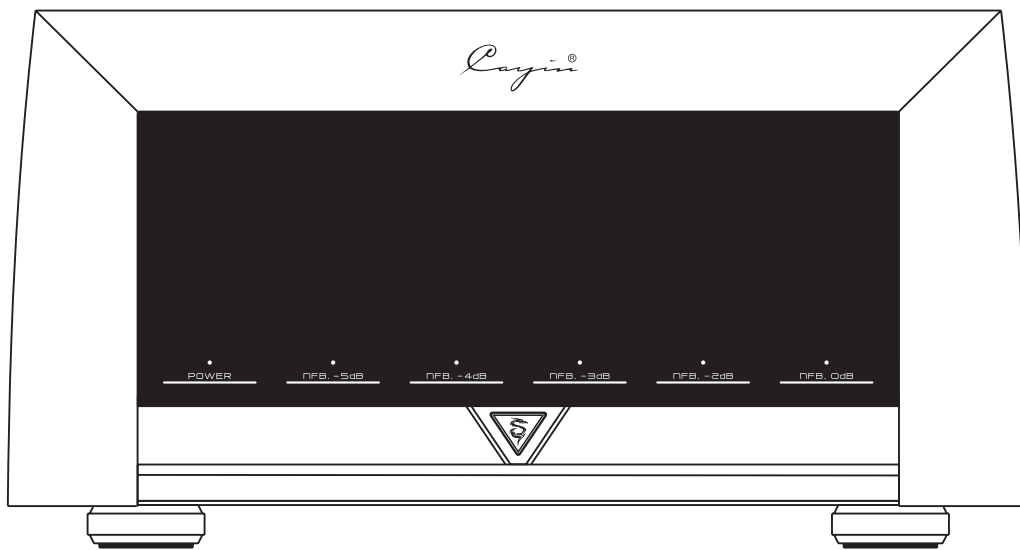


Cayin®



m-845D | VACUUM TUBE MONO BLOCK POWER AMPLIFIER

User's Manual

REV : 1.1



Thanks for choosing **CAYIN M-845D** vacuum tube mono block power amplifier and please read the user's manual carefully before installation and operation.

In order to prevent damage during transportation, the amplifier is packed with protective foams surrounding the tubes. Before installation and operation, please remove these foams to avoid any risks.

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NOTE:

CAYIN M-845D vacuum tube mono block power amplifier is designed and manufactured with our original parts and reaching the best results. We are not responsible for problems and damages caused by non-original parts replacement in the amplifier.

Package Contents

Please carefully check the package first and then open it.

Package contents include:

- | | |
|------------------|----------|
| 1. CAYIN M-845D | 1 piece |
| 2. Main Fuse | 2 pieces |
| 3. Power cord | 1 piece |
| 4. Users' Manual | 1 piece |

Recommendation:

Keep all packing materials for future use .

NOTE:

Please make sure local voltage level is matched with the input level of the amplifier, which indicates on the rear panel. Too low or too high voltage may cause problem. Please contact our company or our local agent if you've found improper voltage.

All other parts except above are not included.





Product Features


- ◆ Hand-made construction with the finest point-to-point wiring
- ◆ EI output transformer with wide bandwidth and push transformer are applied.
- ◆ Specially designed toroid transformer for power supply.
- ◆ One piece of 6SN7 has been used in the preamp stage for voltage regulation.
- ◆ Two pieces of 6SN7 has been used for voltage amplification.
- ◆ TJ Full Music 300B with Porcelain base has been used for drive amplification. 845 vacuum tube has been used for Single-end Class A amplification.
- ◆ Switchable between different negative feedbacks. NFB.-0dB, NFB.-2dB, NFB.-3dB, NFB.-4dB, NFB.-5dB can be chose under different hearing environment.
- ◆ User Bias adjustment, Hum Balance adjustment are accessible on top of the amplifier with true ampere meter.
- ◆ BALANCE and RCA input function.
- ◆ High quality German WBT top grade Speaker terminals, USA Multicap Capacitors and Japanese Takman Carbon Film Audio grade resistors have been used in the amplifier.
- ◆ High-grade gold-plated porcelain tube socket is used to raise reliability of connection.
- ◆ Time-delay power supply for both high/low voltage and preheated filament to prolong tube's life.
- ◆ Thickly silver plated signal cables and connectors have been used.
- ◆ Equipped with easily-installed aluminum tube cover for protection.


