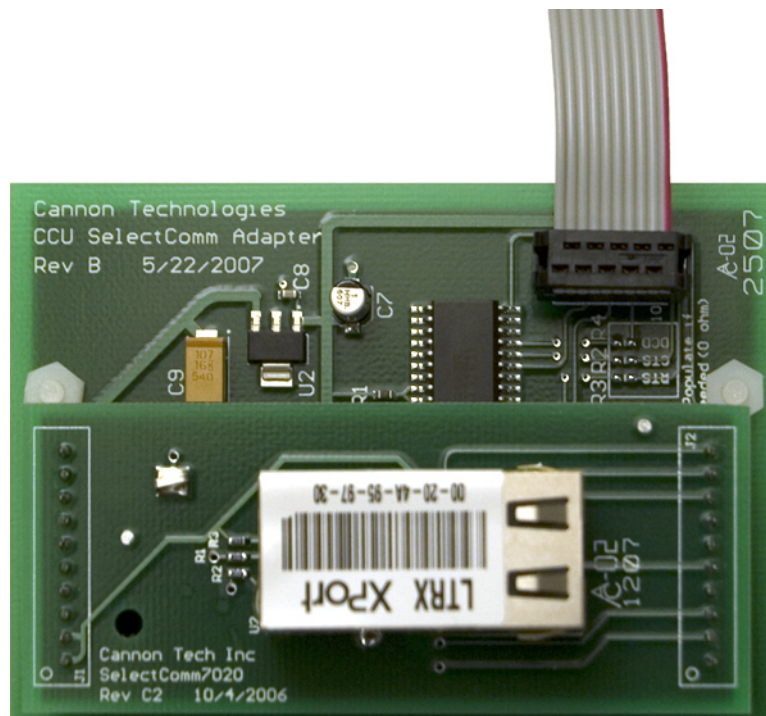


The CCU SelectComm Interface Module uses a Lantronix XPort Embedded Device Server to provide a compact, integrated solution that enables communication with a Carrier Control Unit (CCU) over a network connection.

This instructional leaflet describes how to install the SelectComm Interface Module on a CCU Modem/Faker Card and how to program the module.

The following hardware is required to install and program the SelectComm Interface Module:

- DB9 Serial Cable
- Windows Computer with a Serial Port
- Bulk Ethernet Cable
- Two RJ45 Connectors
- RJ45 Crimping Tool



WARNING

Use authorized utility procedures to install, test, and service the CCU SelectComm Interface Module. Dangerous voltages are present. Equipment damage, personal injury, and death can result if safety precautions are not followed.

Installing the CCU SelectComm Interface Module

This procedure describes how to install the SelectComm Interface Module on a CCU Modem/Faker Card.

