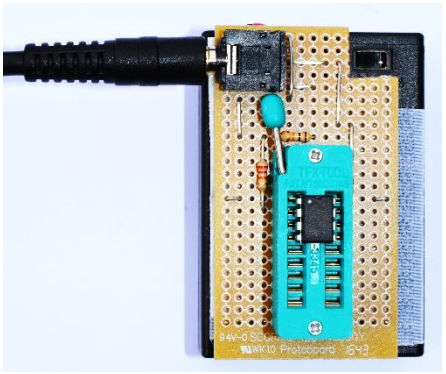
PROJECT SHEET –ZIF SOCKET PICAXE PROGRAMMER

DESCRIPTION

This project sheet describes the construction of a Zero Insertion Force (ZIF) Picaxe programming socket.



This is used for programming 8 pin or 14 pin Picaxe chips off the circuit board, and is ideal if there is a requirement to pre program a number of chips or if the board being used has no programming port included.

The unit is stand alone, and is powered by 3 AA batteries in a holder attached to the unit with Velcro.

SECTION 1: COMPONENTS & MATERIAL REQUIRED

1.1 COMPONENTS REQUIRED (available from Scorpio Technology)

The following components are available from us and need to be ordered separately.

- ☐ 1 x 18 pin ZIF Socket (IC-18ZIF)
- ☐ 1 x Prototype board (PROTOBOARD)
- ☐ 1 x Download Socket 3.5mm PCB Mount (SOCST3.5)
- ☐ 1 x Resistor 10k (RES10K) (*Brown, Black, Orange, Gold)*
- ☐ 1 x Resistor 22k (RES22K) (*Red, Red, Orange, Gold)*
- ☐ 1 x 3AA Battery Holder with switch (BH3AAF)
- ☐ 3 x AA Batteries (BATTALK)
- ☐ 200mm Tinned Copper Wire (TCW is used as it is easy to form and lays flat on the board)
- ☐ Self adhesive Velcro / Hook and Loop (VELHO and VELLO)

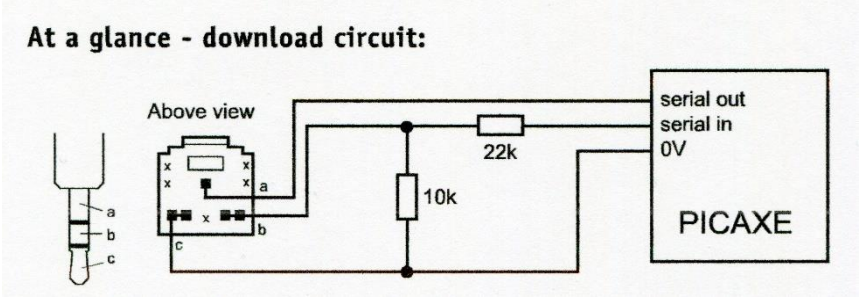
1.2 TOOLS REQUIRED

The following tools are required:

- ☐ Soldering equipment and solder: a good quality soldering iron, with a fine tip and the use of 0.71mm 60/40 solder is recommended
- ☐ PCB holder
- ☐ Small side cutters
- ☐ Wire strippers
- ☐ Cutting tools
- ☐ A voltmeter

