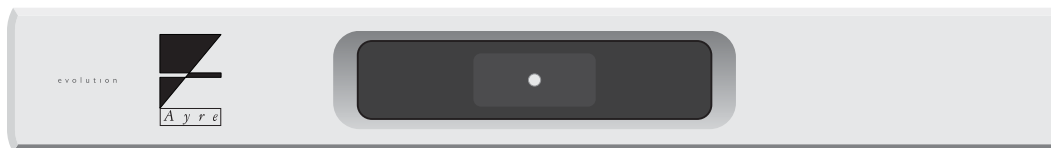


Ayre P-5xe

Owner's Manual



MC/MM Phono Preamplifier

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Welcome to

Ayre

Your Ayre P-5xe offers a significant advance in the musical performance of high-fidelity equipment. The warmth and immediacy of a live performance are apparent from the first listening. The combination of superb resolution and a natural, relaxed quality will draw you into the music, time and time again.

This level of performance has been implemented using the highest level of workmanship and materials. You can be assured that the Ayre P-5xe will provide you a lifetime of musical enjoyment.



To our North American customers, please be sure to mail your warranty registration card and photocopy of your original sales receipt within 30 days in order to extend the warranty to five years.

Installation

The Ayre P-5xe is easy to connect and use. The following guidelines will ensure that the installation goes smoothly.

Location

A good location for your phono preamplifier is in a cabinet or on a shelf. Please note that the high-gain circuitry required to amplify the low-level signal from a phono cartridge may be sensitive to the magnetic fields from transformers in other equipment.

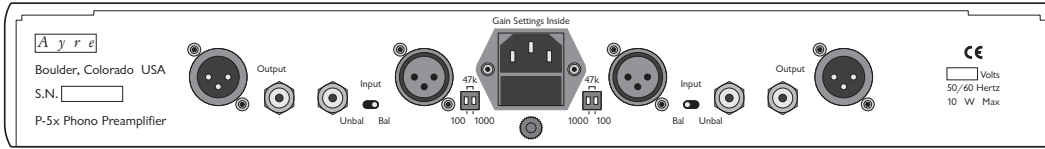


It is recommended to maintain a distance of 10" to 20" (25 cm to 50 cm) to other components to minimize hum levels.

Inputs

The balanced configuration yields maximum sonic performance with minimum noise and hum.

As the phono cartridge is an inherently balanced device, the Ayre P-5xe offers balanced inputs via XLR connectors. Since most tone arms and/or turntables are not currently equipped with XLR



connectors, there are two choices for making the proper connection:

1) Use custom phono cables with XLR connectors at the phono preamplifier end and the appropriate connector (RCA or DIN, depending on the particular installation) at the turntable end. This is the preferred solution and offers the highest level of sound quality, or;

2) Use the existing cables with RCA connectors to connect to the unbalanced inputs of the P-5xe.



Custom phono cables with XLR connectors for balanced operation are available from your local Ayre dealer.

A small toggle switch near the input connectors configures the circuit for either the balanced or unbalanced inputs.



Only one set of inputs (balanced or unbalanced) may be connected at a time.

Outputs

The Ayre P-5xe offers one pair of balanced (XLR) outputs and one pair of unbalanced (RCA) outputs. Although both sets of outputs are always active regardless of which input (balanced or unbalanced) is used, it is normally recommended to only use one set of outputs at a time.



Note that the level of the unbalanced outputs will be 6 dB lower than the balanced outputs.

AC Power

The phono preamplifier draws only a small amount of power and is designed to be left on at all times.

Connect the Ayre P-5xe to an unswitched AC power source. The front panel LED will glow blue to indicate that the unit is powered. Although proprietary RFI (radio-frequency interference) filtering is built into the CD player, in some situations an AC power-line filter (such as those offered by Ayre) may provide additional sonic benefits.

Operation

The Ayre P-5xe offers the ultimate in flexibility and performance for all types of phono cartridges. Low-noise FET circuitry provides ultra-quiet operation even with the lowest output cartridges. Both gain and loading are easily adjustable to accommodate both moving coil and moving magnet designs.

