Touch Keyer – Kit build guide

Read me first!

As of March 5th 2018, these instructions have been updated. For the previous version of these instructions, visit www.electroresales.com and click on the retired products tab. Scroll down to the button that allows you to access the earlier instructions.

Start Here

Before starting work, carefully unpack the component pack, and check the components supplied against the component checklist. If any parts are missing please contact us immediately at: resalese@gmail.com and we will assist.

Preparation is 99% of success, and building this kit is no exception. Make sure to have a clean well-lit work area, some containers to hold the parts are a good idea, and familiarize yourself with this guide.

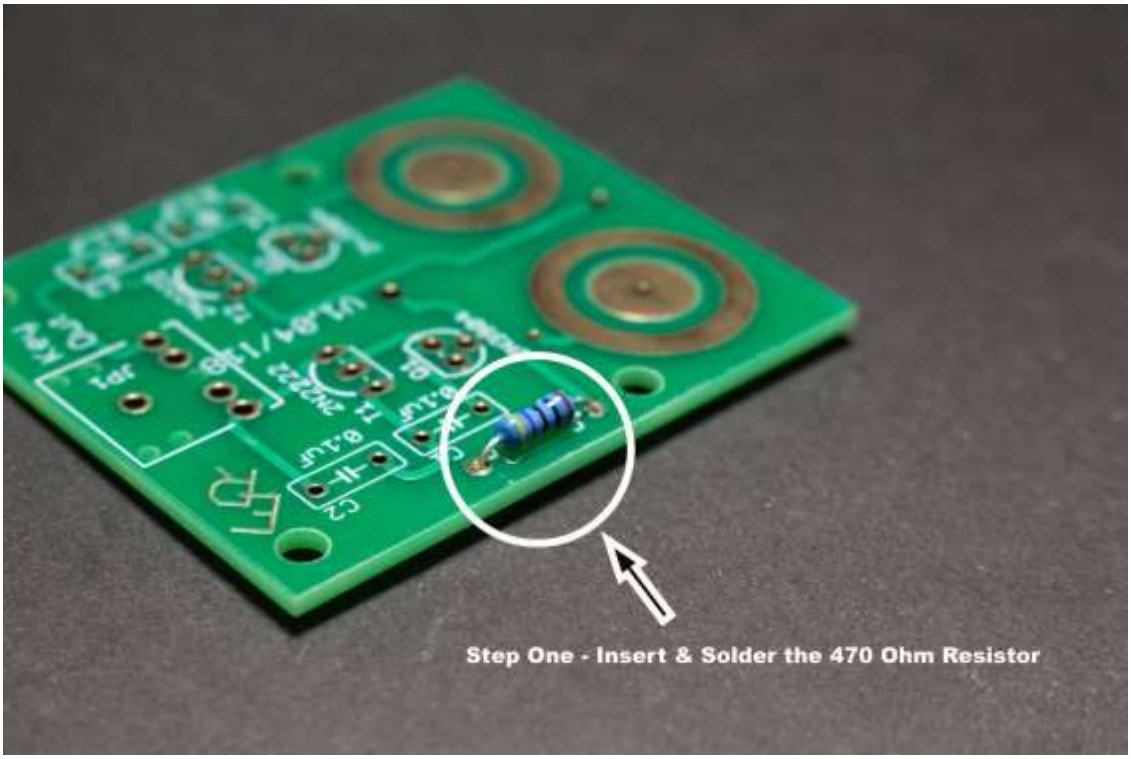
Be methodical in your construction and by following our step by step construction process your kit will be built quickly and work first time.

