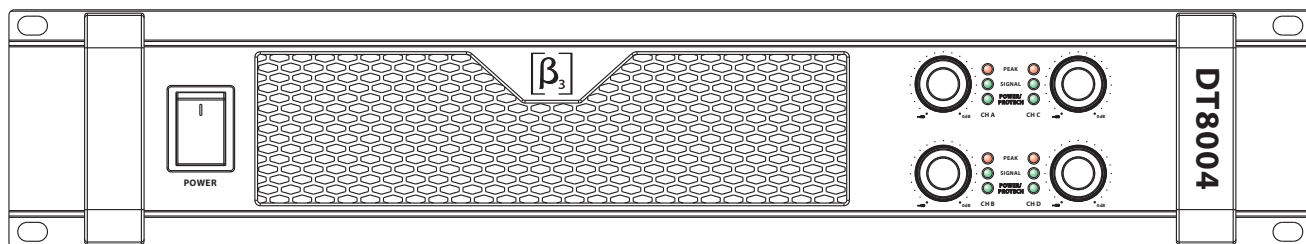
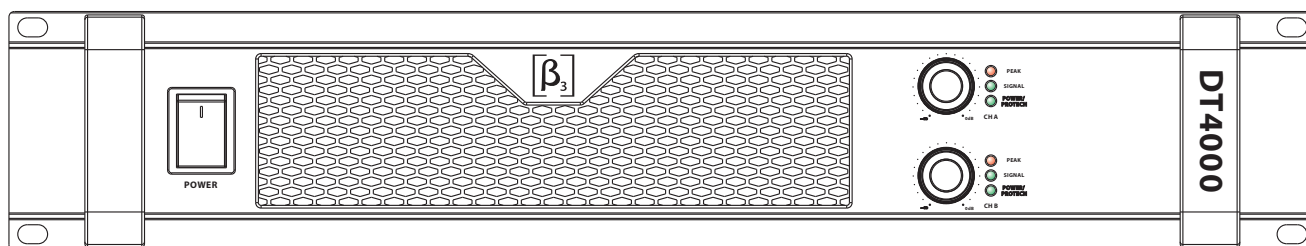


DT Series
Professional Power Amplifier



Notes:

- ⚠ Personal safety is ensured during the design and production of this product, but incorrect use may result in the risk of electric shock or fire hazard. To ensure your safety, the following precautions must be observed during installation, use, or maintenance.
- ⚠ High voltage inside the equipment. Do not open the chassis.
- ⚠ Do not touch the output terminals with ⚡ warning signs when the product is in use .
- ⚠ Please maintain proper ventilation, air vents should not be covered with articles that disrupt ventilation, such as newspapers, tablecloths, and curtains. For rack installation, please keep a gap of at least 10cm away from both the front and the back air vents.
- ⚠ Do not insert or drop any metal objects, such as coins, hairpins, nails, or any inflammable objects like paper and matches into the air vents or any other openings of the product, otherwise it may result in the risk of electric shock or fire hazard.
- ⚠ Please do not expose the equipment to the rain or moisture. Do not place any object that contains water, such as vases and fish tanks, on the equipment.
- ⚠ During maintenance, components marked with the ⚠ inside the product can only be replaced with components of the same specifications.
- ⚠ Make sure the local voltage is in compliance with the device.
- ⚠ Select suitable impedance, do not overload the equipment.
- ⚠ Unplug the power cable when unused for long periods.
- ⚠ Please contact your local dealer or professional maintenance personnel if the equipment malfunctions or if it requires maintenance.
- ⚠ Please connect to the power grid with protective grounding. Do not disconnect the grounding pin.
- ⚠ To completely disconnect the connection between the device and the AC main line, please pull the power cord plug from the AC socket, and the plug of the power cord should be kept in a convenient operation state.

■ Symbols:

- ☐ The lightning flash within an equilateral triangle is intended to alert users to the presence of “dangerous voltage” within the products that may result in a risk of electric shock.

The exclamation mark within an equilateral triangle is intended to alert users to the presence of

- ☐ important operating and servicing instructions in the user manual.

This is a patented product, please respect the intellectual property rights of 3G Audio.

CATALOGUE

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Product information is subject to change without prior notification. Please visit www.elderaudio.com for latest updates. Photos are for reference only.

1.INTRODUCTION

The DT series of multi-channel professional power amplifiers, are designed with the target of outstanding reliability. Designed is based on efficient and safe thermal distribution structure, concise output circuitry, and complemented by precise detection and protection control. The innovative design of the automatic temperature control system and the unique limiting function both contribute to the high efficiency of products performance.

The standardized design of the product line of the DT series help meet the needs of diversification in the professional sound reinforcement industry. Simple control functions are in place for your convenience and flexible applications.

