450H HULL-MOUNTED SIDESCAN SYSTEM

StarFish 450
Electronics Top Box

ADVANCED DESIGN

StarFish 450H is the affordable high performance hull-mounted side scan sonar which produces spectacular images of the seabed. The compact slim-line sonar design combined with our flexible mounting bracket ensure the system can be positioned correctly on any vessel helping you capture the best images possible.

HIGH PERFORMANCE

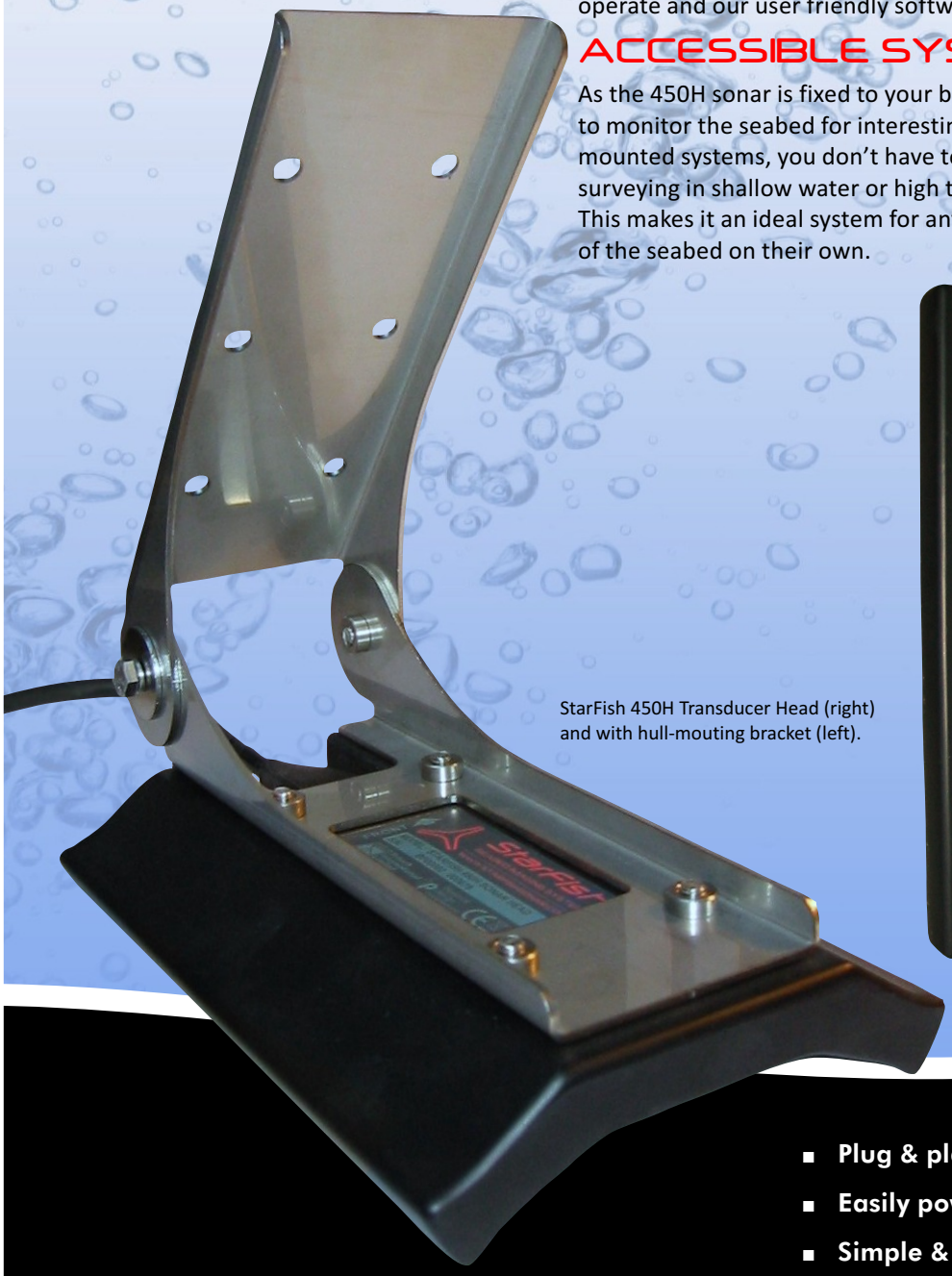
Utilising advanced digital CHIRP acoustic technology developed from the professional underwater survey industry, StarFish 450H can view targets at longer ranges without any loss in image quality. It competes with many larger commercial systems, yet the intuitive software makes it very easy to use.

