

Operation Manual

CX2.4, CX2.5, CX2.10

CX2.16, CX2.21, CX2.25

Professional Class-D Power Amplifier



Please follow the instructions in this manual to obtain the optimum results from this unit.
We also recommend that you keep this manual handy for future reference.

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1. SAFETY PRECAUTIONS

- Be sure to read the instructions in this section carefully before use.
- Make sure to observe the instructions in this manual as the conventions of safety symbols and messages regarded as very important precautions are included.
- We also recommend you keep this instruction manual handy for future reference.

Safety Symbol and Message Conventions

Safety symbols and messages described below are used in this manual to prevent bodily injury and property damage which could result from mishandling. Before operating your product, read this manual first and understand the safety symbols and messages so you are thoroughly aware of the potential safety

WARNING

Indicates a potentially hazardous situation which, if mishandled, could result in death or serious personal injury.

CAUTION

Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury, and/or property damage.

WARNING

When Installing the Unit

- Do not expose the unit to rain or an environment where it may be splashed by water or other liquids, as doing so may result in fire or electric shock.
- Use the unit only with the voltage specified on the unit. Using a voltage higher than that which is specified may result in fire or electric shock.
- Do not cut the link otherwise damage nor modify the power supply cord. In addition, avoid using the power cord in close proximity to heaters, and never place heavy objects - including the unit itself - on the power cord, as doing so may result in fire or electric shock.
- Be sure to replace the unit's terminal cover after connection completion. Because high voltage is applied to the speaker terminals, never touch these terminals to avoid electric shock.
- Be sure to ground to the safety ground (earth) terminal to avoid electric shock. Never ground to a gas pipe as a catastrophic disaster may result.
- Avoid installing or mounting the unit in unstable locations, such as on a rickety table or a slanted surface. Doing so may result in the unit falling down, causing personal injury and / or property damage.

When Installing the Unit

- Should the following irregularity be found during use, immediately switch off the power, disconnect the power supply plug from the AC outlet and contact your nearest dealer. Make no further attempt to operate the unit in this condition as this may cause fire or electric shock.
 - If you detect smoke or a strange smell coming from the unit.
 - If water or any metallic object gets into the unit
 - If the unit falls, or the unit case breaks
 - If the power supply cord is damaged (exposure of the core, disconnection, etc.)
 - If it is malfunctioning (no tone sounds.)
- To prevent a fire or electric shock, never open nor remove the unit case as there are high voltage components inside the unit. Refer all servicing to your nearest dealer.
- Do not place cups, bowls, or other containers of liquid or metallic objects on top of the unit. If they accidentally spill into the unit, this may cause a fire or electric shock.
- Do not insert nor drop metallic objects or flammable materials in the ventilation slots of the unit's cover, as this may result in fire or electric shock.

CAUTION

When Installing the Unit

- Never plug in nor remove the power supply plug with wet hands, as doing so may cause electric shock.
- When unplugging the power supply cord, be sure to grasp the power supply plug; never pull on the cord itself. Operating the unit with a damaged power supply cord may cause a fire or electric shock.
- When moving the unit, be sure to remove its power supply cord from the wall outlet. Moving the unit with the power cord connected to the outlet may cause damage to the power cord, resulting in fire or electric shock. When removing the power cord, be sure to hold its plug to pull.
- Do not block the ventilation slots in the unit's cover. Doing so may cause heat to build up inside the unit and result in fire.
- Avoid installing the unit in humid or dusty locations, in locations exposed to the direct sunlight, near the heaters, or in locations generating sooty smoke or steam as doing otherwise may result in fire or electric shock.
- Due to product upgrades, while some of the features and specification in the user manual does not match the actual functions, sorry for any inconvenience and thanks for your kind understanding!

When Installing the Unit

- Do not place heavy objects on the unit as this may cause it to fall or break which may result in personal injury and/or property damage. In addition, the object itself may fall off and cause injury and/or damage.
- Make sure that the volume control is set to minimum position before power is switched on. Loud noise produced at high volume when power is switched on can impair hearing.
- Do not operate the unit for an extended period of time with the sound distorting. This is an indication of a malfunction, which in turn can cause heat to generate and result in a fire.
- Contact your dealer as to the cleaning. If dust is allowed to accumulate in the unit over a long period of time, a fire or damage to the unit may result.
- If dust accumulates on the power supply plug or in the wall AC outlet, a fire may result. Clean it periodically. In addition, insert the plug in the wall outlet securely.
- Switch off the power, and unplug the power supply plug from the AC outlet for safety purposes when cleaning or leaving the unit unused for 10 days or more. Doing otherwise may cause a fire or electric shock.

