



The 'Signaller' Morse Code Key

For many years the only way of long-distance communications was via the use of Morse code. In fact, many 1000's of people still use Morse code daily to communicate all over the world. Even with today's digital world, Morse is a reliable method of communication when other methods fail due to manmade or natural disasters or even just for fun!

When starting to learn how to send Morse code you first need a key. A key on its own is not a lot of help, you need an oscillator too. Then you need a cable to connect the two. All these things add up and if you're not sure you're going to stick with it then it's a considerable investment. You may be looking for something to stir an interest in a fellow ham but don't want to spend a fortune. Well, the Signaller Key is an ideal way to start learning!

The signaller is a very simple arrangement and a low-cost way to start on the Path of sending Morse Code. Everything including the batteries is built into the key.

The signaller requires some soldering and assembly work so is also an educational project.

The signaller may be supplied in different colours and with or without logos depending if the kit is supplied as part of a special event or club project. The standard signaller is supplied in black. The one in the Photos here was designed for the Royal Signals Museum.

Before building check you have all the parts :-

- 1 x Base Panel
- 1 x Key Top Panel
- 1 x Round Flange Panel
- 1 x Key Knob
- 4 x 16mm M3 Steel Screws
- 1 x 6mm M3 Steel Screw
- 1 x 14mm M3 Steel Screw
- 6 x M3 Nuts
- 4 x 10mm Brass Threaded Spacer
- 1 x 3mm White spacer
- 1 x 2 Cell AAA Battery holder
- 1 x 3mm LED
- 1 x 1K ohm resistor
- 1 x 2 pin sounder
- 4 x Rubber Stick on feet



If any parts are missing contact me right away.
sales@kanga-products.co.uk

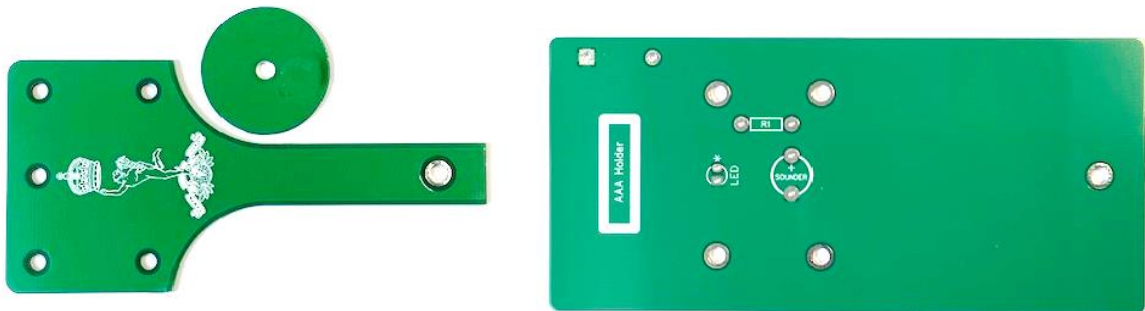


To make the build easier we have broken it down into a number of stages

The kit comes with a strip of parts, the strip has a number of sections each section should be opened only when needed so you don't lose parts.

Start at the end that just has one screw and nut, this is for the first stage.

The first thing to do is to open the pack with the boards, put all these parts on one clear area of your desk ready to use.



Stage 1 : Fitting the Bottom Contact screw

To complete this stage we need the bottom panel of the key and the first stage components, open the first section of the components strip.



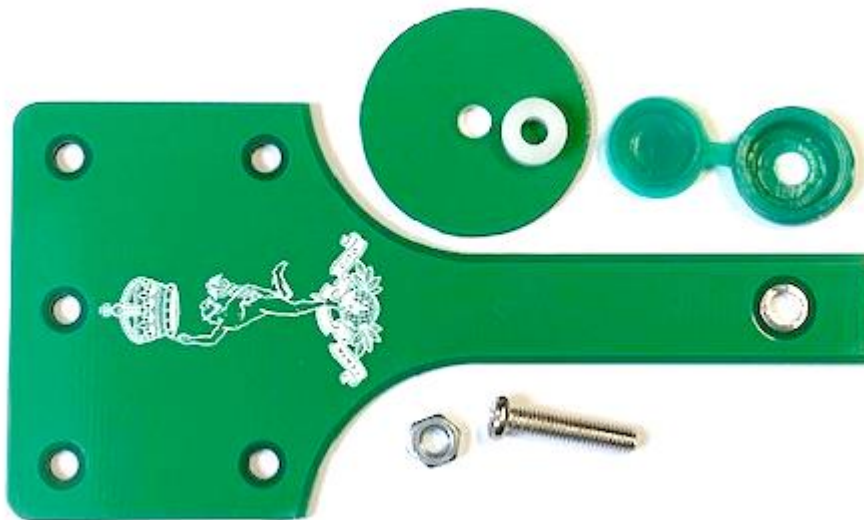
That's a 6mm screw and M3 nut.

