



# Operation Manual



APA Series

**APA-1500**

**APA-2700**

**APA-5200**

Keep these important operating instructions.  
Check [www.tecnare.com](http://www.tecnare.com) for updates.

## **General Information**

### **APA Series Operation Manual**

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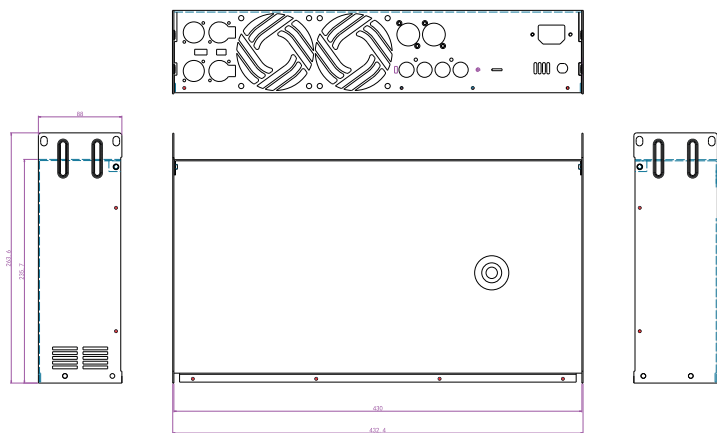
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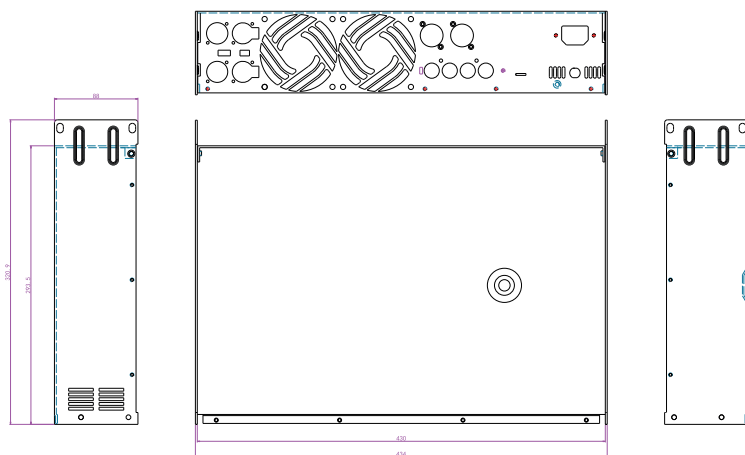
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## DimenSions



APA-1500



APA-2700      APA-5200

UNIT:mm

# DECLARACIÓN DE CONFORMIDAD DECLARATION OF CONFORMITY



EXEL ACOUSTICS SL

CL Encinar, 282. Polígono Industrial Monte Boyal. 45950 – Casarrubios del Monte (Toledo), España  
(Spain).

Declara que los amplificadores de la serie **APA** y sus respectivas opciones, cumple con los objetivos de las Directivas:

*Declare under our sole responsibility that the **APA-Series** family of amplifier products comply with relating Directives:*

- (1) Directiva de Baja Tensión - 2014/35/UE
- (2) Directiva de Compatibilidad Electromagnética - 2014/30/UE
- (3) Directiva RoHS - 2011/65/UE
- (4) Directiva RAEE - 2012/19/UE

- (1) Low Voltage Directive 2014/35/EU*
- (2) EMC 2014/130/EU*
- (3) RoHS Directive 2011/65/EU*
- (4) WEEE Directive 2012/19/EU*

Y es conforme a las siguientes Normas Armonizadas Europeas:  
*In compliance with these Harmonized European Norms:*

- (1) EN60065 8th. Audio, video and similar electronic apparatus. Safety requirements.
- (2) EN55032:2012. EMC emissions & immunity.
- (3) EN55035-2017

# Introduction

## 1. Welcome

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

APA 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 loss caused 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> Professional Speakon socket suit for the engineering and touring performance.**

**<4> To withstand the long-term bumps along the way, all the spare parts are through the special reinforcement.**

**<5> 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.**

**<6> 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)

**<7> XLR balanced input and output**

**<8> Cooling system**

The cooling system adopt wind tunnel type, sealed airflow through strengthening the cooling effect to avoid the dust, stage fog and so on to pollute the circuit PCBA and then cause the faults. Ensure that the machine works in the normal condition, the temperature will reach equilibrium within a certain range.

**<9> With perfect interfaces:**

Signal input: XLR input / signal parallel output.

Horizontal 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.



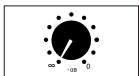
**Fault LED:** When circuit protection works, the LED will light, especially when the heat-sink overheat or detect the DC voltage in the amplifier, the LED will light. Turn on the amplifier within three seconds, the amplifier is ready to work, the LED will shine. When finish start or the problem is removed,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



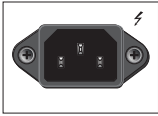
**Signal LED:** when there is the input signal, the LED will light, if not, please check the gain settings, if necessary, can increase the gain. Check the input connection and signal audio source. If the Clip LED shines a little or shows no signal, check the output wire whether it is short-circuit or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



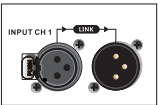
**Gain control:**use to set the output level of each channel

# Main Operation & Functions

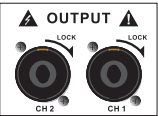
## Rear Panel



**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



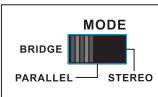
**Signal input:** CH1 and CH2 are directly connected to the mixer, the input and output connectors of the respective channel are put together, to provide fixed connection, and no need to consider the power switch setting.



