

# 1U Class D Power Amplifier with PFC

HA1804 / HA2402 Power Amplifier User Manual



HA1804

HA2402

PFC Power Supply

Compact, high-output rack-mount amplifiers for professional live sound, fixed installation, touring rental, venues, churches, and conference systems.



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This optimized manual provides safety instructions, front and rear panel descriptions, connection guidance, and specifications for HA1804 and HA2402 professional power amplifiers.

# 1. Important Safety Notes

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## Warning Notices and Safeguards

Electrical energy can perform many useful functions. This unit has been engineered and manufactured to support safe operation when installed, used, and serviced correctly. Improper use may create a risk of electrical shock or fire. Observe the following precautions carefully.

CAUTION  
RISK OF ELECTRIC SHOCK  
DO NOT OPEN

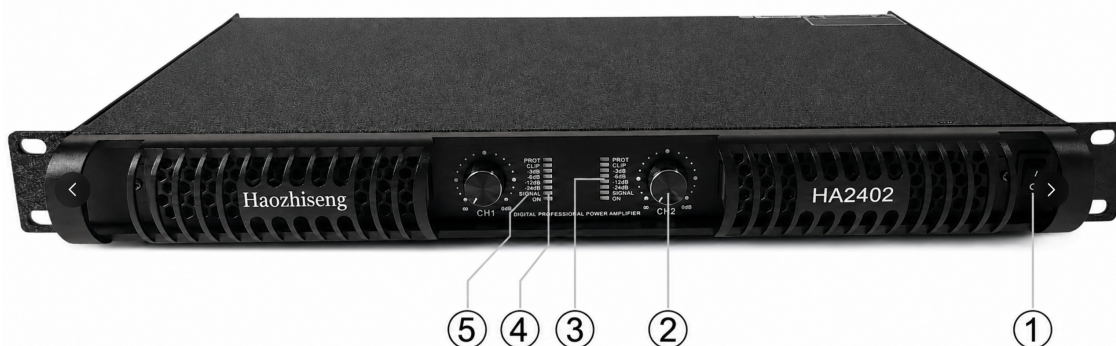
SERVICE WARNING  
Open only by qualified service personnel.  
Disconnect power before service or repair.

**WARNING:** To prevent fire or electric shock, do not expose this equipment to rain or moisture.

1. Operate the unit only at the mains voltage indicated on the rear panel.
2. Do not insert metal objects or foreign materials into the device. This may cause electric shock or malfunction.
3. If the unit is moved between environments with large temperature changes, allow it to reach room temperature before use.
4. If water or any liquid enters the unit, switch it off immediately and have it inspected by qualified service personnel.
5. Always keep the unit well ventilated and away from direct sunlight and heat sources.
6. Do not use sprays, solvents, or flammable cleaning agents on the unit.
7. Disconnect power before servicing, repair, or internal inspection.
8. Do not place cups, vases, or other liquid containers above the machine.

## 2. Front Panel Control Elements

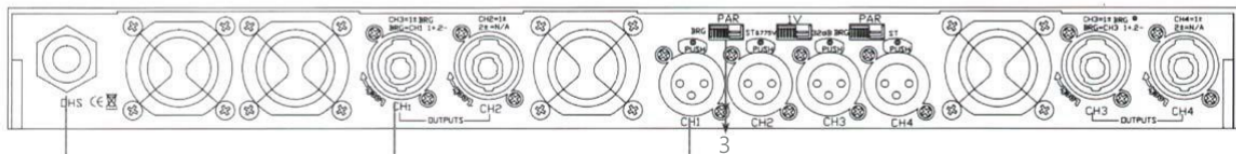
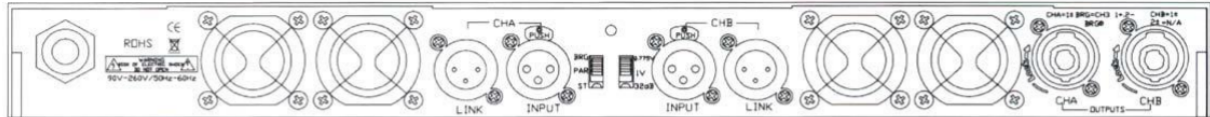
The front panel includes the power switch, channel volume controls, and per-channel LED indicators for power, signal, and clip/limit status.