Fit the bottom contact screw from the top of the base board (That's the side with the white screen printing) Put the screw through the single hole at the one end of the base panel. The screw head is the bottom key contact. This screw is then secured to the board by putting a M3 steel nut under the board.



Stage 2 : Fitting the Keys knob

Open the second section in the parts strip.



Take the top panel, the flange, plastic folder over knob, the 14mm steel screw, the 3mm high white spacer and the M3 nut.



Now Put the 14mm screw through the plastic knob and then the flange. Put the 3mm spacer under the flange and then put this assembly on to the top arm panel though the hole at the end of the thin end of the arm, secure the assembly with a M3 steel nut.

Be sure to put this on the right side of the top panel, the top may have a logo printed on one side.

(if not, the top side only has one hole with a sliver ring on show, the bottom of this panel will have five.)



it will look like the picture here. Use the steel

M3 nut to tighten the knob to the arm. Just before you give this a final tighten make sure the hinge in the plastic knob is lined up with the arm for a better appearance.





You may have to rotate the knob and flange to get this alignment right before nipping up the screw and nut securing the knob and flange. This screw also serves as the top 'contact' point for the key. When the knob is secure and the caps hinge is in line with the arm you can clip the hinged cap in place, once this cap is clipped to the bottom part of the plastic knob it will be hard to re-open it so take care to get this part right before you clip the top on.

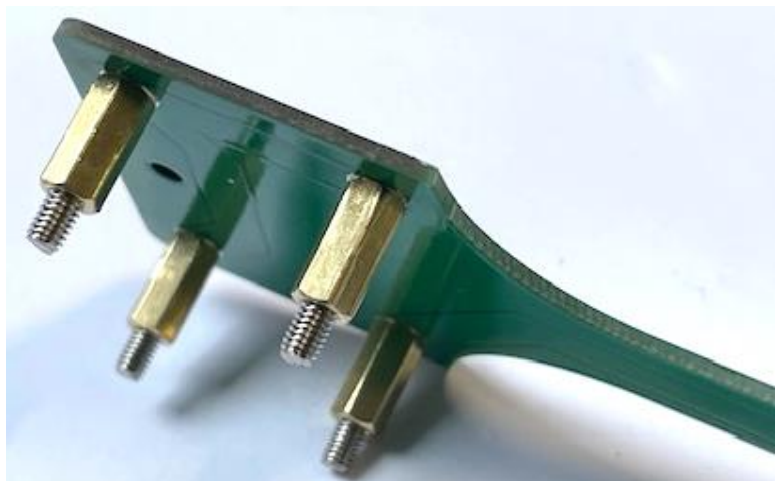
Stage 3: The mounting spacers

Open the third section in the strip, that will have four 16mm steel screws and four 10mm brass standoffs



From the top of the arm pass the four 16mm screws and screw the standoffs onto the screws right up to the panel as shown here.

That completes the work on the top panel for now so put it on one side till later.





Now we can work on the bottom panel. First open the 4th section of the strip

You should have one 1K resistor and one sounder.



Look carefully at the sounder, you will see on the top a '+' marked on one side of the hole (if there is a sticker over the top please remove it) Look on the base panel and you will see the outline for the sounder. One side also has a '+' marked, YOU MUST fit the sounder so its '+' pin goes into the hole with the '+' printed next to it.

Next fit the 1K resistor. The resistor can be fitted either way round



Do NOT fit the LED at this point!

