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St. Paul, MN 55104
651-690-2246
atma-sphere.com

ATMA-SPHERE MUSIC PREAMPLIFIER

model MP-1 Mk.3.3
OWNER'S MANUAL

Please study this document carefully before using equipment



CONGRATULATIONS!

You have purchased the world's finest preamplifier and certainly one of the most unique. It has seen over seventeen years of development and represents a level of performance that others will be struggling to achieve for years to come if for no other reason than we control the patents. At the time of this writing, it is the only fully balanced differential all-vacuum tube design in the world that also supports the 600 ohm standard.

Every part of the preamplifier has been extensively tested and engineered so the product will perform flawlessly for years to come, with little if any service.

Please read the manual carefully and follow the instructions closely. If you have any questions, **do not hesitate** to contact your dealer and always feel free to contact us at ATMA-SPHERE MUSIC SYSTEMS. Here's to many years of happy listening!

Sincerely,

Ralph Karsten

LIMITED WARRANTY ON ATMA-SPHERE MUSIC SYSTEMS PRODUCTS

This warranty on your ATMA-SPHERE MUSIC SYSTEMS product, which is distributed and warranted by ATMA-SPHERE MUSIC SYSTEMS, 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 MUSIC SYSTEMS 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 1 year, 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.

WHAT WE WILL PAY FOR:

ATMA-SPHERE MUSIC SYSTEMS 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 a return authorization number from ATMA-SPHERE MUSIC SYSTEMS. You are responsible for transporting the unit to ATMA-SPHERE MUSIC SYSTEMS, 1742 Selby Av., St. Paul, Minn. 55104. You must pay the initial shipping charges, but ATMA-SPHERE MUSIC SYSTEMS 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 MUSIC SYSTEMS. Contact ATMA-SPHERE MUSIC SYSTEMS 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 and its power supply carefully. Save the shipping container for future shipment (replacements are \$95.00). Warranty may be void if the unit is shipped in a different container. If you do not have a container, contact ATMA-SPHERE MUSIC SYSTEMS for a replacement.

Normally the tubes are installed; the types are marked on the boards.

During operation, the MP-1 gets warm. Adequate ventilation is mandatory. If the preamplifier is to be placed in a shelf or rack mount system, allow for at least 12 inches of open space between the power supply and head unit to avoid overheating and hum problems.

After the preamplifier and supply are properly positioned, make sure that the main power switch is in the OFF position. Connect the umbilical cable from the power supply to the head unit. The connector operates by lining up the correct key channels and then pushing on it gently while turning the knurled threaded locking ring. It is keyed so that insertion is possible only one way- The lowest numbers marked on the pins of the connector should be aligned at the top of the connector when inserted. You may now plug in the power supply. The "POWER AVAILABLE" LED should now light. Connect the cables for the various components to be used with the preamplifier.

To maximize performance the MP-1 does not use a muting circuit! **Allow the preamplifier to warm up and stabilize before energizing your power amplifiers.** Muting circuits interfere with sound quality and the servo circuits in the line stage section. Although the DC offsets generated during warmup are low level, this may be a problem for some amplifiers and speakers.

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

It takes about 30 seconds from turn on before the preamp is ready for use. During the warmup, 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 (usually a bad 6SN7 tube) which should be corrected to prevent possible damage to associated equipment.** The preamplifier will sound significantly better after about 45 minutes of operation.

OPERATING NOTES

The MP-1 takes about 1 or 2 hours to sound its best although it is quite musical after only 15 minutes. There is no need to run the unit 24 hours a day, but if you do, test the tubes once every four months. Allow for a few weeks of normal operation to break in the unit; subtle but lucid improvements will be noticed.

The MP-1 supports the use of a low impedance (600 ohm) load at the input of the power amplifier (although it is by no means required). Such practice can reduce hum and buzz but more importantly eliminate artifact from the interconnect cables. An optional terminator is available from ATMA-SPHERE for

amplifiers without this provision.

