

MS1000/1007 Altimeter Briefing



The Kongsberg SIMRAD Mesotech 1007-Series

High Resolution Altimeter



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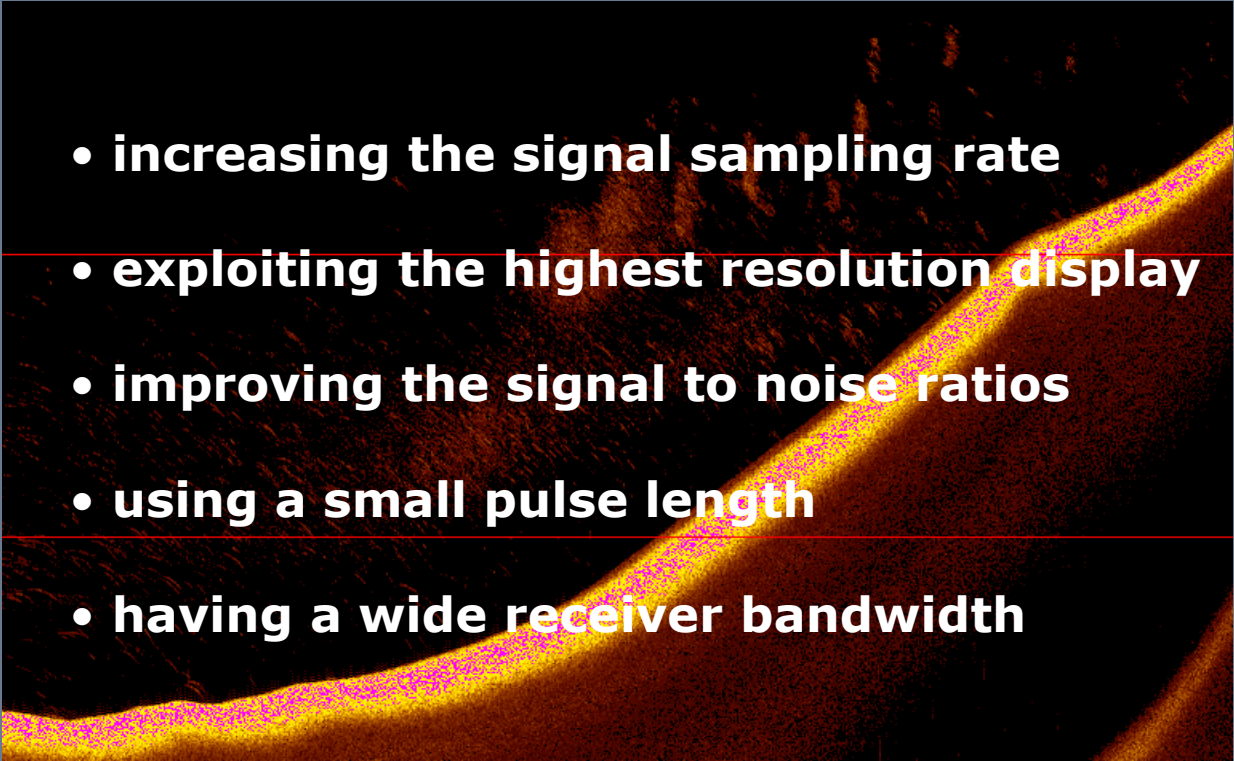
**The Kongsberg
SIMRAD Mesotech
MS 1000
and
1007-Series
Altimeter**

When data quality and resolution cannot be compromised



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High resolution altimeter data is achieved by:

- 
- A background image showing a high-resolution altimeter scan. It features a bright, curved, yellowish-orange line representing the seabed or water surface, set against a dark, noisy background. The line is composed of many small, distinct points, illustrating high resolution.
- **increasing the signal sampling rate**
 - **exploiting the highest resolution display**
 - **improving the signal to noise ratios**
 - **using a small pulse length**
 - **having a wide receiver bandwidth**



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The new 1007-Series Altimeter includes the following features:



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1007 Altimeter Features



- 200 kHz standard; 120, and 675 kHz units available
- User-selectable range, resolution, ping rate, pulse length...
- User-selectable range filtering and tracking control
- Auto-detecting RS 485 or RS 232 standard serial telemetry interface
- KSML 808, 809, or NMEA output data format outputs available
- Auto-adjust TVG settings for bottom tracking applications
- MS 1000 Sonar Software Program compatibility



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Additional 1071 Altimeter Options



- RS 422 telemetry serial interface
- Analogue output
- Electrical hold-off control
- Second serial output
- Connector options

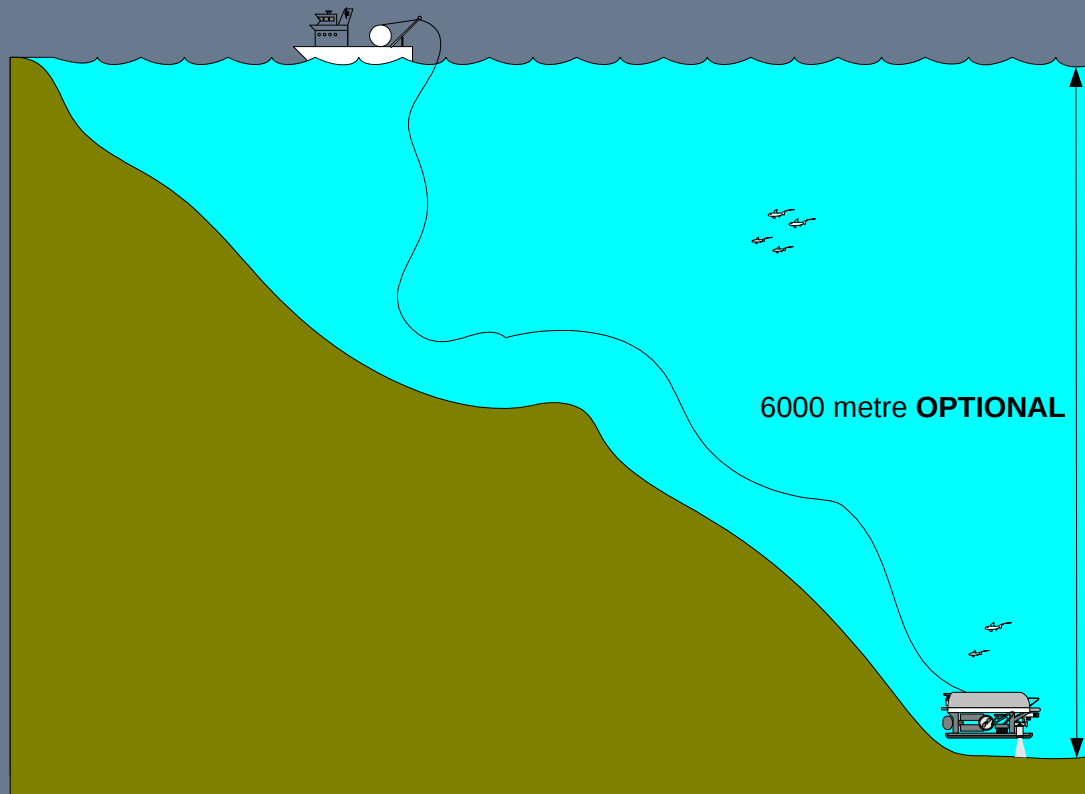


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Depth Rating



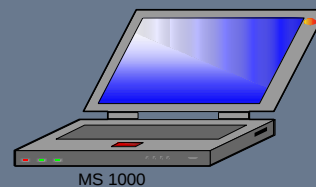
3K metre
STANDARD



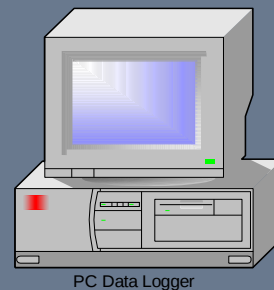
6K metre
OPTIONAL



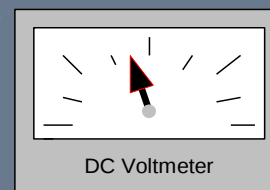
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Operates
using the MS
1000 PC-
Based Sonar
Program



