Electro-Resales

Touch Sensitive Morse Paddle

A Little Background

This Morse key/paddle is a novelty/fun item designed to provide a touch sensitive platform for Morse keying with an Iambic style Morse keying unit such as those provided by ourselves or other suppliers like MFJ (e.g. MFJ 492 and similar).

There is no doubt that fast accurate Morse code is best derived with a well-designed mechanical paddle and we are not suggesting that this touch key unit can or should replace a conventional Morse paddle, however, it does allow for fast agile Morse to be sent after a little practice.

While this Touch Key can be used as a straight key it is not recommended that the Touch Key be used to directly key a transmitter, always use this key with a keying unit to avoid damage to the Key or yourself!

Operation and Usage

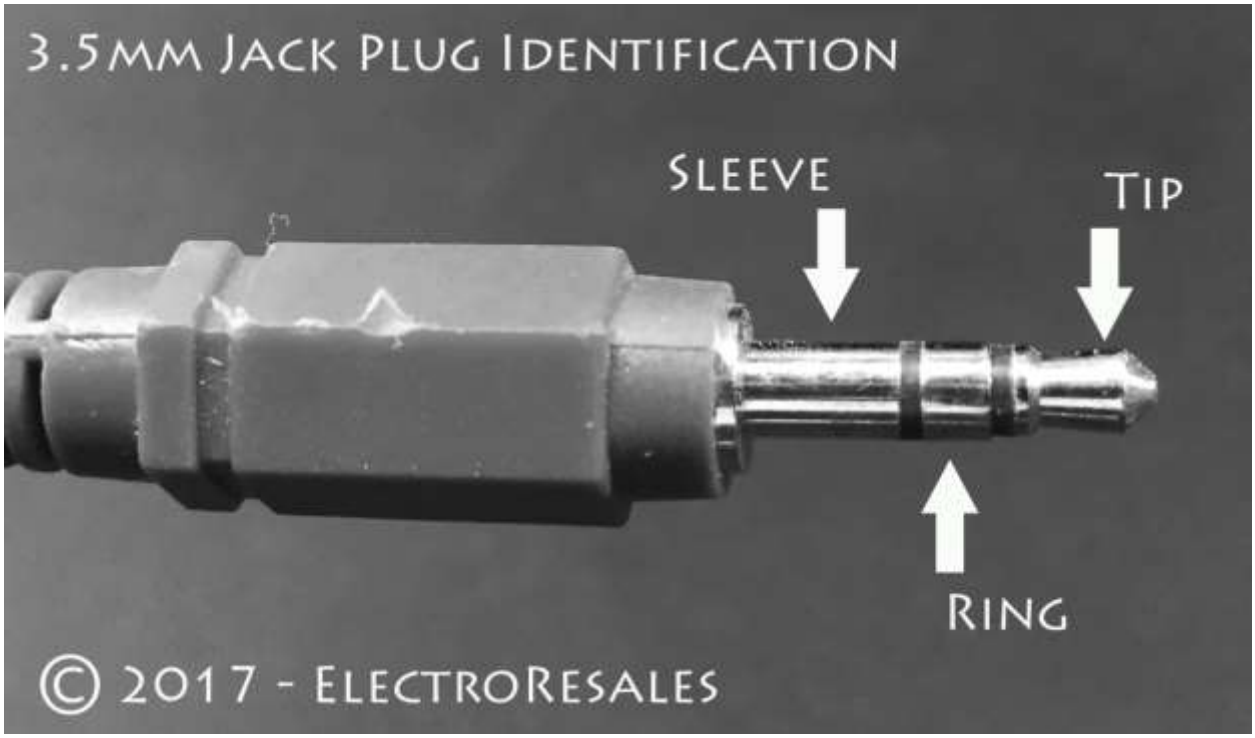
The key is based on resistive touch technology rather than hum pickup or capacitive touch techniques. As such the touch action relies on the operator bridging two contacts with a finger (preferred) and the body resistance completes the circuit causing a transistor switch to 'close'. The basic circuit is configured that a finger placed on a contact ring provides a bias to the base of the first transistor which turns it on, this in turn activates the second transistor that is the actual switch.

Finger bridging the contact rings

In use the key contacts need to be fully covered by skin to ensure the 'human resistor' acts to complete the circuit. The keying action is very different to a normal iambic paddle, getting used to the action will take a little practice. We recommend that you start using the key with the Keyer set to a slow speed (a few WPM slower than you are used to sending) and increase the speed once you are comfortable with the keys action.

Connecting the touch paddle to your keying unit is via the 3.5mm Jack Socket. You will need to provide a cable that has a plug as shown in this image:

Typical Stereo Jack



The Dit & Dah contacts are connected to the Tip and Ring, while the common is attached to the sleeve. A stereo audio jack cable should work well, you may need to use an adapter plug on one end depending on your key unit, consult the keys user manual. Most keying units allow the paddles to be swapped either in software or by physically moving a header or switch. Again consult your keying unit manual for help on this.

Maintenance

Over time the touch paddle may need some maintenance, the following is provided as a guide to what may need to be done and how to complete the maintenance.

1. **Touch contacts** – The contacts may get soiled with time and use, the gold plate is designed to reduce this soiling, however, if the contacts get soiled, they can be cleaned by using 91% alcohol sold by CVS/Walgreens etc. as a topical antiseptic. Wet a clean paper towel with alcohol and

gently clean the contacts. Do not rub hard, use a gentle circular motion. The alcohol should evaporate and leave the contacts clean.

