

This manual does not include all details relating to the design, manufacture or modification of the equipment. It does not cover every circumstance that may arise during installation, operation or maintenance. The information contained herein is accurate at the time of sale, however, specifications and content may be subject to change without notice.

Safety Instructions

1. All safety and operating instructions must be read before using C Series amplifiers.
2. These safety and operating instructions should be retained for future reference.
3. All warnings on the appliance and in the user manual must be adhered to at all times.
4. The C Series amplifiers must always be clean and well maintained.
5. Connect the equipment only to the power outlet specified in this manual. Using an incorrect outlet may result in fire or electric shock.
6. Do not place containers of liquid or small metal objects on the equipment. Spillage or foreign objects may cause fire or electric shock.
7. Do not cut, bend, twist, stretch, apply heat or place equipment or any other object on the power cord. Damage to the power cord may result in fire or electric shock.
8. Keep the power cord away from heaters and other heat sources. Excessive heat may cause the power cord to melt, creating a fire hazard. If the power cord is damaged cut or has exposed wires obtain a replacement from an authorised agent. Continued use may cause fire or electric shock.
9. When unplugging, grasp the insulated plug. Do not pull on the power cord, as this may damage both the power cord and socket, leading to fire or electric shock.
10. Do not handle the power plug with wet hands. This may result in electric shock.
11. Prevent water, moisture or dampness from entering the equipment. Exposure may cause fire or electric shock.
12. Do not use the equipment in the following conditions - on an unstable or sloped surface - in areas of high humidity or excessive dust - in direct sunlight or overheated environments - near sources of steam or heat such as stoves, boilers or humidifiers.
13. Do not block the ventilation openings at the front or rear of the unit. Restricted airflow may cause overheating.
14. Allow adequate clearance for cooling - minimum 5 cm on each side and 10 cm at the rear.
15. Before moving the equipment, disconnect the power cord and all other connected cables. Failure to do so may result in damage or electric shock.
16. Dispose of packaging safely and keep it out of the reach of children.
17. Do not break the warranty seal or open the amplifier. Internal components carry high voltage and may cause electric shock. For servicing contact Sound Choice Pro Audio directly.
18. Do not make unauthorised modifications to the equipment. Doing so may cause malfunction, fire or electric shock.
19. In the event of a lightning storm, switch off the power immediately and unplug the unit.
20. Ensure all audio equipment and speakers are switched off before any connections are made.
21. Before switching on the equipment, set the volume control to minimum. Sudden loud output may damage hearing.
22. If the equipment is not going to be used for an extended period, disconnect the power cord from the mains outlet.
23. If the casing of the equipment is damaged, switch off the power immediately, unplug the unit and contact an authorised agent.
24. If the unit emits smoke, odour or other abnormal signs, switch off the power immediately, unplug the unit and contact an authorised agent. Failure to do so may result in fire or electric shock.
25. Do not touch conductive parts of output terminals. Any external wiring connections to the terminals must be completed by an audiovisual integrator.
26. This equipment is for commercial and professional use only.
27. This product complies with EU WEEE regulations. End-of-life product should be disposed of in line with local regulations.



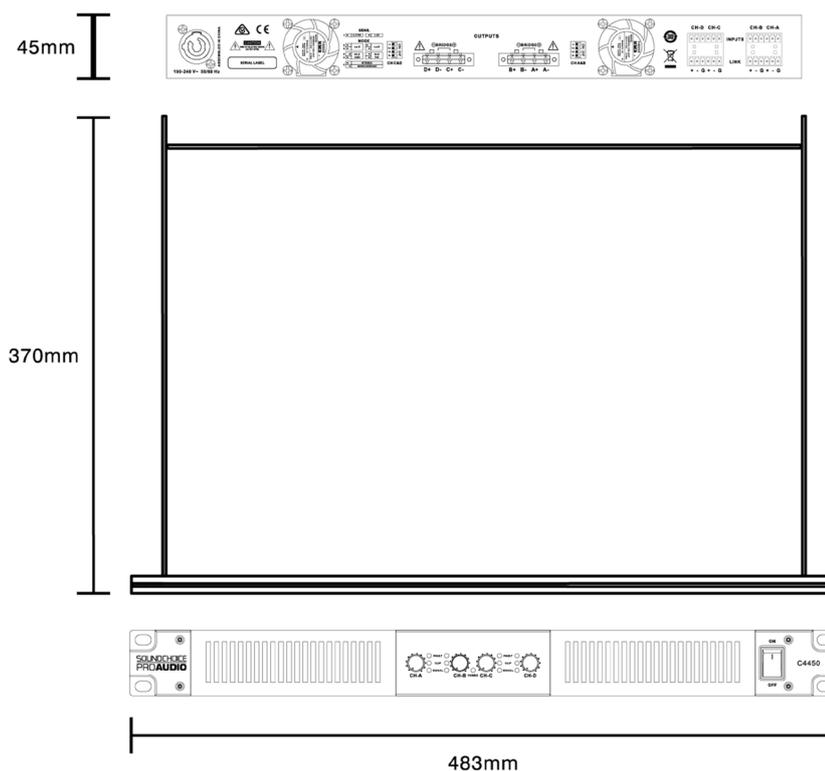
Introduction

Our range of multi-channel C Series amplifiers provide a versatile combination of High and Low impedance in a compact 1RU class D package. The C Series is designed with switch mode power supply to ensure stability in a variety of applications. The amplifier supports 8-2ohm loads switchable to 100V/70V. Modes of stereo, parallel and bridge gives these amplifiers a wide range of versatility.