Safety Precautions

1. Unplug the power cord if you are not going to use the product for an extended period of time.
2. The machine will become hot after working for a long time. Please keep the unit's ventilation open and install the amplifier at a well-ventilated place to avoid troubles and fire hazard.
3. Forbidden to operate when the output is open or shorted.
4. Do not attempt to service this product yourself. Opening the cover may expose you to dangerous voltage or other hazards.
5. We are not responsible for any problems caused by checking and opening without permission of our company. For service, Please contact a qualified service technician.
6. Do not place any objects filled with liquids such as vases or some others on the top or around.
7. Clean only with dry cloth.
8. Please move the amplifier carefully not to drop the unit or be subject to other strong shocks.



 CAUTION  RISK OF ELECTRIC SHOCK DO NOT OPEN !	<ul style="list-style-type: none"> ◆ To reduce the risk of electric shock, do not remove the cover. ◆ No user serviceable parts inside. Refer servicing to qualified service personnel. ◆ To reduce the risk of fire or electronic shock, do not expose the unit to rain or moisture.
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 The lightning flash with arrowhead symbol is intended to alert user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of a risk shock to persons.

 The exclamation point is intended to alert user to the presence of important operation and maintenance (servicing) instructions accompanying the appliance.

Specifications

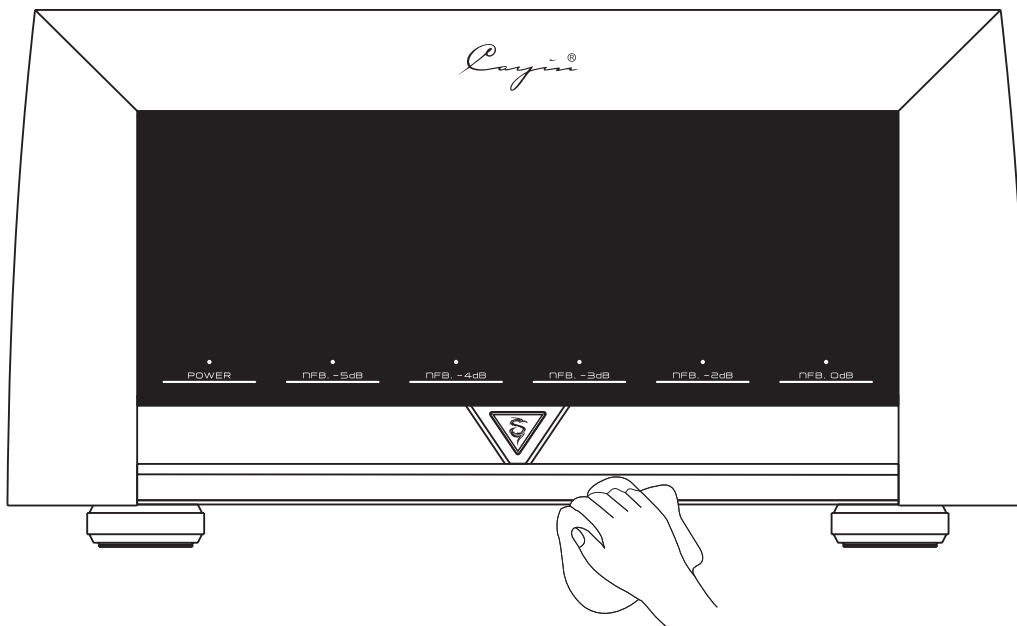
Power Output	60W	
Frequency Response	15Hz~28kHz (-3dB)	
THD	0.3%(1W/1kHz;5% Under Rated Power)	
Sensitivity	RCA:750mV BALANCE:1500mV	
S/N Ratio	89dB	
Input Impedance	100kΩ	
Output Impedance	0Ω, 4 Ω Ω, 8Ω Ω, 16Ω	
Input Terminals	BALANCE, RCA	
NFB. Selection	0dB, -2dB, -3dB, -4dB, -5dB	
Tube	845×2、300B×1、6SN7×3	
WDH	480mm×577mm×252mm	
Net Weight	50kg	
Max Power Consumption	380W	
Working Condition	Temperature : 0°C~40°C	Moisture : 20%~80%
Storage Condition	Temperature : -20°C~70°C	Moisture : 20%~90%



Maintenance

NOTE:

- ◆ Use the soft dry cloth to clean up the chassis regularly.
- ◆ Do not use any chemicals for cleaning.



