



LM-513PA User Manual



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Thanks for choosing our Line Magnetic LM-513PA Mono Block Tube Power Amplifier.

Please read this manual carefully before installation and operation.

In order to prevent damage during transportation, the amplifier and its tubes are packed with protective foam, please remove these foam pieces before operating your amplifier to avoid any risks !

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Suggestions:

The LM-513 PA integrated amplifier is designed and manufactured with our original parts for reaching the best results. We are not responsible for problems and damages caused to the amplifier by non-original replacement parts.

Package Contents

Please check the cartonbox carefully for any damage before opening it.

- 1. Line Magnetic LM-513PA 1
- 2. Main Fuses 2
- 3. Power cord 1
- 4. User's Manual 1
- 5. Warranty Card 1

Note:All other parts except above are not included.

Recommendation:
Keep all packing materials for future use and please fill in the warranty card for registration of warranty.

Note:
Please make sure that your local voltage is the same as indicated on the rearpanel.
A too low or too high voltage can cause serious damage to your amplifier!
In case you find an improper voltage, please contact our company or your local dealer,

Product features

- 1.Mono Design Power Amplifier. A complete system are combined with two LM-513PA power amplifier, one Preamplifier like LM-512CA and the Source.
- 2.Handmade construction with the finest point-to-point wiring.
- 3.Special design: Balance Input and Wide Frequency Input Coupling Transformer.
- 4.Specially designed and made with top grade of material EI type and driver and output transformers.
- 5.Two pieces of Toroid power transformers with high power output are used for better power control and allocation.
- 6.One hundred and sixty watts power output. Parallel push pull amplifier with 845 power tubes, Full music 300B driver stage, Line Magnetic 310A Pre-amplification and 12AX7 buffer stage.
- 7.External bias test meter for Power tubes.
- 8.Auto bias for 300B and 845 tubes to make sure the tubes are working at their best state.
- 9.Soft start function.
- 10.Top grade well chosen components: Top grade Multicap Coupling capacitors, American IRC resistors, Nichicon Capacitors, Motorola high current rectifier bridge, Top grade of tube sockets, Philips BC filter capacitors and Japanese Takashima Relay etc.

Troubleshooting

Please follow the instructions in this manual to keep the amplifier working in a reliable and safe manner.
If problems arise or you think there is a problem , please first check the tips given below to checkfor the excact reason.
Sometimes problems could be caused by other related equipment , please check the connections . After doing so and
the problem still exists , please contact our factory or your local dealer.

Problem	Cause	Remedy
Power LED is OFF.	Power cord is not well-connected	Please check the 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 your local agents or our factory
Power LED is ON.	Volume is at ZERO	Turn up the Volume
	NO signal input	Check the function of the sound source
		Check the input connectors and/or 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 dealer or our factory
Stereo image is not so good	Signal input cables or speaker cables are wrongly connected	Reconnect it as suggested in the manual

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Specification

Power output: 160W (MAX)	THD: 1% (1kHz)
Frequency response: 15Hz~35kHz (−1.5dB)	S/N Ratio: 87dB
Input Impedance: 100kΩ (RCA) 600Ω (Balance)	Input Sensitivity: 1000mV
Dimension (W×D×H): (447 x 497 x 347) mm ³	Output Impedance: 4Ω , 8Ω ,16Ω
Tube Complement: 12A7×1、310A×1、300B×1、845×4	Power Consumption: 600W
Power Requirements: ~115V/120V /220V/230V/240V (50HZ/60HZ)	Net Weight: 73kg
Working Condition: Temperature: 0°C~40°C Moisture: 20%~80%	
Storage Condition: Temperature: −20°C~70°C Moisture: 20%~90%	

Note: Line Magnetic Audio reserves the right to change specifications at any time without further notice in advance if products are upgraded. Specifications on the manual only show the specifications of the amplifier you bought.