Overview

- High efficiency and low operating cost.
- Compact, lightweight and durable construction.
- Complies with international safety and EMC standards.
- Switch mode, wide-range power supply (90–260 VAC, 50/60 Hz).
- High-quality components sourced from leading international manufacturers.
- Temperature-controlled fan for quiet operation.
- Modular design for convenient maintenance.
- Rigorously tested for reliability, environmental adaptability and user experience
- Stereo, parallel and bridge low-impedance modes. NB: Bridge not available in 100V
- 100V and 70V constant-voltage high-impedance modes.
- Selectable gain settings.
- Balanced input.
- Temperature-controlled power management with protection indicators.
- Overload protection for uninterrupted audio output.
- DC protection on amplifier output.
- Undervoltage protection.
- Limiting and fault indication.

Dimensions



Unpacking and Installation

Although the C Series amplifiers are not complicated to install or difficult to operate, we would recommend a few minutes of your time to read this manual as it provides information for a correct installation and helps you become familiar with the features and operation. Please inspect the equipment immediately after unpacking. If damage is found please notify your authorised representative and retain packaging for inspection. Please take care when moving the C Series amplifiers and never place them near heat, in front of heating vents, direct sunlight or in excessive humid or dusty locations so as to avoid damage and guarantee long term reliability. Connect your C Series amplifiers with system components as per the description on the following pages.

	Important operation or special note.
	Risk of electrical shock.
	Before installation make sure the power cable is not connected to the power outlet, the power switch is in the off position and all volume knobs are completely closed (counter clockwise to the limit).
	Warning: before installation please read the user manual and abide by safety warnings.
	This equipment emits a strong magnetic field. Keep signal sensitive equipment preferably 20 cm away, otherwise noise may be produced.

Cooling

- Operate in an environment between 0°C and 40°C.
- Do not block airflow at front or rear. Air flow is from front to rear.
- If temperature exceeds 85°C, output voltage will reduce automatically.
- If temperature reaches 90°C, the amplifier will shut down until it cools.
- Clean dust filters periodically.

Power Cable

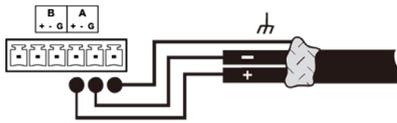
- All C Series amplifiers are fitted with PowerCon connectors.
- The power cable must be earthed.
- Ensure the cable has sufficient current capacity.
- Supply voltage and frequency must be within $\pm 10\%$ of nominal rating.

	The power cable must be grounded otherwise there is a risk of electric shock!
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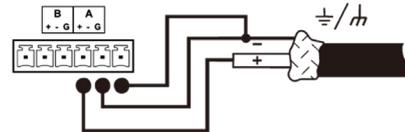
Connections

All input and output connections are to international wiring standards for professional audio equipment.

- For input connection cables, use high-density shielded cables.
- To reduce noise, balanced input connections are preferred.
- Keep unbalanced cables short (max. 3 m).
- Do not run signal cables parallel to power cables.
- For output connection cable, use high quality braided speaker cable
- Switch off all equipment before changing connections.

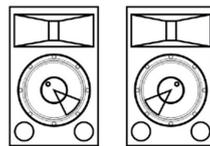
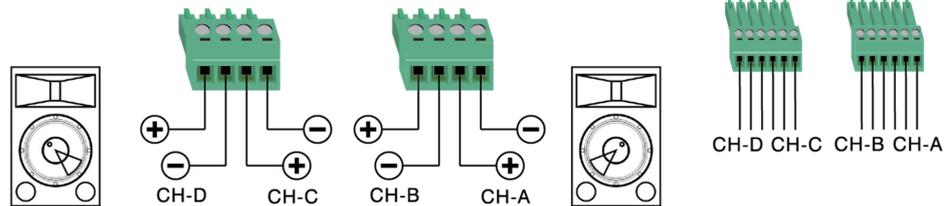
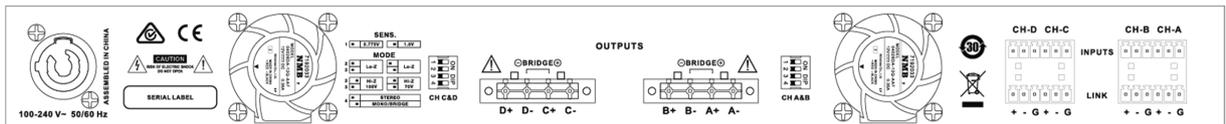


Balanced analog input connection



Unbalanced analog input connection

Lo-Z Stereo Mode

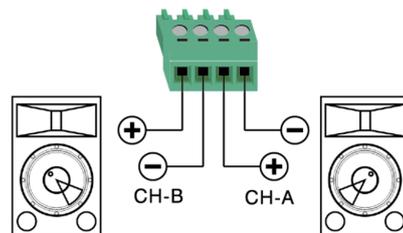
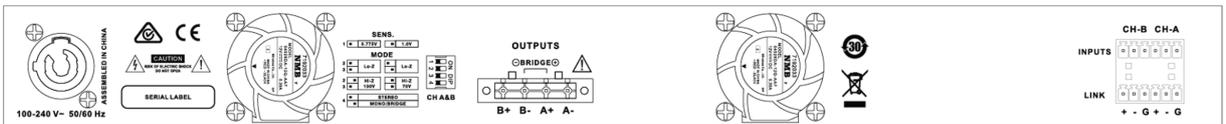


SWITCH



MODE

2	<input type="checkbox"/> Lo-Z	<input type="checkbox"/> Lo-Z
3	<input type="checkbox"/> Hi-Z 100V	<input type="checkbox"/> Hi-Z 70V
4	STEREO	
	MONO/BRIDGE	



