

NPort U1110 Serial-to-USB Adaptor User's Manual

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NPort U1110 Serial-to-USB Adaptor User's Manual

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1

Introduction

The MOXA NPort U1110 Serial-to-USB Adaptor is a handy cable-type adaptor with one USB port and one RS-232 serial port.

The following topics are covered in this chapter:

- Overview**
- Package Checklist**
- Features**
- Specifications**

Overview

With more and more peripherals being connected by Ethernet or USB, the problem faced by system integrators and maintainers is how to integrate these different interfaces with their legacy serial devices. The compact NPort U1110 serial-to-USB adaptor can be plugged directly into your PC's USB port, without needing to power down. After spending just a few minutes to install the driver, you can begin using NPort U1110 to transfer data from your serial device to your computer.

NPort U1110 is compliant with both USB 1.0 and 1.1 specifications, is compatible with USB 2.0, and meets the 12 Mbps full speed requirement. The NPort U1110 supports bus power, adapted for laptop or workstation connections that support 30 mA output for USB devices.

Package Checklist

MOXA NPort U1110 is shipped with the following items:

- 1 NPort U1110
- NPort U1110 Documentation and Software CD-ROM
- NPort U1110 Quick Installation Guide
- Product Warranty Booklet

NOTE: *Notify your sales representative if any of the above items are missing or damaged.*

Features

NPort U1110 has the following features:

- Hot plug-and-play
- No additional I/O or IRQ required
- RS-232 speed up to 921.6 Kbps
- Supports USB 1.1, full rate speed up to 12 Mbps
- Built-in 15 KV ESD Surge Protection
- Drivers provided for Windows 98/ME/2000/XP/2003



ATTENTION—Product Limitation

Data transfer may be blocked when transferring large amounts of serial data over more than one NPort U1110, all of which are connected to USB 1.1 ports on the same K6 platform running Windows XP/2003. To avoid this problem, please do one of the following:

- Use a PC (running Win XP/2003) that has USB 2.0 ports, or
- Use a PC running Win 2000 (that has USB 1.1 ports)

Specifications

USB

Compliant with USB 1.0, 1.1, 2.0	
Connector	USB type B
Speed	Full speed 12 Mbps

Serial

No. of Ports	1
Interface	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
Connector	Male DB9
FIFO	64 bytes
Serial line protection	15 KV ESD for all signals

Serial Communication Parameters

Parity	None, Even, Odd, Space, Mark
Data bits	5, 6, 7, 8
Stop bit	1, 1.5, 2
Flow Control	RTS/CTS, XON/XOFF
Speed	50 bps to 921.6 Kbps

Power Requirements

Power Consumption	30 mA @ 5 VDC
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Mechanical Specifications

Material	ABS+PC
Gross Weight	60 g (0.13 lb)

Environmental

Operating Temperature	0 to 55°C (32 to 131°F)
Operating Humidity	5 to 95% RH

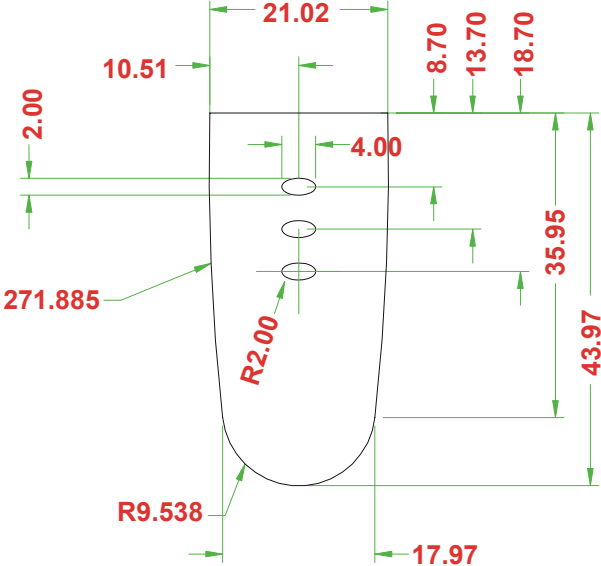
Agency Approvals

EMC	FCC (Class B), CE (Class B)
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Warranty

5 years

Dimensions



2

Driver Installation

This chapter includes information about installing the driver for NPort U1110. We present the installation procedures for both Windows 98 and Windows XP (the procedures for Windows 2000/2003 are virtually the same).

The following topics are covered in this chapter:

- ❑ **Installing the Driver**
- ❑ **Connecting the Adaptor to the PC**
 - Windows 98
 - Windows 2000/XP/2003
- ❑ **Checking the Installation**
- ❑ **Configuring the Port**
 - Windows 98
 - Windows 2000/XP/2003
- ❑ **Uninstalling the Driver**



ATTENTION

For best results, we recommend that you install the USB driver for NPort U1110 before connecting the adaptor to your computer's USB port.

To do this, insert the software CD (included in the NPort U1110 package) into your computer's CD drive, and click on **Install Software**.

Installing the Driver

The procedure to install the driver is the same for all Windows operating systems.

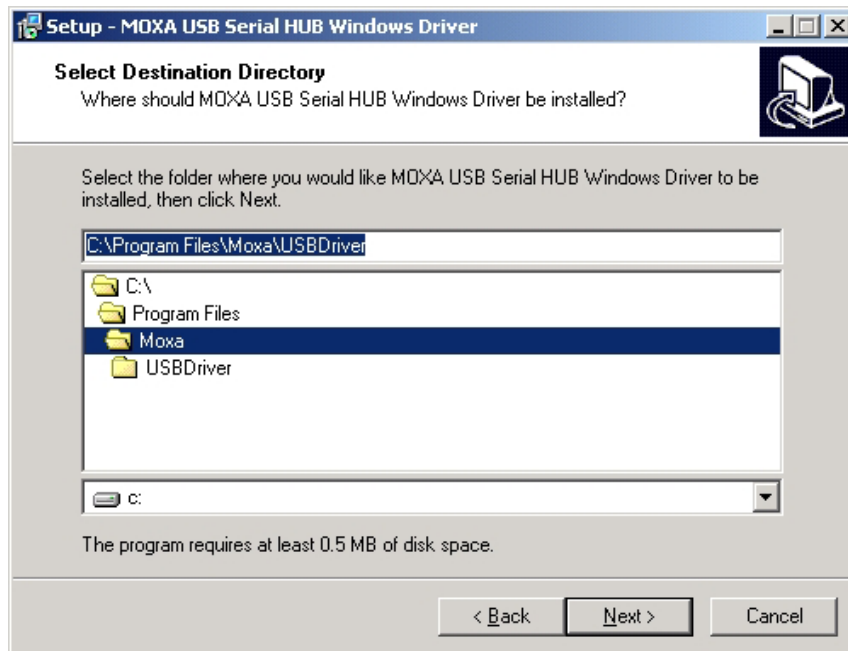
1. Locate the driver **setup.exe** file, and then double click the program's icon to start the installation procedure.