Parts Checklist (A visual guide is included at the end of this document)

Part Name	Part number	Part Value	Identification
Resistor	R1	470 Ohm (470 R)	**4 Band:** Yellow, Violet, Brown, Gold Band **5 Band:** Yellow, Violet, Black, Black, Brown
Capacitor	C1, C2, C3, C4	0.1uF	Marked 104
Transistor	Q1, Q2	NPN Black Plastic	Marked 2N3904
	Q3, Q4	NPN Black Plastic	Marked PN2222
Hardware	JP1	3.5mm Connector	Black, Nylon flat body 1/8” jack socket
	Battery Holder	CR2032	Black Nylon body coin cell shell
	PCB		2” x 1.75” Green/Gold PCB

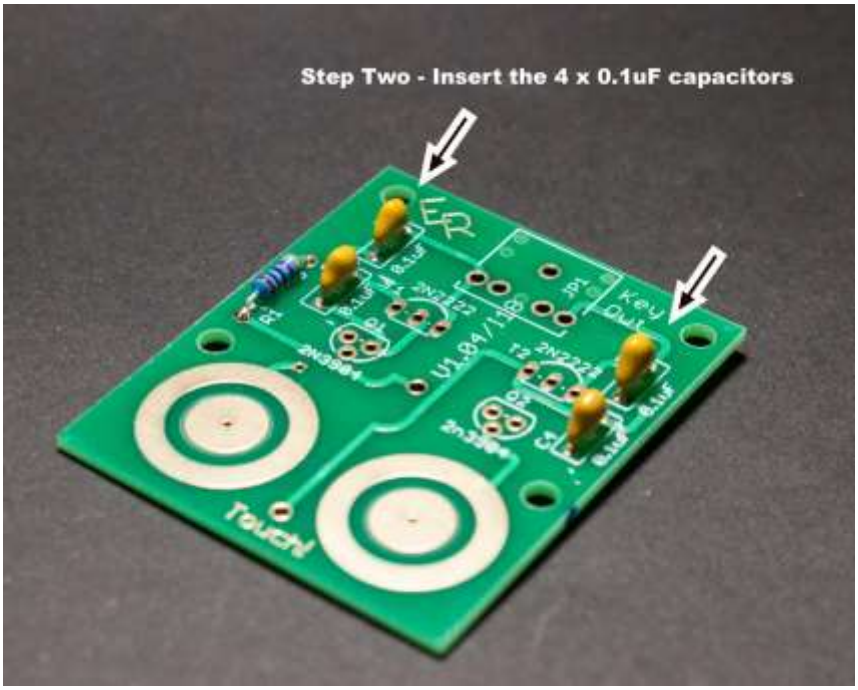
Step one

Start construction by inserting and soldering resistors R 1, 470 Ohm, this part is not polarized so can be inserted without worrying about orientation, insert as shown below:



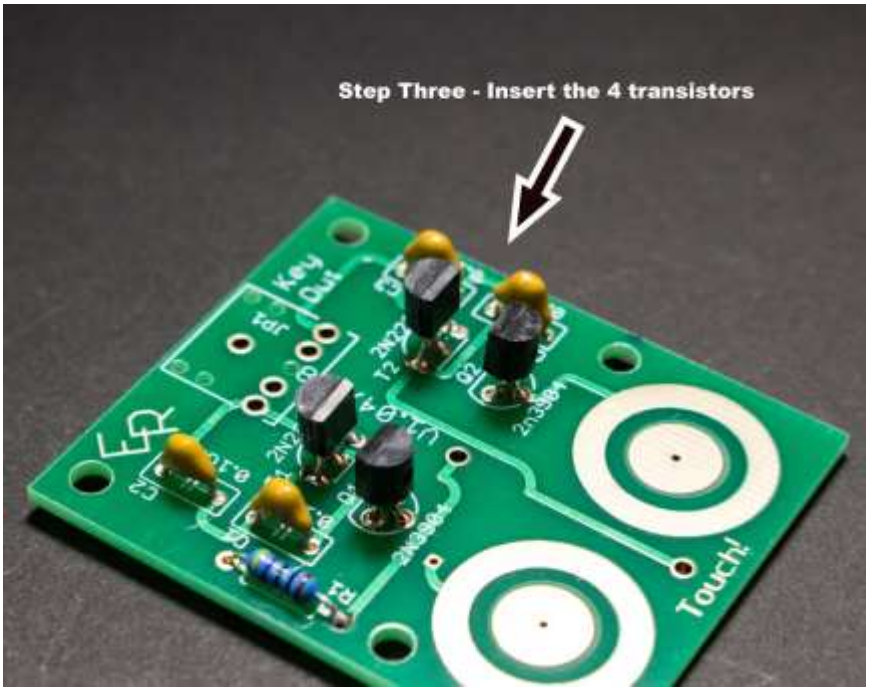
Step Two

With the resistor installed the next step is to install the 4 ceramic 0.1uF (Marked 104) capacitors in positions marked C1 – C4, as these are non-polarized they can be positioned either way round, see photo below for help:



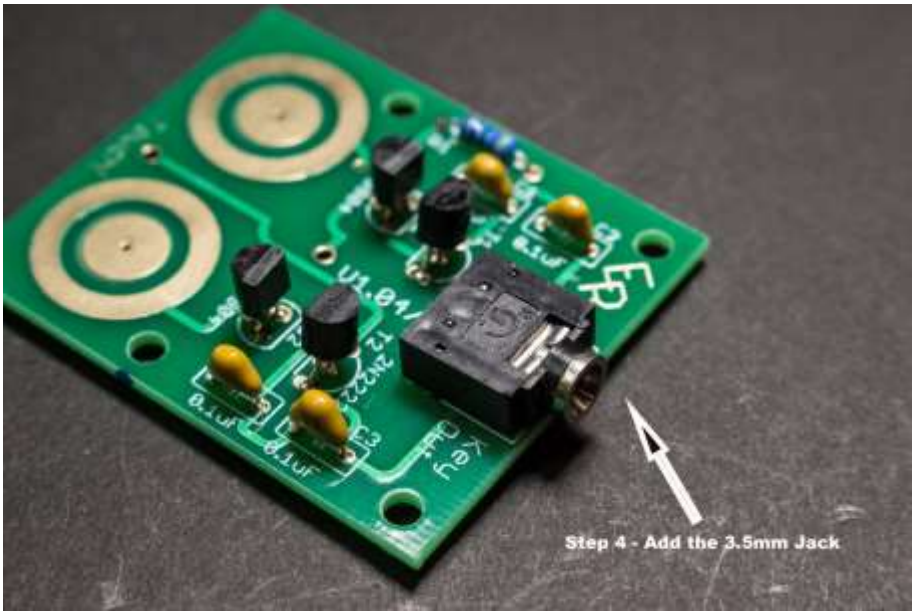
Step Three

Now it's time to insert the 4 transistors, ensure correct orientation of these parts by following the outline printed on the PCB. Inserting these backwards or incorrectly will lead to a nonfunctional board. The photo below will assist orientation.



