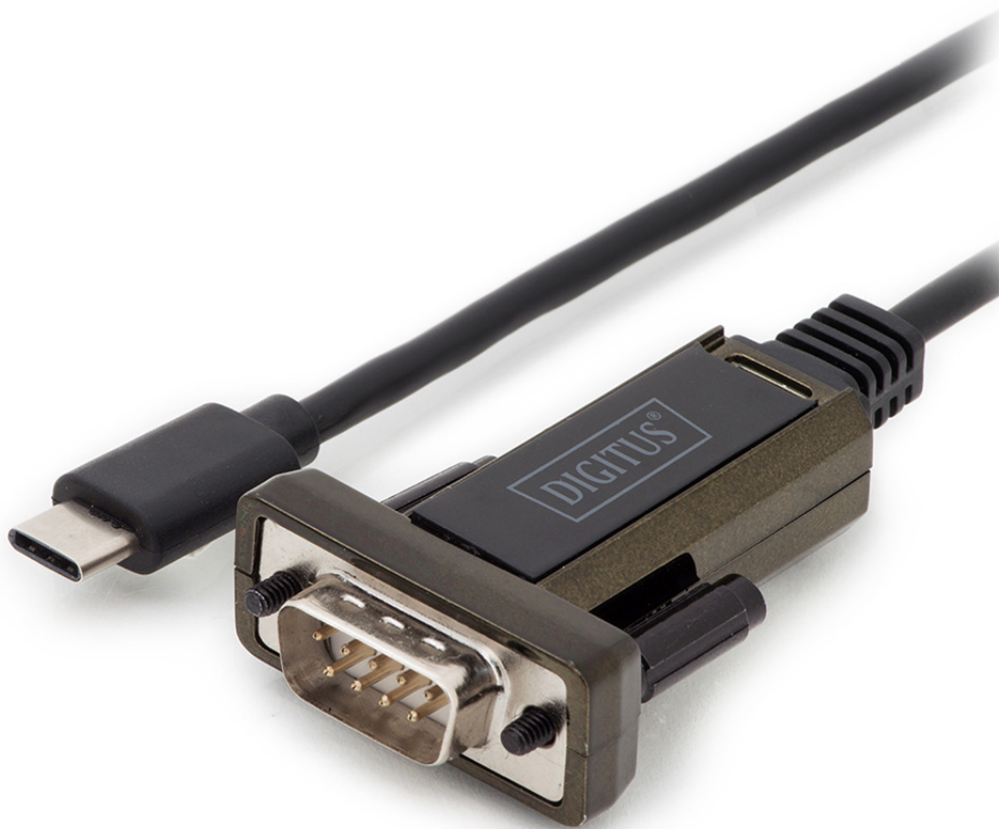# DIGITUS®

# USB Type-C™ to Serial Adapter

Quick Installation Guide

DA-70166

This is elegant way to connect serial devices, for example weather stations, sensors, motor controls, set-top-boxes, gaming consoles…etc. via USB. The high compatibility guarantees transfer rates from more than 1Mbps.

For Windows

Installing Drivers

To install drivers for a DA-70166 device under Windows 7, follow the instructions below:
Connect the device to a spare USB port on your PC.

- If there is an available Internet connection, Windows 7 will connect to the Windows Update website and install any suitable driver it finds for the device.
- If the automatic installation takes place there is no need to continue with the procedure outlined below.
- If no suitable driver is automatically found then the following procedure should be followed. Press the Windows start button to bring up the start menu and select "Control Panel".
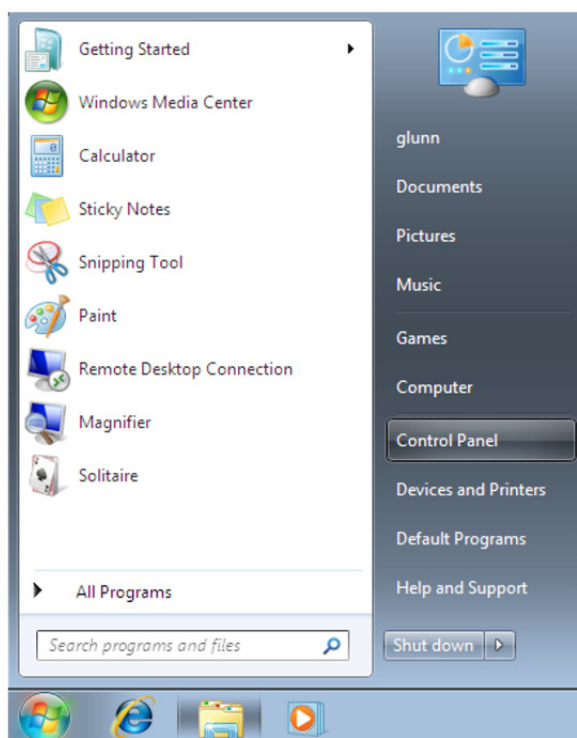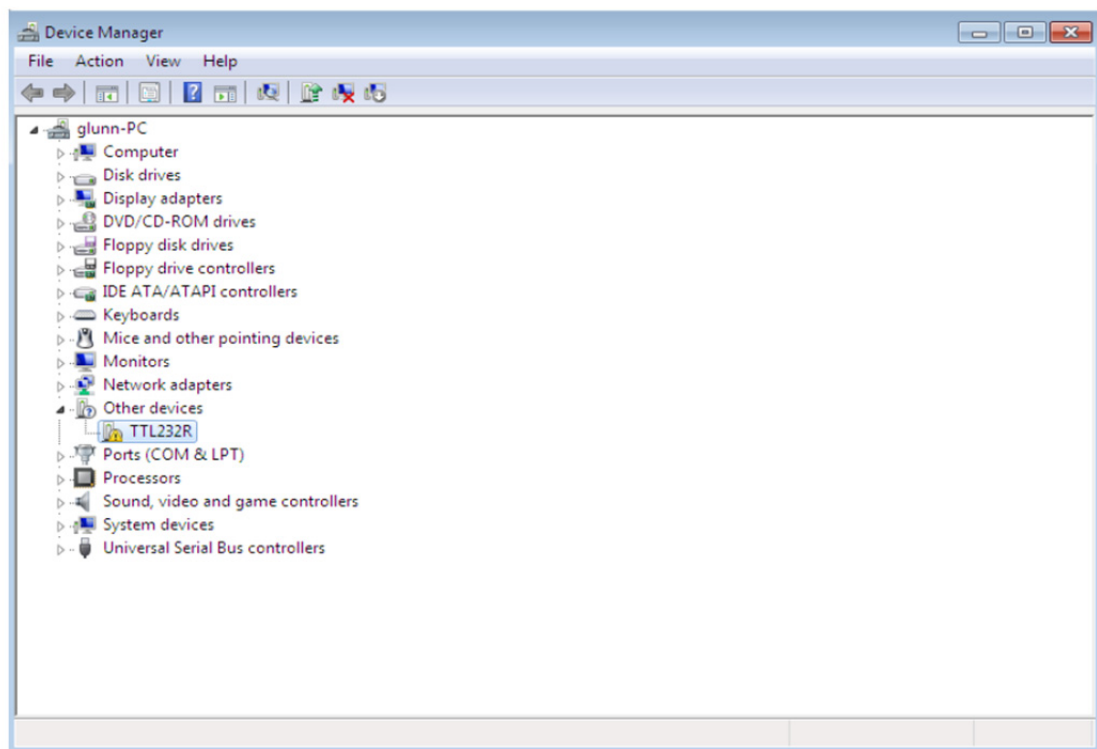