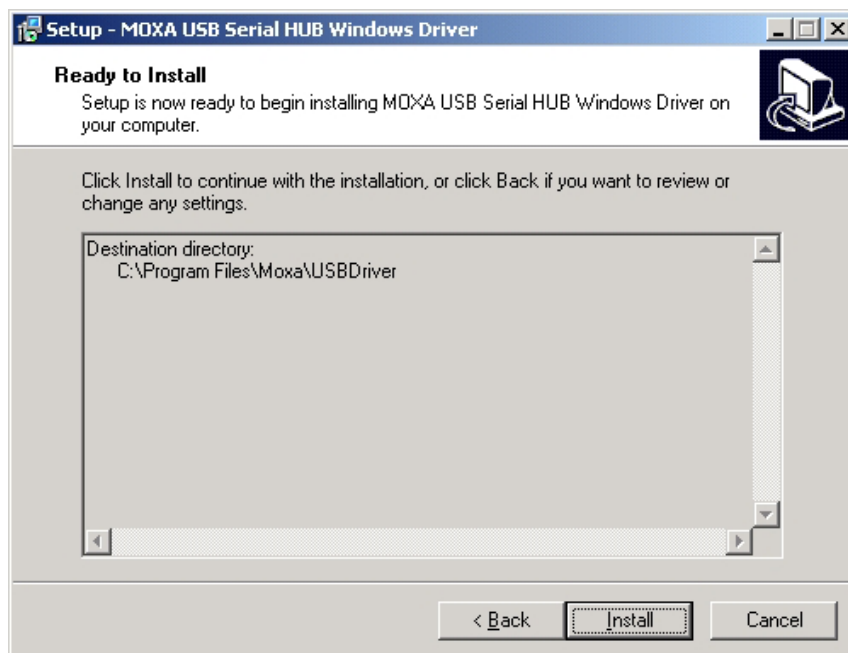
2. The setup program activates the **Welcome to the MOXA USB Serial HUB Windows Driver Setup Wizard**. Click on **Next** to continue.



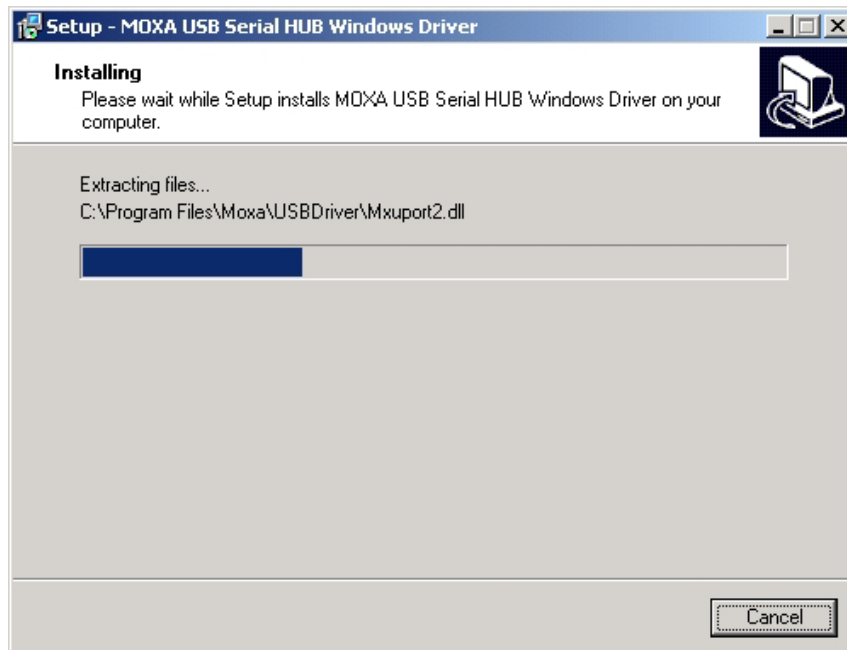
3. Click on **Next** to install the driver in the indicated folder, or use the drop-down folder list to locate a different folder..



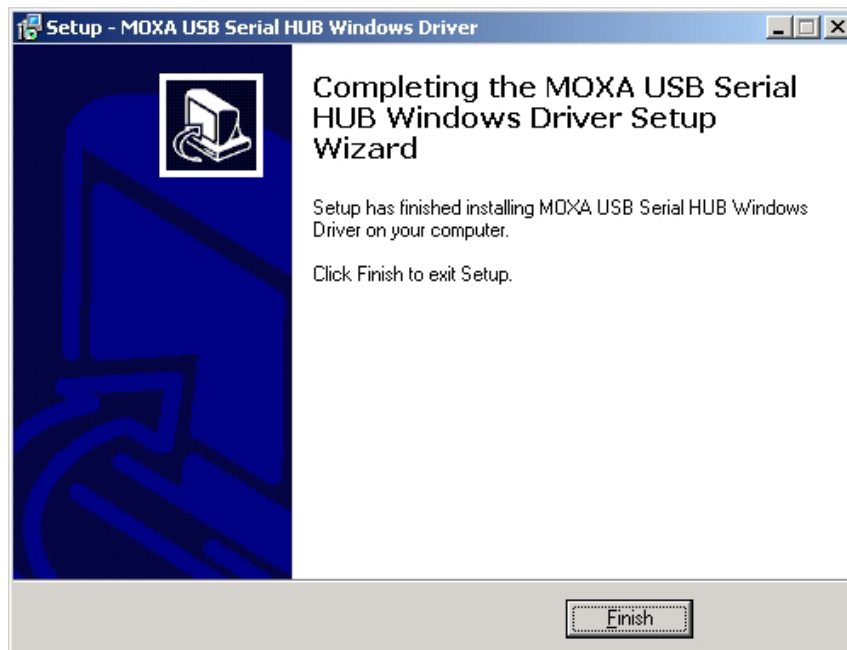
4. Click on **Install** to proceed with the installation.



