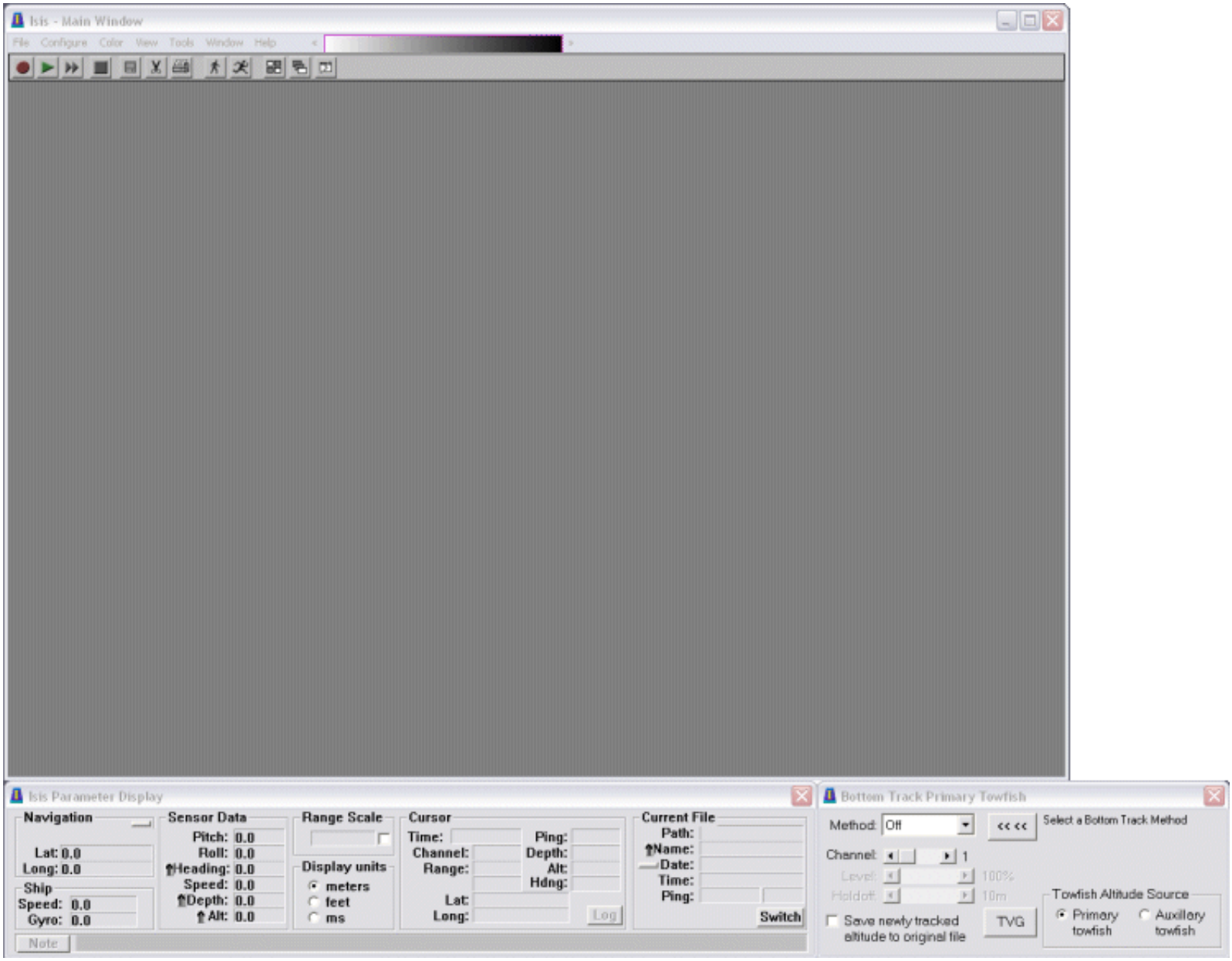
Setting up Isis (MB/SS-Logger) to record data.

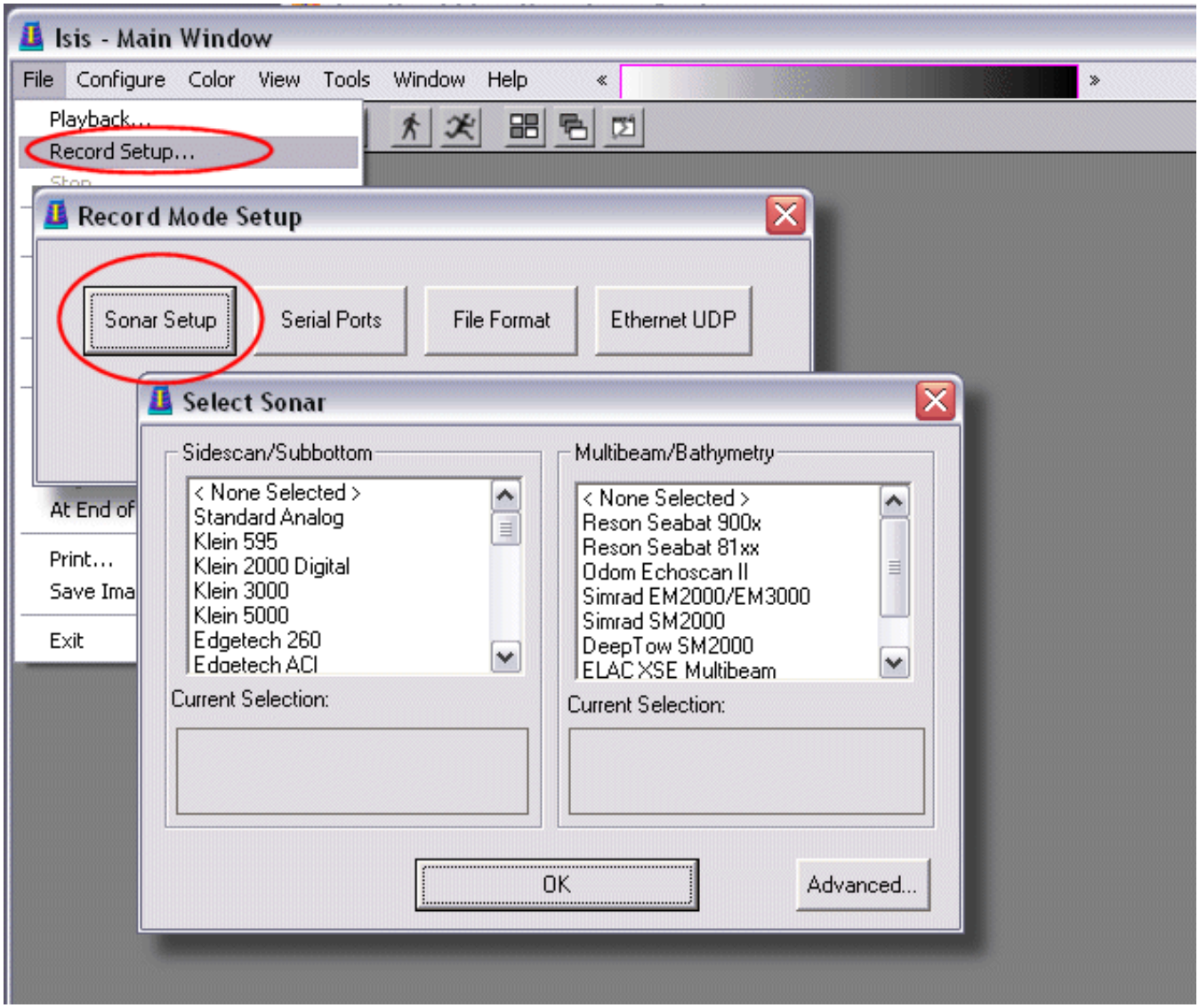
General procedure, applies to all sonar types

