



Future Technology Devices International Ltd.

Technical Note TN_149

Create a Custom Driver Executable

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This Technical Note explains how to create a setup executable driver from a default FTDI driver.

N.B This Technical Note gives an example of how to create a setup.exe using a third party self-extracting application. This is intended as an EXAMPLE and therefore not supported by FTDI.

Use of FTDI devices in life support and/or safety applications is entirely at the user's risk, and the user agrees to defend, indemnify and hold harmless FTDI from any and all damages, claims, suits or expense resulting from such use.

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1 Introduction

FTDI's CDM drivers provide both D2XX and VCP functionality through a single driver package on PCs running the following Windows operating systems:

- Windows 8
- Windows 8 x64
- Windows Server 2008 R2
- Windows 7
- Windows 7 x64
- Windows Server 2008
- Windows Server 2008 x64
- Windows Vista
- Windows Vista x64
- Windows Server 2003
- Windows Server 2003 x64
- Windows XP
- Windows XP x64

A setup executable is used to preinstall a FTDI driver on a windows PC prior to the FTDI device being plugged in the PC's USB port.

A setup.exe for the default FTDI driver is available to download from the [FTDI driver page](#).

This Technical note explains how a default FTDI driver can be edited, (for example to change the VID or PID) and then bundled in to a custom setup executable.

1.1 Required resources

The following items are required to create a setup executable FTDI driver.

1. PC running Windows Operating System
2. The [FTDI driver](#) – provided by FTDI for accessing the FTDI peripheral silicon from a Windows PC.
3. A software program that creates self-extracting executable. In this example, [FreeExtractor](#), a free open-source solution is used.
4. Three executable files that need to be included in the driver:

Available from FTDI

- dp-chooser.exe

Included in the Windows Driver Kit (WDK available from [Microsoft](#))

After the WDK has been installed the executables are found in
C:\WinDDK\7600.16385.1\redist\DIFx\dpinst\EngMui

- dpinst-amd64.exe
- dpinst-x86.exe.

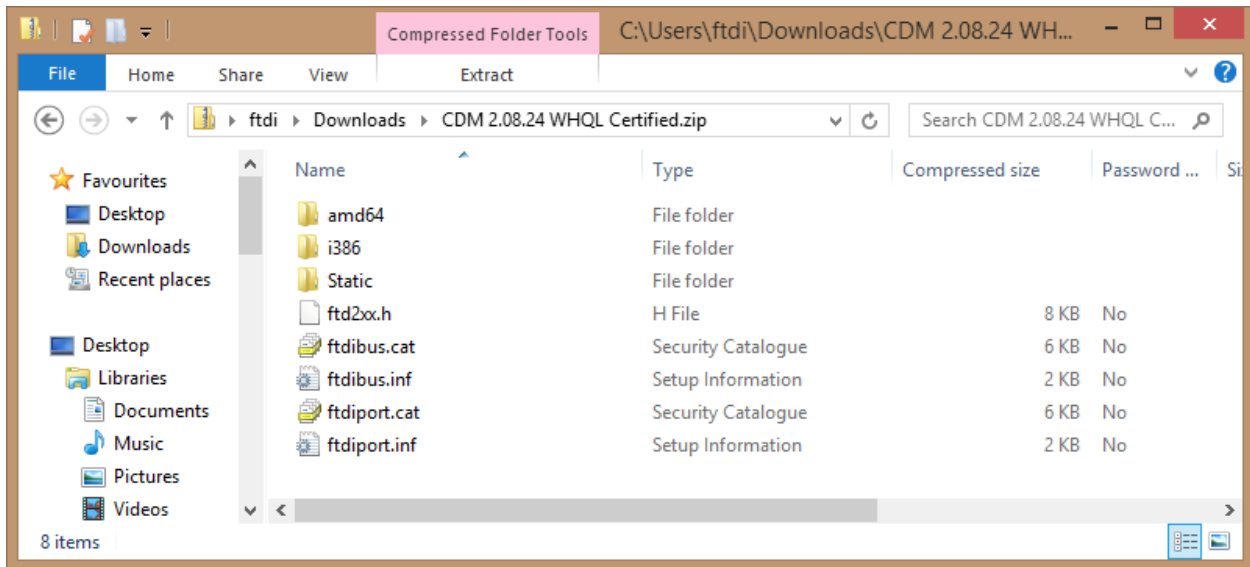
5. The driver will need to be signed/certified in order for it to be installed on and Windows 7 64 bit or Windows 8 64 bit systems. The following Technical and Application notes explain the process.

[TN 129 Driver Release Signing](#)

[AN 101 Submitting Modified FTDI Drivers for Windows Hardware Certification](#)

2 Download the FTDI driver and change the INF settings.

Download and extract the latest Windows CDM driver from the [FTDI web site](#) to a folder on the PC.



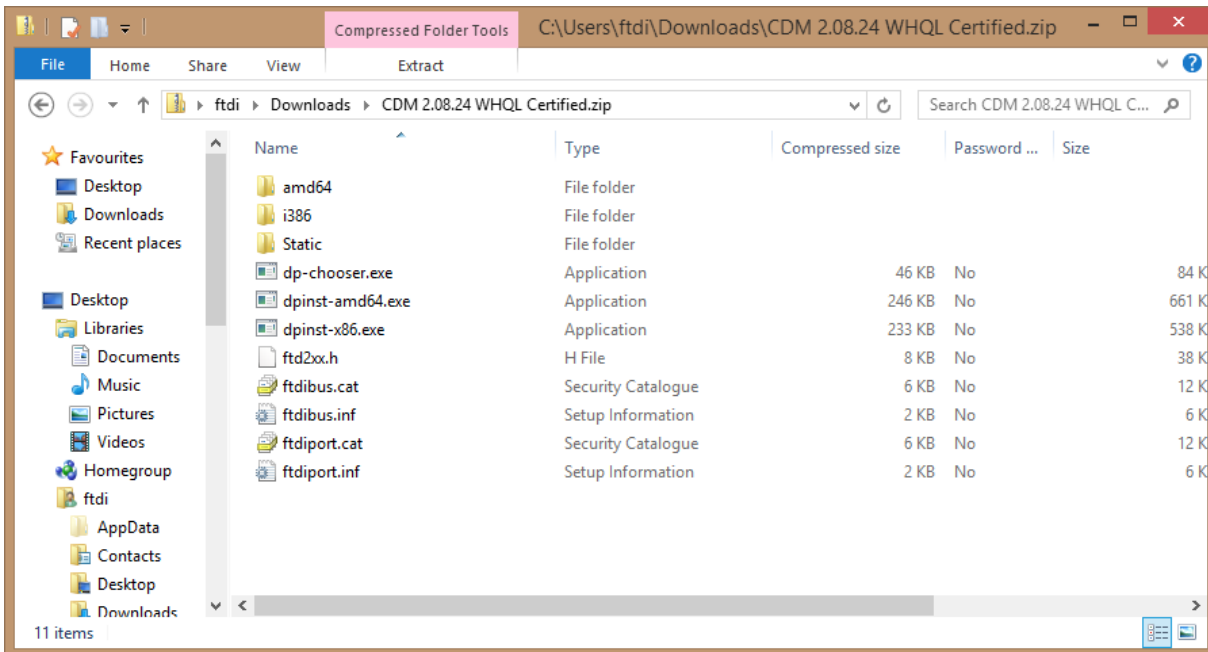
The ftdibus.inf and ftdiport.inf files can be edited to change driver settings such as Vendor ID (VID), Product ID (PID), and Latency etc.

