

User' s Manual



PA SERIES

(Two/four channel)

Professional Power Amplifier

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WARNING NOTICES**SAFEGUARDS**

Electrical energy can perform many useful functions. This unit has been engineered and manufactured to assure your personal safety. Improper use can result in potential electrical Shock or fire hazards. In order not to defeat the safeguards, observe the following precautions for its installation, use and servicing.



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

Explanation of Graphical Symbols

CAUTION
RISK OF ELECTRIC SHOCK:
OPEN ONLY IF QUALIFIED
AS SERVICE PERSONNEL

WARNING: TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

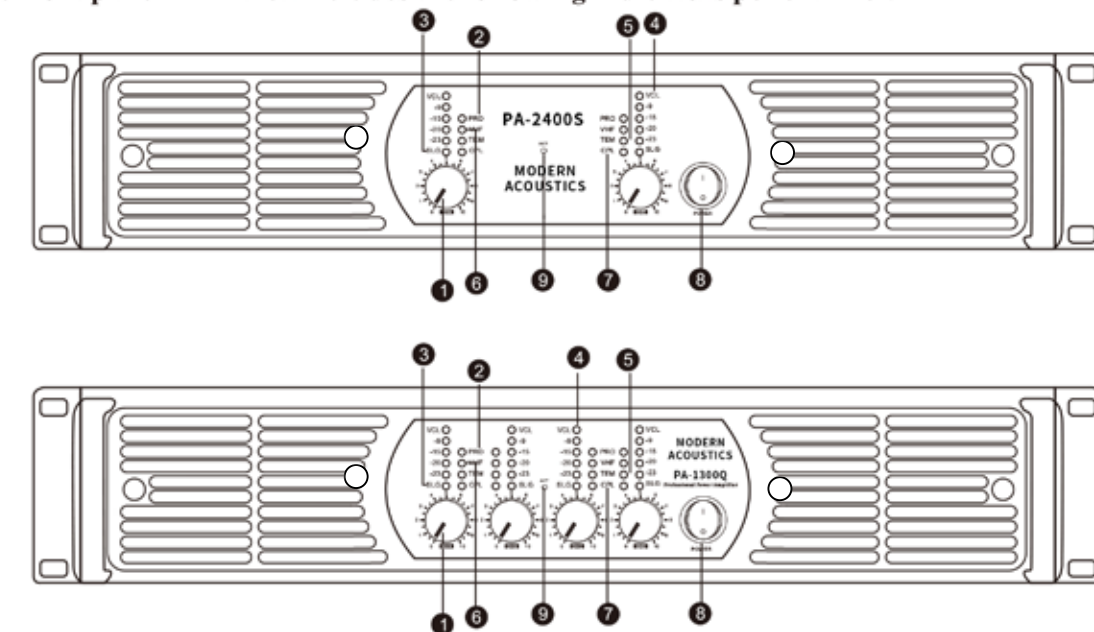
IMPORTANT NOTE

ATTENTION: This unit must be protected from damp because of the risk of fire and the possibility of electric shocks.

1. Make sure that you have the correct mains voltage. Only operate the unit at the mains voltage marked on the rear panel.
2. Make sure that nothing especially no metal objects are inserted into the device. This could result in electric shock or malfunction.
3. If the unit is subjected to extreme fluctuations of temperature e.g. On being transported from outside into a heated room, condensation can form. The unit should not be used until it has reached room temperature.
4. In the event of water or any other fluid being accidentally spilt on the unit switch the unit off immediately and send it to a qualified service workshop for inspection.
5. Make sure that the unit is always well ventilated and never exposed to direct sunlight
6. Do not use sprays to clean the unit as they have a detrimental effect on the unit and could ignite suddenly.
7. The machine use single power switch, please cut off the power before fix.
8. Please do not put the cup, vessel of flower or container above the machine, In case the leak out water then cause the leakage current off the machine.

