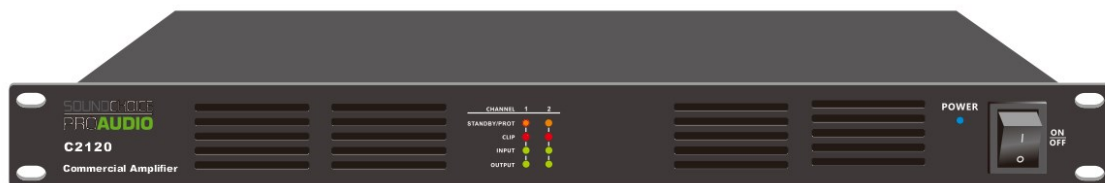


# INSTALLATION AND OPERATION MANUAL

## C2 Series Commercial Class-D Two Channel Amplifier



# Important Safety Information

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. If the provided plug does not fit into your outlet, consult an electrician for replacement.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the 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.
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. This appliance shall not be exposed to water and that no object filled with liquid such as vases shall be placed on the apparatus.
16. Plug this apparatus to the proper wall outlet and make the plug easily removable.
17. **WARNING:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
18. An appliance with a protective earth terminal should be connected to a mains outlet with a protective earth connection.

## Safety Warning

### WARNING!

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT USE THE PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

TO PREVENT ELECTRICAL SHOCK, MATCH WIDE BLADE PLUG TO WIDE SLOT, FULLY INSERT.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

#### CAUTION

RISK OF ELECTRIC SHOCK  
DO NOT OPEN

**WARNING:** TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

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# Introduction

## Features:

- Switching technology digital power amplifier
- Class-D PA power amplifier with minimum power consumption
- Less rack space and less heat generation
- Two channel power amplifier into 19" rack mount unit
- Two channel separate speaker outputs 4Ω/100V
- Balanced line inputs by phoenix connector
- Each input with separate gain control.
- Each channel with high-cut filter
- Built-in auto standby feature to save power consumption
- Separate channel indicators for protection, clip, input and output
- Complete short circuit, overload, high temp, clip and DC protection
- Wide AC input 230V input
- 24V DC battery input included

## Description:

The C2 series digital class-D power amplifier uses switching power technology, which features minimum power consumption and much higher efficiency up to 85%, moreover it helps to save installation rack space, generate less heat so as to extend its performance life span as a result.

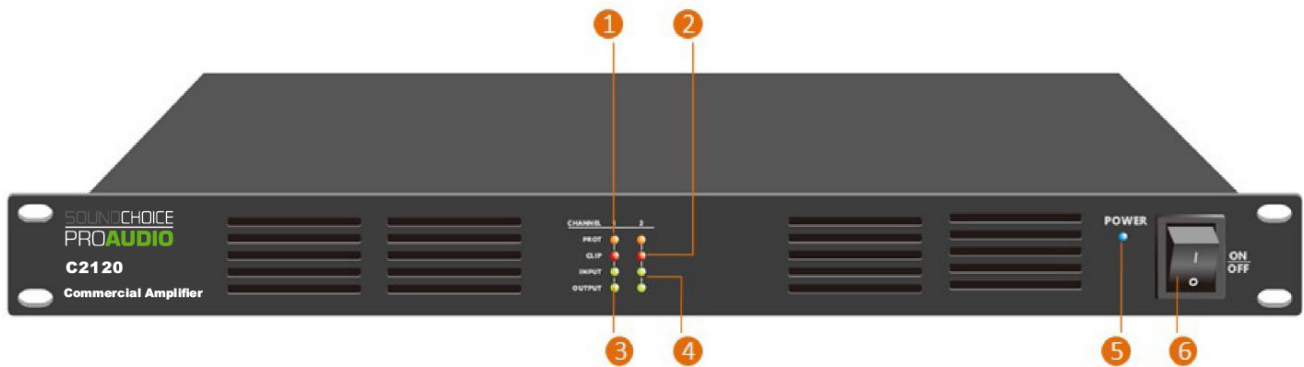
The digital class-D amplifiers are of rated power output from 120W to 500W by two channels, so it could be used as two zone multiple sources public address system at minimum cost. The versatile loudspeaker outputs of both high impedance 100V & low impedance 8 Ohms gives flexibility for installation.

There are two balanced line inputs by phoenix connector for each channel with gain control. Two separate speaker outputs both by 100V or 8 Ohms. The built-in two channel separate high-pass filters can be enabled or disabled through the dip switch settings.

