

Logic Probe

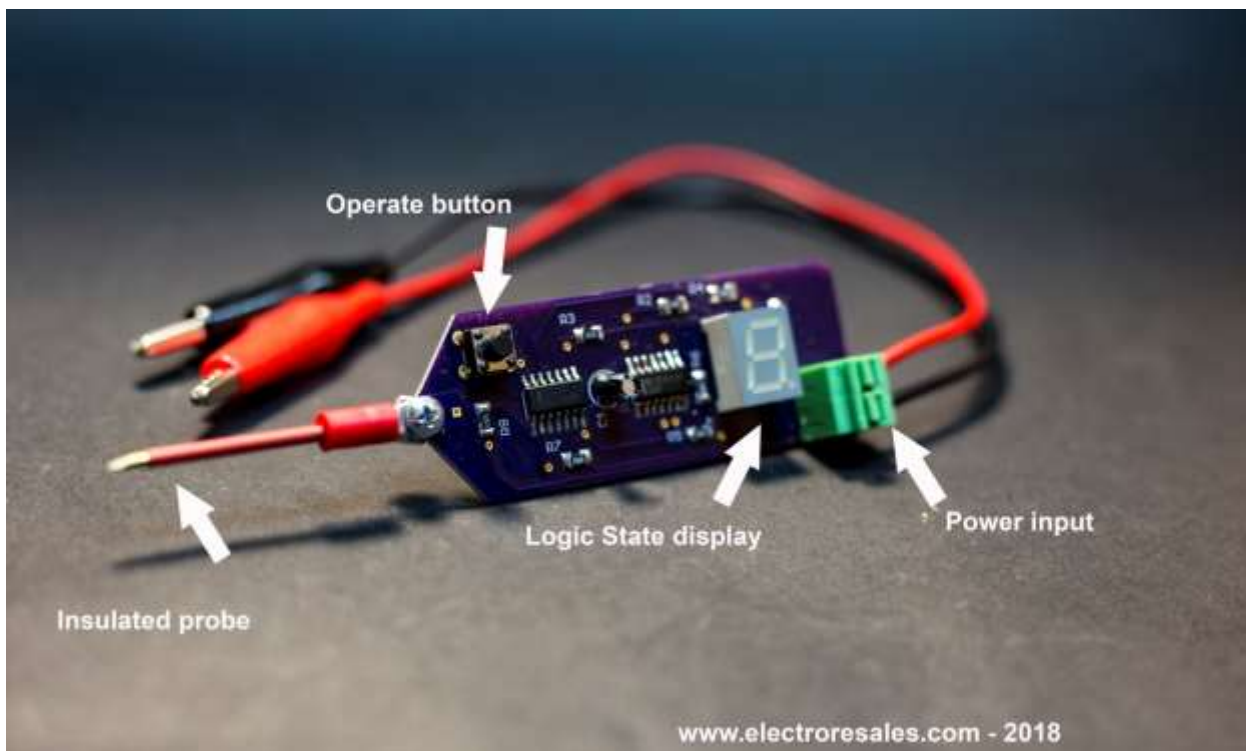
Background

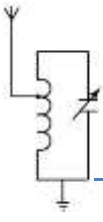
The Electro-Resales logic probe is designed to provide a useful tool for troubleshooting logic circuits based on TTL, CMOS, HMOS, HCMOS and related technologies. Taking its power from the circuit under test the probe tip presents an isolated environment that can detect, High and Low states, transition and pulse states. The test result is displayed on the 7-segment displayed in an easy to read form.

Initial set up

As supplied the probe comes fully assembled with short lengths of cable to attach to power rails on the test board. These can be replaced as needed with longer leads if required. The probe tip is insulated and sharpened to a point to allow accurate placement on test pins/points and wire piercing if required. For guidance at this point also refer to the photo below which highlights the key parts:

Overview of the probe and functional parts



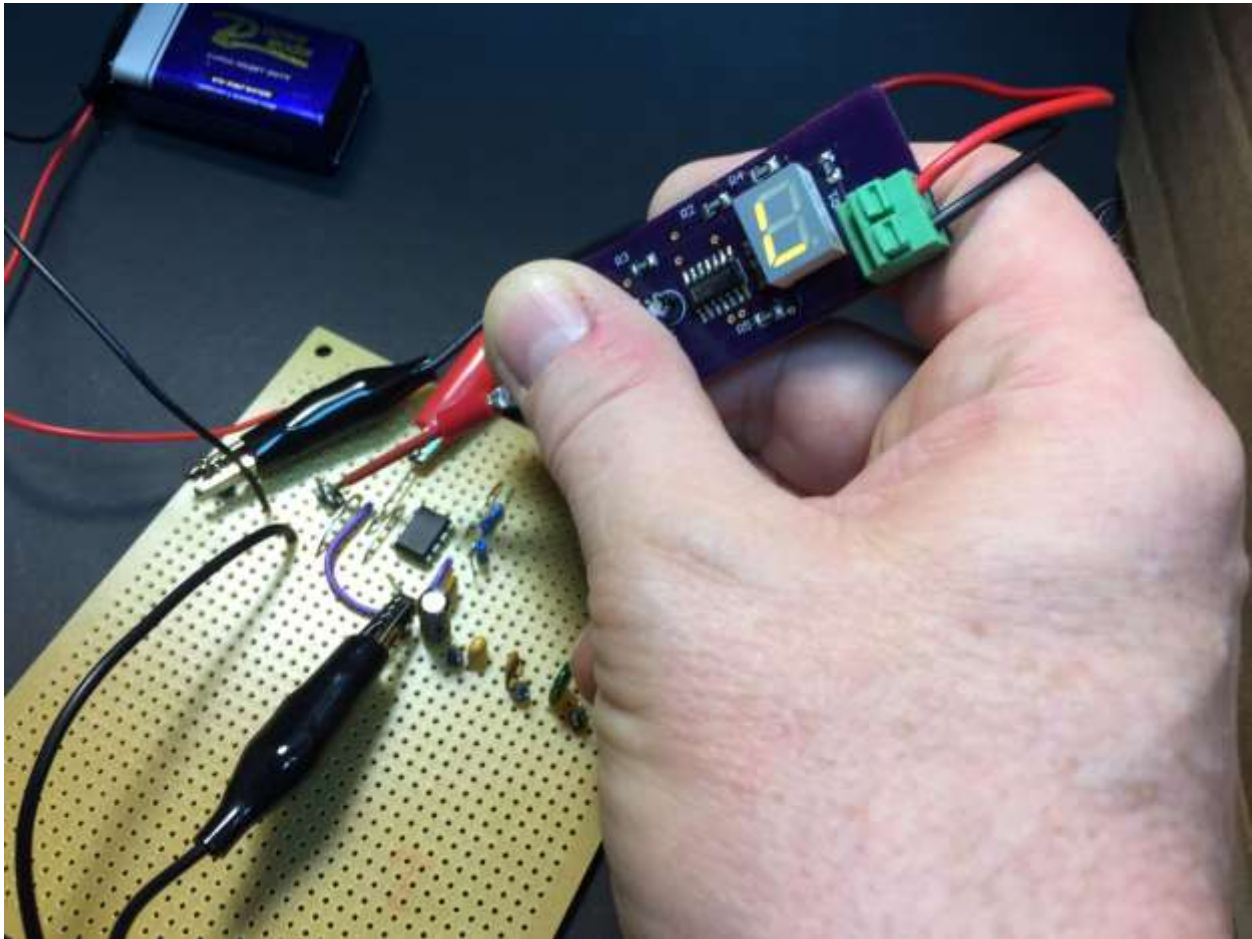


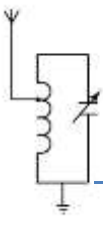
Electro-Resales

The probe is powered by the circuit under test and requires 5 Volts DC, voltages above this level will cause issues and potential damage to the probe. The color coded cables that are attached to the probe push button terminal blocks are for attaching to the power rails. These may be extended if needed.

When power is applied to the probe the display should be blank, hold the probe in the hand as shown below and operate the push button switch located near the front of the board. With no signal at the probe tip the display should show the letter 'L'. This indicates a low condition. This can also be simulated by probing a ground connection.