From the Control Panel window select Hardware and Sound
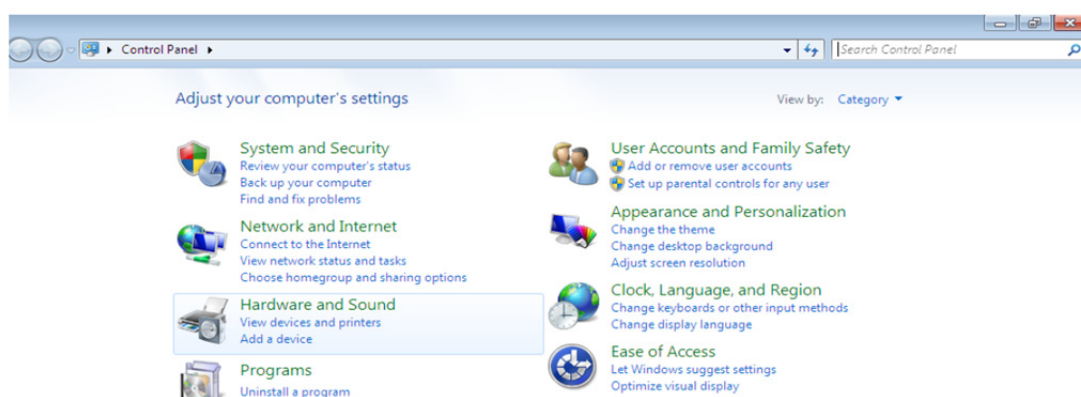
At the next screen select Device Manager:
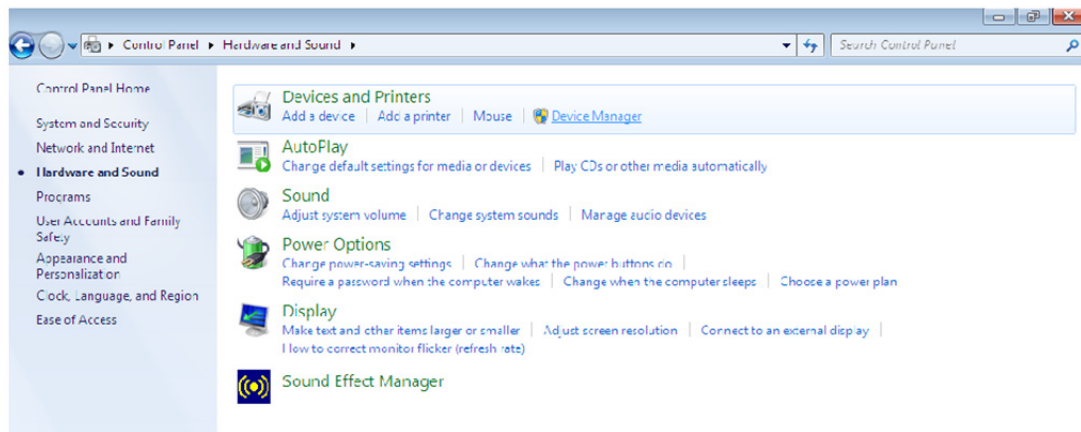
In the Device Manager window there will be a device under Other Devices with a yellow warning symbol to indicate a problem, i.e. no driver installed. The text next to this device will depend on the device attached. In this example the device was a TTL232R device.

Right click on the other device (TTL232R in this example) to bring up a menu as shown below.
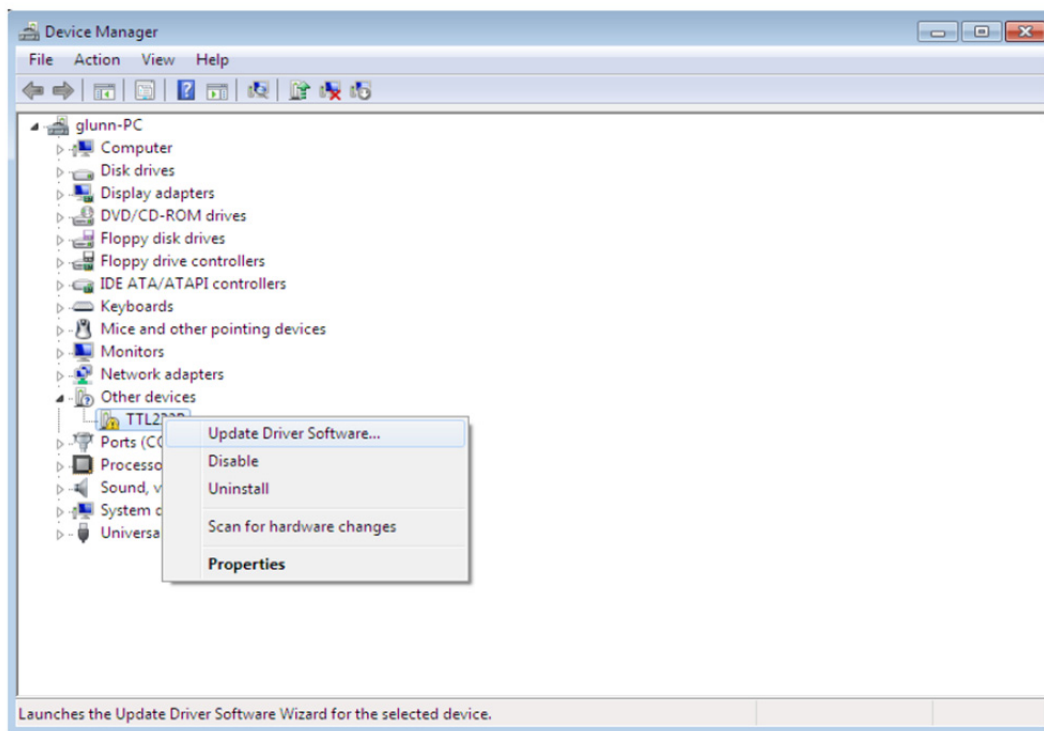
From the displayed menu select "Update Driver Software…"
This then displays the option for an automatic search or a manual search.
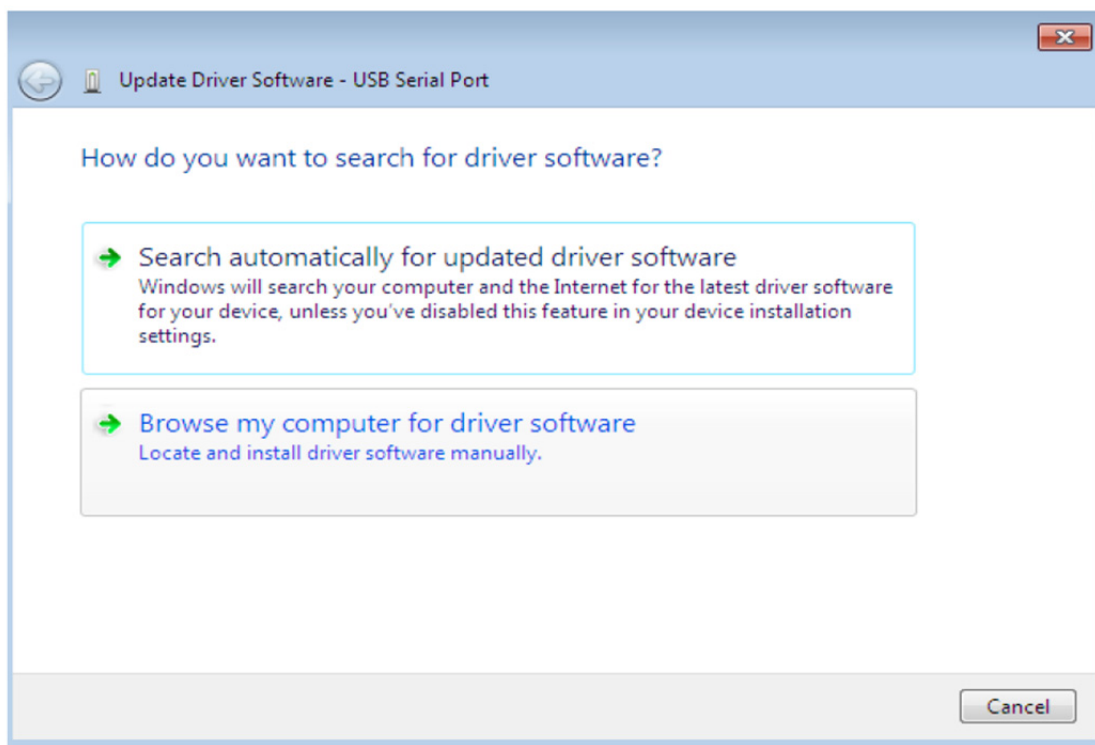
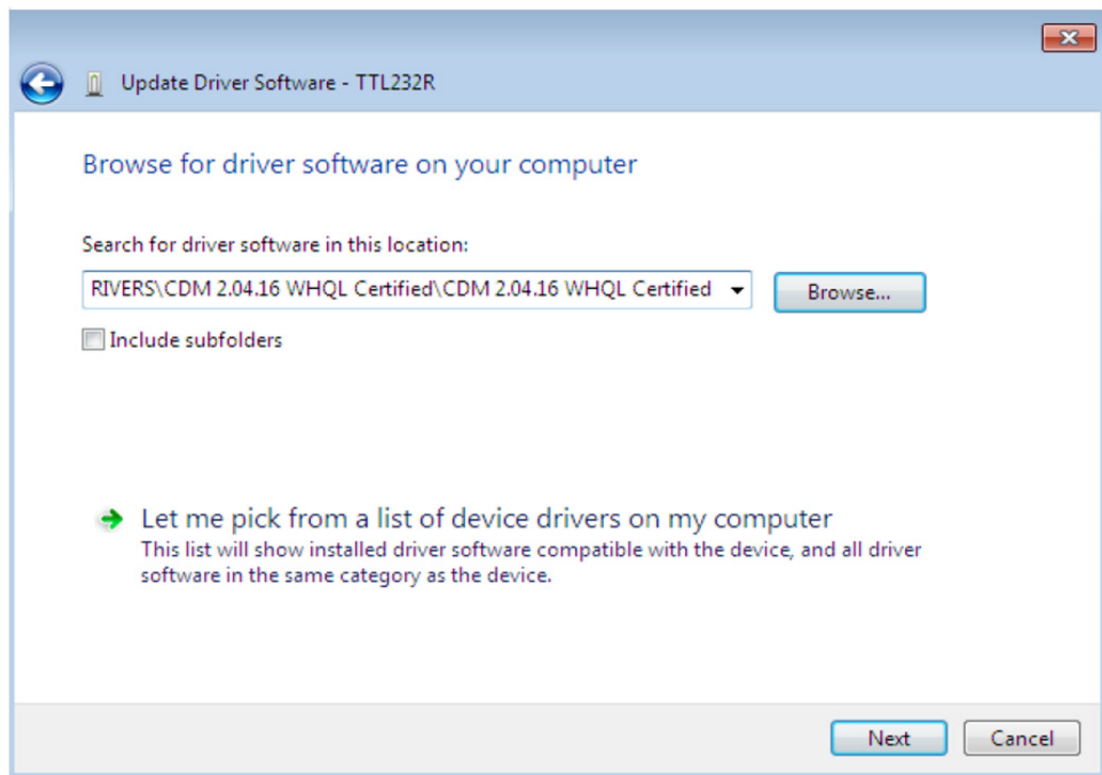Select the second option to browse manually.

