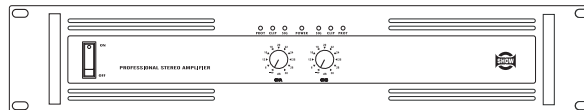




PSA Series Professional Stereo Amplifiers

**PSA-3600
PSA-3900
PSA-31500**



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PROFESSIONAL STEREO AMPLIFIER

User's Manual

9. TECHNICAL SPECIFICATIONS

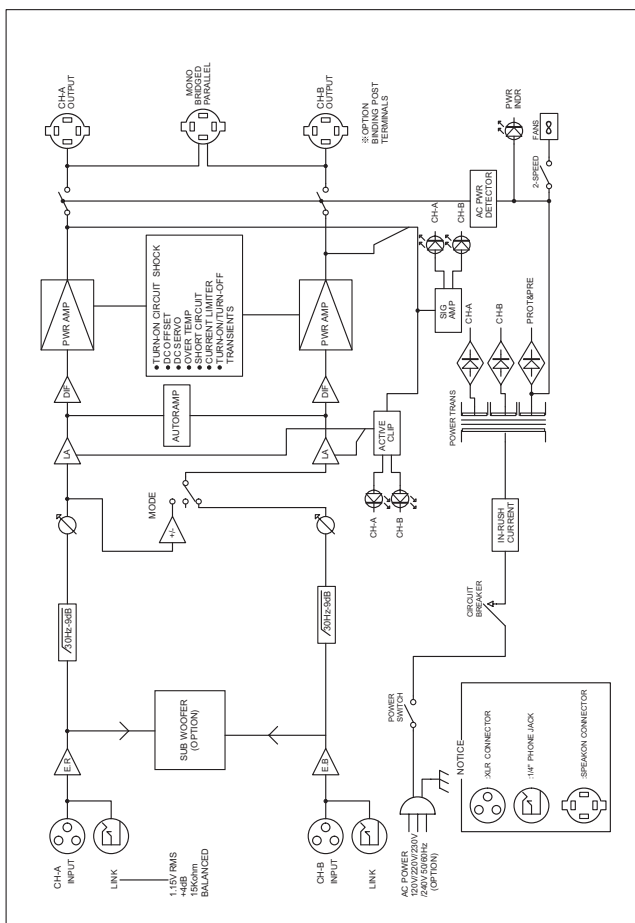
POWER SPECIFICATIONS		PSA-3600	PSA-3900	PSA-31500
Stereo Mode (Both channels driven) 20Hz-20kHz	2 Ohms (EIAJ)	750 W x 2	1000 W	1800 W
	4 Ohms (RMS)	350 W x 2	510 W	900 W
	8 Ohms (RMS)	230 W x 2	285 W	560 W
Bridge Mono Mode 20Hz-20kHz	8 Ohms (RMS)	710 W	1000 W	1800 W
	4 Ohms (EIAJ)	1500 W	2200 W	3100 W
ELECTRICAL SPECIFICATIONS				
INPUT SENSITIVITY		1.15 V (+3.4 dBu)		
INPUT IMPEDANCE		10 K Ω Unbalanced 20 K Ω Balanced		
FREQUENCY RESPONSE (@10dB below rated output power)		25 Hz-25 KHz +0/-1 dB -3 dB points: 5 Hz-50 KHz		
VOLTAGE GAIN		28 dB	32dB	34 dB
DISTORTION(SMPTE-1M)		<0.03%		
S/N Ratio		100 dB		
GENERAL SPECIFICATIONS				
PROTECTIONS		Full short circuit, open circuit, thermal, ultrasonic, and RF protection stable into reactive or mismatched loads, turn ON/OFF, muting, tripped crowbar		
CONTROLS		Front: AC switch, Input level control for each channel Rear: stereo/ parallel/ bridged selector, 30Hz filter selector clip ON/OFF selector.		
INDICATORS		SIGNAL: 2 \times green LED CLIP: 2 \times red LED POWER: 1 Green LED		
CONNECTORS		INPUT : Active balanced XLR and 1/4"(6.3 mm)TRS OUTPUT: "Touch-proof" binding posts and speak-on jacks.		
POWER SUPPLY		Available for 110-120 V or 220-240 V AC, 50/60 Hz		
DIMENSIONS		483(W) \times 460(D) \times 88.8(H)mm		
WEIGHT		14.5 kg	17.3 kg	20.7 kg

IMPORTANT!

