

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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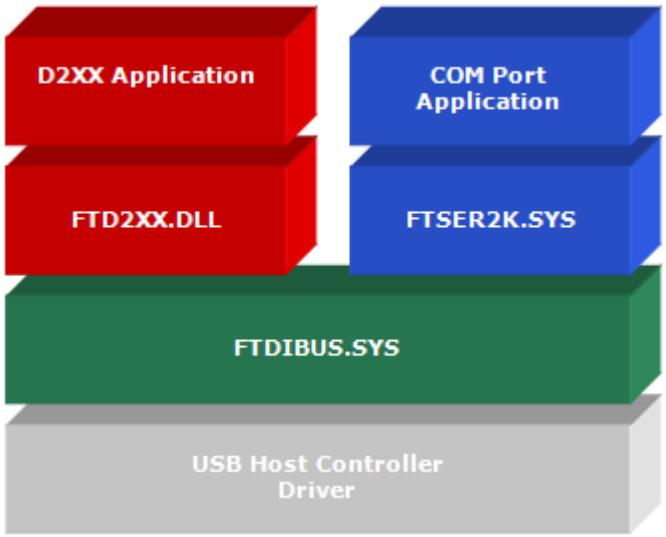
2 Installing FTDI Device Drivers

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

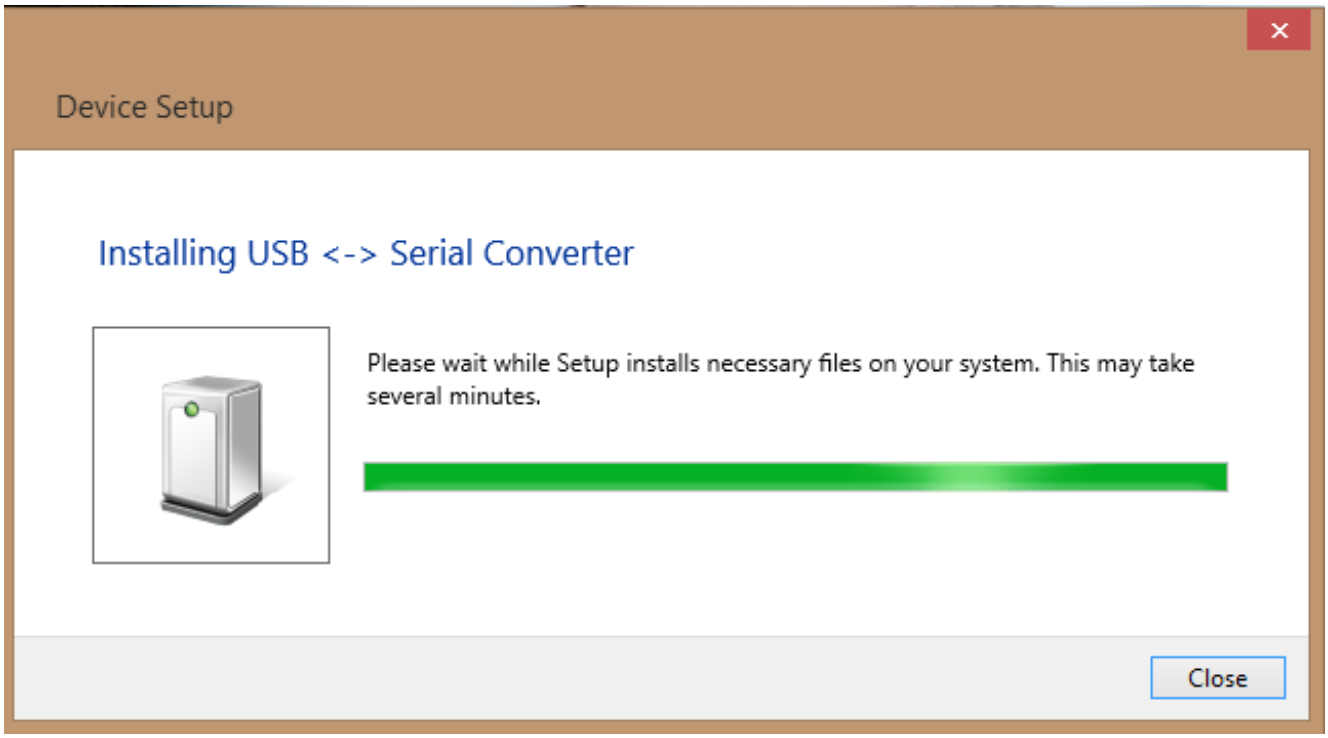
To install CDM drivers for an FTDI device under Windows 8, follow the instructions below:

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.

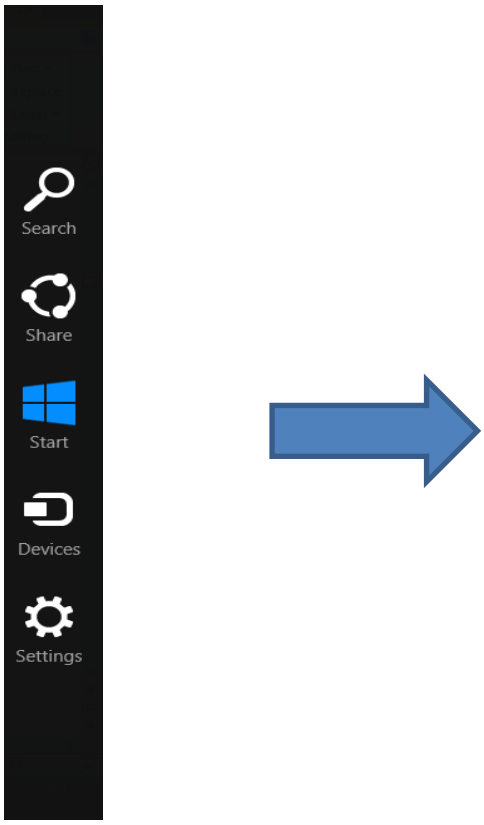


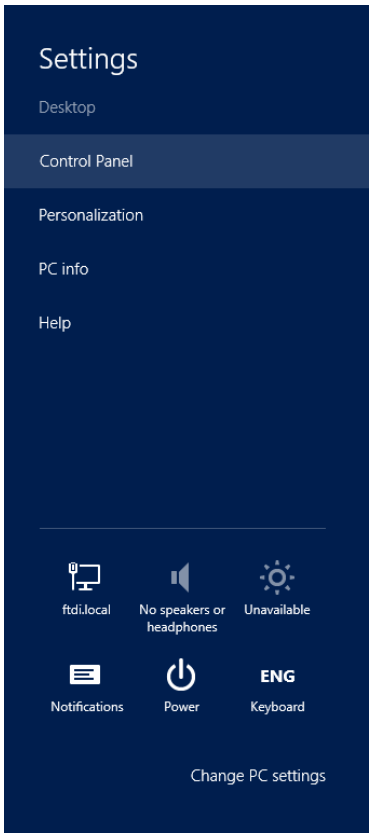
3.2 Manual Installation

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.



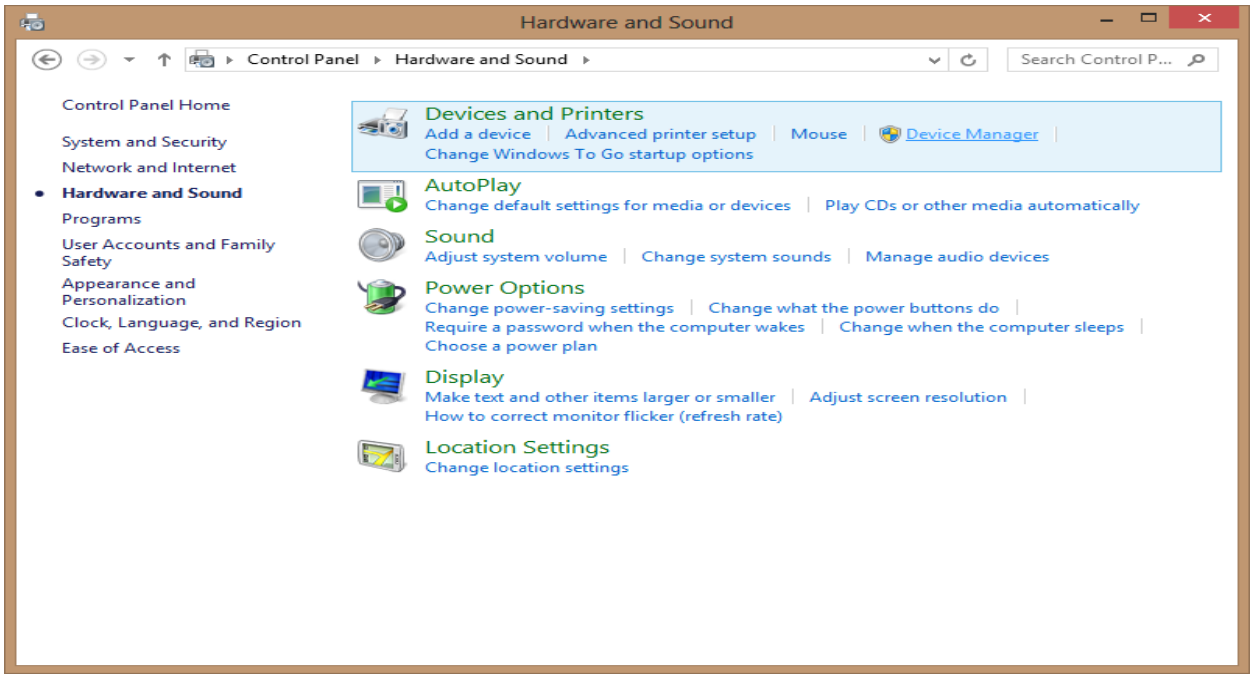


Select "Control Panel".

