USB TO RS-232 ADAPTER

User's Manual

1. Introduction

The USB to RS-232 Adapter is a low-cost, high-performance device. It operates as a bridge and provides easy connectivity between one USB port and serial port. The serial port can be configured as an asynchronous serial interface and can support flow control. It is designed to be compliant with a variety of applications, including COM port replication, and is ideally suited for many peripherals like POS terminals, Barcode readers, Printers, Gaming consoles, Medical devices, Modem, Serial Mouse, Industrial meters, PDA, GPS, etc.

System Requirements

- Windows OS : 2000 / XP / Vista / 7 / 8 / 8.1 / 10 / 11 or higher.
- Windows Server 2008 / 2008R2 / 2012 / 2012R2 / 2016 / 2019 / 2022 or higher.
- Mac OS: 9.x / 10.x / 11 / 12 / 13 or higher.
- Linux OS: Kernel V2.6.15 or higher.
- The system is equipped with USB Host Controller.

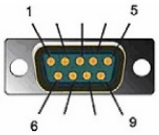
Features

- Fully Compliant with USB Specification 1.1 / 2.0.
- Supports data transfer rates up to 1Mbps.
- Supports the asynchronous serial interfaces.
- Supports remote wake-up and power-on-reset.
- Supports ±4kV HBM ESD protection.
- 768 byte receive buffer and 256 byte transmit buffer utilizing buffer smoothing technology to allow for high data throughput.

Specification

Chip		Prolific
LED		3 (TX / Power / RX)
Connector	Host	USB A Male
	Device	DB-9 Male (Hex Nut)
Data Transfer Rates		1Mbps
Environment	Operating Temp.	0 ℃ ~ 40 ℃
	Storage Temp.	-20 ℃ ~ 60 ℃
	Humidity	0~80% RH, Non-condensing
Cable Length		1.1m
Housing		Plastic

RS-232 Pin Assignment



Pin No.	Definition	Description
1	DCD	Data Carrier Detected
2	RxD	Receive Data
3	TxD	Transmit Data
4	DTR	Data Terminal Ready
5	GND	Signal Ground
6	DSR	Data Set Ready
7	RTS	Request To Sent
8	CTS	Clear To Sent
9	RI	Ring Indicator

2.Windows OS Installation Guide

Driver can be installed through Windows Update automatically (Internet connection needed)

The Prolific drivers that have passed the WHQL tests are available for download using Windows Update.
OS requirements:

- Windows OS XP / Vista / 7 / 8 / 8.1 / 10 / 11
- Windows server 2008 / 2008R2 / 2012 / 2012R2 / 2016 / 2019 / 2022

Please go below ways for easy installation.

1. You may plug the device into host computer. And then it will pop up ‘Installing device driver software’ from the taskbar of the screen. (Fig. 1) Click and connect to the Windows Update.

2. It will check your computer OS and download the applicable driver at the Windows Update automatically.

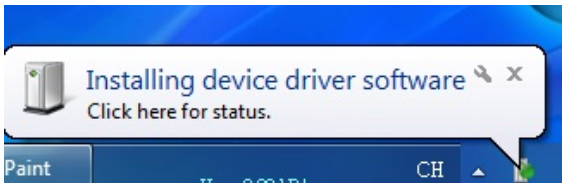


Fig. 1

3. The program goes ‘Searching Windows Update’ from ‘Driver Software Installation’. (Fig. 2)

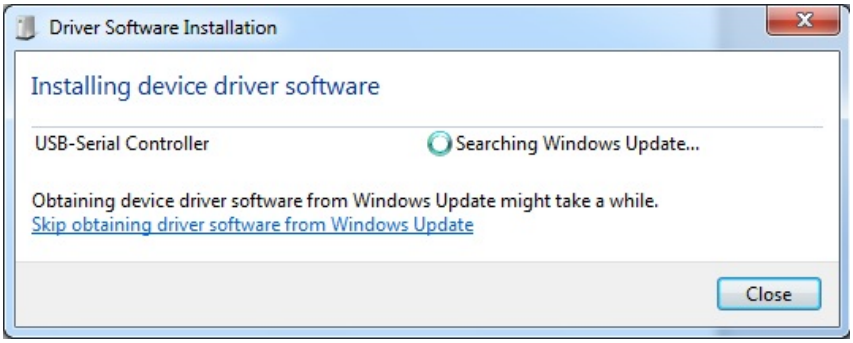


Fig. 2

4. When the applicable driver is detected, it will run ‘Installing driver software’. (Fig. 3)

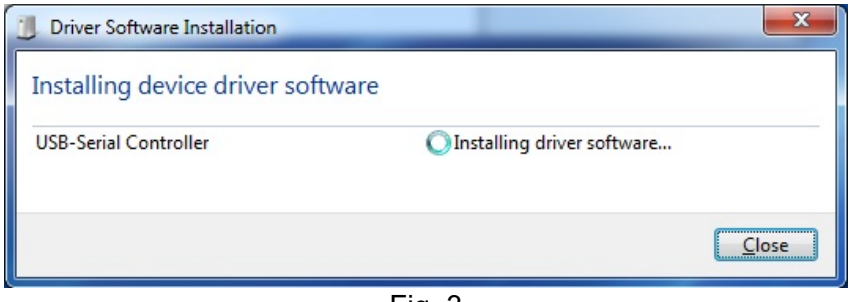


Fig. 3

5. Then it shows ‘Prolific USB-to-Serial Comm Port (COM3) installed’.Click ‘Close’ and go next step. (Fig. 4)

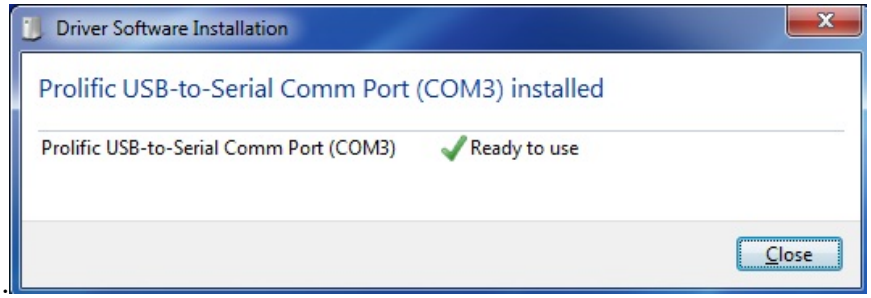


Fig. 4

6. Check ‘Device Manager’ of Control Panel from the computer OS and there shows Prolific USB-to-Serial Comm Port (COM3) under ‘Ports (COM & LPT)’. (Fig. 5) Congratulation! You have finished installing the USB to Serial device successfully.

