



OPERATING INSTRUCTIONS

DUAL POWER AMPLIFIER

DA-1250D

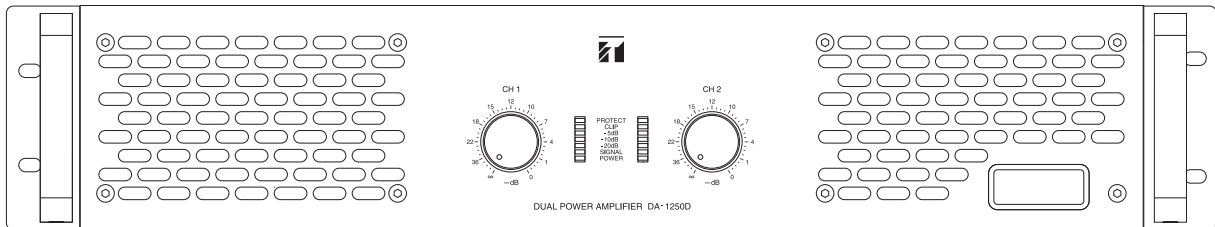


Table of contents

| | |
|--|----|
| Important Safety Instruction and symbol description..... | 1 |
| Foreword..... | 2 |
| Front panel functions..... | 3 |
| Rear panel functions..... | 4 |
| System connection cases..... | 5 |
| Wiring and AC power supply..... | 6 |
| Thermal Dissipation..... | 7 |
| Power Level adjustment..... | 8 |
| Specifications..... | 9 |
| Troubleshooting..... | 10 |

Thank you for purchasing TOA's Dual Power Amplifier.
Please carefully follow the instructions in this manual to ensure long, trouble-free use of your equipment.

TOA Corporation

Important Safety Instruction and symbol description

1. Read these instructions.
2. Keep this operating instructions.
3. Pay attention to all the notice.
4. Comply with these instructions.
5. It is forbidden to spray liquid around the equipment. Please do not place liquid container above the product, such as vases, etc. The dry cloth and air pressure gun can be used for cleaning.
6. Warning: Avoid the formation of hot air circulation. Installation as suggested way.
7. Do not install near heat, make sure the application temperature is below 35°C.
8. ⚡ Ground protection measures should be taken when the equipment is connected to the power outlet.
9. Protect the wire from being trampled or extruded, especially the plug, socket and the connector of it.
Warning: As a circuit to cut off the device, the power plug or equipment coupler should be kept available at any time.
10. Make sure the startup and turnoff procedure: Pre-amp - Amplifier (Power on) Power amplifier (off) -Pre-amp.
11. Power supply voltage must be in accord with the requirement of the equipment before use it.
12. Signal distributor is advised to be used when the input signal paralleled with more than 3 amplifiers, to ensure the input signal without distortion.
13. Don't connect the output interface of one channel to the input interface of another channel in the power amplifier. Don't connect one power amplifier to another one by connecting their output in series or parallel connection.
14. When equip the audio equipments, the power of the power amplifier should be 50%-100% more than the loudspeaker power. Be careful when in bridged mode.
15. When maintenance, don't connect the probe of the oscilloscope to the output interface under bridge mode in case of damaging the power amplifier and the oscilloscope.
16. Suggestions:
 - 1) Good quality NL4 Speakers screw plug is advised.
 - 2) Power distribution system should ensure the safety of applications of more than one amplifier.



The exclamation point triangle is used to alert the user to important operating or maintenance instructions.



This equipment is only to use safely in the region below the altitude of 2000 meters



The lightning bolt triangle is used to alert the user to the risk of electric shock. Non-professional qualified technicians do not open TOP OR BOTTOM COVERS for maintenance



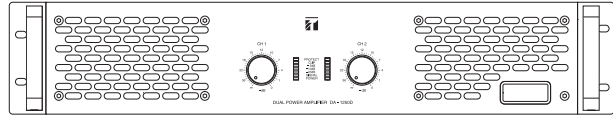
This equipment is only to use safely in the not tropical climate conditions

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

Welcome

Thank you for purchasing our products. The DA-1250D dual power amplifier is designed for sound reinforcement, lectures and other applications.

Please take the time to study this manual so that you can obtain the best possible service from your amplifier.



