

TIP & RING TALK



MONO

1 SIGNAL

WE HAVE A TIP & GROUND

TIP = SIGNAL ...GROUND = GROUND



STEREO

2 SIGNALS

WE HAVE A TIP, RING & GROUND

TIP = RIGHT, RING = LEFT...GROUND = GROUND

The Tuna Tin 2 40th Anniversary kit uses a common stereo jack for the keying jack and each signal line, tip & ring, has a jumper over to the +12 to then effect a switch closure for keying. Why do that when a mono plug is all that is required? Well, it is more common for QRPers to have a set of paddles laying about that they might want to use with the TT2. By using a stereo jack and circuit, either lever on a set of standard paddles will key the TT2. If you already have a straight key wired with a mono plug, then you will need to cut the ring jumper. If you examine the plugs pictures above, you will see that the ground connection is longer on a mono plug and runs right through the ring position. So if you plug a mono plug into the stereo jack, the ring connection will be constantly grounded and the TT2 will lock up in the transmit mode. Cutting the ring jumper will then allow ONLY the tip connection to key the TT2.

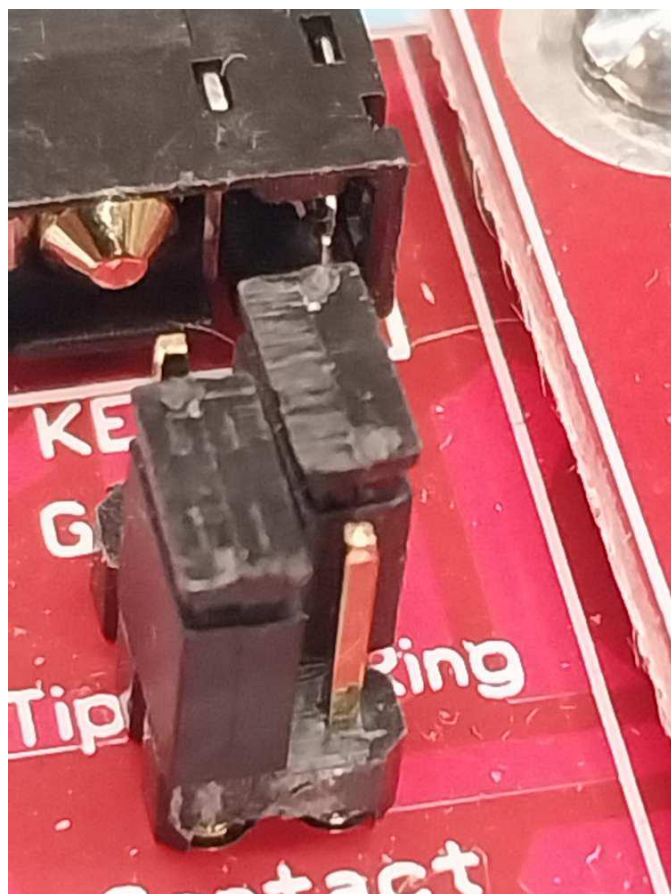
This physical property of the mono plug is used in MANY rigs that have a keyer chip inside, like the Rockmite, that normally use paddles with 2

connections. Paddles have stereo plugs so that the 2 signals, dot & dash come in separately to the keyer for automatic keying. Most keyer chips also utilize the fact that when you plug in a straight key with a mono plug, the ring connection is shorted to ground. Keyer chips recognize that fact and automatically switch to straight key mode and use the tip connection for keying.

The FreeKey has a stereo jack and uses a stereo cable but is a straight key. Why use the stereo jack & cable? Well, if you jumper the ring connection on the FreeKey to ground and the tip connection to contact, then the FreeKey will be recognized by the keyer chip and activate the straight key mode. If you want to plug it into the TT2, then jumper the ring connection to contact or pull the jumper out or plug it sideways so it makes no connection and plug it into the TT2. Or if you want to use you station paddles, just plug them into the TT2 and either the left or right paddle will key the TT2.

Having the tip & ring jumpers BOTH jumpered allows you to use your paddles to key the TT2 with EITHER lever performing the keying. Having the tip & ring jumpers on the FreeKey allows you to easily use them on either the TT2 or another rig like the Rockmite that expects paddle input. When using a different straight key which is wired with a MONO plug requires the ring jumper on the TT2 40A board to be cut. **Beware, some straight keys intended to be used with keyer based rigs ARE already wired with a stereo plug but only use the tip connection....**so inspect the plug on a straight key before plugging it into the TT2 as it might lock the TT2 into the transmit mode.

FreeKey with Tip connected to the contact and Ring not connected to either contact or ground. Jumper is 'parked' across the ground pins to keep it from getting lost.



FreeKey with Tip connected to contact and Ring connected to ground. Typical configuration when using the FreeKey for either the TT2 or a Rockmite. Make sure you remove the Ring jumper on the TT2 or it will be locked into the transmit mode with that Ring shorted to ground.

When plugged into a Rockmite, the shorted Ring connection will automatically put the Rockmite into the straight key mode

As for the Tip & Ring jumpers on the TT2 40A board, the jumpers are made from cutoff component leads and soldered horizontally across the pads as shown by the tiny white lines on the pcb silkscreen and in the schematic.

You can also use a 2x2x.1" male header there and use 2 more .1" little jumpers to make those easily changeable too. Headers and jumpers can be harvested off old scrap hard drives... You can also install SIP pins in the Tip & Ring locations and use clipped lead jumpers that can now be changed easily.

Image on right shows SIP sockets installed in the Tip & Ring pads and cut-off component leads used as plug in jumpers. Now you are ready for any straight key/paddle situation!

