

AudioLink

M U S I C A L T E C H N O L O G Y .

PH-22 PHONO EQUALIZER AMPLIFIER

U S E R G U I D E

marantz®



CAUTION

**RISK OF ELECTRIC SHOCK
DO NOT OPEN**



**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**



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.

WARNING

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

**CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE
BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.**

**ATTENTION: POUR ÉVITER LES CHOCS ÉLECTRIQUES,
INTRODUIRE LA LAME LA PLUS LARGE DE LA
FICHE DANS LA BORNE CORRESPONDANTE DE LA
PRISE ET POUSSER JUSQU'AU FOND.**

SAFETY INSTRUCTIONS

READ BEFORE OPERATING EQUIPMENT

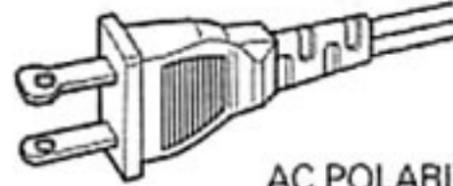
This product was designed and manufactured to meet strict quality and safety standards. There are, however, some installation and operation precautions which you should be particularly aware of.

1. **Read Instructions** — All the safety and operating instructions should be read before the appliance is operated.
2. **Retain Instructions** — The safety and operating instructions should be retained for future reference.
3. **Heed Warnings** — All warnings on the appliance and in the operating instructions should be adhered to.
4. **Follow Instructions** — All operating and use instructions should be followed.
5. **Water and Moisture** — The appliance should not be used near water—for example, near a bathtub, wash-bowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.
6. **Carts and Stands** — The appliance should be used only with a cart or stand that is recommended by the manufacturer.
7. **An appliance and cart combination should be moved with care.** Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.



8. **Wall or Ceiling Mounting** — The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
9. **Ventilation** — The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
10. **Heat** — The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
11. **Power Sources** — The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

12. **Grounding or Polarization** — Precautions should be taken so that the grounding or polarization means of an appliance is not defeated.

