Future Technology Devices International Ltd.

Technical Note TN_102

OEM Technical Support Requirements

For FTDI Products

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When designing with FTDI products, Original Equipment Manufacturers (OEMs) are responsible for supporting end-users of their products. This document outlines the necessary modifications to the hardware and device driver files in order to direct end-users to the appropriate location for technical support.

Table of Contents

1   Introduction

When designing with FTDI products, Product Manufacturers are responsible for supporting end-users of their products. This document outlines the necessary modifications to the hardware and device driver files in order to direct end-users to the appropriate location for technical support.

1.1 Overview

Manufacturers have several options regarding identification and certification of the end products that utilize the FTDI USB interface ICs. These choices are outlined in Technical Note TN_100_USB_VID-PID_Guidelines.

In all cases, technical support of end products is the responsibility of the manufacturer. FTDI cannot control how the USB ICs are used and often has no knowledge of the entire product. FTDI offers support to only the manufacturer throughout the end product life cycle. FTDI also provides support to customers of cables and modules supplied by FTDI.

1.2 Scope

In order to ensure that end-user support requests are directed to the correct party, it is the responsibility of the manufacturer to identify itself in several locations:

-   Physically on the device and packaging

-   At the hardware level through the EEPROM settings

-   At the device driver level through identifications strings within the device driver files

This ensures that requests for technical support are directed to the manufacturer who best knows the entire design of the end product.

1.2.1 Physical Identification

A manufacturer shall indicate its company name and contact information in appropriate places throughout the instruction manuals, packaging and on the device itself. This information shall indicate that the manufacturer provides technical support. This is important when the manufacturer chooses to use the default FTDI Vendor ID and Product ID. End user support of a manufacturer's product is not provided by FTDI.

1.2.2 EEPROM Settings

FT_Prog or other EEPROM programmers can be used to modify the default contents of the EEPROM (internal or external) that contains the device settings and hardware identification strings. At minimum, the "Manufacturer" and "Product Description" strings shall be modified as shown in Figure 1.1.
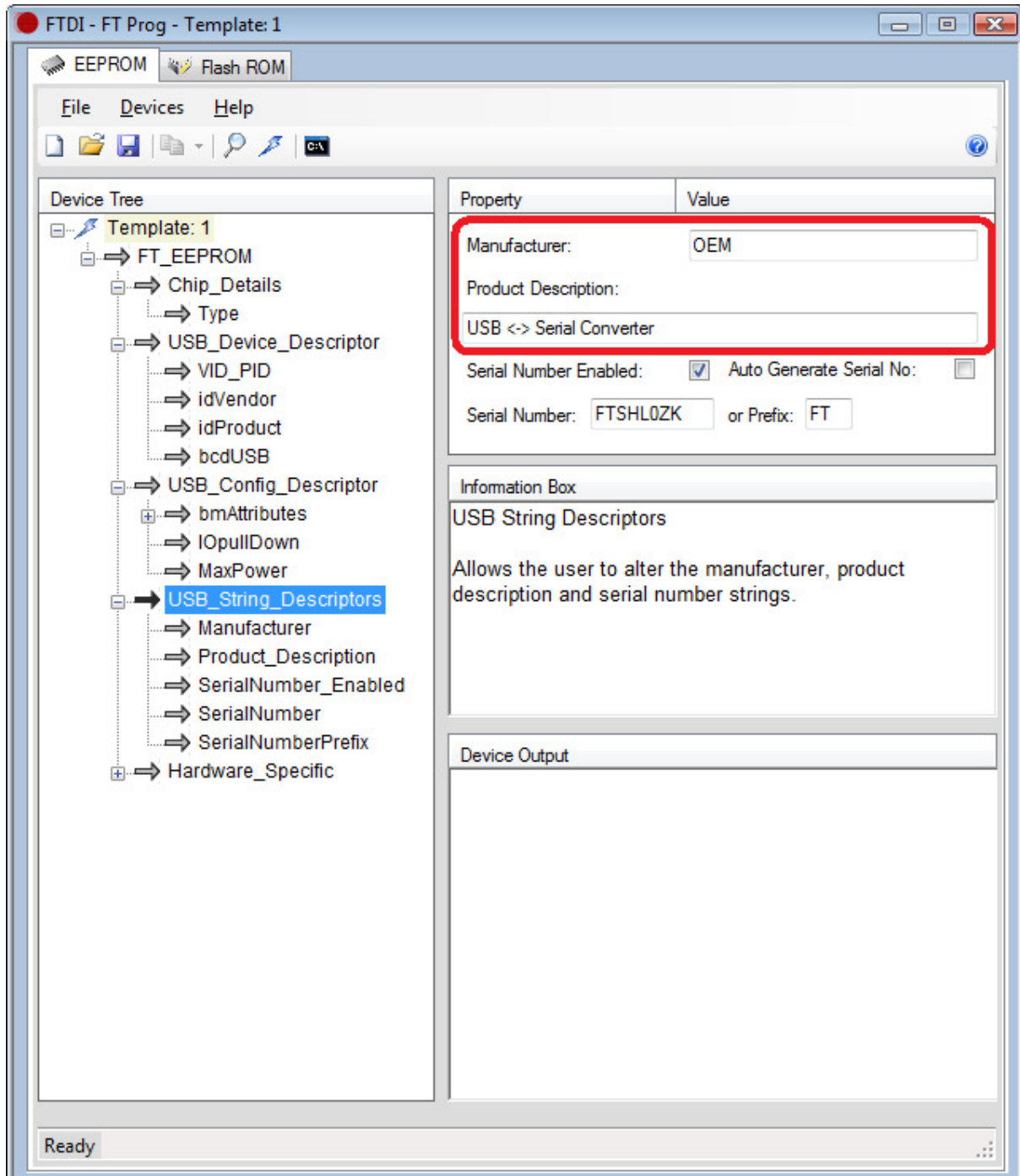
Figure 1.1 FT_Prog OEM Strings

