

DIGITAL DUAL ECHO AMPLIFIER

audiotech
Professional Power Amplifier

DX Series Digital Power Amplifier



User's Manual

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Important Safety Instructions

1. Read these instructions.
2. Keep these instruction.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation opening. Install in accordance with the manufacturer`s instructions.
8. Do not install near any heat source such as radiator ,heat register, stove, or other apparatus(including amplifier)that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. 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 is provided for your safety. If the provided plug does not fit into your socket ,consult an electrician for replacement of the correct socket.
- 10.Protect the power cord from being walled on pinched, particularly at the plug, convenience receptacle ,and the point where they exit from the apparatus.
- 11.Only use attachments/accessories specified by the manufacturer.
- 12.Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/ apparatus combination to avoid injury from tip-over.
- 13.Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14.Refer all servicing to qualified service personnel. 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.
- 15.Use the mains plug to disconnect the apparatus from the mains.
- 16.WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.
- 17.WARING:THIS APPLIANCE SHALL BE CONNECTED TO A MAINS SOCKET OUTLET WITH A PROTECTIVE EARTHING CONNECTION.
- 18.DO NOT EXPOSE THIS EQUIPMENT TO DRPPING OR SPLASHING AND ENSURE THAT NO OBJECTS FILLED WITH LIQUIDS,SUCH AS VASES, ARE PLACED ON THE EQUIPMENT.
- 19.THE MAINS PLUG OF THE POWER SUPPLY CORD SHALL REMAIN READILY OPERABLE.



TO PREVENT ELECTRIC SHOCK DO NOT REMOVE TOP OR BOTTOM COVERS. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

TO COMPLETELY DISCONNECT THIS EQUIPMENT FROM THE AC MAINS, DISCONNECT THE POWER SUPPLY CORD PLUG FROM THE AC RECEPTACLE. THE MAINS PLUG OF THE POWER SUPPLY CORD SHALL REMAIN READILY OPERABLE.

WARNING: PAY ATTENTION TO A PROCEDURE, PRACTICE, CONDITION OR THE LIKE, IF NOT CORRECTLY PERFORMED OR ADHERED TO, COULD RESULT IN PERSONAL INJURY OR DEATH.
CAUTION: PAY ATTENTION TO PROCEDURE, PRACTICE, CONDITION OR THE LIKE, IF NOT CORRECTLY PERFORMED OR ADHERED TO, COULD RESULT IN DAMAGE OR DESTRUCTION TO PART OR ALL OF THE COMPONENT.

WATCH FOR THESE SYMBOLS:



The lightning bolt triangle is used to alert the user to the risk of electric shock.



The exclamation point triangle is used to alert the user to important operating or maintenance instructions.



This device is designed and evaluated under the condition of 2000 meters tall above sea level;and,it can be only used in locations below 2000 meters tall above sea level. Using the device above 2000 meters altitude would result in high safety risk.



The device is designed and evaluated under the condition of non-tropical climate;and,it can be only used in locations in non-tropical climate areas. Using the device in tropical climate areas would result in high safety risk.

IMPORTANT

These amplifiers require class 2 output wiring.

MAGNETIC FIELD

CAUTION! Do not locate sensitive high-gain equipment such as pre-amplifiers or tape decks directly above or below the unit because this amplifier has a high power density, it has a strong magnetic field which can induce hum into unshielded devices that are located nearby. the field is strongest just above and below the unit.

If an equipment rack is used, we recommend locating the amplifier(s) in the bottom of the rack and the pre-amplifier or other sensitive equipment at the top.

Product Features

- Adopting advanced CMOS technology, advanced Class-D and efficient SMPS module design, extremely high efficiency, low heat generation, reliable and durable, strong resistance to puncture; clean sound, and minimal distortion.
- Equipped with PFC, it can operate stably within the full voltage range (80V-290V) and adapt to harsh power grid environments;
- Stable and reliable 2 Ω driving capability, with two channel and four channel designs, perfectly suitable for various audio systems;
- Adopting active PFC and soft switching technology, the maximum power correction factor reaches 0.99, with strong adaptability;
- A standard chassis space of 1U height can provide powerful power, low loss, energy-saving and environmentally friendly, and save operating costs;
- Successfully passed strict reliability, adaptability to high and low temperature environments, user experience and other tests;
- Circuit full protection: soft start, direct current, sub audio frequency, high frequency, overheating, short circuit, silent on/off;
- Suitable for linear arrays, bars, outdoor performances, conference rooms, cinemas, music cafes, and any background music occasions that require sound reinforcement;
- Stereo, bridge and parallel working mode available.

Emergency response methods in case of malfunction

Failures	Possible Causes	Response Methods
power supply failed	power cord not connected or fuses burnt	plug power cord into the power socket or replace same specifications of fuses
no sound from speaker	speaker wire not connected or low level of volume	reconnect the speakers or adjust the volume
relay resets switch	short circuit from speaker connection or speaker unit failure	check connection of the speaker and the speaker units