Adjust the GAIN TRIM for proper channel balance. Some minor adjustment is sometimes required as the MP-1 is a zero feedback design. The Gain Trim controls are a volume control system employing a shunt-style control- the controls themselves are not in series with the audio signal. Set them so that the Master control is easy to use.

Due to the low impedance operation of the MP-1, cable quality between the preamplifier and power amplifier is considerably less important. You may hear differences in the cables, but they will be minor compared to the differences you may be used to hearing in 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. Atma-Sphere offers a variety of interconnect cables for this purpose. Contact your dealer or Atma-Sphere for details.

PHONOGRAPH HOOKUP

All phonograph cartridges with four signal pins are a balanced source. Thus the MP-1 allows you to set up your turntable as a fully balanced source, with considerable sonic advantage. For best results, follow the connection scheme outlined below:

- 1) Use a cable that has two signal conductors 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 one of any XLR connection should always be ground as 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 whatsoever. Many tone arms use a five pin connector that plugs into the tonearm. If you have such an arm, you may order a tone arm cable with the right connections from almost any cable manufacturer. Sometimes a copy of this page sent to the cable manufacturer is helpful. If your arm has RCA connectors at the output, an adapter cable can be made that will work. The shield connection of the RCA becomes 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 will result in a loud hum.

The cartridge loading is accomplished by installing resistors on the loading terminal above the phono connectors on the rear panel. A screwdriver is all that is needed for attachment. You will find that the MP-1 is relatively insensitive to loading of low output moving coil cartridges. This is because the MP-1 is very RFI immune and loading of low output moving coil cartridges has most of its effect at Radio Frequencies. If using a high output cartridge, things are different and loading can be quite critical as the load affects the

cartridge directly at audio frequencies.

For best results, the phono cable should be shielded.

Note: To avoid noise, avoid New Old Stock (NOS) 12AT7 tubes in the phono section. Most are far too noisy to be of any real use. The tubes closest to the rear panel have the most affect on the noise floor.

A step-up transformer is available for very low output cartridges (0.1mv or less).

High Level Hookup

The auxiliary inputs are high impedance. Thus you may use any input as a source for the MP-1. A single-ended source can also be used, by applying the signal between pin 2 of the input XLR and pin 1 (ground). The unused pin three may have to be shorted to pin 1 to prevent noise. Pin 2 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 10Kohms.

The tape monitors are a single-ended, non-inverting, high impedance input and may be used with any single-ended line source.

A note on tubes: As mentioned previously, avoid NOS 12AT7s. Older 6SN7s, on the other hand, can often provide some improved performance. Only buy from a reputable vendor, with proper assurance that the tubes can be returned if they are unsatisfactory! We advise that you do not go overboard with NOS tube types, as the prices paid for the results can be high compared to other changes you can make, fleeting, or both. Especially in the case of the phono tubes, the investment is often not worthwhile.

NOTES ON TUBES

- 1) The 12AT7s in the rear left of each board are the most critical for low noise phono operation. DO NOT use NOS tubes: noise **will** be unacceptable.
- 2) The constant current sources (6SN7s in the center of the boards) should be chosen for low noise.
- 3) The 6SN7 in the front right hand location of each circuit board is the most important to the sound of the line stage.
- 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 or other contact enhancers on vacuum tubes, their sockets or the volume control! **Such use voids the warranty.**

TROUBLESHOOTING TIPS

Front panel LEDs on the power supply don't light up: Check the rear panel fuse and verify that the power cord is plugged in.

Buzz, hum: Make sure that the power cord is plugged into a properly grounded outlet. The MP-1 supports the AES file 48 (balanced line standard) however a lot of other high end audio products do not. This can result in ground loops. If you are trying to operate the output of the preamp with single-ended equipment, buzz may occur if the conversion from balanced to single-ended is not handled properly. Contact Atma-Sphere for assistance. In some situations an isolation transformer can be helpful.

