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TECHNICAL DATA SHEET

- LOW COST
- 500' DEPTH CAPABILITY
- UP TO 1,500' RANGE ON EACH SIDE OF TOWFISH
- DUAL FREQUENCY OR SINGLE FREQUENCY SYSTEMS
- DISPLAYS SONAR IMAGES ON LAPTOP COMPUTER
- EASY TO OPERATE SYSTEM WITH USER FRIENDLY CONTROLS
- STORE FILES (XTF format) ON CD, DVD, OR HARD DRIVE
- OPTIONAL SPLASH-PROOF PC FOR SMALL BOAT OPERATIONS
- TWO YEAR WARRANTY


Splash Proof "Ultra Bright" PC Available

SSS-100K/600K Side Scan Sonar

Side scan sonars are one of the most sought after, and effective tools for underwater searches. The reason; they can cover large areas quickly and "see" what's on the bottom regardless of water visibility. A side scan finds things by sending out a sonar beam which sweeps over the bottom, reflects off any object laying on the bottom, and returns to the towfish. The received signal is sent through the tow cable to a topside display. The displayed image is a highly detailed two dimensional picture of the ocean, lake or river bottom and any objects lying there. The sonar beam is transmitted and received by transducers mounted on each side of the towfish. How the transducer is constructed determines the frequency of the sonar beam. Side scans with low frequency transducers have excellent long range capability, but low resolution. High frequency systems have high resolution, but very short range. A dual frequency side scan has high and low frequency transducers to give the best of both systems; long range and highly detailed images.

FISHERS SIDE SCAN SONARS

JW Fishers sonars represent a major price/performance breakthrough in low-cost side scan systems. Fishers offer three different frequency side scan systems; the SSS-100K, the SSS-600K, and the dual frequency system SSS-100K/600K.

The SSS-600K has very high resolution over ranges of up to 200 feet (400 foot swath). This system is ideally suited to search for small or soft targets. Applications for this system include: searches for old wooden wrecks, scattered debris fields, ghost nets, logs, drowning victims, mine countermeasures (MCM) by the military, and a variety of other targets. It can also locate larger targets such as sunken vessels at ranges of up to 200 feet. The SSS-600K is in use by law enforcement agencies, dive rescue groups, and military units worldwide.

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SPECIFICATIONS

PERFORMANCE/DESCRIPTION:

- Computer Based System:
  - Standard Laptop ..... 15.4" wide screen, 80GHD. ..... R/W DVD burner, 1GB RAM.
  - Splash-proof ..... 10.4" ultra bright screen, 80GHD. ..... R/W DVD burner, 512 MB RAM.
  - input power ..... 12 vdc at 60 w.
  - File format ..... XTF (industry standard).
- Towfish:
  - Frequency ..... 100 Khz / 600 Khz.
  - Beamwidth - horizontal x vertical ..... 1.5 deg by 40 deg.
  - Pulse length ..... 0.1ms.
  - Power Output ..... 1,000 watt per channel.
  - Max range:
    - for 100 Khz ..... 1,500 ft per channel / 3,000 ft swath.
    - for 600 Khz ..... 200 ft per channel / 400 ft swath.
  - Max depth ..... 500 ft (150 m).
  - Recommended tow speed ..... 1-3 kt.

DIMENSIONS/WEIGHT:

- Sonar Processor ..... 14"Lx11"Wx6"D ..... 8 lbs.
  - input power ..... 12 vdc at 50 w.
- Standard Laptop computer 14"Lx11"Wx11/2"D ..... 7 lbs.
- Optional Splash-proof computer...14"Lx11"Wx6"D .. 12 lbs.
- Cable ..... .75"x150-500' ..... 25-85 lbs.
- Fish ..... 4"Dia x 55/62"L ..... 38/48 lbs. (single/dual) (single/dual)
- Shipping boxes:
  - sonar processor ..... 24"Lx18"Wx12"H ..... 23 lbs.
  - computer ..... 22"Lx16"Wx8"H ..... 15 lbs.
  - fish 150-500 ft ..... 61"Lx16"Wx19"H .... 150-220 lbs.

MATERIALS/COLOR:

- Sonar Processor ..... High impact case, PVC panel / black.
- Optional Splash-proof PC ..... High impact case, PVC panel / black.
- Fish ..... High impact PVC, epoxy, stainless/yellow.
- Cable ..... 10 conductor in polypropylene/yellow.

OPTIONS

- Single or dual frequency fish
- 120 vac adaptor for sonar processor
- up to 500 feet of cable
- DDW-1 deep dive wing
- Splash-proof computer
- 220 vac xformer (Europe)

The SSS-100K has much greater range than the higher frequency 600K system, but less resolution. The 100K has a range in excess of 1,500 feet (3,000 foot swath) for targets like large sunken ships. This system can also locate smaller targets like outboard motors, anchors, snowmobiles, large propellers, and other small, but "hard" targets. In addition to locating shipwrecks other common applications for the SSS-100K are finding vehicles submerged in lakes and rivers, searching for downed aircraft, locating sunken fiberglass boats, and tracking pipelines.