Unpacking

Please unpack and inspect your amplifier for any damage that may have occurred during transit. Confirm the preset voltage of the power amplifier matches your local voltage rating (Please refer to the print on the rear panel for detailed information). We also recommend that you save all packing materials so you will have them when need to return the power amplifier.

Important safety precautions

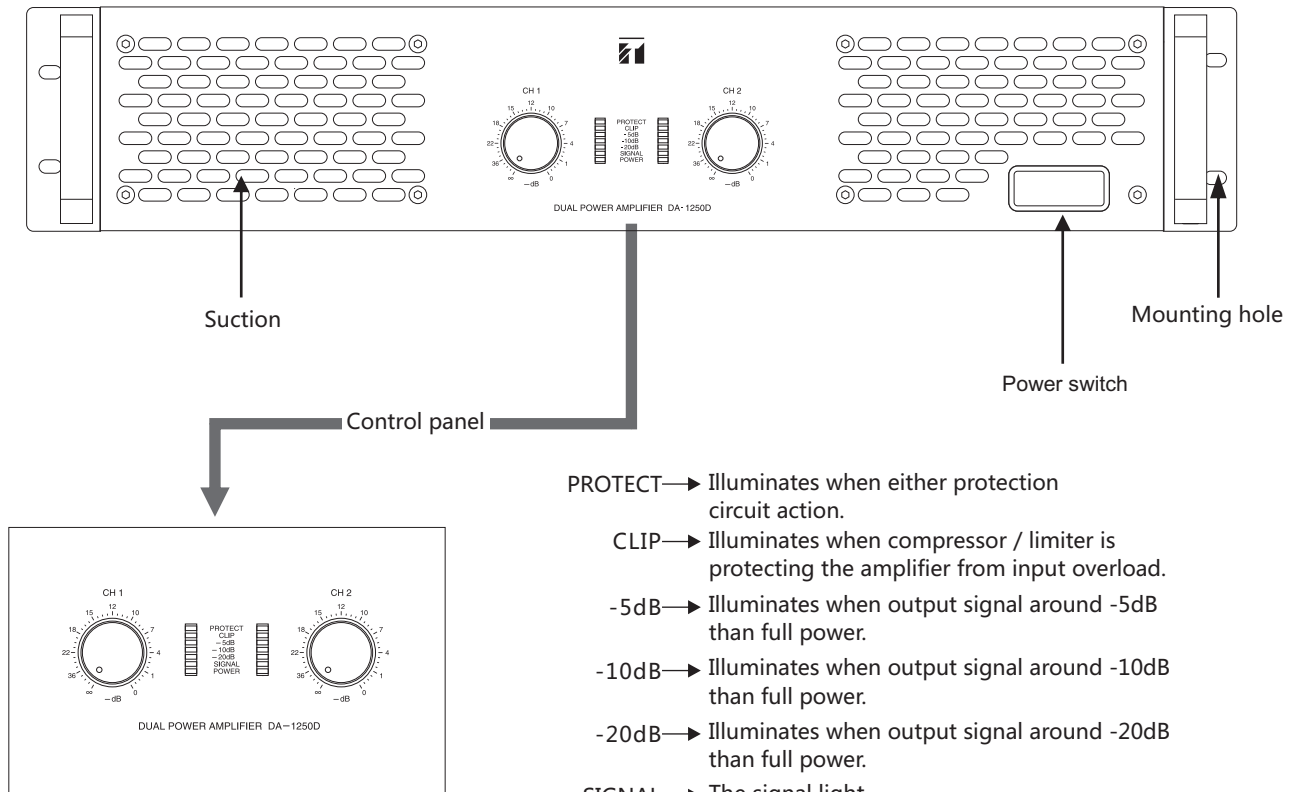
Our products has already taken the safe requirement in to consideration and all the finished products have been tested under the requirement of the government before sale. Due to the inner dangerous high voltage and electricity, we strongly recommend you read all instructions, warnings and cautions contained in this manual. It will increase the chance of getting shock by the electricity if the product falls down, recess in the appearance, soaked or there were some parts loose internal. If there are problems above, please turn off power immediately and send the defective units to local distributor for service.