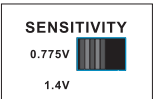
**Output connection:** Amplifier has two output channels Ch1&CH2; they provide output through the SPEAKON connection socket.



**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 indepen-  
dently, 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.

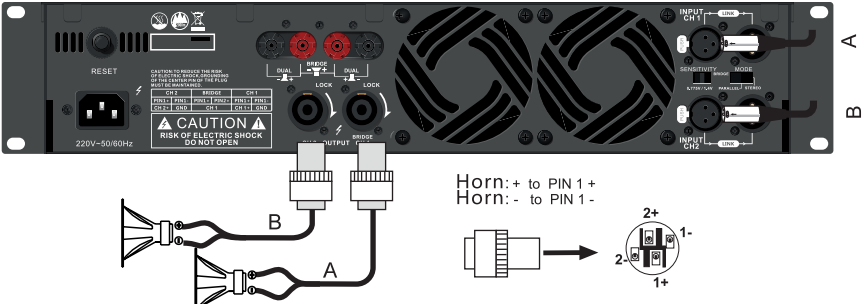


**Sensitivity mode:** It mainly adjusts the ratio between the input and output.

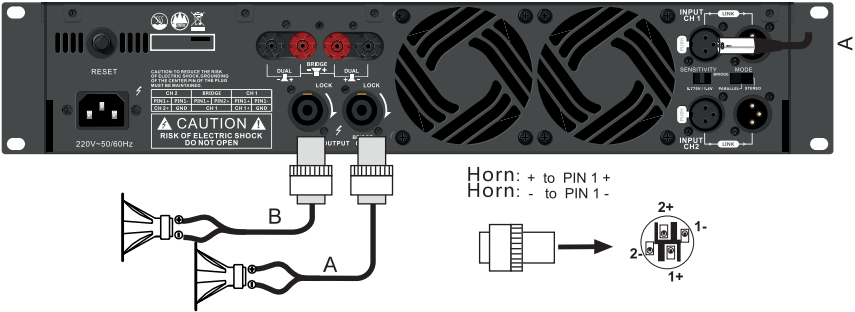
# Connection Mode

## Speakon output connection

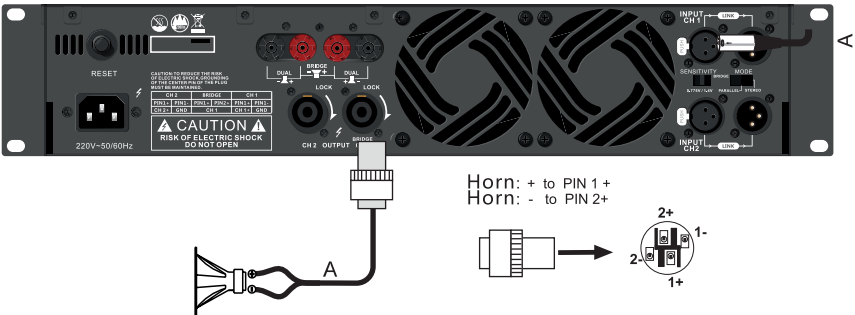
### Stereo connection



### Mono connection



### Bridge connection



## Specification

Rated power /model	APA-1500	APA-2700	APA-5200
1kHz(HIA)with0.5%THD			
4Ω stereo(per channel)	750W	1400 W	2600W
8Ω stereo(per channel)	500W	1000W	1400 W
8Ω bridge mono	1500W	2700W	5200 W
Performance			
Frequency Response(at 1 Watt)	20Hz-20KHz, +0-1dB		
Total Harmonic Distortion(THD)	<0.5%,20Hz-20kHz		
Intermodulation Distortion60Hz and 7KHz at 4:1from full rated output to -30dB	= / <0.35%		
Slew Rate	> 20V/us		
Voltage Gain	36dB	37dB	37dB
Damping Factor(8ohms)10Hz-400Hz	> 200		
Signal-to-Noise Ratio (below rated power,20Hz to 20kHz. A-weighted)	> 100dB		
Crosstalk(below rated power) At 1kHz At 20kHz	-75dB -58dB		
Input Sensitivity for full rated power at 8Ω	0.775Vor1.4V		
Input impedance(nominal) Balanced Unbalanced	20K ohms 10k ohms		
Construction			
Protection	Protection against short circuits, no-load, on/off muting, RF interference.		
Ventilation	Flow-through ventilation from front to back		
Cooling	Internal heat sinks with forced air. Fan cooled, speed regulated, thermal protection		
Power cord specification	Plug : 10A , 250V Wire:3x1.0mm <sup>2</sup>		
Chassis size( unit mm)	482x297x88mm	482x365x88mm	
Net weight	10.5kg	15.8kg	21.6kg

## WARRANTY CARD

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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 three-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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