Product feature:

1. Various power levels can be matched according to your application.
2. Three input sensitivity options provide flexible matching with different systems.
3. With three input LINK switches, the input terminals adjacent can be used to simplify the input wiring of large applications.
4. The output will not be distorted even if the input signal is too large, because of the unique limiting function in place. In particular, it has two limiting modes to choose from when matching with different types of loudspeakers.
5. High power supply system and efficient output level can provide strong output capability.
6. The centralized air duct and heat management and the precise temperature control , helps ensure that all components can effectively cooled and heat managed. It also ensures that all heat sources in the equipment can operate in an orderly and reliable manner within the safe range.
7. Accurate status indicators and independent volume knobs, makes operations easily controllable.

The DT Series amplifiers have been crafted with superior performance and exceptional reliability under harsh applications. Built based on proven technology and comprehensive protection circuits, it allows for more efficient use, especially in harsh working conditions.

Although this product is easy to operate, safe and reliable and has an exceptionally strong steel chassis, improper operation can still cause this product to fail.

It is recommended that you read this manual to obtain the best information for product operation and application, so that your system will be properly set up and run with excellent performance.

Model	2 - channel				4 - channel			
	DT1000	DT2000	DT3000	DT4000	DT2004	DT4004	DT6004	DT8004
Power	8Ω*	550W/CH	1000W/CH	1300W/CH	1500W/CH	550W/CH	1000W/CH	1300W/CH
	4Ω*	850W/CH	1500W/CH	2000W/CH	2500W/CH	850W/CH	1500W/CH	2000W/CH
Input Sensitivity	0.775V/1V/32dB Switchable							
THD	< 0.1% @8Ω,1KHz							
IMD	< 0.5% @8Ω,60Hz/7KHz 4:1 20Hz-20KHz ±2dB							
Frequency Response	20Hz-20KHz ±2dB							
Damping Factor	> 500 @8Ω,100Hz							
Cooling	Dual Cooling Fan Controlled by Temperature							
S/N ratio(@8Ω,1KHz,32dB, A weighting)	> 102dB	> 105dB	> 105dB	> 105dB	> 102dB	> 105dB	> 105dB	> 105dB
Rated Consumption Current @1/8 maximum(power/output,4Ω)	3A	5A	5.5A	6A	5A	7A	8A	9A
Rated Power Supply	220-230V ~ 50/60Hz							
Temperature	Working temperature -10°C~40°C Storage temperature -25°C~80°C							
Input Connector	2xXLR				4xXLR			
Output Connector	2xXLR				1xTRS			
	Power Output 2xNL4				4xNL4			
Dimension	89mm×482mm×279mm(Include Rack 304mm)				89mm×482mm×380mm(Include Rack 405mm)			
Net Weight	11.5kg	14kg	15.5kg	16.5kg	15.5kg	20kg	22kg	23.5kg

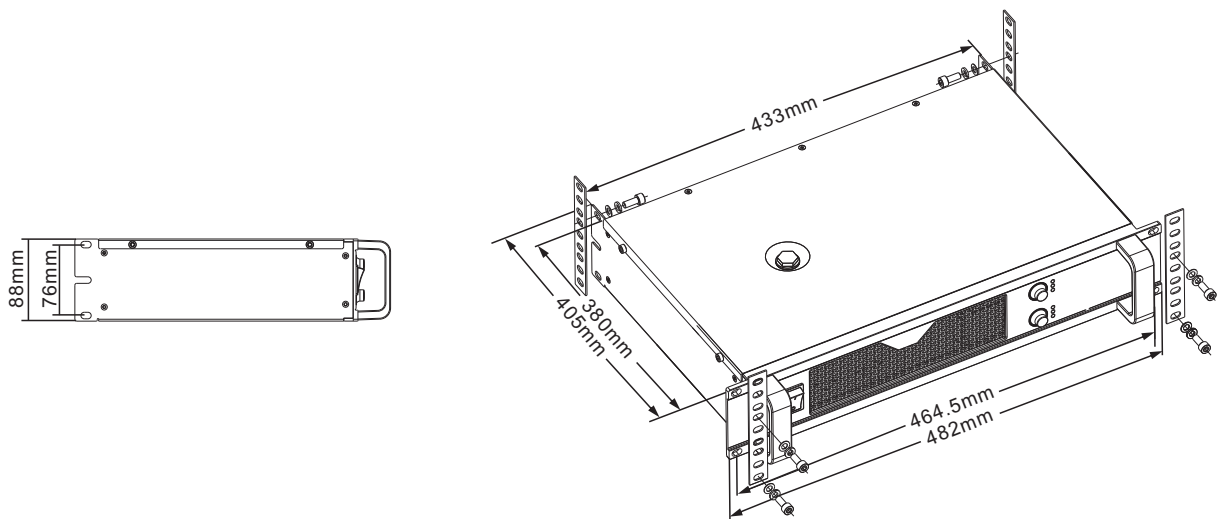
Parameters are subject to change without notice