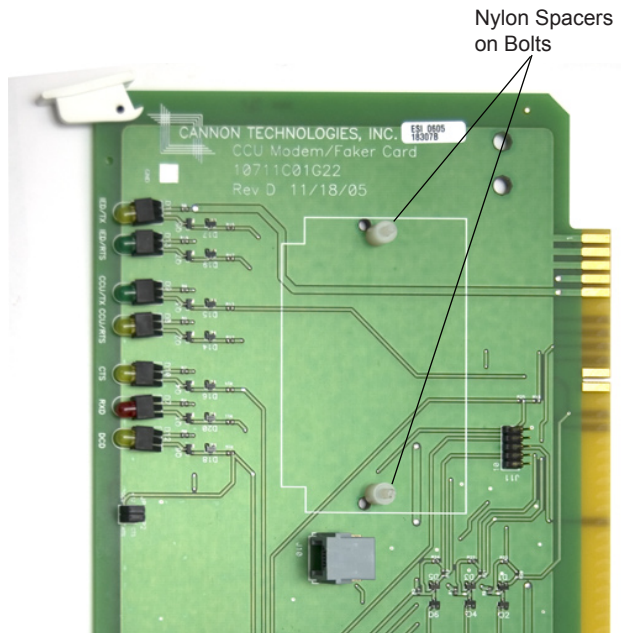


WARNING

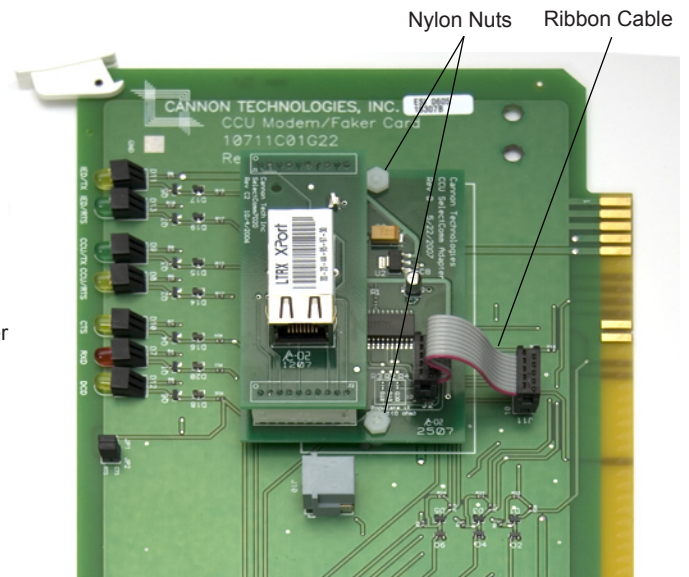
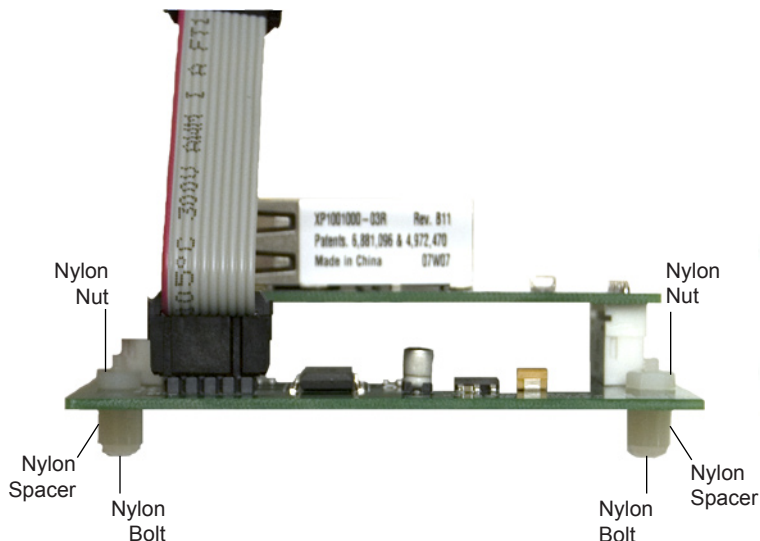
Do not install a circuit board while internal power is applied to the CCU. Dangerous voltages are present. Equipment damage, personal injury, and death can result if safety precautions are not followed.

1. Open the door of the CCU.
2. Turn off the power to the CCU.
3. Remove the Modem/Faker Card from the CCU.
4. If a modem is installed on the Modem/Faker Card, remove the modem and associated components.
5. Remove the SelectComm Interface Module from its protective wrapping.
6. Remove the two nylon nuts that hold the nylon bolts and spacers to the module card.

7. Insert the two nylon bolts through the holes in the Modem/Faker Card and place the nylon spacers on the bolts as shown below.