Rated Power

| Model | 8Ω | 4Ω | 8Ω BRIDGE |
|----------|--------|---------|-----------|
| DA-1250D | 700Wx2 | 1250Wx2 | 2500W |

Front panel functions

Front Panel



- PROTECT → Illuminates when either protection circuit action.
- CLIP → Illuminates when compressor / limiter is protecting the amplifier from input overload.
- 5dB → Illuminates when output signal around -5dB than full power.
- 10dB → Illuminates when output signal around -10dB than full power.
- 20dB → Illuminates when output signal around -20dB than full power.
- SIGNAL → The signal light
- POWER → Illuminates when the amplifier start.
- CH1-CH2 → Gain Controller Knob
Stereo/Paralle Mode: volumes of CH1 and CH2 control independently.
Bridge Mode: CH1 knob controls both volumes. Ch1 stops working.
For normal operation, please keep the controller at max (0dB).

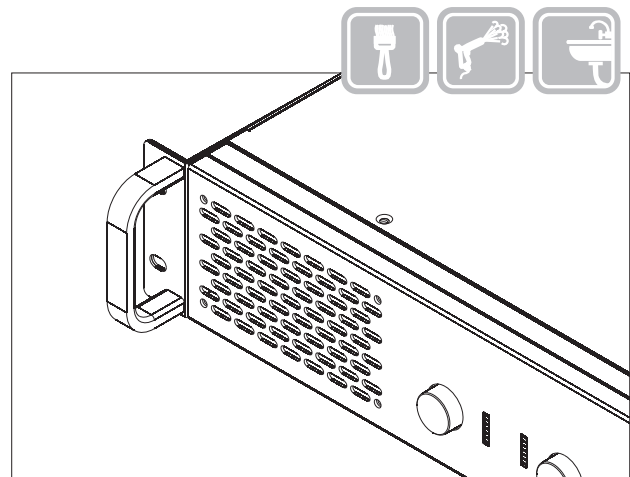
Cleaning guide of the dust filter



The first time cleaning of the strainer mesh should be right after installation. Recommend to clean the strainer mesh quarterly.

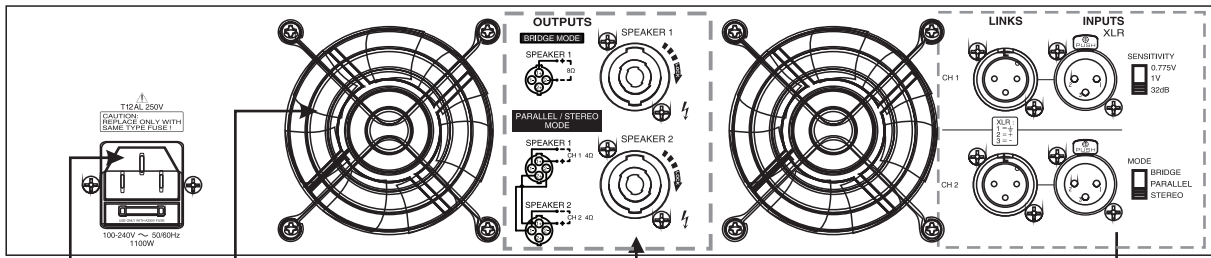
Please do not run the product without the dust filter, or it makes the service life of the product shorten.

Such condition will be considered as no warranty.