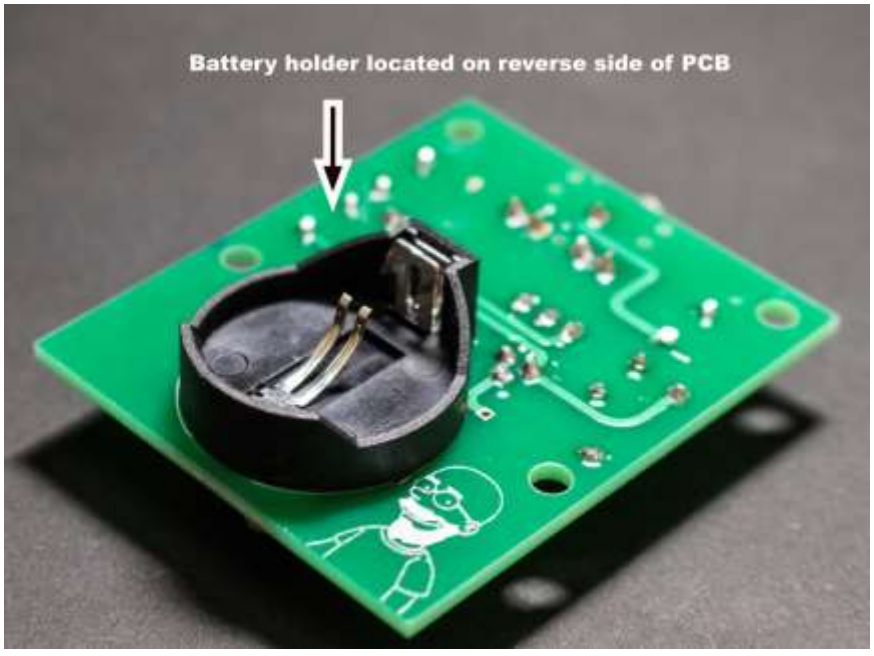
Step Four

Now add the audio 3.5mm (1/8”) jack to the pcb – ensure the jack is pressed flush to the board, this assists in soldering the leads properly.



Step Five

Before adding the battery holder, this is a good time to clean the board of flux residue. To insert the battery holder, flip the board over and insert then solder the pads of the holder located on the component side of the board. Be careful not to splash solder on the gold plated touch pads.



Congratulations your Touch Key PCB is now complete

Inspection & Test

At this point it is very tempting to insert the battery and use the Keyer, however, it is better to closely inspect the PCB, mistakes are easier to correct now – start by comparing the board you built to the pictures in this guide, make sure your components match our images and are correctly orientated, correct any mistakes now.

Flip the board over and inspect your soldering – reflow any suspect joints, make sure all joints are soldered; it's easy to miss one joint.

If it all looks good, now is the time to apply power and test the finished key. To power your key unit a 3 VDC CR2032 size coin cell is inserted into the holder with the '+' side facing up/you.

With the battery inserted an audio jack lead can be connected to the jack on the board, the other end may fit your keying unit or transceiver directly, however, it maybe that you will need to use an adapter or configure the cable end to match your equipment, consult the manual that came with the transmitter or keying unit.

You may also need to configure your key unit to get the correct touch pad for Dit & Dah as you are used to sending. Most Keyer units and Transmitters allow this setting to be modified to suit your needs, again consult the manual that came with that equipment for help.

Troubleshooting

The key unit is very simple and you should have no issues with it after construction, however if the unit is not working as expected try these steps first:

1. Is the battery inserted Positive side (+) up/facing you? Try another fresh battery.
2. Check your board for suspect solders joints, also check to make sure all joints are soldered and no whiskers of solder are bridging components or pads. Use a small magnifier if needed.
3. Check that all components are in the right place, and importantly the transistors are oriented correctly.
4. If still no luck please contact us at : resalese@gmail.com for assistance

The small Print

DISCLAIMER

Any person who constructs or works on electronic equipment may be exposed to hazards, including physical injury, the risk of electric shock or electrocution.. These hazards can result in health problems, injury, or death. Only qualified persons who understand and are willing to bear these risks themselves should attempt the construction of electronic equipment. By purchasing this item, the buyer acknowledges these risks.

There is a risk of electric shock, electrocution, burns, or fires that is inherent in the construction and use of electronic equipment. By purchasing this item, the buyer acknowledges these risks.

IN NO EVENT SHALL THE SELLER BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY NATURE including, but not limited to, property damage, personal injury, death or legal expenses. Buyer's recovery from Seller for any claim shall not exceed the purchase price paid by Buyer for the goods, irrespective of the nature of the claim, whether in warrant, contract or otherwise. By purchasing this item, BUYER AGREES TO INDEMNIFY, DEFEND AND HOLD SELLER HARMLESS FROM ANY CLAIMS BROUGHT BY ANY PARTY REGARDING ITEMS SUPPLIED BY SELLER AND INCORPORATED INTO THE BUYER'S PRODUCT.

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Visual guide to the parts used in this kit.