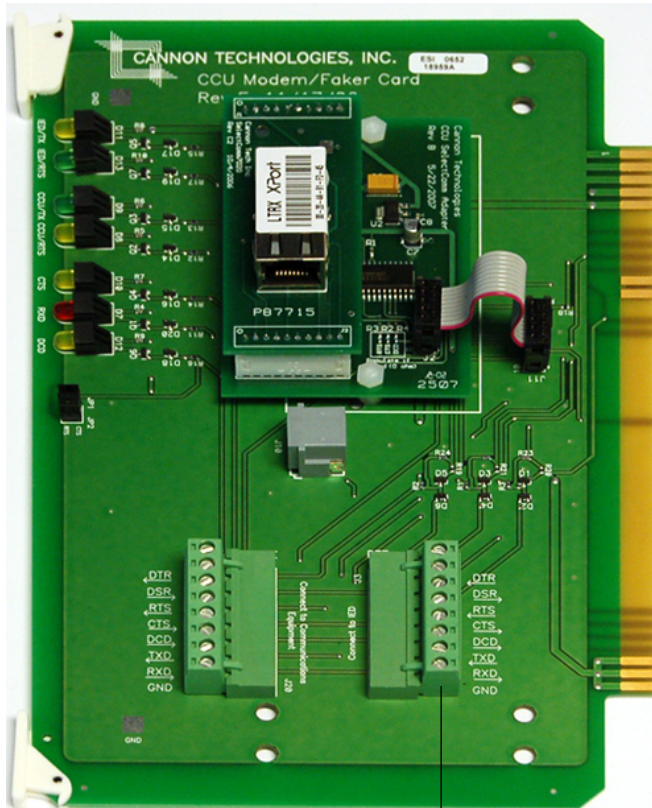
8. Position the SelectComm Interface Module so the holes on the module line up with the bolts in the Modem/Faker card.
9. Place the module on the nylon spacers and tighten the nylon nuts onto the bolts until the module is secure.
10. Connect the communication ribbon cable from the module to the J11 connector on the Modem/Faker card.



Connecting a Serial Cable to the CCU Modem/Faker Card

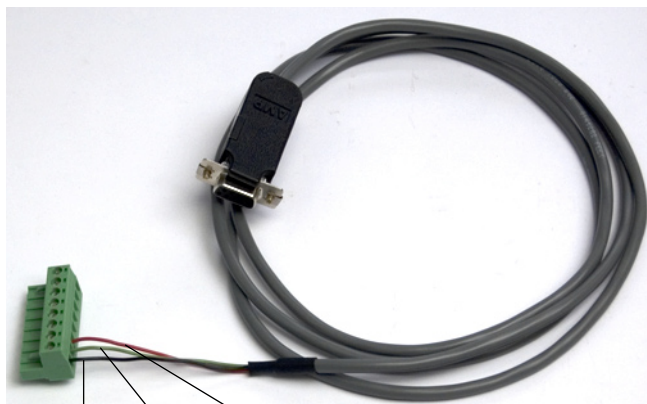
This procedure describes how to connect the supplied serial cable to the CCU Modem/Faker Card.

1. Remove the terminal block from the DTE (Data Terminal Emulator) connector on the CCU Modem/Faker Card.



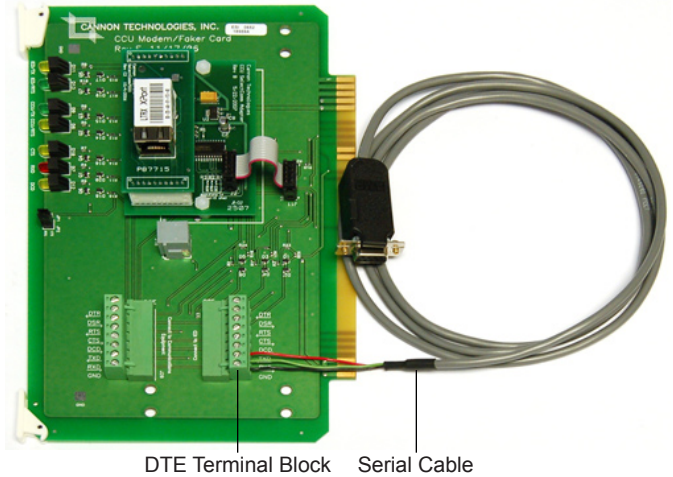
DTE Terminal Block

2. Connect the wires from the serial cable to the terminal block as shown below.



(1) Black (2) Green (3) Red
(Ground) (Receive) (Transmit)