How to hold the probe and operate the push button – indicating a Low condition

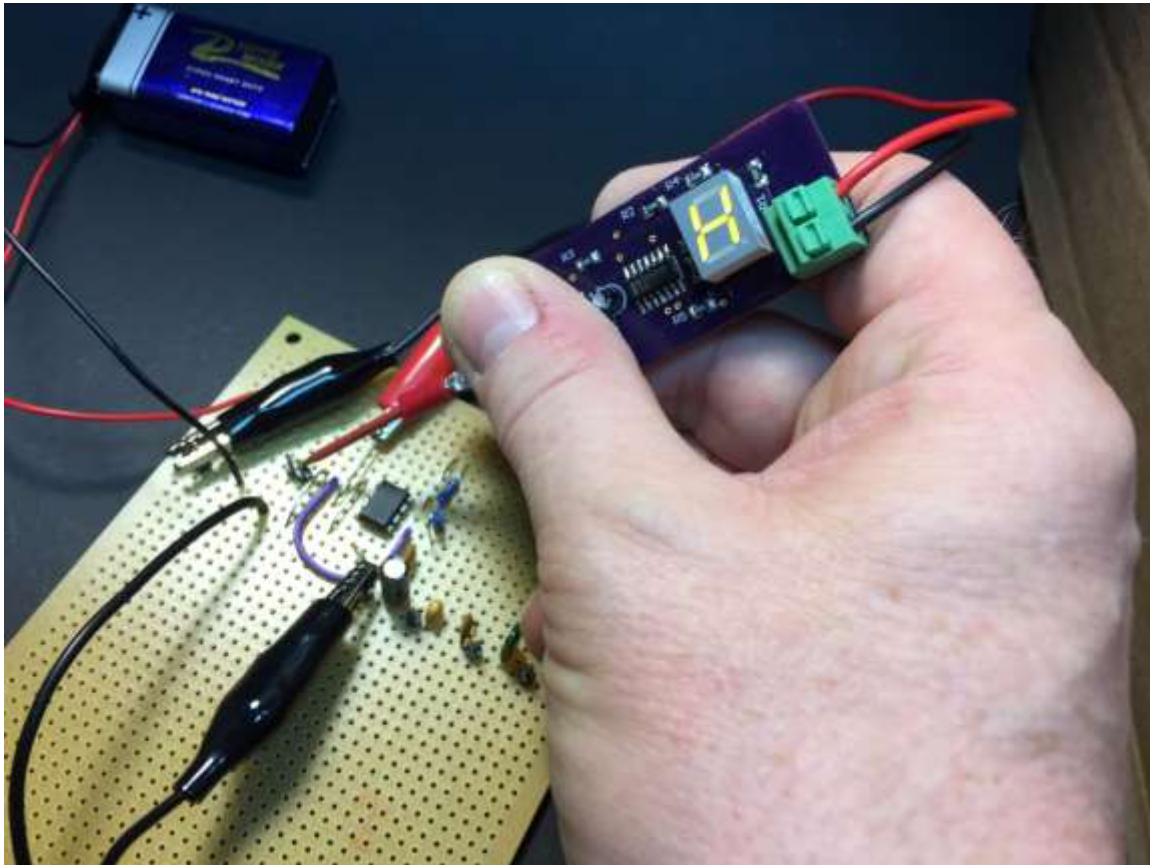




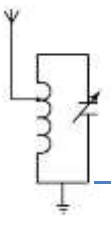
Electro-Resales

Probing parts of a test circuit can reveal useful information about the circuit and its operation (or lack thereof). The probe has been designed to be ergonomic in use and also provide data that is easily seen and interpreted. A logic Low is indicated by display of an L, while logic high will be indicated by the letter 'H'.