5. Wait while the driver is installed on your hard drive.



6. Click on **Finish** to complete the installation of the driver.

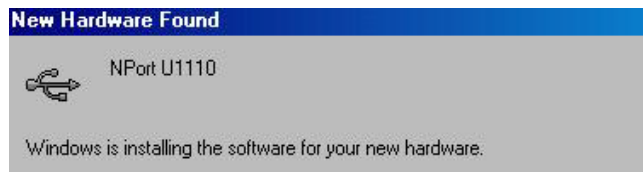


Connecting the Adaptor to the PC

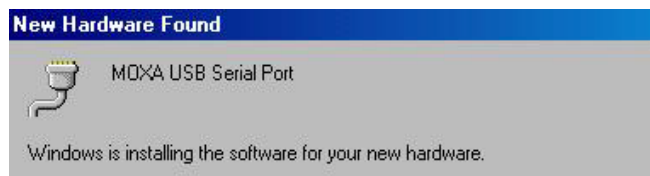
After installing the NPort U1110 driver, plug the USB side of the NPort U1110 adaptor into any upstream USB port, such as a USB port on your computer. The installation procedure consists of two steps. The first step installs the USB port, and the second step installs the COM port.

Windows 98

The **New Hardware Found** window should open automatically. The USB icon indicates that the USB port is being installed.



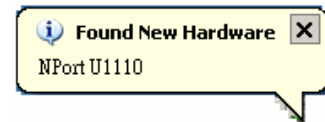
The serial port is installed next.



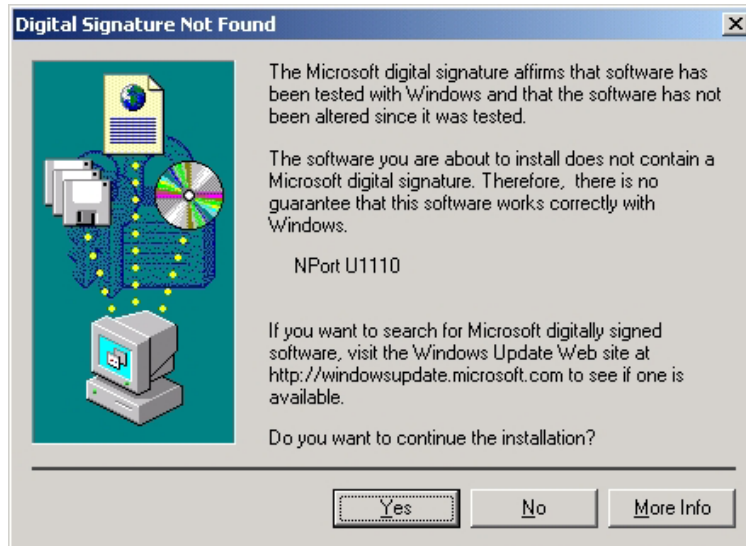
Windows 2000/XP/2003

The following procedure shows how to install the NPort U1110 adaptor for the first time under Windows XP. The procedures for Windows 2000 and 2003 are similar.

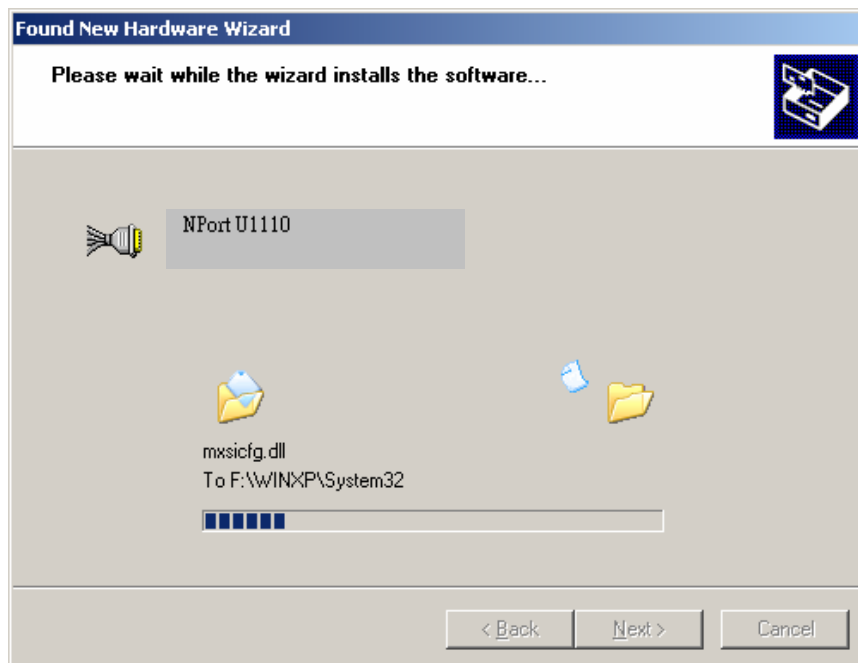
1. After plugging the adaptor into an expansion slot, Windows XP will automatically detect the new device, and the **Found New Hardware** window will open in the bottom right corner of the Windows desktop.
2. The **Welcome to the Found New Hardware Wizard** window will open automatically. Select **Install the software automatically (Recommended)**, and then click on **Next** to continue.



