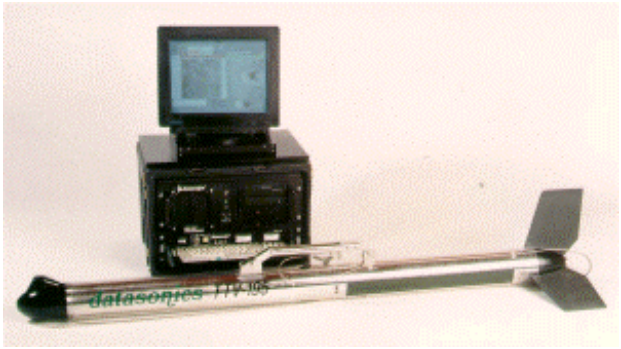
| | |
|---|---|
| **WinFrog Device Group:** | **Output** |
| **Device Name/Model:** | **SIS-1500** |
| **Device Manufacturer:** | **Datasonics, Inc. - Now a part of Benthos**<br>P.O. Box 8, 1400 Rte 28A,<br>Cataumet, MA 02534 USA<br>Phone: 508-563-5511<br>Fax: 508-563-9312 |
| **Device Data String(s) Output to WinFrog:** | Raw Usbl Hphone Rec-> Beacon Data |
| **WinFrog Data String(s) Output to Device:** | The following are output to the SIS1500 is available to WinFrog via other sensors:<br><br>GPS Time (year, month, day, hour, minute, second); Shot Point #, KP value, Ship East, Ship North, Ship Speed (m/s), Ship Course, Ship Heading, Ship Pitch, Ship Roll, Water Depth, Tow Position East, Tow Position North, Ship Cable Count, Waypoint Range, Waypoint Bearing, Azimuth to Waypoint, Water Depth. |
| **WinFrog .raw Data Record Type(s):** | Type: 409 |

**DEVICE DESCRIPTION:**
Datasonics SIS-1500 is a fully digital, chirp based side scan sonar system operating in the 200KHz band. The SIS-1500 is capable of achieving up to 1000-meter swath coverage in deep water, and can operate efficiently in shallower areas with technology that reduces side lobes and surface returns.

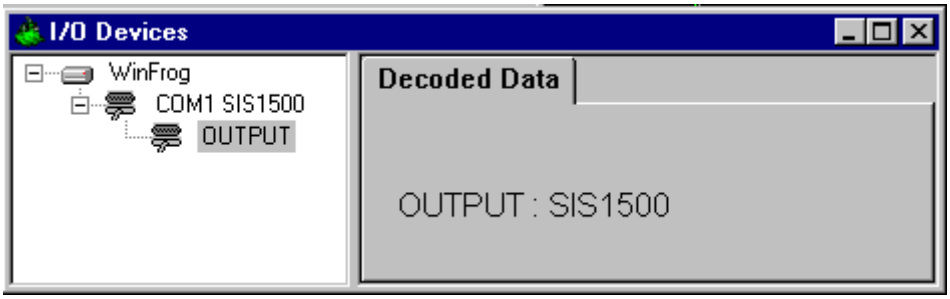
In addition to the standard pitch, roll and heading sensors incorporated in the SIS-1500, a cesium magnetometer, temperature (water) guage, pressure (depth) sensor and/or a positioning responder are optional additions for the system.



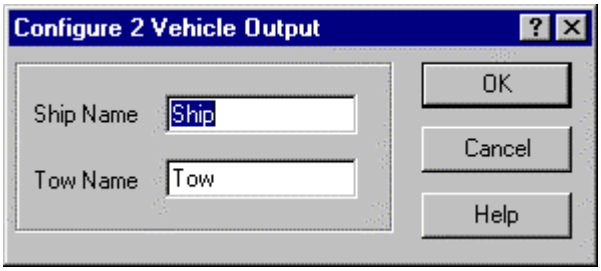
Datasonics SIS-1500

**DEVICE CONFIGURATION INSTRUCTIONS (WinFrog Suggested):**
Baud Rate: 9600
Data Bits: 8
Stop Bits: 1
Parity: None

**WINFROG I/O DEVICES > CONFIG OPTIONS:**
The SIS 1500 Output is added to WinFrog from the OUTPUT device types. The OUTPUT data item is added with the device. Shown below is the I/O Devices Window after the OUTPUT,SIS1500,OUTPUT data item is added to a vehicle.




