Kiwi Listening Device Instructions

What you need:

- ✓ Kiwi Listening Device (KLD)
- ✓ Blank SD card 8GB minimum
- ✓ Fully Charged Batteries: 4 x AA
- ✓ Bungee cord, or cable ties
- ✓ GPS
- ✓ Four/five nights of calm weather

The Kiwi Listening Device

What the recorder does:
The recorder will automatically wake up at a preset time every day and start recording for a preset duration (span). The rest of the time the recorder is asleep and draws very little power. The recordings are stored onto a memory card as single channel .WAV files. These files can be played back on a computer or analysed using sound analysis software.

The sound files:
The recorder wakes up at the set 'Start Time' and will record continuously for the set 'Span'. The recording is done in fifteen minute intervals and stored as separate files; the files are stored in a folder on the card called "survey".

The sound files themselves are named with the current date & time (6 digits + 6 digits separated by underscore), e.g. a sound file recorded on the 26/02/10 at 9:24:06PM will be named 260210_212406.wav. The files are also date stamped in the normal way so the time/date created will appear on file explorer.

Preparation:
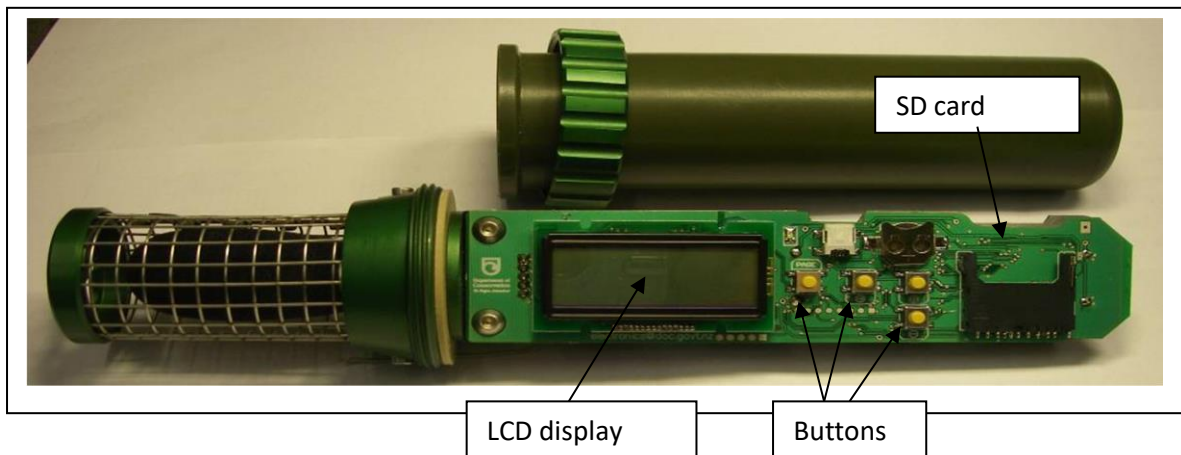
Setting up the Recorder:

To open the recorder loosen the large knurled ring, grip the plastic tube and turn the ring clockwise looking from the top of the mesh cage.

Fully unscrew the large knurled ring by gently twisting until the ring is fully unscrewed.

Avoid excessive force on the mesh microphone cover (if the locking ring is tight then grip the tube while removing it – not the microphone cover).

Once the recorder is open you can see the display screen, control buttons and SD card slot on one side, the battery holders are on the other. Try to avoid getting moisture or debris inside the recorder.

Adjusting the settings:

There are four keys on the recorder to navigate through the menu.

The On/Page key   Wakes up recorder, Cycles through the pages in the menu.
The Plus & Minus keys (+/-) Modifies the settings in the page.
The Shift key (→) selects which value to modify.

On each page the → button (middle button) can be used to select a value (the value flashes) and the plus/minus keys used to modify it.   e.g. on the time page use the shift key to select either hours or minutes and then use plus/minus to change the values.
After about 20 seconds of no activity from the user the display will power down.