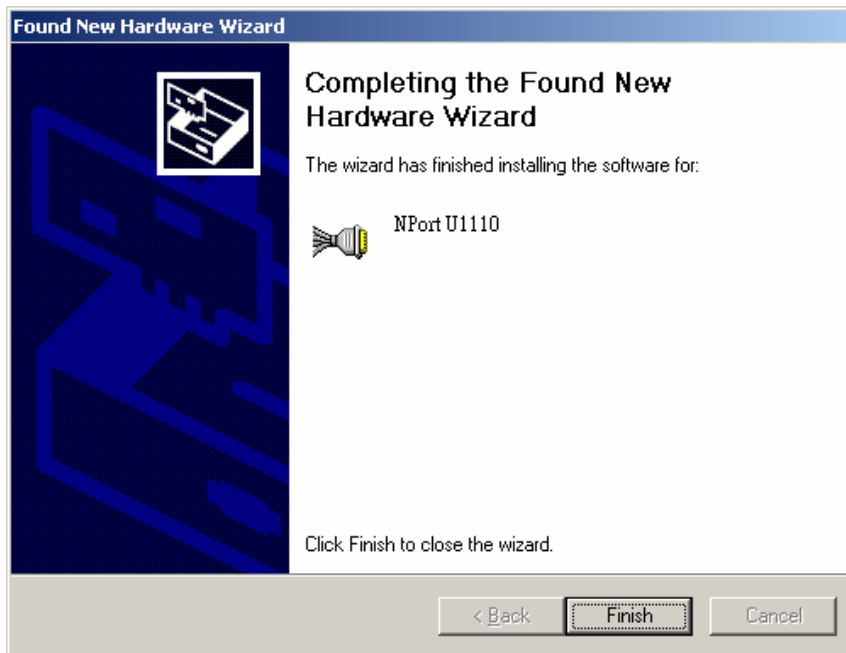
- The next window that opens cautions you that although this software hasn't passed Windows Logo testing, the driver has been tested and shown that it can support the Windows OS. Click on **Yes** to proceed.



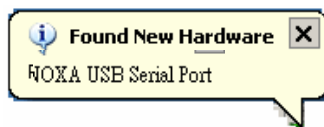
- Wait while the USB port is installed.



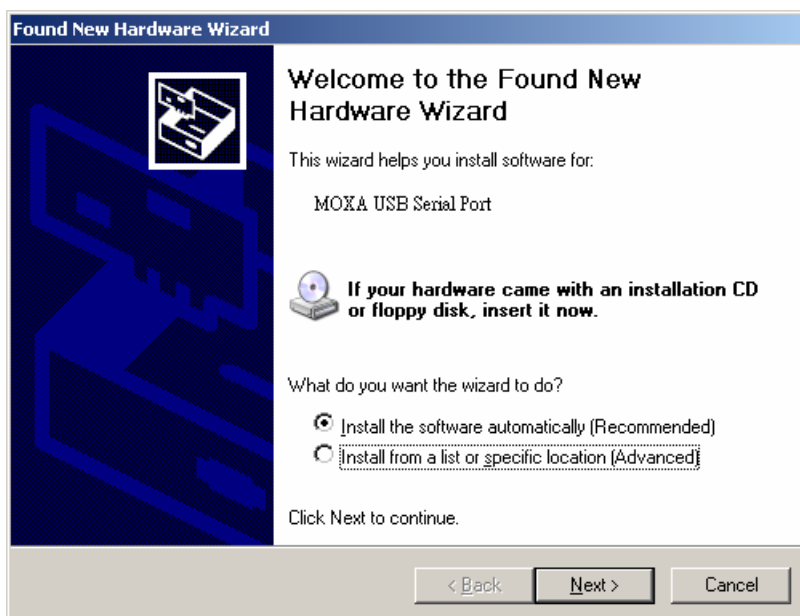
- The next window indicates that Windows has completed the installation. Click on **Finish** to proceed with installation procedure.



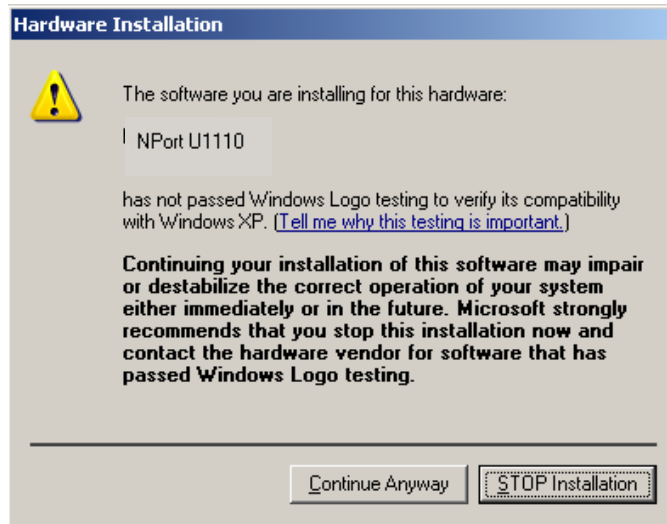
- The **Found New Hardware Wizard** window will open to help you install the serial port.



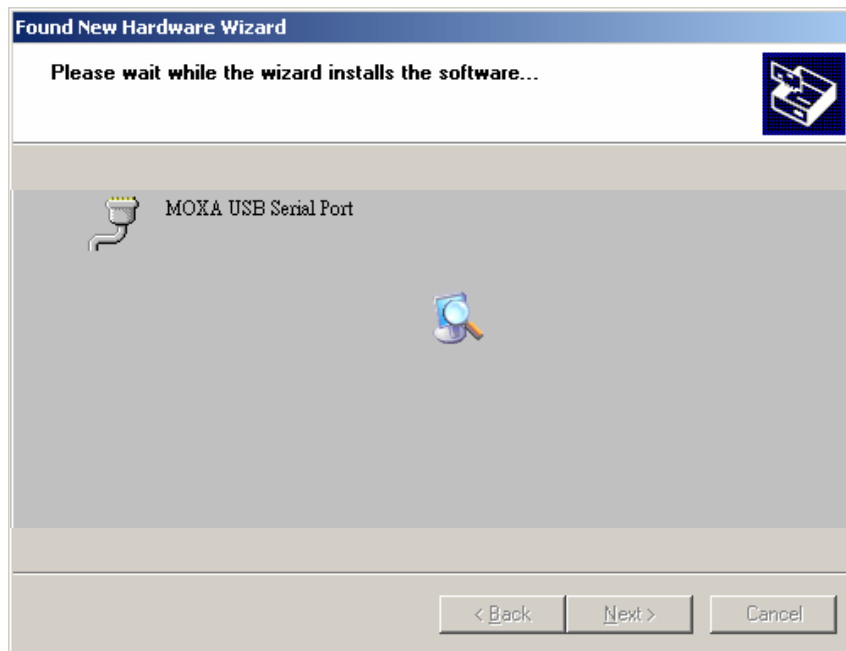
- The **Welcome to the Found New Hardware Wizard** window will open automatically. Select **Install the software automatically (Recommended)**, and then click on **Next** to continue.



