

# PA14-500

## Power Amplifier



### Applications

- Power amplifier for modal testing shaker
- Power amplifier for environmental testing systems

### Range of Use

- Research and development departments in industry
- Environment testing laboratories
- Universities and research institutes

### Description

The Power Amplifier Type PA14-500 has been developed to drive any type of exciter requiring a 500 VA power amplifier. It has an useable frequency range from 40 Hz to 65 kHz at full power or from DC to 150 kHz small power; the harmonic distortion is hereby very small.

The power amplifier can tolerate temperature and supply line variations while maintaining excellent stability.

Thereby, the product can be used as a voltage generator with low output impedance and a flat voltage frequency response, or as a current generator with high output impedance and a flat current frequency response. The maximum RMS output-current limit is adjustable. For standard application, we recommend using the product in voltage mode.

### Features

- Frequency range DC...150 kHz
- High reliability operation
- Switch between Voltage and Current Mode
- Phase Shift (0° or 180°)
- Variable Gain Control
- Current Limit Control
- Temperature Protection
- Control Mute Input
- Multifunction LCD Display

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### Technical Data

<b>General</b>		
Power Output, max.	500 VA into a 4 Ohm resistive load	
Frequency Range	Full power	40 Hz...65 kHz
	Small signal (-20 dB)	DC...150 kHz
Voltage Output, max.	45 V RMS	
Current Output	5 A	DC
	5 A RMS	0.1 Hz...5 Hz
	6 A RMS	5 Hz...10 Hz
	9 A RMS	10 Hz...20 Hz
	11 A RMS	20 Hz...15 kHz
	9 A RMS	15 kHz...65 kHz
Input Voltage	< 5 V	
Input Impedance	> 10 kOhm	
Input Capacity	> 47 pF	
Power Supply (preset)	preset to either 100 V or 120 V or 230 V RMS $\pm$ 5 %, 50 Hz / 60 Hz, single phase, AC mains supply, 1 170 VA power consumption at full load	
Monitor Output	Voltage monitor	0.1 V / V $\pm$ 3 %, 0.1 Hz...15 kHz
	Current monitor	0.1 V / A $\pm$ 3 %, 0.1 Hz...15 kHz
Dimensions	Width	482 mm (19 in), with flanges standard 19" rack
	Height	88 mm (3.5 in), corresponds to 2 U
	Depth	450 mm (17.7 in)
Weight	21 kg (46 lb)	
<b>Bandwidth - Voltage Mode</b>		
Frequency Range	Full power	40 Hz...65 kHz
	Small signal (-20 dB)	DC...150 kHz
Gain	Nominal	18 V/V
	$\pm$ 2 dB	20 Hz...10 kHz
	$\pm$ 3 dB	10 kHz...50 kHz
Total Harmonic Distortion	< 0.1 %	40 Hz... 5 kHz, full power
	< 0.2 %	5 kHz... 15 kHz, full power
	< 4 %	15 kHz...65 kHz, full power
	< 0.2 %	65 kHz...150 kHz, small signal (-20 dB)
Signal-to-Noise Ratio	> 90 dB (full power, -0.5 dB)	
<b>Bandwidth - Current Mode</b>		
Frequency Range	Full power	40 Hz...65 kHz
	Small signal (-20 dB)	5 Hz...60 kHz
Gain	Nominal	12 A / V
	$\pm$ 0.5 dB	5 Hz...15 kHz
	$\pm$ 3 dB	2 Hz...60 kHz
Total Harmonic Distortion	< 0.2 %	40 Hz...2 kHz, full power
	< 0.8 %	2 kHz...15 kHz, full power
	< 2 %	15 kHz...65 kHz, full power
Signal-to-Noise Ratio	> 90 dB (full power, -0.5 dB)	