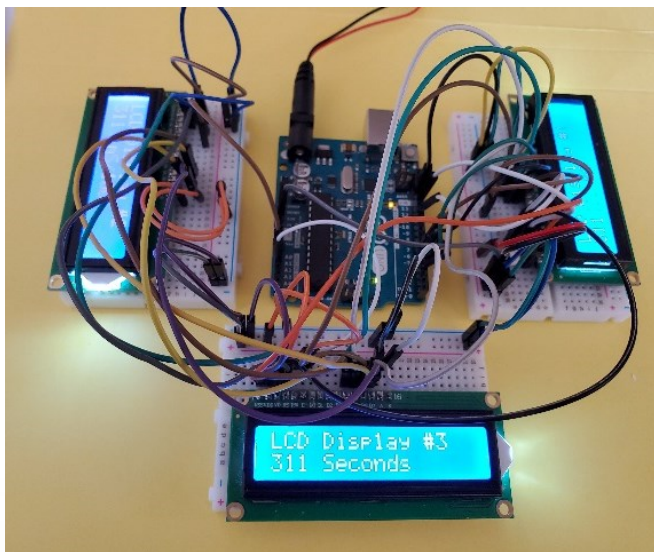


VisiShield WorkBench, a More Efficient Platform for Arduino Breadboarding

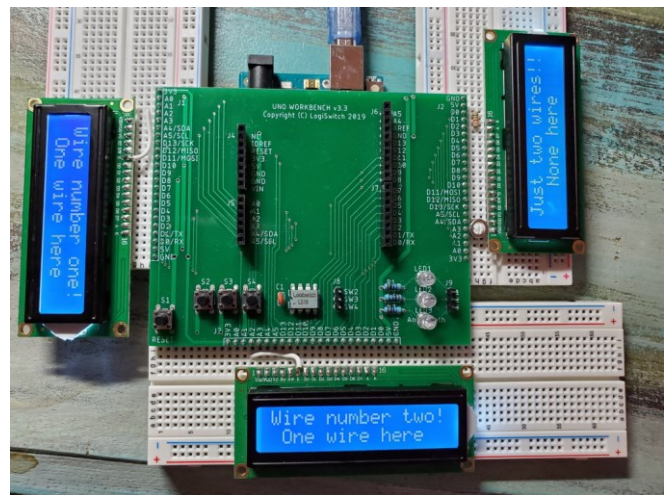
Overview

LogiSwitch has developed the VisiShield™ family of products to simplify the breadboarding of your Arduino projects and to make the breadboard design and debug more efficient.

