



OWNER'S MANUAL



PA Series

PA 900

PA2100

PA3000

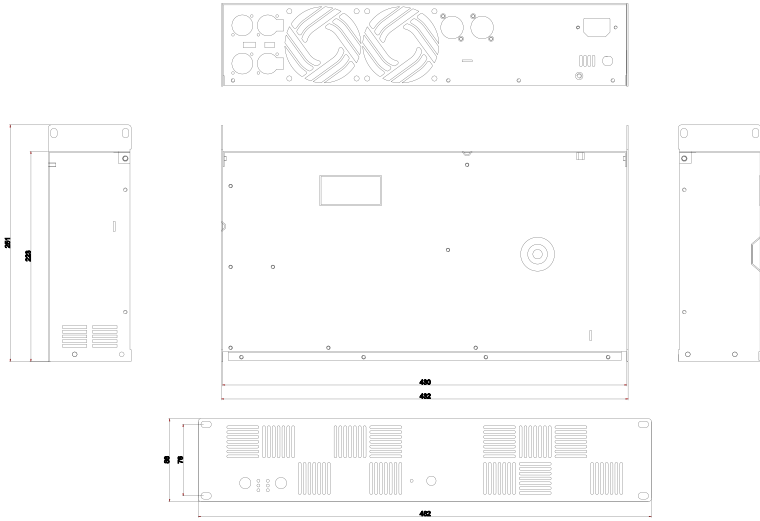
PA 5000

Keep these important operating instructions.
Check www.tecnare.com for updates.

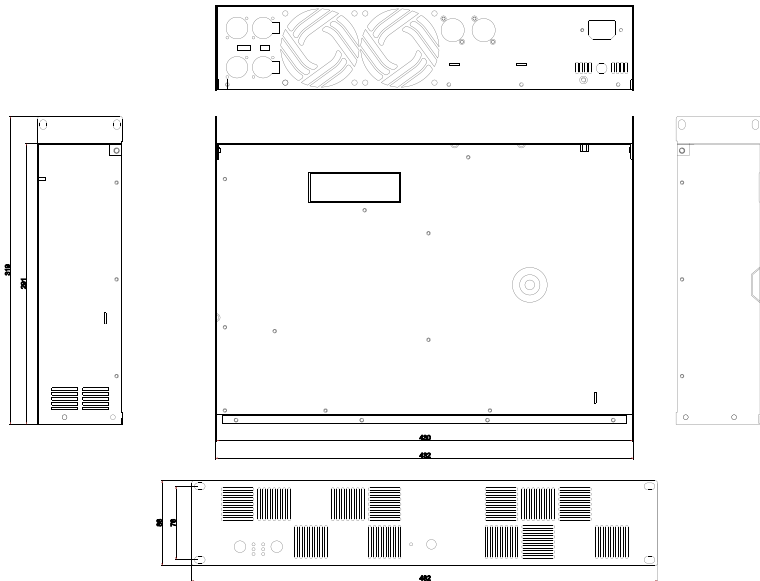
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Dimensions



PA900 PA2100



PA3000

Introduciton

1. Welcome

Welcome to use PA series professional audio power amplifier For your safety, please read the caution before installing and operating the power amplifier.

PA series professional power amplifier. Has a stable circuit and reasonable cooling layout and the carefully selected components, concise manufacturing process, long time burning test, to ensure that the amplifier has excellent performance and reliability

2. Product Checking

Open the box to check your new amplifier. If you find there is damage, please advise the logistic company timely, and you have the right to claim for logistic company for the losscaused during transport as you are the consignee.

3. Features :

<1> Adopt the E.I.A international standard (2U)3.5'' (88mm) professional amplifier chassis.

<2> Power supply design:

Each unit contains a set of logical power supply. Adjust the power output level voltage through the logic power supply real-time dynamic control circuit. And can real-time dynamically adapt to the signal and load requirements, which can achieve the optimal power matching under the wide load conditions, and ensure the amplifier will not overheat.

<3> Signal voltage limit:

There is a voltage limiter in each input channel, by detecting the output signal and controlling the input signal, to make the amplifier output will not in the clipping state for a long time, protect the horn will not be burned; and will automatically control the input signals when the amplifier is overheated, to make the amplifier reduce heating, and use more safe.

<4> Professional Speakon socket suit for the engineering and touring performance.

<5> To withstand the long-term bumps along the way, all the spare parts are through the special reinforcement.

