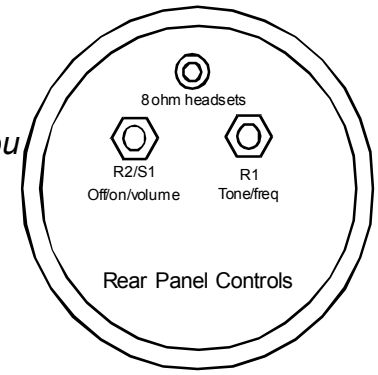
HT90 Ultrasonic Receiver Instruction

HT90INST/1100

Rub fingers in front of unit to verify sensitivity by hearing a distinct scratching noise. If not heard you may gently rub the actual silver face of the transducer element to activate. This is sometimes necessary when unit has been left off for a while.



1. Slide off plastic cap located on handle and install 8 aa batteries in the holder. Make sure batteries are making contact as some holders are very tight. You may use a single 9 volt but headphone volume will be reduced. Replace cap.

2. Plug in the 8 ohm headsets into mating jack. Note individual adjustments for each ear.

3. Rotate frequency tuning control R1 full ccw.

4. Turn on R2/S1 gain pot and switch and adjust to a comfortable level. You will hear a back ground of noise similar to crashing surf. This assumes there is no detectable signal in the area. If there is you will hear it as facsimile tones.

5. Point unit as a suspected source and tune R1 to the desired signal. You can test unit by gently rubbing your fingers together and hearing the high frequency sound.

Some examples of high frequency sounds are:

Air leaks, high voltage corona leakage, beading water, walking thorough wet grass, rubbing fingers, plastic bags, key chains, metal trinket bracelets, game tracking, search and rescue in confined places etc. etc. etc.

Motors and other mechanical devices, bearings, lawn sprinklers etc

TV and computers using flybacks mechanically vibrate at their switching frequencies etc.

Many insects sounds including bats. This is a very fascinating as some insects produce a myriad of sounds completely inaudible to the unaided ear. A hot summer day can provide some spectacular results.

Note A
You can determine the direction of a periodic sound by listening to the tone change as you quickly move the unit towards or away from the suspected source. This is an excellent demonstration of the DOPPLER shift.

Note B
Periodic sounds with coherent properties (narrow bandwidth) will manifest as a clear tone that can be easily tuned by R1. Example of these are the vibration of TV and monitor flybacks.
Wide band sounds such as leaking air will not tune as sharply as the above periodic sources.

Note C
You may position the transducer of the unit at the focal point of a parabolic reflector greatly enhancing directionality and sensitivity . A suggested reflector is our Bionic ear available thorough our labs.

Note D
You may increase sensitivity by placing a 1 x 1” thin metal plate from face of transducer and adjusting its position for maximum signal. The seperation distance should be around a 1/4” or 1/2 wavelength at 25 khz..

Note E
The device can sometimes pick up strong electromagnetic fields. These are easily differentiated by noting the total lack of direction sensitivity as they are not effected by the reflector geometry