Rear panel functions

Rear Panel



Socket with fuse FAN

Amp output

Signal connector

The speaker connector

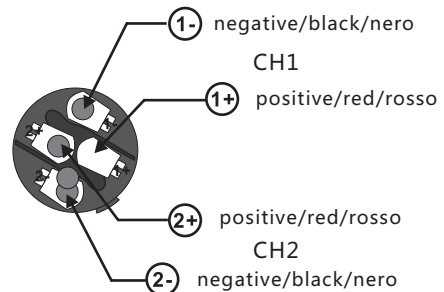
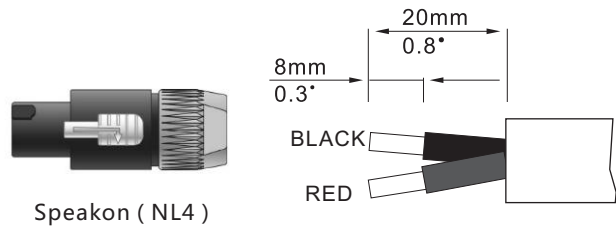
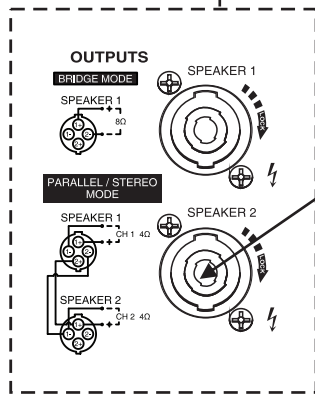
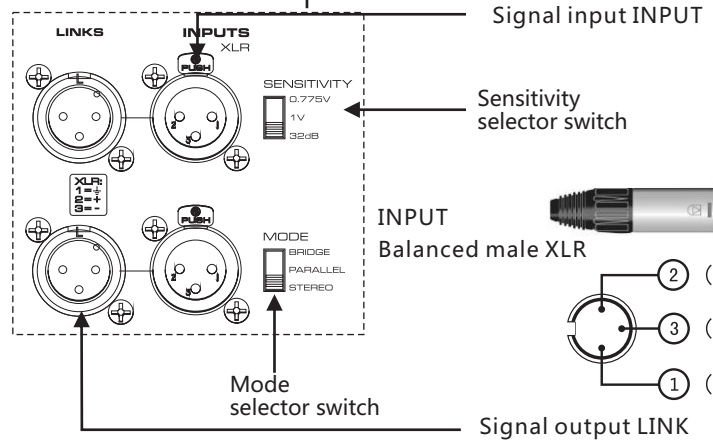


It can work from 2-16ohm in stereo or parallel mode. It can work good from 4ohm to 16ohm In bridge mode



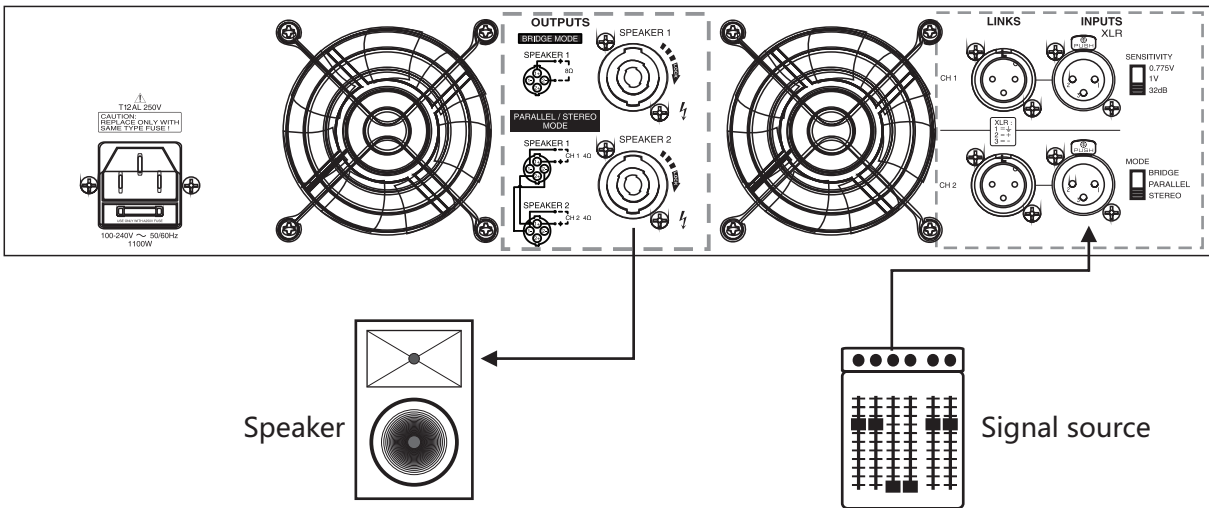
We don't suggest you use the amplifier under 4ohm bridge mode for a long time, it will short its normal use life or have some unnecessary failure.

Signal connection



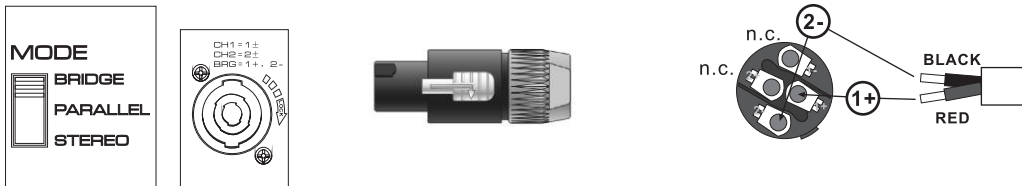
The quality of your soldering is very important Virtual welding or soldering errors, Would be likely to affect the normal Use or even failure