Please read this manual carefully before operating
this unit for the first time.

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8. BLOCK DIAGRAM



SAFETY RELATED SYMBOLS



The symbol is used to indicate that some hazardous live terminals are involved within this apparatus, even under the normal operating conditions.



The symbol is used in the service documentation to indicate that specific component shall be only replaced by the component specified in that Documentation for safety reasons.



Protective grounding terminal.



Alternating current /voltage.



Hazardous live terminal .

ON: Denotes the apparatus turns on.

OFF: Denotes the apparatus turns off, because of using the single pole switch, be sure to unplug the AC power to prevent any electric shock before you proceed your service.

WARNING: Describes precautions that should be observed to prevent the danger of injury or death to the user.



Disposing of this product should not be placed in municipal waste and should be separate collection.

CAUTION: Describes precautions that should be observed to prevent danger of the apparatus.

WARNING

• Power Supply

Ensure the source voltage matches the voltage of the power supply before turning ON the apparatus.

Unplug this apparatus during lightning storms or when unused for long periods of time.

• External Connection

The external wiring connected to the output hazardous live terminals requires installation by an instructed person, or the use of ready made leads or cords.

• Do not Remove any Cover

There are maybe some areas with high voltages inside, to reduce the risk of electric shock, do not remove any cover if the power supply is connected.

The cover should be removed by the qualified personnel only.

No user serviceable parts inside.

• Fuse

To prevent a fire, make sure to use fuses with specified standard(current,voltage, type). Do not use a different fuse or short circuit the fuse holder.

Before replacing the fuse, turn OFF the apparatus and disconnected the power source.

• Protective Grounding

Before turning the product ON, make sure that it is connected to Ground. This is to prevent the risk of electric shock. Never cut internal or external Ground wires. Likewise, never remove Ground wiring from the Protective Ground Terminal.

Never cut off the internal or external protective grounding wire or disconnect the wiring of protective grounding terminal.

The apparatus shall be connected to a mains socket outlet with a protective earthing connection.

• Operating Conditions

This apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on this apparatus.

To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

Do not use this apparatus near water. Install in accordance with the manufacturer's instructions. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat. Do not block any ventilation openings.

No naked flame sources, such as lighted candles, should be placed on the apparatus.

IMPORTANT SAFETY INSTRUCTIONS

- Read these instructions.
- Follow all instructions.
- Keep these instructions.
- Heed all warnings.
- Only use attachments/accessories specified by the manufacturer.

• Power Cord and Plug

Do not defeat the safety purpose of the polarized or grounding type plug.

The mains plug is used as the disconnect device, the disconnect device shall remain readily operable.

A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

• Cleaning

When the apparatus needs a cleaning, you can blow off dust from the apparatus with a blower or clean with rag etc.

Don't use solvents such as benzol, alcohol, or other fluids with very strong volatility and flammability for cleaning the apparatus body. Clean only with dry cloth.

