

Bat Detectors



Picture of prototype Bat Detector. (Production units may vary)

In light of interest shown in the Bat Detectors more work has been done to improve the basic design. Also I have had more time to test the detector in the field with good results.

I/we intend to offer three versions of the bat detector. Details of these three options are on the following pages.

Version One

This is the simplest one. It will look like the picture below so will not have the frequency display or the divider LED. This will be just using the Hetrodyne process. The hetrodyne process allows you to tune in to the bat calls in a similar way to tuning a radio. In place of the frequency display you will see there is a calibrated scale on the Frequency control knob. This will get you in to the right ball park to hear bats and specific calls. But is not as accurate as having the frequency display.

Specification:-

Frequency range, 14kHz to 140kHz

Process, Hetrodyne

Detection Range >30m (100ft)

Internal Speaker

Audio power amp power, 1W

Headphone Output, Loudspeaker switched off when headphones plugged in. (Note headphones not supplied, any walkman/iPOD type headphones will do.)

Recorder Output, 200mV

9V Battery, (R22/PP3 size) Battery not supplied.

Battery life, Over 3 hours, using a 200mAh rechargeable battery.

Size, Width 80mm, Height 145mm, Depth 33mm

Weight, 200grms (Without Battery)



Version Two

This version has all the features of version one but has a frequency display. This allows you to accurately tune into the bat calls. Knowing the frequency give a clue to the bat species you are hearing.

Specification:-

Frequency range, 14kHz to 140kHz

Frequency display

Process, Hetrodyne

Detection Range >30m (100ft)

Internal Speaker

Audio power amp power, 1W

Headphone Output, Loudspeaker switched off when headphones plugged in.(Note headphones not supplied, any walkman/iPOD type headphones will do.)

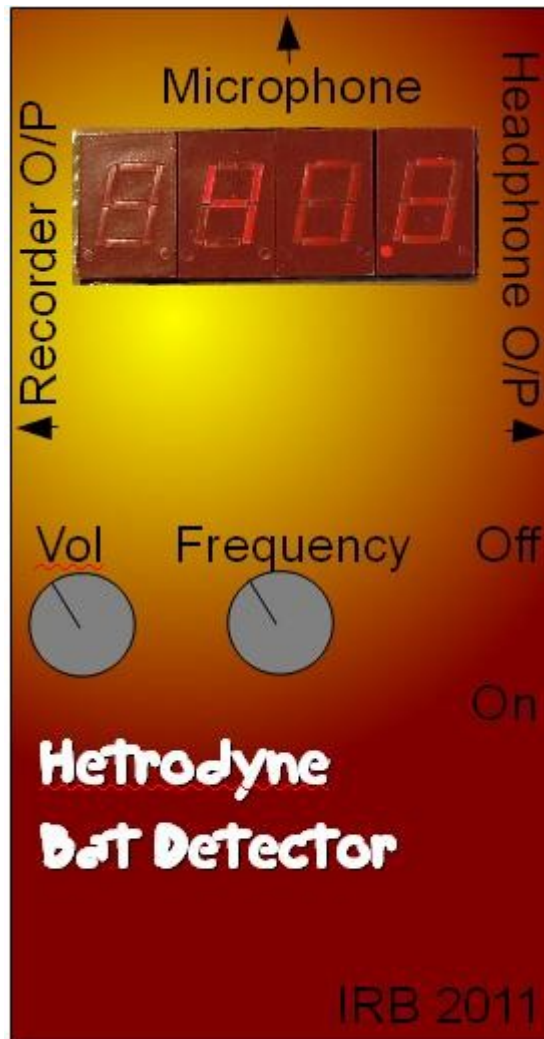
Recorder Output, 200mV

9V Battery, (R22/PP3 size) Battery not supplied.

Battery life, Over 3 hours, using a 200mAh rechargeable battery.

Size, Width 80mm, Height 145mm, Depth 33mm

Weight, 200grms (Without Battery)



Version Three

This version has all the features of version two. But has an alternative mode of detection. This additional mode is divider. Simply this takes the bat frequency which we as humans cannot hear and divides by a factor of 16. So a bat emitting a 40kHz call you can hear at a frequency of 2.5kHz. If the bat call is at 20kHz then you will hear it at 1.25kHz. The limit of human hearing is around 20kHz, but this varies for all sorts of reasons, age being one. The limit for most people is typically 15kHz. The reason for adding this feature is, you may be tuned into one bat frequency on the hetrodyne side, only to miss another bat call on another frequency. There is an LED on the front to indicate bat calls being received, also with headphones plugged in you can hear the hetrodyne output on one side (left) and the divider output on the other (right). On the recorder output there is both signals as well.

Specification:-

Frequency range, 14kHz to 140kHz

Frequency display

Process, Hetrodyne and Divider

Detection Range >30m (100ft)

Divider LED

Internal Speaker (Hetrodyne output only)

Audio power amp power, 1W

Headphone Output, Loudspeaker switched off when headphones plugged in. (Hetrodyne and Divider)(Note headphones not supplied, any walkman/iPOD type headphones will do.) Right side Divider output, left side hetrodyne output.

Recorder Output, 200mV(Hetrodyne and Divider). Right side Divider output, left side hetrodyne output.

9V Battery, (R22/PP3 size) Battery not supplied.

Battery life, Over 3 hours, using a 200mAh rechargeable battery.

Size, Width 80mm, Height 145mm, Depth 33mm

Weight, 200grms (Without Battery)



On the rear of all versions is a label with brief details of bat the frequencies they use and a brief description of the sounds that should be heard. The label looks like this :-

There are about 1,000 species of bat worldwide, around 30 of which are found in Europe - and 17 of these inhabit or visit the British Isles; below is a table of the more common species with their geographical distribution and typical call frequencies.

Species	Distribution	Hunting*	Social	Sounds Like
Barbastelle	S. Britain, W. Europe	56kHz	30-40kHz	Castanet like dry smacks
Bechstein's	S/Central England, W. Europe	112-40(50)kHz	34-100kHz	As whiskered, loud dry clicks, slower than Natterers but weaker
Brandt's	S. Britain, Central/E. Europe, Central Asia	64-41(45)kHz	30-80kHz	Loud dry clicks, slower than Natterers
Brown Long-Eared	All Europe except far North	63-34(40)kHz	25-50kHz	Geiger counter
Daubenton's	All Europe except far North	50kHz	35-85kHz	Ticky tacky dry hard
Free-Tailed	Medit. Europe	20kHz	20-45kHz	
Greater Mouse-Eared	SW England (very rare), S. & W. Europe	45kHz	20-30kHz	
Greater Horseshoe	SW England, SW Wales, Medit. Europe	82kHz	70-120kHz	Quiet warble
Lesser Horseshoe	S. & W. England & Wales, Ireland, S. & W. Europe	110kHz	100-120kHz	Quiet warble
Leisler's	Central England, Ireland, S. Europe	32-25(30)kHz	20-100kHz	Tune upwards
Grey Long-Eared	S. Central England, W. Europe	63-30(50)kHz	30-50kHz	Geiger counter
Nathusius' Pipistrelle	S. & E. England, Europe except W. Penins & far North	49-38(39)kHz	38-70kHz	Plip Plop
Natterer's	All Europe except far North	70-30(45)kHz	35-80kHz	Tick tick tick
Noctule (or Great)	England, Wales, Central & E. Europe	20kHz	20-45kHz	Chip chop
Common Pipistrelle	All Europe except far North	48kHz	20-30kHz	Wet smack
Soprano Pipistrelle	All Europe except far North	55kHz	20-30kHz	Wet Smack dry at 55kHz
Serotine	S. & E. England, W. Europe	27kHz	15-65kHz	Tock (wooly)
Whiskered	Britain except Far North, Europe except W. Penins	64-41(50)kHz	30-80kHz	Loud dry clicks, slower than Natterers

*The x-y(z)kHz format indicates very distinct frequency-modulated calls (FM, i.e. calls with a varying pitch), with high-low and peak intensity values.

The pricing is as follows:-

Version One £64.00

Version Two £86.00 Plus US Shipping charge, please see below for details of how this works.

Version Three £95.00 Plus US Shipping charge, please see below for details of how this works.

I will provide a user manual to get you started using your Bat Detector, it will also have details of how your bat detector works.

Prototype units have been tested in the field, on Old Down and in Minorca with good results. There are some changes that I have made to the electronic design and a better microphone used in the light of experience with the prototypes.

If you should you want a Bat Detector then please let me know which version you would like and cash with order is required.

Delivery should be around 3 to 4 weeks. It will partly depend on how many are ordered. I will not be starting work until we have all the likely orders in. So I can obtain all the parts in one go. This makes it cheaper for everybody because there is one part that comes from the US and there is a £15 shipping charge, but this charge is the same irrespective of the number ordered. I will divide this charge equally to everybody who orders a Bat Detector, this will be charged at time of delivery.

Please note these devices are hand made, so will not have the same build quality as a mass produced product.