

# AD-2PRO+ User Manual

ISO9001 Certified Enterprise

Thank you for choosing Tonewinner audio products. We will serve you with "High technology, High quality and High taste" enterprise philosophy, will serve you with exquisite craft, classical circuit, high technologies, first-class quality and first-class services. We will bring all customers with our stable, reliable, durable and pleasant technology achievements!

- **Fully balanced, fully symmetrical, differential input to differential BTL power output Class A power amplifier circuit.**
- **The left and right channels are with independent power supply, which greatly improves the separation of the amplifier.**
- **Each channel are with 240W/8Ω power, 860W high-quality toroidal transformer, up to 120,000 microfarads of audio-specific custom capacitors, high-power audio dedicated famous transistors in parallel output, providing great current output capability, abundant power reserve.**
- **High-end sturdy and durable aluminum chassis, rigorous and reasonable internal layout, and the strong anti-interference ability. The thick and delicate aluminum front panel looks simple and elegant.**
- **Using Tonewinner patented technology: high/low voltage two-level power supply intelligent switching management, which can not only meet the high-fidelity class A power output, but also meet the green concept of energy saving and environmental protection (patent number: ZL201420783891.8).**
- **Perfect power amplifier protection circuits: short protection, overheat protection, DC protection, & etc.**
- **Using Tonewinner's patented technology: ~110V/~220V power supply automatic conversion function, strong regional adaptability (patent number: ZL201420543195.X).**

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TONE WINNER

## Accessories List

Number	Item	Quantity
1	Manual	1 piece
2	Power cord	1 piece
3	Optical Cable	1 piece
4	Certificate	1 piece
5	Remote Control	1 piece

### Pollution control labels and its content descriptions

This symbol indicates the product can be recyclable. The number 10 indicates the period of environmental protection. As long as you follow the safety and precautions related to this product, it will not cause environmental pollution or impact on human property within 10 years from the date of manufacture.



### Name and content of toxic or hazardous substances or elements in the product

Part Name	Hazardous substances or elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent chromium (Cr <sup>6+</sup> )	Polybrominated (PBB)	Biphenyls polyphenyls (PBDE)
Chassis enclosure	○	○	○	○	○	○
Electrical parts	×	○	○	○	○	○
Plastic structural parts	○	○	○	○	○	○
Metal structural parts	○	○	○	×	○	○
Cables	○	○	○	○	○	○
Transformer	○	○	○	○	○	○

#### Marks:

“○” means the content of the hazardous toxic substance is lower than SJ/T11363-2006 standard required.

“×” means in a homogeneous material of the component, the content of the hazardous toxic substance is higher than SJ/T11363-2006 standard required.

Note: “×” as there are no substitutable substances under the existing technology



# Significant Safety Measures



**Warning**  
Do not open the cover due to electricity inside.



- To reduce the risk of electrocution, please do not remove the outer cover (or rear cover)
- If maintenance is required, please hire eligible maintenance personnel.
- To avoid fire and electrocution, please do not put the equipment in a wet or damp environment.
- Safety Class: I

1. Read safety measure: read carefully all the important information on protection and operation in the manual before using the equipment.
2. Obey User Manual: please obey the information on operation and use in the manual. Please do not violate the manual.
3. Please place the product in a place recommended by the manufacturer: to prevent the product from capsizing, please do not push hard or suddenly stop during movement.
4. Keep away from water and moisture: please do not place the equipment near water, such as bath tub, basin, sink, or washing machine, etc.; do not use the equipment under high temperature or humidity, such as damp basement, etc.
5. Cleaning: please do not use liquid or vaporific detergent. Please clean it with dry cloth. Please turn the equipment off and cut the power off before cleaning.
6. Power source: please use power source in accordance with the product operating sign. Lay out the wiring rationally. Please do not stomp or pull the power line to avoid damage. Pay special attention to the wires between the plug, convenient socket, and equipment.
7. Ventilation: vent holes are reserved on the outer shell of the product for the purpose of ventilation. To ensure the reliability of product performance, overheating shall be avoided. Please do not cover the equipment or use it on the surface of bed, sofa, carpet, etc. Newspaper, tablecloth, curtain, or other objects might block the vent hole. Please do not place the equipment next to curtain which might block the vent hole. If the equipment is built-in, or on the cabinet or shelf, please make sure it is sufficiently ventilated. Keep a 10cm (4" ) distance to the sides, top, and rear. The rear rim of the equipment support or top cover shall be 10cm (4" ) to the panel or wall in the back to reserve space for ventilation and heat dissipation.
8. Heating power- keep the product away from heat source, such as radiator, stove, or other objects which might generate heat (including power amplifier).
9. Prevent foreign matter or liquid- prevent object or

liquid from entering the machine through holes because it might be exposed to current or live part and cause fire or electrocution. The product shall not be placed in rain or water. Do not place vessels containing water such as vase, etc. on the top of it.