8. The next window that opens cautions you that although this software hasn't passed Windows Logo testing, the driver has been tested and shown that it can support the Windows OS. Click on **Continue Anyway** to proceed.



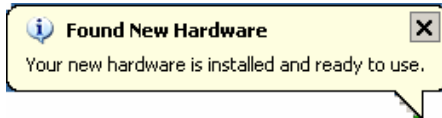
9. Wait while the wizard installs the MOXA USB Serial Port.



10. Click on **Finish** to complete the installation procedure.



11. You may start using the serial to USB adaptor.

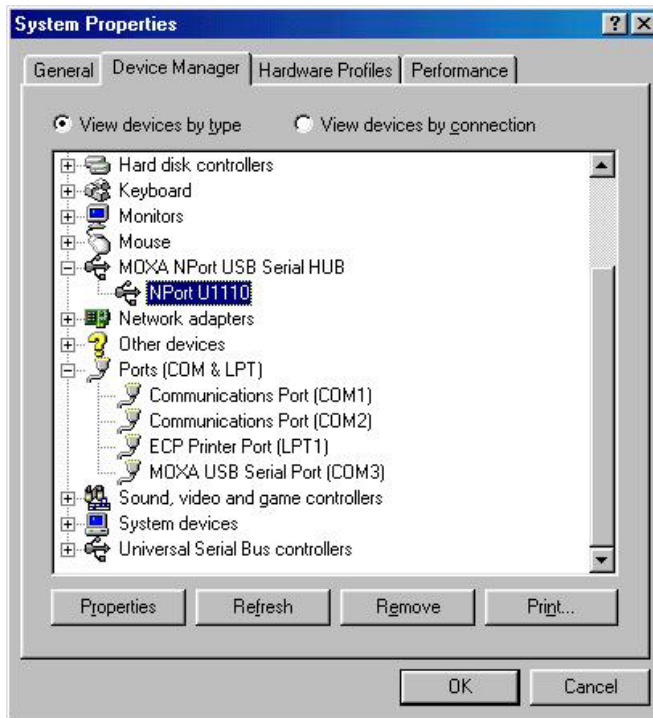


Checking the Installation

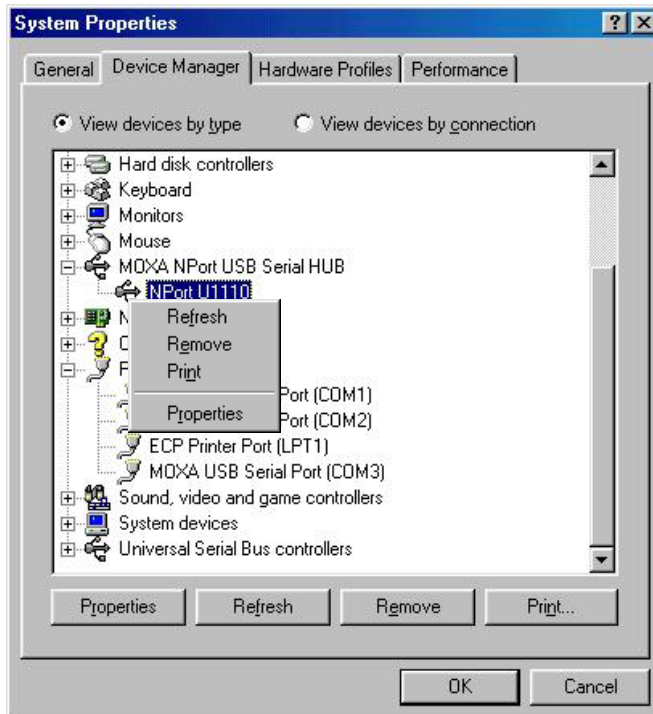
Use the operating system's **Device Manager** to check the installation of NPort U1110.

Windows 98

In **System Properties** → **Device Manager**, you should see **NPort U1110** listed under **MOXA NPort USB Serial HUB**, and a corresponding **MOXA USB Serial Port (COMi)** under **Ports (COM & LPT)**.

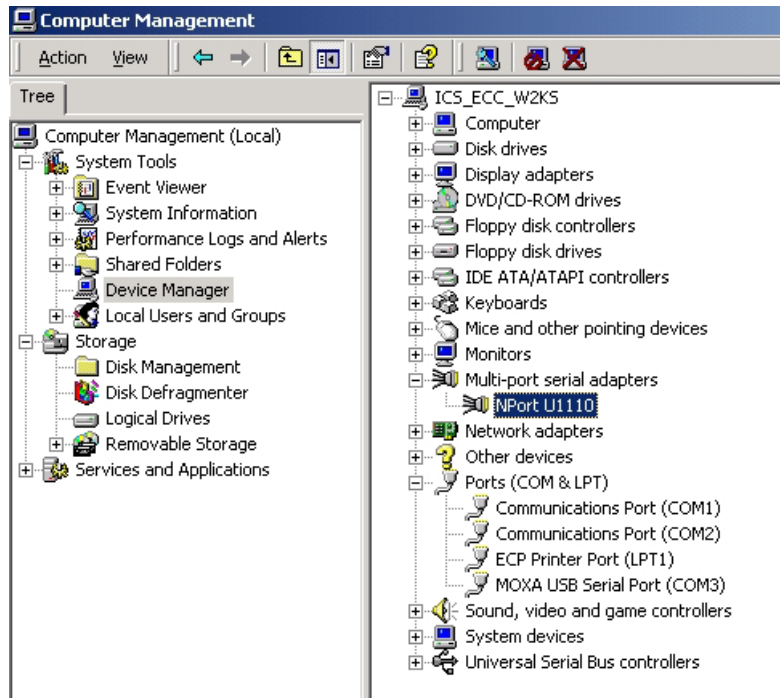


If an “x” or “?” is superimposed on top of the NPort U1110, or the corresponding COM port is not listed, then the adaptor was probably disabled. In this case, right click the NPort U1110, and then click on **Refresh**.

