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St. Paul, MN 55104
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Atma-Sphere Music Preamplifier

**model MP-3 Mk3.2 and prior
OWNER'S MANUAL**

Please study this document carefully before using equipment



RoHS

CONGRATULATIONS !

You have purchased one of the world's finest preamplifiers and certainly one of the most unique. Developed and refined since 1989 it is (at the time of this writing) the only fully-differential balanced vacuum-tube preamp technology in the world featuring a direct-coupled output. Thus it operates at a level of performance that others have been struggling for years to achieve, and likely will for years to come. You don't have to wait; all you have to do is set the preamplifier up by following the simple instructions in this manual.

Every part of the preamplifier has been extensively tested and engineered so the product will perform flawlessly for years to come.

Please read the manual carefully and follow the instructions closely. If you have any questions, do not hesitate to contact your dealer or Atma-Sphere. Here's to many years of happy listening!

Sincerely,

Ralph Karsten

LIMITED WARRANTY ON Atma-Sphere Products

This warranty on your Atma-Sphere product, which is distributed and warranted by Atma-Sphere, shall remain in effect for three (3) years from the date of consumer purchase, provided the enclosed registration form is completed and returned to Atma-Sphere within ten days of purchase.

WHAT IS COVERED:

Except as specified below, this warranty covers all defects in materials and workmanship. The following are NOT covered by the three year limited warranty:

- Tubes are covered for 90 days, with the following exclusions, as per the rest of the warranty:
- Damage occurring during shipment (present claims to carrier).
- Damage resulting from failure or inability to follow proper instructions.
- Damage resulting from the performance of repairs or modifications by other than Atma-Sphere Music Systems, Inc..

WHAT WE WILL PAY FOR:

Atma-Sphere will pay for all labor and material expenses for repairs covered by this warranty.

HOW TO OBTAIN WARRANTY SERVICE:

If your unit requires repairs covered by this warranty, you MUST obtain return authorization from Atma-Sphere. You are responsible for transporting the unit to Atma-Sphere, 1742 Selby Av., St. Paul, Minn. 55104. You must pay the initial shipping charges, but Atma-Sphere will pay the return charges, if the repairs are covered by the warranty. All products MUST be shipped in the original carton(s) or in replacement cartons supplied by Atma-Sphere. Contact Atma-Sphere. for replacement cartons and cost.

LIABILITY IS LIMITED TO THE REPAIR OR REPLACEMENT, AT OUR OPTION, OF ANY DEFECTIVE PRODUCT AND SHALL IN NO EVENT INCLUDE INCIDENTAL OR CONSEQUENTIAL DAMAGE OF ANY KIND.

This warranty is transferable. Implied warranties of merchantability and fitness for a particular purpose are limited in duration to the length of this warranty. This warranty sets forth all expressed warranties made with regard to the above-referenced product. We neither assume nor authorize any other liability in connection with the sale or any shipment of products. This warranty gives you specific legal rights and you may also have other rights which vary from state to state. We reserve the right to make changes and improvements in our products without incurring any obligation to similarly alter products previously purchased.

MUSIC PREAMPLIFIER SETUP AND OPERATION

Unpack the preamplifier carefully and save the packaging containers for future shipment if required.

During operation, the MP-3 gets warm. Adequate ventilation is mandatory. If the preamplifier is to be placed in a shelf or rack mount system, allow for at least 2 inches of open space above the unit. Make sure that the preamplifier is at least a foot away from any power supply, to avoid hum problems.

After the preamplifier is properly positioned, make sure that the power switch is in the OFF position. Connect the cables for the various components to be used with the preamplifier.

For superior sonic performance, the MP-3 does not use a muting circuit. Although the DC offsets generated during warmup are low level, they could be a problem for some amplifiers and speakers. **Allow the preamplifier to warm up and stabilize before energizing your power amplifiers.** A muting circuit would interfere with the servo loop operation in the output section of the preamp. When not in use, its presence would have an audible artifact as well.

WARNING! DO NOT TURN ON THE AMPLIFIERS IN YOUR SYSTEM UNTIL THE PREAMPLIFIER IS WARMED UP AND STABILIZED! DAMAGE TO SPEAKERS, AMPLIFIERS OR BOTH MAY RESULT!

Get in the habit of turning down the volume or switching to an unused input anytime you turn your amplifier on, when you change a record, etc.

