

Features

- ▶ 2U standard
- ▶ Large energy power supply , high-efficiency and super ring transformer
- ▶ Input signal set 0.775V ,1V and 14V selection switch
- ▶ With protection, signal, clip, bridge and power LED
- ▶ Lift and right channel with dual polar cooling fan, high- efficiency air cooling channel
- ▶ With a power star soft , DC protection , short protection , thermal protection, overload protection

Specification

Model	PA-300	PA-500
4Ω load	450Wx2	800Wx2
8Ω load	300Wx2	500Wx2
8Ω bridge load	900W	1000W
Frequency response	20Hz-20kHz ±1dB	20Hz-20kHz ±1dB
SNR	> 100dB	> 100dB
Total Harmonic distortion	< 0.01%	< 0.01%
Input impedance	20kΩ	20KΩ
Input voltage	0.775V,1,1.4V	0.775V,1,1.4V
Input connect	XLR	XLR
Output connect	Neutrik Speakon	Neutrik Speakon
Switch mode	Stereo/Bridge/Parallel	Stereo/Bridge/Parallel
Power supply	220V/240V AC50~60Hz	220V/240V AC50~60Hz
Size(L×D×W)mm	480x350x88.9	480x350x88
Weight	13.02kg	14.8kg

Professional Power Amplifier

PA-300
PA-500



Specifications are subject to be changed without notice.



1. INTRODUCTION

Professional power amplifier is made by engineers to satisfy the field severe requirements, designing the circuit meticulously and strictly controlling the quality of every component. It is tested under the rated load conditions after the routine testing procedure has been taken for over ten hours. All these will guarantee P series professional power amplifier can operate reliably under the severe environment.



for your safety read the sections on important precautions, input, output, and power connections.



This symbol, a lightning flash with arrow head within an equilateral triangle, appears on the amplifier chassis to warn the user that uninsulated "dangerous voltages" are present within the enclosure that may pose a risk of electric shock.



This symbol, an exclamation point within an equilateral triangle, appears on the amplifier chassis to warn the user to follow important operating procedures and precautions detailed in this manual.

2. IMPORTANT PRECAUTIONS

- (1) Keep this Owen's Manual for future reference.
- (2) Follow all instructions printed on the unit chassis for proper operation.
- (3) Do not spill water or other liquids into or on the unit. Do not operate the unit while standing in liquid.
- (4) Make sure the power outlet conforms to the power requirements listed on the back of the unit.
- (5) Do not block fan intake or exhaust ports. Do not operate the amplifier on a surface which may impede the normal flow of air around the unit, such as a bed, sofa, rug or similar surface.
- (6) Do not use this unit if the electrical power cord is frayed or broken.
- (7) Always operate the unit with the AC ground wire connected to the electrical system ground.
- (8) Do not drive the inputs with a voltage greater than that required to drive the amplifier to full output.
- (9) Do not run the output of any amplifier channel back into another channel's input.
- (10) Do not parallel or series connect an amplifier output with any other amplifier output.

synchronized with the turn-off signal, therefore no thumps or pops are heard.

(4) Short Circuit Protection

Keep the unit work in the safe condition when the output short.



Do not drive any speaker enclosure with frequencies lower than its own tuned frequency.

14. MAINTENANCE

The air filters must be cleaned or replaced periodically to maintain adequate airflow. How often you must do this depends on the environment in which you operate the amplifier. At least once a year you should clean the heat sink fins, by blowing out the accumulated dust with compressed air. To clean the element, unsnap the filter element/guard assembly from the fan housing, pry the two sides of the guard apart, and remove the filter element. Wash and rinse the element using soap and water, then squeeze it dry and reinstall. Never operate an amplifier with a clogged filter; it will quickly overheat.

Replacement filter elements and filter/guard assemblies can be ordered from .

P series Professional power amplifier requires no other routine maintenance and should never need any internal adjustments during its lifetime.

15. USER RESPONSIBILITY

Your P series professional power amplifier is very powerful and can be potentially dangerous to loudspeakers and humans alike. It is your responsibility to read Section 2 on Important Precautions and make sure that the amplifier is installed, wired, and operated properly as instructed in this manual.



NOT LIABLE FOR DAMAGE TO LOUSPEAKERS FOR ANY REASON.

(1) Power and Bridge LED

- a. when the AC power switch is set to (I) position, the switch blue power LED will light.
- b. when the mode select switch is set to "Bridge" position, the yellow Bridge LED will light.

(2) Signal LED

This green LED lights when its channel's signal is reaching and passing through the amplifier under normal condition.

(3) Clip LED

The occasional flashing of the red clip LED is allowable. This means the channel is just at the clip threshold. If the clip LED is on continuously, the gain should be reduced to prevent severe clipped waveforms reaching the loudspeakers.



Do not drive any speaker enclosure with frequencies lower than its own tuned frequency.

13. PROTECTION FEATURES

Each P series professional amplifier incorporates several circuits to protect both itself and the loudspeakers. has attempted to make the amplifier as "foolproof" as possible by making it impervious to short circuit, DC voltage, and overheating.

When a problem occurs that causes a channel to go into a protection state, the DC & Temp LED for that channel will glow. DC voltage on the output, thermal overloads will cause the channel's output relay to disconnect the speaker load until the problem is corrected or the amplifier cools down.

(1) Thermal Protection

The internal fans will keep the amplifier operating well within its intended temperature range under the normal conditions.

When a channel's heat sink temperature reaches 85°C, which may indicate an obstructed air supply, clogged air filter, or short circuit, etc., that channel will disconnect its load. During this time, the channel's DC & Temp LED will light. Normal operation will resume automatically once it cools down 75-80°C.

