

PA3 Amplifier

Features

- ▶ *Open Loop Control*
- ▶ *Low Noise, High Stability*
- ▶ *Multiple control methods*
- ▶ *Digital voltage readback via USB 2.0*
- ▶ *Output Voltage: 0 - 150V*
- ▶ *Compatible with Mad City Labs piezo actuators*



PA3 front panel (above)
PA3 rear panel (right)

Product Description

The PA3 is a three channel amplifier suitable for driving low voltage (150V) piezo actuators. The PA3 amplifier combines low noise and outstanding stability with high power output making it ideal for open loop, high resolution control of piezos. The PA3 includes adjustable feet for desktop use, a rack mount option is also available.

The PA3 requires a user supplied 0-10V input signal. The high voltage output is via BNC connections on the rear panel of the PA3. The output voltage for each axis is conveniently displayed on the front panel display.

The PA3 has three available input methods to maximize the compatibility with user instrumentation: analog input (BNC), front panel potentiometer, and 16 bit DAC input via the included USB 2.0 interface.

The USB 2.0 interface not only permits the user to command the input voltage with 16 bit precision but also allows the user to read back the high voltage output via the 16 bit ADC.

The PA3 is shipped with LabVIEW based software to enable users to integrate the amplifier operation directly into their own LabVIEW based control software.

| Specifications | |
|------------------------------------|--|
| Analog Input | 0 V to +10 V |
| Command Signal Input Impedance | 10 k Ω |
| Gain (0 - 10V input) | 15 V _{out} / 1V _{in} |
| Amplifier Output Voltage | 0 V to +150 V |
| Maximum Drive Current (continuous) | 50 mA |
| Power Output (continuous) | 10 W |
| Output Impedance | 10 Ω |
| Output Noise | < 50 μ V _{rms} (1 - 100Hz) |
| Output Short Circuit Protection | YES |
| Steady State Power Consumption | < 0.5 W |
| | |
| General | |
| DC Input Voltage | 12V |
| Input Current | 5.17A |
| Power Supply | 100-240VAC, 50-60Hz |
| Analog Input (per axis) | BNC |
| Manual Input (per axis) | 10 turn potentiometer |
| Digital Input | USB 2.0 (16 bit DAC) |
| Digital Output | USB 2.0 (16 bit ADC) |
| High Voltage Output Display | Front panel screen/USB 2.0 |
| High Voltage Output | BNC (rear panel) |
| Operating Temperature | 5°C to 40°C |
| Dimensions | 10" x 8.375" x 3.5" (254 x 213 x 89 mm) |