1	POWER SWITCH	Turns the unit power on or off.
2	Volume Control	Adjusts the output level of the corresponding channel.
3	POWER LED	Indicates whether the amplifier channel is powered on.
4	SIGNAL LED	Green SIG indicates the output signal level is within the normal operating range.
5	CLIP / LIMIT INDICATOR	Indicates clipping or limiting. If the LED lights briefly, it is usually not a concern. If it remains lit, reduce volume to avoid overload damage to the connected loudspeakers.

### 3. Rear Panel Features

The rear panel provides power input, amplifier outputs, mode-setting controls, and balanced audio inputs for the system configuration.

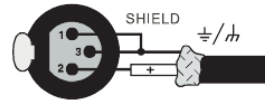
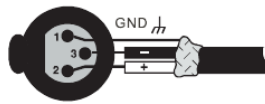


<p><b>1. POWER SUPPLY INPUT</b> Connect the amplifier to the appropriate AC power source.</p>	<p><b>2. AMPLIFIER OUTPUT</b> Connect speaker output cables to the amplifier output connectors. Confirm correct polarity before operation.</p>
<p><b>3. MODE SET</b> Set the operating mode required by the system configuration.</p>	<p><b>4. AUDIO INPUT</b> Connect balanced audio input signals to the amplifier input connectors.</p>

## 4. Audio Input Connections

Use high-quality, shielded audio cable to reduce interference and protect signal integrity. Balanced input connections are recommended whenever possible.

- Use shielded wire; a higher-density shielding layer provides better noise rejection.
- Use balanced connections whenever possible to reduce noise interference.
- For unbalanced connections, keep the cable as short as possible, preferably no more than 3 m.
- Avoid routing weak signal lines in parallel with power cables or high-power output lines.
- Before changing any connection, turn off all equipment to prevent damage to hearing and loudspeakers.



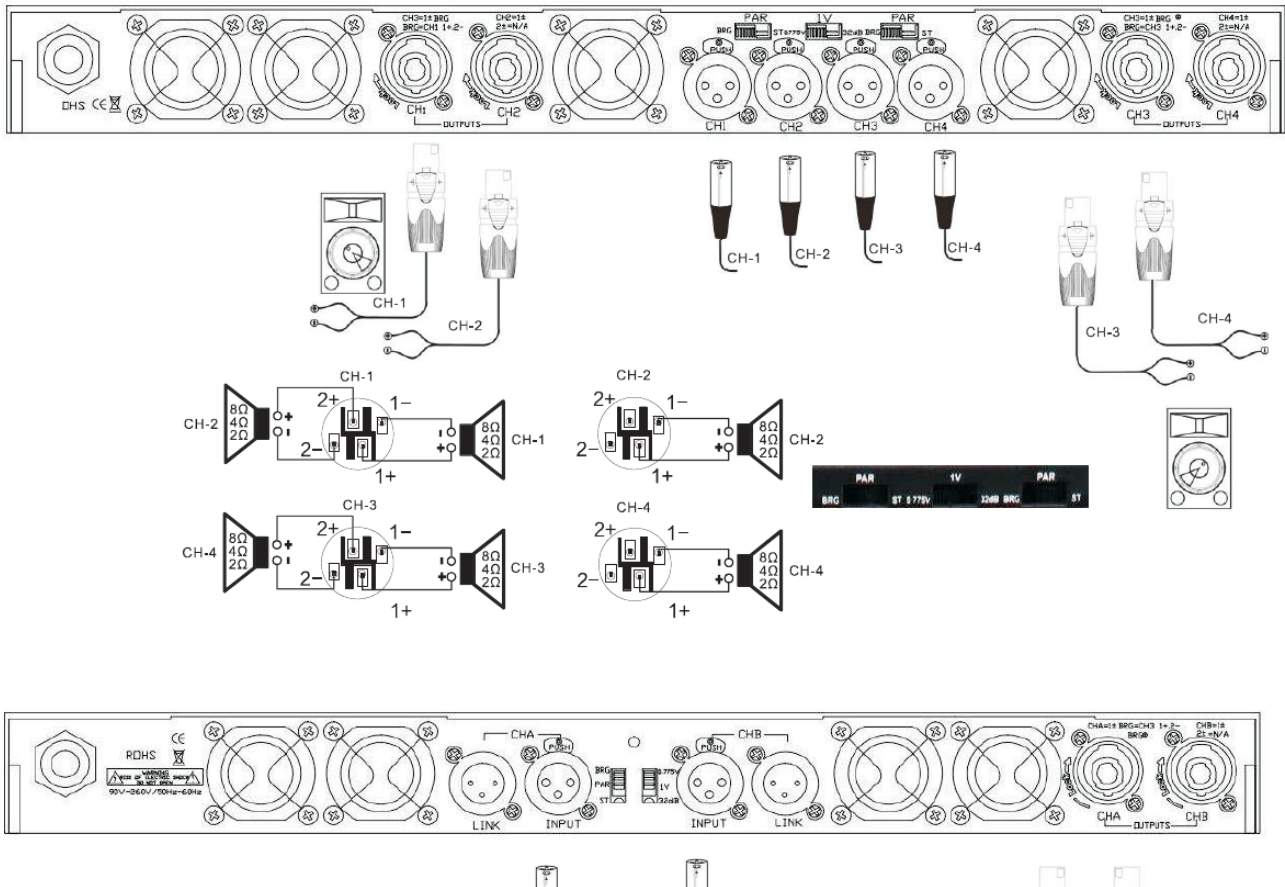
Balanced analog input / AES3 digital input connection