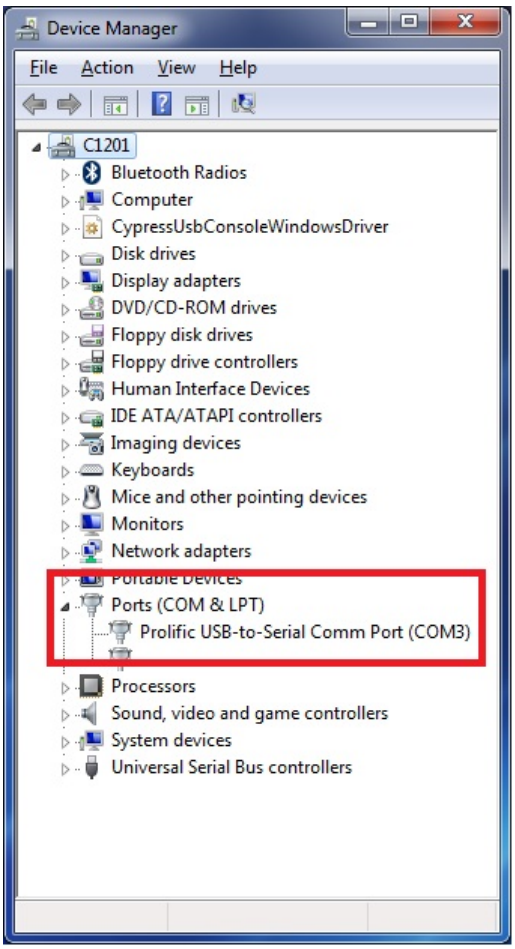


Fig. 5

3.Installing the Device with InstallShield

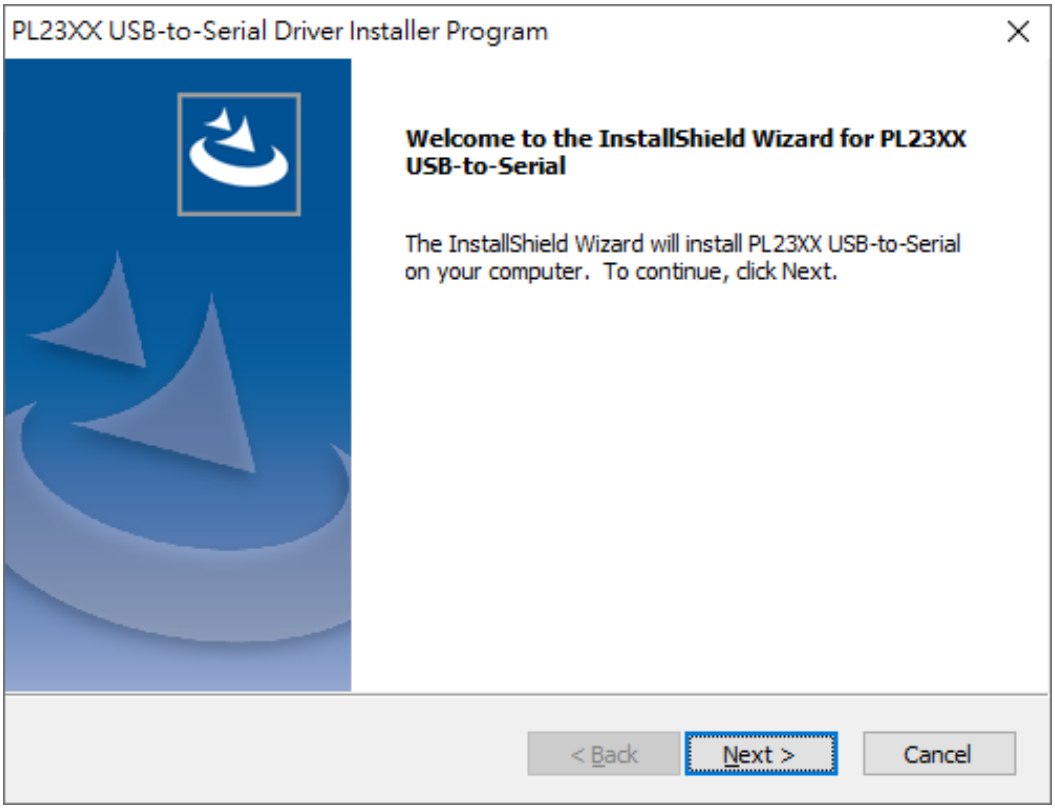
This section will guide you on how to install the USB to RS-232 adapter under Windows OS 2000 / XP / Vista / 7 / 8 / 8.1 / 10 / 11; Windows server 2008 / 2008R2 / 2012 / 2012R2 / 2016 / 2019 / 2022.

Note:

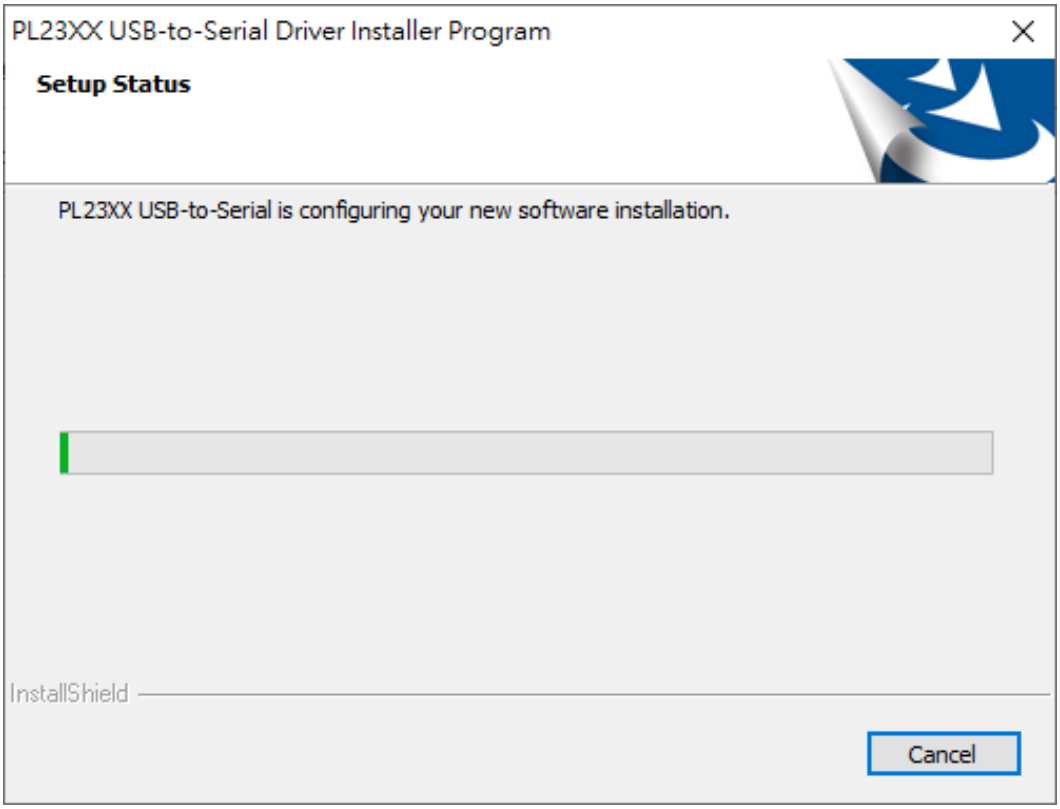
- Please take notice of the installation order. First, run the InstallShield wizard, and then plug in the USB to RS-232 adapter.
- Before updating the product driver, please be sure your OS system (Windows update) is the updated version.

The following steps will show how to install the device under Windows OS 2000 / XP / Vista / 7 / 8 / 8.1 / 10 / 11; Windows server 2008 / 2008R2 / 2012 / 2012R2 / 2016 / 2019 / 2022. Basically, the procedures for Windows XP are also somewhat the same for other previous Windows OS.

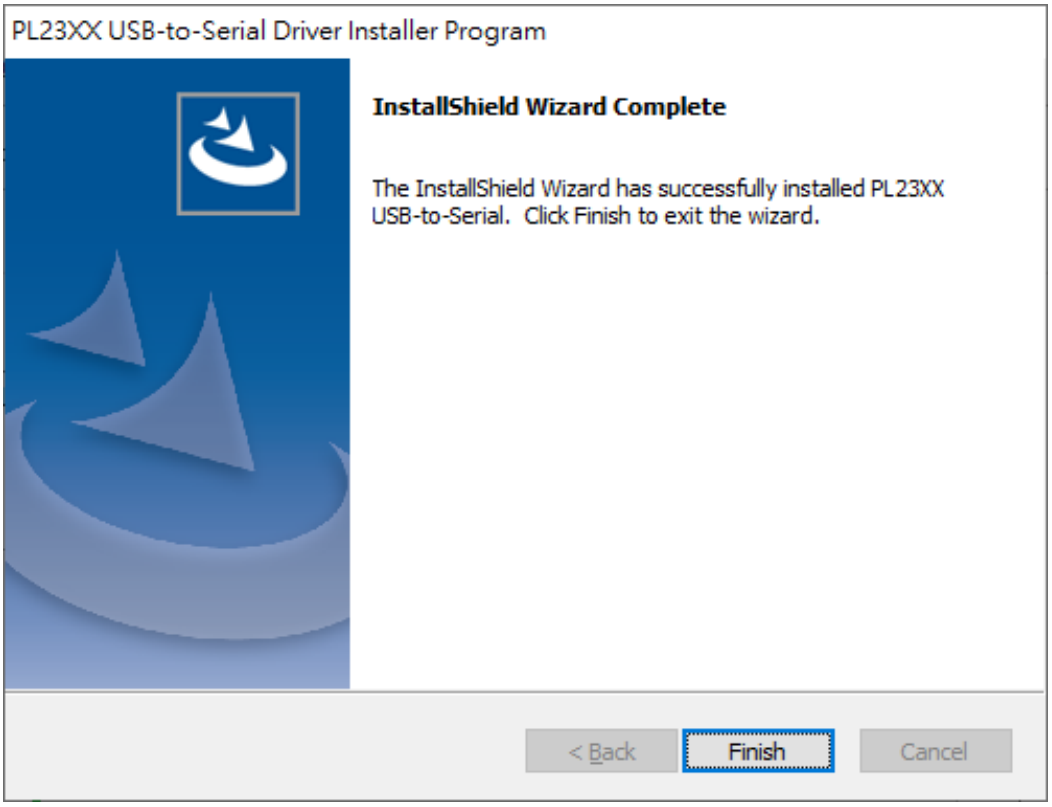
1. Power on your computer and boot to Windows.
2. The InstallShield Wizard will be displayed to inform you that the PL23XX USB-to-Serial Driver will be installed on your computer. Click **Next** button to continue.