An all-pole mains switch with a contact separation of at least 3 mm in each pole shall be incorporated in the electrical installation of the building.

2. PRODUCT INTRODUCTION

The Class-D range two channel power amplifiers are our latest digital professional power amplifier, which is the new milestone in switch power technology amplifiers. It is of light and 1RU height but can provide you with unprecedented strong power. The high sound quality will be a new marker of professional audio market. The class-D range two channel power amplifiers offer six different power ratings from 2x250W(8 Ohm) to 2x1400W(8 Ohm), and this is only provided by one rack unit, the machine's biggest net weight is only 8 kg.

The professional class-D two channel power amplifier using classic PWM circuit and perfect protection circuit, with high stability and applicability, timbre large dynamic range, small volume, light weight, high efficiency, small distortion, high power, etc.

The power amplifier adopts the best power supply design with circuit stability, high efficiency, low harmonic. In terms of digital power amplification, D class amplifier is also excellent. After years of experiment, we successfully developed a new type of circuit topology, after the new signal modulation mode, the music signal becomes better digital signals. The emergence of this new modulation method, offers guarantee for some tiny signal sampling, complete the form. In addition, we also increased the fixed switching frequency of the power, precise controlled of the dead zone time, lower power amplifier distortion degree, make the sound quality equal or exceed the traditional analog power amplifier.

3. FEATURES

1. Advanced switching power supply technology, can provide high quality sound, compact volume.
2. Low noise and high quality speed controlled fan, using industry best cooling fan of minimize the noise.
3. With built-in soft start circuit for low AC surge current, can replace the power sequencer.
4. The standard Combined XLR connector and 6.3 mm Phone jack one-piece parallel socket.
5. Built-in Clipping limiting device.
6. Clipping limiting device with comprehensive status indicators on the front panel, including the power lamp, five period of signal, pressure limit light, protection lamp and so on.
7. Full protection circuits, power amplifier consists of overload protection, short circuit protection, temperature protection, power limitation protection, signal pressure limit protection, dc protection current, peak limiting protection, etc. Power protection includes under voltage protection, over voltage protection, over current pressure limit protection, over-current shutdown protection, over temperature protection, etc.
8. 19" rack mount design in 1 RU height.

4. EFFICIENCY

Compared with the traditional audio power amplifier, D series power amplifier show more excellent performance, while significantly reduce heat, offer more strong power to the speakers. High conversion efficiency which can make the size of the power amplifier, weight and power consumption greatly reduced. Output efficiency reaches up to 95%.

The biggest difference between class-D power amplifier and the traditional power amplifier is the highest efficiency, the traditional power amplifier is full associated with the output, and digital power amplifier is almost not affected by output constraints, because of the influence of music on average power density, even the volume of the traditional power amplifier and digital power amplifier set to be the same, we will find that the traditional power amplifier produce more than 10 times heat than the digital power amplifier.

5. POWER SUPPLY

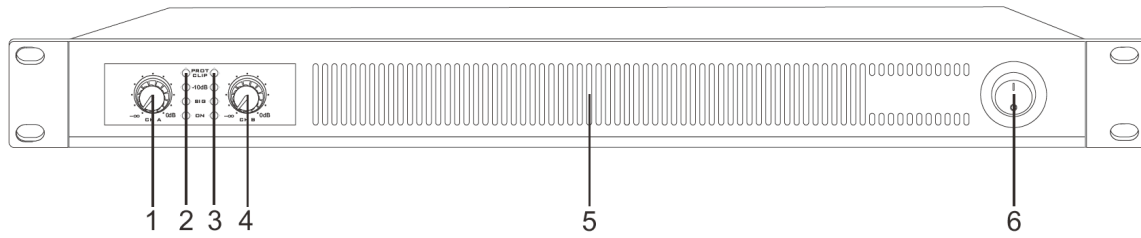
Class-D power amplifier with high efficiency, good stability switch power supply, light weight, high efficiency and power reserves, wide input voltage range, power efficiency over 95%.