3. Insert the terminal block into the DTE connector on the CCU Modem/Faker Card.



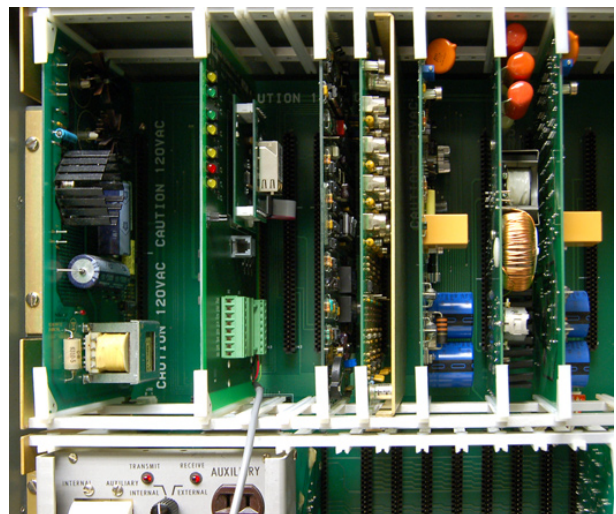
4. Open the door of the CCU.



WARNING

Do not install a circuit board while internal power is applied to the CCU. Dangerous voltages are present. Equipment damage, personal injury, and death can result if safety precautions are not followed.

5. Turn off the power to the CCU.
6. Install the Modem/Faker Card in the CCU.

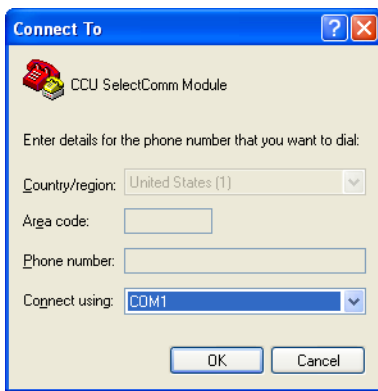


7. Connect the female end of the serial cable to a serial port on a Windows computer.

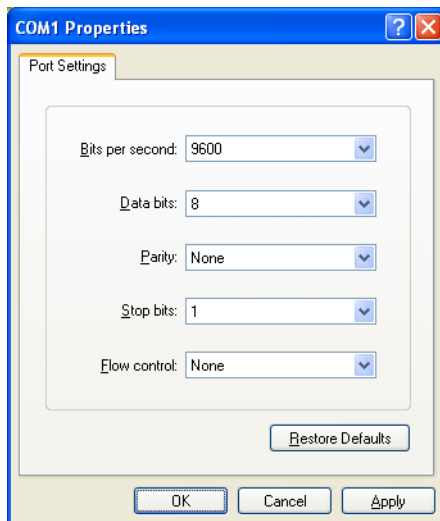
Programming the CCU SelectComm Interface Module

This procedure describes how to program the CCU SelectComm Interface Module.

1. On the Windows computer, start the HyperTerminal application.
(Start->Programs->Accessories->Communications->HyperTerminal)
2. Enter a name for the HyperTerminal Connection and click OK.
3. Select the com port to which the serial cable is connected from the 'Connect using:' drop-down list and click OK.



4. Select the following values from the COM Properties dialog box and click OK:
 - Bits per second: 9600
 - Data bits: 8
 - Parity: None
 - Stop Bits: 1
 - Flow Control: None



5. Turn on the power to the CCU.
6. Immediately after turning on the CCU, hold the x key on the computer keyboard until the following information is displayed in the HyperTerminal window:
MAC address XXXXXXXXXXXXX
Software version V6.1.0.0 (051122) XPTEXE
Press Enter for Setup Mode
7. Press the Enter key within five seconds of seeing of the above information.
8. When the Enter key is pressed, the current settings in the SelectComm Interface Module scroll by in the HyperTerminal window and the following menu appears:

Change Setup:

```
0 Server
1 Channel 1
3 E-mail
5 Expert
6 Security
7 Defaults
8 Exit without save
9 Save and exit      Your choice ?
```

9. Press 0 on the computer keyboard to select Server setup.
10. To specify an IP Address, enter each octet of the address and press Enter between each section:
(000) XXX.(000) XXX.(000) XXX.(000) XXX
11. To skip the Gateway IP Address section, press Enter.
To specify a Gateway IP Address press Y and then enter each octet of the address and press Enter between each section:
(000) XXX.(000) XXX.(000) XXX.(000) XXX

- To specify a Subnet Mask, enter the number of host bits for the subnet mask.