3. The PL23XX USB-to-Serial Driver Installer Program will then start to install.



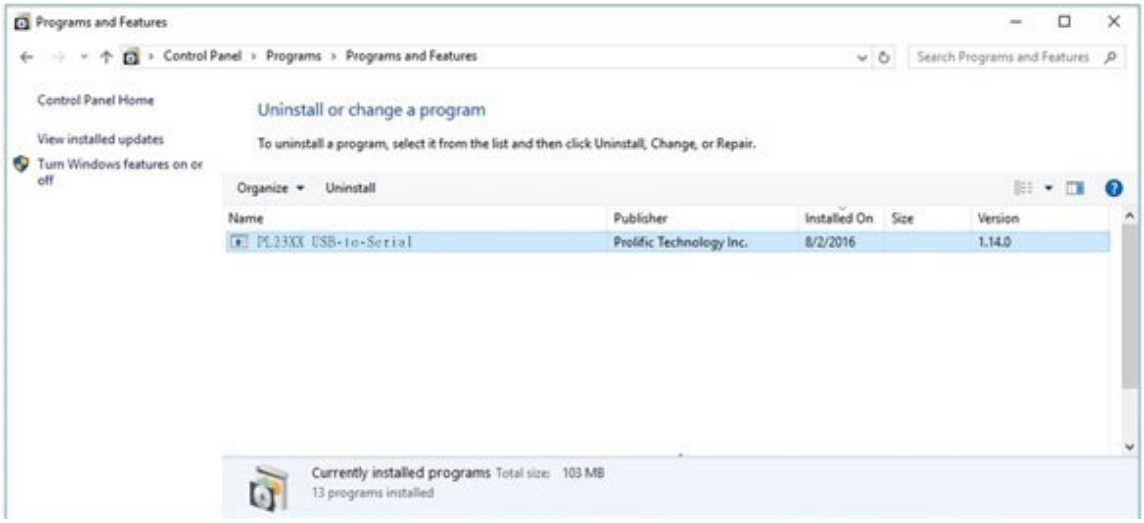
4. Wait until the InstallShield Wizard informs you that driver installation is successfully installed.Click **Finish** button to close the InstallShield program. If you have plugged the cable into the PC while running the setup installation, please unplug and re-plug the cable for the system to detect the device.



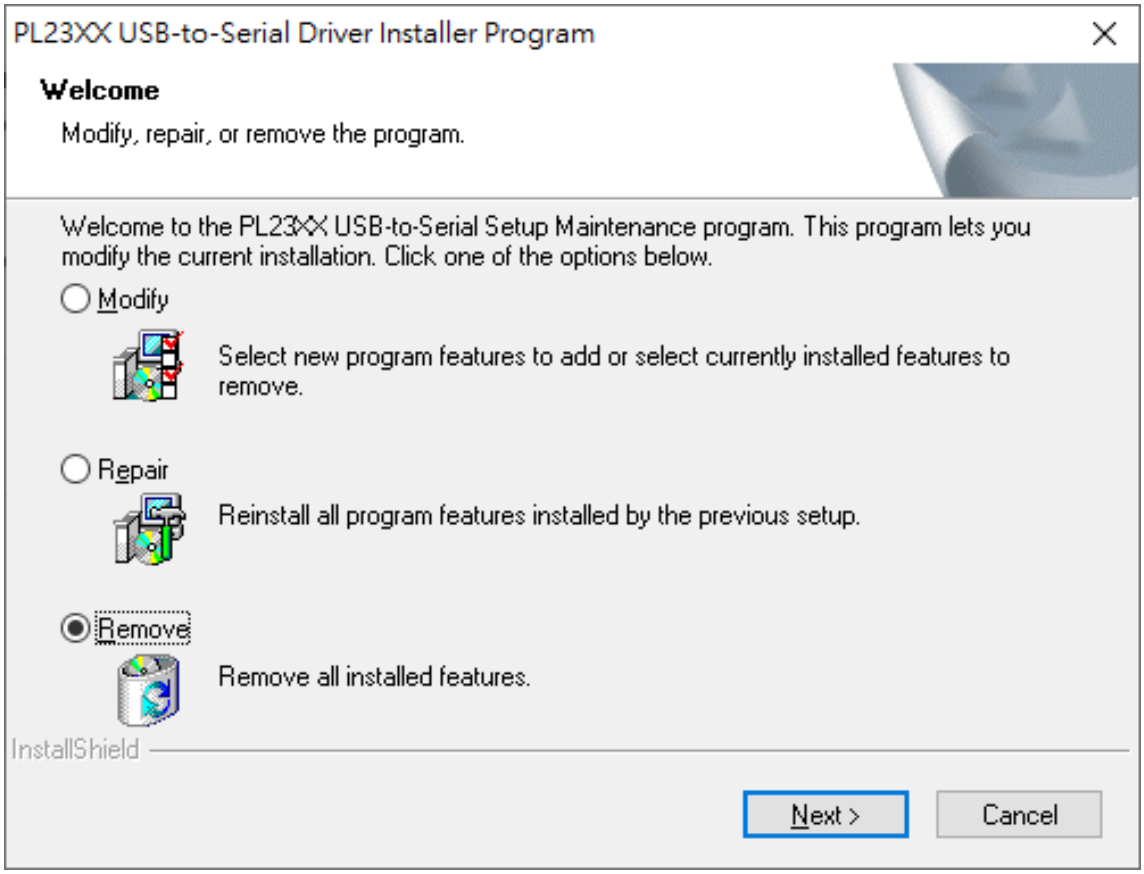
4.Uninstalling the Device Driver

You have three selections to uninstall the driver: **For Windows 2000 / XP / Vista / 7 / 8 / 8.1 / 10 / 11:**

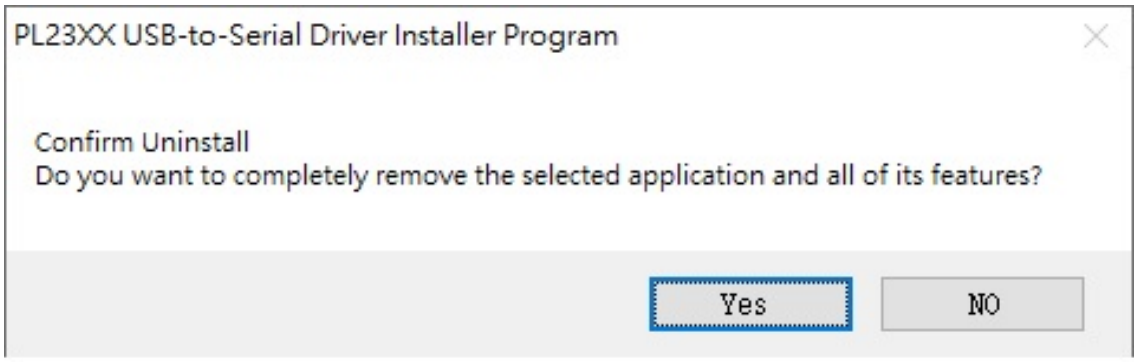
1. Click Start → Control Panel → Programs → Programs and Features → Uninstall a Program. Look for the “PL23XX USB-to-Serial” program and click **Uninstall (Remove)** button.



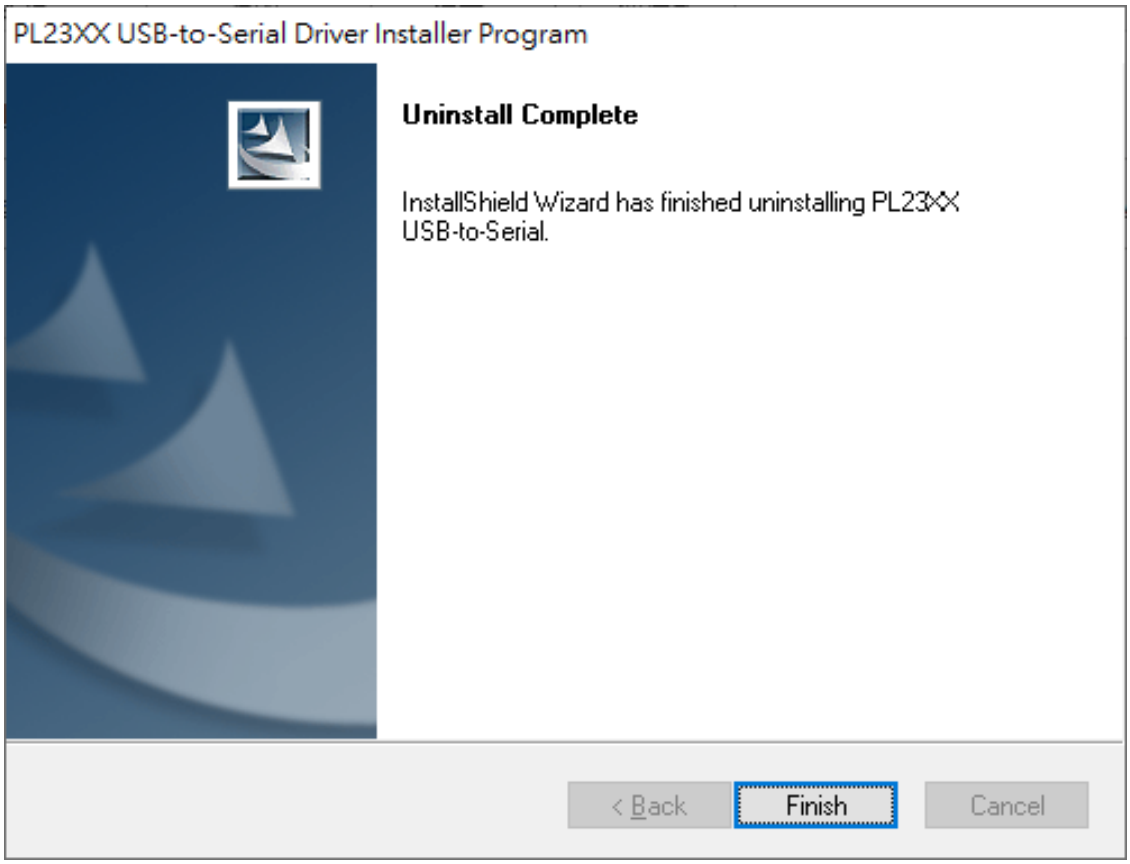
2. InstallShield Wizard will then start the maintenance program and will prompt you to choose if you want to modify, repair, or remove the driver. Click **Remove** button and click **Next** to begin the driver uninstall.



