# Future Technology Devices International Ltd

# Application Note AN_104

# FTDI Drivers Installation guide for Windows XP

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## Acronyms and Abbreviations

| Terms | Description |
|---|---|
| CDM | Combined Driver Model. FTDI's Windows driver that supports both D2XX and VCP interfaces. |
| VCP | Virtual COM Port. Emulation of a legacy RS232 COM port. |

**Table 1.1 Acronyms and Abbreviations**

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# 1 Introduction

This document is intended to guide the reader through the process of installing FTDI's combined driver model (CDM) driver for the Microsoft Windows XP operating system. The CDM driver provides access to both virtual COM port (VCP) and FTDI's proprietary "direct" (D2XX) interfaces.

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# 2 Installing CDM Drivers

## 2.1 Installing Via The Found New Hardware Wizard

To install CDM drivers for an FTDI device under Windows XP, follow the instructions below:

- If a device of the same type has been installed on your machine before and the drivers that are about to be installed are different from those installed already, the original drivers need to be uninstalled. Please refer to the Uninstalling CDM Drivers section of this document for further details of this procedure.
- Download the latest available CDM drivers from the FTDI web site and unzip them to a location on your PC.
- If you are running Windows XP or Windows XP SP 1, temporarily disconnect your PC from the Internet. This can be done by either removing the network cable from your PC or by disabling your network card by going to the "Control Panel\Network and Dial-Up Connections", right-clicking on the appropriate connection and selecting "Disable" from the menu. The connection can be re-enabled after the installation is complete. This is not necessary under Windows XP SP 2 if configured to ask before connecting to Windows Update. Windows XP SP 2 can have the settings for Windows Update changed through "Control Panel\System" then select the "Hardware" tab and click "Windows Update".
- Connect the device to a spare USB port on your PC. If the device is based on the FT2232, the Microsoft composite device driver is automatically loaded in the background. Once the composite driver has been installed Windows Found New Hardware Wizard will launch. If there is no available Internet connection or Windows XP SP 2 is configured to ask before connecting to Windows Update, the screen shown in Figure 2.1 is displayed. Select "No, not this time" from the options available and then click "Next" to proceed with the installation. If there is an available Internet connection, Windows XP will silently connect to the Windows Update website and install any suitable driver it finds for the device in preference to the driver manually selected.

**Figure 2.1**

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- Select "Install from a list or specific location (Advanced)" as shown in Figure 2.2 below and then click "Next".

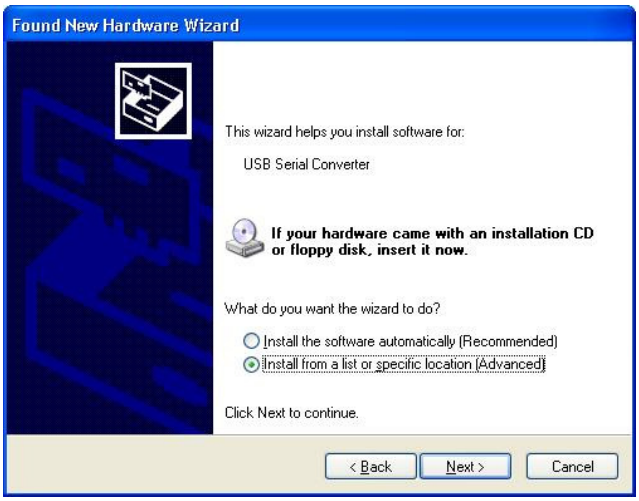


**Figure 2.2**

- Select "Search for the best driver in these locations" and enter the file path in the combo-box ("C:\CDM 2.02.04" in Figure 2.3 below) or browse to it by clicking the browse button. Once the file path has been entered in the box, click next to proceed.

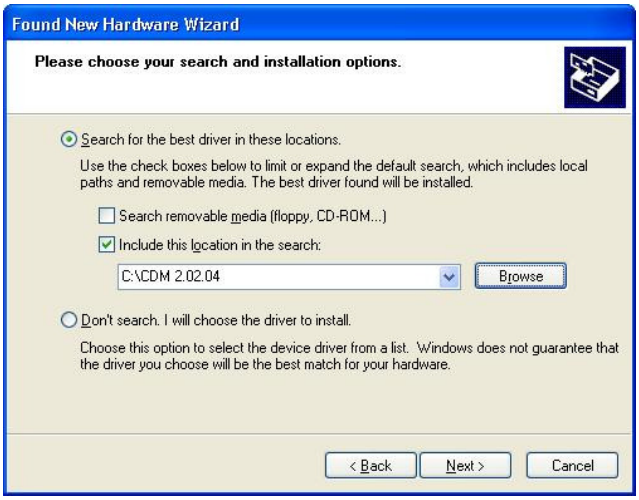


**Figure 2.3**

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- If Windows XP is configured to warn when unsigned (non-WHQL certified) drivers are about to be installed, the message dialogue shown in Figure 2.4 will be displayed unless installing a Microsoft WHQL certified driver. Click on "Continue Anyway" to continue with the installation. If Windows XP is configured to ignore file signature warnings, no message will appear.

**Figure 2.4**

- The screen shown in Figure 2.5 will be displayed as Windows XP copies the required driver files.

**Figure 2.5**

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- Windows should then display a message indicating that the installation was successful (Figure 2.6). Click "Finish" to complete the installation for the first port of the device.

**Figure 2.6**

- If the device is based on the FT2232, the Found New Hardware Wizard will continue by installing the USB Serial Converter driver for the second port of the FT2232 device. The procedure for installing the second port is identical to that for installing the first port from the first screen of the Found New Hardware Wizard. This is done automatically if the driver is Microsoft WHQL certified. If the device is not based on the FT2232, the COM port emulation driver is loaded as indicated in the following steps.

- The Found New Hardware Wizard will launch automatically to install the COM port emulation drivers. As above, select "No, not this time" From the options and click "Next" to proceed with the installation (Figure 2.7).

**Figure 2.7**

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- Select "Install from a list or specific location (Advanced)" as shown in Figure 2.8 below and then click "Next".

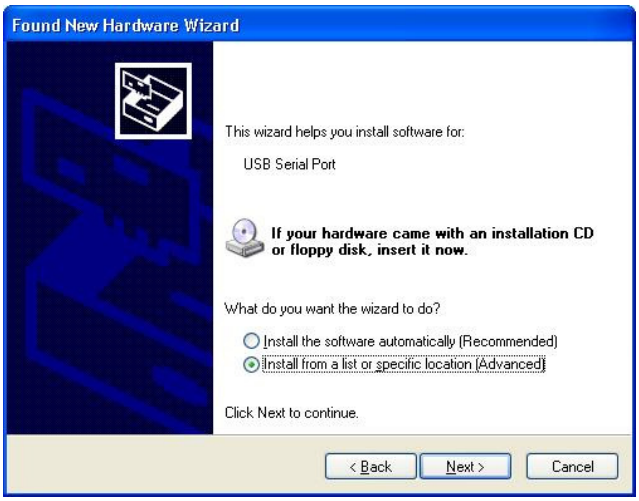


**Figure 2.8**

- Select "Search for the best driver in these locations" and enter the file path in the combo-box ("C:\CDM 2.02.04" in figure 2.9 below) or browse to it by clicking the browse button. Once the file path has been entered in the box, click next to proceed.

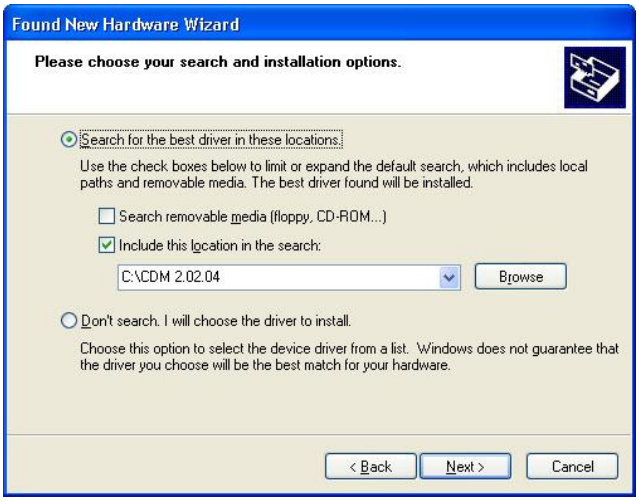


**Figure 2.9**

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- If Windows XP is configured to warn when unsigned (non-WHQL certified) drivers are about to be installed, the message dialogue shown in Figure 2.10 will be displayed unless installing a Microsoft WHQL certified driver. Click on "Continue Anyway" to continue with the installation. If Windows XP is configured to ignore file signature warnings, no message will appear.

**Figure 2.10**

- The screen shown in Figure 2.11 will be displayed as Windows XP copies the required driver files.

**Figure 2.11**

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- Windows should then display a message indicating that the installation was successful (Figure 2.12). Click "Finish" to complete the installation for the first port of the device.

**Figure 2.12**

- If the device is based on the FT2232, the second port must also be installed. The procedure for installing the second port is identical to that for installing the first port from the first screen of the Found New Hardware Wizard for the USB Serial Port device. If the driver is Microsoft WHQL certified, this is done automatically.

- Open the Device Manager (located in "Control Panel\System" then select the "Hardware" tab and click "Device Manger") and select "View > Devices by Connection", the device appears as a "USB Serial Converter" with an additional COM port with the label "USB Serial Port" (Figure 2.13). If the device is based on the FT2232, two ports will be available from a composite USB device.

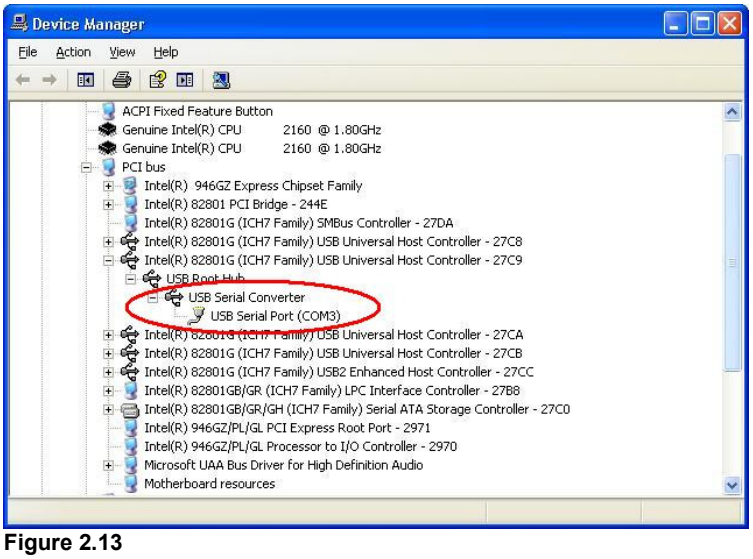


**Figure 2.13**

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- In the case of the FT2232, port A of the FT2232 will be installed as COMX and port B will be installed as COMX+1 where COMX is the first available COM port number.

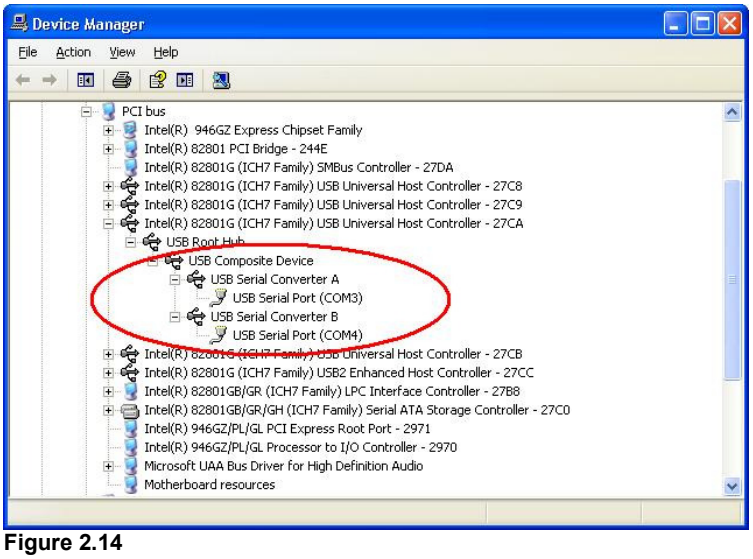


**Figure 2.14**

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## 2.2 Installing Using DPInst

In the case of a Microsoft WHQL certified driver package, it is possible to pre-install the driver package using the Microsoft Driver Install Frameworks (DIFx) tools. The simplest tool provided is the Driver Package Installer (DPInst). When placed in the same directory as the INF files for the driver package, simply run DPInst.exe and the certified driver package will be installed on the machine.

The current FTDI CDM driver package supports 32-bit and 64-bit systems through common INF files. DPInst has separate executables for 32-bit and 64-bit installation. This means that if a single solution is desired for 32-bit and 64-bit systems, the developer must be able to detect which version of DPInst is required for the system the driver is being installed on.

For more information on DPInst, see the FTDI Windows Driver Pre-Installation application note.

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## 2.3 Installing From Windows Update

If a certified driver is available for the target operating system, it is possible to install the driver from the Windows Update web site.

Directions to install the driver from Windows Update are very similar to those outlined in 2.1 Installing Via The New Hardware Wizard, except that the “Yes, this time only” or “Yes, now and every time I connect a device” option should be selected on the first screen of the wizard when asked if Windows Update should be checked for a driver. If the wizard finds a matching driver on Windows Update, the driver will be automatically downloaded and installed for the device.

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# 3 Uninstalling CDM Drivers

FTDI no longer supply an uninstaller program as part of the driver package. Consequently, a new method for uninstalling has to be used. Devices can be removed using the Device Manager by simply right-clicking on the device and selecting "Uninstall". This will delete the associated registry entries for that device only.

Under Windows XP, driver files and OEM INF and PNF files must be removed manually or by using a custom application. OEM INF and PNF files are located in the Windows\Inf directory and can be identified by searching for a VID and PID string matching the device installed e.g. VID_0403&PID_6001. Once the matching OEM INF files are found (e.g. oem10.inf for FTDIBUS.INF and oem11.inf for FTDIPORT.INF), the corresponding PNF files must also be removed (e.g. oem10.pnf and oem11.pnf). Driver files are located in the Windows\System32 and Windows\System32\Drivers directories.

Some points to note about this un-installation method:

- In the case of FT2232 devices, a composite device is also installed. This can also be removed by right-clicking on the composite device in the Device Manager and selecting "Uninstall".
- If the VCP driver has been installed, the COM port driver should be removed before the bus driver. If the bus is removed first, the COM port will no longer appear in the Device Manager.
- If the driver 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 can also allow a virtual COM port to be uninstalled if the bus layer has been removed first. Instructions on how to display phantom devices are given in the Advanced Driver Options application note.

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# 4 Troubleshooting

## 4.1 Windows XP Cannot Find Drivers For My 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 USBView 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.

Please note that only your own company VID and PID or FTDI's VID (0x0403) and FTDI PID issued for use by your company should be used in the EEPROM and INF/INI files.

End customers should obtain modified drivers from the OEM of the device, and not necessarily edit the files themselves.

## 4.2 Windows XP Forces A Reboot After Installing a Device

This problem can occur if an application is accessing a file while the New Hardware Wizard is trying to copy it. This usually occurs with the FTD2XX.DLL file. Selecting not to restart the computer then unplugging and re-plugging the device may allow the device to function properly without restarting. Restarting the machine will allow the device to work correctly.

## 4.3 Driver Installation Fails And Windows XP Gives Error Code 10

Windows error code 10 indicates a hardware error or failed driver installation. This error may appear if a device has insufficient power to operate correctly (e.g. plugged into a bus powered hub with other devices), or may indicate a more serious hardware problem. Also, it may be indicative of USB root hub drivers being incorrectly installed.

Please refer to the example schematics on the FTDI web site for standard device configurations. If the error persists, please contact the FTDI support department.

## 4.4 Windows XP Displays An Error And Then Terminates Installation

If the following screen is displayed with this message, Windows XP has been configured to block the installation of any drivers that are not WHQL certified.

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**Figure 4.1**

Two options are available to successfully install the device. Either a certified version of the driver can be installed (if available) or the driver signing options can be changed to either warn or ignore to allow the installation to complete.

To change the current driver signing setting, go to "Control Panel\System", click on the "Hardware" tab and then click "Driver Signing". The desired signing option may then be selected.

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## Appendix A – Revision History

| | | |
|---|---|---|
| **Version 0.1** | First Draft | 08/09/2008 |
| **Version 1.0** | First Release | 23/09/2008 |

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# Future Technology Devices International Ltd.

# Application Note AN_119

# FTDI Drivers Installation guide for Windows 7

**Document Reference No.: FT_000160**

**Version 1.0**

**Issue Date: 2009-10-29**

The purpose of this application note is to provide users of FTDI chips with a simple procedure for installing FTDI drivers for FTDI devices used under Windows 7.

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# 1 Introduction

The purpose of this application note is to provide users of FTDI chips with a simple procedure for installing FTDI drivers for their devices under Windows 7.

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# 2 Installing FTDI Device Drivers

FTDI have previously provided two types of driver for Windows OS: a D2XX direct driver and a virtual COM port (VCP) driver. Previously, these drivers were mutually exclusive and could not be installed at the same time. The new Windows combined driver model (CDM) which may be installed on Windows 2000, XP, VISTA or Windows 7 allows applications to access FTDI devices through either the D2XX DLL or a COM port without having to change driver type. However, it should be noted that an application can only communicate through one of these interfaces at a time and cannot send commands to the D2XX DLL and the associated COM port at the same time.

The CDM driver comes in two parts. The first part is the bus layer that provides D2XX style functionality and is always installed. The second part is the serial COM port layer and the CDM driver will determine whether a COM port should be exposed by reading the EEPROM of FT232R, FT245R, FT2232D, FT2232H and FT4232H devices. In the case of FT232BM, FT245BM, devices, the CDM driver will default to always installing a COM port.

This behavior can be changed and EEPROM settings ignored by changing the driver INF files as detailed in FTDI Application Note AN-107, Advanced Driver Options. Please note that modifying the INF files of a Microsoft WHQL certified driver will invalidate the Windows certification.