10. Please properly connect all input/output lines before turning the equipment on.

11. Lightning: the equipment needs protection during thunder and lightning. Please pull off the power line to effectively prevent lightning strike.

12. Protection: 1) please pull off the plug when the product is idle. 2) Good grounding can prevent the equipment from damage.

13. Maintenance: please do not open the equipment shell to prevent electrocution.

Please deliver the equipment to the local maintenance point of our plant if maintenance service is needed in the following cases.

a) Foreign matter or liquid enters the equipment.

b) The equipment is exposed to rain.

c) Misoperation occurs.

d) The equipment falls or the body is damaged.

14. Battery: pay attention to environmental protection and do not discard used battery at will.

15. Disconnecting device of grid power: the power plug and coupler on the equipment serve as the disconnecting devices. The power plug and coupler shall enable convenient operation.

16. The product is only applicable to regions below 2000m altitude.



17. The product is only applicable to non-tropical climate.



18. Warning that equipment of category-I structure shall be connected to the grid power output socket with protective ground joint.

## Overview of Functions

- 1 way coaxial input and 2 ways optical digital inputs, coaxial support PCM and DSD decoding.
- 2 ways unbalanced and 1 way balanced input.
- USB sound card, support 768k sampling rate PCM and DSD512 software decoding/hardware decoding.
- Manual power-on/standby function, trigger power-on/stand by function.
- Amplifier modes selection: Class A/Class AB/AUTO.
- Amplifier and speaker output type selection: A group/B group/A+B group.
- Front panel standby, work and protection display functions.
- ~110v/~220v power supply automatic conversion function.
- 1 channel of each for unbalanced and balanced bass output.
- MC(moving coil)/MM(moving magnet) phono input.

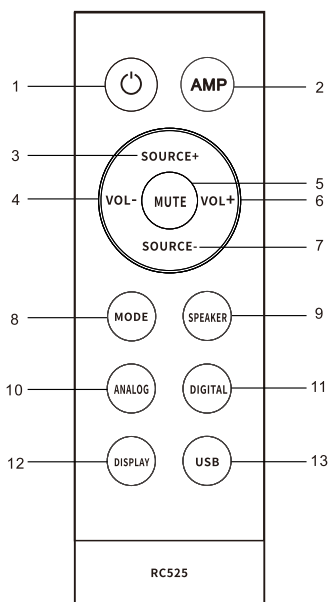
## Overview of Features

(This machine is designed with pure Class A circuit, which has the characteristics of warm sound,mellow and high calorific value. It is normal that the temperature of this machine is higher than the ambient temperature within 40°C during use.)