If a manufacturer uses the default FTDI USB Vendor ID (VID) and Product ID (PID), the "Manufacturer" and "Product Description" strings should be changed to indicate the manufacturer and product details.

If a manufacturer uses any other VID and/or PID assignments, the "Manufacturer" and "Product Description" strings must be updated.

1.2.3 Device Driver Files – Identification Strings

Microsoft Windows® will display device driver details through the Device Manager Screens shown in Figure 1.2 and Figure 1.3. Many times, end-users will only look at these strings as an indication of who to call for technical support. To ensure these queries are directed to the proper place, the manufacturer string must be changed to match the actual manufacturer company name. Figure 1.2 shows the result of modifying the manufacturer string to "OEM" in the FTDIBUS.INF file. This entry is found in the Device Manager USB tree.
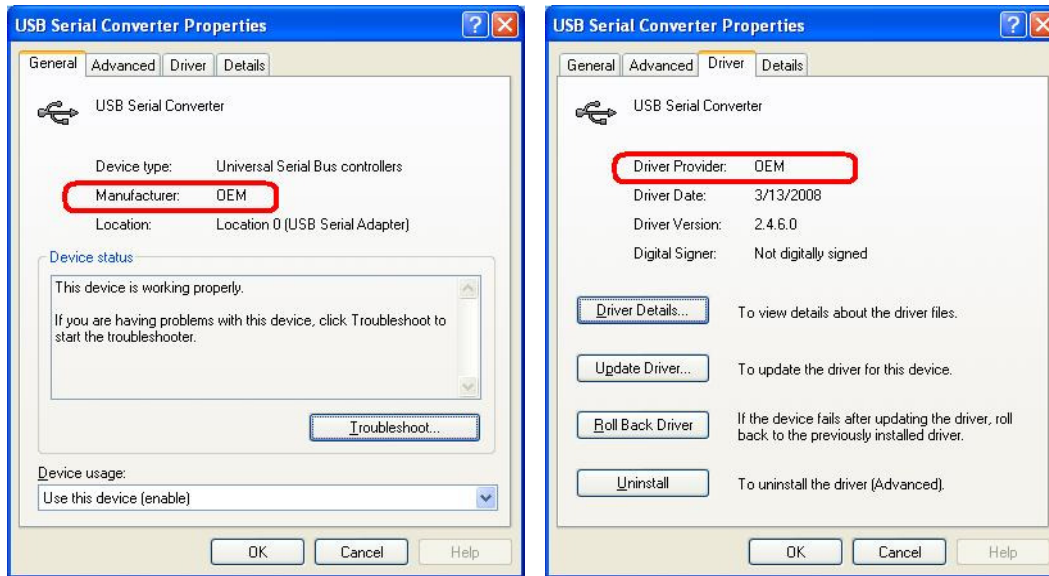
Figure 1.2 USB Serial Converter Manufacturer Details