Start Isis, the initial screen should look like the image, note that a screen resolution of 1280 x 1024 is needed for correct window placement. Some 3rd party display managers may cause the **Isis Parameter display** and/or the **Bottom Track Primary Towfish** dialog boxes to display **under** the the main waterfall, window. If this happens try turning the Display Manager software off (there is usually some indication of these applications in the Windows taskbar).



Connecting to the Sonar

Click on **File>Record Setup**, from the **Record Mode Setup** dialog click **Sonar Setup**

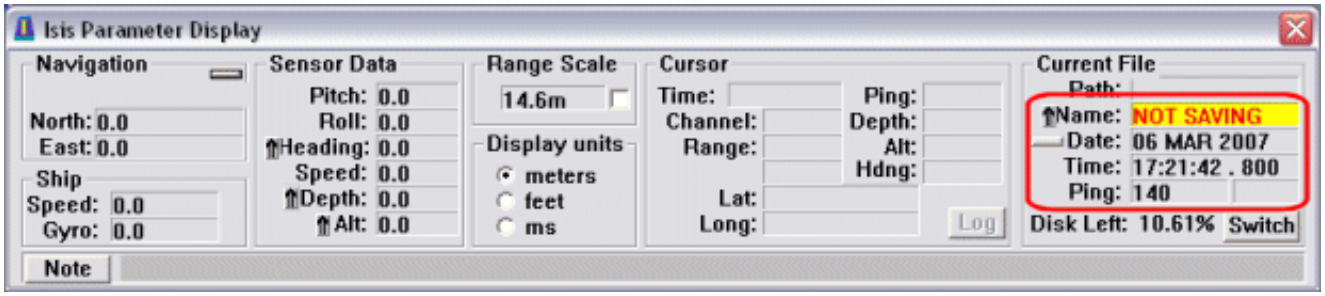


Depending on the type of license you have you may only see one or two sonars in the **Select Sonar** dialog, also if you have an SS-Logger license you will be running SS-Logger which only shows the Sidescan/Subbottom sonars, if you have MB-Logger you will only see the Multibeam/Bathymetry sonars. In other respects SS-Logger and MB-Logger are similar to MB/SS-Logger (Isis). The full MB/SS Logger will be described here.

Select the sonar you will be using and click **OK** and **OK** to return to the main Isis window.

Click the red **Record** button to have Isis attempt to connect to the sonar:

At this point Isis will launch the server for the selected sonar. If everything has been setup correctly, and the towfish and its topside are powered up, the waterfall window will become active and start scrolling, there maybe little or no signal (perhaps the fish is on deck) but you should still be able see the ping number incrementing, NOT SAVING will be displayed and the date/time will update:



You can assume that Isis has connected to the sonar.

Specific Sonar types

Separate documentation for details of specific sonar software servers and how they are configured and interact with Isis.

Edgetech 4200

Edgetech FSIU (Includes FS-AS and DSS4200)