3. INSTALLATION DRAWING

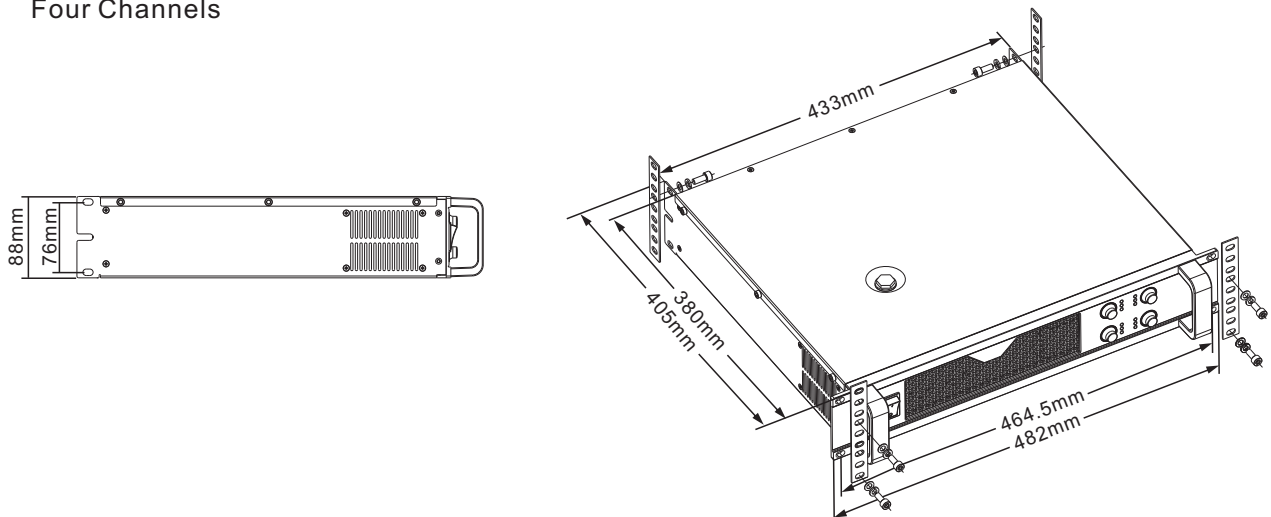
This product is the standardized 2U height, and it can be installed in an EIA 19-inch standardized rack. The front panel and the rear panel of this product provide a total of 8 mounting points for rack installation. Please attach washers to the bolts when installing.

- ⚠ Both the front and the rear panels need to be fastened during the racking process. If the rear plate is not fixed during the process, damages are not within the scope of warranty.
- ⚠ Please maintain proper ventilation, air vents should not be covered with articles that disrupt ventilation, such as newspapers, tablecloths, and curtains. For rack installations, please keep a gap of at least 10cm away from both the front and the rear air vents.