Full details of how to change these settings are in [Application Note AN_107 Advanced Driver Options - FTDI](#).

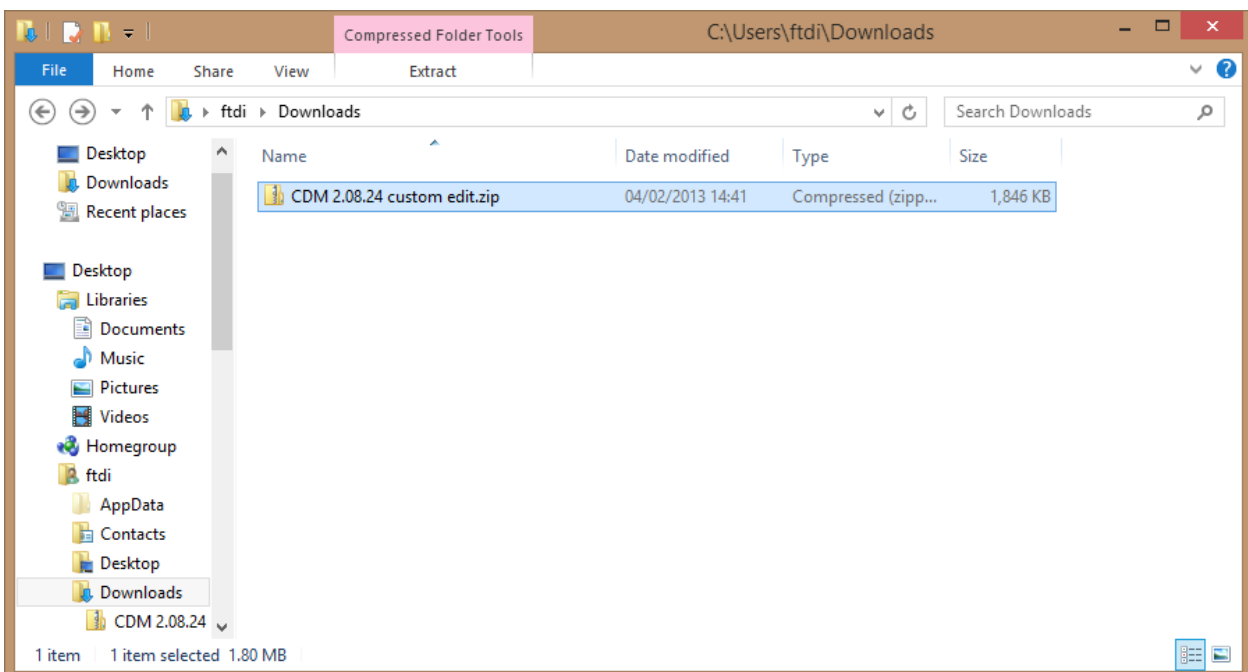
FTDI also have a utility FT_INF that allows the user to edit the inf files, the application is available on the [utilities page](#).

3 Add three executable files to the edited driver

Add the three exe's dp-chooser.exe, dpinst-amd64.exe and dpinst-x86.exe and to the driver folder.



Select all files within the folder and compress it into a zip file.

