POLOLU

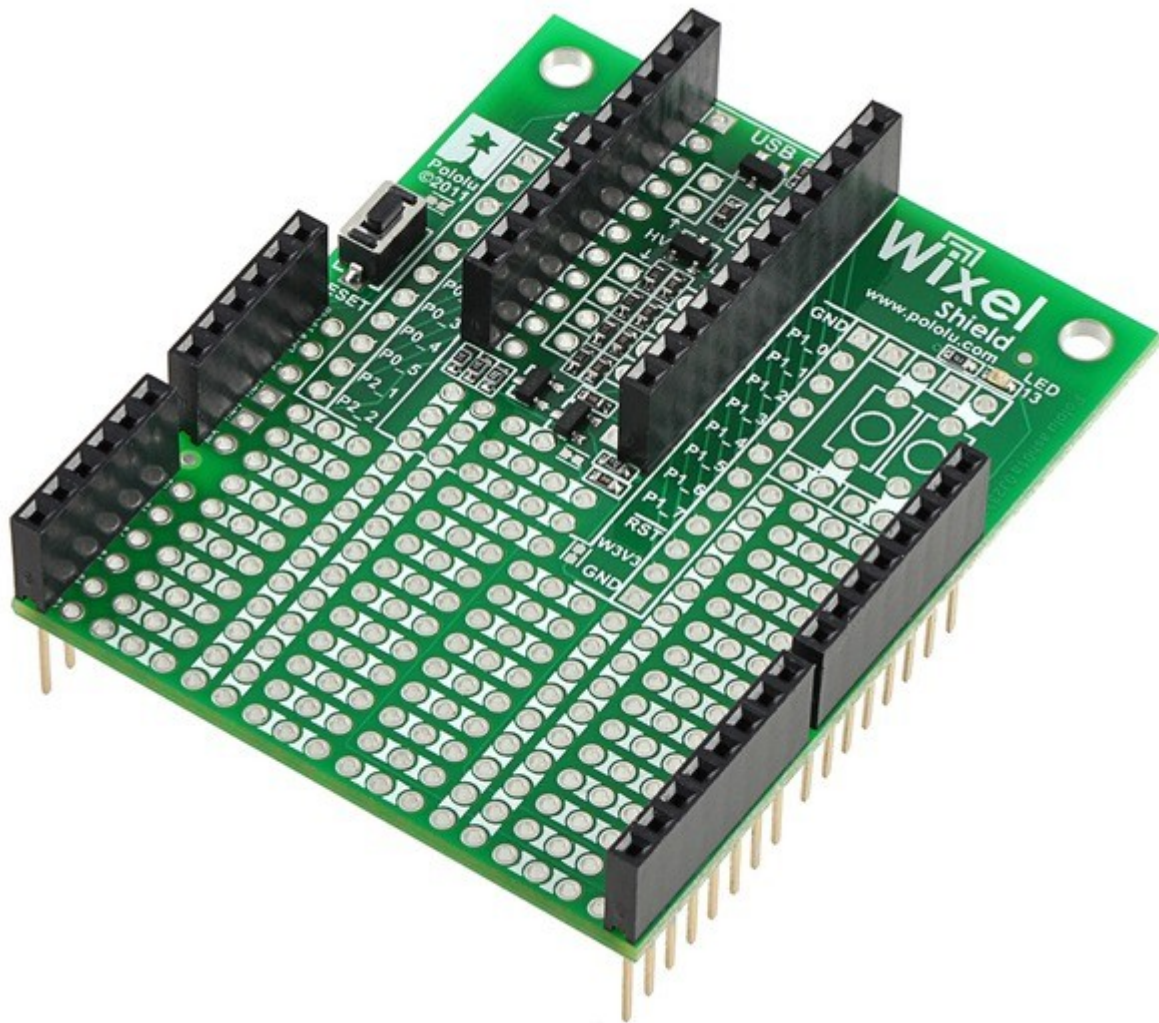## Wixel Shield for Arduino

Pololu item #: 2500

Unleash your Arduino! This shield allows you to interface Wixel wireless modules to your Arduino (and other compatible products), enabling simple wireless programming, debugging, and control using standard Arduino software. Wixel developers can also use this item as a Wixel prototyping board.