Host Bit Value	Subnet Mask
0	255.255.255.255
1	255.255.255.254
2	255.255.255.252
3	255.255.255.248
4	255.255.255.240
5	255.255.255.224
6	255.255.255.192
7	255.255.255.128
8	255.255.255.0
9	255.255.254.0
10	255.255.252.0
11	255.255.248.0
12	255.255.240.0
13	255.255.224.0
14	255.255.192.0
15	255.255.128.0
16	255.255.0.0

- Skip the telnet config password section by pressing N.
- When Server setup is complete, the following menu appears again:

Change Setup:

- 0 Server
- 1 Channel 1
- 3 E-mail
- 5 Expert
- 6 Security
- 7 Defaults
- 8 Exit without save
- 9 Save and exit Your choice ?

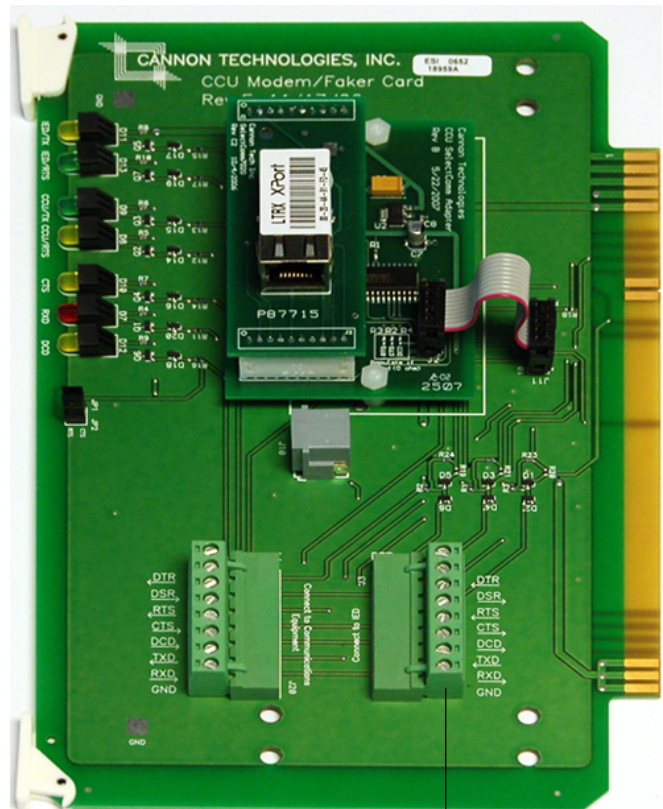
- Press 1 on the computer keyboard to select Channel 1 setup.
- Enter the baud rate of the CCU for the Baudrate value. The baud rate of the CCU is set via a jumper on the CCU logic card. Valid values are 1200, 2400 or 4800.
- Press Enter to accept the default values for I/F Mode and Flow.
- Enter a port number of 10001 for the Port No value.
- Press Enter for the remaining settings to accept the default values.

- When Channel 1 setup is complete, the following menu appears again:

Change Setup:

- 0 Server
- 1 Channel 1
- 3 E-mail
- 5 Expert
- 6 Security
- 7 Defaults
- 8 Exit without save
- 9 Save and exit Your choice ?

- Press 9 to save the changes made to the module and to exit the setup program.
- Turn off the power to the CCU.
- Remove the Modem/Faker Card from the CCU.
- Remove the terminal block from the DTE (Data Terminal Emulator) connector on the CCU Modem/Faker Card.
- Disconnect the wires of the serial cable that are connected the terminal block.
- Insert the terminal block into the DTE connector on the CCU Modem/Faker Card.