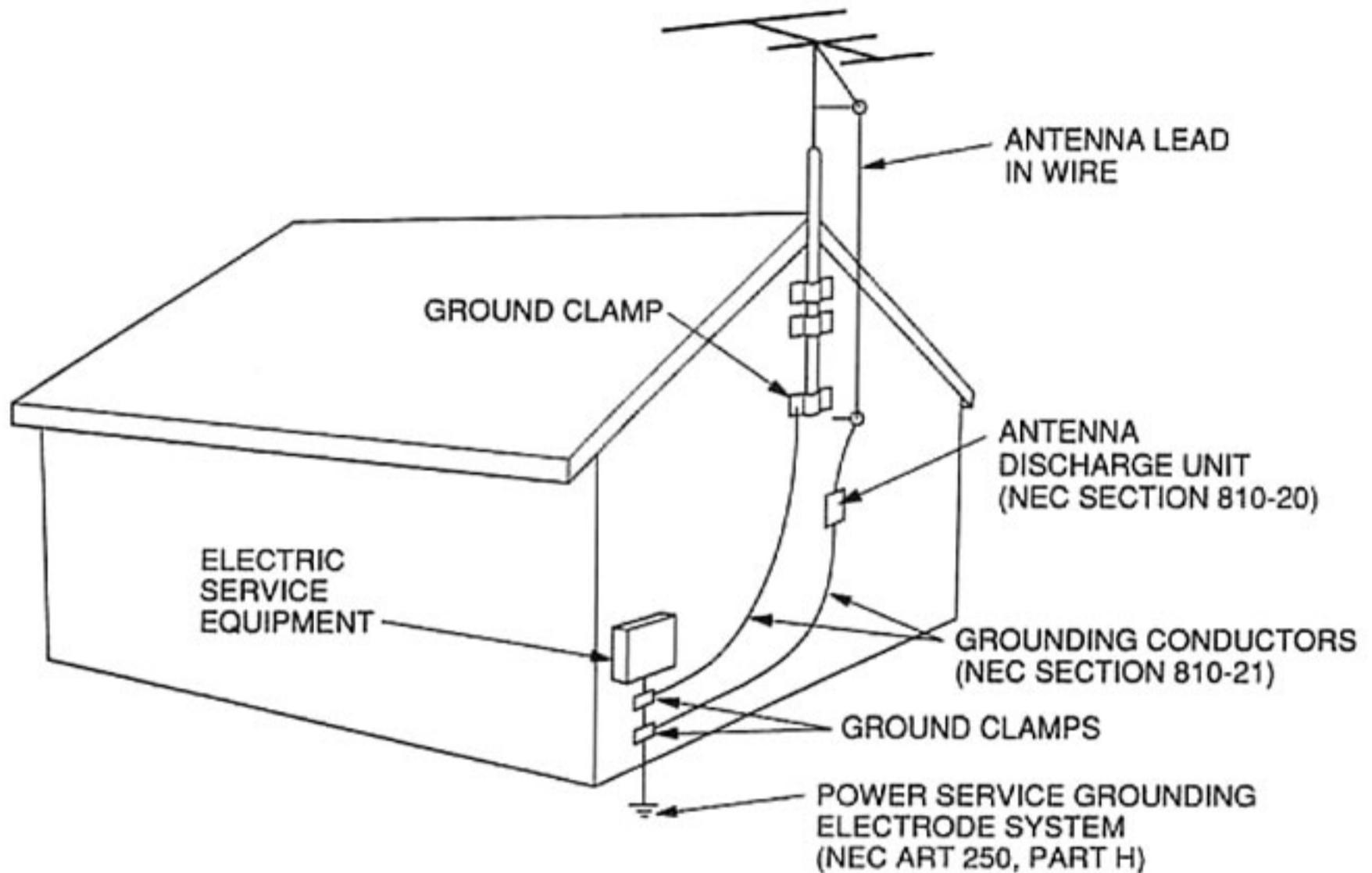


AC POLARIZED PLUG

13. **Power-Cord Protection** — Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
14. **Cleaning** — The appliance should be cleaned only as recommended by the manufacturer.
15. **Power Lines** — An outdoor antenna should be located away from power lines.
16. **Outdoor Antenna Grounding** — If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70 — 1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Fig. 1.
17. **Nonuse Periods** — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
18. **Object and Liquid Entry** — Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
19. **Damage Requiring Service** — The appliance should be serviced by qualified service personnel when:
 - A. The power-supply cord or the plug has been damaged; or
 - B. Objects have fallen, or liquid has spilled into the appliance; or
 - C. The appliance has been exposed to rain; or
 - D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
 - E. The appliance has been dropped, or the enclosure damaged.
20. **Servicing** — The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

FIGURE 1

EXAMPLE OF ANTENNA GROUNDING ACCORDING TO
NATIONAL ELECTRICAL CODE INSTRUCTIONS
CONTAINED IN ARTICLE 810 -"RADIO AND TELEVISION EQUIPMENT"



NEC - NATIONAL ELECTRICAL CODE

NOTE TO CATV SYSTEM INSTALLER:

This reminder is provided to call the CATV (Cable-TV) system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specified that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