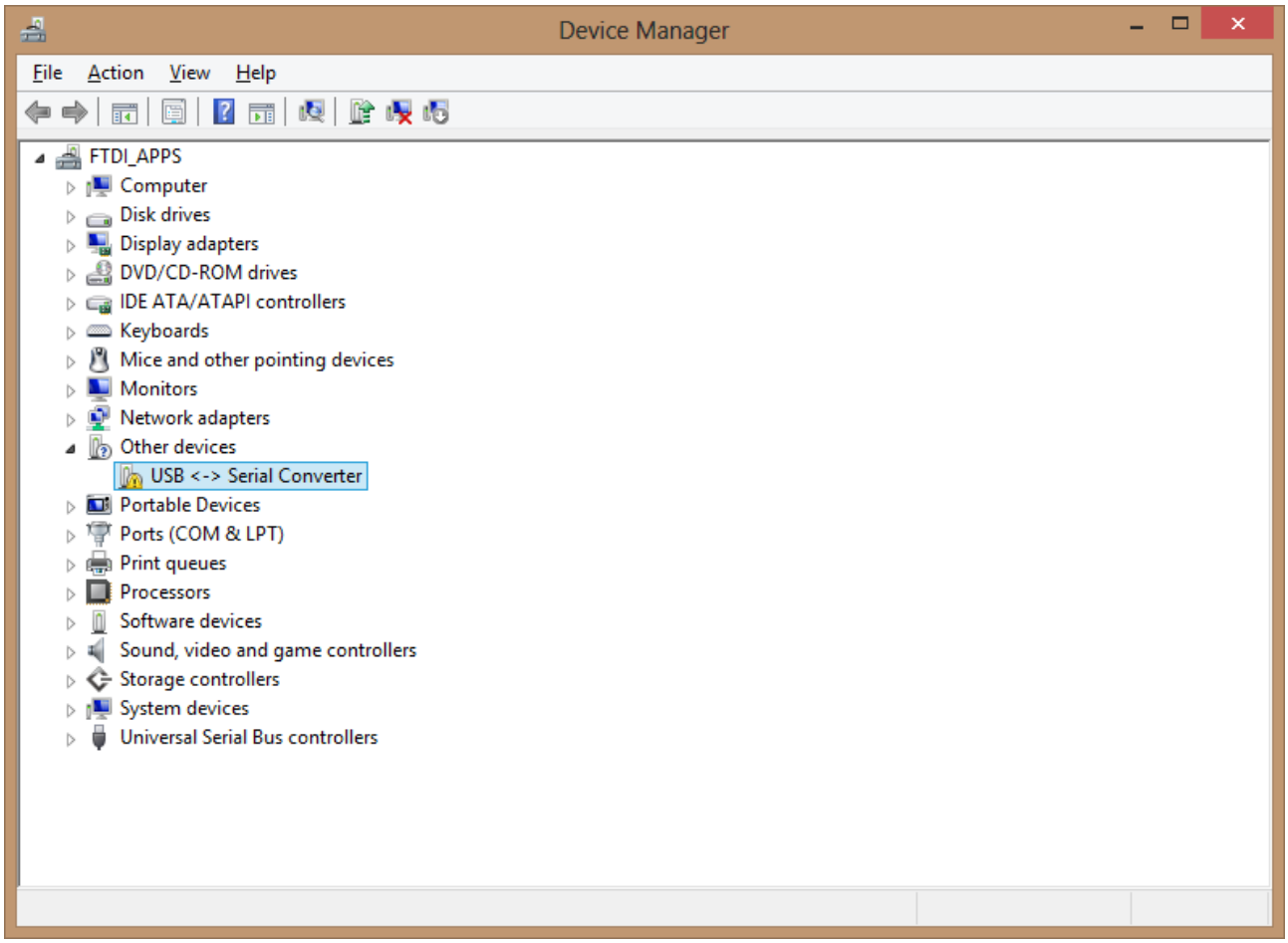
From the Control Panel window select Hardware and Sound



At the next screen select Device Manager:

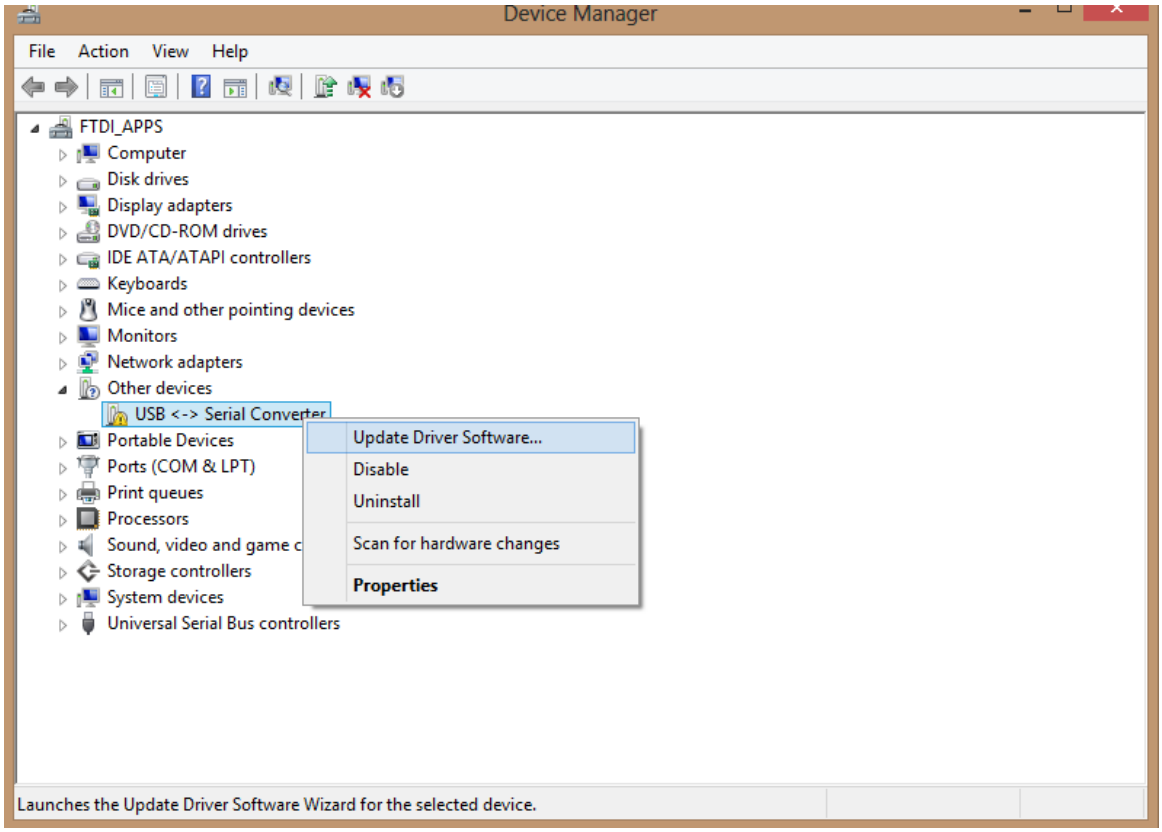


In the Device Manager window there will be a device under Other Devices with a yellow warning symbol to indicate a problem i.e. no driver installed. The text next to this device will depend on the device attached. In this example the device was a USB <-> Serial Converter device.



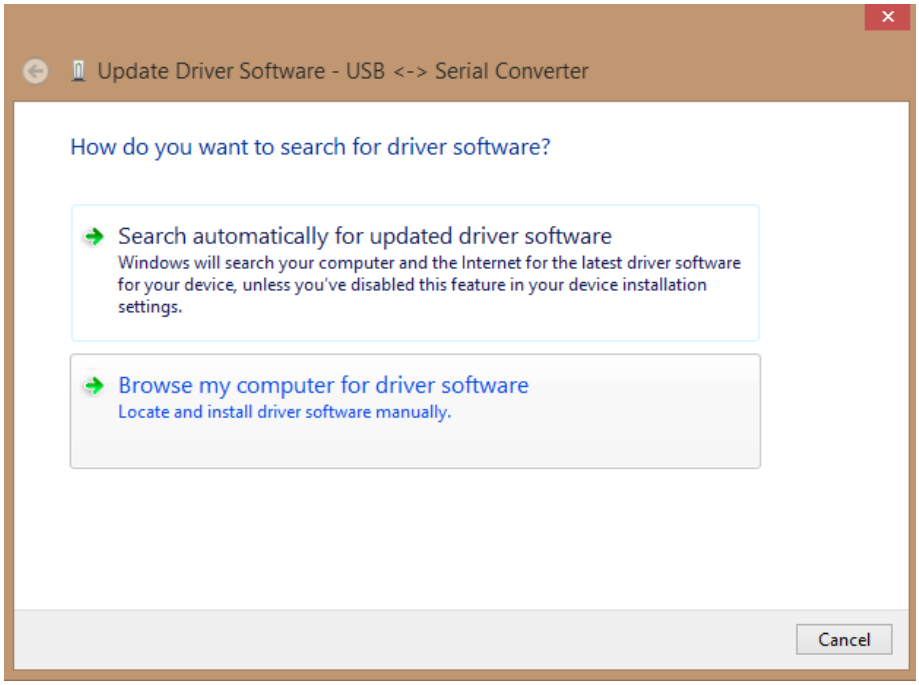
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Right click on the other device (USB <-> Serial Converter in this example) to bring up a menu as shown below.