In the address box put the exact location where the drivers have been saved to. This may be on a CD or in a folder on the PC. It is not necessarily the exact same location as shown in the screenshot. The drivers could have been saved anywhere of the users choosing.
After entering the address select "NEXT" to start the installation.
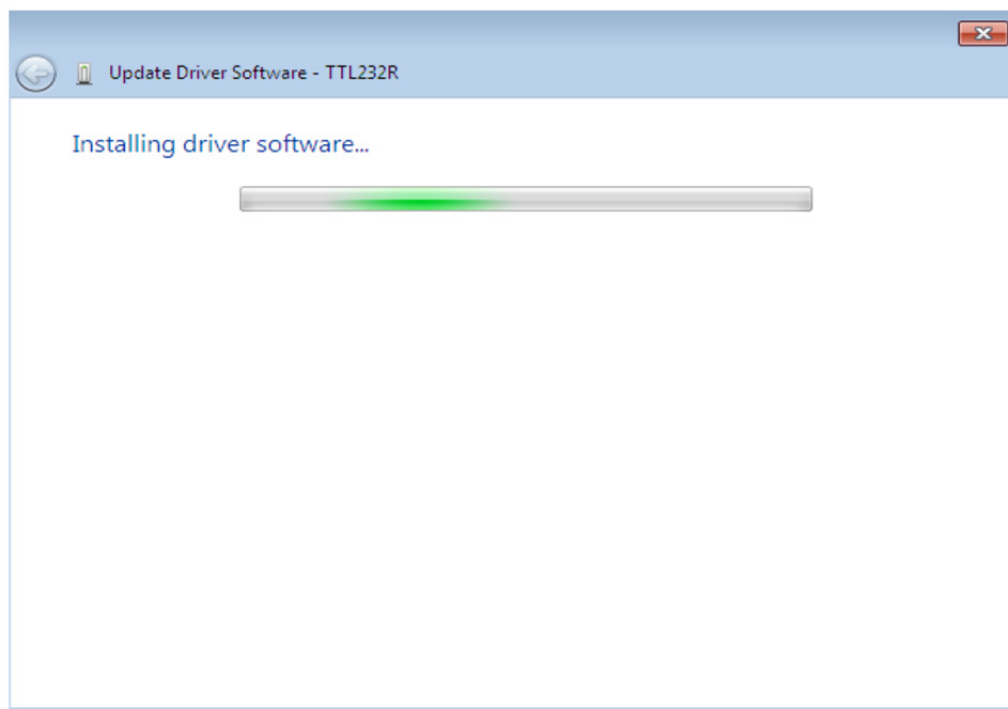
When the installation has finished a completion screen is displayed.
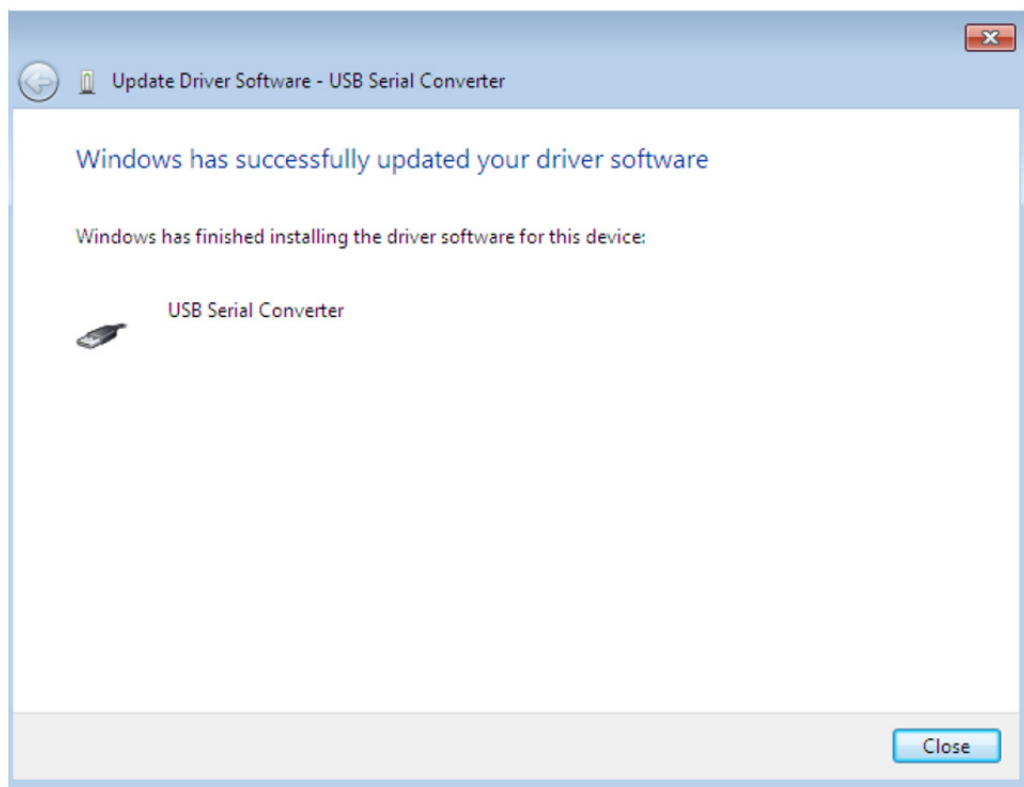
Press Close to close this window and go back to the Device Manager Window.
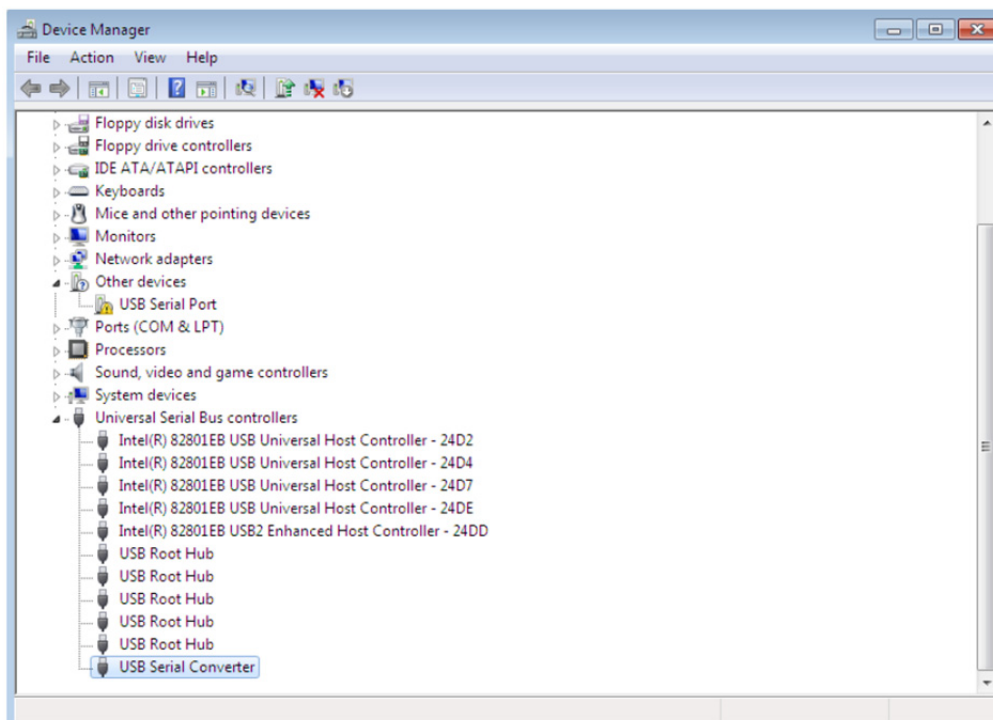
The Device Manager will still show a device under Other Devices but in addition to this there is a new entry under Universal Serial Bus Controllers indicated in the screenshot above as the USB Serial Converter. This indicates the bus layer of the driver is installed. Installing the Virtual Com Port layer of the driver is almost a repeat of the last few steps. Right click on the other device (TTL232R in this example) to bring up a menu as shown below.

