

Top16 using Text Commands over a Virtual Comport

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The following guide shows how to set the Top16 to be a virtual com port and use text commands.

The standard setup of the Top16 is *not* to load a virtual comport, but instead use a dll FTD2XX.dll to communicate.

Using the following procedure, the Top16 can be setup as a virtual comport and controlled using text commands.

When setup as a virtual comport the following settings are used:

Baudrate: 115200
Parity: None
Stopbits: 1
Databits: 8

1.

The Top16 will load a virtual com port, or not, depending on a flag set in its eeprom. To load a virtual com port, a setting must be changed using a utility called MPROG.

Download MPROG from:

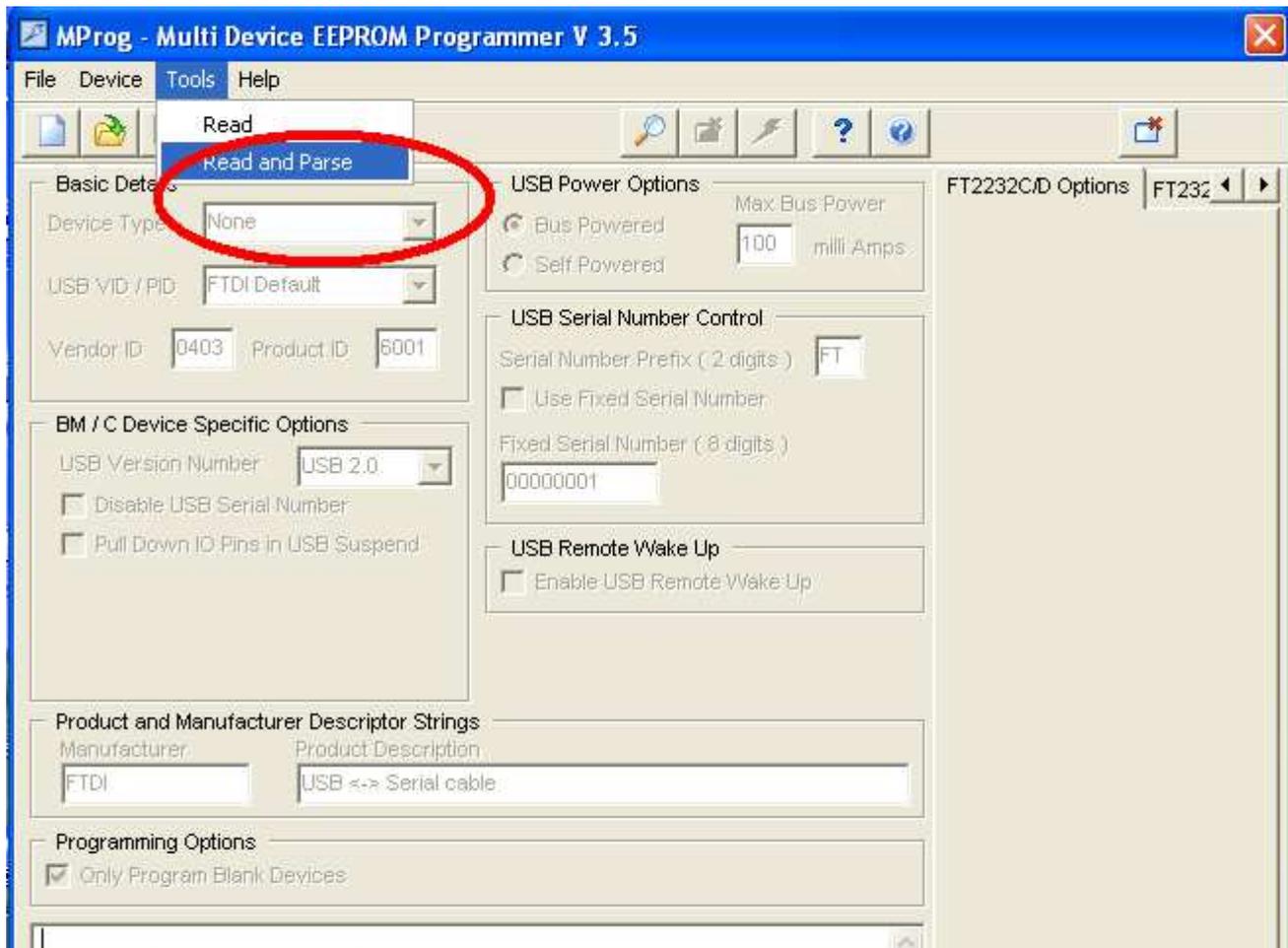
<http://www.ftdichip.com/Resources/Utilities.htm#MProg>

Run the MPROG utility..