Automatic standby enable after no detection of signal input for one minute, immediately start when signal is detected. Visual working status indicators include protection, clip, input and output for easy supervision. With complete short circuit, overload, high temp, clip and DC protection.

Wide AC power supply of 230V, thus it support worldwide sound system installation. 24V DC battery input is included.

# Front Panel



1. **PROT**

Protection indicator will light orange once the amplifier comes into protection status. The protection may be resulted from speaker line short circuit, speaker line open circuit, amplifier overload and working temperature over 55°C, this indicator give visually guidance. The light will turn off once fault is repaired. There are two separate protection indicators one for each channel.

2. **CLIP**

Clip indicator will light red once the input or output is too high. There are two separate CLIP indicators one for each channel.

3. **INPUT**

Input indicator will light green once there is any input signal detected. There are two separate input indicators one for each channel.

4. **OUTPUT**

Output indicator will light green once there is output signal detected. There are two separate output indicators one for each channel.

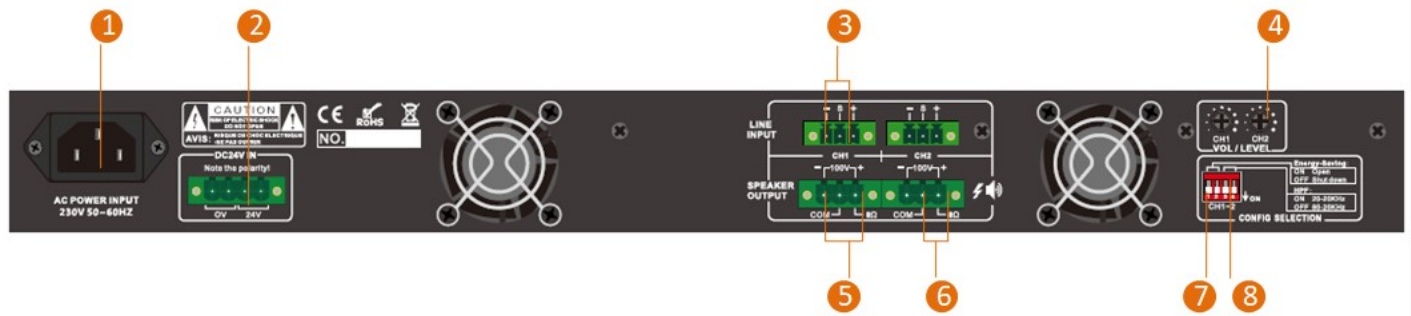
5. **POWER**

Power indicator will be light blue once the unit has been powered by AC or DC.

6. **POWER SWITCH**

Power switch used to power on and power off the equipment.

# Rear Panel



## 1. AC POWER SOCKET

AC power cord for input of 230V, 50-60Hz for main power input.

## 2. 24V DC POWER INPUT

24V DC power supply input as supply will automatically in standby use when AC mains fails.

## 3. LINE INPUT(1-2 Channel)

The line input support both balanced or unbalanced inputs from audio sources or mixer, these input are by phoenix connectors. There are two channel separate line inputs which could be managed respectively. (**NOTICE:** For unbalanced line input, "-" and "GND" shall be tied together)

## 4. GAIN CONTROL

The gain control is used to adjustment the input sensitivity for various inputs to achieve the best response. There are separate gain control one for each channel.

## 5. 100V SPEAKER OUTPUT(PIN1=COM & PIN3=100V +)

The speaker outputs shall be connected to 100V line loudspeakers, the negative end to the speaker negative and the positive end to the speaker positive. These speaker output are supplied using phoenix connectors.

*Never mixed the negative end and the positive, which will cause the short circuit protection.*

*Never connection the low impedance loudspeaker to the 100V outputs, this will damage the speaker or have heavy distortion.*

## 6. 8Ω SPEAKER OUTPUT

The speaker outputs shall be connected to low impedance 8Ω loudspeakers, the negative end to the speaker negative and the positive end to the speaker positive. These speaker output are supplied using phoenix connectors.

*Never mixed the negative end and the positive, which will cause the short circuit protection.*

*Never connect the 100V line loudspeaker to the 8Ω output, this will burn the speaker or have heavy distortion.*

## 7. AUTO-STANDBY (DIP1-2)

The Auto standby function will be enabled or disabled by pre-setting the dipswitches. The enabled auto-standby function will automatically go into standby once there is no input detected for 2 minutes. The amplifier will immediately wake up once there is detection of input signal. Separate auto-standby dipswitches for each channel.

