



PROFESSIONAL POWER AMPLIFIER

CA SERIES **CA1N CA1L**
CA2N CA2L
CA3N CA3L
CA4N CA4L

DEAR CUSTOMERS:

Please carefully read and strictly follow the user's manual when you use CA series professional amplifier. If you have any question, please contact the local dealer.

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1、 NOTES

- ⚠ High voltage inside the equipment. Do not open the cover. Ask for the help from the professionals when need servicing.
- ⚠ Please do not expose the equipment in the rain or moisture.
- ⚠ Keep adequate ventilation, do not block the port.
- ⚠ Be sure the voltage of this equipment complies with the local industrial voltage.
- ⚠ Please put off the power plug if unused for a long time.
- ⚠ Please connect rated load. Never working under the overload for a long time.

■ Symbols:

- The equilateral triangle with lightning bolt warns the user of dangerous voltage levels localized within the cabinet.
- The equilateral triangle with exclamatory mark means the important operation on the user's manual.

2、 FEATURES

CA series is the amplifier with big power and excellent performance. It can meet different audio avenues.

- 1> Big power,dynamic energy;
- 2> Innovative heat sink structure and high quality heat sink fan assure reliable working for a long time;
- 3> "loading impedance temperature-power-running voltage" can be controlled alternately, Speed of Fan is automatic adjusted by temperature. When load is too low or temperature is too high, the equipment can adjust the power supply and lower impedance of power, which improves sound quality and protect the equipment better. The reliability will be improved remarkably;
- 4> Low distortion;
- 5> High slew speed, outstanding sound quality and high transparent;
- 6> Low noise:S/N>108dB(A Weight);
- 7> 20Hz~20KHz <+0/-0.25 dB;wide frequency band;
- 8> Small dimension, 2U rack mounting.
- 9> CA4L is specially designed for low loading imedance,and can work for a long time under 2Ω.

3、 PARAMETERS-CA4N

Rated Power	Stereo mode	8Ω	1000W
		4Ω	1600W
	Parallel mono mode	8Ω	1000W
		4Ω	1600W
	Bridged mono mode	16Ω	2000W
8Ω		3200W	
THD	<0.05%(10%Rated power)		
Intermodulation distortion	<0.1%(60Hz/7kHz,10%Rated power)		
Frequency response	20Hz~20kHz(+0/-0.25dB)		
Phase difference	<±15°		
Damping factors	>800(8Ω/100Hz)		
Segregation	>75dB		
S/N	>108dB(A-Weight)		
Total gain	39±0.5dB		
Difference of Channel gain	<0.25dB		
Input sensitivity	1V		
Slew speed	>100V/μs		
Input impedance	Unbalanced input 10kΩ ,Balanced input 20kΩ		
Input connectors	Three pin XLR/6.35mm		
Output connectors	Speakon binding post,NL4 speakon		
Cooling	Four fans, stepless shifting, Cooling airflow from front to back		
Controls on front panel	Switch of AC,Gain controlling knob for channel A and B		
Controls on rear panel	Parallel/Stereo/Bridge, LF cutting,Grounding,Limit		
Indicator on front panel	Yellow-Bridge,Red-Overload,Green-Signal		
Amplifier protection	Short Circuit, Maladjustment of DC, Overload, Overheat ,Etc		
Dimensions	483×452×88mm		
Net weight	30kg		
Power supply	AC 120V/50Hz,1500VA		
Environment Temperature	Working temperature: -10℃~40℃ Storing temperature: -25℃~80℃		
Environment humidity	≤90%		

3、PARAMETERS-CA4L

Rated Power	Stereo mode	4Ω	950W
		2Ω	1500W
	Parallel mono mode	4Ω	950W
		2Ω	1500W
	Bridged mono mode	8Ω	1900W
4Ω		3000W	
THD	<0.05%(10%Rated power)		
Intermodulation distortion	<0.1%(60Hz/7kHz,10%Rated power)		
Frequency response	20Hz~20kHz(+0/-0.25dB)		
Phase difference	<±15°		
Damping factors	>800(8Ω/100Hz)		
Segregation	>75dB		
S/N	>108dB(A-Weight)		
Total gain	35.7±0.5dB		
Difference of Channel gain	<0.25dB		
Input sensitivity	1V		
Slew speed	>70V/μs		
Input impedance	Unbalanced input 10kΩ ,Balanced input 20kΩ		
Input connectors	Three pin XLR/6.35mm		
Output connectors	Speakon binding post,NL4 speakon		
Cooling	Four fans, stepless shifting, Cooling airflow from front to back		
Controls on front panel	Switch of AC,Gain controlling knob for channel A and B		
Controls on rear panel	Parallel/Stereo/Bridge, LF cutting,Grounding,Limit		
Indicator on front panel	Yellow-Bridge,Red-Overload,Green-Signal		
Amplifier protection	Short Circuit, Maladjustment of DC, Overload, Overheat ,Etc		
Dimensions	483×452×88mm		
Net weight	30kg		
Power supply	AC 120V/50Hz,1500VA		
Environment Temperature	Working temperature: -10℃~40℃ Storing temperature: -25℃~80℃		
Environment humidity	≤90%		