Two Channel Specifications

1 KHz(EIA) with 0.5% THD							
Channel qty	2 channel	2 channel	2 channel	2 channel	2 channel	2 channel	2 channel
Height	1U	1U	1U	1U	1U	1U	1U
Stereo output power 8 Ω	2X250W	2X450W	2X650W	2X1000W	2X1600W	2X2000W	2X3000W
Stereo output power 4 Ω	2X425W	2X765W	2X1100W	2X1700W	2X2550W	2X3400W	2X5100W
Stereo output power 2 Ω	2X723W	2X1300W	2X1870W	2X2890W	2X3570W	2X4760W	2X7140W
Bridge output power 16Ω	1X500W	1X900W	1X1300W	1X2000W	1X3000W	1X4000W	1X6000W
Bridge output power 8 Ω	1X850W	1X1530W	1X2200W	1X3400W	1X5100W	1X6800W	1X10200W
Bridge output power 4Ω	1X1445W	1X2601W	1X3740W	1X5780W	1X7140W	1X9520W	1X14280W
RMS Input Voltage (THD=1%, 1KHz)	44.7V	60.0V	72.1V	89.4V	109.5V	126.5V	154.9V
Input sensitivity (rated output 1KHz)	35dB/32dB/29dB/26dB		38dB/35dB/32dB/29dB		41dB/38dB/35dB/32dB		
Frequency Response	+0dB, -0.5dB(10% rated output power, 8Ω, 20Hz-20kHz)						
THD+N	0.01%(10% rated output power, 1kHz, 8Ω)						
Crosstalk suppression	≥90dB(lower than rated power 20Hz-1kHz)						
Input Impedance	20kΩ(balance), 10kΩ (non balance)						
Damping factor	5000(8Ω, 20Hz-200Hz)						
Signal-to-noise ratio	105dB(A,20Hz-20kHz,8Ω)						
Power requirements	80-260VAC 50/60Hz						
Input Connectors	XLR socket female						
Speaker Input connectors	SPEAKON						
Controls in front panel	Power switch, volume gain control						
Controls in rear panel	Output mode selection switch: parallel, stereo and bridge						
LED Indicator lights	3 LED lights per channel : power, signal, parallel & bridge mode						
Cooling	Internal air forced exhaust heat dissipation, fan cooling, quick adjustment, temperature protection						
Air flowing	The air flows from front to back.						
Protection functions	amplitude limit and protections against short circuit ,over-load, overheat, direct current, radio-interference , on/off switching, muting						
Dimensions(WxHxD)	483x45x370mm				483x44x465mm		
Net weight	7-9KG				12KG		
Accessories	user's manual 1pc, power cord 1 pc						