DTE Terminal Block

Reinstalling the CCU Modem/Faker Card

This procedure describes how to reinstall a CCU Modem/Faker Card and connect the SelectComm Interface Module to the network connection in the substation.

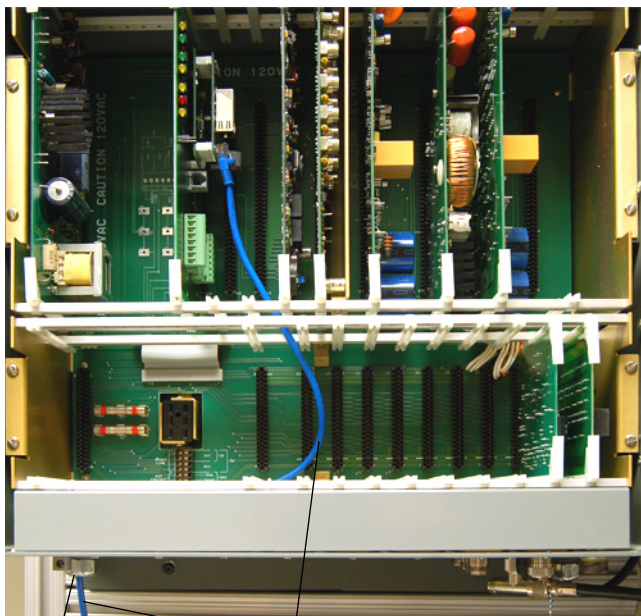
1. Open the door of the CCU.



WARNING

Do not install a circuit board while internal power is applied to the CCU. Dangerous voltages are present. Equipment damage, personal injury, and death can result if safety precautions are not followed.

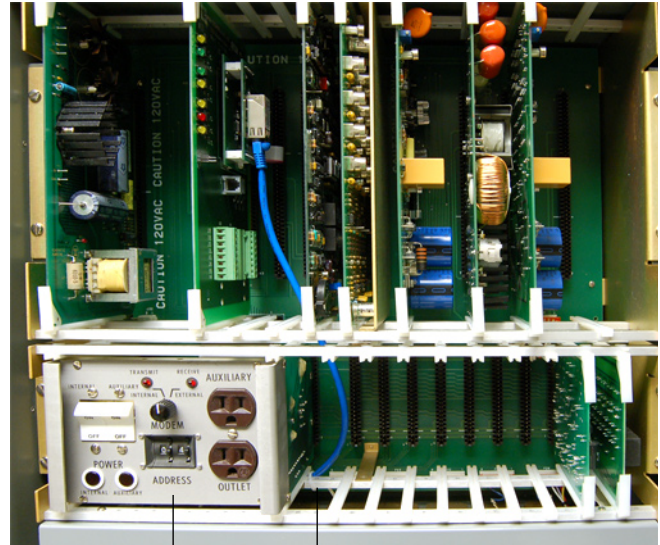
2. Turn off the power to the CCU.
3. Install the Modem/Faker Card in the CCU.
4. Remove the power control panel.
5. Route a length of bulk Ethernet cable through the cable access opening on the bottom of the CCU to the SelectComm Interface Module.
6. Crimp an RJ45 connector on to both ends of the Ethernet cable.



Cable Access Opening

Ethernet Cable

7. Connect one end of the Ethernet cable to the network connection in the substation.
8. Connect the other end of the Ethernet cable to the SelectComm Interface Module inside the CCU.



Power Control Panel Cable Tie Panel

9. Reinstall the power control panel.
10. Secure the Ethernet cable to the inside of the CCU with a cable tie.
11. Turn on the power to the CCU.
12. Close the door of the CCU.

