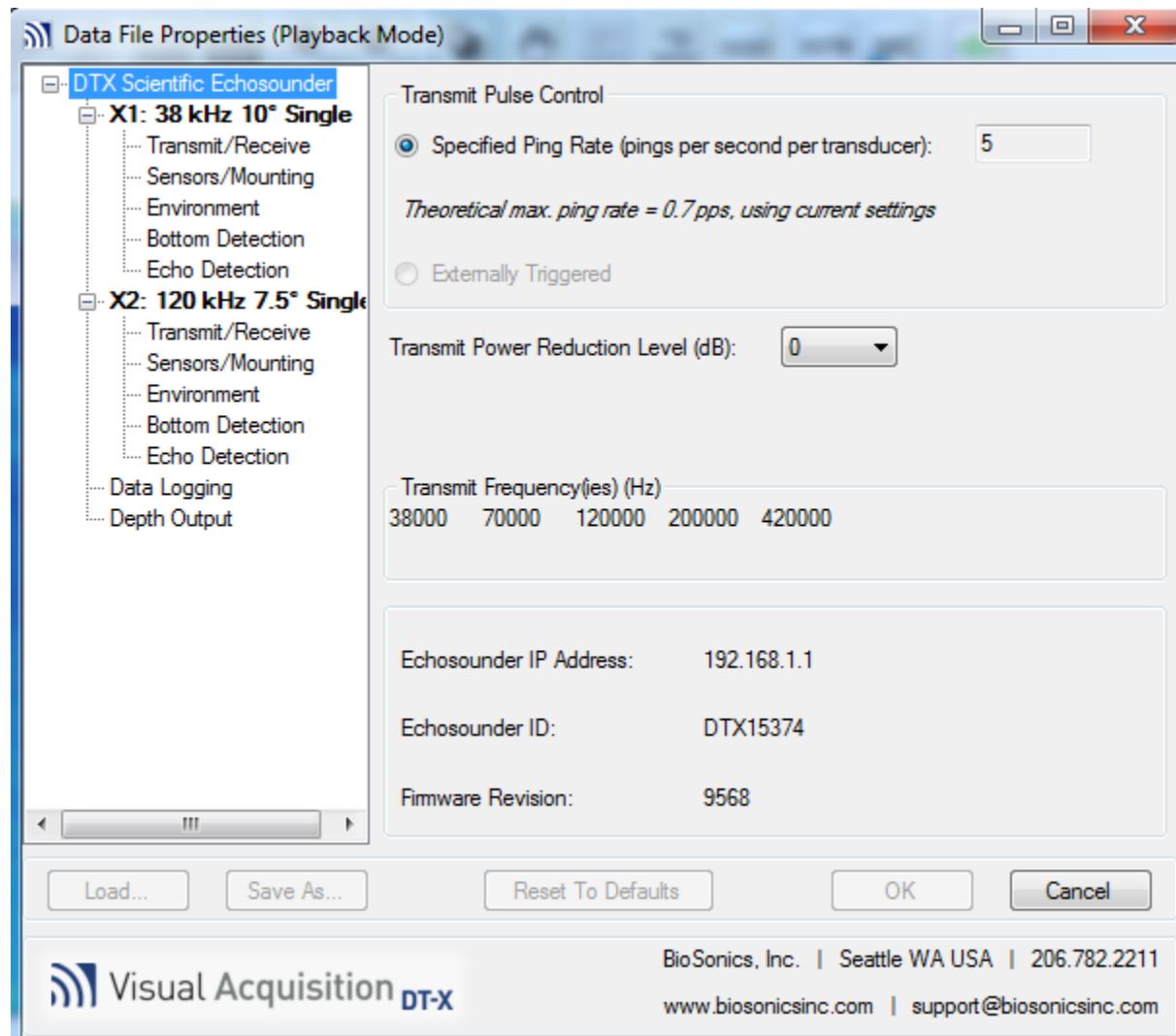