NOTE:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined

by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Figure 2

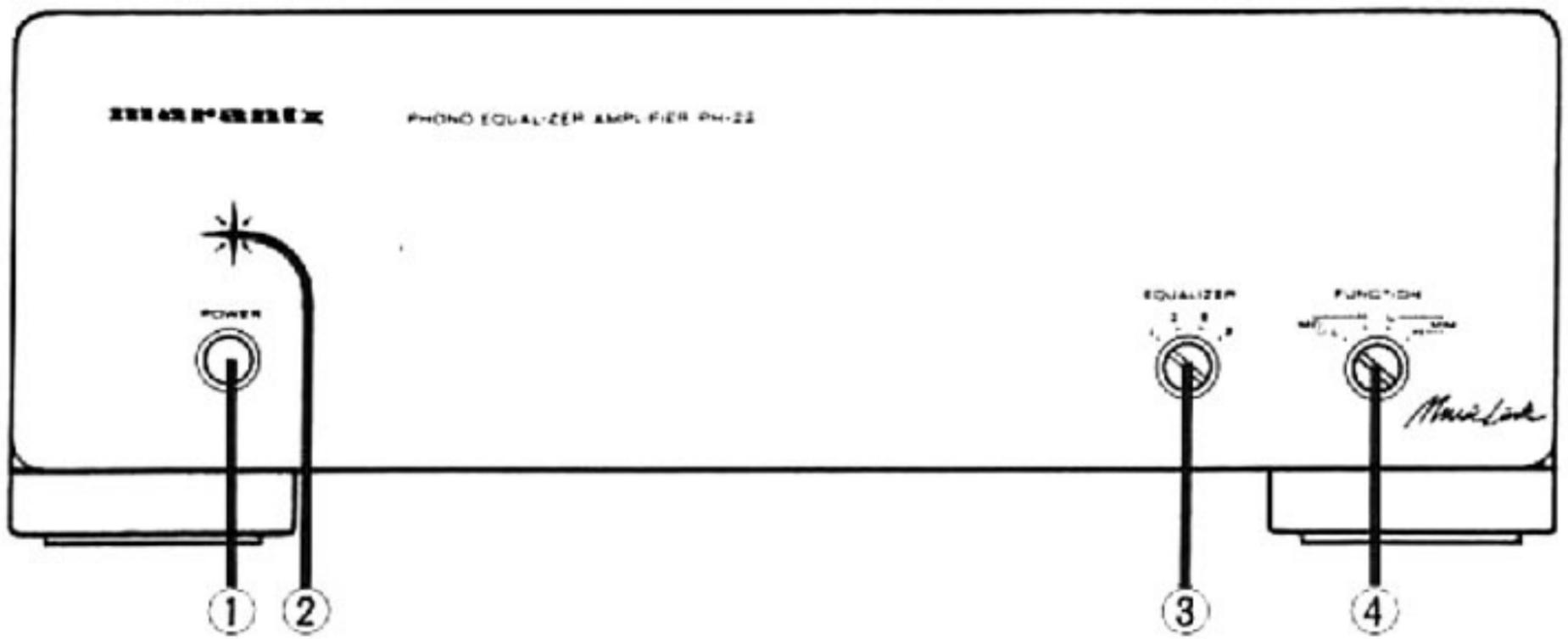
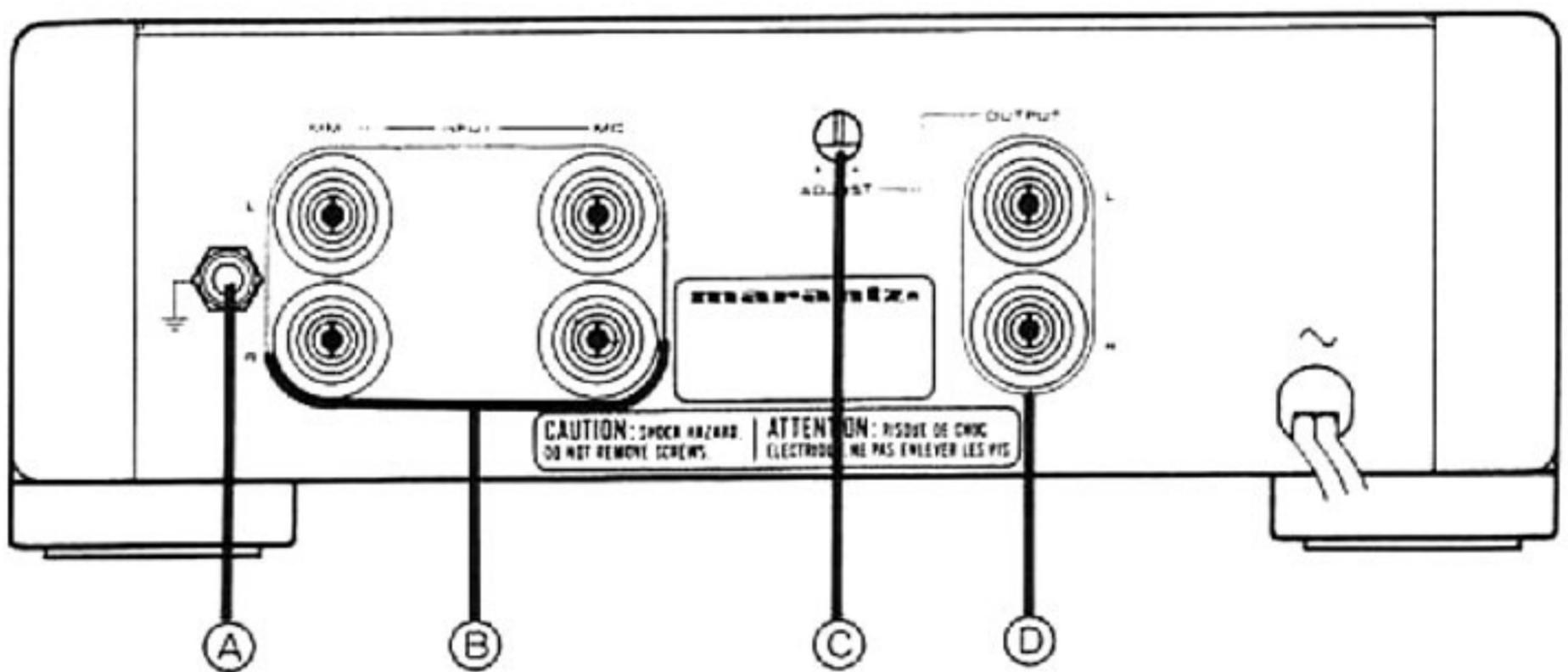


