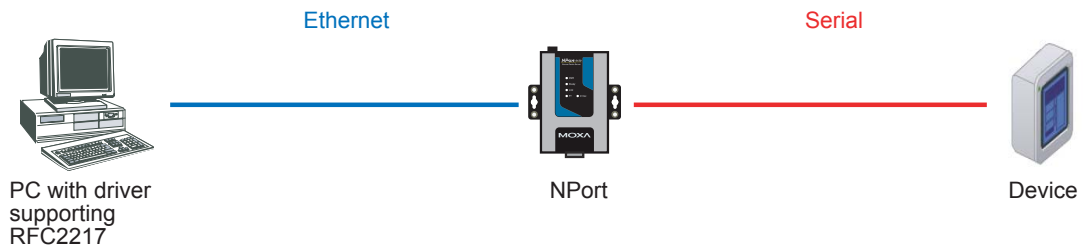# RFC 2217 Mode for NPort

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This Tech Note applies to NPort device servers. The following models are included:
- NPort 6000 series
- NPort 5600 series
- NPort W2150 Plus
- NPort W2250 Plus

What is RFC 2217 Mode?

In RFC 2217 Mode, a driver on the host computer maps a local COM port over the network to the NPort device server. The host computer can then transparently connect to the attached device as if it was attached by a serial cable.

Configuring the NPort 5600 for RFC 2217 Mode

Before performing the following steps, restore the NPort device server's default settings by holding the reset button down for 10 seconds.

1. Turn the NPort on. The Ready LED should turn green.

2. Make sure that the NPort and the host PC are properly connected to the network.

3. Adjust the NPort's IP settings as necessary so that it is in the same network as your PC. You may also need to modify the host PC's IP configuration. Make sure you can ping the NPort from your host PC.

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About Moxa

Moxa manufactures one of the world's leading brands of device networking solutions. Products include serial boards, USB-to-serial hubs, media converters, device servers, embedded computers, Ethernet I/O servers, terminal servers, Modbus gateways, industrial switches, and Ethernet-to-fiber converters. Our products are key components of many networking applications, including industrial automation, manufacturing, POS, and medical treatment facilities.

How to Contact Moxa

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This document was produced by the Moxa Technical Writing Center (TWC). Please send your comments or suggestions about this or other Moxa documents to twc@moxa.com.

Remember, the IP addresses of the NPort and the PC must be on the same subnet. If one IP address is modified, you may need to modify the other IP address.

4. On the host PC, connect to the NPort's Telnet console by entering **telnet** *<NPort's IP address>* at the command prompt. For example, if your NPort's IP address is 192.168.127.254, enter **telnet 192.168.127.254** at the command prompt.

5. In the Telnet console under **(4) Operating Settings**, select the serial port that you wish to configure.

6. Select **(1) Operating mode** and **(1) RFC 2217 Mode.**

7. In the main menu, select **(s) Save/Restart** to restart the NPort with the new settings activated.

Configuring the NPort 6000, NPort W2150 Plus, and NPort W2250 Plus for RFC 2217 Mode

Before performing the following steps, restore the NPort device server's default settings by holding the reset button down for 10 seconds.

Also, please note that for NPort Wireless Plus models, only one network interface (WLAN or Ethernet) can be active at a time. To use the Ethernet interface, make sure the network cable is plugged in before powering on the NPort. To use the WLAN interface, make sure the network cable is unplugged when the NPort is powered on.

1. Turn the NPort on. The Ready LED should turn green.

2. Make sure that the NPort and the host PC are properly connected to the network.

3. Adjust the NPort's IP settings as necessary so that it is in the same network as your PC. You may also need to modify the host PC's IP configuration. Make sure you can ping the NPort from your host PC.

   Remember, the IP addresses of the NPort and the PC must be on the same subnet. If one IP address is modified, you may need to modify the other IP address.

4. On the host PC, connect to the NPort's Telnet console by entering **telnet** *<NPort's IP address>* at the command prompt. For example, if your NPort's IP address is 192.168.127.254, enter **telnet 192.168.127.254** at the command prompt.

5. In the Telnet console under **[Port]**, select **[Modes]** and then select the serial port that you wish to configure. Under **Application**, select **Device Control** and under **Mode** select **RFC 2217**.

6. In the main menu, select **[Restart]** to restart the NPort with the new settings activated.

Testing RFC 2217 Mode for the NPort

Ethernet RS-232

PC with Serial/IP NPort (COM3) PC s native COM1
Redirector
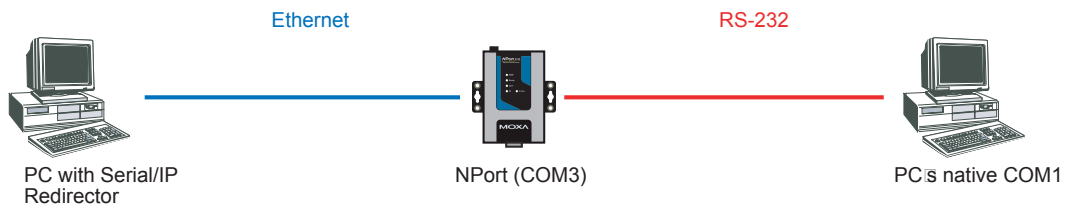
1. Make sure that the serial port on the NPort is operating in RS-232 mode.

2. Install a third party driver that supports RFC 2217. For the purpose of this document, Serial/IP Redirector will be used as an example.

    a) Open the control panel for Serial/IP Redirector through the Windows Start menu: **Start → Programs → Serial-IP → Control Panel**

    b) Click **Select Ports** and select a COM port to be mapped to the NPort.

    c) In the Serial/IP Redirector control panel, enter the NPort's IP address and TCP port. By default, the NPort uses TCP port 4001 for the first serial port, 4002 for the second serial port, and so on.

    d) For the **Connection Protocol**, select **Telnet**.

    e) Click **Configuration wizard** to test the connection.

3. Repeat step 2 for each COM port that will be mapped to the NPort.

4. Run Windows HyperTerminal or another terminal emulator, such as Moxa's PComm Terminal Emulator. PComm may be downloaded from the Download Center at www.moxa.com.

5. In the terminal emulator, open both a physical COM port, such as COM 1, and a virtual COM port that as configured in the third party RFC 2217 driver. Open both COM ports using the same serial parameters, including baudrate, start bit, etc.

6. In the terminal emulator, input data into the physical COM port. The data should appear on the virtual COM port. This indicates a successful connection.

Cable Wiring

RS-232 Cable Wiring

NPort		Device
TxD	—	RxD
RxD	—	TxD
RTS	—	CTS
CTS	—	RTS
DTR	—	DSR
DSR	—	DTR
DCD	—	DCD
GND	—	GND

4 wire RS-422/485 Cable Wiring

NPort		Device
Tx (+)	—	Rx (+)
Tx (−)	—	Rx (−)
Rx (+)	—	Tx (+)
Rx (−)	—	Tx (−)
GND	—	GND

2 wire RS-485 Cable Wiring

NPort		Device
D (+)	—	D (+)
D (−)	—	D (−)
GND	—	GND