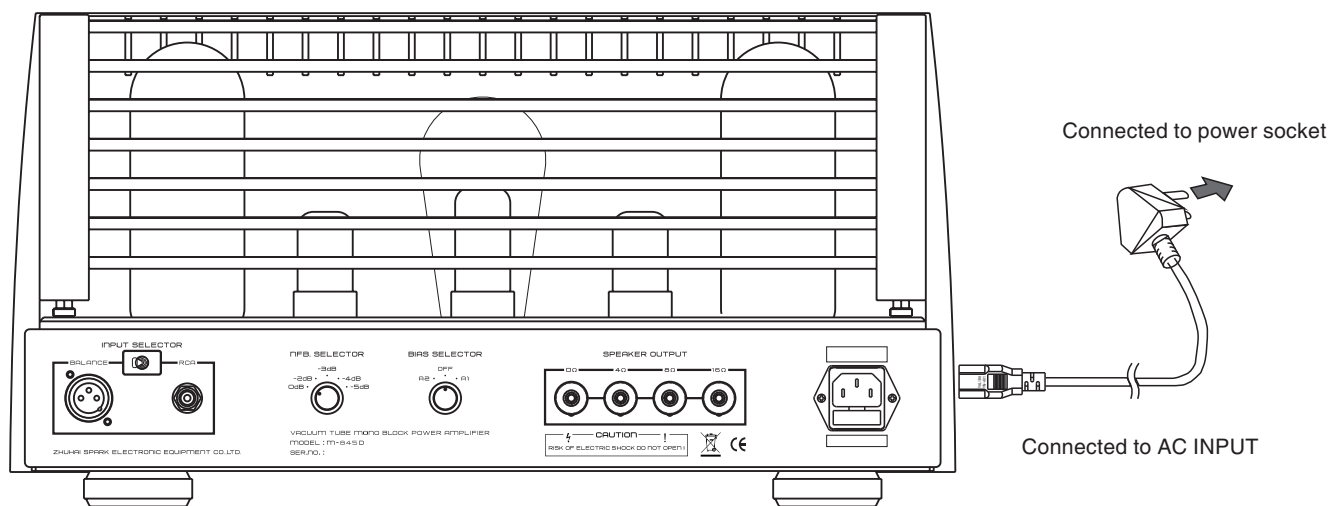
Warranty Service

- 1.This product is warranted for a period of twelve months beginning from the date of purchase.
- 2.The defective product must be returned to your dealer or our company for repairing when your dealer or our company accepts your requirement.
- 3.The warranty doesn't extend to any product that has been opened by you without permission of our company.

NOTE:

The information in this manual is subject to change without further notice.

Precautions



Connection of power cord:

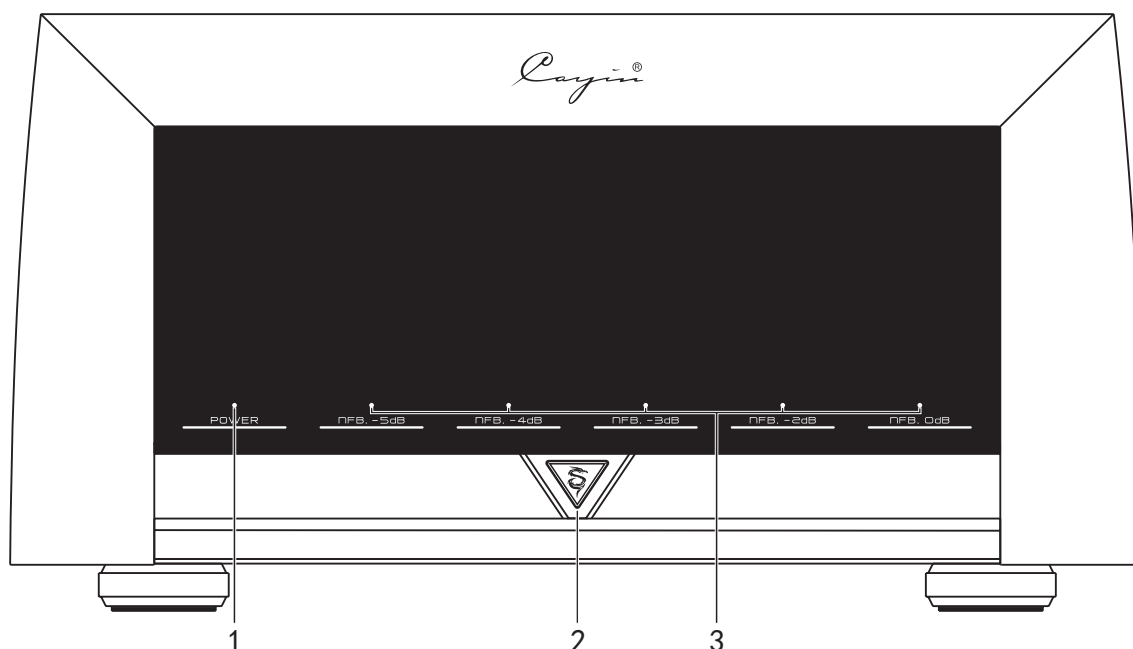
Connect the speaker cables and signal cable first and then insert the power cord into the power socket.

