

MOXA Ethernet Serial Port Concentrator Installation

Please Read the Following Instructions Completely Before Installing the Hardware (MOXA Ethernet Serial Port Concentrator)

The MOXA Ethernet Serial Port concentrator allows two WinFrogs to both run simultaneously, receiving data from each device. There is a feature in WinFrog to control which WinFrog actually send data.

MOXA NPORT 5650 Installation

The following has been condensed from the user's manual. For more detailed information refer to the Quick Installation Guide and the documentation contained on the CD.

- 1) Have on hand a list of the devices that are available, their port parameters (i.e. baud rate etc), their interface type (i.e. RS232 or RS422), and which MOXA port you are going to connect them to.
- 2) With the power switch off connect the MOXA's power cable and a straight through LAN cable between it and the WinFrog hub.
- 3) Power up the MOXA.
- 4) Insert the MOXA CD into one PC. The quick reference guide indicates that an Autorun will open, although it appears that not all CDs have an Autorun.
 - a. If the Autorun opens, click the INSTALL UTILITY and follow the instructions, then proceed to step d.
 - b. If there is no Autorun, browse the CD and locate the appropriate zip file, e.g. D:\MOXA\NPort\Software\Windows\Npadm_Setup_Ver1.10_Build_08042811.zip.
 - c. Copy it to the PC, unzip it and run the *.exe application and follow the instructions.
 - d. Copy the user's manual to the computer.
- 5) Launch the NPort Administration Suite application. On Vista you will probably have to run NPort Administration Suite application as an administrator.
- 6) Click the Search button to find the NPort. The model and address should be displayed in the configuration portion of the application. If nothing appears check the LAN cable and hub (see chapter 6 of the MOXA manual). The NPort Administration Suite uses the Mac address to find the NPort so the local network address does not matter at this time but the NPort's address must be set later.

- 7) Next, start the configuration of the NPort.
 - a. Place the cursor over the row displaying the NPort's information, and right click.
 - b. Select Configure, after a few seconds the configuration dialog will open.
- 8) Select the Network tab.
 - a. Check the top Modify check box.
 - b. Enter a unique IP address.

Note: The IP Configuration should be static. The problem with using DHCP is that if the MOXA is turned off, when it is turned back on it may assigned a different IP address. If the IP address changes the virtual port setup will be lost (WinFrog or any application will no longer be able to open the virtual COM ports) and you will have to remove the old ports then reconfigure the ports as done in step 11. And when reconfiguring it is likely that the ports will be assigned to different numbers thus any devices that use COM ports in WinFrog's INI or any CFG files will not load.

- 9) Select the Serial tab.
 - a. Check the Modify check box and change the parameters of each port according to the device documentation and information obtained from step 1. This includes baud rate, parity, bits per second, set flow control to none, FIFO enable, and interface to RS232, RS422 or RS485.

Note: Ports can be selected in groups to assign common settings in one step.

Note: The device documentation should indicate the interface type.

Note: Since there will be multiple computers accessing each port of the MOXA (accessed as a virtual port) the port parameters must be setup in the MOXA itself. However, WinFrog devices must still be configured with the correct port parameters.

- 10) Select the Operating Mode tab.
 - a. Check the Modify check box.
 - b. Highlight all the ports and click the Settings button.
 - c. Set all of the ports to RealCOM Mode.
 - d. Set the number of connections to equal the number of WinFrogs that will be accessing the ports.
 - e. Set TCP alive check timeout to 0 (disabled).

- f. Check Allow driver control.
- g. Check Ignore Jammed IP.
- h. For optimal performance, in particular for devices with high update rates, set Packing Length to 0, check the Delimiter 1 box and enter the respective telegram's terminating character (see step 1) in HEX format as the delimiter. For example, if the delimiter is a linefeed, this will be 0A, if it is a carriage return, this will be 0D.

Alternatively, if the device's telegram's terminating character is unknown and the update rate is relatively slow (e.g. <5Hz), uncheck the Delimiter 1 option and set the Packing Length to 1.

Note: The drawback to using a packing length with a device that has a high update rate is that data may be received faster than it can be sent to the virtual port resulting in a build up in the respective buffer. This causes latency in the data reception by WinFrog.

Note: Do not check the Delimiter 2 option and leave the Delimiter Process set to Do Nothing.

- i. Click OK, and again. The dialog will close and after a few seconds a message will be displayed that the configuration was applied. You should hear the MOXA beep.

11) Next we will map the MOXA serial ports to COM ports (virtual COM ports) in the computer.

- a. On the left in the function window select COM Mapping.
- b. Click the Add button on the tool bar.
- c. Place the cursor over the row displaying the NPort's information, and click OK. The dialog should close and 16 ports should be listed in the COM mapping area. The COM port numbering will be automatic with the first being the lowest available COM port number.
- d. Set the serial parameters of each port to match that of step 9. After all the ports have been dealt with click the Apply button on the tool bar.

Note: The Apply button must be clicked even if changes were *not* made to any settings in this step.

12) Setup all of the other WinFrog computers.

- a. Repeat steps 4, 5, and 6 to install the MOXA software on each other computer. The NPort has been configured so you do not need to repeat it.
- b. But you do need to assign the ports so execute steps 11.

13) Test the MOXA and computers setup.

- a. Select two of the MOXA's serial ports with matching parameters (e.g. RS232, 9600, 8-N-1) and connect them together using patch cables together with a 9 pin null modem or null modem cable and insert the RJ45s into the selected ports.
- b. Open up two HyperTerminal windows, one for each port above and test that data can be sent from each HyperTerminal and received by the other.

Note: If the ports are setup with a delimiter character the data won't be seen on the receiving HyperTerminal until the delimiter character is received. If the delimiter is set for a line feed, configure HyperTerminal to Send Line Ends with Line Feeds and press Enter after typing some characters in the transmitting HyperTerminal.