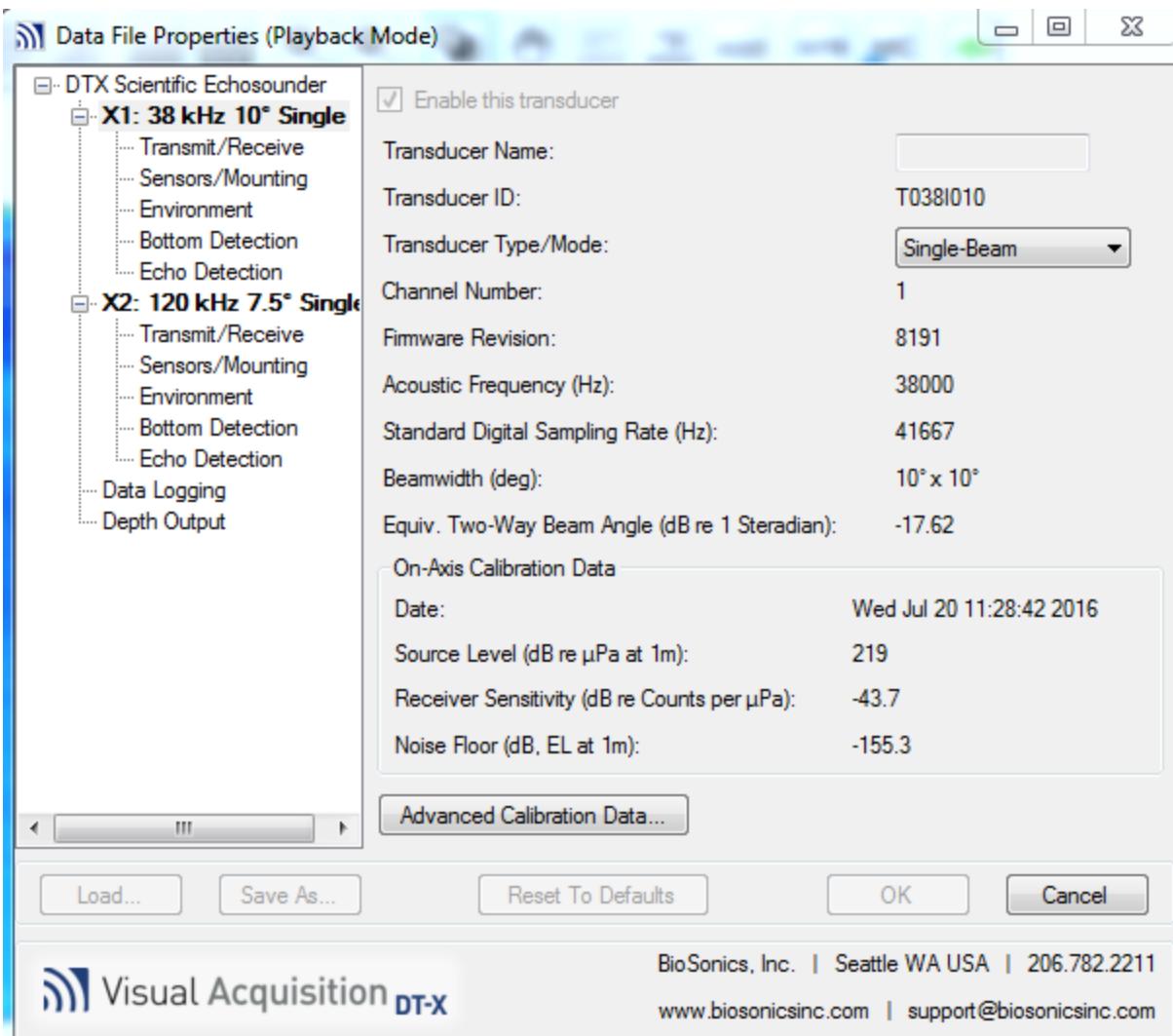# Echosounder 38kHz Configuration

