

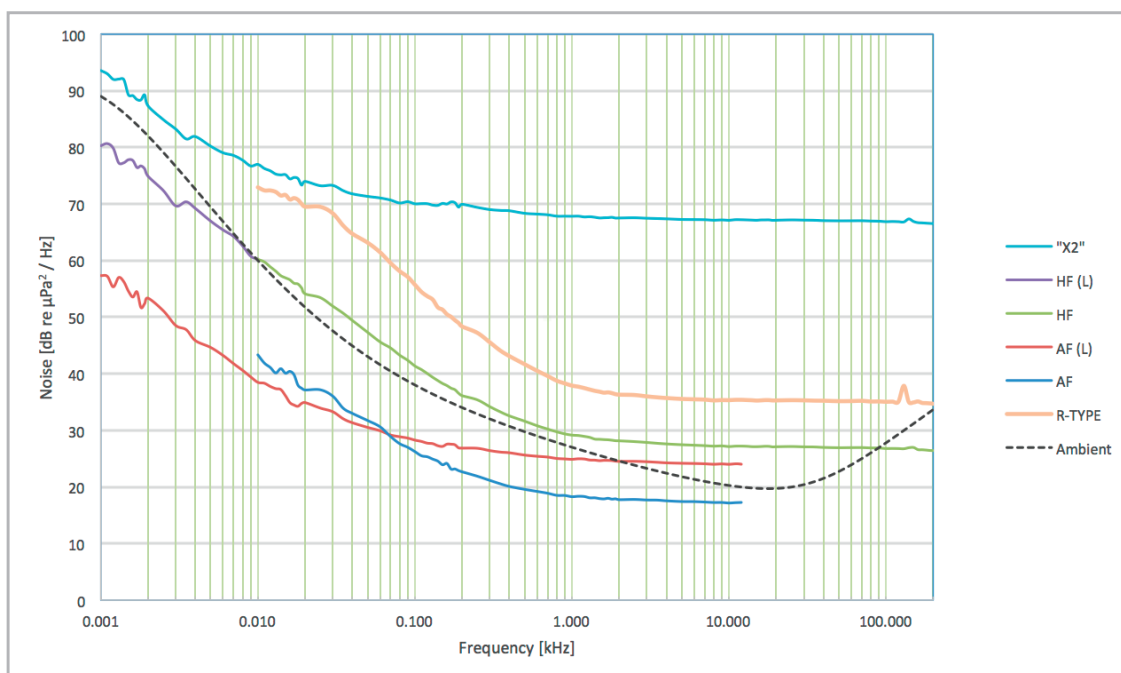
# icListen Specification

The new standard in broadband digital marine acoustics

The icListen Smart Hydrophone is a compact, all-in-one instrument that logs calibrated waveforms, spectral or event data in standard formats and can be used to stream real-time data. Use the icListen as a digital hydrophone, acoustic data logger, or both at once.

This compact instrument includes rechargeable batteries, large memory and 24 bit data acquisition system. The icListen detects real-time events and can log or transmit just the event data in real-time.

## icListen Self-Noise



## Instrument access methods

- **Stream/Collect** waveform and spectrum (FFT) data.
- Use **Lucy PC software** to view and process data or enquire and set up instrument.
- Use the **Web Browser** to view, real-time acoustic data, instrument status, download logged data, configure instrument settings and put to sleep.
- Use **FTP** to manage files on the instrument copy and delete stored data files, and install firmware upgrades.
- Ethernet or Serial Interface.



icListen Models  
HF, AF



200m icListen HF  
Engineered Plastic



3500m icListen HF  
Titanium

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	AF	HF	X2	R-TYPE	UNITS
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### SIGNAL PERFORMANCE

Low Frequency Cutoff	10	10	1	10	Hz
+/- 3 dB bandwidth	4	100	100	200	kHz
+/- 6 dB bandwidth	12.8	200	200	N/A	kHz
Sigma Delta Modulator Rate	16.384	16.384	16.384	16.384	MHz
Maximum Data Rate	32	512	512	512	ksps
Minimum Data Rate	1	1	1	1	ksps
Resolution	16 or 24	16 or 24	16 or 24	16 or 24	bits
Minimum Self Noise	18	27	67	39	dB re $\mu\text{Pa}^2/\text{Hz}$
Peak Input Level ( $\mu\text{Pa}$ )	165	175	215	182	dB re $\mu\text{Pa}$
Peak Input Level (Volts)	6	6	6	6	dBV
Voltage Sensitivity	-159	-169	-209	-176	dBV re $\mu\text{Pa}$
Digital Sensitivity, 24-bit, $\text{count}^2 / \mu\text{Pa}^2$	-30	-40	-77	-47	dB
Digital Sensitivity, 16-bit, $\text{count}^2 / \mu\text{Pa}^2$	-78	-88	-128	-95	dB
Dynamic range, 1.0 Hz BW	147	148	148	146	dB
Dynamic range, Spectrogram, Full BW	132	121	121	119	dB
Full Bandwidth Dynamic Range	106	95	95	90	dB

### SOFTWARE / INTERFACE

Communications Interface	Ethernet	Ethernet	Ethernet	Ethernet	
	RS-422	RS-422	RS-422	RS-422	
Lucy Software Support	Yes	Yes	Yes	Yes	
Collect Data Protocol	Serial / TCP	Serial / TCP	Serial / TCP	Serial / TCP	
Streaming Data Protocol	TCP / UDP	TCP / UDP	TCP / UDP	TCP / UDP	
Web Server (HTTP)	TCP	TCP	TCP	TCP	
FTP, SFTP and SSH Console	TCP	TCP	TCP	TCP	
Maximum Internal Data Storage	256	256	256	256	GB

### POWER

Internal Battery Life <sup>C</sup>	10	10	10	10	Hours
Metalic Lithium Equivalent Content	780	780	780	780	mg
Recommended Supply Voltage	18 - 36	18 - 36	18 - 36	18 - 36	V
Supply Voltage Limits	15 - 48	15 - 48	15 - 48	15 - 48	V
External Power (min, no networking)	1.8	1.8	1.8	1.8	W
External Power (typical)	2.1	2.1	2.1	2.1	W
External Power (charging)	3.8	3.8	3.8	3.8	W

### MECHANICAL

Mass (Titanium Case)	1.056	1.006	1.006	-	kg
Mass (Plastic Case)	.540	0.584	0.584	478	kg
Volume (Displacement)	354	333	333	332	$\text{cm}^3$
Overall Length, including connector	256	280	280	318	mm
Sensor Element Length	59	79	79	117	mm
Body (Can) Length	165	165	165	165	mm
Element Diameter	38	22	22	16	mm
Body Diameter	48	48	48	48	mm

#### Notes:

- A. No internal logging above 4 ksps.  
 B. dBBSR is the ratio of Sensitivity in dB to a reference sensitivity. (see our white paper on Digital Hydrophone Sensitivity.)  
 C. Initial battery life. Battery life will decrease by about 20% per year.

