

Owner's Manual

MA-5000 MONAURAL POWER AMPLIFIER

Phasemation

Thank you for purchasing Phasemation product.
Read your Owner's Manual thoroughly for proper operation before starting to use your equipment.
Please keep your Owner's Manual with caution.

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Safety Instructions

Before starting to use

In this owner's manual and on the product, various pictures are used to show our customers how to use Phasemation EA-320 safely and properly in order to avoid the loss of our customer's assets and to protect our customers from harm.

SAFETY PRECAUTIONS

	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
<p>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</p>		
	The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric 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.	
<p>WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.</p>		

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings.
Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
10. Only use attachments/accessories specified by the manufacturer.
11. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
12. Unplug this apparatus during lightning storms or when unused for long periods of time.
13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
14. Batteries shall not be exposed to excessive heat such as sunshine, fire or the like.



▪ DECLARATION OF CONFORMITY

We declare under our sole responsibility that this product, to which this declaration relates, is in conformity with the following standards:

EN60065, EN55032, EN55020, EN61000-3-2 and EN61000-3-3.

Following the provisions of Low Voltage Directive 2014/35/EU and EMC Directive 2014/30/EU

Usage Cautions

CAUTION:

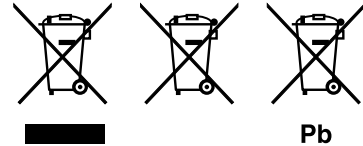
To completely disconnect this product from the mains, disconnect the plug from the wall socket outlet. The mains plug is used to completely interrupt the power supply to the unit and must be within easy access by the user.

A NOTE ABOUT RECYCLING:

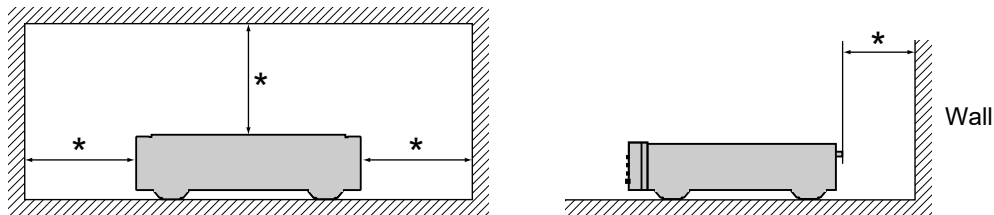
This product's packaging materials are recyclable and can be reused. Please dispose of any materials in accordance with the local recycling regulations.

When discarding the unit, comply with local rules or regulations.

This product and the supplied accessories constitute the applicable product according to the WEEE directive.



Cautions on installation



* For proper heat dispersal, do not install this unit in a confined space, such as a bookcase or similar enclosure.

- More than 0.1 m is recommended.
- Do not place any other equipment on this unit.

NOTE ON USE

WARNINGS

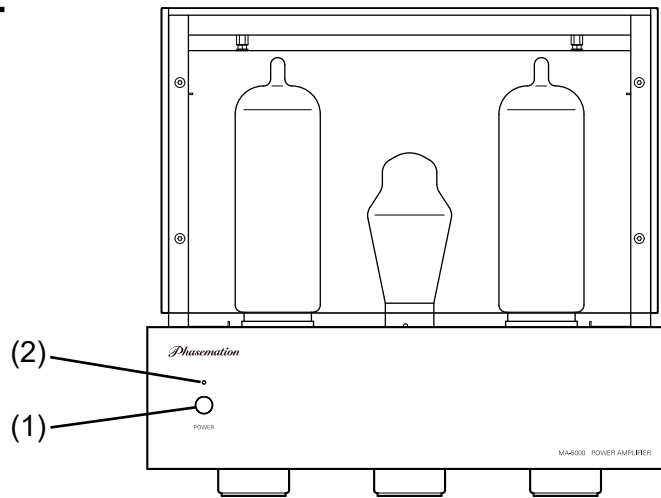
- Avoid high temperatures. Allow for sufficient heat dispersion when installed in a rack.
- Handle the power cord carefully. Hold the plug when unplugging the cord.
- Keep the unit free from moisture, water, and dust.
- Unplug the power cord when not using the unit for long periods of time.
- Do not obstruct the ventilation holes.
- Do not let foreign objects into the unit.
- Do not let insecticides, benzene, and thinner come in contact with the unit.
- Never disassemble or modify the unit in any way.
- Ventilation should not be impeded by covering the ventilation openings with items, such as newspapers, tablecloths or curtains.
- Naked flame sources such as lighted candles should not be placed on the unit.
- Observe and follow local regulations regarding battery disposal.
- Do not expose the unit to dripping or splashing fluids.
- Do not place objects filled with liquids, such as vases, on the unit.
- Do not handle the mains cord with wet hands.
- The equipment shall be installed near the power supply so that the power supply is easily accessible.
- Do not keep the battery in a place exposed to direct sunlight or in places with extremely high temperatures, such as near a heater.