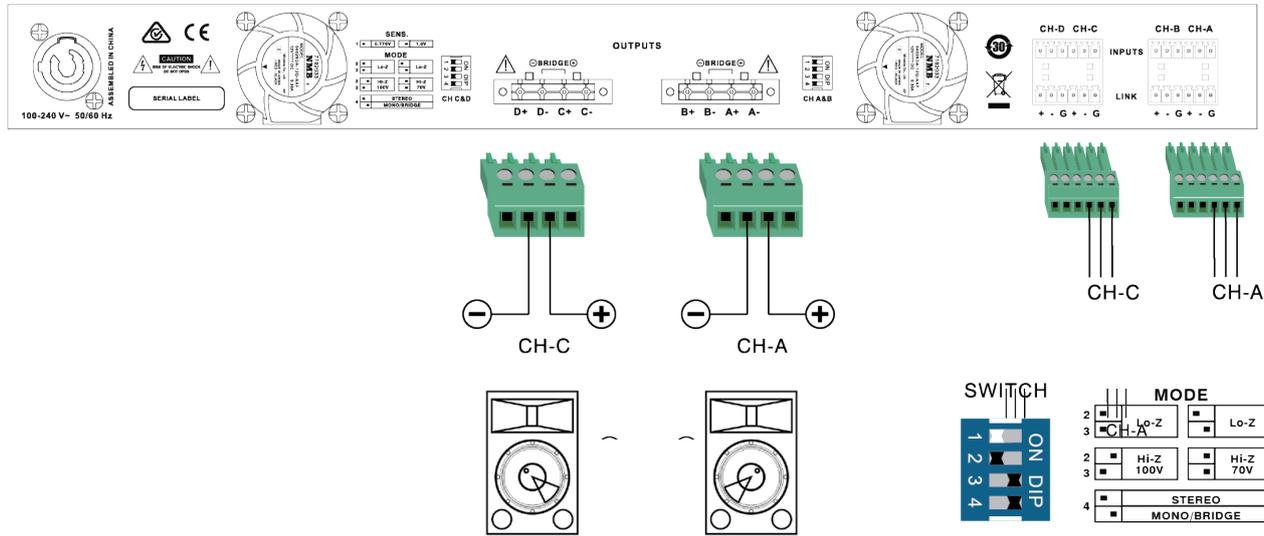
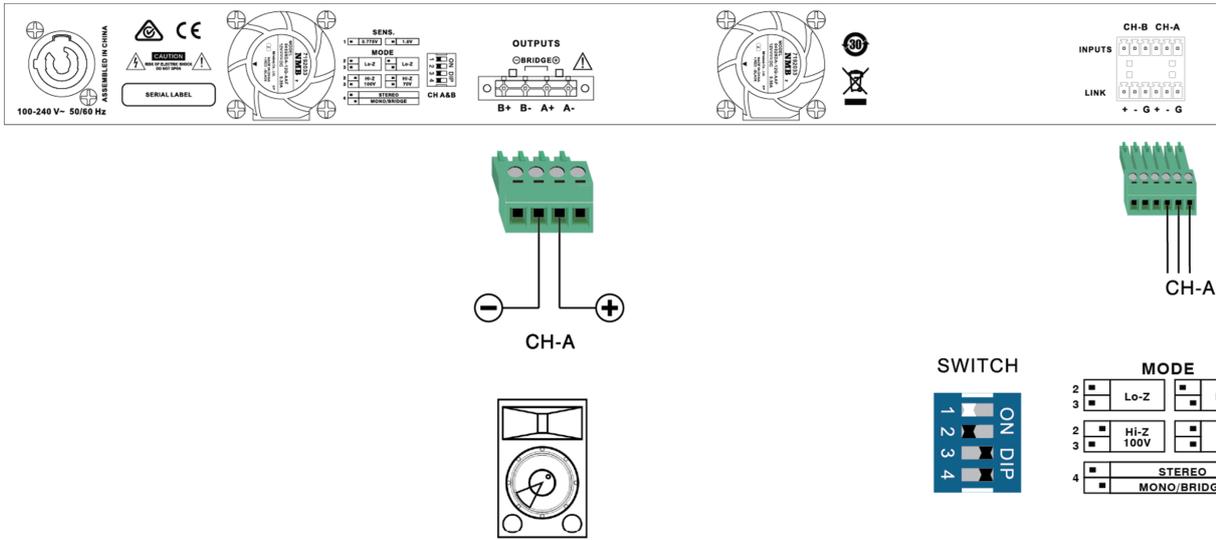
SWITCH



