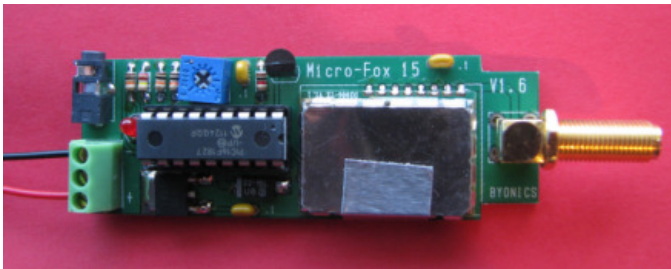


Micro-Fox 15 “Fox Hunt” Transmitter

The Micro-Fox 15 is a frequency agile transmitter designed primarily for use as a fox hunt beacon transmitter. The Micro-Fox is an entirely new product, and differs significantly from the older generation of Byonics FOX devices. The Integrated Circuit, or “PIC” for “Programmable Integrated Circuit” is not backwards compatible with other devices from Byonics, such as the Pocket Fox.

The Micro-Fox is capable of having its firmware rewritten by the user, which allows loading newer and better versions of the Fox Software. Additionally, the Micro-FOX can be loaded with the Micro-Trak FA firmware which will make the device capable of acting as an APRS tracking transmitter. Although the Micro-Fox is a very low powered device, ranges across ground can still reach 3-4 Miles, and even further in line-of-sight. When used as an APRS tracker in a high altitude balloon, ranges of hundred of miles are possible with the balloon at sufficient altitude to provide a line-of-sight horizon!

Byonics will continue to develop new and improved versions of the software to support applications such as weather station telemetry for APRS, and other forms of serial data transmission.



The Micro-Fox is provided enclosed in a plastic tube capable of holding a nine volt battery and the Micro-Fox Printed Circuit board. There is only one user adjustable control on the unit; a deviation control trimmer pot, which should be set so that the

units signal is clear and without distortion or “bleed over” to channels more than a few kilohertz away. At maximum rotation, the unit will have approximately 5 KHz of deviation. The deviation control is a small blue trimmer potentiometer located next to the integrated circuit. Use caution not to force the trimmer adjustments beyond its stops, since it can easily be broken. (Also note that if the potentiometer is broken, the unit will still transmit a “dead carrier”, jamming the channel!)

Although the unit is packaged in a reasonably water resistant tube, with an O-ring seal, it is not water-proof, so take care when planting the device to ensure its not going to become submerged. Many hams take great delight in modifying the enclosures and antennas to make hunts more challenging and fun.

Depending upon how often the device transmits, and how long the duration of the transmission, a nine volt battery can provide many hours of operation, but the unit is not limited to just using nine volt batteries; You can operate the device with battery power between 9-14 volts without any problems. The Micro-Fox Configuration utility, which is at the end of this document, allows you to set all of the parameters of operation, including

your call sign (sent in Morse Code) and a sequence of semi-random tones, which alternatively, may be programmed to transmit the Morse Code Sequences used in formal competition.



Loading new firmware or changing the configuration of the devices parameters requires a Kenwood compatible programming cable, and an IBM PC compatible computer with a serial port. (Byonics offers a low-cost programming cable) Firmware versions of Byonics software may be freely downloaded from the Byonics Website (www.byonics.com) . When programming your transmitter, please remember to provide power to the device, since power is not provided through the serial port. Also, even though this is a low powered transmitter, make sure you connect an antenna or dummy load before applying power. There is an LED indicator light on the Micro-Fox ordinarily goes on when the unit is transmitting. The LED can be turned off using the configuration software to save power. If you load the APRS software on the Micro-Fox, the LED acts as a GPS status light and there will be no LED transmission indicator

The Micro-Fox has screw terminal inputs for power. Since 9 volt battery clips are notorious for breaking off, please note the correct polarity when reconnecting battery clips or external power. The middle screw of the terminal strip is unconnected, but can be used as a “tie” point should you decide to add an external power switch.

Warnings

In these days of terrorism and crime, it is quite likely that your device may be discovered by someone not actively playing your game. Depending on how it is packaged, and where it was found, a likely result of a “civilian” find is a bomb squad response and subsequent demolition of your tracking transmitter. The use of a noticeable tag, identifying the device as a Ham radio, and including contact information, could spare you some serious embarrassment. If you plan to conduct “Fox Hunts” in populated areas, it’s a good idea to let the local authorities know ahead of time to help the local police understand why they are getting calls of invaders from space equipped with other-worldly equipment!

