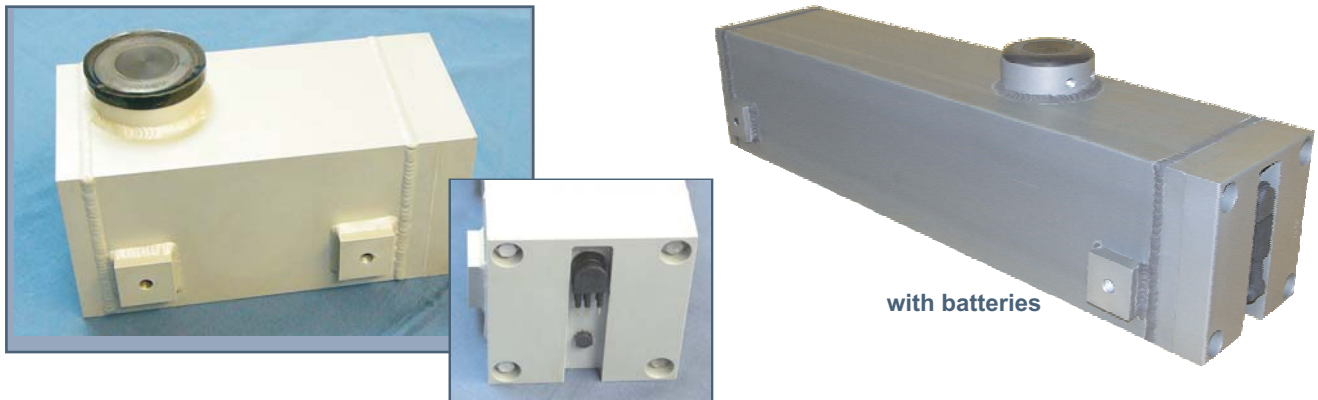


Shallow Water Ice Profiler™



Applications

In-situ measurements are essential for understanding and monitoring lake, river and tidal ice dynamics. The SWIP now facilitates measurements for applications such as:

- * River ice cover monitoring for flood control
- * River, lake and estuary ice research
- * Frazil ice monitoring near potable and cooling water intakes

Features

- * SWIP can monitor and record ice targets at the water surface as well as backscatter returns from ice particles suspended in the water column (frazil ice)
- * Real-time RS-232 or RS-422 communications
- * Robust low-profile housing arrangement
- * Excellent horizontal resolution using a high frequency 546 kHz transducer with a 7° beam width
- * Low power (shore or external battery pack)
- * Large on-board data capacity (4 Gbyte) provided by Compact Flash memory (up to 16 GB supported)
- * Up to 2 Hz continuous sampling
- * Versatile Windows-based software for deployment planning and initialization, instrument testing and downloading of stored data.

Innovative Solutions for Global Environmental Challenges

ASL Environmental Sciences Inc.

#1-6703 Rajpur Place, Victoria, BC, Canada V8M 1Z5

Phone: 1-250-656-0177 Fax: 1-250-656-2162 Email: asl@aslenv.com

www.aslenv.com

SWIP-5 Specifications

UPWARD LOOKING SONAR Operating Frequency 546 kHz (Standard) Beam Width 6° Sampling Rate up to 2Hz Duty Cycle up to 100% Maximum Range 20 m Precision ± 0.05 m (ice draft)	DIGITAL BOARD 16-Bit Analog to Digital conversion
	TILT SENSOR (for sonar beam angle) Range ± 20°, Accuracy ± 1.0°, Precision 0.1°(noise level)
DATA STORAGE Standard 4 GB Compact Flash (up to 16 GB Supported)	TEMPERATURE SENSOR Accuracy +/- 0.1°C
	ABSOLUTE PRESSURE SENSOR Range 0-30 psia, Accuracy ± 0.03 psia

SHORE POWER REQUIREMENT:

8 to 15 V (or optional internal or external battery pack)

SOFTWARE

A Windows-based software is included in the package:

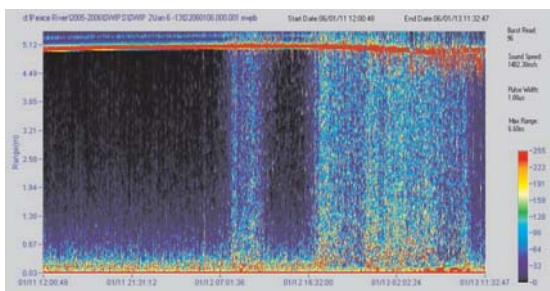
- Communications software to enable setup and download functions
- Utility package for data plotting, viewing and conversion

MOUNTING

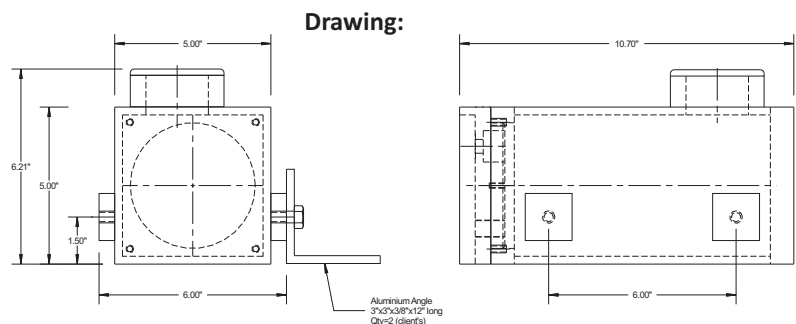
The instrument needs to be positioned within ± 15 degrees of vertical. Transducer tilt should be verified at deployment. See drawing below (angles not included). Considerations for ice impact and anchor ice issues are critical. Diver installation is preferred.

OPTIONAL FEATURES AND SERVICES

- Internal battery pack (requires extended housing)
- Lower 235 kHz frequency with 11° Beam Width (for focusing on slush and thermal ice)
- RS-232 communications (RS-422 is standard)
- Anodes for corrosion protection (prolonged deployment)
- External battery pack
- Polyurethane jacketed cable (max 1200 m long)
- Armoured cable (max 300 m long)
- Mounting design assistance and equipment is available upon request
- Shore-based barometer
- Integrated Acoustic Current Doppler Profiler Instrumentation (ADCP)
- Customized shore-based data management system for SWIP and ADCP data
- ASL offers a suite of nearly 200 programs for data processing and analysis of Ice Profiler and ADCP ice velocity data sets.
- Data Processing services



Frazil Ice Record on the Peace River
 - Courtesy Martin Jasek, BC Hydro



Innovative Solutions for Global Environmental Challenges

ASL Environmental Sciences Inc.

#1-6703 Rajpur Place, Victoria, BC, Canada V8M 1Z5

Phone: 1-250-656-0177 Fax: 1-250-656-2162 Email: asl@aslenv.com

www.aslenv.com