



## IEPE1

Hydrophone Preamplifier  
IEPE powered (2mA – 20mA constant current)

The IEPE1 is designed to connect passive piezo sensors, used in most hydrophones, to constant-current bias supplies, typically used in data acquisition devices. Integrated Electronics Piezo-Electric power (IEPE) is a constant current that can be modulated through a coaxial cable, alleviating the need for extra power conductors and minimizing the size, bulk, and cost of cable. Proprietary names for this include ICP, CCLD and others. The IEPE1 will also be useful for many other sensors, such as geophones, accelerometers, contact microphones, and any device requiring a low-noise, high-impedance buffer that works within the human auditory spectrum and above.

**A constant current of 2 to 20mA is required.** 24V is the standard compliance voltage for IEPE, though this amp will work with as little as 18V at 2mA. It will also work when powered with one leg of phantom power from a microphone preamp (typically pin 2 of XLR jack).

**NOTE:** This amplifier is not waterproof. Care should be taken to keep connectors and electrical components as dry as possible, especially when working in corrosive environments such as seawater or chlorinated water.

### **Specifications:**

Tested with 24V – 4mA constant current supply except where noted.

Equivalent Input Noise:	-122 dBV	10nF input shunt, A-weighted 20Hz – 22KHz
Total Broadband Output Noise:	-89 dBV	10nF input shunt, Unweighted 10Hz – 90KHz
Bandwidth:	10Hz - 64KHz	+0/-0.5dB, 1Vrms output
	4Hz - 170KHz	+0/-3dB, 1Vrms output
Total Harmonic Distortion:	<0.02%	@1KHz, -10dBV output
Max output:	>5 dBVrms	@1KHz, 1% THD
Supply Current:	2-20 mA	IEPE constant current
Gain:	26 dB	(Standard—can be factory-modified)
Z in:	10 M $\Omega$	(Standard—can be factory-modified to filter low frequencies)
Physical:	$\varnothing$ 14.5mm x 60.1mm, 18g.	

Contact Aquarian Scientific for custom configuration or additional technical support:

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### **Warranty**

This part is warranted for one year, subject to the general warranty terms and conditions noted on our website.

[www.aquarianscientific.com/warranty.html](http://www.aquarianscientific.com/warranty.html)