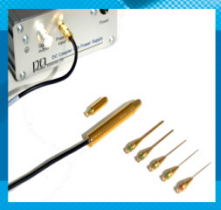

Hydrophone Booster Amplifier: User Guide

PRECISION ACOUSTICS

HYDROPHONE BOOSTER AMPLIFIER HA2

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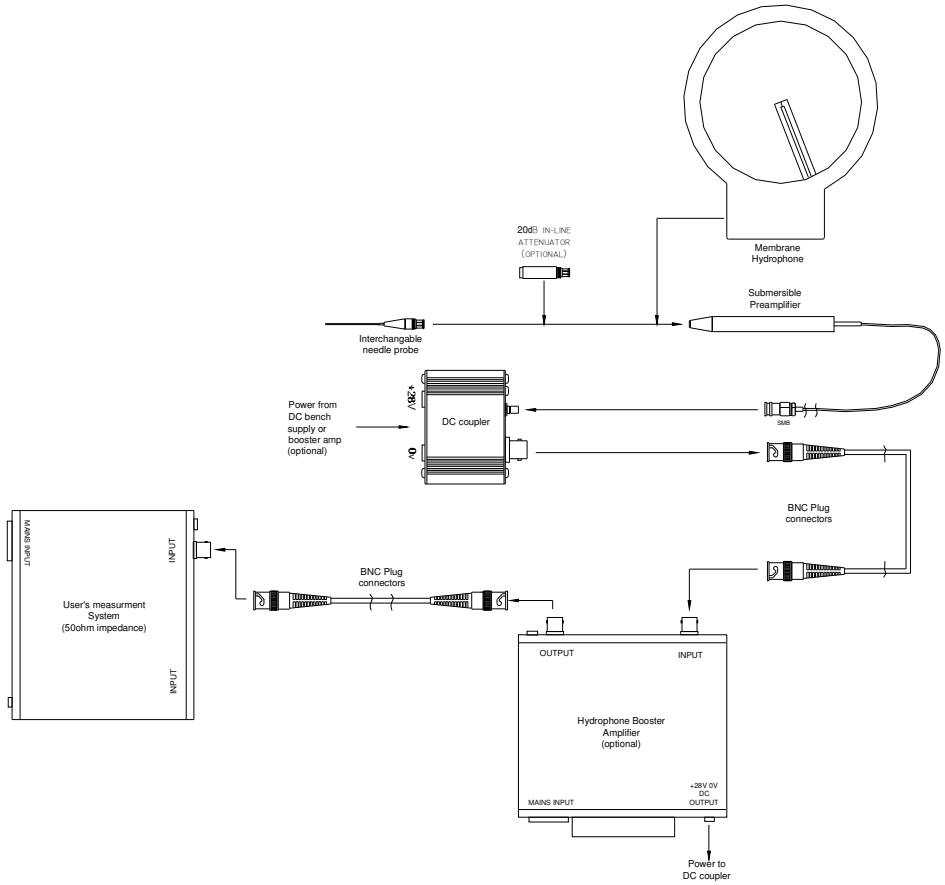
INTRODUCTION

The HP series Hydrophone Booster Amplifier (HA2) amplifies low-level hydrophone signals over a wide range of frequencies. It has a minimum gain of 25dB and an input and output impedance of 50Ω. The HA2 is designed for use with either Precision Acoustics membrane hydrophone or Precision Acoustics HP Series Hydrophone Measurement System, which is shown in Fig 1.



Alternatively, the HA2 may be used when the acoustic signal is provided by a high output impedance hydrophone, such as a GEC-Marconi membrane device, or a conventional hydrophone. In this instance a BNC/MCX adaptor is used which connects directly to the HP Series Submersible Preamplifier, using it as a buffer amplifier, (i.e. the standard Precision Acoustic HP Series configuration shown in Fig 1 is used, but without the interchangeable probe).

The HA2 amplifier is straightforward to use but the following points should be noted:

■ The output of the amplifier should be correctly terminated in 50Ω before operation.

■ The HA2 amplifier is non-inverting but this is of no consequence when used with the HP Series interchangeable probes as their design takes this into account. However when a submersible preamplifier is used as a high impedance buffer amplifier (as in Fig 2) the system output from the HA2 will be inverted as the HP Series Submersible Preamplifier is inverting.

BEFORE CONNECTING THE UNIT PLEASE READ WARNING

WARNING

TO CONNECT	TO DISCONNECT
1 CONNECT OUTPUT LOAD	1 REMOVE RF INPUT
2 APPLY DC VOLTAGE	2 REMOVE DC VOLTS
3 APPLY RF INPUT	3 REMOVE LOAD

SPECIFICATION (HA2 AMPLIFIER ONLY)

Voltage Gain:	25dB minimum
Bandwidth:	50kHz to 125MHz ±1.0dB
Maximum Output Level:	29dBm for 1dB compression (18.1V pk – pk into 50Ω load)
Input Impedance:	Nominal 50Ω
Output Impedance:	Nominal 50Ω (VSWR 2:1)
Output Noise Level:	Typically 70µV pk – pk (bandwidth 125MHz)
Noise Figure:	Typically 10dB
Phase:	Non-inverting
Terminations:	
Front panel:	BNC socket input
Rear panel	BNC socket output 28v dc output to supply DC Coupler
Power Requirements:	100/120/220/240V ac, 50 to 60Hz, 7.5W
Operating Temperature:	0 to 50°C
Size:	(90mm × 205mm ×194mm)
Weight:	2.6kg

All specifications are subject to change without notice.

Further advice and technical assistance can be obtained from our Applications Engineers.

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