The SSS-100K/600K dual frequency side scan has all the capabilities of both the 100K and 600K systems. Unlike some side scan systems that require a different towfish for different frequencies, Fishers dual frequency side scan towfish has both the high and low frequency transducers built-in. Select 600K when searching for small or soft targets, the 100K when looking for larger targets, or switch from one to the other at any time during the search operation.

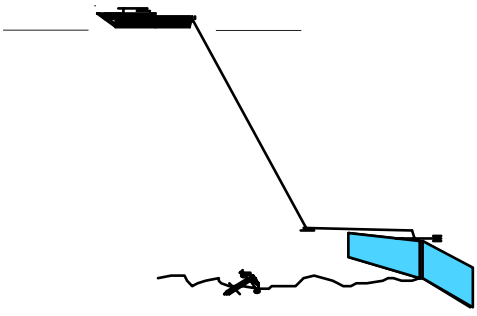
Fishers side scan towfish is designed for maximum stability, so surface waves and rocking of the boat will have very little impact on the signal being transmitted and received. The fish can be towed at any speed, however, 1 to 3 knots allows for maximum information gathering to produce the highest quality images.

THE SIDE SCAN SONAR DISPLAY

All of Fishers side scan sonars come with a 500 foot depth rated towfish, 150 feet of cable, a sonar processor box and a laptop computer. The display area is split down the center with each channel making up half of the screen. The right side of the display is a picture of the bottom on the right side of the tow vessel, and left side of the display is a picture of the bottom on the left side of the tow vessel.

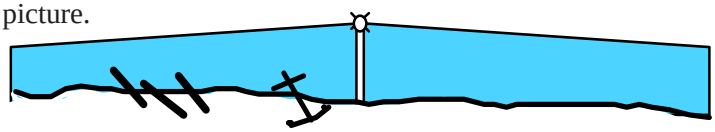
HOW THE DISPLAY IS GENERATED

The transmitted sonar signal is made up of short, high-energy pulses which form a very narrow (1 degree), but tall beam.



This beam sweeps across the bottom resulting in a continuous stream of returning echoes. The echoes return to the transducer and are sent to the display where evenly spaced samples are taken. The samples are processed and a horizontal line is produced on the monitor. Each transducer is performing this operation simultaneously, making a line on each side of the display. Each line is made up of a series of tiny dots. What dot color on the display depends on the strength or amplitude of the returning echo. When the complete line is printed, the transducer sends out another signal and the process repeats.

As the side scan towfish moves forward through the water each new line is laid down beside the previous line creating a picture.

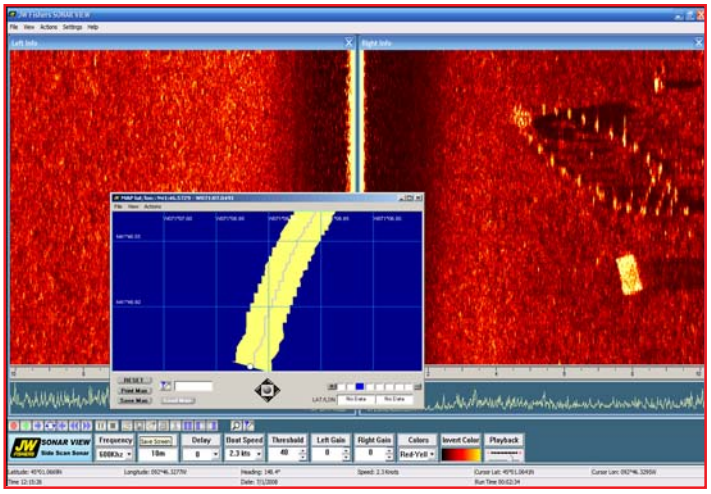


END VIEW OF FISH SHOWING SONAR BEAM COVERAGE

The combination of the narrowly focused beam angle, the stability of the towfish, and the number of dots and lines produced by the side scan, creates a high quality picture with surprising detail of the bottom.

COMPUTER

Fishers SONAR VIEW software (see separate data sheet) gives the operator complete control of the side scan system. Most of the operating parameters are selected through easy to use pull down menus on the screen. A chart is supplied which gives recommended settings for different size targets.



Ribs from an Old 21' Wooden Boat with Map

The computer displays real time color images of the sonar data. The operator can change colors, ranges, amplifier gain, and various other system controls during operation. With the computer, side scan data can be stored (XTF format) in memory for playback and additional processing at any time in the future. Small file sections including screen shots can be copied for emailing. A sizing tool allows the operator to determine the size of targets and a zoom feature makes it easy to enlarge targets. The operator can determine target height and annotations can be added and saved. Printouts of side scan data can be made on any standard printer from the stored data.

The XTF format and output signals allow for interfacing with 3rd party software (Hypack, Chesapeak, etc) for mosaicking and additional postprocessing

The optional boat tracking Map software window (above) shows the path of the boat as it travels over the search area and displays the width of the scanned area. Annotations and waypoints can be added to the map and saved.

The computer also allows a GPS system to be connected so that position coordinates are stored . When the cursor is pointed at a target the GPS coordinates for the target are displayed.

All of Fishers side scan systems are constructed to give many years of trouble free performance and are covered by a 2 year warranty.