After the preamplifier is turned on, it takes about 30 seconds before it is ready for use. During the warm-up of the preamplifier, one or both of the "DC OFFSET" LEDs on the front panel may light up. This indicates that the servo circuit has detected a DC voltage at the output of the preamp and is trying to correct it. **If the indicator stays lit for more than a minute, a fault is indicated. The preamplifier should be turned off and the fault (usually a bad 6SN7) corrected. A DC Offset will impair performance and could damage associated equipment.** Refer to the troubleshooting page in this manual. It is normal for the indicators to flicker at high volume settings. The preamplifier will sound significantly better after about 45 minutes of operation.

OPERATING NOTES

The preamplifier can be left on all the time, but the phono tubes should be tested every 4 months if you do so. The line stage tubes will last considerably longer! Be sure to provide for adequate ventilation. The unit will sound substantially better an hour after turn-on, so leaving the preamp on all the time will not win you anything.

The MP-3 may be used with a low impedance (600 ohm) load at the input of the power amplifier which can be used to reduce hum, buzz and interconnect cable artifact.

The GAIN TRIM is provided to adjust for proper left-right balance effect and to allow for range on the volume control. The MP-3 is a zero feedback design so tube condition can cause a gain difference between left and right channels.

Operate the control SLOWLY. The GAIN TRIM controls are not in the audio path. They may generate a temporary DC offset (and sometimes noise) when they are operated. This can be reduced or eliminated depending on the balance of the sections in the 12AU7 used in the high level section.

Due to the nature of the MP-3, expensive cables between the preamplifier and power amplifier are less important. The cable differences you hear will be minor compared to single-ended cables. Thus we have no recommendation for cables to be used between the preamplifier and power amplifier. On the other hand, the *input* cables may be *very* critical, depending on the source.

NOTE:

Some flashing of the DC Offset L.E.D.s is normal at high volumes.

PHONOGRAPH HOOKUP

All phonograph cartridges (except some old-style Deccas) are balanced sources. The MP-3 allows you to set up your turntable as a fully-balanced source, to considerable sonic advantage. For best results, follow the connection scheme outlined below:

- 1) Use a cable that has two signal conductors (twisted pair) PLUS a shield for each channel. The two conductors are for the plus and minus outputs of the cartridge, and the shield connection becomes the tone arm/turntable ground connection and is common to BOTH channels.
- 2) Pin number 1 of any XLR connection is always be ground per industry standard.
- 3) Pin two of the XLR phono input corresponds to the "+" or non-inverting output of the cartridge, and pin three is the "-" or inverting output of the cartridge. Absolute system phase can be corrected from the front panel.
- 4) There is no need for an independent ground wire from the arm to the preamp.

If you set up the cable correctly, there will be no hum. Many tone arms use a five pin connector that plugs into the bottom of the arm. If this is the case in your system, you may order a tone arm cable with the right connections from almost any cable manufacturer. If your arm has RCA connectors at the output, an adapter cable can be made that will work. The shield connection of the RCA must become the connection to pin 3 of the XLR connector, and the tone arm ground connection should be made as described above. ON NO ACCOUNT should you allow the shield connection of the RCA to become the shield for the cable, as this may result in a loud hum.

Cartridge loading is achieved by installing resistors on the loading terminal on the rear panel. A screwdriver is all that is needed for attachment. You will have to experiment to obtain the correct value. The stock loading value is 47K0hms. Normally the MP-3 is insensitive to loading resistors if a low output moving coil cartridge is used.

Avoid using NOS 12AT7s in the MP-3. Despite frequent claims to the contrary, most such tubes are too noisy for proper operation in the MP-3! Please purchase new 12AT7s from your dealer or Atma-Sphere. Most 12AT7s tend to get noisy after about 3 thousand hours so; if you leave the preamp on 24 hours a day the phono tubes should be replaced every 3-4 months. They will last longer if the preamp is turned off when not in use. In any event, be VERY suspicious of any NOS 12AT7s. Most of them are unacceptable.

The 12AT7 closest to the rear panel makes about 95% of the noise of the phono section. The stronger that tube measures on a tube tester the lower the noise. The sections should not be widely apart from each other.

For very low output cartridges you may wish to have the step-up transformer option installed. Contact your dealer for details.

