

Setup Guide for Serial to Ethernet Converter XS1200

This guide shows you how to create a virtual COM port, configure parameters and test run the XS1200.

This installation guide is based on Windows 10 64-bit but same installation procedure is used for other versions of Windows.



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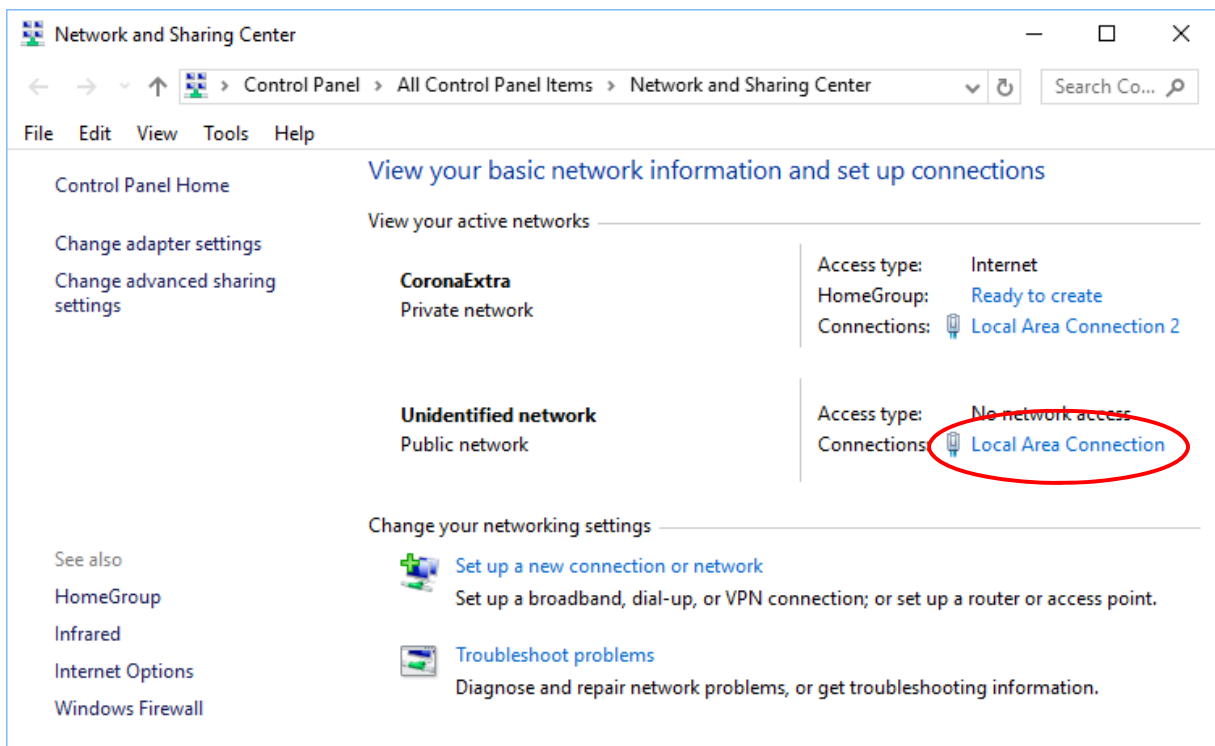
Connecting the XS1200

1. Connect the XS1200 to your computer using a standard cross over cable (EIA/TIA T568B) LAN cable.
2. Connect the XS1200 to the power supply and turn on the power.

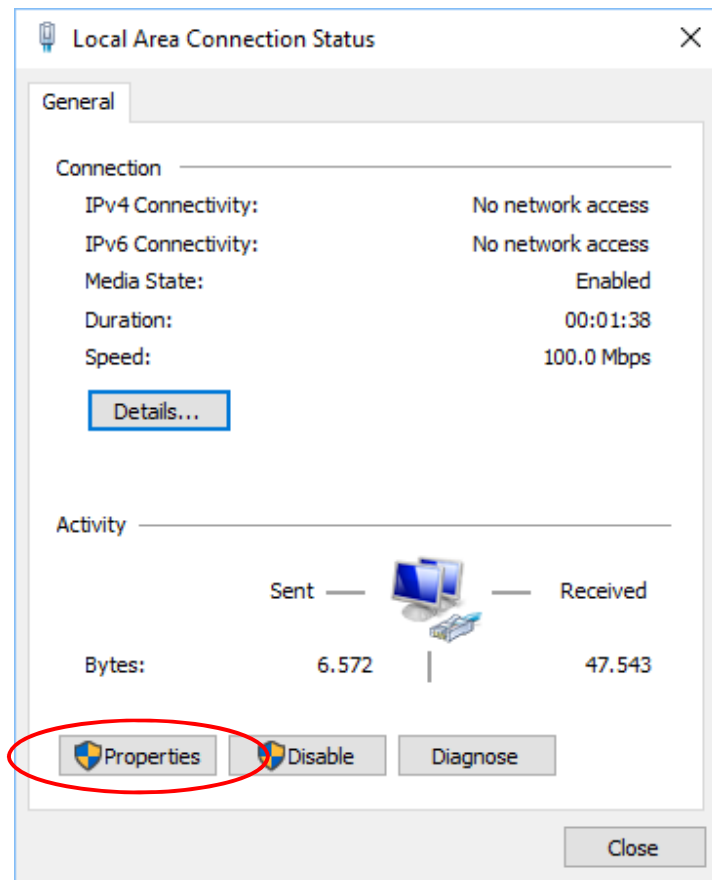
Assigning a static IP

The XS1200's IP address is **192.168.2.125**. For your computer to be able to find the XS1200 you need to assign a static IP address in the 192.168.2.2 to 192.168.2.254 range to the network connection to where you connect the XS1200:

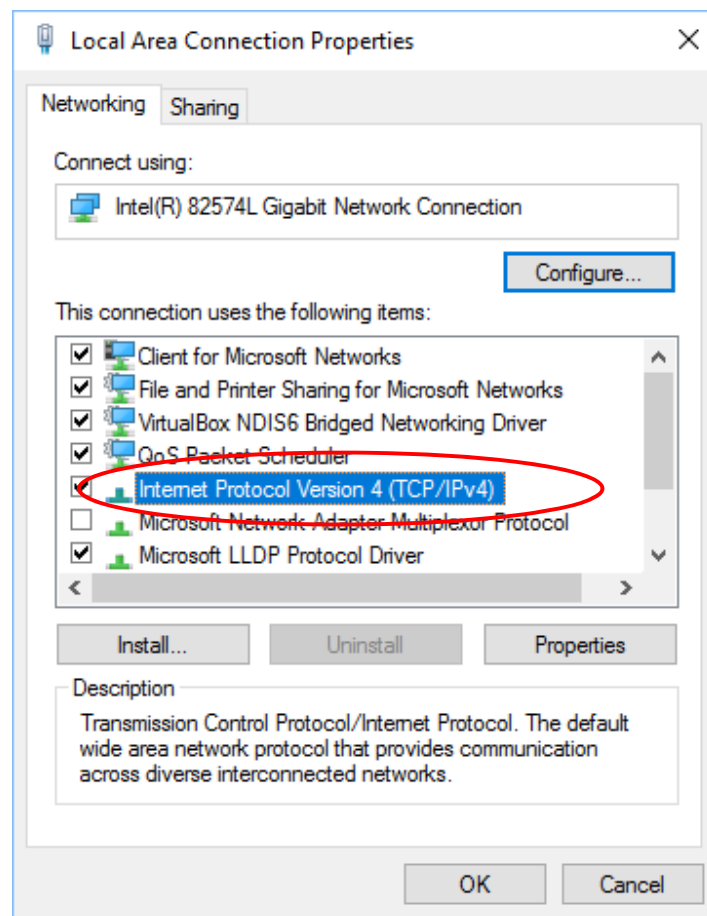
1. Click Start and go to: Control Panel\All Control Panel Items\Network and Sharing Center.
2. Click on 'Local Area Connection' (this is the connection where the XS1200 is connected). If you have not connected the XS1200 to your computer, or if the cable is incorrectly connected you might not be able to see this 'Local Area Connection', so make sure the XS1200 is properly connected to your computer:



3. Click on 'Properties'.



4. Highlight the 'Internet Protocol' and click 'Properties'.



5. Enter a static IP address in the **192.168.2.2 to 192.168.2.254** range (except 192.168.2.125 which is the XS1200's IP address) and a Subnet mask of 255.255.255.0 and click OK. Click OK at the Local Area Connection Properties window and close the Local Area Connection Status window. You have now assigned a static IP address to the network connection where to the XS1200 is connected.

Internet Protocol Version 4 (TCP/IPv4) Properties

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

☐ Obtain an IP address automatically

☒ Use the following IP address:

IP address: 192 . 168 . 2 . 5

Subnet mask: 255 . 255 . 255 . 0

Default gateway: . . .

☐ Obtain DNS server address automatically

☒ Use the following DNS server addresses:

Preferred DNS server: . . .