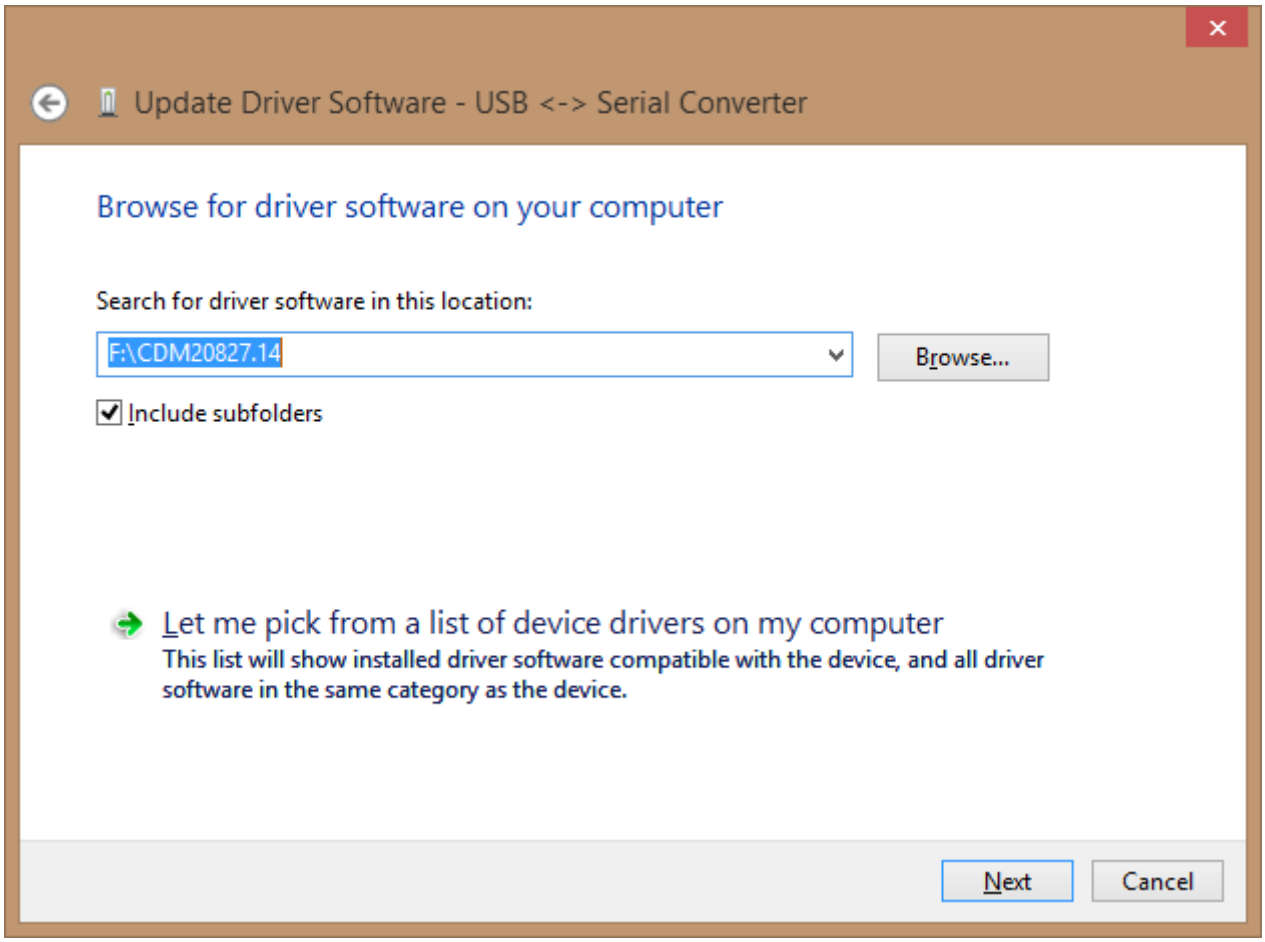
From the displayed menu select "Update Driver Software…"

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



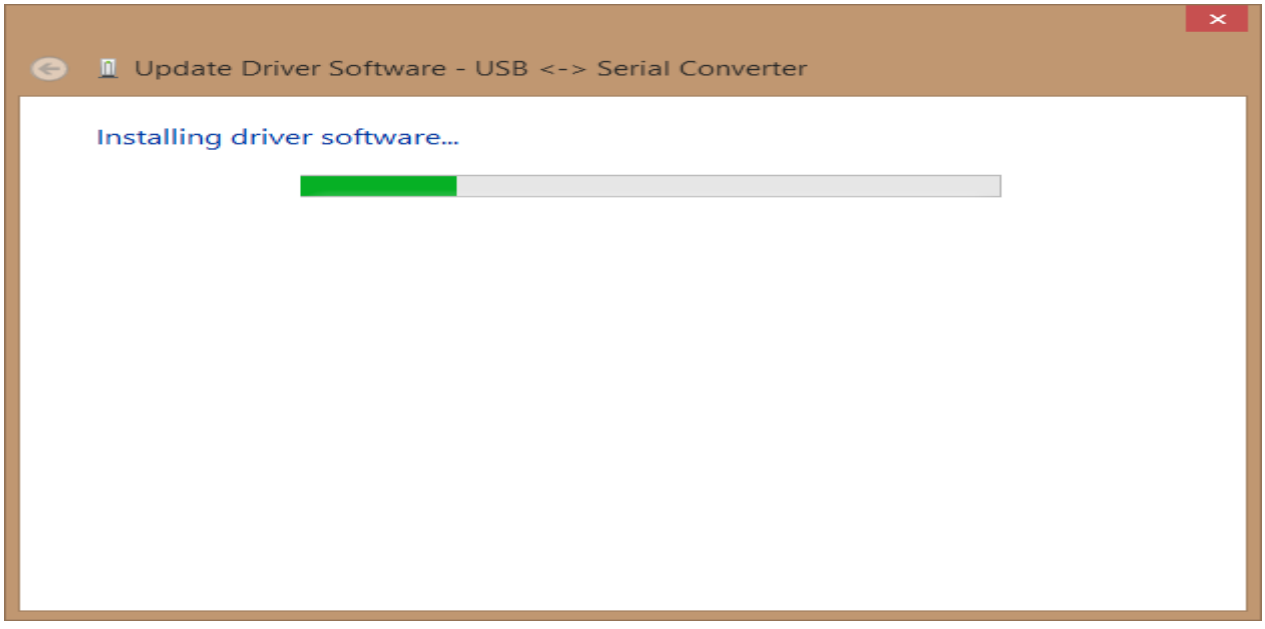
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Select the second option to browse manually.



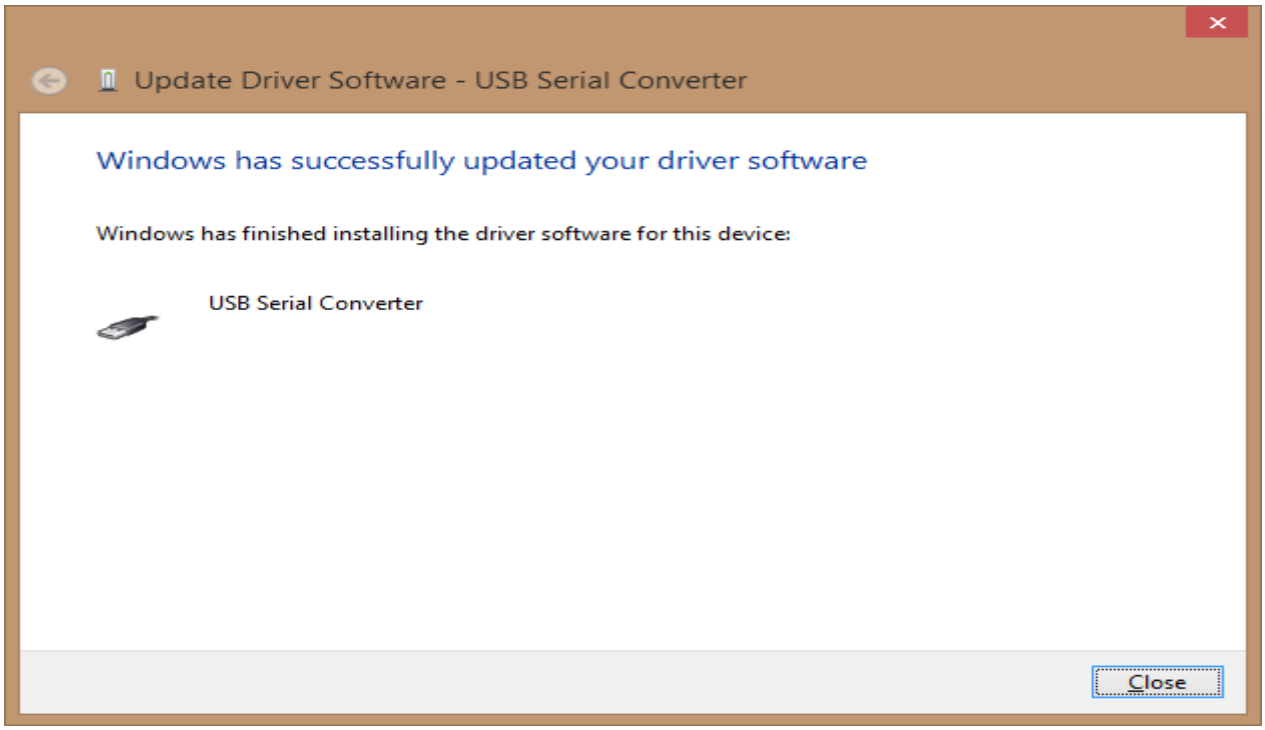
In the address box put the exact location where the drivers have been saved to. This may be on a CD or in a folder on the PC. It is not necessarily the exact same location as shown in the screenshot. The drivers could have been saved anywhere of the users choosing.

After entering the address select "NEXT" to start the installation.