<6> Adopt the precision CNC lathes to stamp the integrated steel plate to make the structure extremely strong and be able to withstand the maximum transient pressure without deformation

<7> Perfect protection function

Amplifier provides many different types of protection functions, including DC protection, internal fault protection, input overload protection, RF interference filter, output short circuit protection, un-match load and high-frequency overload protection, overheat protection of heat-sink and transformer and power supply input over-current protection (over-current protection switch)

<8> XLR balanced input and output

<9> Cooling systems

The cooling system is using the wind tunnel type, seal gas flow pass can strengthen the cooling effect and avoid the fault which cause by the PCBA pollution which caused by the stage dust y and smoke. Ensure when the unit is under the normal work conditions, the temperature can reach balance within a certain range.

<10> Perfect interface:

Signal input:XLR input/signal parallel output

Horn output: Speakon professional output socket.

4.Functions & Features :

- <1>Efficient heat-sink, variable speed cooling fan, ensures the amplifier working at the low temperature.
- <2>Large annular transformer, ensure the enough power supply.
- <3>Exquisite shape and standard installation hole.
- <4>Perfect protection, including limit, the on / off shock protection, DC protection, output short circuit protection, overheat protection.
- <5>In-built limiter, it is a very effective protection against electrical damage to the speaker.
- <6>Excellent audio signal performance, which has excellent signal conversion feature, it has very little harmonic distortion (THD), intermodulation distortion (SMPTE-IM), transient intermodulation distortion, pure and natural interstitial deduction.
- <7>STEREO,BRIDGE, PARALLEL working mode.
- <8>Each channel has its Signal and Clip indicator.
- <9>When the protection circuits work, Fault indicator lights, and sound output automatically stop at the same time.
- <10>The front panel level gain control.
- <11>The newest SMD component technology makes the product more stable and reliable.
- <12>The transistors directly contact with the heat sink to make it cool quickly.
- <13>The optimization cooling system let the machine work stability, automatic variable speed fan.
- <14>The unique short circuit locking and automatically reset function let the customers' visual performance more reliable..

Safety Operation

Cautions

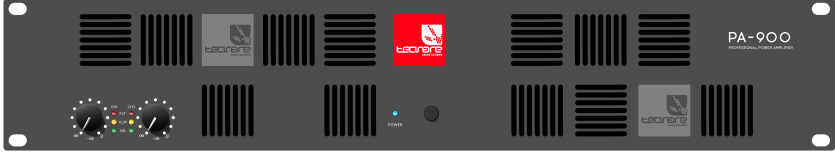
- 1.This amplifier only can plug in the AC power socket which the user's manual instructs or the specification is shown on this adapter. Or else it may damage the amplifier and cause a fire or electric shock.
- 2.Do not place heavy objects (including this amplifier) on the power cord, or else it may damage the power cord and then cause an electric shock or fire.
- 3.Do not expose the amplifier in the fume, high humidity, high temperature and dust accumulation place and use.
- 4.Do not put this amplifier sidelong or upside down, use it in a good air flow environment.
- 5.When abnormity happen in the operation process, such as smoke, odor, noise, or foreign bodies, liquid entering into the amplifier, please turn off the amplifier immediately, and unplug the socket from the AC power socket
- 6.The device shall not be exposed to dripping or splashing, shall not be placed the item which is filled with liquids on the device, such as vase and so on.
- 7.When the device is connected to the power supply socket, it needs the ground protection.
- 8.The socket of the power cord needs to keep in the normal operational condition.
- 9.If need to completely disconnect this device from the AC main line, please unplug from the AC power outlet, when you need to power on, please plug in the AC power outlet again.
- 10.When abnormity happen, please don't open the chassis and rebuilt or repair the amplifier by yourself, if the internal is sure to need repair and maintenance, please contact the dealers to deal with it.

Operation :

- 1.When the speaker is connected to the amplifier output socket, it only can use the speaker special cable and connect it in accordance with the provisions.
- 2.When connect the amplifier, please close all the instruments, audio equipments and speakers.
- 3.Before turning on the amplifier, please turn down the volume to a minimum.
- 4.If you do not use this amplifier for a long time, please unplug the power cord from the AC mains socket.
- 5.When unplug the power plug from the AC power socket, please grasp the plug. Do not directly pull the cable. Otherwise it can damage power cord and then lead to a fire or electric shock.