Benthos 1624

Klein 3000 and Klein 5000

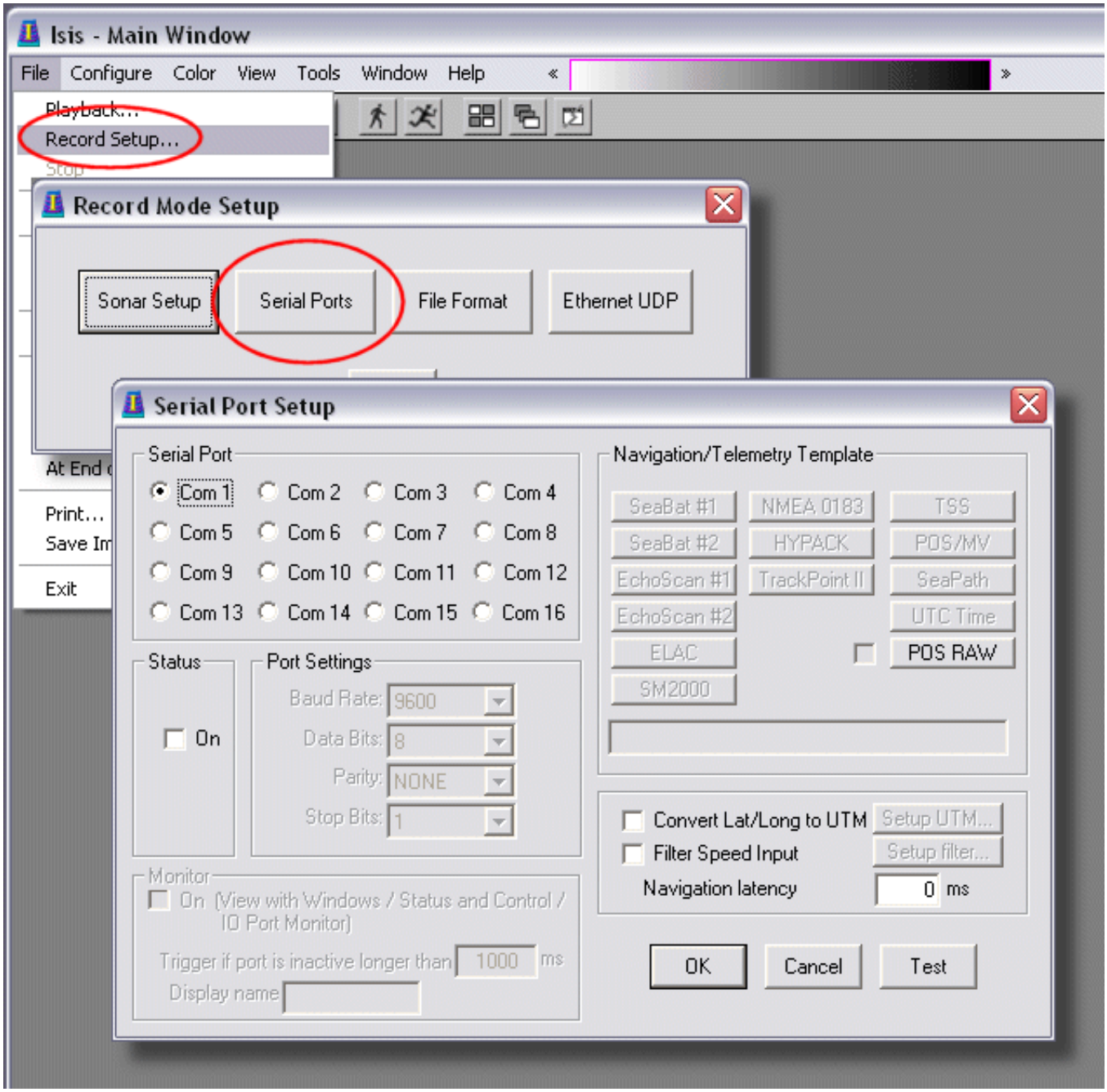
Benthos C3D

Interfacing the navigation data

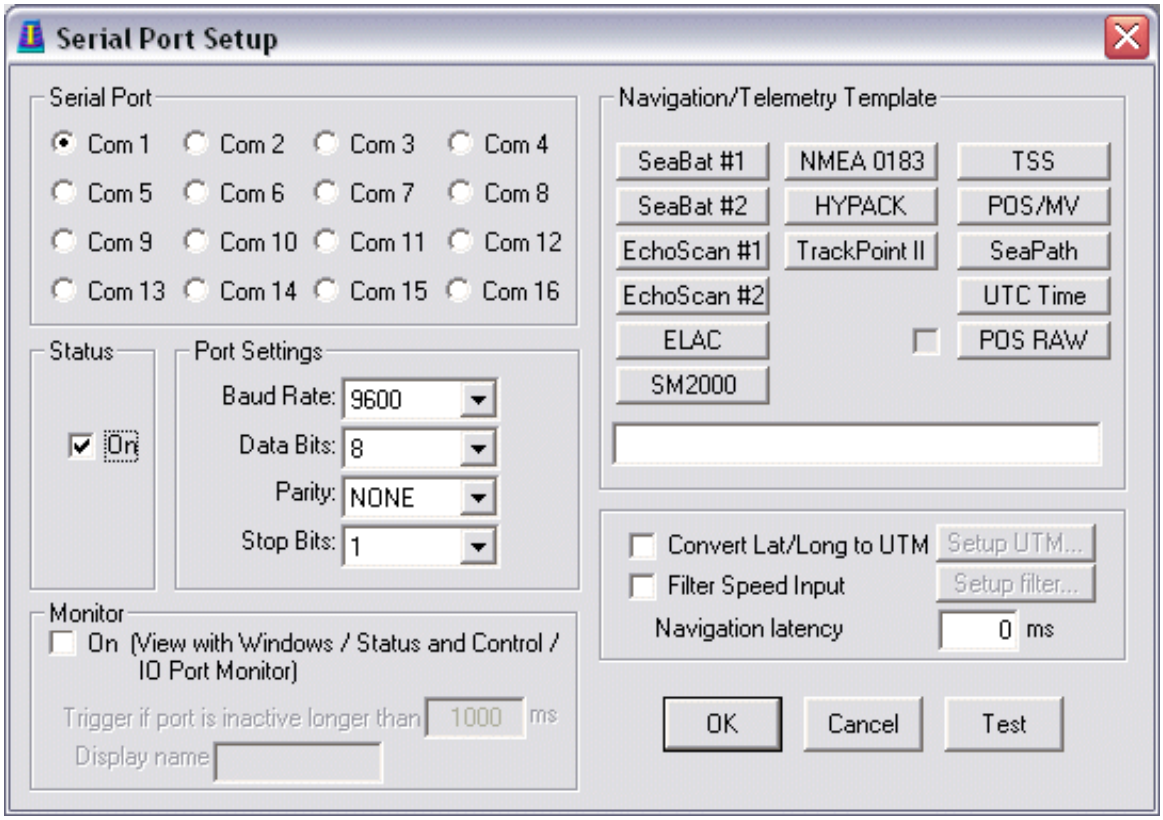
If Isis is in Record mode (connected to the sonar), first hit the **Stop** button:

This will disconnect Isis from the towfish, allowing you to setup the navigation data interface.

Click **File>Record Setup**. From the **Record Mode Setup** dialog click **Serial Ports** to display the **Serial Port Setup** dialog:



Select the radio button for the serial port you will be using and then the Status **ON** check box:

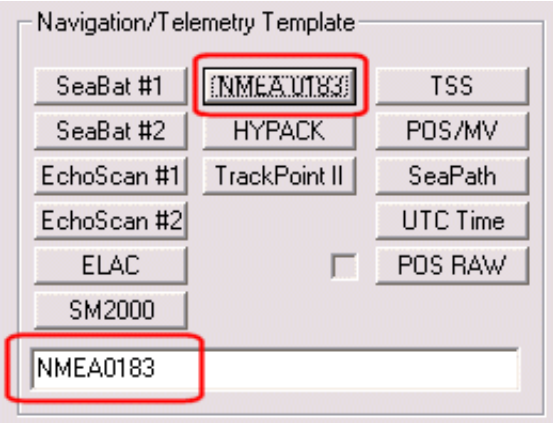


The dialog controls become active at this point allowing you to configure the settings for the selected COM port, Baud Rate, Data Bits, Parity etc. In most cases the defaults will work fine.

Many of the buttons in the Navigation and Telemetry area are not relevant to this description; only the **NMEA0183** and the **Hypack** buttons will be discussed. The others are used for other serial interfaces such as Motion Sensors and some Multibeam sonars.