From the displayed menu select "Update Driver Software…" This displays the option for an automatic search or a manual search.

Select the second option to browse manually.
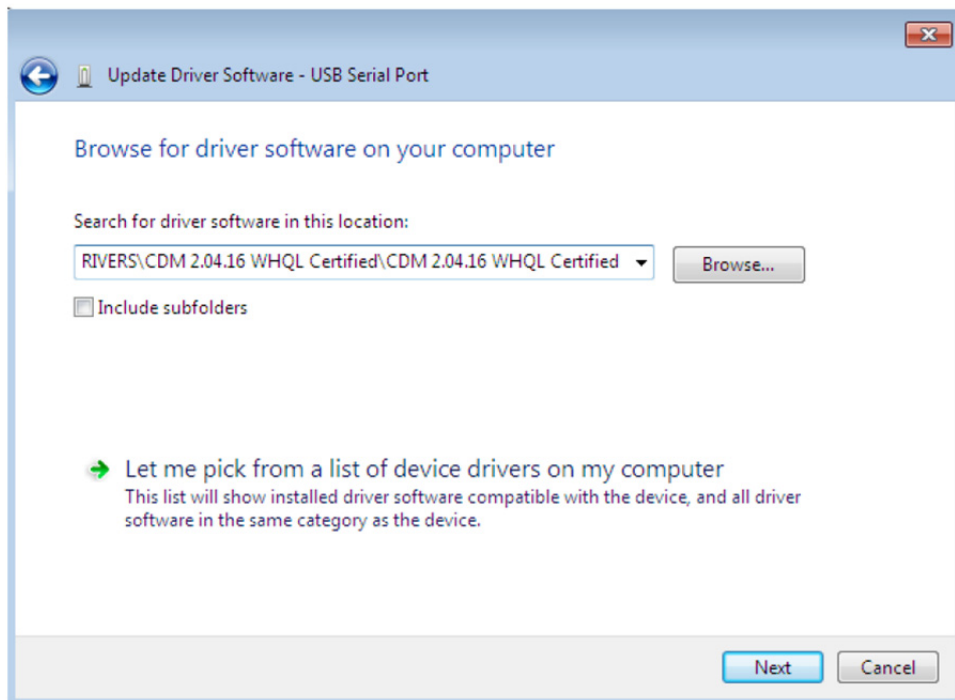
In the address box put the exact location where the drivers have been saved to. This may be on a CD or in a folder on the PC. It is not necessarily the exact same location as shown in the screenshot. The drivers could have been saved anywhere of the users choosing. After entering the address select "NEXT" to start the installation.
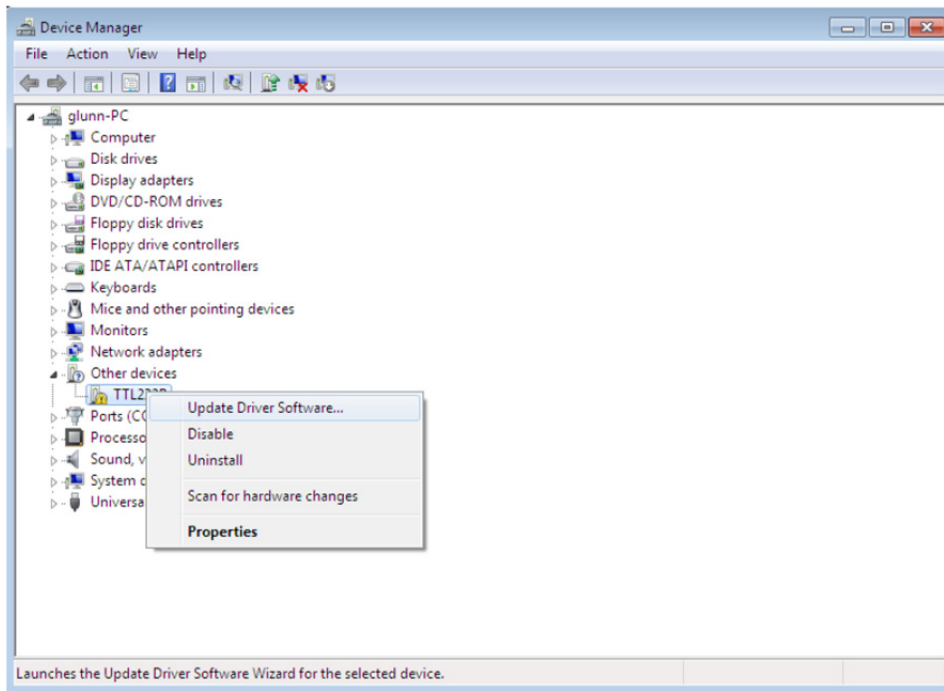
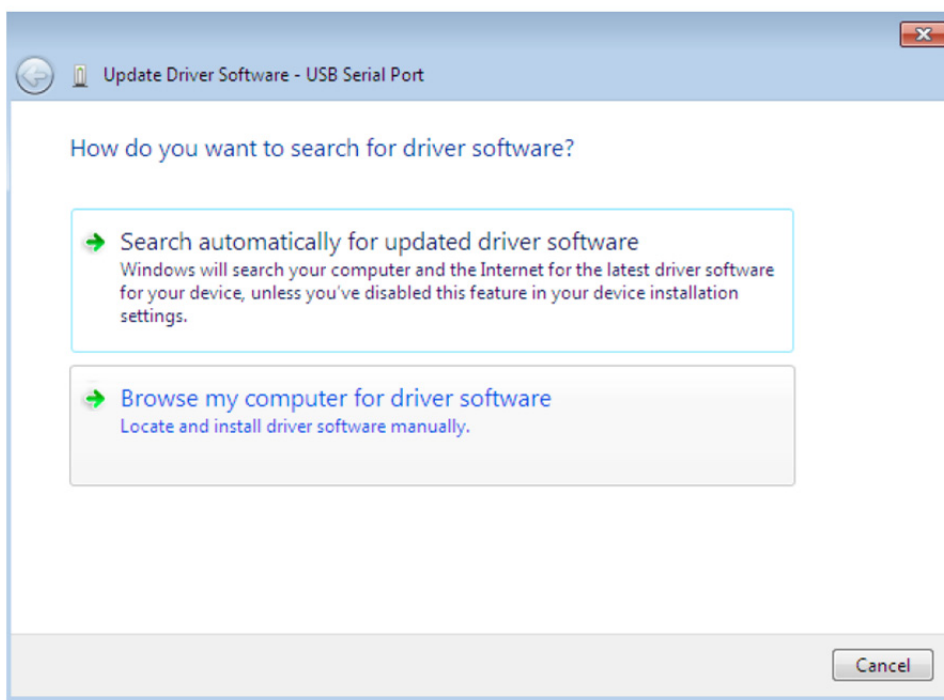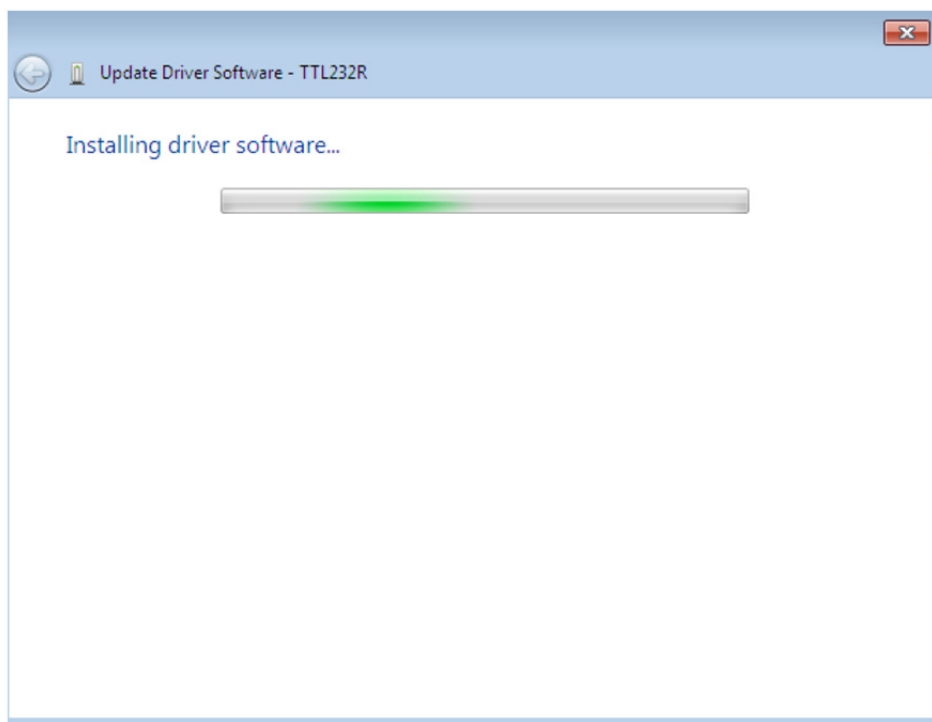When the installation is finished a completion screen is displayed.
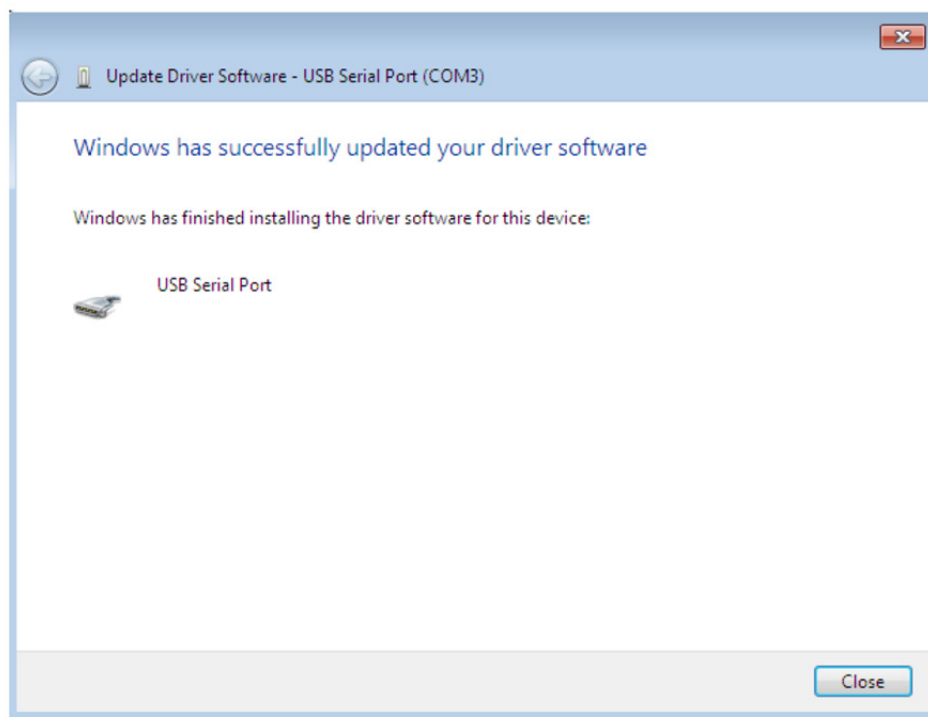
Note this screen also displays the COM port assigned to the device.
Press Close to close this window and go back to the Device Manager Window.
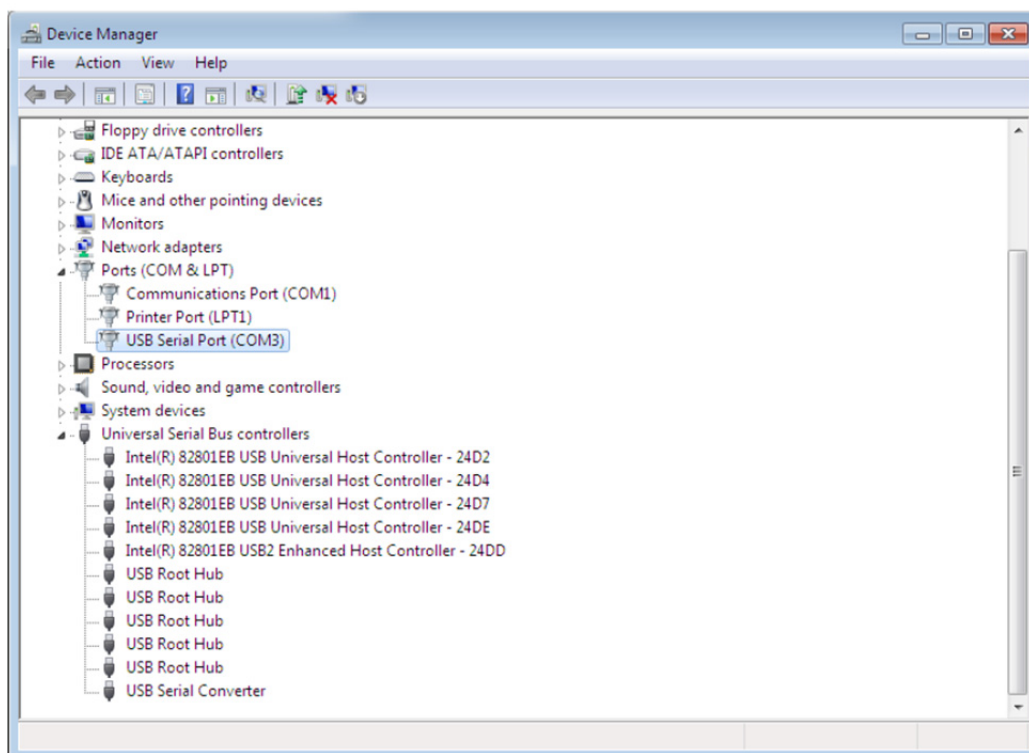
This time the Device Manager does not have a TTL232R entry under Other Devices but does show entries under Universal Serial Bus Controllers and Ports (COM & LPT). The above screen shot displays a correct installation. The device is now ready to use on COM3.

