



*Ranger 2 is a high performance acoustic position reference system designed for tracking underwater targets and positioning dynamically positioned (DP) vessels. The system uses the Ultra-Short BaseLine (USBL) positioning method to calculate the position of a subsea target, for example an ROV, by measuring the range and bearing from a vessel-mounted transceiver to an acoustic transponder fitted to the target. Multiple subsea targets over a wide area and range of water depths can be simultaneously and precisely positioned to achieve*

## COURSE OBJECTIVES

This online course provides the basic theory together with a thorough practical understanding of the operation of Sonardyne’s Ranger 2 Ultra-Short BaseLine (USBL) acoustic positioning system, through trainer-guided practical hands-on scenarios using Ranger 2 USBL software and simulators via remote access online.

## WHO SHOULD ATTEND?

This course is for anyone who will be operating Ranger 2 USBL in any context, e.g.

- Hydrographic Surveyors
- ROV/AUV operators
- Research Scientists
- ETOs / DPOs

## COURSE DURATION

Comprises two 2.5hr live online sessions with our trainer, each preceded by some Pre-Learning Material that we send out in advance to be reviewed and completed in the candidate’s own time.

**Session 1** - ‘Group Session’ for up to 3 people (Overview of Ranger 2 software and live demonstration of USBL workflows)

**Sessions 2&3** - One-to-One/two-to-one Practical Sessions (Guided practical scenarios, candidate using Ranger 2 in remote access mode via video conferencing tools)

## BOOKING AND CONFIRMATION

Details of course dates and current availability of places can be found at the Training Course section of Sonardyne’s website:

[www.sonardyne.com/products/training](http://www.sonardyne.com/products/training)

To reserve a place on a course, please email:

[training@sonardyne.com](mailto:training@sonardyne.com)

## Other info

Upon successful completion of all sessions candidates will be sent a “Ranger 2 USBL Certificate of Training”

## COURSE SYLLABUS

- Acoustic positioning systems
- Principals of USBL
- Sonar Equation
- Error theory
- Refraction and Sound Speed
- Transceiver deployment and optimisation
- Basic 6G Command Language and Signal Diagnostics
- Ranger 2 USBL Software
- 6G hardware setup serial and acoustic testing (i-Wand / 6G Terminal Lite)
- ROV, AUV and Structure Tracking
- Application of Sound Speed Profiles and Environmental Factors
- Beacon Tracking
- Tracking Diagnostic Tools and Resolution of Tracking Problems
- Configuration of Output Telegrams and Reports
- Troubleshooting