Front panel

The front panel LED area includes the following indicators per channel:

**1.LEVEL CONTROL**

Calibrated detente potentiometers to alter the total gain of the power amplifier. In order to avoid distortions in mixing consoles upstream, these controls should normally be positioned between 0 and 10 . The calibrated markings show the additional attenuation directly.

2.PROLED

Auprotection under mute position.

3.SIG / HI-IMPLED

Green SIG Indicates output signal levels in normal operating range
Hi-lmp-High-impedance/open load detected (Orange)

4.Limit power LED

When this LED lights up, the Limit power function is working.

5.TEMP

This LED lights up if the limiter has been activated and the power amplifier is being operated at the clip level. If the LED flashes briefly, this is not a cause for concern. If this LED is lit permanently, the volume should be reduced to avoid overload damages to the connected loudspeaker systems.

6.VHF

VHF-Very High Frequency protection active (output muted) (Yellow constant)

7.CPL LED

CPL-(Orange constant with output muted): Low impedance/short circuit detection fault

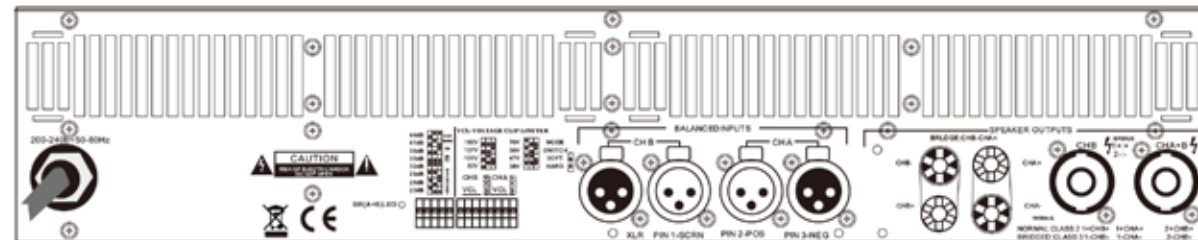
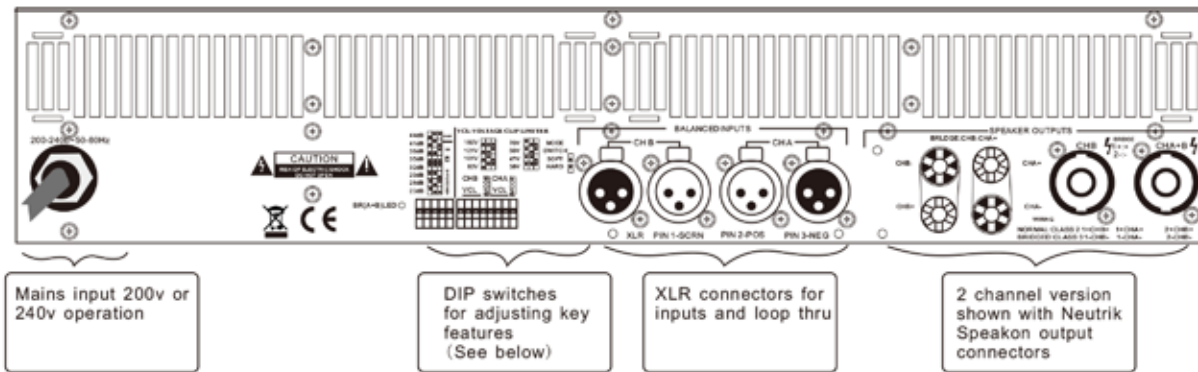
8.POWER Switch/LED

Turn the unit power on (lights up) or off (lights out).

9.Output in indication

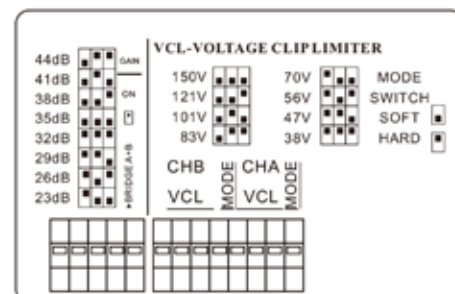
This LED lights up if a signal is present at the power amplifier output. The indicator goes off when the speaker line has shorted or a protective circuit has been activated thus indicating that there is no signal at the speaker output terminals.