Log altimeter
data to a PC
via a program
such as Hyper-
Terminal



Scaled voltage divider

Simple voltage
output to a
scaled meter

1007 Altimeter Output Options

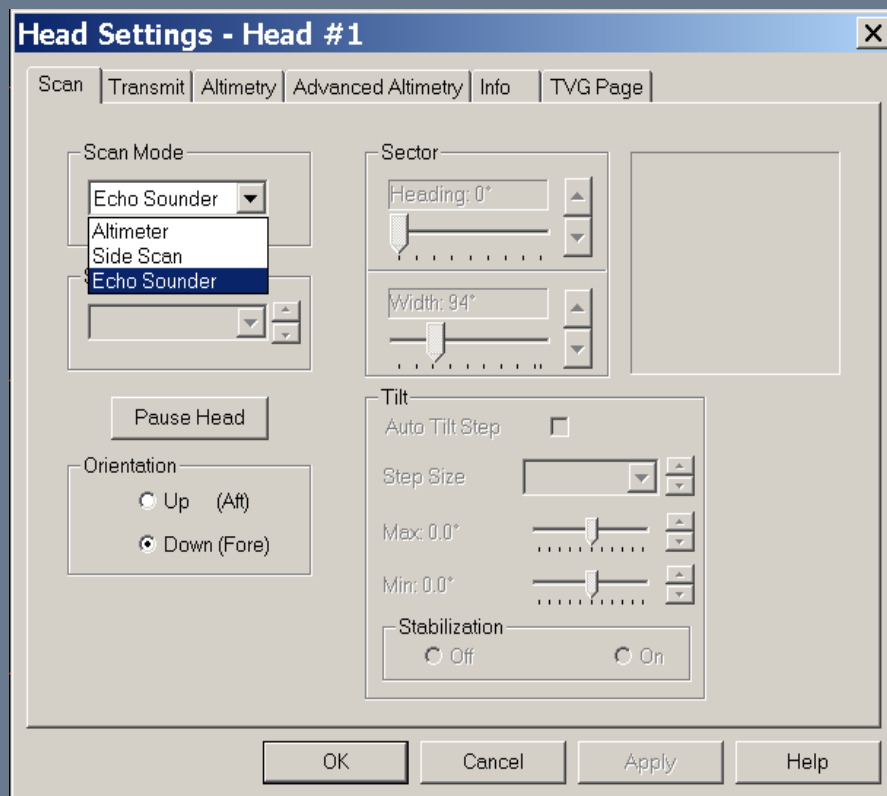


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MS 1000 Altimeter Controls

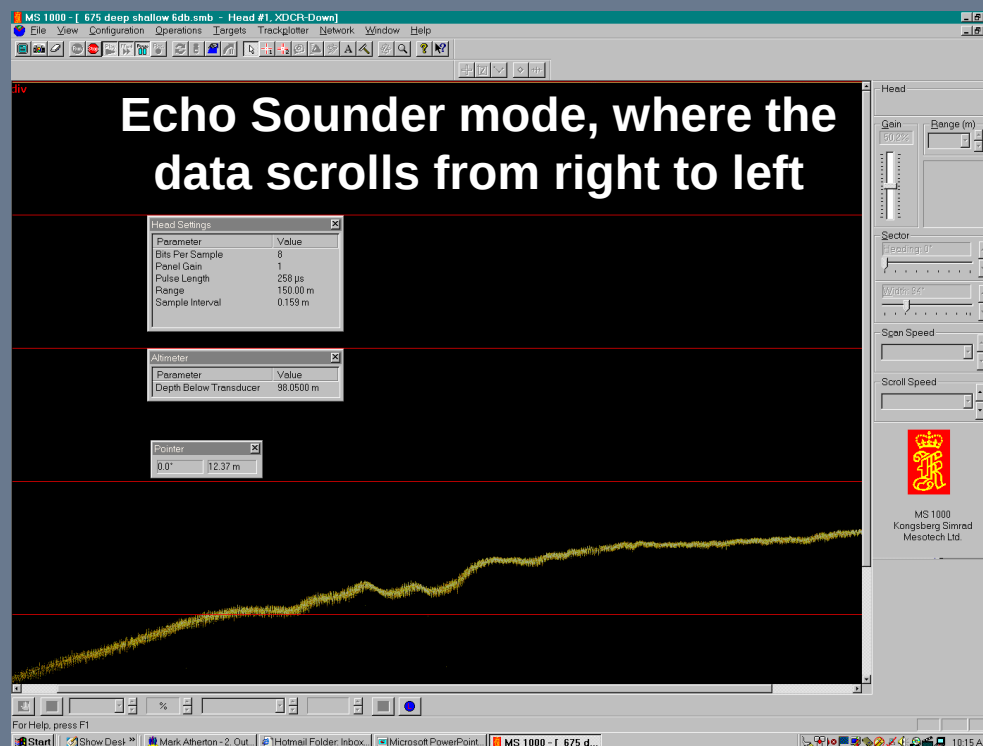
When used with the MS 1000 software, the 1007 altimeter provides the operator with a host of setting parameters to optimize performance

