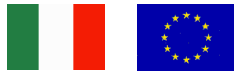


OWNER'S MANUAL

AudioNemesis

Enjoy the Music

*Superior Audio Products
Handmade in Italy*



AUDIO PHONO PREAMPLIFIER FOR MM AND HIGH OUTPUT MC CARTRIDGES PM-1

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VAT IT03182620405

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Graphic Fabio Camorani — Giuseppe Intorrella

M PM1 REV.02 ENG MAR 2009

INTRODUCTION

Thank you for your purchase of the **AudioNemesis PM-1!**

This product represents a great evolution in audio technology at affordable price. It represents an important step to Music bringing the listener to emotion of live Music events. This product is designed for the best quality of sound and reliability, matching unprecedented performance with convenience not obtainable from most high performance products.

All **AudioNemesis** products are made for helping you in listening to your favorite Music for many years; no compromises in core parts.

AudioNemesis products are not made for a limited life, every part is used to take you in listening to you favorite Music for a very long time: we respect You and Music above all.

THANK YOU FOR CHOOSING AUDIONEMESIS

INTRODUCTION

- Read carefully these instructions before turning on this appliance. Keep these instructions in a sure place for future readings.
- Heed all warnings.
- Follow all instructions.
- Do not use this device near water, or with high humidity, or under the rain or moisture.
- Do not install near heat sources such as radiators, stoves or other apparatus (including amplifiers) producing heat.
- Clean only with a dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- This device can be used only for purposes it is designed for.
- Never open the appliance: risk of electric shock. Refer servicing to qualified personnel only.
- Do not modify the appliance.
- Use high quality cables and power cord. Protect the cord from being walked on or pinched, particularly at plugs, extension cords and the point at which they exit the unit.
- The device is connected to ground through the power cord. Be sure that the power cord you are using has the ground connection. Be also sure that your connector has the ground connection. A grounding type plug has 2 blades and a third grounding prong. The third prong is provided for your safety. If the provided plug does not fit, into your outlet, consult an electrician for replacement of the obsolete outlet.
- Before connecting this appliance to the mains, be sure that the voltage information in the rear label of the appliance is compatible with your mains voltage.
- If the appliance had wide thermal shocks (for example, from low external temperature to high room temperature), do not turn on the appliance, but wait till the appliance temperature equals the room one (about 1 hour).
- Unplug this device during lightning storms or when not used for long periods of time.
- Refer all servicing to qualified service personnel only. Servicing is required when the unit 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 device, the unit has been exposed to rain or moisture, does not operate normally, or has been dropped.

No expressed or implied warranty is made for any AudioNemesis product damaged by accident, abuse, misuse, natural or personal disaster, unauthorized modification. Any disassembly, components or parts replacement, perforation or modification of the chassis or modifications performed to the unit will void the warranty.

CAUTION

To reduce the risk of electric shock do not remove the cover or the front panel or any other part. Inside there is no user serviceable parts. Refer servicing to qualified personnel only.

WARNING

To reduce the risk of electric shock or fire, do not expose this appliance to moisture or rain.



This symbol, wherever it appears, alerts you to the presence of dangerous voltage (inside the enclosure) that may be sufficient to constitute a risk of shock.



This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Please read the manual.



This symbol, wherever it appears, alerts you to the need of specific disposal, due to recycling, following the Directive 2002/96/EC (WEEE). Please refer to your National Register for the correct procedure or call your official **AudioNemesis** dealer / distributor.



This product complies with the EMC directive (89/336/EEC) and the low voltage directive (73/23/EEC).

A LETTER FROM FABIO CAMORANI

Dear Audio Enthusiast,
Thank you for your purchase of the **DC-1 Up-grade Edition**.