6. SUITABLE APPLICATION

1. Tour system or fixed sound installation
2. Sound reinforcement system
3. Live performance sound reinforce
4. Conference system sound reinforce
5. Background music system
6. To drive high-power and low-frequency speakers

7. NOMENCLATURE AND FUNCTIONS

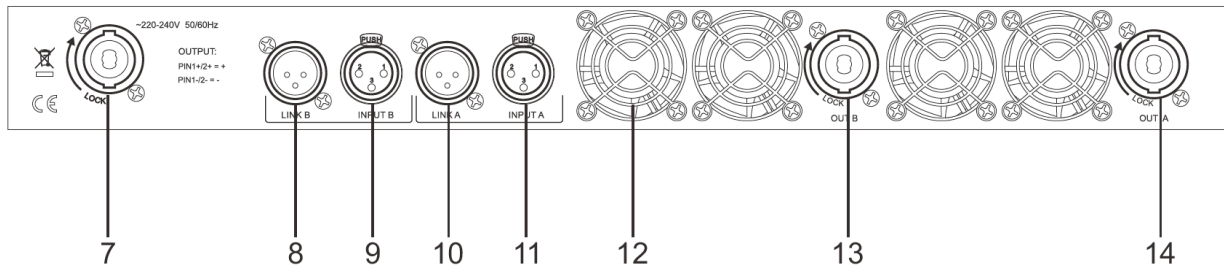
Front Panel



- 1. CHA volume potentiometer
- 2. CHA output level meter
- 3. CHB output level meter
- 4. CHB volume potentiometer

- 5. Air inlet
- 6. Power switch

Rear Panel



- 7. AC Power socket
- 8. CHB signal XLR link output
- 9. CHB signal XLR input
- 10. CHA signal XLR link output

- 11. CHA signal XLR input
- 12. Speed controlled cooling fans
- 13. CHB speaker output
- 14. CHA speaker output

8. OPERATION INSTRUCTIONS

1. Power on

- 1.1 According to introduction, make the setting and wiring correctly.
- 1.2 Check short circuit between input cable and output cable.
- 1.3 Check whether the local power grid are in conformity with this manual.
- 1.4 Make sure the power is off, turn the volume to the minimum.
- 1.5 Connect the power supply, turn on the audio source, power on this digital amplifier;
Adjust the volume knob clockwise to suitable location.
- 1.6 Turn on the effect devices and the professional amplifier and make sure the above equipments work properly.

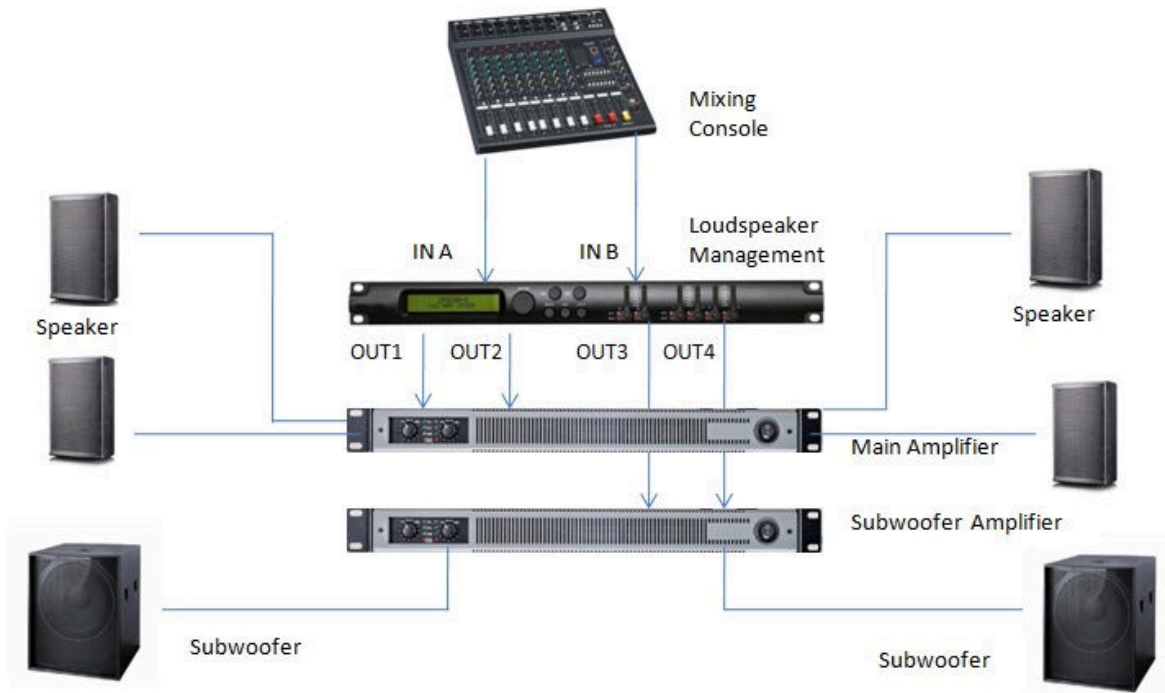
2. Power off

- 2.1 Adjust the volume knob counterclockwise to the minimum.
- 2.2 Turn off the switch, set to OFF position.
- 2.3 Turn off the professional digital amplifier, set to OFF. Then turn off the effect equipments, audio sources.

