

## BeechTrack®- GNSS Spatial recording device

### Description:

Custom built GNSS receiving device with programmable recording for GPS co-ordinates, altitude, direction and speed to record aerial paths independent of the aircraft systems. Unit will record up to 2000 hours of data per write to encrypted SD card for secure extraction by TrackMe NZ staff. Device to be powered from 5v USB ports in vessel or permanent wired. No transmitting functions on the units. Integrated GPS receiver is situated within the enclosure.

### Specifications:

Recording rate:	10 seconds
Recording data:	Altitude – recorded by Satellite and displayed as meters above mean sea level. Latitude and Longitude- recorded RMS corrected Velocity – recorded by Satellite fix in Knots (converted to Km/hr) Direction – recorded true course by satellite fix
Accuracy:	GPS co-ordinates +/- 1m RMS (long term while corrected from geostationary satellite)
Data Storage:	Encrypted data to SD Card written on board – extraction via hardware link and terminal interface by secure connection only. Data then sent to DOC securely for extraction by scientific staff only. Key Identification data removed for display.
Current draw:	50ma @ 3.7V or augmented by regulated 5v USB external supply
GNSS Antenna:	Integrated on-board or optional external antenna
Switch Mode:	Deactivated - Motion sensors (MMA8452Q) – Power on by aircraft feed
Dimensions of units:	Finished size 124mm (L) x 70mm (W) x 20mm (H)

### Unit includes:

- Matt Black cover, sides printed with DOC logo and Soundscape Management wording as well as proprietary label for BeechTrack®.
- Loaded software for recording – DocSat Vers3 released 04/01/2019
- Power cable with USB mount
- 12 Month Limited Warranty
- Adhesion options for dash mounting – Velcro fasteners, and Cable runners
- Unique identified labels for each unit



**Installation Instructions**

- The cable must run properly, it should not hang loosely, and provisions should be made to easily secure the cable out of the way during aircraft operations. ONLY USE THE CABLE SUPPLIED BY TrackMe NZ.
- The power supply must be of aviation type, the equipment should be powered from a non-essential supply (bus bar) of the aircraft, i.e. an electrical bus that does not supply power to vessel systems necessary for continued safe operation. A suitable battery pack may be used.
- Mount the BeechTrack unit on the left side of the glare shield using the supplied Velcro or Cable saddles.
- See the video at <http://beechtrack.spotnz.com> for installation options.
- The operation of the BeechTrack® GPS Recorder is automatic and operates when the aircraft is powered up. The device continuously records and will write data for the life of the unit, until downloaded by certified operators.
- The Device should be checked daily to ensure that it is securely fixed, and the cables do not interfere with the vessel operations. The fixing system must be inspected each day to ensure the continued worthiness of the unit.
- The lights on the end of the device indicate the normal operation of the unit;
  - All lights show on start-up, followed by a tone after @ 30secs
  - Once unit has started the GPS (LEFT GREEN) light flashes every 10 secs followed by the WRITE (RED RIGHT) light 4 seconds later
  - if no lights show on the device, the RED light is solid, or no tone can be heard on start-up, please contact TrackMe NZ below.

**Warranty:**

1. Beech Limited warranty, 12 months on parts and labour freight having been paid to our service facility.
2. Beech reserves the right to repair or replace items under warranty.
3. Warranty is void if security seals are broken, fixtures or attachments have been tampered with by uncertified people, and or if equipment has been found to have been operated outside the terms of the specification provided. (this includes uncertified or faulty power supplies and working environments beyond human endurance.)
4. A returned item will qualify for warrantee status only after it has been examined in a Beech Communications Ltd appointed service department.

Department of Conservation New Zealand are the only licensed users of the developed Software DocSat Vers3 which are installed on the units supplied by TrackMe NZ Limited and Beech Communications Limited.

Kind regards,

Tony Glentworth  
Chief Thinking Guy  
TrackMe NZ Limited  
[tony@trackme.life](mailto:tony@trackme.life)



**Appendix A**

The Civil Aviation Authority have assessed the BeechTrack Data logger as a Personal Electronic Device so does not come under their prevue regarding its use within aircraft involved in testing.

However, with the installation of any “Non-Aeronautical device” certain procedures and forms must be completed by the installer.

Firstly, the positioning of the device must be in accordance with AC43-14 Appendix 9 and which covers the areas a device maybe installed and the securing of the device for safe use during flight, and emergency egress.

Complete the form CAA043-01 Modification Record, by a certified LAME, and process in accordance with section 14.

Copy the original form CAA 2129, adding the BeechTrack datalogger as installed and place in the Aircraft and file as required, replace the original form in the aircraft and advise when the trial is complete and the logger removed.

All Installations of non-aeronautical avionics equipment must follow the directives contained within the Advisory Circulars.

Contact at CAA:  
Airworthiness Engineers (Avionics)  
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