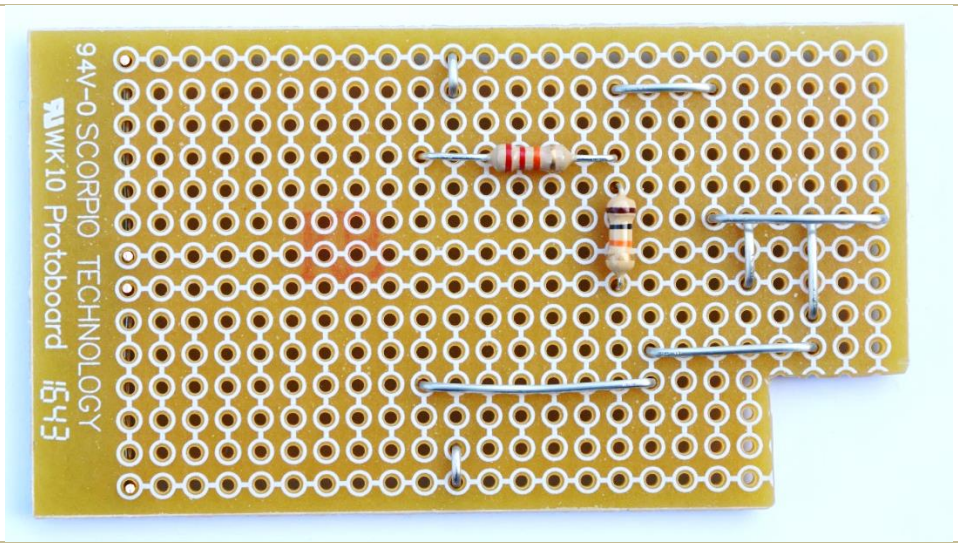
SECTION 2: GENERAL INFORMATION

The various links and resistors are used to form the circuit below, which is taken from the Picaxe Manual 1 page 8.



SECTION 3: MAKING THE CIRCUIT BOARD

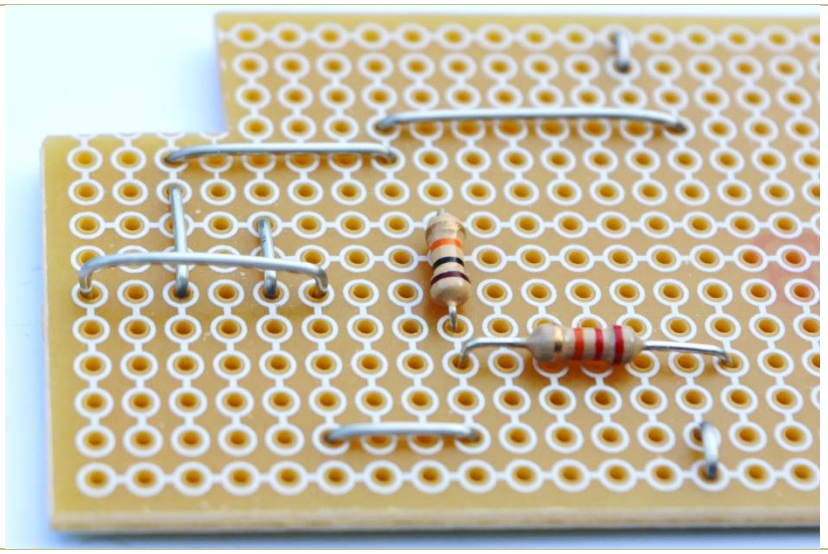
☐ Cut off a corner of the Protoboard to provide access to the battery holder's switch

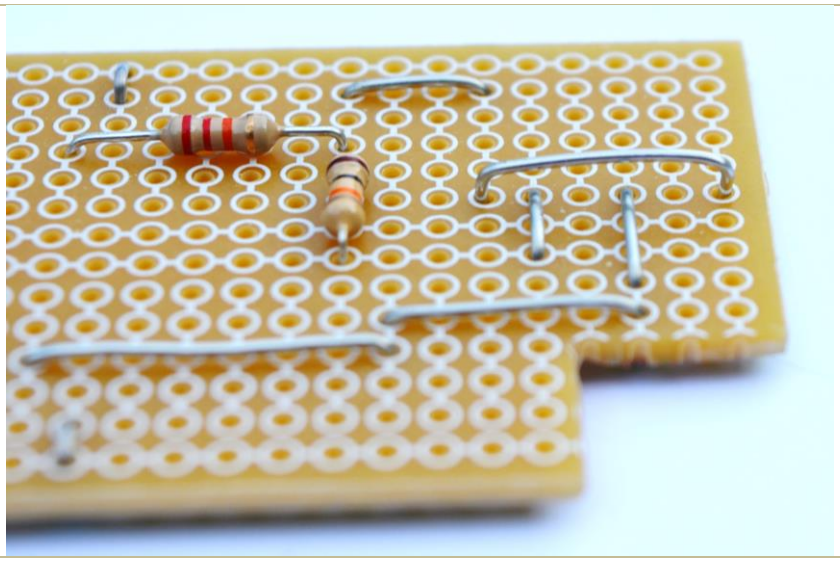


☐ Insert the resistors on top of the board
☐ Insert the links on top of the board

