

<b>WinFrog Device Group:</b>	<b>Sounder</b>
<b>Device Name/Model:</b>	<b>Simrad EA500DF</b>
<b>Device Manufacturer:</b>	<p><b>Kongsberg Simrad Mesotech Ltd.</b>  1598 Kebet Way,  Port Coquitlam, B.C.  Canada, V3C 5M5  Tel: (604) 464-8144  Fax: (604) 941-5423</p> <p><b>Kongsberg Simrad AS</b>  Postboks 483  3601 Kongsberg  E-mail: <a href="mailto:sales.marketing@kongsberg-simrad.com">sales.marketing@kongsberg-simrad.com</a>  Tel: 32 28 50 00  Fax : 32 73 59 87  <a href="http://www.simrad.ca/">http://www.simrad.ca/</a></p>
<b>Device Data String(s) Output to WinFrog:</b>	<p>Simrad Proprietary Message:  D#(identifier), time tag (hh:mm:ss.ss), LF Depth (m),  MF Depth (m), HF depth (m), bottom surface back  scattering in low ,medium, high strengths (dB).  <i>Note: The identifier number is 1(LF), 2(MF) or 3(HF)</i></p>
<b>WinFrog Data String(s) Output to Device:</b>	N/A
<b>WinFrog .raw Data Record Type(s):</b>	Depth: Type 411: depth, status & dtime are repeated 15 times

#### **DEVICE DESCRIPTION:**

The Simrad EA500DF is a triple channel (triple frequency) hydrographic echo sounder that can incorporate single beam, split beam and side looking transducers. The split beam transducers are capable of measuring true inclination angles of the seabed in athwartships direction. The EA500 DF has 160dB instantaneous dynamic range whereby the strongest and the weakest signal will be detected, stored and displayed without degradation .The EA 500DF outputs separate digitized depths for each channel. Refer to the Configuration Details section for other features of this fathometer. WinFrog's EA500 DF driver is capable of using single frequency or multiple frequency data from the EA500DF.

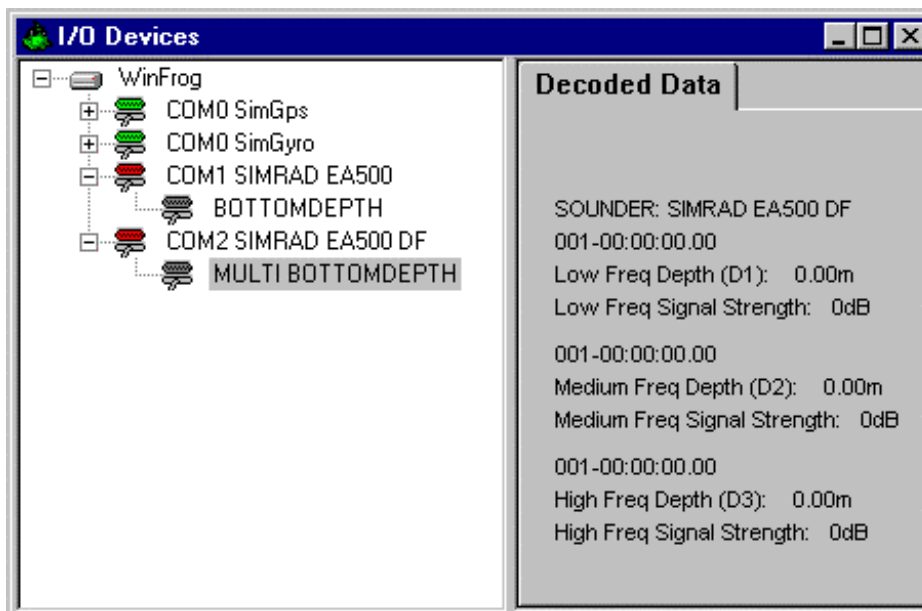
#### **DEVICE CONFIGURATION INSTRUCTIONS:**

Baud Rate: Configurable  
Data Bits: Configurable  
Stop Bits: Configurable  
Parity: Configurable