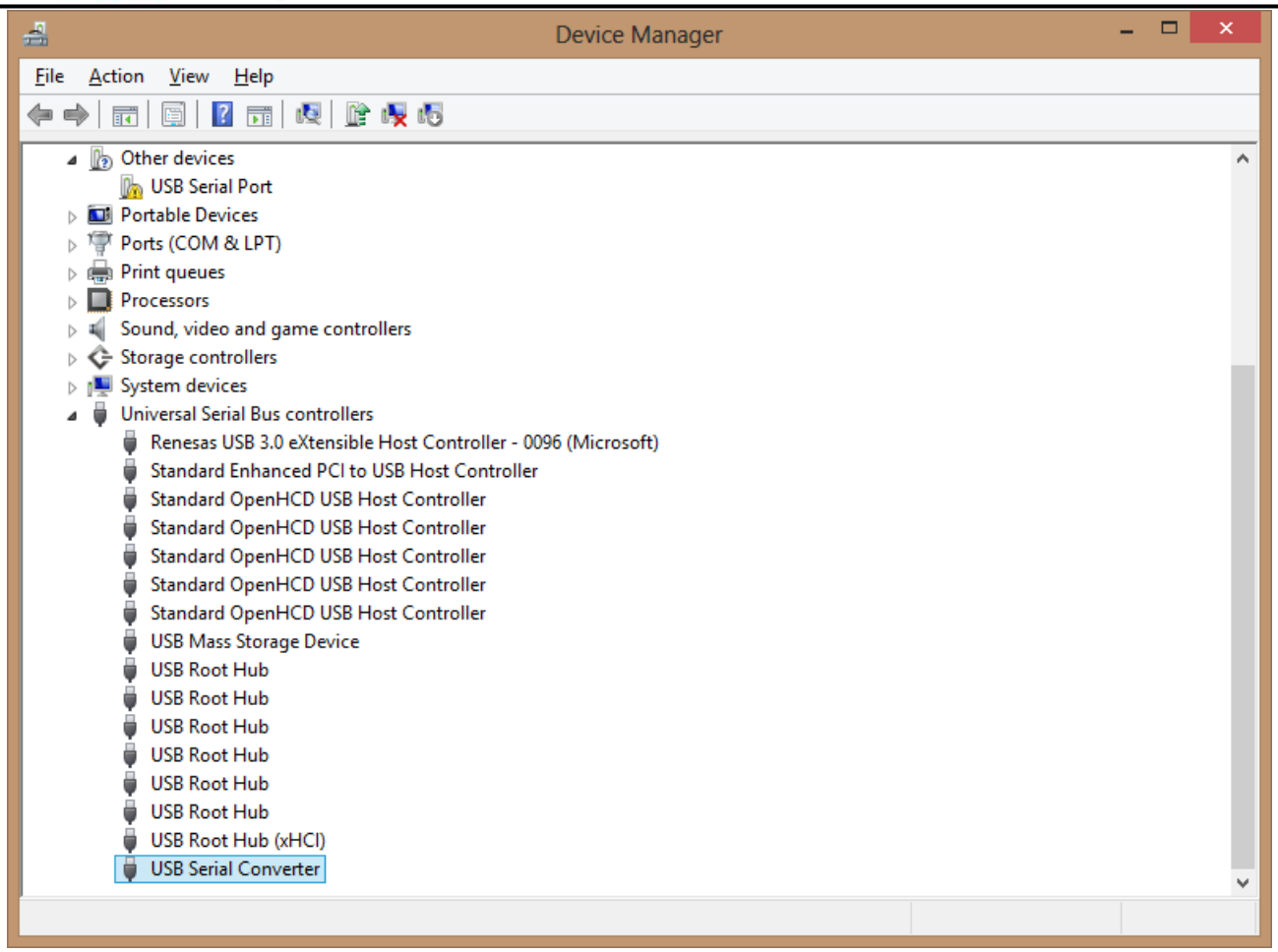


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When the installation has finished a completion screen is displayed.



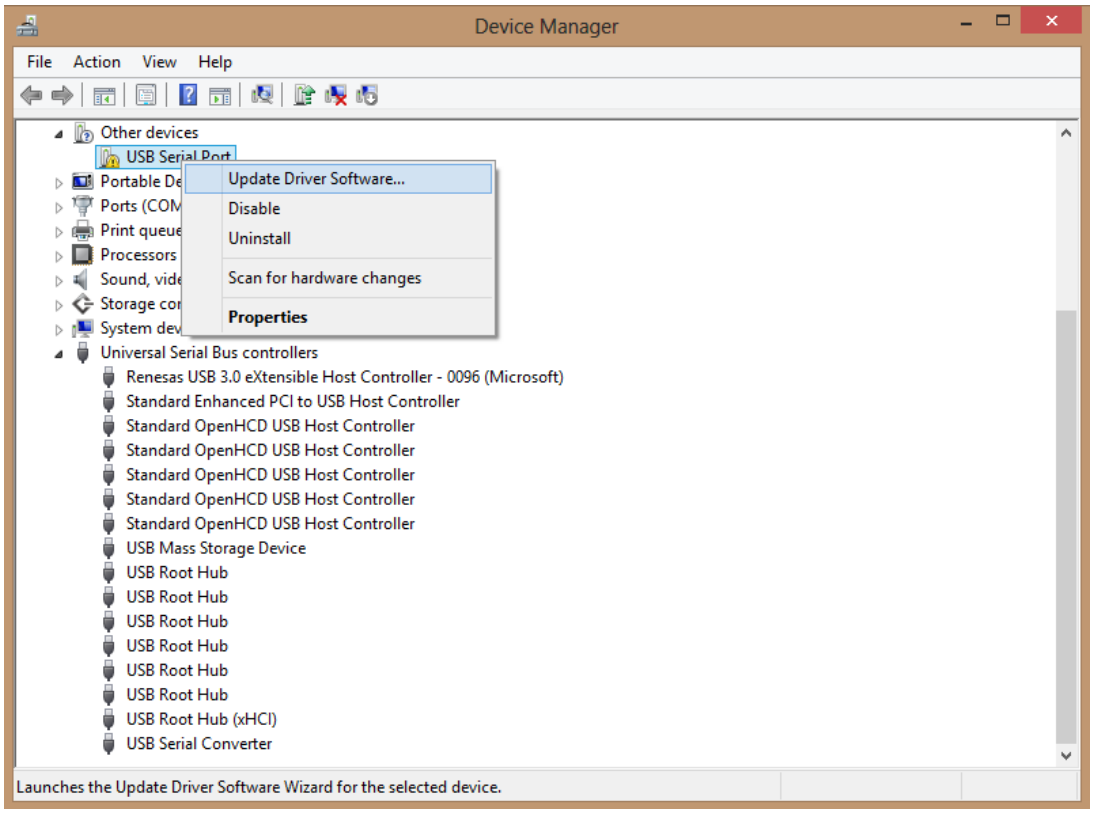
Press Close to close this window and go back to the Device Manager Window.



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.

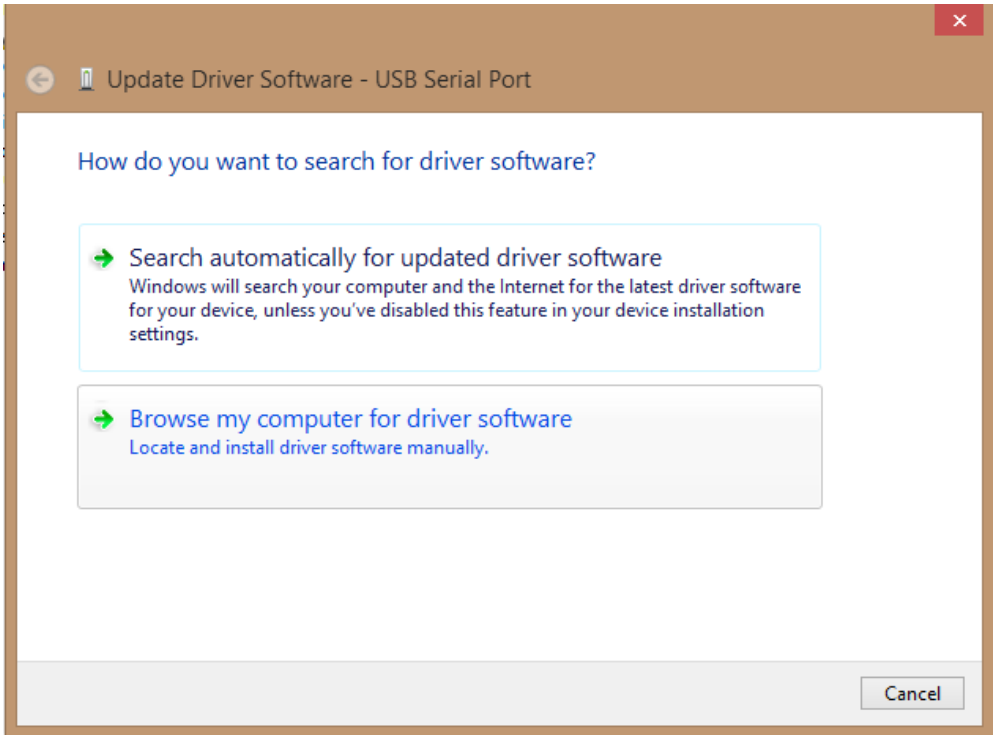
Right click on the other device (USB Serial Convertor in this example) to bring up a menu as shown below.