On the **Scan** page, the Scan Mode provides the operator with 3 data display presentations, and allows input of the altimeter orientation



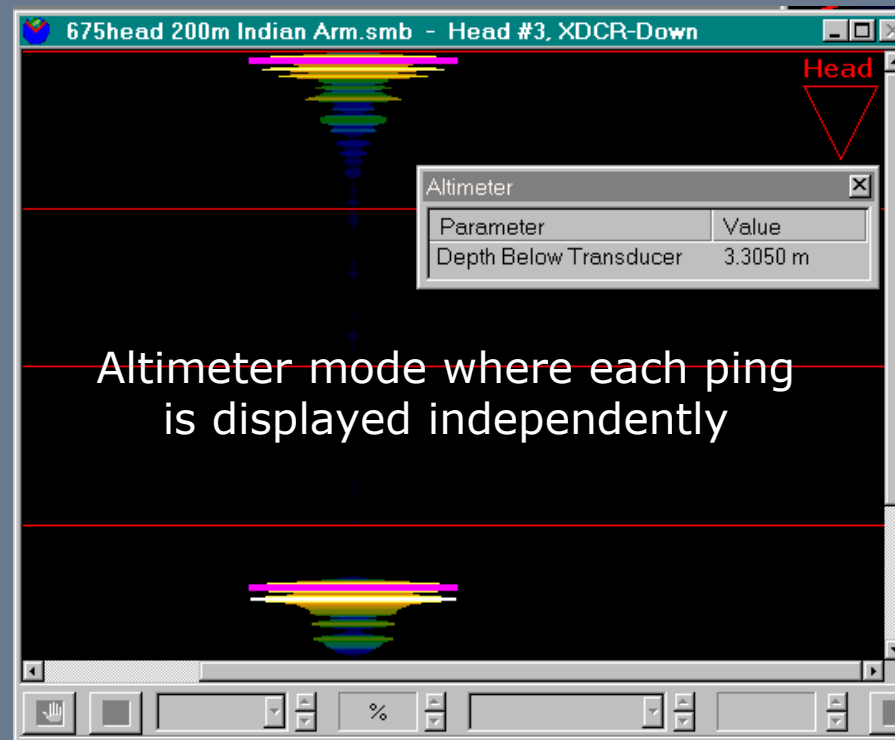
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1007 Altimeter Display Presentations