AudioNemesis was born to offer serious and reliable products, instruments for Music lovers. At the centre of all **AudioNemesis** products there is only Music. Most of competitors are offering products for impressing Audiophiles, but after a few discs only, audiophiles feel the need for a change! This is due to a poor and not natural sound. The reproduction of Music is a repeatable event by definition and also unperfect. I think that reproduction may have many interpretations. The one by **AudioNemesis** put Emotion behind everything, a step ahead, because this is the only common element between Produced (Live) Music and Reproduced (Home) Music. Emotion is the essence of the Music. Listening to Music using **AudioNemesis** products you will have all the Emotion of Live Music, without special effects, without pretending, no false creations. Natural feeling, richness of harmonics, details of the event: everything is reproduced with a very clear sense of LIVE, without false aspects, without false sounds.

Like all other **AudioNemesis** products, **PM-1** was designed without preconceptions, without following trends, and without following the latest technology "innovation". On the contrary, circuit simplicity and a minimum number of components is a key element. Less is better, but we do want to use the right device for the right purpose in the right way. Our products are simple appliances, using only the minimum quantity of parts for the proper work, following "the simpler the better, but not even simpler". **PM-1** was understood as a very special product, designed and built in a unique way for its class, an instrument for Emotions, for Music. It was clear it's design is a breaking point, because it's totally different from what offered by the market, a simple circuit, full of uncommon choices for its class and rare in absolute, no matter the cost.

The market of phono preamplifiers in this class (but also up to a few times the cost) is full of similar products, similar in schematic and sound. And maybe with the operational amplifier chip with the lowest noise or higher slew rate. It's very rare to see original designs, with real study and research on sound (with clear ideas and listening tests).

Only very few people are involved in manufacturing of **AudioNemesis** products, all fully concentrated in the highest quality and service. **AudioNemesis** are handcrafted in Italy and one by one checked.

If You have the **PM-1** in your hand, You are a Music lover. I'm sure you'll love it, and you'll listen to your favourite Music for many years using the **PM-1**.

Sincerely,
Fabio Camorani

PM-1 AUDIO PHONO PREAMPLIFIER FOR MM AND HIGH OUTPUT MC CARTRIDGES: PRODUCT PHILOSOPHY AND DESIGN

We didn't use anything useless for the music, starting from the **chassis**, a simple but very effective design. It's impact to the final cost was not critical, despite the fine construction and design. The front panel is in Plexiglas with the name **AudioNemesis** with rear blue leds and the rest of the chassis is painted with a special scratch-proof black paint, able to reduce unwanted vibrations too.

Mains voltage is often distorted and full of noise. For this reason in the **PM-1** there is a custom **filter** for the mains voltage before the main power transformer (and not a standard one).

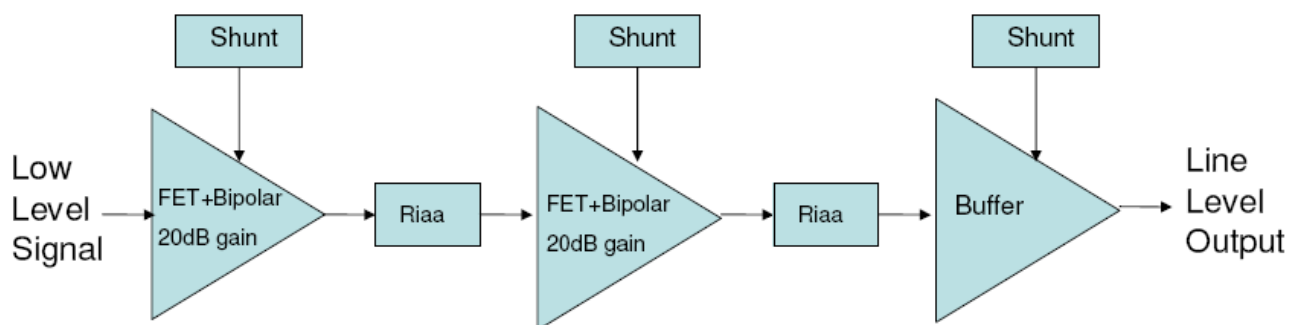
The **power transformer** seems standard but it is custom designed and built for **AudioNemesis**, with a low loss, high efficiency, grain oriented silicon core.