Main Operation Key& Functions

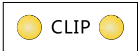
Front Panel



Power switch: It can turn on/off the amplifier. When turn on, the POWER LED lights.



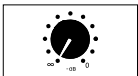
Fault LED: When circuit protection works, the LED will light, especially when the heat-sink overheat or detect the DC voltage in the amplifier, the LED will light. Turn on the amplifier within three seconds, the amplifier is ready to work, the LED will shine. When finish start or the problem is removed, the LED will extinguish, and resume working normally.



Clip LED: When the output signal distortion of the corresponding channel exceeds 1%, the LED will light, because of the signal level is too high, and have been cut-off.



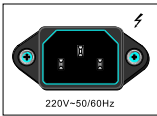
Signal LED: when there is the input signal, the LED will light, if not, please check the gain settings, if necessary, can increase the gain. Check the input connection and signal audio source. If the Clip LED shines a little or shows no signal, check the output wire whether it is short-circuit or not.



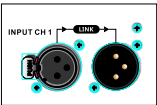
Gain control:use to set the output level of each channel

Main Operation & Functions

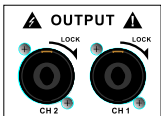
Rear Panel



Power outlet: When use the amplifier, should check whether the selected voltage is correct or not, if the voltage is wrong, it could damage the amplifier, please ensure the device be connected to the power supply with ground to use



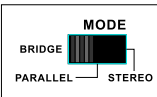
Signal input: CH1 and CH2 are directly connected to the mixer, the input and output connectors of the respective channel are put together, to provide fixed connection, and no need to consider the power switch setting.



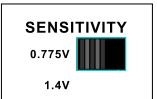
Output connection: Amplifier has two output channels Ch1&CH2; they provide output through the SPEAKON connection socket.



Circuit breaker: When amplifier overloaded (cause by the small load impedance of the amplifier or the continuous input signal), the button of the circuit breaker will immediately upspring, and will power off automatically to protect the amplifier. And you must exclude overload condition, and then press the button of the circuit breaker, and the power amplifier can resume to normal operation.



Mode switch: STEREO mode makes the two channel work independently, CH1 input signal by CH1 output, CH 2 input by CH2 output. BRIDGE mode makes CH1 input signals from the BRIDGE output socket, output must use CH1 volume control to adjust the volume. PARALLEL mode makes CH1 input signal by CH1 and CH2 output socket output. The input socket of CH2 is no effect. Channel's volume can be adjusted independently.

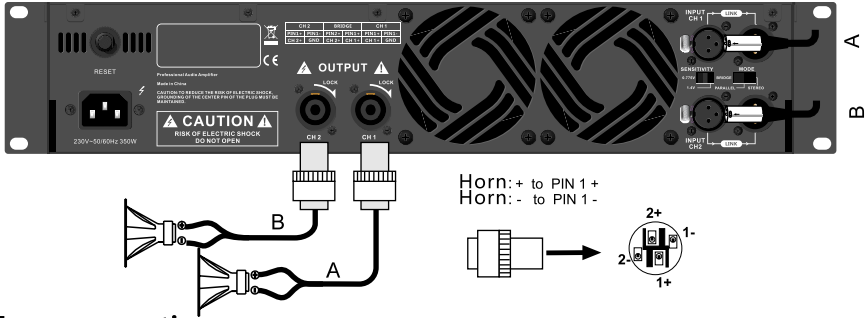


Sensitivity mode: It mainly adjusts the ratio between the input and output.