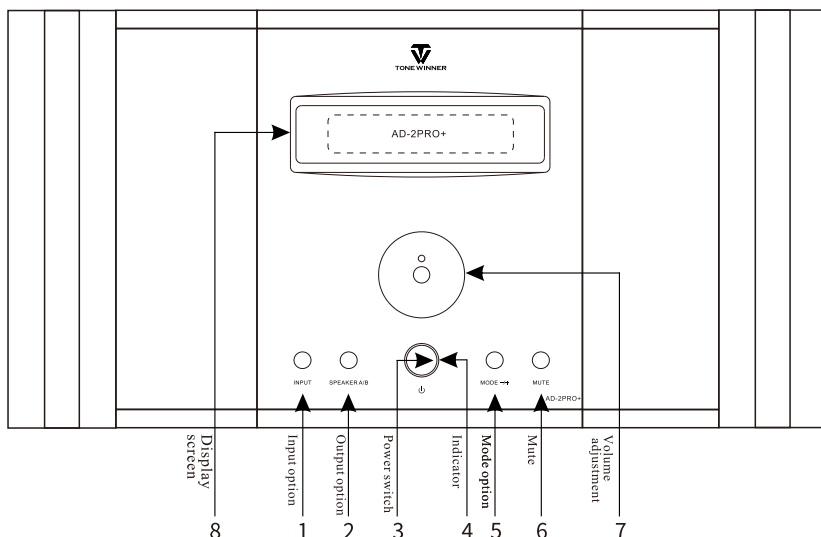
- Adopt fully balanced, fully symmetrical, differential input to differential BTL power output Class A power amplifier circuit.
- The input stage adopts a cascode amplifier circuit.
- High circuit dynamics, high slew rate, low harmonic distortion, low noise, good transient response, high linearity, wide frequency response range, etc.
- The voltage amplify stage adopts a common base circuit, which further improves the open-loop gain of the power amplifier and broadens the high-frequency response to the extreme.
- The output stage adopts a three-stage Darlington driver, and the high-power audio dedicated famous tubes are output in parallel, which greatly improves the damping coefficient of the power amplifier.
- The left and right channels are powered by an independent power supply, which greatly improves the separation of the power amplifier.
- The preamp and power amplifier of the unit adopt the power supply mode of high and low back, which can give full play to the advantages of the circuit, so that the performance of the whole machine is further improved.
- Using an 860W high-quality toroidal transformer, up to 120,000 microfarads of audio-specific custom capacitors, and high-power audio-specific famous tubes for parallel output, providing maximum current output capability.
- 240W/8Ω power output for each channel, and abundant power reserve for driving high power demanded speaker easily.
- Using Tonewinner classic independent cavity isolation structure design to minimize the mutual interference and influence of various functions.
- AD-2PRO+ is equipped with high/low voltage two-level power intelligent management switching circuit. The intelligent power supply mode can not only meet the high-fidelity class A power output, but also meet the green concept of energy saving and environmental protection.
- Perfect power amplifier protection circuits: short circuit protection, overheat protection, high frequency protection, DC protection, etc.

# Remote Control

1. Power on/off.
2. AMP: In analog input, press and hold for three seconds to enter/exit pure power amplifier mode.
3. SOURCE+: Input Mode switch+
4. VOL-: Volume-
5. MUTE: mute switch.
6. VOL+: Volume+
7. SOURCE-: Input mode switch-
8. MODE: Power amplifier working mode switch: CLASS A, CLASS AB, & AUTO.
9. SPEAKER: Power amplifier output group selection: SPA, SPB, & SPA+B.
10. ANALOG: analog input switching: AN1, AN2, BAL.
11. DIGITAL: digital input switching: OPT1, OPT2, & COAX.
12. DISPLAY: Information display.
13. USB: Switch the current input audio source to USB input.



# Front Panel Introduction



## 1. INPUT key:

Input selection key: Touch the switch on the front panel to cycle through the selection of input signal channels.

**2. SPEAKER A/B key:** Amplifier power output group selection (circulate in order to select group A/ group B/ group A+B mode)

**Group A:** the power amplifier outputs at the terminals of group A loudspeakers.

**Group B:** the power amplifier outputs at the terminals of group B loudspeakers.

**Note:** Group A and group B cannot simultaneously drive two sets of loudspeaker system.

The function is particularly designed for users with more than one set speaker system of different styles or purposes. For example: you can connect a set of Hi-Fi speaker to group A output terminal and home theater speakers to group B output terminal. While enjoying Hi-Fi music, you can choose group A output; while watching TV with your family, you can choose group B output. It saves the trouble of changing cables.

**Group A+B:** The power amplifier outputs at the terminals of both group A and group B.

When your speaker is fitted with Bi-amp function, choose group A and group B for simultaneous output. For example: group A output is connected to tweeter and group B output to mid & bass horn to provide more fun (At this time, be sure to remove the bridge piece between the twitter and woofer binding posts, otherwise it will cause amplifier protection or short circuit.)

## 3.Power Switch

## 4.Power Indicator:

Lake blue when working and red when standing by.

# Front Panel Introduction

## **5. Power Amplifier Static Bias Mode Option Button(circulate in order Class A/Class AB/AUTO):**

### **① Class A mode:**

In this mode, the temperature detection circuit in the equipment will not work, and the power amplifier is maintained under Class A mode. The heat from the heat sink apparently will rise as compared to Class A. If the environment temperature is high or the heat dissipation capacity of the equipment is poor (such as placing the equipment in a narrow cabinet), please avoid choosing this mode, & select Class AB or AUTO to prevent safety risk or unnecessary loss.

### **② Class AB mode:**

In this mode, the temperature detection circuit in the equipment will not work, and the power amplifier is maintained under Class AB mode. The heat from the heat sink apparently will reduce as compared to Class A, and the static power consumption will reduce prominently.

