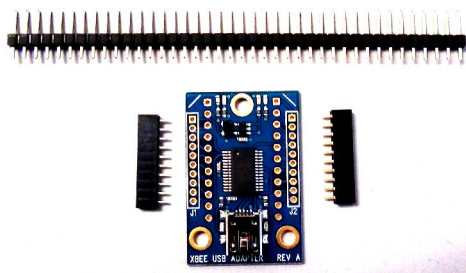


XBee USB Adapter Board (#32400)

This low cost XBee USB Adapter Board comes in partially assembled kit form and provides a cost-effective solution to interfacing a PC or microcontroller to any XBee or XBee Pro module. By using this adapter board you can provide an easy interface to the XBee or XBee Pro modules by converting the 2mm pin spacing to breadboard friendly 0.100" spacing. The adapter boards also provide a means to connect pluggable wires or solder connections and also provide mounting holes.

Features

- Provides an easy interface for configuring an XBee Module via a PC
- 4 status indicator LEDs for Power, RSSI, Associate and mode (sleep/ON)
- Converts XBee 2mm pin spacing to 0.100" pin spacing
- Provides easy pluggable wire or solder connections
- Includes mounting holes
- Pin-out compatible with our other XBee Adapter boards
- Partially assembled kit form for flexible configuration



Key Specifications

- Power requirements: 3.3V pass-through to XBee module
- Communication: Serial pass-through to XBee module
- Operating temperature: -40 to +158°F (-40 to +70°C)
- Dimensions: 1.51" L x 1.00" W x 0.58" H* (38.3 mm x 25.6 mm x 14.8 mm*)
* when headers are attached

Application Ideas

- Easy connection of XBee modules to PC for configuration
- Easy connection of XBee modules to breadboard or proto board
- Convenient way to mount the XBee module away from the microcontroller

Packing List

- (1) XBee USB Adapter Board PCB (SMD components pre-soldered)
- (2) 10-pin 2mm sockets
- (1) 40-pin SIP header

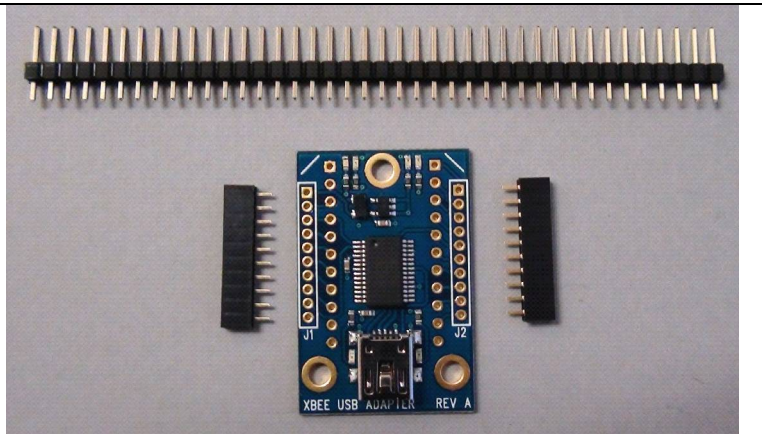
Tools Required

- Soldering Iron (always wear safety glasses when soldering)
- Solder (some soldering experience required)
- Flux
- Diagonal cutters or Exacto knife

