StarFish

StarFish Side Scan Sonar Product Catalogue

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StarFish Side Scan Sonar Range

Tritech International Ltd is pleased to introduce the range of StarFish side scan sonar systems. Building on the huge success of the original 450 series, the range has been developed to include two new higher specification units. These systems aim to revolutionise the market by offering portable, high resolution side scan survey solutions at an affordable cost.

All the systems have been specifically designed for shallow water survey in water depths up to 30m/100ft. This makes them ideal for port & harbour survey & security work, inland water survey of rivers/canals/lakes, wreck location and Search and Recovery (SAR) missions. StarFish towed systems are extremely portable, with each sonar less than 15" long. This enables them to be easily shared between groups of users or vessels when required, and excel in remote shallow water locations where other side scan systems struggle to perform. Key Features include…

High Performance

Utilising the latest in advanced CHIRP (Compressed High Intensity Radar Pulse) acoustic technology and digital-signal-processing (DSP) techniques at the core of its imagining capabilities, StarFish sonar systems have the ability to detect small closely spaced targets at far greater distances than conventional single frequency, monotonic systems. By sweeping the acoustic transmission from one frequency to another, the bandwidth of this 'chirped' signal allows closely spaced targets to be imaged individually instead of typically becoming merged into one larger target. CHIRP techniques also help to remove random or out-of-band noise, therefore reducing the risk of acoustic interference.

Advanced Design

All the towed StarFish sonar's have the same physical size and shape based on their signature full-body three-fin hydrodynamic design. The unique design improves stability of the sonar during towing, and ultimately helps to ensure the system produces the highest quality sonar images possible. StarFish towed systems are the smallest on the market. These compact side scan sonar's measure less than 15" long, making them extremely portable, and allow them to be deployed from even the smallest of vessels, in the remotest of locations, within often difficult shallow water environments.

Simple Operation

StarFish systems have been designed to be 'plug & play', connecting to your PC/laptop via a top-box with USB connection. The top-box allows the sonar to be powered from both AC (i.e. mains supply) or DC (i.e. battery, generator) sources and multiple adaptor cables are supplied with every system, making it straightforward to power the StarFish system from your existing power source. The intuitive StarFish Scanline software, designed for Windows operating systems, has an easy-to-use interface. With helpful 'Wizards' to get you started, you'll be up and running in no time. For more experienced operators, enabling advanced features within the software is extremely simple to implement through the clever use of interactive displays, tabbed menus and 'Widgets'.

For further information and prices, please contact us at…

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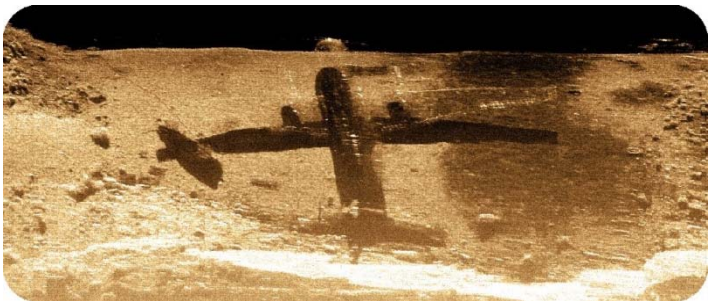
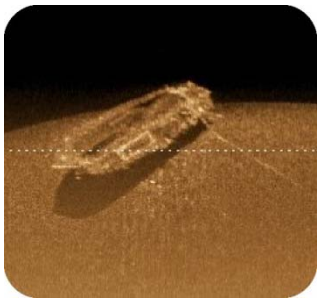
StarFish 990F

The ultimate high resolution StarFish side scan sonar for extreme image definition and target detection. The sonar uses a high frequency 1MHz CHIRP transmission with extremely narrow horizontal acoustic beam to provide the sharpest, most defined images from any StarFish system. With 35m range capability on each channel (70m total swathe coverage), the sonar is ideal for high resolution survey in ports & harbours, inland waterways such as rivers and canals, and excels when used for SAR (Search And Recovery/Rescue) operations. The sonar also has an inline connector to allow the cable to be swapped or replaced on site.