The driver is downloadable from the FTDI website by clicking the word download: download.

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# 3 Installing CDM Drivers

To install CDM drivers for an FTDI device under Windows 7, follow the instructions below:

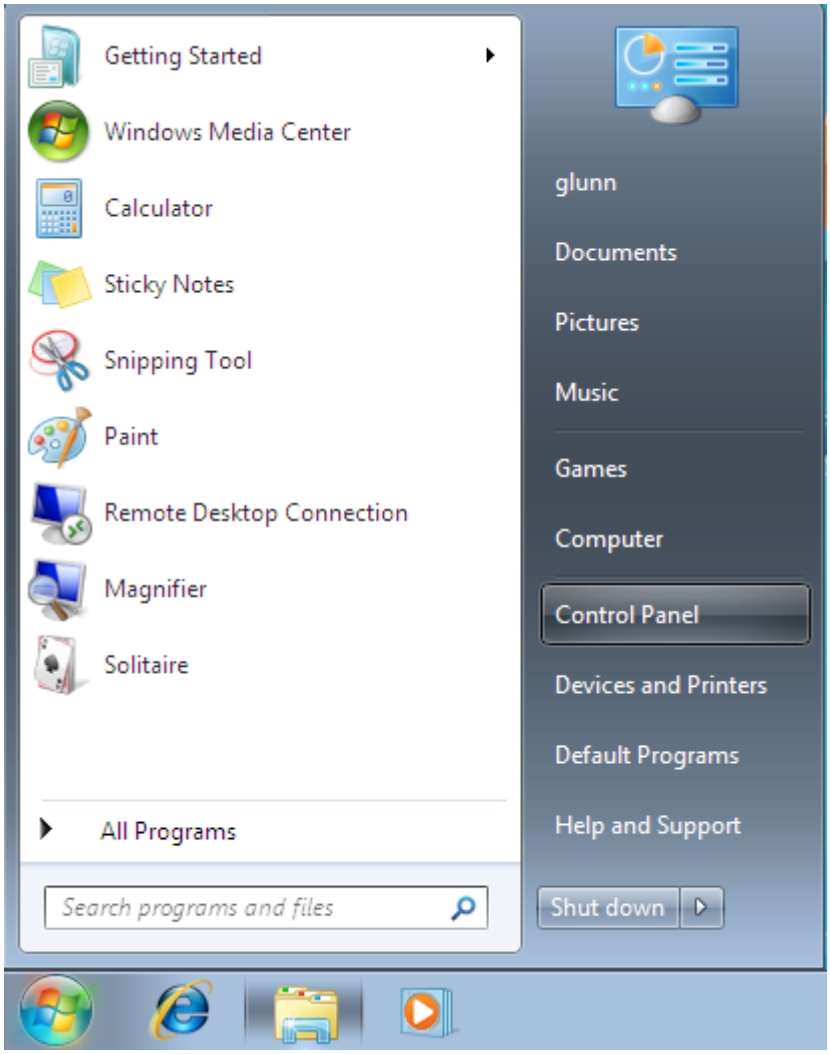
Connect the device to a spare USB port on your PC.

If there is an available Internet connection, Windows 7 will silently 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".

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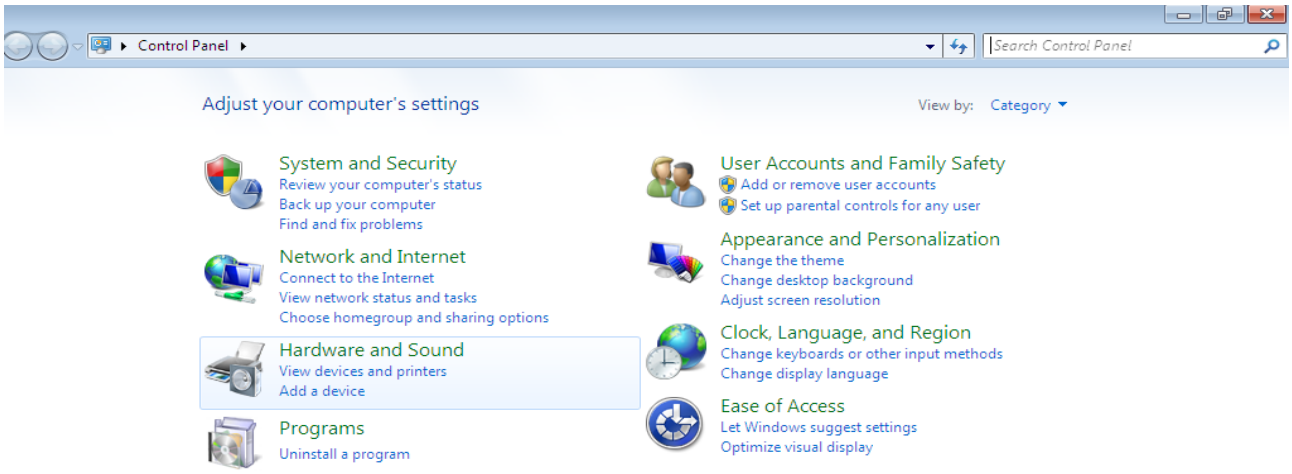
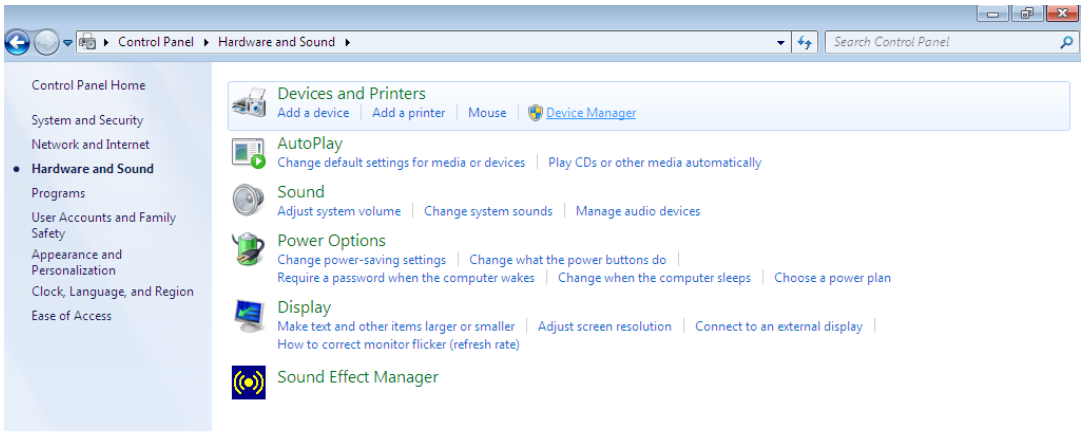
From the Control Panel window select Hardware and Sound




At the next screen select Device Manager:

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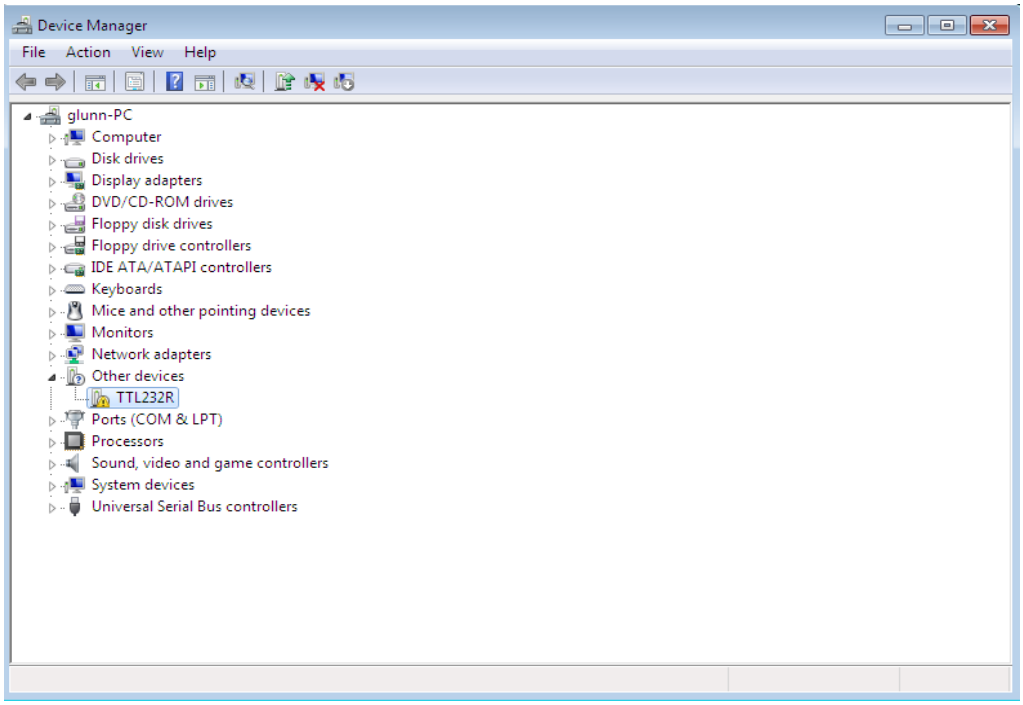
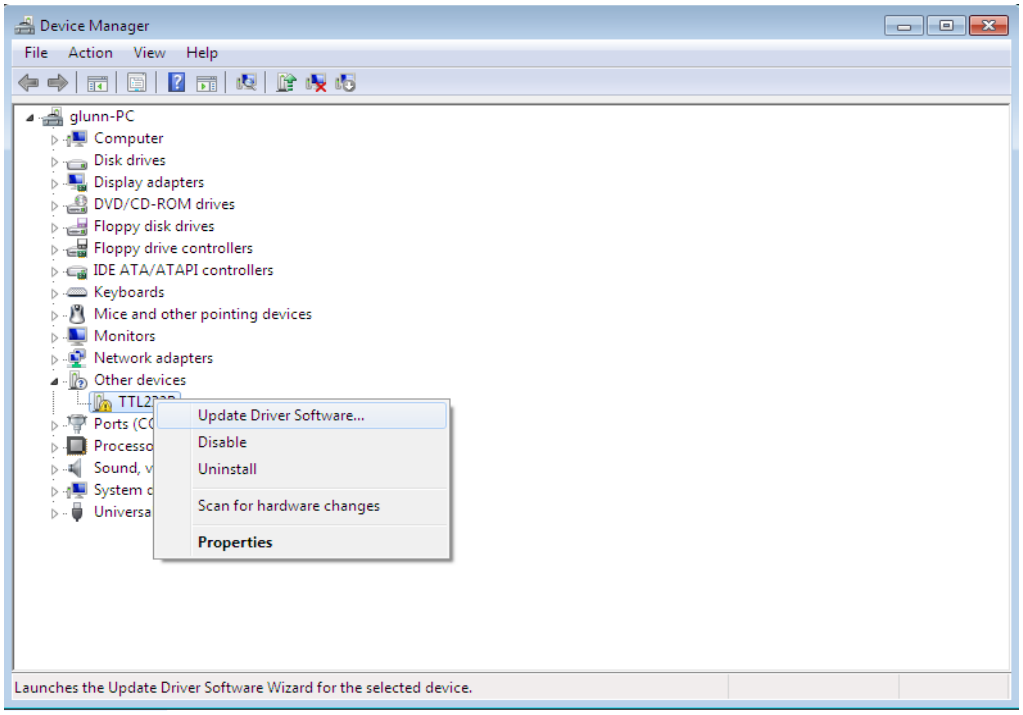
In the Device Manager window there will be a device under Other Devices with a yellow warning symbol to indicate a problem ie no driver installed. The text next to this device will depend on the device attached. In this example the device was a TTL232R device.




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.

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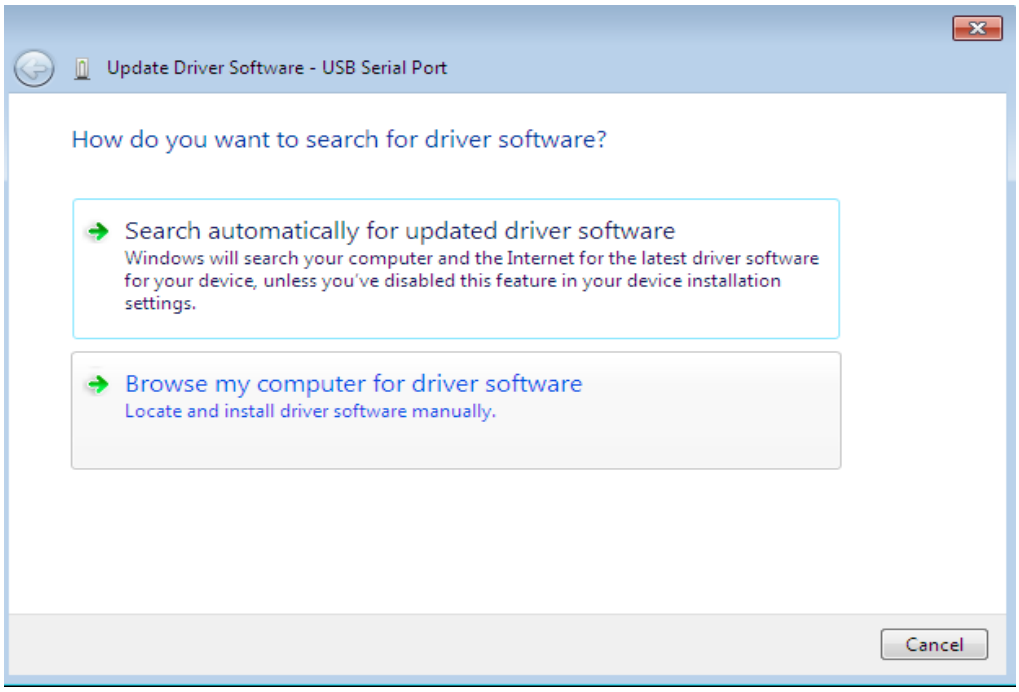
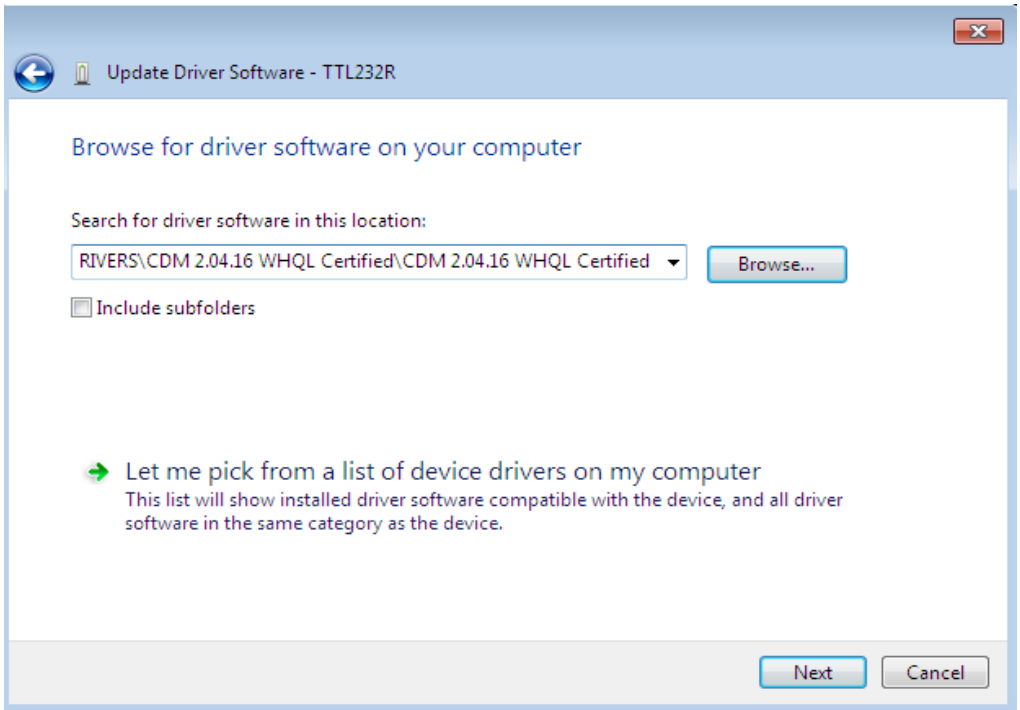



Select the second option to browse manually.




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.