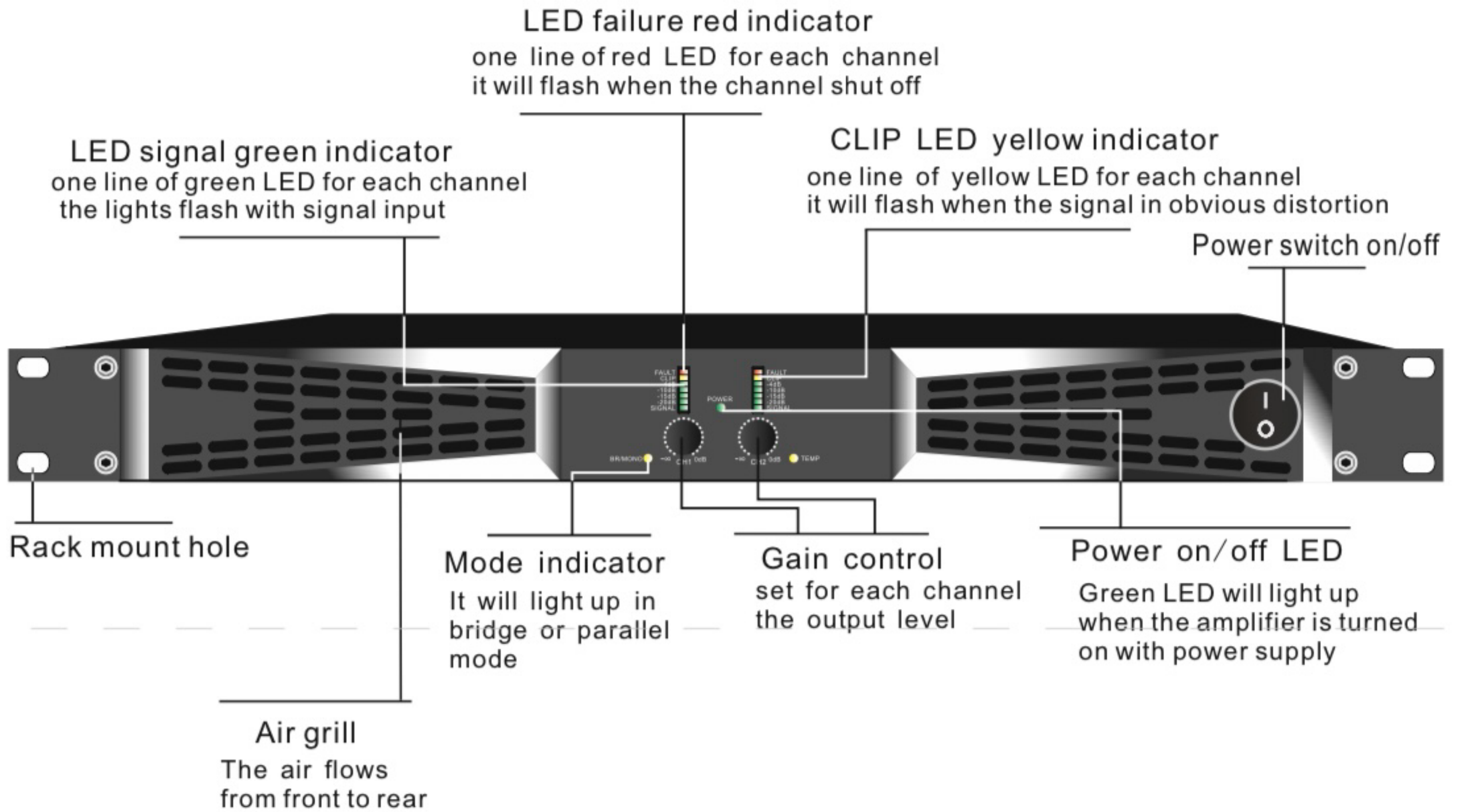
4 Channel Specifications

1KHz(EIA) with 0.5% THD

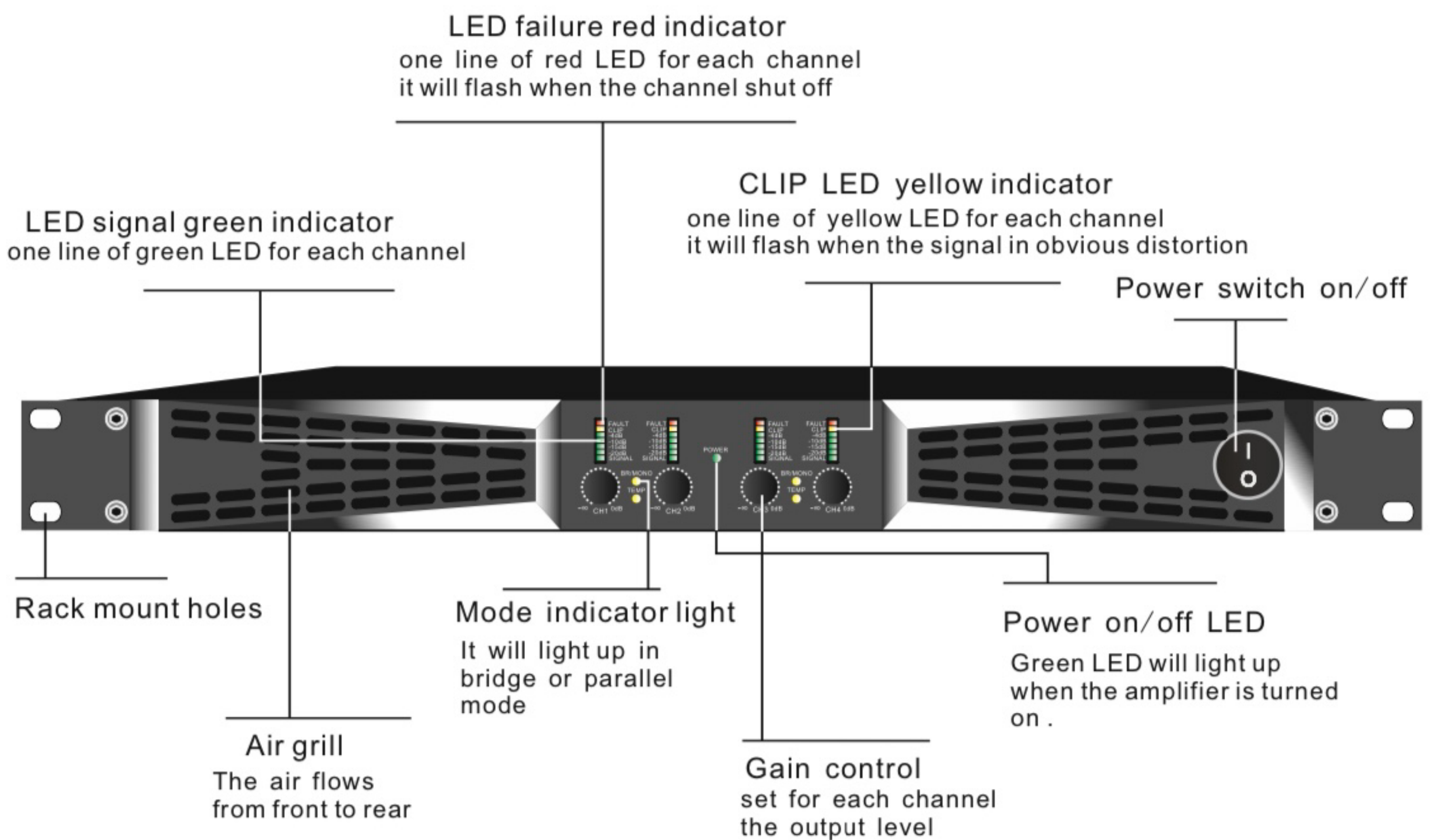
Channel qty	4 channel	4 channel	4 channel	4 channel	4 channel	4 channel
Height	1U	1U	1U	1U	1U	1U
Stereo output power 8 Ω	4X250W	4X450W	4X650W	4X1000W	4X1600W	4X2000W
Stereo output power 4 Ω	4X425W	4X765W	4X1100W	4X1700W	4X2550W	4X3400W
Stereo output power 2 Ω	4X723W	4X1300W	4X1870W	4X2890W	4X3570W	4X4760W
Bridge output power 16 Ω	2X500W	2X900W	2X1300W	2X2000W	2X3000W	2X4000W
Bridge output power 8 Ω	2X850W	2X1530W	2X2200W	2X3400W	2X5100W	2X6800W
Bridge output power 4 Ω	2X1445W	2X2601W	2X3740W	2X5780W	2X7140W	2X9520W
RMS Input Voltage (THD=1%, 1KHz)	44.7V	60.0V	72.1V	89.4V	109.5V	126.5V
Input Sensitivity (Rated output, 1KHz)	35dB/32dB/29dB/26dB				41dB/38dB/35dB/32dB	
Frequency Response	+0dB, -0.5dB(10% rated output power, 8Ω, 20Hz-20kHz)					
THD+N : Typical values	0.01%(10% rated output power, 1kHz, 8Ω)					
Crosstalk Suppression	≥ 90dB(lower than rated power, 20Hz-1kHz)					
Input Impedance	20k Ω (balance), 10k Ω (non balance)					
Damping Factor	5000(8Ω 20Hz-200Hz)					
Signal-to-noise ratio	105dB(A 20Hz-20kHz 8Ω)					
Power Requirements	80-260VAC 50/60Hz					