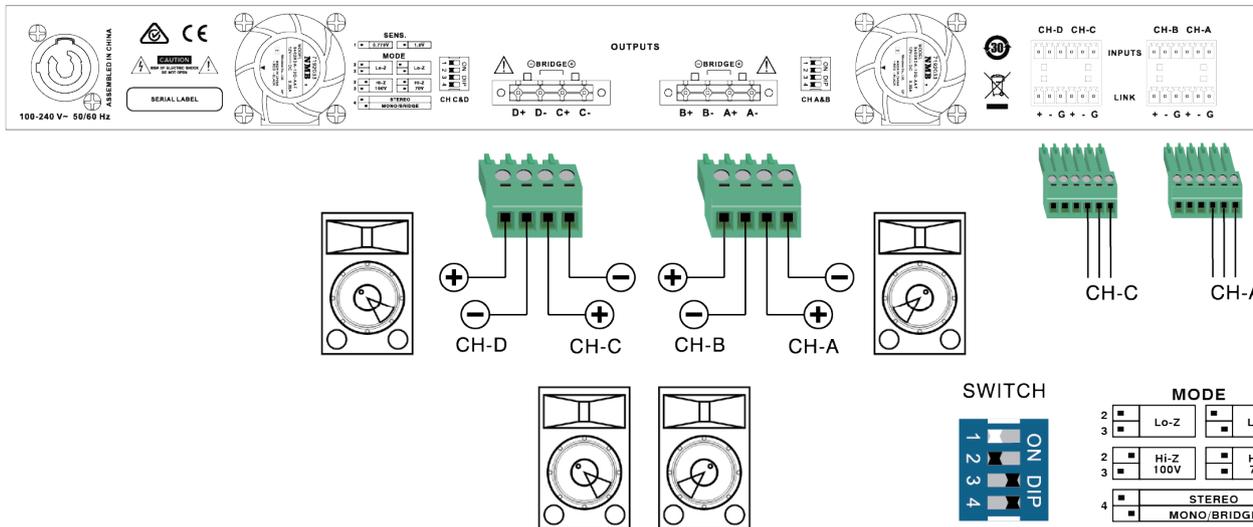
MODE

2	<input type="checkbox"/> Lo-Z	<input type="checkbox"/> Lo-Z
3	<input type="checkbox"/> Hi-Z 100V	<input type="checkbox"/> Hi-Z 70V
4	STEREO	
	MONO/BRIDGE	

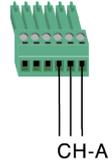
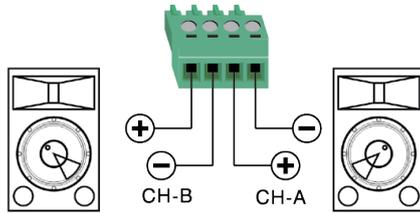
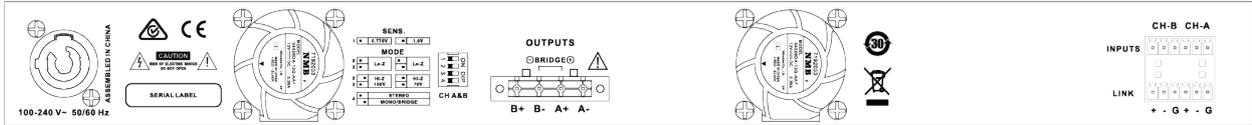
Lo-Z Bridge Mode



Lo-Z Mono Mode

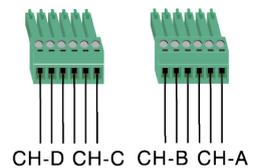
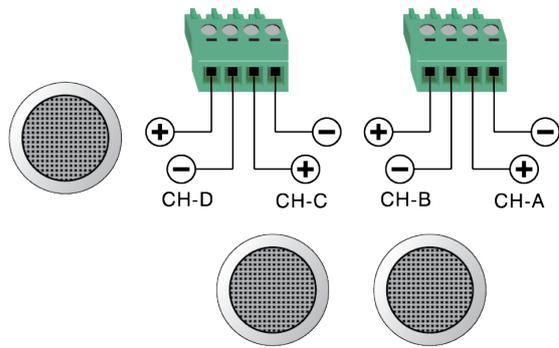
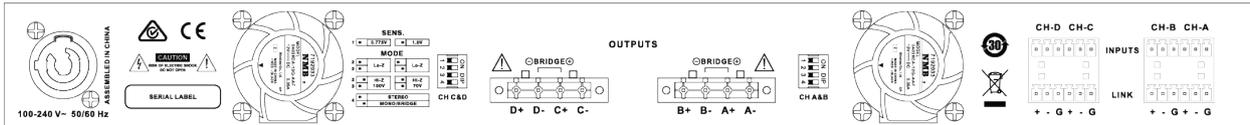


Lo-Z Mono Mode continued

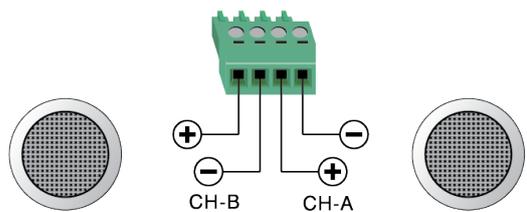
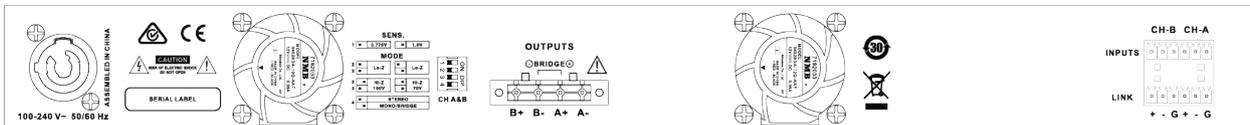