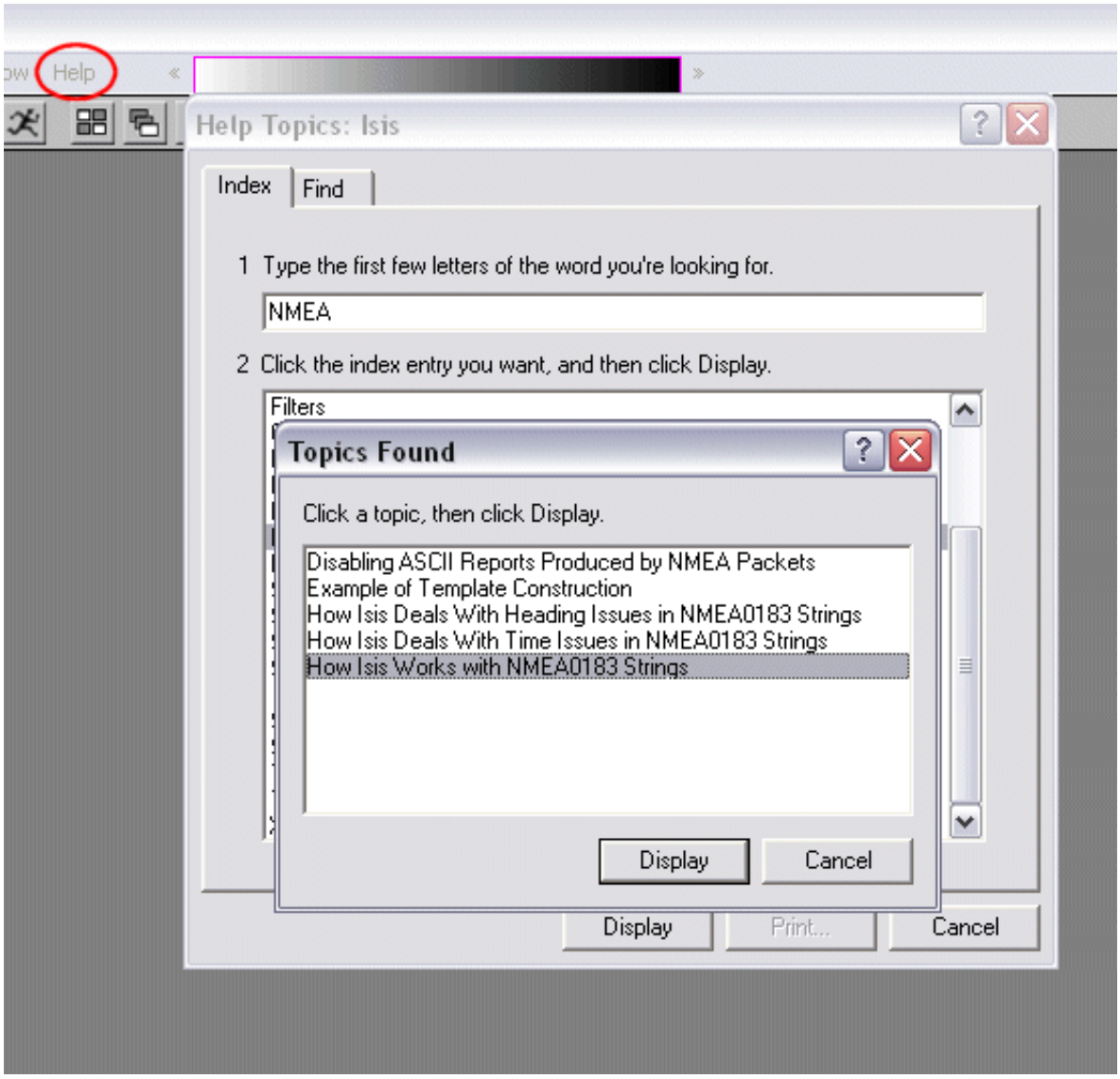
NMEA0183

Click this button to enter NMEA0183 in the template box:



Almost all the common NMEA sentences are handled using this setting, for full details consult the Isis manual or the Isis help file:

To get help click **Help>Contents** and Type **NMEA0183** and click **Display** to bring up the NMEA Help topics:



In general the following NMEA0813 sentences are recommended:

$GGA - Position

$VTG - Speed and heading

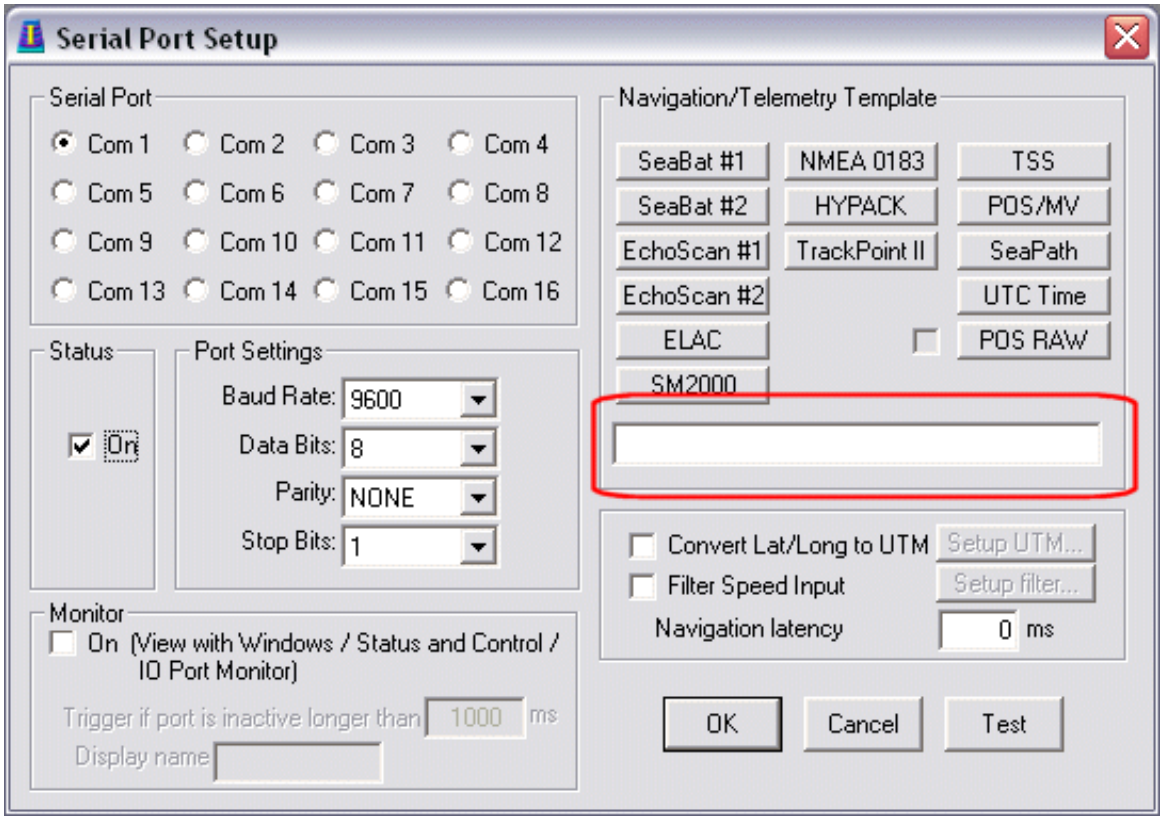
$ZDA - Precise time

As a **minimum** you should have $GGA to record valid Sidscan Data that can be mosaiced.

Almost all GPS receivers send these strings, many send a lot more, Isis will ignore those that it does not need. However the navigation interface may work more efficiently if you disable some of the un-needed sentences using the GPS receivers settings.

Non NMEA (Custom navigation data string)

Isis can parse almost any serial data string and correctly assign the values to relevant places in the XTF file, to do this Isis uses template tokens which are entered in the template window in the Serial port dialog:



Isis uses non numeric characters in the string such as commas, spaces etc to separate the values in the string, for example:

10/12/2007 10:10:23 E123456.7 N1234567.8 123.4 4.5

The separators in this string are /: and <space> also E and N, (Isis treats consecutive separators as one)

So the string would be correctly parsed using this template:

DMYHISENhV

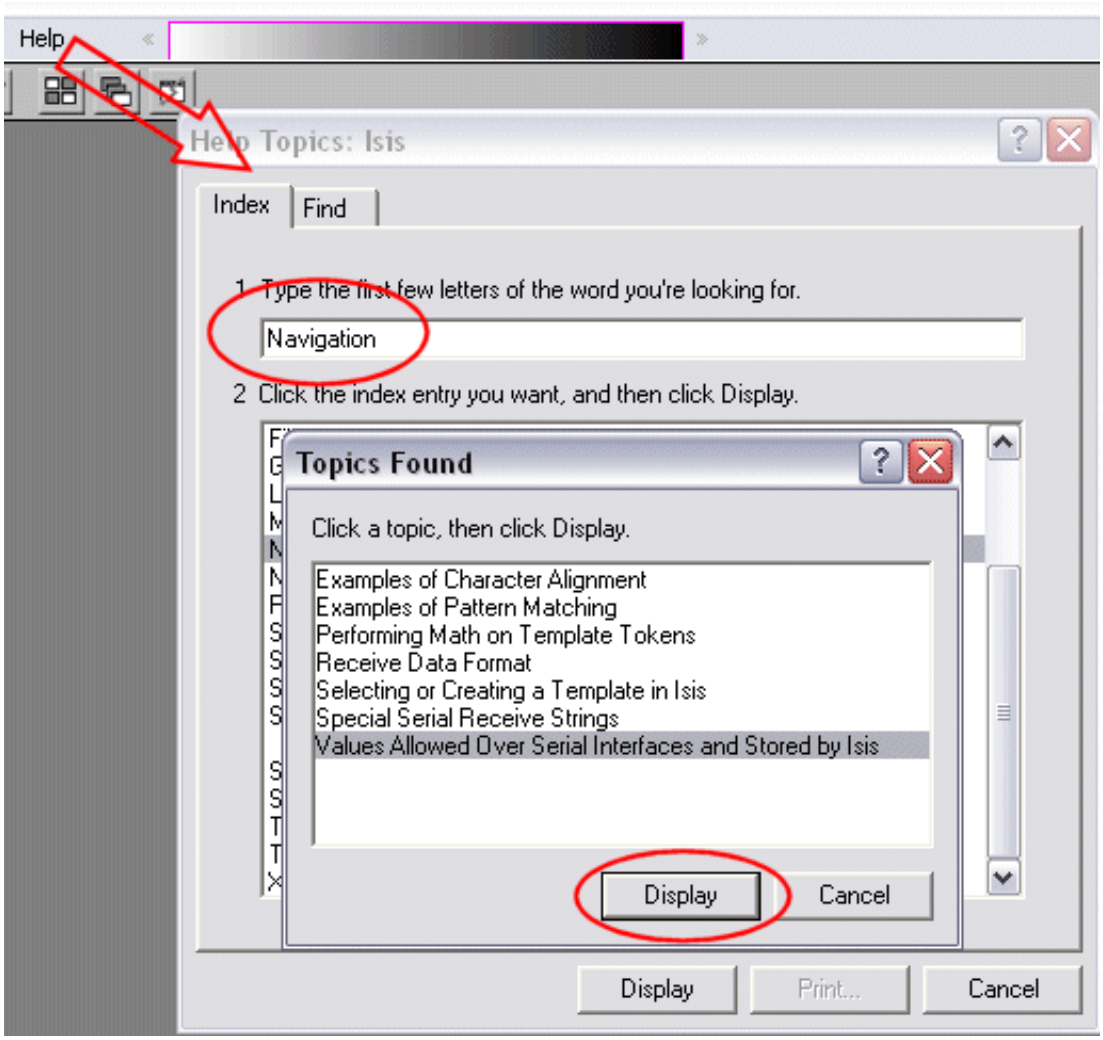
Where:

D = Day (10) M= Month (12) Y = Year (2007) H= Hour (10) I = Minute (23) E = Easting (123456.7) meters

N = Northing (1234567.8) meters h = Towfish heading (123.4) degrees V = Towfish speed (4.5) knots

For a full description of all the available tokens and also some other functions that allow modification of the incoming data see the Help menu in Isis:

Click **Help > Contents**, enter **Navigation** and Click **Display:**



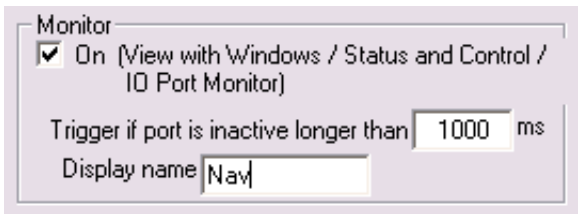
IMPORTANT - Feet and Meters

Isis writes all data an XTF format file. The XTF format does not at this time support navigation coordinates in feet. Only **Degrees** (Lat/Long) and **meters**. If your navigation data are being sent to Isis in **feet** you must use the special token **F** at the start of the template to convert to meters for storing in the file. Using the F token will convert feet to meters by *39.37/12.0 (the conversion from US Survey feet > meters)