A “Hawker Siddeley 748” aeroplane and small boat wreck.

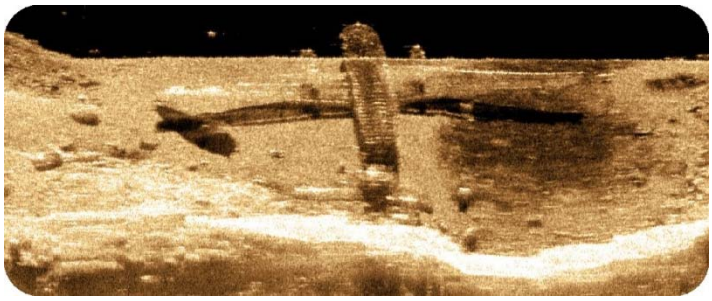
Training mannequin and Search-And-Rescue diver.



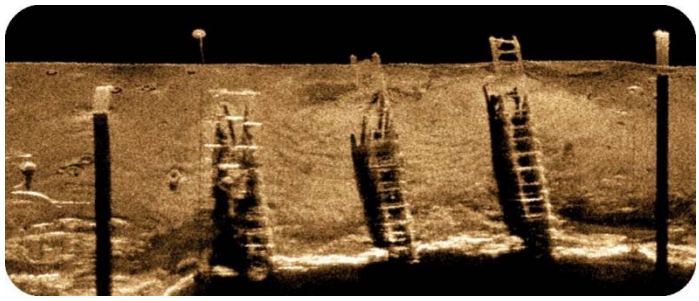
Wreck of a small launch.

StarFish 452F

Building on the success of the original StarFish 450F, the new StarFish 452F sonar has TWICE (x2) the image resolution compared to the 450F model, while continuing to offer wide range imaging capability of 100m per channel (200m total swathe coverage). The sonar uses a mid-band 450kHz CHIRP transmission to offer the greatest combination of ranging capability and image resolution from a single frequency system. The sonar also has an inline connector to allow the cable to be swapped or replaced on site. Existing owners of StarFish 450F & 450H systems can upgrade to the new StarFish 452F should they desire higher definition sonar imagery.



A “Hawker Siddeley 748” aeroplane and wreck of a small boat



Submerged Pilings
(courtesy of M. Szatan)

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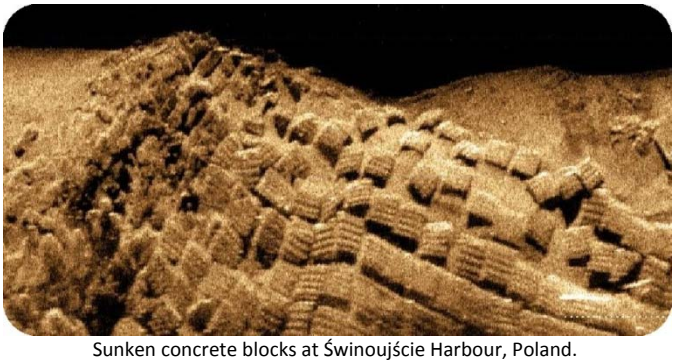
StarFish 450F

The original StarFish 450F sonar offers a powerful, yet affordable, entry-level side scan sonar system for shallow water survey work. Since its launch, the StarFish 450F has gained worldwide recognition as the most portable, affordable, towed side scan sonar on the market. Powered by a 450kHz CHIRP transmission, the 450F provides wide range sonar coverage up to 100m/ 300ft per channel (200m/ 600ft total swathe) with good, clear image definition.