Logic High

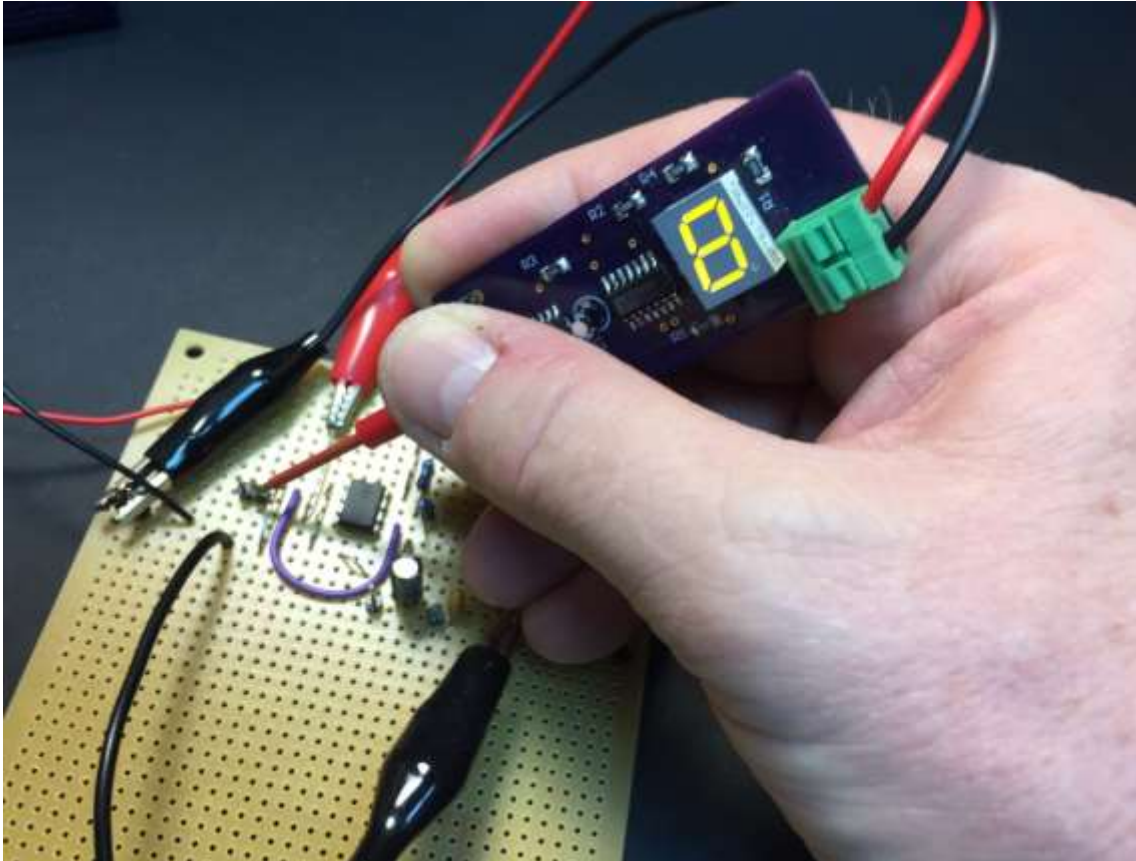


Not all test conditions are High or low and pulse situations are detected and displayed by the probe, these being displayed as the number '8'. Low pulse detection will show a slowly transitioning display, the display will flicker, while fast pulse detection will be detected and shown as a solid numeral '8'.



Electro-Resales

Pulse detection - 8

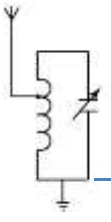


Other functions displayed

In addition to displaying high, low and pulse detection, the probe may also display other letters, depending on the signal detected.