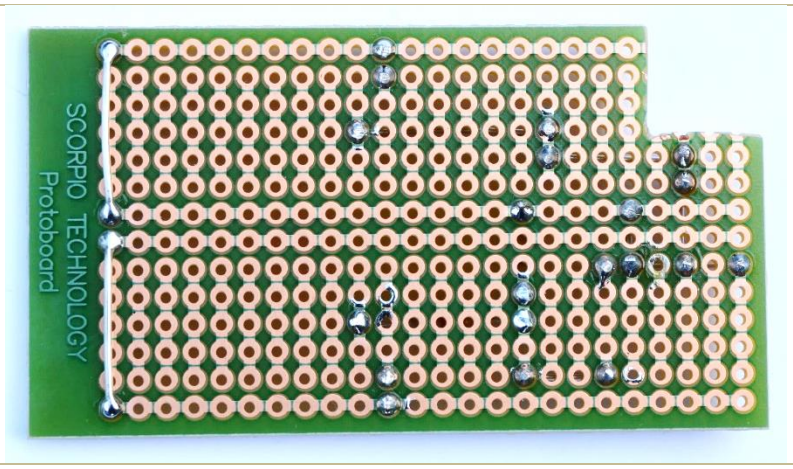
NOTE: Ensure the link at the back of the download socket is above the board and clears other links. Refer to the following photographs

