1100 Series Mini Beacon

Key features

- aae proprietary Sigma 2 bi-directional spread spectrum technology

- Precise range resolution

- Multi-Fire common interrogate capability

- MiQ data telemetry functionality

- Directional or omni-directional beam pattern options available

- Auto tune detect for optimal performance

Applications

- General purpose tracking and positioning applications

- Static and dynamic operations e.g. ROV, sidescan sonar

- Navigation + Data for monitoring third party sensors

Series Mini Beacon Overview

1100 Series Mini Beacons incorporate the next generation of applied acoustics' Sigma 2 acoustic protocols. Utilising bi-directional wide band width spread spectrum provides precise range resolution and positional stability.

The Sigma 2 protocols are designed for use with Easytrak Pyxis and Nexus 2. The 1100 Series also retains compatibility with all Easytrak systems and other USBL manufacturers.

When coupled with Pyxis or Nexus 2 the 1100 series provides Multi-Fire functionality, providing positional updates in <3 sec from an array of 10 beacons.

The MiQ data telemetry function provides third party data plus position to the surface for a variety of applications

With an industry standard 5-pin connector, the beacons are quick and easy to configure using the 1082 Smart Switch or 1083 Multi-Charger that also activate and monitor the charging of the battery pack.

Technical Specification

MODEL TYPES – PHYSICAL SPECIFICATION

Housing material; Hard anodised aluminium, with clear protection sleeve and stainless steel cage

Model	Beam Pattern	SPL*	Survival Depth	Diameter	Length	Weight in Air / Water
1119	±90°	188dB	1500m	74mm	395mm	2.90kg/1.40kg
1113H	±30°	196dB	2000m	74mm	410mm	3.10kk/1.50kg

*Effective SPL is 5dB less when used with iXblue GAPS USBL systems.

Electrical Specification

BATTERY

Battery type	Rechargeable. NiMH as standard
Listening life	60 days
Operational life, AAE Sigma 2	Dependent on pulse rate and operational mode **1119**: 55 hours at 1.0pps **1113H**: 35 hours at 1.0pps

CONFIGURATION

Transmit frequency range	21 - 31kHz
Receive frequency range	17 - 31kHz
Turnaround time	Auto select upon protocol. User defined
Transmit pulse width	Auto select upon protocol
Refresh rate	>1Hz
Multi-Fire	10 IDs
MIQ data telemetry	Navigation + Data @ 800Bps payload Fixed RS232 interface @ 9600, 8, N, 1

EXTERNAL INPUTS

Connector type	MCBH5M 5-way connector
Responder key	+ 5 to 25 Volts
External Power	22 to 35 VDC@80mA
Charge	Onboard fast charger for 3 hour charge, typical. Activated and monitored via 1082 Smart Switch or 1083 Multi-Charger

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USBL Compatibility

aae 1100 Series beacons use Tone, Chirp, MFSK, DSSS and FHSS as transmission/reception protocols, allowing cross-compatibility with many USBL systems, including:

- Easytrak Pyxis ,Nexus 2, Nexus 2 Lite: Sigma 1, Sigma 2 spread spectrum systems

- Easytrak Nexus Lite: Sigma 1, USBL

- Easytrak Alpha: Tone systems

- iXblue: GAPS USBL

- Kongsberg: HiPAP

Options

- Compatibility with USBL systems not listed

- Low Power directional option available [BCN-1133]

- Remote transducer option supplied with [BCN-1110] electronic bottle and 2m interconnect cable;

    [REM-RM91] Omni-directional transducer rated to 1500m.

    [REM-RM43] Directional transducer rated to 2000m.

- Digital depth transmission when fitted with depth sensor;

    Depth sensors 100m/300m/1000m/2000m (adds D suffix to model number) eg. [1119D-300m]

- Floatation collar

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