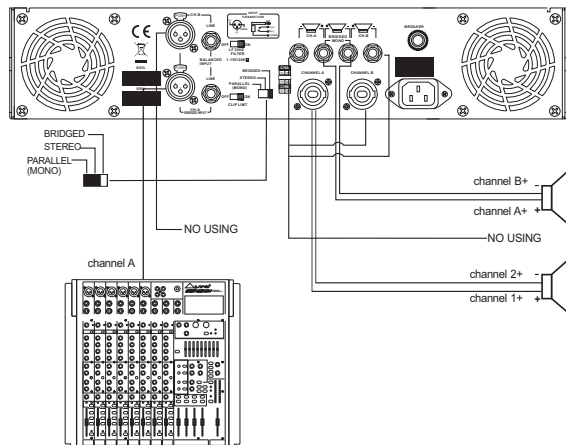
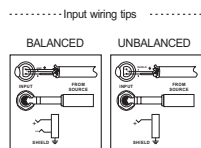
• Servicing

Refer all servicing to qualified personnel. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Operate PSA Professional Stereo Amplifiers Bridged Mode

In this mode, the channel A input signal will be output from the bridge output Connectors (The 2 RED binding post). In this case, use the channel A volume control to adjust the volume, keep the volume control of channel B turned completely down (counterclockwise). Bridged mode is intended for driving loads with a total impedance of 4 ohms or greater. In Bridge Mode you will combine the power of both channels into one speaker. You will have available massive amount of power so check carefully the power handling of your speaker before operation.



Operate PSA Professional Stereo Amplifiers in Parallel Mode

In this mode, the channel A input signal will be output from the output connectors of both channels. The channel B input jack is not used; the channel A and channel B volumes can be adjusted independently. Use the parallel mode when you want to drive two speakers with only one input signal keeping separate control of the volume of the two channels.

NOTE: since you are not using the channel B input you can use this socket to "daisy chain" the signal to another amplifier.

Input wiring tips

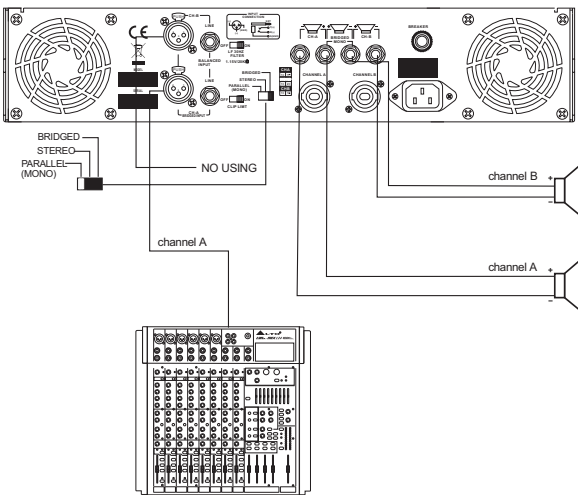
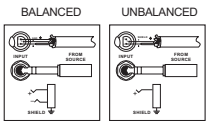


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1. INTRODUCTION

Thank you for purchasing one of our PSA Series Professional Stereo Amplifiers. The PSA Series includes PSA-3600, PSA-3900, PSA-31500. All models are rugged, 2 rack-unit professional stereo amplifiers fan-cooled. Despite their compact dimensions they provide a lot of power and a high value performance. They are all designed for heavy-duty application and they all can drive 2 ohm loads for long periods without overheating. Therefore they are suited to drive subwoofers with a minimum load of 4 ohms when working in Bridge Mode.

2. FEATURES

- Clip-limiter circuit that is user-adjustable
- Switchable low-frequency filter at 30Hz
- Operating mode are stereo, parallel or bridge
- Balanced XLR and 1/4" TRS input connectors
- Output connectors are speakon jacks and binding post terminals
- Low-noise, variable speed fan
- Front panel LED indicating signal and clipping and protection status
- Manufactured under QS9000, VDA6.1 certified management system

3. PREPARATION BEFORE STARTING

- Check the AC voltage used in your country. Proper grounding prevents user from electric shock
- Before switching on the power, make sure gains are turned to minimum to prevent damaging other equipments
- Check your cables regularly and label each end clearly for easy identification
- Always turn off the power before connecting or disconnecting the unit
- NEVER use solvents to clean the unit. Clean it with a soft and damp or dry cloth