3、PARAMETERS-CA3N

Rated Power	Stereo mode	8Ω	660W
		4Ω	1000W
	Parallel mono mode	8Ω	660W
		4Ω	1000W
	Bridged mono mode	16Ω	1330W
8Ω		2000W	
THD	<0.05%(10%Rated power)		
Intermodulation distortion	<0.1%(60Hz/7kHz,10%Rated power)		
Frequency response	20Hz~20kHz(+0/-0.25dB)		
Phase difference	<±15°		
Damping factors	>800(8Ω/100Hz)		
Segregation	>75dB		
S/N	>108dB(A-Weight)		
Total gain	37.3±0.5dB		
Difference of Channel gain	<0.25dB		
Input sensitivity	1V		
Slew speed	>80V/μs		
Input impedance	Unbalanced input 10kΩ ,Balanced input 20kΩ		
Input connectors	Three pin XLR/6.35mm		
Output connectors	Speakon binding post,NL4 speakon		
Cooling	Four fans, stepless shifting, Cooling airflow from front to back		
Controls on front panel	Switch of AC,Gain controlling knob for channel A and B		
Controls on rear panel	Parallel/Stereo/Bridge, LF cutting,Grounding,Limit		
Indicator on front panel	Yellow-Bridge,Red-Overload,Green-Signal		
Amplifier protection	Short Circuit, Maladjustment of DC, Overload, Overheat ,Etc		
Dimensions	483×375×88mm		
Net weight	18kg		
Power supply	AC 120V/50Hz,1000VA		
Environment Temperature	Working temperature: -10℃~40℃ Storing temperature: -25℃~80℃		
Environment humidity	≤90%		

3、PARAMETERS-CA3L

Rated Power	Stereo mode	4Ω	660W
		2Ω	1000W
	Parallel mono mode	4Ω	660W
		2Ω	1000W
	Bridged mono mode	8Ω	1300W
4Ω		2000W	
THD	<0.05%(10%Rated power)		
Intermodulation distortion	<0.1%(60Hz/7kHz,10%Rated power)		
Frequency response	20Hz~20kHz(+0/-0.25dB)		
Phase difference	<±15°		
Damping factors	>800(8Ω/100Hz)		
Segregation	>75dB		
S/N	>108dB(A-Weight)		
Total gain	34.2±0.5dB		
Difference of Channel gain	<0.25dB		
Input sensitivity	1V		
Slew speed	>80V/μs		
Input impedance	Unbalanced input 10kΩ ,Balanced input 20kΩ		
Input connectors	Three pin XLR/6.35mm		
Output connectors	Speakon binding post,NL4 speakon		
Cooling	Four fans, stepless shifting, Cooling airflow from front to back		
Controls on front panel	Switch of AC,Gain controlling knob for channel A and B		
Controls on rear panel	Parallel/Stereo/Bridge, LF cutting,Grounding,Limit		
Indicator on front panel	Yellow-Bridge,Red-Overload,Green-Signal		
Amplifier protection	Short Circuit, Maladjustment of DC, Overload, Overheat ,Etc		
Dimensions	483×375×88mm		
Net weight	15kg		
Power supply	AC 120V/50Hz,900VA		
Environment Temperature	Working temperature: -10℃~40℃ Storing temperature: -25℃~80℃		
Environment humidity	≤90%		