Figure 3



INTRODUCTION

Thank you for selecting the Marantz PH-22 phono equalizer amplifier for your audio system.

The SC-22 is a highest quality phono equalizer amplifier which incorporates with NF-CR equalizer.

The NF-CR phono equalizer uses the NF circuits for turnover of low frequencies and the CR network for roll-off high frequencies. This is a high-grade design providing the compatibility of a sufficient overload all over the frequency bands and an excellent transient characteristics.

Please read the operation instructions carefully.

We recommend that you read entire user guide before you attempt to connect or operate the PH-22.

After you have reviewed the contents of this users guide, we suggest that you make all system connections before you attempt to operate the unit.

INSTALLATION

Remember the following important points when installing the PH-22:

- Do not expose the phono equalizer amplifier to rain or moisture, as this may cause damage to the unit.
- All amplifiers produce some heat during operation and this heat must be allowed to disperse freely. Do not close any ventilation openings and insure that there is adequate ventilation space behind, beside, and above the amplifier.
- Prevent extra heat from reaching the unit. Never put the PH-22 in the full glare of the sun or near a heat source.

Figure 2 (Page 4)

- ① **POWER switch**
Press this button to turn the PH-22 on. Press in again to turn the PH-22 off.
- ② **POWER indicator**
The pilot lamp lights in blue when the PH-22 is turned ON and goes out when the PH-22 is turned off.
- ③ **EQUALIZER switch**
Set the switch to select the specific equalizer curve according to the recording characteristics of the analog disc.

EQUALIZER CURVE	TURNOVER	ROLL OFF
I (RIAA LP)	500 Hz	2.2 kHz
II (EUROPE SP1)	250 Hz	FLAT
III (EUROPE SP2)	250 Hz	5.8 kHz
IV (OLD SP)	FLAT	FLAT

NOTE: The initial setting of equalizer switch is I.

④ FUNCTION switch

Set the switch according to the type of the cartridge.

MC(LOW): For the MC (Moving Coil) cartridge with a low output of around 100 μ V (load resistance of 3 Ω or more).

MC(HIGH): For the MC (Moving Coil) cartridge with a relatively high output of around 300 μ V (load resistance of 100 Ω or more).

MM(LOW): For the MM (Moving Magnet) cartridge with a low, 1 k Ω or more, load impedance.

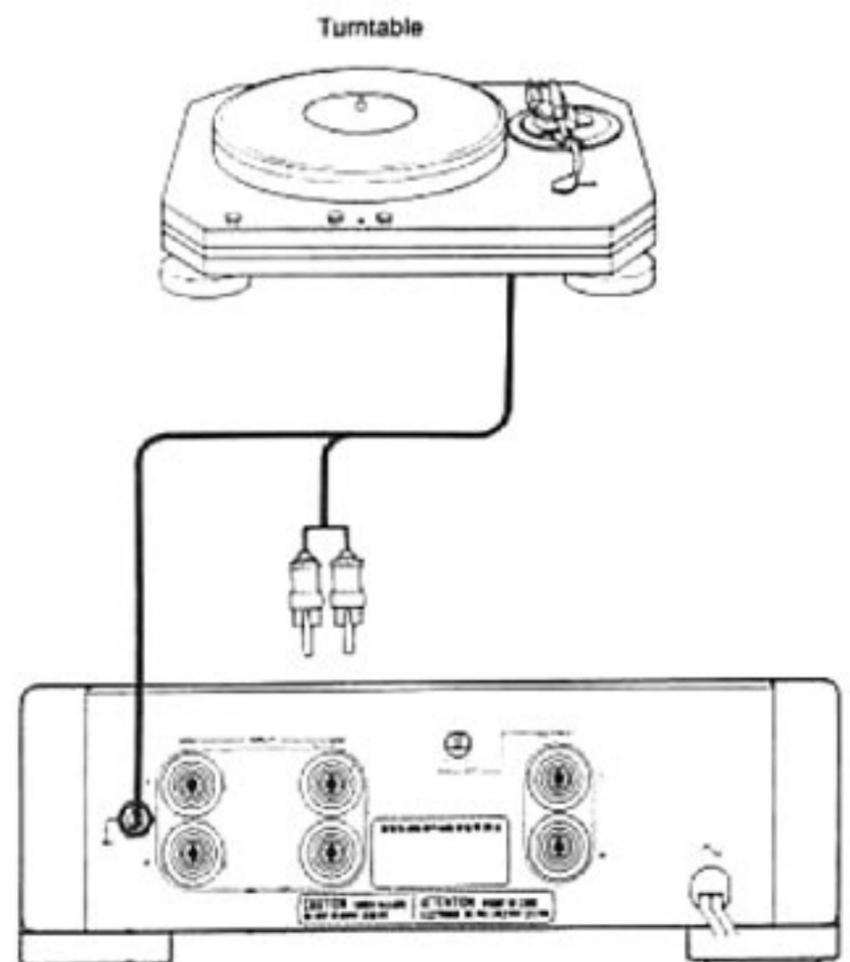
MM(HIGH): For the MM (Moving Magnet) cartridge with a high, 47 k Ω or more, load impedance.