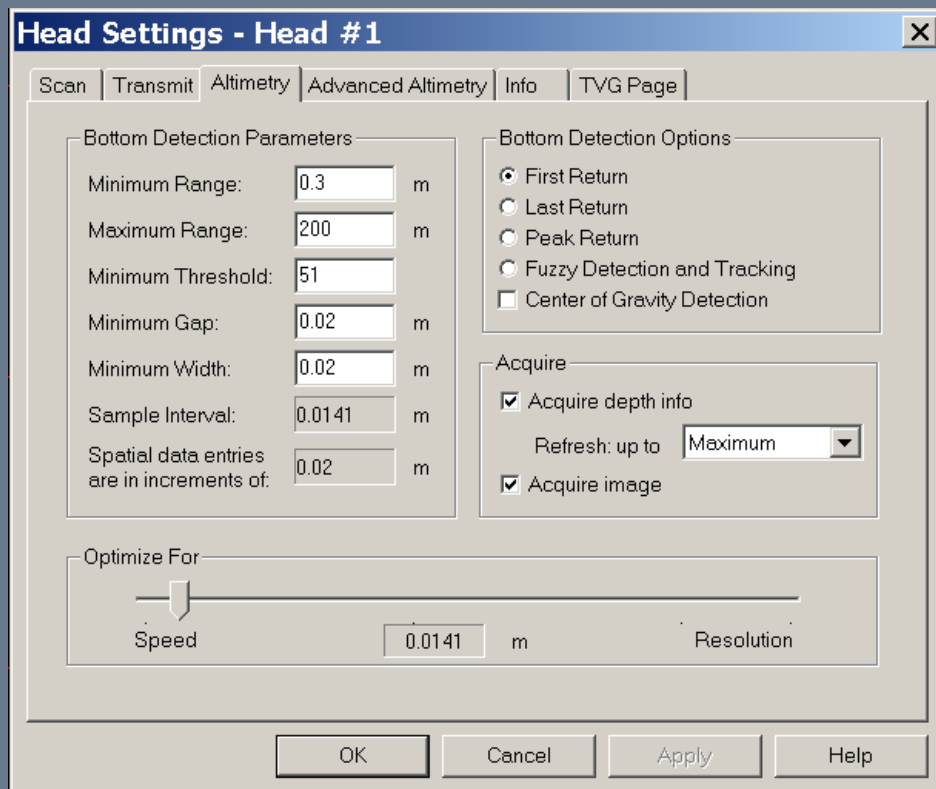


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1007 Altimeter Display Presentations



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The screenshot shows the 'Head Settings - Head #1' dialog box with the 'Altimetry' tab selected. The dialog is divided into several sections:

- Bottom Detection Parameters:**
 - Minimum Range: 0.3 m
 - Maximum Range: 200 m
 - Minimum Threshold: 51
 - Minimum Gap: 0.02 m
 - Minimum Width: 0.02 m
 - Sample Interval: 0.0141 m
 - Spatial data entries are in increments of: 0.02 m
- Bottom Detection Options:**
 - ☒ First Return
 - ☐ Last Return
 - ☐ Peak Return
 - ☐ Fuzzy Detection and Tracking
 - ☐ Center of Gravity Detection
- Acquire:**
 - ☒ Acquire depth info
 - Refresh: up to Maximum
 - ☒ Acquire image
- Optimize For:**
 - A slider between 'Speed' and 'Resolution'.
 - The slider is positioned towards 'Speed', with a value of 0.0141 m displayed.

At the bottom are buttons for 'OK', 'Cancel', 'Apply', and 'Help'.