☐ Solder all the components
☐ Trim the excess leads

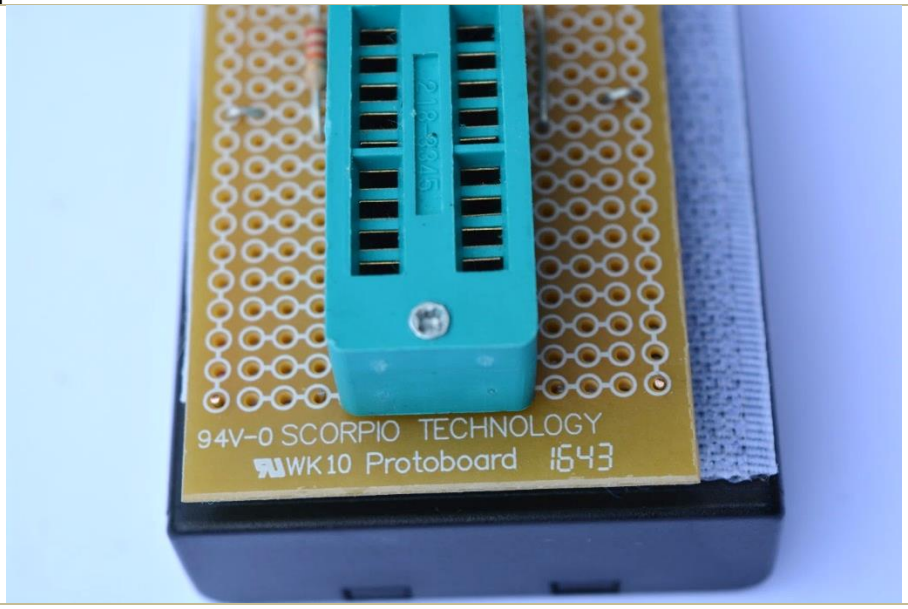


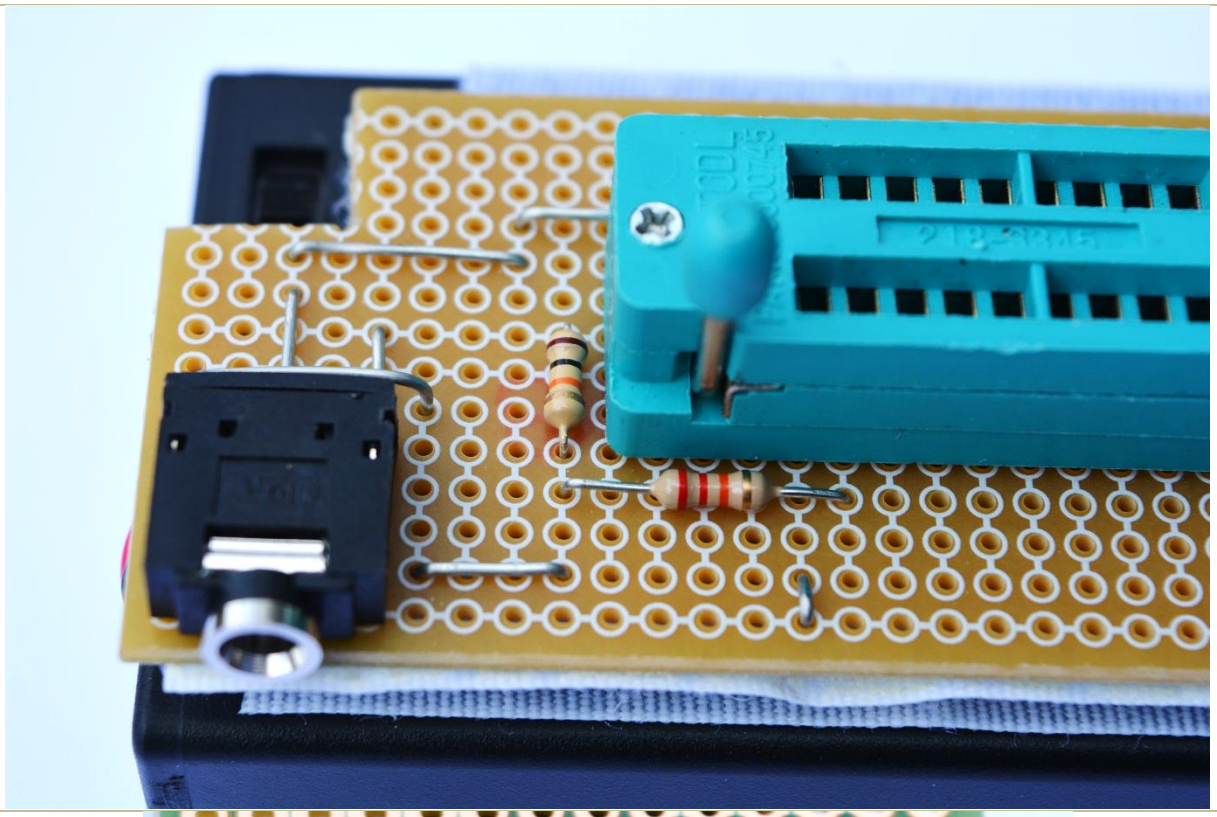


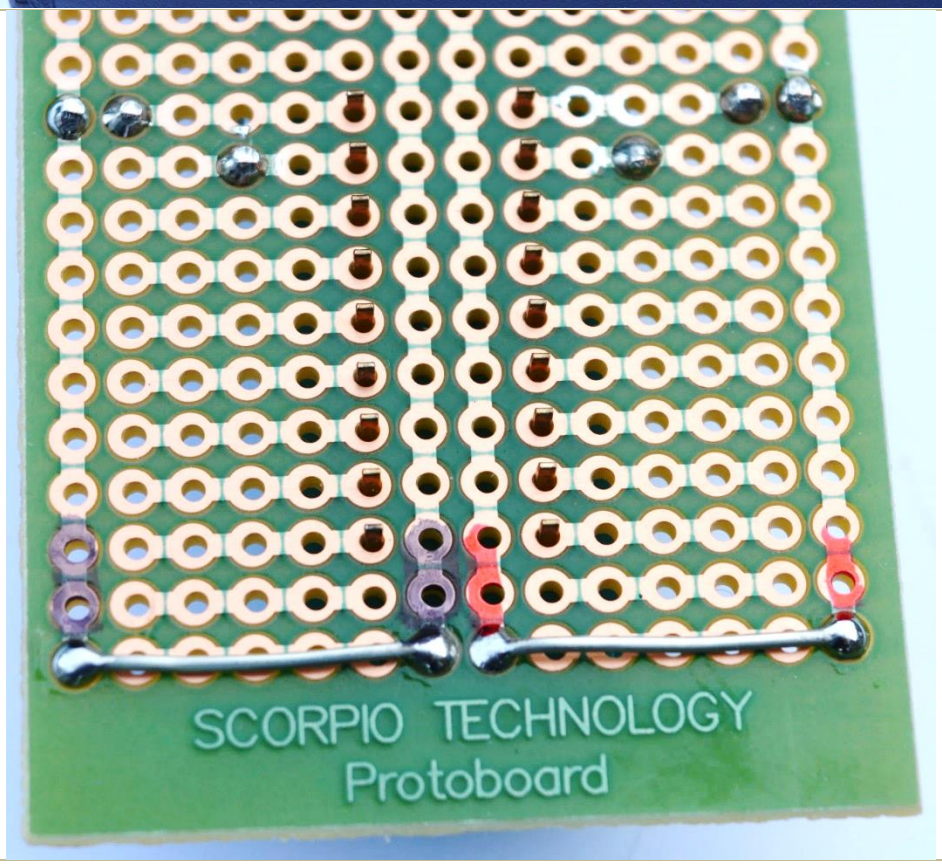
- ☐ Mount the two links on the underside of the board
- ☐ Solder them to the board
- ☐ Trim the excess leads