Figure 1.3 shows the result of the same modification in the Virtual COM Port (VCP) driver file, FTDIPORT.INF. The VCP devices are shown in the Device Manager under "Ports (COM & LPT)":
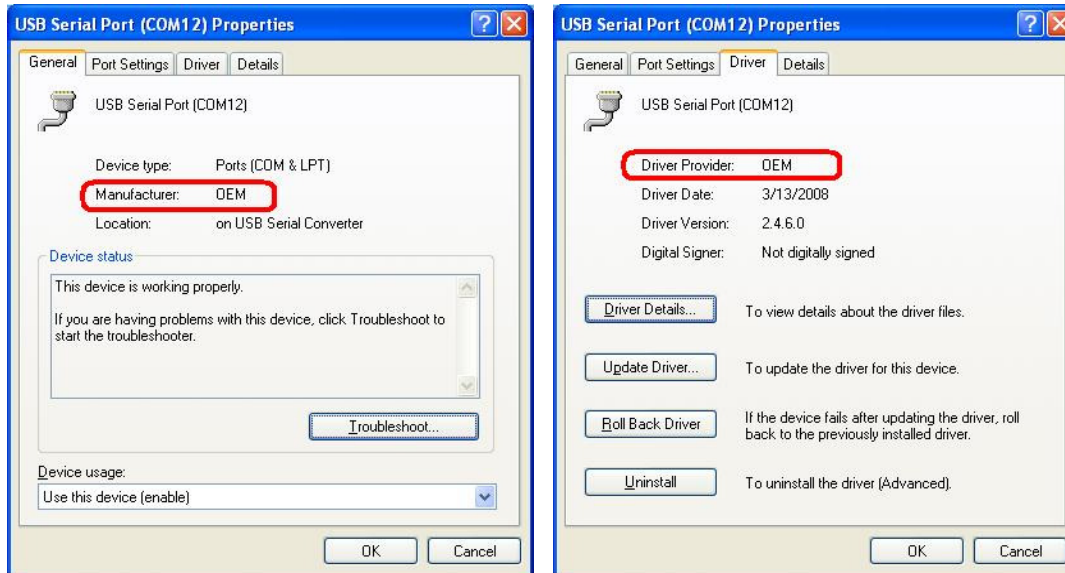
Figure 1.3 VCP Manufacturer Details

Certain OEM products enable only the USB Serial Converter (Bus / D2XX driver). Others also enable the USB Serial Port (VCP driver). There are two driver information files, FTDIBUS.INF and FTDIPORT.INF that

define numerous parameters for the device drivers, as outlined in AN_107 – Advanced Driver Options. The file excerpts below concentrate only on those parameters that configure the identifications shown by Windows. Both FTDIBUS.INF and FTDIPORT.INF require modification. Values and strings that need modified are shown in **Bold Blue**:

FTDIBUS.INF

This file requires changes in the following sections:

For the FT2xxB and FT2xxR series, as well as the Vinculum VNC1L used as a USB Client:

```
[FtdiHw]

%USB\VID_xxxx&PID_yyyy.DeviceDesc%=FtdiBus.NT,USB\VID_xxxx&PID_yyyy

[FtdiHw.NTamd64]

%USB\VID_xxxx&PID_yyyy.DeviceDesc%=FtdiBus.NTamd64,USB\VID_xxxx&PID_yyyy

…
[Strings]

Ftdi="Insert OEM Company Name Here"

DESC="CDM Driver Package"

DriversDisk="FTDI USB Drivers Disk"

USB\VID_xxxx&PID_yyyy.DeviceDesc="Insert Device Description Here"
```

xxxx = the USB Vendor ID and yyyy = the USB Product ID

All other lines with VID and PID references in the [FtdiHw], [FtdiHw.NTamd64] and [Strings] sections must be deleted or commented in order to uniquely and properly identify the product, especially if subsequent WHQL re-certification is obtained.