The Settings:

Press the 'on/page' key to start the display, after a few seconds the 'time' page will appear. Using the on/page key you can scroll through the various settings pages as below.

Time =   The current time, in 24hour format. Check the time is correct.

Date =   The current date including the year. In DD/MM/YY format. Check it is correct.

Start1+Span =	The first start time for recording, top line is the start time in 24 hour format, bottom line is the duration. If duration set to 00:00 then recording at this time is disabled.
	Set the start time for the time you wish the recorder to start. Then the Span is the number of hours you wish it to keep recording for.
Start2+Span =	As above but for a second recording period. This is not usually needed.
Sampling =	The audio sampling rate of the recorder. The options are LOW or HIGH. **Set to LOW for kiwi**
Card =	Either check the card (function and free space) or reformat the card.

SD card:

If you are borrowing a KLD from Kiwi Coast the SD card will be formatted, cleared and ready to go.

If using your own SD card make sure the SD card is empty before use.

NB: Do not use SD cards that have also been used in trail cams as this appears to corrupt them and make them unusable in KLDs. Please do not put Kiwi Coast SD cards in any other device.

If you need to eject the SD card:

To release the SD card first turn the recorder on using the "PAGE" button – wait for the display to show the time – now remove the card.
Now use your computer/laptop to clear previous files on the SD card.
Now you can place it back into the KLD.

If you are putting in a new SD card it needs to be formatted the first time you use it. To do this put it in the KLD and press the Page button to scroll through to Check Card page, then + button, then middle arrow button and it should tell you the card is formatting.

Batteries:

The recorder uses four AA batteries, either standard alkaline or rechargeable NiMH (recommended using NiMH). High capacity NiMH (2500+ mAH) batteries should last for over 100 hours of recording at the LOW sampling rate. The 100 hours could be 10 days of 10hours or 50 days of 2 hours – the time between recordings has little impact on the battery capacity.

Battery life is dependent on the sampling rate so only use the HIGH rate for species that require it (forest birds). Using high sampling rate the battery life reduces to about 50 hours. For Kiwi / Weka set the sampling rate to LOW.
NiMh batteries will give much longer life and performance if they are always kept, used and charged in sets.

Ensure batteries are new or freshly charged before putting the KLD out.

Note: the only way to stop the recorder from recording is to remove the batteries. Remove the batteries as soon as you remove the KLD from the recording location or it will keep recording.

Placing the KLD in a recording location:

Secure the KLD at head height on to a tree or post using bungees or large cable ties. Smaller trees are better as large trees can cause unwanted blocking of the sound.

Think about the location carefully to take into account how well and far the KLD will be able to 'hear' with the least background noise (roads, crashing waves, etc). Ridges can be good but try to avoid the very top for less wind interference.

The KLDs won't be damaged by rain, but avoid putting them out in storms or high winds as this creates a lot of background noise and makes them hard to analyse.

GPS:

Use a GPS to record the location of where the Kiwi Listening Device was placed. Record the location in Northings and Eastings.

Next step – return your KLD to Kiwi Coast for analysis ensuring you tell us:

1) Location – address of site + GPS coordinates
2) Name of contact, plus email address, and phone number
3) Dates the KLD was out
4) If there were any stormy nights that should we can avoid analysing (otherwise our analyst will sit through every hour of the storm unnessarily!)
5) How you want the data to be analysed – for kiwi presence/absence or to mimic Kiwi Call Count Survey.

If you are using more than one KLD at a time, be sure to clearly mark which device was at which site so there is no confusion about where all the kiwi were heard when the data is analysed!

It's a good idea to check the card in the device before handing it in for analysis to make sure it recorded data. KLDs failed approximately 20% of the time in 2018. If it has failed (ie no data recorded) replace the batteries and SD card with fresh ones and start again.

Any problems or questions contact Ngaire at ngaire@kiwicoast.org.nz or ring 0274 250 249.

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