

Compiling and Running FTDI MPSSE

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Chapter 1

Introduction

This is a summary of steps taken to produce working C programs to drive a USB to SPI cable device. This cable uses the FTDI FT2232H chip.

This cable is available from Amazon:

https://www.amazon.com/gp/product/B00HKK4SC0/ref=oh_aui_search_asin_title?ie=UTF8&psc=1

Chapter 2

Install the FTDI D2XX Driver

The D2XX driver is a low-level C based driver. There is a decent app note for this driver:

Application Note AN_220 FTDI Drivers Installation Guide for Linux Version 2.1 Issue Date: 2017-06-07

Download the archive file:

<https://www.ftdichip.com/Drivers/D2XX.htm>

For the desktop, get the 64 bit Linux version:

libftd2xx-x86_64-1.4.8.gz

Untar the archive. It was not necessary to build the library file. The included file:

```
file libftd2xx.so.1.4.8
```

```
libftd2xx.so.1.4.8: ELF 64-bit LSB shared object, x86-64, version 1 (SYSV), dynamically linked, interpreter /lib64/ld-linux-x86-64.so.2
```

All that it is required is to move the file to an appropriate directory where these types of files can be found by compilers and applications.

The instructions in the installation guide have typos and a critical omission. Here is the correct process:

```
cd libftd2xx-x86_64-1.4.8
sudo cp -r ./release/build/lib* /usr/local/lib
cd /usr/local/lib
sudo ln -s libftd2xx.so.1.4.8 libftd2xx.so
sudo chmod 0755 libftd2xx.so.1.4.8
cd release
sudo cp ftd2xx.h WinTypes.h /usr/local/include
sudo ldconfig
```


Chapter 3

MPSSE Driver Compilation and Installation

Download the archive file for SPI:

<https://www.ftdichip.com/Support/SoftwareExamples/MPSSE/LibMPSSE-SPI.htm>

You need to get the source code archive file. The ready compiled archive does not include 64 bit linux!

`LibMPSSE-SPI_source.zip`

Move to a convenient directory and expand the archive. The archive includes a copy of the D2XX driver. But it is an older copy! So delete the old one, and replace it with the latest and greatest:

Replace this old version:

`./LibMPSSE-SPI_source/LibMPSSE-SPI/External/Linux/libftd2xx1.1.12`

with the (untarred) new version: `libftd2xx-x86_64-1.4.8`.

Now build:

```
cd ./LibMPSSE-SPI_source/LibMPSSE-SPI/LibMPSSE/Build/Linux
make
```

The only file generated which is important:

`libMPSSE.so`

This needs to be copied to a shared library directory:

```
sudo cp libMPSSE.so /usr/local/lib
cd ../../..
cd ./Release/includes
sudo cp libMPSSE_spi.h /usr/local/include
ldconfig
```

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Note that the other two header files, `ftd2xx.h` and `WinTypes.h`, were already copied in the installation process for the D2XX installation process.

Chapter 4

Using the MPSSE SPI Driver

Driver installation is complete. Now a few hints on using the driver.

First, a couple of standard loadable kernel modules must be removed:

```
sudo rmmod ftdi_dio usbserial
```

So this will have to be done every time the serial cable is inserted. The above command needs to be added to any script which uses the MPSSE driver.

4.1 Sample C Programs

Sample programs are located here:

```
./LibMPSSE-SPI_source/LibMPSSE-SPI/Release/samples/SPI/SPI
```

The samples read and write to an EEPROM. This was hacked down for testing purposes.

Here is a youtube video (Windows based):

```
https://www.youtube.com/watch?v=mvpX3D-ddmE
```