Two Channels

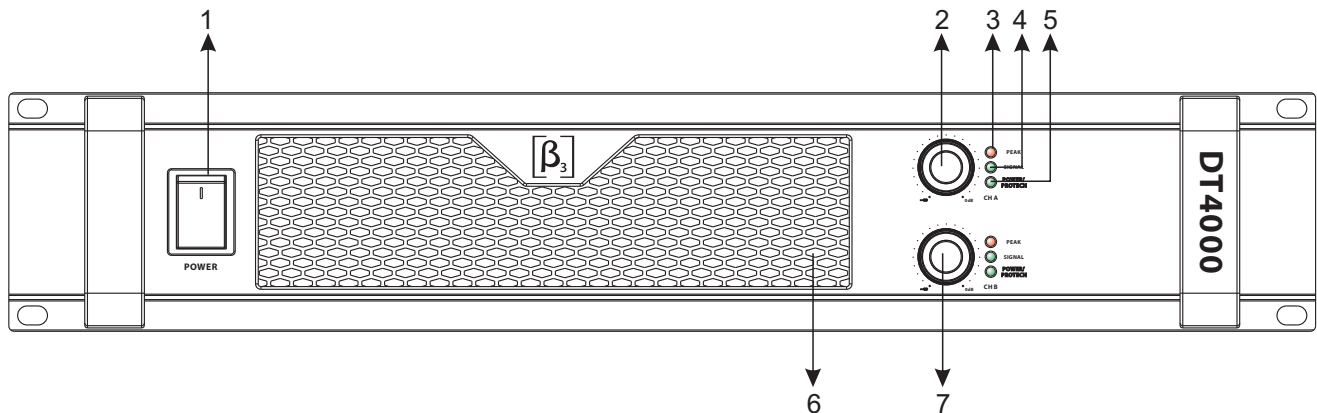


Four Channels



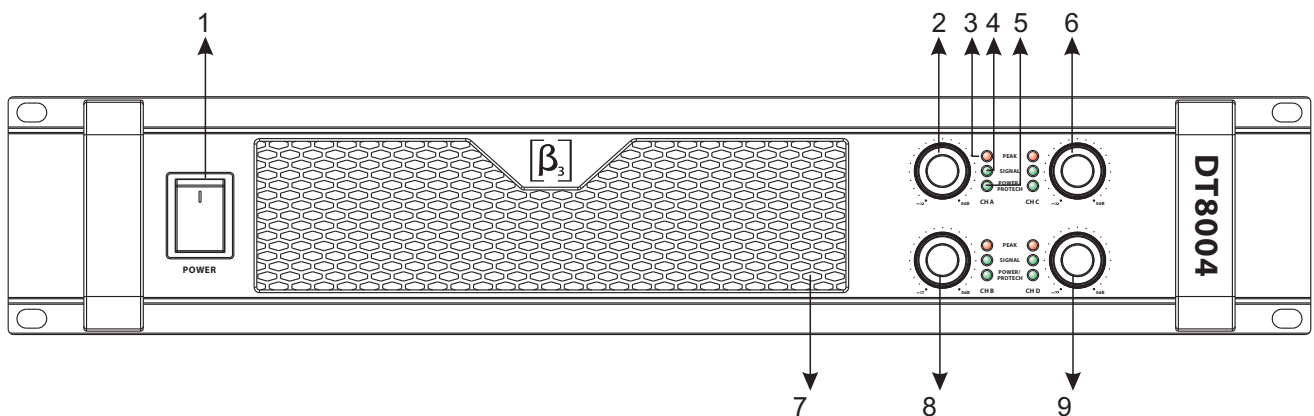
4. FRONT PANEL

Two Channels



- 1. Power switch
- 2. Volume control Channel A
- 3. Channel A peak indicator
- 4. Channel A signal indicator
- 5. Channel A power/protect indicator
- 6. Cooling vents
- 7. Volume control Channel B

Four Channels



- 1. Power switch
- 2. Volume control Channel A
- 3. Channel A peak indicator
- 4. Channel A signal indicator
- 5. Channel A power/protect indicator
- 6. Volume control Channel C
- 7. Cooling vents
- 8. Volume control Channel B
- 9. Volume control Channel D

5. FRONT PANEL INDICATORS

Each power/protect LED indicator is an individual indication for each channel.

- 1 Power ON/OFF
- 2 System status: the green light indicates it is in normal operation, and the orange light means it is in protection mode.

The following conditions will cause the power/protect LED indicator to light up:

- A When the system is in power up state, 6 seconds after powering on the amplifier, the protective muting is triggered to prevent noise emitting from the loudspeaker. The indicator light will turn green when the system is ready for operation.
- B When the channel is currently in protection mode, resulting from unusual condition such as overheating, and output overcurrent.

Each output signal LED indicator is an individual indication of each channel.

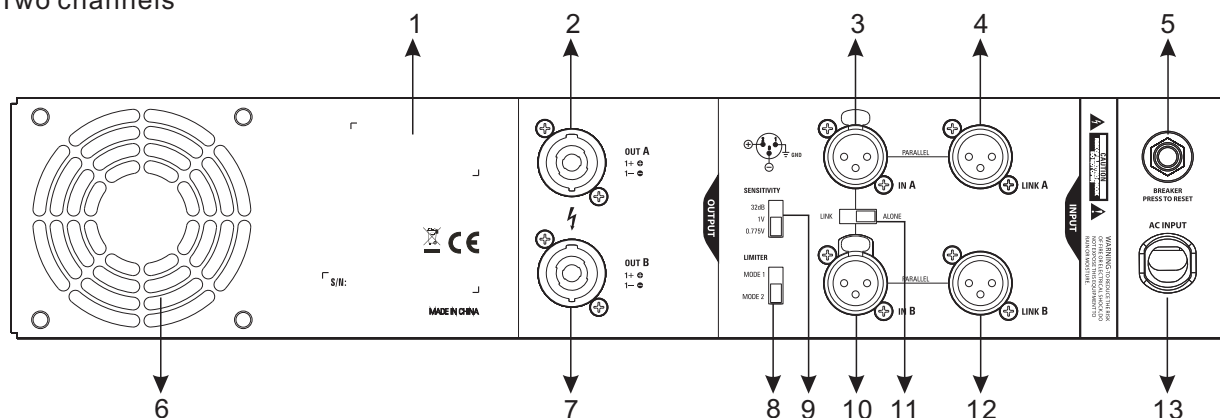
The signal LED indicator on the circuit is equivalent to the parallel connection at the output of the amplifier. Therefore, when the gain knob is turned to the minimum position, the SIG light will not be lit whether there is an input signal or not.

Each clipping LED indicator (PEAK) is an individual indication of each channel.

The indicator light will light up when the input signal is too large, and the distortion resulting from brief flashes will not be significant. But please do not leave the amplifier in this state for a long time, as it will cause the deterioration to sound quality and may damage the loudspeaker. Please lower the volume or reduce the amplitude of the input signal when the indicator light flashes frequently.