Alternate DNS server: . . .

☐ Validate settings upon exit

Advanced...

OK Cancel

Configuration and virtual COM port Software

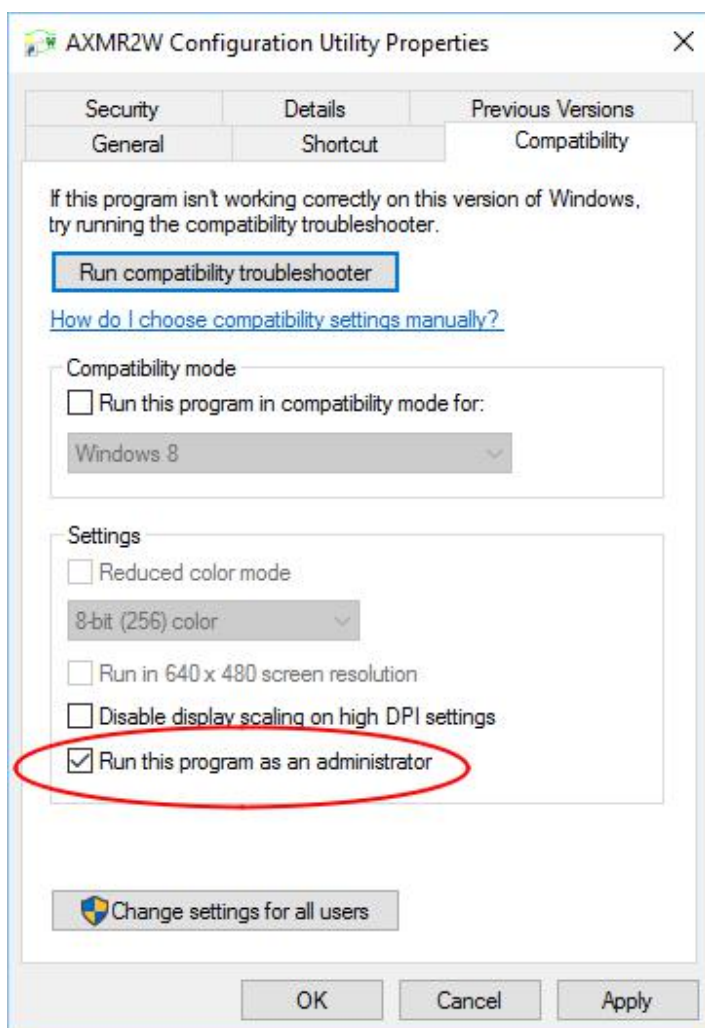
To be able to create a serial COM port on your computer which the XS1200 can connect through, you need to use a Virtual COM software.

You can use the XS1200 Configuration/VCOM software to create a virtual COM port or you can use almost any other type of virtual COM port software such USC-VCOM (free downloadable from www.usconverters.com), PortShare or Fabulatech. Please contact our tech support if you have questions regarding VCOM software.

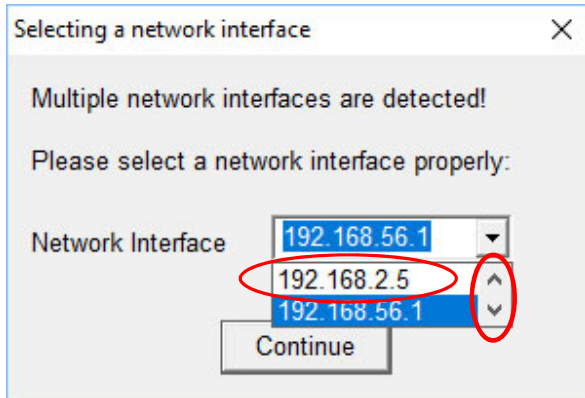
Download the most recent version of the virtual COM port software called AXR2E from www.usconverters.com. Unzip the downloaded folder and install the software.

After installing the "AXR2E_Configuration_Utility_Setup" file (either the 32-bit version or the 64-bit version) you can start the software.

Make sure to start the software as Administrator, otherwise you might not be able to create COM port successfully. You start the software as Administrator by finding the "AXR2E Configuration Utility" in the Windows start menu, right-click and select "More", then click "Start as Administrator":

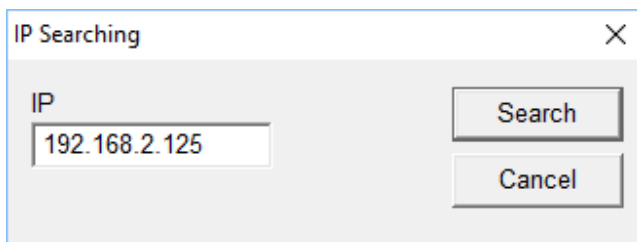


Once the program has been started you need to select the correct network. If your computer has more than one network connection you need to select the wireless network which is in the same subnet as the XS1200:

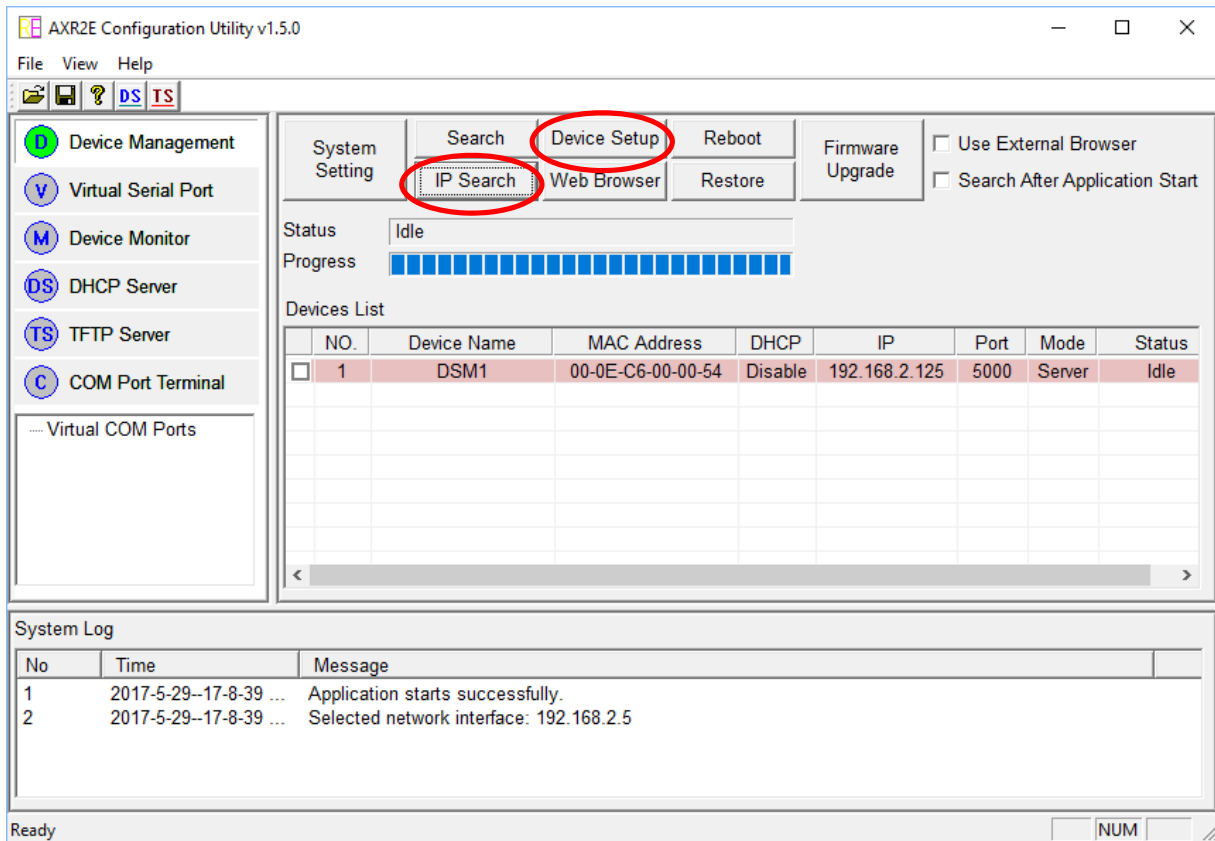


Use the up/down arrows to scroll through the IPs if there are more than two IPs.