MODE	
2	Lo-Z
3	Lo-Z
2	Hi-Z 100V
3	Hi-Z 70V
STEREO	
4	MONO/BRIDGE

100V Hi-Z Stereo Mode

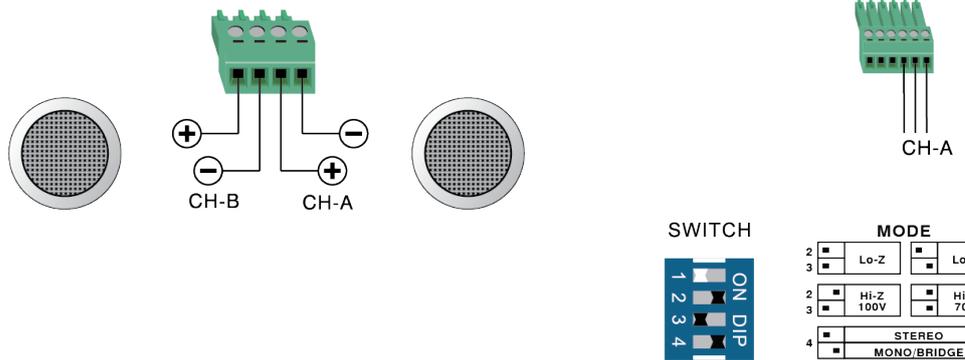
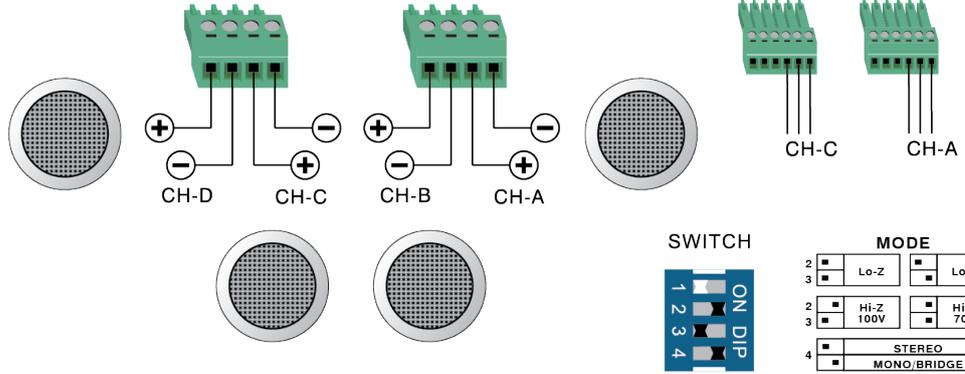
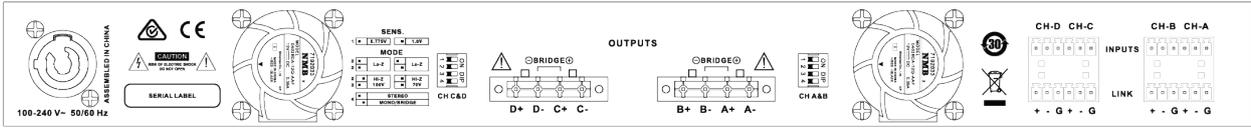


MODE	
2	Lo-Z
3	Lo-Z
2	Hi-Z 100V
3	Hi-Z 70V
STEREO	
4	MONO/BRIDGE

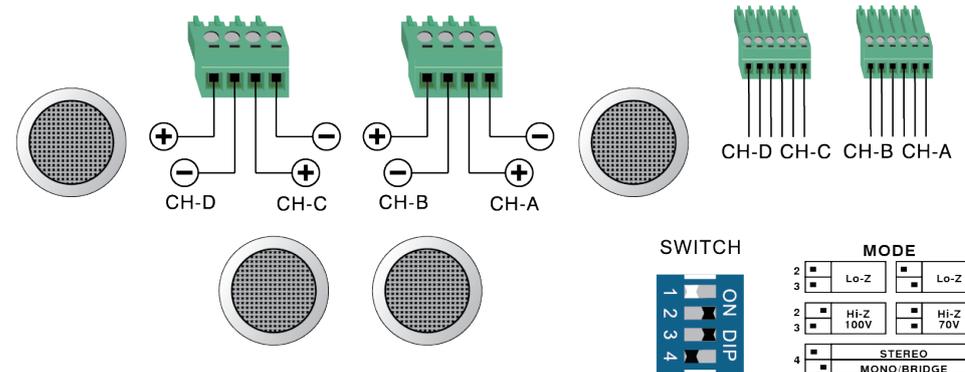
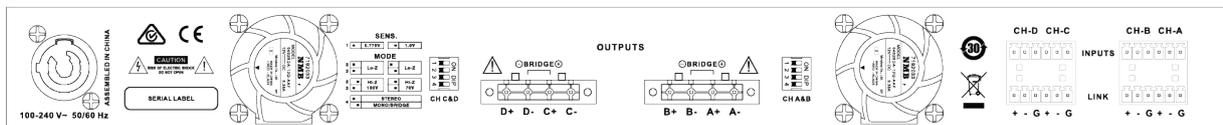


MODE	
2	Lo-Z
3	Lo-Z
2	Hi-Z 100V
3	Hi-Z 70V
STEREO	
4	MONO/BRIDGE

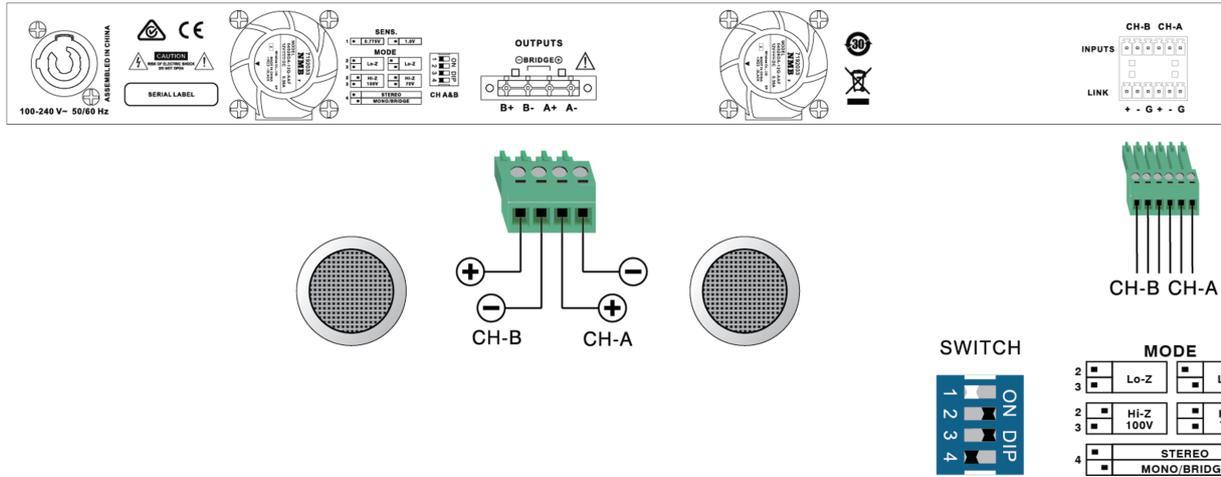
100V Hi-Z Mono Mode (Note: 100V Bridge Not Available)



