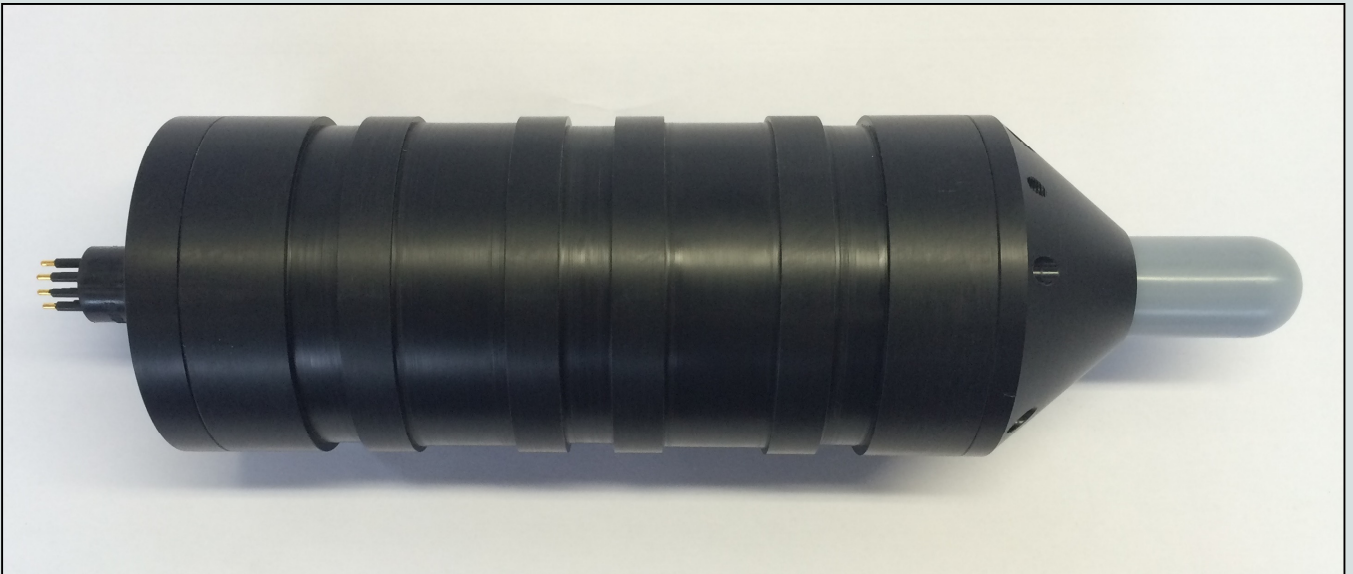


MupHydro



After 5 years development Co.L.Mar. presents the MupHydro, a programmable, powerful, versatile, multi-sensors tool. Conceived for long term deployments, each unit can be connected with up to 4 hydrophones and ambient sensors. Top performance in terms of signal processing capability and multi-interface, it can be programmed for a wide range of applications. Designed to stay underwater > 25 years @ 3000m with no exposed metal part.



The platform is powered by a dual core 667MHz ARM[®] Cortex-A9 CPU and an Artix-7 FPGA based on a Xilinx[®] Z-7020 Zynq All Programmable SoC and powered by highly reliable National Instruments[®] real time operating system.

The processor can be programmed using LabView[®], allowing for short time to market future implementations of customizable devices. We can respond to any of our client's needs for real time processing and recording of acoustic data. The platform benefits from its many interfaces and features.

Applications:

- Acoustic event detection
- Underwater noise measurements
- Permanent underwater monitoring (oil and gas, underwater security, biologic monitoring).
- Programmable underwater stations.
- Underwater data recorder (cabled or autonomous).
- Installation on board of underwater vehicles (AUV, ROV, etc.).

NEXT GENERATION PROGRAMMABLE HYDROPHONE FOR UNDERWATER NOISE MEASUREMENTS AND MONITORING

MupHydro



Features and technical specifications

- Simultaneous sampling of up to 4 hydrophones channels at rates of up to 500kS/s (for each channel).
- Fixed or Variable Gain available on each channel
- Capable of running high speed real time signal processing algorithms exploiting both FPGA with DSP extensions and the CPU.
- Local data storage, up to 32GB uSDHC
- 1TB External SSD compatibility for increased capacity and speed.
- Onboard Accelerometer for attitude monitoring.
- On board temperature and humidity sensors.
- Capable of sampling up to 4 external analogue sensors at 10Hz.

Interfaces:

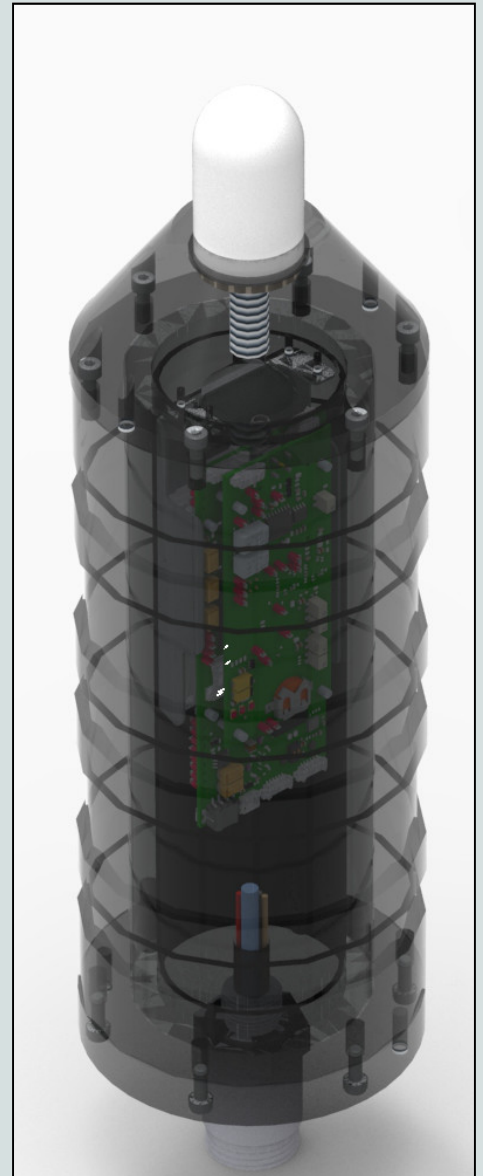
- 2x RS232 and 1x RS485 interfaces
- 2x USB ports (allowing the system to work both as an USB host and an USB device)

Communication:

- 10-100-1000 Ethernet port.