SIMPLE OPERATION

The StarFish 450 Series is designed to be 'Plug and Play', connecting to your Windows PC or laptop via a USB connection. Simple, one-time installation to your boat means you now have the ability to capture real-time digital images of the seabed during every journey you make. The 450H is straightforward to operate and our user friendly software makes seabed imaging easy for everyone.

ACCESSIBLE SYSTEM

As the 450H sonar is fixed to your boat it's accessible all the time, allowing you to monitor the seabed for interesting targets during every journey. With hull-mounted systems, you don't have to worry about snagging a towing cable when surveying in shallow water or high traffic areas making it very simple to operate. This makes it an ideal system for anyone who may need to capture digital images of the seabed on their own.



StarFish 450H Transducer Head (right) and with hull-mouting bracket (left).

- **Plug & play USB interface to any PC.**
- **Easily powered from almost any source.**
- **Simple & intuitive software.**

P/N: BP00099.1

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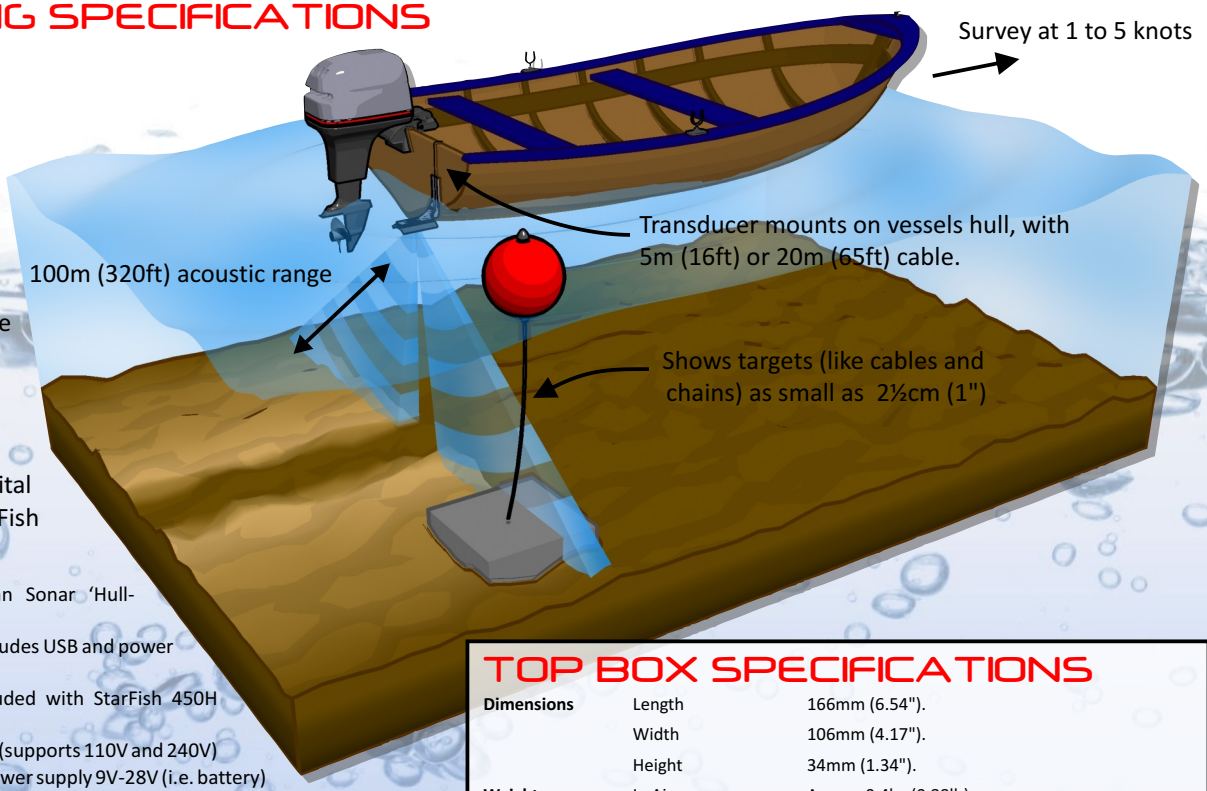
OPERATING SPECIFICATIONS