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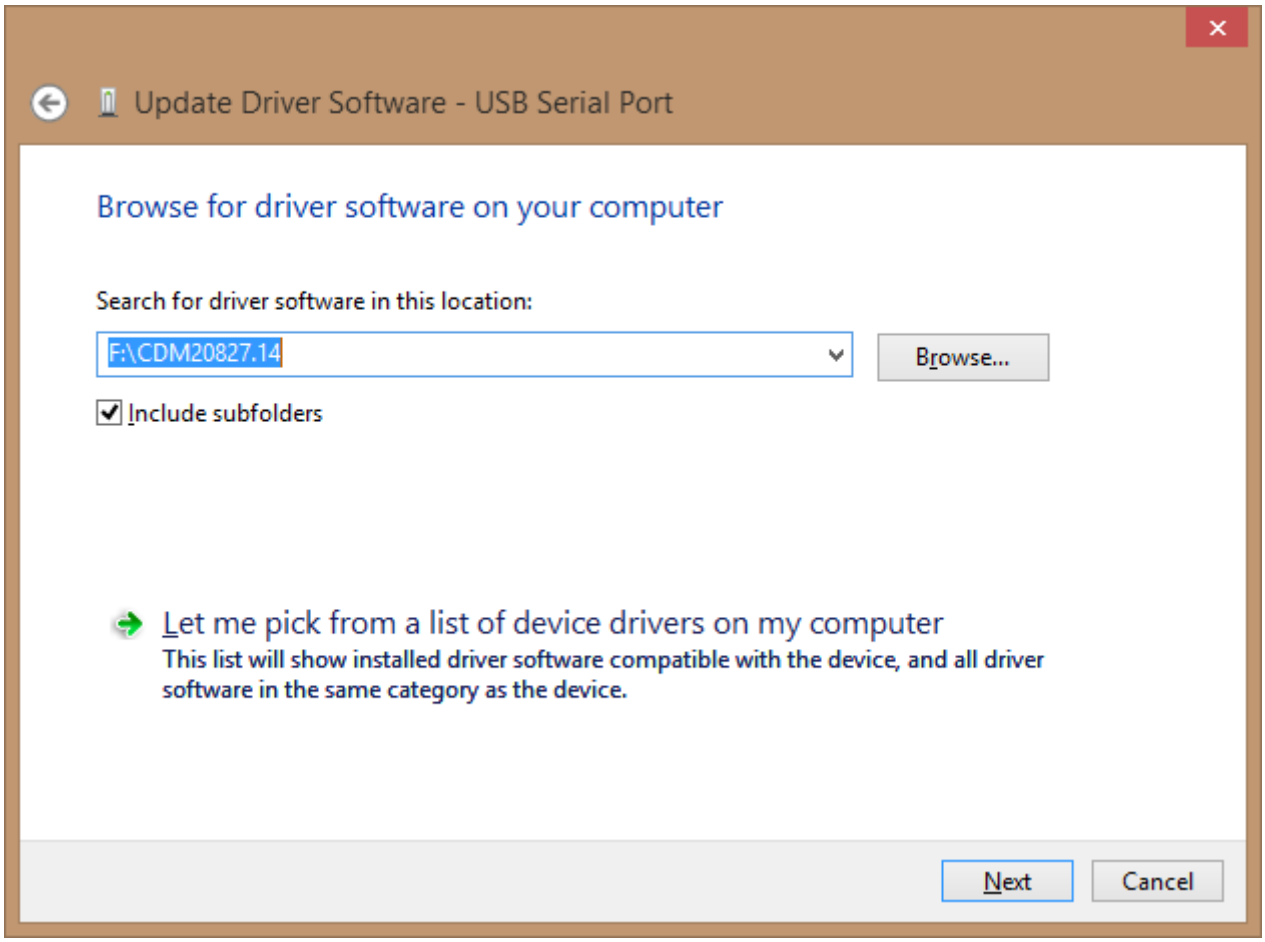


From the displayed menu select "Update Driver Software…"

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



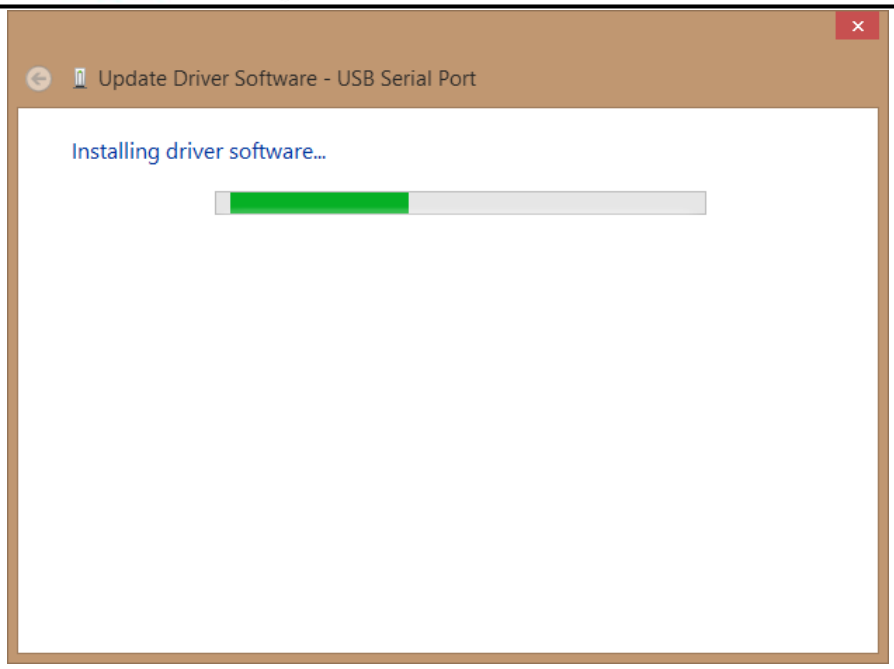
Select the second option to browse manually.



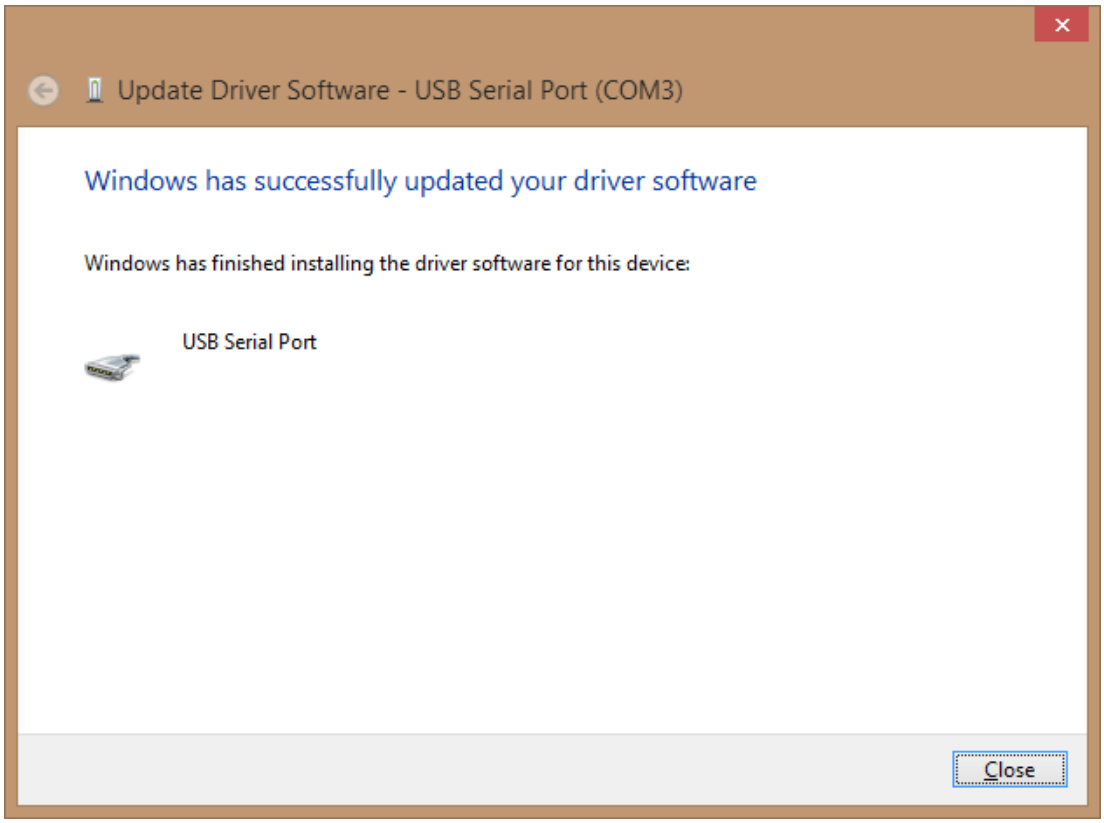
In the address box put the exact location where the drivers have been saved to. This may be on a CD or in a folder on the PC. It is not necessarily the exact same location as shown in the screenshot. The drivers could have been saved anywhere of the users choosing.

After entering the address select "NEXT" to start the installation.