Care of Equipment

- Ⓞ If the equipment is covered with dust or dirt, clean it with a soft cloth.
- Ⓞ If the equipment is very dirty, put detergent which is thinned very well with water on a soft cloth. Wring the cloth and wipe off the dust and dirt. Then clean with a dry soft cloth.
- Ⓞ Never use chemical agents such as thinner, naphtha or alcohol when cleaning it. If any of them is attached to the equipment, the silk printing can be flaked or the surface can lose metal luster.

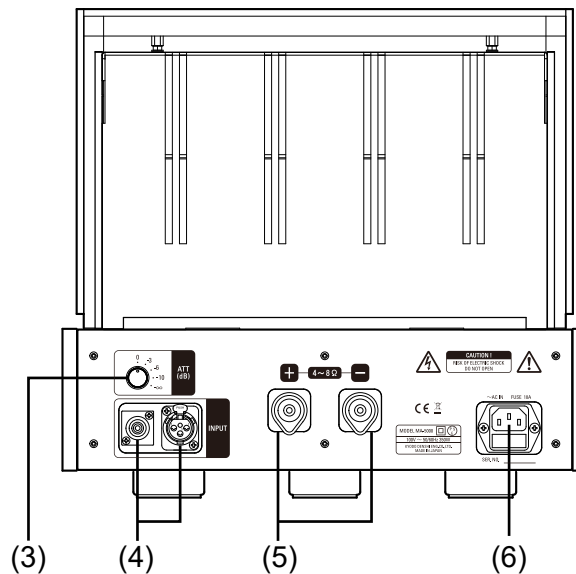
Names and Functions

Front Panel



- (1) POWER switch The power supply can be turned on or off by pressing the POWER switch. After pressing the POWER switch, (2) POWER indicator lights up.
- (2) POWER indicator The POWER indicator lights up blue when the power supply is supplied. Right after the power turns on, it lights up red until the internal circuit is stabilized. No sounds come out while it is lighting red.

Rear Panel



- (3) ATT (attenuator) level adjustment knob Adjusts the input signal attenuation level in 5 steps of 0, -3, -6, -10, and $-\infty$.
- (4) Input terminal Connect an output of a pre-amplifier or attenuator. Input terminals include unbalanced input via RCA terminals and balanced input via XLR terminals.

