# PA-123 *Series Linear Power Amplifers*

## ■ OUTPUT: 65V/130V. ■ 750 to 8000 VA.

PA-123 Power Amplifiers utilize state-of-the-art linear technology to bring quiet direct coupled capability to vibration or audio frequency systems. Flexible modular design enables tailoring of the amplifier to any application requiring from 1,000 to 8,000 VA. Individual 1,000 VA power modules are connected to a common PS-123 Power Supply and are wired in either single ended or bridged configurations.

Linear output stages insure minimum RF radiation to accompanying instrumentation and very low output impedance to maximize system damping. Oversize heat sinks dissipate internal energy with minimum air flow rates. Dual-speed cooling fans provide extra quiet operation during idle or normal dissipation conditions.

Power up soft start relays and line power sensing interlock circuitry eliminate accidental output transients during turn-on and turnoff. Complete self protection for over-temperature, over-current, and instantaneous dissipation, as well as normally open and normally closed external interlock loops are standard.

The CP-123 Control Panel is a compact, rack mounted instrument which provides convenient drive signal control. The CP-123 Control Panel provides gain control (pre-amplification), power amplifier output voltage and current metering, adjustable output current limiting for transducer protection, and full function system safety interlocks. The CP-123 may be used as a remote control panel, connected in master-slave configuration, if more than one control location is desirable. For multiple channel amplifiers, CP-123 Control Panels provide independent control for each channel. Power modules are simply connected into appropriate groups.

The CS-123 current source chassis is designed to interface transparently with the CP-123. Simply flip a front panel switch on the CS-123 and any PA-123 series amplifier is converted into a dependable, high impedance, current source amplifier.

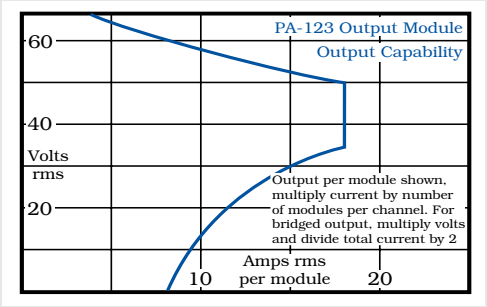
1 Channel, 8,000 VA

6 Channels, 1,000 VA / Channel

### PA-123 GENERAL SPECIFICATIONS*

| | Single end : Bridge** |
|---|---|
| **Output voltage** | 65 V rms : 130 V rms |
| **Output current per module** | 18 A rms : 9 A rms |
| **Max. cont. dissipation** | 850 W/module |
| **Frequency response** | |
| DC input: DC to 10 KHz | -1 dB |
| AC input: 1.0 to 10 KHz | -1 dB |
| **Max. voltage gain** | 40 dB : 46 dB |
| **Cooling** | 2-speed fans, automatic |
| **Input impedance** | 10 kΩ/channel |
| **Meters** | |
| Volts, pk | 3 digit ± 1 lsd |
| Amps, rms/pk | 3 digit ± 1 lsd |
| **Interlock circuit** | N.O./N.C. switch or TTL |
| **Input power** | 1800 VA/module max. typ. |
| Voltage | 208 or 230 Vac |
| Frequency | 48 to 62 Hz |

* Specifications subject to change. Call factory for latest specifications.
**Bridge amplifiers must contain even numbers of output modules.




Labworks Inc.

2950 airway ave. a-16, costa mesa, ca 92626 • voice (714) 549-1981 • fax (714) 549-8041

Labworks Inc.

2950 airway ave.
a-16, costa mesa, ca 92626 (714) 549-1981

- **PA-123-3/2-500**
  **OUTPUT: 65V/2600 VA.**
- **PA-123-2/2-65 & PA-123-1/2-40**
  **OUTPUT: 65V, 2000 VA or 40V, 750 VA.**

PA-123-3/2-500

PA-123-2/2-65 & 1/2-40

The PA-123-3/2-500 houses a field and De-Gauss power supply specifically designed to drive the ET-127 shaker. It's a class AB, air-cooled unit with a power output of 2,600 VA. The modular design allows this amplifier to be configured for use with other shakers and the control panel can be mounted remotely if desired.