Assembly Instructions

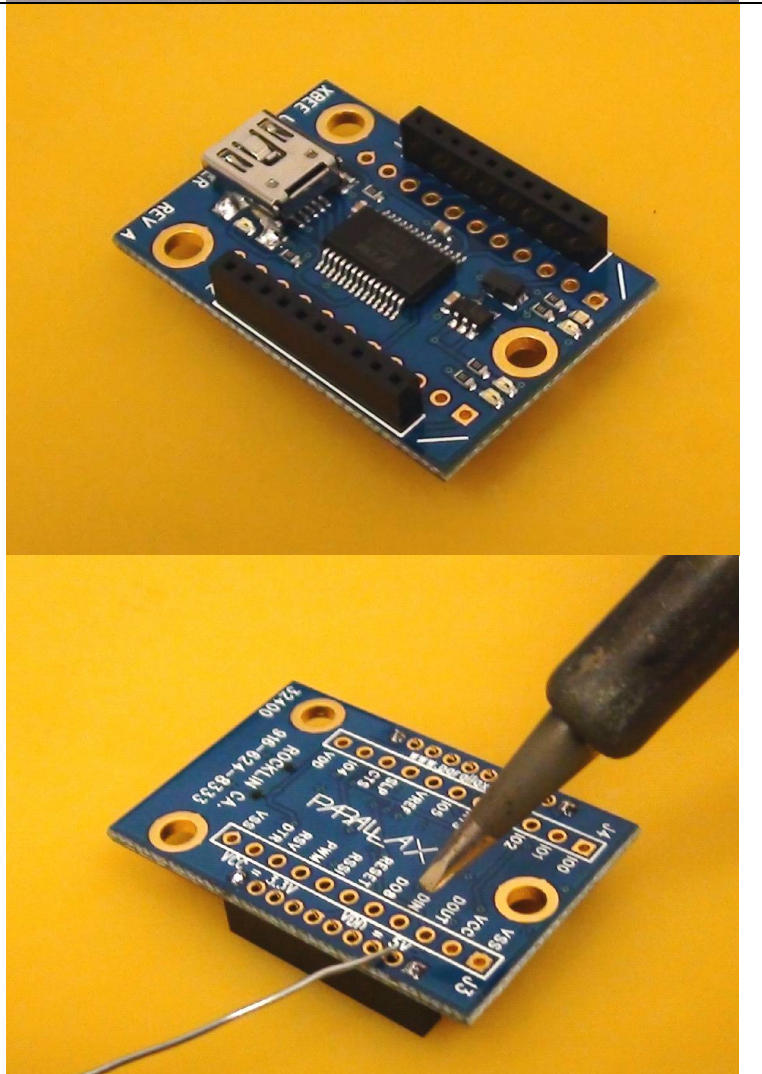
Step 1:

Check to ensure your kit contains the following parts as shown in the photo.



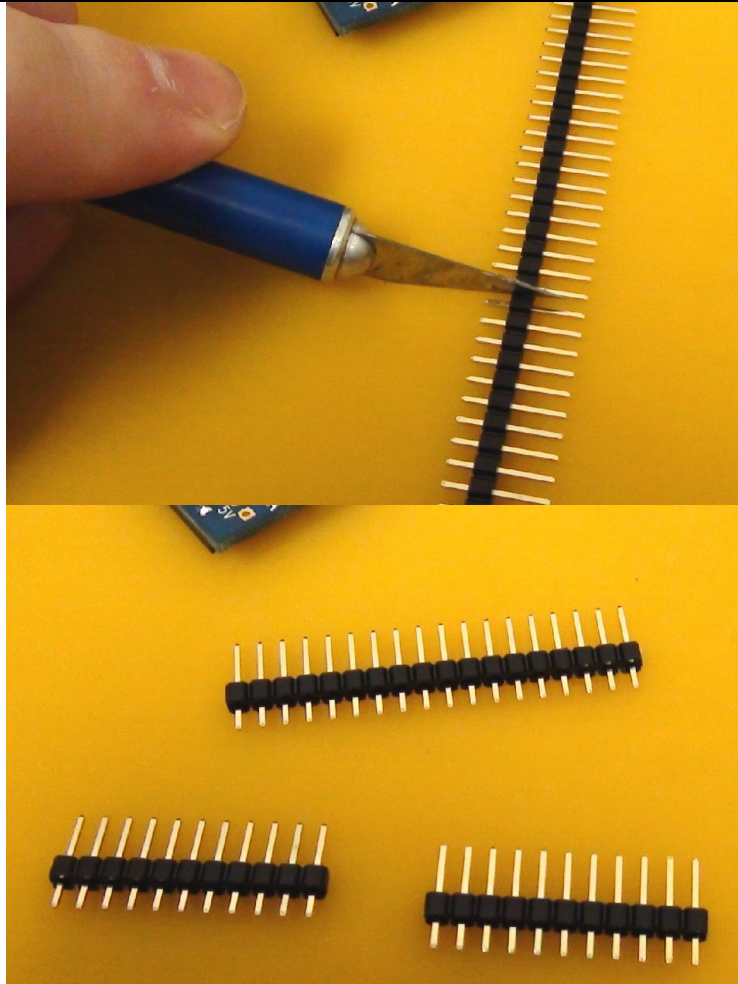
Step 2:

Install the 2mm sockets on top of the PCB as shown and solder them in place from the bottom side of the board.



