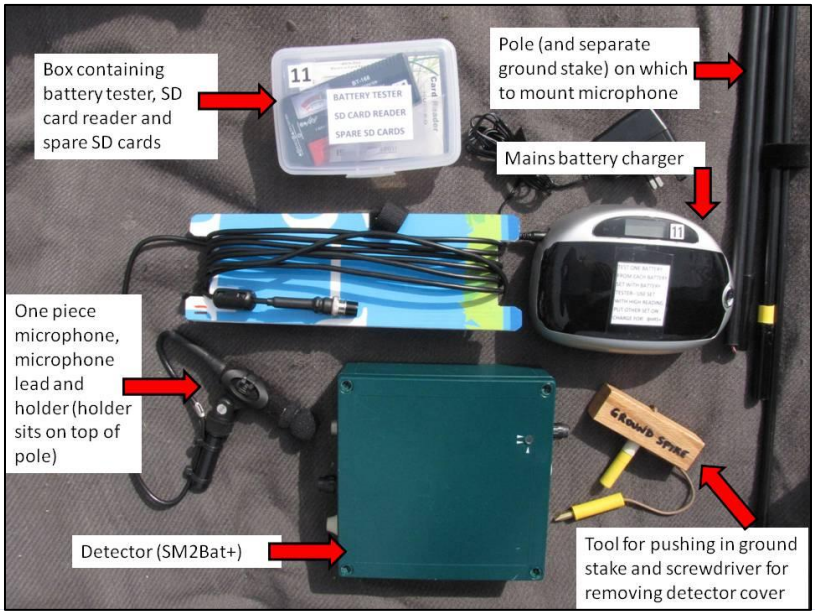
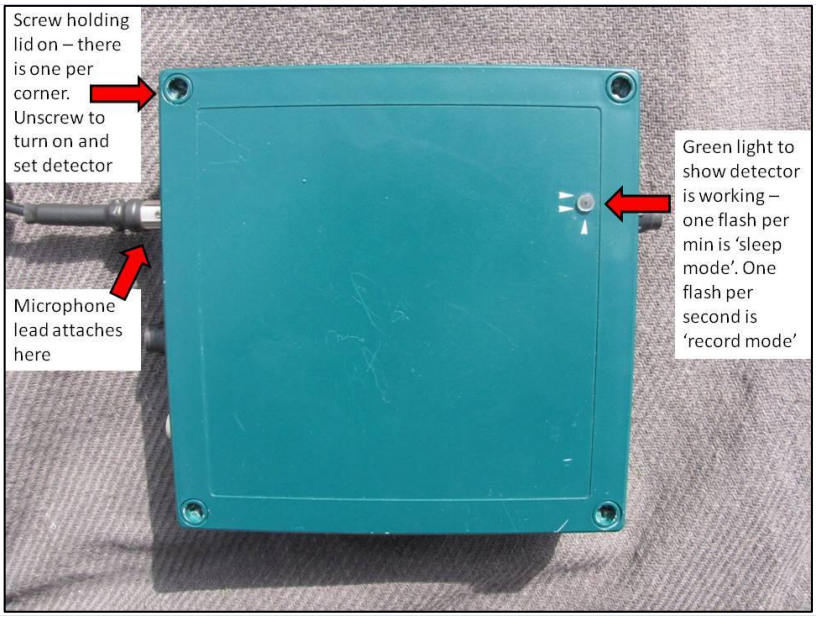
NORFOLK BAT SURVEY (NBS) – Quick start guide