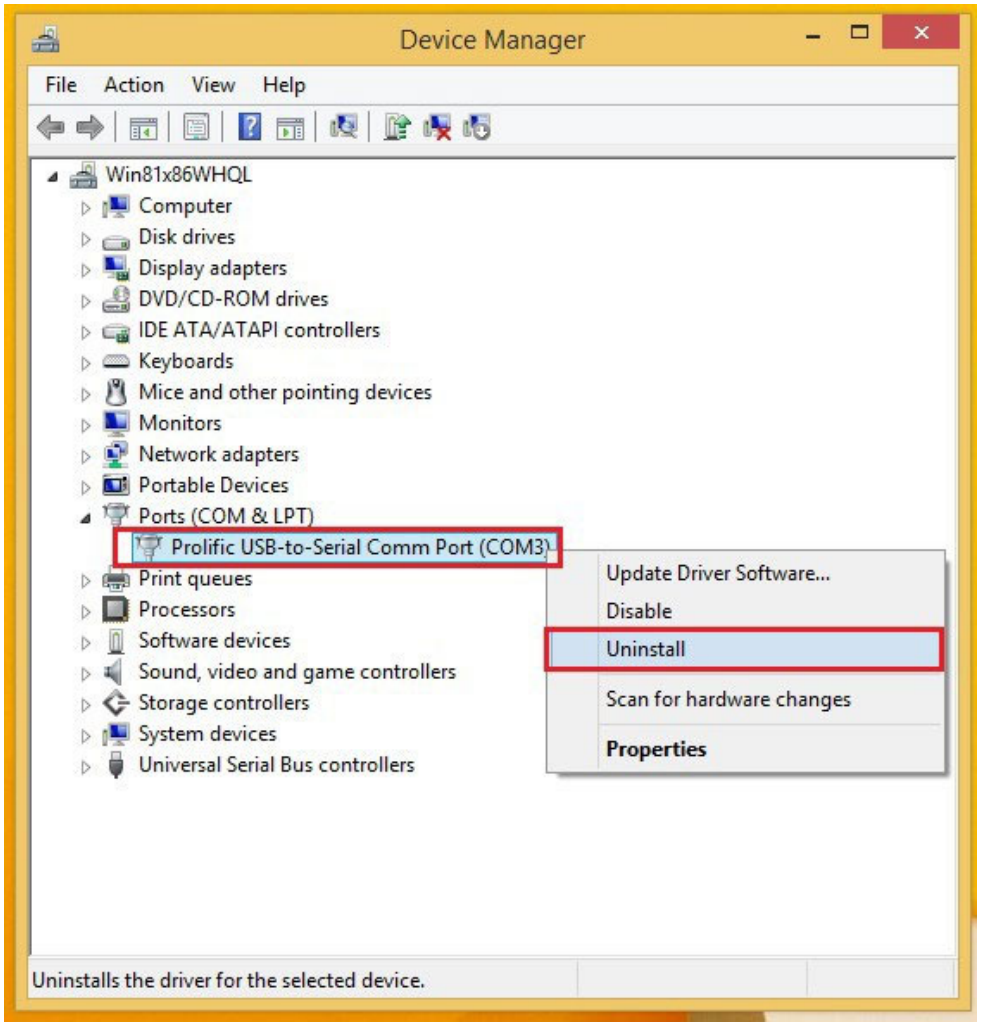
3. The InstallShield Wizard will prompt you to confirm to uninstall. Click **Yes** to continue.



4. Wait for the InstallShield Wizard to complete the uninstall process. When complete, click **Finish** to end the program. Wait for some few seconds until the “PL23XX USB-to-Serial” program is removed from the Control Panel Uninstall (Add or Remove Programs) program list.



5. If you are using Windows Server versions or installed the driver thru Windows Update, you may need to do this extra step. If driver is not completely uninstalled, plug back the device to the computer and go to Device Manager and right click “PL23XX USB-to-Serial Comm port”. Click **Uninstall** and click **Enable** the checkbox “Delete the driver software for this device”. Click **OK** to completely uninstall the driver.



5.Mac OS X Universal Binary Driver Installation Guide

Introduction

This installation guide document shows the procedure for installing the Mac OS X driver.

System Requirement

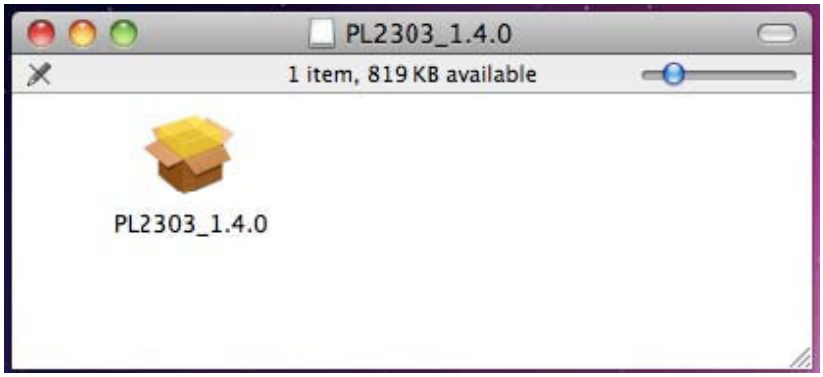
The following requirements are needed:

- Mac OS X 10.1 to 10.7 operating systems (includes 64-bit support) -**Also supports Mac OS X**
- Apple Mac OS X compatible computers (Intel or PowerPC based machines)
- USB 1.1 or higher port

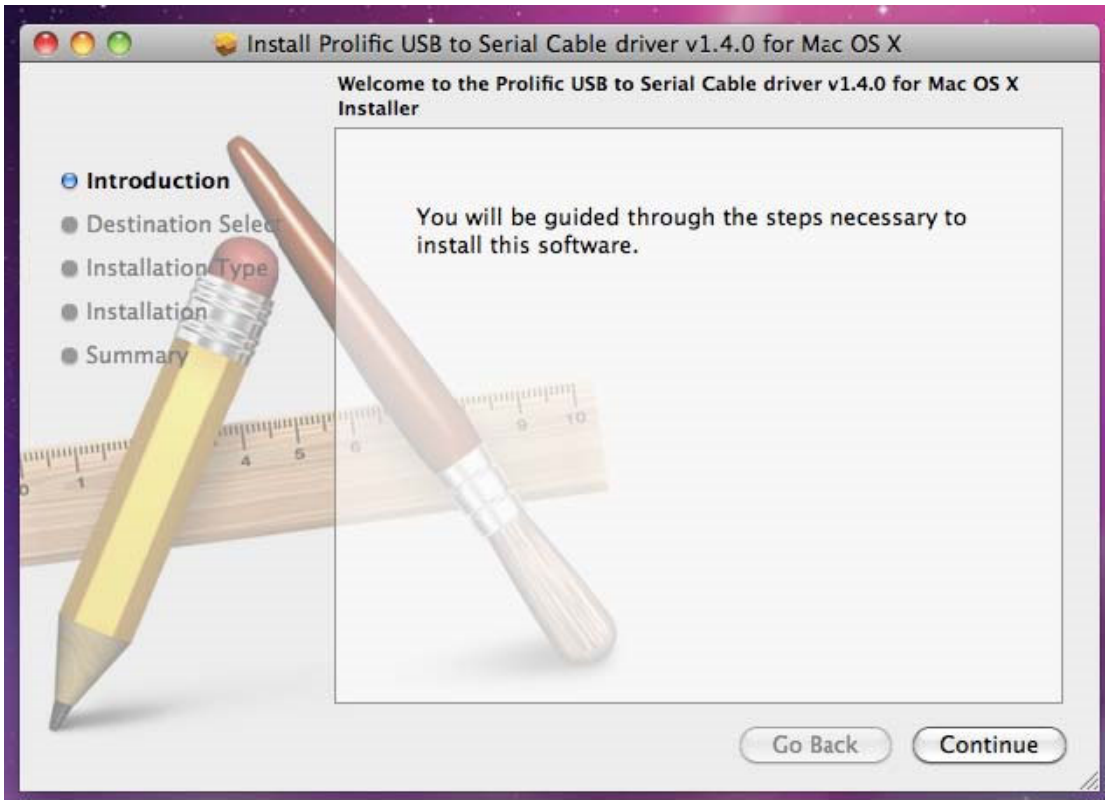
Mac OS X Driver Installation

The following steps will show how to install the USB to RS-232 device under Mac OS X operating system:

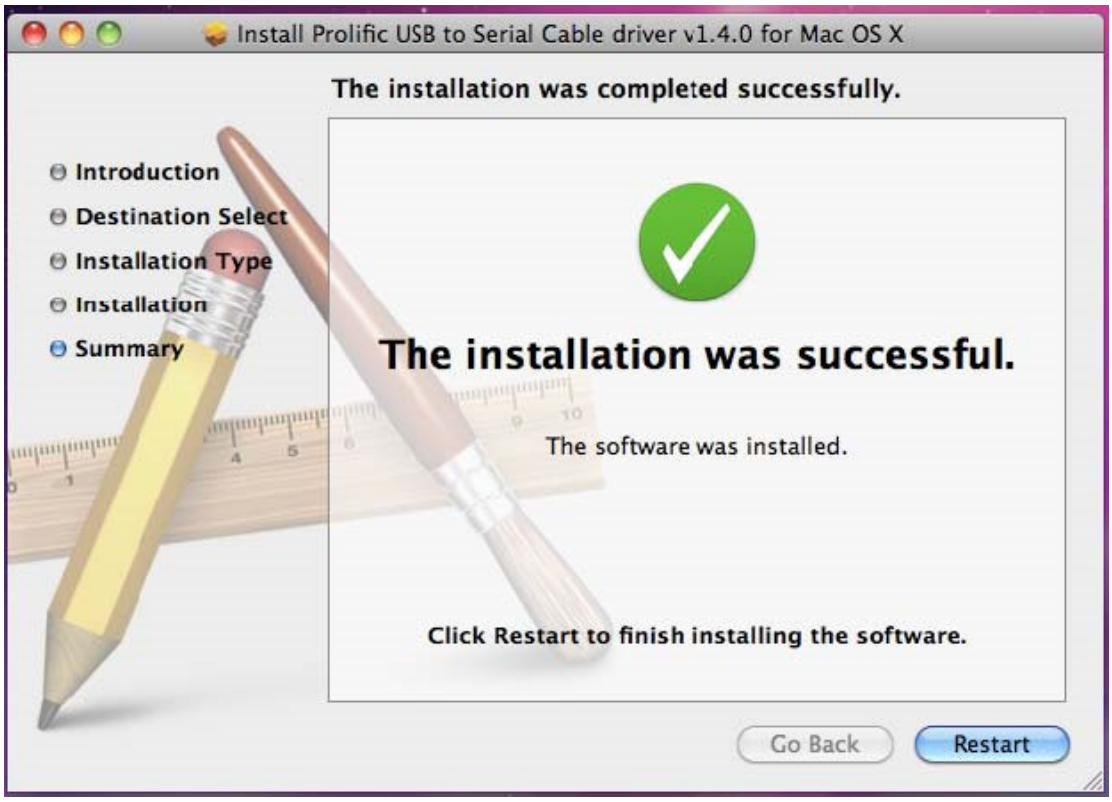
1. The USB to RS-232 Mac OS X driver package contains the DMG compressed image file click on the DMG file to extract the driver installer package.



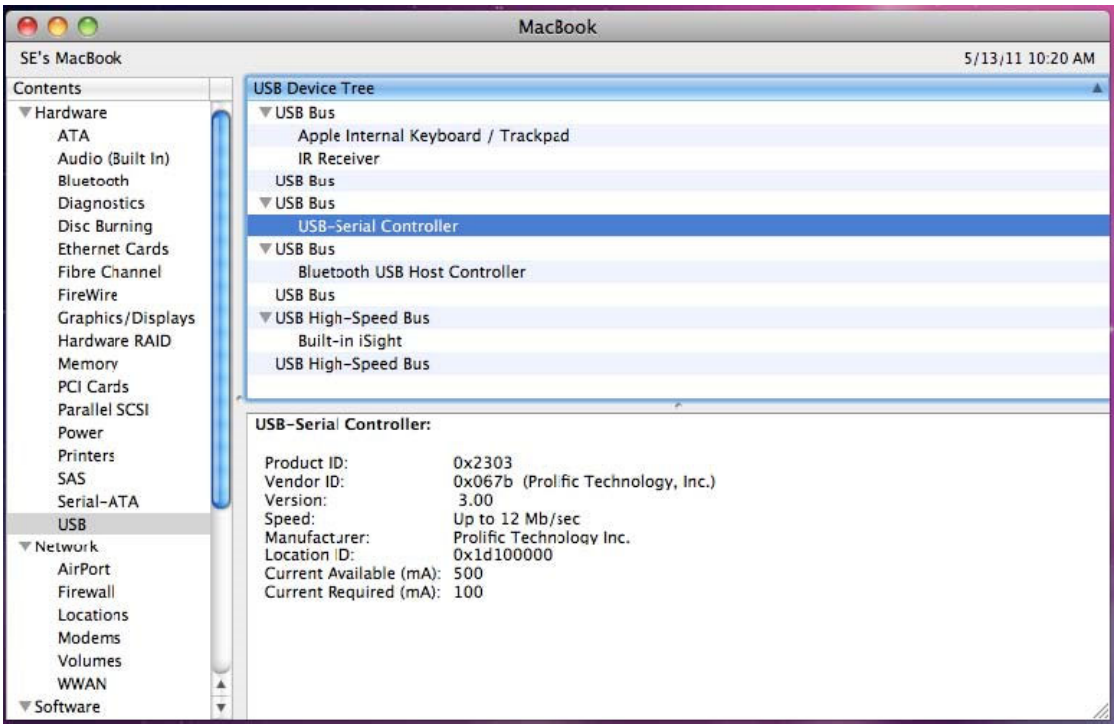
2. Click on the driver installer file to run the driver installation process. Click Continue to proceed and follow the succeeding instructions to complete the installation.



3. At the end of the installation, you will need to restart your computer. Close all programs and click Restart to complete installation and reboot the system.



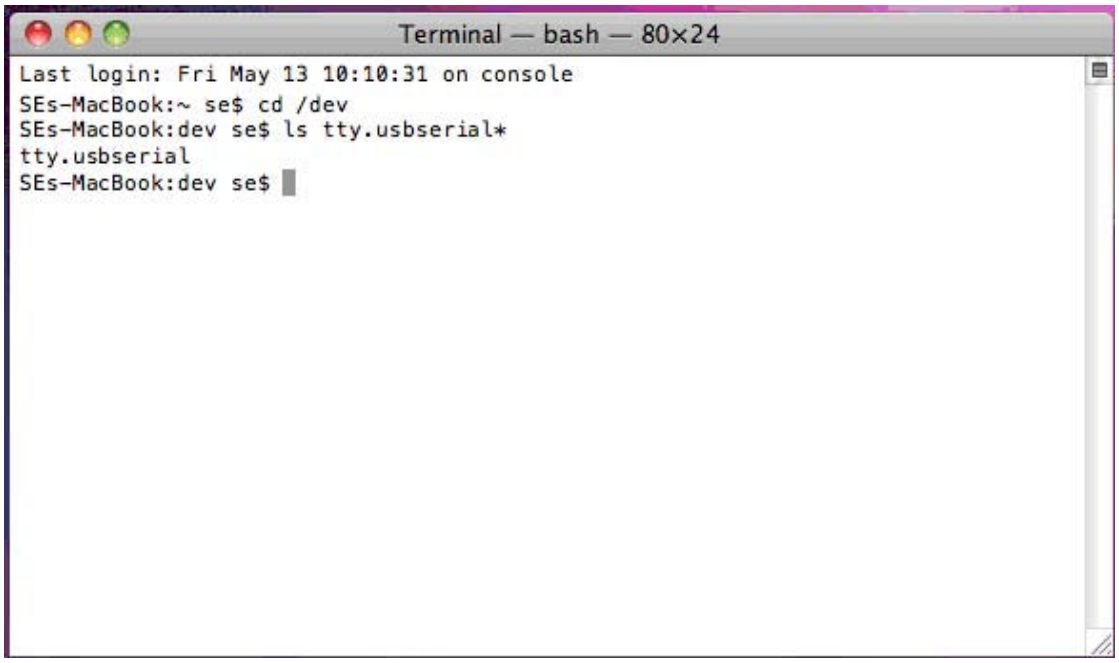
4. After rebooting the system, you can now plug the USB to RS-232 adaptor or cable to the USB port. You can first run the System Profiler program under the Applications-Utilities folder. Click USB hardware inside System Profiler and look for “USB-Serial Controller” or “USB-Serial Controller D”. This means that the hardware device is detected by your Mac computer.