NOTE:

- ◆ Connect the power only after finishing other connections.
- ◆ It is normal that power transformer becomes hot for extended period of operation.
- ◆ Unplug the power cord if you're not going to use the product for an extended period of time.
- ◆ Please make sure corresponding voltage is the same as required. We are not responsible for damage caused by misuse of unsuitable voltage.



Front Panel



1. Power Indicator/Mute Indicator

Used to indicate the working state. The green indicator will be on when it is working normally. The red indicator will be on when it delays to work. The indicator will keep flickering for 30 seconds when it delays to work under high voltage.

2. Power Switch

Used to switch on/off the amplifier.

Note: Unplug the power cord if you're not going to use the product for an extended period of time.

3. NFB. Indicator:

The NFB. 0dB indicator will be on when it is NFB.0dB.

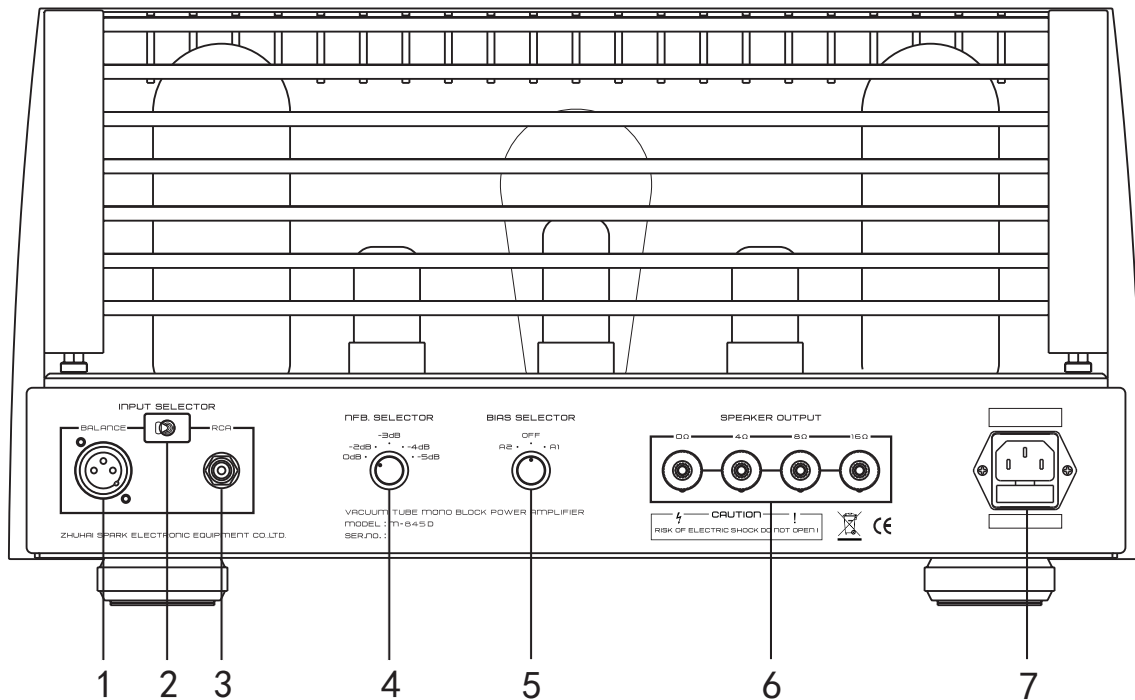
The NFB. -2dB indicator will be on when it is NFB. -2dB.

The NFB. -3dB indicator will be on when it is NFB.-3dB.

The NFB. -4dB indicator will be on when it is NFB.-4dB.

The NFB. -5dB indicator will be on when it is NFB.-5dB.