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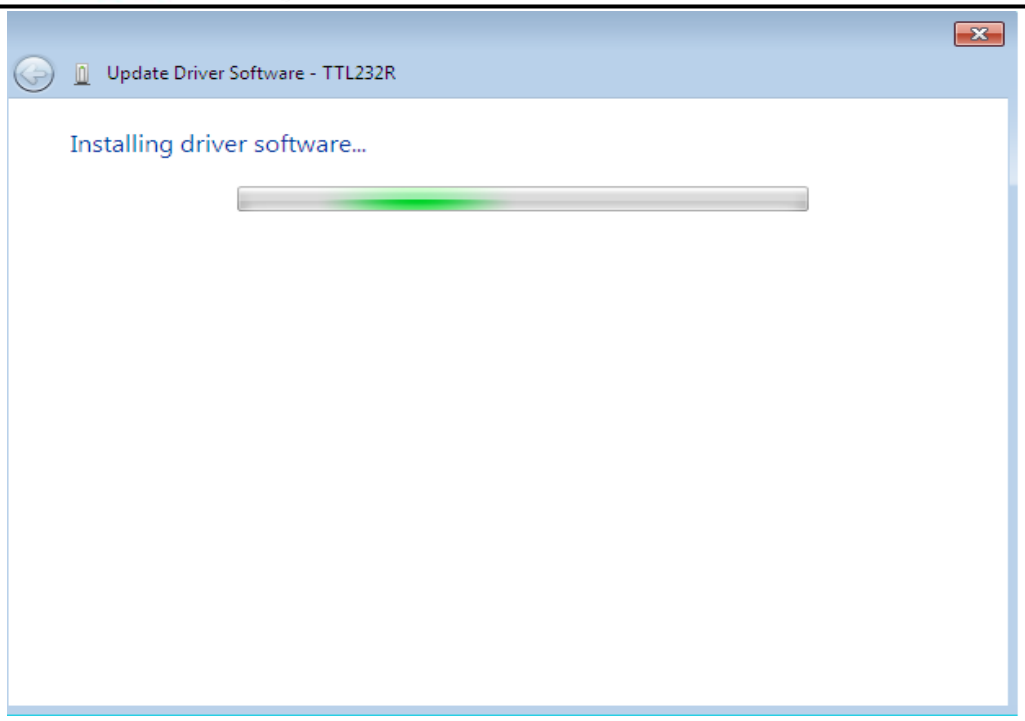
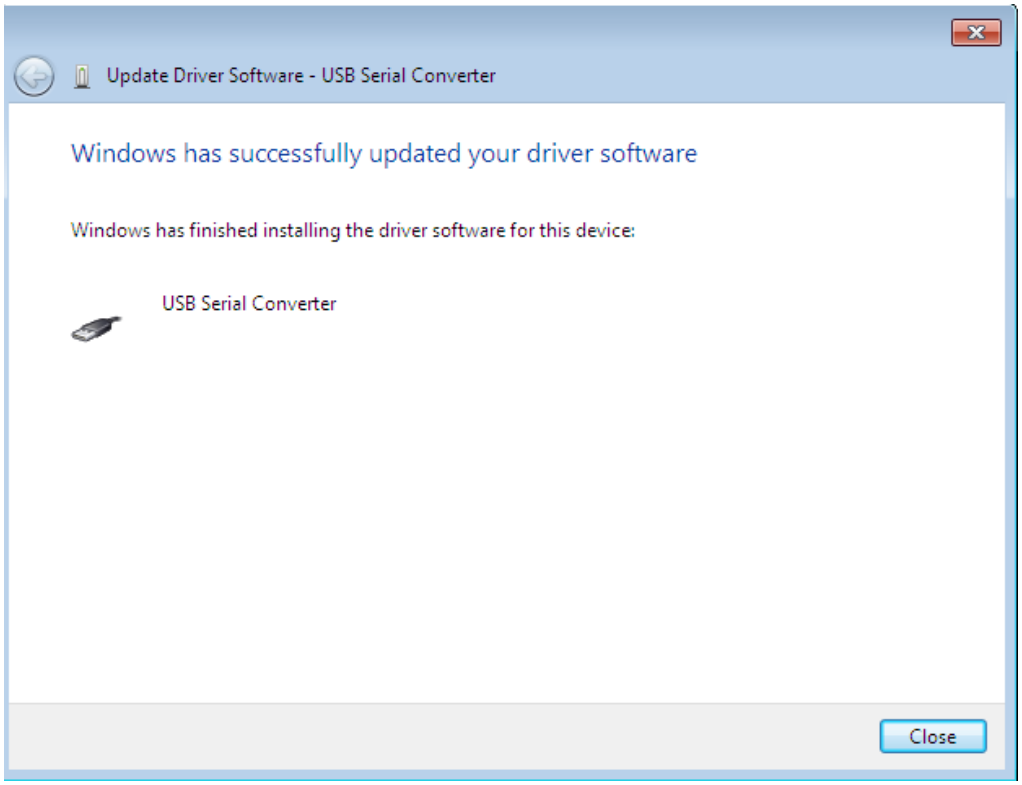



When the installation has finished a completion screen is displayed.




Press Close to close this window and go back to the Device Manager Window.

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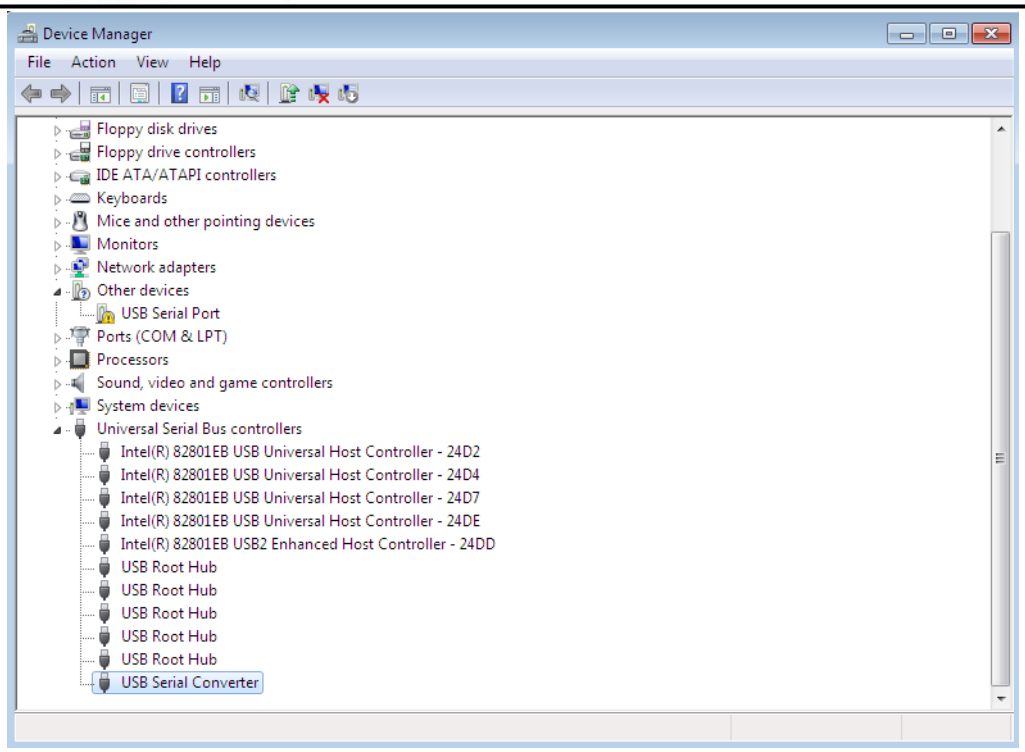
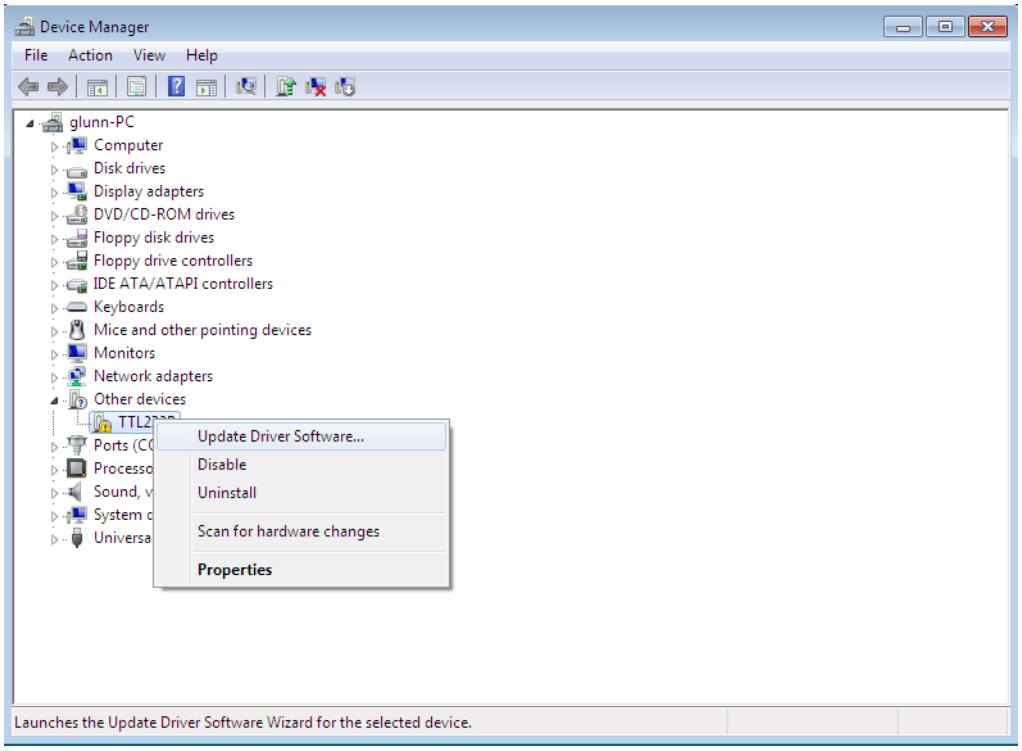



The Device Manager will still show a device under Other Devices but in addition to this there is a new entry under Universal Serial Bus Controllers indicated in the screenshot above as the USB Serial Converter. This indicates the bus layer of the driver is installed. Installing the Virtual Com Port layer 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 then displays the option for an automatic search or a manual search.

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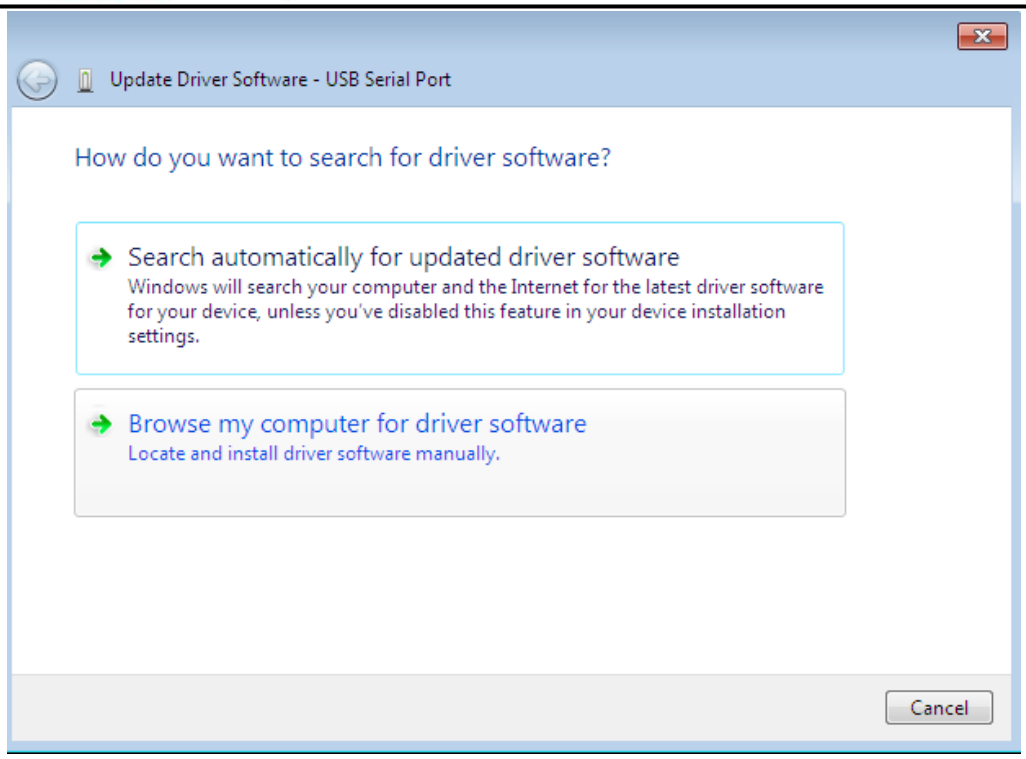
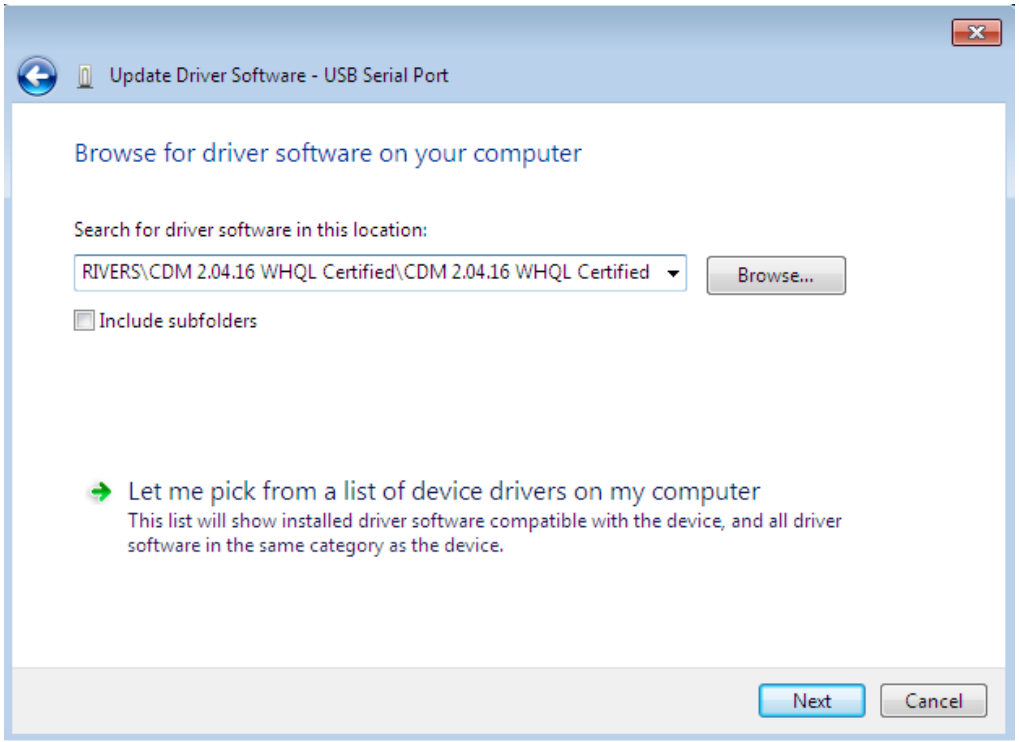



Select the second option to browse manually.




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.

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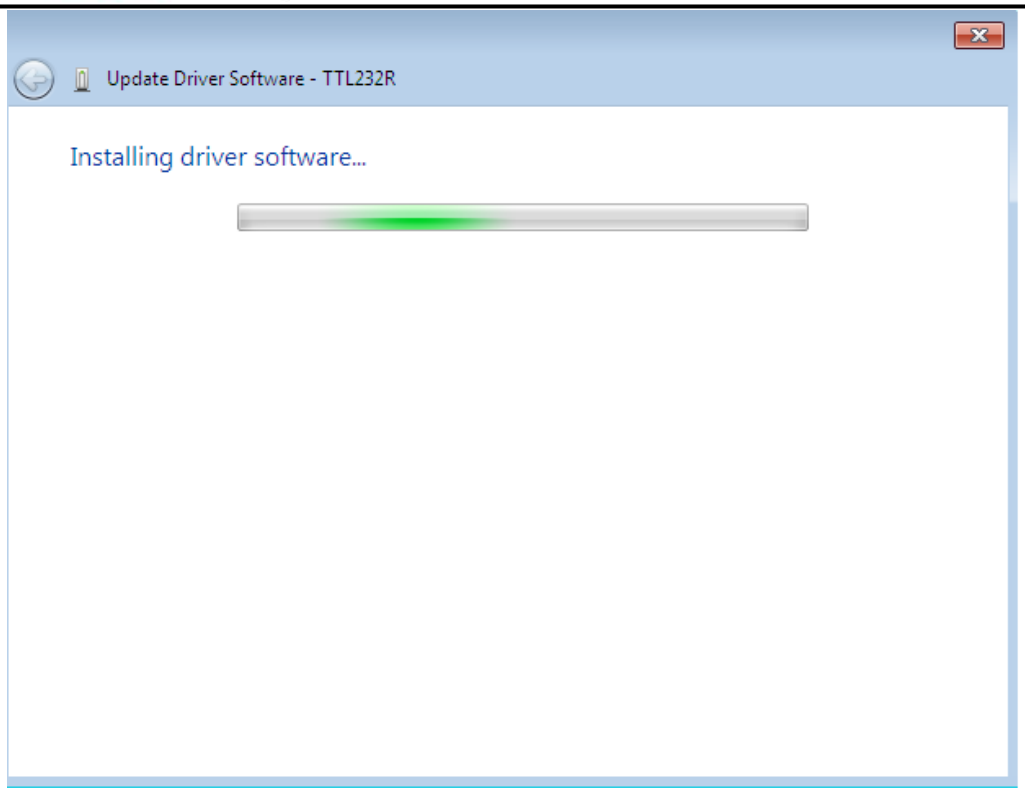
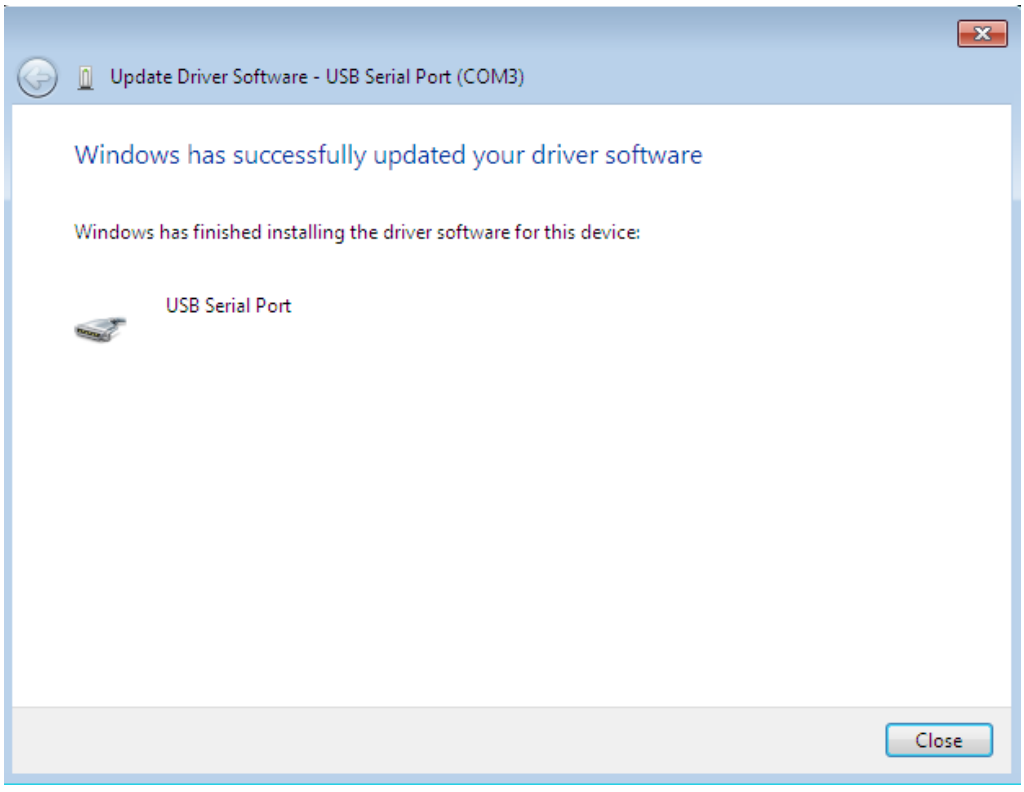



When the installation is finished a completion screen is displayed.




