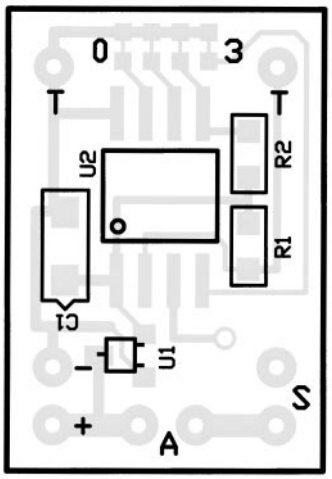
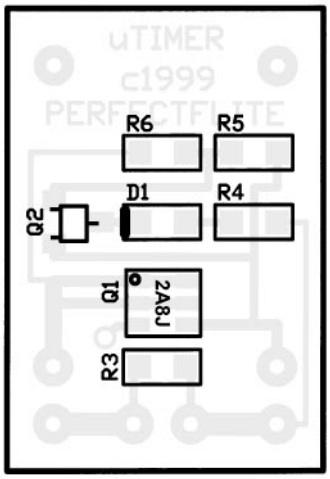
# Assembling the microTimer




Let's get started. It helps to hold the PC board securely during assembly - the simplest way of accomplishing this is to stick it to your work surface with a scrap of double-sided foam tape. You should have plenty of light, and a magnifying glass or loupe for inspection. Construction will be easiest if the parts are installed in the proper order. Refer to the component placement diagrams to the left to identify which parts go where.

- ❏ Install resistors R1 and R2 (47.5K, marked 4752).
- ❏ Install voltage regulator U1 (marked 3D0U). Note orientation - the single lead goes near the "-" power lead pad. Do not overheat this device.
- ❏ Install microprocessor U2 (marked 12C508). Note orientation - the small dimple in the case should go next to C1 and U1.
- ❏ Install capacitor C1 (marked JW6). Note polarity -- the white band must go towards the + and - power pads. The outline on the PCB indicates this with a pointed end.

This completes the top side. Flip the board and proceed with the bottom side components.




- ❏ Install resistor R6 (47.5K, marked 4752).
- ❏ Install resistors R3 and R5 (90.9K, marked 9092).
- ❏ Install resistor R4 (560Ω, marked 561).
- ❏ Install LED D1 (white/clear block with green end). Note orientation - green end goes toward Q2. Make sure you do not mount this device upside down - the green marking goes up - or the LED will shine towards the board! Do not overheat this device.
- ❏ Install transistor Q2 (marked Z). Note orientation - the single lead faces toward the center of the board. Do not overheat this device.
- ❏ Install transistor Q1 (marked 2A8J). Note orientation - the component markings must face in the same direction as in the illustration to the left. This part has tight lead spacing - make sure that you do not "bridge" any of the leads with excess solder.

This completes component installation. Remove flux residue from the board using isopropyl alcohol, cotton balls, and cotton swabs. Repeat until no residue is visible when dry. Solder on wires for the battery, arming switch, igniter, and pull-pin/breakwire as outlined in the operation manual.

When assembly is complete, test your timer. The default jumper setting (all four jumper traces intact) should result in a 1 second delay. Connect a suitable lamp to the igniter wires and short the arming switch wires. Temporarily short the pull-pin/breakwire terminals and apply power to the board (observe proper polarity). The LED should come on, indicating continuity through the igniter (lamp). Remove the short from the breakwire terminals and observe the lamp. It should turn ON after the time-out period (one second if none of the traces are cut) and remain ON for two seconds. You should also test the board with an igniter and power source of the type you plan to use in the final installation prior to flight.