### **③ AUTO mode:**

In this mode, when the power amplifier is working under Class A, if the heat sink temperature rises to the set value, the equipment will automatically switch from Class A to Class AB; if the temperature drops to the set value, the equipment will automatically switch from Class AB to Class A ; if this mode is selected, the heat from the power amplifier heat sink will reduce as compared to Class AB mode to keep the power amplifier in a relatively safe working condition.

## **6. Mute button:**

Tap the switch to mute the equipment if it is not muted; tap again to quit muting.

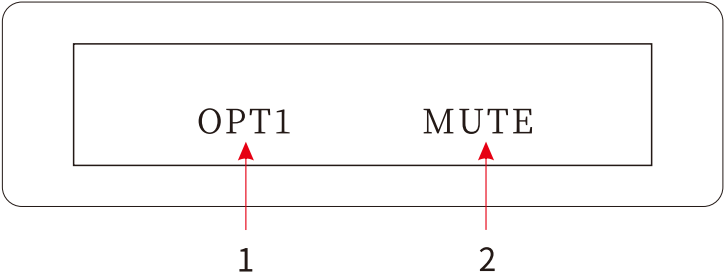
## **7. Volume Knob:**

Rotate the knob to adjust volume.

## **8. Display:**

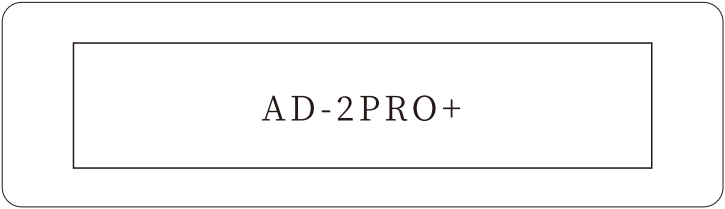
Display status and operating information.

# Screen Display Introduction



**Main interface display after startup:**

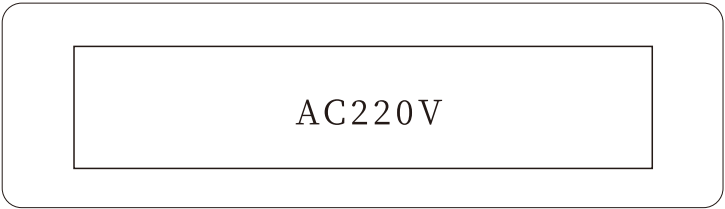
- 1. Input display: Display current input channel, which can be An1, An2, PHONO, COAX, OPT1, OPT2, and USB.
- 2. Volume status display: MUTE stands for mute.



Display model NO



Display software version & startup status upon startup



Working voltage

## Screen Display Introduction

A rectangular screen with a thin black border. Inside the screen, the text "unknownN" is displayed in a black, monospaced font, centered horizontally and vertically.

unknownN

Unknown signal type displaying

A rectangular screen with a thin black border. Inside the screen, the text "NO SIGNAL" is displayed in a black, monospaced font, centered horizontally and vertically.

NO SIGNAL

No signal displaying

A rectangular screen with a thin black border. Inside the screen, the text "pcm 48k" is displayed in a black, monospaced font, centered horizontally and vertically.

pcm 48k

Sampling rate is 48K PCM digital signal. (up to 768K)

A rectangular screen with a thin black border. Inside the screen, the text "DSD 512FS" is displayed in a black, monospaced font, centered horizontally and vertically.

DSD 512FS

Sampling rate is 8 times DSD signal of 22.5792 MHZ

## Screen Display Introduction

A rectangular screen display with a thin black border, showing the text "AMP TEMP PROTECT" in a serif font, centered horizontally and vertically.

AMP TEMP PROTECT

Amplifier overheating protection display, it will not display under normal circumstances.

A rectangular screen display with a thin black border, showing the text "AMP PROTECT" in a serif font, centered horizontally and vertically.

AMP PROTECT

The power amplifier has abnormal protection display such as short circuit, overload, high frequency, DC, etc., which will not be displayed under normal circumstances.