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.

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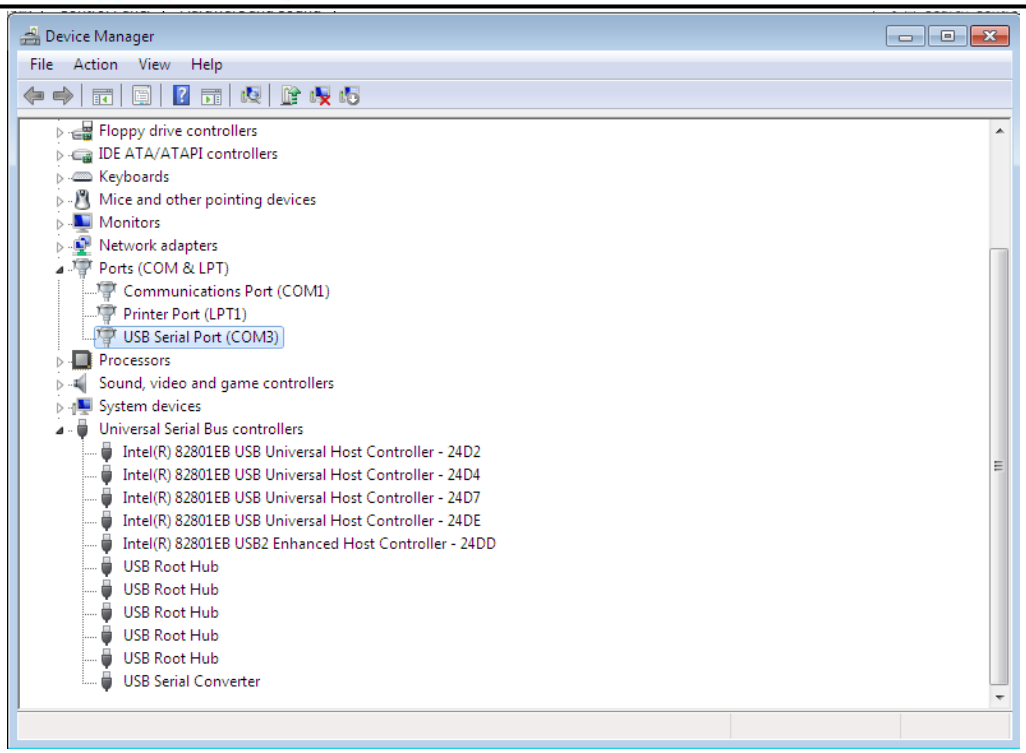


This time the Device Manager does not have a TTL232R entry under Other Devices but does show entries under Universal Serial Bus Controllers and Ports (COM & LPT). The above screen shot displays a correct installation. The device is now ready to use on COM3.

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.

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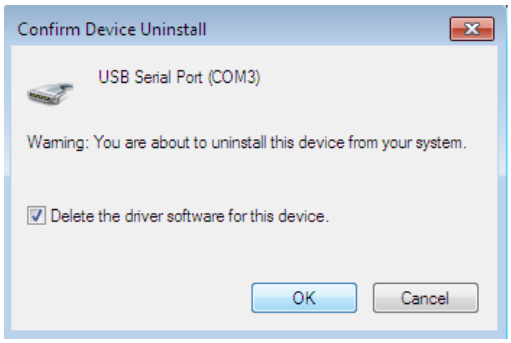
# 4 Uninstalling FTDI Devices

With the release of Microsoft Windows 7, the FTDI uninstaller has been rendered unusable due to Windows Resource Protection preventing the executable from deleting driver files and associated registry values. Windows 7 will only allow the system itself to modify files and registry values in these locations.

Devices can be removed 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 driver files via a check box to "Delete the driver software for this device" on the uninstall dialog box.



This stage is done twice. Once for the device under Ports(COM & LPT) and once for the device under Universal Serial Bus 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 bus 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.

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# 5 Troubleshooting

## 5.1 Windows 7 cannot find drivers for my 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 USBView 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. Please note that only your own company VID and PID or FTDI's VID (0x0403) and FTDI PID issued for use by the customer should be used in the EEPROM and INF files.

End customers should obtain modified drivers from the OEM of the device, and not necessarily edit the files themselves.

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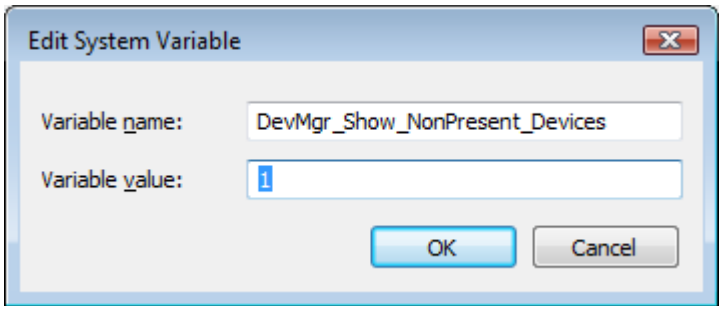
## 5.2 Devices not shown in Device Manager for uninstalling

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 Manger" 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.

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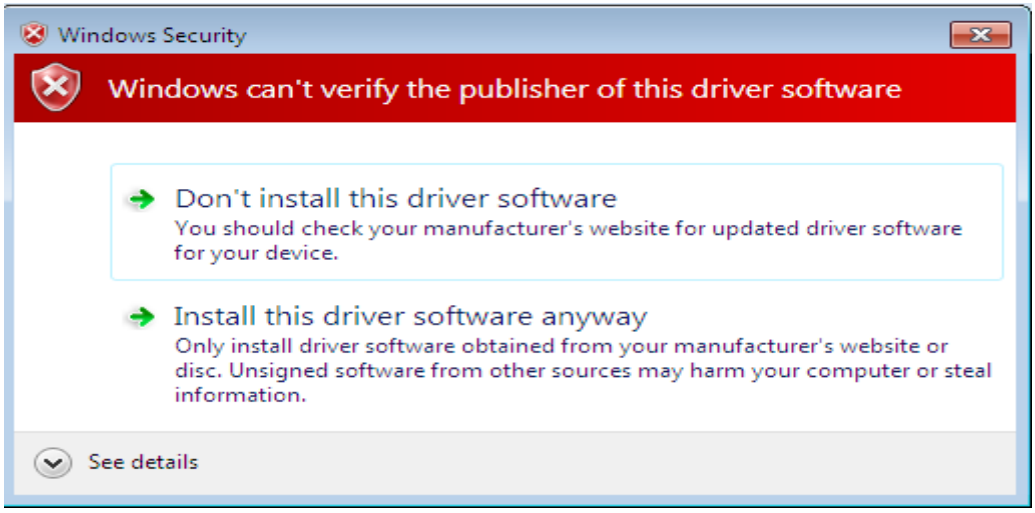
## 5.3 Windows 7 shows a warning that the driver is not certified

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.

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## 5.4 Driver will not install on Windows 7 x64

Windows 7 x64 OS will only allow certified drivers to be installed. The certified driver supplied by FTDI will work with VID 0403 and PID 6001 for FT232 and FT245 devices. It will also work with VID 0403 and PID 6010 for FT2232 devices and VID 0403 and PID 6011 for FT4232.

If you have a product where the manufacture has customised the driver but has not re-certified it, then the driver will not load. You should contact your vendor to determine if they will support Windows 7 x64.

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**Distributor and Sales Representatives**

Please visit the Sales Network page of the FTDI Web site for the contact details of our distributor(s) and sales representative(s) in your country.

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# Appendix A – Abbreviations

| Terms | Description |
|---|---|
| PID | Product ID, a unique product identification issued by the holder of the |
| 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 |

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## Appendix B – Revision History

| | | |
|---|---|---|
| **Version 0.1** | First Draft | 21/08/2009 |
| **Version 1.0** | First Release | 29/10/2009 |

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# Future Technology Devices International Ltd.

# Application Note AN_234

# FTDI Drivers Installation guide for Windows 8

**Document Reference No.: FT_000798**

**Version 1.0**

**Issue Date: 2013-02-20**

The purpose of this application note is to provide users of FTDI chips with a simple procedure for installing FTDI drivers for FTDI devices used under Windows 8.

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# 1 Introduction

The purpose of this application note is to provide users of FTDI chips with a simple procedure for installing FTDI drivers for their devices under Windows 8.

This installation guide is only intended for installing FTDI devices on the following versions of Windows 8.

- Windows 8
- Windows 8 Pro
- Windows 8 Enterprise

**FTDI are not able to support Windows 8 RT as it is effectively a closed system. It will support standard USB device classes, but the option for vendors to add their own drivers and support different device classes is not available.**

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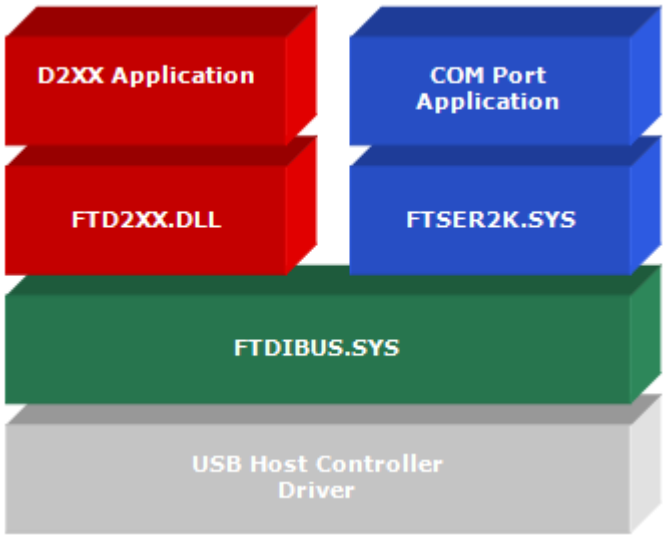
# 2 Installing FTDI Device Drivers

The Windows combined driver model (CDM) may be installed on XP, VISTA, Windows 7 or Windows 8 allowing applications to access FTDI devices through either the D2XX DLL or a COM port without having to change driver type. However, it should be noted that an application can only communicate through one of these interfaces at a time and cannot send commands to the D2XX DLL and the associated COM port at the same time.

The CDM driver comes in two parts as shown in the block diagram below. The first part is the bus layer (FTDIBUS.sys) that provides D2XX style functionality and is always installed. The second part is the serial COM port layer (FTSER2k.sys) and the CDM driver will determine whether a COM port should be exposed by reading the EEPROM of FT232R, FT245R, FT2232D, FT2232H, FT4232H, FT232H and the FT-X series devices. In the case of FT232BM, FT245BM, devices, the CDM driver will default to always installing both the bus and COM port parts.

This com port installation can be disabled and EEPROM settings ignored by changing the driver INF files as detailed in FTDI Application Note AN-107, Advanced Driver Options. Please note that modifying the INF files of a Microsoft HCK certified driver will invalidate the Windows certification.

The FTDI driver download page is available here http://www.ftdichip.com/FTDrivers.htm




**Windows CDM Driver Architecture**

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# 3 Installing CDM Drivers

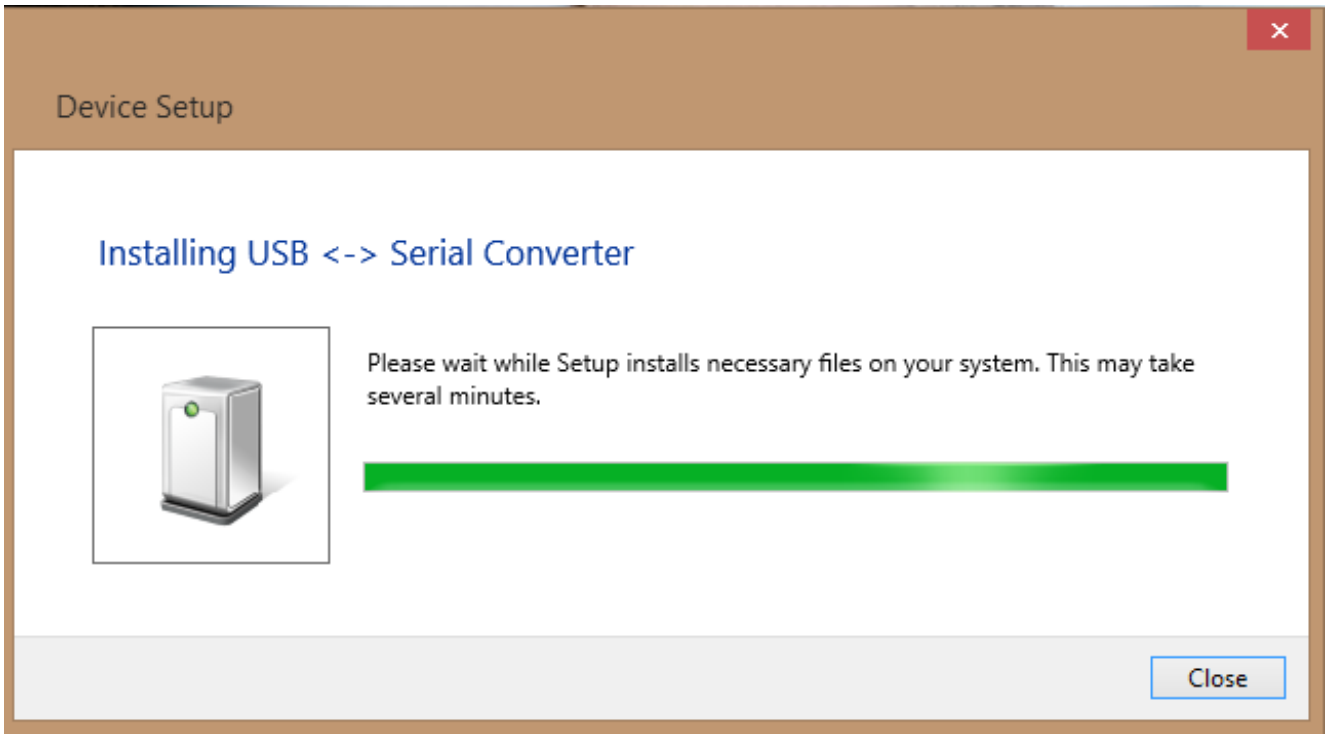
To install CDM drivers for an FTDI device under Windows 8, follow the instructions below:

Connect the device to a spare USB port on your PC.

## 3.1 Windows Update

If there is an available internet connection, Windows 8 will silently connect to the Windows Update website and install any suitable driver it finds for the device.

This screenshot shows the automatic driver installation taking place.

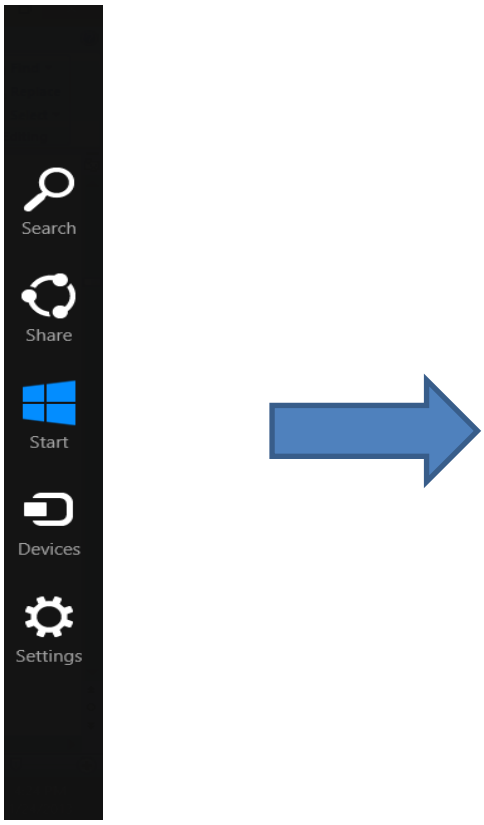


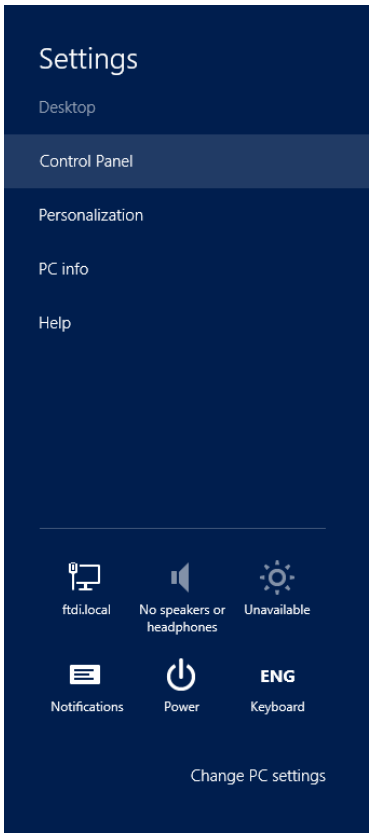
## 3.2 Manual Installation

If no suitable driver is automatically found then the following procedure should be followed.

Firstly download the latest FTDI windows drivers from http://www.ftdichip.com/FTDrivers.htm and save them to a known folder on the PC. The desktop can be used so that the driver folder can be easily located.

To locate the device manager on windows 8 - move the mouse to the bottom right hand corner of the screen. When the following window pops up, select the Settings button.