PA-2400S



Rear view of 2-channel model fitted with Speakon connectors

! Two-channel model shown. Two-channel versions have VCL and Bridge Mode switches for channels 1 and 2 only. All models have different VCL values. Functions are otherwise identical.

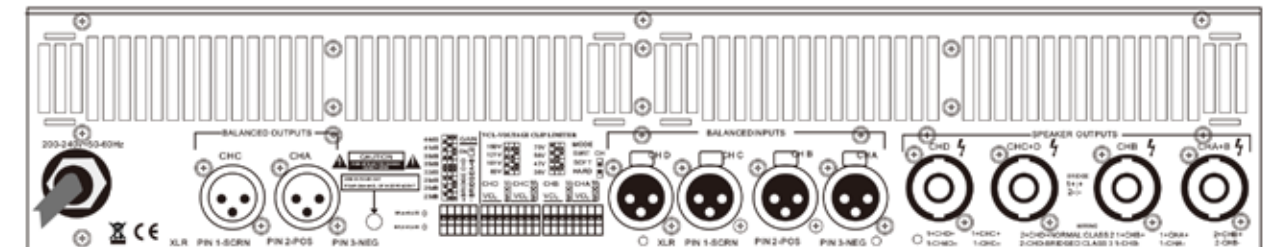
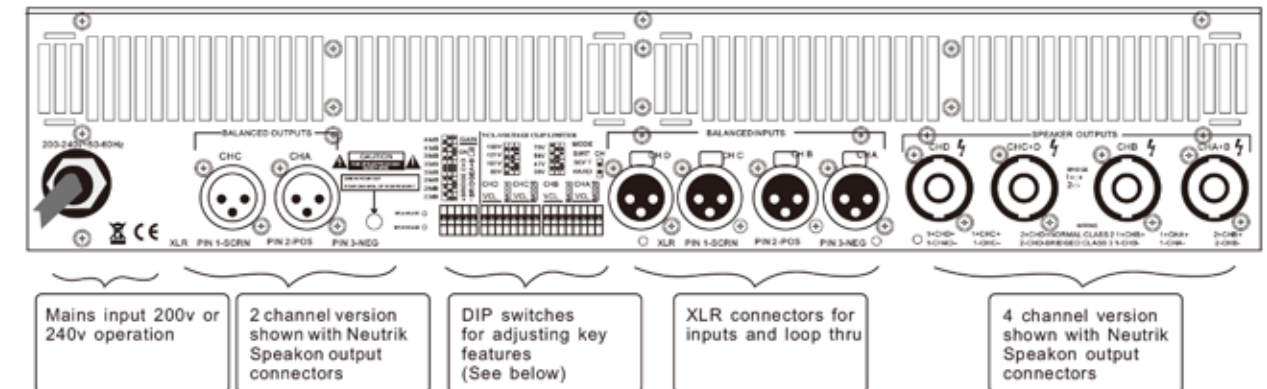


6.2.1 The DIP switch features

The following features may be adjusted using the DIP switches on the rear-panel of the amplifier. Gain – Globally set for all channels, from 23dB to 44dB in 3 dB steps.

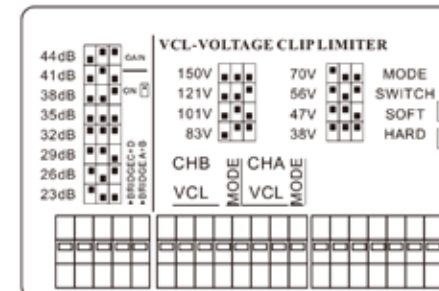
Bridge 1 $\rightarrow$ Switches the channel pairs into bridge mode operation. An automatic -6 dB gain compensation is applied.