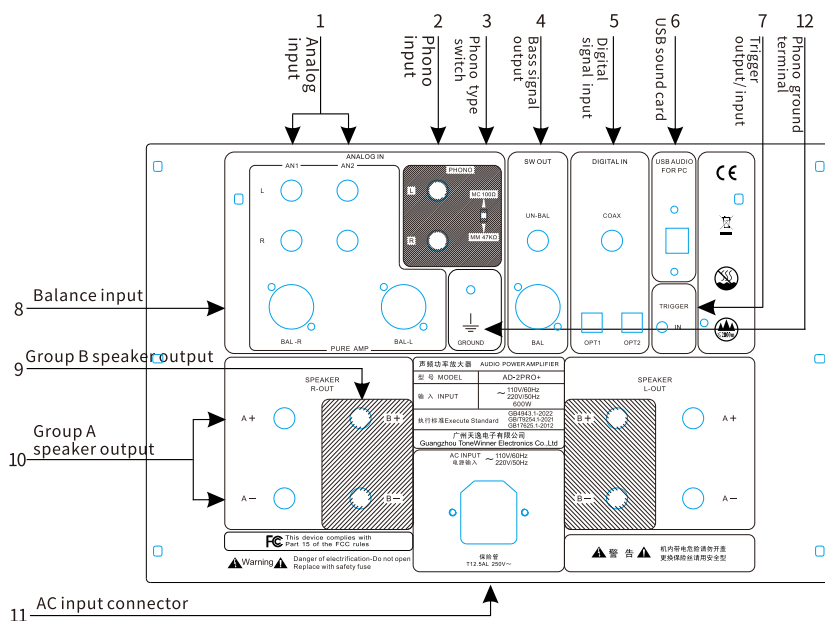
A rectangular screen display with a thin black border, showing the text "TEMP PROTECT" in a serif font, centered horizontally and vertically.

TEMP PROTECT

Transformer over heating protection display, it will not display under normal circumstances.



# Rear Panel Introduction



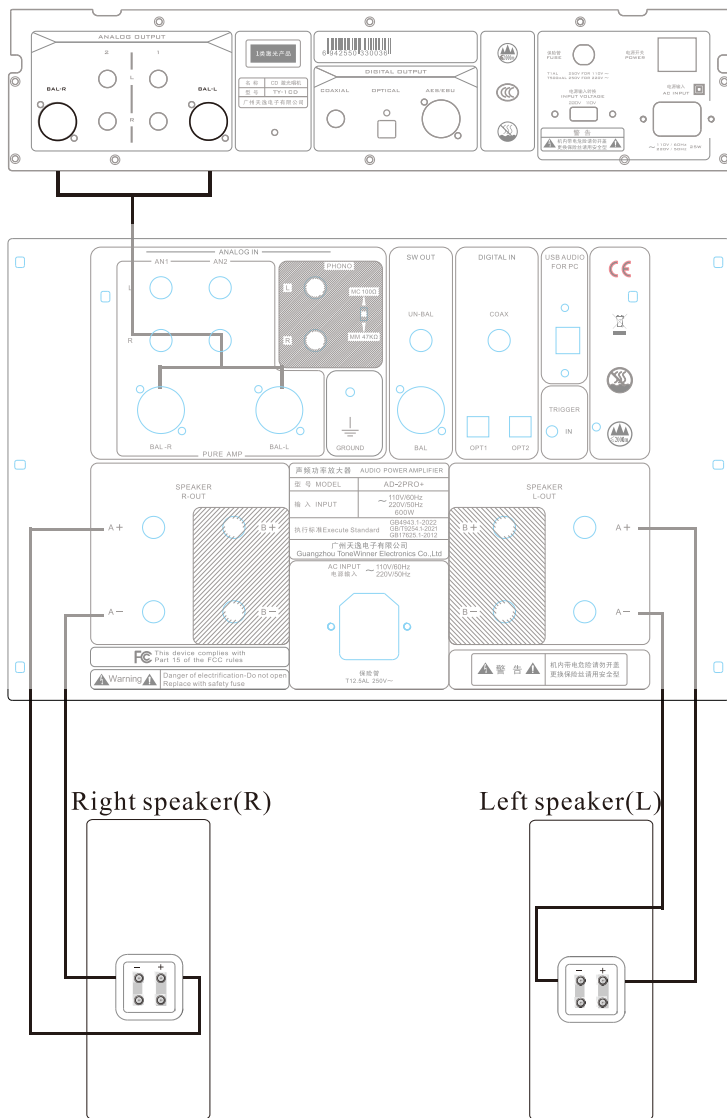
1. Analog 1/2 channel, RCA input L/R channel.
2. Phono RCA input L/R channel.
3. Phono MM/moving coil and MC/moving magnet type switch.
4. Bass balanced and unbalanced signal output.
5. Optical and coaxial digital signal input.
6. USB sound card.
7. Trigger input(12V trigger).
8. XLR / balanced input.
9. Group B speaker L/R output binding posts.
10. Group A speaker L/R output binding posts.
11. AC input connector: ~110V or ~220V input.
12. Phono ground terminal.