PA-123-X/2 amplifiers utilize standard PA-123 output modules and a CP-123 control panel/preamplifier. The number of output modules and power supply voltage is varied to match the load requirements.

The PA-123-2/2-65 uses two output modules and full supply voltage. The PA-123-1/2-40 uses one output module and reduced supply voltage to match low impedance loads. The 2/2-65 can be configured to supply up to 130 Volts/18 amps if required for high voltage loads.

## PA-123-2/2-65 & PA-123-1/2-40 SPECIFICATIONS*

| | | 2/2-65 | 1/2-40 |
|---|---|---|---|
| **Output Voltage (continuous)** | | | |
| 10 Hz to 20 KHz | | | |
| open circuit | | 70.0 | 45.0 V rms |
| 4Ω load | | 60.0 | 40.0 |
| 2Ω load | | 52.0 | 35.0 |
| 1Ω load | | 35.0 | 22.0 |
| DC to .1 Hz | | | |
| open circuit | | 100.0 | 63.0 Vdc/pk |
| 4Ω load | | 40.0 | 40.0 |
| 2Ω load | | 20.0 | 20.0 |
| 1Ω load | | 10.0 | 10.0 |
| **Random Voltage Output** | | | |
| 2.5 sigma peak volts | | | |
| open circuit | | 40.0 | 25.0 V rms |
| 4Ω load | | 38.0 | 23.0 |
| 2Ω load | | 36.0 | 21.0 |
| 1Ω load | | 28.0 | 18.0 |
| 3.0 sigma peak volts | | | |
| open circuit | | 33.0 | 21.0 V rms |
| 4Ω load | | 31.0 | 19.0 |
| 2Ω load | | 30.0 | 17.5 |
| 1Ω load | | 28.0 | 15.0 |
| **Maximum continuous dissipation** | | | |
| Ambient Temp = | 40°C | 1700 | 850 W |
| | 50 | 850 | 425 |
| | 60 | 0 | 0 |
| **Frequency response (DC coupled input)** | | | |
| DC to 10 KHz | | -1 dB | |
| DC to 20 KHz | | -3 dB | |
| AC coupling @ 1.0 Hz | | -1 dB | |
| **Slew rate** | | 5 V/µsec | |
| **Harmonic distortion** | | | |
| (10V, 1k) | | <.5 % @ 2Ω | |
| **Signal/noise ratio** | | | |
| (ref 20V out) | | 80 dB min. | |
| **Input impedance** | | | |
| DC coupled | | 7 | 10 kΩ |
| AC coupled | | 47 uF in series with 10 kΩ | |
| **DC offset** | | 10 mV max | |

| | 2/2-65 | 1/2-40 |
|---|---|---|
| **Voltage mode gain** | 40 dB max | |
| **Voltage source regulation** | <0.2 dB (∞- 2Ω load, 30 Hz/10 V rms) | |
| **Front panel controls** | Power, damping, rms/pk, limit, gain adjust. | |
| **Front panel indicators** | Power, gain up, ready, fault, limit. | |
| **Front panel metering** | | |
| Type | (2) digital meters | |
| Scale | | |
| Voltage | 0-100 V pk | |
| Current | 0-50 A rms | |
| Accuracy | | |
| Peak voltage | ± 3% reading, ± 1 digit | |
| True rms current | ± 3% reading, ± 1 digit | |
| **Interlock circuit** | | |
| Type | N.O./N.C. switch or TTL | |
| Response time | 3 ms. max | |
| Action | Output drives to ground | |
| Reset | Gain pot full down or > 1.5V @ RST | |
| Indicator | Fault light | |
| **Cooling** | 2-speed fans | |
| Noise level: low/high speed | <52 dB/<65 dB (switches @ approx. 1/2 diss.) | |
| **Self protection** | Over current, over temperature | |
| **Line protection** | | |
| Circuit breaker | 15 A @ 208 - 230 Vac | |
| **Input power** | 3,500 | 1,750 VA max |
| Voltage | 208 or 230 Vac, 1ø | |
| Frequency | 48 to 62 Hz | |
| **Dimensions** | 10.5" H<br>21" W<br>20" D | 10.5" H<br>21" W<br>20" D |
| **Weight** | 85 lbs | 70 lbs |

*Specifications subject to change. Consult factory for latest specifications.