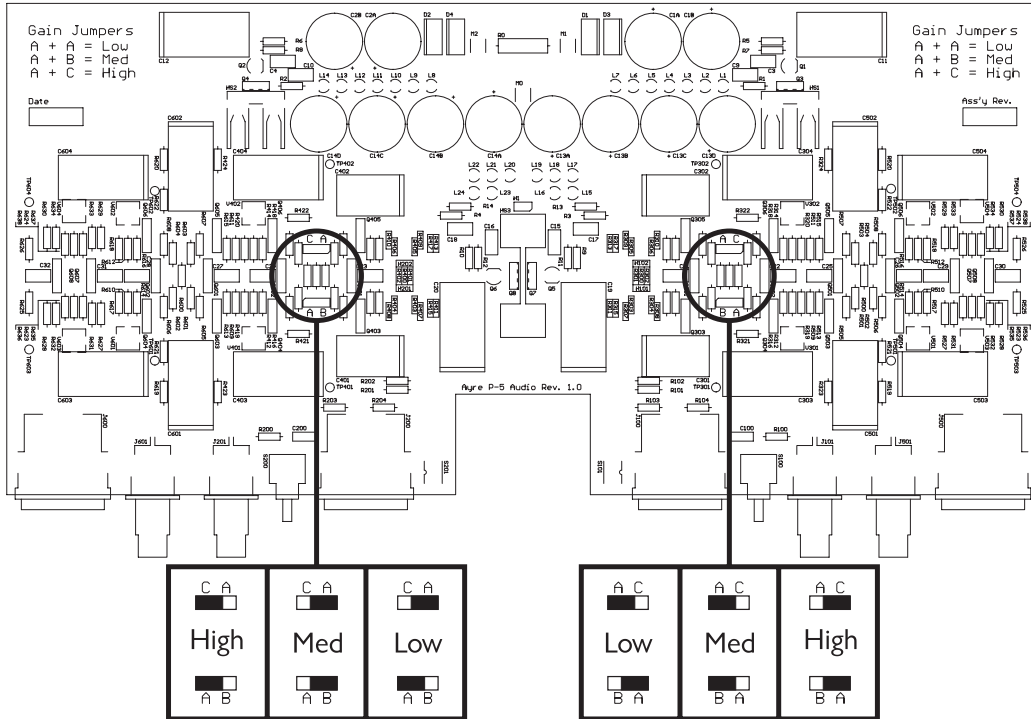
Setting the Gain

Ayre's exclusive zero-feedback design allows for a wide range of signal gain, without the need for step-up transformers or extra gain stages. Changing the gain is easily accomplished with jumper blocks inside the unit.



Disconnect the AC power before removing the cover of the unit.

To access the gain adjustments, remove the 10 screws on the top cover using a 5/64" (2 mm) hex wrench.



Suggested gain settings are:

Cartridge Output	Gain Setting	Gain to Out Bal/Unbal
> 3 mV	Low	50/44 dB
1 – 3 mV	Med*	60/54 dB
< 1 mV	High	70/64 dB

These settings are guidelines only, and variations are perfectly acceptable. Note that the gain does not depend on which input is selected (balanced or unbalanced), but only on which output is connected.

*Factory default setting.

Setting the Loading

Cartridge loading can be adjusted with switches on the rear panel. The loading options built in to the Ayre P-5xe are 47 k Ω , 1000 Ω , and 100 Ω . There is a bank of two switches for each channel. When both switches are in the “Up” position the cartridge load is 47 k Ω , which is suitable for almost all cartridges.

It is recommended that the loading not be changed from 47 k Ω when using a moving-magnet cartridge.

Some moving-coil cartridges will yield better sonic performance if they are loaded with a lower impedance. Usually, a lower load impedance results in a more focused soundstage, with greater image solidity and less apparent distortion. A higher load impedance will give a more open sound, with greater air and life. The final loading value must be chosen by ear to give the best sound in your particular system.

Break-In

100 to 500 hours of music played through the system will ensure full break-in.

Due to the manufacturing processes used for the circuit board and capacitors, a break-in period is necessary for the phono preamplifier to reach its full performance potential.

Customization

Technically oriented users may wish to explore additional customization options that are available.

Custom Loading Resistors

When using custom loading resistors, leave the loading switches in the “Up” position (47 k Ω).

Should additional loading values be desired, custom loading resistors are also easily accommodated. As there are two types of inputs (balanced and unbalanced), simply connect the desired value of loading resistor to the unused inputs using an appropriate connector (RCA or XLR).

Required materials include a pair of high-quality resistors of the desired value and an additional pair of the appropriate connectors (RCA or XLR). Male polarity connectors are required for the custom loading resistors.

When using a balanced (XLR) connection to the turntable, solder the desired value loading resistors between the center pin and the shell of the additional male RCA connectors. These additional connectors are then inserted into the otherwise unused unbalanced inputs of the P-5xe.