Click the "IP Search" button once the software is open and enter the XS1200's IP address as shown below:



The software should now find the XS1200 and list it as shown below:



Select the XS1200 from the device list and click "Device Setup" and the settings window will open:

Device Setup

Network Setting
Serial Port Setting

Device Name
DSM1

MAC Address
00-0E-C6-00-00-54

DHCP
Disable

Server

Static IP
192.168.2.125

Data Listening Port
5000

Client

Destination Port
5000

Destination Hostname/IP
192.168.2.2

Data Packet Type

☐ UDP
☒ TCP
☐ Auto connect after reboot

Management Packet Type

☒ Broadcast
☐ Multicast

Netmask
255.255.255.0

Gateway
192.168.2.1

DNS Server
168.95.1.1

Transmit Timer
100

Accessible IP Addresses

☐ Enable

IP 1
0.0.0.0

IP 2
0.0.0.0

IP 3
0.0.0.0

IP 4
0.0.0.0

SMTP Configuration Parameters

Domain Name

From Address

To Address 1

To Address 2

To Address 3

Event Enable/Disable

IP Change
Disable

Cold Start
Disable

Password Change
Disable

Authentication Fail
Disable

Submit
Save
Load

Device Setup

Network Setting

Serial Port Setting

Baud Rate

115200

Data Bits

8

Parity

None

Stop Bits

1

Flow Control

None

RS-485 Mode

0

0: Sleep

1: Single Twisted Pair Half-Duplex

2: Single Twisted Pair Half-Duplex or
Double Twisted Pair Full-Duplex (Slave)

3: Double Twisted Pair Full-Duplex (Master)

Submit

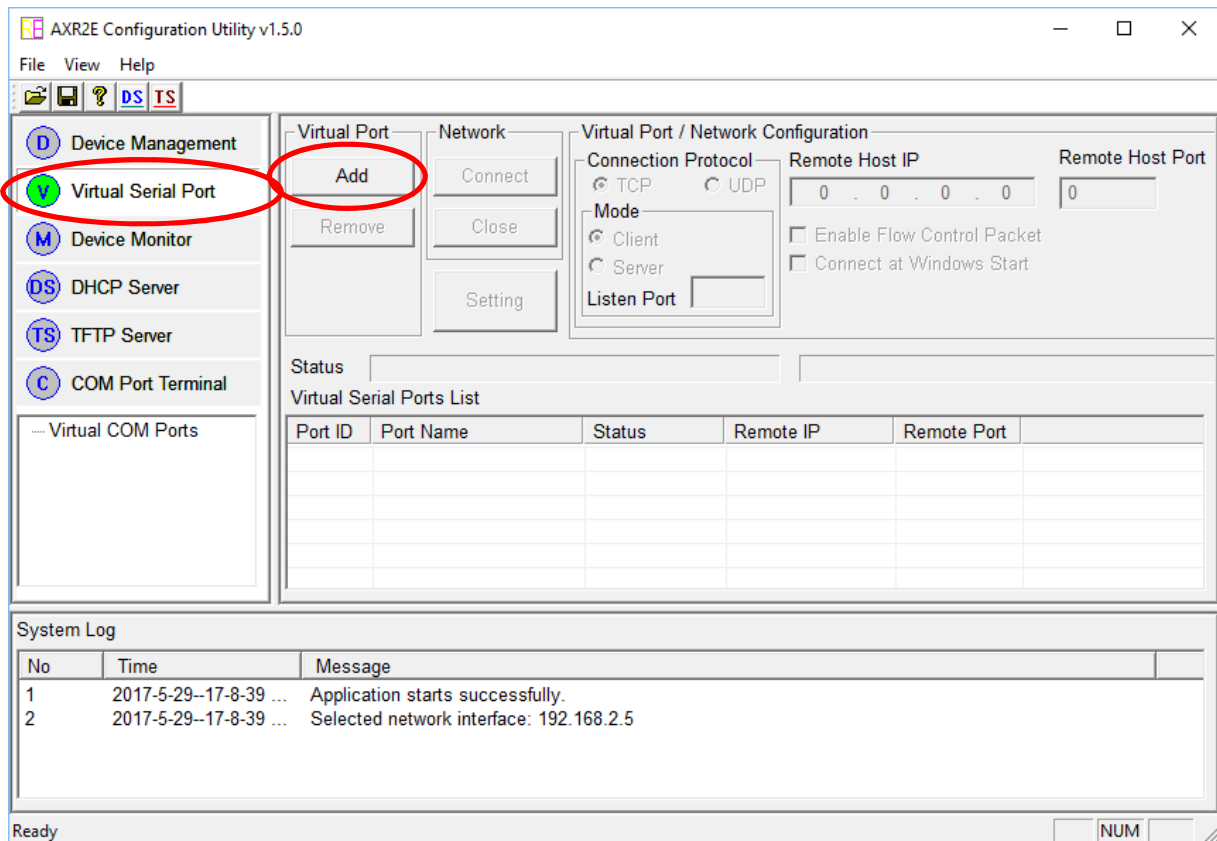
Save

Load

Creating a COM port with VCOM

A virtual COM port can be created by using the AXR2E Configuration Utility or it can be created by using alternative VCOM software such as PortShare, Fabulatech or USC-VCOM.

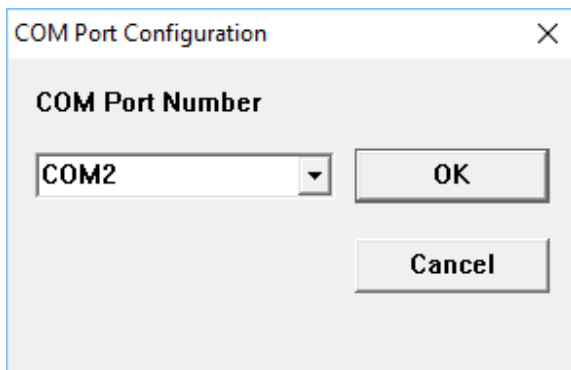
Here we show how to create the virtual COM port in the AXR2E Configuration Utility. Go to the “Virtual Serial Port” menu and click the “Add” button:



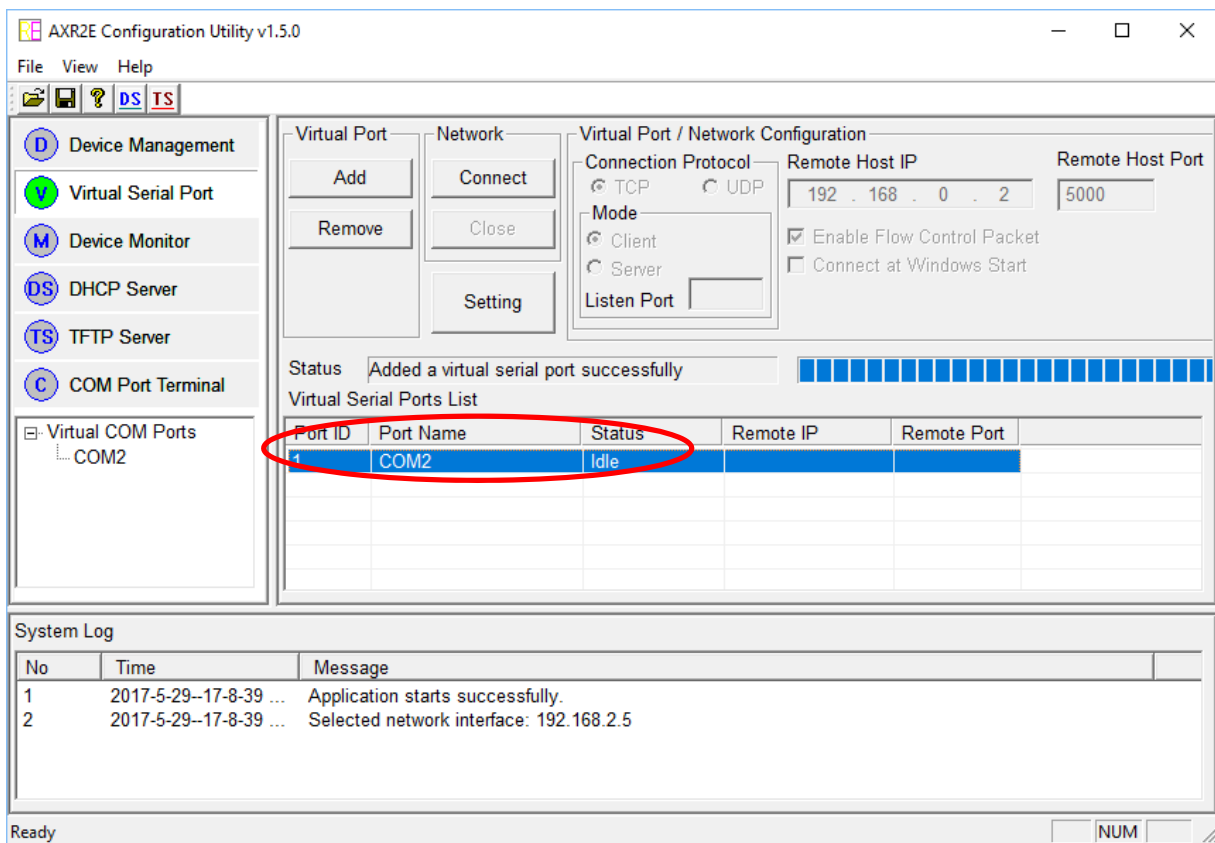
If you are getting an “Open COM port DB failed” error when you click the “add” button then it is because you didn’t run the AXR2E Configuration Utility as Administrator under Windows (see page 6).