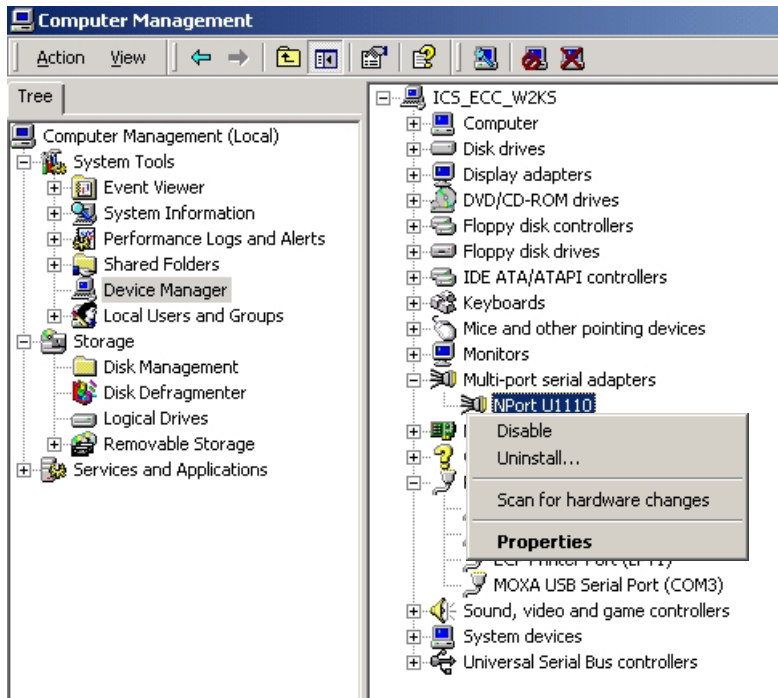


Windows 2000/XP/2003

Open the **Device Manager** and look for **NPort U1110** listed under **Multi-port serial adapters**. You should also see a corresponding **MOXA USB Serial Port (COM*i*)** under **Ports (COM & LPT)**.



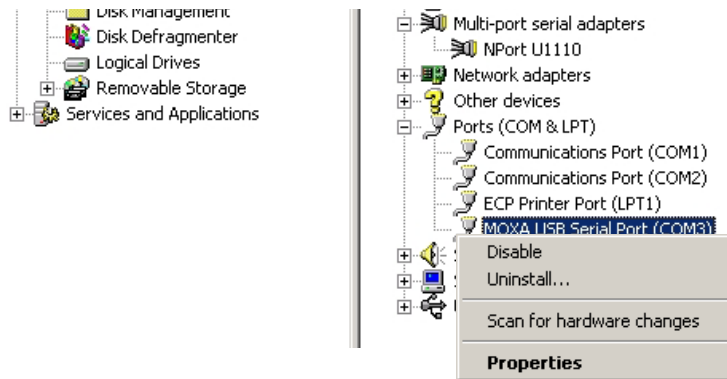
If an “x” or “?” is superimposed on top of the NPort U1110, or the corresponding COM port is not listed, then the adaptor was probably disabled. In this case, right click the NPort U1110, and then click on **Enable**.



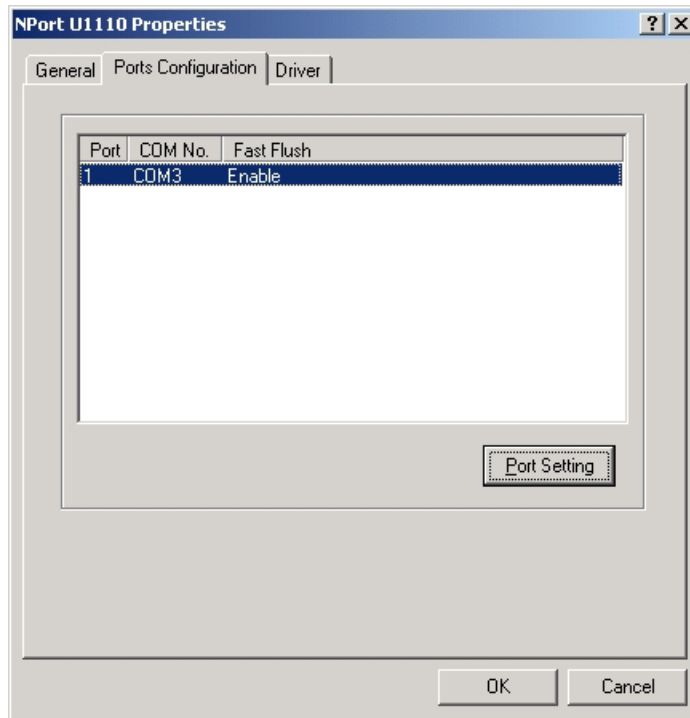
Configuring the Port

The procedure used to configure NPort U1110's serial port is essentially the same for all versions of the Windows operating system. We use Windows 2000 to illustrate.

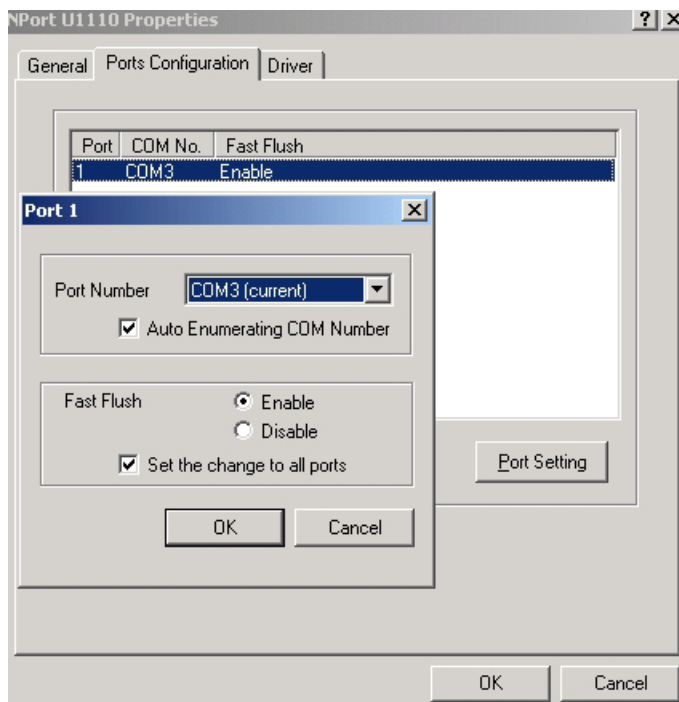
1. In **Device Manager**, right click on **MOXA USB Serial Port (COM*i*)**, and then click on **Properties**.