(2) DC Voltage Protection

If an amplifier channel detects DC voltage at its output, its output relay will immediately open to prevent loudspeaker from damage. The channel's DC & Temp LED will light.

(3) Turn-on/Turn-off Protection

At power-up speakers are disconnected, the power supplies charge for about 3-5 seconds and stabilize, the speakers are then connected. When power is removed, speaker loop is

- (11) Do not connect the output of the amplifier to any other voltage source, regardless of whether the amplifier is turned on or off.
- (12) Do not use the unit near stoves, heat registers, radiators, or other heat producing devices.
- (13) Do not ground any red terminal.
- (14) When changing a fuse with the same type must be used.

3. OPERATING PRECAUTIONS

Make sure the AC mains voltage is the same as that printed on the rear of the amplifier. Damage caused by connecting the amplifier to improper AC voltage is not covered by warranty. Make sure the power switch is off before making system connections or plugging.

It is always a good idea to have the gain controls turned down during power-up to prevent speaker damage if there is a high signal level at the inputs.

Always use good-quality power outlet, and make sure it meets the power requirements. low-quality power outlet, such as oxidized spring blades in the outlet or too small cable connected to the outlet, etc., will have an adverse effect on the performance of the amplifier.

Use proper speaker cables to minimize the power loss in the cables. when connecting bare wire to the red binding post, do not let any wire stay outside the terminal holes.

4. CONNECTING INPUTS

Input connections are made via the 3-pin XLR-type and 1/4" TPS connectors on the rear panel of the amplifier. The connections of balanced inputs and unbalanced inputs are shown in Figure 4-1 and 4-2 respectively.

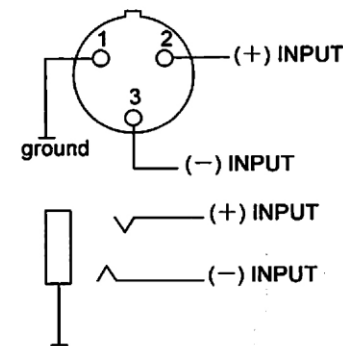


Figure 4-1
Balanced input connection

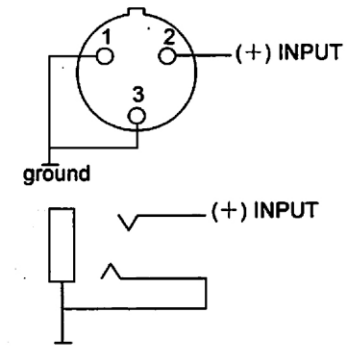


Figure 4-2
Unbalanced input connection

5. CONNECTING OUTPUTS

Speakers can be connected using banana plugs, spade plugs, or bare wire to the binding posts and neutrik plugs on the rear panel of the amplifier (See Figure rear panel). Consult the wire gauge chart to determine suitable wire gauges for different load impedances and cable lengths.

The red binding posts are considered "hot", connecting to the positive poles of speakers, while the black binding posts are at signal ground, connecting to the negative poles of speakers (See Section 8 for information on bridged mode and its output configuration).



Never connect a "hot" output to ground or to another "hot" output!

6. CONNECTING POWER

Different models have different power requirements. Make sure the power capacity of power outlet is enough. The series professional amplifier power requirements are as follows:

To convert a 220 volt amplifier to 110 volt or vice-versa, contact the factory for instructions.

There are no user-serviceable parts within the amplifier. Removing the cover exposes the risk of shock, so refer all servicing to qualified service technicians.

7. STEREO OPERATION

For stereo operation, set the mode select switch to the "stereo" position. In this mode, both channels operate independently of each other, with their gain controllers control their respective levels.

Thus, a signal at Channel A's input produces an amplifier signal at Channel A's output, while a signal at Channel B's input produces an amplifier signal at Channel B's output. In the stereo mode, the rated load impedance for mode is 4-8 ohms. Mode

8. BRIDGED MONO OPERATION

Both amplifier channels can be bridged together to make a very powerful single channel monaural amplifier. When the mode switch is set to the "bridge" position, one channel "pushes" while the other "pulls" equally, effectively doubling the power over that of either channel alone. Use extreme caution when operating the amplifier in the bridged mode.

To bridge the amplifier, set the mode switch to the "bridge" position. Apply the signal to Channel A's input and connect the speakers across the "hot" output, the red binding posts of Channels A and B. Channel A's "hot" output is in phase with the input.

For operation, adjust only the Channel A's gain controller and set Channel B's gain controller to "-80dB" position.



Never connect a "hot" output to ground or to another "hot" output!

9. BRIDGING PRECAUTIONS

Never ground either side of the speaker cable when the Amplifier is in the bridged Mode; both sides are "hot". If an output patch panel is used, all terminals must be isolated from each other and from the ground.

In the bridged mode do not try to operate the mode switch after power on.

10. GAIN CONTROLLER

The two gain controllers, located at the front panel, adjust gain for their respective amplifier channels in the stereo mode. With attenuators fully clockwise at 0 dB, the amplifiers have the rated power. In the bridged mode, only Channel A's attenuator controls the power level, while the Channel B's does not function (see Section -80dB).

11. MODE SELECT SWITCH

The rear panel mode select switch determines whether the amplifier is in the stereo or bridged mono mode (see Section 7 and 8 for more information).

12. INDICATORS

All series professional amplifiers feature front panel LED indicators to inform the user of each channel's operating status and warn of possible abnormal conditions.