

1100 Series Mini Beacon



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 Nexus 2. The 1100 Series also retains compatibility with all Easytrak systems and other USBL manufacturers.

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

The MiQ Data Uplink function provides 3rd 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.

Key Features

- AAE proprietary Sigma 2 bi-directional spread spectrum technology
- Precise range resolution
- Multi-Fire common interrogate compatibility
- MiQ Data uplink functionality
- Quick and easy configuration
- Directional or omni-directional beam pattern options available
- High power option model to operate longer ranges
- Auto tune detect for optimal performance
- Options for use with remote transducers

Applications

- General purpose tracking and positioning applications
- Static and dynamic operations e.g. ROV, sidescan sonar
- Navigation + Data for monitoring third party sensors

Technical Specification

MODEL TYPES – PHYSICAL SPECIFICATION

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

	Beam Pattern	SPL*	Survival Depth	Diameter	Length	Weight in air
1115	±45°	194dB	2000m	74mm	410mm	3.08kg/1.46kg
1115H High Power	±30°	196dB	2000m	74mm	410mm	3.08kg/1.46kg
1119	±90°	188dB	1500m	74mm	395mm	2.88kg/1.38kg
1122	±20°	202dB	4000m	95mm	418mm	5.03kg/2.75kg

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

1100 Series Mini Beacon Technical Specification

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 1115: 55 hours at 1.0pps 1115H: 35 hours at 1.0pps 1119: 55 hours at 1.0pps 1122: 35 hours at 1.0pps Operational life reduced when used with non AAE USBL systems.

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 Uplink	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:

AAE Nexus, Nexus 2	Sigma 1, Sigma 2 Spread Spectrum systems
AAE Easytrak	All models, tone systems
iXblue	GAPS USBL
Kongsberg	HiPAP
Sonardyne	USBL

OPTIONS

- Compatibility with USBL systems not listed above
- Non-rechargeable batteries (alkaline)
- Survival depth to 4000m
- Remote transducer (supplied with Model BCN-1110 electronic bottle);
- RM90, omni-directional rated to 1500m. RM45, directional, rated to 2000m.
Inter connect cable for each option, 2m standard
- Depth sensors 100m/300m/1000m/2000m/4000m (adds D suffix to model number)
- Digital depth transmission when used with AAE Nexus USBL systems
- Floatation collar



Due to continual product improvement, specification information may be subject to change without notice.
1100 Series Mini Beacon/ May 2019
©Applied Acoustic Engineering Ltd.



Applied Acoustic Engineering Ltd
Marine House, Marine Park
Gapton Hall Road
Great Yarmouth NR31 0NB
United Kingdom

T +44(0)1493 440355
F +44(0)1493 440720
E general@appliedacoustics.com
W www.appliedacoustics.com