Other features:

- Power consumption monitoring.
- "Always on" power consumption at 7W.
- Duty cycle operation for battery powered deployments.
- High fidelity and ultra low noise analogue amplification and digital conversion circuits.
- Capable of variable analogue gain and A/D circuits self test.
- Capable of connecting to any digital sensor thanks to its FPGA powered interface.
- Custom expansions available.
- Deliverable both with custom analysis software or as an open programmable platform.
- Rated for use at depths of up to 3000m.
- No exposed metal wet parts for high corrosion resistance and extended durability.

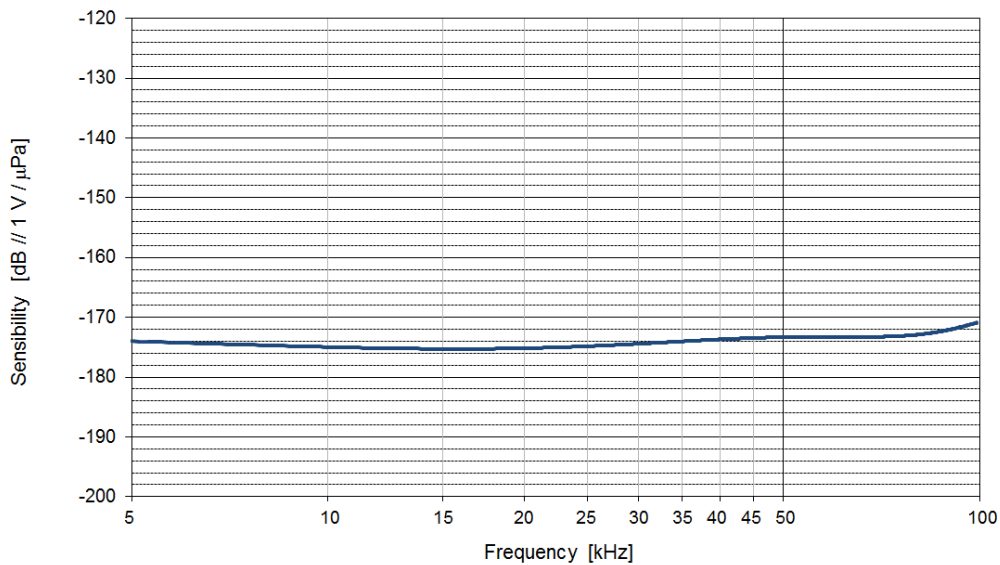


MupHydro



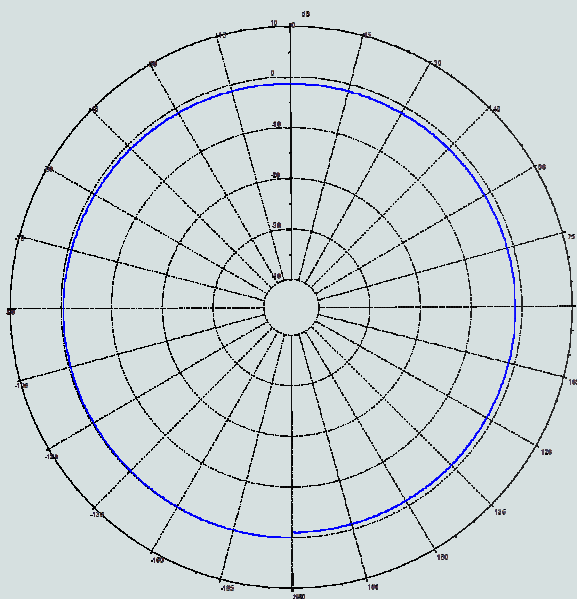
Receiving response

SRX MupHydro (measured on single output 26dB preamp)

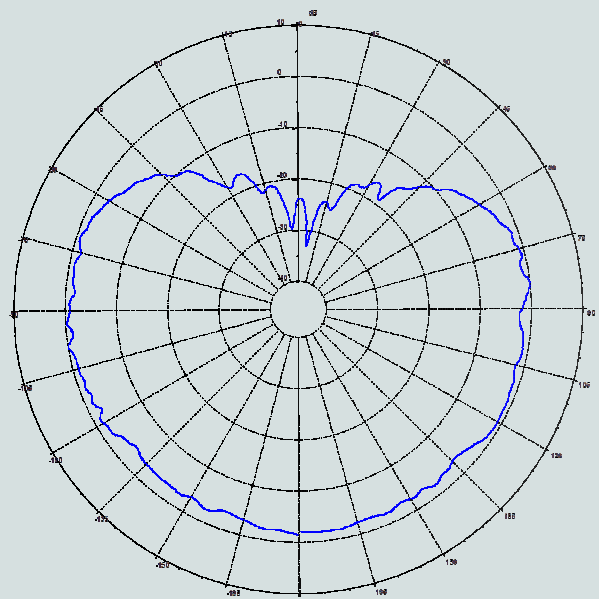


Directivity patterns:

Horizontal plane @ 50kHz



Vertical plane @ 50kHz



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