1130 Series Midi Beacon

Key features

- aae Sigma II bi-directional spread spectrum technology
- User configurable Tx power and Rx Gain
- Multi-Fire common interrogate capability
- MiQ data telemetry functionality
- Directional or omni-directional beam pattern, depending on application
- Externally configurable as transponder or responder

Applications

- General purpose tracking and positioning applications
- Static and dynamic operations e.g. ROV, sidescan sonar

Series Midi Beacon Overview

The 1130 Series Midi Beacons have been designed to be used with applied acoustics Nexus 2 and Pyxis positioning systems, utilising applied acoustics proven Sigma 2 acoustic protocols. They also retain compatibility with all Easytrak systems and systems from other manufacturers.

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 durable clear protection sleeve and stainless steel cage

<table>
<thead>
<tr>
<th>Model</th>
<th>Beam Pattern</th>
<th>SPL*</th>
<th>Survival Depth</th>
<th>Diameter</th>
<th>Length</th>
<th>Weight in Air / Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>1139</td>
<td>±90°</td>
<td>191dB</td>
<td>4000m</td>
<td>100mm</td>
<td>540mm</td>
<td>6.90kg / 3.00kg</td>
</tr>
<tr>
<td>1133H</td>
<td>±30°</td>
<td>203dB</td>
<td>4000m</td>
<td>100mm</td>
<td>540mm</td>
<td>6.90kg / 3.00kg</td>
</tr>
</tbody>
</table>

*Effective SPL is 5dB less when used with iXblue GAPS USBL systems, SPL specification is at maximum configured Tx Power.

**Electrical Specification**

**BATTERY**

- **Battery type**: Rechargeable. NiMH as standard
- **Listening life**: 90 days
- **Operational life, aae Sigma 2**: Dependent on pulse rate and operational mode. Spec at max operating power, position only. Operation life will increase with lower power and decreased repetition rates.
  - **1139**: 50 hours at 1.0pps
  - **1133**: 24 hours at 0.5pps

**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
- **Transmit Power Level**: User programmable
- **Receiver Gain**: User programmable
- **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 @ 120mA
- **Charge**: On-board fast charger for 4 hour charge, typical. Activated and monitored via 1082 Smart Switch or 1083 Multi-Charger

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Due to continual product improvement specification information may be subject to change without notice.

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USBL Compatibility

AAE 1130 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 II spread spectrum systems
- AAE Nexus: Sigma I, USBL
- AAE Easytrak Alpha: Tone systems
- iXblue: GAPS USBL
- Kongsberg: HPR/HiPAP

Options

- Compatibility with USBL systems not listed above
- Remote transducer, supplied with Model [BCN-1130] electronic bottle and 2m interconnect cable;
  - [REM-RM91], omni-directional ±90°, rated to 1500m.
  - [REM-RM43], directional ±30°, rated to 2000m.
  - [REM-RM15], directional ±15°, rated to 4000m.
- Digital depth transmission when fitted with depth sensor;
  - Depth sensors 100m/300m/1000m/2000m/4000m (adds D suffix to model number) eg. [1139D-2000m]
- Floatation collar