

# Owner's Manual

MOON Series

110LP

*Phono Preamplifier*




M O O N

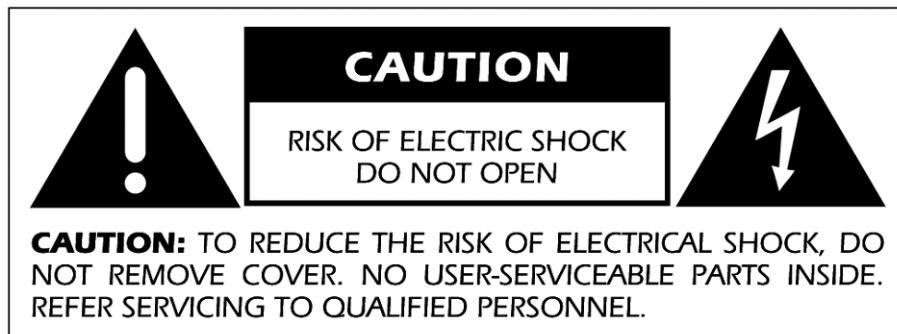
# MOON 110LP Phono Preamplifier

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## Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves or another apparatus that produces heat.
9. Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for safety. If the provided plug does not fit into the outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments and accessories specified by the manufacturer.
12.  Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when the power cord or plug has been damaged; liquid has been spilled or objects have fallen into the apparatus; or the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. No naked flame sources, such as candles, should be placed on the apparatus.

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



## MOON 110LP Phono Preamplifier

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### Important Safety Instructions (cont'd)



The lightning flash with the 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.



Marking by the "CE" symbol (shown left) indicates compliance of this device with the EMC (Electromagnetic Compatibility) and LVD (Low Voltage Directive) standards of the European Community

***Please read all instructions and precautions carefully and completely before operating your Simaudio MOON 110LP Phono Preamplifier.***

1. **ALWAYS** disconnect your entire system from the AC mains before connecting or disconnecting any cables, or when cleaning any component.
  2. The MOON 110LP must be terminated with a three-conductor AC mains power cord which includes an earth ground connection. To prevent shock hazard, all three connections must **ALWAYS** be used. Connect the MOON 110LP only to an AC source of the proper voltage; Both the shipping box and rear panel serial number label will indicate the correct voltage. Use of any other voltage will likely damage the unit and void the warranty.
  3. AC extension cords are **NOT** recommended for use with this product.
  4. **NEVER** use flammable or combustible chemicals for cleaning audio components.
  5. **NEVER** operate the MOON 110LP with any covers removed. There are no user-serviceable parts inside. An open unit, especially if it is still connected to an AC source, presents a potentially lethal shock hazard. Refer all questions to authorized service personnel only.
  6. **NEVER** wet the inside of the MOON 110LP with any liquid. If a liquid substance does enter your MOON 110LP, immediately disconnect it from the AC mains and take it to your MOON dealer for a complete check-up.
  7. **NEVER** spill or pour liquids directly onto the MOON 110LP.
  8. **NEVER** block air flow through ventilation slots or heatsinks.
  9. **NEVER** bypass any fuse.
  10. **NEVER** replace any fuse with a value or type other than those specified.
  11. **NEVER** attempt to repair the MOON 110LP. If a problem occurs contact your MOON dealer.
  12. **NEVER** expose the MOON 110LP to extremely high or low temperatures.
  13. **NEVER** operate the MOON 110LP in an explosive atmosphere.
  14. **ALWAYS** keep electrical equipment out of reach of children.
  15. **ALWAYS** unplug sensitive electronic equipment during lightning storms.
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# MOON 110LP Phono Preamplifier

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## Congratulations!

Thank you for selecting the **MOON 110LP Phono Preamplifier** as a part of your music/cinema system. This component has been designed to offer state-of-the-art high-end performance in an elegant package, while retaining all the sonic hallmarks on which Simaudio has made its reputation. We have spared no effort to ensure that it is amongst ***the finest*** phono preamplifiers available. We have been building high-performance audio equipment for over 25 years, and the know-how gained through our cumulative experience is an important reason why **MOON** audio components are so musically satisfying.

The performance of your **110LP** will continue to improve during the first 300 hours of listening. This is the result of a “break-in” period required for the numerous high quality electronic parts used throughout this phono preamplifier.

Before setting up your new **MOON 110LP**, we encourage you to please read this manual thoroughly to properly acquaint yourself with its features. We hope you enjoy listening to the **MOON 110LP Phono Preamplifier** as much as the pride we have taken in creating this fine audio product. We understand the power and emotion of music and build our products with the goal of faithfully capturing these elusive qualities.