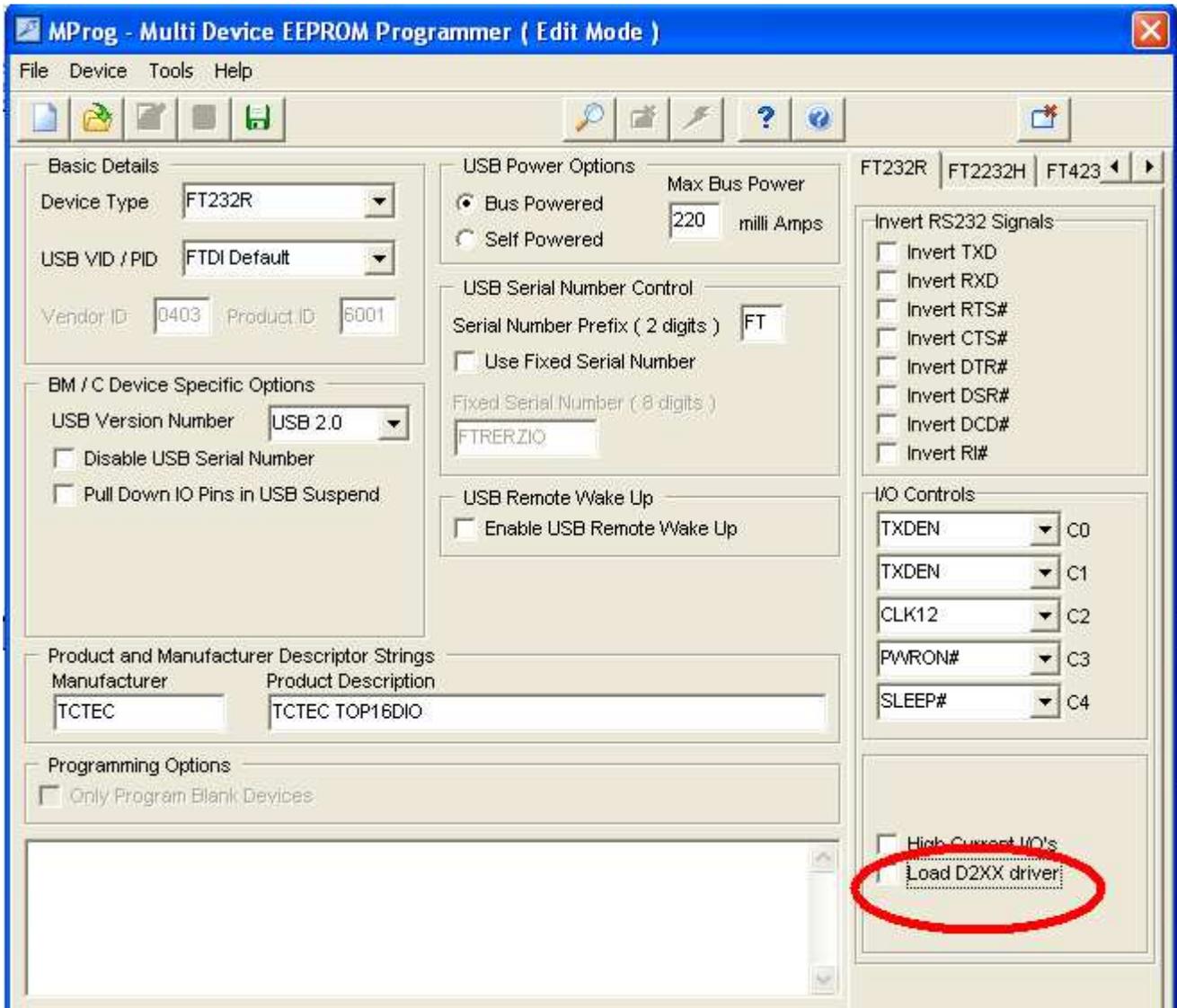
2.

