

## 2 CH PIEZO AMPLIFIER

LOWELECTRICAL NOISE- NOFAN



### DESCRIPTION

Piezo Systems offers a general purpose, Dual channel, High voltage ( $\pm 200$  Vp), high current (200 mA), and high frequency (DC to 300 KHz) amplifier designed to drive any load including piezo stacks, benders, and single sheets.

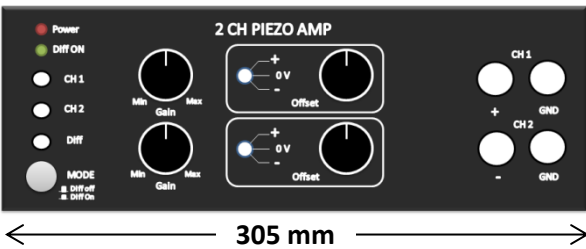
Low Electrical Noise, Low Distortion: The 2CH piezo amp is made with a high quality High Voltage Hybrid Operational Amplifier, and utilizes low noise linear power supplies. It is housed in a heavy high conductivity 127 mm aluminum case which provides an excellent shield from external electromagnetic interference.

Manual Bias Controls (Polarity and DC offset): For making manual adjustments of drive voltage or for applying DC bias to dynamically driven piezo actuators such as piezo stacks.

Input (via analog signal to the SMC input connector): Accepts up to  $\pm 10$  Vp signal waveforms from external Signal generators, The combined AC plus DC offset voltage is adjustable from zero to the maximum rated voltage.

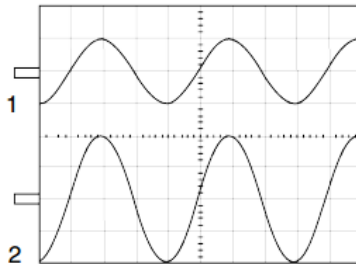
Gain Control: Convenient front panel adjustment of amplifier gain from 0 to 20X

Output (via 4mm diameter safety sockets): High-voltage output terminals meet IEC1010 safety standard. Red and black insulated banana plugs with retractable sheath may be purchased separately. Wire connection to plugs is made with recessed screw.

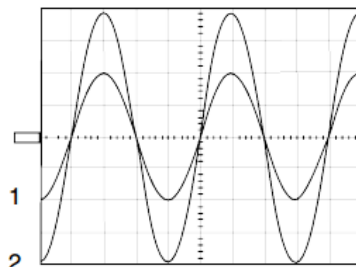


### SAMPLE SCOPE OUTPUTS (1CH)

Load: 0.1  $\mu$ F Capacitor @ 1KHz  
 Channel 1: Input  
 Scale = 0.5 Vp / div  
 Time Base =250  $\mu$ sec/ div  
 Channel 2: Output  
 Scale = 5 Vp / div  
 Time Base =250  $\mu$ sec/ div



Load: 0.1  $\mu$ F Capacitor @ 1KHz  
 Channel 1: Input  
 Scale = 5.0 Vp / div  
 Time Base =250  $\mu$ sec/ div  
 Channel 2: Output  
 Scale = 50 Vp / div  
 Time Base =250  $\mu$ sec/ div



## SPECIFICATIONS

### ELECTRICAL

Maximum Voltage  $\pm 200$  volts peak

Maximum Current 200 mA peak

Output Power 40.0 watts peak

Frequency Range DC to 300 KHz

Full Power Bandwidth

(Into 1 K Resistive load) Flat (to within  $\pm 0.5$  dB): DC to 250 KHz

3db roll-off: 500 KHz

(Into capacitive load) See chart below

Voltage Gain Variable gain, adjustable from 0 to 20X

Slew Rate (No Load) 380 volts /  $\mu$ sec

Maximum Input Voltage  $\pm 10$  volts peak

Maximum DC Component  $\pm 10$  volts DC

Input Coupling Direct DC coupling only

Input Impedance 10K ohm

Output Coupling DC coupling

Variable DC Offset Normally zero volts. Adjustable to  $\pm 200$  volts peak

Load Impedance Capable of driving any load within the voltage and current limitations of the amplifier.

Output Noise (300KHz bandwidth) 2 mv rms typical with input shorted

AC Power Source User settable (fuse change required): 200 - 250 VAC, 50/60 Hz

Circuit Protection Overload, short circuit, and thermal protection.

### MECHANICAL

Front Panel Controls Gain adjust; DC Polarity selector (+,0,-); DC Offset adjust

Rear Panel Controls On/off switch; Line voltage selector

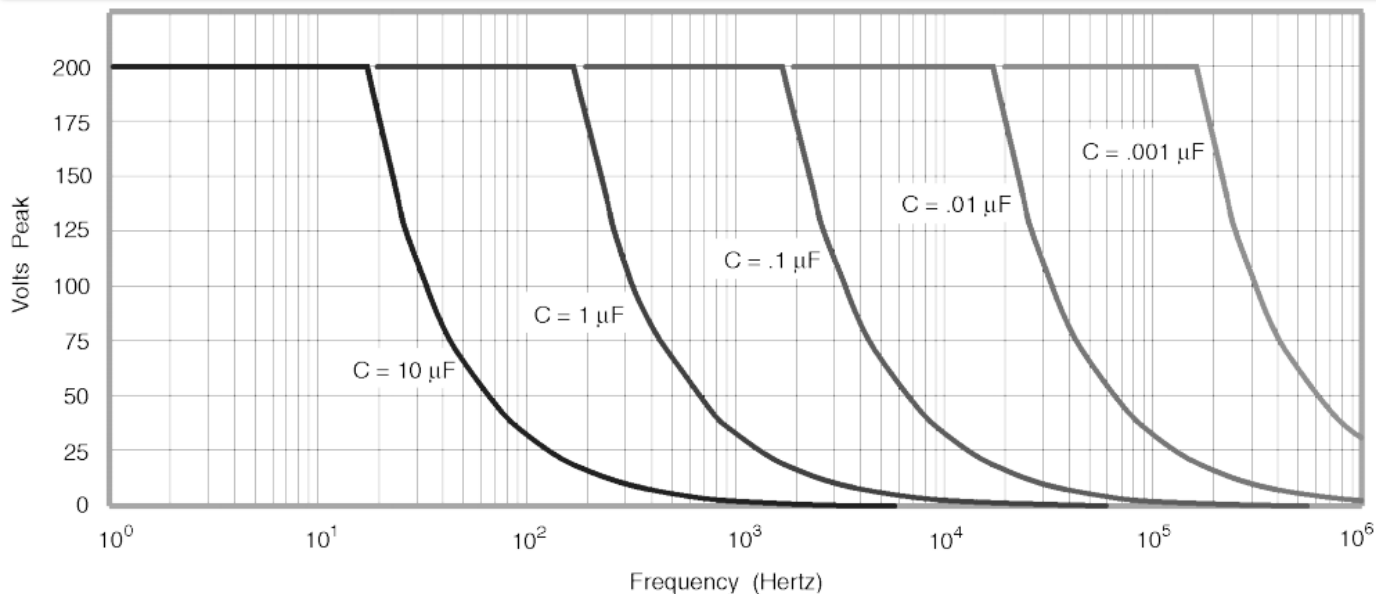
Terminals SMC for input (ground referenced); Safety shrouded banana jacks for high voltage output terminals (ground referenced)

Weight 6.4 kg (14 lbs.)

Dimensions 305mm L x 305mm D x 127mm H (12" L x 12" D x 5" H)

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Peak Voltage Delivered to Capacitive Load at Peak Current Rating as a Function of Operating Frequency  
(Steady State Sinusoidal Waveforms; Temperature = 25 °C)