# Piggyaxe Multi-Timer Kit

Electronics is FUN – so let's build a Pocket Timer!

Start by collecting the following parts (Available as a Rapid Electronics kit, order code 70-1057):

CMOS chips 4060 and 40106, PP3 battery snap, PCB, 2x 5mm LEDs (kit contains 1x green and 1x red), C1: 220nF, C2 to C4: 100nF ceramic capacitor (brown disc marked 104), R1: 15kΩ, R2: 2.2MΩ, R3 and R7: 1kΩ, R4: 1MΩ, R5: 22kΩ, R6: 4.7MΩ, diodes D1 and D2: 1N4148, VR1: 470kΩ (or 1MΩ) linear, piezo sounder and an on/off switch if needed.

You will also need a soldering iron with a stand and a wet sponge, a PCB holder of some sort, some solder and a pair of side cutters. Remember soldering irons can burn you. You should wash your hands after handling solder.

Take great care to fit the components exactly where they are supposed to go, otherwise your circuit may not work as expected. Use the photograph below to help you place the components correctly.
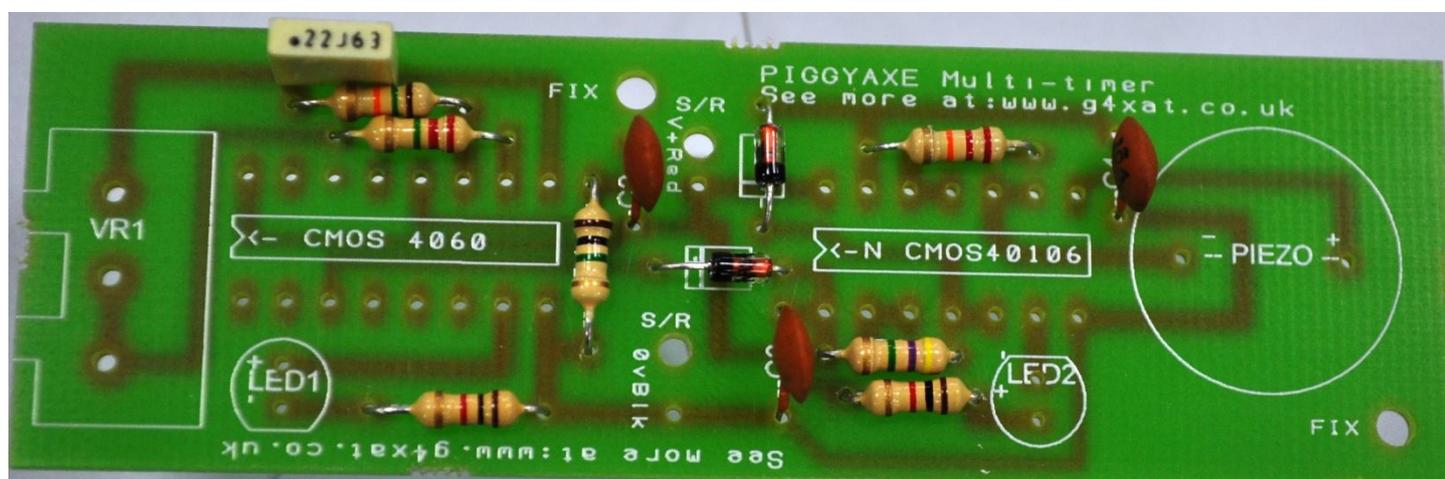
Put a tick ✓ in each box as you solder in each part or, if you prefer, get someone to check your placement before you solder it. **CHECK TWICE – SOLDER ONCE!**

Resistor R1 ❑	Resistor R2 ❑	Resistor R3 ❑	Resistor R4 ❑	Resistor R4 ❑
Resistor R5 ❑	Resistor R6 ❑	Resistor R7 ❑	Capacitor C1 ❑	Caps C2, 3, 4 ❑

Microchip 4060 ❑   Microchip 40106 ❑ Make sure the indent at one end matches the outline on the PCB   ❑

Fit the two diodes D1 and D2 taking great care to fit with the banded end as per the outline on the PCB.   ❑

Fit the Piezo sounder making sure it is pressed down onto the PCB.   ❑

When you fit the LEDs you might consider fitting them to your front panel FIRST. That way they will be at the correct fitted height ready for when you solder them. Check they are the correct way around, then solder.   ❑

Next fit the RED + and BLACK - wires up though the stress relief holes then down into the PCB and solder. You may wish to use a second piece of red wire and supply power through an on-off switch.   ❑

Now carefully check your soldering for errors (missed joints or solder splashes). If it looks OK, connect up a battery pack. 4x AA batteries (6 volts) in a suitable holder (e.g. Rapid order code 18-0115) or any PP3/MN1604 (9 volts) battery will work. Enjoy your timer.

TIP! The PCB allows for three different mounting methods for you time-setting potentiometer, above, below and sideways. It allows you mounting flexibility whilst retaining clockwise = longer time delay.