Note: Group A and group B cannot simultaneously drive two sets of 4Ω loudspeaker system. Please connect the input and output of the amp properly to other audio devices before you turn it on. If the equipment is working normally, inserting or pulling signal input terminal might cause error protection to the power amplifier. Restart to shoot the trouble.

\*Warning: Please choose moving coil/MM or moving magnet/MC based on different phono types. For the phono input ports, please connect phono inputs to them only, since connecting any other analog signals to them might cause damage to the amplifier or connected devices. Amplifier damage due to misuse will cause the amplifier can't apply warranty.

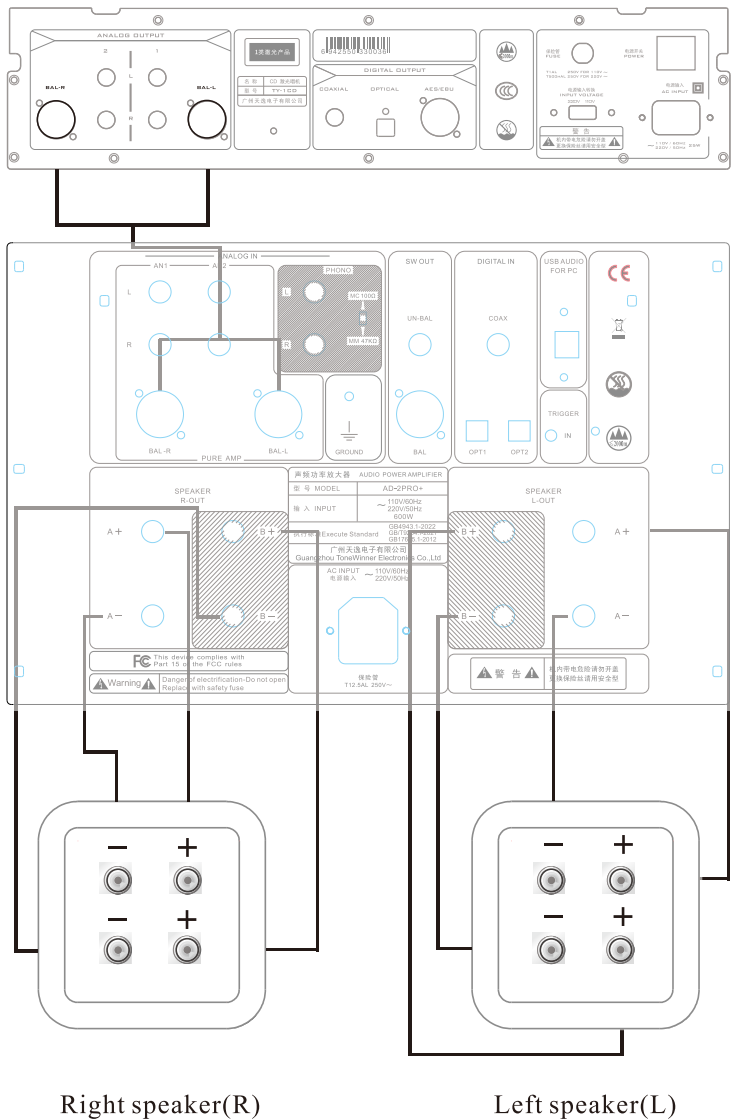
# Audio System Configuration Example

1. Wiring diagram of speaker system in standard mode:  
 Preferentially chose digital signal input. The equipment supports DSD lossless signal decoding.



2. Wiring Diagram of speaker System in Bi-amp Mode:

\*Note: Before wiring, be sure to remove the connecting piece between the speaker terminals, otherwise it will cause attack and defense short circuit and damage, so the company does not bear the warranty for equipment damage!



## Specification

1. SNR:  $\geq 100\text{dB}$  (A-weighted)
2. Frequency response:  $15\text{Hz}\sim 95\text{KHz}$  (+1/-3dB)
3. THD:  $\leq 0.05\%$  (1KHz, A-weighted)
4. Output power: 240w (THD: 1%, 1KHz, 8 ohm single channel)
5. Rated load impedance: 8 ohm
6. Gain:  $40\text{dB}\pm 1\text{dB}$
7. Class A mode static power consumption: 260W~320W  
Class A and B mode static power consumption: 70W~110w
8. Standby power consumption:  $< 0.5\text{W}$
9. N.W: 35.9kg
10. Size: 444mm\*424(460)mm\*228(254)mm (width X depth X height)



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