NOTE: The initial setting of function switch is MC(LOW).

Figure 3 (Page 4)

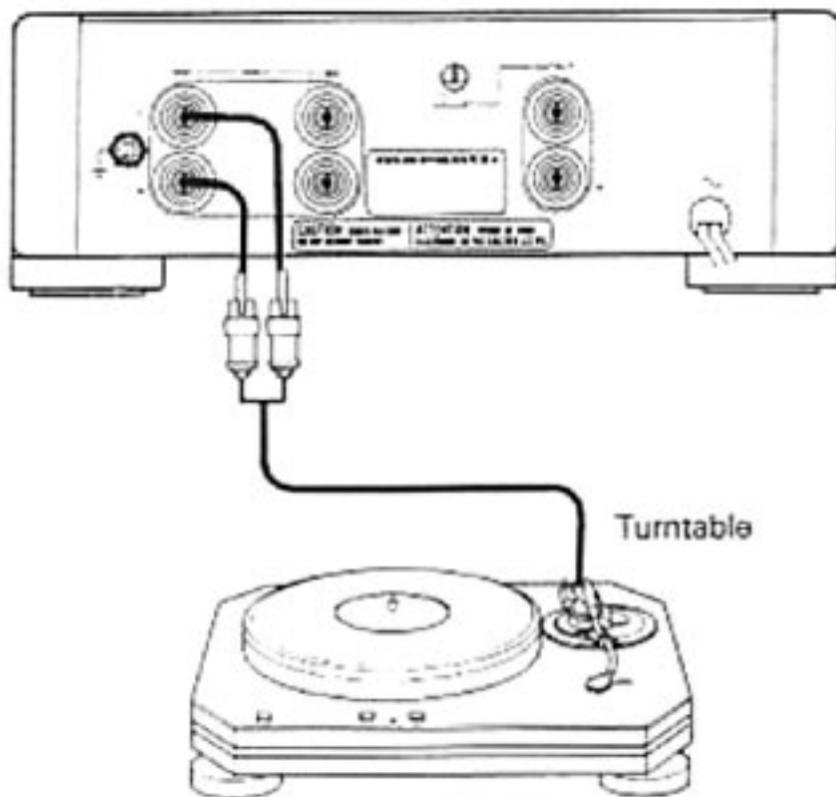
① Ground terminal

Connect the ground wire of the turntable. With some turntables and cartridges, however, may be improved the characteristics of hum, noise, etc., when the ground wire is not connected.



B INPUT terminals

Plug the audio output cable of the turntable into the INPUT jacks of the PH-22. The PH-22 is equipped with two different input terminals for the cartridges: MM (Moving Magnet) and MC (Moving Coil).