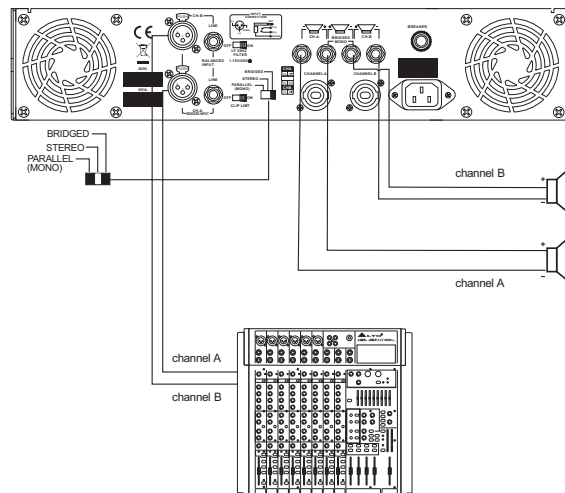
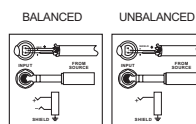
7. INSTALLATION AND CONNECTION

The PSA Professional Stereo Amplifiers provide three operating modes: stereo mode, parallel (mono) mode and bridged mode, you can decide each specific operating mode according to your actual application circumstance.

Operate PSA Professional Stereo Amplifiers in Stereo Mode

In this mode, channel A and channel B operate independently (as a conventional stereo amplifier). The channel 1 input signal will be output from the channel A output connectors, and the channel B input signal will be output from the channel B output connectors.

..... Input wiring tips



6. CONNECTION FOR INPUT SIGNAL

Connect input signal to mix balanced MIC input socket: balanced input (6-1), unbalanced input (6-2). It is suggested to use the balanced input especially when the audio cable is very long, this will effectively reduce "hum" noise caused by AC power.

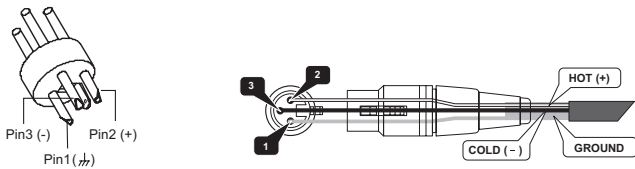


Fig. (6-1) Balanced input

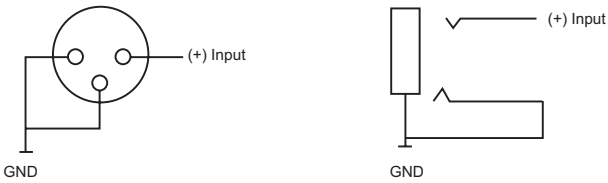
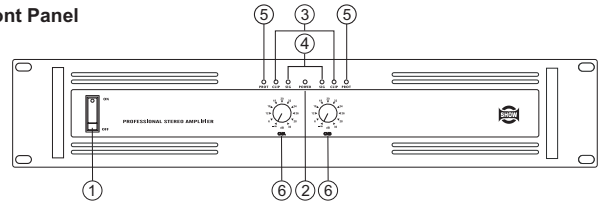


Fig. (6-2) Unbalanced input

4. CONTROL ELEMENTS

Front Panel



① Power Switch

It powers the PSA Professional Stereo Amplifier ON and OFF.

② Power LED

This power LED lights up when the unit is powered up.

③ Clip LEDs

These LEDs will light up when distortion reaches a level of 0.5%, turn the relative gain control down so that the clip LEDs only flash occasionally. And these LEDs will light up when the unit is in protection mode due to overheating, exist DC output or other causes.

④ Signal LEDs

These LEDs will light up when the signal at the output is at least 100 mV.