NOTE: Not all devices will install to COM3. The COM port allocation is determined by the installation wizard on the basis of the next free com port as designated in the PC registry.

Uninstalling DA-70166 Devices

DA-70166 has produced an uninstaller application called CDM Uninstaller.

Devices can also be removed by using the Device Manager by simply right-clicking on the mouse and selecting "Uninstall". This will delete the associated registry entries for that device only. Windows 7 provides an automatic method to delete
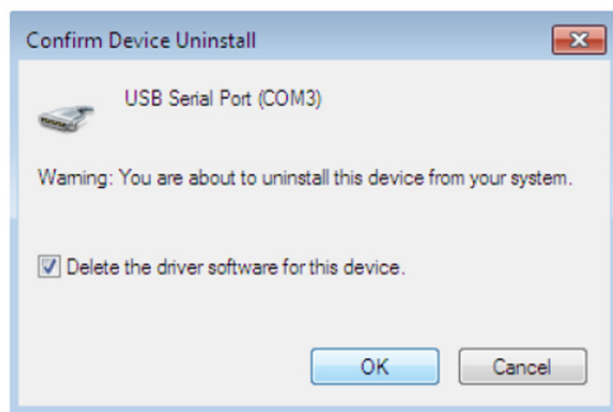
This stage is done twice. Once for the device under Ports (COM & LPT) and once for the device under Universal Serial USB Controllers. Windows 2000, XP and Server 2003 do not have this check box, so driver files and OEM INF and PNF files must be removed manually or by using a custom application.

Some points to note about the new un-installation method:
In the case of FT2232/FT4232 devices, a composite device is also installed. This can also be removed by right-clicking and selecting "Uninstall". There is no option to delete the driver files when doing this as the driver for the composite device is a native Windows driver. If the VCP driver has been installed, the COM port driver should be uninstalled before the USB driver. If the bus is removed first, the COM port will no longer appear in the Device Manager.

If the files are deleted while other installed devices still require them those devices will not work correctly. This can be fixed by right clicking the device and selecting "Reinstall Driver" which will replace the missing files. If a device to be uninstalled is not connected to the PC, the device can still be removed by setting the device manager to show phantom devices. This also allows a virtual COM port to be uninstalled if the bus layer has been removed first.