## 8. HIGH PASS FILTER (DIP3-4)

The high pass filter function will be enabled or disabled by pre-setting the dipswitches. Separate high pass filter dipswitches for each channel.

# Speaker Connection

Before connecting speakers, disconnect the AC power cable. Note the proper connecting terminals as shown below. Make sure that the total impedance is not less than the rated impedance indicated.

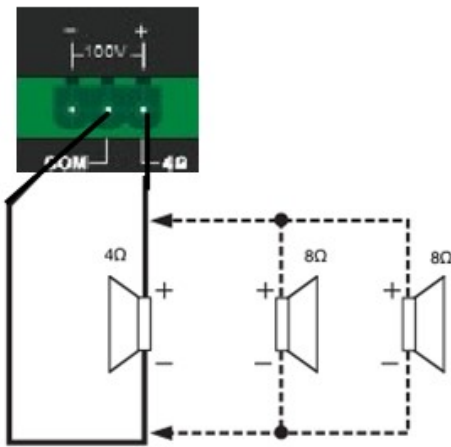
## - Connecting 4-16Ω Speaker Systems

When connecting conventional 4-16Ω speaker systems, connect the speaker's positive (+) side to the terminal labeled 4-16Ω. Connect the speaker's negative (-) side to the terminal labeled COM.

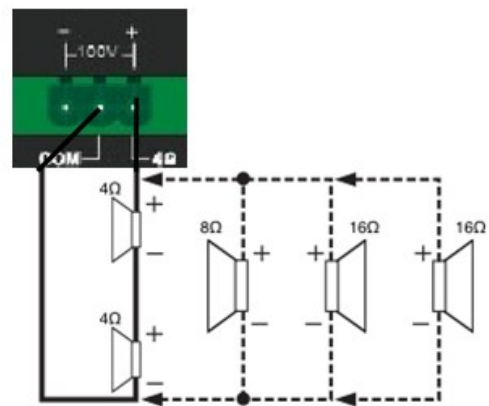
## - Connecting High-Voltage Distributed Speaker Systems

When connecting a high-impedance (100V) speaker system in parallel, connect the speaker's positive (+) side to the terminal labeled 100V. Connect the speaker's negative (-) side to the terminal labeled COM.

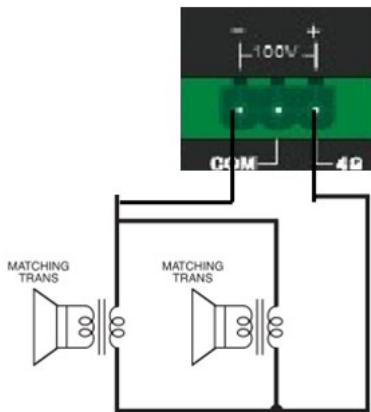
### FOR 4Ω LOW IMPEDANCE SPEAKER CONNECTION



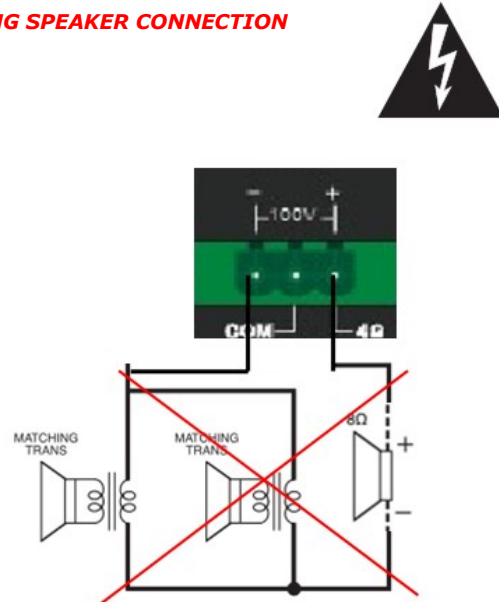
### FOR 8Ω LOW IMPEDANCE SPEAKER CONNECTION



