

AZFP Certificate of Calibration Version : 12.0

12/12/2017

Operator:

Jay Milligan

Unit Serial Number:

59009

Sonar Channel #1:

Frequency: 38.0 kHz Transducer Part#: ASL38 Glider Transducer Serial#: 102
 OCV: Voltage on reference: 8.84V Reference TVR: 145.9 Transducer Voltage: 0.195V
 TVR: Voltage on transducer: 300V Reference OCV: -213.2 Reference Voltage: 0.38V

System Gain and Linearity:

Voltage on Reference	A/D Counts (N)
*	65000
-10dB	58960
-20dB	52970
-30dB	46940
-40dB	40800

Calibration Values	Units
TVR	155.3 dB
VTX	106.1 V _{RMS}
BP	0.1215 Sr
Echo Level	155.6 dB
Slope	0.023 V/dB

*This voltage is adjusted to bring N between 64950 and 65050 counts
 All measurements with 1.0 meter separation in 20°C fresh water unless otherwise noted.

Sonar Channel #2:

Frequency: 67.5KHz Transducer Part#: ASL 2 Freq. Transducer Serial#: 102
 OCV: Voltage on reference: 9.73V Reference TVR: 143.2 Transducer Voltage: 0.171V
 TVR: Voltage on transducer: 350V Reference OCV: -213.1 Reference Voltage: 0.7V

System Gain and Linearity:

Voltage on Reference	A/D Counts (N)
*	65000
-10dB	58870
-20dB	52710
-30dB	46700

Calibration Values	Units
TVR	159.1 dB
VTX	123.7 V _{RMS}
BP	0.0428 Sr
Echo Level	149.6 dB
Slope	0.023 V/dB

*This voltage is adjusted to bring N between 64950 and 65050 counts
 All measurements with 1.0 meter separation in 20°C fresh water unless otherwise noted.

Sonar Channel #3:

Frequency:	125KHz	Transducer Part#:	ASL 2 freq.	Transducer Serial#:	102	
OCV:	Voltage on reference:	9.4V	Reference TVR:	139.7	Transducer Voltage:	0.078V
TVR:	Voltage on transducer:	255V	Reference OCV:	-214	Reference Voltage:	1.86V

System Gain and Linearity:

Voltage on Reference	A/D Counts (N)
*	65000
-10dB	58950
-20dB	53210
-30dB	47420

Calibration Values		Units
TVR	171.3	dB
VTX	90.2	V _{RMS}
BP	0.008	Sr
Echo Level	138.9	dB
Slope	0.0223	V/dB

*This voltage is adjusted to bring N between 64950 and 65050 counts
All measurements with 1.0 meter separation in 20°C fresh water unless otherwise noted.

Calibration Details

Sonar Calibration:

The sonar system is calibrated using a reference hydrophone and a reference source transducer in our fresh-water laboratory test tank. All measurements are at 20°C and 1.0 meters distance. The AZFP does not use a TVG system, so all system gain measurements are valid from 0 meters to full range.