

Byonics Micro-Fox Config Software Manual

version 1.6a

The Byonics Micro-Fox is a frequency agile transmitter designed for Hidden Transmitter Hunting, also called Fox Hunting, Bunny Hunting or T-Hunting. It is available from <http://www.byonics.com>. The Micro-Fox Config is a Windows program used to adjust the settings of the Micro-Fox transmitter. This manual will explain the use of that program.

Interfacing

The Micro-Fox must be connected to a computer serial port. This is usually accomplished with a serial interface cable called the MT-AIO Prog cable (it is also used to configure the Micro-Trak AIO.) The cable is a DB-9 female to 3/32" stereo plug wired with pin 5 to shield, pin 3 to ring, and pin 2 to tip. The cable can be connected to an actual serial port, or a USB-to-serial adapter. If using a USB-to-serial adapter, be sure to have the proper drivers loaded.

The Micro-Fox must be powered in order to configure it with this software, since power is not available on a serial port. This is normally done by connecting a 9V battery to the Micro-Fox battery cable. Be sure an antenna is also connected to the Micro-Fox SMA connector, as it will usually transmit when it is powered.

Configuring

Once the Micro-Fox is connected, start the Micro-Fox Config program, and select the connected COM port in the bottom left Configure section. Click the **Read Version** button to confirm that the software can communicate with the Micro-Fox

If the software reports that the Micro-Fox cannot be found, check your hardware connections, power, and COM port settings. Be sure the set COM port can be found in the Windows Device Manager, and that it is not being used by any other program.

The **Read Config** button can be used to read the current settings from the Micro-Fox. This can be useful to change just a few options, while keeping the others as they were.

After the desired settings are set in the software, click the **Write Config** button. This will store the displayed settings to the device, and verify that the write was successful. After writing, disconnect the computer, cycle power, and it is ready for operation.

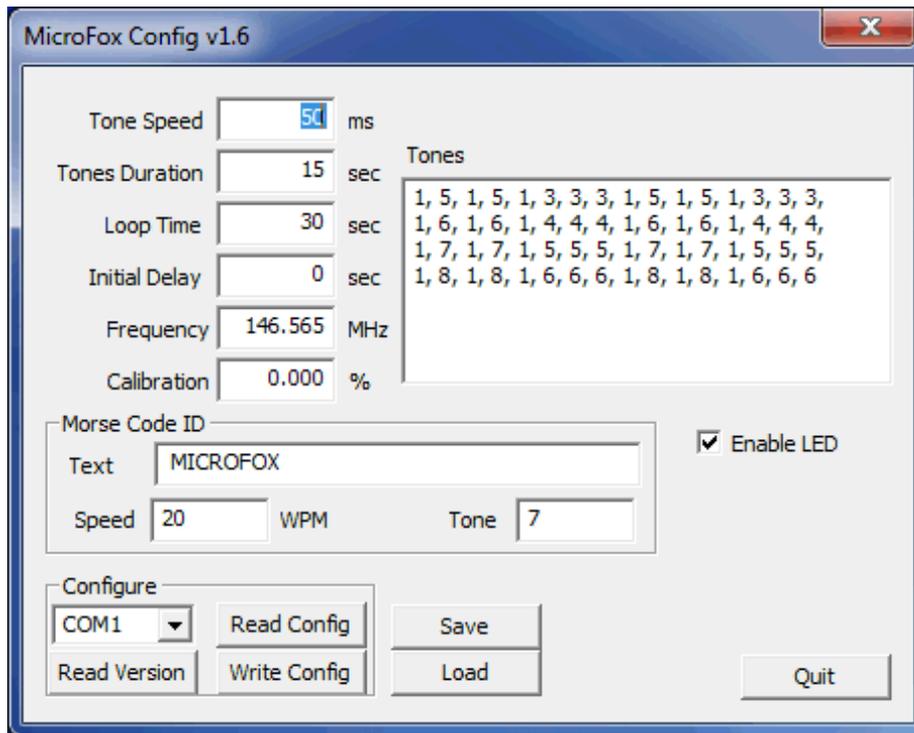
Note that the first time the Micro-Fox is connected, or after a firmware update, the stored settings may be invalid. In this case, settings should not be read with the **Read Config** button. Instead, start with the default settings that appear when the program starts and edit them as needed before writing.