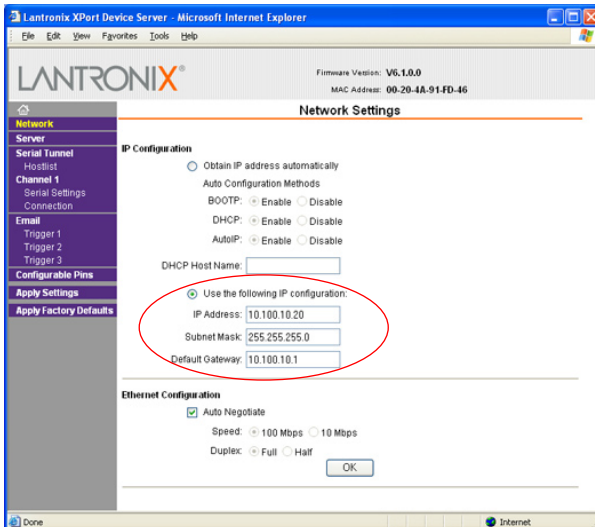
Verifying the Settings in the CCU SelectComm Interface Module

This procedure describes how to verify the settings of the SelectComm Interface Module.

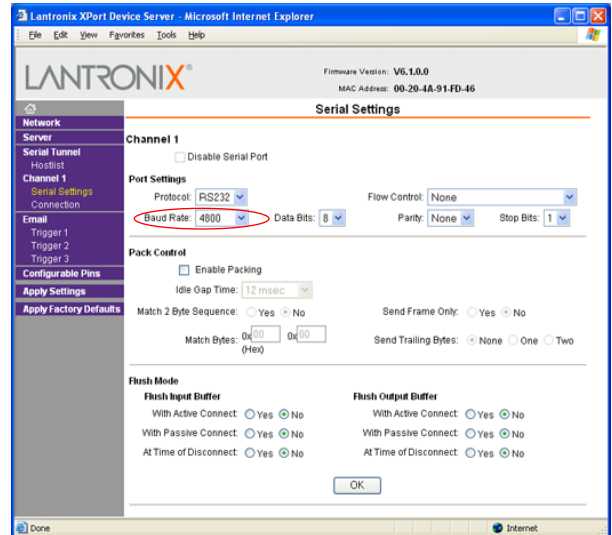
1. Start a Web browser on a computer that can access the SelectComm Interface Module over the network.
2. Enter the IP Address of the SelectComm Interface Module in the Web browser address bar.



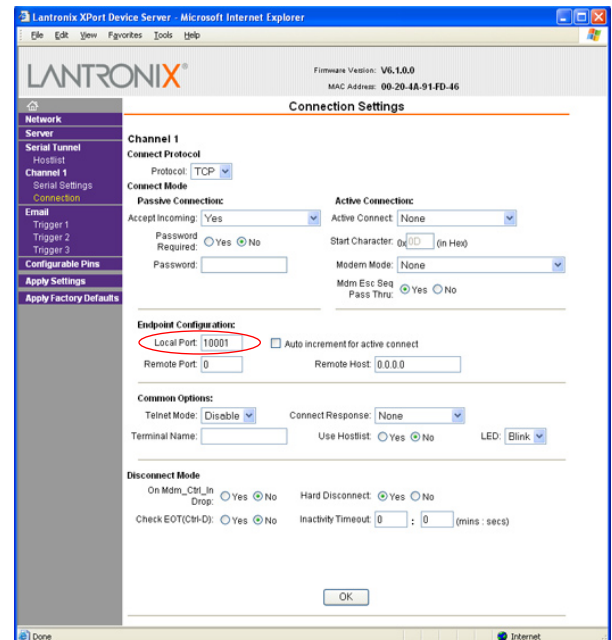
3. From the main XPort page, click on the Network link in the navigation area.
4. Verify that the IP Configuration settings match the values entered in the Programming the CCU SelectComm Interface Module procedure.



5. Click on the Serial Settings link in the navigation area.



6. Verify that the Baud Rate setting in the Port Settings area matches the value entered in the Programming the CCU SelectComm Interface Module procedure.
7. Click on the Connection link in the navigation area.



8. Verify that the Local Port setting in the Endpoint Configuration is 10001, which was entered in the Programming the CCU SelectComm Interface Module procedure.

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AND LIMITATION OF LIABILITY**

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