Warranty and service:

This part is warranted for 1 year, subject to the general warranty terms and conditions noted on our website:

www.aquarianaudio.com/warranty.html

This device is not intended to be waterproof.

Contact Aquarian Audio for technical support:

Aquarian Audio Products
Anacortes, WA, USA
www.aquarianaudio.com
sales@aquarianaudio.com
360-299-0372

Aquarian Audio

PA1-PIP

Hydrophone Buffer / Preamp

For interfacing piezo hydrophones to plug-in-powered microphone preamps

PA1dM

The PA1 is designed to provide impedance conversion and gain, making passive piezo hydrophones compatible with microphone preamplifiers. Users may also find it useful for use with other piezo sensors, such as contact microphones or even electric guitars. It is designed to work with any common mic preamp that offers bias power, from 2.5V plug-in power to 48V phantom power. It is available with either 3.5mm TRS or XLR output. This guide is specific for the 3.5mm version.

This amp uses Aquarian's CS6 signal conditioning board ("d" models), which is the same that is built into the H2 and H3 hydrophones. Gain and output impedance are dependent upon the bias current and input impedance of the mic preamp with which they are used.

USE:
No adjustment to this device or special knowledge is necessary. Simply connect the hydrophone to the adapter and the adapter to the mic input of your audio device.

PIP (plug-in power) is required* and may need to be enabled within the menu settings of your audio device.

*Plug-in-power is a bias current used extensively in consumer audio devices, typically used with electret microphones. Unfortunately, there is no standard for PIP. Compliance voltage and bias current vary widely between components. This module is configured for most common recorder interfaces and wired for dual-mono output—driving both left and right channels and using PIP from both channels. It will also work well, providing additional gain, when driving a single input channel. Because of these uncertainties relating to bias power, performance from this module will vary. May not work with very low-current devices.

The following specifications are based on a typical stereo PIP supply of 2.5V volts though a 2.2K bias resistor and two driven channels. See previous page* for more detail.

20 Hz to 20KHz unweighted, RMS voltage, unless otherwise noted:

Gain:	10 dB	<1>
Noise:	< 10µV	10nF shunt
Response:	+0 / -1	dB
THD:	<0.3%	<2>
Input:	6.3mm TS	<3><4>
Z in:	300 KΩ	<4>
Max input:	150mV	<1>10%THD
Output:	3.5mm TRS	<3><4>
Z out:	1.1KΩ	<1>

<1> These specs are strongly influenced by the PIP supply*
<2> Harmonic distortion is higher than many amps because of the low-voltage class "A" operation required for PIP. However, clipping is soft at high amplitude and distortion is not noticeable at normal amplitudes.
<3> Standard connectors--also referred to as 1/4" and 1/8" mono and stereo phone plugs respectively.
<4> Can be modified per user requirements.