High Voltage Amplifier

HVA-2

Features

- **Output voltage range +5V to +300V**
- **Large signal bandwidth up to 30kHz**
- **Adjustable Gain and DC Offset**
- **Ideal for driving low voltage piezo-electric actuators**

Product description

The HVA-2 high voltage amplifier is designed to drive capacitive loads, such as piezoelectric or electrostrictive actuators; both manually, using its adjustable DC offset, and dynamically, using the external voltage input. With a high voltage output range extending to +300V and a large signal bandwidth of 30kHz, the HVA-2 is ideally suited to power these versatile transducers which have numerous applications in optical research, like; positional control of mirrors and optical fibres, interferometry, feedback control systems and optical sensing.

The front panel controls of the HV amplifier include an enable/disable switch for the HV output and a DC offset control which will adjust the HV output anywhere between 0V and +300V to allow the manual positioning of a piezoelectric actuator. In addition the offset can be utilised to bias the operational point of the HV amplifier to permit both unipolar and bipolar signal inputs from the BNC input connector. The gain of the amplifier can also be manually adjusted from 0 to 50 while two front panel LEDs warn when the HV output approaches the maximum permissable output voltages. The HV output is available via an SMC connector and can be independently monitored on an oscilloscope or data acquisition system by a separate HV÷50 BNC output.

The standard HV amplifier is a 240V AC mains powered unit with an IEC connector. Alternative international mains connectors will be supplied as appropriate. Customised versions of the HV amplifier are available with additional output channels and higher output current characteristics.

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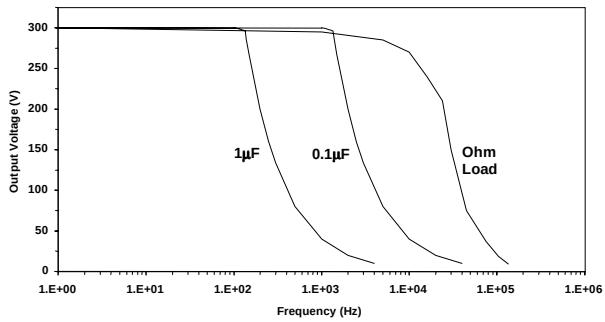
Options

- Additional channels
- Higher instantaneous output current
- Higher mean output current

Specifications[1]

HVA-2	
Output Voltage Range	+5V to +300V
Gain	0 to 50V/V
DC Offset	0V to 300V
Noise	< $5mV_{pp}$
Linearity	better than 1%
Input Signal Range	±10V
Input Impedance	22kΩ
Maximum Slew Rate	30V/µs
Bandwidth	
Large Signal [300V]	30kHz
Small Signal [75V]	30kHz
Output Current [max]	
Sink: Instantaneous	120mA
Source: Instantaneous	120mA
Source: Continuous	40mA
Output Polarity	Positive
Output Monitor Range	0V to 6V
Power Supply Requirement	220/240V, 50–60Hz AC mains via IEC connector

[1] Since OPTOSCI are committed to constantly improve the design and performance characteristics of our products, these specifications are subject to change without notice.



Frequency curves of the HVA-2 with different output loads.

Ordering information

HVA-2	Single channel HV amplifier
HVA-*special*	Custom option

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