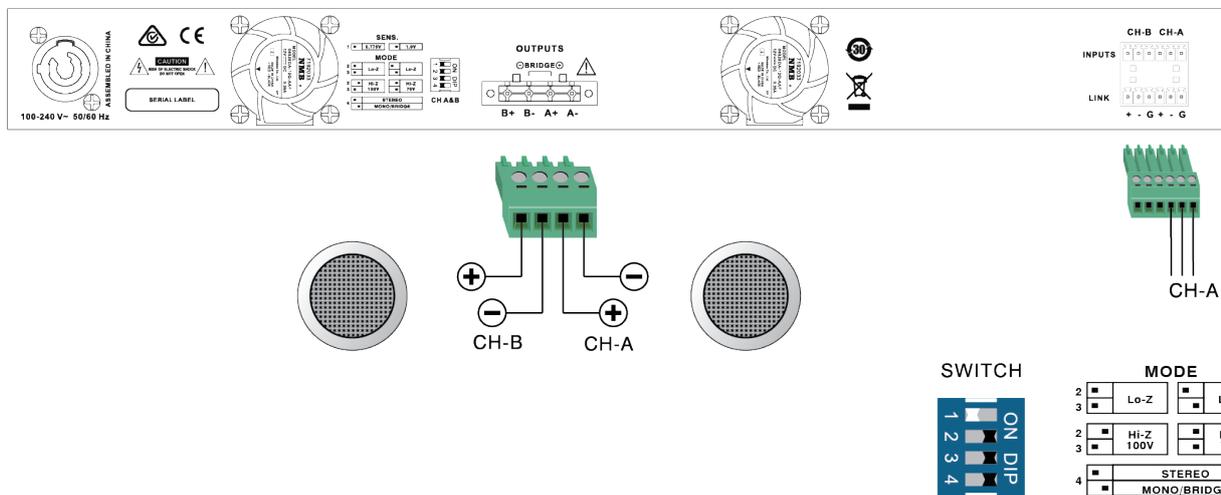
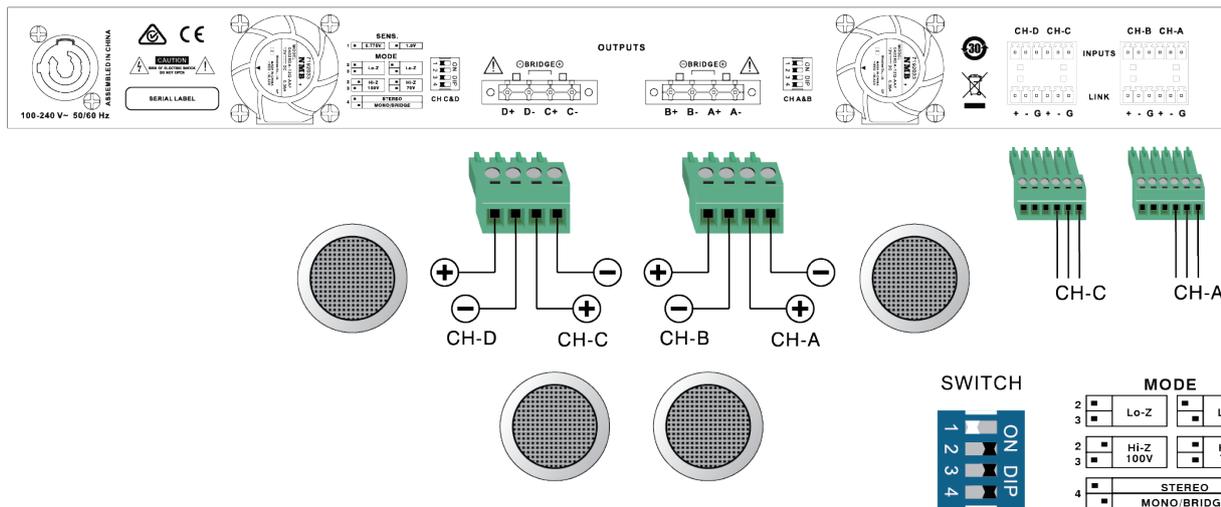
70V Hi-Z Stereo Mode



70V Hi-Z Stereo Mode

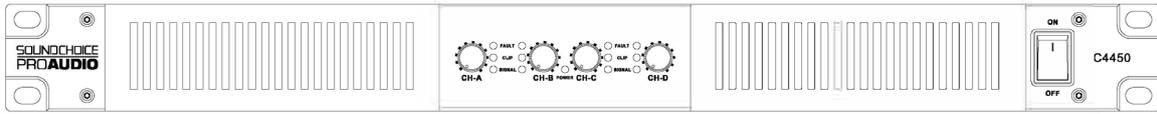


70V Hi-Z Mono Mode (Note: 70V Bridge Not Available)



