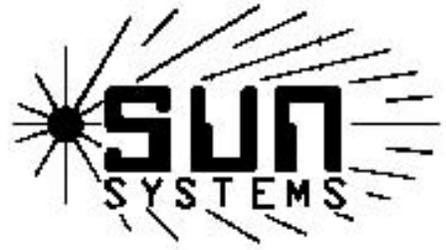


Sun Electronic System, Inc.



Connecting Sun Electronic Systems temperature cycling chambers and stand-alone controllers to an Ethernet network using a Lantronix UDS1100 serial to Ethernet device

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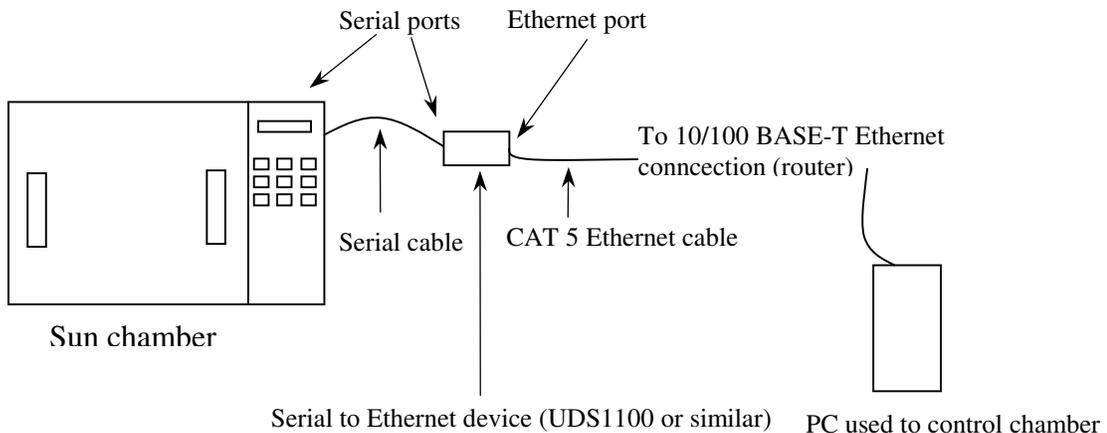
4/21/2009

INTRODUCTION:

This guide demonstrates how to connect and control Sun Electronic Systems products from a network connection. It is intended for users who wish to connect their Sun product to an existing network or to allow users to continue using their existing RS232 applications on a PC without RS232 COM ports. **This example should be used as a guide. For specific details, consult user documentation for you serial to Ethernet device.**

REQUIREMENTS:

1. A Sun Electronic Systems product such as the EC1X/0X/1.3W/127 chamber or PC1000, PC100, PC100-2, TC02 standalone controllers.
2. Minimum 3-wire cable with DB25M on both ends for the EC1X/EC0X/1.3W/127 chambers, PC1000 and TC02 stand-alone controllers
OR
Minimum 3-wire cable with DB25M on one end and DB9M for connecting to the PC100 and PC100-2 controllers.
3. Serial to Ethernet device such as LANTRONIX model UDS1100 or similar (purchased separately).
4. Lantronix drivers (comes with device):
 - a. Device Installer software (to assign IP and configure serial settings for UDS device)
 - b. COM port redirector software (driver to re-direct data from virtual COM port to Ethernet port)
5. RS232 software to communicate/control chamber with. This can be the users existing RS232 software, RS232 Demo from www.sunelectronics.com, terminal emulation software such as Windows Hyperterminal, Tera Term etc.



*Diagram 1.
Example connection of Sun chamber with serial
to Ethernet device such as the UDS1100*

- Once the UDS can be recognized by the Device Installer software and an IP address assigned, the device can be selected from the list and configured using the web configuration tool.
- The default network and server parameters will usually suffice, the channel 1 serial settings should be set up as follows:

Protocol: RS232

Baud rate: Same as chamber/controller (see SDEF or MENU for current baud rate of chamber/controller)