The Ship and Tow (vehicle) names must be entered in the following dialog box (the example below uses a ship named Ship and a towed vehicle named Tow). This dialog box can be configured either via the *Configure > I/O Devices > Configuration* command or by highlighting the SIS 1500 device in the I/O Devices window, right-clicking and selecting Configure Device.




Note: The vessel name(s) must match exactly (spelling and upper/lower case letters) with the names assigned to the vessels in WinFrog or no data will be output.

**WINFROG VEHICLE TEXT WINDOW > CONFIGURE VEHICLE DEVICES > DEVICE > EDIT OPTIONS:**
The SIS 1500 OUTPUT data item must be added to both the Ship and Tow vehicles. As can be seen in the section on Configuration Details (under Raw Data Logging), data related to both the Ship and Tow vehicles are output on the assigned serial data port.

No configuration is required once the OUTPUT,SIS1500,OUTPUT data item is added to the Ship and Tow vehicles.

**CONFIGURATION DETAILS:**
Only qualified persons should configure and operate the SIS 1500 Side Scan Sonar Unit. Refer to the Operators Manual for information on setting up and operating the unit.

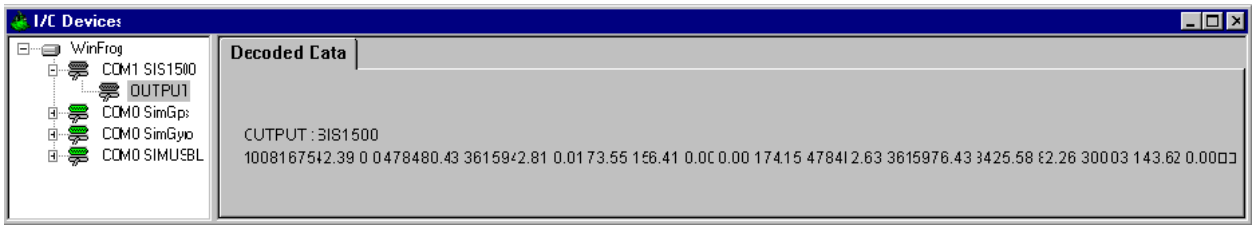
**Output Data String:**
Following is the data string output from WinFrog:

(outStr,"%.2f %d %d %.2f %.2f %.2f %.2f %.2f %.2f %.2f %.2f %.2f %.2f %.2f %.2f %.2f %.2f\n", gpsTime(), shotPt, (int)upData->lineTrack->kiloPost, shipEast, shipNorth, shipSpeed*.5144, shipCourse, shipHeading, shipPitch,shipRoll, waterDepth, towEast, towNorth, shipCableCount, range, bearing, azimuth, depth);

Note: the range, bearing, azimuth and depth will be zero unless the fish is tracked by a USBL device.

I.E.:
GPS Time (year, month, day, hour, minute, second); Shot Point #, KP value, Ship East, Ship North, Ship Speed (m/s), Ship Course, Ship Heading, Ship Pitch, Ship Roll, Water Depth, Tow Position East, Tow Position North, Ship Cable Count, Waypoint Range, Waypoint Bearing, Azimuth to Waypoint, Water Depth.

These items are shown in the I/O Device Window (Decoded Data tab) below. Simulated devices are added only to show the Ship and Tow data.




**Input Data String:**
USBL raw data can be read from a Trackpoint USBL system. If other USBL systems are to be used, check with Fugro Pelagos to ensure operation from within this driver.

**Specifications:**

| | |
|---|---|
| Pulse Frequency: | 190 kHz to 210 kHz band swept FM (Chirp) |
| Source Level: | 226dB re 1μPa @ 1 metre |
| Beam Width: | 0.5 deg x 55 deg |
| Resolution: | <0.4m |
| Sampling Rate: | 48 kHz per channel |
| Power: | 48-150VDc (300 Watts) |
| Operating Depth: | up to 2000m. |

**Subsea Sensors:**

| | |
|---|---|
| Attitude: | Pitch, roll and heading sensor package standard. |
| Water Temperature: | External water temperature operates from 0 to 35$^{o}$C (optional). |
| Depth: | Tow vehicle depth sensor, temperature compensated and accurate to 0.25% full scale (optional). |
| Magnetics: | Magnetometer (optional). |
| Responder: | 27kHz Benthos UAP-344 (optional). |