Distortion: Check the output tubes (6SN7, upper right in diagram) and the associated 6SN7 in front for defects. If any of the output pins of the main output XLR connectors other than pin one is at ground potential, distortion may result. Also check the circuit board fuses in the power supply:

One or both channels out: Check all tubes. If OK, there are two fuses located on the right side of the power supply circuit board (as you face the front of the unit), one for each channel. Replace with the same type slow blow fuse (1 Amp for 117 Volt units, 0.5 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 service to qualified service personnel.

Noisy phono section: Replace the 12AT7s in the phono section. AVOID 'NOS' (New Old Stock) TYPES AT ALL COST! Despite claims to the contrary by NOS tube suppliers, all NOS 12AT7s are just too noisy if you intend to use low output moving coil cartridges. Mullard- Telefunken- don't care. They are too noisy. The quiet ones were purchased decades ago.

Low output from one channel: Check tubes.

DC Offset LED lit up continuously: Check the 6SN7s (rear right two on circuit board) in the channel associated with the LED.

NEVER, EVER, USE TWEAK OR ANY CONTACT ENHANCER ON TUBE SOCKETS! Tweak is resistive at vacuum-tube voltages. This will destroy the tube sockets and possibly the circuit boards!

If none of these suggestions help, contact your dealer or ATMA-SPHERE MUSIC SYSTEMS.

MORE TIPS AND TWEAKS

For use with subwoofer and other bi-amplified systems: Have your crossover updated with correctly balanced inputs. If this is not possible, a specialized balanced-to-unbalanced subwoofer-optimized line transformer is available from Atma-Sphere and works quite well. If you do not use one of these techniques, it is likely that you will encounter a buzz.

When ordering from any source, specify tubes for a differential circuit (matched tube sections). The 12AT7s at the input of the phonograph section and the 6SN7 at the input of the high level section (right front on circuit board)

are perhaps the most audible. We find NOS 12AT7 tubes to be too noisy.

Harmonics of the power line frequency have been shown to be far more problematic for good sound than all other types of power line problems (RF, spikes, etc.) put together. Be sure that the conditioner you use can filter line frequency harmonics, particularly the fifth (300 Hz on 60Hz line). A pronounced 5th harmonic can cause any power transformer to become mechanically noisy! Beware that any line conditioner with a transformer in it can add harmonics if operated at more than 50% of its capacity.

The power cord can have audible effects! A good cable is recommended.

The Sound Anchors equipment stand and the Silent Running stands are the finest we have seen. They are highly recommended. Use them in conjunction with the Ultra Resolution Technologies vibration damping platform. NavCom Silencers or other anti-vibration pads can be helpful as are tube damping rings.

Most cartridges with more than 0.15mv seem to work fine. The higher the output the better, tempered with a musical presentation. Some recommended choices: The Grado Statement and Master Reference, Lyra series, Dynavector and Micro Benz. There are of course many others.

If a high output cartridge is used, a jumper plug that replaces one of the phono tubes can be installed to reduce gain. Contact Atma-Sphere for details.

A moving coil step-up transformer option is also available for cartridges of less than 0.1mV. It can be used to reduce noise, even with higher output cartridges, at a slight cost of musicality. The technique is to use the aforementioned jumper plug as well. The gain tends to be similar to the normal phono section without the transformer, only with about 15 db less noise. If you can, avoid the transformer option, it is likely that the sound will be better; all transformers cause signal degradation.

NOTES

WARRANTY REGISTRATION FORM

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

NAME _____

Address _____

City or town _____ State _____ zip code _____

Country _____

Name of dealership _____

MP-1 Mk. 3.3 Date of purchase _____ serial # _____ price paid _____

Optional section for our records and information:

Comments concerning your dealer _____

Comments concerning this product _____

list the components in your system _____

comments, suggestions _____