Select a COM port number:

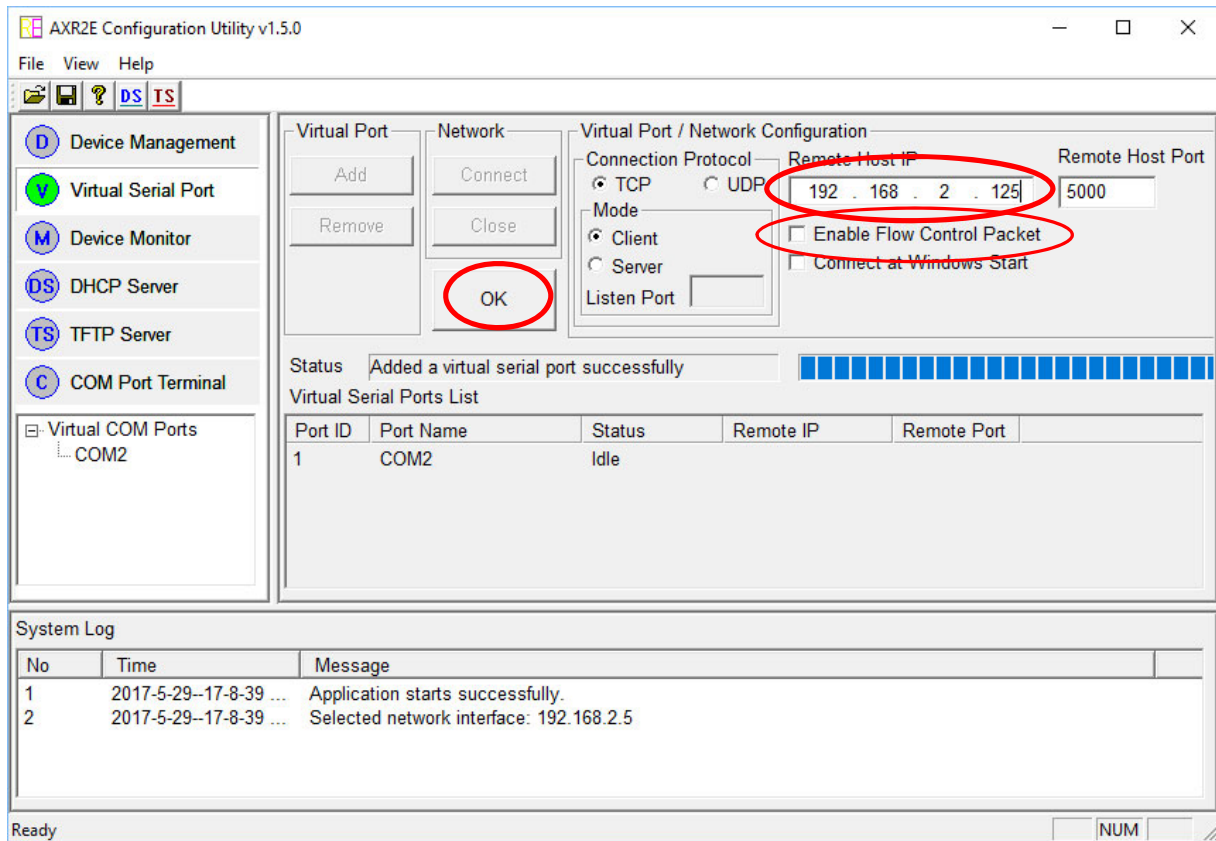


The COM port should now be listed in the Virtual Serial Ports List:

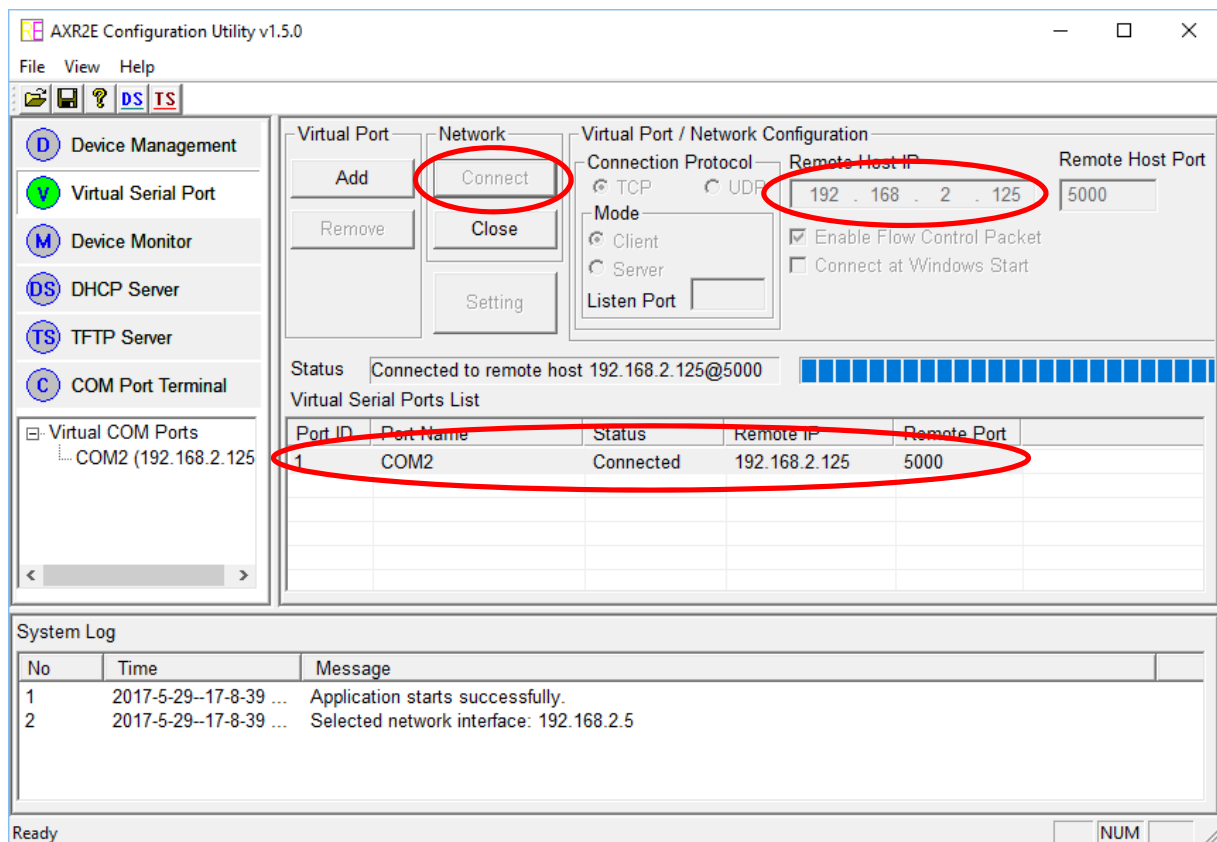


Click the “Setting” button and enter the XS1200’s IP address (192.168.2.125).

Disable “Enable Flow Control Packet”, and click OK:

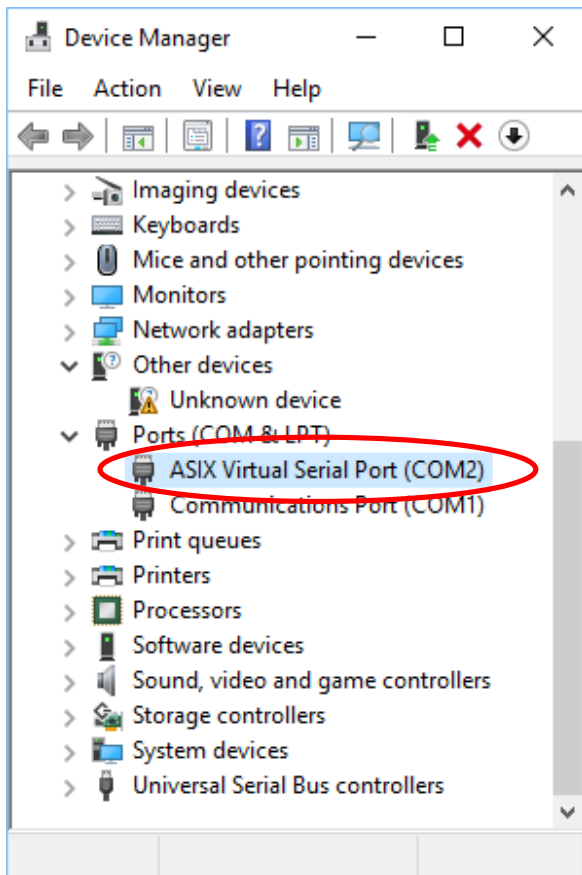


Click the “Connect” button and the software will open the COM port, ready to send and receive data:



You have now successfully created a virtual COM port!