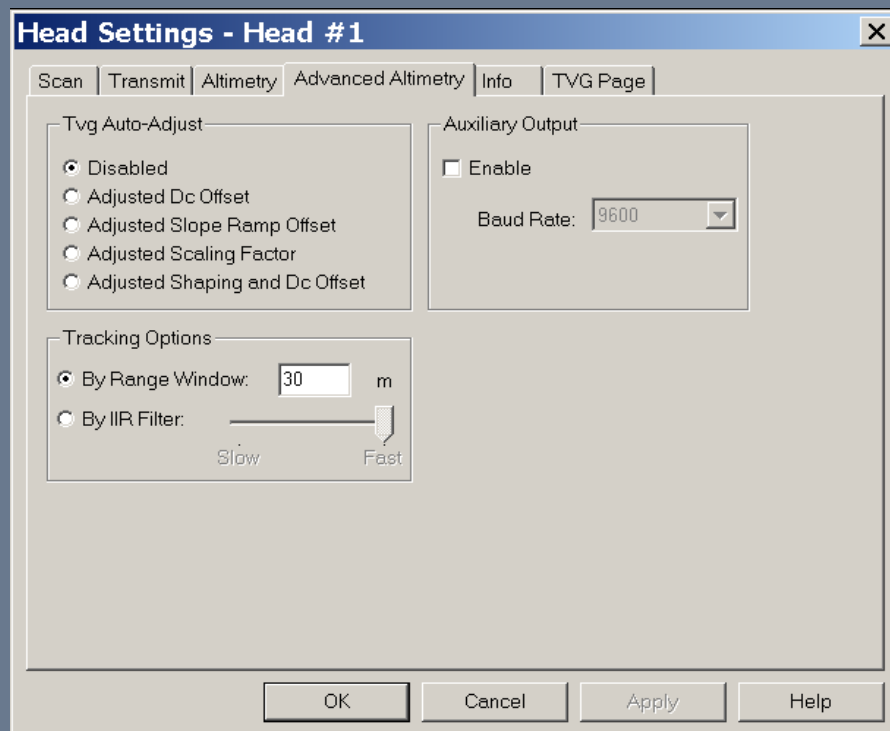
Altimetry Selections

The ***Altimetry*** page allows the user to set bottom detection parameters, optimize for ping rate or resolution, display numeric depth values, and select the bottom tracking algorithm.



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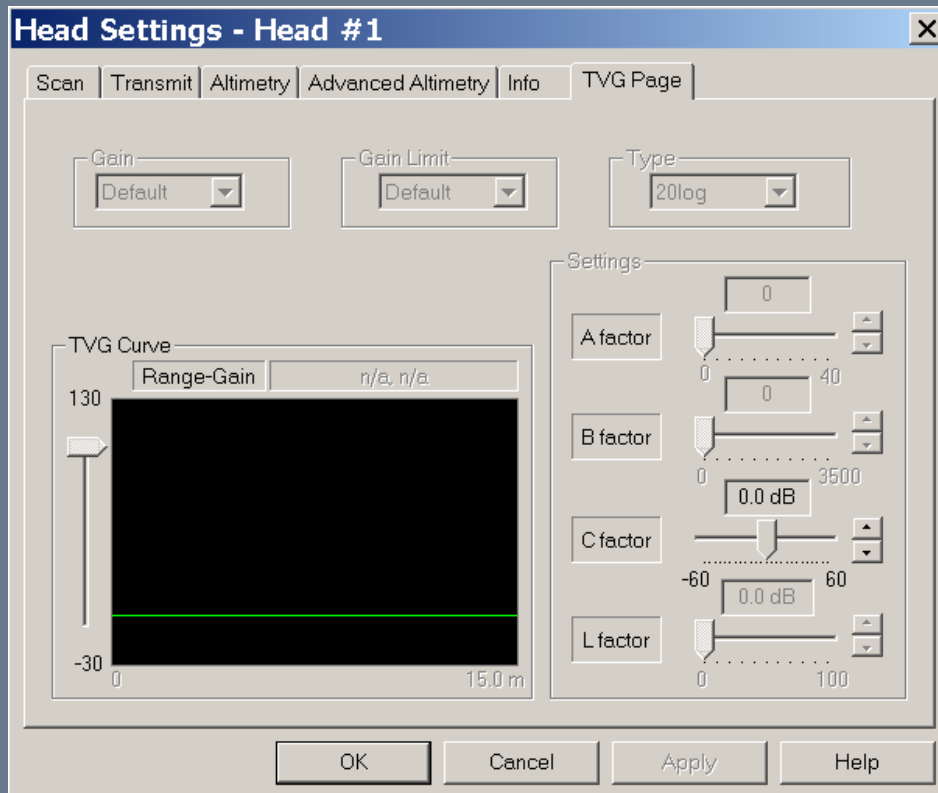
Advanced Altimeter Control



The ***Advanced Altimetry*** page allows the user to make adjustments in the amplification of the received signal via the Time Varied Gain page, permits the recording of profile point depth data to an external file, and facilitates selection of bottom Tracking Options.



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Time Varied Gain Control

The MS 1000 allows the operator to alter the received signal gain curve. This can be used to optimize the altimeter for unique operations and applications.