Power supply is very important for the final sound. For this reason, in the **PM-1** has different power suppliers, separated for each section. Usually, in almost all products these regulators are series type and made by integrated circuits, but in **PM-1** there are three (3) **shunt** type, with a fast bipolar output transistor! Only in very few products, no matter the cost, we can find shunt regulation. This kind of regulation is very effective from the sound point of view, but it's more difficult and expensive than the series type. Who can try series vs shunt regulation can understand without any doubt the sound difference!

The very low level signal from the cartridge (MM or high output MC type) goes to the input switch first. The switch helps to create the correct load for the source before the amplification stage. In **PM-1** two different resistance loads can be chosen, 47kohm or 1kohm, while for MM type cartridges several capacitive loads can be selected, from 100pF to 700pF. After the load-switch, the signal goes to a very simple but effective circuit with low noise FETs and bipolar transistors amplifying the very low signal from the cartridge. This is the most critical gain stage from the noise point of view, and for several other aspects. This circuit, as for all others, has no feedback loop. There is only a small amount of local current feedback.

Then there is the first part of the passive and splitted Riaa equalization circuit. Riaa equalization is passive, for sonic superior performance. But it's also splitted, meaning it's divided in 2 parts, with an active circuit between them. This circuit has a far superior sonic performance and a better precision. But it's not that often used in preamplifier circuits for many reasons, among which cost and complexity.

After this first stage of the equalization there is a second gain stage, similar to the first one, then the second equalization passive circuit (for the complete Riaa eq.). And the final buffer circuit.



All circuits are **pure Class A**, with no feedback loops, FETs + bipolars, both low noise Japanese types. No operational amplifiers (OP), no loops, no active Riaa eq.. The circuit we are using for the PM-1 is very simple, with selected and matched components, as required by a zero feedback circuit.

Another exclusive, a proprietary use of a very expensive product, called **HDG** (High Density Graphite). This is a very special graphite created for very extreme applications, such as industrial, aerospace, military etc. and able to absorb vibrations in a very effective way. Using this device, we can absorb unwanted vibrations so dangerous in analogue and digital chips. In effect, a silicon wafer is very sensible to vibrations because is very thin: the use of HDG allows results behind your imagination! In particular in a phono preamplifier designed for amplifying very low level signals.

All active and passive parts have been chosen and **optimized** for this project. We used very low noise military standard resistors, chosen for their sound, low ESR electrolytic capacitors, ERO-Vishay film etc..

The **PCB** follows professional high quality standards and is designed **without edges**. All final bypass capacitors of the power supplies are very near to the relative part of circuit.

Thanks to the very high quality design and manufacturing, the **noise** is very low, lower than high priced products, but without any feedback or feedforward technique! The noise level is so low that you can connect a low level MC cartridge (such as the Denon DL103) directly to the input RCA connectors if your line level preamplifier has a high enough gain.