PA-1300Q



Rear view of 4-channel model fitted with Speakon connectors

! Four-channel model shown. Two-channel versions have VCL and Bridge Mode switches for channels A and B only. All models have different VCL values. Functions are otherwise identical.



6.2.2 The DIP switch features

The following features may be adjusted using the DIP switches on the rear-panel of the amplifier. Gain – Globally set for all channels, from 23dB to 44dB in 3 dB steps.

Bridge A $\rightarrow$ B and C + D $\rightarrow$ Switches the channel pairs into bridge mode operation. An automatic -6 dB gain compensation is applied.

VCL OLTA GE LDP IMITER			
MA2400S		MA1300Q	
196V	90V	150V	70V
158V	72V	121V	56V
130V	60V	101V	47V
108V	52V	83V	38V

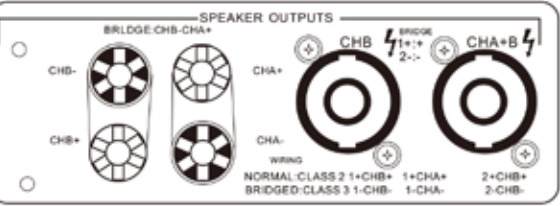
VCL -Voltage Clip Limiter adjustment is provided for eight discrete levels for each channel for each channel. Select the setting most appropriate for connected speakers.

VCL-in rAge dde	
MA2400S	MA1300Q
392V	300V
316V	242V
260V	202V
216V	166V
180V	140V
142V	112V
120V	94V
104V	76V

Mode Select VCL mode to either Hard or Soft operation. For channels driving sub-woofers and low-frequency drivers, it is recommended to use the Hard setting for optimal operation. For mid- and high-frequency drivers, always select Soft.