System connection cases

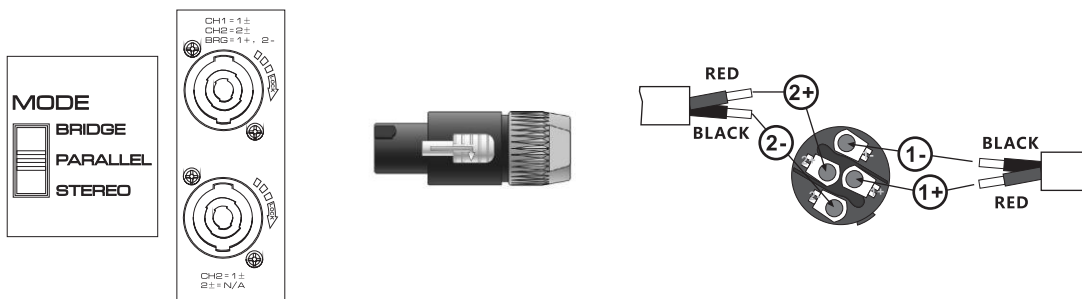


connection cases

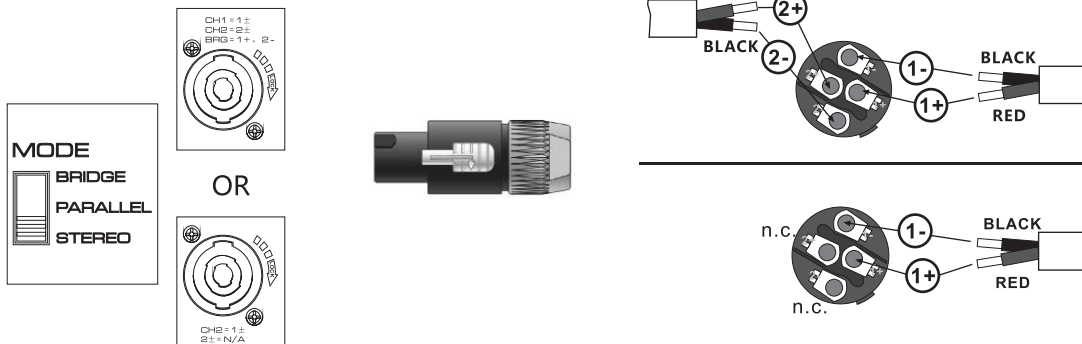
Bridge mode



Parallel mode



Stereo mode



Power & Wiring distribution

The amplifier power supply isn't a non-resistance load and its use on unstable music signal, so it can not calculate with "Voltage x Ampere=Watt" ,the actual power consumption can not be fixed formula .

Referring to the power dissipation and power supply/AC of different product for wiring We suggest the users to match not less than the following wiring size specifications, to obtain the better comprehensive properties.

The Standard Voltage : 100-240V

| Model | Dissipation Power | Cable size |
|----------|-------------------|-----------------------|
| DA-1250D | 1100W | $\geq 1.5\text{mm}^2$ |

When you use 1 power supply socket for many amplifiers, the power cable of the outlet should be bigger and also the internal cable of socket.



Please check the power voltage remark in the rear panel:
220V/240V = voltage range between AC200V to 240V.
Stable power supply voltage can ensure the amplifier works steadily.
The output power will be adjusted according to the difference voltage of power supply

More than one installation

When in the same AC power supply and its total power is more than 10kW, we suggest you use three phase and five wires in power distribution and the null wire can not use with Ground wire together.

Check after powered



For the first time powered, you have to use the multimeter to measure voltage, and confirm whether meet the requirements of the product. And do not connect signal and speaker after you confirm everything is ok, then power off the amplifier.

