

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 | 3.10kg/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 |

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:

- Nexus 2, Pyxis: Sigma 1, Sigma 2 spread spectrum systems
- AAE Nexus Lite: Sigma 1, USBL
- AAE Easytrak Alpha: Tone systems
- iXblue: GAPS USBL
- Kongsberg: HiPAP

Options

- Compatibility with USBL systems not listed above
- 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