When using an unbalanced (RCA) connection to the turntable, solder the custom loading resistors between pins 2 and 3 of the additional male XLR connectors. These additional connectors are then inserted into the otherwise unused balanced inputs of the P-5xe.

Custom Phono Cables

As noted in the “Connections and Installation” section, a balanced connection from turntable to phono preamplifier will provide the highest level of performance. While Ayre offers pre-made cables of the correct configuration, some users will prefer to have custom phono cables made by another manufacturer, or to modify their existing cables. This section gives details on how to achieve the proper connection.

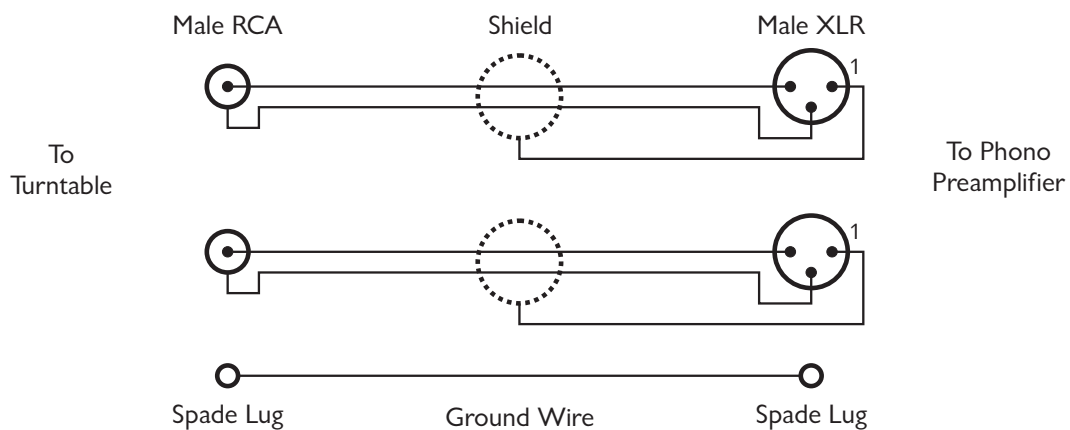
In general, there will be a total of five connections to the turntable:

- Left positive
- Left negative
- Right positive
- Right negative
- Tonearm and/or turntable ground

These should be connected to the phono preamplifier using only a single ground connection, in order to eliminate hum-inducing ground loops.

Turntables with RCA Connectors

One common turntable configuration has two RCA jacks plus a ground post. Following is a schematic diagram of a suitable custom cable:

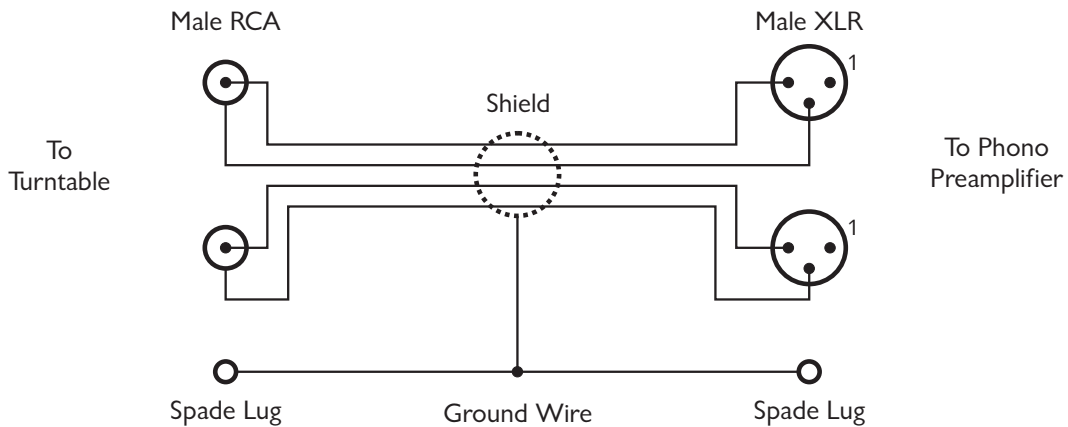


This configuration has two separate cables plus a ground wire, and requires balanced cabling with at least two conductors plus a shield. If the cabling has a third conductor (in addition to the shield), it should be connected to pin 1 of the XLR connector and left unconnected at the RCA end. If the cabling has four or more conductors, they should be paralleled to create two composite conductors.