Rear Panel

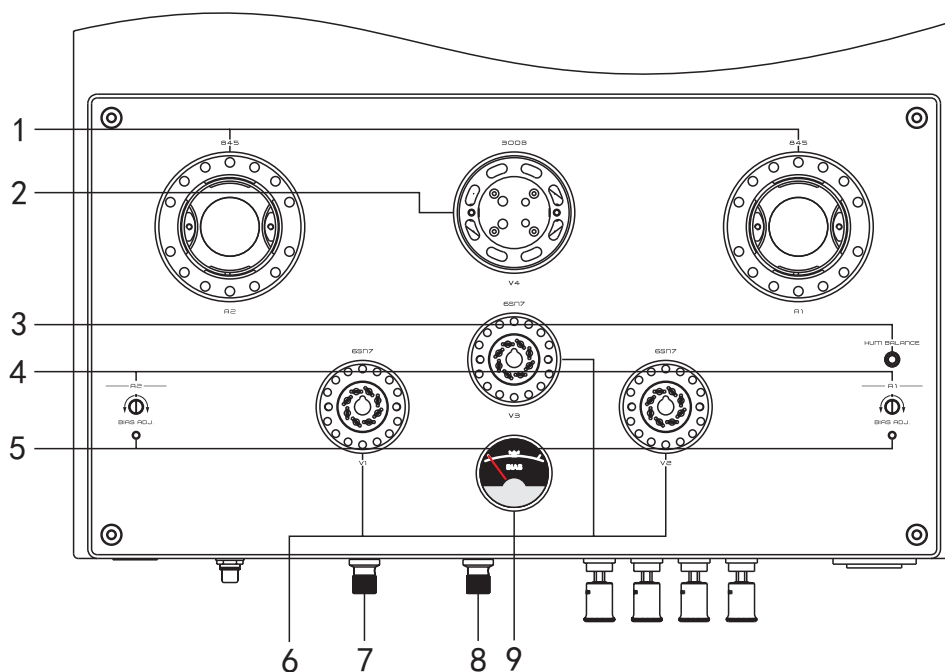


- 1. BALANCE Signal Input Terminal**
Used to connect balance output terminal.
- 2. Signal Input Selector**
Used to choose BALANCE or RCA signal.
- 3. NON-BALANCE Signal Input Terminal**
Used to connect non-balance output terminal.
- 4. NFB.Indicator**
Used to choose different negative feedbacks.

- 5. BIAS Selector Knob**
Used to choose the vacuum tube needs adjustment. Put it at "off" after the adjustment.
- 6. Channel Output**
Used to connect with the channel of speaker.
- 7. Power Socket with Main Fuse**
Main fuse is located just below the power socket.
Replace the fuse with the same type and value.



Top Panel



1. 845 Tube

2. 300B Tube

3. 845 Tube Hum Adjustment Knob

Used to adjust the 845 tube hum sound. You can adjust the 845 hum sound to the lowest by knobbing deasil or widdershins.

4. 845 Tube Bias Adjustment Knob

1). Choose the tube by BIAS SELECTOR knob; adjust the according BIAS ADJ. Knob; adjust the pointer of BIAS meter to the center. Please make the adjustment once more for making the specification of tube consistent.

2). Once finished bias adjustment please turn BIAS SELECTOR to the position of "OFF".

5. 845 Tube Indicator

6. 6SN7 Tube

7. NFB. Selector Knob

8. BIAS Selector Knob

9. BIAS Meter

Installation and Tear down of 845 Tube: Turn the tube deasil when installation and turn it widdershins when tear down.

Installation and Tear down of 300 Tube: Install and tear down the 300B vertically.

NOTE:

1. Be careful of the high temperature of the tubes during operation.

2. Replace the tubes carefully and correctly.

3. Power tubes must be matched for well function.

Installation

Carefully read and follow the manual for installation:

- ◆ Do not place the machine near heat sources such as radiators, heat registers or other products that produce heat.
- ◆ In order to avoid being overheated please keep the unit's ventilation open.
- ◆ Do not expose this appliance to rain or moisture.
- ◆ Keep the amplifier in a certain distance so that it can be easily connected.
- ◆ Amplifier should install steadily and make sure all four feet are on the same level.
- ◆ Keep the amplifier over 15cm's distance to the surrounding walls.

NOTE:

Input voltage level of the amplifier is $\sim 230V \pm 5\%$. Please make sure that the supply voltage is proper. Too low or too high voltage may cause problem or shorten the amplifier's life.