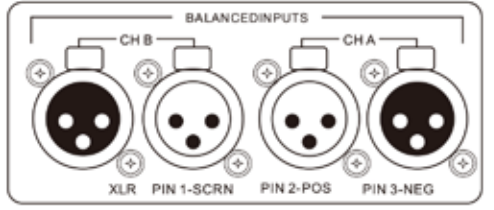
Output connectors

PA-2400S



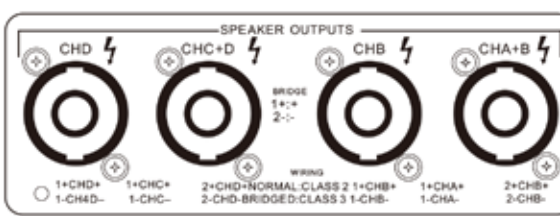
Speakon outputs—2—channel models

Input or output connectors

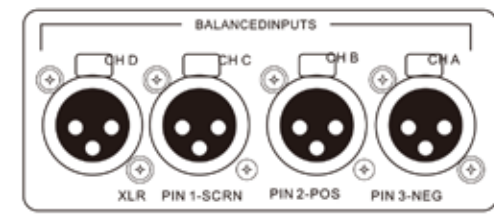


Audio inputs or output- 2 -channel models

PA-1300Q

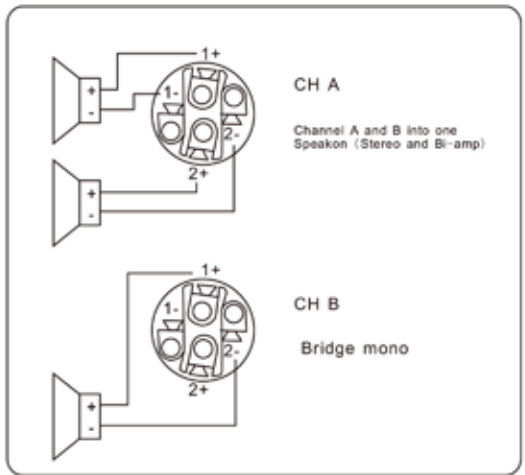


Speakon outputs—4—channel models



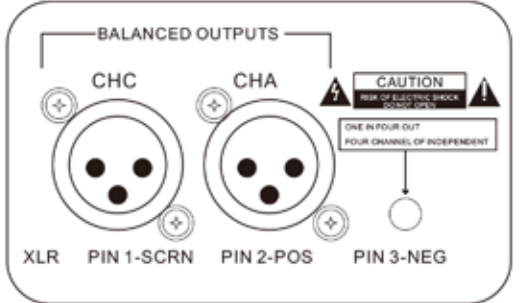
Audio inputs - 4 -channel models

PA-2400S



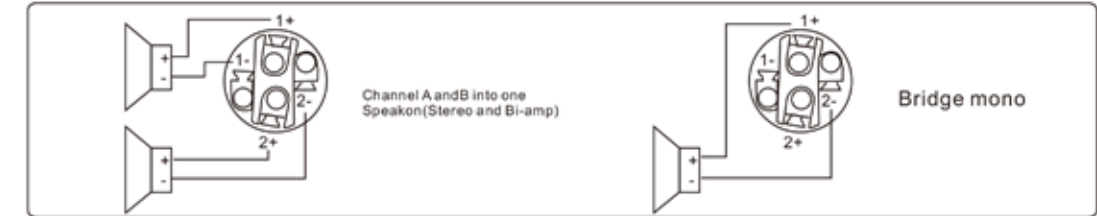
Two—channel amplifiers Additional connectors are provided for Channel 1.

PA-1300Q



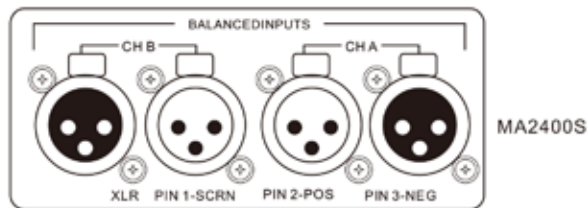
Link outputs PARALLEL or STEREO models: In stereo models, the signal input into channel A can be output from channel A only, similarly, the signal channel C is the same. In parallel models, the signal input into channel A or channel C can be output from channel A and channel C

Link outputs ONE IN FOUR OUT or FOUR CHANNEL OF INDEPENDENT models

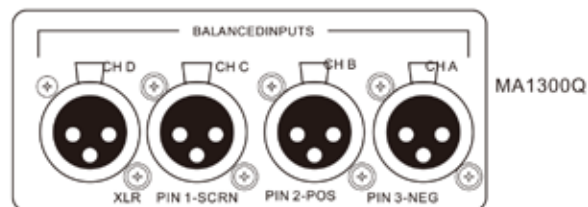


Four-channel amplifiers Additional connectors are provided for channel C and channel D. channel C functions as channel A above, and channel D as channel B above

BALANCED INPUT CONNECTIONS



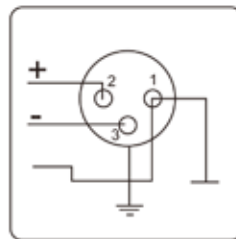
Audio inputs - 2 -channel models



Audio inputs - 4 -channel models

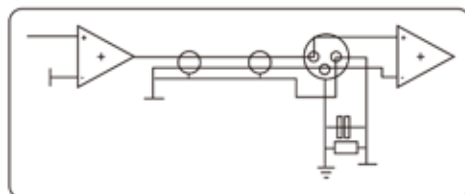
The XLR input connectors are electronically balanced, and wired according to the IEC 268 standard (pin 2= hot). XLR input connectors should be wired as follows:

- Pin 1 Ground/shield
- Pin 2 Hot (+)
- Pin 3 Cold (-)



When linking the same source signal to several input channels, be aware that there is a limit to the number of channels an output source can "drive". A typical output source (e.g. a DSP crossover unit) can drive up to two or four amplifier channels before external line-drivers might be required to buffer the signal.