The importance of Ground wire



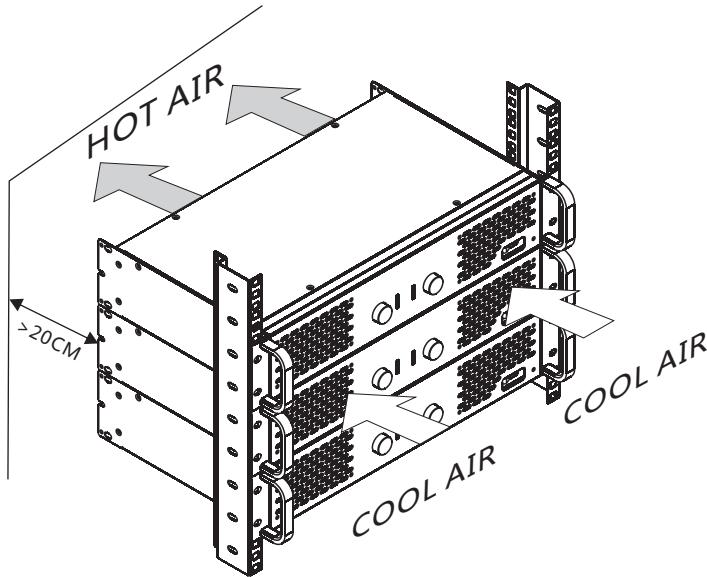
You should connect Ground for safety use.

If you don't have qualified Ground connection or not use the Ground, you may have a electricity shock. To avoid such thing happen, please connect Ground when you use.

Thermal Dissipation

Stack installation

To ensure the cooling environment, please meet the following condition



In order to have a good heat dissipation condition for amplifier, please clean the filter after you finish your install, because the dust in filter will stop the air vent, it's not good for the heat dissipation. And you should clean the filter net every month.



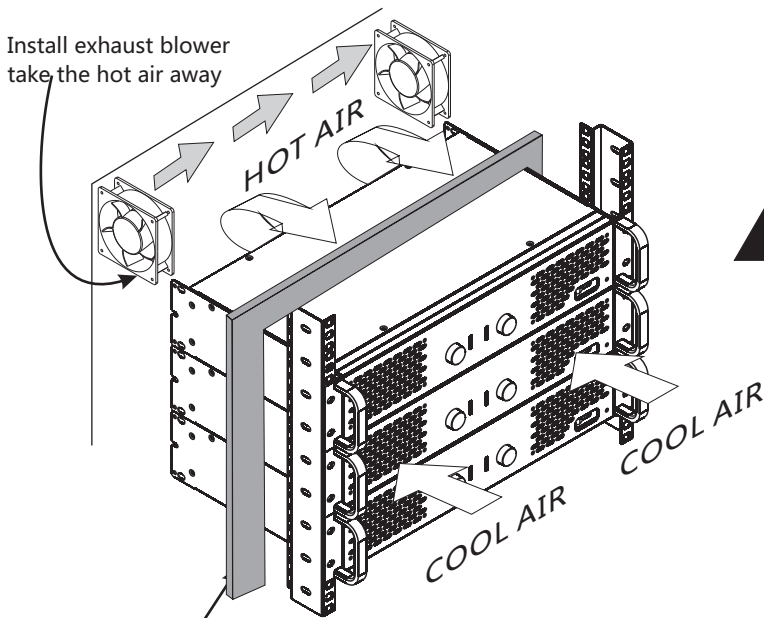
The ambient temperature should be lower than 35°C while running the amplifier

To avoid heat protection

To prevent the hot air back to front air vent



If use in Non-horizontal stack, we suggest the rear exhaust outlet up or straight to the vents of the room



Try your best to keep the temperature under 35°C even in extreme condition

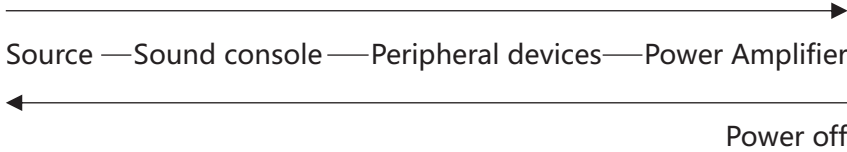


Keep hot air will not flow back to the front air vent

Power Level adjustment

Procedure

Power On



For high power system, the Power-on order is very important, not in the order is likely to damage the equipment. Therefore we suggest that you use the sequence power device.

