WinFrog Device Group:	ROV
Device Name/Model:	GeoAcoustics
Device Manufacturer:	GeoAcoustics Limited Shuttleworth Close, Gapton Hall Industrial Estate, Great Yarmouth Norfolk NR32 0NQ England +44 (0)1493 600666
Device Data String(s) Output to WinFrog:	$Aaltitude*<checksum><CR><LF> $Cheading*<checksum><CR><LF> $Ddepth*<checksum><CR><LF> $Eerror*<checksum><CR><LF> $Mmagnetic field strength, magnetometer field level, magnetometerdepth, magnetometer altitude *<checksum><CR><LF> $Ppitch*<checksum><CR><LF> $Rroll*<checksum><CR><LF>
WinFrog Data String(s) Output to Device:	$Wsystem,nember,level*<checksum><CR><LF> $Xinterval,divider1,divider2*<checksum><CR><LF>
WinFrog .raw Data Record Type(s):	ROVDATA; Type 496 HEADING: Type 410 BOTTOMDEPTH; Type 411 ATTITUDE; Type 413 MAGNETOMETER; Type 800-001

DEVICE DESCRIPTION:
GeoAcoustics tow fish. See the GeoAcoustics manual for details.

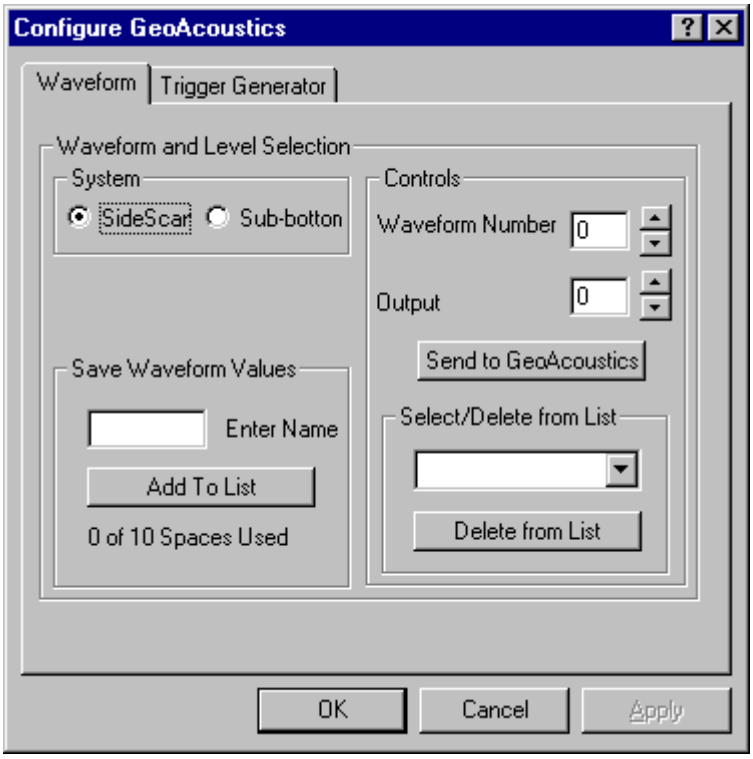
DEVICE CONFIGURATION INSTRUCTIONS:

Baud Rate:	9600
Bits Per Character:	8
Stop Bits:	1
Parity:	None

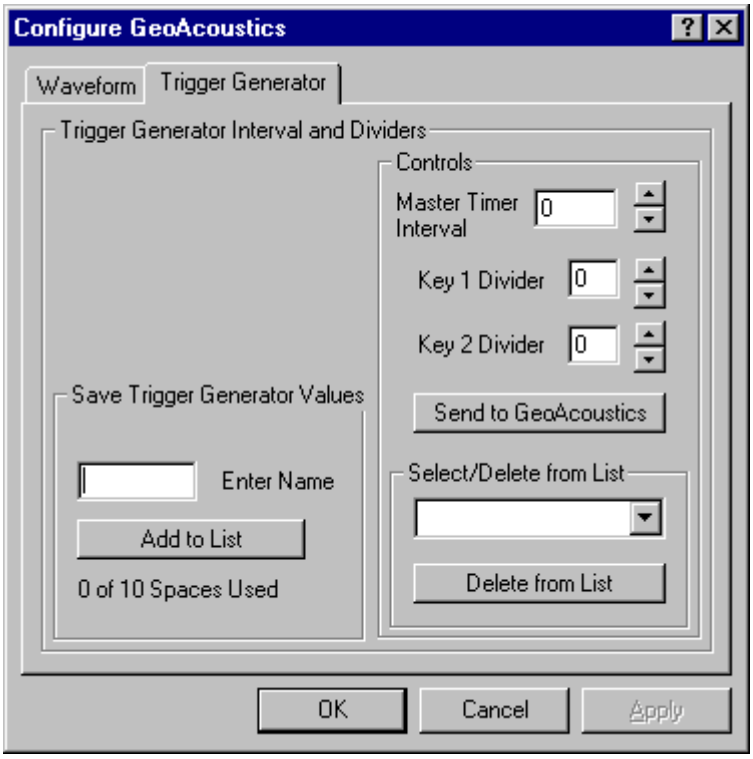
WINFROG I/O DEVICES > CONFIG OPTIONS:
There are two tabs on this configuration dialog box that allow you to send Waveform and Trigger Generation commands to the GeoAcoustics.