Unbalanced Input connections

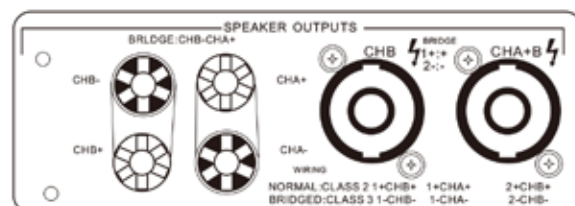


To connect an input to an unbalanced source, it is possible to connect pins 1 and 3 in the XLR plug at the amplifier end of the cable. However, a better method is to connect pin 3 to the shield at the source and of the cable, as this usually results in better hum and noise rejection. Balanced input connections are recommended whenever possible.

Speakon Output connections

Refer to the instructions in this section if your amplifier is equipped with the Speakon output connectors.

PA-2400S



Speakon outputs—2—channel models

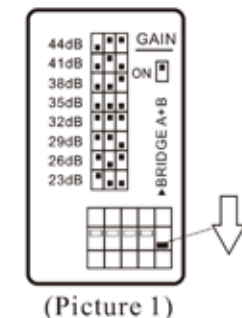
PA-1300Q



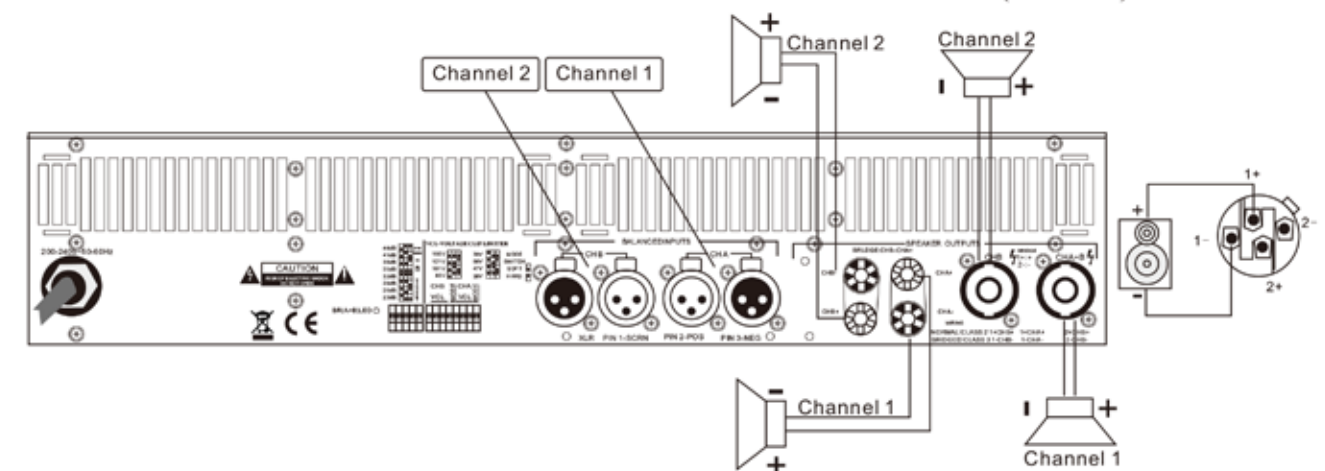
Speakon outputs—4—channel models

PA-2400S

Before setting the mode, please turn off the amplifier and slide the mode select switch to below (Picture 1). In this mode, Channel 1 and Channel 2 operate independently (just traditional stereo amplifier). The signal input into channel 1 can be output from channel 1 only, similarly, the signal input into channel 2 can be output from channel 2 only. The many channels, one by one in order type pushes.