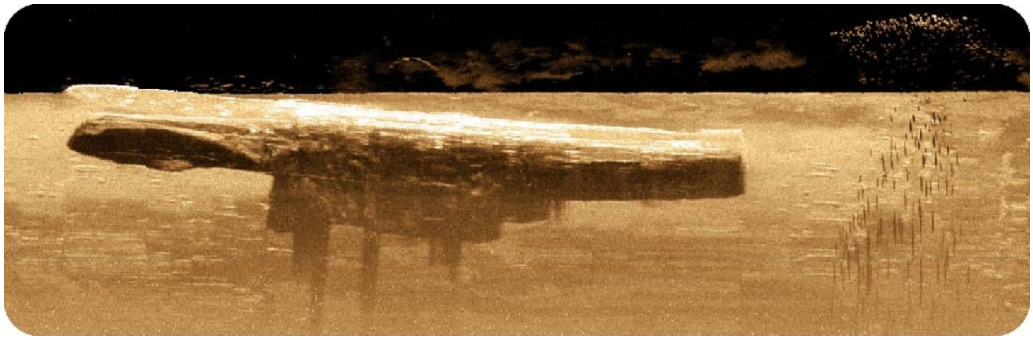
StarFish 450H

For those who would prefer a side scan system permanently fixed to a vessel, the StarFish 450H sonar is designed to be fitted on to the hull or transom of a vessel. Offering the same technical specification and imaging capability as the StarFish 450F sonar, the 450H system removes the worry of snagging a towing cable for novice users. The compact, slim-line sonar design combined with flexible mounting bracket ensure the system can be quickly fitted to your vessel, getting you started in no time.

A “Hawker Siddeley 748” aeroplane and small boat wreck.



Sunken concrete blocks at Świnoujście Harbour, Poland.
(courtesy of M. Szatan)



Wreck of the HMAS Swan, and school of Samson fish
(courtesy of R. Ricketts)

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Starfish Product Specification Summary ★

	STARFISH 990F	STARFISH 452F	STARFISH 450F	STARFISH 450H
SONAR				
Frequency	1MHz CHIRP	450kHz CHIRP		
Operating Range	35m (115ft) per channel	100m (328ft) per channel		
Horizontal Beam Width	0.3°	0.8°	1.7°	
Vertical Beam Width	60°			
Transducer Angle	Tilted Down 30° from Horizontal			
Length	378mm (14.88”)			195mm (7.68”)
Width	110mm (4.33”)			130mm (5.12”)
Height	97mm (3.81”)			35mm (1.38”)
Weight (in Air)	2.0kg (4.41lb)			0.7kg (1.54lb)
Construction	Reinforced polyurethane rubber			
Colour	High-Vis Red	High-Vis Yellow	Black	
Depth Rating	50m (164ft)			
Connector	Impulse, 5-way (MCIL-5-FS)		N/A	
Supported Software Platforms	Hypack 2009, SonarWiz.MAP/ SonarWiz 5 (Chesapeake Technology), Quester Tangent SWATHVIEW system and CleanSweep-Lite (Oceanic Imaging Consultants, Inc.)			
Applications	Law Enforcement/ Homeland Security, Wreck Location/ Archaeology Survey, Engineering, Dive Clubs, Academic/ Research, Angling/ Fishing			
TOP-BOX				
Model	990	450		
Supply Voltage	90-264VAC, 47-63Hz or 9-28VDC			
Power Consumption	6W (500mA @ 12VDC)			
Power Interface	2.1mm DC jack socket			
PC Interface	USB 2.0 B-Type connector			
Sonar Interface	6-Way Souriau “UTS” female socket			
Length	166mm (6.54”)			
Width	106mm (4.17”)			
Height	34mm (1.34”)			
Weight (in Air)	0.4kg (0.88lb)			
Temp Range	-5°C to +40°C (23°F to 104°F)			
IP Rating	IP50 (Protection against ingress of dust, no protection against ingress of liquids)			
CABLE				
Length	20m (65ft) or 50m (164ft)		20m (65ft)	5m (16ft) or 20m (65ft)
Construction	Black polyurethane jacket with internal Kevlar reinforcing (strain) member			
Breaking Strain	>150kg (330lb)			
Minimum Bend Radius	30mm (1.2”)			
Connector	Impulse, 5-way (MCIL-5-FS)		N/A	

★ Please note all specifications are subject to change in line with Tritech’s policy of continual product development.