Waveform Tab

WinFrog always sends a complete string to the GeoAcoustics so all three values must be selected (e.g. system, waveform and level). Up to ten sets of these settings may be associated with a user-entered name and saved. One may over-write an existing name simply by using the same name and clicking “Add to List”. When this dialog is opened the values shown were the last sent to the GeoAcoustics.



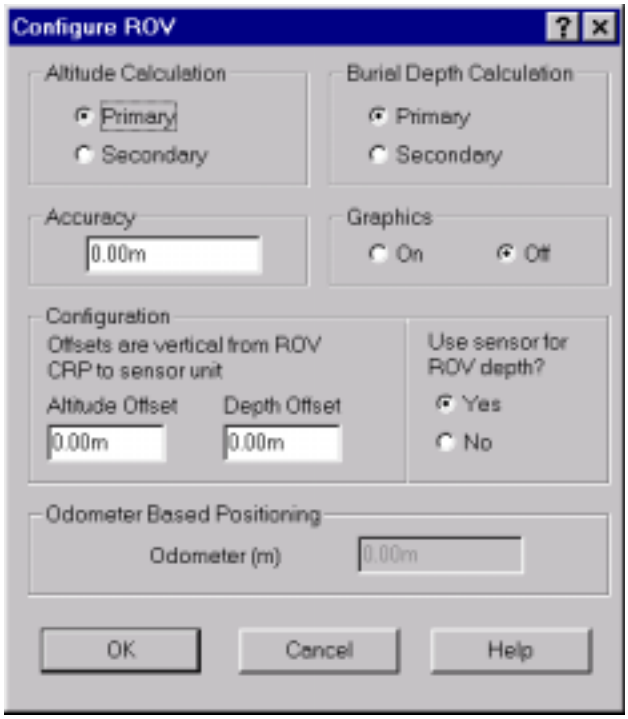
Trigger Generator Tab



If the master timer interval is 0 then both keys are off and the command sent is X0, otherwise the whole command is sent with all three values. The range of the master timer is 20 to 29999 and 0 if off. See the Waveform tab above for information on the user list.

WINFROG VEHICLE TEXT WINDOW > CONFIGURE VEHICLE-DEVICES> DEVICE > EDIT OPTIONS:

Data item: ROV, GEOACOUSTICS, ROVDATA
Attach this data item to the ROV. The dialog appears when this data item is edited.



Altitude Calculation:

> **Primary** will result in this vehicle's altitude being determined from the observed altitude value found in the string from this device minus the altitude offset also found on this dialog. This value will be displayed in the vehicle text window as ROV Alt.
>
> **Secondary** will result in no calculation or assignment of the vehicle's altitude from this device. The raw data is still always recorded.

Depth Burial Calculation: Not available from this device.
Accuracy: Not used by this device.
Graphics: Not used by this device.

Configuration: Offsets of the altitude and depth sensors with respect to the CRP. Note the sign difference.

Altitude is the distance between the altitude sensor and the CRP. Positive is up.

Depth is the distance between the depth sensor and the CRP. Positive is down.

Use sensor for ROV depth.

Yes will cause the depth of this vehicle's CRP to be determined from the observed depth value found in the string from this device plus the depth offset above. This vehicle's elevation will be the negative of the value above. This value will be used to calculate the bottom depth.

The bottom depth will be determined as:
Observed depth +Depth Offset + observed altimeter - altitude Offset

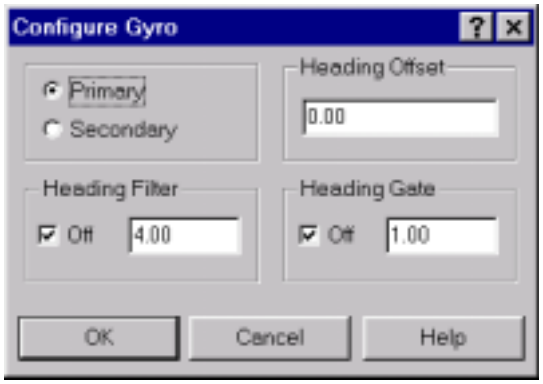
No will result with this device obtaining the depth of the CRP from the vehicle itself, as opposed to assigning it to the vehicle as above. You must assign another device to determine the depth of the vehicle (e.g. USBL and assigning it as the source for depth).

The bottom depth will be determined as:
CRP height from another source + observed altimeter - altitude Offset

Note: The observed altimeter value is always used for depth determination regardless of the prime/secondary altimeter setting.

Odometer Based Positioning: Not used by this device.

Data item: ROV, GEOACOUSTICS, HEADING
This is the heading of the ROV and may be used to orient the ROV. The dialog below is the same for any gyro.



Primary: If selected, the value from this device will be used as the vehicle heading.
Secondary: If selected, the heading will not be used to orient the vehicle. It will be available for comparison in the calculation's window.

