

Information for Those Who Would Like to Use a Baofeng Transceiver With TNC-X or TNC-Pi

(while these directions picture the TNC-X, the same approach can be taken with the TNC-Pi)

The Baofeng UV-5R and similar radios are extremely inexpensive dual band (2m/70cm) HT's that are widely used for FM voice communication. But what about using them on packet radio? Yes, this is possible, but a number of people have had problems with either home made cables or some that were bought commercially. The major problem is that the radio keys, but does not unkey. It seems to be a grounding problem because when you bring your hand close to the radio, it then unkeys. More information on how to fix this momentarily.

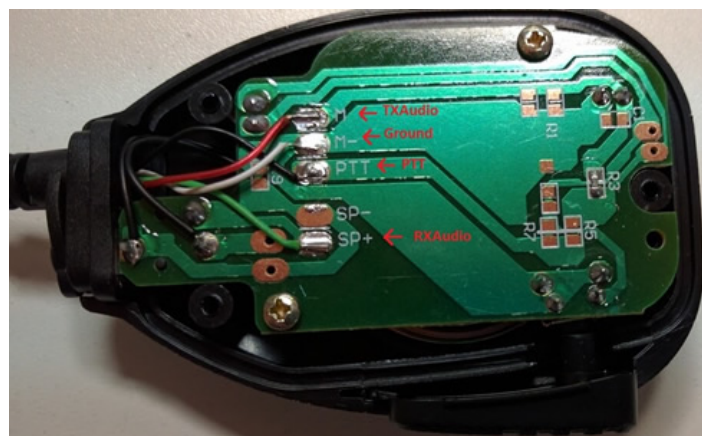
One way to overcome this is to make your own radio/TNC cable using a speaker/microphone that is designed for the Baofeng radio. You then cut off the microphone and just use the cable and connector. This may sound expensive, but as it turns out, speaker/mics are available for the Baofeng on line in the \$5 range. Do a search on Amazon for "Baofeng Speaker" and you will find them. You will also need a 5 pin DIN plug for the other end of the cable.

You can buy these DIN Plugs on the TNC-X web site(\$2):

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Here is the Baofeng Speaker/Mic that I purchased from Amazon. The pin out for the plug is:

TX Audio: Ring on big plug
Ground: Sleeve on small plug
PTT: Sleeve on big plug
RX Audio: Tip on small plug



Here I've removed the 3 screws that hold the microphone back in place and opened it up. You can see that the wires are labelled on the printed circuit board, which makes it easy to figure out which wire is which. On this microphone the connections are as follows:

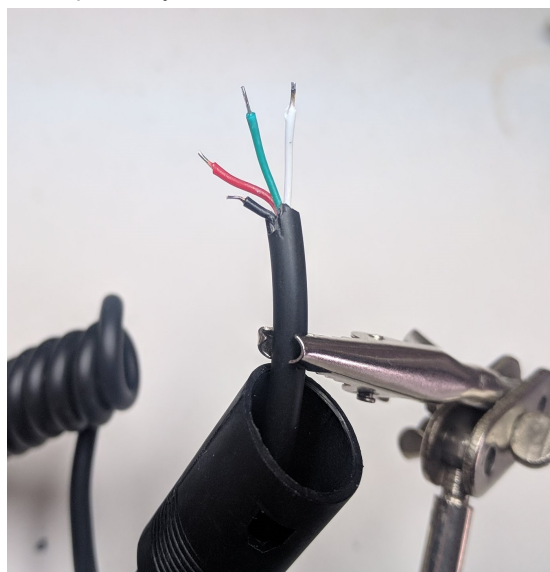
Red = TXAudio
White = Ground
Black = PTT
Green = RXAudio

NOTE 1: I have found some of these mics have the M- (ground) and SP+ (RXAudio) wires reversed. Since these wires are connected to the speaker, this doesn't matter for the operation of the speaker/mic, but it does matter for TNC connections. Typically the white wire is ground and the green wire is RXAudio. To be certain, clip the microphone off the cord and check the continuity between the white wire and the sleeve on the small plug.

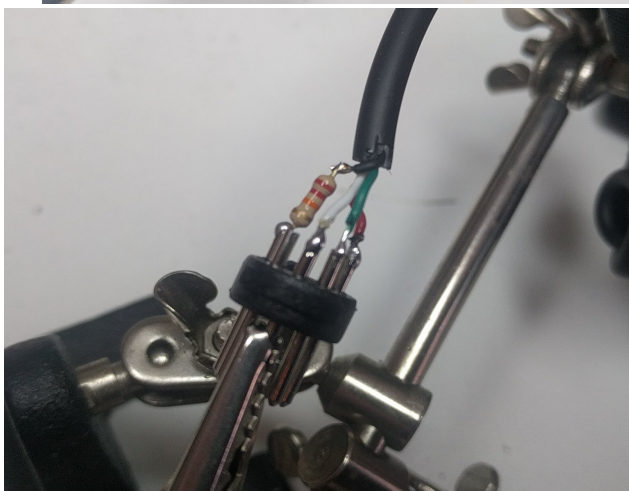
NOTE 2: I have received a few Baofeng speaker/mics that don't work. I suggest that before you cut the cable, make sure the

speaker/mic works with your Baofeng HT. If it does not work, the cable probably won't work either.

The next step is to strip the wires and tin them with solder. **IMPORTANT:** Make sure that at this point you put the black cover of the DIN connector over the cable as shown. If you forget to do this you'll be sorry later! Notice that the black wire is significantly shorter than the other wires.



Here I have soldered a 2.2K resistor onto the pin of the DIN jack where the PTT (black) wire is going to be attached. (Note there is a problem with this picture. That resistor is actually red-red-red even though it doesn't look like it.) This will solve the problem of the TNC getting stuck in transmit. I've used a 1/4 watt resistor here because I had some on hand. a 1/8 watt resistor would also work.



Next solder the connector on to these wires. With the pins going around over the top the order should be:

RED - GREEN - WHITE - NO CONNECTION - BLACK

Next attach the shell (two pieces). The first to go on is the one that is then crimped to the outer black cable. Then add the other piece and slide up the black cover to complete the installation.



Here's the completed cable, ready to go! As you can see it is not a difficult assembly process. However, if you would like to buy one already built, they are available for \$20 plus shipping.

It is also possible to build one of these cables to work with the Baofeng and the TNC-Pi. To do this, simply use a 9 pin D-SUB connector instead of the DIN connector. I have found that when making one of these for the TNC-Pi, it is generally not necessary to add the 2.2K resistor. Usually it will work with the PTT line soldered directly to the PTT pin on the D-SUB.



TNC-X Cable for Baofeng UV-5R or Similar (\$20).

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TNC-Pi Cable for Baofeng UV-5R or Similar (\$20)

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