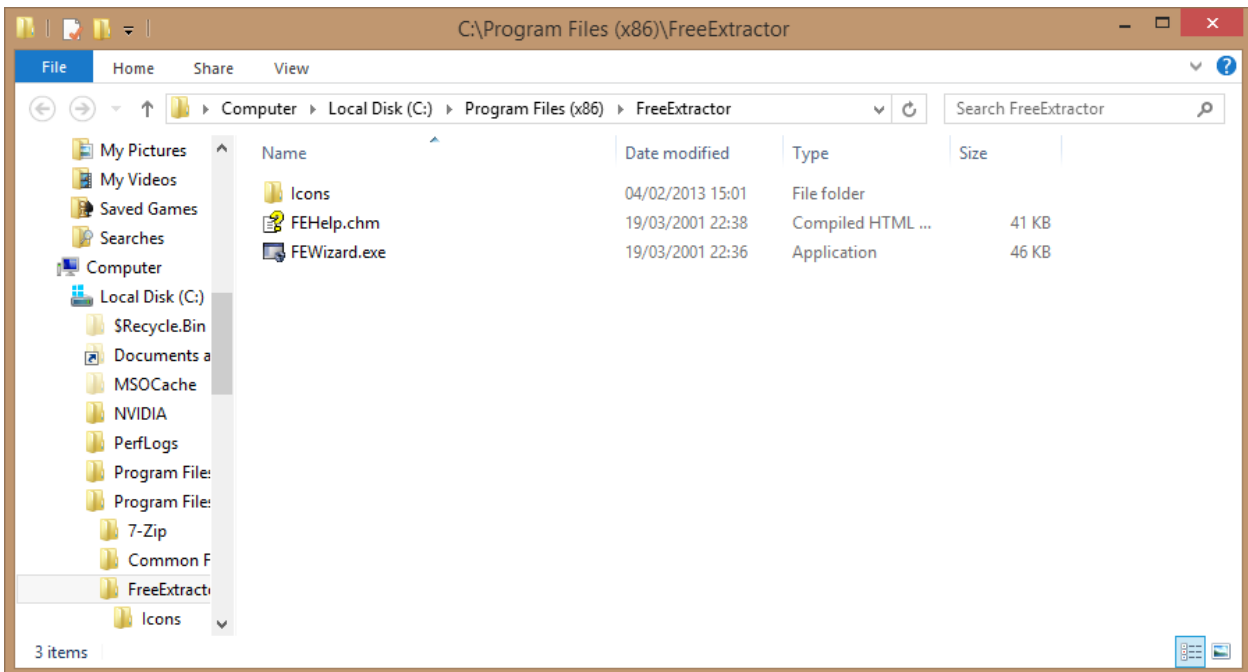


4 Convert edited driver into a self-extracting exe

Convert CDM 2.08.24 custom edit.zip into a self-extracting exe which will run dp-chooser automatically.

In this example [FreeExtractor](#) a free open-source solution is used.

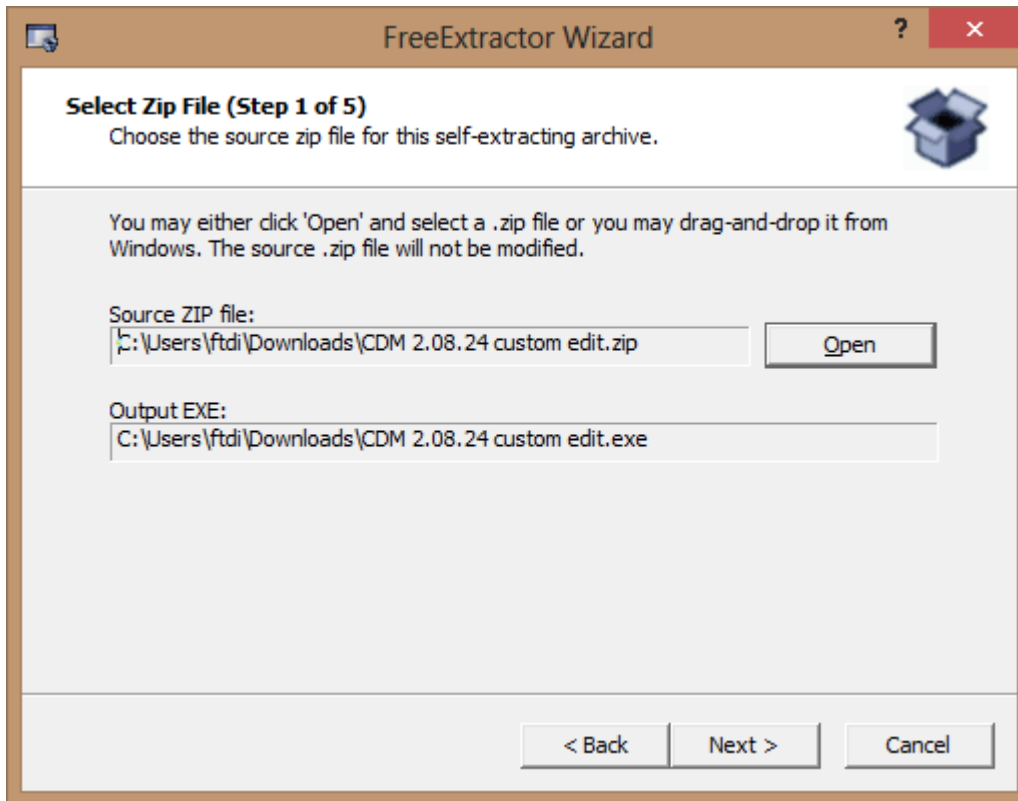
Install and Run FreeExtractor by double clicking on FEWizard.exe.



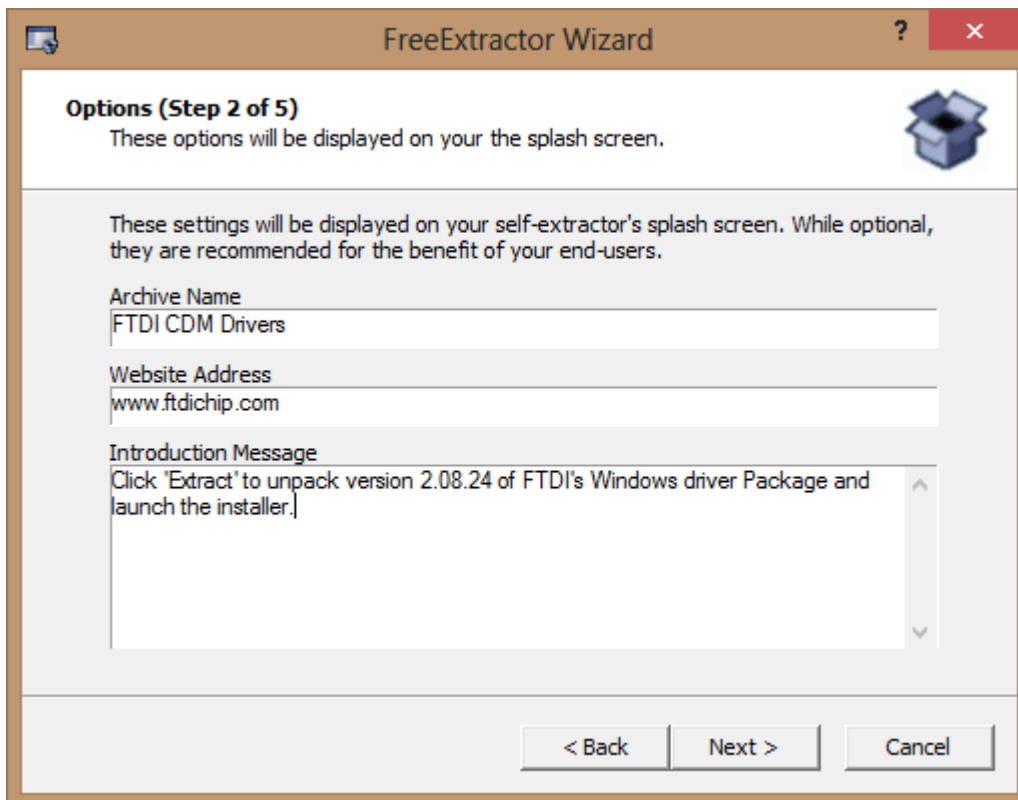
A wizard will start which prompts for a zip file to be converted, plus some other settings.