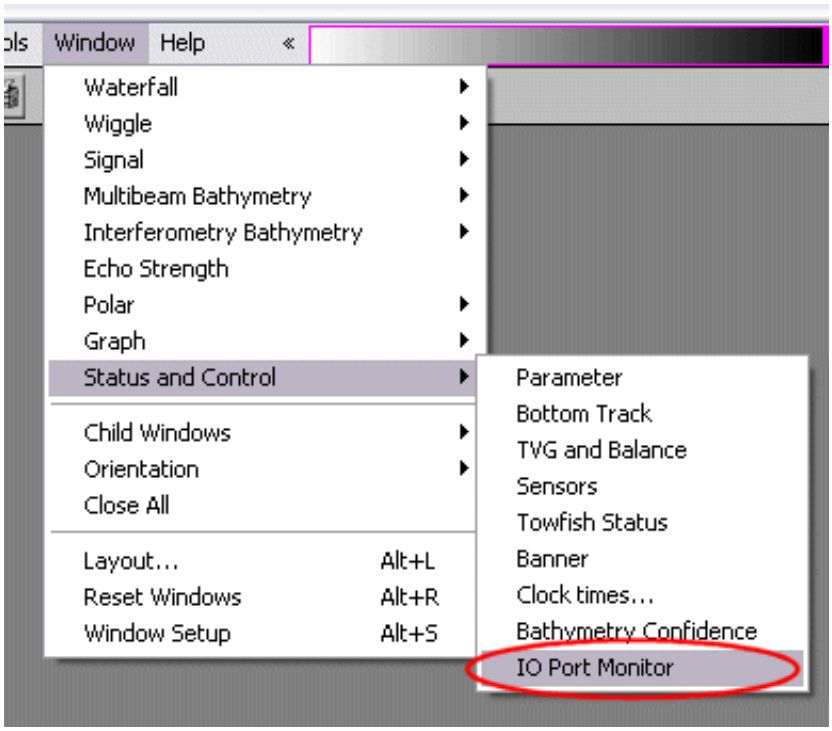
Serial Monitor

For any active serial port you may set up an activity monitor that will give a visual alert if the data flow stops for more than set time:

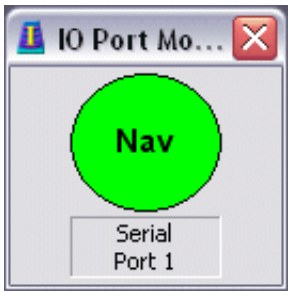
Check the Monitor On Box, and enter a Name for the data type (e.g. Nav) and set the time out period, most GPS receivers send real data at about 1/sec so the default 1000mS seems about right.



To see the alarm indicator click on **Window>Status and Display>IO Port Monitor:**



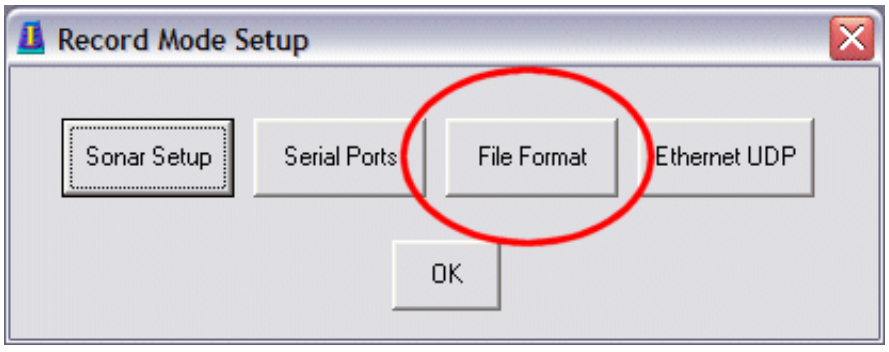
Alarm indications:



OK

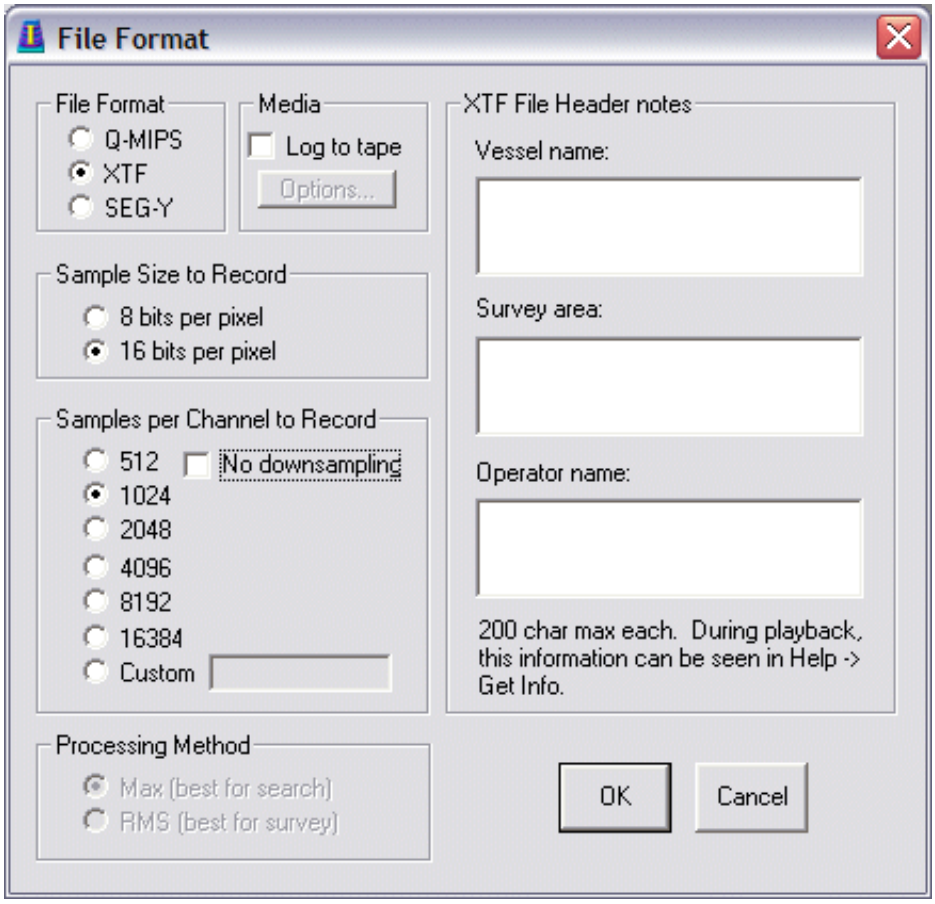
Problem (flashing)