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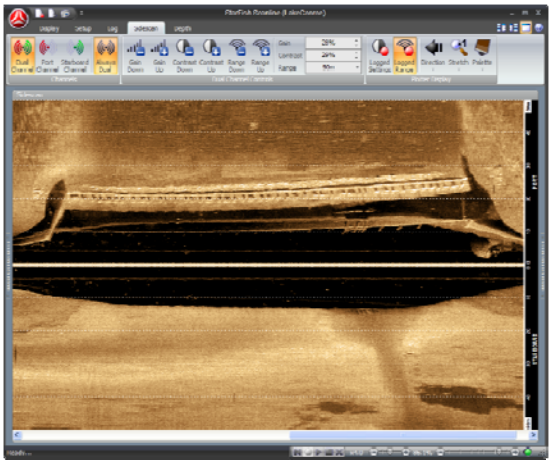
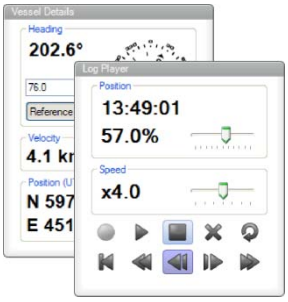
StarFish Scanline Software

Included with every system out-of-the-box, StarFish Scanline software is the intuitive, easy to use data acquisition & logging package for the StarFish side scan sonar range. The software is compatible with 32bit & 64bit Windows OS (XP/Vista/7) and has been consciously designed to be simple and intuitive to operate, for both novice and experienced users alike. Helpful 'Wizards' get you started quickly. Side scan sonar imagery is displayed in real-time and digitally recorded along with data from other devices such as GPS receivers, compasses and speedometers should you wish to interface them to the software. Key features include…

Interactive Displays

The side scan plotter window displays sonar data as a standard 'waterfall' image. The operator can control whether port, starboard, or both sonar channels are active and displaying data. Side scan data can be magnified or stretched to change the aspect ratio of seafloor targets and help aid in their identification, and the orientation of data plotting on the display can be changed (from top-to-bottom, left-to-right, or vice-versa) to help users interpret real-time sonar data relative to the boat. All the display plotters in Scanline provide interactive functions for use by the user. Dragging the Sonar display with the mouse allows historical data to be viewed. When the cursor is moved over a sonar target, the associated position information (if a GPS device is connected) will be shown in the status bar.



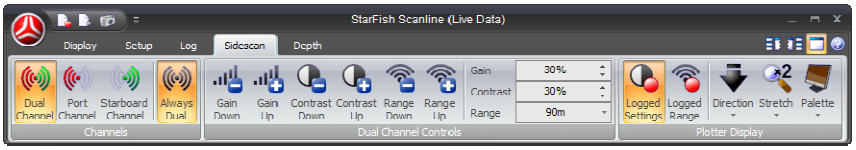


Display Widgets

Scanline uses Widgets to provide extra control, functionality or show data from hardware sensors. Widgets can be displayed on either side of the main display, and rolled-up when not in use to maximise available space. Default Widgets include Vessel Details (Heading / Velocity / Position), Log Player, Hardware Manager and GPS Satellites.

Other Features

Ribbon-style tabbed menu with large icons to simplify operation and settings.
Data Export Wizard converts StarFish log files into industry standard XTF format.
Snapshot function allows screen capture to image file (BMP, PNG, TIFF, JPG).
Comprehensive integrated help system. StarFish log files are also compatible with various data packages, please see the summary table/ page 5 for more information.



Software Development Kit (SDK)

For advanced users who wish to integrate a StarFish side scan system into their own new or existing software package, Tritech make this process simple with the launch of the new StarFish Software Development Kit (SDK) for Microsoft Windows platforms. Available for download free of charge from the StarFish website.

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