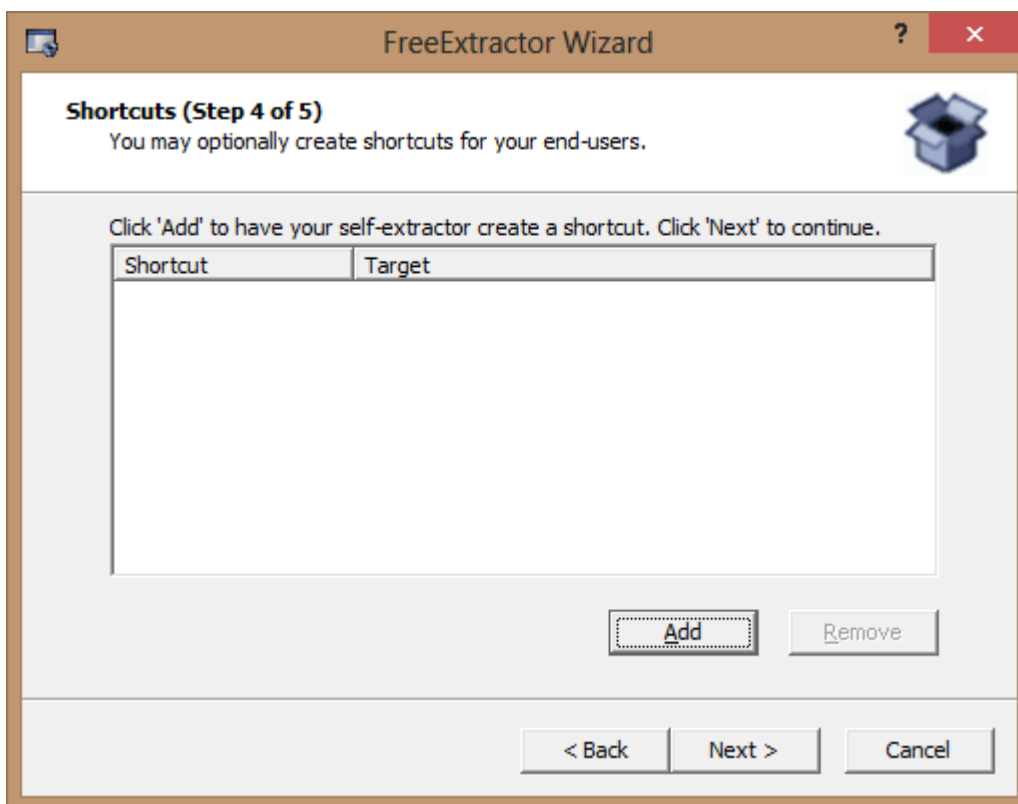
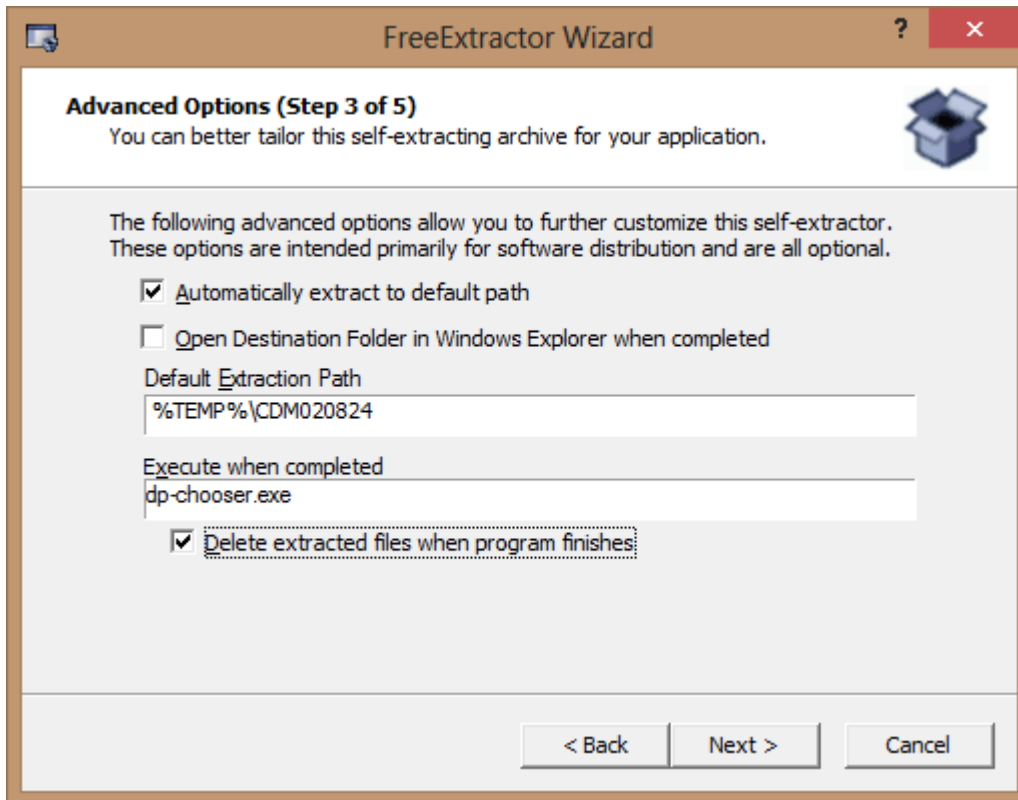
Select the Source and output locations.