Troubleshooting
Windows 7 cannot find drivers for your device
This error can occur if the VID and PID programmed into the device EEPROM do not match those listed in the INF files for the driver. The VID and PID programmed into the device EEPROM may be found by using the USB View utility from the FTDI web site. These can then be checked against the VID and PID entries in the driver INF files. If they do not match, that driver cannot be installed for that device without either re-programming the device EEPROM or modifying the list of VID and PID numbers in the INF files.

Devices not shown in Device Manager for uninstalling
Devices that have been installed on a system but are not currently available are referred to as "phantom devices". These devices are not usually displayed in the device manager, but can be made to be displayed as though they are attached. This allows device properties to be changed or devices to be uninstalled via Device Manger even though the device is not physically connected to the PC.

To display phantom devices in Device Manager, a new system variable is required. Open "Control Panel > System" then select the "Advanced" tab and click "Environment Variables". In the System Variables section **(NOT THE USER VARIABLES SECTION),** click "New…" to display the following window:
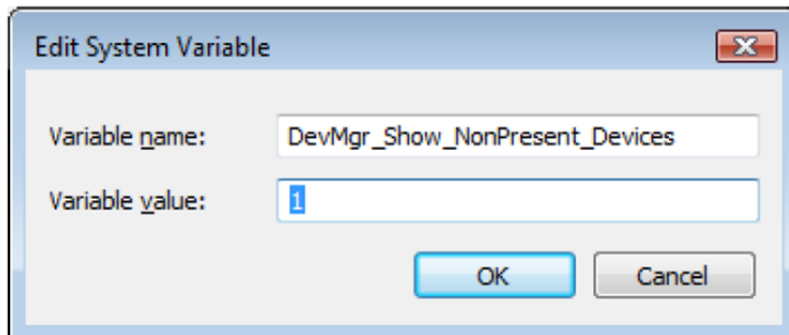

Create a new System Variable called "DevMgr_Show_NonPresent_Devices" and set the value to 1, then click OK.
Open the Device Manager ("Control Panel > System", then select the "Hardware" tab and click "Device Manager…", or "Control Panel > Device Manager" in Windows 7) and select "View > Show Hidden Devices". Device Manager will then show all hidden and phantom devices available on that PC as shaded.

Windows 7 shows a warning that the driver is not certified
If the driver is not certified then a pop up window such as shown below will be displayed.
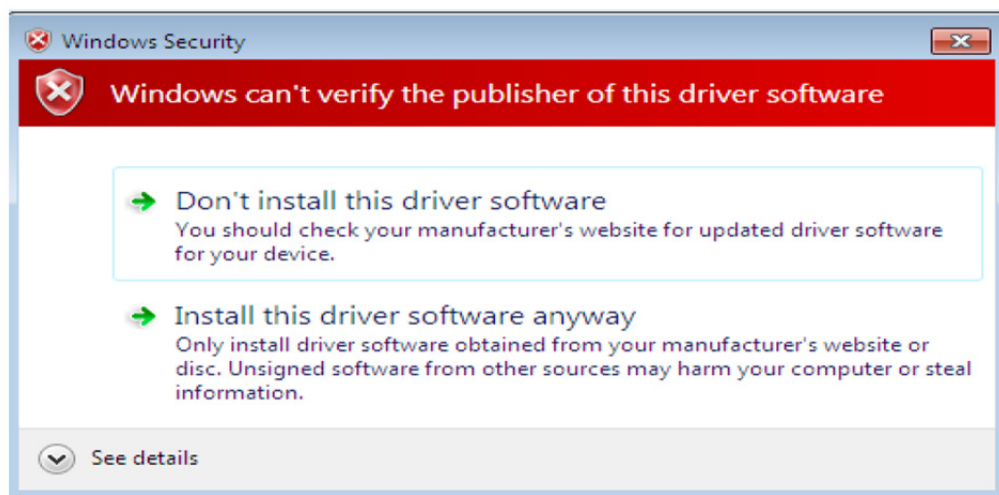
If you are certain of the source of the driver the warning can be ignored and you can continue installation by selecting "Install this driver software anyway".
If you are unsure about the driver source contact your vendor.

Appendix A - Abbreviations

| Terms	Description
PID	**Product ID, a unique product identification issued by the holder of the Vendor ID**
VID	**Vendor ID, a unique vendor identification number issued by the USB**
USB	**USB Universal Serial Bus**
WHQL	**WHQL Microsoft Windows® Hardware Quality Labs**
OS	**Operating System**

For Mac:

Installing USB Serial Driver

Download the driver from the Drivers section of the FTDI web site and save it to the hard disk. The driver is now available in disk image (.dmg) format. Run the installer by double clicking on the USBSerialDriver.dmg.icon.

Click Continue to proceed with the installation and follow the instructions on screen. When the installation is complete, reboot the computer.
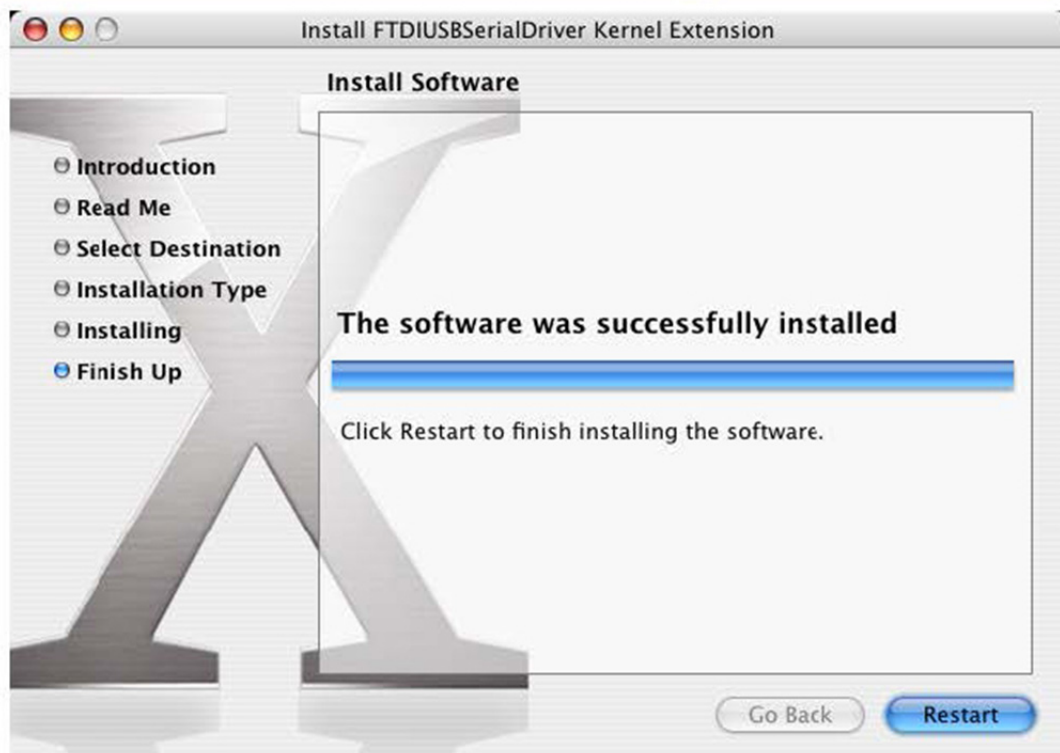
When the computer has rebooted, plug in the device. If the device is installed properly, you will see entries in the/dev directory:

/dev/cu.usbserial-xxxxxxxx
/dev/tty.usbserial-xxxxxxxx

where xxxxxxxx is either the device's serial number or, for unsterilized devices, a location string that depends on which USB port your device is connected to. Note that for FT2232C devices port A is denoted by the serial number appended with "A" and port B is designated by the serial number appended with "B".
/dev can be accessed through the Terminal application. The Terminal application can be launched by selecting Go > Applications > Utilities > Terminal. Type the following lines in the Terminal window to produce the file list:

cd/dev
ls-l

If you run the application System Preferences and select Network (Go > Applications > System Preferences > Network), you should see the text "New Port Detected".
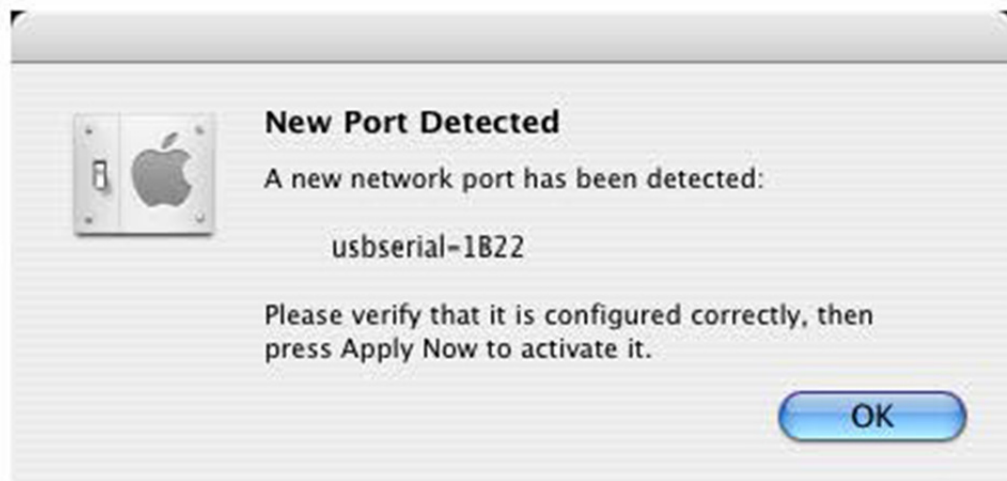
Click OK and select Network Port Configurations from the Show list. The new port can be enabled from this screen by checking the on box and clicking Apply Now.
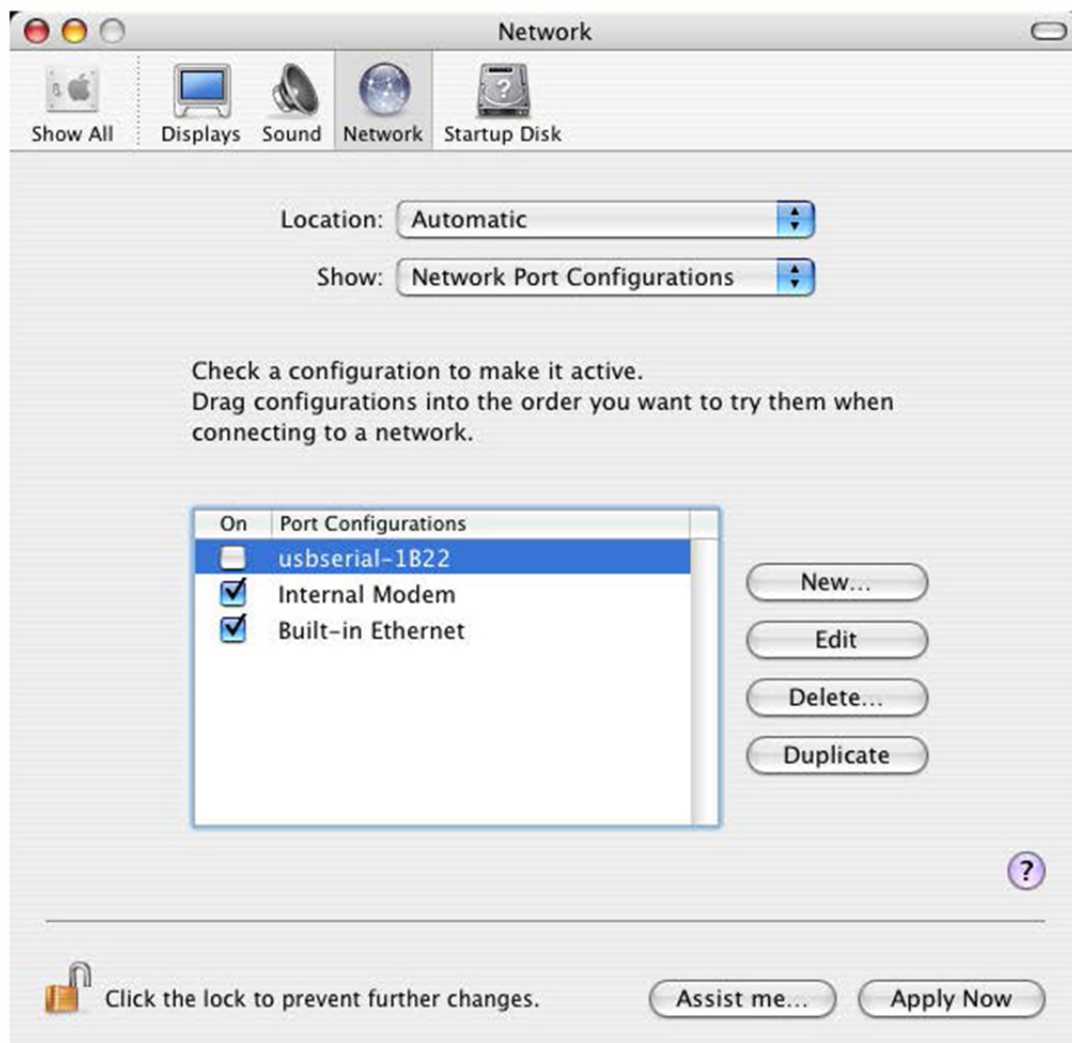
At this point, it is possible to exit Network and use the device as a COM port. If you wish to set the device up a modem for an Internet connection, select the new port from the Show list to display the window below. Please note that the FT2232C device has two ports available and these must be configured separately.
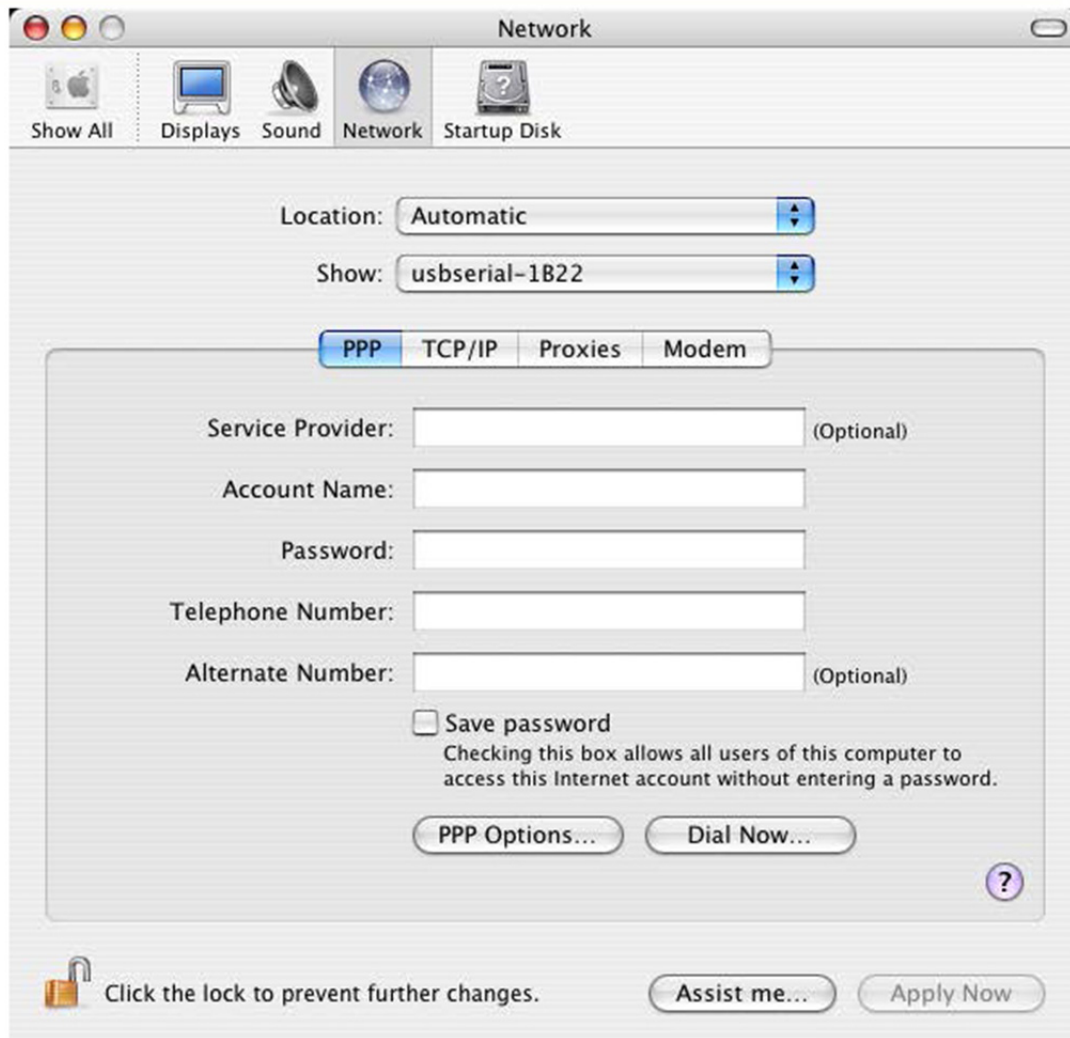
Entries for this screen are specific to the Internet account for each user. If you do not know the required details, contact your Internet service provider.