A **Default** setting, based on predicted signal loss can also be selected.



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Altimeter Information

The **Info** page displays all the pertinent data for the the specific altimeter head being used.

Head Settings - Head #1 [X]

Scan | Transmit | Altimetry | Advanced Altimetry | **Info** | TVG Page

Identification

Type Number	10070000
Serial Number	99070000
Software Version	0122
Head - ID Array	10070000 99070000 1007000D 01000122 001500C8 00000000 08000F00 01300000

Specifications

Max. Sampling Frequency (Hz)	307200
Min. Sampling Frequency (Hz)	3125
Maximum TX Pulse Length (µs)	32767
Minimum TX Pulse Length (µs)	25
Maximum Data Buffer Size	16384
Maximum Range Samples	16000

Calibration

	CW	CCW	
0°	N/A	N/A	N/A
90°	N/A	N/A	N/A
180°	N/A	N/A	N/A
270°	N/A	N/A	N/A

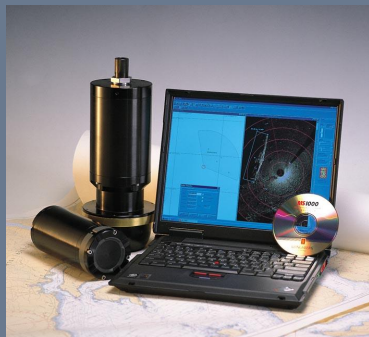
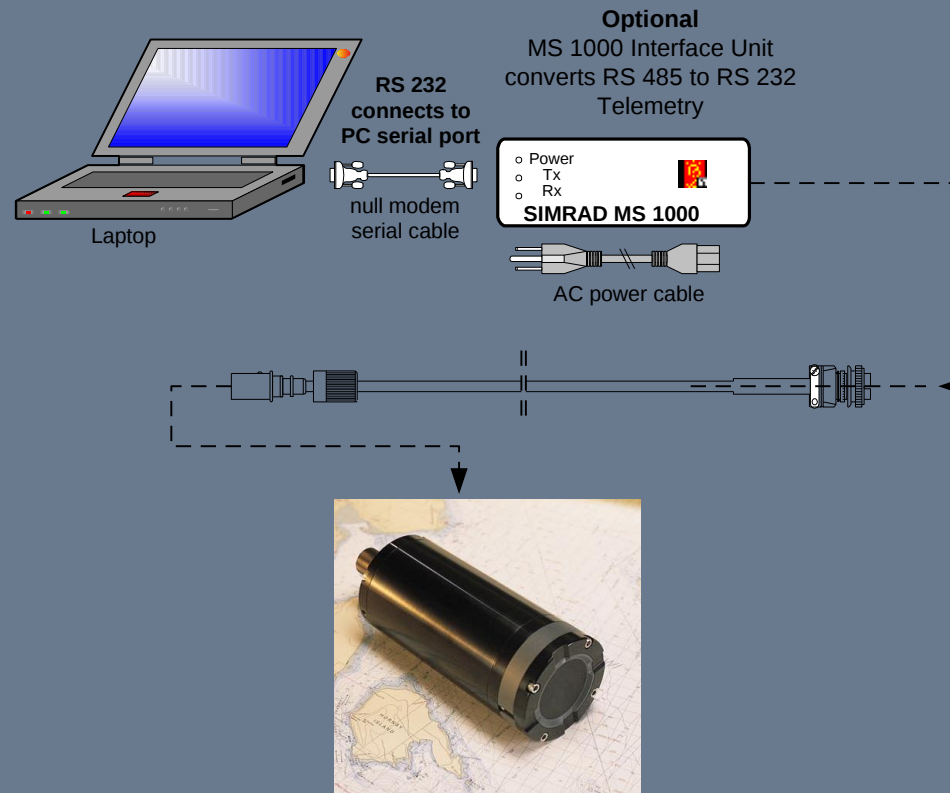
Read Cable Voltages