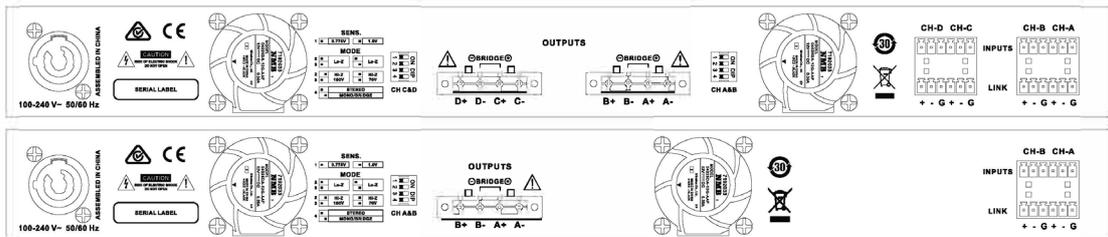
Operating Instructions

Front Panel



Icon	Function	Description
	SIGNAL	When the input signal is greater than "-32dB", LED is green.
	CLIP	When the output signal is distorted by more than 1%, LED is yellow.
	FAULT	When there is protection required, LED is red.
	POWER	When the power supply is working, LED is green.
	VOLUME	Adjusts the output volume of the assigned amplifier channel.
	POWER SWITCH	On/Off switch.

Back Panel



Icon	Function	Description
	Power Supply Input	C4250, C4450, C2250, C2450: 3x1.5mm ² PowerCon
	Input Connector	3.81mm pitch 2x6-pin phoenix connector. Balanced input and link.
	Sensitivity Switch	When the switch is 0.775V, the input sensitivity of the power amplifier is 0.775V. When the switch is set to 1V, the input sensitivity of the power amplifier is 1V. For details about how to set the gain, see the label on the chassis.
	Mode Switch	STEREO - Lo and Hi-Z Each channel is independent. CHA input signal output from CHA, CHB input signal output from CHB and so on. MONO - Lo and Hi-Z CHA input signal output from CHA and CHB; CHG input signal output from CHG and CHD. Volume control for both outputs from input channel BRIDGE - Lo-Z ONLY - 100V BRIDGE NOT AVAILABLE CHA input signal output from CHA+ and CHB-, CHC input signal output from CHC+ and CHD-.
	Output Connector	7.62mm pitch 4-pin phoenix connector. When the amplifier is in Stereo or Mono mode, output A connects to A+ and A-, output B connects to B+ and B- and so on. When the amplifier is in Bridge mode, channel A outputs are A+ and B-, channel B outputs are C+ and D-.

Speaker Protection

- Avoid clipping. Clipping the signal distorts sound and damages speakers.
- Prevent subsonic signals by using high-pass filters:
 - Music: 35 Hz
 - Microphones: 75 Hz
- Configure input and output lines correctly.
- Select input signals carefully and adjust output levels responsibly.
- Do not connect input and output grounds together.
- Never connect output cables to a power supply.
- Do not operate with continuous SIG LED yellow flashing.
- Do not overload the mixer, clipped signals may damage speakers.
- Do not operate below rated loads.
- Amplifier outputs may carry dangerous voltages.

NB: Sound Choice Pro Audio accepts no responsibility for damage caused by misuse.

Specifications

Model		C4450	C4250	C2450	C2250
Rated Output Power(THD+N=1%, 1kHz continue sine wave, one channel driving)	8Ω/Stereo	4X450W	4X250W	2X450W	2X250W
	4Ω/Stereo	4X765W	4X425W	2X765W	2X425W
	2Ω/Stereo*	4X1300W	4X720W	2X1300W	2X720W
	16Ω/Bridge	2X900W	2X500W	1X900W	1X500W
	8Ω/Bridge	2X1530W	2X850W	1X1530W	1X850W
	4Ω/Bridge*	2X2600W	2X1440W	1X2600W	1X1440W
	100V Hi-Z	4X765W	4X425W	2X765W	2X425W
	70V Hi-Z	4X450W	4X250W	2X450W	2X250W
Input Sensitivity	Selectable: 0.775Vrms, 1Vrms (Rated output Power, 1kHz)				
THD+N	typical:0.05%(10% Rated Power, 1kHz)				
Cross-talk	≥ 90dB(20Hz-1kHz,below Rated Power)				
Frequency response	typical:±0.5dB(10% Rated Power,20 Hz-20 kHz, Lo-Z,8Ω) typical:±3.0dB(10% Rated Power,100 Hz-16 kHz, Hi-Z)				
Input impedance	20kΩ(Balance) . 10kΩ(Unbalance)				
Damp factor	typical:300(20Hz-200Hz, Lo-Z, 8Ω)				
SNR	≥ 100dB(A weighted)				
Main power	100-240 VAC ±10%,50/60 Hz				
Protection	Protection:Under voltage, DC, Over temperature; Limiter: Over temperature,Over load, Short .				
Size	483x45x370mm(W×H×D)				
Net weight	8.0kg		7.3kg		

* Test condition: 20ms, 1kHz, THD+N=1%.

Power Consumption and Heat

- Test signal: Pink Noise, bandwidth limited from 22Hz to 22kHz.
- 1/8 power is typical of program material with occasional clipping. Refer to these figures for most applications.
- 1/3 power represents program material with extremely heavy clipping.

