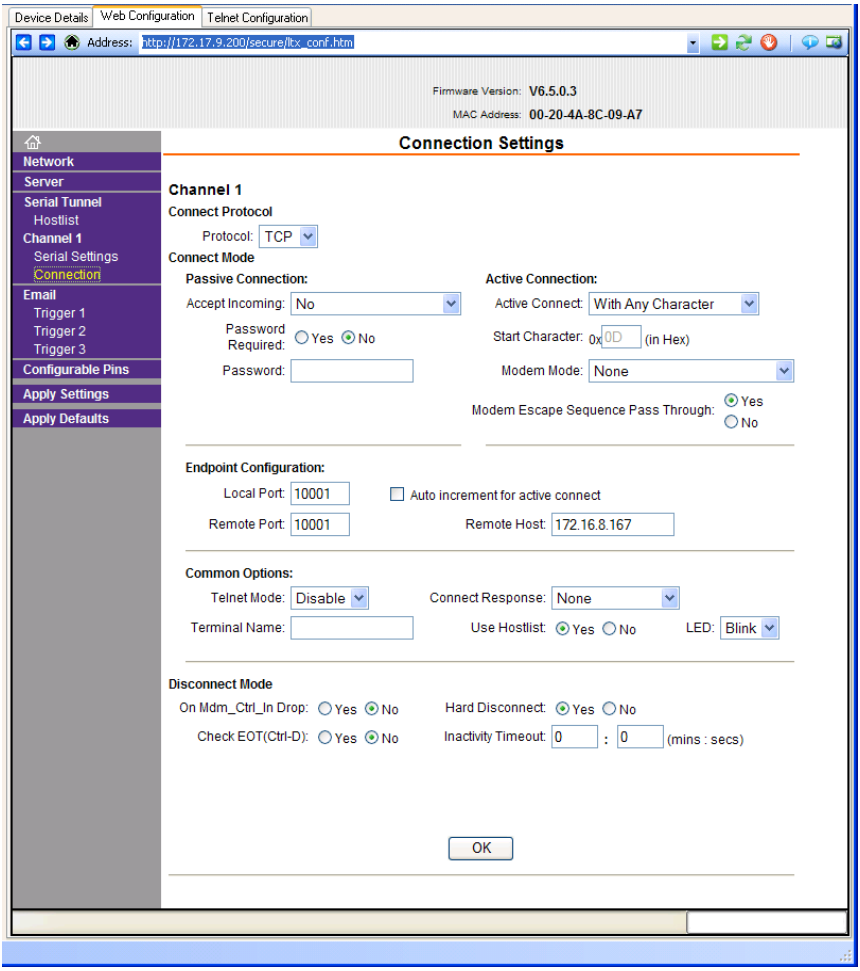

Figure 17: Connection Settings Window

Figure 18 Shows the Serial Settings window.

Note: The port settings must be set to 9600, 8, 1 and None.

