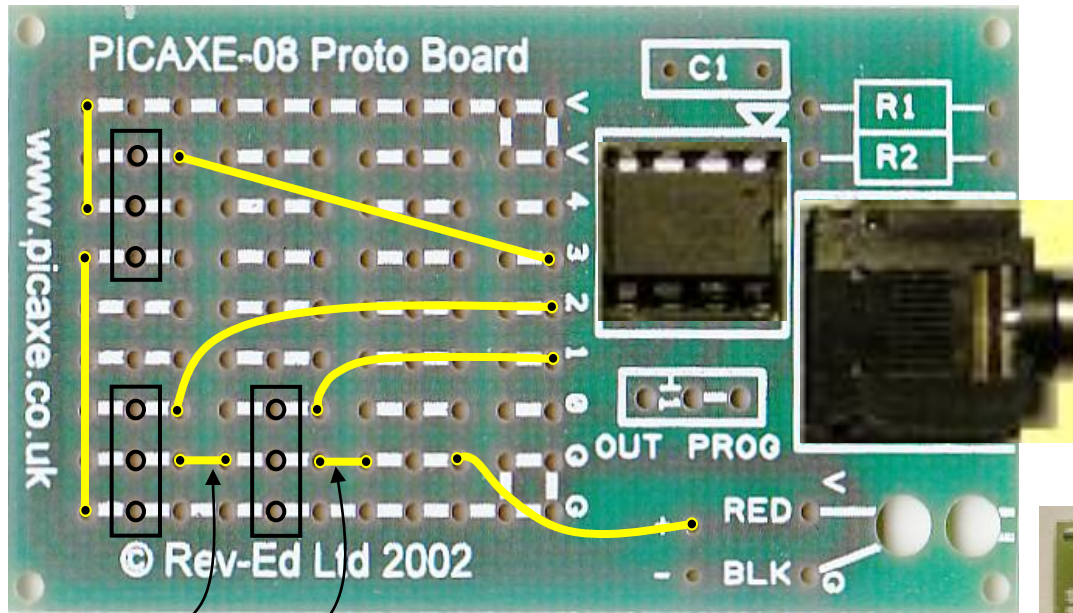


First add control board jumper wires



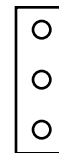
- Use solid bare bus #24 wire
- Run wires along top surface of board
- Put ends through indicated holes, solder, and trim
- **Count holes** to make sure of ends points
- Be sure wires are not touching when you are done
- There are a total of **eight** jumper wires



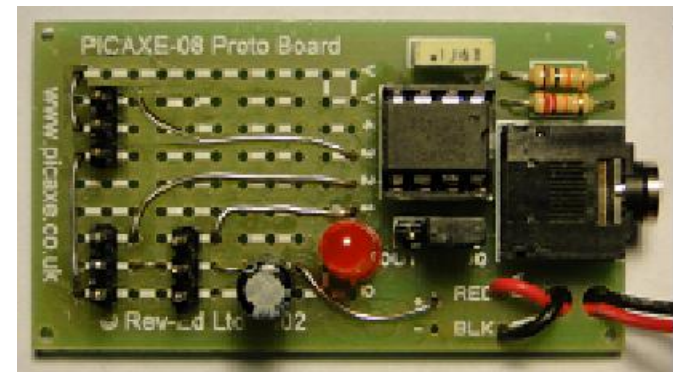
Here's a tip -

It is easiest to insert one end of a jumper wire and solder it first. Then you are free to shape and run the jumper to its other end before inserting and soldering it. Exact shape is not important. Ends points and not touching are!

- These two short jumper wires have been pre-installed. You will put on the remaining six.



sensor and servo motor headers



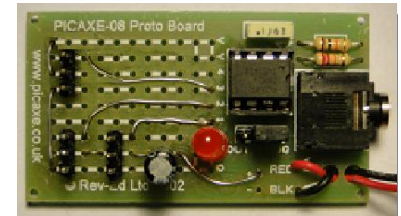
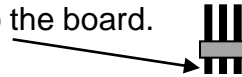
Then finish the board assembly

Complete other side of sheet first



1. Follow the Proto Board instruction sheet

- Use the instruction sheet in the board package
- You'll use a battery box instead of the battery clip shown on the sheet. Leads attach the same way.
- The Integrated Circuit (IC) socket, programming connector, and three headers have been pre-installed.
- Insert & solder the (2) Resistors first, then the square Capacitor. Bend the resistor leads down to fit into board.
- The shorter pins of the OUT/PROG 3-pin header go into the board. Don't lose the tiny black jumper. plug.



2. Install and solder two added parts – A blue cylindrical Capacitor and a red LED

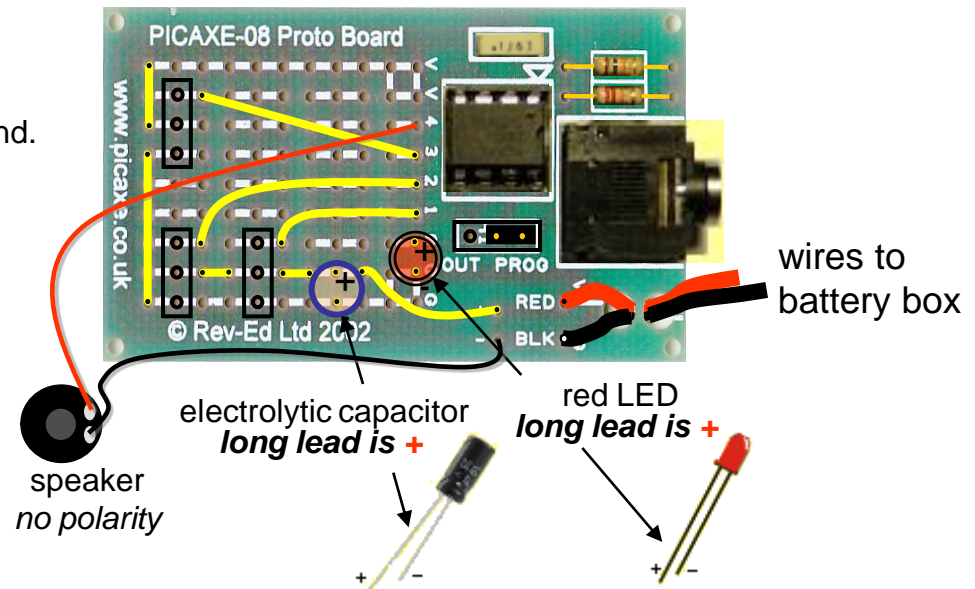
- The capacitor and LED are in the large project kit bag.
- Install the longer positive lead into the upper (+) hole for each part.

3. Install the speaker

- Connect leads to “4” and “-” as shown
- Take care not to pull on the wires at the speaker end.
- Support the speaker when you move your board.
- The speaker has a strong magnet in it. Check for screws or other parts stuck to it!

4. Be your own final inspector

- Check over** the board when you are done.. Make sure jumpers and parts are in the right holes and polarities are correct.
- Inspect** your solder joints one last time.
- Make sure the tiny **black jumper** is installed.
- Take it to the **test station** for check-out.



Pay attention to **polarity** when installing the capacitor and LED