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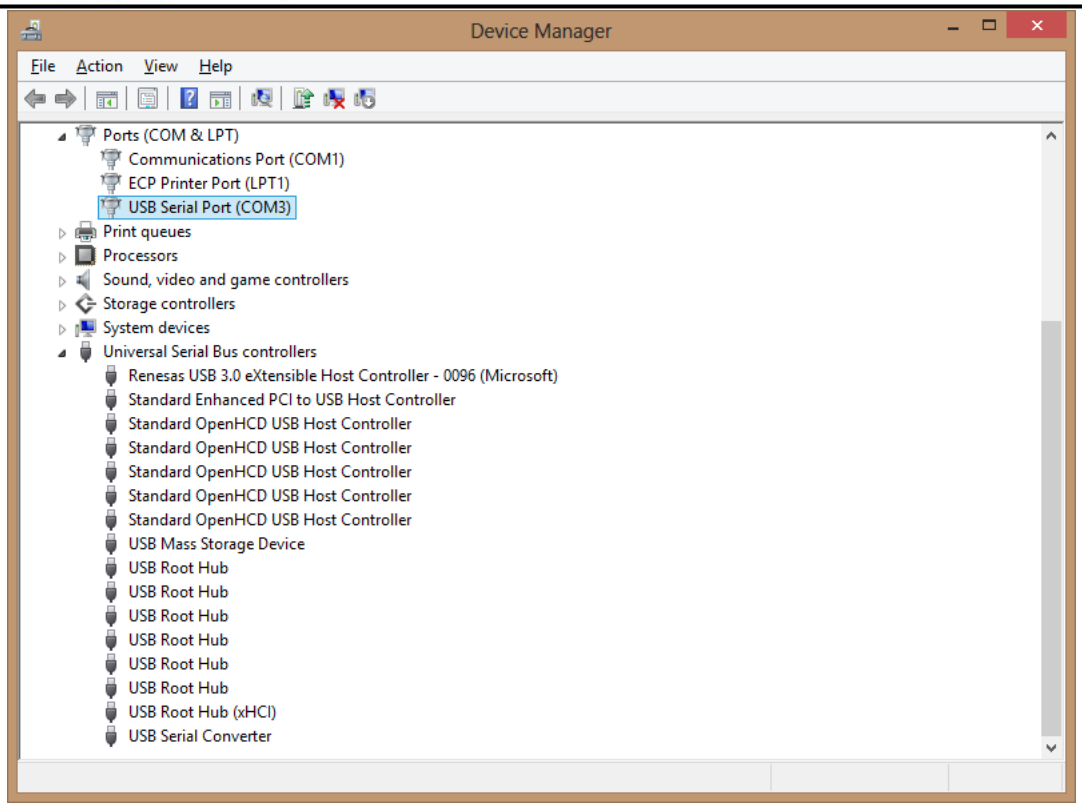


When the installation is finished a completion screen is displayed.



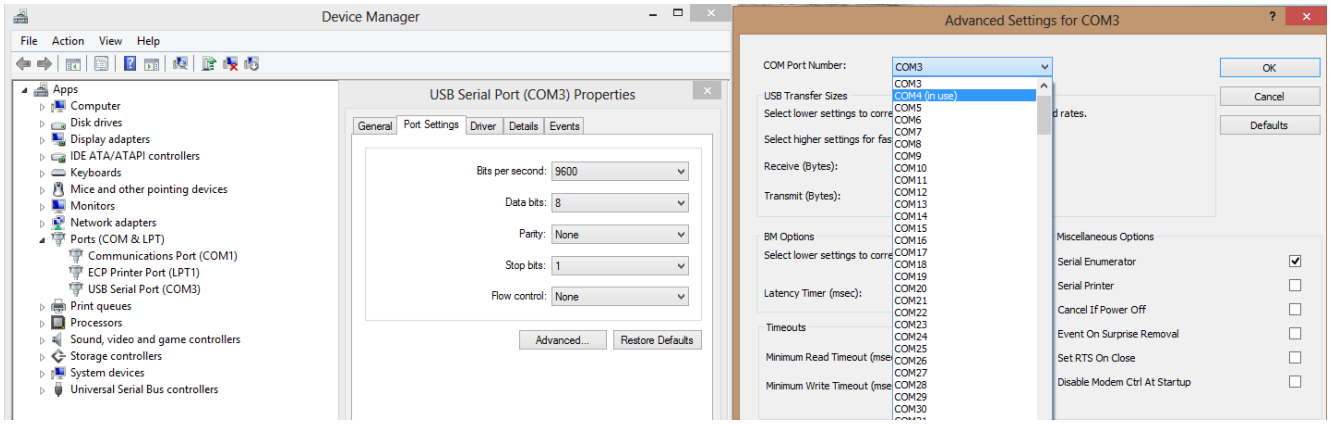
Note this screen also displays the COM port assigned to the device.
Press Close to close this window and go back to the Device Manager Window.

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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.



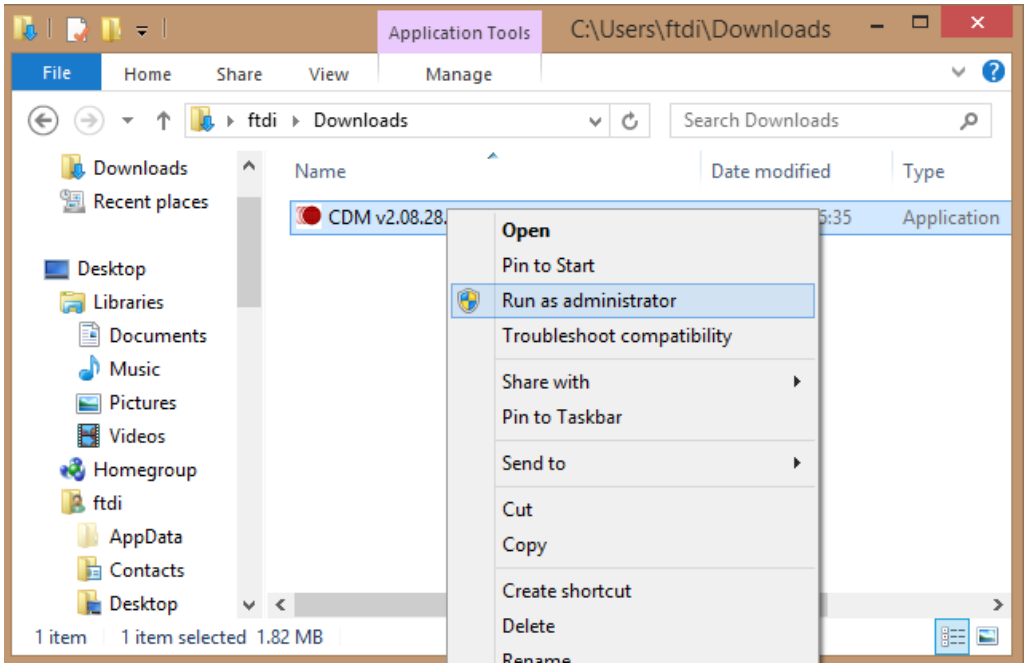
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3.3 Pre-Installation using the FTDI setup executable

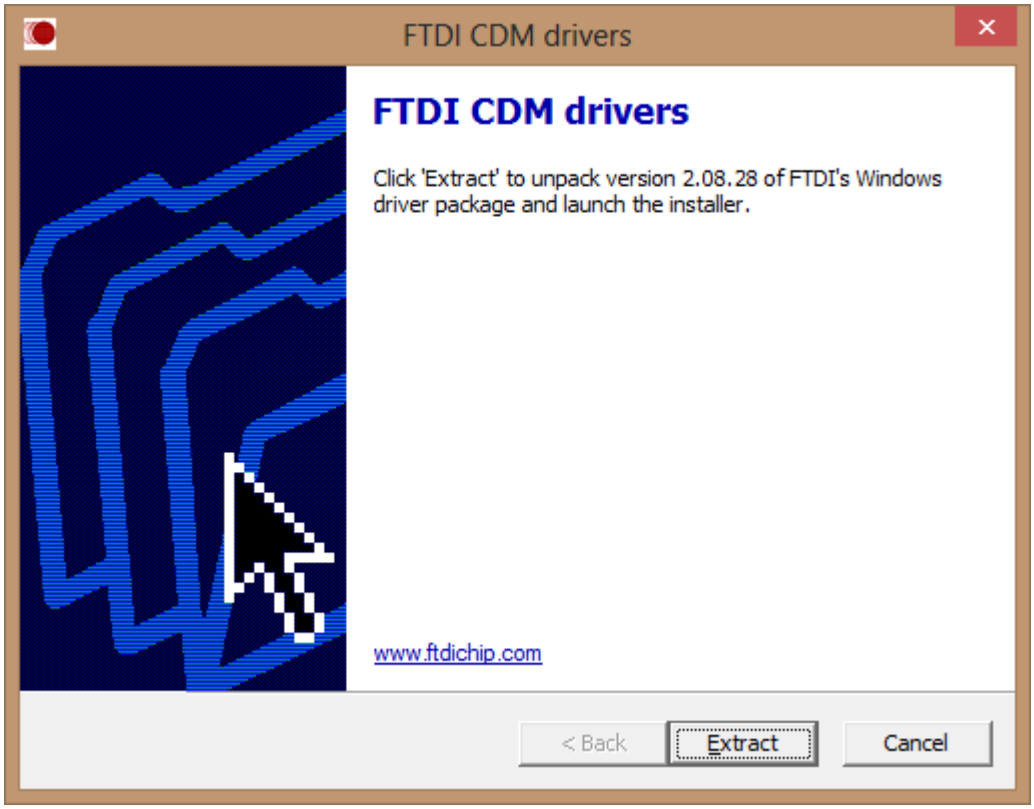
The Windows 8 CDM driver is also available as a setup.exe from the **FTDI Web Site**.