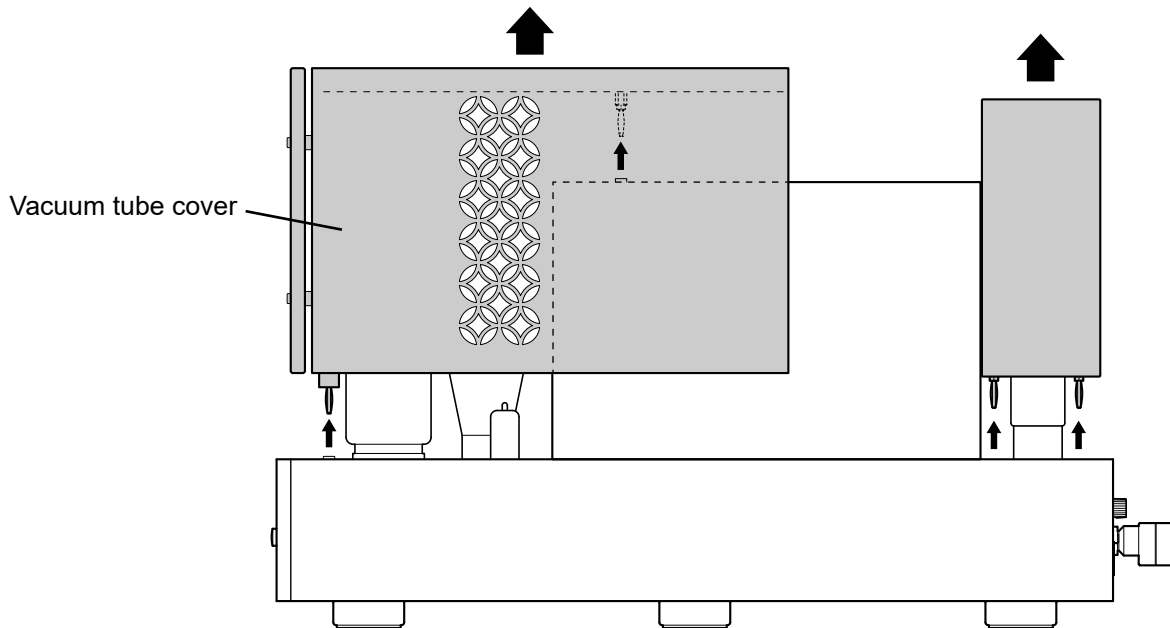
Note

Do not connect RCA and XLR terminals at the same time.
Do not insert shorting pins into empty terminals.

- (5) Output terminals Connect a speaker. These terminals can be connected to a 4 to 8 ohm speaker.
- (6) AC IN Connect the AC power cable of accessories between this terminal and an AC outlet.

Mounting or Removing the Vacuum Tubes

Removing the cover

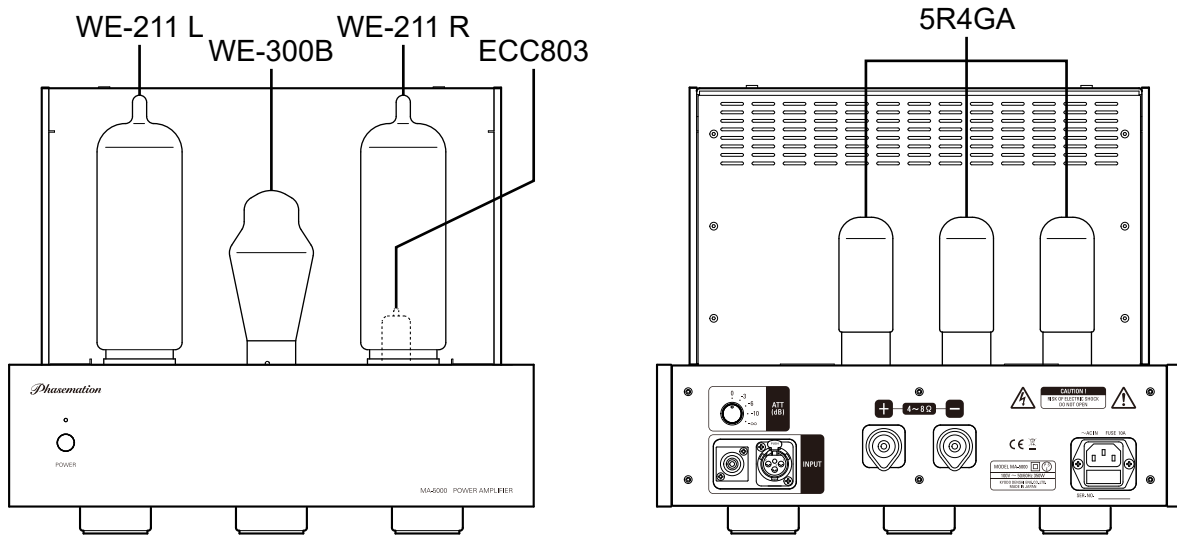


(1) Remove the vacuum tube cover straight up.