OK Cancel Apply Help



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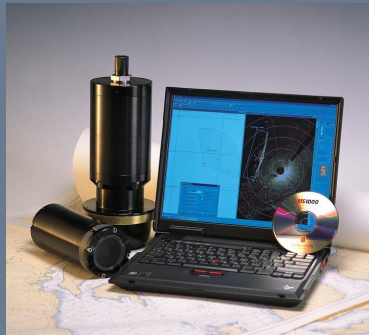
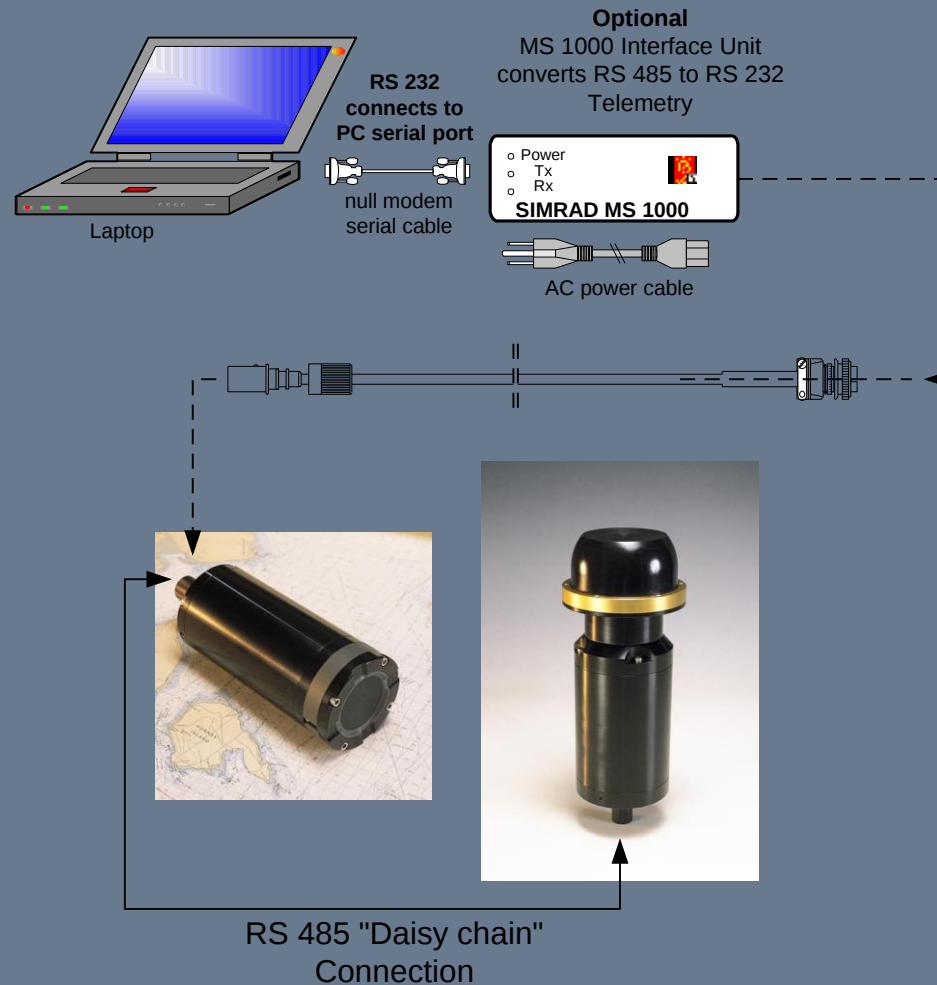
Typical 1007 Altimeter/MS 1000 System Arrangement



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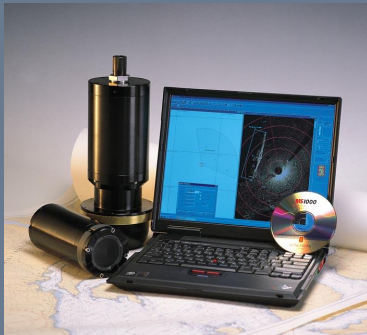
KONGSBERG

Typical 1007 Altimeter/MS 1000 System Arrangement



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Typical MS 1000 Display for Simultaneous Altimeter and Sonar Operation



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When system flexibility and
resolution cannot be
compromised

