



Super SeaKing DST

New Generation Digital CHIRP Sonar

Features

- Digital CHIRP system
- Composite material technology used in new transducer design, providing:
 - Greater range capability
 - Greatly improved resolution and sidelobe suppression
 - Direct interface 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 interface surveillance



We have used the very latest in composite transducer and CHIRP technology to produce the advanced Super SeaKing DST (Digital Sonar Technology) Dual Frequency CHIRP Sonar. It delivers the clearest images available, at operating ranges previously unobtainable.

CHIRP technology dramatically improves the range resolution compared with conventional sonars. In fact resolution can be improved by a factor of five times. In addition, we have introduced a modular transducer design and longerlife slip ring assembly to minimise the consequences of operational damage and to further improve on the SeaKing DST's already excellent reliability.

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

The Super SeaKing DST is not one but two mechanically scanned imaging sonars in a single pressure housing : a 300 kHz CHIRP sonar with a true operational range of up to 300 metres for long range target acquisition, and a 670 kHz CHIRP sonar for ultra-high definition images. Other frequency options are available on request.

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

Specifications

Super SeaKing DST Sonar Head

Operating frequency (low)	CHIRPing from 250 to 350 kHz
Operating frequency (high)	CHIRPing from 620 to 720 kHz
Optional high frequency	1 MHz
Beamwidth, vertical	20°[300]
Beamwidth, vertical	40°[670]
Beamwidth, horizontal	3.0°[300]
Beamwidth, horizontal	1.5°[670]
Maximum range	300 m [300]
Maximum range	100 m [670]
Minimum range	0.4 m
Range resolution	5 - 400 mm depending on range
Source level	210 dB re 1uPA @ 1 m
Pulse length	400 µsec (300)
	200 µsec (670)
Scan modes	Various combinations of resolution & speed
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*	224 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 e.g. Burton 5506-1508
Operating temperature	-10°C to +35°C
Storage temperature	-20°C to +50°C
Power requirements	18 to 36 VDC @ 15VA
Communication protocols	Arcnet, RS232
Data communication rate	Arcnet 156 kBits/sec 78 kBits/sec RS232 115.2 kbaud
Communication requirements	Twisted pair, modem
<i>*Excluding connector</i>	



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	0.45°, 0.9°, 1.8°, 3.6° (0.225° HD available)
Cursor measurements	Origin to target and Target to target

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

Ref: EDS-SON-004.8