3、PARAMETERS-CA2N

Rated Power	Stereo mode	8Ω	330W
		4Ω	500W
	Parallel mono mode	8Ω	330W
		4Ω	500W
	Bridged mono mode	16Ω	660W
8Ω		1000W	
THD	<0.05%(10%Rated power)		
Intermodulation distortion	<0.1%(60Hz/7kHz,10%Rated power)		
Frequency response	20Hz~20kHz(+0/-0.25dB)		
Phase difference	<±15°		
Damping factors	>800(8Ω/100Hz)		
Segregation	>75dB		
S/N	>108dB(A-Weight)		
Total gain	34±0.5dB		
Difference of Channel gain	<0.25dB		
Input sensitivity	1V		
Slew speed	>60V/μs		
Input impedance	Unbalanced input 10kΩ ,Balanced input 20kΩ		
Input connectors	Three pin XLR/6.35mm		
Output connectors	Speakon binding post,NL4 speakon		
Cooling	Four fans, stepless shifting, Cooling airflow from front to back		
Controls on front panel	Switch of AC,Gain controlling knob for channel A and B		
Controls on rear panel	Parallel/Stereo/Bridge, LF cutting,Grounding,Limit		
Indicator on front panel	Yellow-Bridge,Red-Overload,Green-Signal		
Amplifier protection	Short Circuit, Maladjustment of DC, Overload, Overheat ,Etc		
Dimensions	483×375×88mm		
Net weight	15kg		
Power supply	AC 120V/50Hz,500VA		
Environment Temperature	Working temperature: -10℃~40℃ Storing temperature: -25℃~80℃		
Environment humidity	≤90%		

3、PARAMETERS-CA2L

Rated Power	Stereo mode	4Ω	330W
		2Ω	500W
	Parallel mono mode	4Ω	330W
		2Ω	500W
	Bridged mono mode	8Ω	660W
4Ω		1000W	
THD	<0.05%(10%Rated power)		
Intermodulation distortion	<0.1%(60Hz/7KHz,10%Rated power)		
Frequency response	20Hz~20KHz(+0/-0.25dB)		
Phase difference	<±15°		
Damping factors	>800(8Ω/100Hz)		
Segregation	>75dB		
S/N	>108dB(A-Weight)		
Total gain	31.2±0.5dB		
Difference of Channel gain	<0.25dB		
Input sensitivity	1V		
Slew speed	>80V/μs		
Input impedance	Unbalanced input 10kΩ ,Balanced input 20kΩ		
Input connectors	Three pin XLR/6.35mm		
Output connectors	Speakon binding post,NL4 speakon		
Cooling	Four fans, stepless shifting, Cooling airflow from front to back		
Controls on front panel	Switch of AC,Gain controlling knob for channel A and B		
Controls on rear panel	Parallel/Stereo/Bridge, LF cutting,Grounding,Limit		
Indicator on front panel	Yellow-Bridge,Red-Overload,Green-Signal		
Amplifier protection	Short Circuit, Maladjustment of DC, Overload, Overheat ,Etc		
Dimensions	483×375×88mm		
Net weight	12.5kg		
Power supply	AC 120V/50Hz,400VA		
Environment Temperature	Working temperature: -10℃~40℃ Storing temperature: -25℃~80℃		
Environment humidity	≤90%		