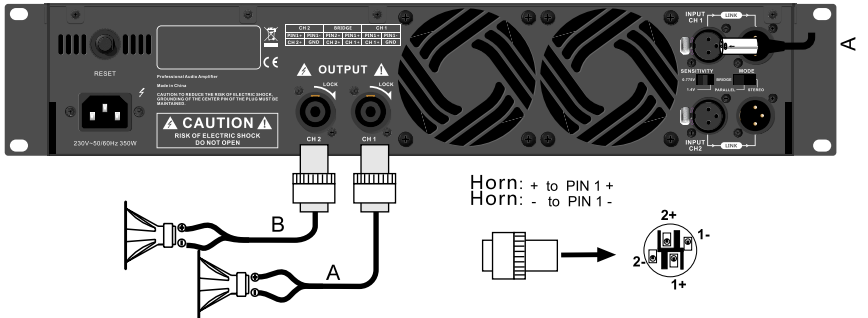
Connection Mode

Speakon output connection

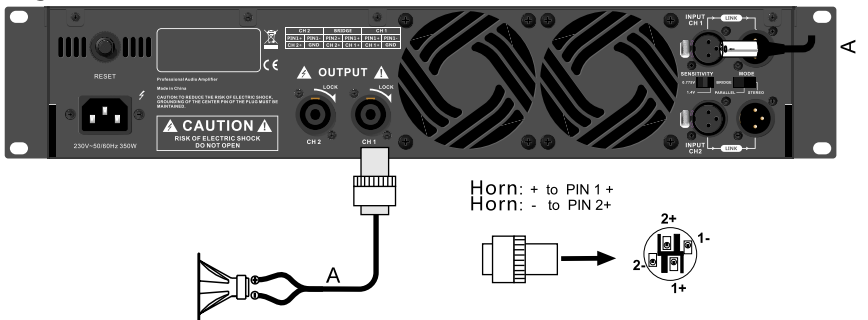
Stereo connection



Mono connection



Bridge connection



Specification

Rated Power/model	PA900	PA2100	PA3000	PA5000
4Ω stereo (per channel)	450W	990W	1450W	2600W
8Ω stereo (per channel)	350W	700W	1250W	1500W
8Ω bridge mono	900W	1980W	2900W	5150W
Performance				
Frequency Response (at 1 Watt)	20Hz-20KHz, ±1dB			
Total Harmonic Distortion (THD)	<0.5%, 20Hz - 20KHz			
Intermodulation Distortion 60Hz and 7KHz at 4:1 from full rate output to -30dB	=/ $<0.35\%$			
Slew Rate	$>20V/\mu s$			
Voltage Gain (@8Ω,1.4v)	31dB	34dB	37dB	37dB
Damping Factor (8Ω) 10Hz-400Hz)	>200			
Signal to Noise Ratio (below rated power, 20Hz to 20KHz. A weighted)	$>100dB$			
Crosstalk Below rated power)	-75dB -58dB			
Input Sensitivity full rated power at 8Ω	0.775 or 1.4 V			
Input Impedance (nominal) Balanced/Unbalanced	20K ohm / 10K ohm			
Construction				
Protection	Protection against short circuits, no-load, on/off mutting, RF interference, DC			
Ventilation	Flow-through ventilation from front to back			
Cooling	Internal heat sinks with force air. Fan cooled, speed regulated, thermal protection.			
Power cord specification	IEC 16A, 250v			
Power consumption	350 W	700 W	800 W	1140 W
Inrush current	11 A	21 A	22 A	34 A
Chassis size (unit mm)	482x227x88		482x294x88	
Net weight	12.7kg	14.5kg	19.5kg	

WARRANTY CARD

The various series power amplifiers of our company are good products, each amplifier's delivery all will be through the stringent quality checks. Our company assures you that the products are in the good performance and devices are complete, and provide you free warranty service according to the this regulation.

- Meanwhile, when our company provides you warranty service, you must present the warranty card and the invoice as the proof condition. And we recommend that you consult with our service department before sending back the products to ensure the smooth service.

Within one-year warranty period since the date you purchase, if the product damages or has failure (except for not within the warranty range and the individual reasons mentioned below), and be confirmed by our technical department that the errors are not caused by non-operating, our company will provide free maintenance and replacement parts.

- In the following cases, our company will not give any maintenance and help:
 1. It is not the product which our company is as a agent.
 2. Fake (smuggled) goods;
 3. The product which has no body code, or the code has been altered, destroyed, converted and not in our company's sales records.
- In the following cases, the warranty card will automatically expire:
 1. The product has been burned because of the overload or the feedback and other reasons due to the mishandling;
 2. The product damage due to shipping failures;
 3. Due to the poor work environment (such as damp environment) which makes the products can not meet the requirements that cause damage;
 4. Due to the force majeure causes damage, such as natural disasters;
 5. The product has been repaired or modified by technician who is not our company's staff;
 6. The product has not been installed properly according to the operation guidance which causes damage.
- The warranty and service which is provided by our company is only limited to conduct in our service center and the product is sent back to repair by the customer. For the requirements of going out for warranty or maintenance, all the trip expenses are paid by you.
- Our company is not responsible for any losses which are caused by the damage of the product directly or indirectly.
- The product which exceeds the warranty period, our company will charge a reasonable service fee.
- Our company reserves the right to alter the terms without prior notice.

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