Letter C - This indicates a logic low that is moving high

Letter A – This indicates a logic high moving low



Electro-Resales

Notes about probing

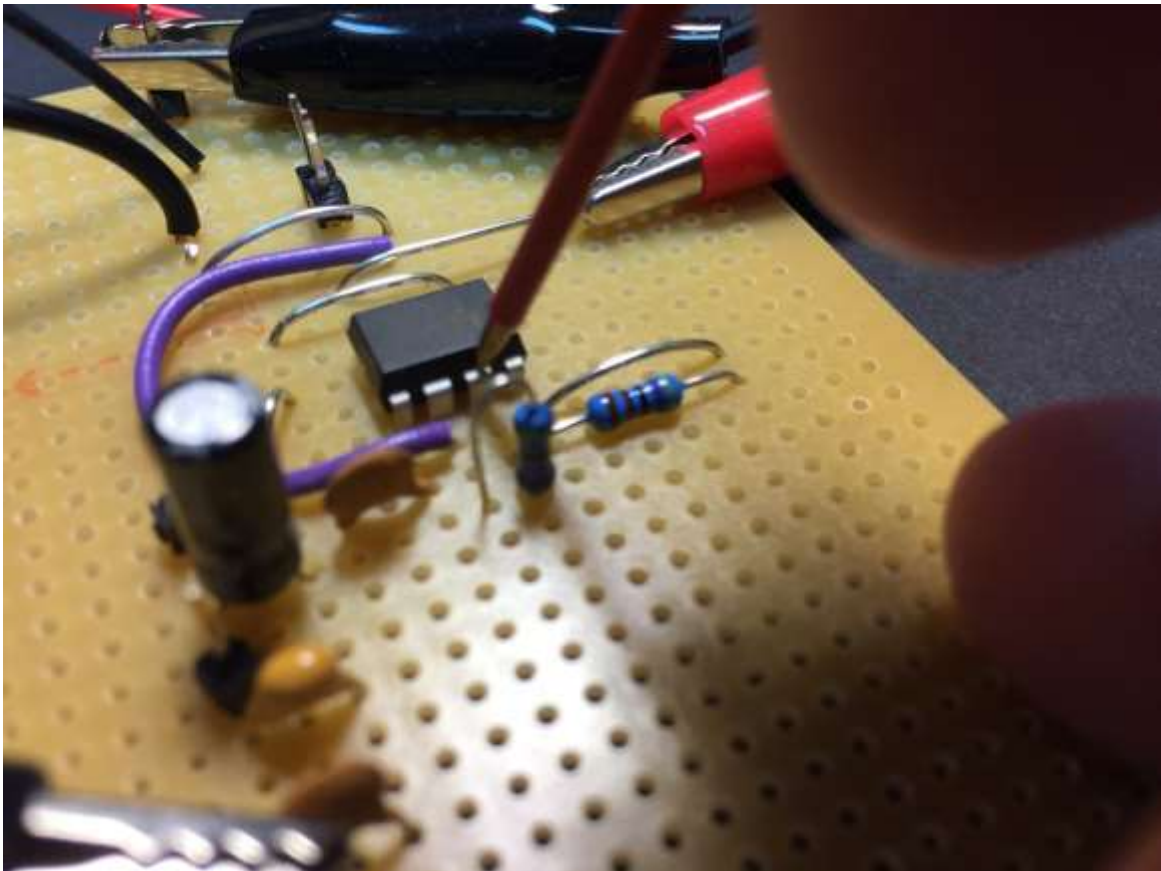
Having a tool that allows quick indication of state speeds up troubleshooting and provides a good indication of where problems can lie. Good practice with any probe should never be ignored as poor or sloppy use of the probe can actually introduce problems.

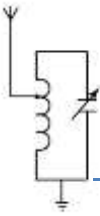
Always be careful with the probe tip and apply the tip to the point under test with a firm and steady force that avoids slipping and in particular avoid shorting pins on an integrated circuit as this can cause chip failure or other issues to occur.

Always be careful both when applying the probe tip to the circuit and when removing it.

This photo shows one example of good probing, the tip of the probe is on the chip lead shoulder and this helps avoid bridging the leads.

Good probe example





Electro-Resales

LIABILITY DISCLAIMER

Any person or group or entity who/that constructs or works on electronic equipment may be exposed to hazards, including physical injury, the risk of electric shock or electrocution.. These hazards can result in health problems, injury, or death. Only qualified persons who understand and are willing to bear these risks themselves should attempt the construction of electronic equipment. By purchasing this item, the buyer acknowledges these risks.

There is a risk of electric shock, electrocution, burns, or fires that is inherent in the construction and use of electronic equipment. By purchasing this item, the buyer acknowledges these risks.

IN NO EVENT SHALL THE SELLER BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY NATURE including, but not limited to, property damage, personal injury, death or legal expenses. Buyer's recovery from Seller for any claim shall not exceed the purchase price paid by Buyer for the goods, irrespective of the nature of the claim, whether in warrant, contract or otherwise.

By purchasing this item, BUYER AGREES TO INDEMNIFY, DEFEND AND HOLD SELLER HARMLESS FROM ANY CLAIMS BROUGHT BY ANY PARTY REGARDING ITEMS SUPPLIED BY SELLER AND INCORPORATED INTO THE BUYER'S PRODUCT.