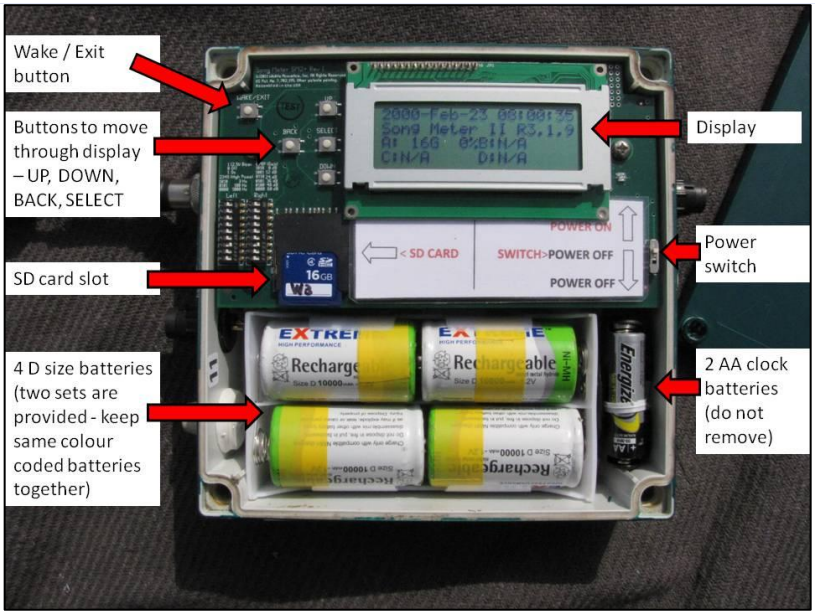
The detector kit



Outside the detector



Inside the detector



Getting started at home

Getting started and programming your grid square into the detector

Batteries

- Remove detector cover using the field screwdriver provided.
- The D size batteries are in colour coded sets. Test one battery from each set with the battery tester and use the set that gives the highest reading. These will be used in the detector for the **first two nights**.
- IMPORTANT - put the second set on charge (8-18 hours – see charger lid). This second set will be used on **night three**, when the first set can be removed and **put on charge for the next user.**
- See battery sets, charging and testing information (right).

SD card

- Select and write down the SD card number (on the back of a card) on your recording sheet.
- Push SD card into slot A and click into place.
- Slide power switch up ON.
- Display will appear and show A: 16/32G 0%
- This means that it's a 16/32GB card, with little or no data on it. As bats are recorded, the percentage will go up.

User settings

- Now programme your chosen grid square… follow the steps below. IMPORTANT - all other settings, including recording timing and clock are pre-set and should not be altered.

Grid square

- Press SELECT. Use DOWN button to move the flashing cursor to SETTINGS, then press SELECT.
- Move Cursor down to LOCATION, press SELECT. Cursor will flash against PREFIX. Press SELECT. Display reads SURVEY…This will be the last person's data e.g. SURVEYTF8075
- Move cursor along the line by using 'SELECT', and input your chosen survey grid square i.e. TG8000, by using UP / DOWN buttons to change the letters and numbers, so it now reads e.g. SURVEYTG8000. This only has to be done once for your 1-km square. Use BACK for corrections.
- When all 12 spaces are filled press SELECT and the cursor will jump to the left of the word PREFIX. Press WAKE/EXIT and your grid reference will have been programmed.
- Check by pressing WAKE, press SELECT, go to SETTINGS / LOCATION / PREFIX – if it is ok, press WAKE/EXIT. If not, change it, as above.
- The machine is now programmed to record data from your selected grid square onto the SD card in slot A.
- Switch small power switch to off, saving batteries.

Your survey points

Please choose **three different points** to survey within your 1-km square. Ideally the survey points should be placed at least 200m apart.

When to visit

Anytime between mid-April and the end of September. For logistical purposes, we suggest that the three visits (nights of recording) are made on consecutive nights. Unless the site is secure with no public access, please put the detector out at dusk and pick up at first light, to reduce the chance of the detector being stolen.

Weather

Please do not survey bats in persistent heavy rain, strong wind or if the nightly temperature is predicted to fall well below 7°C. Depending on the weather you may want to book additional survey days. However, please ensure that the detector is not already booked out for these days.

Battery sets

Why two sets? The 'D' batteries, fully charged, can record at least 2 nights of data, so a spare set can be charged ready for change-over.

IMPORTANT - a fully charged set should be left for the next user. Leave these in the charger. Sets are colour-coded – please do not mix the batteries.

Battery testing & charging

A battery tester is provided to allow you to check battery condition.

Charge the batteries (see charger lid) – the batteries will become warm to touch whilst charging. If you are unsure as to how well the batteries have charged, test one. A well charged battery will read half way across the 'GOOD' sector on the tester.

Low batteries may still power up the detector display / sensor A, but will not record bat calls.

Bat detector on site

The box can be ‘armed’ just before you leave home, in the car, or can be done on site (recommended, saves battery power).

Microphone lead

- Having assembled the microphone pole (see right), plug in the microphone lead into the correct socket on the detector and lightly tighten the lock ring.

Arming the box for recording

- Remove the 4 screws securing the top cover of the detector using the supplied screwdriver.
- Check the SD card is clicked in place and switch the power switch to ON. The display will say SONG METER A, then after 5 seconds A: 16/32G 0% etc.
- IMPORTANT - now press the WAKE/EXIT button to activate – the display will read PREPARING TO RECORD / RECORDING, or GOING TO SLEEP UNTIL. Either message is good.
- The machine is now ready to record, and will do so without any further button pressing. Leave the power switch ON.

Green light on and leave

- The above instructions also appear beneath the lid of the box.
- Align lid and gently tighten up the 4 plastic corner screws with the screwdriver.
- Look at the small plastic window on the cover of the box – a GREEN FLASH every minute confirms the box is ‘armed’, but sleeping, and a GREEN FLASH every 4 seconds confirms the box has actually started recording. Either is good.
- Place the detector on the ground, and check that the pole is securely in the ground, and that box is as hidden as you can make it.

Field placement of detector

Because bats will often follow linear landscape features like hedgerows or tree lines and are attracted to water, we recommend that detectors are placed close to these features where possible. However, where close to water, avoid positioning the microphone directly next to water, to avoid reflection from the water’s surface, which can reduce the quality of echolocation calls.

Assembling the microphone pole

1. Using supplied ground spike pusher / screwdriver tool, push pointed ground spike vertically into soil – try to get to 20cm line on pole.

2. Put elasticated pole into ground spike, leaving upper pole sections hanging.

3. Assemble microphone unit onto thin top pole and attach microphone lead with velcro strips. Stand the pole upright to complete assembly.

4. Attach microphone lead to remaining pole sections using velcro strips.

5. Take storage box, lead holder and bags home.

After recording

Collecting the box and checking your recordings

Microphone lead

- Detach microphone lead from the detector by undoing the lock ring and holding the plug (not the lead) to remove.
- Lower upper pole sections, wind microphone unit onto the lead holder and place carefully in red lead bag.
- When dismantled, use velcro strips to hold poles together and put in pole bag
- IMPORTANT – please remember to collect the ground spike

Switching the box off

- Remove the 4 screws securing the top cover using the field screwdriver.
- IMPORTANT - Switch power switch to off.
- Replace top cover, lightly tighten 4 plastic screws.
- Dry box if wet and put into field bag, along with the lead bag and field screwdriver.

Checking data (recommended)

- Back at home, take detector cover off, switch small power switch to on.
- Display will show your SD card – 16 or 32GB, and the percentage should have changed and show, say, 2%. Even if it shows 0% there still may be recordings, but you can be pretty sure if it has increased by 1% or more.
- Switch power off. Change batteries after day 2.

- As an optional check, plug the supplied card reader into the USB port of a computer, and put the recorded SD card into the card reader's SD slot. Choose VIEW FILES / FOLDERS.
- A folder with DATA appears – click to open.
- A whole list of WAV sound files appear, each with your grid square as a title - a proportion of these will include bat recordings – left click to open one and the sound will play if you have Windows Media (Free Download).
- Right click on one WAV file and look at properties – this tells you the date / time it was recorded, size in MB etc.
- Another file, SENSOR A, also appears – this is a continuous record of time and temperature, which is collected all the time that the detector is recording. It contains no bat information.
- Unless you have completed your survey, put the SD card back into the detector Slot A, power to OFF.
- If no data is found or only the Sensor A file is present, we recommend that you go to our TROUBLESHOOTING guide now. A copy of this can be found on the SD card or downloaded from www.batsurvey.org/using-a-detector/

Recording form

Please complete field recording sheet and return to the BTO using the supplied FREEPOST envelope, along with the equipment checklist and SD memory card containing recordings.

The field recording sheet will ask you to record the dates that the detector was left out to record, and the approximate grid reference (point location) identifying where the detector was left out on each night.

Detector location on each night

If you have a GPS, please use this to determine the grid reference to show where the detector was left out each night, or use the quick map viewer http://www.geograph.org.uk/showmap.php?gridref=TL8356 to allow us to identify (as closely as possible) where the detector was left out each night, but substituting 'TL8356' with your grid reference. Where possible, please record an OS grid reference e.g. TL 83015 74563 (ideally a two letter, ten number grid reference).

Move the cursor to approximately where you left the detector on each night and read off the grid reference given.