

# DIY VOX cable for Digital/Data mode operation

## 6-pin connection

V1.0



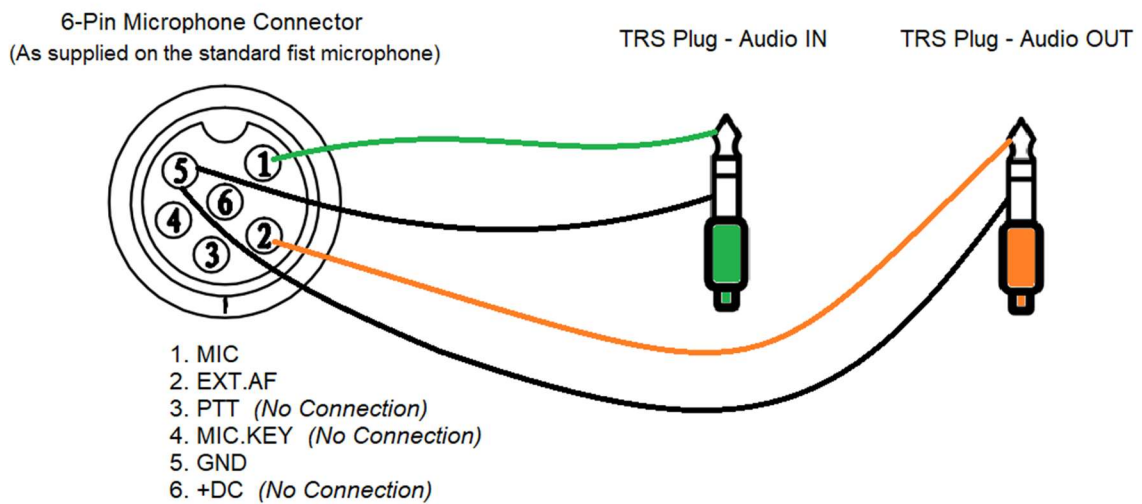
Your radio can support digital/data mode operation (FT8, SSTV, RTTY, etc) using the built-in VOX modes, without the need for external interfaces. This is a DIY option, and the following information is provided to assist with the creation of a cable that will provide the necessary connections; between a computer running digital/data mode software and the radio.

## DIY Cable Wiring:

The following example is the most basic form of the cable that can be built. The cable connects between a PC soundcard (or an external USB soundcard) and the radios front Microphone connector. This provides all the necessary connections for VOX based digital/data mode operation. (The input and output signals will appear on the LEFT channels of the PC soundcard.)

With careful adjustment of the radio settings and your PC software settings, good performance can be achieved.

Please see the "Notes and tips" section at the end of this document for general setup tips and precautions.



## Radio Menu settings:

The following radio MENU settings are required/recommended to enable VOX based TX and RX via the radios front microphone socket:

Menu 04: MIC.GAIN = Set to a low level, adjust as needed.

Menu 05: MIC.TYPE = DYNA

Menu 07: VOL.PATH = BOTH or MIC.JACK

Menu 25: VOX-L = 2 or 3 is recommended, adjust the VOX level as needed.

Menu 26: VOX-T = 1 or 2 is recommended, adjust VOX delay time as needed.

Menu 27: VOX.SPK = ON (allows VOX to enable PTT when there is open squelch / RX audio)

Menu 24: VOX = ON (note: during PTT you can also press the FUNC key to turn VOX ON/OFF)

## Notes and tips:

The following recommendations will assist in achieving the best results:

- **\*\*Always** use LOW RF POWER\*\* for digital/data modes. Many of these modes are high duty cycle TX, and are very efficient only requiring low power for excellent results. High power is not required and will result in higher heat which should be avoided.
- **\*\*Isolation\*\***: The DIY cable described in this document contains no isolation, but it can provide good results when your PC soundcard levels, and radio are set correctly. "Isolation transformers" may be added to the cable if required to avoid ground loops or interference/noise. The use of clip-on ferrites can also assist with noise or feedback issues, if they occur.
- **\*\*Levels\*\***: Check the signal levels to ensure they match the requirements of your PC interfaces and radio equipment. Always start at a low volume/gain levels and increase gradually as required. Adjust your PC soundcard settings and radio MIC.GAIN, VOX-L and VOX-T to ensure audio is properly transmitted and received. Be aware that any sounds played by your PC might be transmitted with VOX, so always ensure other sound sources are disabled before enabling VOX (VOX is enabled with Menu 24: VOX = ON).
- **\*\*Testing\*\***: After making connections, test the setup with your digital mode software. Most software will contain a "VOX PTT" option that should be selected.