*The information contained in this manual is subject to change without notice. The most current version of this manual is available on our official website at <http://www.simaudio.com/manuals.htm>*

## Unpacking

The **MOON 110LP Phono Preamplifier** should be removed from its box with care.

The following accessories should be included inside the box with your phono preamplifier:

- ✓ *External AC power supply*
- ✓ *Quick Reference Guide*
- ✓ *5/64" Allen key to remove the chassis cover and make internal adjustments*
- ✓ *Product Registration Information*

As soon as the phono preamplifier is safely removed from its box and placed down, perform a thorough physical inspection and report any physical damage to your dealer immediately. We suggest that you keep all of the original packaging, storing it in a safe, dry place in the event that you're required to transport this product. The customized packaging is specially designed to protect the **MOON 110LP Phono Preamplifier** from potential damage that may occur during shipping.

Please write the serial number of your new Simaudio **MOON 110LP** in the space provided below for future reference.

Serial No.: \_\_\_\_\_

# MOON 110LP Phono Preamplifier

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## Introduction

Your **MOON 110LP Phono Preamplifier** incorporates many significant design features to achieve its “world class” level of performance. This is an abbreviated list of the more important features:

End-user **adjustable impedance loading** (100 and 47k ohms).

End-user **adjustable capacitance loading** (0 and 100pF).

End-user **adjustable gain settings** for moving magnet (40dB) and moving coil cartridges (60dB).

**Two-layer PCB tracings** using pure copper for low impedance characteristics. The advantages include better circuit layouts resulting in a much shorter signal path and a vastly improved signal-to-noise ratio.

**Inductive DC Filtering** for a significantly lower noise floor.

Accurate matching of **military-grade components** with ultra-tight tolerances using surface-mount technology for extremely short signal paths.

Compact, rigid **all-aluminum chassis** with gold-plated RCA connectors.

Designed to be **powered up at all times** for optimal performance.

**Low operating temperature** for a longer than normal life expectancy.

## Installation & Placement

The **MOON 110LP** should be placed on a solid level surface. You should avoid placing it near a heat source or inside a closed cabinet that is not well ventilated as this could compromise this component's performance and reliability. *You should never place another component directly on top of this phono preamplifier.*

The **110LP** is more sensitive than most other types of audio components to EMI (electro-magnetic interference) from power supplies and motors. Consequently, it should be placed at a minimum distance of 18 inches from power supplies, turntables, tape decks, AC line filters, etc.

**IMPORTANT:** *A turntable with a functional cartridge MUST be connected to the **MOON 110LP** Phono Preamplifier prior to connecting the AC power cord, otherwise you may damage your amplifier and/or loudspeakers.*

