

Super SeaKing

New generation sonar

In our constant efforts to bring ever improving products to the market, we are pleased to announce the introduction of the advanced **Super SeaKing Dual Frequency Sonar**.

We have used the very latest in **composite transducer technology** to produce a sonar which delivers the clearest images available, at operating ranges previously unobtainable. In addition, we have introduced a **modular transducer design** and **longer-life slip ring assembly** to minimise the consequences of operational damage and to improve on the SeaKing's already excellent reliability.

The **Super SeaKing DFS** shares many of the features of the **SeaKing DFS**, which has been chosen as the standard obstacle avoidance sonar in many of the major ROV fleets around the world.

The Super SeaKing DFS is not one but **two** mechanically scanned imaging sonars in a single subsea pressure housing : a **325 kHz** sonar with a true operational range of up to 300 metres for long range target acquisition, and a **675 kHz** sonar for ultra-high definition images. Other frequency options are available upon request.

All products in the SeaKing family can be run simultaneously on a single **ArcNet communications link**, using the same processor and display.



Features

- ❑ Composite material technology used in new transducer design, providing:
 - Greater range capability
 - Greatly improved resolution and sidelobe suppression
 - Direct compatibility with existing transducers - can be retro-fitted
- ❑ Modular transducer construction - elements replaceable
- ❑ New longer lasting slip ring assembly
- ❑ Option of RS232 communications for single head applications.

Applications

- ❑ *ROV obstacle avoidance*
- ❑ *AUV obstacle avoidance and target recognition*
- ❑ *Harbour and port surveillance*



Tritech Super SeaKing DFS

Specification

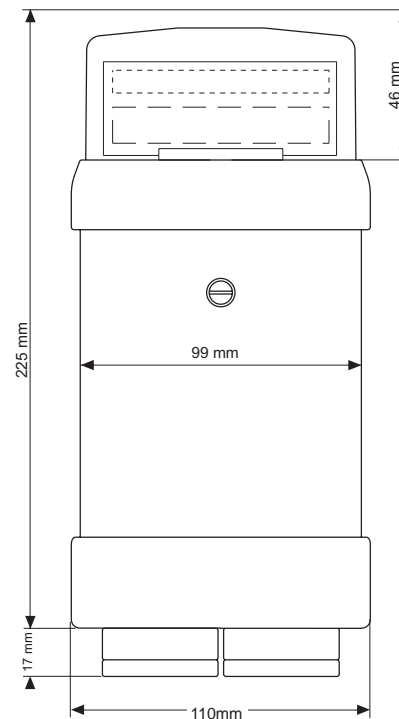
Super SeaKing DFS Sonar Head

Operating frequency	325 and 675 kHz
Optional high frequency	1 MHz
Beamwidth, vertical	20°[325]
Beamwidth, vertical	40°[675]
Beamwidth, horizontal	3.0°[325]
Beamwidth, horizontal	1.5°[675]
Maximum range	300 m [325]
Maximum range	100 m [675]
Minimum range	0.4 m
Range resolution	5 - 400 mm depending on range
Source level	210 dB re 1uPA @ 1 m
Pulse length	20 - 300 microsec
Scan modes	Various combinations of resolution & speed
Mechanical step sizes	0.225°, 0.45°, 0.9°, 1.8°
Mechanical resolution	0.225°
Scanned sector	Variable to 360°
Continuous 360° mode available	Yes
Sector offset mode available	Yes
Overall maximum diameter	110 mm
Maximum length	242 mm
Weight in air	3.0 kg
Weight in water	1.4 kg
Standard maximum operational depth	4,000 m
Optional maximum operational depth	6,800 m
Standard materials	Aluminium alloy-HE30, RPU
Optional materials	Stainless steel
Finish	Hard anodised black
Standard connector	Tritech 6 pin with water-block
Connector options	Various upon request
Operating temperature	-10°C to +35°C
Storage temperature	-20°C to +50°C
Power requirements	18 to 36 VDC @ 10VA
Communication protocols	Arcnet, RS232
Data communication rate	Arcnet 156 kBits/sec 78 kBits/sec RS232 115.2 kbaud
Communication requirements	Twisted pair, modem or coax

Surface Controls and Display

Software Features

Range selection	1 to 300m
Gain and contrast	Rotatory controls
Scanned sector	Fully variable in direction and width to 360°
Quick select origin shift	Centre, forward, reverse, left and right
Resolution selection	0.225° to 1.8°
Cursor measurements	Origin to target and Target to target



Key features include :

- Real-time true acoustic zoom
- Full screen true acoustic zoom with second 360° PPI display window
- Real-time switching between 325 kHz and 675 kHz
- Built-in 100 kHz to 2 MHz spectrum analyser mode
- Runs on industry standard SeaNet SCU or on user-supplied PC
- Integrates with all other Tritech SeaKing sensors
- Time stamped data logging and replay to hard disk
- Control and cursor reporting via SK-V4 protocol available
- Instantaneous scan reversal

All specifications are subject to change in line with Tritech's policy of continual product development.

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