Step 3:

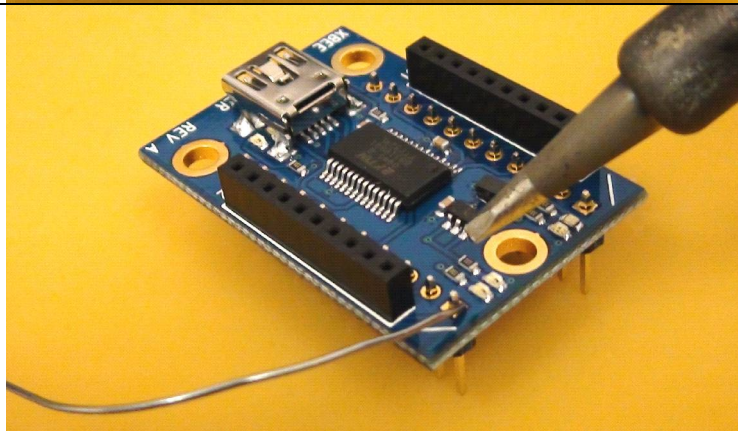
Using an Exacto knife, hobby knife or a pair of diagonal cutters, cut two 11-pin headers from the 40-pin header. Extra header material was included in case of a mistake or damaged header.

**Step 4 (optional):**

Insert the two 11-pin SIP headers into the bottom of the adapter board as shown and solder them in place from the top.

This step is optional in that you could leave the headers out and solder wires into the pads instead if you wish.

Headers are also not needed for PC communication or power since both are obtained from the USB port.



USB Driver Installation

If you wish to connect your XBee USB Adapter to your PC then you will first need a USB A to Mini B cable (sold separately). You will also need to install the FTDI VCP drivers. You may obtain the latest drivers by pointing your web browser to <http://www.parallax.com/usbdriers>. You may also obtain these drivers from the FTDI website at <http://www.ftdichip.com/Drivers/VCP.htm>. Note: you may already have the USB drivers installed if you have installed the Propeller Tool software or use any Parallax USB development boards.

Once the USB driver has been installed you may connect your USB cable between the PC and the XBee USB Adapter Board. The XBee USB Adapter is now ready to be configured via the X-CTU software from Digi. Note that the functions of some of the I/O lines on the adapter can be configured from the X-CTU software. As long as the USB port is providing power the XBee Adapter Board is powered on. Please remember that the I/O signals are 3.3V level and should not be connected to a 5V system without proper buffering. The XBee I/O pins are not 5V tolerant.

Connecting and Testing

Connect your compatible microcontroller to the required pins on the XBee USB Adapter. The VDD pin will be at 5V whenever the USB port is providing 5V. The VCC pin will be at 3.3V but if you're powering from USB you won't want to draw more than ~40mA from this pin.

If you need to power your XBee Module in the absence of USB power you can connect a regulated 5V supply to the VDD pin and the FTDI USB chip and the XBee Module will be powered. **Do not connect voltage to the VDD pin when the USB cable has power or you may damage your PC and/or your XBee Module.**

LED Status Indicators

The XBee USB Adapter has 4 LEDs for status indication. Whenever the board has 5V from either the USB or external power to VDD the Yellow LED lights up. The Green LED indicates the module is ON (not in standby mode). The Blue LED is connected to the RSSI pin and the Red LED is connected to the Associate pin. Some of these functions can be reconfigured using the X-CTU software.

LED FUNCTIONS:

Yellow – Power

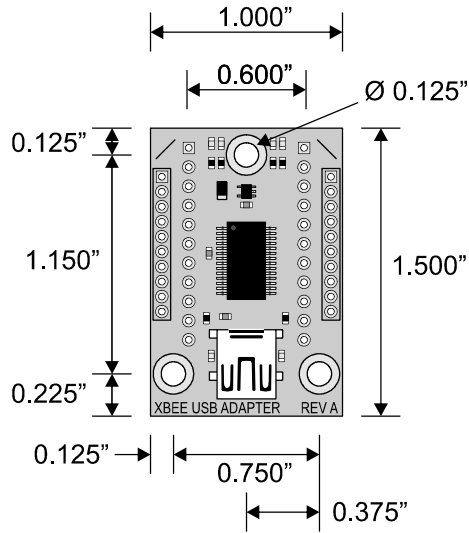
Green – ON (Not in standby mode)