Input connectors	XLR socket female					
Speaker input connectors	SPEAKON					
Controls in front panel	power switch, volume gain control					
Controls in rear panel	Output mode switches : parallel, stereo and bridge					
LED indicators	3 LED lights per channel : power, signal, parallel & bridge mode					
Cooling	Internal air forced exhaust heat dissipation, fan cooling, quick adjustment, temperature protection					
Protection Function	amplitude limit and protections against short circuit , over-load, overheat, direct current, radio-interference , on/off switching, muting					
Dimensions(WxHxD)	483x45x370mm				483x45x465mm	
Net weight	7-9KG				12KG	
Accessories	User's manual 1pc, power cord 1 pc					

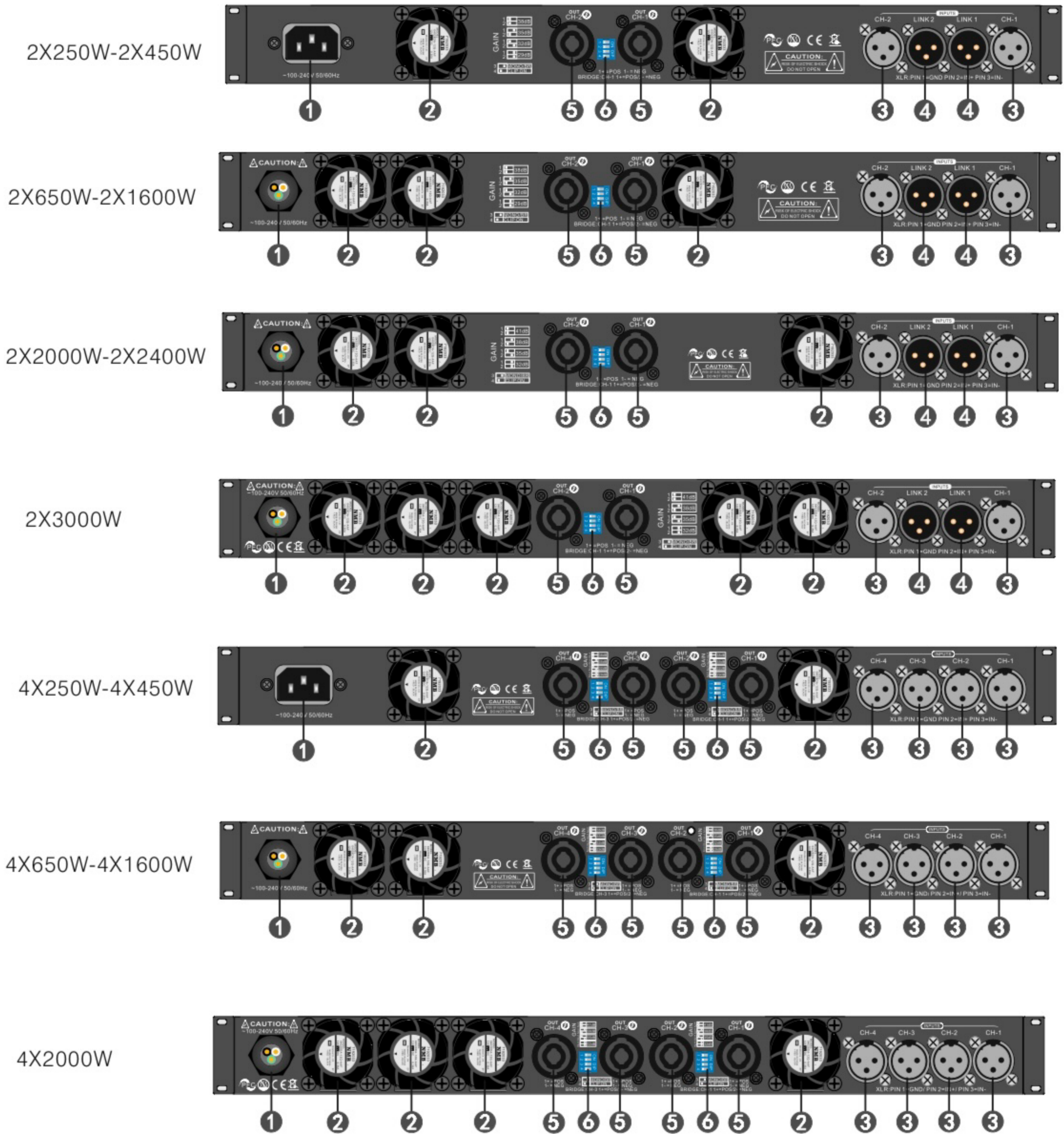
2 Channel Front Panel Introduction

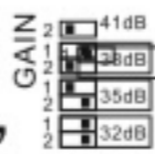


4 Channel Front Panel Introduction



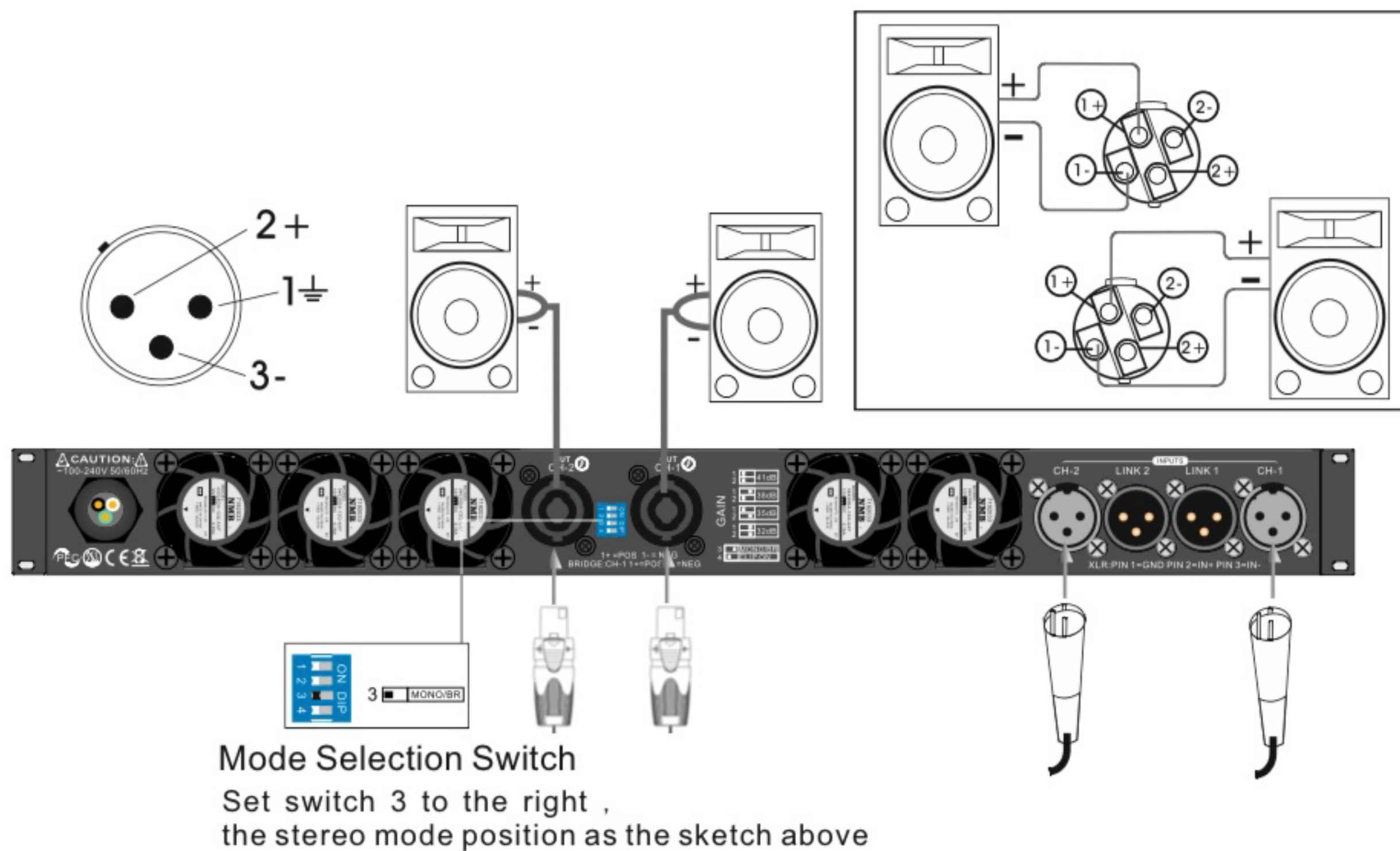
Rear Panel Introduction



- ❶ Power connector
- ❷ Cooling fans
- ❸ Signal input XLR female connectors, the balance type of input connectors.
- ❹ Signal input XLR male connectors, LINK input plug to connect another device.
- ❺ Signal output connectors, four core SPEAKON speaker sockets.
- ❻ Switch 1 and 2 are gain control,  select a right gain value as this sketch.
Switch 3 is for mode selection of stereo, bridge or parallel. Set it to the right for stereo mode. MONO and BR to the left is for parallel and bridge mode.
Switch 4 is for CLIP on.