2. **Acrylic plate cleaning** – The acrylic plate will most likely get dusty over time and finger prints may accumulate. This is cleaned by using canned air and first blowing gently with this air supply and then using the alcohol and paper towel method outlined in 1) above. If you need to remove the circuit board to fully clean the plate, be careful to use only finger tight pressure on the nylon nuts/bolts to avoid stripping the thread when reassembling the unit.
3. **Replacing the battery** – As supplied no battery is installed and a CR2032 battery has to be installed in the holder on the reverse side of the board, positive (+) side facing up. The Touch Key uses little power in use and the battery should last a long time. When the time comes to replace it, remove the PCB from the plate by unscrewing the 4 nuts or screws (depending on configuration supplied). Gently pry the board clear of the acrylic plate, the standoffs should remain on the bolts. Using a small screwdriver pry out the old battery and insert a new coin cell + up or toward you. Replace the circuit board and finger tighten the nuts on the bolts. Overtightening can strip nylon threads.

Troubleshooting

The Touch key has been designed and built to ensure a long useful life, however, issues can occur. The commonest issue is the key not responding properly (not activating the keying unit). This can be due to a number of reasons, notably;

1. Finger not providing the correct resistance to activate the transistor switch
2. Battery needs replacing.

Both of these possible issues can be tested for by using a short jumper wire to bridge the inner and outer contacts. If the key activates with this test, it shows the issue is finger resistance, if nothing happens; replacing the battery is the next step. If replacing the battery fails to solve the issue contact us for help: resalese@gmail.com

If the Keyer sounds with the wire bridge the battery is good and it suggests the issue is with the finger resistance. We tested with many types of skin from very dry to moist, and did not run into any issues, however, we are human and all different, we cannot test all possibilities. Please contact us at the email above for additional options.

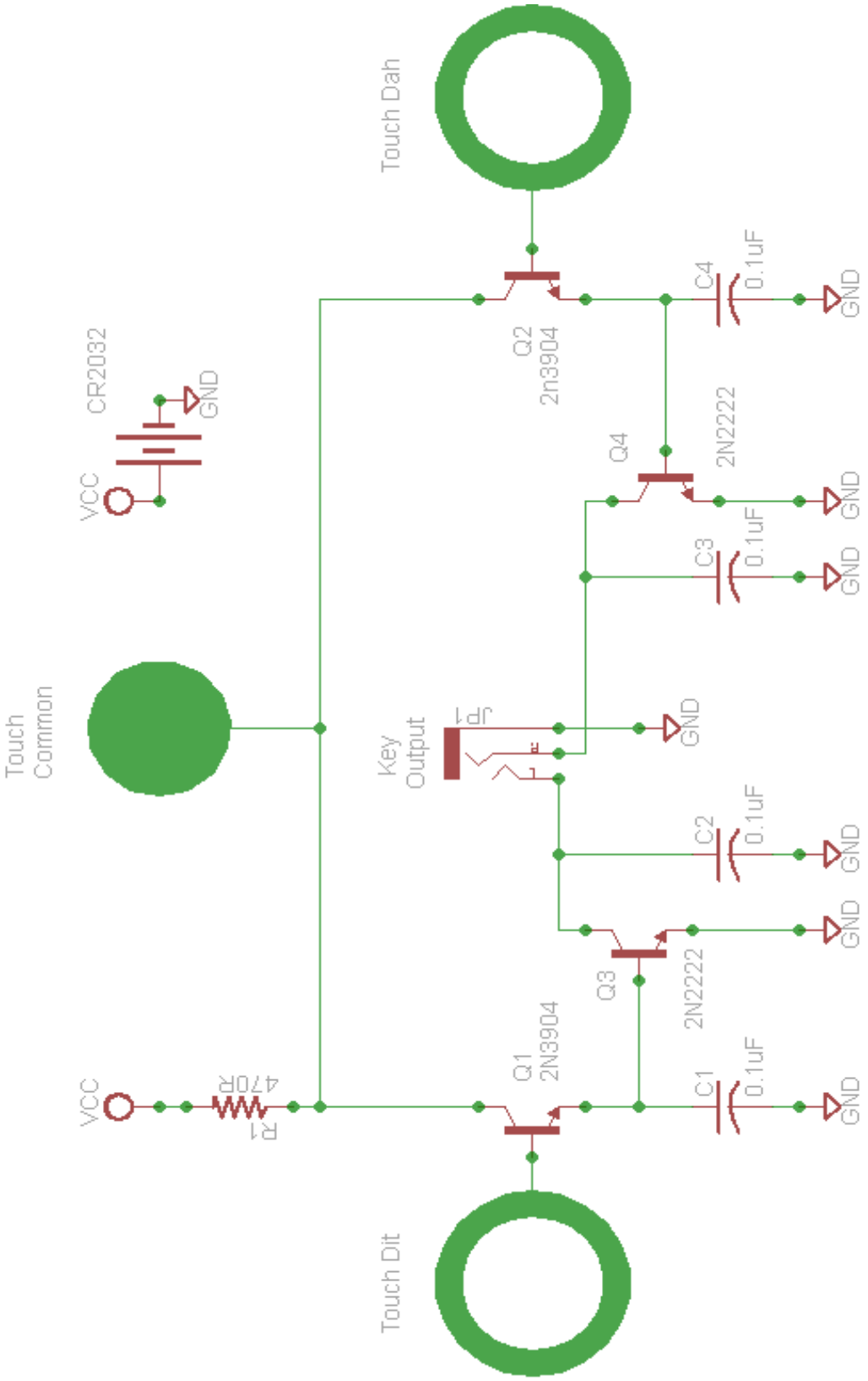
The small Print

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.


Touch Dah
Touch Common
Touch Dit
Key Output
CR2032
VCC
GND
470R
R1
Q1 2N3904
Q2 2n3904
Q3 2N2222
Q4 2N2222
C1 0.1uF
C2 0.1uF
C3 0.1uF
C4 0.1uF