Uninstalling USB Serial Driver

To remove the drivers from Mac OS X, the user must be logged on as root. Root is a reserved username that has the privileges required to access all files.
Start a Terminal session (Go > Applications > Utilities > Terminal) and enter the following commands at the command prompt:

        cd/System/Library/Extensions
        rm -r   USB Serial Driver.kext

The driver will then be removed from the system.
To remove the port from the system, run the application System Preferences and select Network. Selecting Network Port Configurations from the Show menu will display the port as greyed out. Select the uninstalled port and click Delete. Confirm the deletion to remove the port.
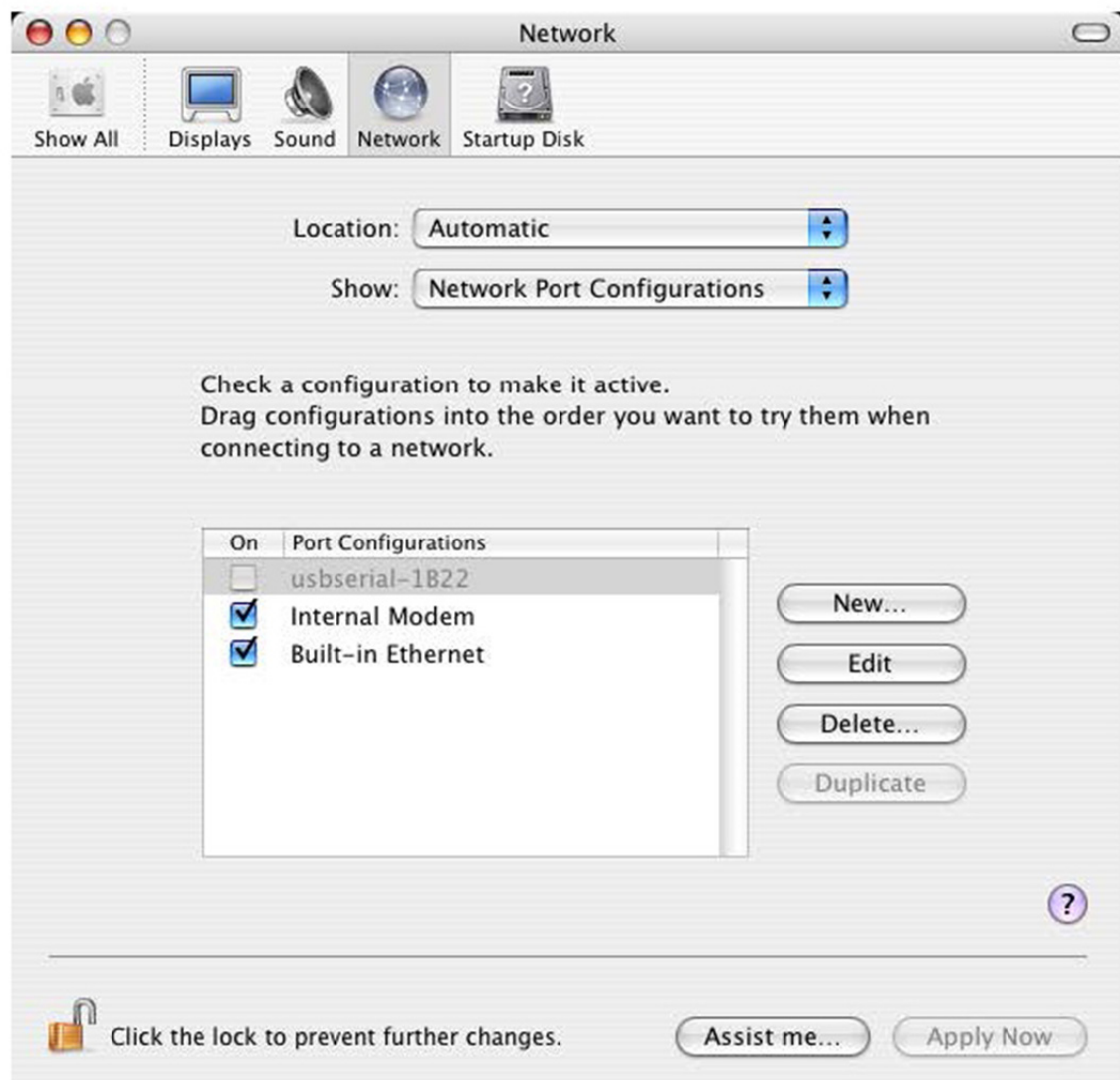
Troubleshooting

How do I know what my device ID is?

Launch the System Profiler utility or Apple System Profiler for earlier versions of OS X. This can be accessed by going to the Finder and selecting Applications from the Go menu then open the Utilities folder.
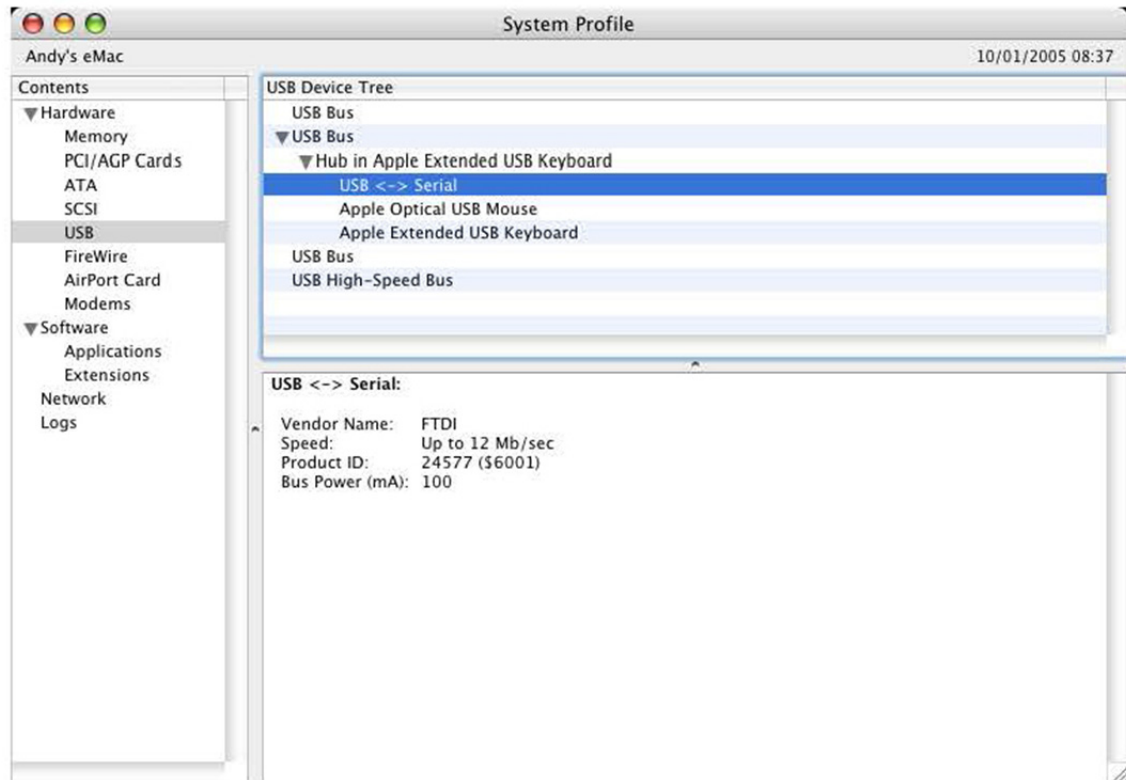
If the device does not work after installing the driver, it is likely to be because the PID is not supported by the driver. If this is the case, contact FTDI Support with the PID that needs to be added to the driver. If the VID is not 0x0403, it is likely that the device is not an FTDI device and we cannot support it.

The device does not appear in the/dev directory or the text "New Port Detected" is not displayed in SystemPreferences-Network

USB Serial Driver does not support your device ID (VID and PID). Disable the EEPROM so that the device reverts to its default device ID, then re-plug.
To get support for your device ID built into USB Serial Driver, contact FTDI quoting your device ID and a description of your device.

The device cannot be accessed even though the device ID is supported in USB Serial Driver

An ownership or permissions problem is preventing the system from making the device accessible. Check that the driver is owned by root and wheel. The most common symptom is the group for USB Serial Driver is not wheel. To change the group, login as root and perform the following script in a Terminal window (Go > Applications > Utilities > Terminal):

        cd/system/library/extensions
        chgrp -R wheel USB Serial Driver.kext

Reboot for the change to take effect.

How do I open a Terminal window?

A Terminal window can be started by selecting

Go > Applications > Utilities > Terminal

The terminal window is equivalent to a DOS prompt in Windows.

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