Unbalanced analog input connection

# 5. Audio Output Connections - Stereo Mode

Use the correct stereo output wiring for each channel. Confirm connector polarity, output assignment, and operating mode before powering the amplifier.

## Stereo Output connections

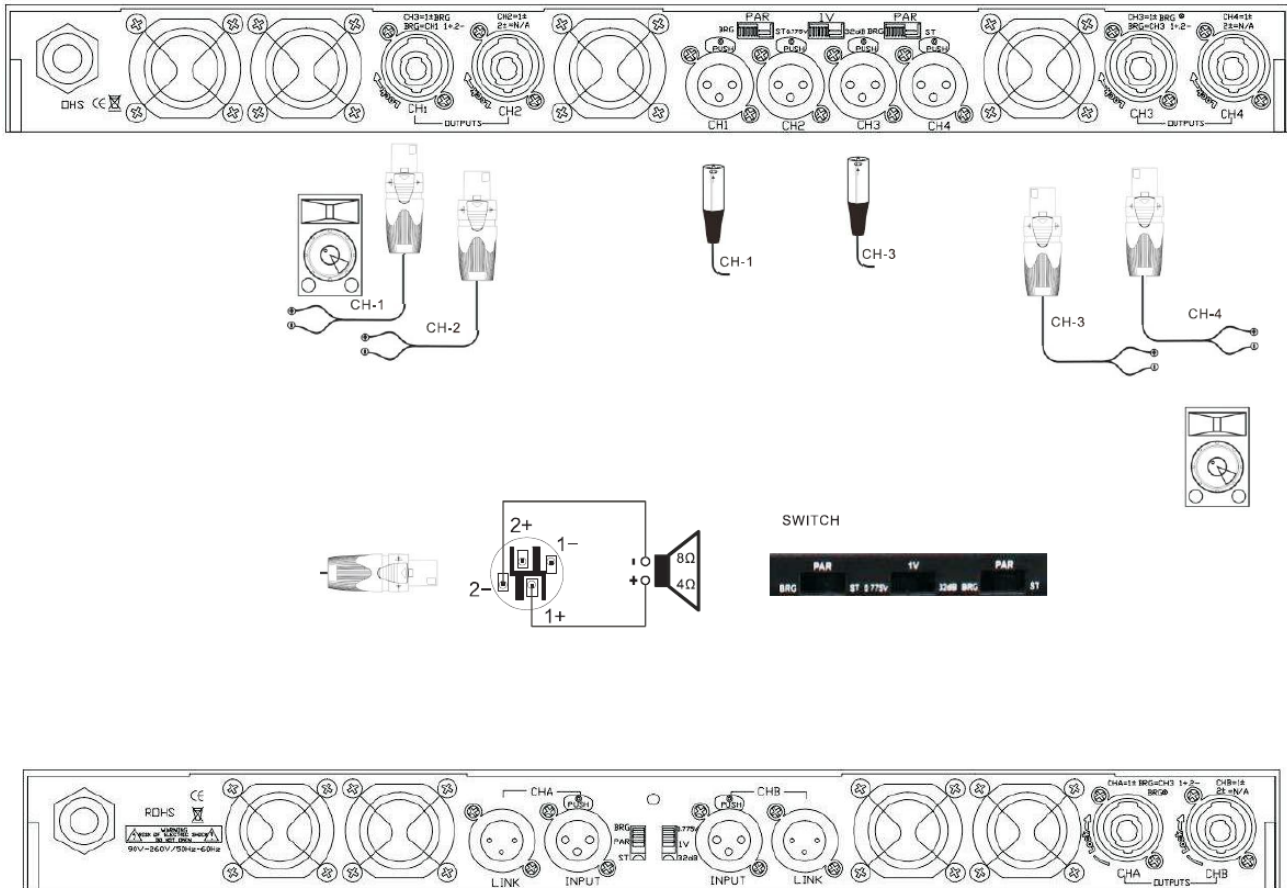


Stereo mode check: Verify that each loudspeaker is connected to the correct channel output and that the system load impedance is compatible with the amplifier rating.

# 6. Audio Output Connections - Bridge Mode

Bridge mode must be used only when the amplifier is configured accordingly. Confirm switch position, connector wiring, and load impedance before operation.

## Bridge Output connections



Bridge mode caution: Incorrect bridge wiring may cause amplifier protection, distorted output, or loudspeaker damage. Always confirm wiring before use.



# 7. Professional Power Amplifier Specifications

ITEM	HA1804	HA2402
8Ω Stereo Power (RMS)	1800W × 4	2400W × 2
4Ω Stereo Power (RMS)	2800W × 4	4100W × 2
2Ω Stereo Power (RMS)	4500W × 4	6300W × 2
