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# **USB2SER (#28024)**

## FTDI FT232RQ USB to Serial Development Tool

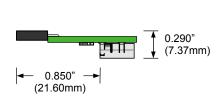
The USB2SER provides an easy way to interface a PC to a microcontroller. It bridges the PC's USB port to logic-level RX and TX signals that can connect directly to a microcontroller's I/O pins. To the PC, the USB2SER appears as a virtual COM port. To the microcontroller, the USB2SER appears as a true 5 V serial connection consisting of a RX signal, a TX signal, and a low-pulsing RESET signal controlled by 'DTR'. This product will require a USB A to Mini B cable to be able to connect to a PC. This part can be purchased from www.parallax.com, part #805-00006.

#### **Features**

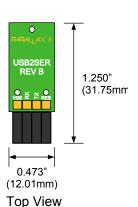
- Powered via the USB cable, no external supply required
- 4-pin SIP female .1" spacing connector to microcontroller circuit
- Red and blue LEDs indicate TX and RX activity
- Supports standard baud rates and custom rates, 300 baud to 3 Mbaud

### **Key Specifications**

- Power requirements: 5 VDC, up to 90 mA, from USB connection
- Communication: Full speed USB, full duplex 5 V non-inverted TTL serial from 300 baud to 3 Mbaud
- Operating Temperature: -40 to +85°C
- Module Dimensions given in the diagrams below



Side View



0.100" — — (2.54mm)

Mini USB

Bottom View

#### **Device Connection**

#### FTDI Virtual Com Port USB Drivers Required

Before connecting the USB2SER tool to your computer, install the correct FTDI VCP USB drivers for your operating system. A driver installer for Windows 2K/XP/Vista is available from a home page link at www.parallax.com. It is also bundled into the newest versions of the Parallax's BASIC Stamp Editor, Propeller Tool, and SX-Key Editor software. To obtain FTDI VCP USB drivers for other operating systems, visit www.ftdichip.com.

#### **Check Polarity**

Be sure to verify the correct polarity before connecting the USB2SER to another board by matching the connection names located above the connector.

#### **Programming a BASIC Stamp from a USB Port**

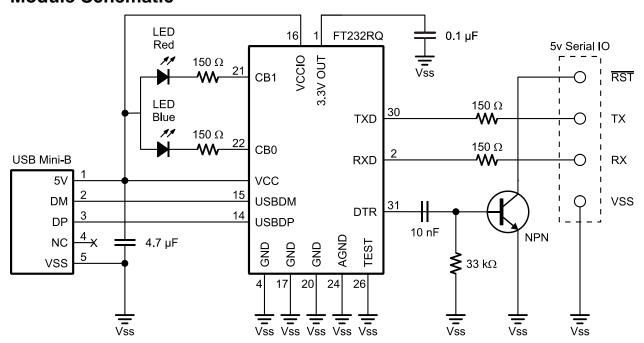
The USB2SER is not able to program BASIC Stamps. BASIC Stamp modules require an inverted signal. If you need to program a BASIC Stamp, use the Parallax USB to Serial (RS-232) Adapter (#28030).

#### **Bill of Materials**

You can build your own USB2SER adapter from the Bill of Materials and schematic shown below.

Description	Quantity
FT232RQ Chip	1
2N3904 transistor	1
Red LED	1
Blue LED	1
4.7 μF capacitor	1
0.1 μF capacitor	1
10 nF capacitor	1
150 Ω resistor	4
33 kΩ resistor	1
USB mini B connector	1
4 pin SIP socket	1

#### **Module Schematic**



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