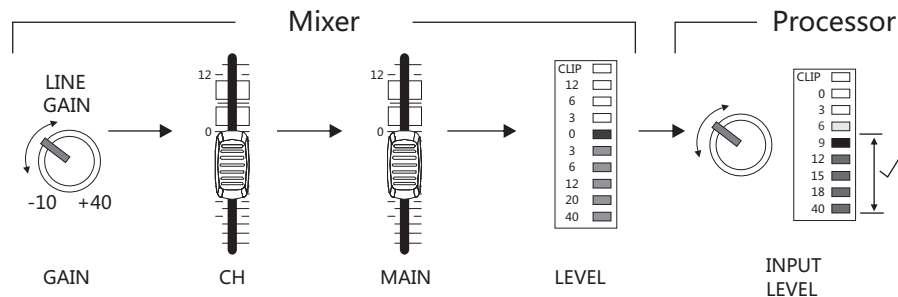
Power Level Adjustment

Power amplifier should be in the condition of no load in the following adjustment process:

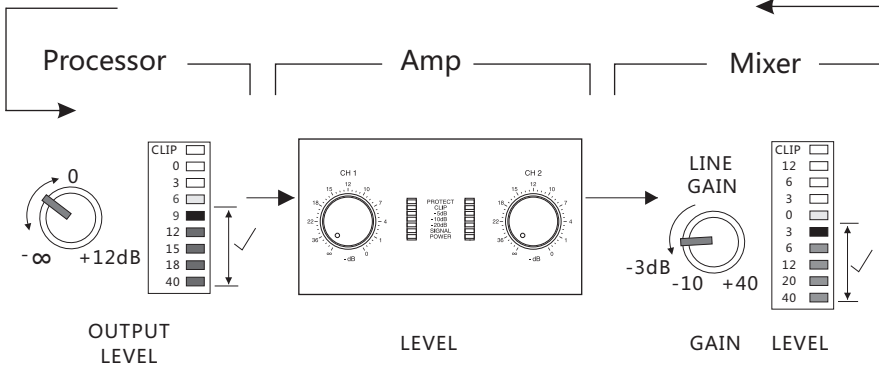
Process :



This is a normal step to adjustment, for more professional adjustment you should have a professional person to do that.



- Input the stable pink noise
- Adjust input gain
- Put the line output to 0dB
- Put the main output to 0dB
- The main output amplitude set should be displayed as: 0dB
- Adjust the input level of processor like the above picture



- Adjust the output level of processor, the range like the above picture shows
- Adjust the volume knob and make the output level within the range as above picture shows.
- Then adjust the input gain to make the main output less 3dB.
- This setting is to ensure twice power.

Music Audition

Adjust the volume from very small to loud slowly, after you confirm the sound is normal then make it more louder. When the speaker output is close to its limit, the CLIP light will lights up and you should turn down your volume now, don't let the CLIP lights on long time, it means over load, may damage the system.



This step should operated by professional person, if you don't know how to do, please be careful!

Specifications

Output power

| | |
|-----------|-----------|
| 8Ω stereo | 700Wx2* |
| 4Ω stereo | 1250Wx2** |
| 8Ω bridge | 2500W** |

Other Specifications

| | |
|----------------------------|--|
| Frequency response | 20Hz-20KHz(+/-3dB) |
| THD+N | ≤0.15% |
| S/N rate | ≥100dB |
| Damping factor | ≥500 |
| Slew rate | ≥10V/μs |
| Input sensitivity | 0.775/1.0V/32dB |
| Input impedance(bal/unbal) | 20kΩ/10kΩ |
| Voltage gain (8 ohm) | 39.7dB |
| Output circuitry | Class D |
| Cooling | Air flow from front to rear |
| Protection | Soft start, VHF, DC, short circuit, over load, clip limit, over heat, progressive volume |

Connection

| | |
|--------|--|
| Input | Balance input XLR-F, Balance output XLR-M |
| Output | Two red and black Binding posts, NI4 SPEAKON |

Function

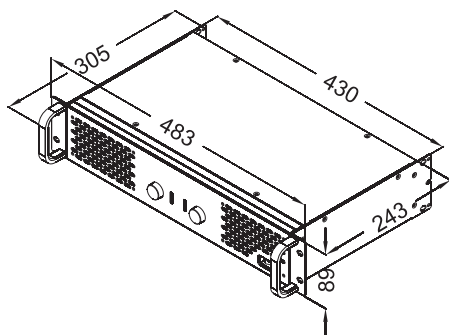
| | |
|-------------|--|
| Front panel | Front panel indicator: Working indicator, Signal/Clip/Protection/Power on/-5dB/-10dB/-20dB / volume control knob |
| Rear panel | Sensitivity selection switch, stereo/parallel/bridge/Cross-over selection switch |

Dimensions/Weight

| | |
|-------------------------|-------------|
| Product Dimension(mm) | 483x305x89 |
| Packaging Dimension(mm) | 560x430x170 |
| G.W. | 7.7kg |
| Power Supply | Power Cord |

Remark : 1、*,The power is tested under the condition of 40ms burst,1kHz sine wave and 1% THD
2、**,The power is tested under the condition of 20ms burst,1kHz sine wave and 1% THD

Product dimension(mm)



The manufacturer reserves the rights to make changes in specification without prior notice.
The final specification is subject to the user's manual.