Data File Properties (Playback Mode)

- DTX Scientific Echosounder
  - **X1: 38 kHz 10° Single**
    - Transmit/Receive
    - Sensors/Mounting
    - Environment
    - Bottom Detection
    - Echo Detection
  - **X2: 120 kHz 7.5° Single**
    - Transmit/Receive
    - Sensors/Mounting
    - Environment
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    - Echo Detection
  - Data Logging
  - Depth Output

Transmit Pulse Control

- ● Specified Ping Rate (pings per second per transducer):   5

Theoretical max. ping rate = 0.7 pps, using current settings

- ○ Externally Triggered

Transmit Power Reduction Level (dB):   0

Transmit Frequency(ies) (Hz)

38000   70000   120000   200000   420000

Echosounder IP Address: 192.168.1.1

Echosounder ID: DTX15374

Firmware Revision: 9568

Load...   Save As...   Reset To Defaults   OK   Cancel

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☑ Enable this transducer

Transducer Name:	
Transducer ID:	T038I010
Transducer Type/Mode:	Single-Beam ▼
Channel Number:	1
Firmware Revision:	8191
Acoustic Frequency (Hz):	38000
Standard Digital Sampling Rate (Hz):	41667
Beamwidth (deg):	10° x 10°
Equiv. Two-Way Beam Angle (dB re 1 Steradian):	-17.62

On-Axis Calibration Data

Date:	Wed Jul 20 11:28:42 2016
Source Level (dB re µPa at 1m):	219
Receiver Sensitivity (dB re Counts per µPa):	-43.7
Noise Floor (dB, EL at 1m):	-155.3

Advanced Calibration Data...

Load... Save As... Reset To Defaults OK Cancel

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Acoustic Mode: ◉ Active Transmission   ○ Passive Listening

Transmit Pulse Duration (ms):   `2.0 ▼`

Start Range (m):   `1`

End Range (m):   `900`

Calibration Correction (dB):   `0`

Advanced

Data Collection Threshold Level (dB):   `-130`

(Note: selecting a higher threshold may limit data processing options)