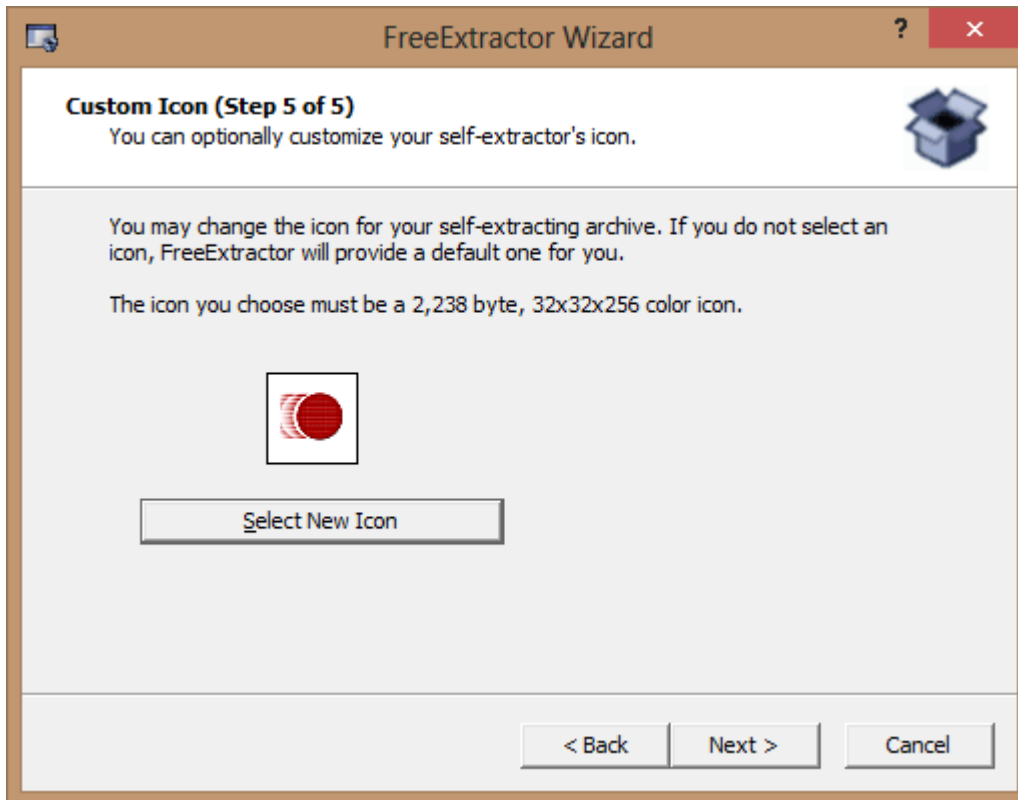
Add a name, web address and Introduction message if required.



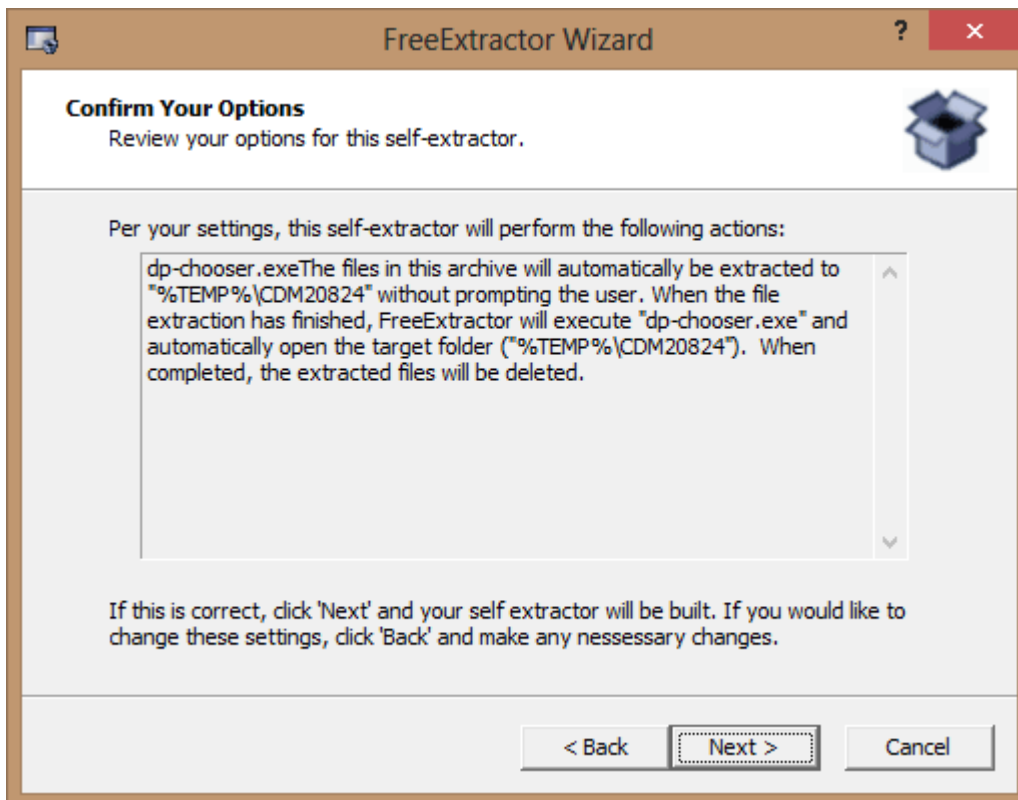
Add default Extraction Path and the exe to run



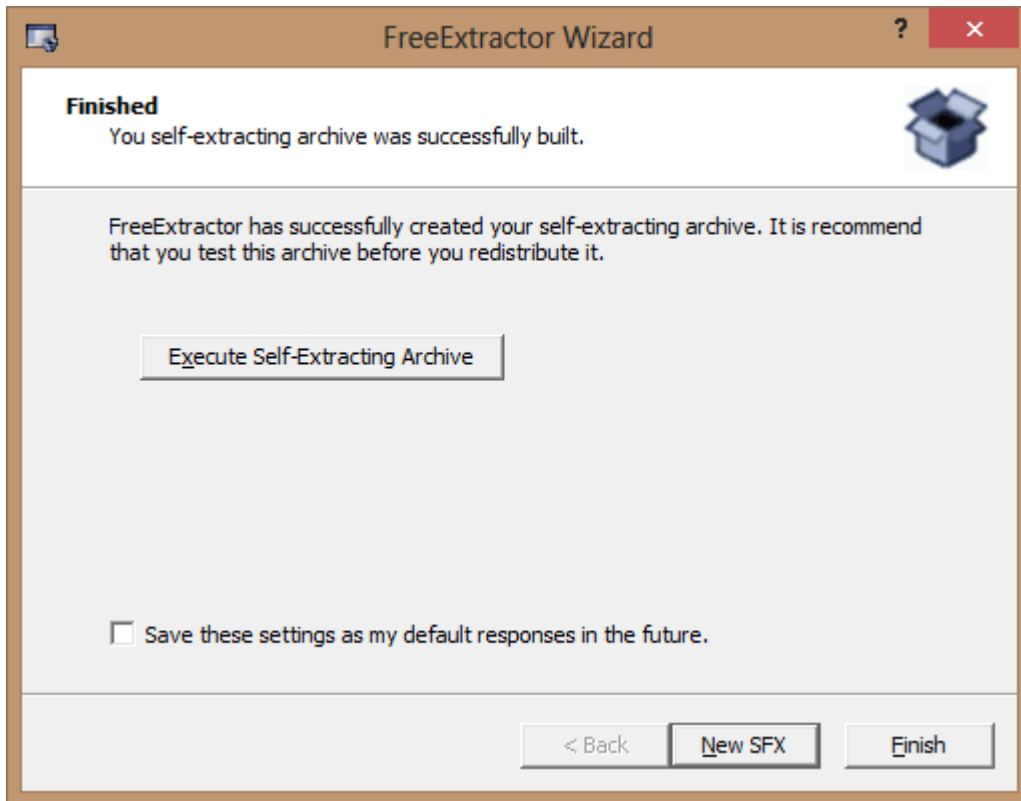
If required point to an icon that is saved on the PC.