Check in Windows Device Manager to see if the COM port has been successfully created:

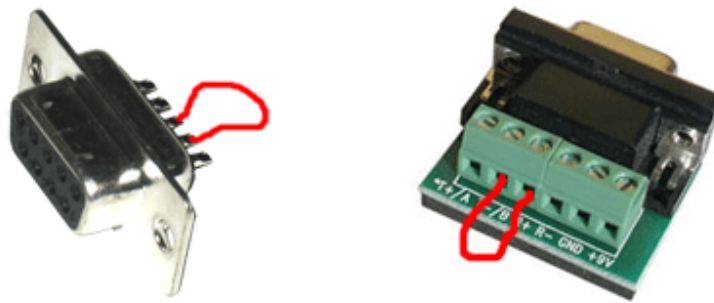


Alternatives to this virtual COM port software are USC-VCOM, PortShare and Fabulatech.

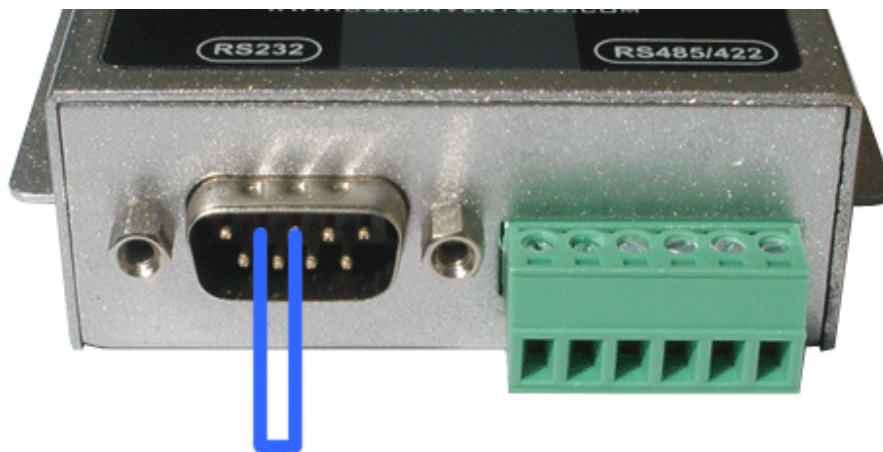
Making a loop-back test

To test if the XS1200 is working correctly and the drivers and cabling has been successfully setup you can make a loop-back test. This will verify if you can send and receive data both ways, from LAN to serial and serial to LAN.

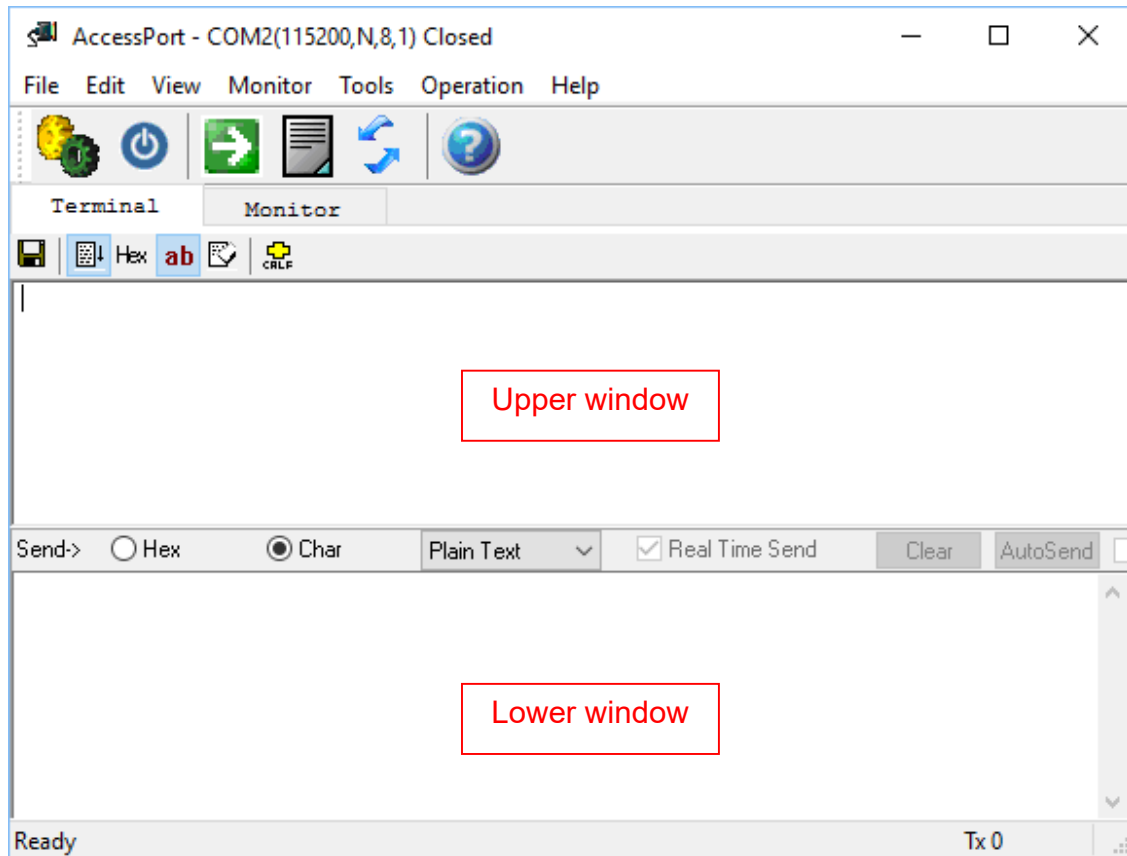
To confirm that the XS1200 can send and receive data you now need to connect the TX pin to the RX pin (pin 3 to pin 2) at the DB9 connector on the XS1200. The easiest and safest way to do this is by making a loop-back plug from a female DB9 connector or terminal header such as pictured below:



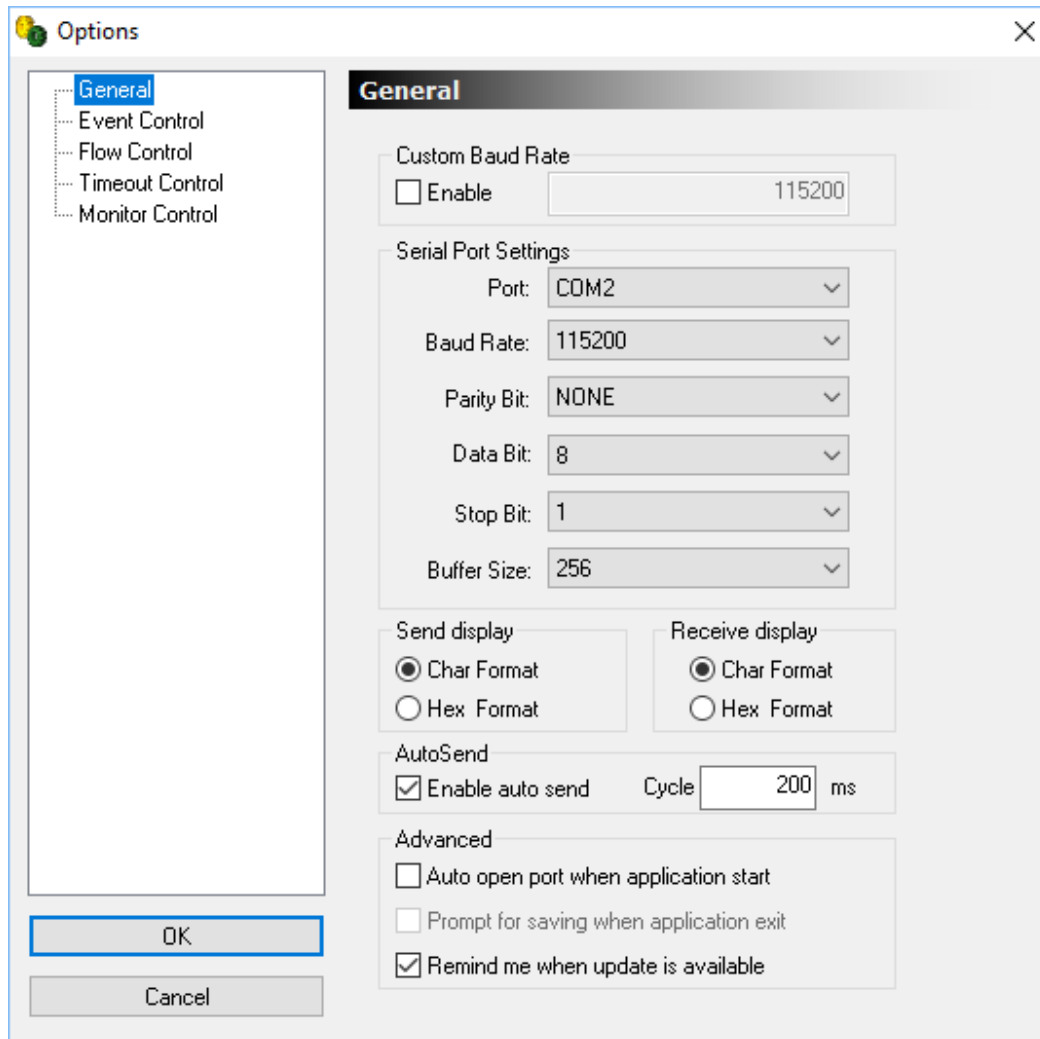
If you do not have any of these available you can manually make a connection from pin 2 to pin 3 at the DB9 connector by carefully using a piece of wire or even a paper clip to short the pins, as shown in the image below. Be careful not to short any other pins since this might damage the adapter.