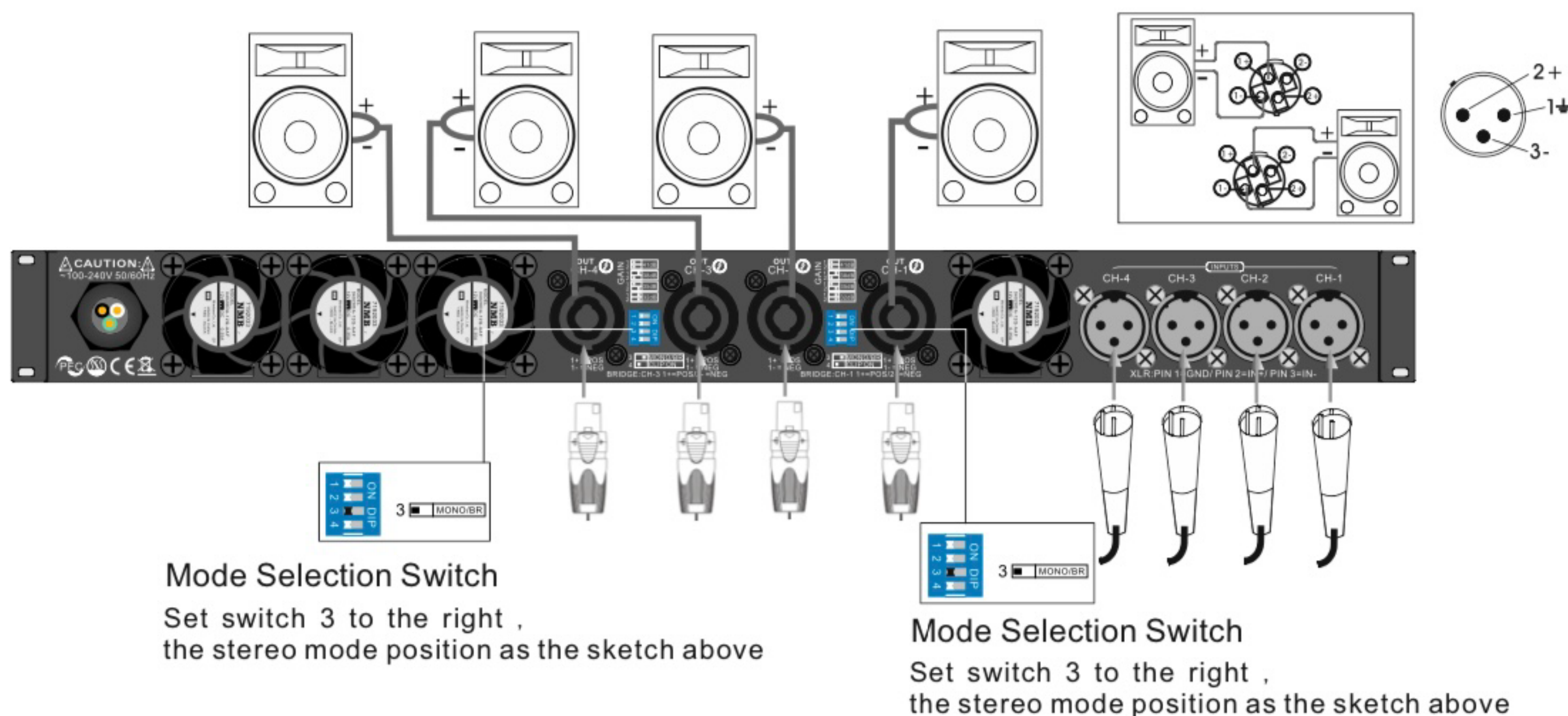
Two Channel Stereo Mode Wiring Instruction

1. When using SPEAKERON connectors for stereo mode, there are 2 channels with input signal to push two speakers
2. Connect speakers to SPEAKON connectors as the sketch instruction below.
3. When connected in stereo mode, gain control of CH1 and CH2 available.



Four Channel Stereo Mode Wiring Instruction

1. When using SPEAKERON connectors for stereo mode, there are 4 channels with input signal to push four speakers
2. Connect speakers to SPEAKON connectors as the sketch instruction below.
3. When connected in stereo mode, gain control of CH1,CH2,CH3 and CH4 available.