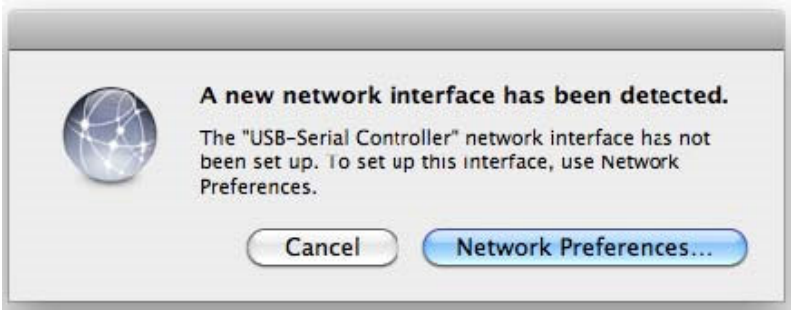
5. You can then proceed to check if the USB to RS-232 port device is setup properly. You can run the Terminal program under Applications-Utilities folder and type the following commands:

cd /dev
ls tty.usbRS-232*

You should see the “tty.usbSerial” device which means the USB to RS-232 device is already setup properly. If you try to plug another USB to RS-232 device, you should also see several “tty.usbSerialx” listed where “x” is the assigned device number similar to Windows COM port assignment.



6. **NOTE:** Mac OS may also pop-up a new network interface when it detects a new USB-Serial Controller device. See next section for more explanation.

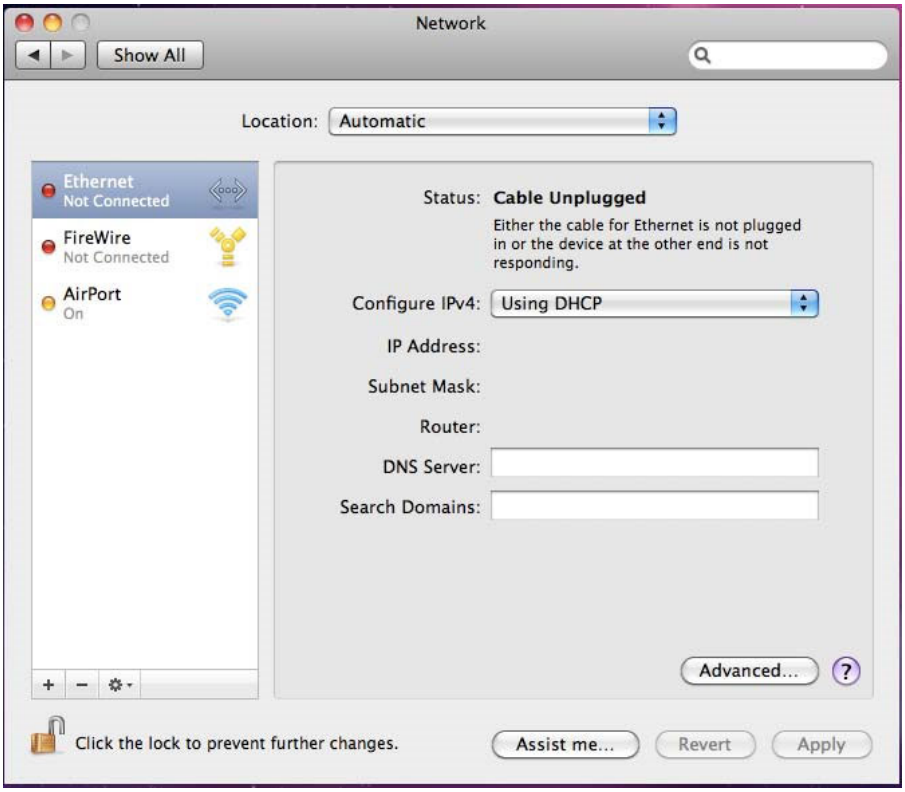


6.Using the USB to RS-232 Device under Mac OS X

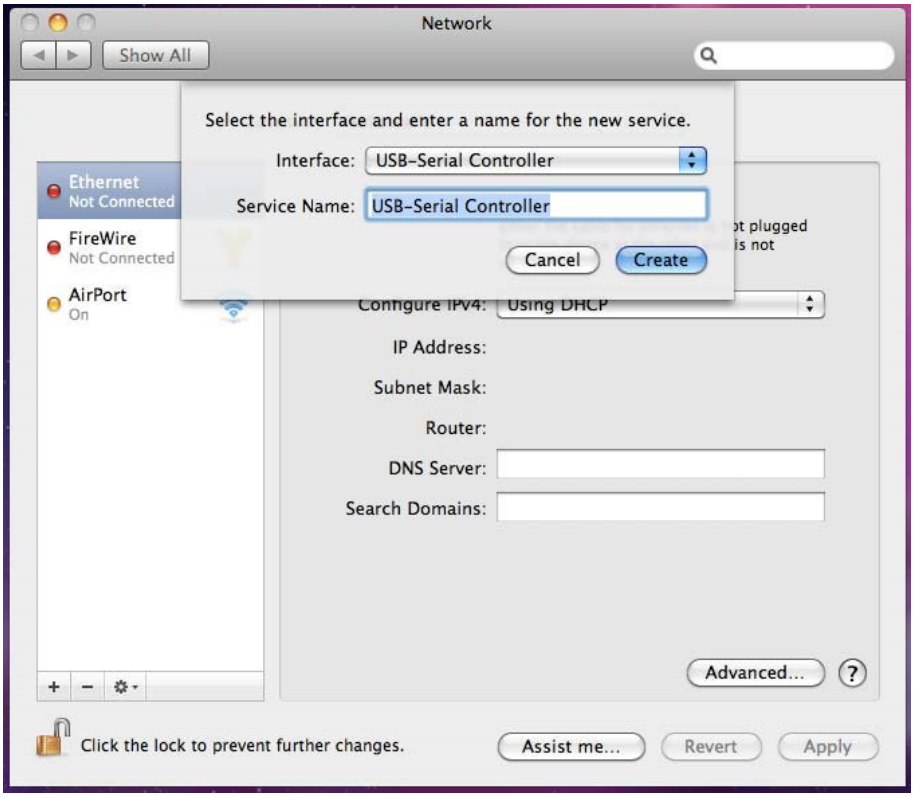
The following steps will show how to use the USB to RS-232 device under Mac OS X operating system:

1. One common test is to connect a 56K RS-232 modem to the USB to RS-232 adapter. Go to System Preferences and click on Network.

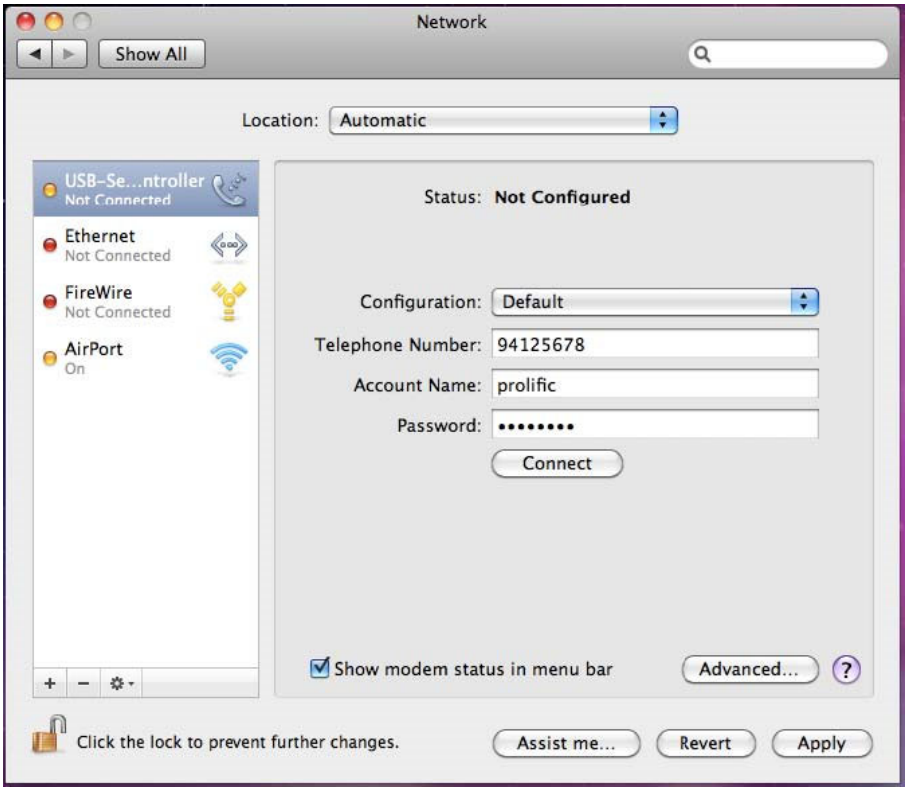
2. The left side column shows you all the existing ports and status. If you do not see the USB Serial Controller device, click on the “+” add button to look for the device.