### FOR 100V SPEAKER WITH TRANSFORMER CONNECTION

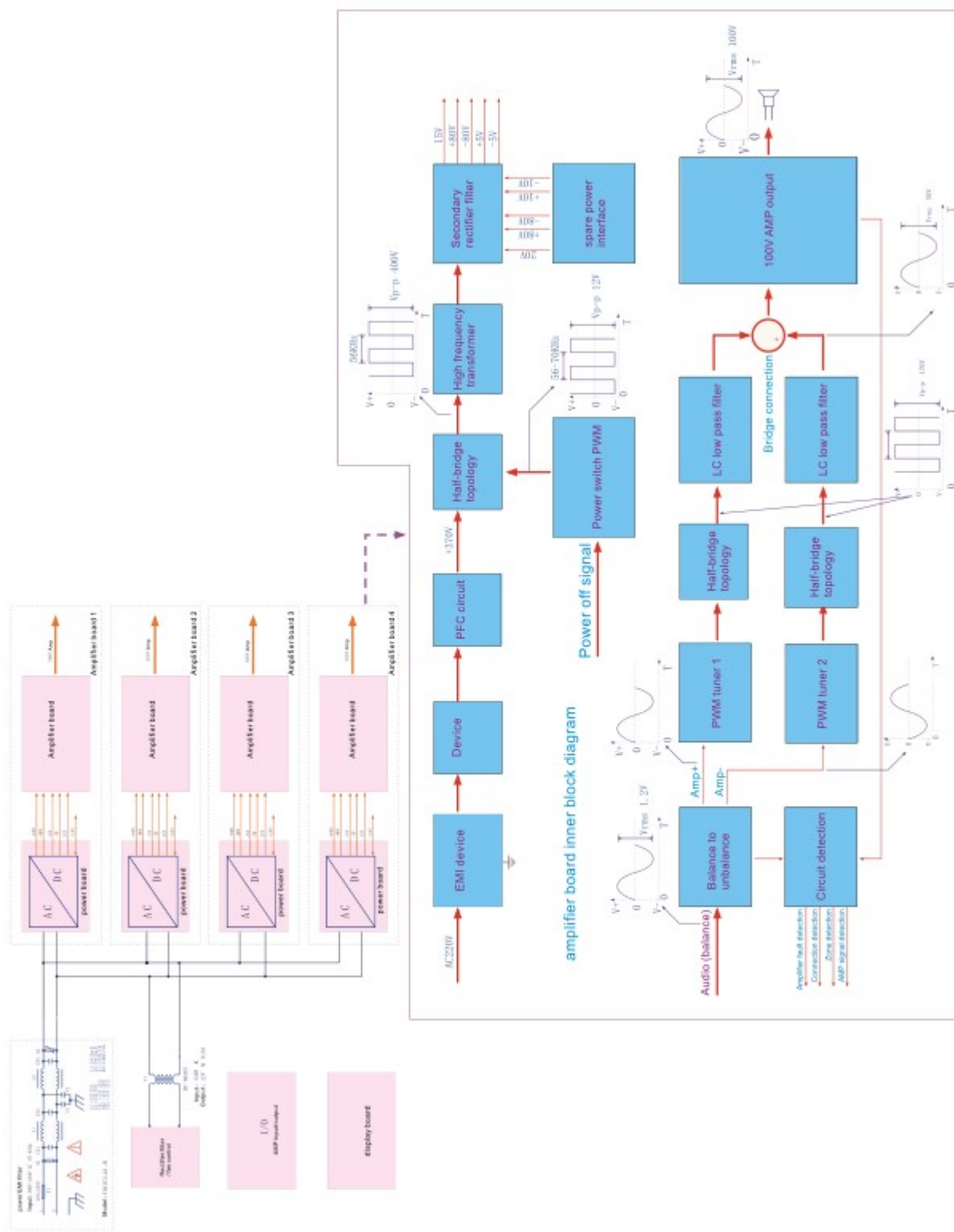


### WRONG SPEAKER CONNECTION





# Block Diagram



# Specifications

Model	C2120	C2240	C2350	C2500
Description	Class-D Two Channel Power Amplifier			
Rated Power Output	2x120W	2x240W	2x350W	2x500W
Speaker Output	8Ω & 100V			
Frequency Response	L/H Cut OFF 20Hz-20KHz (+1/-2dB) L/H Cut ON 70Hz-10KHz (+1/-3dB)			
Input	0.775V, 0dBu, balanced phoenix connector by two channels			
Input Impedance	10KΩ			
THD	<0.1% (1KHz/-3dBv, 100W)			
S/N Ratio	>80dB			
Crosstalk	>60dB, 1KHz, Max output			
Power Consumption	300W	550W	800W	1150W
Power Supply	AC input from 110V & 230V, 50-60Hz, with DC24V input			
Dimension	482(W)x420(D)x44(H) mm			
Weight	6.5kg	7.5kg	8kg	8.5kg

# Service & Warranty

## 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.

## Variations and Options

### Variations

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

### Options

No optional items are available for this product.

## 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.

[www.scpaudio.com](http://www.scpaudio.com)

**Specifications may change without notice.**