The Sonar connects to the Top Box. The Top Box then connects to the power source and any Windows based PC or Laptop via a USB connection to display, record and playback digital sonar images using StarFish Scanline software.

1. Starfish 450H Side Scan Sonar 'Hull-Mount' Transducer Head
2. Starfish 450 Top Box (includes USB and power cables)
3. 5m or 20m cable (included with StarFish 450H Sonar)
4. AC Mains power adapter (supports 110V and 240V)
5. Customer supplied DC power supply 9V-28V (i.e. battery)
6. Customer supplied PC or Laptop (with at least 1 free USB port and Windows 2000, XP or Vista)

TOP BOX SPECIFICATIONS

Dimensions	Length	166mm (6.54").
	Width	106mm (4.17").
	Height	34mm (1.34").
Weight	In Air	Approx 0.4kg (0.88lb).
Power	Supply Voltage	90-264V AC, 47-63Hz with Mains adaptor. 9-28V DC supply.
	Consumption	2.4W (200mA @ 12V) approx when idle. 6W (500mA @ 12V) approx when scanning.
Interfaces	Power	2.1mm DC jack socket.
	Data	USB B-Type connector.
	Acoustic	9-Way Female D-Type socket.
Environmental	Temperature Range	-5°C to +40°C (23°F to 104°F).
	IP Rating	IP50 (Protected against ingress of dust, no protection against ingress of liquids).

SONAR HEAD SPECIFICATIONS

Dimensions	Length	195mm (7.68").
	Width	130mm (5.12").
	Height	35mm (1.38").
Weight	In Air	Approx 700g (1.54lb).
	In Fresh Water	Approx 300g (0.66lb).
Body	Construction	Reinforced black polyurethane rubber.
	Depth Rating	50m (164ft).
Cable	Length	5m (16.4ft) or 20m (65.6 ft).
	Breaking Strain	>150kg (330.7lb).
	Construction	Black polyurethane jacketed with internal Kevlar reinforcing (strain) member.
	Min Bend Radius	30mm (1.2").
Transducer	Arrangement	Dual transducers, with 30° down angle from the horizontal.
	Vertical Beam	60° nominal width (@ -3dB signal level).
	Horizontal Beam	1.7° nominal width (@ -3dB signal level).
Acoustic	Frequency	450kHz nominal.
	Range	1m to 100m (3.28ft to 328.08ft) on each channel providing max 200m (656.17ft) total coverage.
	Mode	CHIRP pulse compression.
	Pulse Length	400µs typical.
	Transmit Source Power Level	<210dB re 1Pa @ 1m.

SYSTEM SPECIFICATIONS

System Parts	Sonar	StarFish 450H Sonar Head (with 5 or 20m cable). StarFish 450 Top-Box (with USB interface cable).
	Power Supplies	Universal AC mains to DC power-supply (with international AC adaptors). 2m cigar-plug DC power lead. Crocodile-clip to cigar-socket DC adaptor.
	Software	StarFish Scanline interface software CD and drivers.
	Documentation	User manual, Scanline Manual, Quick start guide.
Compliances	RoHS	Full compliance to the 2002/95/EC directives
	WEEE	Full EN50419 compliance

Please Note: All specifications are subject to change in line with Tritech's policy of continual product development.
For the latest news, details, mechanical drawings, applications information and evaluation software, visit www.starfishsonar.com

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