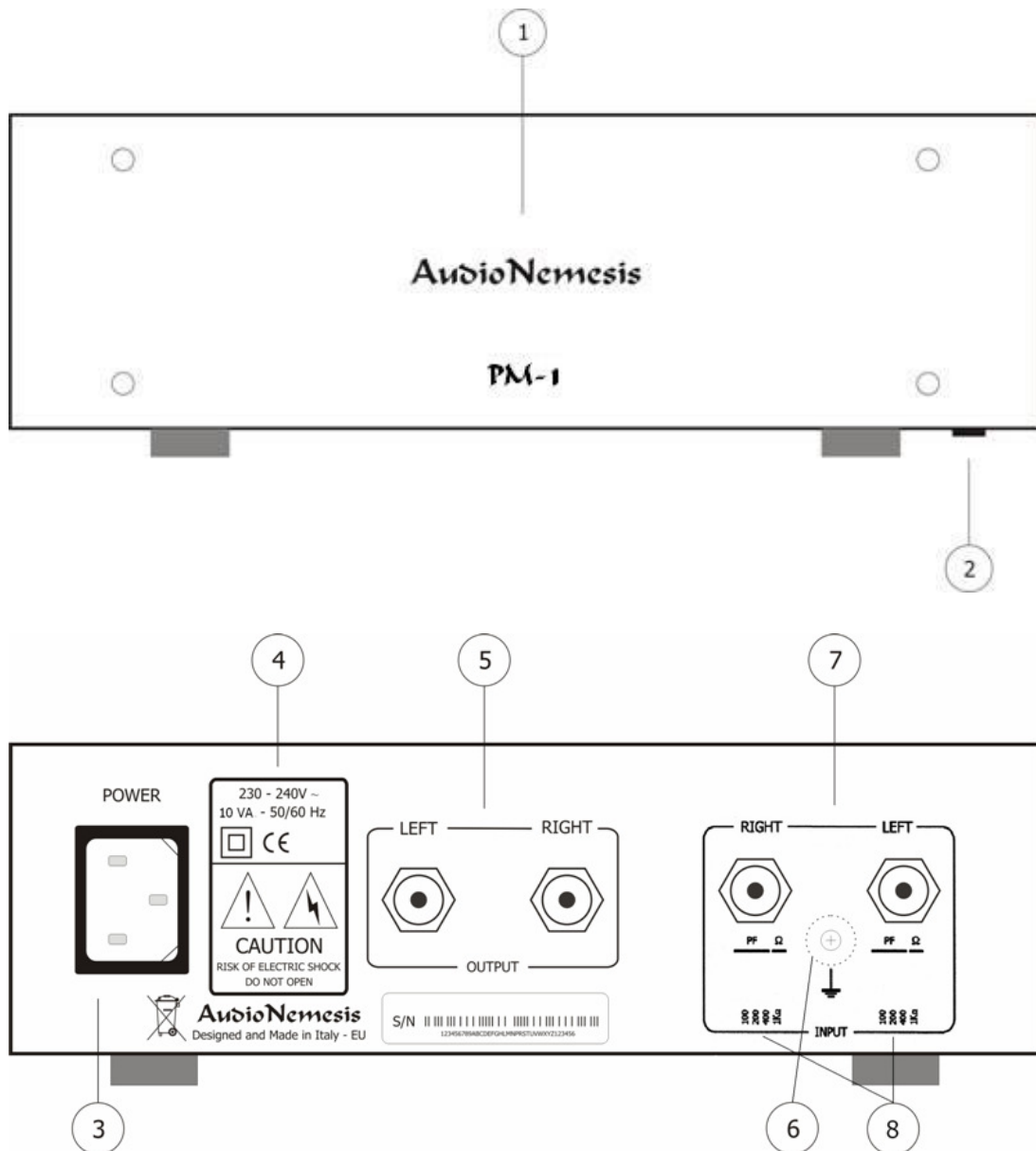
Each **AudioNemesis** product has a test of at least 30 minute at the end of the production chain, then it is individually checked. We suggest a minimum of 100 hours of break-in, better if 200 hours. A warm-up of 20 minutes is suggested before any use for the best performance.

SPECIFICATIONS

| | |
|---------------------|---|
| Power Supply: | 110/120 Vac oppure 230/240 Vac 50/60 Hz +/- 10% |
| Power consumption: | 10VA max |
| Frequency response: | 20Hz - 20kHz |
| Output: | not-Inverting |
| Riaa: | 20Hz - 20kHz ± 0.2 dB |
| THD: | <0.3% @1kHz |
| Output impedance: | <200 ohm |
| Gain: | 38dB @1kHz |
| Input: | Gold plated RCA, Teflon - unbalanced |
| Output: | Gold plated RCA, Teflon - unbalanced |
| Dimension (WxHxD): | 23 x 8,5 x 34 cm. |
| Weight: | 3.6 kg |
| Shipping weight: | 3.9 kg |

All specifications can change without notice.

