

ROV Accessories

What kind of sonar should I buy?

There are two types of technology to choose from scanning sonars and multibeam sonars.

Scanning sonars, such as the Tritech SeaSprite, use a single fan shaped sonar beam directed by a mechanically rotating head that is able to scan 360°. The displayed result looks like radar devices used to track airplanes. Tritech's sonar uses an advanced technology called CHIRP <http://www.auv.co.uk/products/chirp.html> The SeaSprite has very impressive range, and gives a very detailed result that is often used for measuring underwater distances. It is much smaller than multibeam sonars“ it is the size of a tennis ball -which means less hydrodynamic drag and the ability to work in much higher currents. It also costs about half as much as multibeam sonar.

The drawback of scanning sonar is that the ROV must be stationary while it paints an image. This means that it is difficult, though not impossible, to use it for navigation. In still water, or where the vehicle can be planted on the bottom or on a stationary object, it can be used to locate an object and figure out which direction to go. But if the vehicle can't be held steady long enough for a complete cycle, scanning sonar is difficult to use.

An interesting use of scanning sonars is their use to explore, map, and measure in enclosed spaces. SeaSprite sonars are used inside of hydro power plants in Norway, mapping flooded coal mines in India, and have been used for exploring cisterns in Malta. You can read about these projects on the [VideoRay](#) web site.

Multibeam sonar works differently from scanning sonar. It sends out many beams simultaneously across an arc in front of the vehicle, and paints a video like image of the area. Since it updates multiple times each second, it can be used for both object detection and navigation. VideoRay supports multibeam sonars from BlueView Technologies and Tritech, and their web sites (<http://www.blueview.com/2d-Imaging-Sonar.html> and <http://www.tritech.co.uk/products/products-gemini720i.htm>) have quite a bit of information on their products, including videos that show how they are used.

Multibeam sonars have a smaller field of view when compared to mechanically scanning sonars, are larger, heavier, and more costly. However, in many circumstances their advantages for navigation make them invaluable in locating and navigating to submerged targets.

Unique solution ID: #1095

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Last update: 2012-12-18 22:13