2. Click on the **Ports Configuration** tab, click on the port to highlight it, and then click on the **Port Setting** button.



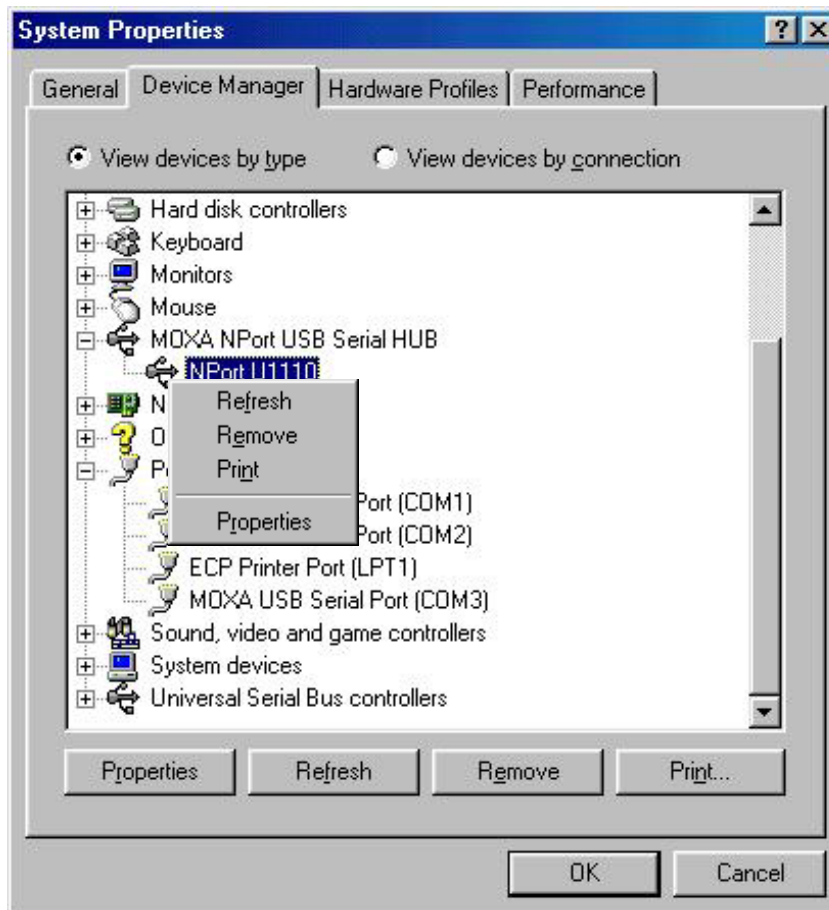
3. Proceed by selecting the **Port Number**, and Enabling or Disabling the **Fast Flush** function.



Uninstalling the Driver

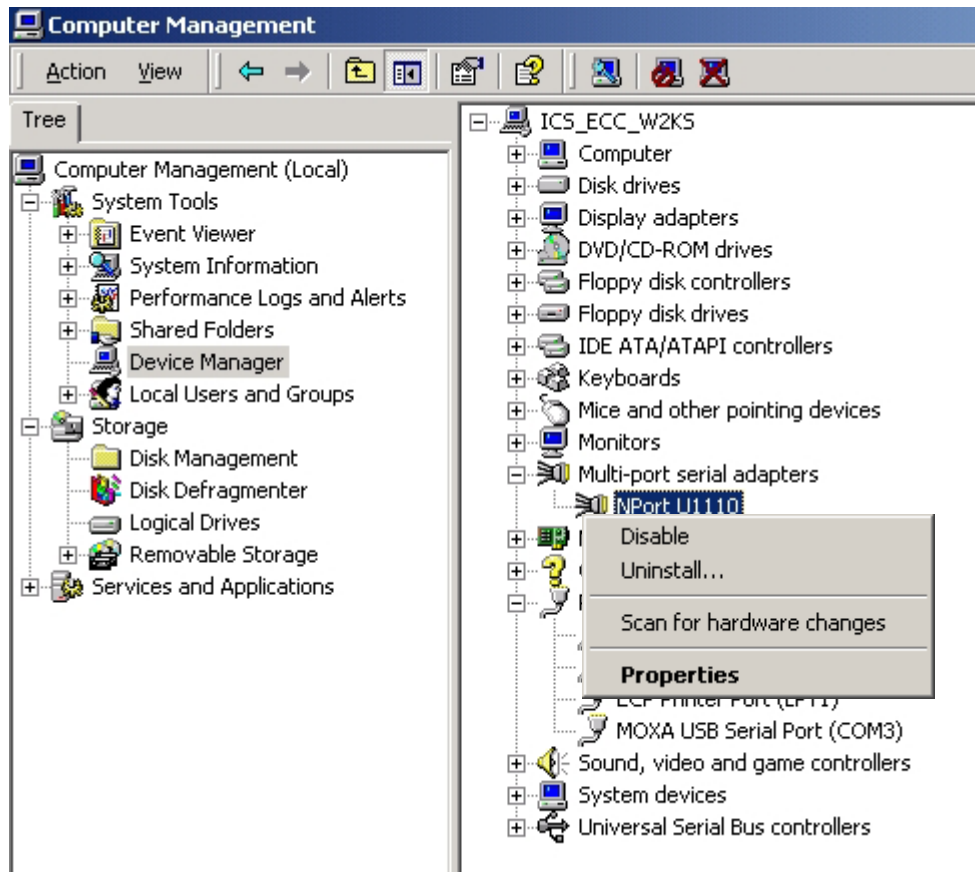
Windows 98

Under Windows 98, right click on **NPort U1110**, and then click on **Remove** to uninstall the NPort U1110.



Windows 2000/XP/2003

Under Windows 2000/XP/2003, right click on **NPort U1110**, and then click on **Uninstall** to uninstall the NPort U1110.



3

Serial Programming Tools

Moxa supports a class of easy to use, yet powerful programming libraries and communication troubleshooting utilities under Windows NT/2000/XP/2003 and Windows 98/95. Use these tools to decrease your software development time.

In the following sections, we describe the installation of the library, and the utilities supported for various programming platforms.