You have selected a sampling rate of 20833.5, which is 1/2 times the standard DTX sampling rate. You must set your pulse length to at least 0.4 ms when using this sampling rate.
WARNING: Many analysis software packages do not support DTX data collected with nonstandard sampling rates. Please make sure that the analysis software you plan to use does support the sampling rate you have selected!
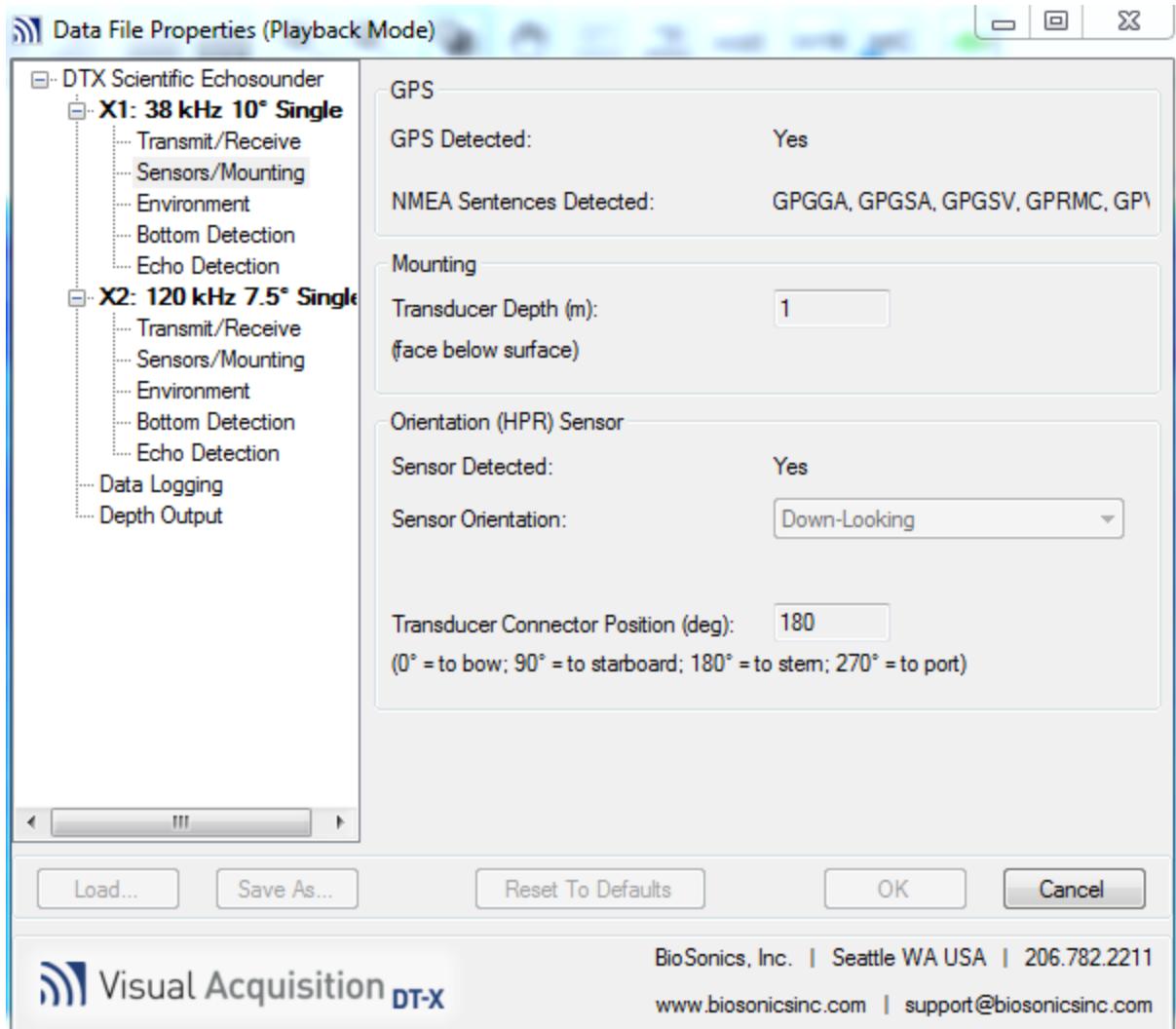
Sampling Rate (Hz):   `20833.5 ▼`
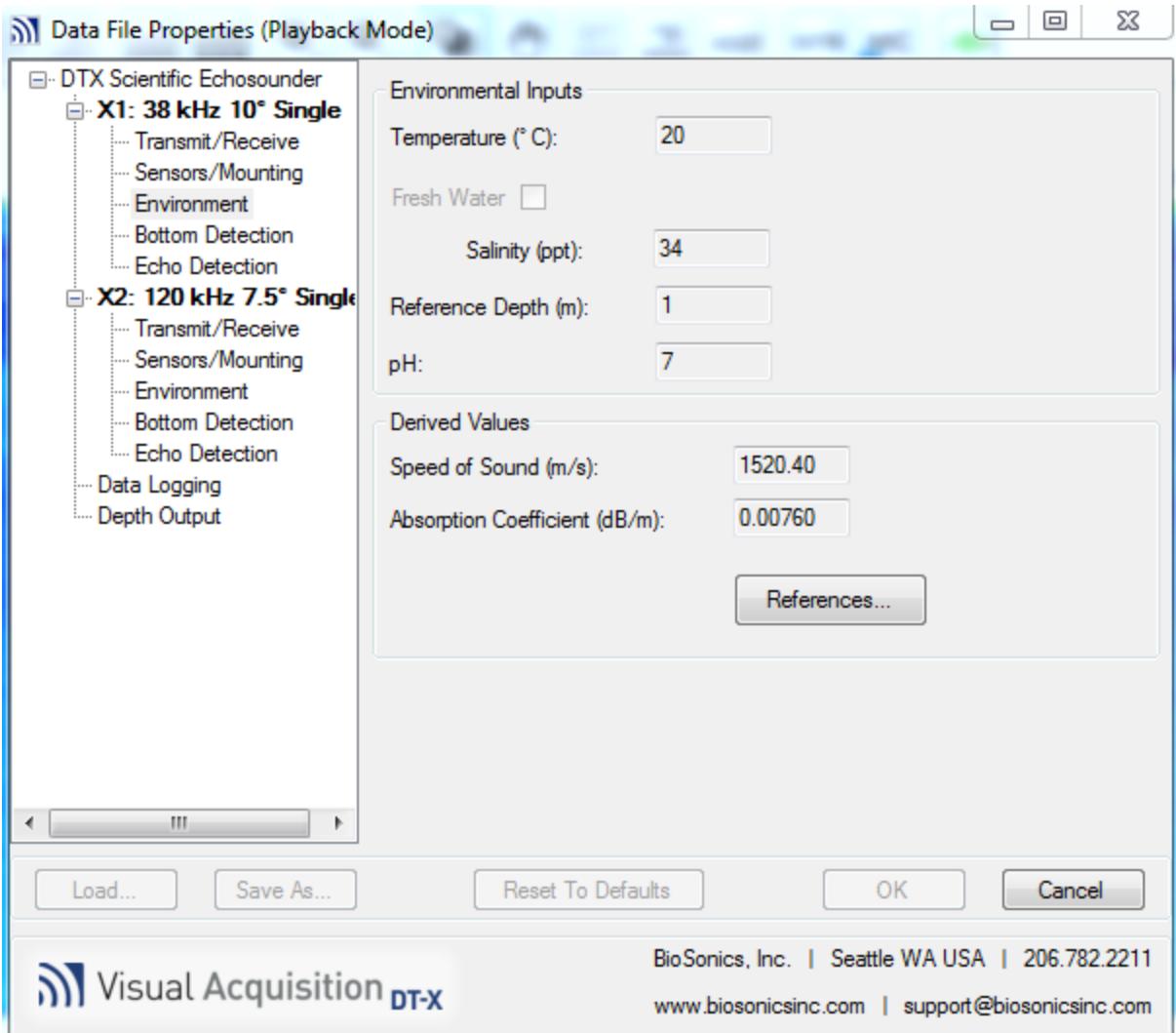
Sample Size (cm):   3.6

