blueprint subsea
OFFICIAL DEALER

USBL
SeaTrac

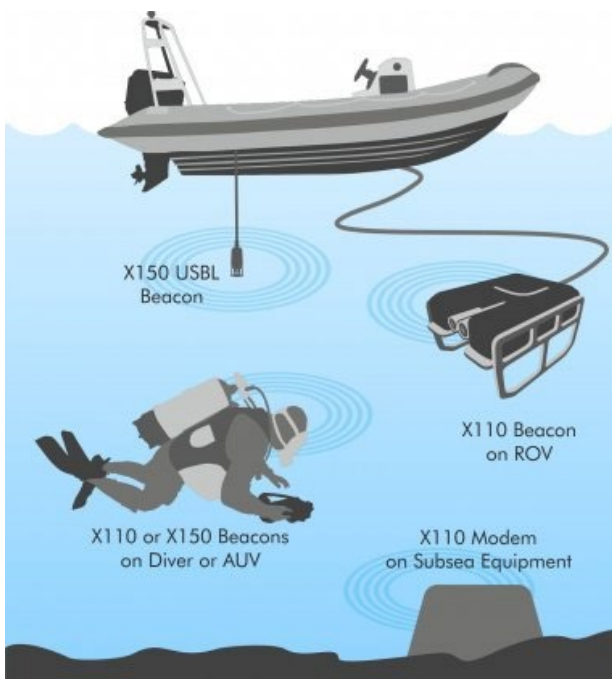

⊻ Depth rating 300m to 2000m

◉ Hemispherical range up to 1km radius

⤳ Target tracking, distance measurement / control, telemetry

The SeaTrac system

Built around a robust broadband spread spectrum signalling scheme, these multipurpose acoustic transponder beacons are capable of simultaneously tracking asset positions and undertaking bi-directional data exchange.

X150 USBL Beacon

X110 Beacon on ROV

X110 or X150 Beacons on Diver or AUV

X110 Modem on Subsea Equipment

POSITION TRACKING
In a tracking application, one X150 beacon is mounted from the supervisor vessel and computes the positions of the targets fitted with an X010 or X110 beacon

MODEM
In a modem application, addressable packets of data are exchanged between the Acoustic Communication Stacks using protocols that ensure integrity of data, buffering and reattempting transmission in event of packet loss

INTEGRATED MAPS
The SeaTrac PinPoint software allows tracking up to 14 assets from a single USBL beacon. It also allows logging maps and charts, including S57/63

TECHNICAL SPECIFICATIONS

MECHANICAL

	X150 BEACON	X110 BEACON	X010 BEACON
Dimensions	L 160mm x Ø 59mm	L 134mm x Ø 59mm	L 74mm x Ø 59mm
Construction	316 Stainless Steel		Black Acetal
Weight	720g (air), 530g (water)	690g (air), 500g (water)	300g (air), 170g (water)
Depth rating	100/2000m	2000m	300m

ELECTRICAL

	X150 BEACON	X110 BEACON	X010 BEACON
Connector	Impulse MCBH-5-MP (5-way)		Impulse IE55-12 (4-way)
Communications	Single RS-232		
Supply voltage	9 to 28VDC		
Power consumption	Approx 0.6W when idle, approx 6W when transmitting		
Integrated sensors	Water Pressure & Temperature, 3-axis MARG, Supply Voltage		
Attitude & Heading	Internal 9-DOF AHRS with ±1° Yaw & ±0.2° Pitch & Roll std-deviation		

ACOUSTIC

	TRANSDUCTEUR X150	TRANSPONDEUR X110	TRANSPONDEUR X010
Ranging	Yes	Yes	Yes
Positioning	Yes	No	No
Acoustic range	1km radius horizontal, 1km vertical (hemispherical)		
Range resolution	±0.1m (dependant on provided VOS accuracy)		
Velocity-of-Sound range	1300m/s to 1700m/s (can auto-compute from water temp & depth)		
Beacon velocity	Active Doppler compensation, up to 15kts (28kph)		
Communications	Broadband spread spectrum encoding, 24-32kHz, 100 baud		
Targets (addressing)	15 unique beacon identifiers, broadcast to all capability. Allows up to 14 targets to be tracked from a single X150 USBL beacon		

APPLICATIONS

Supported software platforms	SeaTrac NavPoint/PinPoint Software SeaTrac Beacon Management Software
Developers/Integrators	SDK, including ASCII based serial interface with Application level and Acoustic Protocol Stack level commands for third party integration.