Download AccessPort from www.usconverters.com. When you start AccessPort the first time you will be welcomed with the window shown below. The upper window is the 'receive' window where you receive data, and the lower window is the 'send' window where you can enter a text string to send.

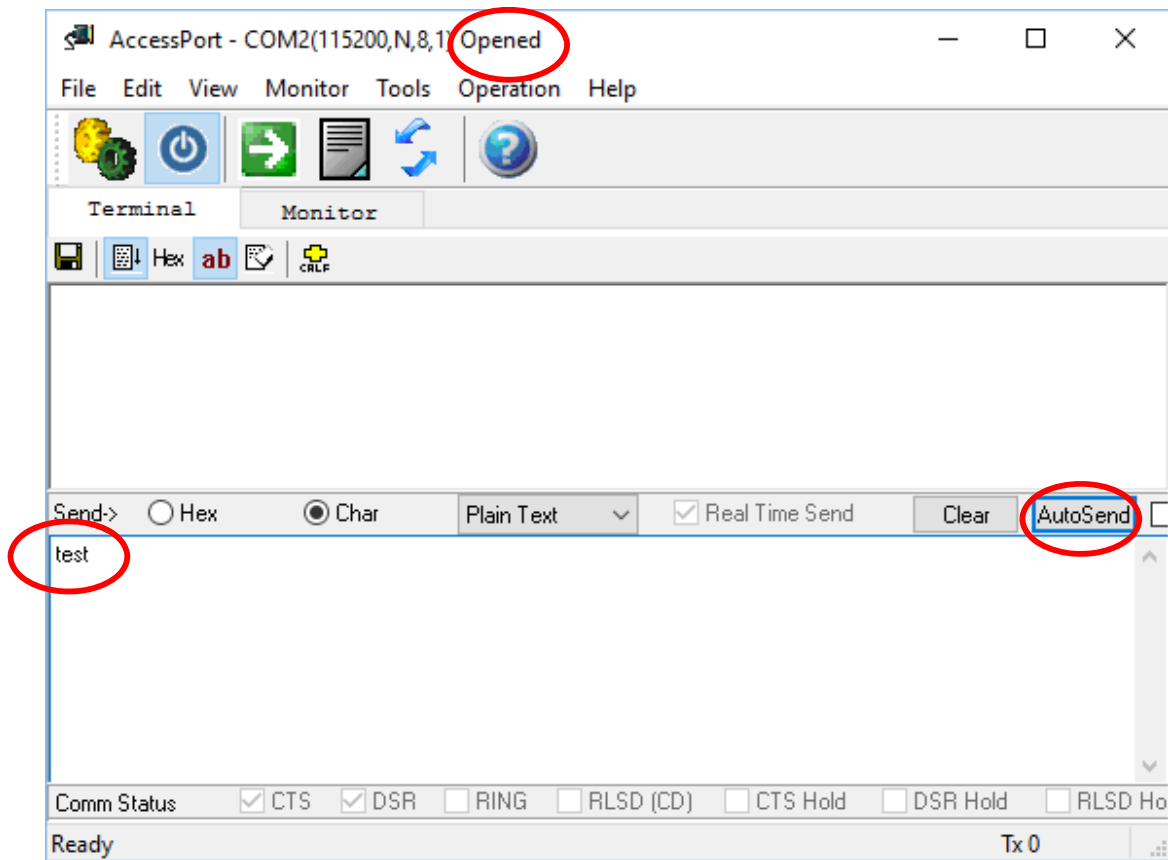


Click Tools -> Configuration in the menu bar, this will open the configuration window. Enter the correct information. In this case we have created COM port 2 so we select COM 2:



Click OK, this will automatically open the selected COM port if it has been correctly created by the Virtual COM software, and if the XS1200 is properly connected to your computer.

Enter a text string in the lower window and click the AutoSend button:



AccessPort will now start sending the text string to the COM port, the 'Link' and 'TX/RX' LED lights on the XS1200 should now start flashing.

When the COM port has been opened by AccessPort, the status parameters in VCOM should be similar to this:

AXR2E Configuration Utility v1.5.0

File View Help

Device Management
Virtual Serial Port
Device Monitor
DHCP Server
TFTP Server
COM Port Terminal

Virtual COM Ports
COM2 (192.168.2.125)

Virtual Port / Network Configuration

Virtual Port: Add, Remove, Connect, Close, Setting

Network: Add, Remove, Connect, Close, Setting

Virtual Port / Network Configuration

Connection Protocol: ☒ TCP ☐ UDP

Mode: ☒ Client ☐ Server

Listen Port:

Remote Host IP: 192 . 168 . 2 . 125

Remote Host Port: 5000

☒ Enable Flow Control Packet

☐ Connect at Windows Start

Status: Connected to remote host 192.168.2.125@5000

Virtual Serial Ports List

Port ID	Port Name	Status	Remote IP	Remote Port
1	COM2	Connected	192.168.2.125	5000

System Log

No	Time	Message
1	2017-5-29--17-8-39 ...	Application starts successfully.
2	2017-5-29--17-8-39 ...	Selected network interface: 192.168.2.5

Ready

AXR2E Configuration Utility v1.5.0

File View Help

Device Management
Virtual Serial Port
Device Monitor
DHCP Server
TFTP Server
COM Port Terminal

Virtual COM Ports
COM2 (192.168.2.125)

System Setting

Search: IP Search, Web Browser

Device Setup: Reboot, Restore

Firmware Upgrade: ☐ Use External Browser, ☐ Search After Application Start

Status: Idle

Progress:

Devices List

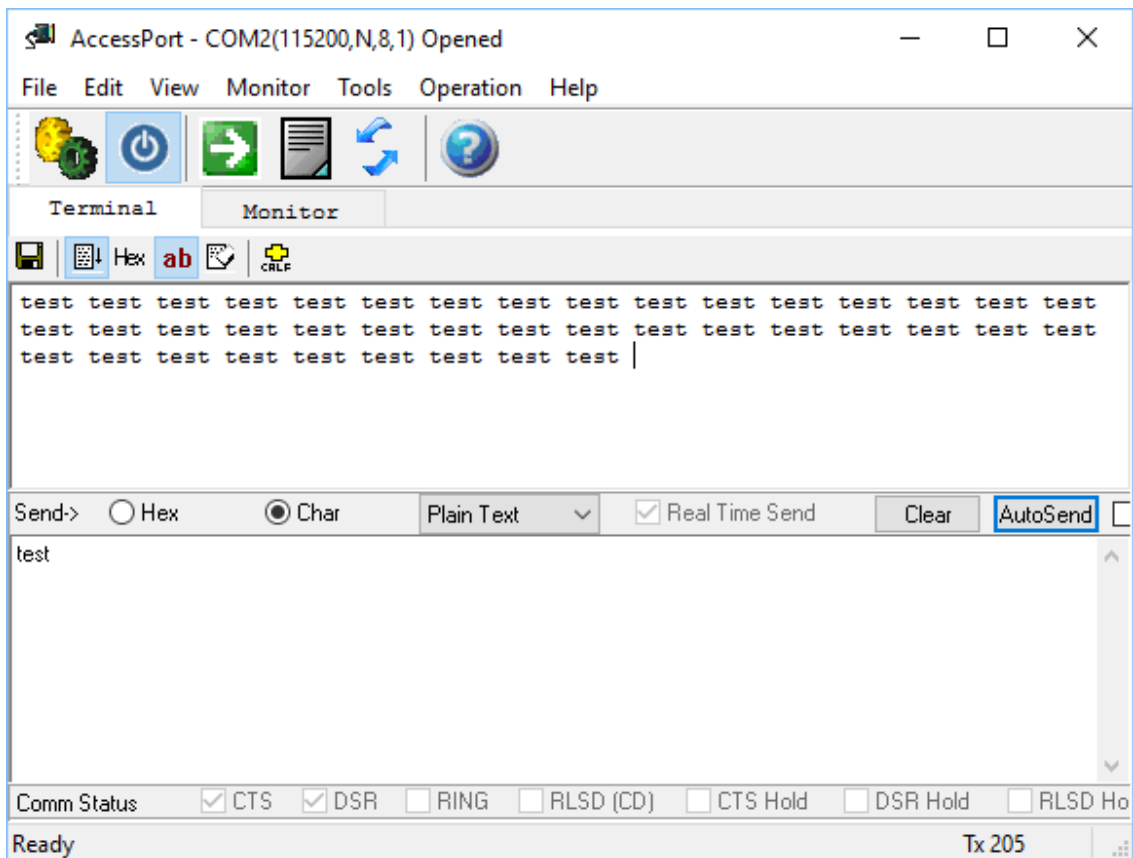
NO.	Device Name	MAC Address	DHCP	IP	Port	Mode	Status
1	DSM1	00-0E-C6-00-00-54	Disable	192.168.2.125	5000	Server	Idle

