

Scout, Ranger and Fusion

Sonardyne's family of USBL products means that whatever you're tracking and positioning, we have a system designed to perfectly meet your needs.

Scout is a highly portable and easy to use system for tracking divers, ROVs and towfish. Scout Plus offers additional tracking capabilities and higher accuracy whilst Scout Pro is designed to provide complex survey support through its fully featured software.

Ranger has been designed for survey and DP reference operations. The UI is simple and intuitive and in Pro version, supports industry standard transponders to full ocean depth.

Fusion is the most advanced USBL and LBL construction survey system available. It offers the highest possible accuracy for complex subsea operations in all water depths.

Software

Key to specification tables:

- Supplied as Standard = ●
- Optional = ○
- Not Available = -

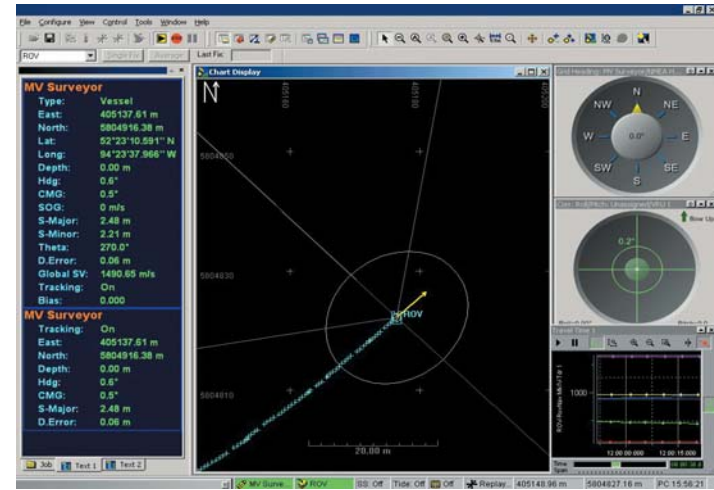
Simple UI

- Scout ●
- Scout Plus ●
- Ranger ●
- Ranger Pro ●



Advanced UI

- Scout Pro ●
- Fusion ●



Topside



Product	SIU	SCU	NCU	Navigation Computer	DFE
Scout	●	○	-	○	-
Scout Plus	●	○	-	○	-
Scout Pro	-	-	●	○	○
Ranger	-	-	●	○	○
Ranger Pro	-	-	●	○	○
Fusion	-	-	●	○	○

Product	SIU
Scout	●
Scout Plus	●
Scout Pro	-
Ranger	-
Ranger Pro	-
Fusion	-

Product	SCU
Scout	○
Scout Plus	○
Scout Pro	-
Ranger	-
Ranger Pro	-
Fusion	-

Product	NCU
Scout	-
Scout Plus	-
Scout Pro	●
Ranger	●
Ranger Pro	●
Fusion	●

Product	Navigation Computer
Scout	○
Scout Plus	○
Scout Pro	○
Ranger	○
Ranger Pro	○
Fusion	○

Product	DFE
Scout	-
Scout Plus	-
Scout Pro	○
Ranger	○
Ranger Pro	○
Fusion	○

Transceivers



Product	Type 8024	Type 8024 (Lightweight Version)	Type 8021	Type 8023	Type 8091 (Inverted)
Scout	●	○	-	-	-
Scout Plus	●	○	-	-	-
Scout Pro	●	○	-	-	-
Ranger	-	○	○	○	○
Ranger Pro	○	○	○	○	○
Fusion	○	○	○	○	○

Product	Type 8024
Scout	●
Scout Plus	●
Scout Pro	●
Ranger	-
Ranger Pro	○
Fusion	○

Product	Type 8024 (Lightweight Version)
Scout	○
Scout Plus	○
Scout Pro	○
Ranger	○
Ranger Pro	○
Fusion	○

Product	Type 8021
Scout	-
Scout Plus	-
Scout Pro	-
Ranger	○
Ranger Pro	○
Fusion	○

Product	Type 8023
Scout	-
Scout Plus	-
Scout Pro	-
Ranger	○
Ranger Pro	○
Fusion	○

Product	Type 8091 (Inverted)
Scout	-
Scout Plus	-
Scout Pro	-
Ranger	○
Ranger Pro	○
Fusion	○

Transponders



Product	AODC	OBC	Coastal	LRT	SST	SSM	Compact 4	WSM	DPT / DPTi	Compact 5
Scout	○	○	●	○	-	-	-	-	-	-
Scout Plus	○	○	●	○	-	-	-	-	-	-
Scout Pro	○	○	○	○	-	-	-	○	-	-
Ranger	○	-	-	-	-	-	-	○	○	○
Ranger Pro	○	○	-	-	○	○	○	○	○	○
Fusion	○	○	-	-	○	○	○	○	○	○

