

Fixed TTY Driver for NPort

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This Tech Note applies to the following NPort device server models:

- NPort DE-211
- NPort DE-311
- NPort DE-311M
- NPort 5100 series
- NPort 5200 series
- NPort 5400 series
- NPort 5600 series
- NPort IA5150
- NPort IA5250
- NPort 6000 series
- NPort W2150
- NPort W2150 Plus
- NPort W2250
- NPort W2250 Plus

All of these products support the following UNIX operating systems:

- SCO UNIX
- SCO OpenServer 5
- SCO OpenServer 6
- UnixWare 7
- Solaris 10
- QNX4.25
- QNX6
- FreeBSD 5.x
- FreeBSD 6

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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 products, 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.

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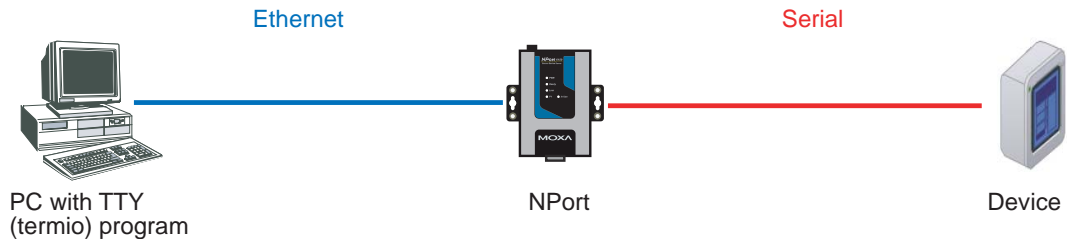
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What is the Fixed TTY Driver for NPort?

After installing the fixed TTY driver on your UNIX machine, a UNIX TTY device can be redirected to an NPort serial port. In other words, a device attached to the NPort can be treated as a local TTY device on the UNIX PC.



Installing the Fixed TTY Driver for NPort

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

1. Make sure that DIP switch 1 is set to OFF (applies to DE-211 and DE-311).
2. Modify the DIP switch settings for serial communication as required for your device.
3. Turn on the NPort. The Ready LED should turn green.
4. Make sure that the NPort and the host PC are properly connected to the network.
5. Adjust the NPort's IP settings so that it is on the same subnet as your PC. You may also need to modify the host PC's IP configuration. Ping from the PC to the NPort to verify that they are on the same subnet.

Note: 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 as well.

6. Configure the NPort for Real COM Mode and then configure the serial interface and communication parameters. Refer to instructions in the NPort's Quick Installation Guide or User's Manual for details.
7. Log into UNIX and create a directory for the Moxa fixed TTY driver. For example, execute the following command to create the directory **/usr/etc**:

```
# mkdir /usr/etc
```

8. Use the following commands to copy **moxattyd.tar** to the new directory:

```
# cp moxattyd.tar /usr  
# cd /usr/etc
```

9. Use the following commands to extract the source files:

```
# tar xvf moxattyd.tar
# cd /usr/etc/moxattyd
```

10. Follow your operating system's instructions for compiling and linking the source files:

QNX4	# make qnx4
QNX6	# make qnx6
SCO OpenServer 6	# make sco6
SCO OpenServer 5	# make sco
Solaris	# make sun
FreeBSD	# make freebsd
UnixWare 7	# make svr5

11. Verify that the configuration is correct by using a text editor (vi, for example) to open the text file **moxattyd.cf**, which is located in the directory that contains the **moxattyd** daemon. The IP:port mapping for TTY devices will appear as shown below:

```
ttyp11 192.168.127.254 950
```

12. Use the following command to start the **moxattyd** daemon:

```
# /usr/etc/moxattyd/moxattyd -t 1
```

The optional "-t" parameter is used to indicate the connection timeout value, measured in minutes.

13. To start the moxattyd daemon automatically on system bootup, add an entry to the appropriate system file. For SCO OpenServer 5 and 6, Solaris, and UnixWare 7, add the following entry to the file **/etc/inittab**:

```
ts:234:respawn:/usr/etc/moxattyd/moxattyd -t 1
```

For QNX4, QNX6, and FreeBSD, add an entry to the appropriate system file as follows:

OS	File	Add this entry
QNX4	/etc/Config/sysinit.1	/usr/etc/moxattyd/moxattyd -t 1
QNX6	/etc/rc.d/rc.local	
FreeBSD	/etc/rc.local	

Testing Fixed TTY Ports

1. After installing the Fixed TTY driver as described above, enter the following command to verify that a TTY port is available:

```
# sty -a < /dev/ttyp1
```
2. If the system responds with some serial parameter(s), the TTY port is available and can be accessed by other programs.

Cable Wiring