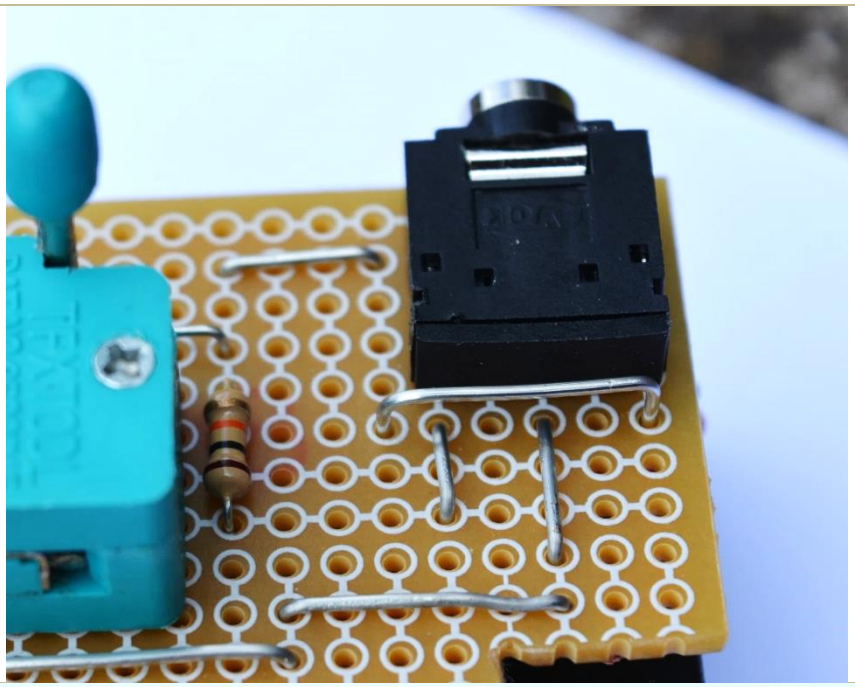
- ☐ Mount the the ZIF connector, paying careful attention to the position of the connector's pins in the circuit board
- ☐ Solder the pins