Suggested Configuration: 9600-8-N-1

### WINFROG I/O DEVICES > CONFIG OPTIONS:

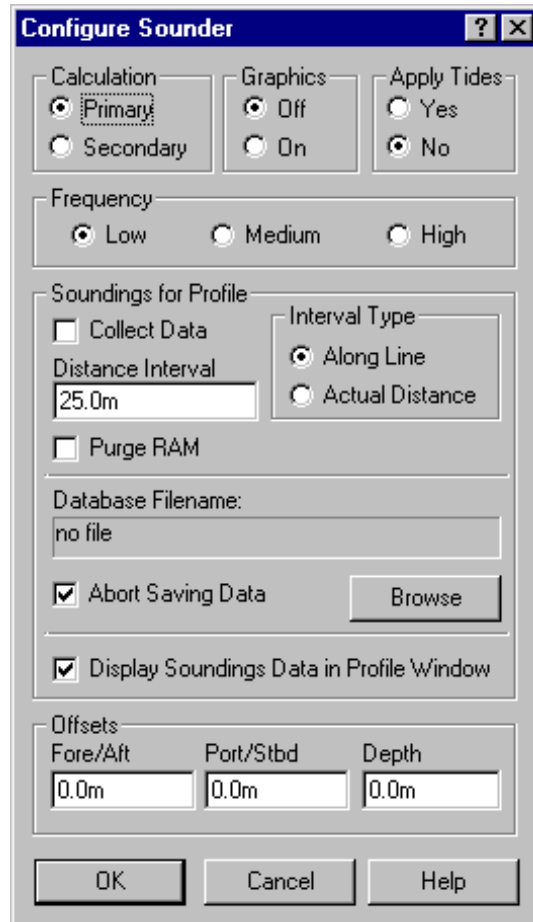
The Simrad EA500 DF is added to WinFrog from the SOUNDER device category. There is no configuration required or available at the “generic” I/O Device window level.



### WINFROG VEHICLE - DEVICE > EDIT OPTIONS:

Adding the Simrad EA500DF sounder to WinFrog creates a MULTI BOTTOMDEPTH data item that must be added to the appropriate vehicle's device list. Once the MULTI BOTTOMDEPTH data item has been added to a vehicle's device list, it must be edited to suit the application.

In the vehicle's device list, highlight the SOUNDER, SIMRAD EA500 DF, MULTI BOTTOMDEPTH data item and click the Edit button. The **Configure Sounder** dialog box appears as seen below.



**Calculation:**

Set the type of calculation to Primary or Secondary using the appropriate radio button. WinFrog will only utilize (i.e. display and record) data from a Primary sounder device. If there is more than one Primary sounder attached to a vehicle's device list, WinFrog will not mean the data (as is done with positional devices), but rather alternate between the devices. Data from a Secondary status sounder will simply be monitored.

**Graphics:**

If the On radio button is selected, a labeled square representing the location of the sounder will be displayed in the Graphics and/or Bird's Eye windows.

**Apply Tides:**

If the Yes radio button is selected, WinFrog will apply tidal corrections to the observed water depths. Depths displayed in the Vehicle Text window and recorded in automatic event (i.e. .DAT, .SRC, and .RCV) and type 351 raw files will refer to the datum corrected depths. Note that type 411 raw data records will remain truly raw and will not reflect the tide correction.

The tide information can be supplied by a real time telemetry system or by predicted tide files. Either way, the tide “device” must also be attached to the same vehicle’s device list. For more information, refer to documentation on Tide devices.

### **Frequency:**

This section of the dialog box is for selecting which frequency of data to use. The Simrad EA500 is a multiple (triple) frequency fathometer, utilizing low, medium, and high frequencies to determine depths.

To record and display all three frequencies, the EA500 DF device must be added to the vehicle’s device list three separate times, once for each frequency. Each data item must be edited to select the appropriate Frequency radio button. The EA500’s data string contains identifiers that differentiate the different frequency depths.

### **Soundings for Profile:**

This section of the Configure Sounder window permits the collection of sounding data to a .mdb database file for display in WinFrog’s Profile window. This collection is completely separate from automatic event or raw data collection.