3、PARAMETERS-CA1N

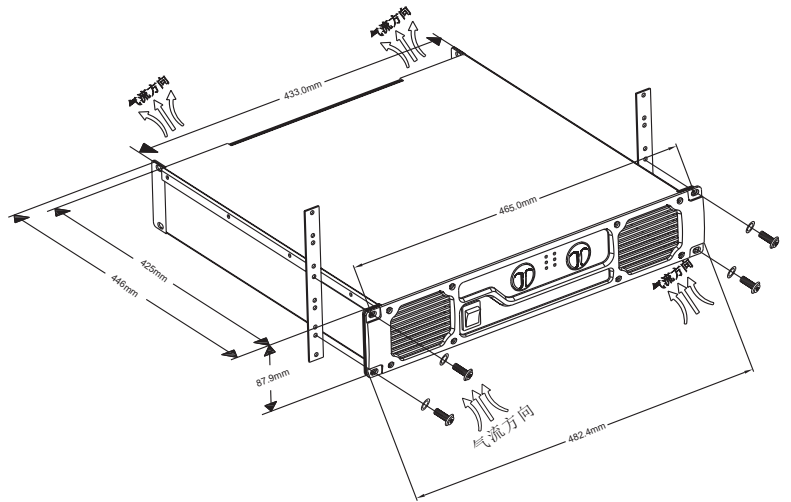
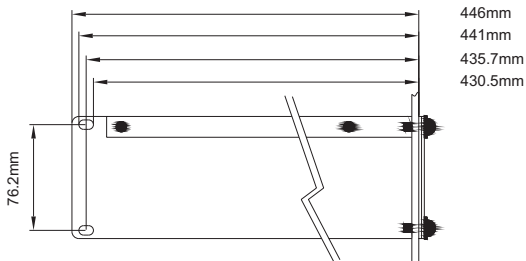
Rated Power	Stereo mode	8Ω	200W
		4Ω	300W
	Parallel mono mode	8Ω	200W
		4Ω	300W
	Bridged mono mode	16Ω	400W
8Ω		600W	
THD	<0.05%(10%Rated power)		
Intermodulation distortion	<0.1%(60Hz/7kHz,10%Rated power)		
Frequency response	20Hz~20kHz(+0/-0.25dB)		
Phase difference	<±15°		
Damping factors	>800(8Ω/100Hz)		
Segregation	>75dB		
S/N	>108dB(A-Weight)		
Total gain	32±0.5dB		
Difference of Channel gain	<0.25dB		
Input sensitivity	1V		
Slew speed	>80V/μs		
Input impedance	Unbalanced input 10kΩ ,Balanced input 20kΩ		
Input connectors	Three pin XLR/6.35mm		
Output connectors	Speakon binding post,NL4 speakon		
Cooling	Four fans, stepless shifting, Cooling airflow from front to back		
Controls on front panel	Switch of AC,Gain controlling knob for channel A and B		
Controls on rear panel	Parallel/Stereo/Bridge, LF cutting,Grounding,Limit		
Indicator on front panel	Yellow-Bridge,Red-Overload,Green-Signal		
Amplifier protection	Short Circuit, Maladjustment of DC, Overload, Overheat ,Etc		
Dimensions	483×310×88mm		
Net weight	11kg		
Power supply	AC 120V/50Hz,250VA		
Environment Temperature	Working temperature: -10℃~40℃ Storing temperature: -25℃~80℃		
Environment humidity	≤90%		

3、PARAMETERS-CA1L

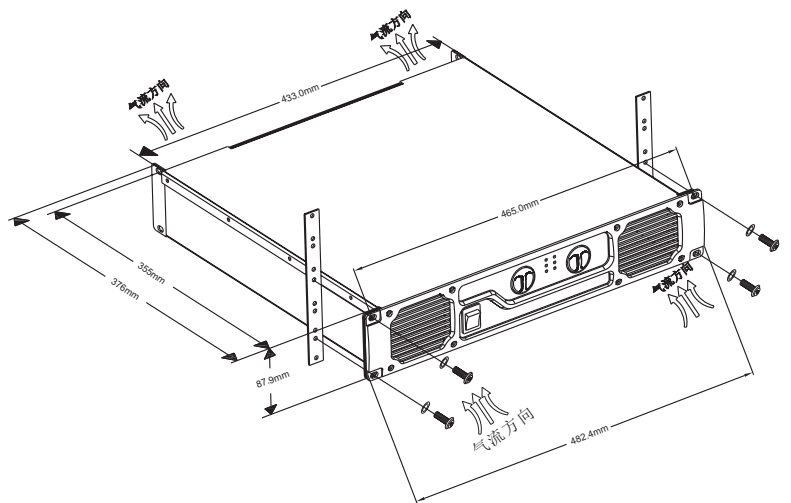
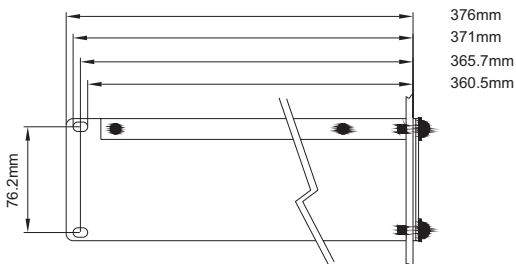
Rated Power	Stereo mode	4Ω	200W
		2Ω	300W
	Parallel mono mode	4Ω	200W
		2Ω	300W
	Bridged mono mode	8Ω	400W
4Ω		600W	
THD	<0.05%(10%Rated power)		
Intermodulation distortion	<0.1%(60Hz/7kHz,10%Rated power)		
Frequency response	20Hz~20kHz(+0/-0.25dB)		
Phase difference	<±15°		
Damping factors	>800(8Ω/100Hz)		
Segregation	>75dB		
S/N	>108dB(A-Weight)		
Total gain	29±0.5dB		
Difference of Channel gain	<0.25dB		
Input sensitivity	1V		
Slew speed	>80V/μs		
Input impedance	Unbalanced input 10kΩ ,Balanced input 20kΩ		
Input connectors	Three pin XLR/6.35mm		
Output connectors	Speakon binding post,NL4 speakon		
Cooling	Four fans, stepless shifting, Cooling airflow from front to back		
Controls on front panel	Switch of AC,Gain controlling knob for channel A and B		
Controls on rear panel	Parallel/Stereo/Bridge, LF cutting,Grounding,Limit		
Indicator on front panel	Yellow-Bridge,Red-Overload,Green-Signal		
Amplifier protection	Short Circuit, Maladjustment of DC, Overload, Overheat ,Etc		
Dimensions	483×310×88mm		
Net weight	11kg		
Power supply	AC 120V/50Hz,250VA		
Environment Temperature	Working temperature: -10℃~40℃ Storing temperature: -25℃~80℃		
Environment humidity	≤90%		

