
MOON 740P

Dual-Mono Preamplifier



Owner's Manual

M O O N
by SIMAUDIO

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. Unplug mains cord during transportation.
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.



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 MOON 740P Preamplifier.

1. **ALWAYS** disconnect your entire system from the AC mains before connecting or disconnecting any cables, or when cleaning any component. To completely disconnect this apparatus from the AC mains, disconnect the power supply cord plug from the AC receptacle.
2. The MOON 740P 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 740P 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. The mains plug of the power supply cord shall remain readily accessible.
4. **NEVER** use flammable or combustible chemicals for cleaning audio components.
5. **NEVER** operate the MOON 740P 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 740P with any liquid. If a liquid substance does enter your MOON 740P, 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 740P.
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 740P. If a problem occurs contact your MOON dealer.
12. **NEVER** expose the MOON 740P to extremely high or low temperatures.
13. **NEVER** operate the MOON 740P in an explosive atmosphere.
14. **ALWAYS** keep electrical equipment out of reach of children.
15. **ALWAYS** unplug sensitive electronic equipment during lightning storms.
16. **WARNING:** Do not expose batteries or battery pack to excessive heat such as sunshine, or fire or the like.

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Date Code: 20161101

Introduction

Thank you for selecting the **MOON 740P** Dual-Mono preamplifier as a part of your music/cinema system. This preamplifier 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 two-channel preamplifier available. We have been building high-performance audio equipment for over 30 years, and the know-how gained through our cumulative experience is an important reason why **MOON** preamplifiers are so musically satisfying.

Your new preamplifier is a true dual-mono design, whereby each channel operates completely independent of the other. The performance of your **740P** will continue to improve during the first 400 hours of listening. This is the result of a "break-in" period required for the numerous high quality electronic parts used throughout this preamplifier.

Before setting up your new **MOON 740P**, we encourage you to please read this manual thoroughly to properly acquaint yourself with its features. We hope you enjoy listening to the **MOON 740P** dual-mono 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>

Your **MOON 740P** dual-mono preamplifier incorporates many significant design features to achieve its "world-class" level of performance. This is an abbreviated list of the more important features:

An **oversized dual-mono power supply** using 2 toroidal transformers in conjunction with 5 stages of DC voltage regulation and extensive choke filtering.

4 stages of our newly developed **M-LoVo MOON low voltage DC regulation circuit**; a highly sophisticated circuit made up of a clever combination of IC's and discrete parts that is virtually free of noise, yielding an exceptionally fast, precise, and stable DC voltage. The result is a power supply with a virtually unmeasureable noise floor.

SimLink controller port allows for 2-way communications between other compatible MOON components.

M-eVOL2 volume control circuit using MDAC's (operating in a current steering R-2R configuration) which alter the audio signal's amplitude and yield no sonic degradation of the signal regardless of the selected volume setting.

530 individual volume steps in 1dB and 0.1dB increments.

M-Lock circuit for "user selectable" maximum volume setting lock-out for each line input.

Power supply voltage regulation includes **i²DCf** (Independent Inductive DC Filtering); 1 inductor for each and every IC in the audio circuit's signal path – 24 stages in all.

Full unsolicited **RS-232** bidirectional feedback.

Gain offset for each line input with a ±10dB range.

Each line input is fully configurable to be "**home theater ready**", where the volume control of the 740P is bypassed.

Four-layer PCB tracings; The advantages include better ground and power supply circuit layouts resulting in a much shorter signal path and dramatically improved signal-to-noise ratio.

Optional **external** power supply.

Ultra rigid chassis construction to minimize the effects of external vibrations.

Unpacking

The **MOON 740P** should be removed from its box with care.

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

- ✓ AC power cable
- ✓ FRM-3 remote control with three 'AAA' batteries
- ✓ SimLink™ cable with 1/8" mini plug terminations on each end
- ✓ This owner's manual
- ✓ Warranty and product registration information (USA and Canada only)

Once the **740P** is unpacked, inspect it thoroughly and report any damage to your dealer immediately. We suggest that you keep all of the original packaging, storing it in a safe, dry place in case you're required to transport this product. The customized packaging is specially designed to protect the **740P** from any potential damage during transit.

Please write the serial number of your new **MOON 740P** in the space provided below for future reference.

Serial Number

Installation

The **MOON 740P** dual-mono preamplifier 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 the preamplifier's performance and reliability.

If the surface you have chosen isn't perfectly level, each of the four (4) legs of your **740P** are height adjustable; carefully using your fingers, you can either raise each

leg by turning the cone underneath clockwise, or lower each leg by turning it counterclockwise.