Eliminate Jumper Wires



Typical Arduino Prototype

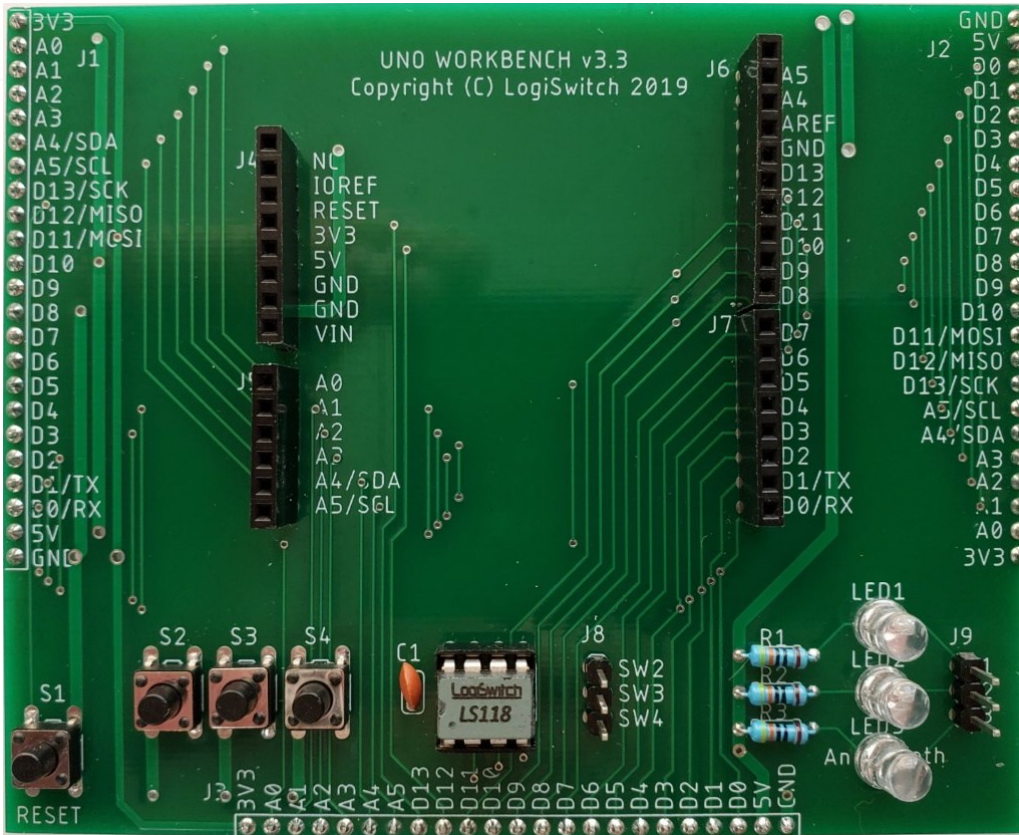


Clean VisiShield Workbench Implementation

Most images of Arduino breadboarded projects show us a rat's nest of jumper wires with an occasional glimpse of the circuitry. A good place to start to clean up this mess is to eliminate the jumper wires between the Arduino power and I/O pins and the breadboard(s). The way wires

degrade the appearance of your project is only part of the problem. A prototype full of jumper wires is also difficult to connect and difficult to troubleshoot. In addition, the more jumper wires the better chance of wiring errors and the better chance of accidentally disconnecting the wires.

Common Power and I/O Pins



The LogiSwitch Arduino Uno Workbench Proto-Extender Kit

Next, we increase the prototype's work area by adding two more "jumperless" breadboard interfaces with all the same power and I/O pin signaling from the Arduino as the first standard single interface. This gives three times the I/O pins as in a conventional Arduino prototype board and increases your access to the Arduino without the rat's nest of wires.

Integrating Debounced Switches and LEDs

Since a high percentage of projects include switches and LEDs, we include three tactile switches and three LEDs on the VisiShield WorkBench. The switches are debounced with a LogiSwitch NoBounce™ debouncer chip.

Minimize Arduino Pin Use

LogiSwitch is developing a family of VisiShield Peripherals that use the I²C two-pin protocol. The I²C protocol uses only two I/O pins regardless of the number of I²C VisiShield peripherals in use. The I²C was chosen for the VisiShield architecture to minimize the Arduino's pin use to conserve I/O pins for prototype circuitry. Up to 17 digital and analog pins are available for prototype design.

Conclusion

The VisiShield WorkBench enhances your Arduino prototyping. The confusing and error prone rat's nest of jumper wires is gone, making your Arduino system design and debug more visible and efficient. Our new family of VisiShield Peripherals uses only two Arduino pins for the I²C serial bus interface, freeing up more pins for your prototyping efforts.

About the Author

Michael H. Pelkey, Founder and CEO, LogiSwitch LLC

Mike is a serial inventor and serial entrepreneur who has a broad background in designing, using, and manufacturing electronic systems and equipment. In his younger years, Mike pioneered the sport of [BASE Jumping](#).

Prior to founding LogiSwitch, Mike was an Automation Engineer at Jaxx Manufacturing where he designed and built assembly and metalworking machines to increase production rates, such as automatic screwdrivers, optical cut to length machines, and a variety of machines, jigs and fixtures to automate printed circuit assembly operations.

Mike's 40+ year career goes back to the early days of the microprocessor where he was the lead engineer for the first microprocessor-based product in the numerical control industry a Z-axis controller called the Micro-Z. Mike also developed the world's first networked cash register in the mid-1970s, and he founded Macrotech International Corporation, which was a major manufacturer of board-level computer products in the late-1970s and early-1980s.