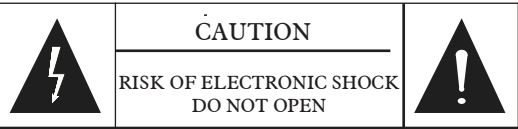
Safety precautions

1. Unplug the powercord if your are not going to use the amplifier for an extended periode of time.
2. The temperature of the amplifier will rise after a working for a long periode of time. Please keep the amplifier at a well ventilated place and make sure the ventilation openings are not blocked !
3. Forbidden to operate the amplifier when there are no speakers connected !
4. Do not short-cicuit the output terminals !
5. Do not attempt to service the amplifier yourself. Opening the cover will expose you to lethal voltage and / or other hazards.
6. We are not responsible for any problems caused by checking and opening the amplifier without per-mission of our company. Please contact a qualified service technician.
7. Do not place any object filled with water around or on top of the amplifier
8. Clean only with a dry cloth.
9. Please move the amplifier carafully,do not drop it or subject it to strong shocks.
10. Unplug the powercord if you are not using the amplifier during a thunderstorm.

Carefully read and follow the Manual for installation:

1. Do not place the amplifier near heat souches such as radiators and other produts that produce heat.
2. Please keep the amplifiers ventilation openings open to prevent overheating.
3. Do not expose this amplifier to rain or moisture.
4. The amplifier should be installed on a stable surface and make sure the feet are on the same level.
5. Keep the amplifier at a certain distance , so connections can be made easily.
6. Keep the amplifier at 15 cm from surrounding walls for adequate ventilation.

Safety precautions



- .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.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert users to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude a risk shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

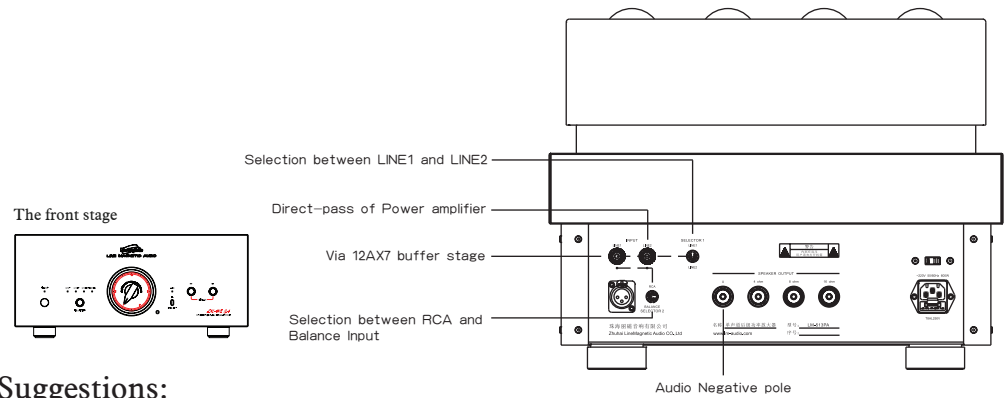
Note: Input voltage level of the amplifier is 115V/120V/220V/230V/240VAC~±5% and please make sure that the supply voltage is proper. Too low or too high voltage may cause problem or reduce its life. To ensure the safe use of it, the altitude more than 2000m is not recommended. To ensure the safe use of it, the tropical weather is not recommended.



Connection

Audio Connection

Connection method of LM-513PA with other audio equipments, take pictures below for your reference:



Suggestions:

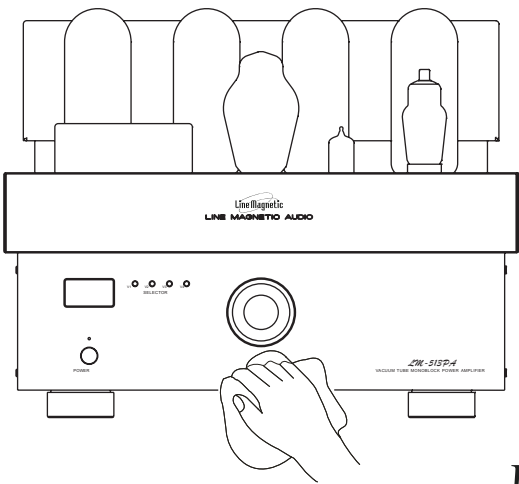
1. During installation please always refer to the other equipments operation manual.
2. Please do not insert the powercord into the mainsocket before all other equipment is well connected .
3. Line1/Line2 Selector Switch: 1、 Line1has been working through 12AX7 buffer stage and then entering into the 310A stage for amplification. 2、 Line2 is directly pass to the Power amplification stage of 310A
- RCA/BALANCE Selector Switch: Select between RCA and Balance Input. Balance Input has been through the Input transformer for coupling.
4. Please take care of the correct channel guidance because wrong connections may cause noise and low grade operation.
5. Do not fasten signal cables together with powercables to avoid disturbance and noise.

Tube Replacement

Tube Basics	Common Replacements
12AX7	12AX7EH、ECC83、E83CC、CV4004、ECC803、5751
310A	WE310A、10ж12C
300B	300B、300A、4300B
845	845A/B/C

Maintenance

Clean the amplifier with soft dry cloth and please do not use any chemicals for cleaning.



Warranty Statement

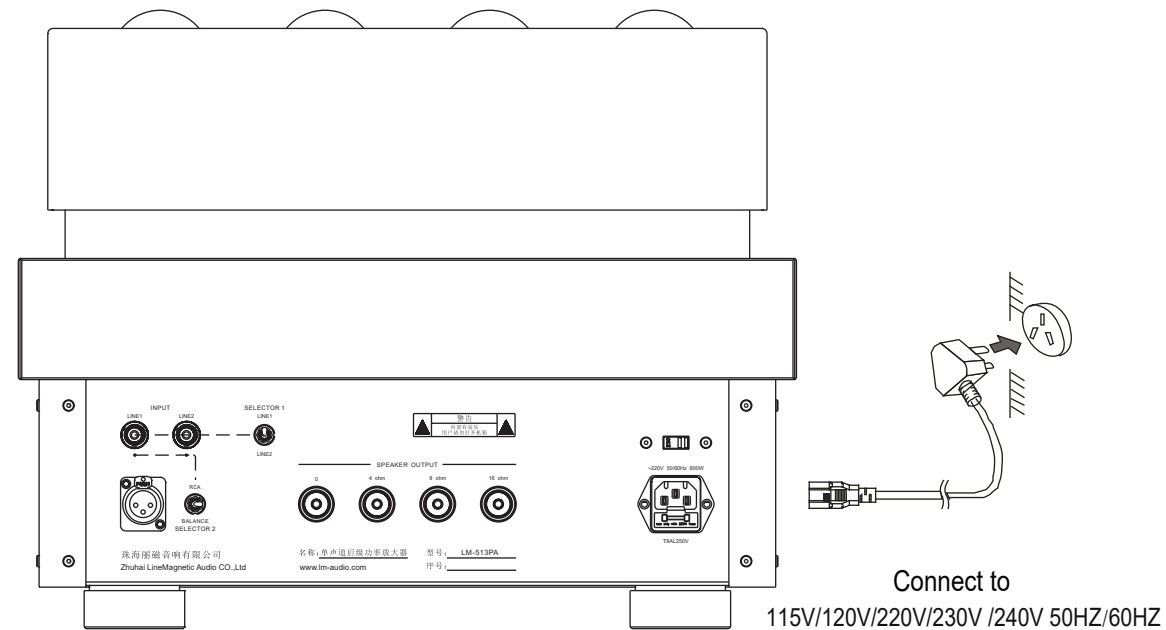
Terms & Conditions:

1. Limited Warranty: One-year limited warranty from the date of purchase except vacuum tubes which are warranted for six months.
2. Limited to original purchaser. This warranty is for the sole benefit of the original purchaser of the covered product, and may not be transferred to a subsequent owner.
3. Conditions & Limitations. This warranty is subject to conditions and limitations, as follows. This warranty is void and inapplicable if the product has not been used or handled other than in accordance with the instructions in the owner’s manual, or if it has been misused, abused, damaged by accident or neglect, or in transport once in possession of purchaser, or the defect is due to the product being repaired or tampered with by anyone other than Zhuhai Line Magnetic Audio Co., LTD or an authorized Line Magnetic Audio Representative.
4. Remedy: If the product contains material, or manufacturing defects, it must be packed in original packaging and returned to Zhuhai Line Magnetic Audio Co., LTD or an authorized Line Magnetic Audio Representative at his or her sole expense. A returned product must be accompanied by a written description of the defect and the warranty card with an authorized dealer’s stamp on which indicates the model and series number, the date of purchase, the name and address of the purchaser. Zhuhai Line Magnetic Audio Co., LTD reserves the right to modify the design of the product and change the specifications without notice or obligation to any person.
5. Miscellaneous. Any implied warranties relating to the above product shall be limited to duration of this warranty. This warranty does not extend to any incidental or consequential costs or damages to purchaser. Our liability will be no more than the amount you paid for the product that is the subject of a claim. This is the maximum amount for which we are responsible. This warranty gives you specific legal rights. You may also have other rights which vary from country to country, state to state

Turning ON

Precautions:

Connection of the power cord: Connect the speaker cables and signal cables first and then plug the power cord into the power socket. Before turning on the amplifier please make sure all connections are right and power supply is stable.



Note:

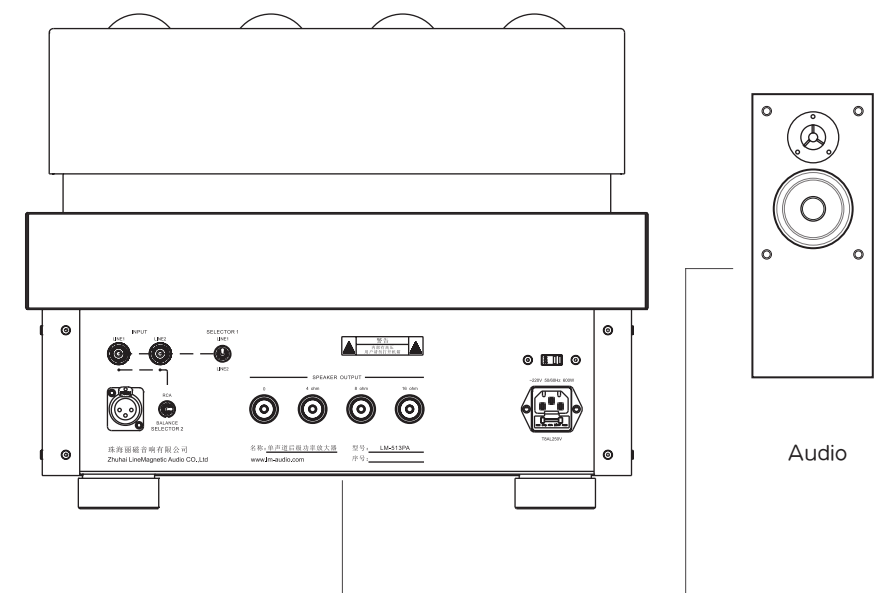
1. It is normal the power transformers become hot after an extended periode of operation.
2. Please unplug the powercord , if you are not gone use the amplifier for an extended periode.
3. Please only connect the powercord to the mainsocket if all other equipment is well connected.
4. To prevent damage to the amplifier never cut off your speakercables while it is on.
5. For protecting the tubes, please wait 2 min before switching back "ON" in case it was switched off.

Warning: Please make sure the your local voltage corresponds with the one of the amplifier.
We are not responsible for any damage caused by an insuitable voltage.