Review all options.

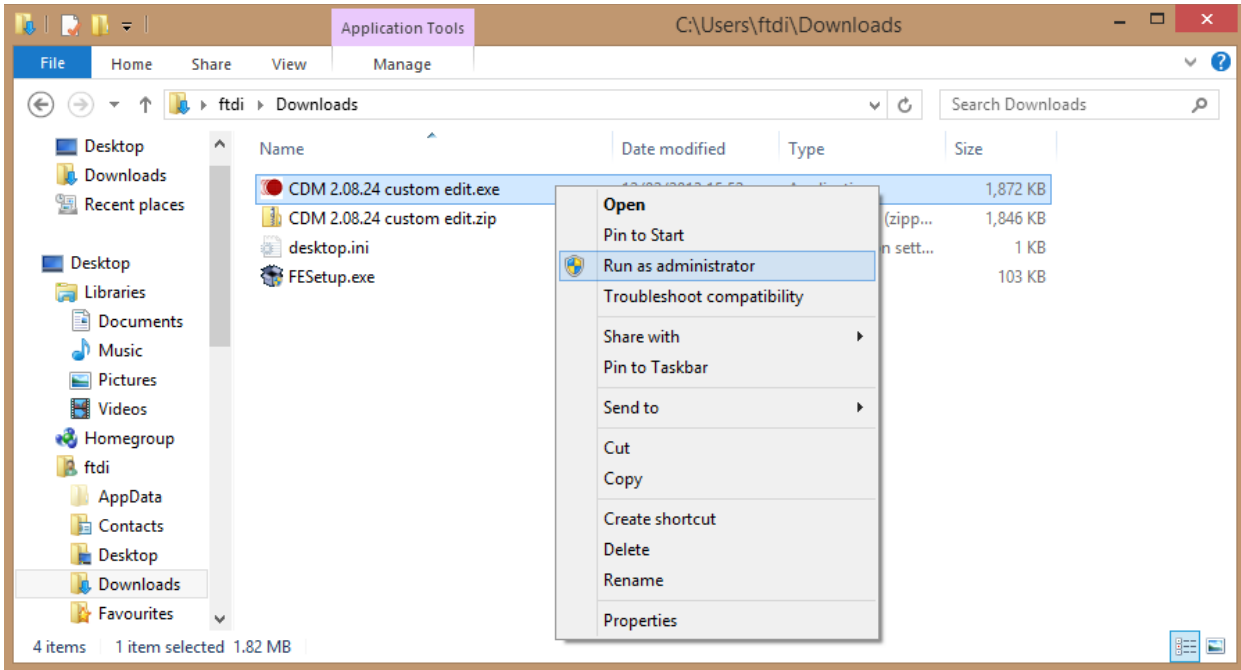


Wizard is now completed, select finish.