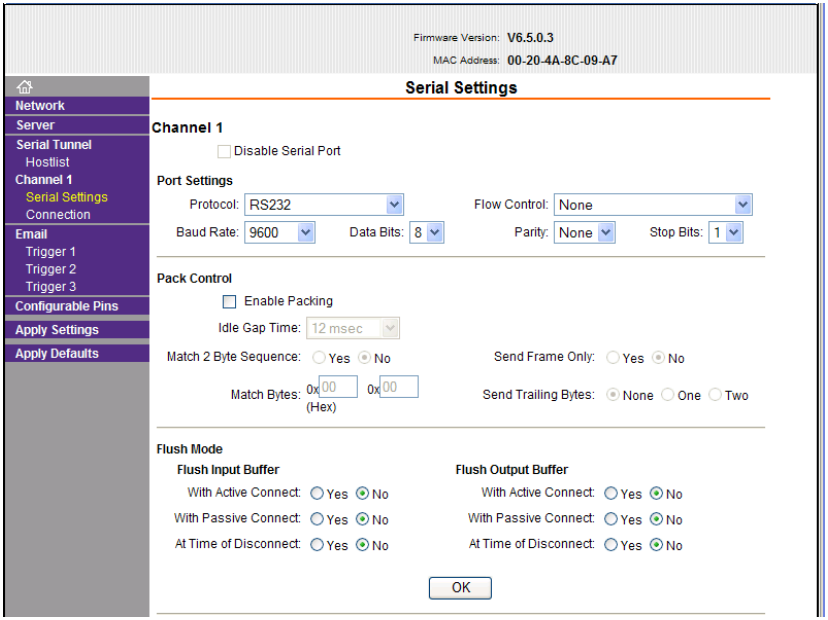

Figure 18: Serial Connection Settings Window

3 Installing and Configuring the Com Port Redirector Software

The Com Port Redirector allows any PC running Windows to use ports on a Kramer device as if they were connected directly to the PC. The Redirector creates a virtual COM port within Windows, which for most purposes acts just like the selected serial port on the Kramer device.

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

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.

3.1 Installing the Com Port Redirector Software

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 CDROM drive and click the Redirector button,

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

The Lantronix CPR Welcome window is displayed.

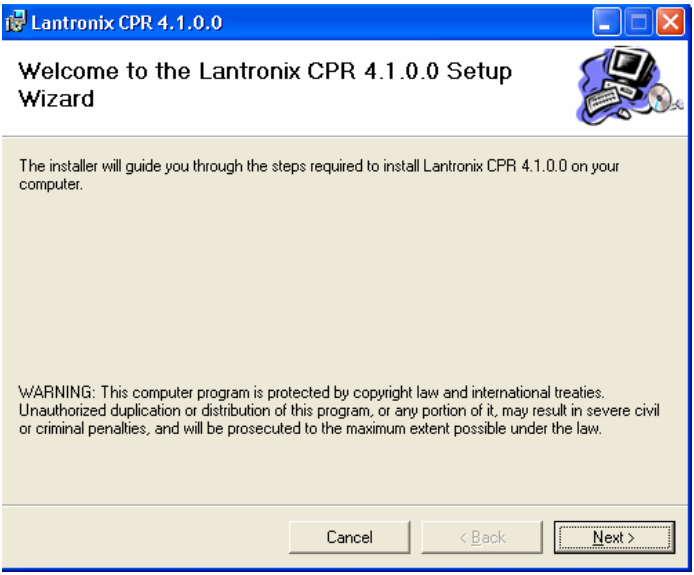

Figure 19: Lantronix CPR Welcome Window

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

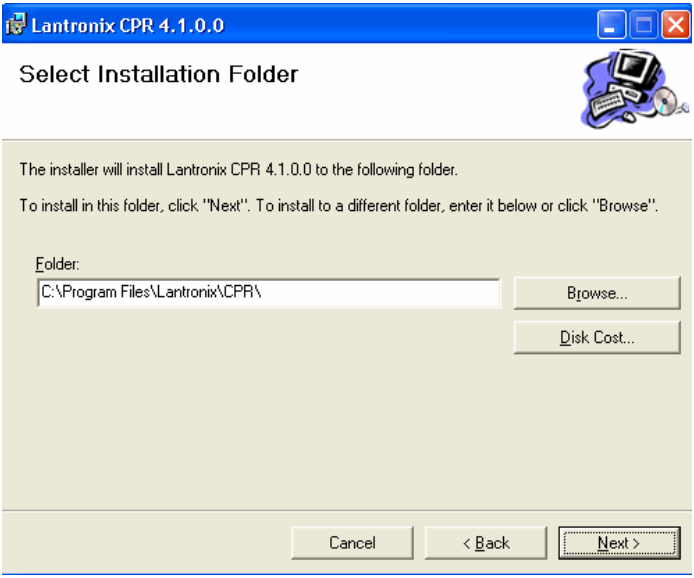

Figure 20: CPR Welcome window

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 is displayed.