8Ω Bridged Power (RMS)	5600W × 2	8200W
4Ω Bridged Power (RMS)	9000W × 2	12600W
Frequency Response	±0.5dB	±0.5dB
1kHz THD	<0.03%	<0.03%
Signal-to-Noise Ratio (8Ω, 1kHz, 1V)	≥104dB	≥104dB
Input Sensitivity (rated power 8Ω)	0.775V / 1V / 32dB selectable	0.775V / 1V / 32dB selectable
Cross-talk (20Hz-1kHz, below rated power)	≥70dB	≥70dB
Input Connectors (per channel)	3-pin XLR, electronically balanced	3-pin XLR, electronically balanced
Output Connectors (per channel)	Neutrik speakON	Neutrik speakON
Class	D	D
Protection	Under voltage, DC, over temperature, overload limiter, short protection	Under voltage, DC, over temperature, overload limiter, short protection
Operating Voltage	90V-260V	90V-260V
Input Impedance	20kΩ (Balanced), 10kΩ (Unbalanced)	20kΩ (Balanced), 10kΩ (Unbalanced)
Damping Factor	≥5000	≥5000
Dimensions (W × H × D)	480 × 430 × 44 mm	480 × 330 × 44 mm
Packing Dimension	532 × 522 × 103 mm	515 × 415 × 103 mm
Net Weight	10.3 kg	8.7 kg
Gross Weight	13 kg	10.5 kg

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