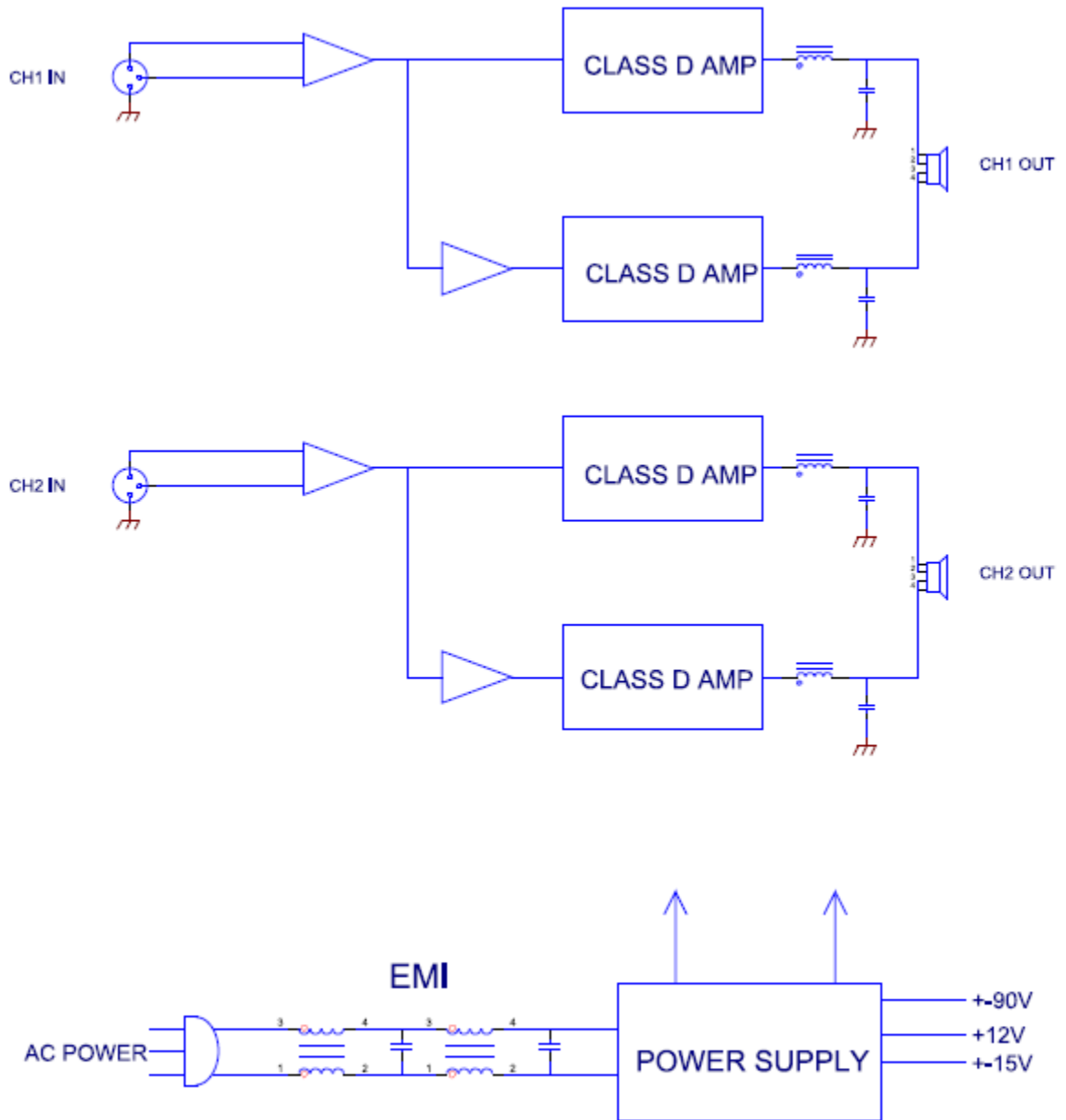
9. TROUBLE SHOOTING

Fault phenomenon	The cause of the problem
There is no sound output when the line connection is good	<ol style="list-style-type: none">1.No electricity or plug contact undesirable2.The fuse was burn out3.The volume is not open4.No input signal
Normal startup, the alarm triggered	<ol style="list-style-type: none">1. Load short circuit or damaged2. Power supply voltage is not stable, too high or too low3. Overload
In the normal use of all of a sudden no sound output	<ol style="list-style-type: none">1. Temperature is too high, the machine in temperature protection2. Loose cable connection