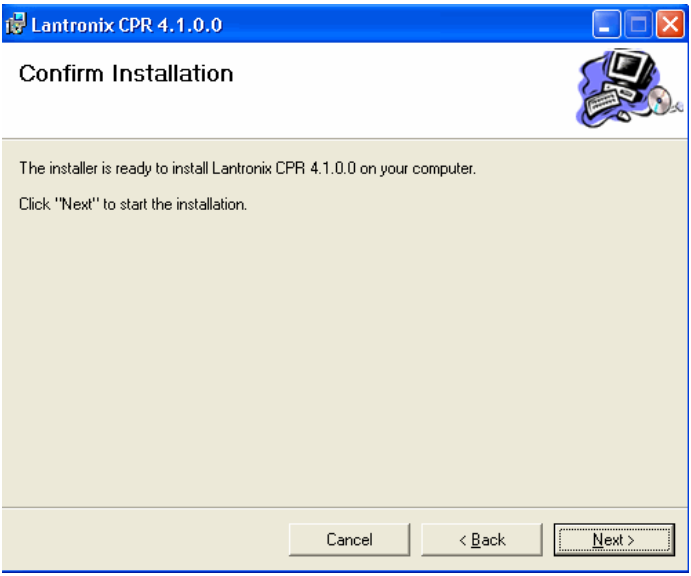

Figure 21: Confirm Installation Window

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

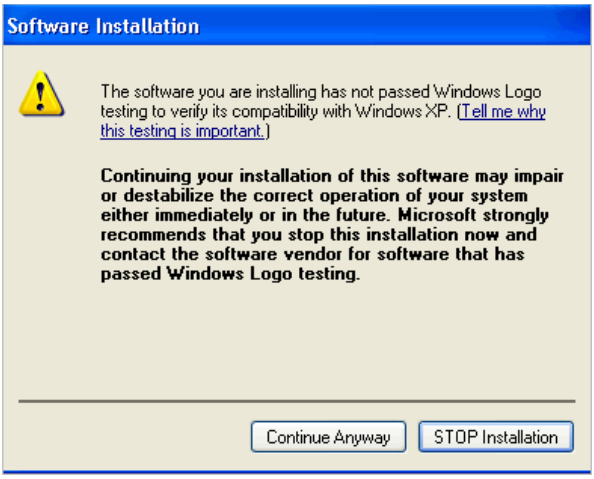

Figure 22: Security Confirmation Window

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

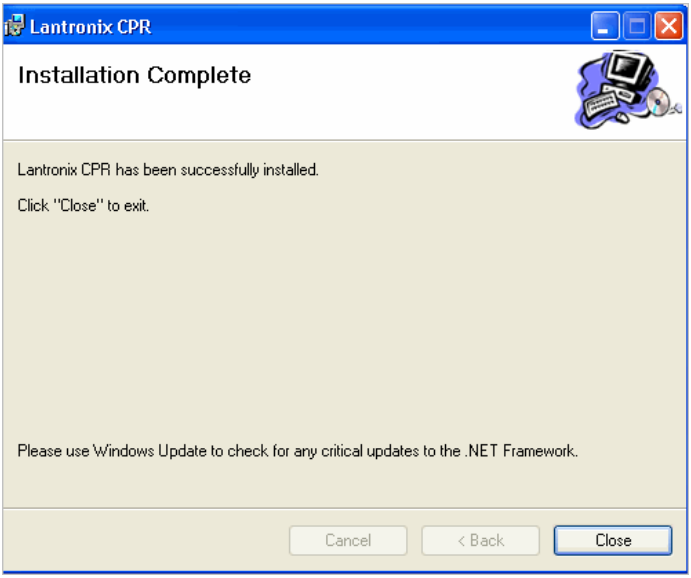

Figure 23: Installation Complete Window

9. Click the **Close** button.

3.2 Configuring the Com Port Redirector

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

- Do not run the Com Port Redirector with other software that installs a virtual com port
- Do not run the Com Port Redirector with other Com Port Redirection software on the same PC
- 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
- Do not use com ports 1, 2, 3 or 4
- 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 Kramer device must match the settings of the serial device.
  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
  - Serial cabling between the managed serial device and the device server must be correct.
    Consult your documentation for the pinouts of your device server

For specific instructions, refer to your Kramer device user manual (see the "Controlling via Ethernet" section), the latest version of which can be downloaded from our Web site at http://www.kramerelectronics.com.