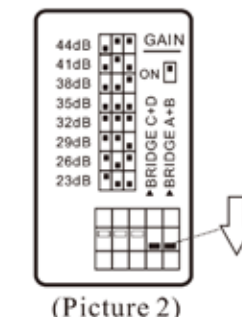


(Picture 1)

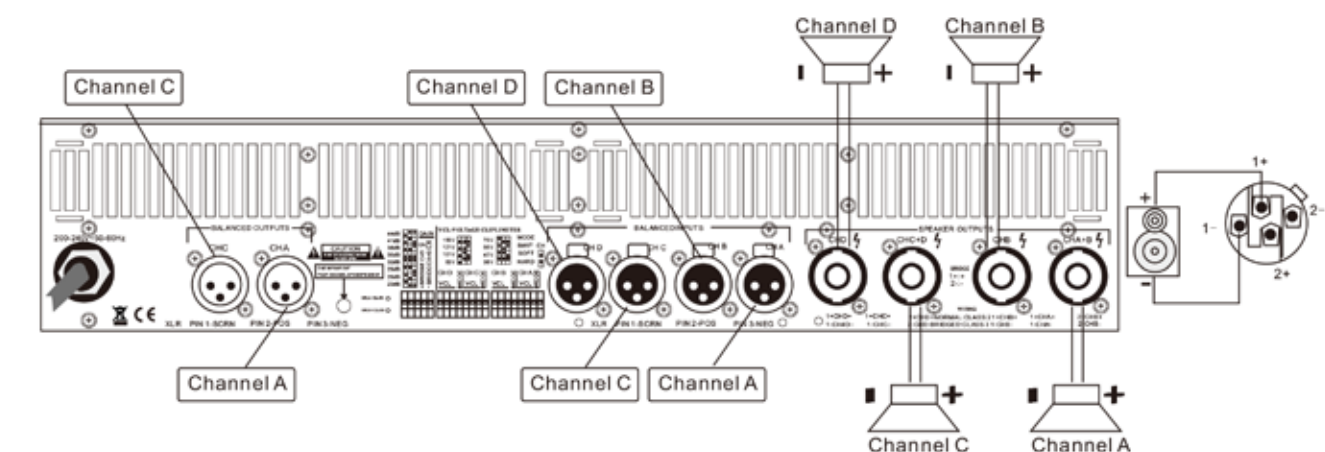


PA-1300Q

Before setting the mode, please turn off the amplifier and slide the mode select switch to below (Picture 2). In this mode, Channel A and Channel B operate independently (just traditional stereo amplifier). The signal input into channel A can be output from channel A only, similarly, the signal input into channel B can be output from channel B only. The many channels, one by one in order type pushes.

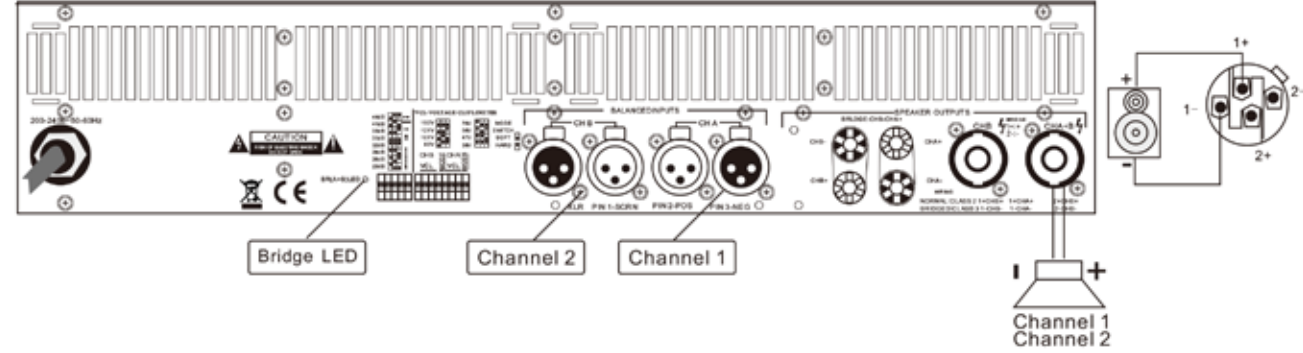
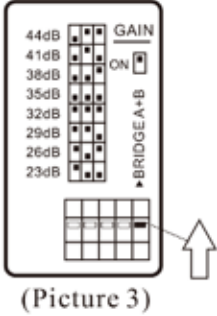


