

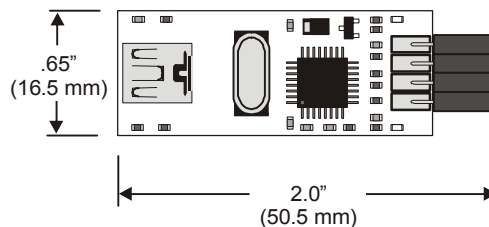
USB2SER (#28024)

FTDI FT232BM USB to Serial Development Tool

Introduction

The USB2SER provides an easy way to interface a PC to a microcontroller. It bridges the PC's USB port to logic-level RX and TX signals that can connect directly to a microcontroller's I/O pins. To the PC, the USB2SER appears as a virtual COM port. To the microcontroller, the USB2SER appears as a true 3.3V-5V serial connection consisting of an RX signal, a TX signal, and a low-pulsing RESET signal controlled by 'DTR'. The USB2SER is powered from the USB cable. It has a 4-pin female .100"-space connector that can be easily plugged and unplugged from a microcontroller circuit. Red and green LEDs indicate TX and RX activity. Standard baud rates are supported, as well as custom rates up to 3 megabits per second.

This product will require a mini-b USB cable to be able to connect to a PC. This part can be purchased from www.parallax.com part number # 805-00006.



PC Drivers and USB Vendor/Product IDs

The USB2SER is based upon the FT232BM chip by FTDI. The FT232BM can be configured with and without an EEPROM. The USB2SER has an EEPROM which is loaded with Parallax' USB Vendor ID information. Upon first plugging the USB2SER in, Windows will prompt you for the driver. After that, it will be automatically recognized each time. For more details about the FT232BM chip, see <http://www.ftdichip.com/>.

Programming a BASIC Stamp from a USB Port

The USB2SER is not able to program BASIC Stamp[®] microcontroller modules. BASIC Stamp modules require an inverted signal. If you need to program a BASIC Stamp use the FTDI USB to Serial Adapter (#800-00030).

Bill of Materials

You can build your own USB2SER adapter from our Bill of Materials, also shown in the schematic.

| Part Description | Quantity |
|-------------------------|----------|
| FT232BM Chip | 1 |
| 93LC46B/OT EEPROM | 1 |
| USB miniB connector | 1 |
| 6 MHz crystal | 1 |
| 10 nF capacitor | 3 |
| 27 pF capacitor | 2 |
| 0.1 uF capacitor | 3 |
| 27 Ω resistor | 2 |
| 470 Ω resistor | 3 |
| 2.2 k Ω resistor | 1 |
| 1 k Ω resistor | 2 |
| 1.5 k Ω resistor | 1 |
| 10 k Ω resistor | 1 |
| 33 k Ω resistor | 1 |
| 2N3904 transistor | 1 |
| Red LED | 1 |
| Green LED | 1 |

USB2SER Revision A Schematic