For the Multi-port FT2232D and FTx232H series, there are two or four USB end-points. One line for each end-point is necessary for each CPU type and in the Strings section. Entries for the two-port devices are shown here. The FT4232H would have two additional lines in each section:

```
[FtdiHw]

%USB\VID_xxxx&PID_yyyy&MI_00.DeviceDesc%=FtdiBus.NT,USB\VID_xxxx&PID_yyyy&MI_00

%USB\VID_xxxx&PID_yyyy&MI_01.DeviceDesc%=FtdiBus.NT,USB\VID_xxxx&PID_yyyy&MI_01

[FtdiHw.NTamd64]

%USB\VID_xxxx&PID_yyyy&MI_00.DeviceDesc%=FtdiBus.NTamd64,USB\VID_xxxx&PID_yyyy&MI_00

%USB\VID_xxxx&PID_yyyy&MI_01.DeviceDesc%=FtdiBus.NTamd64,USB\VID_xxxx&PID_yyyy&MI_01

…
[Strings]

Ftdi="Insert OEM Company Name Here"

DESC="CDM Driver Package"

DriversDisk="FTDI USB Drivers Disk"

USB\VID_xxxx&PID_yyyy&MI_00.DeviceDesc="Insert Device Description Here – Channel A"

USB\VID_xxxx&PID_yyyy&MI_01.DeviceDesc="Insert Device Description Here – Channel B"
```

xxxx = the USB Vendor ID and yyyy = the USB Product ID

All other lines with VID and PID references in the [FtdiHw], [FtdiHw.NTamd64] and [Strings] sections must be deleted or commented in order to uniquely and properly identify the product, especially if subsequent WHQL re-certification is obtained.

FTDIPORT.INF

As with FTDIBUS.INF, the file FTDIPORT.INF also requires change, but only if the end device is using the VCP driver to expose a Windows COM port.

This file requires changes in the following sections:

For all USB Client parts, including FT2xxB, FT2xxR and FT2232D and FTx232H series, as well as the Vinculum VNC1L used as a USB Client:

```
[FtdiHw]

%VID_xxxx&PID_yyyy.DeviceDesc%=FtdiPort232.NT,FTDIBUS\COMPORT&VID_xxxx&PID_yyyy

[FtdiHw.NTamd64]

%VID_xxxx&PID_yyyy.DeviceDesc%=FtdiPort232.NTamd64,FTDIBUS\COMPORT&VID_xxxx&PID_yyyy

…

[Strings]

Ftdi="Insert OEM Company Name Here"

DESC="CDM Driver Package"

DriversDisk="FTDI USB Drivers Disk"

USB\VID_xxxx&PID_yyyy.DeviceDesc="Insert Device COM Port Description Here"
```

xxxx = the USB Vendor ID and yyyy = the USB Product ID

All other lines with VID and PID references in the [FtdiHw], [FtdiHw.NTamd64] and [Strings] sections must be deleted or commented in order to uniquely and properly identify the product, especially if subsequent WHQL re-certification is obtained.

It is important to note that the device drivers in this example are shown in Figures 2 and 3 as "Not digitally signed". Any time there are edits performed on any of the device driver files, it will invalidate the WHQL signature. Re-certification by the OEM is possible. Refer to the AN_101_WHQL_Certified_Driver_Process(FT_000063).

1.3 Conclusion

End-user technical support of an OEM device is the responsibility of the manufacturer. FTDI provides support to the manufacturer since the FTDI components are often only one component of the entire OEM product. This document outlines the modifications necessary at the hardware and device driver levels in order to ensure end-users are directed to the proper entity for technical support.

1.4 Keywords

FT232, FT245, FT2232, FT4232, Vinculum, VNC1L-1A, VDPS Firmware, Support

1.5 Reference

FTDI Application Notes and Technical Notes:

AN_107 – Advanced Driver Options

TN_100_USB_VID-PID_Guidelines(FT_000024)

AN_101_WHQL_Certified_Driver_Process(FT_000063)

2   Acronyms and Abbreviations

Terms	Description
OEM	Original Equipment Manufacturer
INF file	Device Driver "Information" file containing device driver settings and identification strings
VID	Vendor ID – Unique manufacturer number assigned by the USB Implementers Forum
PID	Product ID – used in conjunction with the VID to identify a unique USB product type

Table 2.1 Acronyms and Abbreviations

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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.

Appendix A - Revision History

Revision History

Version 1.0	Initial Release	2008-08-28
Version 1.1	Added references to FT2232H and FT4232H	2009-10-23
	Changed MPROG reference to FT_Prog	
	Updated UK & TW addresses. Added CH address	