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

Right click and select Run as administrator

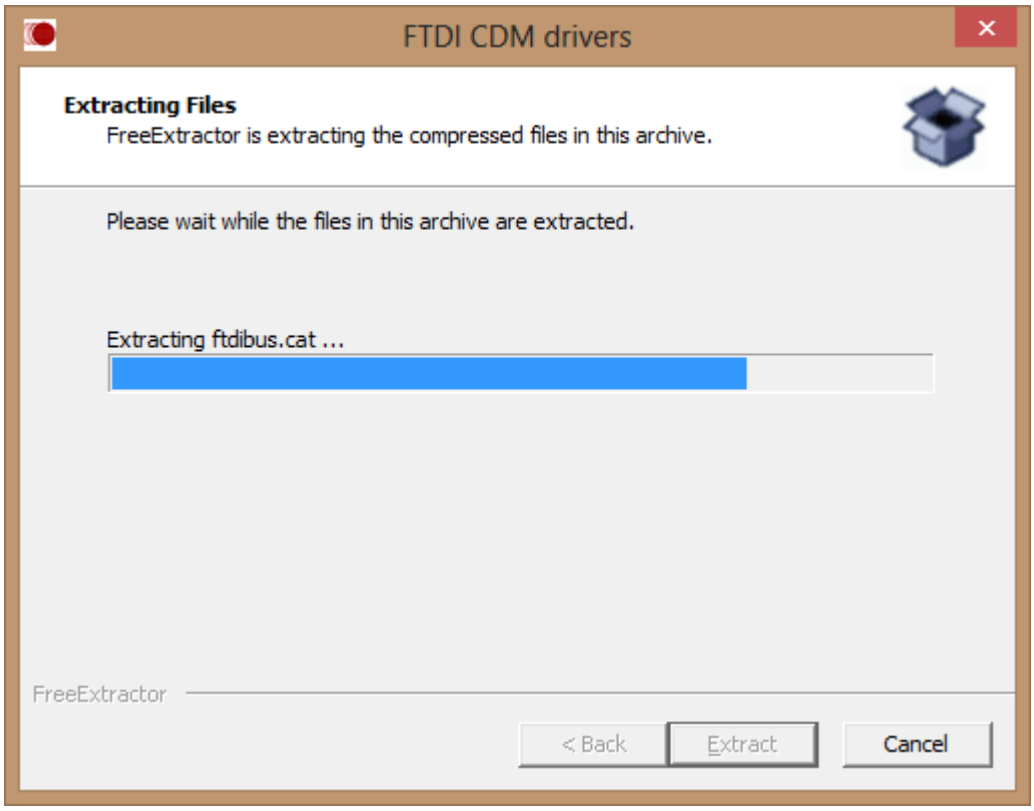


Press the Extract button

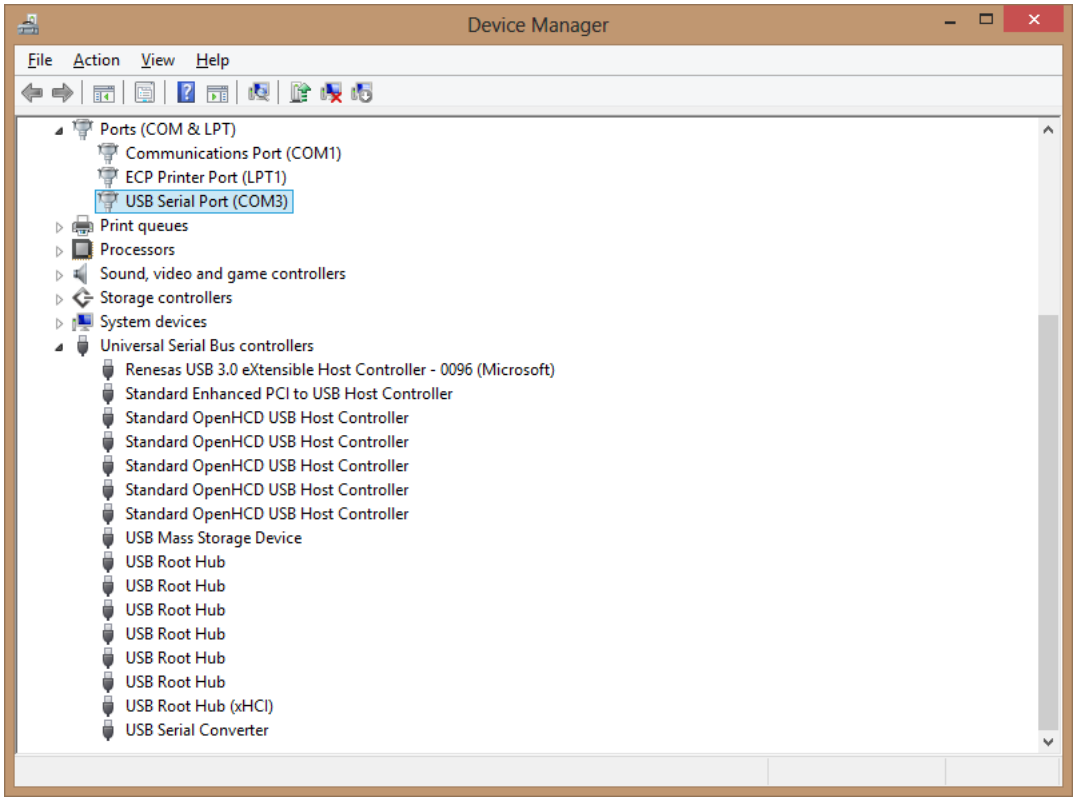


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The driver will now be automatically installed.



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

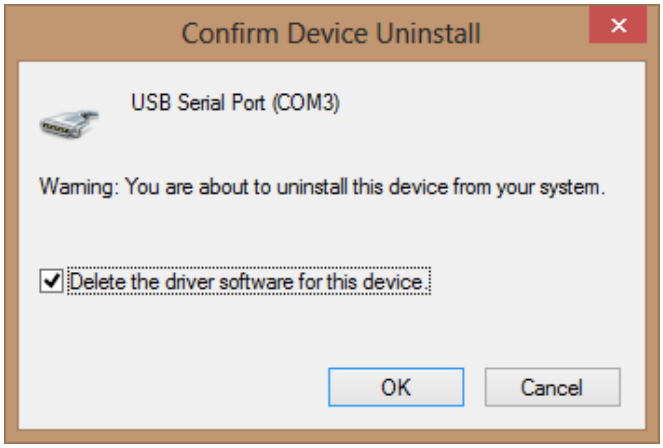


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4 Uninstalling FTDI Devices

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.

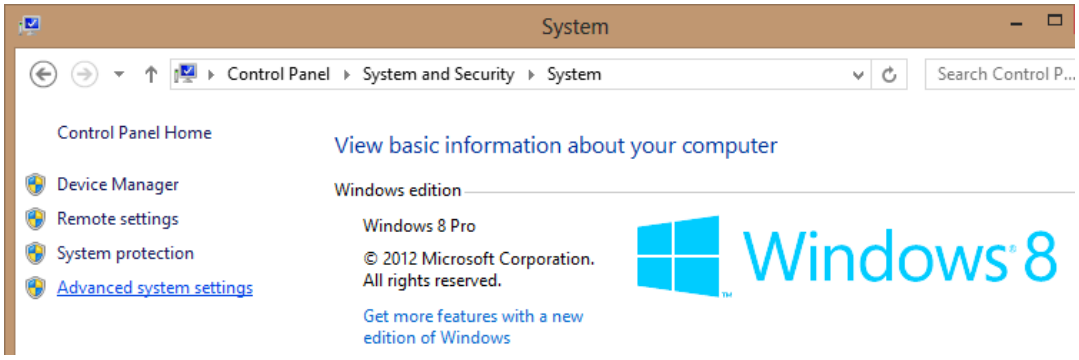
End customers should obtain modified drivers from the OEM of the device, and not necessarily edit the files themselves.

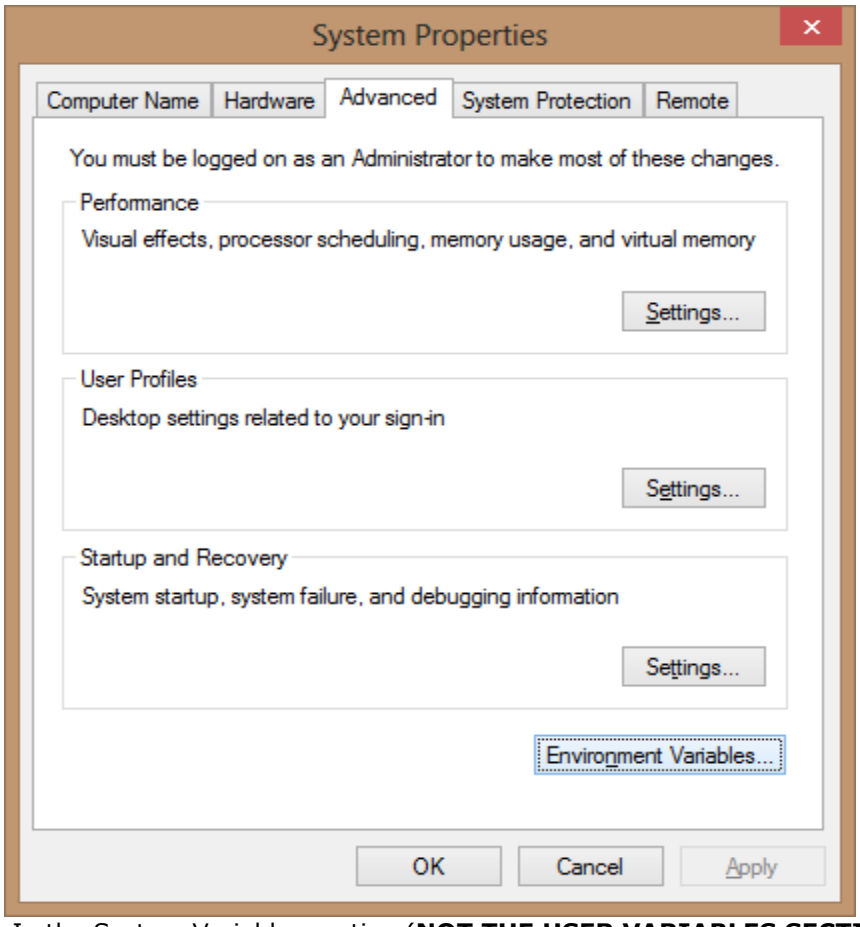
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5.2 Devices not shown in Device Manager for uninstalling