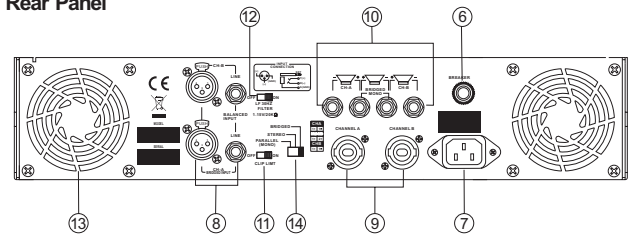
④ Protection LEDs

In normal operation, the Led will not illum; If the Led is red, it means the unit is in heat protection, no sound is output. The speaker system is actually disconnected from the amplifier outputs when this LED is red, the temperature must be lowered by better ventilation and decrease the signal level etc. if the problem is corrected, the protection systems deactivate automatically, and normal amplifier operation is resumed.

⑥ Gain Controls

These controls are used to adjust the output signal level. In stereo mode, they are used to control the level of respective channel; In bridge mode, only the gain control of channel A is used to control the volume of the whole system.

Rear Panel



⑥ **Circuit Breaker**

This is an electronic fuse for protecting the unit from possible damage. When the unit is overloaded or the temperature inside the unit is too high, this push-type button will spring out and disconnect the power supply. Push the breaker to restore normal working conditions.

⑦ **IEC Socket for AC Power Cable**

Connect the supplied main cord. Do not insert the power cord into the amplifier and into the AC outlet until voltage has been correctly set.

⑧ **XLR Balanced Input Connectors**

Each channel features balanced XLR and 1/4" jack sockets wired in parallel. The balanced signals are less sensitive to hum noise generated by AC.

⑨ **Speakon Outputs (channel A & channel B)**

These connectors are specifically designed to connect high power speakers. The correct polarity is secured automatically, they prevent shock hazard and they lock-in securely.

⑩ **Binding Post Outputs (channel A & channel B)**

Please make sure to respect the speaker polarity when using binding post. **Caution:** Turn off the unit before connecting an audio signal to the binding post to avoid any electric shock!

⑪ **Clip-limiter switch**

If a very high level signal is driven into the amplifier, the output signal will clip, that the peaks of the waveform will be flattered. The clip limiter circuit automatically reduces the gain to prevent the overdrive. You can switch the clip limiter circuit on and off via the switch on the rear panel of your amplifier. If you use full range speakers, the clip limiter circuit will reduce the high frequency distortion and it will also protect the high frequency drivers. However, some users prefer to switch the limiter off to get more punch from kick drums and other sounds in the low frequencies area.

⑫ **Low Frequency Filter**

This filter rolls off audio signals below 30 Hz. In this way bass performance will be improved, because the subsonic motion of the cone will be cut out and more power is made available to the woofer in the audible range of frequencies. If you want our view: keep the filter on most of the time unless you are filtering the signal before the input of the amplifier. Especially vented speakers (bass-reflex) are very sensitive to subsonic frequencies (below 30 Hz).

⑬ **Cooling Fan**

This fan secures enough cooling for your amplifier. The airflow is front-to-rear. The fan speed is electronically regulated depending on the temperature of the power devices.

⑭ **Output Mode Selector**

The PSA series professional stereo amplifiers present three operating modes:

- **Stereo Mode**

In this mode, channel A and channel B operate independently (as a normal stereo amplifier). The channel A input signal will be output from the channel A output connector, and channel B input signal will be output from the channel B output connector.

- **Parallel Mono Mode**

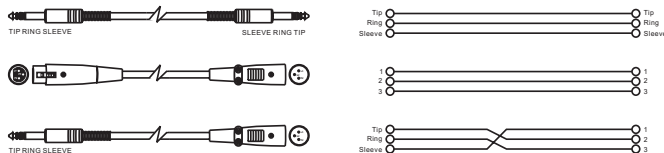
In this mode, channel A input signal will be output from the output connectors of both channels.

- **Bridged Mode**

In this mode, channel A input signal will be output from the bridge-mono output connector.

5. WIRING CONFIGURATION

- **Unbalanced Input**



- **Balanced Input**