The File Format Button



The File Format button allows you to configure the way recorded data is written to the XTF file. It also allows you to add some information about the survey that can be embedded in the XTF file. In general it is advisable to leave the settings to the defaults, however there are some features that can be useful

Hitting the **File Format** Button opens this dialog box:



File Format - **ALWAYS** choose **XTF**, unless there is some very special reason to do otherwise. Q-MIPS format is no longer supported and in general the SEGY format is unsuitable for the logging of Side Scan Data

Samples Size to Record - 1**6bits per sample** is strongly advised, some older sonars only sent 8 bits - but these are no longer supported.

Samples per channel to record

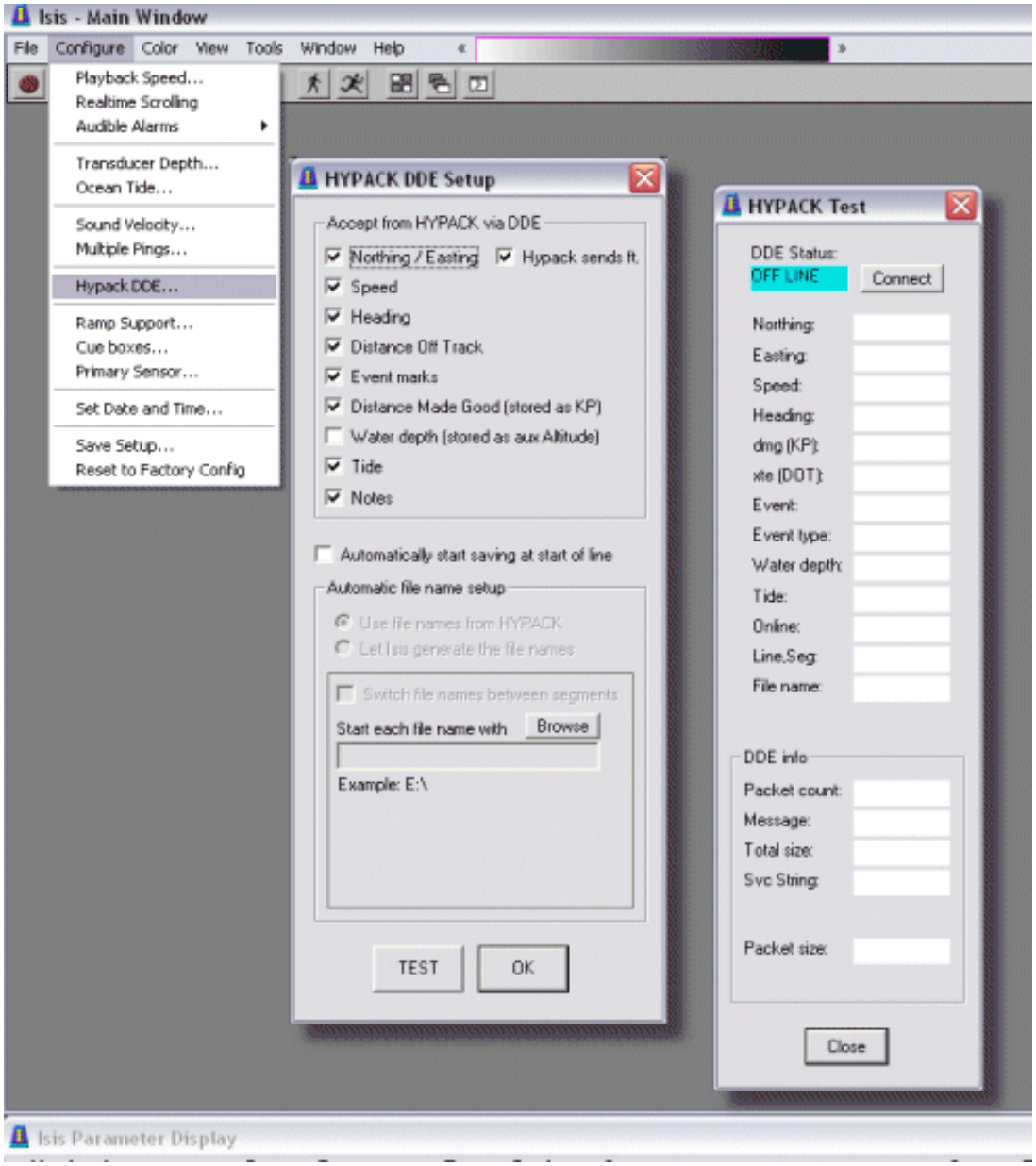
1024 is the default. For a 100m side scan range this gives an across track resolution of 100/1024 or about 0.1m, if the sonar range is shorter, say 25m then the across track resolution automatically improves to about 0.025m with this same setting. You may also choose a higher resolution if your wish, however this will entail larger file sizes and make greater demands on the hardware.

No downsampling - this option will log all available samples, with some recent digital sonars this can result in several thousands of samples/channel and very large file sizes. For example the Edgetech 4200 sonar on the 50m range can generate up to 5000 samples perc hannel implying an across track resolution of 0.01m!!

Hypack

There is a special button that sets a pre-defined string in the template for the Hypack navigation system. Use this if Hypack is interfacing to Isis via a normal serial port, you will need to choose the corresponding Isis output in the Hypack program.

HDDE if Hypack is running on the same PC as Isis you can also use the HDDE link between the two applications. This has been recently tested under Windows XP - make sure that you have the latest version of HDDE.DLL and that you have a recent version of Hypack (v6.2)



In this mode Start/Stop recording and line naming in Isis are controlled automatically by the Hypack program..