To configure the Com Port Redirector:

1. From your Windows desktop click **Start** > **All Programs** > **Lantronix** > **CPR**.
   The Lantronix Com Port Redirector program starts and the main window is displayed.

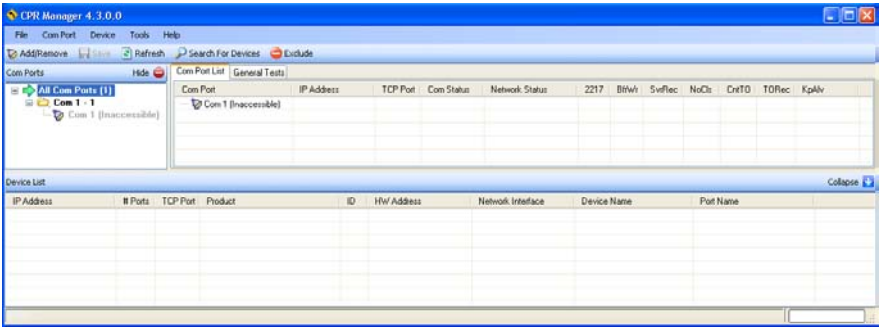

Figure 24: Com Port Redirector Main Window

2. Click Add/Remove to add com ports.
   The Com Ports window is displayed.

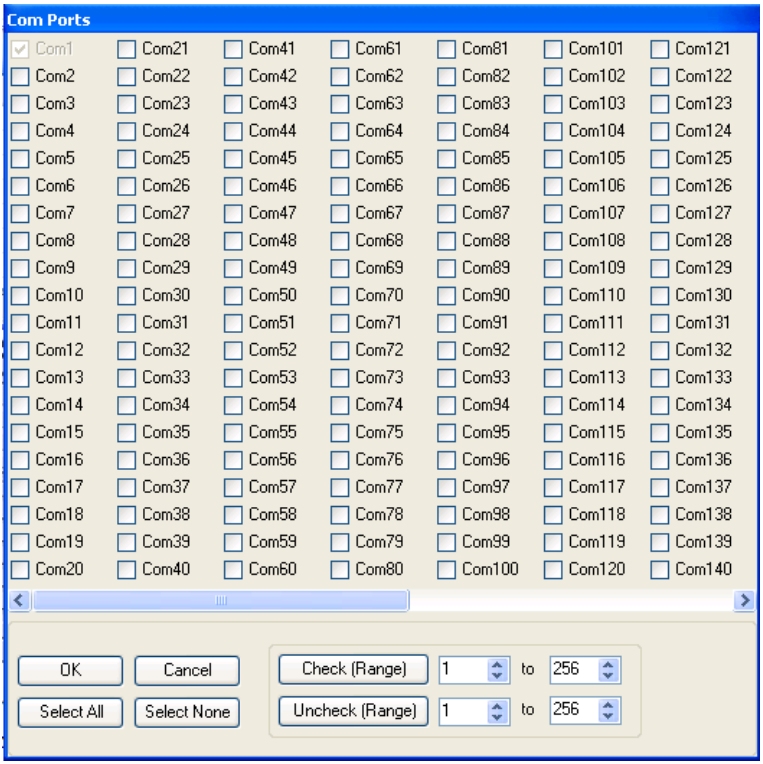

Figure 25: Com Ports Window

3. Using the check boxes, select the com port(s) to install.
   You can select/deselect multiple com ports by using the **Check (Range)** and **Uncheck (Range)** options.
4. Click **OK**.
   The selected com port(s) are displayed in the Com Port Redirector main window.

