You've got mice

R1
(10R)
(brown, black, black, gold)

R2
(4R7)
(yellow, purple, gold, gold)

R3
(1k)
(brown, black, red, gold)

R4
(100R)
(brown, black, brown, gold)

C1
(10u elect.)

C2

C3
(100n)

C4
(100n)

+
MOTOR + WIRES
MOTOR MOUNT
GEARWHEEL
4 x CABLE TIES
4 x PILLARS
BATTERY BOX

Circuit board

PIEZO

IC1 socket

S1

IC1 - DD1X
(PIC12F508)

TR1
(MPSA13)

REG
(78L05)

Battery snap
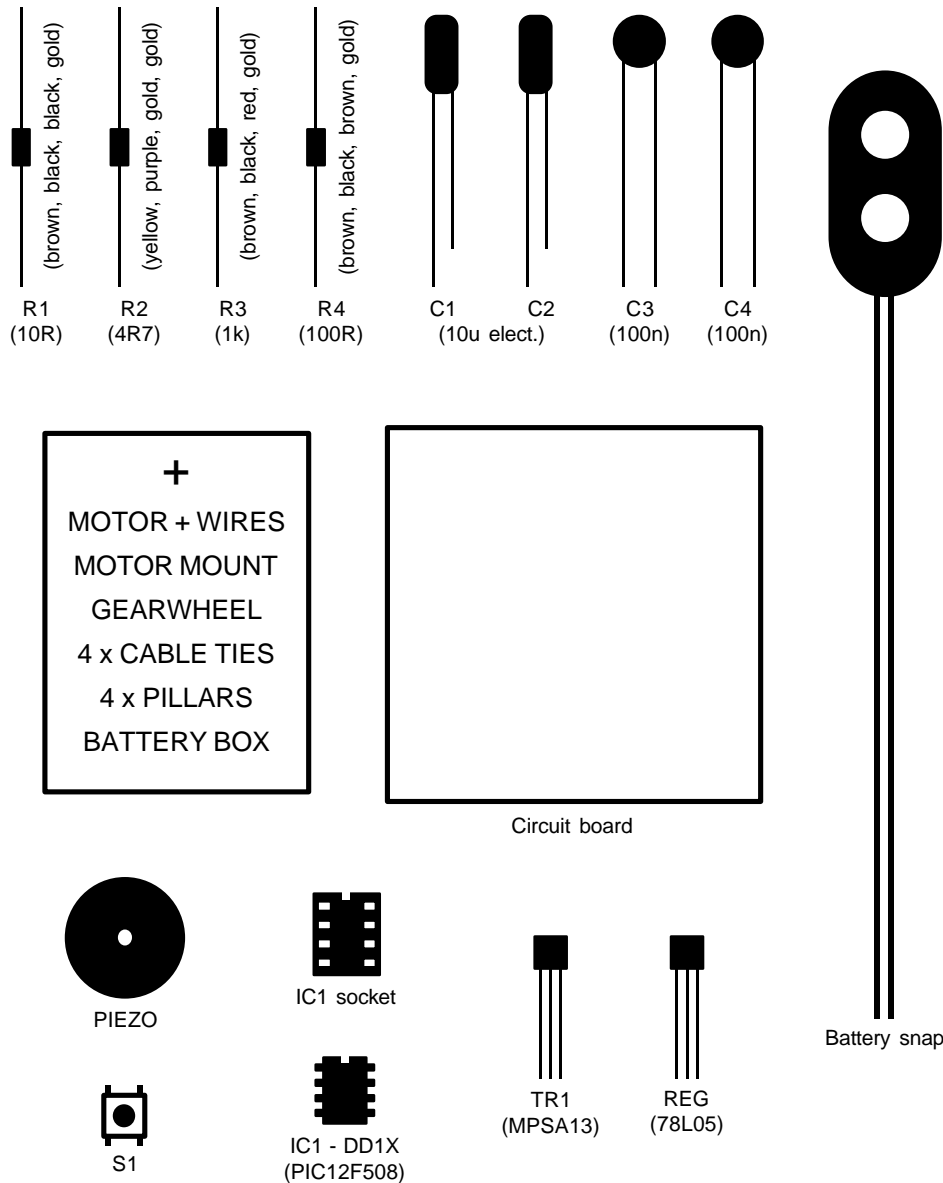
CONSTRUCTION

1. Identify the different components using the spotter chart.

2. Fit and solder the resistors (R1 to R4) 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 capacitor C3 either way around.

4. Solder the transistor (TR1) matching the half-circle shape of the transistor to the half-circle shape on the board (flat side against flat side). Be careful not to mistake the regulator for the transistor.

5. 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).

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 piezo (PIEZO) either way around.

8. Solder the pushbutton (S1) to the board.

9. Attach the self-adhesive motor mount to the circuit board within the rectangle marked MOTOR (see diagram overleaf).

10. Solder the remaining capacitor (C4) across the tags of the motor, then solder the two flexible wires to the tags as well. Push the motor into its mount such that the spindle points outwards. Solder the other ends of the wires to the holes on the board marked by small circles.

11. Attach the four cable ties to the holes on the gearwheel such that the cable ties all point in the same direction, on the opposite side to the mounting bush of the gearwheel. Push the gearwheel onto the spindle of the motor. See diagram overleaf.

12. 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.

continued overleaf

CONSTRUCTION (continued)

13. Push the pillars into the four holes in the corners of the board from the metal side of the board. Press the pillars firmly until they lock into position.

14. 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.

15. Insert 4 AA cells into the battery box, observing the correct polarity, and connect the battery box to the battery snap.

16. If *You've got mice* is working properly it should beep twice and the motor should run briefly.

HOW TO USE

You've got mice simulates the sounds of a mouse infestation - mice squeaks and the sound of their tails and feet scratching across a surface.

Hide *You've got mice* in an inaccessible place such as under your victim's bed or on top of a wardrobe. Place it on a sheet of paper (try a folded sheet as well as a flat sheet) or in an open cardboard box for maximum effect. Alternatively position it such that the cable ties brush lightly against a crumpled ball of paper. Note that the motion of the gearwheel and cable ties must not be restricted too much for it to work.

The pushbutton cycles through three levels or modes of infestation - light, moderate and heavy. The mode is indicated by 1 to 3 beeps and initially *You've got mice* is in mode 2. The rate of mice activity depends on the mode, varying from activity every 20 minutes or so to activity every 10 minutes.

Holding the pushbutton down for 2 seconds toggles a demo mode (signalled by a long beep). This mode triggers activity more frequently and allows you to conveniently set up *You've got mice*. Once set up to your liking hold down the pushbutton again for 2 seconds to turn off demo mode.

Now wait for the screams of horror when your victim believes they're infested with mice!

MOUNT

C4

MOTOR

CIRCUIT BOARD

GEARWHEEL

CABLE TIES