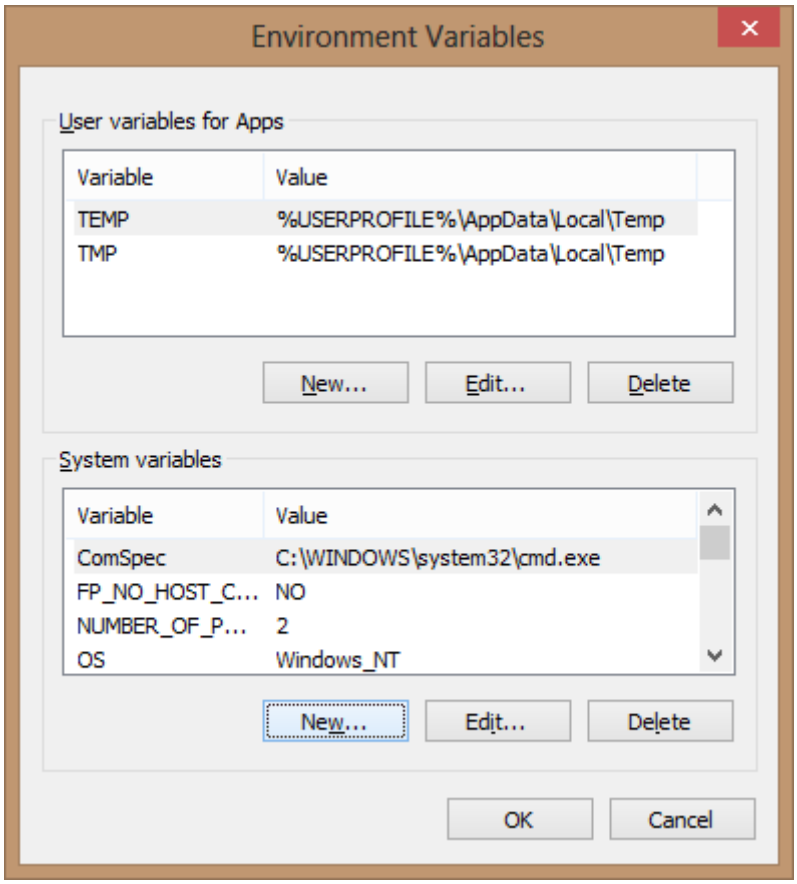
Devices that have been installed on a system but are not currently available are referred to as "phantom devices". These devices are not usually displayed in the device manager, but can be made to be displayed as though they are attached. This allows device properties to be changed or devices to be uninstalled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

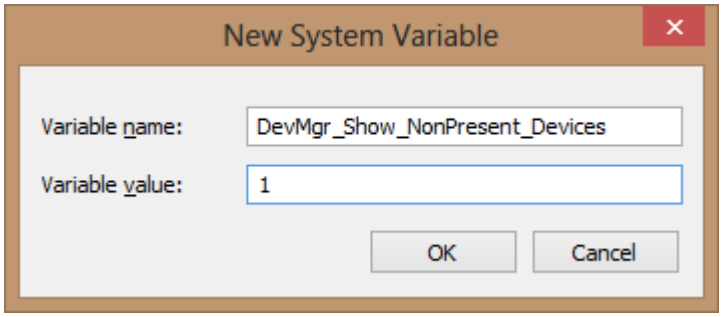




In the System Variables section (**NOT THE USER VARIABLES SECTION**)



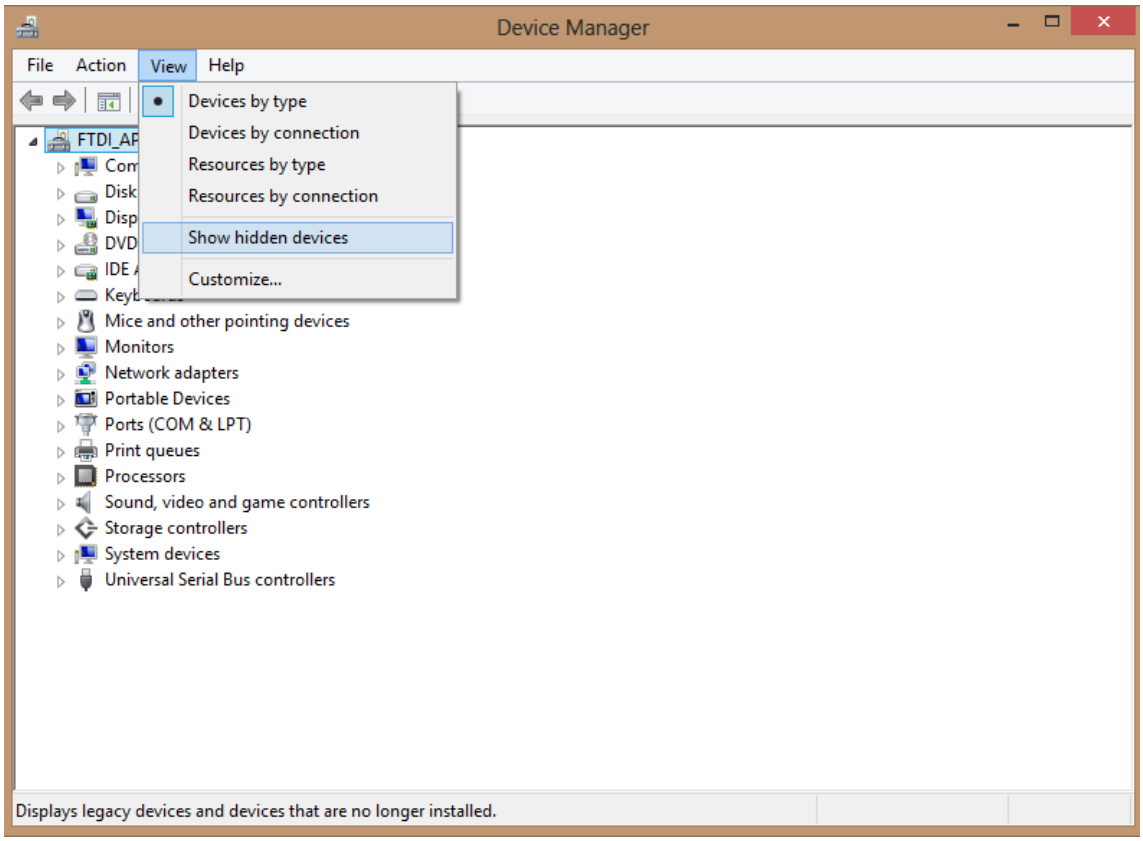
, click "New..." to display the following window:



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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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

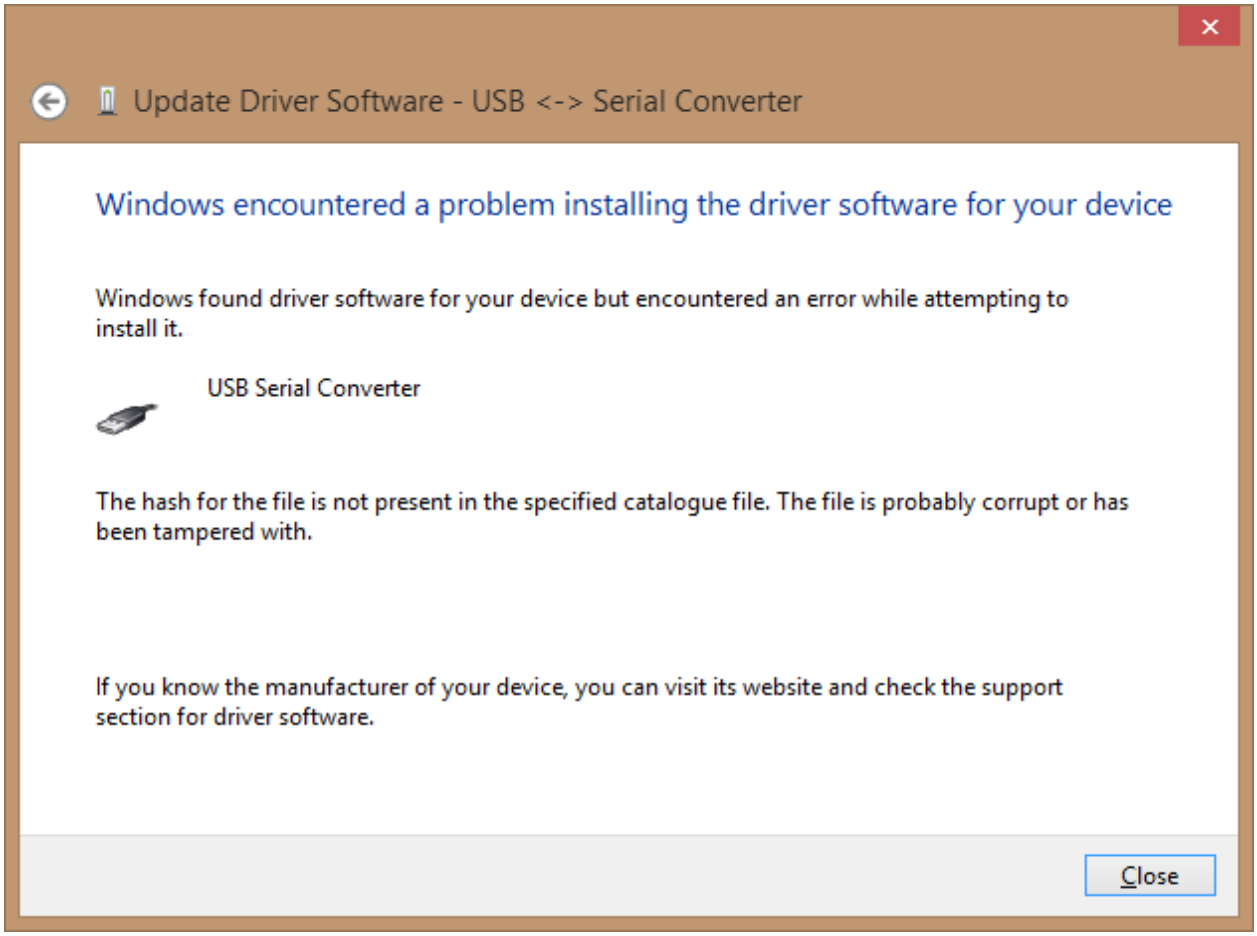
PID 6011 for FT4232

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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6 Contact Information

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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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