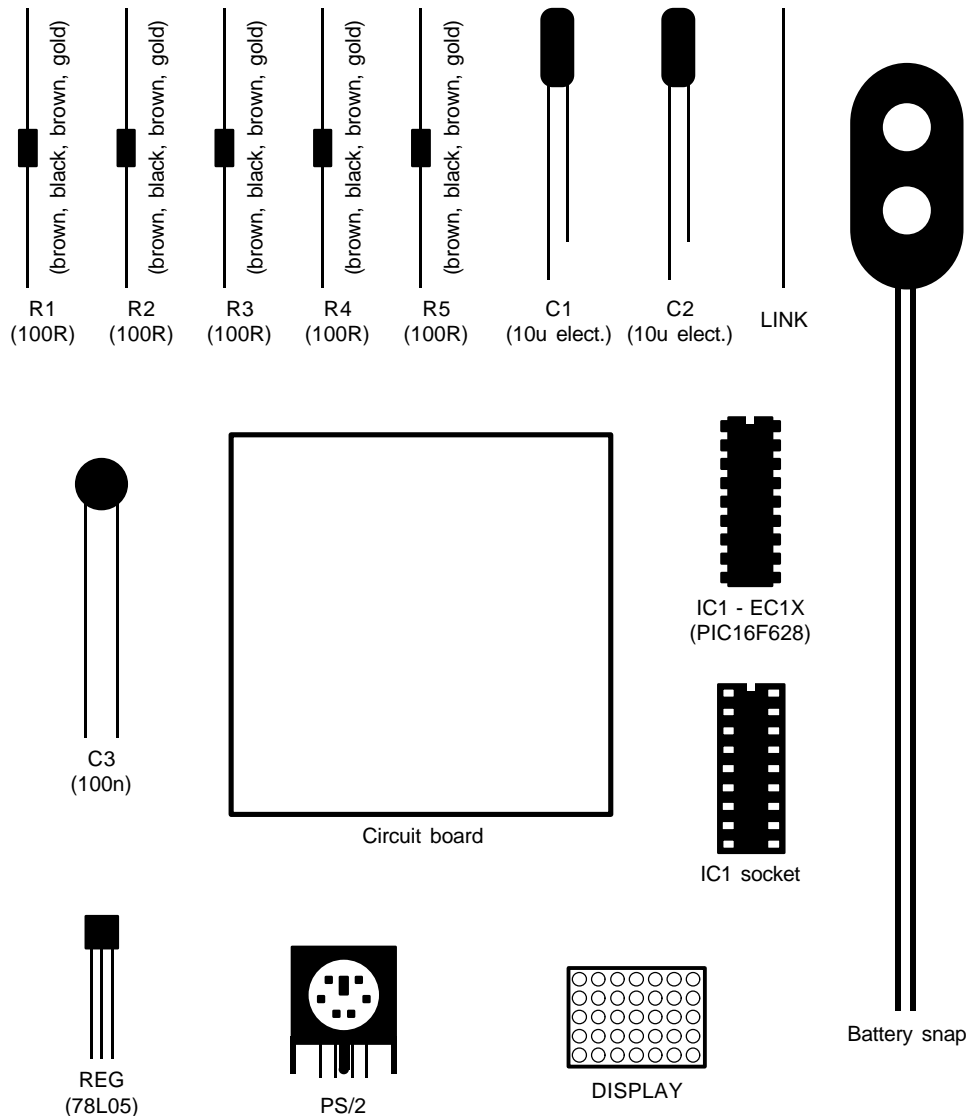


# THE ENIGMA MACHINE



## CONSTRUCTION

1. Identify the different components using the spotter chart.
2. Fit and solder all the resistors (R1 to R5) to the circuit board. Identify the resistors by the coloured stripes on the body.
3. Fit and solder the electrolytic capacitors (C1 and C2) to the board putting the shorter leg (the leg nearer the stripe on the body) into the hole with the – sign. Fit and solder the other capacitor (C3) either way around.
4. Solder the regulator (REG) matching the half-circle shape of the regulator to the half-circle shape on the board (flat side against flat side).
5. Solder the display (DISPLAY) to the board matching the small digit 1 on one side of the display to '1' marked on the board. Double check this before soldering.
6. Solder the chip socket (IC1) matching the notch in the socket to the notch on the board. Do not solder the chip directly to the board.
7. Solder the wire link (LINK) to the board.
8. Solder the keyboard socket (PS/2) to the board, taking care to avoid solder bridges between the pins.
9. Push the battery snap leads up through the larger holes in the board from the metal side of the board. Fit the metal tip of the red lead into the BATTERY + hole, and the metal tip of the black lead into the BATTERY – hole. Solder the metal tips to the tracks on the board then pull the wire loops back.
10. Carefully bend the legs of the chip inwards a little with your fingers. Fit the chip into its socket matching the small notch in the chip to the notch in the socket.
11. Connect a PS/2 computer keyboard to the socket, and then a battery (9V PP3) to the battery snap.
12. If *The Enigma Machine* is working properly all the lights should flash twice, and then the word "E-N-I-G-M-A" should be spelled out on the display. If after a short delay an exclamation mark (!) is shown however, this indicates that the keyboard is not functioning correctly.