

BAT DETECTOR INFORMATION

#T-7407

Your Belfry Bat Detector is a rugged, portable unit that will run for many hours on a 9-volt battery. Even though it is much simpler to use than many other similar products on the market, please read these instructions to obtain the best results from your unit.

- 1) The front of your Belfry Bat Detector has a small, silver, round module. This is the microphone which should be pointed in the direction of bats you would like to listen to. This microphone, known as an ultrasonic transducer, has a rather wide field of view, about 45 degrees. The ON/OFF switch is located near the transducer on the front of the detector.

The top of your detector has a small speaker where you will be able to listen to any bats your detector hears.

- 2) Locate the battery compartment on the bottom of the detector and slide it open. Insert a fresh, 9-volt battery and slide the cover back on. Using a rechargeable 9-volt battery is initially more expensive, but in the long run saves money and saves the environment.
- 3) Locate the ON/OFF switch on the front of the radio. Turn the lever ON. The unit is now on and ready to receive ultrasonic sounds. You may snap your fingers in front of the unit's microphone or jingle some keys to hear the detector at work.

Your detector works by translating ultrasonic sounds in the 25 kilohertz to 100-kilohertz range, which are normally too high for us to hear, into sounds you and I can hear. It is most sensitive around 40 khz. Many everyday occurrences create ultrasonic sounds, such as keys jingling together, walking on grass, trees blowing in a strong wind, a television that is on and some other electrical appliances. These were the sounds you just didn't know were there before using your detector.

When using your detector to hear bats, please hold it still because shaking, squeezing or rubbing the unit will create clicks. This is interference and you want to minimize this. When the unit is operating free from interference, you will hear no sound out of the detector's speaker. One way to test this is by taking your detector outside during the day when no bats are out. You should hear nothing from the speaker. Using your unit indoors will not work because it will pick up on electric fields created by electrical appliances.

How do I listen to bats?

The most frustrating aspect of using a bat detector is waiting for bats. Bats are most active about 2 to 6 hours after sunset. They are more active on warm evenings with little wind. Strong winds keep flying insects on the ground. Bats enjoy bodies of fresh water and open fields near wooded areas where they can navigate easily and find plenty of flying insects.

The best way to use your bat detector is to look and listen for bats. Go to an open field, lake or the edge of a wooded area just after sunset. Look at the skyline for bats. They fly very differently from birds. Bats flutter more and don't fly in nice, straight lines. Once you spot some bats, turn your detector on and get as close as possible. Often times, waving your arms will cause the bats to fly closer to you as they investigate this movement. Do not be frightened by bats coming close to you. They are excellent at flying and would never accidentally collide with you.

An alternative solution is to bring your bat detector with you when eating dinner outdoors or to other evening outdoor activities. Turn it on and forget about it. If any bats fly within range, you'll hear them. However, this method does not yield the best results and you may have to wait a long time to hear anything.

Pointing the microphone towards bats will always improve the signal you hear.

How sensitive is the Belfry Bat Detector?

Your unit is extremely sensitive and amplifies a bat sound by several thousand times. The range that you can hear a bat will vary depending on surroundings, but you should have no problem hearing a bat that flies within 100 to 200 feet of your detector. Every 10 feet closer you can get to flying bats does make a difference. The closer you get, the better you will hear the bats. Furthermore, the detail of what you hear will be greater.

What do bats sound like?

You already know what jingling keys and some other things sound like. Bat calls are different. You will hear clicks and chirps from your detector. They will vary in frequency and duration, but are usually very rapid. Often times a bat call will sound like a chipmunk. If a strong bat call is heard it will sound like a small scream. Listen for a "feeding buzz." This begins with clicks that rapidly increase in frequency and terminate with silence as the bat eats the insect it is tracking. If you hear many calls and constant signals, you are

probably hearing many bats. This can make it difficult to study and individual bat's call. Try right after sunset and catch the first bat, or small group, of the evening. This will make easier listening.

How do I know these are bats?

If you use your detector right after sunset while the sky is still light or can see bats flying around a street light, this should prove it. Another test is to bring your detector during the day to an area where you have heard bats at night. You will hear nothing during the day.

Can I bring my Belfry Bat Detector to the zoo?

I have tried this with mixed results. It seems that some zoos have their bats in soundproof enclosures. This is so that the bats won't get scared by all the noise the people make, but it works both ways. This also means that any calls the bats make cannot travel outside this soundproof chamber.

What can go wrong with my unit?

If you notice the volume level dropping over time, the battery probably needs to be replaced.

HOWEVER, do not drop your unit. Do not expose it to water. Do not take it apart. Do not expose it to extreme moisture or heat. TAKE caution with the microphone (ultrasonic transducer) because it is a delicate part and cannot be enclosed because that would reduce its sensitivity. Do not let dirt or debris get inside the microphone. I suggest keeping your detector in a ziplock bag when not in use. This will protect it from dust and moisture.

What if I want to record the bat calls I hear?

If your unit is equipped with an audio out jack, located just under the speaker, you may plug a dual, 1/8 inch male jack jumper cable between your bat detector and a tape recorder or laptop PC with a soundcard. Adjust the input sensitivity on your tape recorder or PC to get the best recorded sound. Many people use a PC to record bat sounds. They then play back these sounds at much slower speeds to analyze the bat calls.