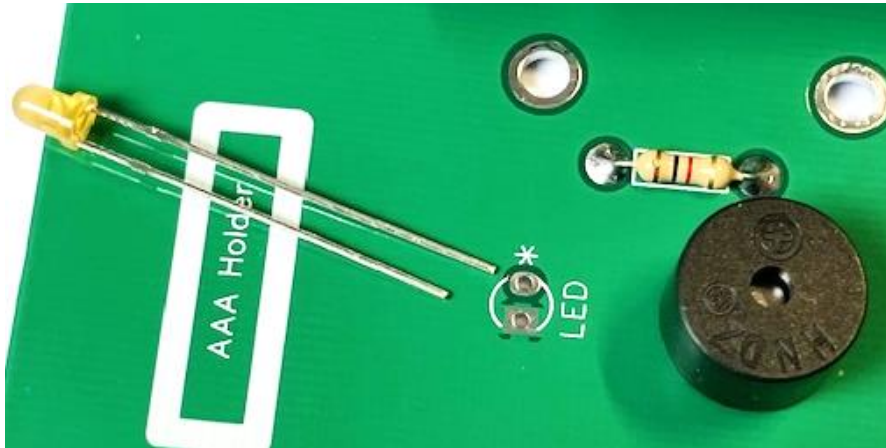
Stage 4: Fitting the top and bottom panel together

Open the next stage of the strip, this stage has four M3 nuts and a LED

DO NOT JUMP AHEAD AND FIT THE LED YET!



Important! Put the LED in the base panel so that the long leg is in the hole with the round pad around it. Depending on the event you may get a choice of LED colours to fit.

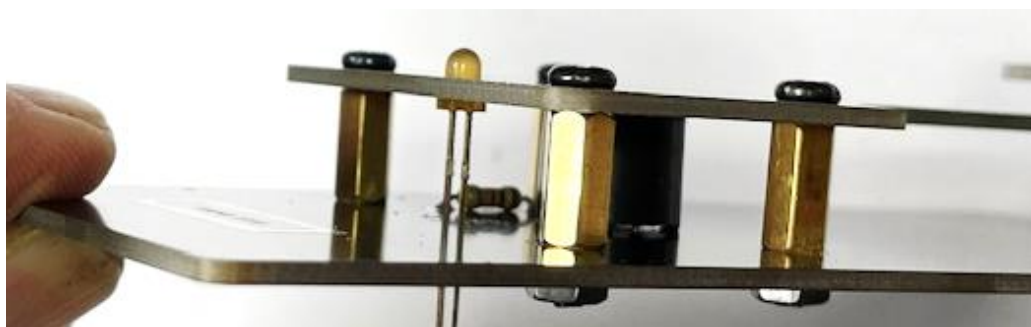


This is the most common part that is fitted wrong in this kit so take your time and double check you have it the right way! Again DO NOT SOLDER THIS IN PLACE YET!

Right with the led just sat in place its time to fit the top section of the key.



Drop the top section into place and then secure them with the four M3 nuts. Tighten the nuts so the two halves are now secured. Now push the led up into the hole in the top panel, now you can solder and trim the LED's leads.





Stage 5: The Battery Holder and feet

Now we can fit the battery holder. The holder has a double-sided foam pad on the bottom, you need to remove the plastic backing on the strip before fitting it in place. The holder will stick fast as soon as it is placed on the base panel so be careful with this stage. Once it is in place solder the two pins to the bottom of the board.



Now fit the four stick on feet on the back of the key, the front feet should be fitted as close to the front edge as you can so the key remains stable in use.

Now, insert two AAA batteries, take care to fit them the right way round.



Now test the key by giving it a tap! The sounder should come on and the LED should light, any problems check the soldering joints and that the batteries are the right way round.

All that's left is to learn the code now.

I Hope you enjoyed building and most importantly use the key!



Learn the Morse Code

E	•	T	—
I	• •	M	— —
S	• • •	O	— — —
H	• • • •	N	— •
A	• —	G	— — •
U	• • —	Z	— — • •
V	• • • —	Q	— — • —
W	• — —	D	— • •
J	• — — —	B	— • • •
R	• — •	K	— • —
L	• — • •	C	— • — •
F	• • — •	Y	— • — —
P	• — — •	X	— • • —
1	• — — — —	6	— • • • •
2	• • — — —	7	— — • • •
3	• • • — —	8	— — — • •
4	• • • • —	9	— — — — •
5	• • • • •	0	— — — — —