



PORPOISE

SINGLE CHANNEL UNDERWATER ACOUSTIC MONITORING

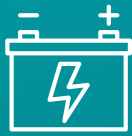
Compact & intelligent underwater acoustics in a low power & low cost package.

The PORPOISE underwater noise recording & signal processing system has taken all the processing power and real-time data streaming capabilities of its big brother the ORCA, and compressed that into a compact and streamlined, extremely low power, single-channel package.

With highly configurable sampling rates, huge memory capacity, intelligent on and off scheduling, configurable hydrophone settings, and real-time data processing, PORPOISE provides the best acoustic performance per dollar in the world.



turbulentresearch.com



LOW POWER CONSUMPTION

72 hours continuous recording on internal AAA batteries

12 months + on external battery pack



Porpoise

The standard Porpoise acoustic recording system is built from composite glass fibre and engineered plastic rated to 55m depth. This version of Porpoise includes an integrated hydrophone and low noise programmable gain pre-amplifier for excellent 24 bit acoustic data quality over a huge dynamic range. Each unit includes 128 GB of internal recording memory, and is user expandable with SD cards to 4 TB. In addition to world class performance, Porpoise comes at an affordable price for any research project.

Porpoise-Ext

Porpoise-Ext includes the same electronics and features as the standard version, but includes an option for an external hydrophone. This unit is housed in a pressure vessel that is depth rated in excess of 2000m. Porpoise-Ext allows users to use one of many hydrophones on the market that might suit a particular application. By decoupling the hydrophone element from the pressure vessel, users can choose the right sensor for a broader range of depth or export constraints.

SPECIFICATIONS	PORPOISE	PORPOISE-EXT
POWER	Internal Power: 12 x AAA Cells (user replaceable) External Power: 4.5 - 30 V DC, External Packs Available	Internal Power: 12 x AAA Cells (user replaceable) External Power: 4.5 - 30 V DC, External Packs Available
ACOUSTIC	Analogue Bandwidth > 150 kHz ADC: 24 Bits Sigma Delta Dynamic Range: 110 dB (full bandwidth) Configurable Gain: 0 dB- 40 dB Maximum Sensitivity: -165 dB Re 1 V/μPa to 205 dB Re re 1 V/μPa With Gain Control Sampling Rates Supported: 24 kHz, 48 kHz, 96 kHz, 192 kHz, 384 khz Programmable High Pass Filter: Software Controlled	Analogue Bandwidth > 150 kHz ADC: 24 Bits Sigma Delta Dynamic Range: 110 dB (full bandwidth) Configurable Gain: 0 dB- 40 dB Maximum Sensitivity: -165 dB Re 1 V/μPa to 205 dB Re re 1 V/μPa With Gain Control Sampling Rates Supported: 24 kHz, 48 kHz, 96 kHz, 192 kHz, 384 khz Programmable High Pass Filter: Software Controlled
MEMORY	Up to 4 TB, Internal Removable SD Card Storage Configurable recording, schedule and duty cycling	Up to 4 TB, Internal Removable SD Card Storage Configurable recording, schedule and duty cycling
DIMENSIONS	70mm x 233mm, 2.5lbs	70mm x 233mm, 4.8lbs
COMMUNICATIONS	Real Time Ethernet Streaming - spectrograms, live audio, configuration and data download	Real Time Ethernet Streaming - spectrograms, live audio, configuration and data download
ENVIRONMENTAL	500m standard (deeper on request)	2000m pressure vessel, pressure relief valve included NOTE: External Hydrophone version limited to 900m depth Operating Temperature: -10°C to +-50°C External hydrophone connection via 8 pin female subconnector
EXTERNAL INTEGRATION	GPS Input for PPS Time Synchronization Real Time Buoy	GPS Input for PPS Time Synchronization Real Time Buoy

PORPOISE-EXT



PORPOISE-EXT WITH OPTIONAL EXTERNAL HYDROPHONE



- ✓ Internal 4TB recording
- ✓ Real time streaming audio and spectrogram
- ✓ Internal battery and optional external battery packs
- ✓ Available with optional external Hydrophone

FULL SIZE PORPOISE



TR-TRAC

Real time configuration, analysis and visualization

The Turbulent Research Acoustic Control (TRAC) application is real time configuration, analysis and visualization software designed for use with all of Turbulent Research passive acoustic monitoring products.

TRAC allows users to easily setup their instrument parameters including enabled channels, sampling rates, channel gain, recording schedules and internal processing. Additionally, TRAC provides a real time portal to the user's instrument, digital multichannel acoustic data is presented as real time spectrograms, third octave plots with percentiles, and live real time audio.





BUILDING INTELLIGENT TECHNOLOGY.

Turbulent Research is a high technology company built on the talent in engineering, signal processing, and product development of its employees.

Founded in 2013, Turbulent Research began by building a broad range of underwater acoustic products for subsea use in oil & gas, underwater construction and ocean science.

turbulentresearch.com

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