

# 1150 Series Seabed Beacon



## Key features

- aae Sigma II bi-directional spread spectrum technology
- User configurable Tx power and Rx Gain for increased operational life and optimal acoustic performance
- Multi-Fire common interrogate capability
- MiQ data telemetry functionality
- Directional or omni-directional beam pattern, depending on application
- Survival depth to 4000m

## Applications

- DP reference beacon requiring long term deployment
- General purpose tracking and positioning applications for deeper water applications or in an acoustically challenging environment

## Series Seabed Beacon Overview

The 1150 Series Seabed Beacons have long life battery options that make them ideal for long term reference points, USBL calibration beacons and Dynamic Positioning reference markers.

1150 Series Seabed beacons incorporate Applied Acoustics' proprietary Sigma acoustic protocols proven for use with aae's USBL tracking systems, other manufacturers' USBL systems as well as those using 'narrow band' tone signalling.

# Technical Specification

## MODEL TYPES – PHYSICAL SPECIFICATION

Housing material; Hard anodised aluminium with protection cages

| Model | Beam Pattern | SPL   | Survival Depth | Diameter | Length | Weight in Air / Water |
|-------|--------------|-------|----------------|----------|--------|-----------------------|
| 1159  | ±90°         | 191dB | 4000m          | 125mm    | 1095mm | 22.80kg/11.00kg       |
| 1153H | ±30°         | 200dB | 4000m          | 125mm    | 1095mm | 22.80kg/11.00kg       |

## Electrical Specification

### BATTERY

|                                |                                                                                                                                                                                                                                                         |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Battery type                   | Rechargeable. NiMH as standard                                                                                                                                                                                                                          |
| Listening life                 | 120 days                                                                                                                                                                                                                                                |
| Operational life, AAE Sigma II | Dependent on pulse rate and operational mode<br>Spec at max operating power, position only.<br>Operation life will increase with lower power and decreased repetition rates.<br><b>1159:</b> >400 hours at 1.0pps<br><b>1153H:</b> >100 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                                                   |
| Transmit Power Level     | User programmable                                                           |
| Receiver Gain            | User programmable                                                           |
| Refresh rate             | >1Hz                                                                        |
| Multi-Fire               | 10 IDs                                                                      |
| MIQ data telemetry       | Navigation + Data @ 800Bps payload<br>Fixed RS232 interface @ 9600, 8, N, 1 |

### EXTERNAL INPUTS

|                |                                                          |
|----------------|----------------------------------------------------------|
| Connector type | MCBH10M 10-way connector                                 |
| Responder key  | + 5 to 25 Volts                                          |
| External Power | 22 to 35 VDC @120mA                                      |
| Charge         | 1083 Multi-Charger, typical cycle charge time, 20 hours. |

## USBL Compatibility

aae 1150 Series beacons use Tone, Chirp, MFSK, DSSS and FHSS as transmission/reception protocols, allowing cross-compatibility with many USBL systems, including:

- aae Nexus, Nexus 2, Pyxis: Sigma 1, Sigma 2 spread spectrum systems
- aae Easytrak: All models, tone systems
- iXblue: GAPS USBL
- Kongsberg: HPR/HiPAP

## Options

- Compatibility with USBL systems not listed
- Non-rechargeable batteries (alkaline)
- Depth sensors 100m/300m/1,000m/2,000m/4,000m (adds D suffix to model number)
- Floatation collar