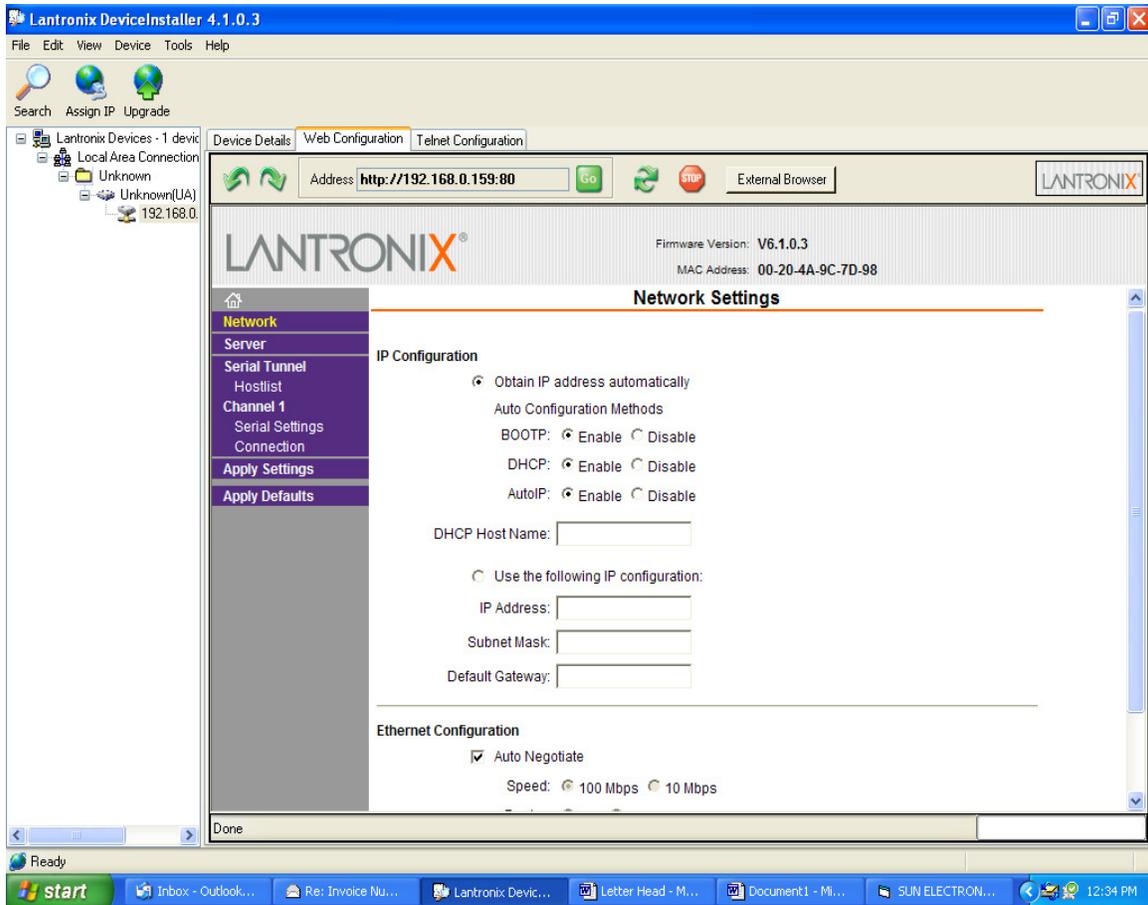
Data bits: 8

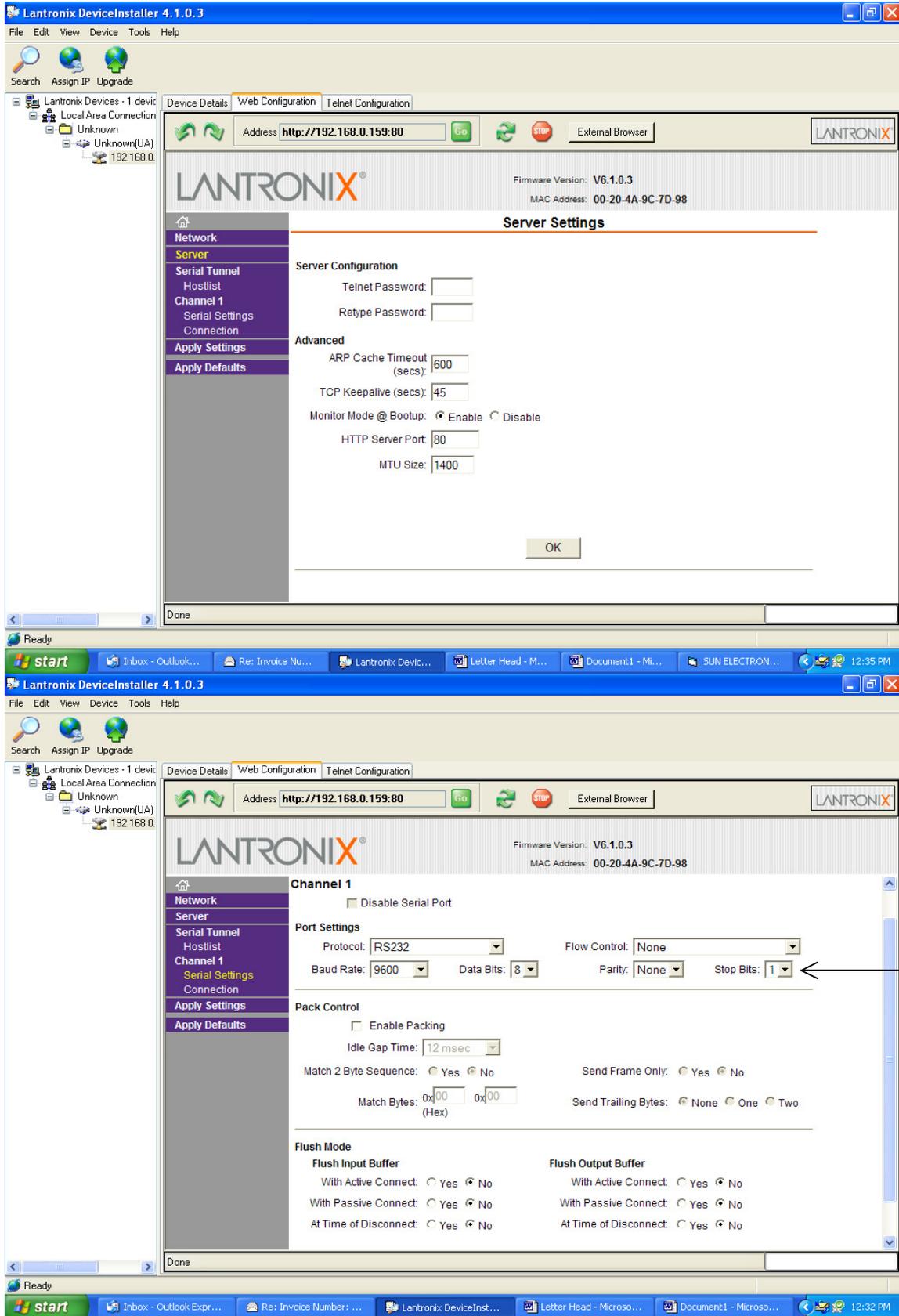
Flow control: none

Parity: none

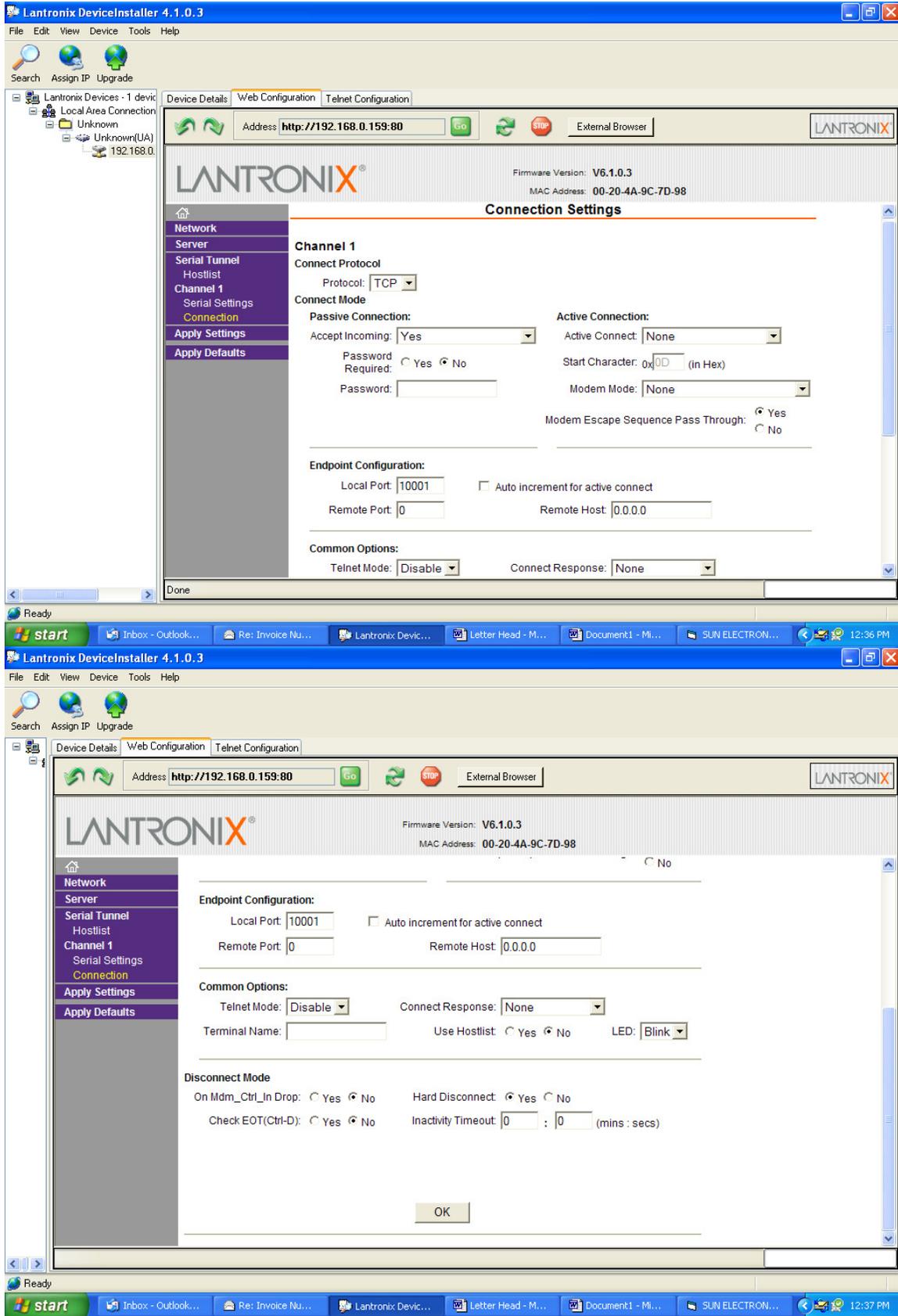
Stop bits: select 1 for most boards (REV E and earlier) select 2 for REV G and later

- See the screen shots below for the remaining parameters. These values might need modification depending on the type of network the device is installed on. See network administrator for assistance.





