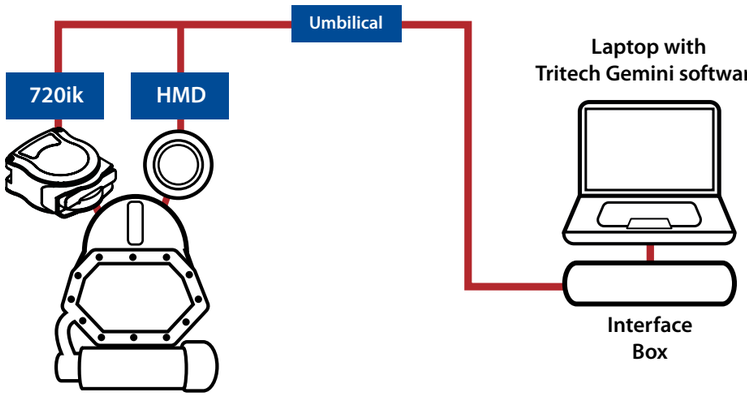

Acoustic specifications	
Operating frequency	720kHz
Angular resolution	1.0^{o} acoustic, 0.25^{o} effective
Range	0.2m - 120m
Number of beams	512
Horizontal beamwidth	120^{o}
Vertical beamwidth	20^{o} (±10^{o} about horizontal axis)
Update rate	5 - 97Hz (range dependent)
Range resolution	8mm
CHIRP support	Yes
Speed of Sound	VoS sensor

CHIRP support	
Supply voltage	19V to 74V DC
Power requirement	16W - 27W (range dependent)[1]
Main port protocol	Ethernet
Auxiliary port (optional)	RS232, TTL in, pass-through power
Connector type	MAIN port: Impulse MKS(W)-307-FCR AUX port: Impulse MKS(W)-307-FCR

Physical specification	
Depth rating	350m
Weight in air	1.40kg
Weight in water	0.43kg
Temperature rating	-10°C to 35°C (operating), -20°C to 50°C (storage)

1 The power consumption range quoted is accurate for a standalone unit and ignores cable losses.

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MOOG

Gemini 720ik

Real-time multibeam imaging sonar

Diver Installation

Suitable for helmet and full face mask diving
Helmet Mounted Display (HMD) compatibility

Outstanding Performance in Underwater Technology

Gemini 720ik

Real-time multibeam imaging sonar

Main features

- Compact, lightweight and portable
- Durable and robust design
- Crisp, clear wide angle field of view
- Ideal for low visibility environments
- World-class 97Hz update rate
- CHIRP processing

The design of the Gemini 720ik multibeam provides the same impressive performance of the Gemini 720is but in a more compact unit for shallower water operations. The unit's reduced weight and size makes the Gemini 720ik the ideal multibeam for head mounting on a diver and is available with an integrated accessory mounting rail to attach to the INODIVE accessory rail.

The 720ik has the capability to be connected directly to a subsea computer operating the standard Gemini software. Alternatively the signal can be sent to the surface over the umbilical, where the surface support diver can control the sonar and either relay instructions directly to the diver or send the data back to the diver for display on an optional Helmet Mounted Display (HMD).

By using the INODIVE mounting system the Gemini 720ik can be positioned and relocated with ease. This allows the sonar to be removed from the helmet easily for handheld use in difficult to reach situations, or where a lower viewing angle is required.

Case study

The Gemini 720ik was fitted to the Gorski GS3000SS helmet and the optional Helmet Mounted Display (HMD). Both sensors were fitted utilising the INODIVE accessory mounting rail system, providing easy installation and positioning.

Visibility at the test site was poor - less than 0.5m, resulting in the effectiveness of the system to be fully tested and demonstrated. On entering the water the diver was immediately reliant on the sonar imagery displayed on the HMD. The diver was instantly able to identify the outline of a sunken boat and proceed directly to the target. The diver was only able to see the boat without the aid of the sonar, once he was within approximately 0.5 metres. Whilst standing on the boat he was able to view the outline of it via the sonar image on the HMD.

The surface support diver identified a target of interest on the sonar image displayed top-side, at a range of 20m and alerted the diver. The diver proceeded to the second target utilising the sonar image displayed on the HMD. Target identified was a discarded chair which was then recovered.

The ability to easily identify areas of potential interest and to quickly navigate to them illustrates the significant benefits of using a diver-mounted Gemini 720ik.

"The Gemini and HMD worked seamlessly together and turned a very difficult task in dark water into a simple operation"

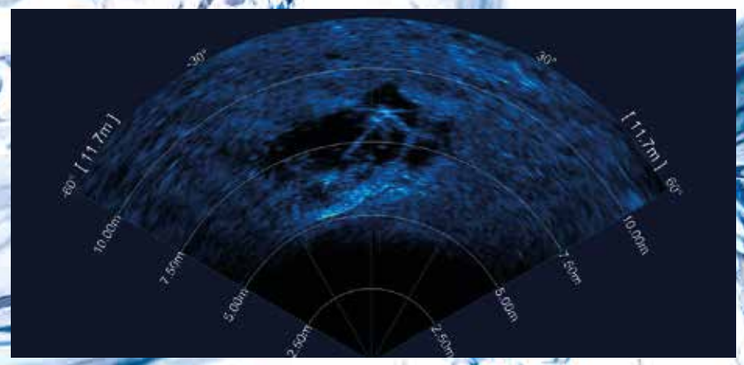
Sam Lapinsky

Owner of Innovative Dive Equipment and public safety diver

"I was so impressed with the simplicity and effectiveness of the system when fitted to my helmet; allowing me to move directly to targets of interest that could just not be seen without a sonar"

Les Gorski

Designer of the Gorski Helmet



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