Normally this turntable configuration has the RCA connectors mounted to an unsuspended part of the turntable and the cable's stiffness will not interfere with the turntable's suspension. Should the RCA connectors be mounted to a suspended part of the

turntable, the custom cables must be made flexible to allow proper motion of the suspended sub-chassis. This is normally done by removing a section of the cable's outer jacket near the turntable.

A custom phono cable using a single cable may also be used as shown below:



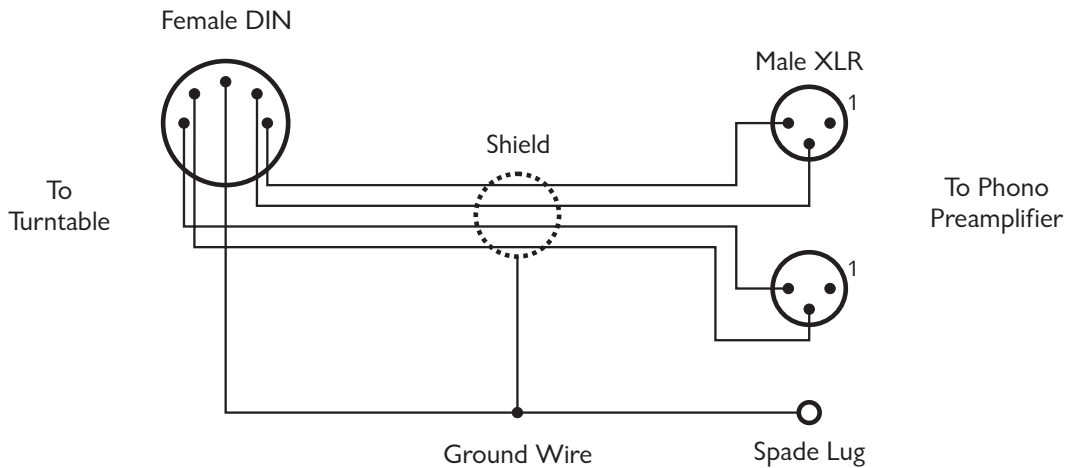
Please note that this configuration requires cabling that has a multiple of four conductors plus a shield. If there are eight or twelve conductors, they must be paralleled to create four composite conductors. Also, a short section of the cable jacket must be removed at each end of the custom cable to allow the connectors to be physically separated.

Tonearms with a Mini-DIN Connector

Another common tonearm configuration has a 5-pin mini-DIN connector below the turntable base. This

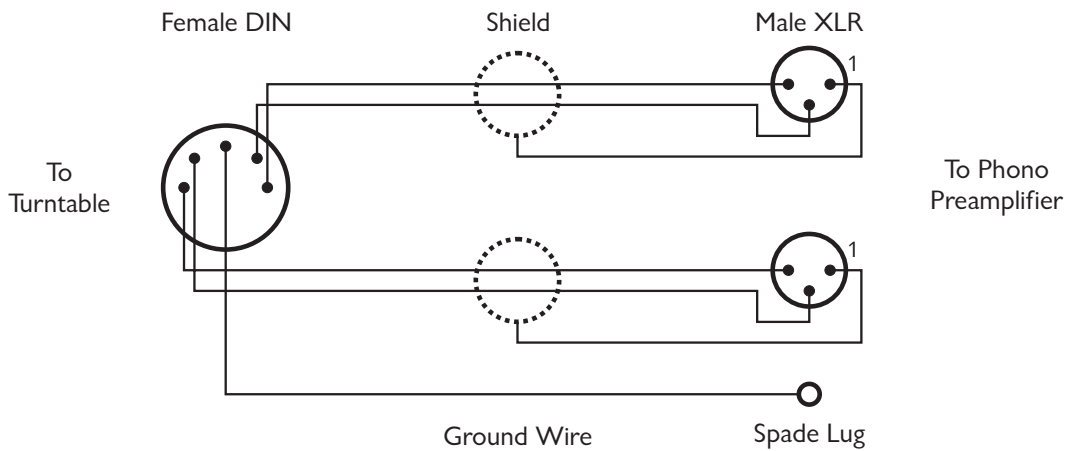
mini-DIN connector is nearly always on a suspended part of the turntable, and care must be taken to provide a flexible section of the custom phono cable so that the turntable's suspension can have free motion.