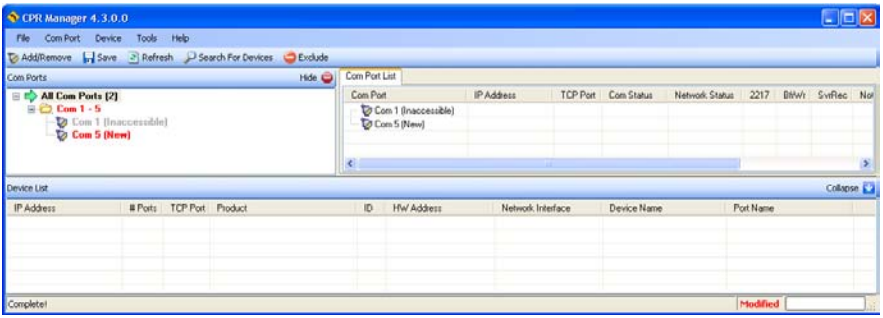

Figure 26: Com Ports Window Showing New Port

5. Click **Save**.
6. A confirmation dialog box is displayed. Click **Yes**.
7. The Windows security warning is displayed. Click **Continue Anyway**.
8. The Windows security warning is displayed again. Click **Continue Anyway**.
9. Click **Search For Devices** to scan the network for devices.
   After a few seconds, any devices that are discovered are displayed in the Device List pane.

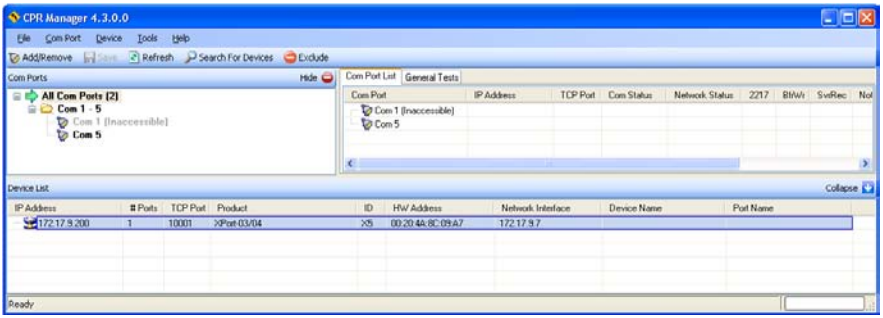

Figure 27: Devices Found on the Network

10. In the Com Ports pane, select the required com port.
    The com port properties are displayed in the Settings tab in the right hand pane.