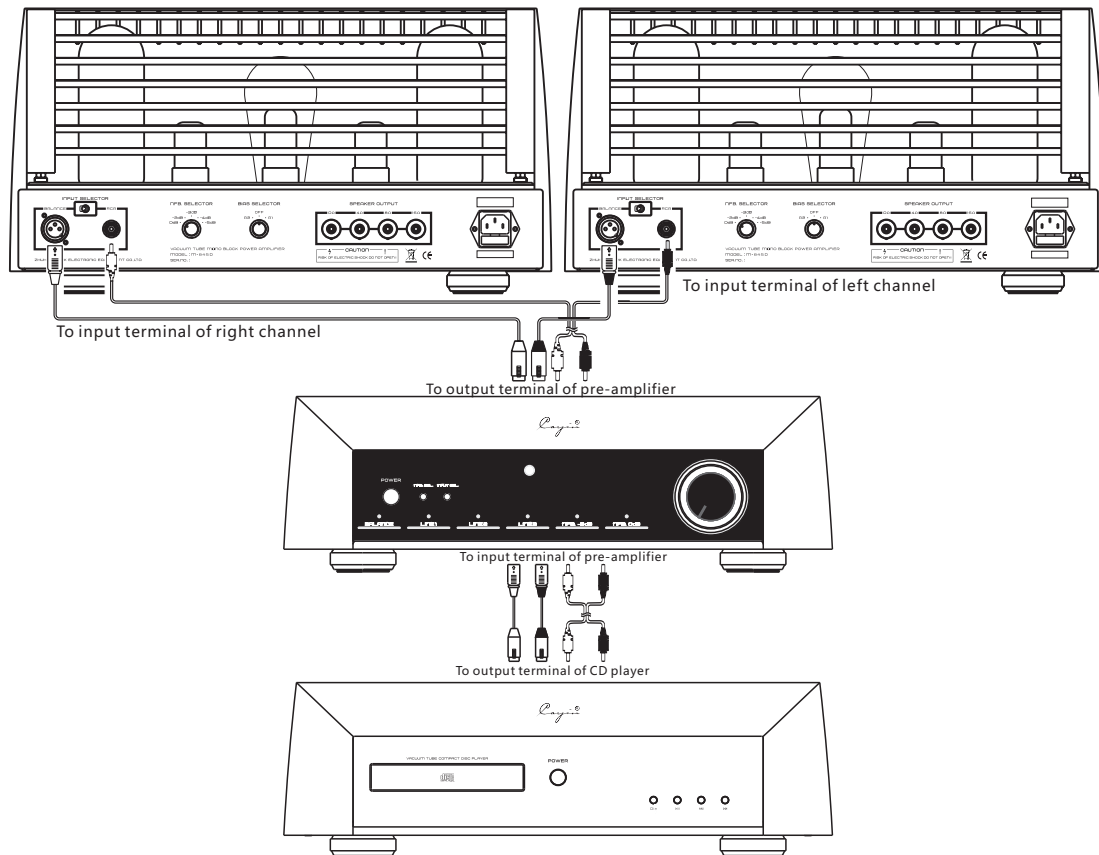
Tube Replacement

Tubes for the Machine	Tube Replacement
845	845
300B	300B
6SN7	6SN7GT、6H8C、ECC32、CV181、6N8P



Audio Connection

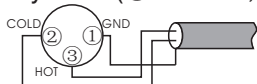
Connection method of **CAYIN M-845D** with other audio equipments Take pictures below for your reference.



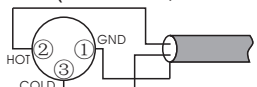
BALANCE Socket :

- The BALANCE socket is with XLR input. The functions are following:
 - ◆ Music signal is transferred as balance signal without the outside disturbance.
 - ◆ Professional XLR connectors are used to raise reliability of connection.
- In the following two systems, professional XLR connectors are used for inside connection.

① European System (②=COLD,③=HOT)



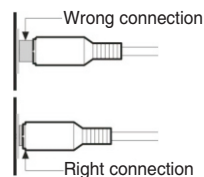
② USA System (②=HOT,③=COLD)



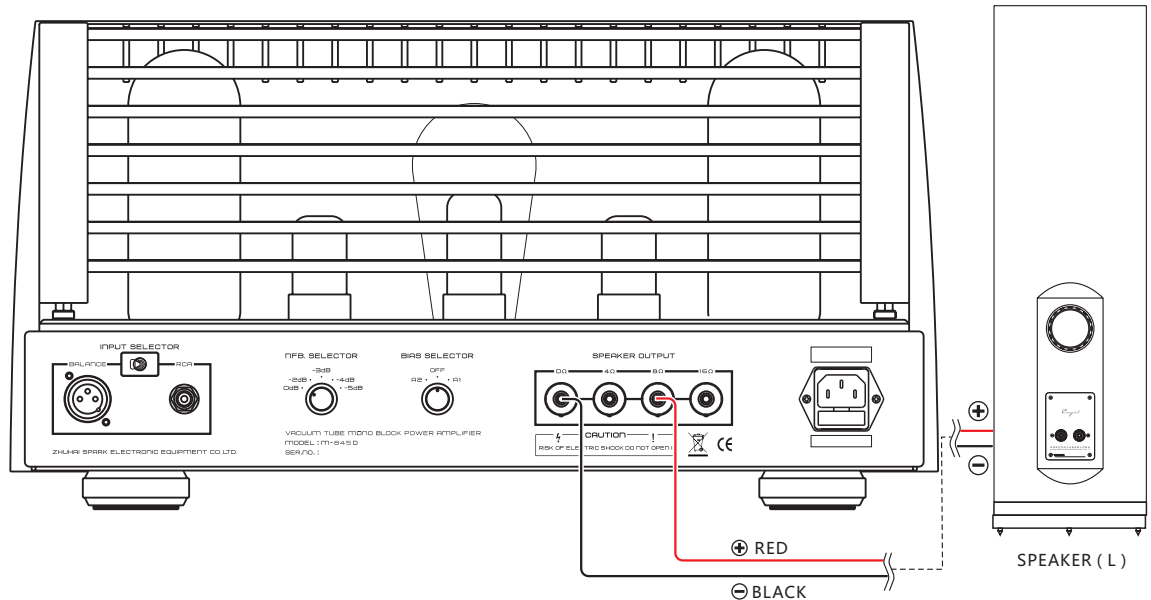
- This amplifier uses the USA System. If the XLR balance connector is used by European system, the restored signal of pre-amplifier or main amplifier will be inverse. Therefore, please setup the correct phase in advance.