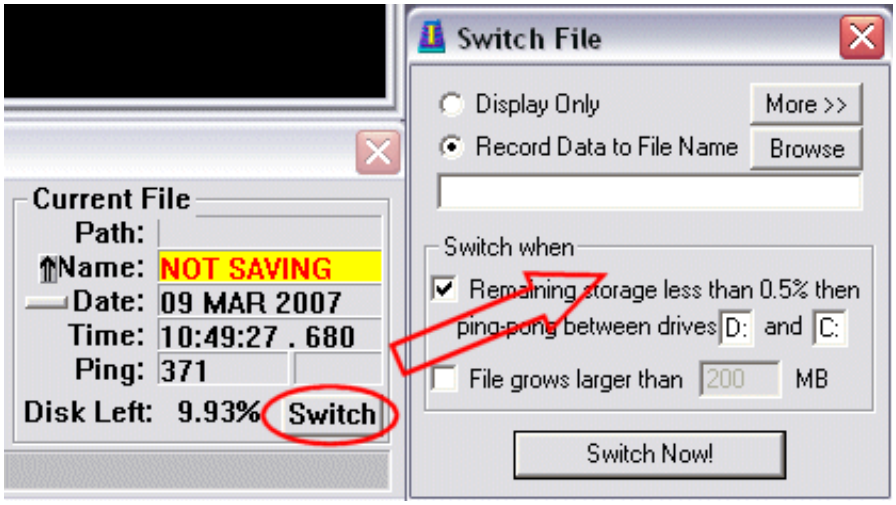
Logging Data to an XTF file.

Using the 

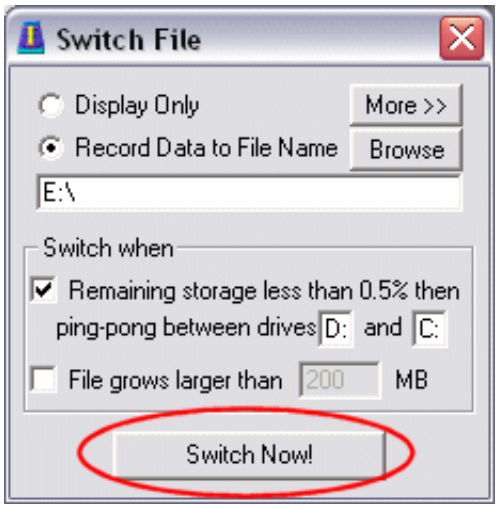
button.

Isis should be running, connected to the sonar, with the navigation and waterfall updating:

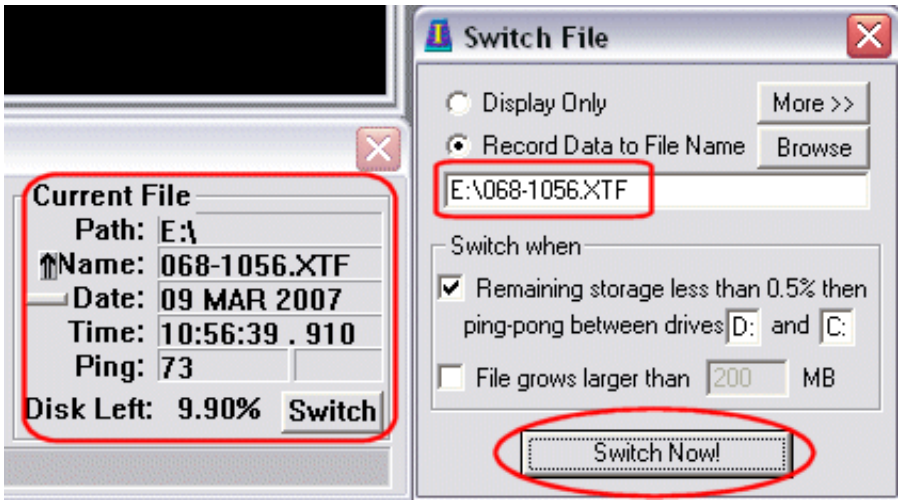
Click the **Switch** button, the **Switch File** dialog opens



Enter the drive letter that you want to use to log the data:

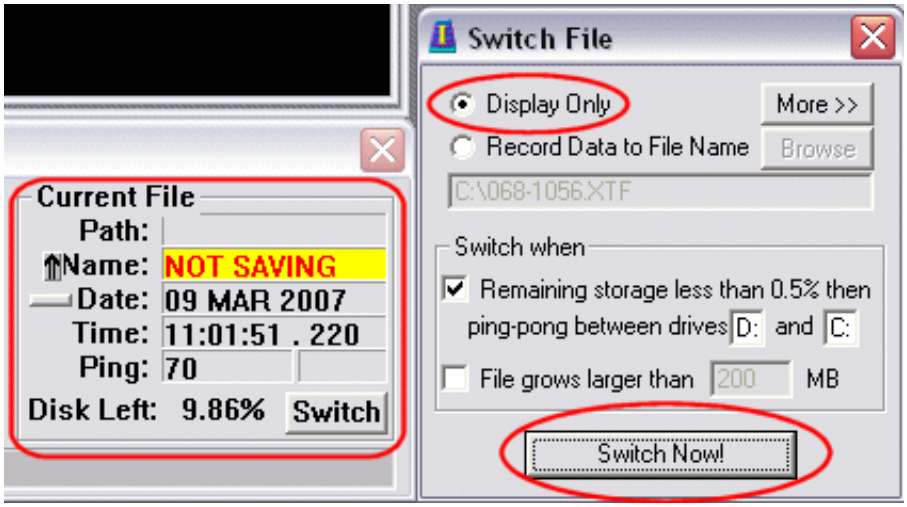


And hit **Switch Now!**



If no filename is specified Isis uses the current day and time for the filename (068-1056.XTF in the example)

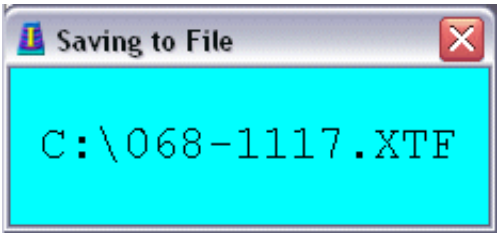
To stop logging check the **Display Only** checkbox and then hit **Switch Now** again:



To increase the size of the NOT SAVING message click the small icon next to **Name:**

A larger, re-sizable window opens that will reflect the current logging status:

or



NOTES:

You can specify your own file name and also a specific directory, however you must create the directory first.

You may log across a network, however the drive letter must be mapped and appear as a drive on the local machine.

If you specify a filename and do not change it manually Isis will automatically add 1 to the name each time the **Switch Now** button is used to start logging. So LINE.XTF will become LINE1.XTF, LINE2.XTF etc.

See the Isis manual for **More>>** options associated with the Switch File dialog.