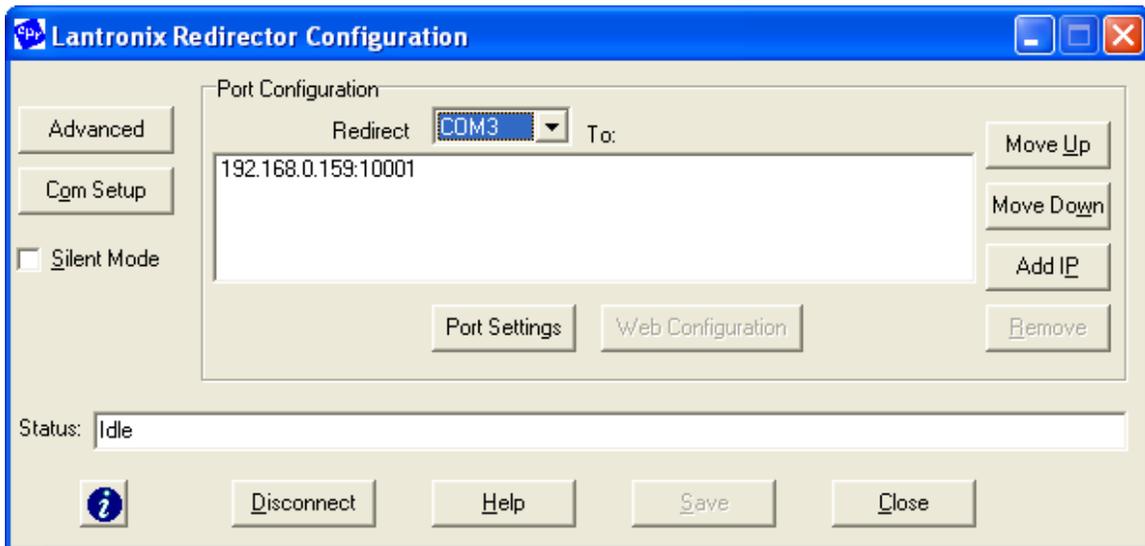
2 stop bits for REV G

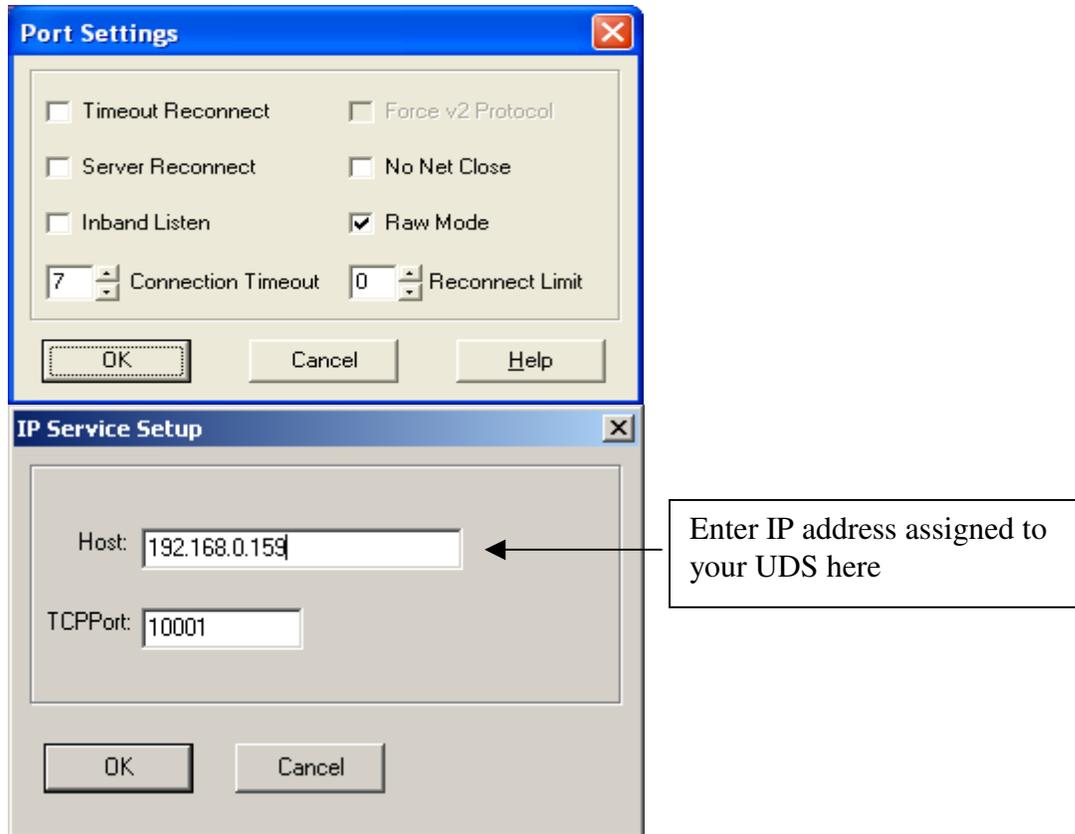


8. Configure the Lantronix COM port redirector software (ver 4.x):
 - Run the Lantronix → CPR Manager application
 - Select Device → Search from the menu to search for UDS device
 - The device should appear at the bottom of the screen.
 - Select the ComPort → Add and Remove from menu
 - Select an available ComPort and click OK.
 - Select the Com Port that was just created and double click the IP address of the UDS at the bottom of the screen.
 - Click on the SAVE icon to save this configuration.
 - Start communicating with chamber/controller using custom RS232 application, Sun RS232 demo (found at www.sunelectronics.com) or terminal emulation software such as Hyperterminal, Tera Term etc.

*****SET UP IS COMPLETE UNLESS YOU HAVE AN OLDER VERSION OF THE REDIRECTOR SOFTWARE*****

9. Configuration for older versions of the Lantronix Redirector software (ver 3.x):
 - Use COM Setup to select an available virtual COM port to be redirected.
 - Select ADD IP to enter the IP address and TCP port. The IP address of the UDS device is obtained from the Device Installer software and the TCP port should be 10001 for channel 1 and if using a 2 channel UDS device, channel 2 will be 10002.
 - Select Port Settings and check RAW MODE.





10. Start communicating with chamber/controller using custom RS232 application, Sun RS232 demo (found at www.sunelectronics.com) or terminal emulation software such as Hyperterminal, Tera Term etc.

NOTES:

- When using an existing application, be sure that the virtual com port selected in the redirector software is incorporated into the code when opening the com device.
- The chamber/controller connected to the UDS1100 device can be accessed from any computer on the LAN that has the com port redirector software installed. However, only **one computer** on the network can connect to the device at a time.