

REPORT ON

Limited Type Approval Testing of the McMurdo Limited 406 MHz Fastfind Plus PLB with internal GPS position encoded data and 121.5 MHz Radio locating device in accordance with RTCM paper 5-97/SC110-STD "RTCM Recommended Standards for 406 MHz Satellite Personal Locator Beacons (PLBs)" Version 2.0.

Report No. RM608213A

August 2001

Segensworth Road
Fareham
Hampshire
PO15 5RH
UK

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PREPARED FOR

McMurdo Ltd
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DISTRIBUTION

McMurdo Ltd

Mr R Read Copy No. 1 & 2

BABT

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LIST OF MEASUREMENTS.

The list of measured parameters tested in accordance with RTCM paper 5-97/SC110-STD "RTCM Recommended Standards for 406 MHz Satellite Personal Locator Beacons (PLBs)" Version 2.0 is given below.

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Manufacturer:	McMurdo Ltd
Type Designation:	Fastfind Plus
Serial No.:	3
Number of Samples Tested:	One
Test Specification:	RTCM paper 5-97/SC110-STD "RTCM Recommended Standards for 406 MHz Satellite Personal Locator Beacons (PLBs)" Version 2.0.
Date of Receipt of Test Sample:	16 th May 2001
Start of Test:	30 th July 2001
Finish of Test:	6 th August 2001
Test Engineer(s):	N Forsyth

TEST HOUSE DECLARATION

We, BABT of Segensworth Road, Titchfield, Fareham, Hampshire PO15 5RH, declare under our sole responsibility that the product :

Equipment : 406 MHz PLB with internal GPS position encoded data and 121.5 MHz radio locating data

Type : -

Model : Fastfind Plus

Serial Number : 3

Quantity : One

to which this declaration relates is in conformity with the following standard(s) or other normative document(s) :

RTCM paper 5-97/SC110-STD "RTCM Recommended Standards for 406 MHz Satellite Personal Locator Beacons (PLBs)" Version 2.0.

Clauses A12.0, A12.1, A12.2 & A12.3

Detailed results are recorded in Test Report No. RM608213

Place and date of issue : Titchfield, August 2001

Signature :



M JENKINS

Wireless Telecoms Group Manager

Date : 13th August 2001

BEACON INFORMATION

Beacon Manufacturer : McMurdo Ltd

Beacon Model : Fastfind Plus

Name and Location of Beacon Test Facility : BABT

Beacon Type : Aviation : [] Land : [✓] Maritime : [✓]

Specified Operating Temperature Range : -40°C to +55°C

Specified Operating Lifetime : 24 hr. [✓] 48 hr. [] Other []
Specify :

Beacon Battery Type(s) : Chemistry : Lithium

Manufacture & Model No. : Saft LO29 or Energiser L-91

Size & number of cells : 4 x 'C' or 7 x 'AA'

Extra Features in Beacon :	No	Yes	Details
a) Auxiliary Radio-Locating Device :	[]	[✓]	Frequency : 121.5 MHz Power : +25 mW Min Tx. Duty Cycle : 100%
b) Transmits Encoded Position Data :	[]	[✓]	Nav. Device Internal Type. GPS
c) Transmits Long Message (144 bits) :	[]	[✓]	
d) Automatic Activation :	[✓]	[]	
e) Built-in Strobe Light :	[✓]	[]	Intensity : Flash rate :
f) Self-test mode :	[]	[✓]	-
g) Other :	[✓]	[]	Specify :

Ambient Temperature.....23°C

Relative Humidity.....50%

SUMMARY OF RADIO-LOCATING DEVICE TRANSMITTER TESTS

PARAMETERS TO BE MEASURED DURING TESTS	RANGE OF SPECIFICATION	UNITS	TEST RESULTS			COMMENTS
			T _{min} (-40°C)	T _{amb} (+23°C)	T _{max} (+55°C)	
12. AUXILLIARY RADIO-LOCATION DEVICE TRANSMITTER TEXT* (A12.0)						
• Carrier Frequency	121.5 ± 0.006	MHz	-0.001468	-0.000730	-0.002088	
• Transmitter Duty Cycle	Continuous	✓	✓	✓	✓	
• Modulation						
- Frequency	≥700 Hz within 300 – 1600 Hz	Hz	927.6	927.6	927.6	
- Direction	Upward	✓	✓	✓	✓	
- Duty Cycle	33 – 55	%	44.59	40.05	40.0	
- Factor	0.85 – 1.0	#	0.98	0.98	0.98	
- Sweep repetition rate	2 – 4	Hz	3.05	3.05	3.05	
- Frequency Coherence	✓	✓	✓	✓	✓	
• PEIRP (Radiated)	14 - 20	dBm		18.52		
• Antenna (Radiated)						
- Pattern	Omnidirectional	✓		✓		
- Polarization	Vertical	✓		✓		
- VSWR	≤ 1.5:1	#		N/A		Integral Antenna

TEST EQUIPMENT USED:

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17

.....

TEST EQUIPMENT AND ANCILLARIES USED FOR TESTS

No	Instrument/Ancillary	Type	Manufacturer	Serial No.
1	Hygromer	A1	Rotronic	N/S
2	Frequency Counter	83181A	Hewlett Packard	K291201300
3	Attenuator	47-10-34	Weinschel	AT 4937
4	Attenuator	HFP-50N	Weinschel	N/S
5	Attenuator	HFP-50N	Weinschel	N/S
6	Environmental Chamber	MINI-P-MEGH-P	Montford	3369-K5707
7	Digital Storage Oscilloscope	LC534L	Lecroy	LC5341147
8	Modulation Analyser	8901B	Hewlett Packard	3226A04514
9	Sensor	11722A	Hewlett Packard	2716A02675
10	Freq & Time Interval Analyser	5372A	Hewlett Packard	3141A1073
11	Spectrum Analyser	8566A	Hewlett Packard	2349A03049
12	Spectrum Analyser	8566B	Hewlett Packard	1745A00160-00148
13	Quasi Peak Adapter	85650A	Hewlett Packard	2521A00849
14	RF Preselector	85685A	Hewlett Packard	2648A00442
15	Turntable and Controller	1060	Emco	N/S
16	Antenna Mast & Controller	1050	Emco	N/S
17	Dipole	CDI	Roberts 4	1317D



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