## MOON 110LP Phono Preamplifier

### Circuit Board Layout

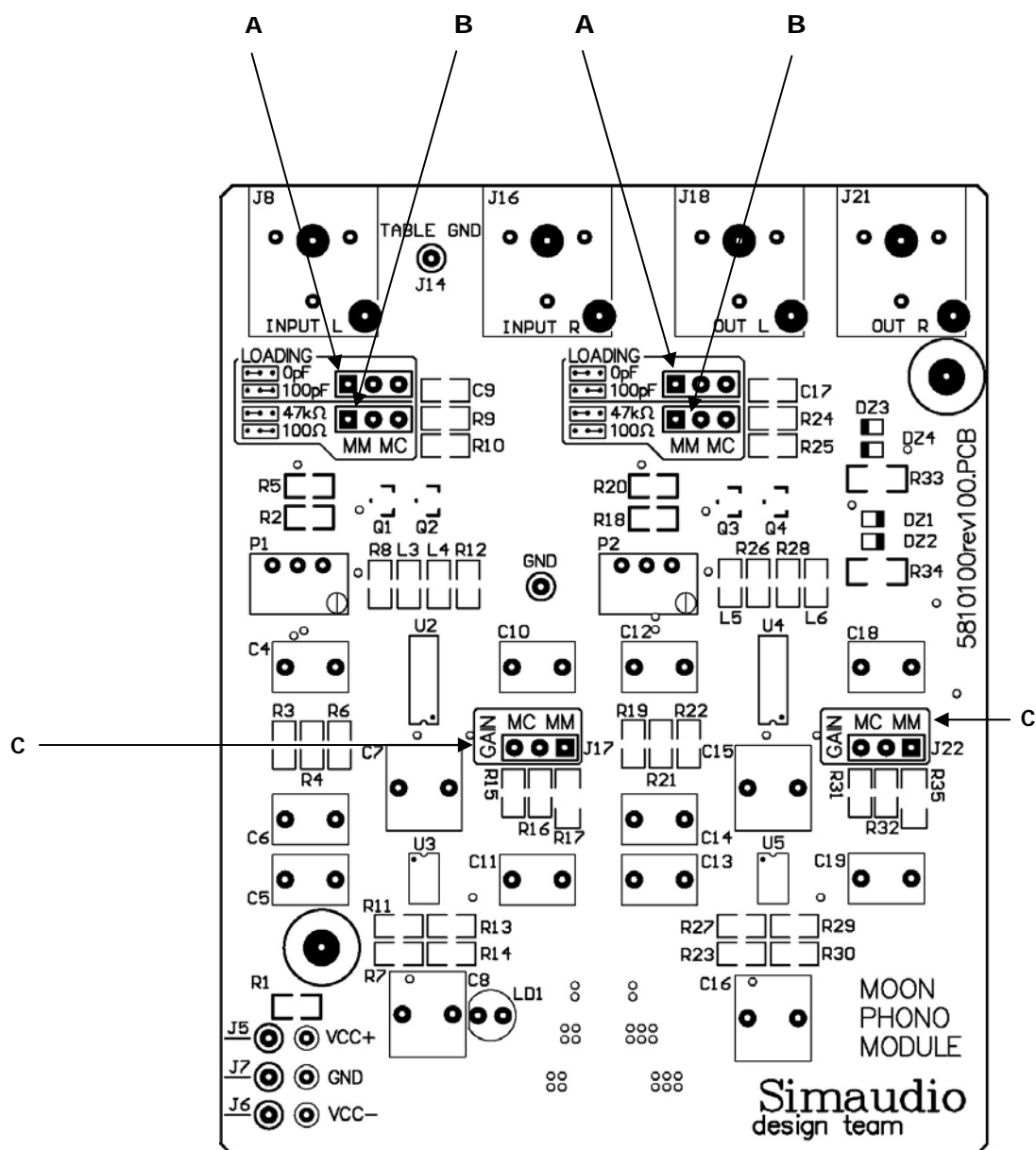


Figure 1: MOON 110LP Circuit Board layout

#### Available Adjustments:

- A – Capacitance loading jumper
- B – Resistance loading jumper
- C – Gain level jumper

# MOON 110LP Phono Preamplifier

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## Internal Adjustments

There are three (3) types of input adjustments available on the **MOON 110LP** Phono Preamplifier allowing you to configure it for either a moving magnet or moving coil cartridge; Capacitance loading, Resistance loading and Gain level. Each adjustment is made through the use of jumpers. For each type of adjustment, there are 2 banks of jumpers – one each for the left and right channels. This is the result of the **110LP**'s genuine mirror-image circuit design which yields exceptional stereo separation.

Always disconnect your **110LP** from either your preamplifier or integrated amplifier prior to changing any of the following input settings. Then disconnect the external AC power supply from the rear of the **MOON 110LP**

There are a total of four (4) screws on the rear side of the chassis that you must remove using the included allen-key. Once these screws are removed, carefully slide off the chassis cover. Once the cover is removed, you are ready to make all of the necessary internal adjustments to the **110LP** to achieve optimal sonic performance.

### Moving Magnet Cartridge Loading:

There are two (2) different settings available for each the resistive load and capacitive load; One for moving magnet (MM) cartridges and moving coil cartridges (MC). The **110LP** has a factory default setting for an MM cartridge (refer to figure 2). The capacitance is set to 100pF, whereby both of the jumpers are mounted into the two right-most pins in socket C9 (left channel) and socket C17 (right channel). The resistance is set to 47k $\Omega$ , whereby both of the jumpers are mounted into the two left-most pins in socket R9 (left channel) and socket R24 (right channel).



Figure 2: Left and right channel jumper banks for moving magnet (default) loading adjustments

The gain setting for an MM cartridge should be 40dB (refer to figure 3), whereby the jumpers are mounted into the right-most pins for socket J17 (left channel) and socket J22 (right channel).



Figure 3: Left and right channel jumper banks for moving magnet (default) gain adjustment

The capacitance, resistance and gain setting sockets for each channel must always have a jumper inserted into them, otherwise the **110LP** will not produce an output signal. As well, you should always maintain the same settings for both channels, otherwise sound will vary significantly between the left and right channels of your audio system.

### Moving Coil Cartridge Loading:

To configure your **MOON 110LP** for use with a moving coil (MC) cartridge (refer to figure 4), we recommend setting the capacitance to 0pF, whereby both of the jumpers are mounted into the two left-most pins in socket C9 (left channel) and socket C17 (right channel). The resistance should be set to 100 $\Omega$ , whereby both of the jumpers are mounted into the two right-most pins in socket R9 (left channel) and socket R24 (right channel).