Connection

Speaker Connection

Check the impedance of your speakers. Attach the positive (+) side of you speakercable to the 4, 8 or 16 Ohm terminal and the negative (-) side to the 0 Ohm terminal. If your speakers are 6 Ohm or other please experiment with the 4, 8 or 16 Ohm terminal to get the best result from your speakers.
Please take care of the right channel connections , don't mix them up as this will cause noise and bad stereo imaging.



How to connect the speaker cables:

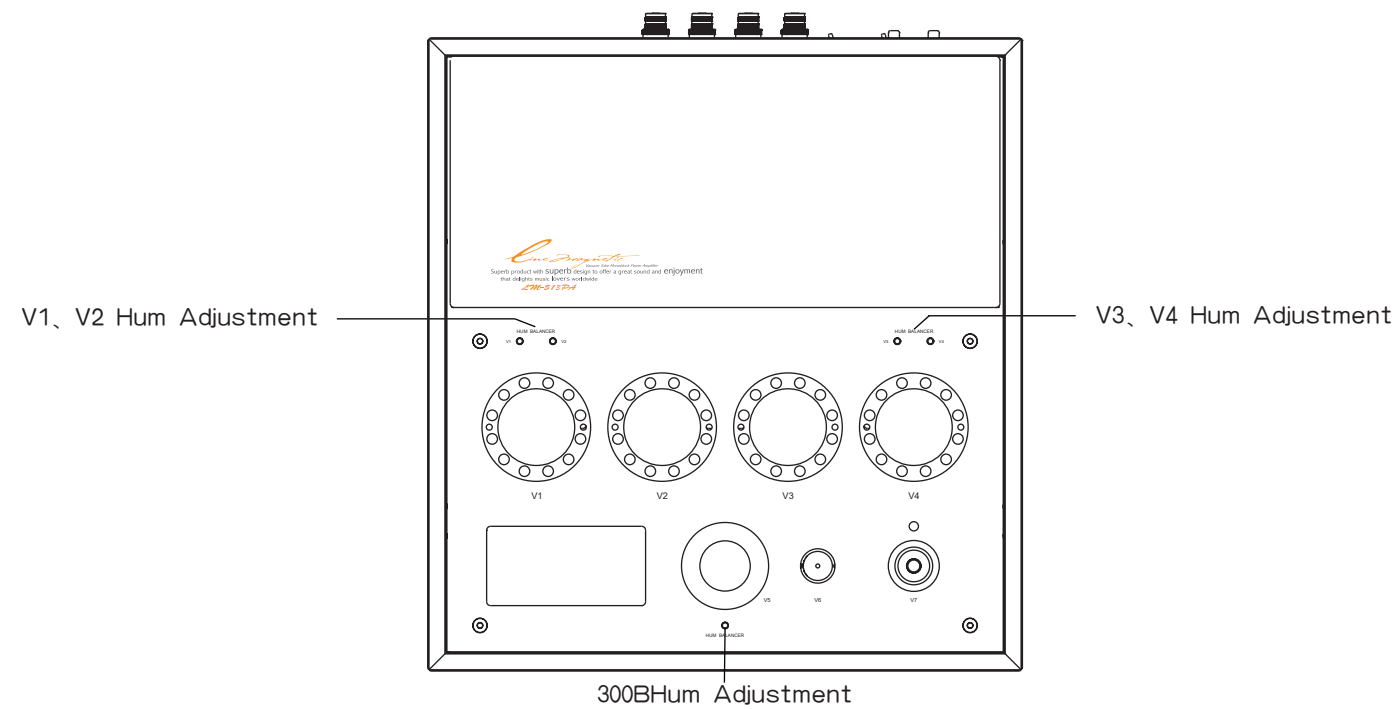
1. Unscrew the terminal knobs,
2. Insert the speaker cables,
3. Screw the terminal knobs.



Note: Connect the speaker cables with the amplifier after it is well connected with the speakers.
Please notice the right direction indication of the cable and do not mix up the positive and the negative end.