10. CONNECTION DIAGRAM



11. BLOCK DIAGRAM

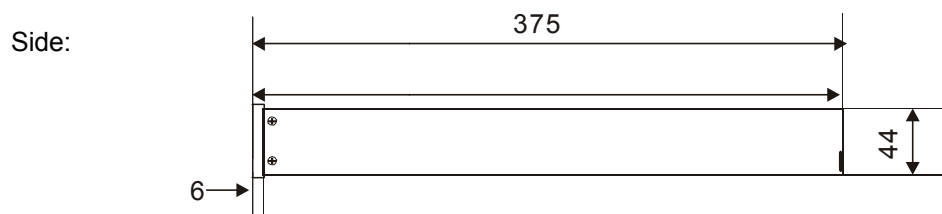
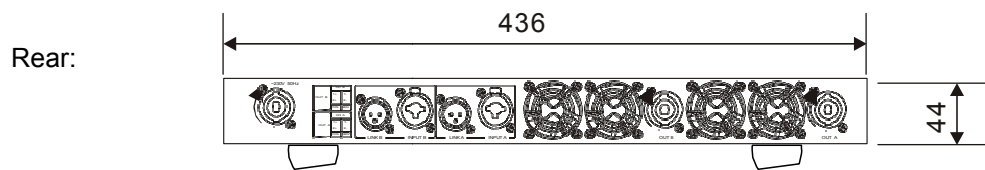
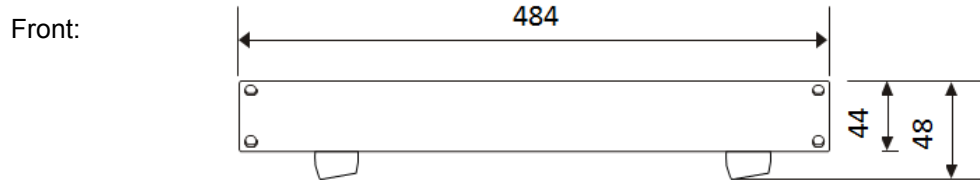


12. SPECIFICATION

Model	CX2.4	CX2.5	CX2.10	CX2.16	CX2.21	CX2.25
Description	Professional Class-D Power Amplifier					
Amplifier Class	D-Class					
Rated Output 8Ω Dual	250W	350W	600W	850W	1100W	1400W
Rated Output 4Ω Dual	400W	500W	1000W	1600W	2100W	2500W
Rated Output 2Ω Dual	500W	600W	1200W	1800W	2300W	2700W
Efficiency	>85%					
Frequency Response	20Hz~20KHz (at±0.3dB)					
IMD-SMPTE	<0.3%					
THD @ 1kHz	<0.3%, 1dB below clip					
Damping Factor @ 8Ω	>800					
Slew Rate	50V/μs					
Signal/Noise Ratio	>105dB					
Input Sensitivity	1V					
Voltage Gain	32dB	35dB	36dB	38dB	40dB	41dB
Input Impedance	20KΩ (bal.), 10KΩ (unbal.)					
Crosstalk	>75dB ± ±					
Connector	Input by XLR male, link by XLR female, output by Speakon female.					
Protection	Clip, high temp, overload and short circuit					
Cooling	Temperature controlled fan					
Power Supply	AC 220~240V, 50/60Hz					
Dimension	484(W)×375(D)×44(H)mm, 1RU height					
Net Weight	5.6kg		7kg		8kg	

13. DIMENSION SIZE

Dimension:
UNIT: mm



Keep the unit's all sides over 10 cm away from objects that may obstruct air flow to prevent the unit's internal temperature rise.

14. SERVICE & WARRANTY

Service

Procedures

Ensure the problem is not related to operator error, or system devices that are external to this unit. Information provided in the troubleshooting portion of this manual may help with this process. Once it is certain that the problem is related to the product contact your warranty provider as described in the warranty section of this manual.

Schematic

A Schematic is available by contacting your warranty provider.

Parts List

A Parts List is available by contacting your warranty provider.

Variations and Options

Variations

Products supplied through legitimate sources are compatible with local AC power requirements.

Warranty

Warranty terms of global three years. While the term and warranty may vary by country and may not be the same for all products. Terms and conditions of warranty for a given product may be determined first by locating the appropriate country which the product was purchased in, then by locating the product type.

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Specifications may change without pre-notice.