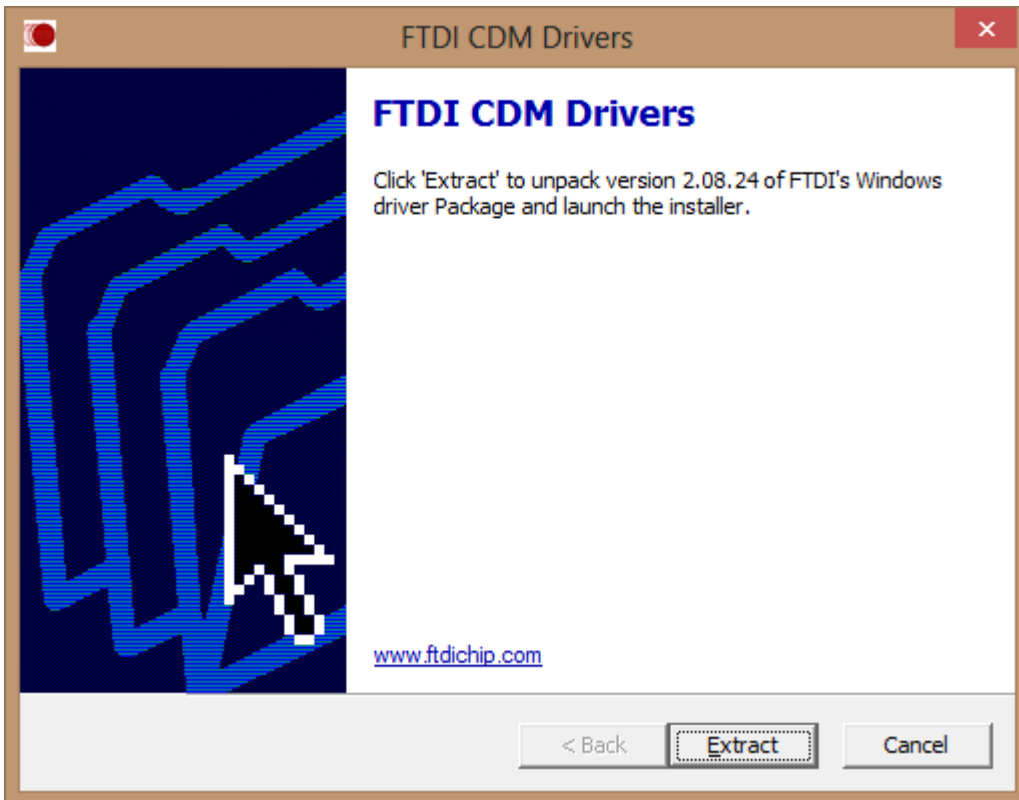


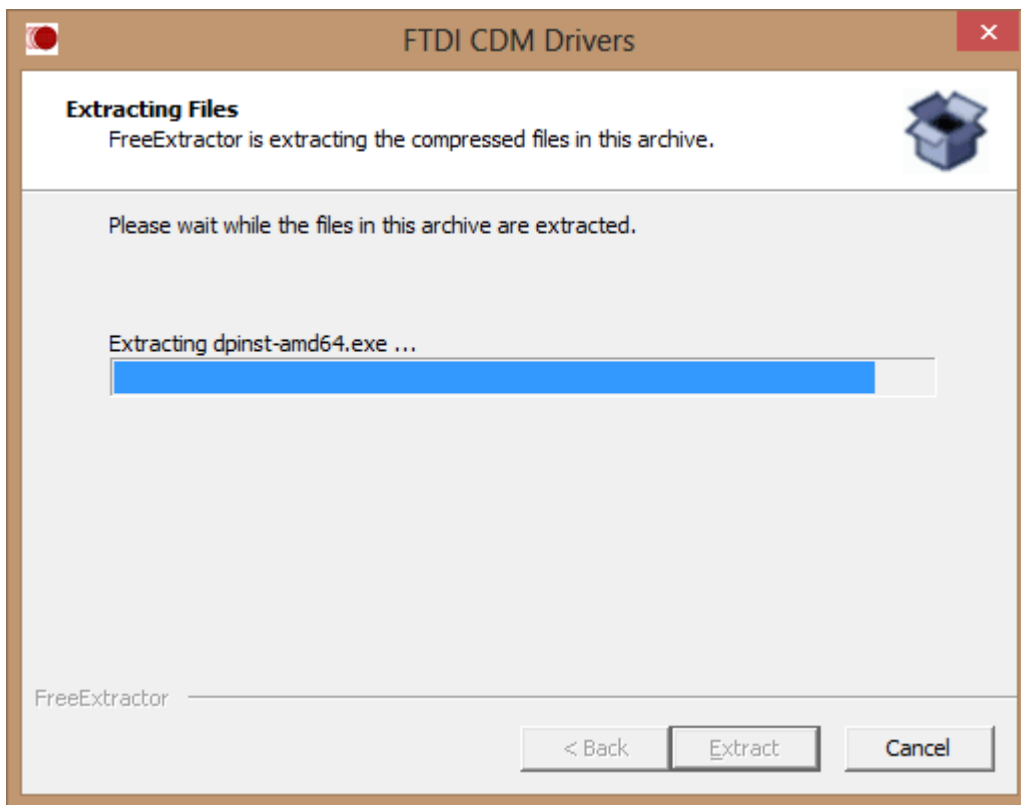
5 Run the newly created setup.exe

The CDM 2.08.24 custom edit.exe is now visible in the designated output folder. In windows 7 and 8 right click and select run as administrator.