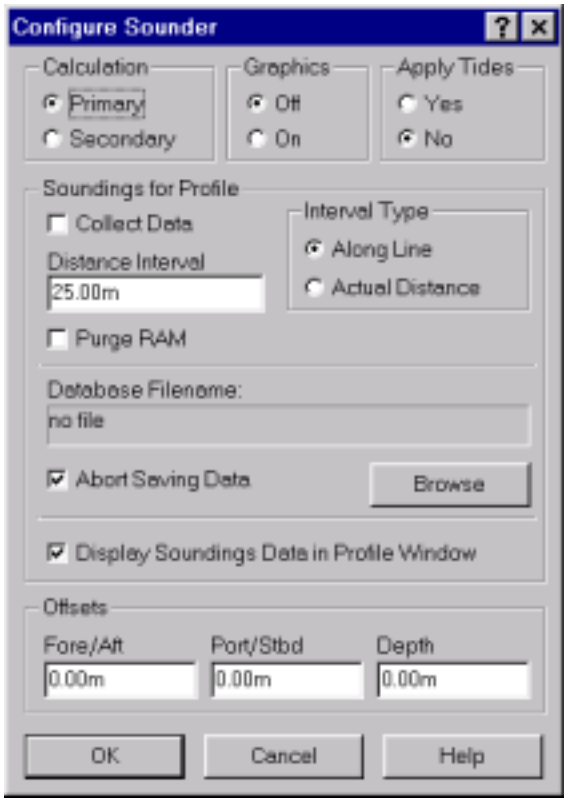
Heading Offset: Used to correct the observed value. This value is added.

Heading Filter: If enabled it will use the number of observations entered to provide a filter for smoothing new observations. The larger the number, the stiffer the filter.

Heading gate: If enabled and the difference between the observed value and a predicted value is larger than the entered value, the observed value will be rejected.

Data type: ROV, GEOACOUSTICS, BOTTOMDEPTH

Attach this data type to the ROV in order to log bottom depth. Bottom depth is calculated from the ROV depth and the altimeter value, plus any offsets entered. The dialog appears when this data type is edited. It does not use the magnetometer depth and altitude.



Calculation:

Primary: If selected, will result in this vehicle's depth being assigned the value determined above plus the depth offset found in this dialog box. Beware - do not enter this offset twice; it should be entered in the ROVDATA dialog box. Tide will be applied if enabled.

Secondary: No assignment of depth will be made using data from this device. The raw data is still always recorded.

Graphics:

On displays the offset position of the sounder in the Graphics window.
Off does not display this point.

Soundings for profile:

Collect Data If this option is selected the soundings can be displayed in the Profile window and can also be stored in a Microsoft Access database (if the cable module is available). Note: whether or not this is selected does not effect storage in the raw file. See chapter 8 of the WinFrog User's Guide for more details on configuring the Profile window.

Distance Interval is the distance the vessel must move before another sounding will be saved in memory or stored to the database.

Interval Type:

Along Line: A sounding will be saved when the vessel has moved the specified distance parallel to the track or survey line.

Actual Distance: A sounding will be collected when the vessel has moved the specified distance in any direction.

Purge Ram: When selected the soundings in memory will be deleted. This does not affect any soundings that are being stored in the database or raw files.

Database File Name: Select the database file to store the soundings in using the Browse button. Once selected the "Abort Saving Data" checkbox will clear.

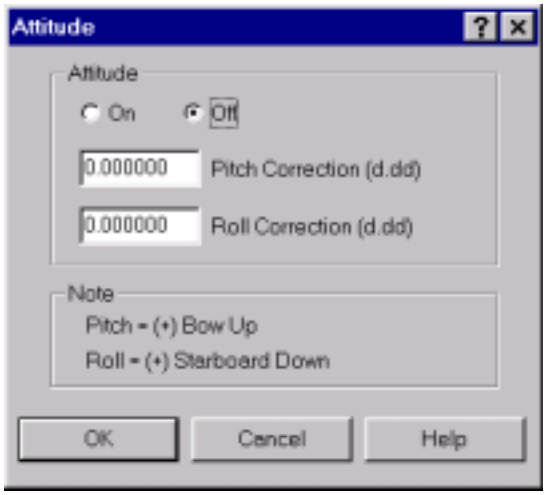
Abort Saving Data: If selected, storage to the database will cease.

Display Soundings in Profile Window: Select this checkbox to display the soundings in the Profile window. In order to see the soundings in the Profile window, a survey line must be assigned to this vehicle and the Profile window must be configured as "Continuous Profile Along Selected Survey Line" found with the display tab. See chapter 8 of the WinFrog User's Guide for more details on configuring the Profile window.

Offsets:

Enter the altimeter offsets. Note: if a vertical offset is entered here, it will be applied to the depth calculated from the ROVDATA data type before assignment to the vehicle.

Data item: ROV, GEOACOUSTICS, ATTITUDE



Attitude:
The Attitude can be enabled (turned on) within the Attitude Window. By enabling the Attitude, the vessel position and sensor offsets are corrected for the pitch and roll, and in this case the default is off.

The Pitch and Roll correction values are added to the observed attitude values.