High-Level Hookup

The auxiliary inputs are high impedance. Thus you may use any input as a source for the MP-3. If you are using a low impedance source, a low impedance termination is recommended for better sound. A single-ended source can also be used, by applying the signal between either pin two or pin three of the input XLR, and ground. The unused input (pin three or pin two, respectively), may have to be shorted out to prevent noise. Pin two of all the XLR inputs is the non-inverting input, per industry standard.

The tape outputs are high impedance. Use a high quality cable for best results and keep the cable as short as possible. The minimum drive impedance is 20Kohms. The tape 2 output is inverted while tape 1 is non-inverted.

The tape monitors are a single-ended, non-inverting, high impedance input.

NOTES ON TUBES

- 1) The 12AT7s in the rear left of the board are the most critical for low noise phono operation.
- 2) The constant current source tube (the 7th 12AT7 by itself in the rear) is outside of the signal path. It should not be Chinese.
- 3) Matched sections in the 12AU7s of the high level section will reduce DC offset during operation of the front panel GAIN TRIM controls.
- 4) Tube damping rings are recommended.
- 5) Do not remove tubes while unit is operating. Hazardous or lethal voltages are present!
- 6) NEVER use Tweek, Pro-Gold or other contact enhancers on vacuum tubes or their sockets- damage can result!!

TROUBLESHOOTING TIPS

Bottom front panel LED won't light up: Check the rear panel AC connector and verify that the power cord is plugged in. If so, the internal 1.5Amp SLOW BLOW (.75A if 235 Volts) fuse may be blown.

Buzz, hum and/or RF interference: Make sure that the power cord is plugged into a properly grounded outlet and that no other equipment in the system is grounded (resulting in a ground loop). Sometimes RF can get into the phonograph through poorly shielded wiring in or from the tone arm. This is common with modern straight-tracking arms. Buzz can also occur if the input of the amplifier is not properly balanced. This can occur if the amplifier has an RF filter at its input that is only active on the non-inverting input. There are quite a few transistor amps with balanced inputs that are set up this way.

Distortion: Check the output tube (6SN7) and the associated 12AU7 for defects. Also pin 3 or pin 2 of the XLR may be shorted to ground.

Both channels dead, unit lights up: There is a fuse located on the rear right side edge of the circuit board (as you face the front of the unit). Replace with the same type slow-blow fuse (.75 Amp for 117 Volt units, .35 Amp for 230 Volt units). If you are not qualified, do not remove the cover. Hazardous or lethal voltages are present with the cover removed. Refer servicing to qualified service personnel.

Ringling or 'bell' sound when operating volume (microphonics): Usually the 12AU7 in the line stage is the most likely to cause this fault. The 12AT7s in the phono section can do this too. If the MP-3 is OK on AUX inputs, but rings on the phono, then a 12AT7 is most likely at fault.

LED lit up continuously: Check the 6SN7 in the channel associated with the LED. If only one channel is lit, try swapping the left and right 6SN7s. The lit LED should now be in the other channel; the tube should be replaced.

****USE OF CONTACT ENHANCERS ON THE TUBE SOCKETS WILL VOID THE WARRANTY!!****

If none of these suggestions help, please contact your dealer or Atma-Sphere.

MORE TIPS AND TWEAKS

You can reduce the noise level beyond the specification by using low noise tubes. When ordering from any source, specify tubes for a differential circuit (matched tube sections). We have found that the 12AT7 at the input of the phonograph section, and the 12AU7 at the input of the high-level section are the most audible.

We recommend line conditioning. The fifth harmonic of the power line frequency has been shown to be far more problematic for good sound than all other types of power line problems (RF, spikes, etc.) put together.

We have found that the power cord can have audible effects! A good cable is recommended.

A good quality equipment stand that is anti resonant and an anti-vibration platform are both helpful NavCom Silencers or other anti-vibration pads are also recommended. Tube damping rings are highly recommended but do not use more than one per tube.

NOTES

WARRANTY REGISTRATION FORM

IMPORTANT: This form must be filled out and returned to Atma-Sphere within 10 days of purchase to validate the warranty! Please type or print clearly.

NAME _____

Address _____

City or town _____ State _____ zip code _____

Country _____

Dealership _____

Model MP-3 Date of purchase _____ serial # _____ price paid _____

Optional section for our records and information:

Comments concerning your dealer _____

Comments concerning this product _____

components in your system _____

comments, suggestions _____

MAIL TO: Atma-Sphere 1742 Selby Av. St. Paul MN 55104 USA