With ONLY one Top16 plugged in, (and other devices such as Top16 and Super4 not plugged in) select Tools->Read and Parse to detect the connected top16:



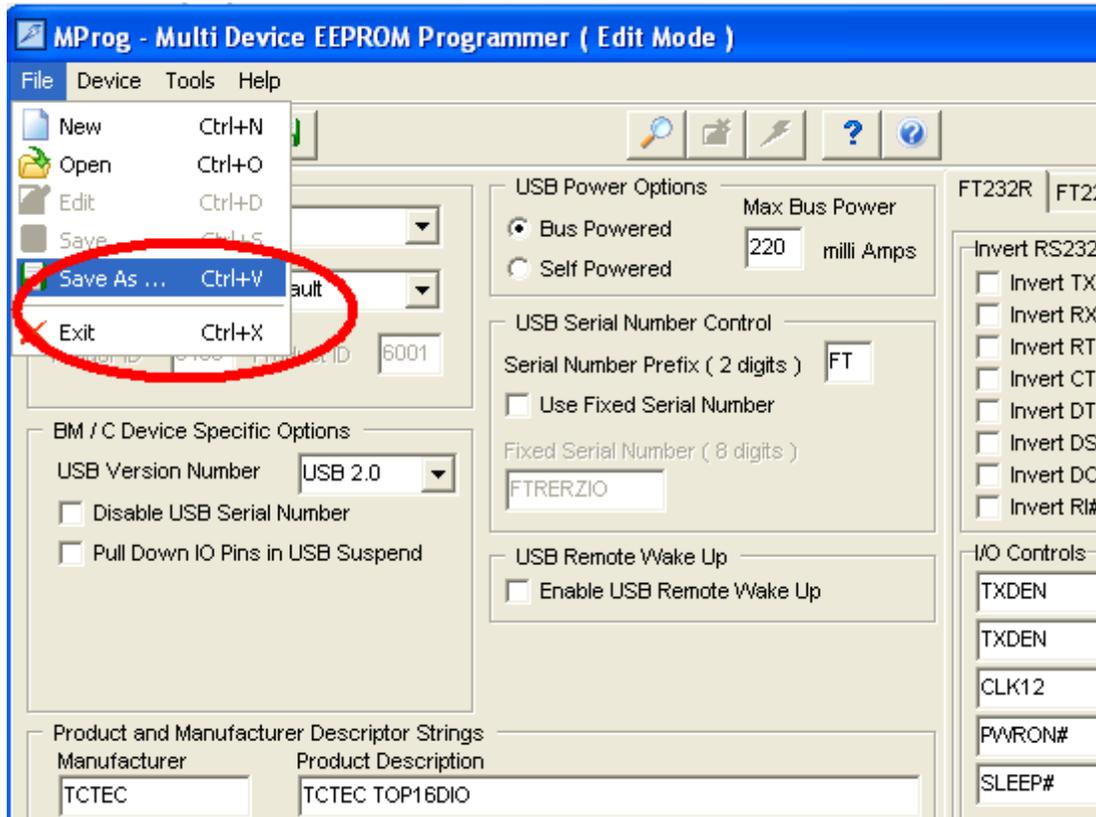
3.

The settings of the Top16 will be loaded and displayed, UN-Check 'Load D2XX driver' check box:



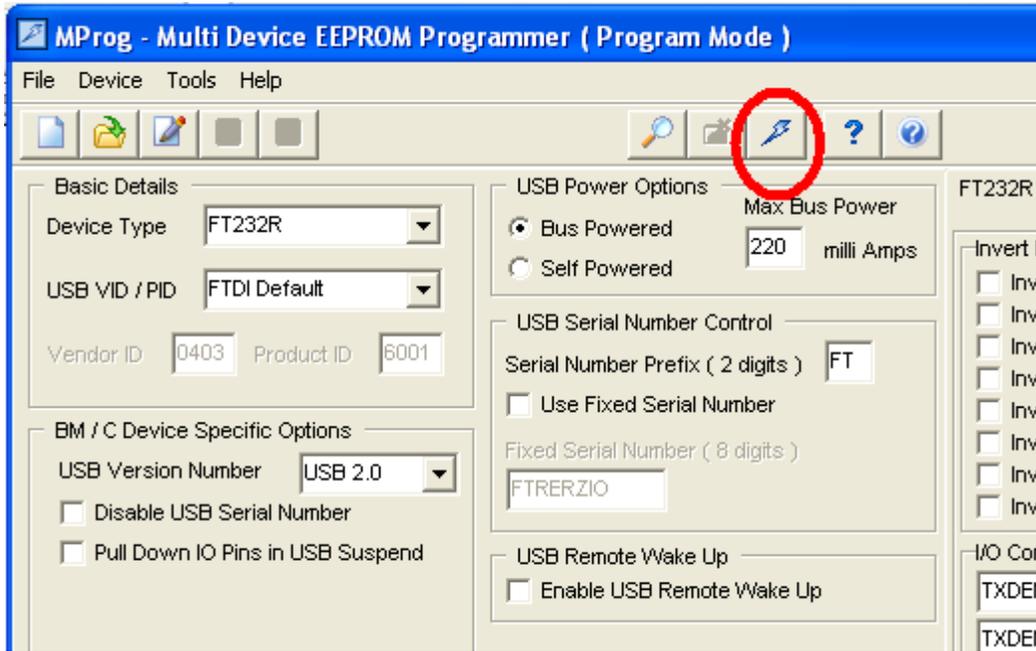
4.