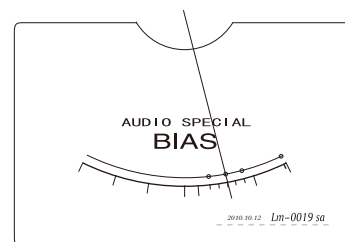
Functions Description

Overview from the top



V1, V2, V3, V4 845 PowerTube V5 300B Driver Tube V6 12AX7 Preamp stage V7 310A Driver Tube

V1, V2, V3, and V4 tubes are auto-biased and you do not need to adjust the bias. You can read the bias level from the bias meter and see whether they are at the same level or not. If they are not at the same level it means there is something wrong with the working current of the tube.



In order to make the machine work condition of the best, it is recommended to use about 150 hours, according to the above method to test the working state of power tube.

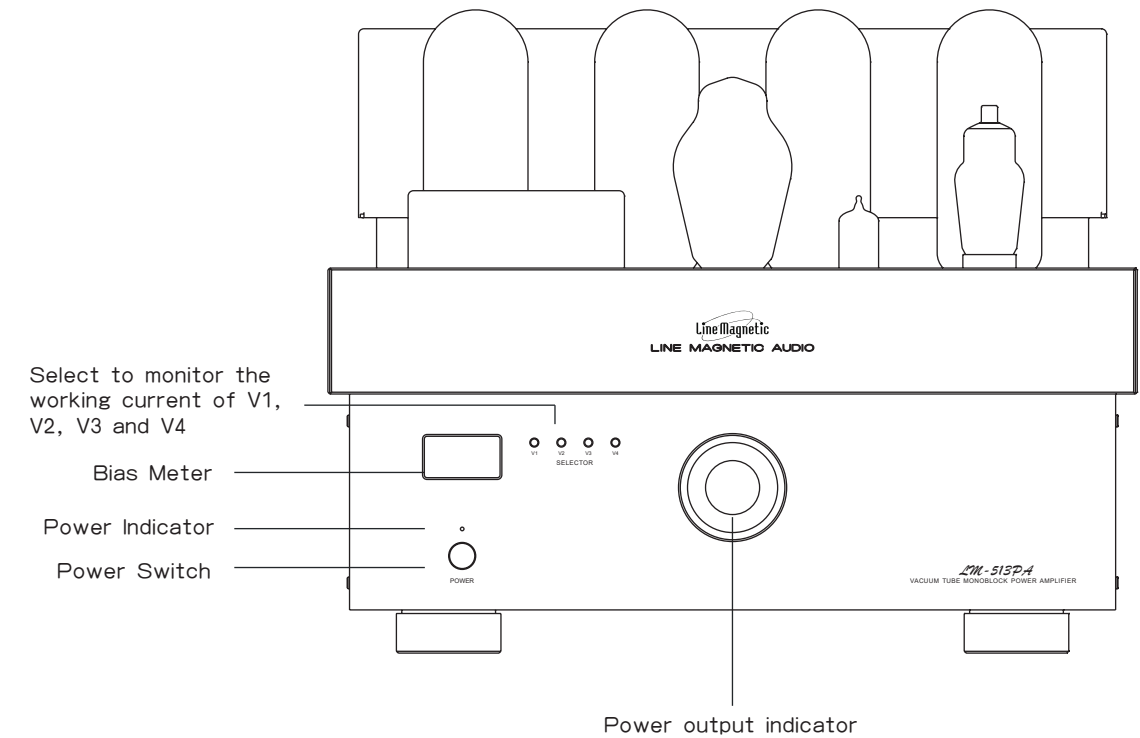
Adjustment method: noise when the machine appear hum noise, adjust the V1, V2, V3, V4 potentiometer noise, and listening to the corresponding channel speaker to minimize noise.

Note:

1. Be careful of the high temperature of the tubes during the adjustments.
2. Input-, Driver- and Power tubes must be matched for the best results.

Functions Description

Front Panel:



Instructions on Fuse Replacement:

