P.O.Box 11-128
Sockburn
Christchurch
0800 776 869

BeechTrack®- GNSS Spatial recording device

Description:

Custom built GNSS receiving device with programmable recording for GPS co-ordinates, altitude, direction and speed to record marine paths independent of the vessels systems. Unit will record up to 7000 hours of data per write to encrypted SD card for secure extraction by Project Partners NZ staff. Device to be powered from 5v USB ports in vessel or permanent wired. No transmitting functions or external aerials 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. – Not needed for Marine Application 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 vessel 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 wells 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

158 Main South Road, Sockburn, Christchurch, New Zealand, 8042
DDi: (03) 423 9710 Mob: +64 (21) 066 5320
E: tony@trackme.life Web: http://projectpartnersnz.com

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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 vessel operations. ONLY USE THE CABLE SUPPLIED BY PROJECT PARTNERS NZ.
- The power supply must be of marine type, the equipment should be powered from a non-essential supply (bus bar) of the vessel, i.e. an electrical bus that does not supply power to vessel systems necessary for continued safe operation.
- Mount the BeechTrack unit on the left side of the glare shield using the supplied Velcro.
- The operation of the BeechTrack® GPS Recorder is automatic and operates when the vessel 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 Project Partners 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 buy 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 Project Partners NZ, TrackMe NZ Limited and Beech Communications Limited.

Kind regards,

Tony Glentworth
DIRECTOR
Project Partners NZ
http://projectpartnersnz.com

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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 CAA:
airworthiness@caa.govt.nz
Phone: +64 (4) 560 9400

AC43-14 Modification Record

1 Aircraft Details

Type		S/N		ZK-	

2 Description of Change

Brief overview of modification, including details of systems interfaced with.

Addition of supplementary GNS recorder for spaitial recording of aircraft flight areas within Department of Conservation NZ controlled areas. Non transmitting temporary fittings. Managed by Project Partners NZ - http://projectpartnersnz.com

3 AC43-14 Eligibility

Unpressurised	☐	< 5700 kg	☐	< 10 pax	☐
Minor modification	☐	Covered by AC43-14 Appendix			

4 Details of Equipment Installed/Removed

Name and Manufacturer	Part Number (including software)
Beech Track GNSS Recorder - TrackMe NZ Limited	Software Version 3a

5 AC43-14 Paragraph		Applicable Y/N	**Details** (attach additional documents or references as required)
5	Acceptable Technical Data	_____	
6	Equipment Selection	_____	
7	Equipment Installation	_____	
8	Equipment Cooling	_____	
9	Antenna Location	_____	
10	Wiring and Wiring Practices	_____	
11	Weight and Balance CAA2173	_____	
12	Electrical Load Analysis	_____	
13	Post-installation Testing	_____	
14	Modification Documentation	_____	

6 Applicant Details

Title	____	Given Name(s)		Last Name	
CAA Participant/Licence Number		Position			

Signature	Date	

CAA043-01
Rev 1 : Jul 2016

Aircraft Radio Station

Equipment Approval Levels

CIVIL AVIATION AUTHORITY OF NEW ZEALAND
Te Mana Rererangi Tūmatanui o Aotearoa

1. Aircraft Description

Aircraft Model		Registration ZK-	

2. Radio Equipment List

Item No.	Function	No.	Make/Model	Level	MOD REF

Note: The column headed MOD REF should be completed by quoting the appropriate modification approval or service bulletin number for equipment fitted since the last CAA2129. For all other equipment, enter "I" for Installed.

3. Certification

Guidance for completing this form is in Advisory Circular AC43-10.

Form completed by			
Signature		Date	
Licence/Approval/Authorisation No.			
Reason	Incorporation of modification(s) / initial issue *		
(other)			

* delete as applicable

4. Types of Operations

The scale of radio and navigation equipment required for various types of flight operations is prescribed in Civil Aviation Rules, Parts 91, 121 and 135.

The minimum level of approval for the equipment detailed in Section 2 must be:

- For IFR operations — All required equipment must be Level 1
- For VFR operations — All required equipment must be Level 1 or 2

Conditions:

Forward a duplicate of the completed form to:

Aircraft Certification Unit
Civil Aviation Authority of New Zealand
PO Box 3555
Wellington 6140