# MOON 110LP Phono Preamplifier

## Internal Adjustments (cont'd)



Figure 4: Left and right channel jumper banks for moving coil loading adjustments

The gain setting for an MC cartridge should be 60dB (refer to figure 5), whereby the jumpers are mounted into the left-most pins for socket J17 (left channel) and socket J22 (right channel).



Figure 5: Left and right channel jumper banks for moving coil gain adjustment

## Rear Panel Connections



Figure 6: MOON 110LP Rear panel

The rear panel will look similar to Figure 6 (above). There is one pair of single-ended inputs on RCA connectors located in the center with a ground post directly above. Connect the cables from your turntable to these inputs and the ground lead wire to the ground post. There is one pair of single-ended outputs on RCA connectors located to the left of the inputs. Using a pair of RCA terminated interconnect cables, connect these to your preamplifier/integrated amplifier. Don't hesitate to use high quality interconnects. Poor quality cables can degrade the overall sonic performance of your system. Finally, on the right side is the power supply input connector, labeled "18VDC INPUT" for use with the included power supply.

All rear panel connectors on the **MOON 110LP** have been chosen because they provide the best possible connections for your unit. A poor contact will degrade the signal substantially, and plugs and sockets should all look clean and free of dirt and corrosion. The easiest way to clean them is to remove the cables from their sockets and push them back in again. This procedure requires that your Phono Preamplifier and the rest of your components be completely turned off. Not heeding this warning may result in serious damage to your equipment. Special contact cleaning fluids and enhancers should not be used, as they deposit a difficult to remove residue which can degrade the performance of your components over the long term.

# MOON 110LP Phono Preamplifier

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## Operating the 110LP

We recommend that you leave your **MOON 110LP Phono Preamplifier** powered up at all times to maintain optimal performance. In the event that you plan to be away from your home for a few days, powering off the Phono Preamplifier may not be a bad idea. Once fully “broken-in”, please keep in mind that your **110LP** will require several hours of playing time before it reaches its peak performance after you’ve powered it up again. ***IMPORTANT:*** *A turntable with a functional cartridge MUST be connected to the MOON 110LP prior to connecting the AC power cord, otherwise you may damage your amplifier and/or loudspeakers.*

### **Making the AC Connection**

For the best sonic performance, it is preferable that you plug your **MOON 110LP power supply** directly into a dedicated AC outlet and avoid using an extension cord. Then connect the terminated end of the power supply cord to the input labeled 12VDC, located on the rear panel of the phono preamplifier’s chassis. In order to obtain the maximum performance from your audio system, we strongly recommend that the power supply cord not come into physical contact with any of the interconnect cables running to and from your **110LP**. In the event that this can’t be avoided, you should ensure that any cables coming into contact with each other are crossed at ninety degree angle to minimize the contact area.

### **Powering up your MOON 110LP for the first time**

Since this Phono Preamplifier is not equipped with an on/off power switch, when connecting/disconnecting the AC power cord you are actually turning the unit on/off. Prior to making the AC connection for the first time, make sure that every cable is properly connected to avoid any problems. Once the **110LP** is connected to an AC source, The blue LED on the unit’s front panel will illuminate.

### **On and Off Sequence**

To avoid having any annoying noises (ie. “thumps” and “pops”) emanate from your speakers when powering your **110LP** on or off, you should i) Always power up your **110LP** before powering up your preamplifier and/or integrated amplifier and ii) always power down your **110LP** after powering down your preamplifier and/or integrated amplifier.

## Specifications

Circuit Layout .....	Mirror-image symmetrical circuit
Single-ended inputs .....	1 pair (RCA)
Input Impedance - Adjustable .....	100 and 47k $\Omega$
Input Capacitance - Adjustable .....	0 and 100pF
Single-ended output .....	1 pair (RCA)
Gain – Adjustable .....	40 and 60dB
Input overload @ 40dB gain / 60dB gain .....	45mV RMS @ 1kHz / 4.5mV RMS @ 1kHz
Signal-to-noise Ratio (full scale @ 40dB gain / 60dB gain) ..	104dB <sub>r</sub> / 87dB <sub>r</sub>
Maximum Output (1kHz @ 10K $\Omega$ ).....	3.0 Volts
Frequency Response.....	20Hz - 20kHz ( $\pm$ 0.5dB)
Crosstalk @ 1kHz .....	-97dB
Intermodulation Distortion .....	< 0.009%
THD (20Hz - 20kHz) .....	< 0.001%
Power Consumption .....	2 Watts
AC Power Requirements .....	120V or 240V, 60Hz or 50Hz
Shipping Weight .....	2.5 lbs / 1.1 Kgs
Dimensions (W x H x D, inches) .....	5.0 x 2.9 x 6.5