Two Channel Bridge Mode Wiring Instruction

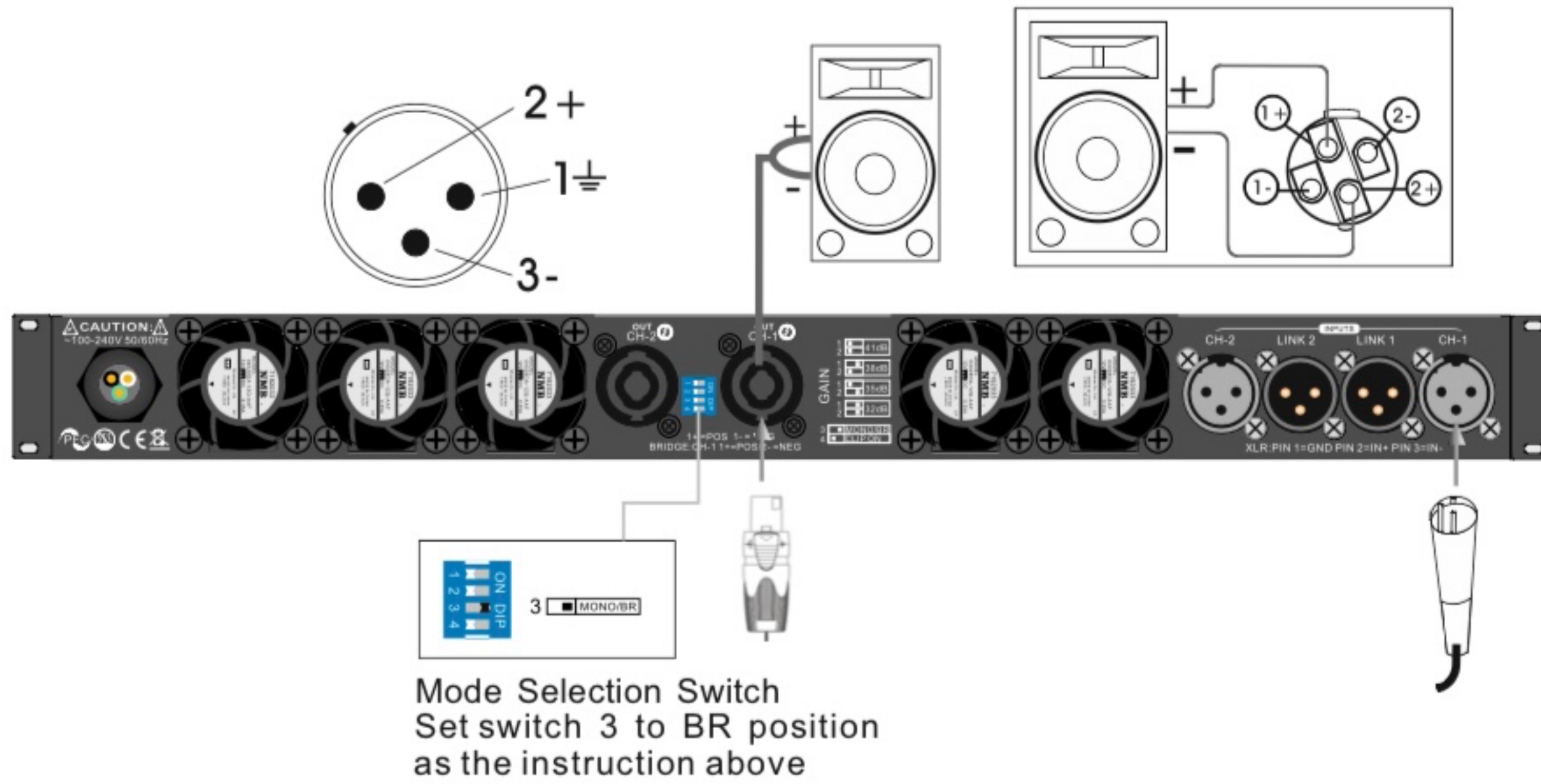
1、 Bridge-Mono wiring using the Speakon connectors

Bridge-mono mode doubles the output power of the amplifier.

2、 See the following. On the back panel, set the Output Mode switch 3 to BRIDGE.

3、 Wire the speaker to the Speakon Connectors as shown.

4、 When connected in bridge mode, only gain control of Ch1 is available.



Four Channel Bridge Mode Wiring Instruction

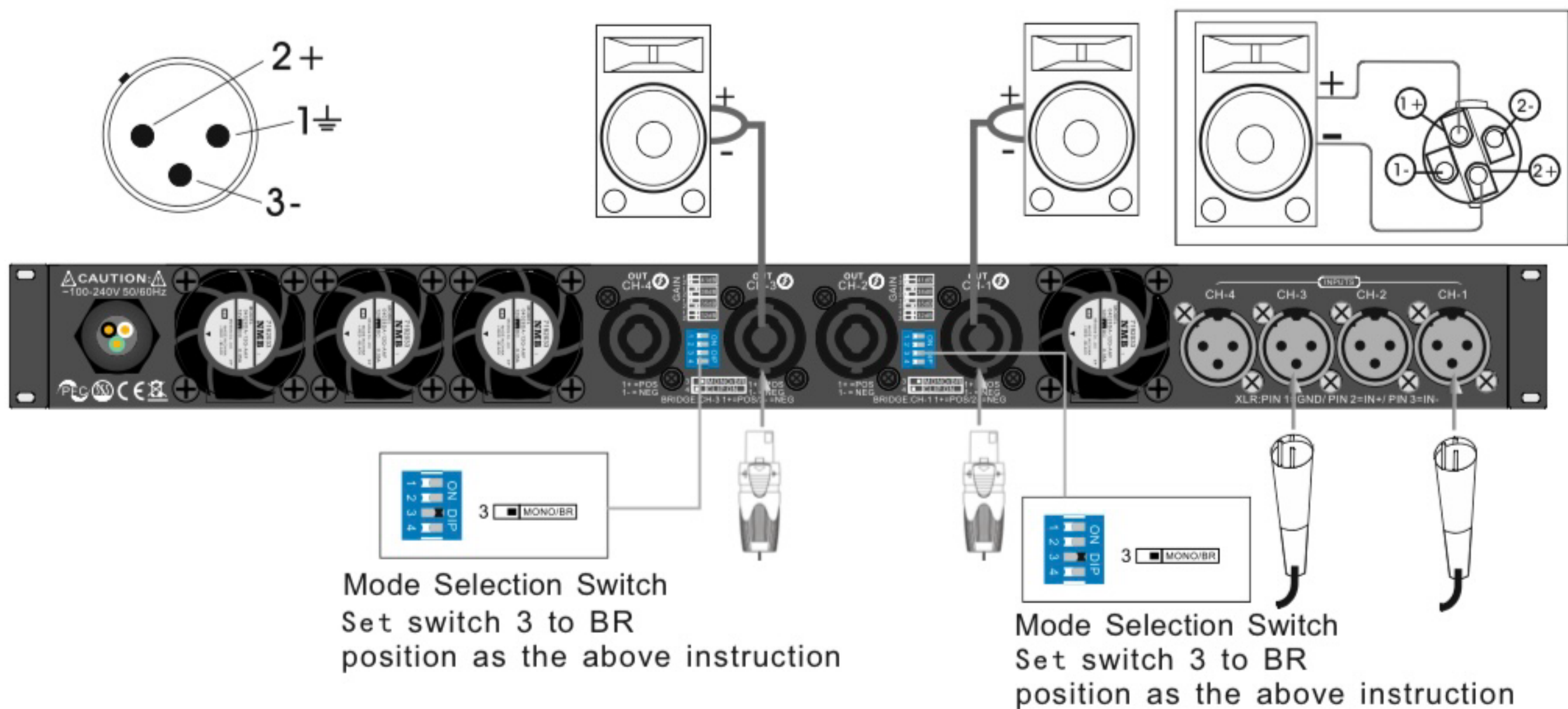
1、 Bridge-Mono wiring using the Speakon connectors.