Cautions for handling the vacuum tube

- Since the vacuum tubes are made of glass, they can be broken easily so they should be handled carefully.
- After turning the power to OFF and waiting until the vacuum tubes cool well, you can remove them or mount them. In case the vacuum tube does not cool, this can result in a risk of failure, electric shock, or burns.
- We measured the performance of the vacuum tubes of accessories and selected good tubes. In case a vacuum tube except our ones of accessories is used, this can result in a risk of performance deterioration or failure. The vacuum tubes of accessories should be used.
- After mounting the vacuum tubes, the cover must be placed back. For the vacuum tube, a high voltage is applied in the operation and then they turn to a high temperature. In case you touch them or some object hits them, these can result in a risk of burnt injury, electric shock, or fire.
- When an abnormal state occurs for the vacuum tubes, please contact your dealer.

Mounting the vacuum tubes



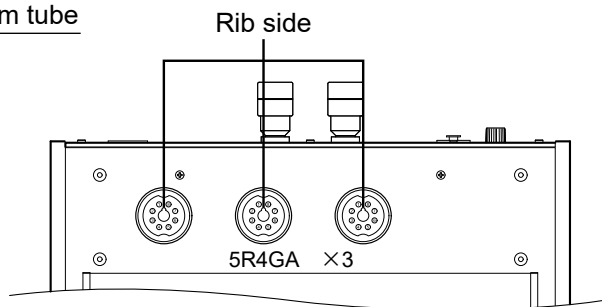
Caution

For “WE-211 L” and “WE-211 R”, please check the sealed sticker that is on the package box and on the base.

- (1) The vacuum tubes are arranged in order of “WE-211 L”, “WE-211 R” from the left of the front row and “WE-300B”, “ECC803” from the left of the back row.
- (2) Three “5R4GA” at the rear of the unit. They are not individually specified.

Top view of vacuum tube

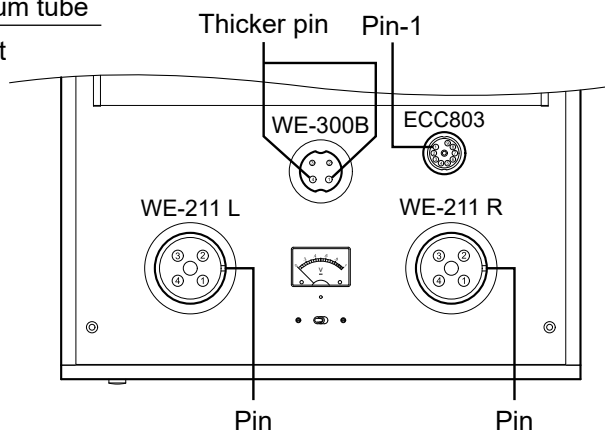
Rear side of unit



- (3) Because the vacuum tubes have respective directional properties, mount them in the correct direction shown as follows.