C4450

		Line Current (A)		Power (W)			Thermal Dissipation	
	LOAD	220V	110V	IN	OUT	Dissipated	Btu/h	kcal/h
standby		0.5	0.9	100.0	0.0	100.0	341.3	86.0
1/8 power	8Ω/CH	2.0	3.9	432.5	225.0	207.5	708.1	178.5
	4Ω/CH	2.9	5.8	636.9	382.5	254.4	868.2	218.8
	100V/CH	2.8	5.5	610.0	382.5	227.5	776.4	195.7
	70V/CH	1.9	3.7	408.2	225.0	183.2	625.3	157.6
1/3 power	8Ω/CH	3.9	7.8	860.7	600.0	260.7	889.8	224.2
	4Ω/CH	6.2	12.4	1363.9	1020.0	343.9	1173.6	295.8
	100V/CH	6.0	12.1	1328.9	1020.0	308.9	1054.2	265.7
	70V/CH	3.8	7.6	831.7	600.0	231.7	790.7	199.3

C2450

		Line Current (A)		Power (W)			Thermal Dissipation	
	LOAD	220V	110V	IN	OUT	Dissipated	Btu/h	kcal/h
standby		0.4	0.8	90.0	0.0	90.0	307.1	77.4
1/8 power	8Ω/CH	1.2	2.3	256.3	112.5	143.8	490.6	123.6
	4Ω/CH	1.6	3.3	358.4	191.3	167.2	570.6	143.8
	100V/CH	1.6	3.1	345.0	191.3	153.8	524.7	132.2
	70V/CH	1.1	2.2	244.1	112.5	131.6	449.1	113.2
1/3 power	8Ω/CH	2.1	4.3	470.4	300.0	170.4	581.4	146.5
	4Ω/CH	3.3	6.6	722.0	510.0	212.0	723.3	182.3
	100V/CH	3.2	6.4	704.5	510.0	194.5	663.6	167.2
	70V/CH	2.1	4.1	455.9	300.0	155.9	531.9	134.0

C4250

		Line Current (A)		Power (W)			Thermal Dissipation	
	LOAD	220V	110V	IN	OUT	Dissipated	Btu/h	kcal/h
standby		0.5	0.9	100.0	0.0	100.0	341.3	86.0
1/8 power	8Ω/CH	1.3	2.7	293.6	125.0	168.6	575.4	145.0
	4Ω/CH	1.9	3.7	407.2	212.5	194.7	664.3	167.4
	100V/CH	1.7	3.5	383.3	212.5	170.8	583.0	146.9
	70V/CH	1.2	2.5	271.2	125.0	146.2	499.0	125.8
1/3 power	8Ω/CH	2.4	4.8	531.5	333.3	198.2	676.4	170.4
	4Ω/CH	3.7	7.4	811.1	566.7	244.4	834.0	210.2
	100V/CH	3.6	7.1	782.7	566.7	216.1	737.4	185.8
	70V/CH	2.3	4.6	506.5	333.3	173.2	591.0	148.9

C2250

		Line Current (A)		Power (W)			Thermal Dissipation	
	LOAD	220V	110V	IN	OUT	Dissipated	Btu/h	kcal/h
standby		0.2	0.5	50.0	0.0	50.0	170.6	43.0
1/8 power	8Ω/CH	0.8	1.7	186.8	62.5	124.3	424.2	106.9
	4Ω/CH	1.1	2.2	243.6	166.3	137.3	468.7	118.1
	100V/CH	0.9	1.7	191.7	166.3	85.4	291.5	73.5
	70V/CH	0.6	1.2	135.6	62.5	73.1	249.5	62.9
1/3 power	8Ω/CH	1.4	2.8	305.8	166.7	139.1	474.7	119.6
	4Ω/CH	2.0	4.1	445.5	283.3	162.2	553.5	139.5
	100V/CH	1.8	3.6	391.4	283.3	108.0	368.7	92.9
	70V/CH	1.2	2.3	253.3	166.7	86.6	295.5	74.5

*1W=0.860kcal/h, 1BTU=0.252kca

Maintenance

- The internal circuitry is complex and should only be serviced by qualified technicians.
- Contact technical support for service.
- Use original packaging for transport.

Warranty

We offer a conditional warranty for the following periods for parts and labour against faulty manufacture and original materials only:

Amplifiers	5 years
Mixers	5 years
Processors	5 years
Replay	1 year
Speakers	5 years
Commercial	5 years

The terms of the product warranty only apply if the product:

- Has been purchased directly or indirectly from Sound Choice Pro Audio Pty Ltd in Australia and New Zealand
- Has been installed and operated in strict accordance with the instructions and specifications supplied
- Has not been:
 - Repaired
 - Altered in any way
 - Tampered with
 - Opened (Chassis not to be opened)
 - Damaged by accident, misuse, abuse, improper installation or operation or an act of God

This warranty excludes any parts, labour, packing, transport and other associated costs including personal injury with:

- Damage caused due to operation or installation under incorrect conditions or contrary to the instructions or specifications of the product
- Faults due to not performing proper routine maintenance as specified in the operation manual
- Accessories from other suppliers or damage caused to or by this item to accessories or other equipment to which it may be connected
- The failure of any loudspeaker components due to misuse or abuse, incorrect operation, overpowering, clipping or any fault or failure in any amplifier or other signal processor or device directly or indirectly connected to the failed speakers regardless of the cause of the fault
- Faults or failures due to adverse environmental or operational conditions. Such conditions include the effects of poor ventilation, water, chlorine, salt water, dust, temperature, wind, vibration, perspiration and or other corrosive and abrasive agents
- Faults arising from outside interference such as radio frequency and electro magnetic interference or other electronic/ electrical interference
- The failure of any original software supplied with any product due to the improper use or application of the software either to the device itself or to any other devices or systems or software applications associated with it
- The use of unauthorised copies of any software in any product totally voids warranty associated with that product and software.

Nothing in this warranty shall be construed as affecting any rights you may have under the Trades Practices Act or any other Commonwealth or State legislation which gives you rights which cannot be modified or excluded by the agreement.