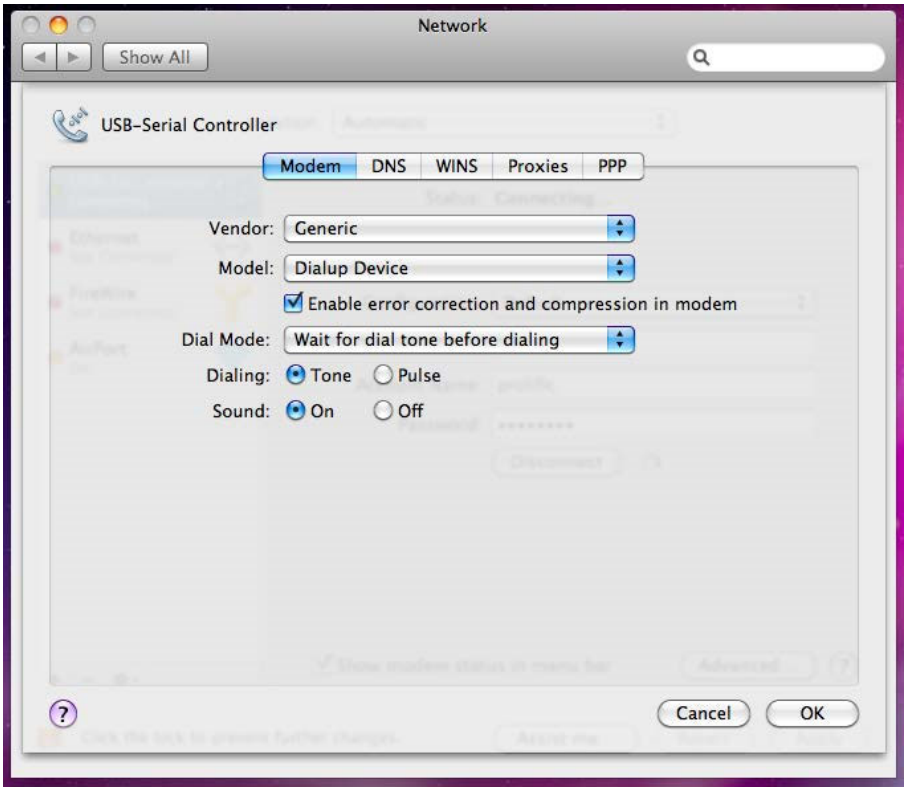
3. Select the Interface “USB-Serial Controller”. You can also choose to change the Service Name to distinguish the device if you have several devices attached.



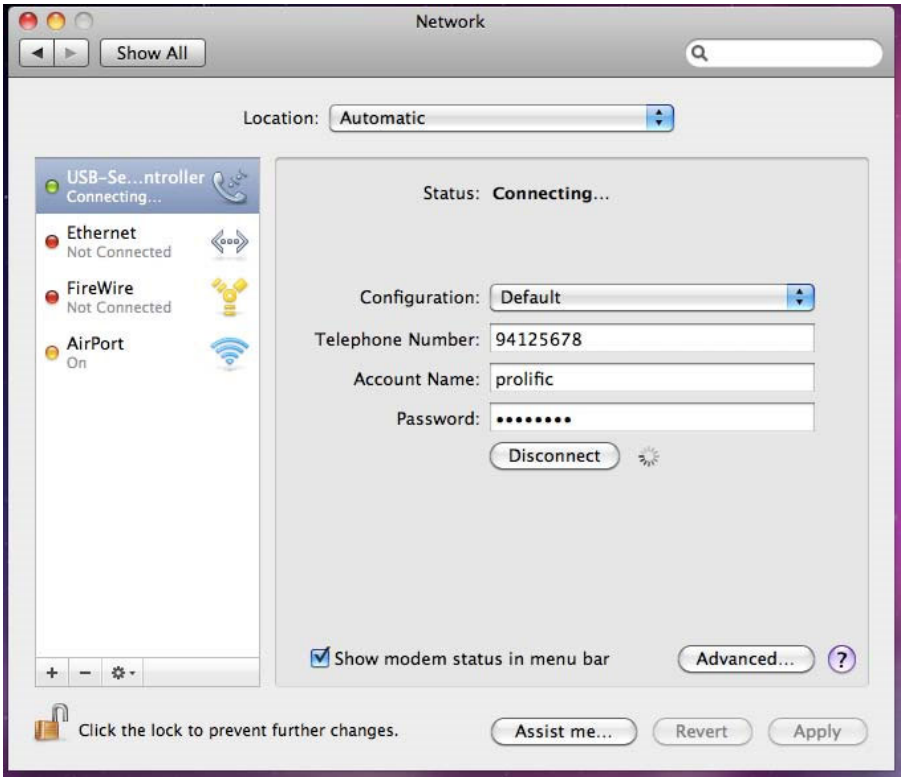
4. Now the “USB-Seruial Controller” device is added to the list and you can start to configure the RS-232 modem Internet dial-up settings attached to the USB to RS-232 adaptor.



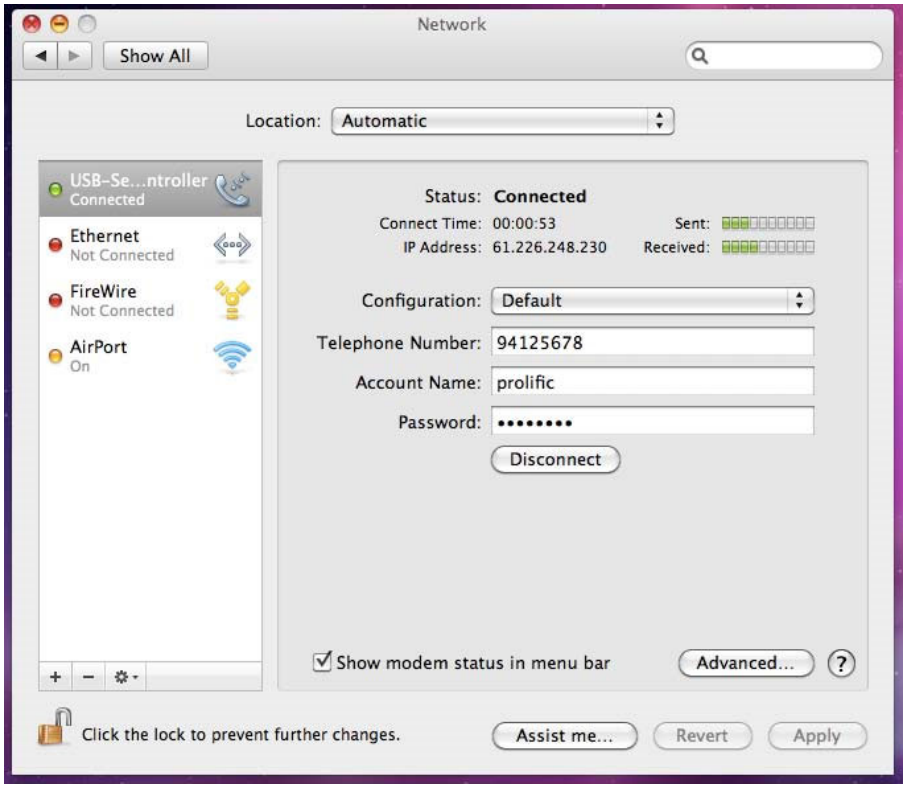
5. You can click on the Advanced button to set the correct modem vendor and model. The default modem settings normally would work on any RS-232 modems.



6. Click the Connect button to start the Internet dial-up connection. Make sure the RS-232 modem has a telephone connected and powered on.



7. When connection is made, you can start to use Mac OS X Safari web browser and monitor the modem connection status by data sent and received.

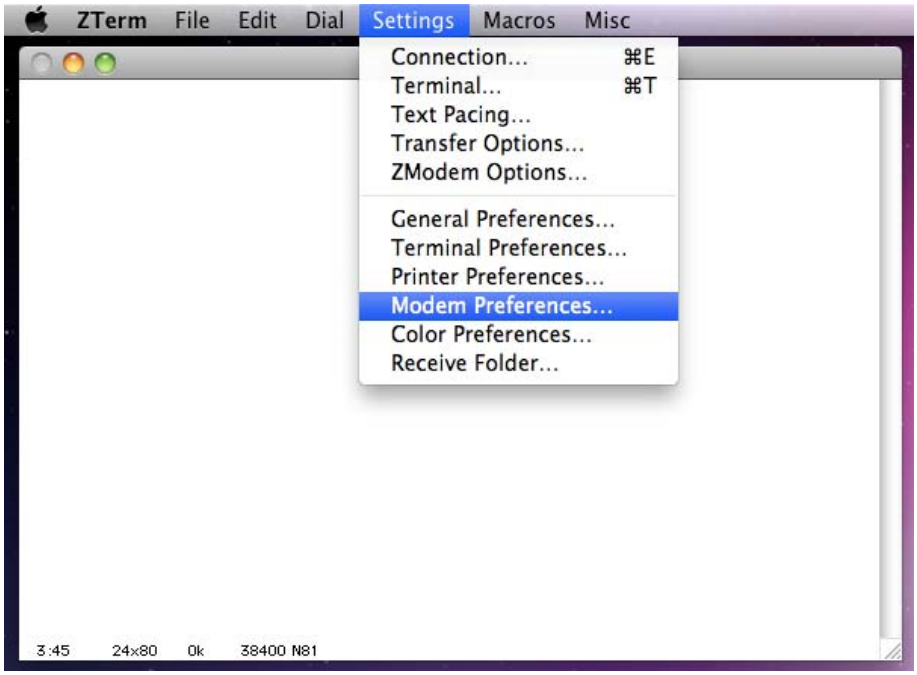


8. You can also click the “Show modem status in menu bar” to see the connection status on top of the menu bar. Then click on the Modem status on the menu bar to show the controls.