NOTE:

- Please refer to the manuals for connection with other equipments during the installation.
- Do not insert the power cord into the main socket before all other equipments are well connected.
- R refers to right channel while L represents left channel.
- Please take the right guidance for connection as wrong connection may cause noise, down graded function or damage.
- Do not fasten signal cable together with power cable and speaker cables. It will seriously affect the audio performance.



Speaker Connection

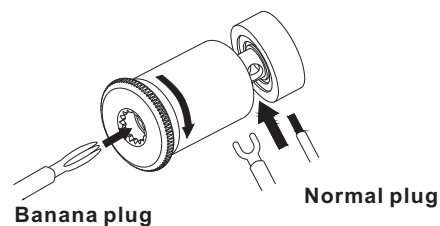


Check the impedance of your speakers:

Attach the positive from your speaker to the 4 or 8 ohm terminal and the negative to the 0 ohm terminals separately. If your speakers are 6 ohm, 4 ohm or 8 ohm (recommended) terminal is preferential and it would not cause damage to the amplifier. Connecting the left and right speakers according to the guidance can make sure of the acoustic fidelity.

Connection of speaker cables:

1. Unscrew the terminal knob
2. Insert the speaker cable
3. Screw the terminal knob



NOTE:

- Connect the speaker cables with the amplifier after it is well connected with the speakers.
- Connect both of the speakers to make sure of the acoustic fidelity.
- Please notice the signal direction indication of the cables.
- Do not mix up the positive and negative ends of speaker cables or it will cause short circuit.



Turning On

Before turning on the amplifier please make sure all connections are right and power supply is stable.

- Turn on the amplifier, The red indicator will be on.
- The working indicator will be on after 30 seconds. It means that the amplifier is working normally. If the working indicator is off, please turn off the power and contact with our local agent or our company.
- Select the right audio source channel, adjust the volume to a certain position and then you can enjoy the music you prefer.
- Turn on: CD player- decoder- pre-amplifier-power amplifier
- Turn off: power amplifier- pre-amplifier- decoder- CD player

NOTE:

1. When the audio system is under working state, don't unplug the signal cable or speaker cables, or it will cause damage to the amplifier and other equipments.
2. It should at least takes 2 minutes before you turn on the power again, or it will cause damage to the vacuum tubes.

Small Tips

Read the Manual — Please read the user's manual carefully before installation and operation.

Keep the Manual — Please keep the manual for future reference.

Warning Signs — Don't tear off or rub off the serial number.

Operation — Do the operations as you are instructed in the Manual.

Parts — If you are going to use parts not supplied by our company like power cord, fuses etc please make sure that parts you used are compatible with the safety requirements. Or it will cause fire or electric shock.

Placement — Put the amplifier on a level place. Make sure that it doesn't bring damage to the children, adults and the amplifier itself.

Power — Please make sure the local voltage is the same level as indicated on the rear panel.

Overload — If the power socket is overloaded with other equipment, it will cause fire or electric shock.

Warranty Service — Do not open the product and change the components inside yourself. Opening the cover may expose you to dangerous voltage or other hazards. The warranty doesn't extend to any product that has been opened by you without permission of our company.

Troubleshooting — If any problems when you are using the product, please check according to following tips to look for the exact reason. Please contact with our company if you can't solve the problem.

Troubleshooting

Please follow the instruction in the manual in order to keep the amplifier work in its best state. If wrongly operated and you thought that would be troubles please check according to following tip to look for the exact reason.

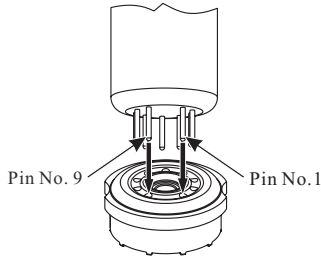
Problem		Cause	Remedy
NO OUTPUT	Power Indicator is OFF.	Power cord is not well-connected.	Check power cable connection or power outlet connection
		Main fuse is out.	Replace with the same type and value fuse.
		Troubles of inner parts or components.	Please contact with local agents or our company.
	Power Indicator is ON.	Volume is at ZERO.	Turn up the Volume.
		NO signal input.	Check the function of the sound source.
			Check the input selection and switch to the proper input.
Sound Distortion	High input signal level.	Turn down the volume to suitable position.	
Noise output	Ground of input signal cable is open or bad contact of the input signal cable.	Replace the input signal cable with a new one.	
	Components or circuits are in trouble.	Please contact with local agents or our company.	
Sound field Positioning is not so good.	Signal input cables or speaker cables are wrongly connected.	Reconnect it as suggested in the manual.	