The following topics are covered in this chapter:

- ❑ **MOXA PComm**
- ❑ **Installing PComm**
- ❑ **PComm Programming Library**
- ❑ **Terminal Emulator**

MOXA PComm

PComm, a professional serial comm tool for PCs, is a software package that runs under Windows NT/2000/XP/2003/95/98. PComm provides:

- A powerful serial communication library that simplifies serial programming tasks for most popular programming languages. The serial communication library is useful for developing applications for data communications, remote access, data acquisition, and industrial control under Windows 95/98/NT/2000/XP/2003, and is a simpler programming solution compared to the more complex Windows Win32 COMM API.
- Useful utilities such as diagnostic, monitor, and terminal emulator.
- Illustrative sample programs.
- Comprehensive on-line documentation.

Installing PComm

To install PComm, run **Setup.exe** from the Documentation and Software CD. Note that the PComm diagnostic and monitor utilities are for Moxa boards only. To use these utilities, you must have a Moxa board and the appropriate Windows (95/98/NT/2000/XP/2003) device driver installed in your system. See the "Software Installation" chapter for instructions on how to install the drivers.

After installing PComm, click on **Start**, select **Program Files**, and then the **PComm Lite group** to select from the list of utilities and documents.

PComm Programming Library

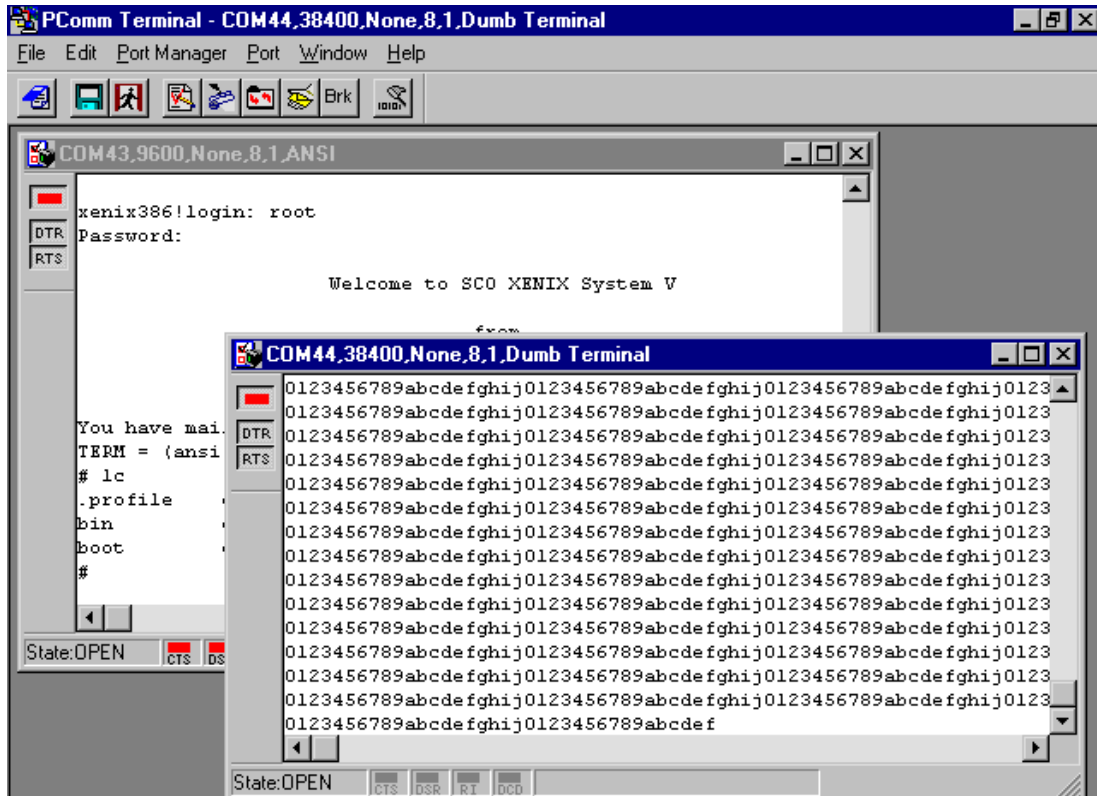
The serial communication library helps you develop serial communications programs for any COM port that complies with the Microsoft Win32 API. This library facilitates the implementation of multi-process, multi-thread serial communication programs, and greatly reduces the time required to develop applications.

For a complete description of the library functions and sample programs for Visual C++, Visual Basic, and Delphi, check the help file and the sample programs in the PComm directory.

Terminal Emulator

Use Terminal Emulator to connect to your PC's serial ports to check if data is being transmitted correctly. Terminal Emulator features multi-windows, and supports VT100 and ANSI terminal types. You can transfer data interactively, send patterns periodically, and transfer files using ASCII, XMODEM, YMODEM, ZMODEM, and KERMIT protocols.

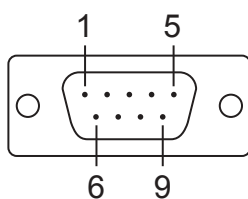
To run Terminal Emulator, click on **Start → Program → Pcomm Lite → Terminal Emulator**.



4

Pin Assignments

Device Side Pin Assignments—Male DB9



Pin	RS-232
1	DCD
2	RxD
3	TxD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS

A

Service Information

This appendix shows you how to contact Moxa for information about this and other products, and how to report problems.

In this appendix, we cover the following topics.

- MOXA Internet Services**
- Problem Report Form**
- Product Return Procedure**

MOXA Internet Services

Customer satisfaction is our number one concern, and to ensure that customers receive the full benefit of our products, Moxa Internet Services has been set up to provide technical support, driver updates, product information, and user's manual updates.

The following services are provided

E-mail for technical support support@moxa.com.tw (Worldwide)
 support@moxa.com (The Americas)

Moxa Group website for product information, driver downloads, documentation, and more:

<http://www.moxa.com>

Product Return Procedure

For product repair, exchange, or refund, the customer must:

- ✧ Provide evidence of original purchase.
- ✧ Obtain a Product Return Agreement (PRA) from the sales representative or dealer.
- ✧ Fill out the Problem Report Form (PRF). Include as much detail as possible for a shorter product repair time.
- ✧ Carefully pack the product in an anti-static package, and send it, pre-paid, to the dealer. The PRA should be visible on the outside of the package, and include a description of the problem, along with the return address and telephone number of a technical contact.