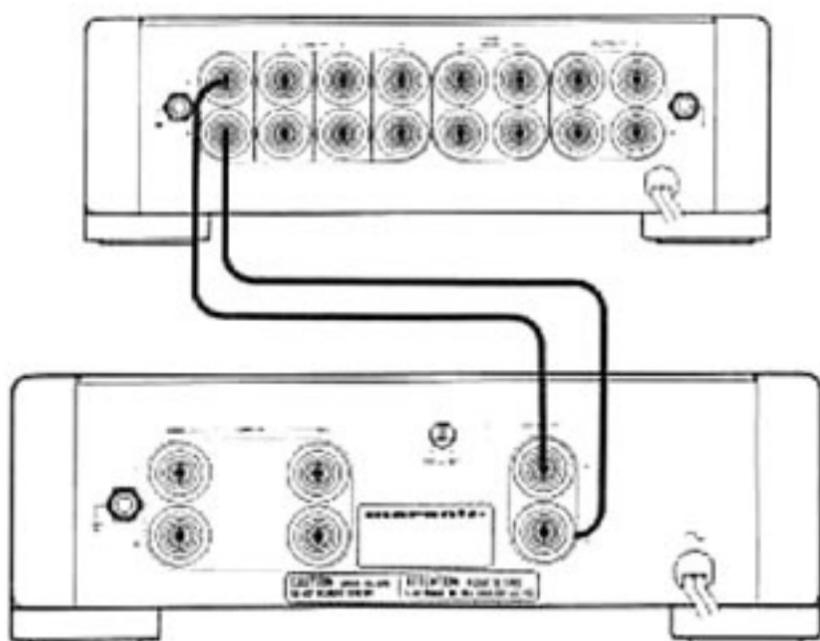
C ADJUST control

Adjust the output level. Turn the knob clockwise to increase the output level.

NOTE: The initial setting of Adjust control is center position.

D OUTPUT terminals

These jacks provide the signal output of the PH-22. Connect the input terminals of the preamplifier, integrated amplifier, or receiver to these terminals.



Caution: As this unit incorporates a MC transformer, there should be the distance at least 30 centimeters between the PH-22 and your power amplifier.

CLEANING OF EXTERIOR SURFACES

The exterior finish of your PH-22 will last indefinitely with proper care and cleaning. Never use scouring pads, steel wool, scouring powders or harsh chemical agents (e.g. lye solution), alcohol, thinners, benzine, insecticide or other volatile substances as these will mar the finish of the cabinet. Likewise, never use cloths containing chemical substances. If the PH-22 becomes dirty, wipe the external surface with a soft, lint-free cloth.

If the cabinet becomes heavily soiled:

- dilute some liquid dish washing detergent in water, in a ration of one part detergent to six per water;
- dip a soft, lint-free cloth in the solution and wring the cloth out until it is damp;
- wipe the cabinet with the damp cloth
- dry the cabinet by wiping it with a dry cloth

TROUBLE SHOOTING

If you think a malfunction has occurred, it is may be an electro-static discharge or mains interference has corrupted the information in the equipment memory circuits. Therefore:

- disconnect the plug from the mains supply
- after waiting at least three minutes, reconnect the plug to the mains supply
- re-attempt to operate the equipment

REPAIRS

Only the most competent and qualified technicians should be allowed to service your unit. Marantz and its factory trained warranty station personnel have the knowledge and special equipment needed for repair and calibration of this precision instrument.

In the event of difficulty, call the toll-free telephone number listed on the face of the warranty to obtain the name and address of the Marantz Authorized Service Center nearest you. In many cases, the dealer where you purchased your Marantz unit may be equipped to provide service. Please include the model, serial number of your unit together with a copy of your purchase receipt and a full description of what you feel is abnormal in its behavior.

SPECIFICATIONS

Input sensitivity/input impedance

MC-L	0.1 mV/3-ohm
MC-H	0.3 mV/100-ohm
MM-L	3 mV/1-K ohm
MM-H	3 mV/47-K ohm
Rated output/output impedance	280 mV/200-ohm
Output attenuator	0 - -14 dB
RIAA deviation (20 Hz to 100 kHz)	± 0.5 dB
Total harmonic distortion (20 Hz to 20 kHz)	0.001%
S/N ratio (A weighted)	76 dB (MC-L) 84 dB (MM-H)

Power supply, etc.

Supply voltage	120 V AC, 60 Hz
Rated power consumption	15 W

Max. dimensions

Width	9-4/5 inches (250 mm)
Height	3-1/3 inches (85 mm)
Depth	8-1/2 inches (215 mm)
Weight	9.5 lbs (4.3 kg)

Accessory

RCA type pin cable	x 1
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Specifications subject to change without prior notice.

MultiLink

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