(Picture 2)



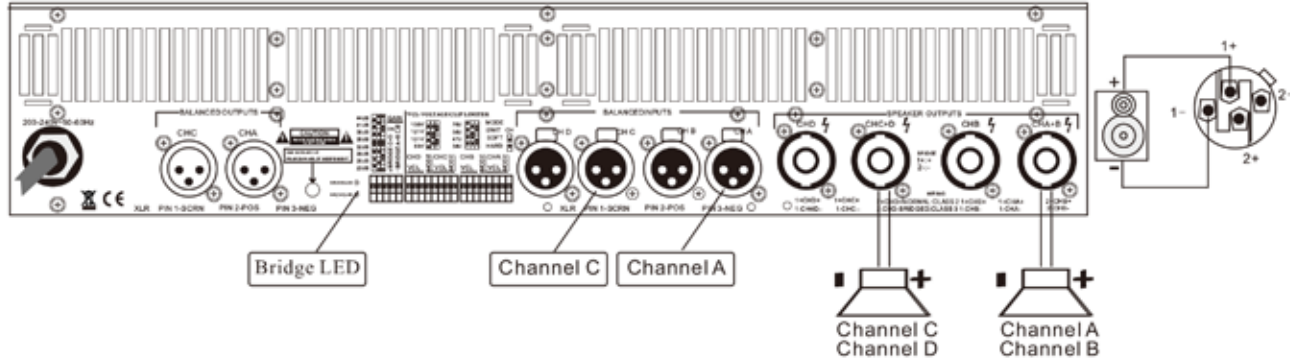
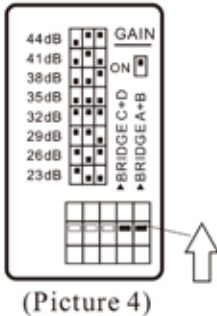
PA-2400S

Before setting the mode , please turn off the amplifier and slide.the mode select switch to above (Picture 3), channel 1 and channel 2 are bridged. At time , the signal input into channel 1 will be output from the bridge and. On other hand , the output level control of channel 2 should be turn down to smallest . Only the volume control of channel 1 are used to control the volume of whole system.



PA-1300Q

Before setting the mode , please turn off the amplifier and slide.the mode select switch to above (Picture 4), channel A and channel B are bridged. channel C and channel D are bridged. At time , the signal input into channel 1 will be output input into channel A and channel C will be output from the bridge and. On other hand , the output level control of channel B and channel D should be turn down to smallest . Only the volume control of channel A and channel C are used to control the volume of whole system.



Model	PA-1300Q	PA-2400S
Output Power		
8Ω Stereo Power	2x2400W	4x1300W
4Ω Stereo Power	2x4000W	4x2200W
8Ω Bridged Mono Power	8000W	2x4400W
4Ω Bridged Mono Power	12000W	2x4800W
FREQUENCY RESPONSE 20Hz-25kHz±0.5dB		
THD+N(Rated power,4Ω/KHz)%	0.1%	
Signal Noise Ration(dB)	110dB	
Amplifier gain selectable (all channel)-real-panel switches	23,26,29,32,35,38,41,44dB	
Connectors		
Input connectors(per ch.)	3-pin XLR,electronically balanced	
Input Impedance	20KΩ Balanced/10K Ω balanced	
Output Connectors	Speakon Connectors(Neutrik)	
Power		
Power Requirement	200-240V~50-60Hz	
Minimum power-up voltage.220V	180-260V~50-60Hz	
Dimension		
Airframe	483×377×88mm	
Weight		
Weight(net)	13Kg	