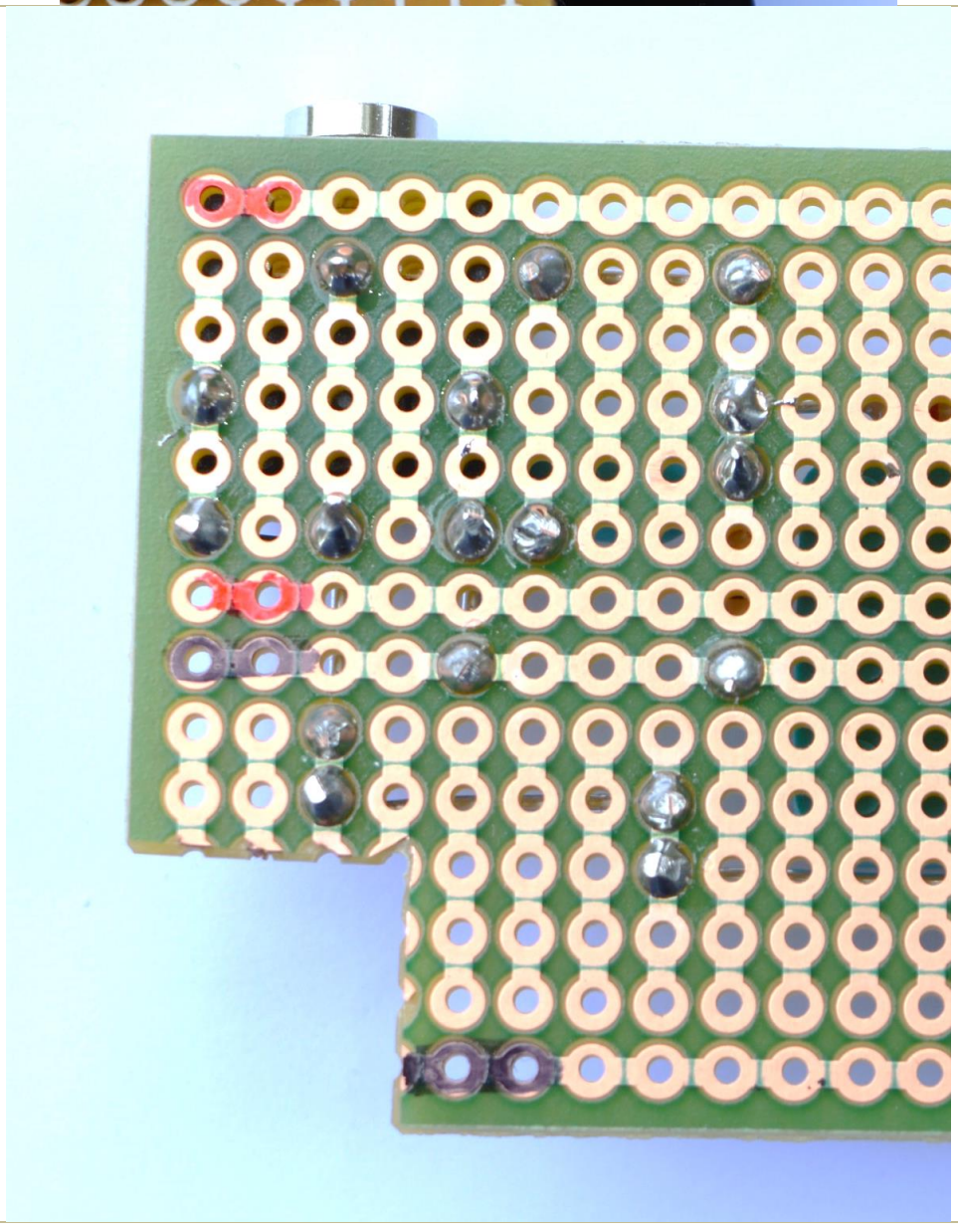




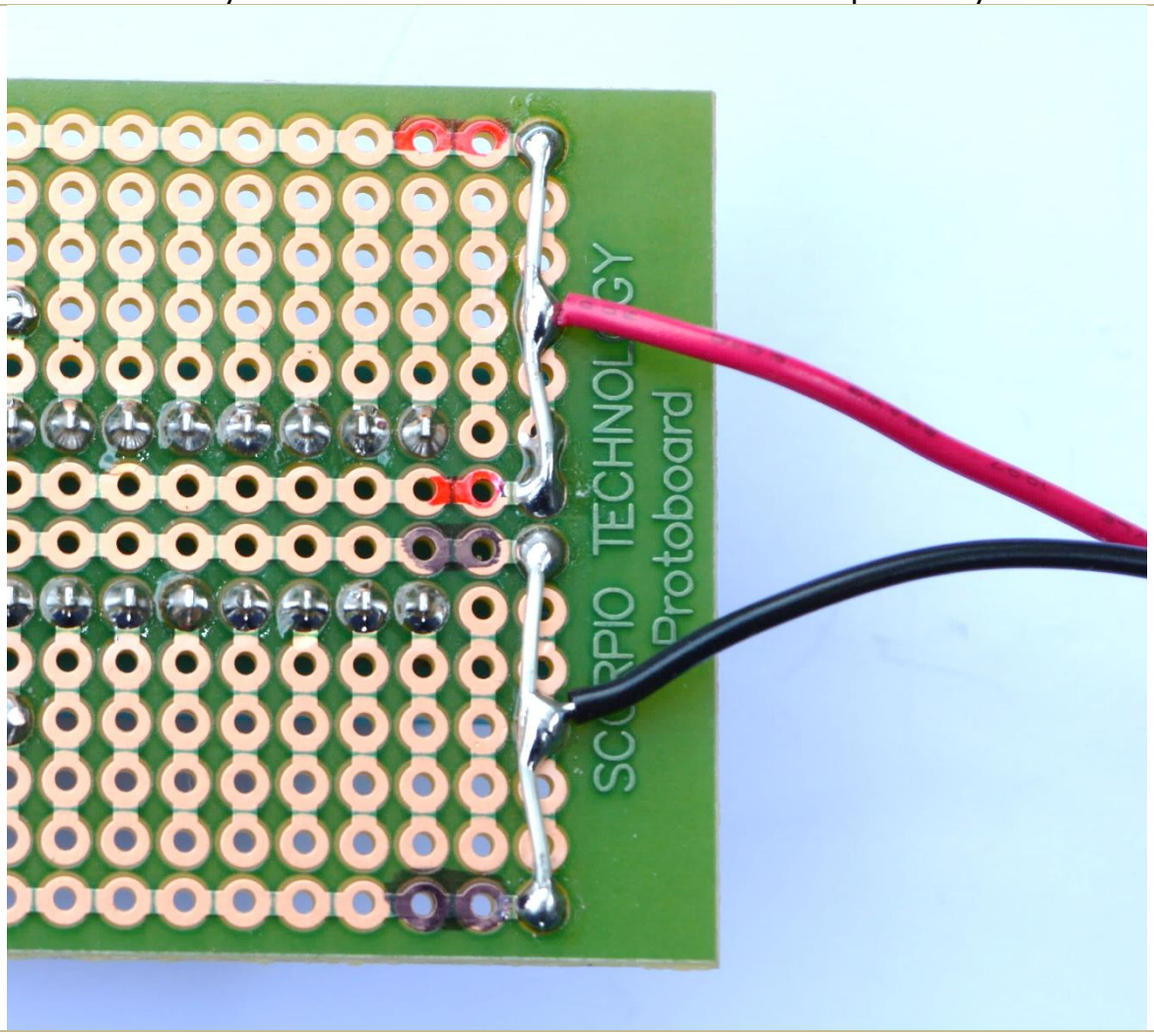

SCORPIO TECHNOLOGY
Protoboard

☐ Mount the download socket
☐ Solder the pins





☐ Attach the battery holder's wires to the + and – rails respectively

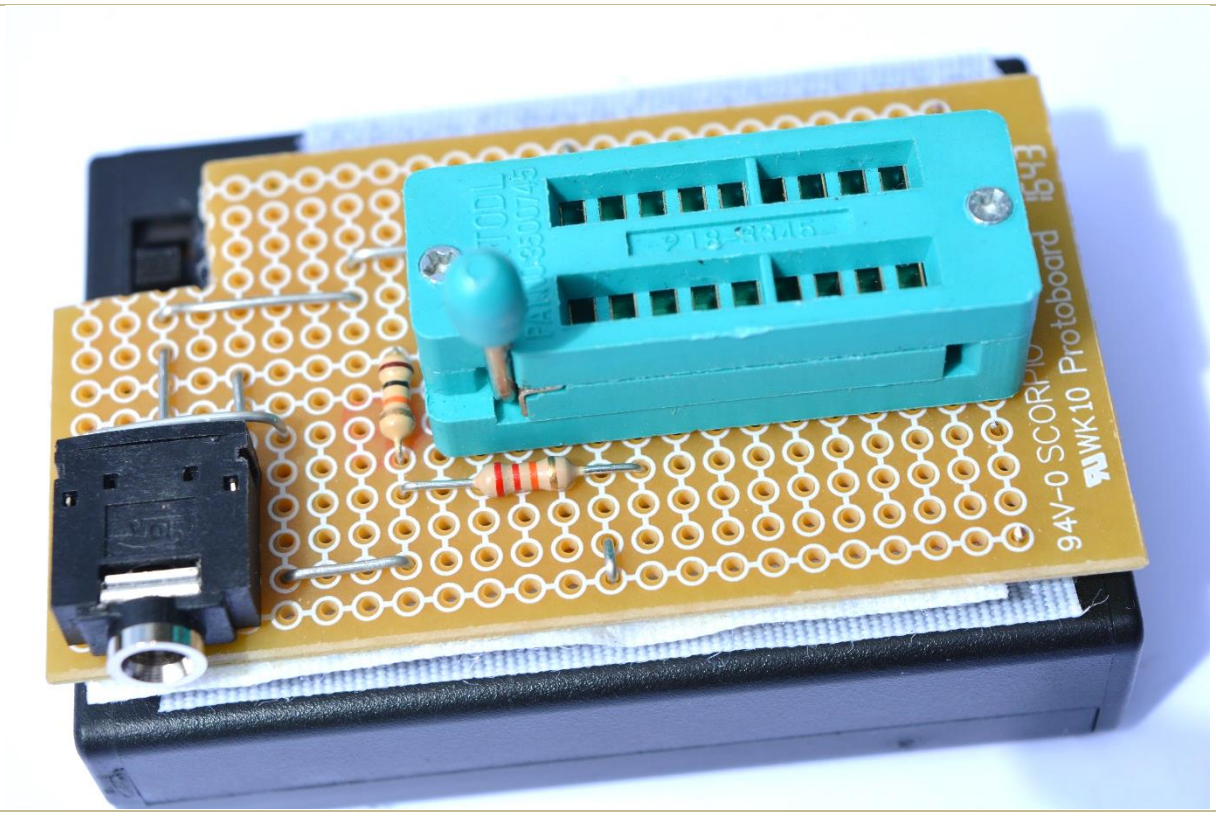


SECTION 4: ASSEMBLING THE PROGRAMMER

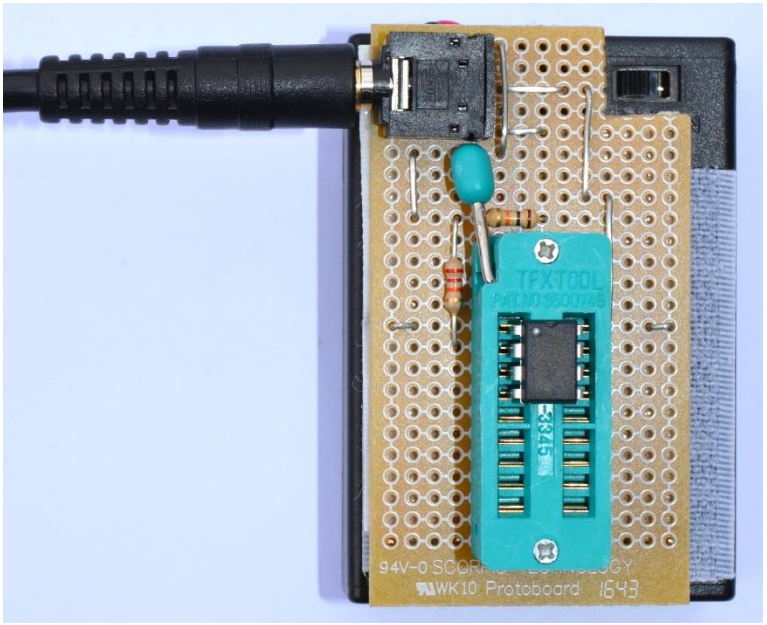
☐ Perform a general check on the positions of the resistors and link, and inspect the solder for dry joints or bridging between tracks

☐ Mount Velcro (hook and loop) to:
- the bottom of the circuit board
- the battery holder

☐ Press both together, ensuring that:
- The battery holder's wires are under the circuit board, and between the 2 pieces of hook and loop
- the circuit board is attached and allows access to the switch



SECTION 5: TESTING THE PROGRAMMER

- ☐ Insert batteries and switch on the unit
- ☐ Using a voltmeter check that + and – appear on the correct terminals of the ZIF socket
  - The top left hand socket position is +
  - The top right hand socket position is – ve.

The ZIF Programmer is now ready for using to pre-program Picaxe chips.