Blue – RSSI

Red – Associate

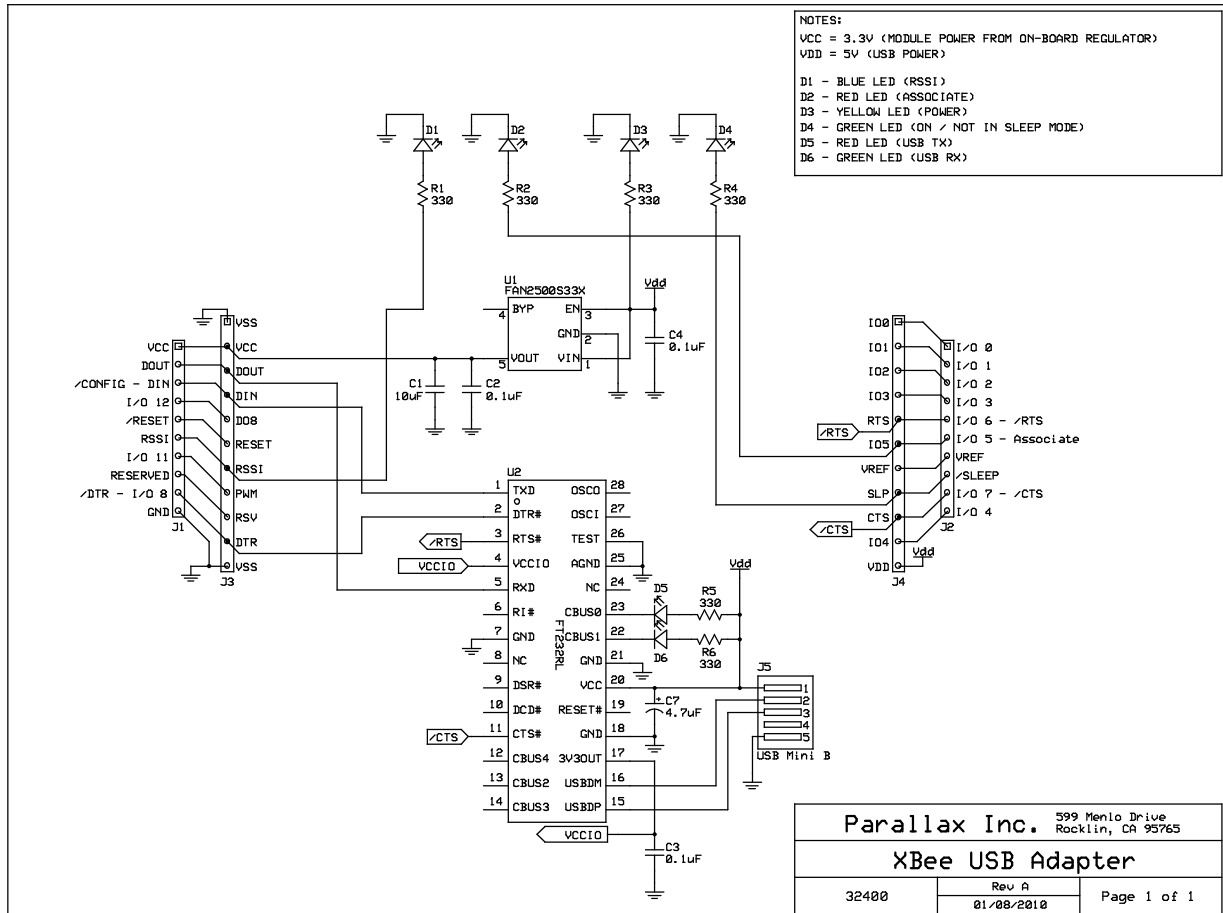
The USB connector also has two LEDs which indicate TX / RX status. The Red LED indicates data being transmitted to the PC and the Green LED indicates data being received from the PC.

Module Dimensions



Connection Diagrams

The schematic below shows the relationship between the connections on the XBee module (outer sockets) and the headers from the Adapter Board.



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