Overview

The Wixel shield seamlessly enables a wireless link (with a typical range of ~50 feet) to duplicate the functionality of your Arduino's USB interface, which means you can use the standard Arduino computer software to:

- wirelessly program the Arduino.

- wirelessly debug sketches with the Arduino serial monitor.

- wirelessly communicate with the Arduino from your computer's virtual COM port.

More generally, the shield can also be used for wireless communication between an Arduino or Arduino clone and other embedded systems (including additional Arduinos). Alternatively, this board can also be used without an Arduino as a general-purpose Wixel prototyping board.

The Wixel shield does not interfere with the Arduino's existing USB circuitry, so the Arduino's traditional wired USB connection can still be used while the shield is connected.

Shield Features

- Wireless sketch uploading using the standard Arduino IDE

- General-purpose wireless serial communication between an Arduino and a computer or other electronics

- Prototyping space for easier/cleaner construction of custom circuits

- Shield-accessible Arduino reset button and pin 13 LED

- Four general-purpose 2/3 voltage dividers (can be used to safely connect 5V signals to 3.3V inputs)

- Two general-purpose MOSFETs (can be used as level-shifters or high-current outputs)

- Wixel socket allows the Wixel to be removed and used for other applications

Required Accessories

Wireless communication requires a pair of Wixels, which are sold separately or as part of a Wixel shield combination deal. An Arduino is **not included**.
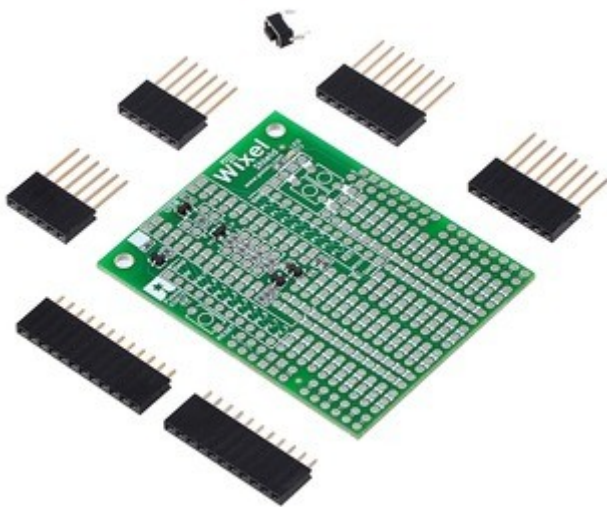
Included Hardware

The Wixel shield ships with all of the surface-mount parts populated. However, soldering is required for assembly of the included through-hole parts. The following through-hole parts are included with the Wixel shield:

- two extended 1×8 female headers (for Arduino shields)

- two extended 1×6 female headers (for Arduino shields)

- one 1×12 female header (Wixel socket header)

- one 1×11 female header (Wixel socket header)

- one pushbutton (Arduino reset button)

This provides everything you need to plug an assembled Wixel into the shield and the shield into an Arduino.

Wixel shield for Arduino with included hardware.

Wixel shield for Arduino (fully assembled).

Example Applications

The Wixel shield for Arduino opens the door for many new Arduino projects. Here are just a few project ideas:

- Program, debug/fine-tune, and control your Arduino-based robot without having to touch it.

- Stream data from a remote sensor (e.g. your outdoor weather station) to your computer or Arduino.

- Build a wireless remote control for your Arduino project.

- Maintain projects installed in hard-to-reach places or places where wires and cables would be impractical.

- Enable communication among a swarm of Arduino-based robots or a field of interactive elements (requires additional Wixel development).

- Use the Wixel as a secondary, parallel processor to add more computing power, I/O lines, and hardware peripherals to your Arduino (requires additional Wixel development).

Advanced users can write programs for their Wixels to make use of the its 12 free general-purpose I/O lines, including 5 analog inputs, or to develop more complex wireless communication networks.