System Log

No	Time	Message
1	2017-5-29--17-8-39 ...	Application starts successfully.
2	2017-5-29--17-8-39 ...	Selected network interface: 192.168.2.5

Ready

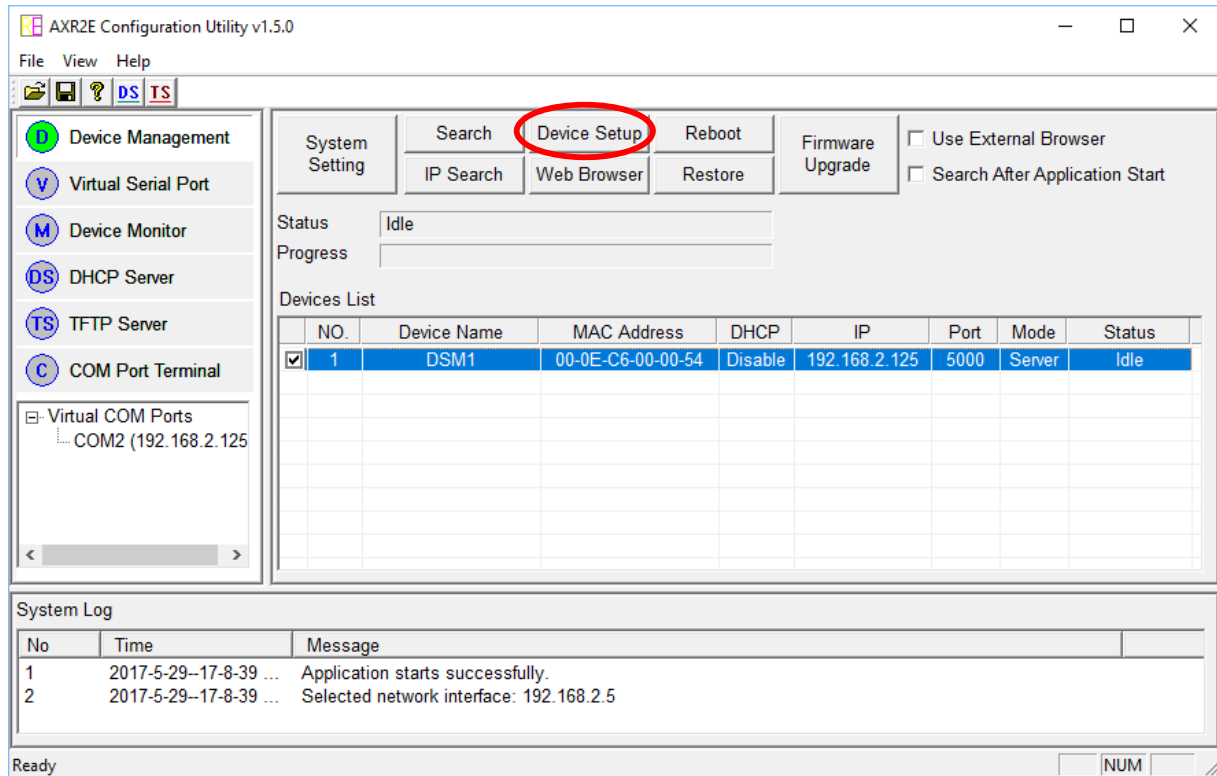
With the TX and RX pins looped you will now receive the text string in the receive window:



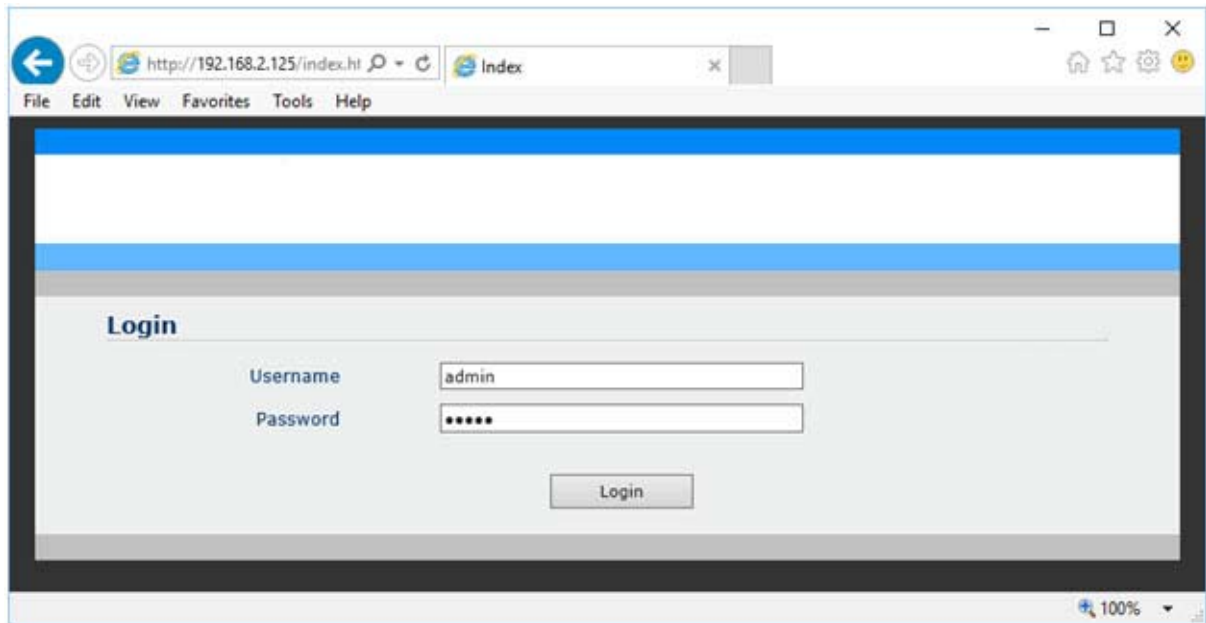
You have now successfully performed a loop-back test and verified that the converter can transmit and send data and that it is correctly connected and setup.

Configuring the parameters using a web-browser

To configure the XS1200's parameters you can click on the 'Device Setup' button within the AXR2E Configuration software:



An alternative (and recommended) way of configuring the XS1200 is to use a web browser. Simply open a web browser and enter the IP address of the XS1200 in the address field:



The user name and passwords are both: admin

The screenshot shows a web browser window with the address bar displaying `http://192.168.2.125/bscsetti`. The browser's menu bar includes File, Edit, View, Favorites, Tools, and Help. The page has a blue header with a 'Logout' link. Below the header, there are three tabs: 'Basic' (selected), 'Advance', and 'Security'. The 'Basic' tab contains two sections: 'Serial Settings' and 'Network Settings'.

Serial Settings

Device Name	<input type="text" value="DSM1"/>
Data Baud Rate	<input type="text" value="115200"/>
Data Bits	<input type="text" value="8"/>
Data Parity	<input type="text" value="None"/>
Stop Bits	<input type="text" value="1"/>
Flow Control	<input type="text" value="None"/>
Serial Type	<input type="text" value="RS232"/>

Network Settings

DHCP Client	<input type="text" value="Disable"/>
Static IP Address	<input type="text" value="192.168.2.125"/>
Static Subnet Mask	<input type="text" value="255.255.255.0"/>
Static Default Gateway	<input type="text" value="192.168.2.1"/>
Static DNS Server	<input type="text" value="168.95.1.1"/>
Connection Type	<input type="text" value="TCP"/>
Transmit Timer	<input type="text" value="100"/> <small>Please enter an integer between 10~65535 ms</small>
Server/Client Mode	<input type="text" value="Server"/>
Server Listening Port	<input type="text" value="5000"/> <small>Please enter an integer between 1024~65535</small>
Client Destination Host Name/IP	<input type="text" value="192.168.2.2"/> <small>Please enter host name or IP address</small>
Client Destination Port	<input type="text" value="5000"/> <small>Please enter an integer between 1024~65535</small>

At the bottom of the form, there are four buttons: 'Apply', 'Cancel', 'Reboot', and 'Restore default'.