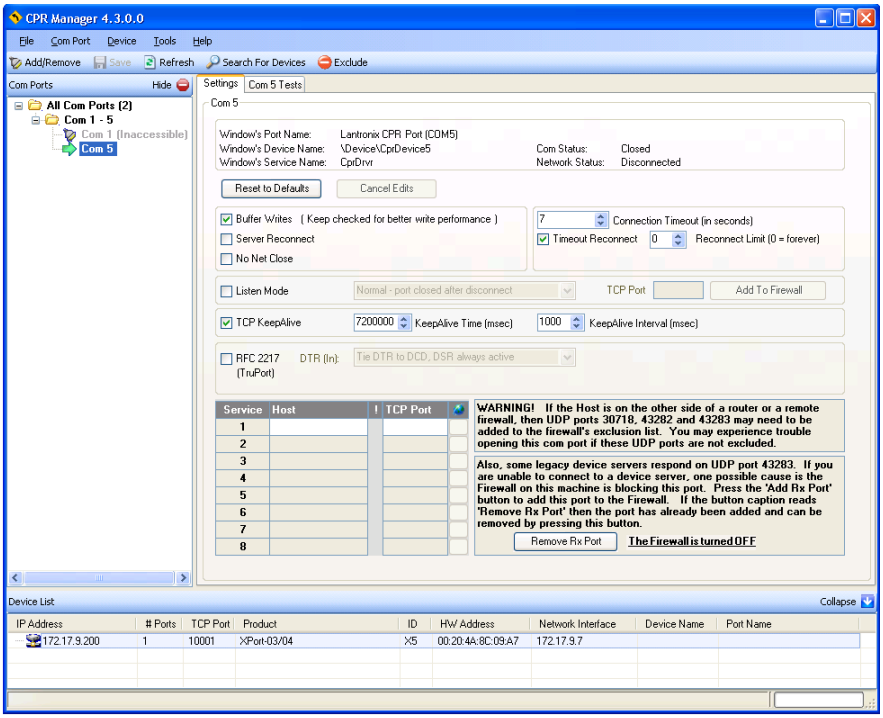

Figure 28: Highlighting a Com Port

11. In the Device List pane, right-click on the device to associate with the com port.

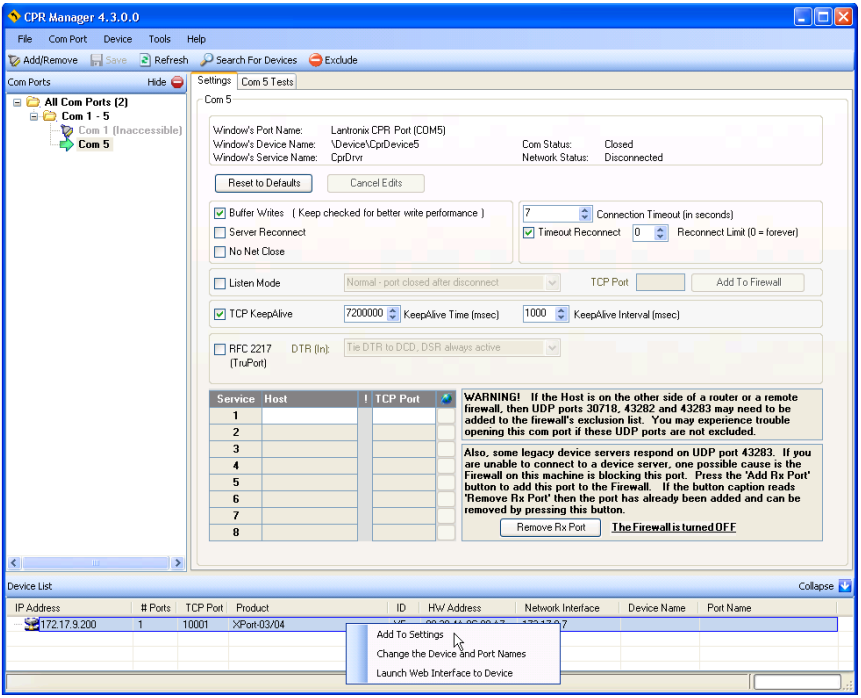

Figure 29: Assigning a Device to a Com Port

12. In the drop-down menu, click **Add to Settings**.
    The device is added in the Host column on the Settings tab.

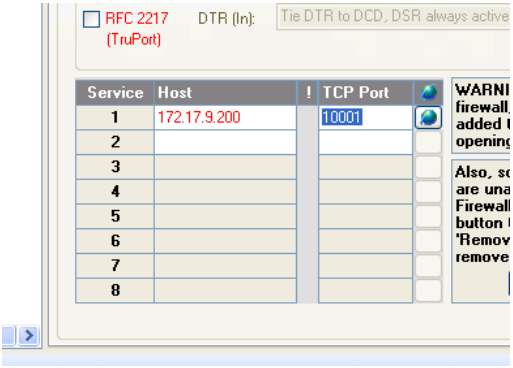

Figure 30: Device Added to Com Port

13. Optional—If your PC is behind a firewall, click **Add Rx Port** to open the port on the firewall.
14. Click **Save**.