AudioNemesis



- 1. Name *AudioNemesis***
When the item is ON the name turns ON with a blue light.
- 2. On-switch**
The on-switch is in the lower part of the chassis, front-right side.
- 3. Mains connector**
Always connect the power cable with the on-switch turned OFF (on-switch pushed to the rear side of the chassis)
- 4. Mains characteristics**
Verify that the data reported on the rear panel of the chassis match the characteristic of the mains line of your country.
- 5. Analogue outputs**
Connect the analogue signal cable to these output pins. Then connect the other side of the cable to your line preamplifier or integrated amplifier etc. Be sure that the output characteristics of this unit match the input characteristic of the unit you want to connect to.

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6. Ground connector

Connect this connector to the ground pin of your turntable for the lowest noise.

7. Analogue inputs

Connect the analogue signal cable to these input pins. Then connect the other side of the cable to your MC step-up transformer or preamplifier, or to the output pins of your turntable.

8. DIP switches for optimum load

The load of the cartridge can be modified by operating these switches. See the tables below for details.

| DIP 1 | LOAD RESISTOR VALUE |
|-------|---------------------|
| off | 47 kohm |
| on | 1 kohm |

| DIP 2 | DIP 3 | DIP 4 | LOAD CAPACITOR VALUE (see note) |
|-------|-------|-------|------------------------------------|
| on | off | off | 100 pF |
| off | on | off | 200 pF |
| on | on | off | 300 pF |
| off | off | on | 400 pF |
| on | off | on | 500 pF |
| off | on | on | 600 pF |
| on | on | on | 700 pF |

NOTE → Please add the value of the input parasitic capacitance of the input FET for the total value of the load, that's about 30pF.

HOW TO USE THE APPLIANCE

- **How to turn on the preamplifier**
Turn ON the appliance AFTER turning on the source.
- **Mains voltage**
No power cable is offered with this appliance. Please use a good quality power cable: this improves the performance of this preamplifier.
- **Connection cables**
No analogue cable is offered with this appliance. Please use good quality cables both analogue connections. Using good quality cables may give a very big improvement in sound quality reproduction and gives you even better Music listening sessions.
- **Mains filtering**
In this appliance there is a high quality mains filtering unit. This is a custom design to assure the highest final quality and to meet CE requirements. Before using an external filter, conditioner, stabilizer or any other appliance please do a deep listening session to verify effectiveness, to avoid sound quality problems.
- **Cleaning**
Use a high quality lint-free cloth that has not been treated with chemicals of any kind. Dampen the cloth with warm water only. Do NOT use cleaning agents of any kind, such as alcohol or other common cleaning products.

TROUBLE-SHOOTING

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|--|---|--|
| The appliance does not turn on | Main voltage is not present, the power cable is not properly connected or it is damaged | Be sure that the turn on switch is in ON position. Verify that the power cable is properly connected and that it's in proper working condition. |
| There is no output signal | The input or output cable is not properly connected or it is damaged | Verify that the input or output cable is properly connected and that it's in proper working condition. Turn off then turn on the appliance. |
| The appliance does not work properly, it has distortion, it works to strokes | Main voltage with noise or incorrect main voltage | Remove the sources of noise or use stabilizers, verify that the appliance is connected to the right main voltage as reported by the rear label (4) |

Per ogni altro problema rivolgetevi al vostro rivenditore di fiducia.

M PM1 REV.02 ENG MAR 2009

WARRANTY RECORD FORM

Model: Audio Phono Preamplifier PM-1

S/N:

Owner's information

Last name First name.....

Address.....

City ZIP Code.....

Country

Purchasing:

Warranty: This appliance has a limited warranty of 3 years from the date of purchasing on labour and parts . The mechanical and electronic components of this appliance are warranted to be free of defects in material and workmanship for that period. The warranty does not include damage due to misuse or abuse or modified products and also does not include consequential damage. The warranty begins on the date of the original retail purchase, as noted on the bill of sale or receipted invoice from an authorized **AudioNemesis** dealer or distributor.

Privacy: All data from this document will be used for standard administration records and warranty and will be protected and taken secure.

Note: Every effort is made to ensure the highest standard of quality. The producer reserves the right to change the specifications without any notice. The specifications and the design of the device may differ from the information given in this manual.