Operations

When the Micro-Fox is first powered on, the LED will flash 3 times, and then the Micro-Fox will idle off the air for an initial delay. After that delay, it will begin the transmission loop. The transmission loop consists of a tone sequence repeated for a set duration, followed by a Morse Code ID, followed by an off the air idle time. The transmission loop will repeat at a set rate.

Settings

This section will explain each of the settings in the Micro-Fox dialog window. When started, the program should look similar to this:



Tone Speed

This sets how fast the tone sequence will play in milliseconds per tone. Default is 50ms.

Tones Duration

This sets how long the repeating tone sequence will play in seconds. After the tone sequence has run for this duration, the Micro-Fox will begin sending the Morse Code ID. Default is 15 seconds.

Loop Time

This sets how often the transmission loop will repeat. Default is 30 seconds. With the default settings, a transmission loop will consist of 15 seconds of tones, about 5 seconds of Morse Code ID, and about 10 seconds idle off the air, then repeating, for a total time of 30 seconds (the Loop Time).

Initial Delay

This sets how long after power-up the Micro-Fox will sit idle off the air before beginning the first transmission loop. This can be used to let a transmitter be hidden some time before a hunt, and let the hider return to the start location before the transmissions begin. Default is 0 seconds.

Frequency

This sets the radio frequency of the transmitter, between 144 MHz and 148 Mhz. Default is 146.565 MHz.

Calibration

This setting allows for correction of timing errors in the Micro-Fox. It can be useful when multiple transmitters need to be synchronized. To adjust this setting, first set calibration to 0% and Loop Time to 10 minutes. Then start the Micro-Fox and measure with a stopwatch the time between one Morse Code ID ending and the following one ending. It should be around 600 seconds. Calculate the error by dividing the actual measured time in seconds by 600, subtract 1, and

multiply by 100 to get a percentage. Enter this percentage into the Calibration setting. For a more accurate calibration, measure for an hour instead of 10 minutes. Default is 0.0%

Tones

This sets the repeated tone sequence. Tones are entered as numbers, separated by commas. Tone numbers can be between 1 and 10, where the higher the number, the higher the tone frequency. 1 is a special tone number representing silence.

To send international ARDF style tones of Morse Code MOE, MOI, MOS, etc, simply create it with a tone number and silence. For example:

MOE can be entered as 1,1,1,1,1,1,1,7,7,7,1,7,7,7,1,1,1,7,7,7,1,7,7,7,1,7,7,7,1,1,1,7

MOI can be entered as 1,1,1,1,1,1,1,7,7,7,1,7,7,7,1,1,1,7,7,7,1,7,7,7,1,7,7,7,1,1,1,7,1,7

MOS can be entered as 1,1,1,1,1,1,1,7,7,7,1,7,7,7,1,1,1,7,7,7,1,7,7,7,1,7,7,7,1,1,1,7,1,7,1,7

MOH can be entered as 1,1,1,1,1,1,1,7,7,7,1,7,7,7,1,1,1,7,7,7,1,7,7,7,1,7,7,7,1,1,1,7,1,7,1,7,1,7

MO5 can be entered as 1,1,1,1,1,1,1,7,7,7,1,7,7,7,1,1,1,7,7,7,1,7,7,7,1,7,7,7,1,1,1,7,1,7,1,7,1,7

Morse Code ID Text

This sets the Morse Code ID message sent after the repeated tone sequence. In addition to the letters, numbers, and space, the following characters can be used for pro-signs: & for AS, + for AR, = for Break, # for SK. Consider adding a space at the beginning and end of the text.

Morse Code ID Speed

This sets the speed of the Morse Code ID in Words Per Minute. Default is 20 WPM.

Morse Code ID Tone

This sets the audio frequency of the Morse Code ID. It uses the same number values as used in the Tones sequence. Default is 7.

Enable LED

This sets whether the red LED should turn on when the Micro-Fox is transmitting on the air. It can be disabled to make the transmitter harder to find in the dark.