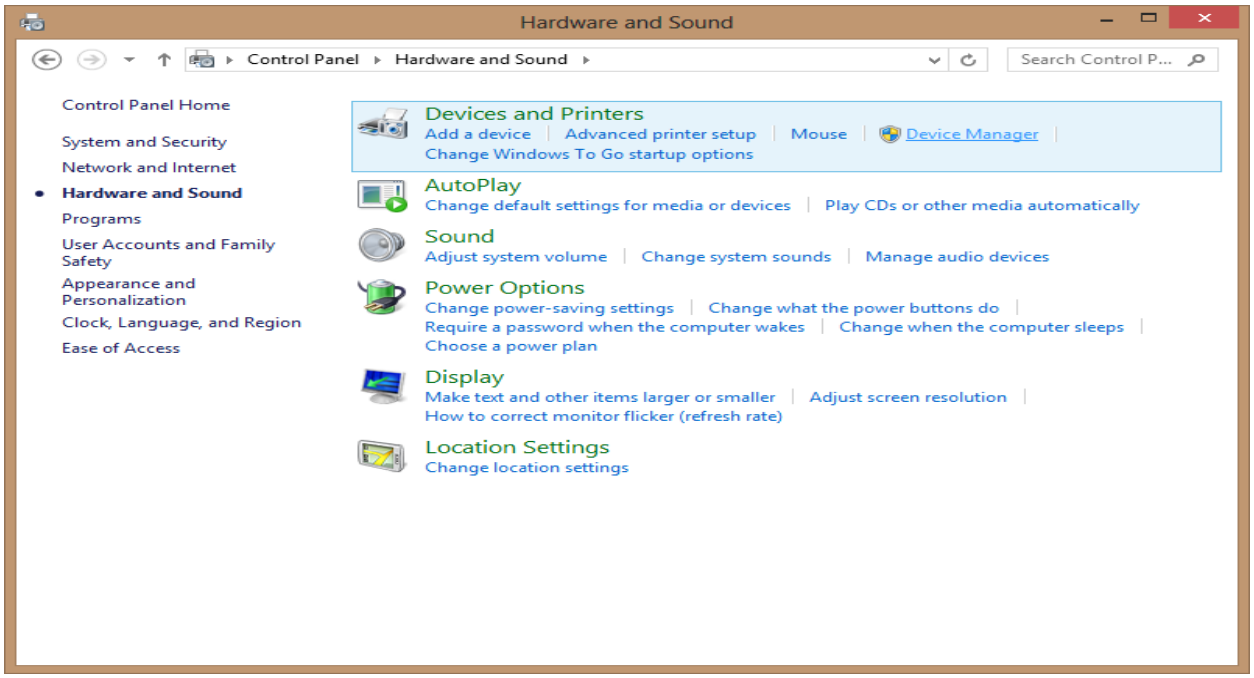


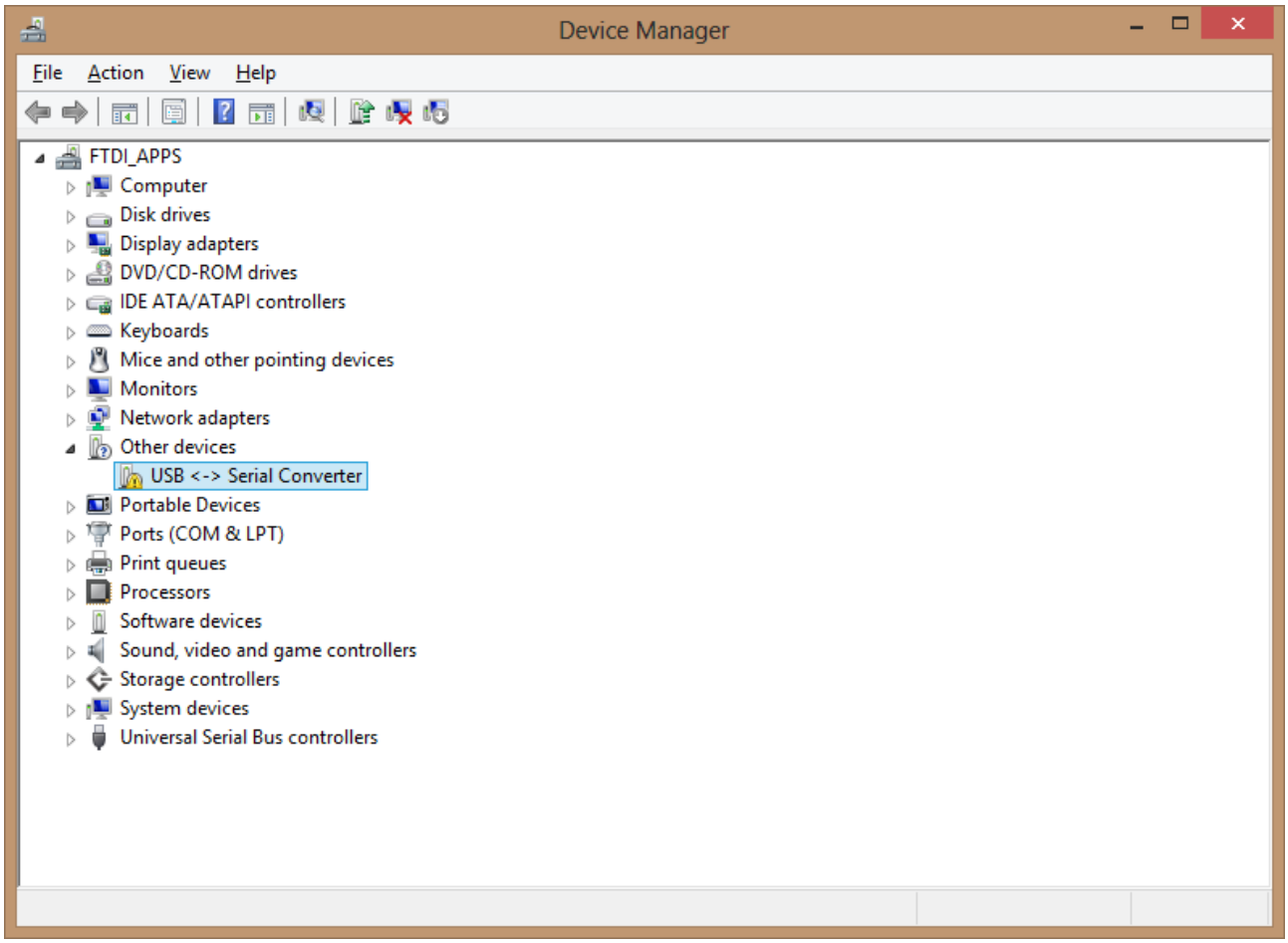

Select "Control Panel".

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 USB <-> Serial Converter device.

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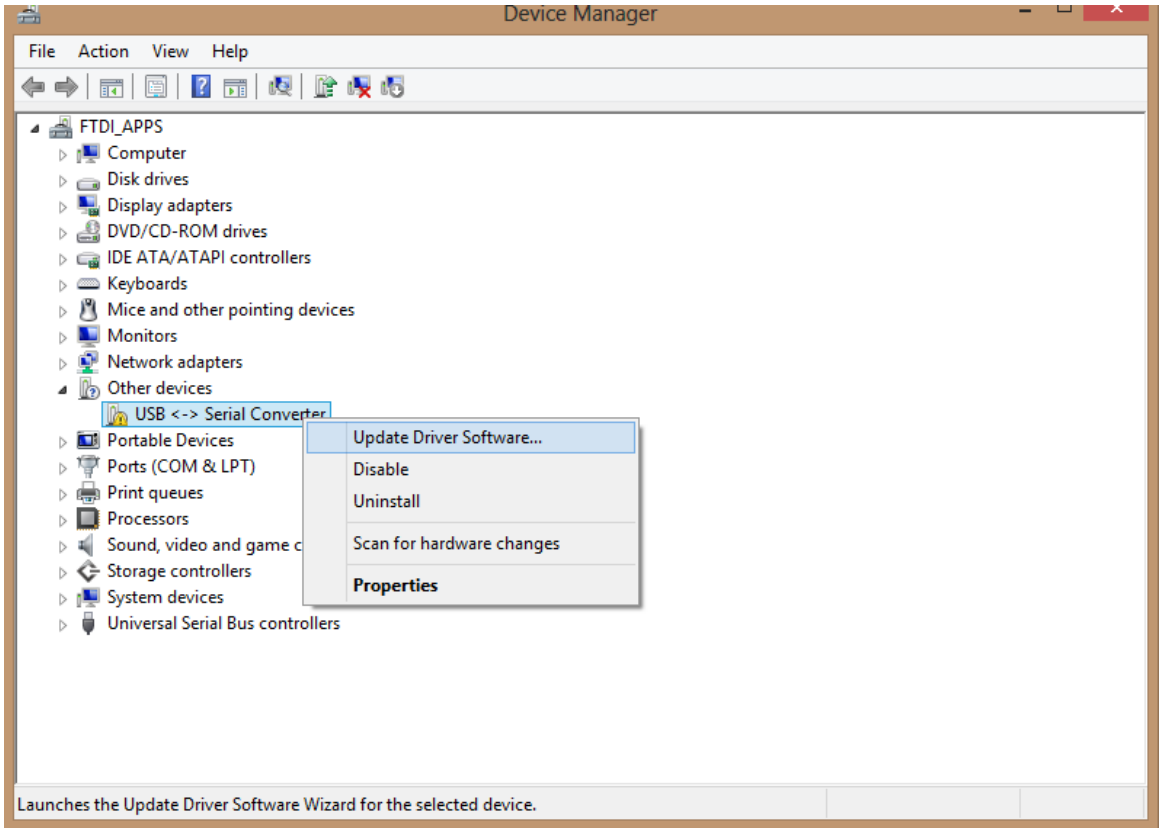
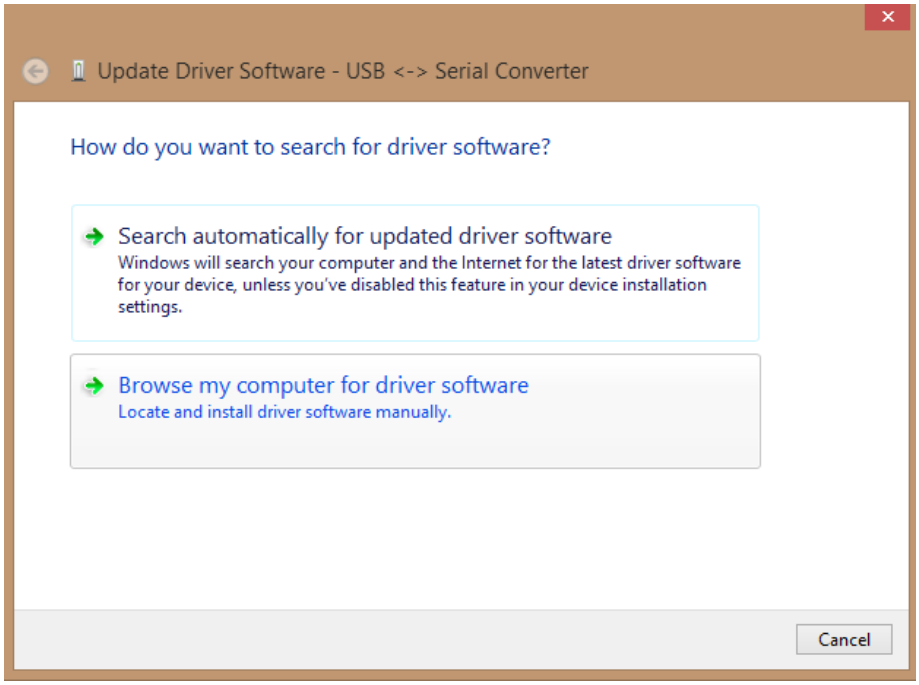
Right click on the other device (USB <-> Serial Converter in this example) to bring up a menu as shown below.




From the displayed menu select "Update Driver Software…"

This then displays the option for an automatic search or a manual search.

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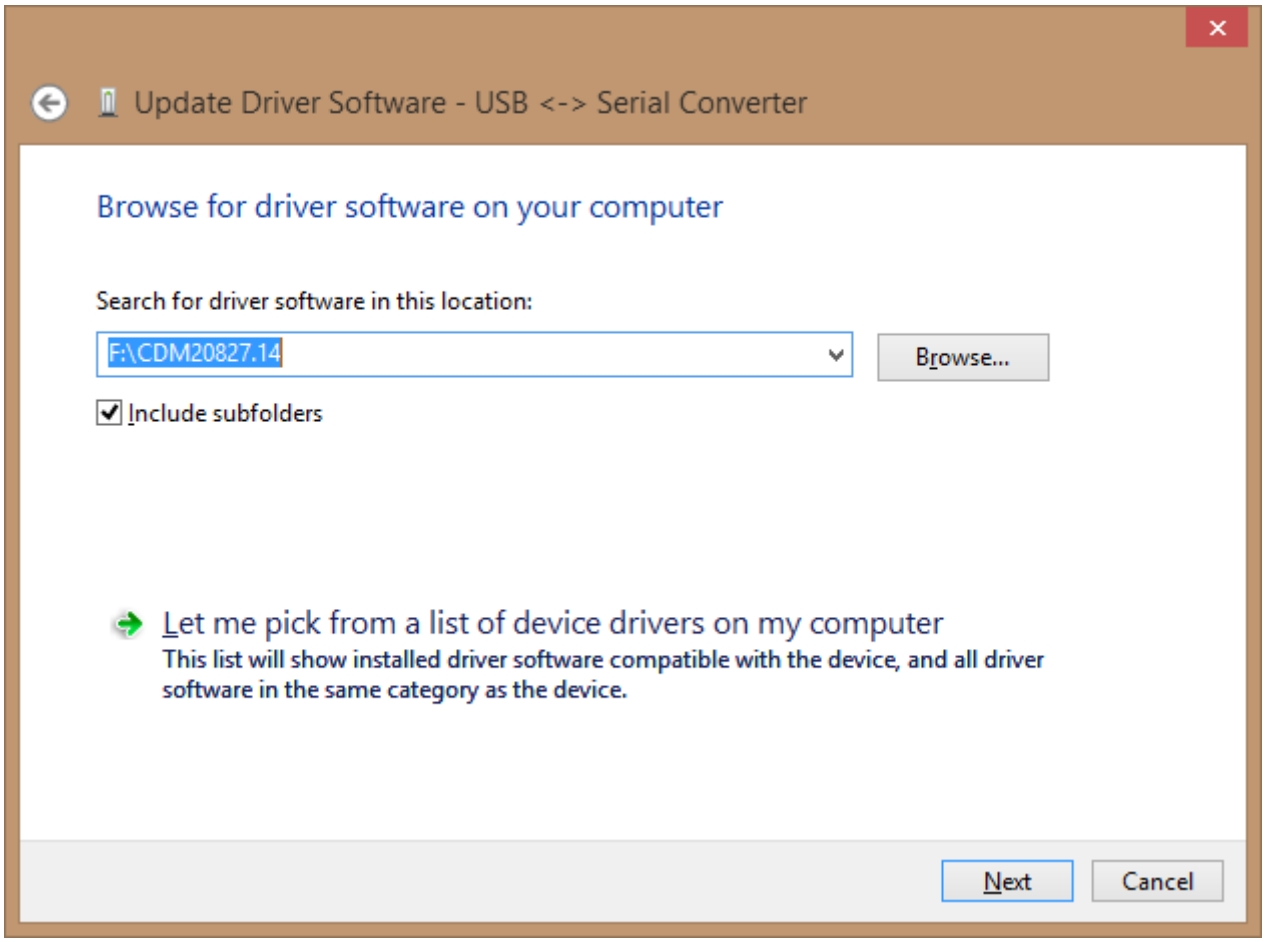
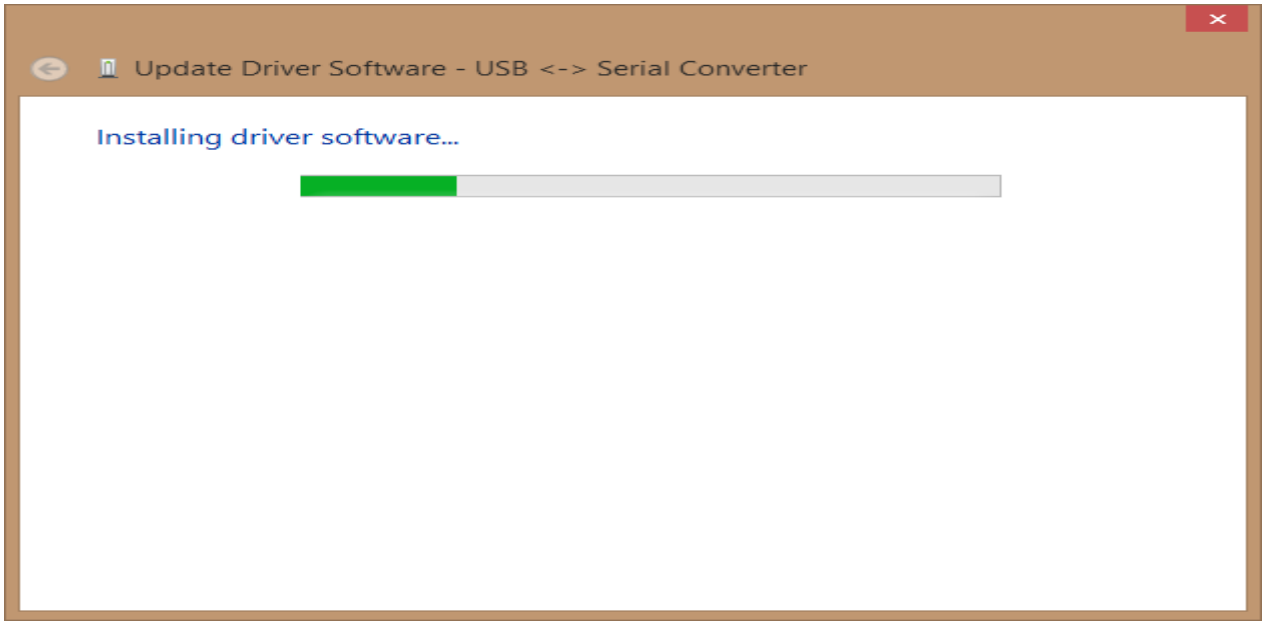
Select the second option to browse manually.




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.