Samples per Pulse Duration: 41.7

Load...   Save As...   Reset To Defaults   OK   Cancel

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GPS

GPS Detected: Yes

NMEA Sentences Detected: GPGGA, GPGSA, GPGSV, GPRMC, GPV

Mounting

Transducer Depth (m):   1

(face below surface)

Orientation (HPR) Sensor

Sensor Detected: Yes

Sensor Orientation: Down-Looking ▼

Transducer Connector Position (deg):   180

(0° = to bow; 90° = to starboard; 180° = to stern; 270° = to port)

| Load... | Save As... | Reset To Defaults | OK | Cancel |

Visual Acquisition DT-X

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Environmental Inputs

Temperature (° C):	20
Fresh Water ☐	
Salinity (ppt):	34
Reference Depth (m):	1
pH:	7

Derived Values

Speed of Sound (m/s):	1520.40
Absorption Coefficient (dB/m):	0.00760

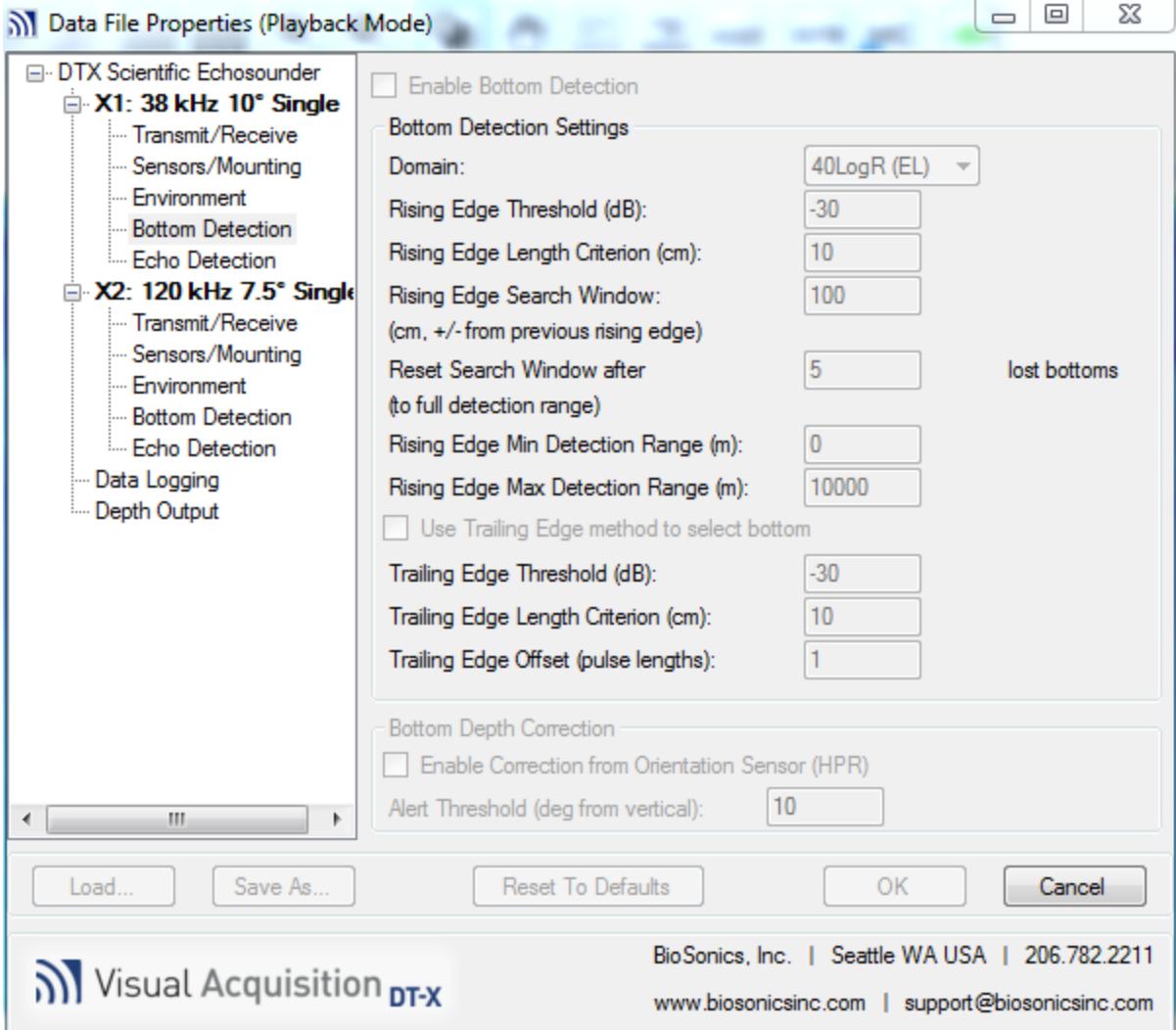References...

| Load... | Save As... | Reset To Defaults | OK | Cancel |

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☐ Enable Bottom Detection

Bottom Detection Settings

Domain:	40LogR (EL) ▼
Rising Edge Threshold (dB):	-30
Rising Edge Length Criterion (cm):	10
Rising Edge Search Window:	100
(cm, +/- from previous rising edge)	
Reset Search Window after	5 lost bottoms
(to full detection range)	
Rising Edge Min Detection Range (m):	0
Rising Edge Max Detection Range (m):	10000

☐ Use Trailing Edge method to select bottom

Trailing Edge Threshold (dB):	-30
Trailing Edge Length Criterion (cm):	10
Trailing Edge Offset (pulse lengths):	1

Bottom Depth Correction

☐ Enable Correction from Orientation Sensor (HPR)

Alert Threshold (deg from vertical):	10

[Load...]   [Save As...]   [Reset To Defaults]   [OK]   [Cancel]

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☐ Enable Single Echo Detection

Echo Level Threshold (dB): `-70`

Min Echo Length: `0.75` times pulse length
(-6 dB reference)

Max Echo Length: `2` times pulse length
(-6 dB reference)

Max SD of Split-Beam Angles (deg): `10`

Max Beam Compensation (dB): `-12`
(one-way)

Detection Endpoint (cm above bottom): `0`

☐ Disable echo detection if bottom lost

Transmit Pulse Duration (ms): 2.0 (pulse length)

Histogram Maximum (dB) `0`

Histogram Bin Width (dB) `5`

◉ Histogram Interval (pings) `300`

○ Histogram Interval (seconds) `60`
   (up to maximum of 500 pings)

| Load... | Save As... | Reset To Defaults | OK | Cancel |

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