Product	AODC	OBC
Scout	○	○
Scout Plus	○	○
Scout Pro	○	○
Ranger	○	-
Ranger Pro	○	○
Fusion	○	○

Product	Coastal	LRT
Scout	●	○
Scout Plus	●	○
Scout Pro	○	○
Ranger	-	-
Ranger Pro	-	-
Fusion	-	-

Product	SST	SSM
Scout	-	-
Scout Plus	-	-
Scout Pro	-	-
Ranger	-	-
Ranger Pro	○	○
Fusion	○	○

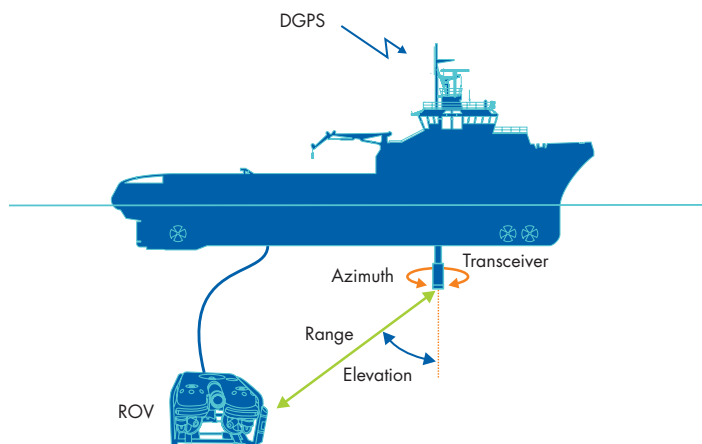
Product	Compact 4	WSM
Scout	-	-
Scout Plus	-	-
Scout Pro	-	○
Ranger	-	○
Ranger Pro	-	○
Fusion	○	○

Product	DPT / DPTi	Compact 5
Scout	-	-
Scout Plus	-	-
Scout Pro	-	-
Ranger	○	○
Ranger Pro	○	○
Fusion	○	○

What is USBL?

Scout, Ranger and Fusion systems calculate the position of a subsea target by measuring the range and bearing from a vessel mounted transceiver (compensated for vessel dynamics using internal or external motion sensors) to a small acoustic transponder fitted to the target; a technique known as Ultra-Short BaseLine (USBL) positioning.

USBL positioning is widely used by the offshore and oceanographic industries as it offers high accuracy performance combined with ease of operation. One of its main advantages is that no other in-water acoustic equipment has to be deployed before underwater operations can commence. Only the targets being tracked need to be equipped with a transponder.