Bridge-mono mode doubles the output power of the amplifier.

2、 See the following. On the back panel, set the Output Mode switch 3 to BRIDGE.

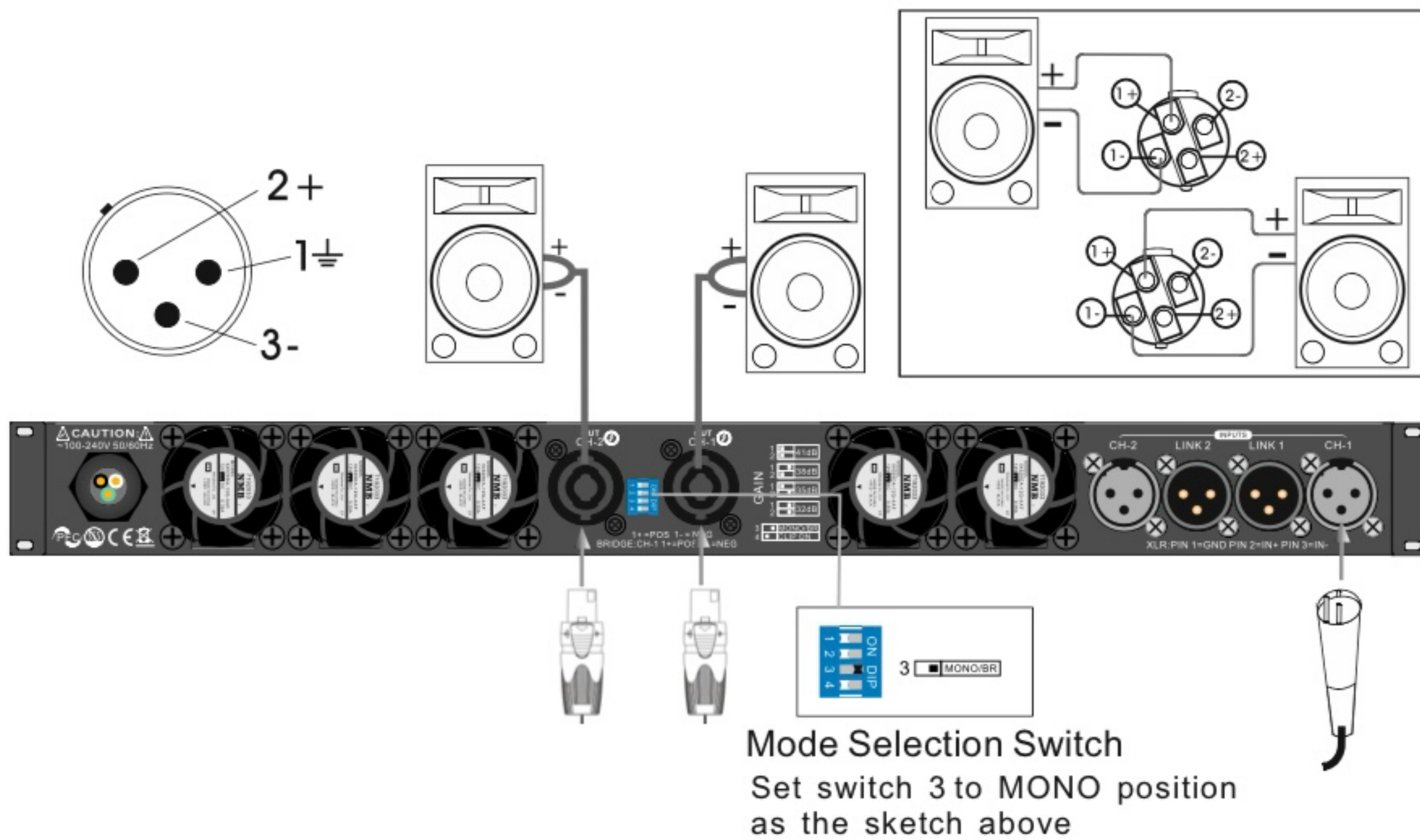
3、 Wire the speaker to the Speakon Connectors as shown.

4、 When connected in bridge mode, only gain control of Ch1 and Ch3 are available.



Two channel parallel mode wiring instruction

1. Using SPEAKON connector for parallel mode, signal input from one channel to drive speaker for sound.
2. Set switch 3 to mono/parallel position on rear panel as the instruction sketch below.
3. Connect speaker to SPEAKON connectors as the instruction sketch below.
4. When connected in parallel mode, only gain control of CH1 available.



Four channel parallel mode wiring instruction

1. When using SPEAKON connectors for parallel mode, signal input from 2 channels to drive 4 pcs of speakers .
2. Set switch 3 to mono/parallel position on rear panel as the instruction sketch below.
3. Connect speaker to SPEAKON connectors as the instruction sketch below.
4. When connected in parallel mode, only gain control of CH1 and CH3 available.