### **Collect Data**

Check this box to enable the collection of data to a .mdb database file.

### **Interval Type**

Select to utilize either Along Line or Actual Distance (i.e. between successive position updates) calculations for data collection intervals. Selecting Along Line requires that you also enable survey line tracking.

### **Distance Interval**

Specify the distance Interval at which the data will be collected.

### **Purge RAM**

Sounding data is stored in the RAM memory of the computer. Any data collected which will not be required at later time can be deleted by selecting the Purge RAM checkbox, then clicking on the **OK** button to exit the dialog box.

### **Database filename**

Click the Browse button to define where and to what filename the .mdb file will be written. The file name and location is displayed in this window.

### **Abort Saving Data**

Select this checkbox to abort saving data to the .mdb file. In other words, to save data to the .mdb file ensure that this box is NOT checked.

### **Display Soundings Data in Profile Window**

Select this checkbox to enable the display of this data in WinFrog’s Profile Window.

## Offsets

This section of the window allows for entry of Offset values as measured from the vessel's common reference point (CRP). Note that the Fore/Aft and Port/Stbd offsets are used for "cosmetic" visual purposes only: An echo sounder is not a positioning device, and hence its horizontal offsets have no application. If the echo sounder's position is to be recorded correctly, you must create and enable a vehicle Tracking Offset for that specific location. The offsets entered here can simply be used as a means of graphically confirming that the Tracking Offset values have been entered correctly.

The Depth Offset is applied: The entered value will be added to the received sounder data. As mentioned above, there are several different types of NMEA depths. You must be certain what type of data you are receiving from the echo sounder before you enter any values in this window.

Depths displayed in the Vehicle Text window and recorded in automatic event (i.e. .DAT, .SRC, and .RCV) and type 351 raw files will refer to the corrected depths. Note that type 411 raw data records will remain truly raw and will not reflect the depth offset correction.

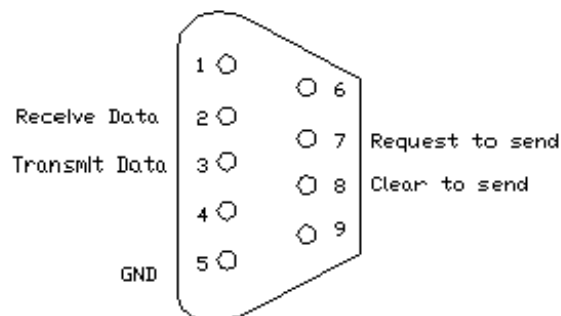
## CONFIGURATION DETAILS:

### Serial Ports:

The Simrad EA500DF has five 9 pin RS-232 serial connectors, each with a specific assignment, as follows:

- Port 1: Remote computer command input and data output
- Port 2: Annotation input from standard terminal
- Port 3: Navigation data input
- Port 4: Sound Velocity
- Port 5: Simrad RD Remote display

Each of the ports is terminated using a DB9 type connector adhering to standard RS-232 pin-out protocol, as detailed below:



## Device Specifications and Features:

### Specifications:

Measuring Ranges:	0 – 10,000 metres
Computer Interface:	RS232 (9 pin)
Power Requirements:	21-31 VDC, 187-264 VAC/90-132 VAC (50/60 Hz)
Sound Velocity Setting:	Automatic or manual loading of sound velocity profile

### Features:

- Triple Frequency Operation with separate digitizer for each channel
- Pinger Mode with adjustable ping rate of up to 10 pings /second
- Bottom Tracking Capabilities
- Can utilize single beam, split beam, or side looking transducers
- Digital Data Output
- Ethernet interface type IEEE 802.3
- Interface to Heave, Pitch and Roll Sensors (WinFrog never uses pitch and roll from a Sounder, and in this case does not utilize the Heave either)
- Sound Velocity Compensation (Automatic or manual loading of sound velocity profile)
- Navigation Data Input
- Event marker input
- Annotation (data input or automatic)
- Side looking channels
- Multi-channel operation, 3x64 channels (optional feature)
- Analyzing capabilities for silt measurements and sub-bottom profiling (optional)
- Side looking channels (optional)