To download this new setting to the top16, the setting must first be saved to a local file.. Chose file->save as and save the file anywhere under a temporary name eg "data":



5.

Download the new settings to the top16 by pressing the Program button (lightning bolt):



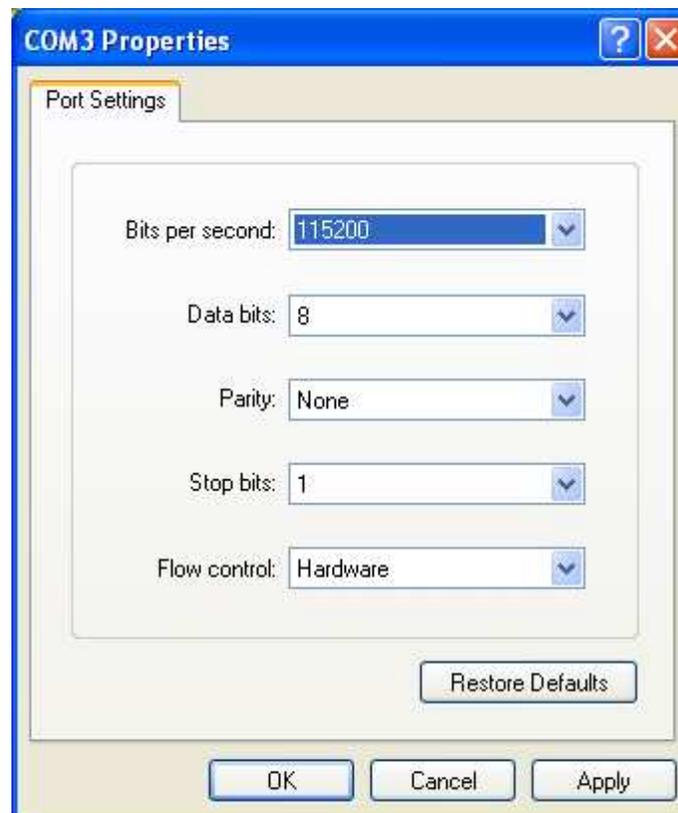
6.

After a few seconds, a message in the bottom panel will show: Programmed Serial Number : FTR..... (the number will be unique to your device). This means programming has completed. Shut down MPROG and unplug the top16 from the USB port.

7.

Plug the top16 back into a USB port, it will now appear as a virtual com port. You can test using a terminal application. Ensure that the correct port settings are used:

Note: if using Hyperterminal, turn off hardware flow control and ensure ascii setup is set to display typed characters locally.



COMMANDS

The following human readable text commands are used to communicate with the Top16.
Note [CR] means Carriage return (the enter key).

?[CR]

Will return the firmware version (four numbers YYMMDD)

#HHMM[CR]

HH - hex number 00 to FF to set the 8 bits of output
MM - mask (00 to FF) which outputs to affect and which to ignore (1 = output will be affected, 0 = output will be unaffected)

Returns:

>IIOO[CR]

II - is a hex representation of the 8 input bits
OO - is the hex representation of the state of the 8 output bits.

#Nn[CR]

Analog input command.

N - (Z to T) the gain to apply before reading the analog input. The gain settings are as follows: Z = 1, Y = 2, X = 4, W = 8, V = 16, U = 32, T = 64
n - (1 to 8) the input to read.

Returns:

>XXXX[CR]

XXXX - The hex representation of the raw analog reading (12 bit unsigned)

#PnXX[CR]

PWM output command

n - The output to set (1 to 8)
XX - The pwm setting (00 to FF)

Returns:

>OK[CR]

Important Note:

When setup as a virtual comport, the top16 will not work with Top16 Manager application or provided dlls, top16.dll, or DotNet libraries.

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