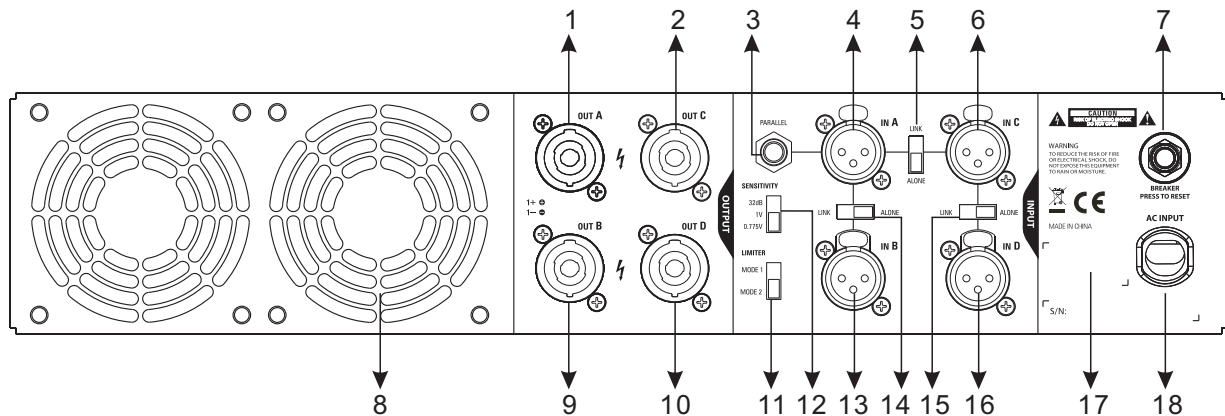
6. REAR PANEL

Two channels



- | | |
|---|---|
| 1 Label (mark with consumed AC voltage, rated current) | 8 Limiter mode switch |
| 2 Channel A power output (NL4 connector) | 9 Sensitivity mode switch |
| 3 Channel A signal input (XLR connector) | 10 Channel B signal input (XLR connector) |
| 4 Link A output (XLR connector, parallel with input A) | 11 Link switch (Channel A and Channel B) |
| 5 Circuit breaker | 12 Link B output (XLR Connector, parallel with input B) |
| 6 Fan | 13 Power cord |
| 7 Channel B power output (NL4 Connector) | |

Four Channels



- | | |
|---|--|
| 1. Channel A power output (NL4 connector) | 10. Channel D power output (NL4 connector) |
| 2. Channel C power output (NL4 connector) | 11. Limiter mode switch |
| 3. Channel A signal output (TRS connector, parallel with input A) | 12. Sensitivity mode switch |
| 4. Channel A signal input (XLR connector) | 13. Channel B signal input (XLR connector) |
| 5. Link switch (Channel A and Channel C) | 14. Link switch (Channel A and Channel B) |
| 6. Channel C signal input (XLR connector) | 15. Link switch (Channel C and Channel D) |
| 7. Circuit breaker (Automatically trips when overload, press to resume) | 16. Channel D signal input (XLR connector) |
| 8. Fan | 17. Label (mark with consumed AC voltage, rated current) |
| 9. Channel B power output (NL4 connector) | 18. Power cord |

7. POWER SUPPLY

- Make sure the local voltage complies with the voltage requirement indicated on the back label of the amplifier before connecting the amplifier to the power socket.
- Make sure the power cord and the power socket are both undamaged, and whether they are compatible, before connecting the amplifier to the power socket.
- Make sure the metal parts of the chassis have a reliable grounding (earthing) after connecting the amplifier to the power socket.
- Unplug the power cord when the amplifier is turned off to ensure safety.
- Please refer to the power supply requirements on the parameter sheet for the power capacity of the amplifier. It is recommended to reserve 1.5 times the power margin during actual use.

⚠ Note: Before use, please ensure the grounding of the power socket is reliable, and the grounding between the metal chassis of this product and the power socket is well-grounded as well. Otherwise, it may cause an electric shock.

8. INPUT/OUTPUT CONNECTORS

■ INPUT CONNECTORS

The product is designed with balance input circuit to lower noise, please use balance connection for the device.

⚠ Note: Even if your signal output device is designed with an unbalanced line, please avoid using a single core shielded cable to prevent additional noise. Please connect the negative pole of the dual-core shielded cable to the ground at the signal source, and connect it in a balanced method at the input end of the amplifier. This will achieve the same noise suppression effects as a balanced transmission.

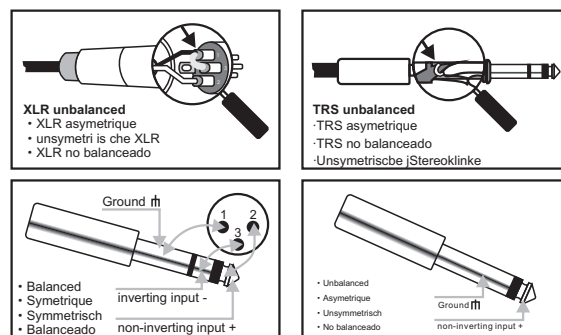
Each channel has an XLR input socket. In the link mode, the input sockets between the link channels are in parallel connection directly, and you can input signals into the sockets of any one of these channels.

Depending on the product model, the link output sockets have different XLR and TRS configurations, which are in parallel connection directly with the input sockets of the corresponding channels. Output signals are transmitted from these ports to connect to another amplifier, and they can be grouped and linked as needed. This link method is extremely convenient, but please do not over use the link option or the potential to increase interference and loss of signal, which may also cause damages resulting from oscillation.