http://192.168.2.125/advsett Advance

File Edit View Favorites Tools Help

Logout

Basic Advance Security

Temperature

Temperature °C

Firmware Upgrade Settings

TFTP Server IP

File Name

E-mail Settings

E-mail Server Address/IP
Please enter host name or IP address

From E-mail Address

To E-mail Address 1

To E-mail Address 2

To E-mail Address 3

Auto Warning Report Settings

Cold Start

Authentication Failure

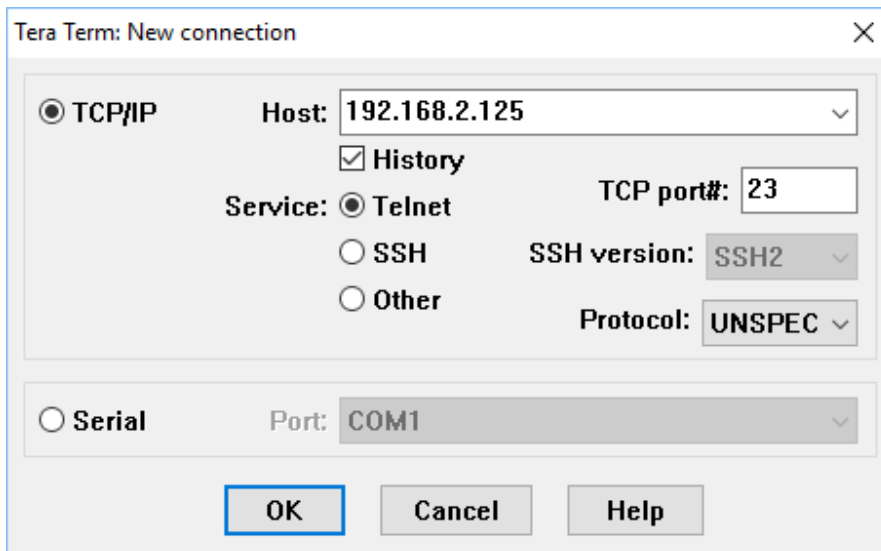
Local IP Address Changed

Password Changed

100%

Configuring the parameters using Telnet

Create a Telnet connection to the XS1200 by using a terminal software such as Putty or Tera Term. Use the settings as shown below:



The screenshot shows the 'Tera Term: New connection' dialog box. The 'TCP/IP' radio button is selected. The 'Host' field contains '192.168.2.125'. The 'History' checkbox is checked. The 'Service' section has 'Telnet' selected, with 'SSH' and 'Other' as options. The 'TCP port#' field contains '23'. The 'SSH version' dropdown is set to 'SSH2'. The 'Protocol' dropdown is set to 'UNSPEC'. Below this, the 'Serial' radio button is unselected, and the 'Port' dropdown is set to 'COM1'. At the bottom are 'OK', 'Cancel', and 'Help' buttons.

Tera Term: New connection

☒ TCP/IP Host: 192.168.2.125

☒ History

Service: ☒ Telnet TCP port#: 23

☐ SSH SSH version: SSH2

☐ Other Protocol: UNSPEC

☐ Serial Port: COM1

OK Cancel Help

Username and password are both "admin":

```

192.168.2.125:23 - Tera Term VT
File Edit Setup Control Window Help
username: admin
password:
Successful login through telnet
telnet> help
help
quit
reboot
Usage: passwd
      Old Password:
      New Password:
      Re-enter New Password:
Usage: username <user name>
Usage: ipconfig
Usage: setip <ip addr>
Usage: setmask <netmask>
Usage: setgateway <ip addr>
Usage: setdns <ip addr>
Usage: serialport <baud rate> <data bits> <parity> <stop bits> <flow ctrl>
      <baud rate>: 0: 921600      5: 9600
                  1: 115200     6: 4800
                  2: 57600      7: 2400
                  3: 38400      8: 1200
                  4: 19200
      <data bits>: 0: 5          2: 7
                  1: 6          3: 8
      <parity>:    0: Odd       2: None
                  1: Even
      <stop bits>: 0: 1         1: 1.5      2: 2
      <flow ctrl>: 0: Xon/Xoff  2: None
                  1: Hardware
Usage: setmode <mode>
      <mode>: 0: SERVER      1: CLIENT
Usage: setsrvport <port>
Usage: setdstport <port>
Usage: dhcpclient <status>
      <status>: 0: disable   1: enable
Usage: connecttype <protocol>
      <protocol>: 0: TCP      1: UDP
Usage: transmitimer <time>
      <time>: time in ms
Usage: saveconfig
Usage: accessip <index> <ip addr>
      <index>: index of accessible IP
      <ip addr>: accessible IP address
Usage: setaccip <mode>
      <mode>: 0: disable    1: enable
Usage: setems <e-mail server domain name>
Usage: setemf <e-mail address>
Usage: setemt1 <e-mail address>
Usage: setemt2 <e-mail address>
Usage: setemt3 <e-mail address>
Usage: enconfig
Usage: setaw <cold start> <authentication fail> <ip changed> <password changed>
      <cold start>: 0: Disable  1: Enable
      <authentication fail>: 0: Disable  1: Enable
      <ip changed>: 0: Disable  1: Enable
      <password changed>: 0: Disable  1: Enable
Usage: rs485 <mode>
      <mode>: 0: Sleep          2: Double Twisted Pair FD (Slave)
      <mode>: 1: Single Twisted Pair HD 3: Double Twisted Pair FD (Master)
Usage: setdsthn <Host name/IP>
Usage: tftpsrv <ip addr>
Usage: filename <file name>
Usage: dlfirmware
Usage: seteeep <HEX RegStartAddr> <HEX Byte 0> <HEX Byte 1>...<HEX Byte N>
Usage: dbgmsg <mode>
      <mode>: 0: Disable    1: Enable
Usage: connstatus
Usage: ping xxx.xxx.xxx.xxx
Usage: setdef
telnet>

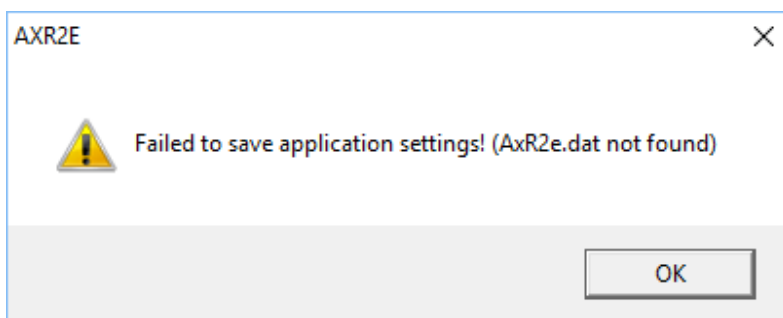
```

Use the commands “help” or “sethelp” to get an overview of the parameters. Please refer to the full command list for all available commands.

Known issues

Problem:

Configuration utility shows this error when exiting:

**Cause:**

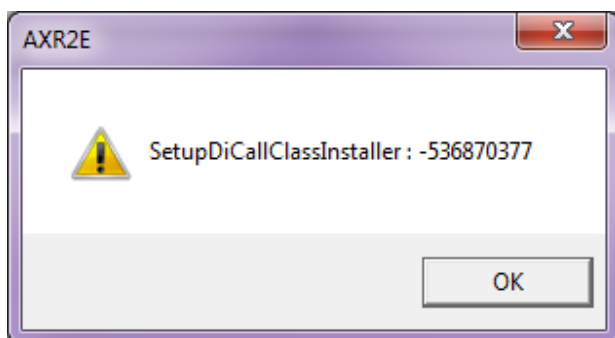
If the configuration utility was not started with Administrator rights this error will show up when closing the software.

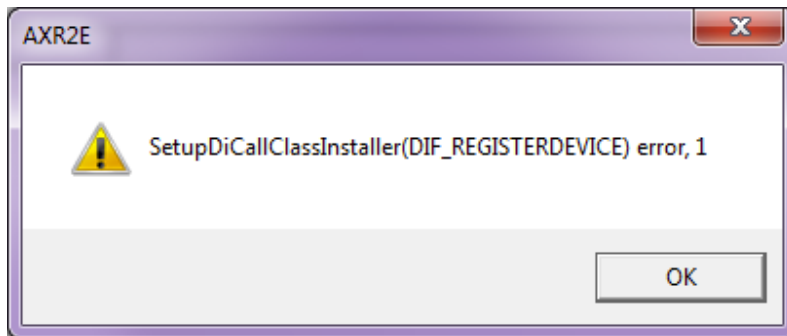
Solution:

Always start the configuration software with Administrator rights.

Problem:

You are getting one or both of the following errors when trying to add a virtual COM port in the AXR2E software:





Cause:

AXR2E software not properly/successfully installed.

Solution:

Copy the file called:

NETVSPD.INF

located in the folder:

C:\Program Files(X86)\AX110XX RS232-to-Ethernet Configuration Utility\

to:

C:\Windows\inf\

and copy:

NETVSPD.sys

to:

C:\Windows\system32\drivers\

Alternatively you can use a different VCOM software such as USB-VCOM or PortShare.

Problem:

You are getting an “Open COM port DB failed” error when you click the “add”:



Cause:

You didn't run the AXR2E Configuration Utility as Administrator under Windows.

Solution:

See page 6.

Problem:

When sending data from Ethernet side to serial side you are receiving extra data compared to what you sent; and when you send data from serial side to Ethernet side you don't receive any data at all.

Cause:

You didn't disable "Enable Flow Control Packet" when creating the virtual COM port.

Solution:

Disable "Enable Flow Control Packet".