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	Scout	Scout Plus	Scout Pro	Ranger	Ranger Pro	Fusion
Key Features	Easy to use Portable General target tracking All sensors, software and hardware provided	Higher accuracy External motion sensors supported Responder mode for improved towfish and ROV tracking	Complex survey support Fully featured software Deeper water operations Upgrade path to Ranger and Fusion systems	DP reference Target tracking Easy to use Intuitive UI	DP reference Survey Fast update rates Full ocean depth Supports industry standard transponders	Complex construction survey (LBL) support Full ocean depth Highest possible accuracy Ranger Pro software included
Acoustics	Sonardyne HF	Sonardyne HF Sonardyne MF Tone (Limited Channels) QuickSet Wideband MF Channels	Sonardyne HF Sonardyne MF Tone (Limited Channels) QuickSet Wideband MF Channels	All MF Wideband Channels	All MF Wideband Channels Sonardyne MF Tone HPR300 and 400	All MF Wideband Channels Sonardyne MF Tone HPR300 and 400
Software UI Provided	Simple	Simple	Advanced and Simple	Simple	Simple	Advanced and Simple
Maximum Number of Tracked Targets	4	6	10	4	10	10
Operating Range	500 Metres	500 Metres	1,000 Metres	>6,000 Metres	>6,000 Metres	>6,000 Metres
Surface Hardware Supported	Surface Interface Unit or Surface Command Unit Navigation Computer* (*Optional)	Surface Interface Unit or Surface Command Unit Navigation Computer* (*Optional)	Navigation Controller Unit Navigation Computer and DFE (Optional)	Navigation Controller Unit Navigation Computer DFE (Optional)	Navigation Controller Unit Navigation Computer DFE (Optional)	Navigation Controller Unit Navigation Computer DFE (Optional)
Transceivers Supported	Type 8024 with integrated heading, pitch and roll sensor	Type 8024 with integrated heading, pitch and roll sensor	Type 8024 with integrated heading, pitch and roll sensor	Type 8021, 8023 and 8091 with integrated pitch and roll sensor	Type 8021, 8023, 8024 and 8091 with integrated pitch and roll sensor	Type 8021, 8023, 8024 and 8091 with integrated pitch and roll sensor RovNav (As Responder)
Transponders Supported	Coastal (HF) OBC (HF) LRT (HF) AODC (HF)	Coastal (HF) OBC (HF) LRT (HF) AODC (HF) WSM (MF)	Coastal (HF) OBC (HF) LRT (HF) AODC (HF) WSM (MF)	AODC (HF) WSM (MF) DPT / DPTi (MF) Compatt 5 (MF)	AODC (HF) OBC (HF) SST (MF) SSM (MF) WSM (MF) DPT / DPTi (MF) Compatt 4 (MF) Compatt 5 (MF)	AODC (HF) OBC (HF) SST (MF) SSM (MF) WSM (MF) DPT / DPTi (MF) Compatt 4 (MF) Compatt 5 (MF)
Responders Supported	No	Yes	Yes	Yes	Yes	Yes (Including Externally Triggered Responders)
Inputs	GPS Transceivers internal heading, pitch and roll	GPS Transceivers internal heading, pitch and roll External vessel heading, pitch and roll	GPS Transceivers internal heading, pitch and roll External vessel heading, pitch and roll ROV depth and heading Sound speed sensor	GPS Transceivers internal pitch and roll External vessel heading, pitch and roll UTC time synchronisation	GPS Transceivers internal pitch and roll External vessel heading, pitch and roll UTC time synchronisation	GPS Transceivers pitch and roll External vessel pitch and roll UTC time synchronisation ROV depth and heading Sound speed sensor DVL (Optional)
Survey / DP Outputs	\$GGA \$SSB HPR300P & 309 HPR418 & BCD ATS Ascii Trackpoint II \$PSONALL PSONHYD	\$GGA \$SSB HPR300P & 309 HPR418 & BCD ATS Ascii Trackpoint II \$PSONALL PSONHYD	\$GGA \$SSB HPR300P & 309 HPR418 & BCD ATS Ascii Trackpoint II PSONALL PSONPOS PSONOG	\$GGA \$SSB HPR300P & 309 HPR418 & BCD ATS Ascii Trackpoint II \$PSONALL PSONHYD	\$GGA \$SSB HPR300P & 309 HPR418 & BCD ATS Ascii Trackpoint II \$PSONALL PSONHYD	\$GGA, \$SSB HPR300P & 309 HPR418 & BCD ATS Ascii Trackpoint II PSONALL, PSONPOS PSONOG, APS1/2 Eiva, SYDNAV
Display Type	Radar	Radar	Radar and Chart Configurable Sensor Displays	Radar Riser Angle	Radar Riser Angle	Radar and Chart Configurable Sensor Displays
Navigation	Measure Tool on Radar Display Waypoints	Measure Tool on Radar Display Waypoints	DXF Chart Backdrops Survey Line Fix / Waypoints Measure Distances Configurable Info Boxes Offsets Full BlueMarble Geodesy	Measure Tool on Radar Display Waypoints	Measure Tool on Radar Display Waypoints	DXF Chart Backdrops Survey Line Fix / Waypoints Measure Distances Configurable Info Boxes Offsets Full BlueMarble Geodesy
Tracking	Kalman Filter	Kalman Filter	Extended Kalman Filter Ping Stacking (High Update Rate Tracking)	Kalman Filter	Kalman Filter Ping Stacking (High Update Rate Tracking)	Extended Kalman Filter Ping Stacking DVL Aiding (Optional)
Tools	Noise Plot Signal Plot Transducer Test Average Fix Sound Speed Profiles Simulate Mode	Noise Plot Signal Plot Transducer Test Average Fix Sound Speed Profiles Simulate Mode	Noise Plot Signal Plot Transducer Test Travel Time Plots Range Test Average Fix Sound Speed Profiles Simulate Mode	Noise Plot Signal Plot Transducer Test Average Fix Sound Speed Profiles Simulate Mode Riser Angle Monitoring	Noise Plot Signal Plot Transducer Test Average Fix Sound Speed Profiles Simulate Mode Riser Angle Monitoring	Noise Plot Signal Plot Transducer Test Travel Time Plots Range Test Average Fix Sound Speed Profiles Simulate Mode
Quality Control and Calibration Software	Internal Magnetic Compass Calibration	Internal Magnetic Compass Calibration External, Pitch, Roll and Heading Sensor Calibration (CASIUS)	Internal Magnetic Compass Calibration External, Pitch, Roll and Heading Sensor Calibration (CASIUS)	External, Pitch, Roll and Heading Sensor Calibration (CASIUS)	External, Pitch, Roll and Heading Sensor Calibration (CASIUS)	External, Pitch, Roll and Heading Sensor Calibration (CASIUS)

Scout

Scout Plus

Scout Pro

Ranger

Ranger Pro

Fusion