⚠ Note: Please do not connect input signals into both of the channel input sockets simultaneously when it is in the LINK mode, to prevent malfunctioning of the amplifier.

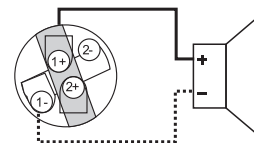
■ Mode option and signal cable connection.

Diagram of the pin position of the cable plug



■ OUTPUT CONNECTORS

Each channel of this product uses a NL4 socket as the power output port. The 1+ pin of each of the NL4 socket is connected to the positive terminal of the channel power output, and the 1- pin is connected to the power ground.



- ⚠ The overcurrent protection point of this product is set at $2\ \Omega$ and the overcurrent protection will activate when the load is less than $2\ \Omega$. The actual minimum impedance of a nominal $4\ \Omega$ loudspeaker may be less than $3\ \Omega$, therefore, this product can drive loudspeakers with a nominal impedance of $4\ \Omega$.
- ⚠ Note: Do not allow the power output of each channel to drive a speaker load of less than $4\ \Omega$, which may cause the amplifier to malfunction or overheat.
- ⚠ Note: The voltage at the output terminal when the amplifier is operating is of sufficient magnitude to constitute a risk of electric shock! Please turn off the amplifier before proceeding with output connections or loudspeaker connections. It is strictly prohibited to touch the exposed portion of the cable or the output terminal when the amplifier is operating.
- ⚠ All input and output sockets are on the rear panel of the product, please refer to qualified personnel for cable connections. Please beware that the power is off when connecting cables because the voltage at the output terminal when the amplifier is operating is of sufficient magnitude to constitute a risk of severe electric shock. The manufacturer will not be liable for any damages to the product or personal injury caused by incorrect operation.

9. FUNCTION SETUP

■ Gain adjustment

Gain control knob: turn the knob clockwise to increase the gain and turn it counterclockwise to reduce the gain.

- ⚠ Note: The gain control knob does not adjust the power of the amplifier, but for the magnification of the input signal.
- ⚠ Note: When the gain control knob is adjusted counterclockwise (less than 12 o'clock position), the signal may be damaged during preprocessing, and increasing signal source still will not enable the amplifier to have full output power.

■ Mode selection

This series of amplifiers can be set to work independently (ALONE) on each input channel or work by linking two adjacent channel (LINK).

A、ALONE mode

This is the independent mode, where two adjacent channels work independently without any correlation.

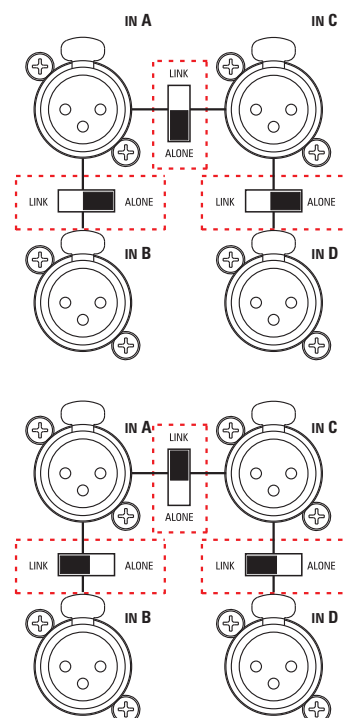
B、LINK mode

This is the link mode, where the signal terminals of two adjacent channels will connect in parallel connection inside the amplifier. Therefore, only one of the two channels needs input signals to have the same output signals for both channels.

There is a total of three link switches that can separately used linking channel signal between A/B, A/C, and C/D (there will be a difference in link channels in different models because each model has a different number of channels). If you want to have a link connection between all channels, you only need to input signal in any one of the channels to have the same output signals for the rest of the channels.

Note: Please do not use input signals simultaneously when

- ⚠ linking the channels. **Do not put the output terminals in parallel connection.**



■ Limiter setup

This series of amplifiers are designed with built-in limiters. The limiter has two optional modes to choose from (all channels share one selector switch).

A MODE1

In this mode, the maximum output signal of the amplifier will be limited to a state where it will hardly be clipped. Even when the input signal is much higher than the rated sensitivity, the sound quality of the amplifier output will still be flawless. Therefore, it is recommended that you set the limiter to this mode in most applications.

LIMITER

MODE 1

MODE 2



B MODE2

In this mode, the maximum output signal of the amplifier will be limited to a state with a distortion of about 10%. This mode is suitable for applications that require a broader dynamic range and are not very sensitive to distortion, such as driving a high-power subwoofer. In this mode, even when the input signal is much higher than the rated sensitivity, the distortion of the amplifier output can still be guaranteed to be about 10%.

■ Input sensitivity setup

This series of amplifiers have three Input sensitivity for option (all channels share one selector switch)

A 0.775V

In this mode, when the volume knob on the panel is turned to its maximum position, input a signal of 0.775V (0dBu), and the amplifier is just close to the rated power. This mode is suitable for use with preamplifiers with 0dBu level output indications, and the preamplifier can be easily adjusted so that the different types of amplifiers are close to the rated power output.

SENSITIVITY

32dB

1V

0.775V



- ⚠ Note: If the volume knob is turning to the maximum position in this mode, the gain for the high power amplifier will be larger.
- ⚠ Note: Input the same size signal in this mode, the amplifier with higher rated power will have a larger power output.
- ⚠ Note: Compared to the other two modes, the amplifier is more prone to overload clipping in this mode.
- ⚠ Note: Compared to the other two modes, the noise generated by the preamplifier will be more amplified in this mode.

B 1V

In this mode, when the volume knob on the panel is turned to its maximum position, input a signal of 1V (0dBu), and the amplifier is just close to the rated power. The preamplifiers can be easily adjusted so that the different types of amplifiers are close to the rated power output.

- ⚠ Note: If the volume knob is turning to the maximum position in this mode, the gain for the high power amplifier will be larger.
- ⚠ Note: Input the same size signal in this mode, the amplifier with higher rated power will have a larger power output.

C 32dB

In this mode, the gain of the amplifier will be 32dB (X40).

This mode is suitable for the array use of multiple amplifiers, or for balancing the gain of multiple amplifiers in active crossovers. This setting makes it easy to match different amplifiers with different loudspeakers with the same gain.

This mode is suitable for circumstances where the signal processing of the preamplifier outputs a higher level (>3.5 Vrms), it reduces the noise impact on the sound produced by the front end of the system, and it also reduces the interference of other equipment to this system during long distance transmissions.

- ▲ Note: If the volume knob is turning to the maximum position in this mode, the gain for different power amplifiers will be the same.
- ▲ Note: Input the same size signal in this mode, amplifiers with different power levels will have the same power output and may cause high power amplifiers to fail to output full power, while small power amplifiers are more prone to overload.
- ▲ Note: In this mode, the output power of the amplifier will be smaller when the driving capacity of the preamplifier is relatively weak. Thus the full performance of the amplifier cannot be achieved.

10. OPERATION PROCEDURE

Please follow these steps:

1>Power on

- a. Correctly set up and connect the cables following the above method, the function setting, and the connections.
- b. Check whether the output wiring is short-circuited, and whether the load impedance is too low.
- c. Check whether the local power grid is consistent with this manual.
- d. Make sure the power is off and the volume knob is turned to the lowest level.
- e. Connect to the power supply, and turn on the sound source device, pre-amp, and effects equipment in proper order, and ensure the above devices are working properly.
- f. Turn on the power switch.
- g. Gradually adjust the volume knob to the appropriate position.

2>Power off

- a. Turn volume knob to the minimum.
- b. Turn off power switch of this equipment.
- c. Turn off the preamplifier, effects equipment, and the sound source device in proper order.

11. PROTECTION AND COOLING SYSTEM

The efficient and safe operating method drastically reduces damage, and a comprehensive protection circuit prevents damages to the amplifiers and loudspeakers caused by improper operation and application. Protections include: power input surge protection, startup delay, and overload protection.

The safe working area of the output stage transistor is fully protected, which can effectively prevent damages from output overload, short-circuit, load abnormality, and wiring errors.

Output DC protection and high-frequency continuous energy restriction: prevents damages to the sound reinforcement system from abnormal operation and damages to the loudspeakers from malfunctions.

Thermal protection: the precise and sensitive zero-temperature-difference temperature control and cut-off temperature protection ensures the safe operation of the equipment even in a harsh environment.

12. COMPRESSION LIMITER POWER AMPLIFIER

When connecting an external compressor limiter to this amplifier, please refer to the specification table below for settings of the compressor/limiter.

■ Note:

1. Make sure the device of compression limiter is using dBu unit before referring to below list.
2. Make sure check the setup of sensitivity switch in advance, if the setting is for 32dB, it means the amplifier's magnification for the signal source is 32dB(40times), then the relative setting of compression limiter for amplifier can be refer to below list .

Compression Limiter Setup	Value dBu	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0
	Signal Voltage	0.19	0.22	0.24	0.27	0.31	0.35	0.39	0.44	0.49	0.55	0.62	0.69	0.77
Amplifier Output	Voltage(V)	8	9	10	11	12	14	16	17	20	22	25	28	31
Voltage (V)/	Power(8Ω)	8	10	12	15	19	24	30	38	48	60	76	95	120
Power (W)	Power(4Ω)	15	19	24	30	38	48	60	76	96	120	151	191	240
Gain set as 32dB														

Compression Limiter Setup	Value dBu	0	1	2	3	4	6	5	7	8	9	10	11	12
	Signal Voltage	0.77	0.87	0.98	1.09	1.23	1.38	1.55	1.73	1.95	2.18	2.45	2.75	3.08
Amplifier Output	Voltage(V)	31	35	39	44	49	55	62	69	78	87	98	110	123
Voltage (V)/	Power(8Ω)	120	151	190	239	301	379	478	601	757	953	1200	1511	1902
Power (W)	Power(4Ω)	240	302	380	479	603	759	955	1203	1514	1906	2400	3021	3804
Gain set as 32dB														

3. If the gain setting of amplifier is for 0.775V, it means the amplifier will reach the rated power output when signal source get 0.775V(0dBu), then the relative setting of compression limiter for amplifier can be refer to below list.

Compression Limiter Setup	Value dBu	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0
	Power Ratio %	6.31%	7.94%	10.0%	12.6%	15.8%	20.0%	25.1%	31.6%	39.8%	50.1%	63.1%	79.4%	100%

When the GAIN switch of the amplifier with the rated power of 1000W/8Ω is set to 0.775V, and when using a compressor with a threshold at -7dB:

the actual power is $1000 \times 20.0\% = 200\text{W}$ when connecting to the speaker with an impedance of 8Ω;

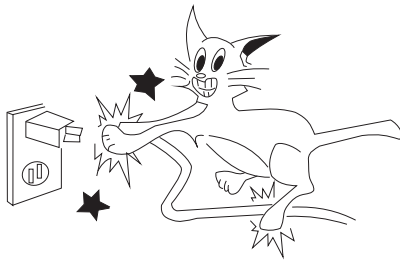
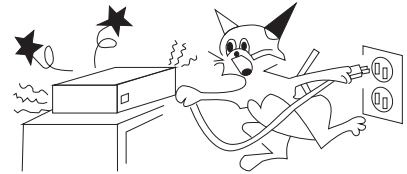
the actual power is $2 \times 1000 \times 20.0\% = 400\text{W}$ when connecting to the speaker with an impedance of 4Ω.

13. COMMON PROBLEMS AND TROUBLESHOOTING

Failure	NO.	Troubleshooting
No sound, and the power indicator is not lit	1	Check whether the AC plug of the amplifier is in proper contact with the power outlet.
	2	Check whether the power outlet has the correct AC voltage.
	3	Check whether the circuit breaker on the rear panel of the amplifier has tripped, please try to press it to reset.
No sound, power indicator is lit but the SIG (signal) indicator is not lit	1	Check whether the signal cable is well connected to the amplifier.
	2	Check whether the power and the volume sound source are turned on.
	3	Check if the volume knob of this device is turned up.
PEAK light (peak indicator) flashes frequently with distorted sound	1	Check whether the output of the sound source providing the signal is too large.
	2	Check whether there is a short-circuit failure in the output connection and whether the load impedance is correct. Restart the amplifier after checking.
One of the channel has no sound under link connection	1	Whether the switch on the rear panel is in LINK position, if not, put it in LINK.
	2	Need to check if one channel volume control is not turned up.
Others	1	Please check whether the installation and the wiring are correctly set up following the instructions of this manual.
	2	Please consult with your local specialist or browse our website for checking: www.scpaudio.com

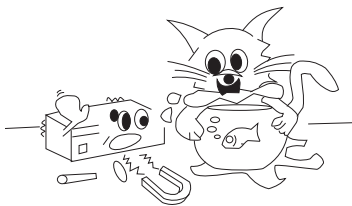
SAFETY REGULATIONS

Please turn off the power and pull out the cord if the device has any unusual sound or smell during operation.



POWER CORDS PROTECTION

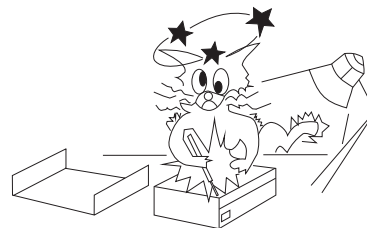
Power plug contact and socket must be handled properly. Do not touch the power cord with wet hands to avoid electric shock. Do not tie or tangle the power cord with other wires.



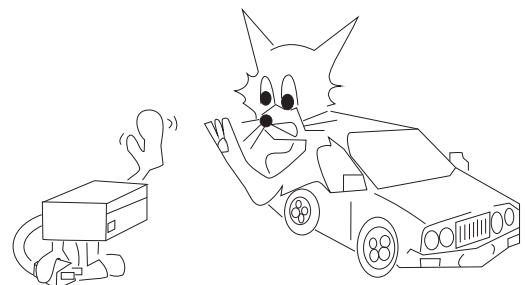
KEEP AWAY FROM WATER AND OTHER SMALL METAL PARTS

Do not drop or place metal materials on the device, such as nails, metal coil, or other flammable materials, or else it could cause the risk of fire hazard or electric shock. Do not expose the amplifier to dripping and splashing. Do not place any objects filled with liquid, such as vases, on the amplifier. Most importantly, do not spill water into the amplifier.

DO NOT OPEN THE COVER IF YOU ARE NOT QUALIFIED OR APPROVED TO DO SO.



FOR SAFETY REASONS, UNPLUG THE POWER CORD TO PREVENT THE RISK OF FIRE HAZARD WHEN NOT IN USE FOR LONG PERIODS.





DT SERIES

PROFESSIONAL POWER AMPLIFIER