Top view of vacuum tube

Front side of unit

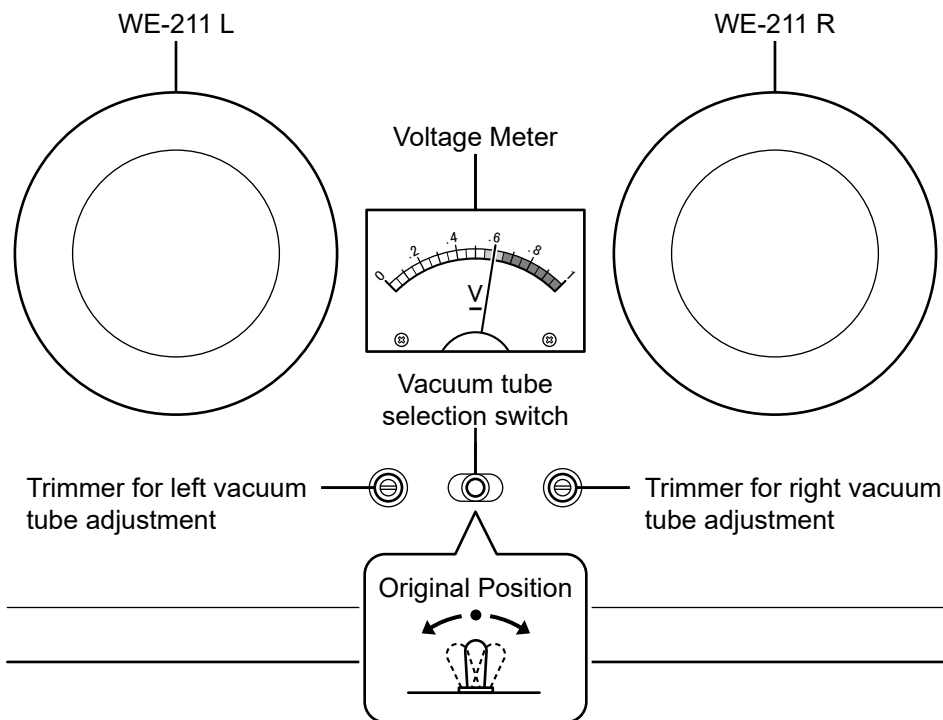


- (4) After mounting all vacuum tubes, attach the vacuum tube cover.

Removing the vacuum tubes

- (1) Remove the vacuum tube cover straight up.
- (2) When removing the vacuum tube, you must hold the resin portion at the root of the vacuum tube and pull it out. In case of holding the glass portion, the vacuum tube may break.

Bias Current Adjustments of the Output Vacuum Tubes



What to check when first installing the vacuum tube

Each adjusting point for this amp is already adjusted before it is shipped but please check the following in order to prevent accidents when electrically running.

1. After the first electric run and the POWER indicator turns blue, pull down the vacuum tube selection switch (near the voltage meter) left and right and check that each vacuum tube bias current does not show up as 0.65V or more (the red area inside the voltage meter). If the voltage meter needle is at 0.65V or more (red area), lower the voltage to the green area as written below.
2. After electrically running for about an hour, again check that the bias adjustment voltage is $0.6V \pm 0.05V$ (green area). If the voltage needle is off, stable the voltage around 0.6V (green area) as instructed below.

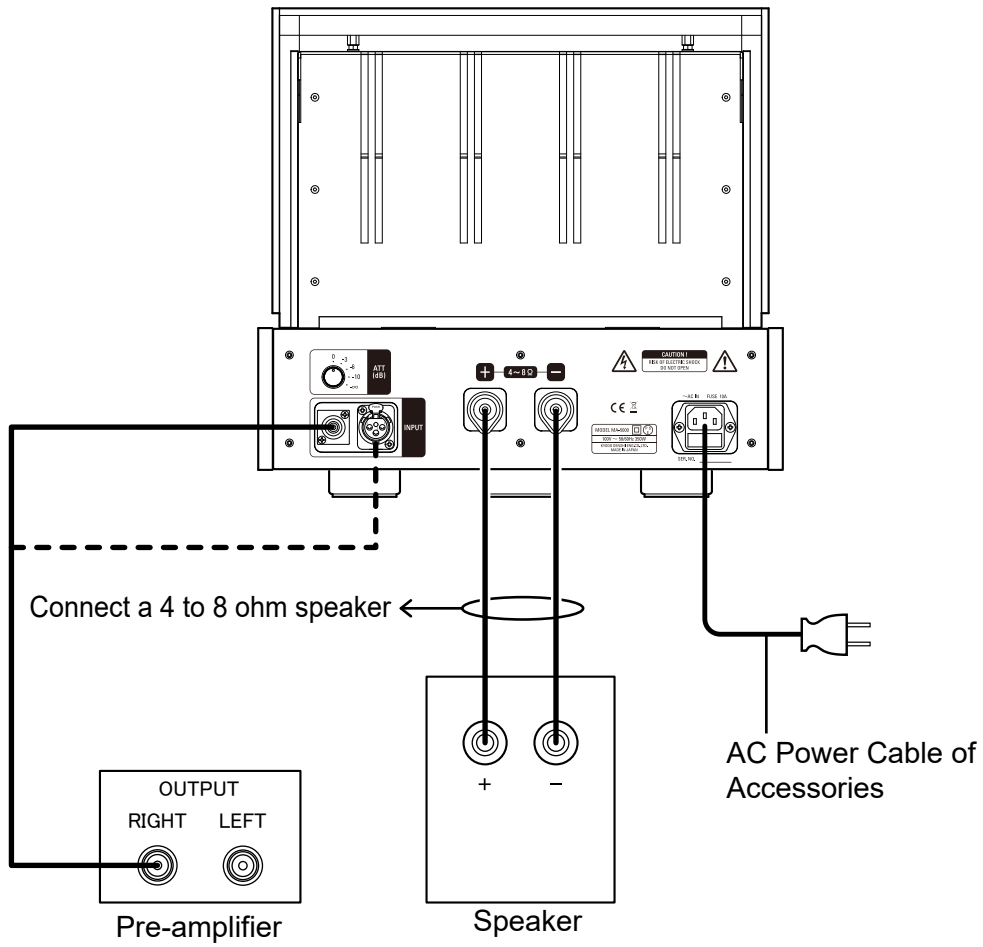
How to adjust the bias current (voltage meter displaying 0.6V=60mA)