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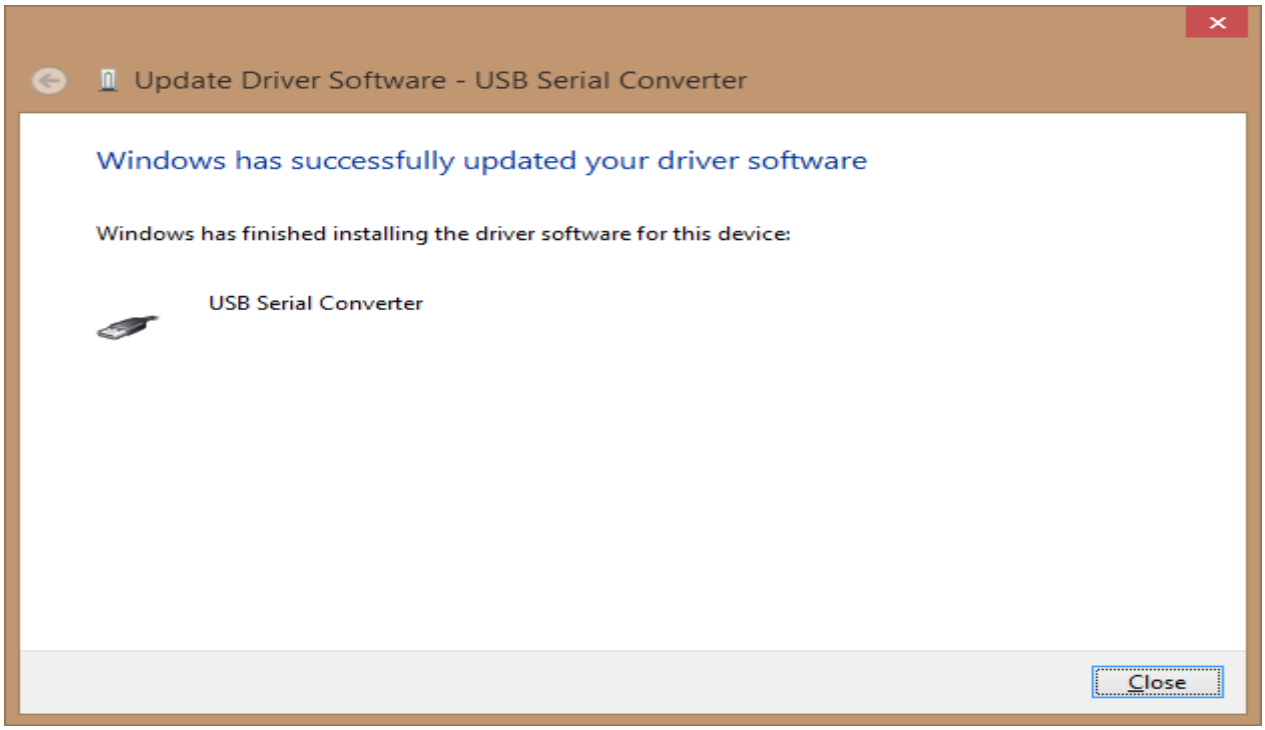
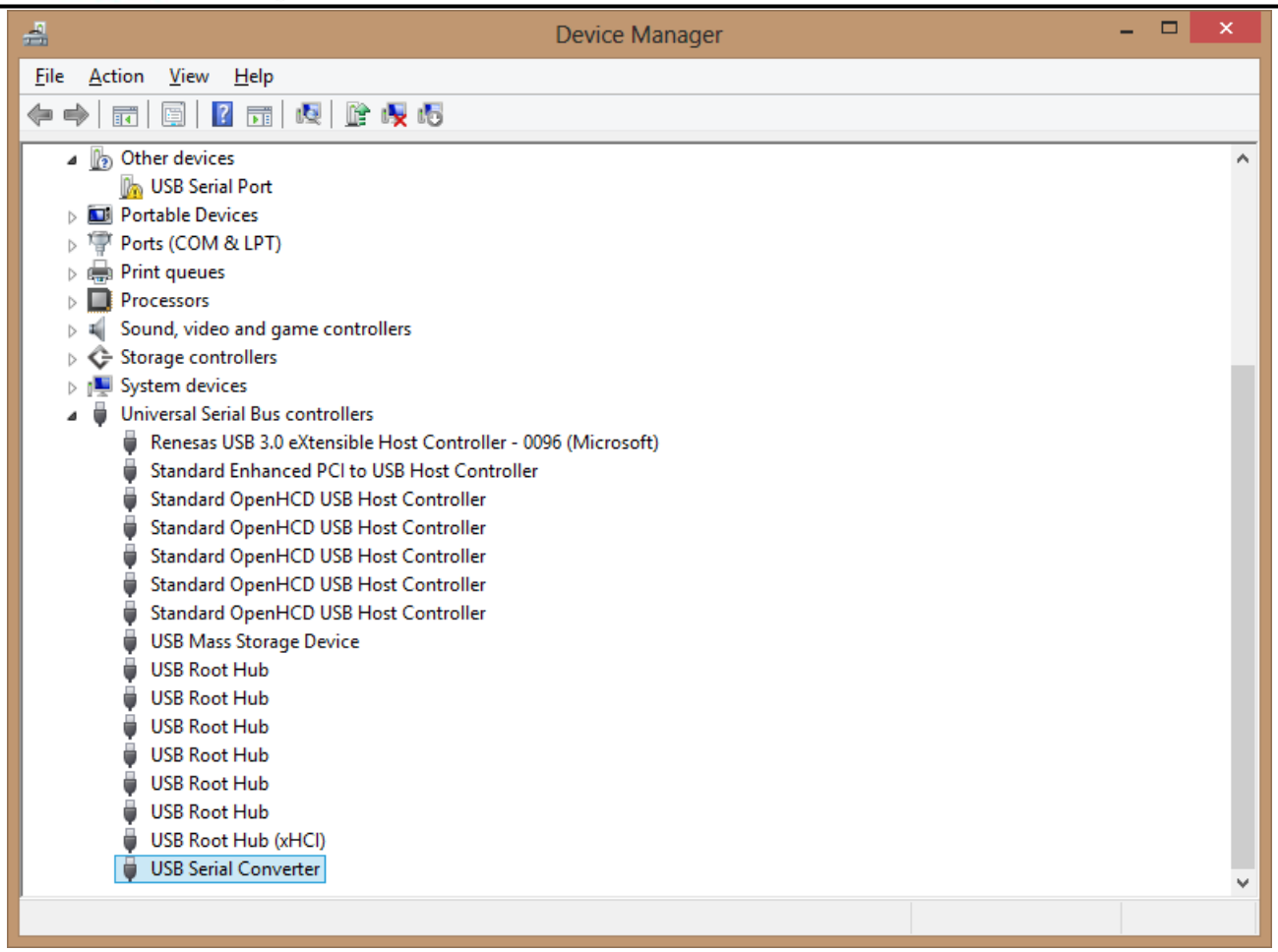
When the installation has finished a completion screen is displayed.




Press Close to close this window and go back to the Device Manager Window.




If the Virtual Com Port option has been selected then the Device Manager will 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 (USB Serial Convertor in this example) to bring up a menu as shown below.

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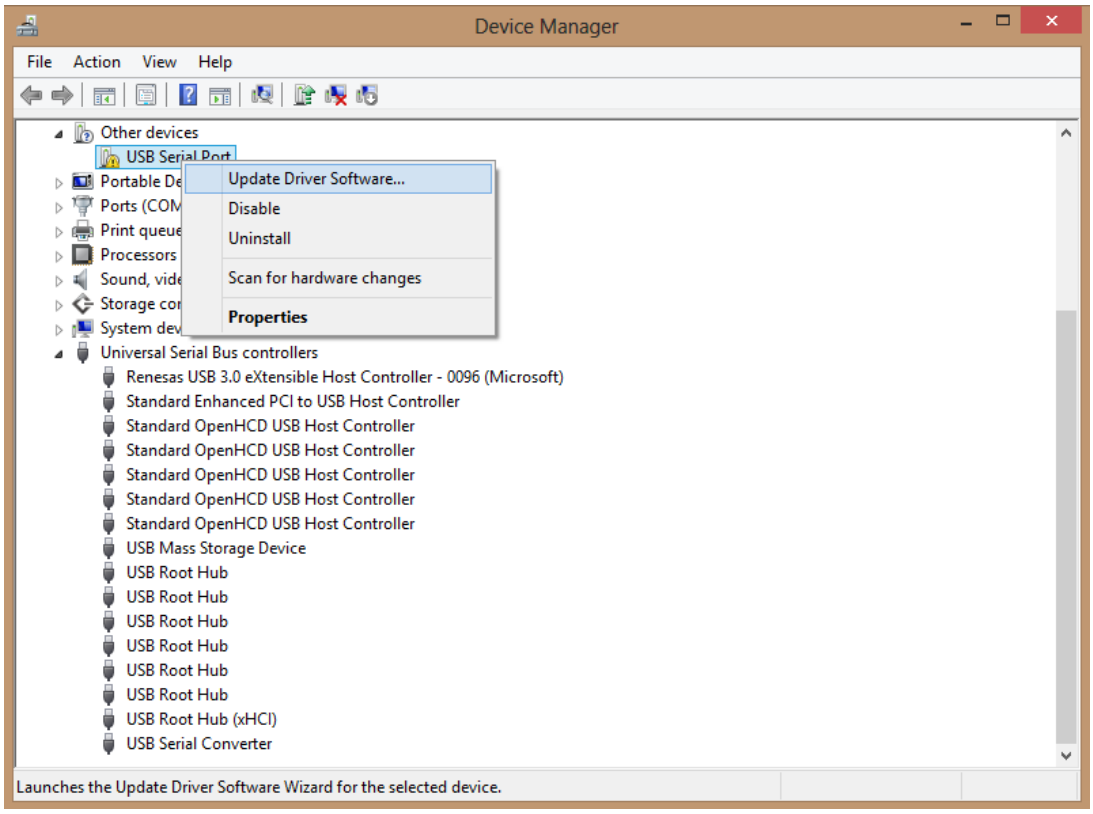
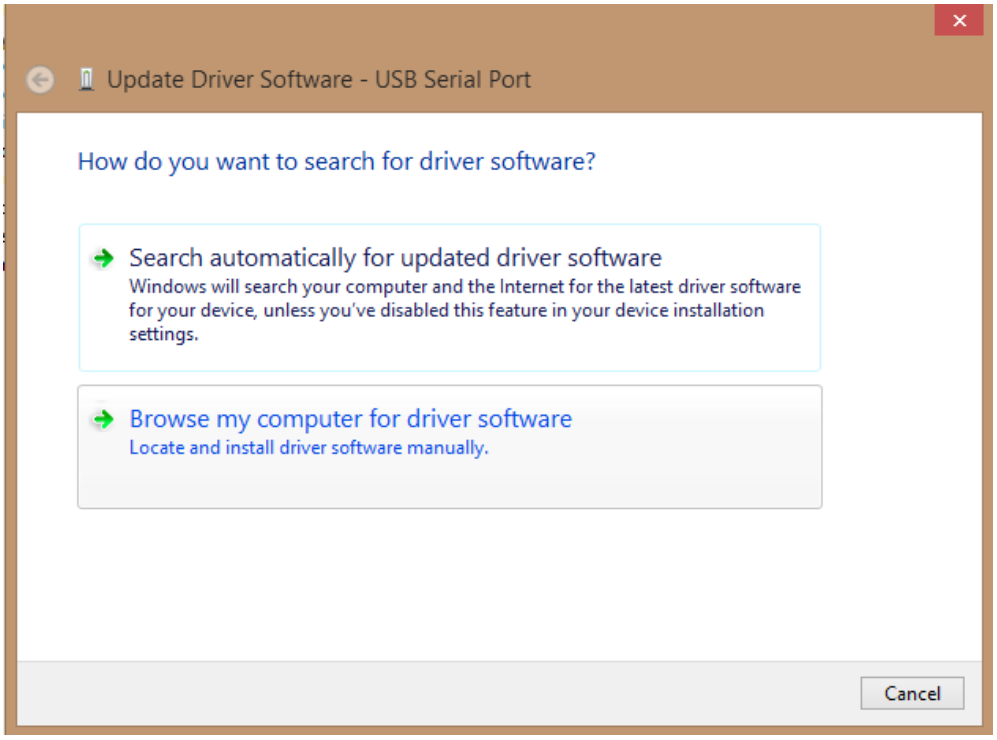



From the displayed menu select "Update Driver Software…"

This then displays the option for an automatic search or a manual search.

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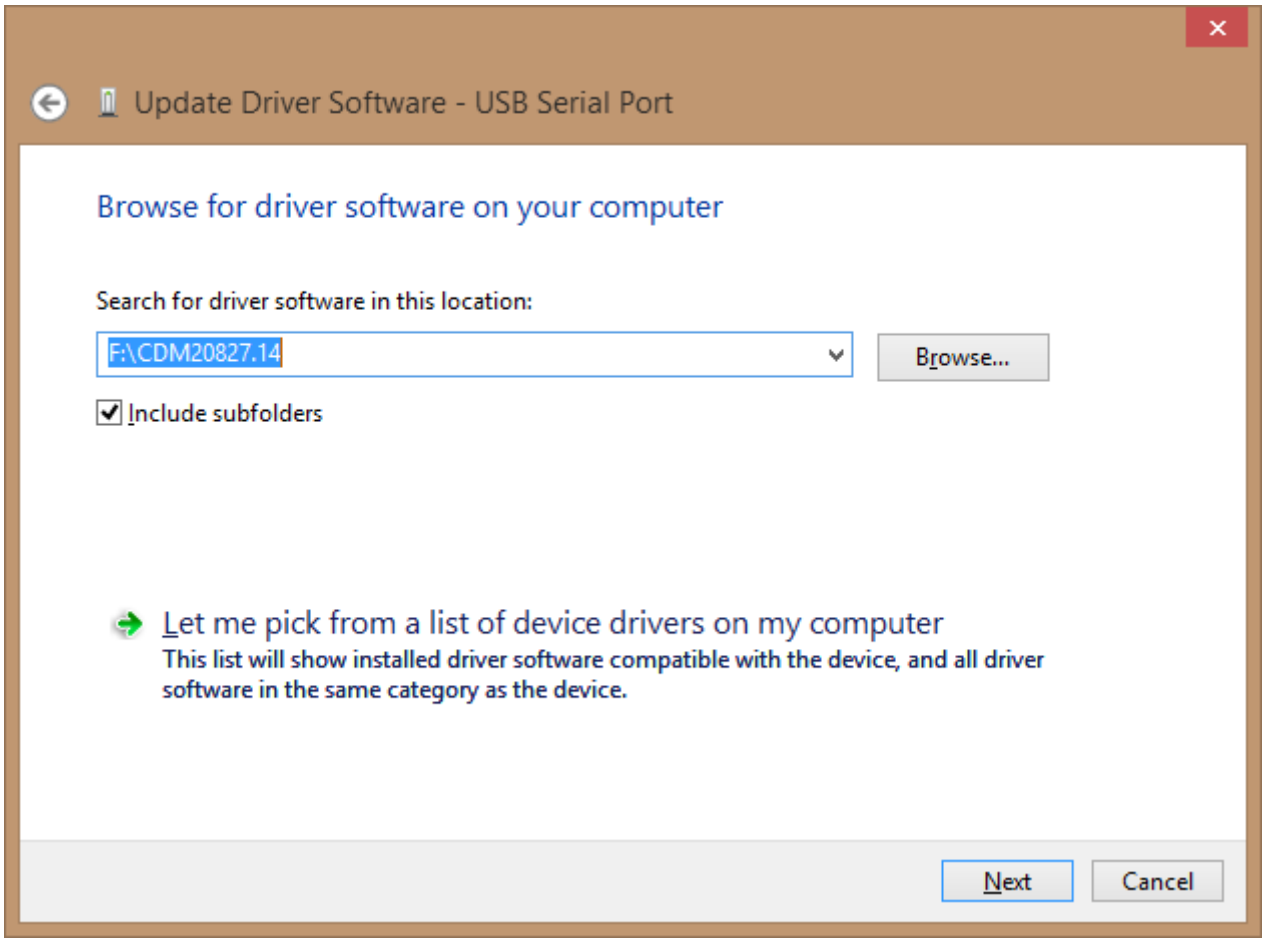
Select the second option to browse manually.




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.

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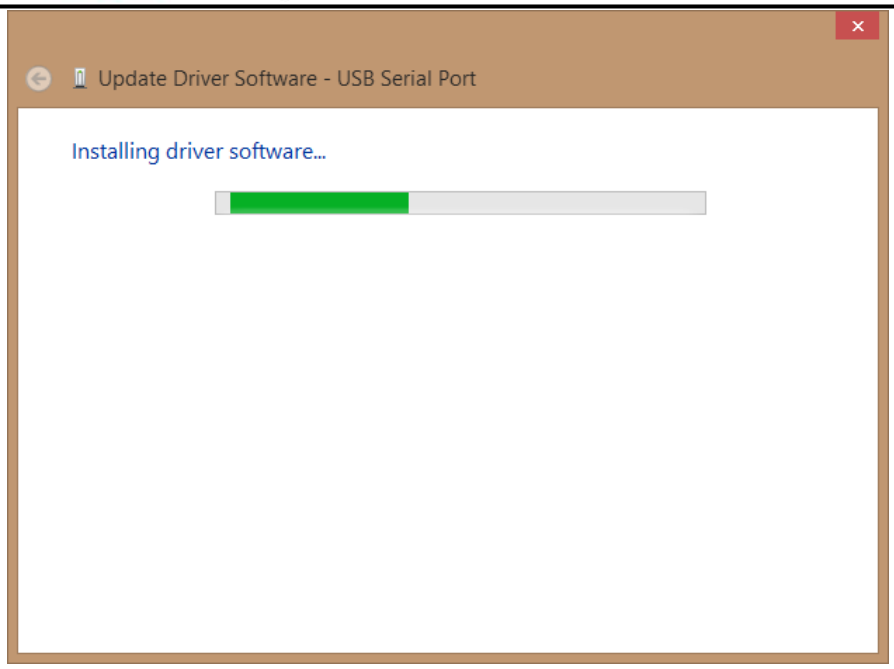
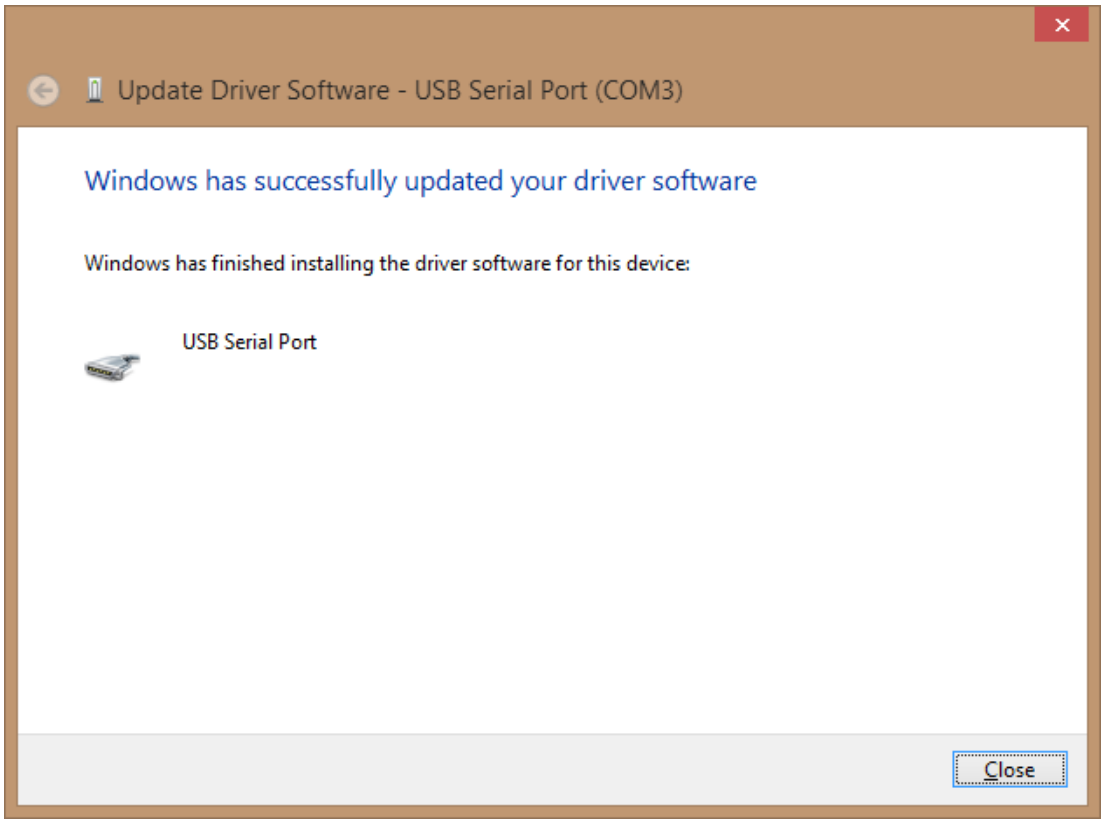



When the installation is finished a completion screen is displayed.




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.

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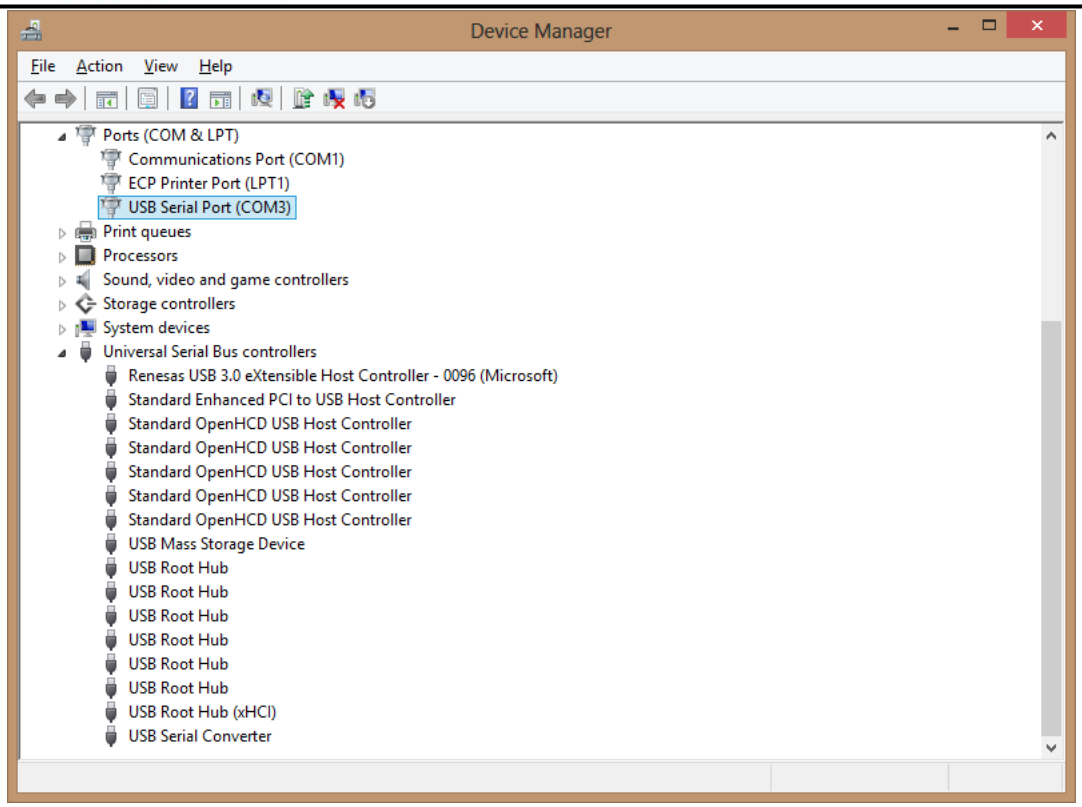
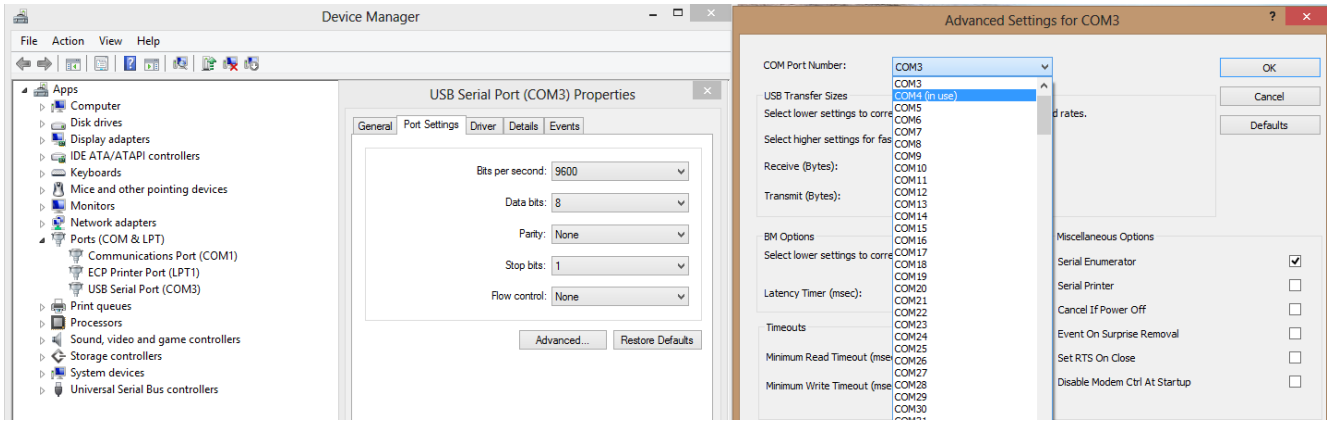



This time the Device Manager does not have a USB <-> SERIAL CONVERTER entry under Other Devices but does show entries under Universal Serial Bus Controllers and Ports (COM & LPT). The above screen shot displays a correct installation. The device is now ready to use on COM3.

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. The COM port can be reassigned to another free port in advance properties.

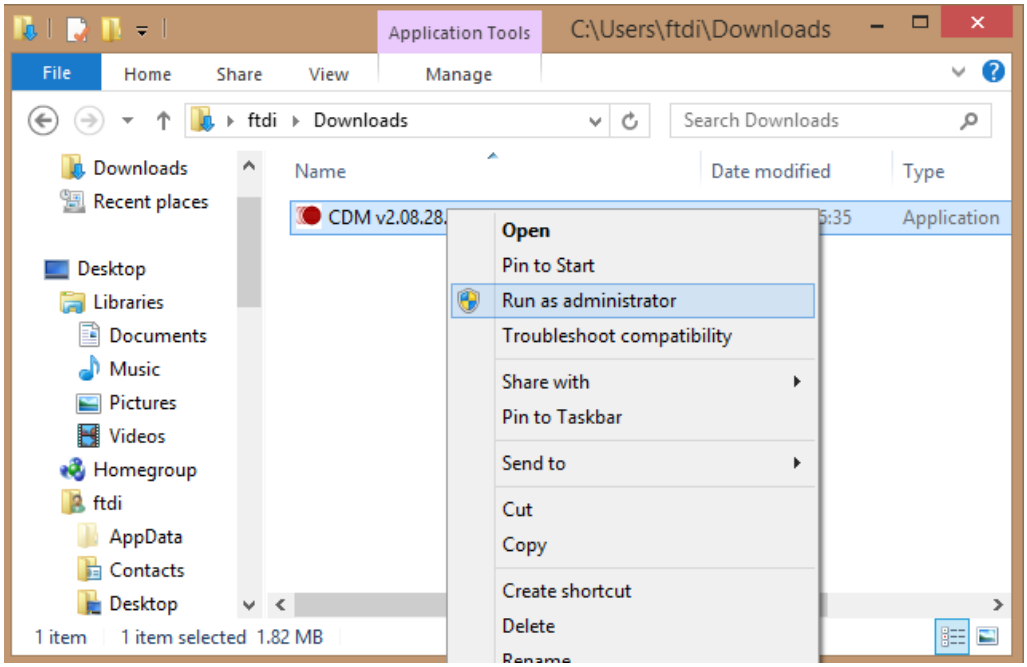


## 3.3 Pre-Installation using the FTDI setup executable

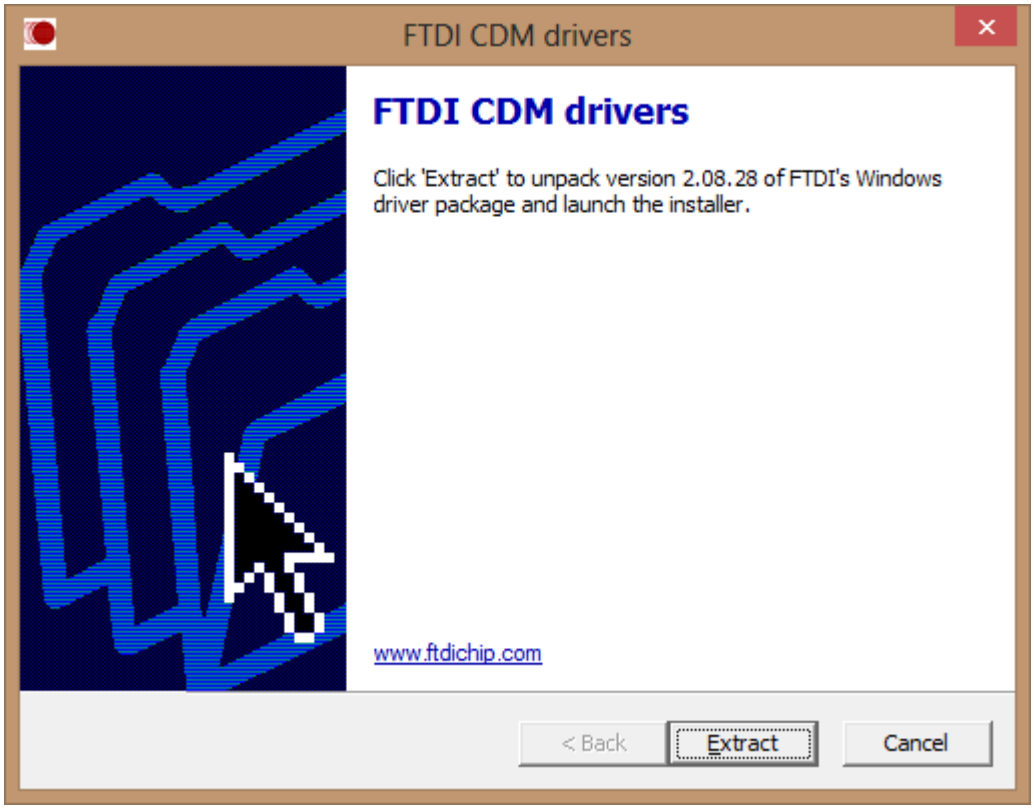
The Windows 8 CDM driver is also available as a setup.exe from the **FTDI Web Site**.

The executable installs the default FTDI driver prior to the FTDI device being plugged into the PC.

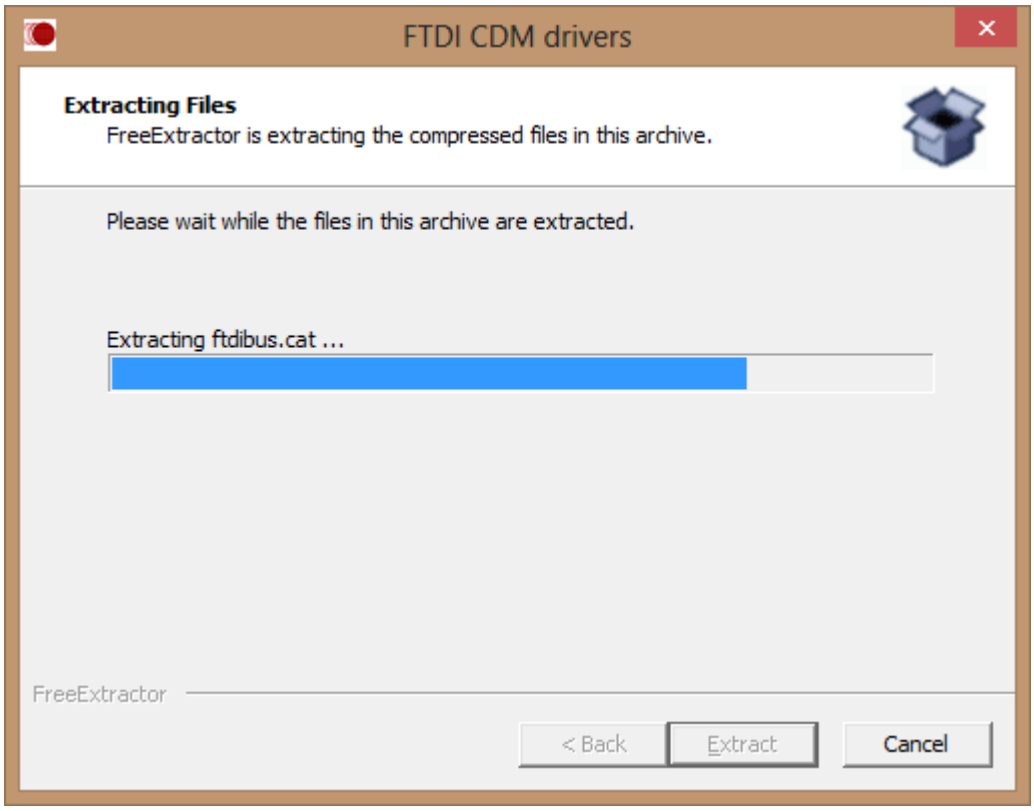
Right click and select Run as administrator



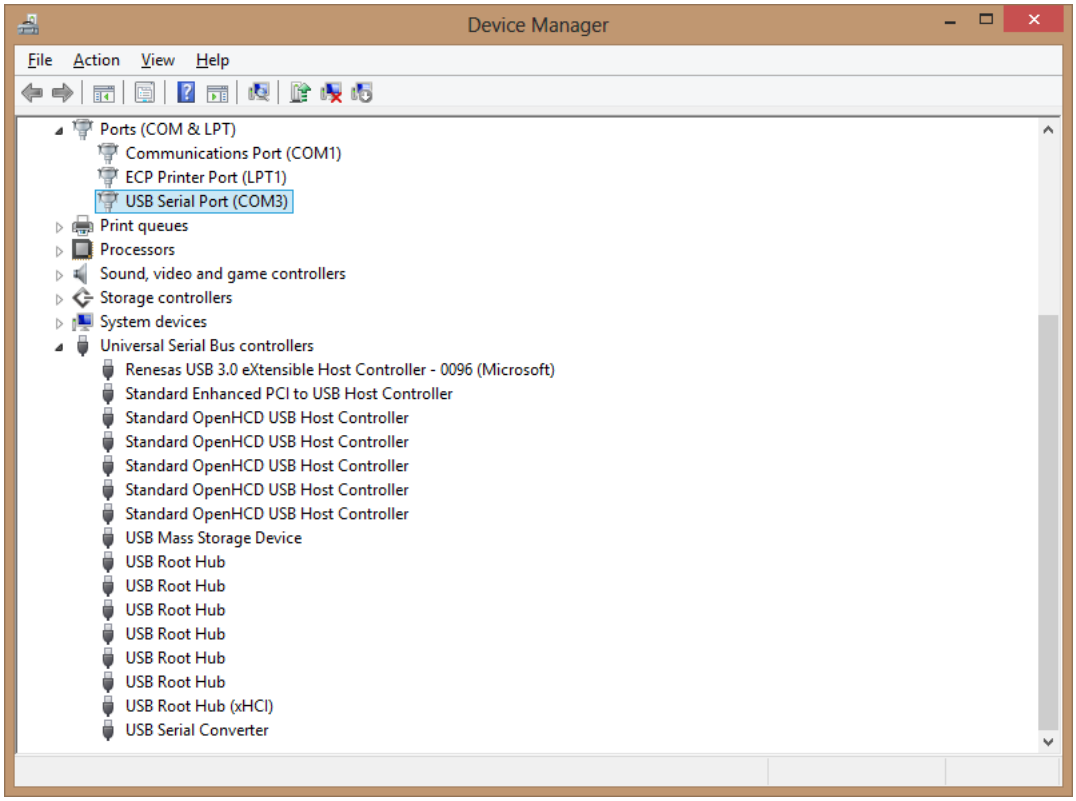

Press the Extract button



The driver will now be automatically installed.




Whenever a FTDI device is plugged into the PC, both VCP and D2XX drivers will be installed and listed in device manager.

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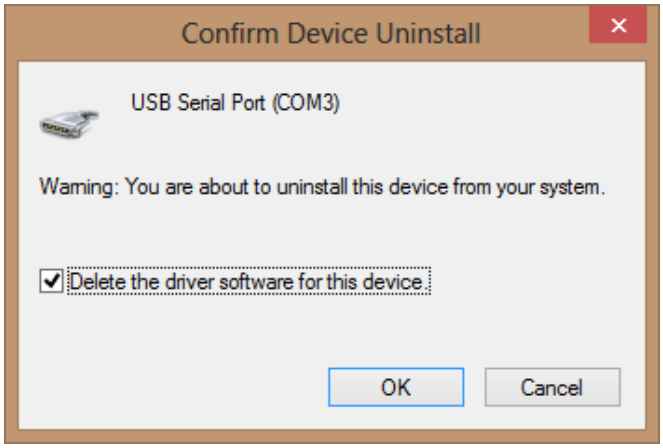
# 4 Uninstalling FTDI Devices

The FTDI utility CDM Uninstaller can be used to remove FTDI drivers from the windows 8 PC. The utility is available on the FTDI website.

Alternately devices can be removed 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 8 provides an automatic method to delete driver files via a check box to "Delete the driver software for this device" on the uninstall dialog box.



This stage is done twice. Once for the device under Ports (COM & LPT) and once for the device under Universal Serial Bus Controllers.

# 5 Troubleshooting

## 5.1 Windows 8 cannot find drivers for my 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 USBView 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. Please note that only your own company VID and PID or FTDI's VID (0x0403) and FTDI PID issued for use by the customer should be used in the EEPROM and INF files.

End customers should obtain modified drivers from the OEM of the device, and not necessarily edit the files themselves.

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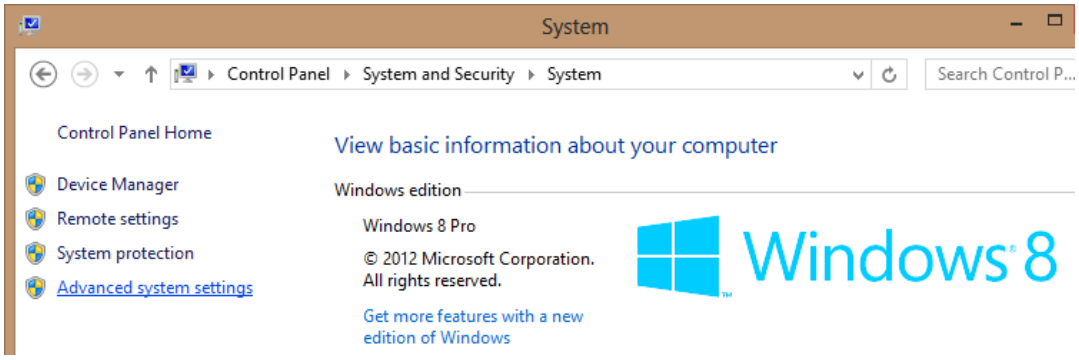
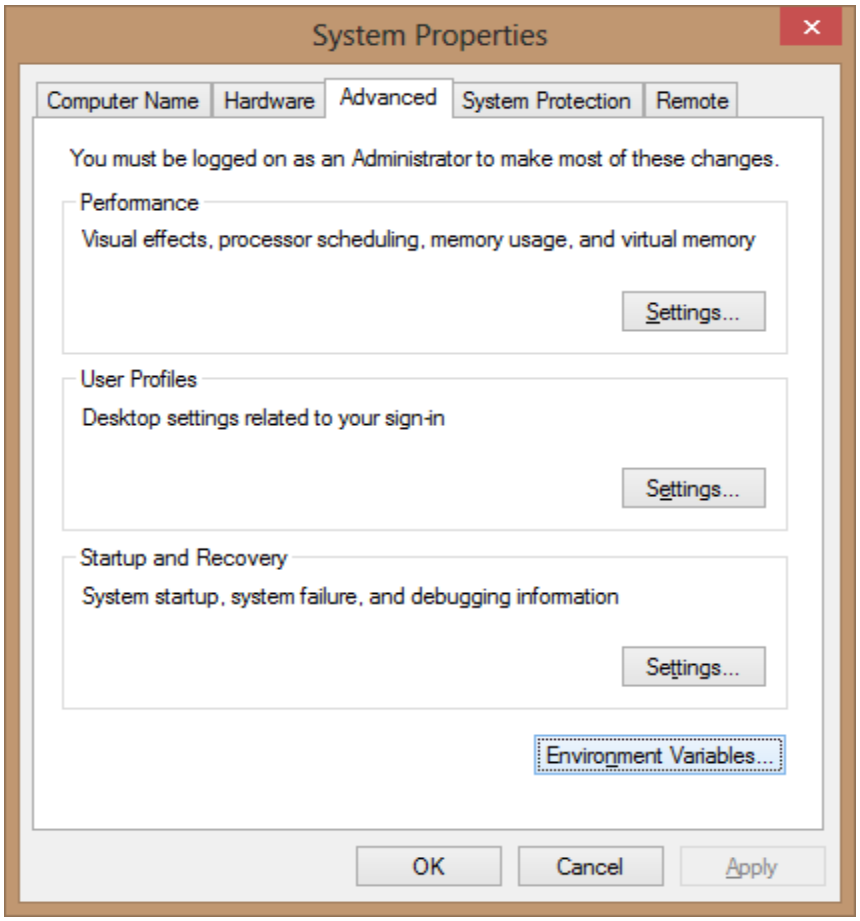
## 5.2 Devices not shown in Device Manager for uninstalling

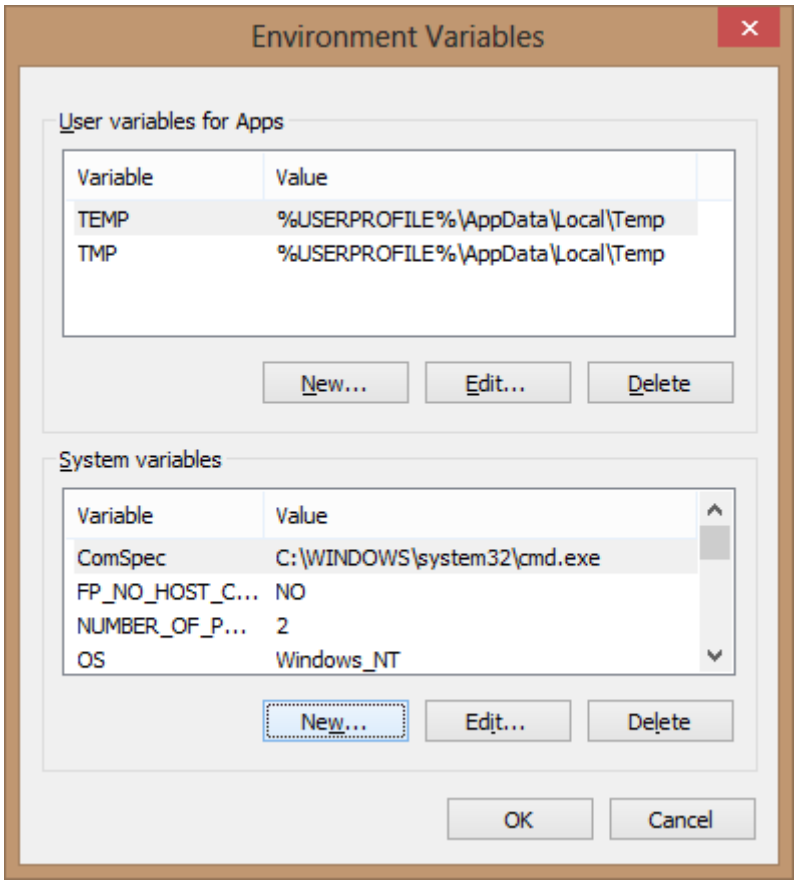
Devices that have been installed on a system but are not currently available are referred to as "phantom devices". These devices are not usually displayed in the device manager, but can be made to be displayed as though they are attached. This allows device properties to be changed or devices to be uninstalled 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".

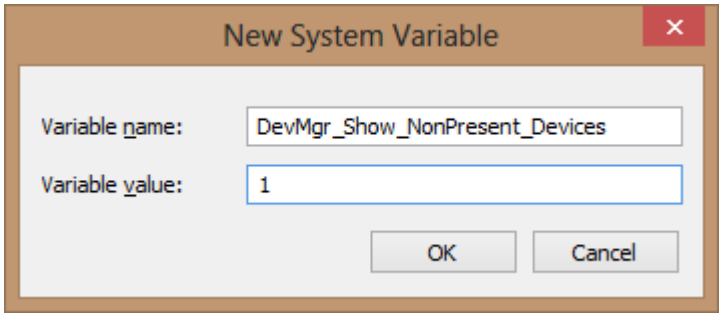



In the System Variables section (**NOT THE USER VARIABLES SECTION**)




, 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 Manger" in Windows 8) and select "View > Show Hidden Devices". Device Manager will then show all hidden and phantom devices available on that PC as shaded.

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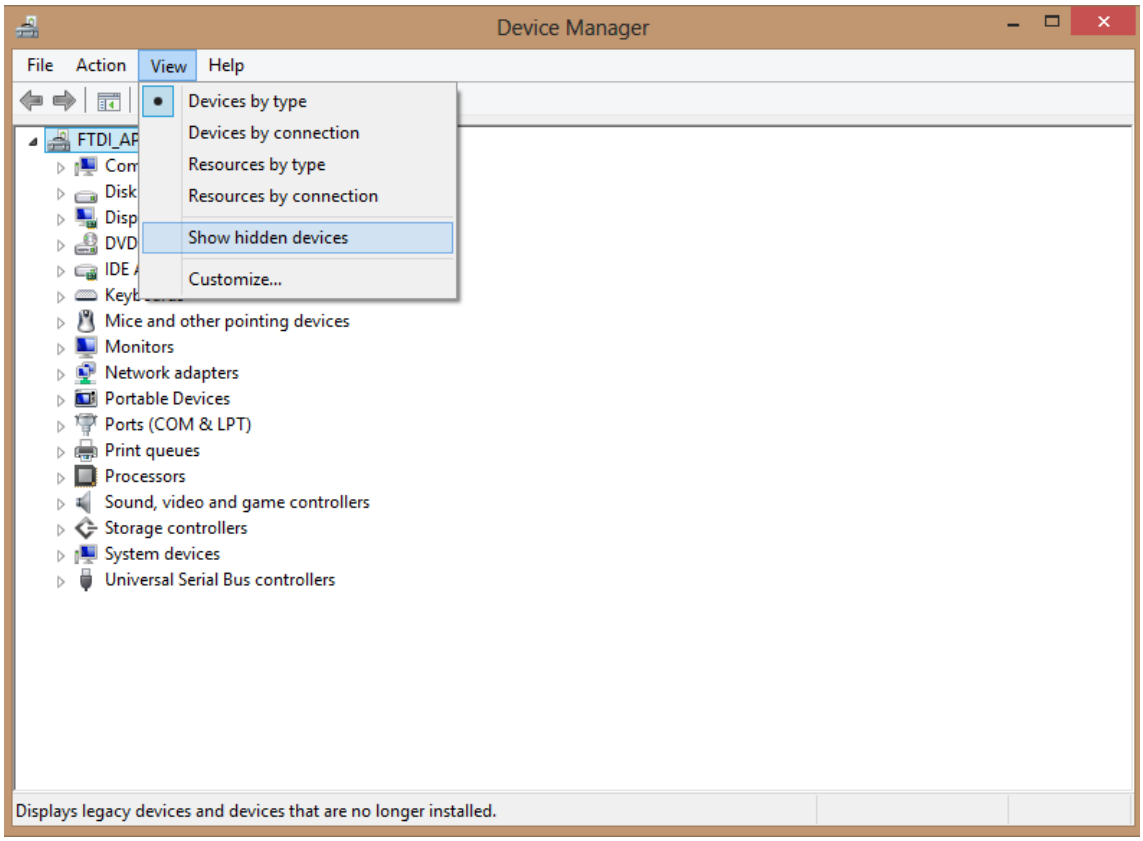
Device Manager
File
Action
View
Help
Devices by type
Devices by connection
Resources by type
Resources by connection
Show hidden devices
Customize...
Mice and other pointing devices
Monitors
Network adapters
Portable Devices
Ports (COM & LPT)
Print queues
Processors
Sound, video and game controllers
Storage controllers
System devices
Universal Serial Bus controllers
Displays legacy devices and devices that are no longer installed.

## 5.3 Windows 8 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.

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## 5.4 Driver will not install on Windows 8 x64

Windows 8 x64 OS will only allow certified drivers to be installed. The certified driver supplied by FTDI will work with VID 0403 and the following PID's for their respective devices:

PID 6001 for FT232 and FT245

PID 6010 for FT2232

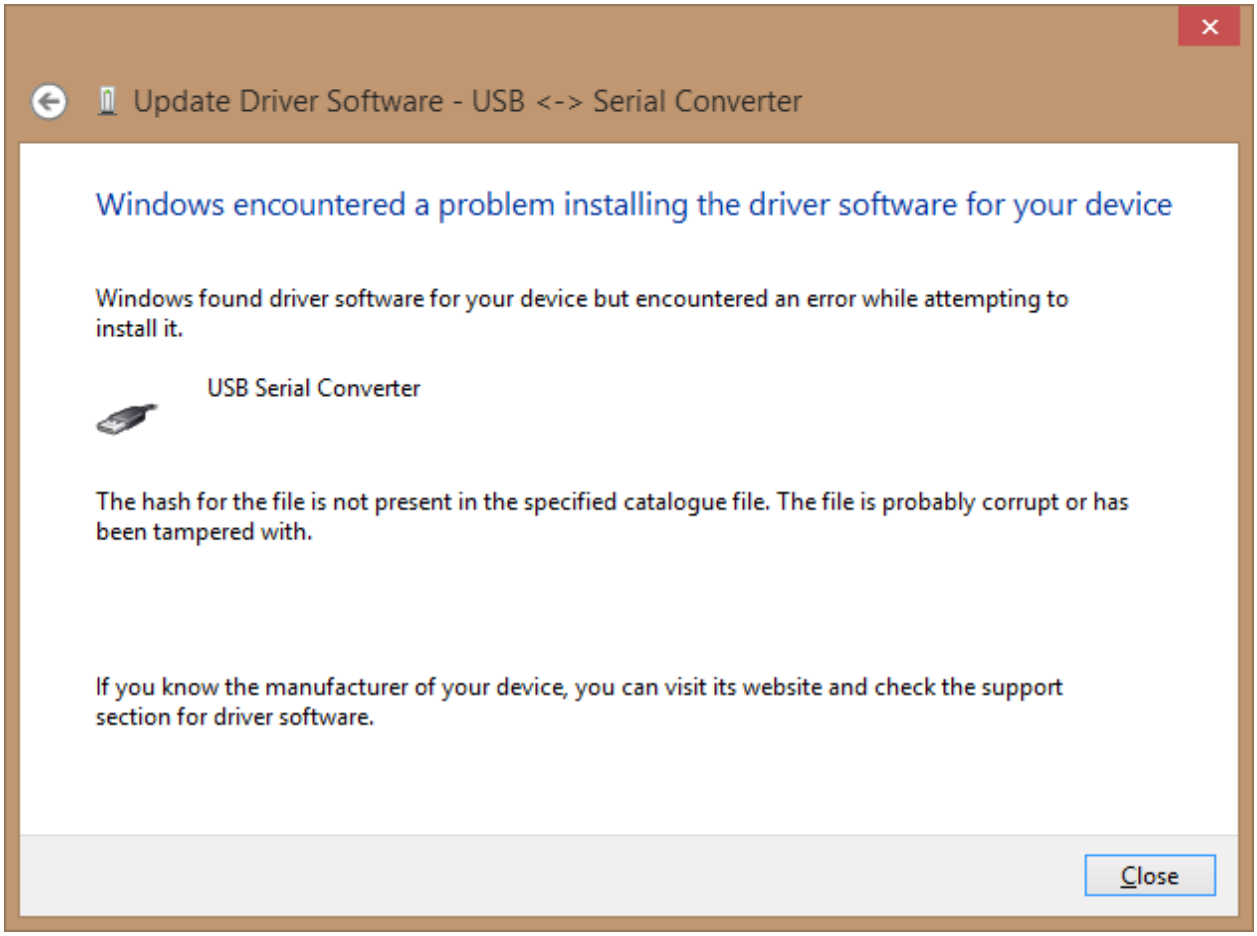
PID 6011 for FT4232

PID 6014 for FT232H

PID 6015 for all FT-X series

If you have a product where the manufacture has customised the driver but has not signed / re-certified it, then the driver will not load. You should contact your vendor to determine if they will support Windows 8 x64.

This is the error that is reported when the driver installation fails due to the driver not being certified.

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## Appendix A – Abbreviations

| Terms | Description |
|---|---|
| PID | Product ID, a unique product identification issued by the holder of the |
| VID | Vendor ID, a unique vendor identification number issued by the USB |
| USB | USB Universal Serial Bus |
| WHCK | Windows Hardware Certification Kit |
| OS | Operating System |

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## Appendix B – Revision History

| | |
|---|---|
| Document Title: | FTDI Drivers Installation guide for Windows 8 |
| Document Reference No.: | FT_000798 |
| Clearance No.: | FTDI# 330 |
| Document Feedback: | Send Feedback |

| | | |
|---|---|---|
| **Version Draft** | First 1.0 | 20/02/2013 |

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