4、 INSTALLATIONS

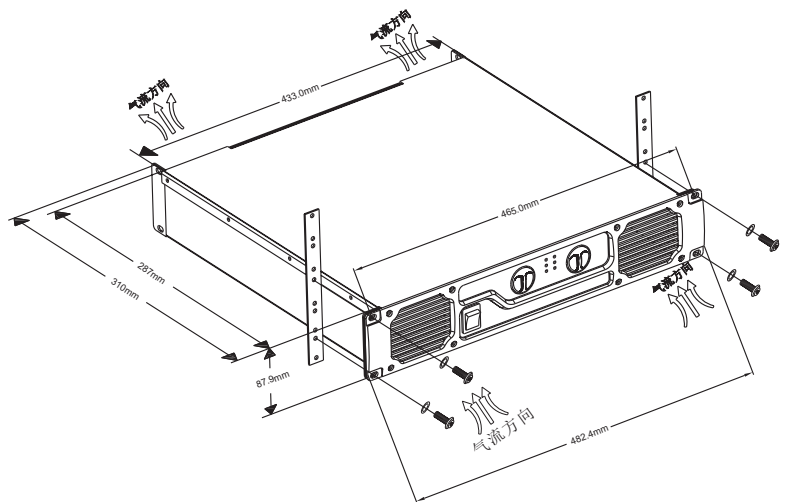
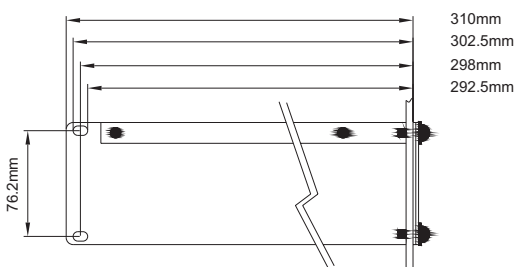
CA4N/CA4L



CA2N/CA2L/CA3N/CA3L

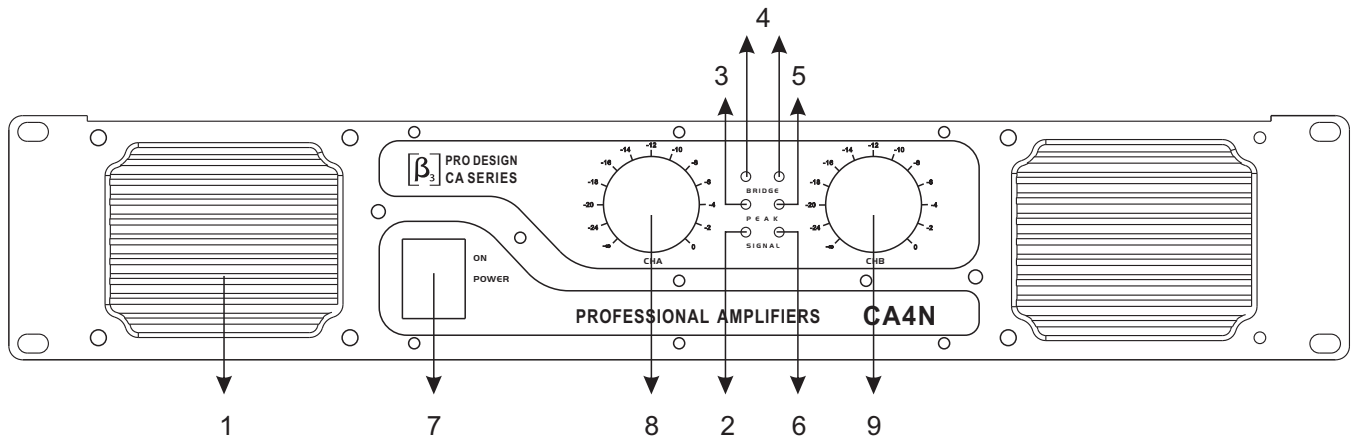


CA1N/CA1L



5、 FRONT PANEL

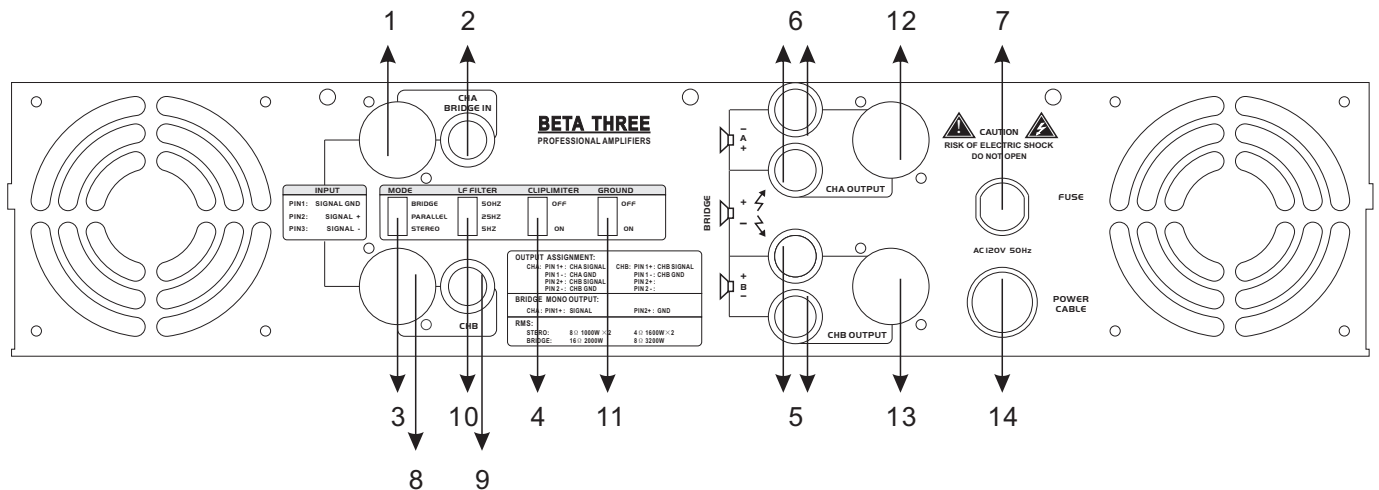
FOR EXAMPLE: CA4N



- | | |
|------------------------------------|--------------------------------------|
| 1、 air input port | 6、 signal indicator of channel B |
| 2、 signal indicator of channel A | 7、 power switch |
| 3、 overload indicator of channel A | 8、 gain adjustment pots of channel A |
| 4、 bridge indicator of channel | 9、 gain adjustment pots of channel B |
| 5、 overload indicator of channel B | |

6、 REAR PANEL

FOR EXAMPLE: CA4N



- | | |
|---|---|
| 1、 signal input of channel A(XLR JACK) | 8、 signal input of channel B(XLR plug) |
| 2、 signal input of channel A(1/4" mic jack) | 9、 signal input of channel B(1/4" mic jack) |
| 3、 switch of working modes | 10、 filter switch |
| 4、 limiters | 11、 grounding switch |
| 5、 signal output of channel B(binding post) | 12、 signal output of channel A(NL4 JACK) |
| 6、 signal output of channel A(binding post) | 13、 signal output of channel B(NL4 JACK) |
| 7、 fuse | 14、 cable |

7、 POWER SUPPLY

- ▲ Please assure the local voltage comply with the voltage indicated on rear panel before connecting power supply (AC 120V/50Hz);
Please assure the cable and jack of power supply not damaged before connecting power supply; Put off the plug after power off;

8、 INPUT/OUTPUT CONNECTORS

■ Input connectors

- The XLR jack and 1/4" microphone jack in same channel are paralleled;
- Input the signal from either connectors and output the signal for connecting next amplifier;
If the amplifiers connected are too many, the sound quality may be affected;
- Please do not input the signal from two connectors in same channel at the same time.

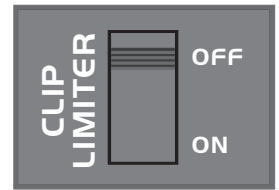
■ Output connectors

- The binding post and NL4 jack in same channel of " CA series " amplifier are paralleled;
- Do not connect loads to the two connectors at the same time;
- The red end of binding post is connected with anode of speaker, the black end connected with cathode of speaker;
- Only the load suited with the power and impedance of amplifier can be connected with the output connectors of amplifier.

9、 FUNCTION SETUP AND CABLE CONNECTING

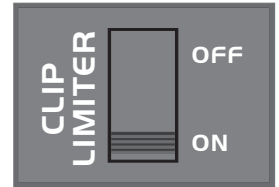
1> Limiter setup:

As the below drawing, when switch is OFF, the limit is off, the limit circuit is out of work, if input signal is too strong, output can cause clip distortion and also raise overload on loudspeaker



As the below drawing, when the switch is ON, the limit is on, if the input signal is too strong, the limit circuit can control the gain and reduce the distortion, also control the average output power, but it does not affect peak power, protect the loudspeaker and assure the dynamic of music.

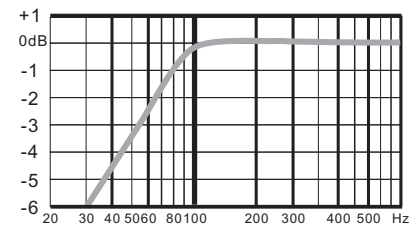
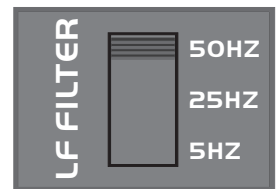
Note: Please set to "ON" position when using.



2> LF cutting setup:

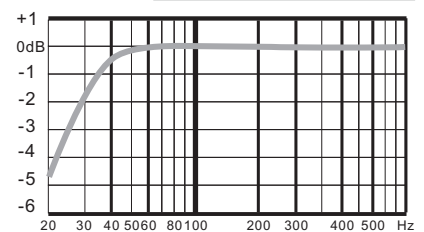
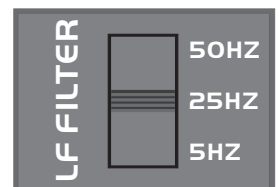
When LF cutting is at 50Hz, it equals discrete a 50Hz high pass filter on input, the signal lower than 50Hz will be accordingly attenuated, then can reduce the noneffective swing and lower the distortion.

Like the right drawing:



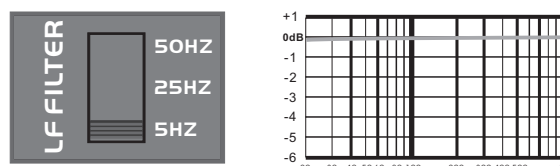
When LF cutting is at 25Hz, it equals discrete a 25Hz high pass filter on input circuit, it just attenuate the signal lower than 25Hz.

Like the right drawing:

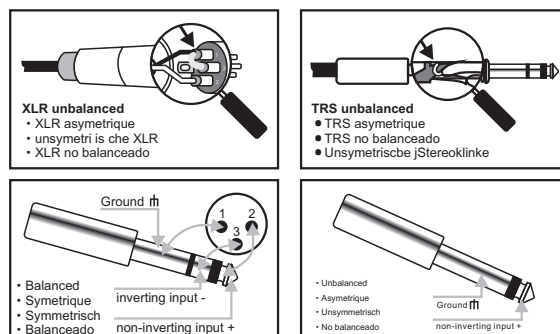


FUNCTION SETUP AND CABLE CONNECTING

When LF cutting is at 5Hz, the audio signal can be amplified really.
Like the right drawing:



3> Mode option and signal cable connection,
Like the right drawing:



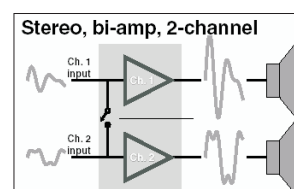
Connecting direction:

A、 Stereo connecting mode:

Put the switch of mode at stereo,
like the right picture:



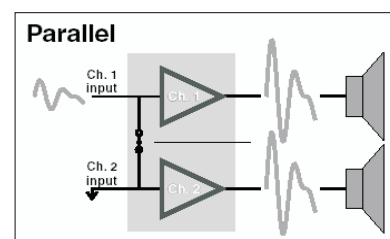
Under the stereo mode, the signal on channel A and channel B is independent, the signal to channel A is just for channel A, the signal to channel B is only for Channel B. Like the right drawing:



B、 Mono paralleled mode:

Put the switch of mode at PARALLEL, like the below picture:

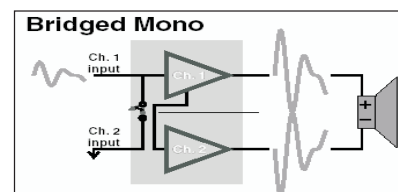
Under the mono parallel mode, the effect of input signal from channel A and channel B is same. The signal on input channel A can be provided to output A, also to output B. The signal on input channel B not only provide to output A, also to output B, But please not input the signal from channel A and B at the same time. Note: The mono parallel mode just means the parallel of input signal. Never parallel the output terminals, Like the right drawing:



C、 Bridged mode:

Put the switch of mode at BRIDGE, like the right picture:

Under the bridged mono, signal just can be input from channel A, no voice if input from channel B, the anode of output A is the anode of bridged output, the anode of output B is the cathode of bridged output.
like right drawing:



Under the bridge mode, The output voltage is so high enough to make a electronic shock. Please power off the unit before operate it under bridge mode. If need bridge operation under 4 Ω please select CA4L

10、 OPERATIONS

Please follow the steps during using the equipment

1> Start

- a、 Setup the function and connection according to the above function setup and connecting;
- b、 Check if the output cable is short circuit and the load is too low;
- c、 Check if the local voltage complies with the user's manual;
- d、 Be sure the switch of power supply at "0" and the volume is the lowest;
- e、 Connect the power supply, turn on the equipment of sound source, pre and effect equipment and assure these equipments work in order;
- f、 Turn on the switch of power supply (put it at "1" position);
- g、 Adjust the knob of volume clockwise to right position.

2> Off

- a、 Adjust the knob of volume anti-clockwise to the lowest;
- b、 Turn off the switch of power supply on the front panel (put it at "0" position);
- c、 Turn off the pre and effect equipments, sound source equipments;

11、 INDICATORS ON FRONT PANEL

- 1> If signal indicator flashes, it means if there is signal output in two channels;
- 2> If peak indicator flashes, it means that the input voltage is too high. You should turn down the volume;
- 3> If the peak indicator always lights, it means faults. The reason is like this: loading is too low, short on loading, temperature is too high. You should check it after power off. Turn on again if no abnormality;
- 4> If bridge indicator lights, it means the amplifier is under the bridged mode.

12、 PROTECTION FUNCTION

Perfect protection function can prevent the damage for amplifier and speaker caused by short circuit and output DC and overheat.

- 1> Short circuit protection: when the load at the output end is short circuit, the equipment can cut off the signal and protect the equipment;
- 2> Output DC protection: when the equipment has faults and there is DC in output signal, the equipment can cut off output automatically and avoid damage for speaker caused by DC;
- 3> Overheat protection: If the temperature of heat sink is over the allowed temperature, the sensor will cut off the output, avoid damage caused by high temperature and protect the amplifier.

13、 TROUBLES AND TROUBLE SHOOTINGS

Trouble	SN	Troublele shootings
No voice, Power indicator lights off	1	Check if the power plug and jack are connected well.
	2	If the power jack corresponds with AC 120V/50Hz.
	3	Check if the fuse on rear panel is broken.
No voice, Power indicator Lights, Signal indicator Light off	1	Check if the music signal cable is connected well.
	2	Check if the power of music source is turned on and the volume is turned on.
	3	If the volume pots is turned on.
CLIP indicator last slighting on, Voice is abnormal	1	If the music source output is too big.
	2	If the CLIP LIMITER is at the "ON"position.
	3	Check if there is any short circuit in output connectons and if the load is correct. The restart.
The bass is not sufficient	1	If the LF FILTER on rear panel is at the LF 50Hz or at LF 25Hz, setup the switch at appropriate place.
No voice on one channel under paralleled mono mode	1	Check if the switch of MODE on rear panel is at the PARALLEL, please put it at PARALLEL if it not at the position.
Output of bridge is too low	1	Check the input signal can comply with voltage, please enhance the input signal if not sufficient.
	2	Check if input SIGNAL voltage is suited, please enhance the input SIGNAL if not sufficient.
Burning the fuse when start	1	Check the local voltage is same as the voltage of the equipment.
Others	1	Check if the setup and connection are accordant with the user manual.



User's Manual

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