- (1) Pull down the switch to the left and adjust the left trimmer so that the voltage meter needle is at $0.6V \pm 0.05V$ ($60mA \pm 5mA$).
- (2) Pull down the switch to the right and adjust the right trimmer so that the voltage meter needle is at $0.6V \pm 0.05V$ ($60mA \pm 5mA$).
- (3) Repeat (1) and (2) several times and check that the voltage meter needle is settled around 0.6V.
- (4) After the adjustment is finished, return the switch to the center.
(Besides bias-adjusting, the center is the original position)

Note

Turning the trimmer to the right increases the voltage and turning it to the left decreases it.

Connections



Trouble Shooting Guide

In case the equipment does not operate properly, check out the followings.
If it does not operate properly even after checking the advised points, endure to disconnect the AC plug from the outlet and then contact the dealer.

Trouble	Causes	Measures
The power is not supplied.	<ul style="list-style-type: none">● The plug of AC power cable is not plugged in completely.	<ul style="list-style-type: none">● Insert the plug of the AC cable into an outlet firmly.● Firmly insert the outlet of the AC power cable into the AC inlet of the power equipment.
The sound is not heard.	<ul style="list-style-type: none">● The input audio wires are not plugged in completely.● The speaker wires are not plugged in completely.	<ul style="list-style-type: none">● Insert the audio wires completely.● Insert the speaker wires completely.
Hum noise is heard.	<ul style="list-style-type: none">● The input audio wires are not plugged in completely.● A power supply transformer or motor in an other equipment is installed near this equipment.	<ul style="list-style-type: none">● Insert the input audio wires completely.● Place this equipment apart from the power supply transformer or motor of other equipments.
Sound is not heard immediately after turning the power on.	<ul style="list-style-type: none">● Sound is not outputted until the circuits come to stable operation.	<ul style="list-style-type: none">● Please wait about 30 seconds.

User Support

As for the unclear matters with regards to the after service, please contact the dealer.

Specifications

Product	WE-211 Parallel Single-ended Monaural Power Amplifier
Maximum output	45W / 4 ohms (T.H.D. 5 %)
Gain	30 dB
Frequency characteristics	10 Hz to 40 kHz (+0, -3 dB)
Input terminal	Unbalanced input terminal (RCA terminal) / Balanced input terminal (XLR terminal)
Output terminals	For speaker (4 to 8 ohms)
Power consumption	350 W
Max. dimensions (mm)	370 (W) x 346 (H) x 636 (D)
Weight	50 kg

Accessories: AC power cable (x1)
Vacuum tube: PSVANE WE-211 (x2)
PSVANE WE-300B (x1)
ECC803S (x1)
5R4GA (x3)
Screwdriver for adjusting (x1)

- The appearance and specifications of this equipment are subject to change without notice in order to improve it.

Phasemation

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Phasemation is the original audio brand of Kyodo Denshi Engineering Co., Ltd.