After powered without any response

Measure the outlet with a multimeter to check if there is power available and when no multimeter, you can have a test pencil. If the power supply is normal and the amplifier still no response when powered then there is something wrong with the amplifier, need professional person to check it.

No signal output

1. First check if the signal input is right.

⚠️ Check the connect of XLR, if the 2 and 3 reverted or the ground is reliable. Different circuitry design will have different connect way of the XLR, please follow the 2+, 3- to soldering.

It can not be judged by comparing with other amplifiers (including other amplifiers in the same factory).

2. The signal light don't lights up

If all the signal input is fine and the signal light don't lights up then may the amplifier has failure, you need to ask the professional person to check it.

3. Signal input normal but no sound

The signal light will flash with the change of input Volume, but now sound out, then you can check the connect of speaker if it is connect good and the wires are connect right (some times the problem of the wires connect, check its ± 1 and ± 2 connect), after the check above if still no sound out, please change a speaker cable and check again. Because some times also caused by the bad quality of the Speaker connector problem of the amplifier.

⚠️ Through experiences, it may caused by the bad connection of some plugs and the socket.

Output sound distortion

1. After check the signal and loudspeaker they are fine and still can hear distortion when small sound, then may the amplifier has failure, need professional person to check it.

2. Some frequency band has distortion

First, check if the loudspeaker already overload, normally judge it in 95~105dB for higher SPL we don't comment here. Here we just think about the failure recovery of the amplifier. If in the middle have some rupture sound and more smaller volume more obvious, then it should be crossover distortion of the amplifier and this kind of distortion is easy to confuse with the failure of loudspeaker itself. If the amplifier have problem then you should send back to the manufacture for repair.

3. Distortion is High SPL

If the sound is normal when small volume and then you need to check the limit SPL of the loudspeaker. You can listen it in suitable volume and if clip light works, then you need reduce the output. Both loudspeaker and amplifier have limit, you should use them in their limit if in very high SPL they have distortion you should take care of them and reduce the output to the right position.

The protection light blinks

When the PROTECT light works, the amplifier into the protection mode.

1. Maybe the temperature is too high or output short or near short and they are not failure they can recovery after you can use it normally. But over heat will take more time to recovery. Also when over heat happened you should check the fan and the temperature of the install environment, if does you should solve the problem then can use amplifier. If you think the speaker was short, you can with a multimeter to check if the resist is lower than 2 ohm or 1 ohm with DC (Please calibrate the multimeter to measure for accuracy because of the small resistance).

2. If the PROTECT light always light up then it should be the problem of amplifier, you should send it back to professional person for repair.

Hum in the system

1. Hum exists even when there is no signal
Please keep the amplifier away from earth wire of power supply cables, just connect the fire wire and zero wire, no ground wire. If the hum is still existing, it can be judged that there are some problems in the amplifier. Please get in touch with professionals.

2. Hum exists when the system is completely connected
This is caused by the different ground voltages in difference devices in the system, mainly happens when the power supply is under three-phase distribution condition, each device is connected to different phase. This is not caused by amplifier.

Solution experiences, just for reference

- Combing the electricity, the power distribution box using the same one for all if possible.
- Make sure the grounding wire potential is zero and force the different grounding wire to the same level, if the grounding wire itself charged, indicates that the wire may be connected with the zero line. Please solve this problem.
- If unavailable above, then only to disconnect the ground wires of all devices, which helps to reduce the AC. But this is not meet the safe use of electricity, users must know what will happen if to do in this way. We do not recommend the floating use.

The amplifier is required maintenance in the condition below:

- If the amplifier smokes or smells burning.
- If the cabinet has severe indentation and deformation
- If the amplifier are dipped into the water
- If the internal components loosen
- If AC breaker skips out when current increases.