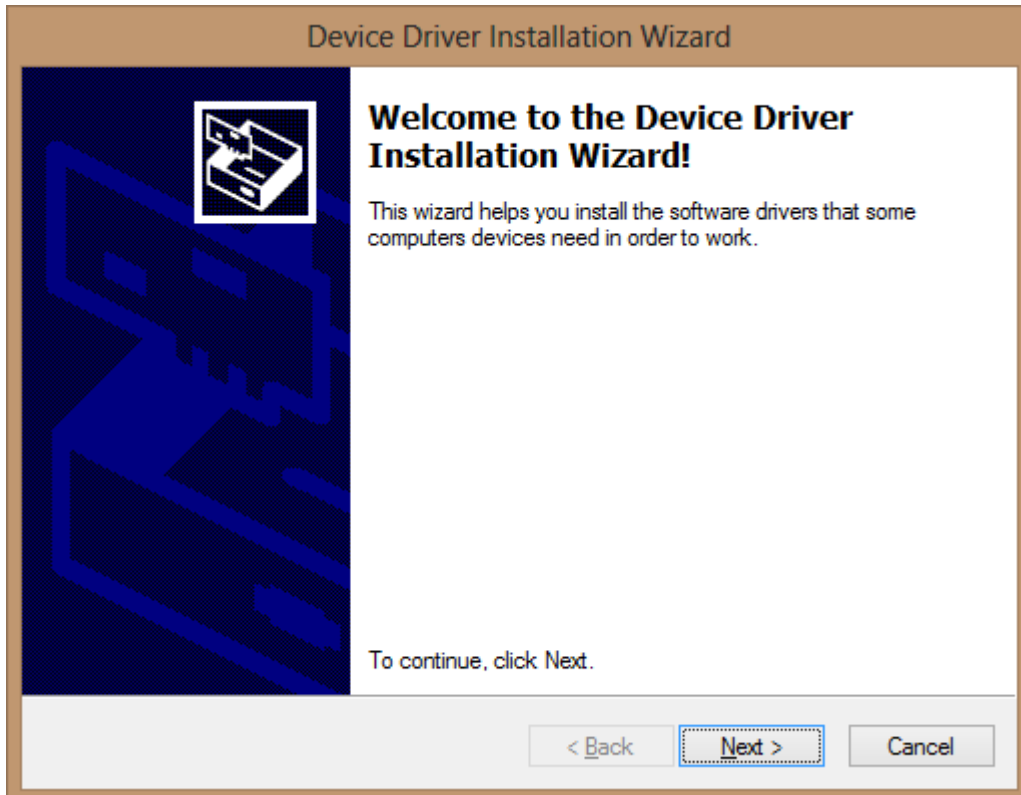


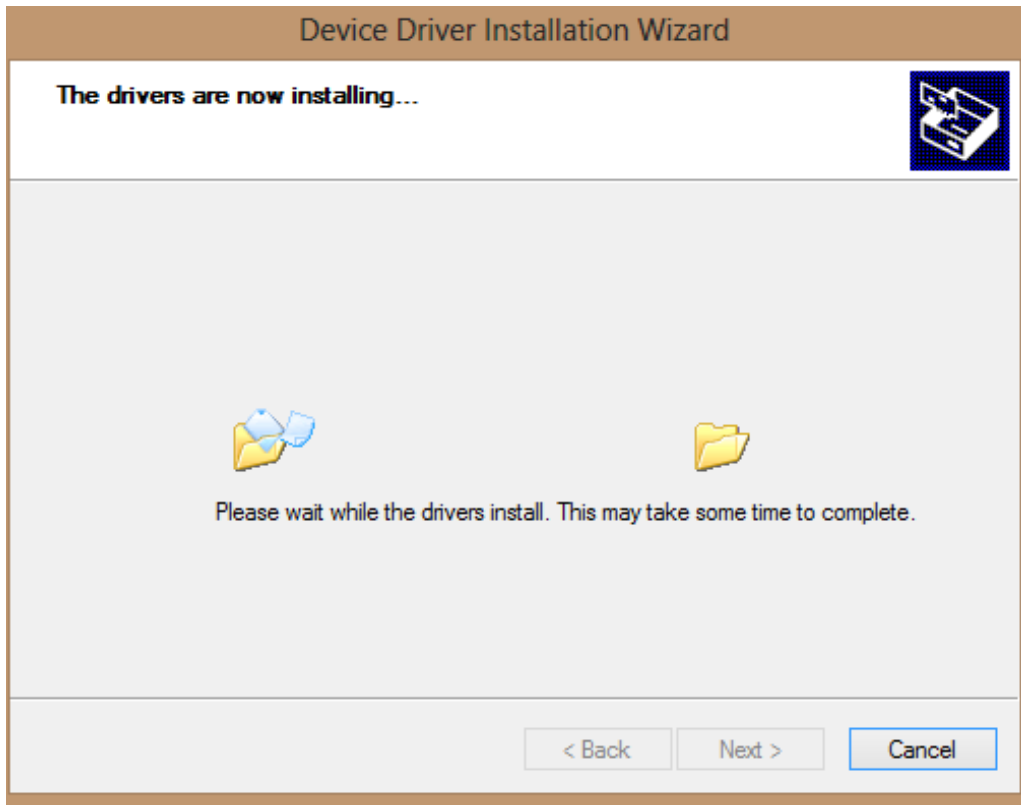
Select Extract.



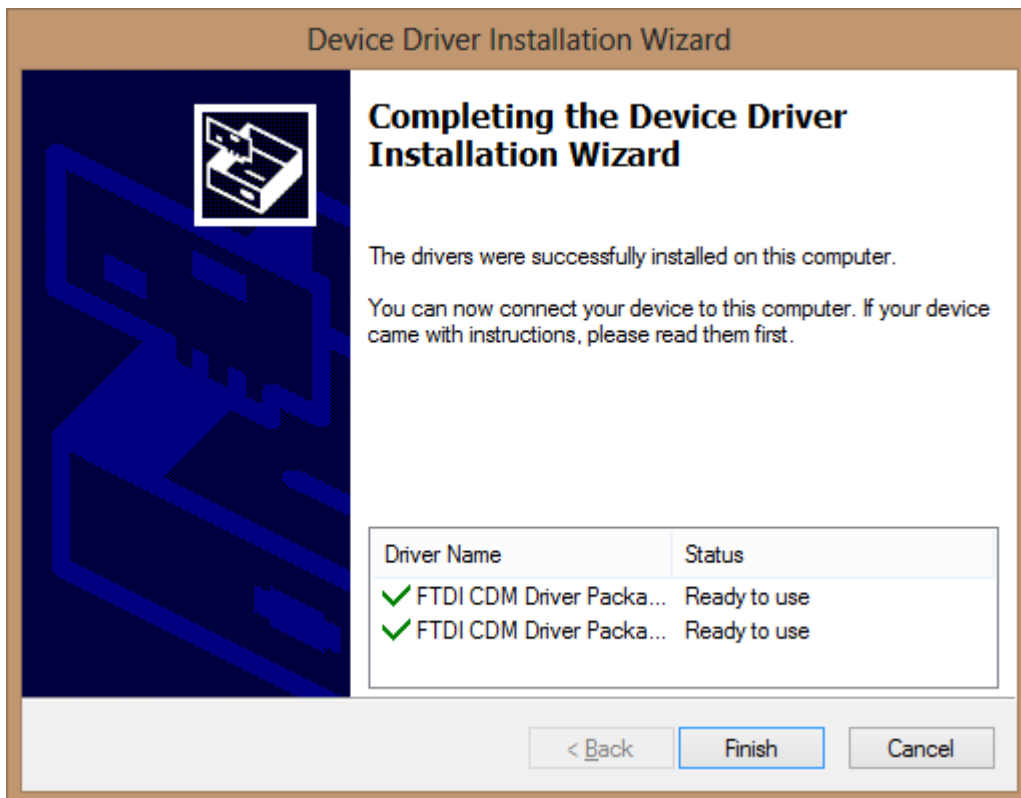


The driver install wizard will now start.





Once completed both VCP and D2XX drivers have been successfully installed.



6 Contact Information

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Appendix A – Terminology

EXE	Executable
FTDI	Future Technology Devices International
USB	Universal Serial Bus
CDM	Combined Driver Model. Windows driver package which incorporates both D2XX and VCP drivers.
D2XX	FTDI's proprietary "direct" driver interface via FTD2XX.DLL
VCP	Virtual Com Port
PID	Product ID
VID	Vendor ID

Appendix B – References

FTDI Drivers:

<http://www.ftdichip.com/Drivers/VCP.htm>

FTDI Advanced Driver Options:

http://www.ftdichip.com/Support/Documents/AppNotes/AN_107_AdvancedDriverOptions_AN_000073.pdf

FTDI INF Generator:

http://www.ftdichip.com/Support/Utilities/FT_INF.zip

Driver signing Technical note:

[TN 129 Driver Release Signing](#)

Windows Certification Application note:

[AN 101 Submitting Modified FTDI Drivers for Windows Hardware Certification](#)

FreeExtractor open-source tool:

<http://freeextractor.sourceforge.net/FreeExtractor/>

Windows Driver Kit:

<http://msdn.microsoft.com/en-gb/library/windows/hardware/gg487428.aspx>

Appendix C – Revision History

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