It is usually easier to create the required flexibility by using a single cable with four conductors plus a shield, instead of using a separate cable for each channel. Below is the schematic diagram for a suitable custom phono cable in this application, with the DIN connector shown from the rear (solder) side:



Remember that a section of the cable's outer jacket must be removed from each end of the custom cable. This provides a flexible section at the tonearm end, and allows the XLR connectors to be physically separated at the phono preamplifier end.

In the event that a four conductor cable is not available, a pair of cables with at least two conductors each may be used as shown in the following diagram, with the DIN connector shown from the rear (solder) side:



In this situation extra care must be taken to provide a flexible section to avoid interference with the turntable's suspension. If the cabling has three conductors (in addition to the shield), the third conductor should be connected to pin 1 of the XLR connectors and left unconnected at the tonearm end.

Numbers and

Specifications

<i>Input Impedance</i>	47 k Ω , 1000 Ω , 100 Ω (adjustable)
<i>Gain</i>	50 dB, 60 dB, 70 dB – balanced outputs 44 dB, 54 dB, 64 dB – unbalanced outputs (adjustable)
<i>Frequency Response</i>	RIAA Curve \pm 0.05 dB (20 Hz – 20 kHz)
<i>Output Impedance</i>	110 Ω – balanced outputs (55 Ω per phase) 55 Ω – unbalanced outputs
<i>XLR Input Polarity</i>	Pin 1 – Ground Pin 2 – Non-inverting (Positive) Pin 3 – Inverting (Negative)
<i>Power Consumption</i>	10 watts
<i>Dimensions</i>	17- ¹ / ₄ " W x 13- ³ / ₄ " D x 2- ³ / ₄ " H 44 cm x 35 cm x 7 cm
<i>Weight</i>	12 pounds 5.5 kg

Statement of

Warranty

North American Warranty

Your Ayre P-5xe phono preamplifier is warranted against defects in workmanship and materials for a period of ninety days from the date of original purchase. This ninety-day coverage is automatic upon acceptance of delivery and no registration is required.

Additionally you have the option, at no cost, to extend the warranty for a period of five years from the date of purchase by returning the completed Warranty Registration Card and a photocopy of your original purchase receipt in the enclosed postage-paid envelope to Ayre within thirty days of product delivery. This optional warranty is only available within the thirty-day registration period.

North American Warranty Statement

1. If any defects are found in the materials or workmanship of this Ayre product within the warranty period, the unit will be repaired or replaced by Ayre Acoustics, Inc. (Ayre) or its authorized agent.

2. Purchaser must return the product, packed in the original shipping carton, freight prepaid to:

Ayre Acoustics, Inc.
2300-B Central Avenue
Boulder, Colorado 80301

or to Ayre's authorized agent. The product must be accompanied by a written description of the defect and a photocopy of your original purchase receipt. Ayre will not be responsible for any shipping damage and strongly recommends the purchase of shipping insurance.

3. Ayre reserves the right to inspect any product that is the subject of any warranty claim prior to repairing or replacing it. Final determination of warranty coverage lies solely with Ayre.

Out-of-warranty claims will be billed for labor, materials, return freight, and insurance as required. Any product for which a warranty claim is accepted will be returned to the purchaser and the cost of shipping and insurance will be factory prepaid within the boundaries of the USA. Units to be shipped outside of the USA will be shipped freight collect only.

4. Ayre strives to manufacture the finest possible equipment, and therefore reserves the right to make improvements on its products, without necessarily assuming any obligation to retrofit such changes upon its previously manufactured models.

5. The above warranty is the sole warranty given by Ayre, and is in lieu of all other warranties. All implied warranties, including warranties of merchantability or fitness for any particular purpose shall be strictly limited to the duration of the above warranty. Ayre shall have no further obligation of any kind, whether express or implied. Further, Ayre shall in no event be obligated for any incidental or consequential damages as a result of any defect or any warranty claim, whether express or implied.

6. Ayre does not authorize any third party, including any dealer or sales representative, to assume any liability of Ayre or make any warranty for Ayre. The unit must not have been altered or improperly serviced. The serial number on the unit must not have been altered or removed.

7. The remaining period of this warranty is only transferable to subsequent purchasers if the product is resold by an authorized Ayre dealer.

International Warranty

Warranty terms outside of North America may vary. Please contact the authorized Ayre distributor in your country of purchase for the terms of warranty and also the service itself.

A Place for

Notes

Serial Number: _____

Purchase Date: _____

Dealer: _____

Salesperson: _____

Ayre Acoustics, Inc.
2300-B Central Avenue
Boulder, Colorado 80301

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