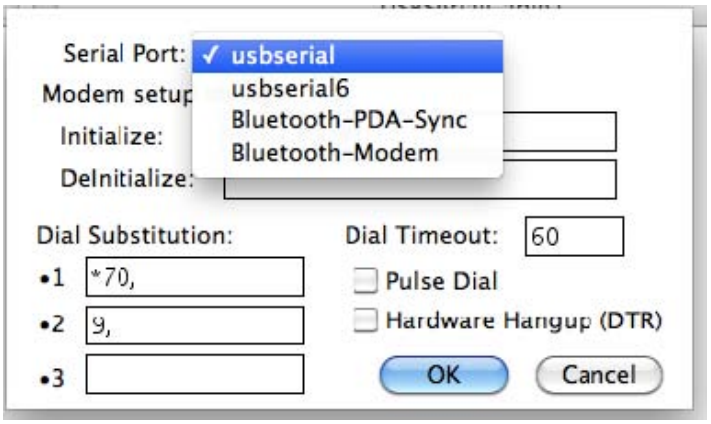
7.Using ZTerm program under Mac OS X

You can also test the USB to RS-232 device by using the ZTerm RS-232 port terminal program and a null modem cable to connect two computers and transmit/receive data files. The following steps will show how to use the program:

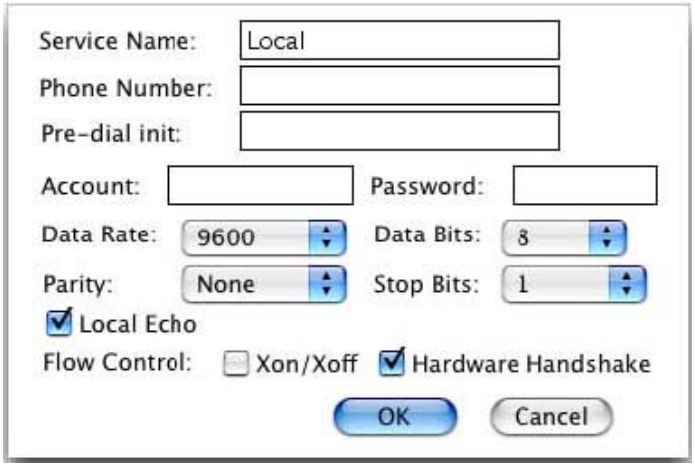
1. Run the ZTERM program and select the USB to RS-232 device by clicking on Settings-Modem Preferences.



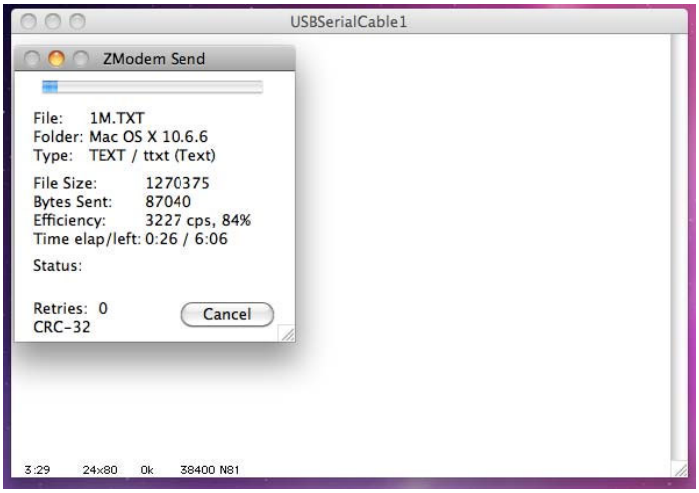
2. Click on the RS-232 Port box. If you have several USB to RS-232 devices attached, you will find those devices listed similar to the list shown when running the Mac OS Terminal program.



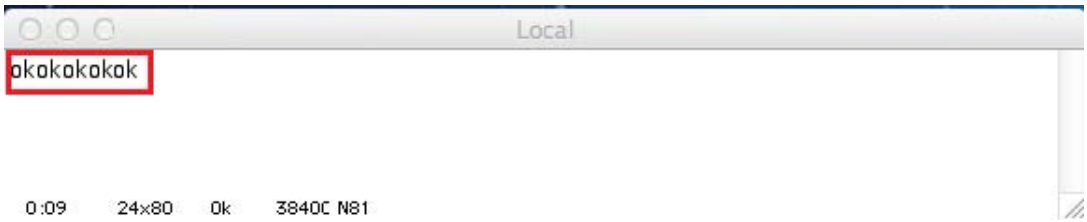
3. Then click on Settings-Connections to set the date transfer rate and flow control settings.



4. Run all of the above same procedures for the other Mac OS computer. Use a RS-232 null modem cable to connect the USB to RS-232 port from both computers. On one computer, click File-Send Files and choose the file to send. On the other computer, click File-Receive Files. You will then see the file transfer to begin.



5. You can also simply plug a loopback connector (TX-RX short) to the USB to RS-232 port and type the keyboard to show the send characters on the Local window display.



8.How to Uninstall Driver

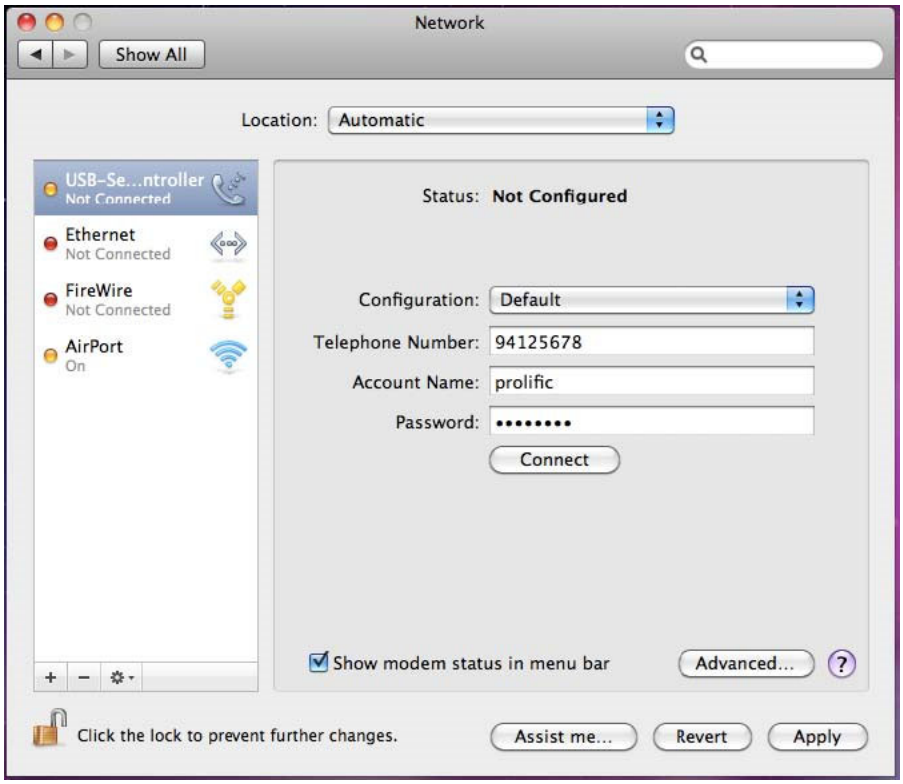
To remove and uninstall the USB to RS-232 drivers from Mac OS X operating system, you must be logged on as root. You can use the “sudo” command option to substitute user privileges.

1. Run a Terminal session (Applications-Utilities-Terminal) and enter the following commands at the command prompt:

   cd /System/Library/Extensions sudo kextunload ProlificUSBRS-232.kext (enter system password) rm -r ProlificUSBRS-232Driver.kext

   You can also go to the System-Library-Extensions file folder to delete the “**ProlificUSBRS-232Driver.kext**” file.

2. To remove the port from the system, go to System Preferences and select Network. Select the “USB-Serial Controller” device shown from the Show menu and click on the “-“ remove button to uninstall the port.



3. Restart the computer again before reinstalling the driver.

Regulatory Compliance

Disclaimer

Information in this document is subject to change without notice. The manufacturer does not make any representations or warranties (implied or otherwise) regarding the accuracy and completeness of this document and shall in no event be liable for any loss of profit or any other commercial damage, including but not limited to special, incidental, consequential, or other damages.

CE Certification

This equipment complies with the requirements relating to electromagnetic compatibility.

It has been manufactured under the scope of RoHS compliance.

FCC Compliance Statement

This equipment generates and uses radio frequency and may cause interference to radio and television reception if not installed and used properly. This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

You are cautioned that changes or modification not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation

WEEE (Waste of Electrical and Electronic Equipment), Recycling of Electronic Products

In 2006 the European Union introduced regulations (WEEE) for the collection and recycling of all waste electrical and electronic equipment. It is no longer allowable to simply throw away electrical and electronic equipment. Instead, these products must enter the recycling process.

Each individual EU member state has implemented the WEEE regulations into national law in slightly different ways. Please follow your national law when you want to dispose or any electrical or electronic products. More details can be obtained from your national WEEE recycling agency.