Micro-Ranger 2 is an acoustic positioning system for tracking divers, remotely operated and autonomous underwater vehicles. Portable and quick to mobilise, Micro-Ranger 2 can be deployed from any waterside location or vessel of opportunity, including RHIBs and small survey vessels. This makes it ideal for supporting marine operations conducted in rivers, lakes and coastal waters. The system has an operating range of 995 metres and can update you with the position of each target being tracked up to twice a second.

SYSTEM OVERVIEW
Micro-Ranger 2 works using a positioning technique known as Ultra-Short BaseLine (USBL) to calculate the position of underwater targets. A transceiver at the surface transmits an acoustic signal to transponders attached to each of the targets you wish to track. Using the return signal from each transponder, Micro-Ranger 2 determines its range (distance), bearing (heading) and depth, displaying the results on a radar-style software display.

If you’re a first time user of USBL technology, you’ll find Micro-Ranger 2 incredibly easy to use. Simply connect your computer, external GPS and transceiver to the system’s interface unit, then attach a transponder to each target you want to monitor the position of. With the transceiver lowered into the water, you’re ready to start tracking up to 10 divers, underwater vehicles or equipment. To deliver the best possible positioning performance and operator experience, Micro-Ranger 2 is built around the same market-leading 6G hardware and Wideband 2 digital acoustic technology you’ll find in our family of deep water USBL systems, Mini-Ranger 2 and Ranger 2, but for significantly less cost and complexity.

TOPSIDE EQUIPMENT > Micro-Ranger Transceiver
The Micro-Ranger Transceiver (MRT) is the key innovation at the core of the Micro-Ranger 2 system. Extremely small and light, the MRT can be deployed from the side of any vessel, pontoon, or even USV (Unmanned Surface Vessel). The configuration of the receiver elements inside provide omni-directional acoustic tracking coverage, so is ideal for tracking targets in shallow water all the way to the surface. It’s design offers unrivalled range resolution and precision for a USBL system of this size.

SONARDYNE MICRO-RANGER 2 USBL UNDERWATER TARGET TRACKING SYSTEM

WHAT YOU NEED TO KNOW
- Low-cost, easy-to-use underwater target tracking system
- Always know where your divers, seabed instruments and remotely operated vehicles are
- Use it in rivers, lakes, reservoirs and coastal waters
- Portable and quick to mobilise from any size boat or waterside location
- 995 metre operating range
- Fast position updates; up to twice per second
- No need for an export license; easy to ship internationally
- 6G inside; built around our digital wideband acoustic architecture
Deploy it, track it
Micro-Ranger 2 is a sixth-generation (6G) Ultra-Short Baseline (USBL) underwater positioning system. It is highly portable and offers the functionality and performance you come to expect from Sonardyne acoustics. Use it to track a small ROV, a diver or any other small target in ranges of up to 995 metres at very fast update rates.

Transponder options
Whether you’re tracking a small underwater instrument, search and rescue diver or micro ROV, Nano (below left) and WSM 6+ transponders perfectly complement your Micro-Ranger 2 topside hardware.

UNDERWATER EQUIPMENT > Nano and WSM 6+ Transponders
At only just over 150 mm long and weighing 225 grams, Nano is a popular choice for divers, man-portable AUVs and micro ROVs. Its wireless charging and Near Field Communications (NFC) capability means that storing it, turning it on and setting it up is also quick and simple. Two models are available; one with a pressure sensor for depth aiding and one without. Both are depth rated to 500 metres.

For tracking larger underwater targets such as a tow fish, a crane wire or medium-sized ROV for example, WSM 6+ will meet your requirements. Depth rated to 1,000 metres and featuring a rechargeable battery pack, WSM 6+ can also be powered directly from your underwater vehicle so it can remain deployed for as long as you need it to.