NOTE: *Rayjin*[®] is the registered trademark of Zhuhai Spark Electronic Equipment Co., Ltd.



How to Install Vacuum Tubes

How to Install 9-Pin Vacuum Tubes



Applicable vacuum tube:

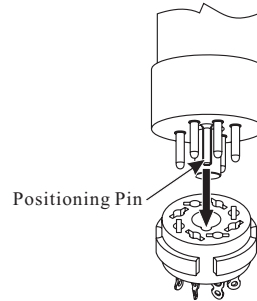
12AU7 (ECC82)、 12AX7 (ECC83)、 5BK7、 12BH7、 12AT7 (ECC81)、 6922 (ECC88) , etc. 9-Pin vacuum tubes.

Instructions to Change and Install the vacuum tubes:

To install a nine-pin vacuum tube, align the pins of the vacuum tube with the holes of the tube socket and insert the tube vertically up and down (as shown in the figure above).

▲ Please note that when installing the nine-pin vacuum tube, pay attention to the alignment of the vacuum tube pins with the holes of the tube socket. Otherwise wrong insertion will cause damage to the vacuum tube and prevent the amplifier from working properly, which may lead to failure of the amplifier.

How to Install 8-Pin Vacuum Tubes



Applicable vacuum tube:

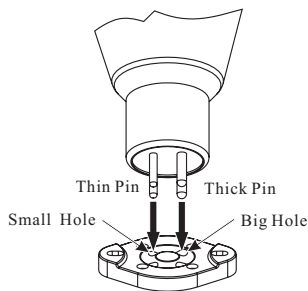
KT150、 KT170、 KT88、 6550、 EL34、 6V6、 6SN7、 6SL7、 5AR4, etc. 8-pin vacuum tubes.

Instructions to Change and Install the vacuum tubes:

To install an eight-pin vacuum tube, align the positioning pin of the tube with the grooves in the positioning holes of the tube socket, and install the tube by pulling up and down vertically (as shown in the figure above).

▲ Please note that when installing the eight-pin vacuum tube, pay attention to the alignment of the vacuum tube positioning pin with the positioning hole of the tube socket. Otherwise wrong insertion will cause damage to the vacuum tube and prevent the amplifier from working properly, which may lead to failure of the amplifier.

How to Install 4-Pin Vacuum Tubes



Applicable vacuum tube:

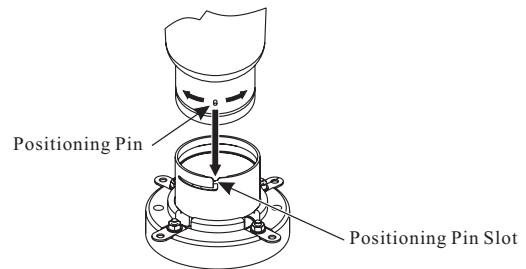
300B、 2A3 etc. 4-pin vacuum tubes .

Instructions to Change and Install the vacuum tubes:

To install a four-pin vacuum tube, please pay attention to the thickness of different pins of the vacuum tube and the size of the tube socket hole. Thick pin should be aligned with the big hole, and the thin pin should be aligned with the small hole. Install the tube vertically up and down (as shown in the figure above).

▲ Please note that when installing the four-pin vacuum tube, pay attention to the thickness of different pins of the vacuum tube and the size of the tube socket holes. Otherwise wrong insertion will cause damage to the vacuum tube and prevent the amplifier from working properly, which may lead to failure of the amplifier.

How to Install Big 4-Pin Vacuum Tubes



Applicable vacuum tube:

845、 805、 211 etc. 4-pin vacuum tubes.

Instructions to Change and Install the vacuum tubes:

To install the big four-pin vacuum tube, align the vacuum tube positioning pin with positioning pin slot of the tube socket and then rotate 45° clockwise to tighten. (As shown in the picture above). To take out the big four-pin vacuum tube, turn the tube 45° counterclockwise and take it out upward after loosening.

▲ Please note that when installing the big four-pin vacuum tube, pay attention to the alignment of the vacuum tube positioning pin with positioning pin slot of the tube socket and then rotate 45° clockwise to tighten. It is strictly forbidden to install the vacuum tube when the positioning pin is off or missing. Otherwise wrong insertion will cause damage to the vacuum tube and prevent the amplifier from working properly, which may lead to failure of the amplifier.