

Overview

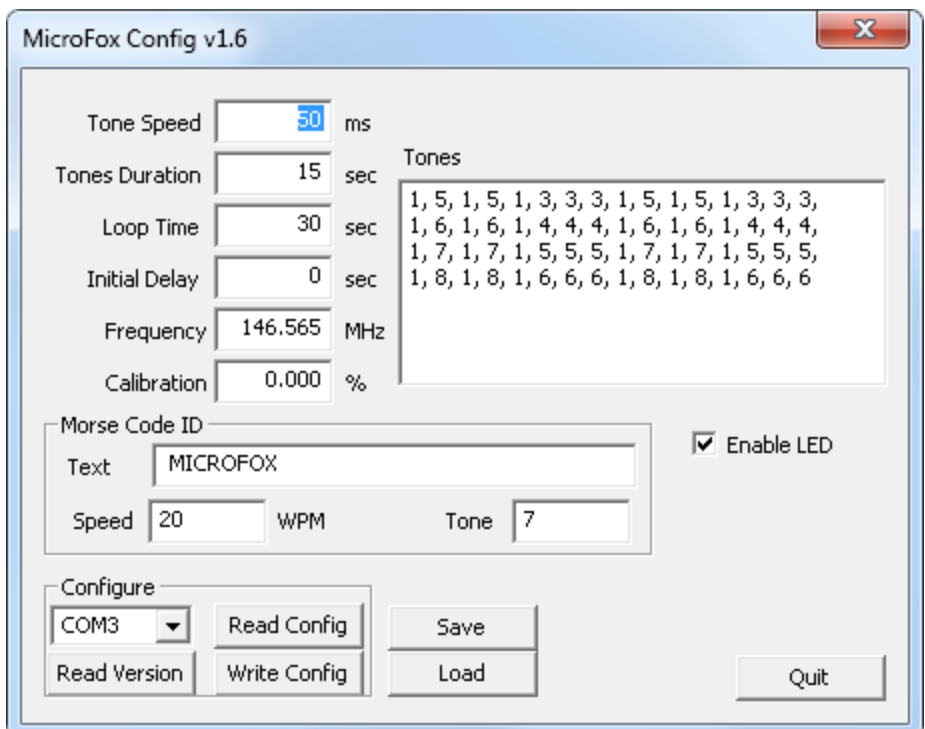
The Byonics MicroFox-15S (MF-15S) is a small, frequency agile 2-meter transmitter designed for short range on-foot hidden transmitter hunts, also called T-hunts, foxhunts, and ARDF. It is very similar to the popular MicroFox-15, using the same firmware and MicroFoxConfig program and also sending about 15mW, but is small enough to fit with a LiPo battery inside a 35mm film canister (32mm x 54mm). It also includes the small Byonics V4 whip antenna, but any VHF antenna with an SMA connector will work. Using a directional antenna, it can typically be received from about 1-2 miles away line of sight. It is user programmable to any frequency between 144 MHz and 148 MHz in 5 KHz steps, can be adjusted to many tones, durations, and duty cycles, and can transmit an amateur radio callsign in Morse code.



Configuration

A 2.5mm serial or USB cable and the Windows MicroFoxConfig program is required to configure the various settings of the MF-15S. The cables and software are available from www.byonics.com/mf. PL2303 USB drivers can be found at www.prolific.com.tw.

The default settings that appear when the configuration program is started are recommended for a basic hunt with the MF-15S transmitting tones for 15 seconds, and then a Morse code ID. It then will stop transmitting, and repeats every 30 seconds. The only setting users must change is the Morse Code ID text to be their assigned amateur radio callsign. After setting the desired options, select the configuration cable COM port, connect the cable to the 2.5mm jack on the MF15S, being sure to push the plug all the way in, connect to the battery, and click Write Config to apply the settings.



Battery

When run from the included 3.7V 650mAh LiPo battery, the MF-15S will typically draw about 40mA, so it should provide about 16 hours of full duty cycle runtime. The MF-15S can support an external voltage between 3.7V (40mA) and 5V (75mA).

In order to minimize size, there is no power switch on the MF-15S. Simply connect the battery to the power pigtail on the PCB to begin transmissions, and disconnect to stop. The battery wires are delicate, so be careful to not strain the cable.

Notes

- The 2.5mm programming jack is initially very tight. Although the programming plug may feel like it is fully seated, you may need to use a bit more force the first few times the jack is used. The difference between working and failing is only a matter of a few thousandths of an inch.
- If the assigned COM port is not showing in the config software, it can be manually entered, or the COM port can be changed with Windows Device Manager.
- Disabling the FIFO buffer in the Com Port settings may allow more reliable reading and writing of configurations.
- We recommend leaving a note with the transmitter identifying it as an Amateur Radio, and listing a contact telephone number. These days, your transmitter may cause undue alarm if found by a member of the public and outside agencies are contacted.
- Your choice of antenna directly affects the detectable range of the transmitter, and you may find that SMA stub antennas designed for 2.4 GHz transmitters can reduce the range if you so desire. There is no danger from using a poorly matched antenna.