We strongly recommend that you leave these cones mounted to the component at all times for reasons related to both performance and aesthetics.

Front Panel Controls



Figure 1: Front panel of MOON 740P Preamplifier

The front panel will look similar to Figure 1 (above). The large display window normally indicates the current volume level and, whenever you change the input, it will briefly show the selected input label.

The “Standby” button disengages the input section from the rest of the **740P**’s circuitry and turns off the digital display. However, when in “Standby” mode all audio circuitry remains powered up to help maintain optimal performance. When switching back from “Standby”, both the ‘input’ and volume settings are re-established from the previous listening session. The blue pilot LED will not be illuminated when the **740P** is in “Standby” mode.

The “Mute” button reduces your volume setting to zero. Pressing the “Mute” button a second time will return the output volume to its previous level. As well, adjusting the volume level while the “Mute” function is engaged will effectively defeat the muting function.

The “Display” button allows you to adjust the brightness of the large digital display window. It also provides you with the option of turning off the display. There are three (3) different levels of brightness; The default is medium. Pressing the “Display” button once will increase the level to the highest setting. Pressing the button a second time will decrease the brightness to the lowest setting. Pressing the “Display” button a third time returns the display to its default setting of medium.

If you want to turn the display off, press and hold the “Display” button for 2 seconds. When the display is turned off, it will still come back on for a short period of time whenever you press any of the buttons located on the front panel or the remote control, using the brightness level that was previously set; the display will

automatically turn off again once you are done. To turn the display back on, simply press and hold the “Display” button for 2 seconds.

The “ \leftarrow Bal \rightarrow ” buttons control channel balance; Pressing the left arrow button causes a decrease in the volume level of the right channel; pressing the right arrow button causes a decrease in the volume level of the left channel. The balance adjustment operates in 1% increments. When the balance is equal for both channels, “ $\leftarrow 00 \rightarrow$ ” will appear in the front panel display. The range for the balance control varies from “ $\leftarrow 100$ ” for left channel only to “ $100 \rightarrow$ ” for right channel only.

The “ \leftarrow Input \rightarrow ” buttons allow you to choose which input source you wish to listen to. The **MOON 740P** dual-mono preamplifier has a total of five (5) inputs; The first two (2) inputs are fully-balanced and use XLR connectors labeled B1 and B2. The next three (3) inputs are single-ended and use RCA connectors labeled S1, S2 and S3. Assuming that you’re currently listening to a source component connected to input B1, the “ \rightarrow ” allows to sequentially scroll forward through the available inputs from B2, then S1, S2 and S3. The “ \leftarrow ” button allows you to sequentially scroll backwards from S3 to B1. Holding down either the “ \rightarrow ” or “ \leftarrow ” button will allow only a single change of the selected input. You must press the button again to select the next or previous input.

The rotary “volume” control determines the gain setting, which ranges from ‘0.0dB’ (no output) to

'80.0dB' (full output). This control does not function like a typical volume: When you rotate the dial, either clockwise to raise the volume or counter-clockwise to lower the volume, you are actually engaging a precision optical encoder which selects very high quality metal-film resistors that the audio signal passes through. The result is a proprietary gain circuit, called **M-eVOL2** that doesn't degrade the audio signal regardless of the setting, unlike all potentiometer based circuits. Since this circuitry operates in a fully balanced differential mode, no noise is introduced to the audio signal. Furthermore, there are no actual moving parts, so this technology has a minimum life expectancy of one million rotations.

The **MOON 740P** Preamplifier provides a range of five-hundred and thirty (530) unique volume settings. This is achieved as follows: Within the 0.0dB to 30.0dB range, you can increase and decrease the volume in 1.0dB steps. From the 30.0dB to 80.0dB range, you can increase and decrease the volume by either 0.1dB or 1.0dB steps; By rotating the volume control slowly, the level will change by 0.1dB increments. A quicker rotation will change the volume in 1.0dB increments.

The "Setup" and "OK" buttons are used for programming the numerous software functions available on this preamplifier. The next section, entitled "Software Setup", explains their usage in detail.

Software Setup

The **MOON 740P** preamplifier includes powerful software that allows you to configure it to meet your specific needs. For each of the five (5) inputs, you can assign a *label* to replace the factory assigned name (i.e. B1, S1, etc.), assign a *maximum volume* level of less than 80.0dB, create an *offset volume* level ranging from -10.0dB to +10.0dB, *bypass* the volume control (to exclusively use the source component's volume instead) and *disable* the input completely when it's not in use. As well, you can assign any and all inputs to activate the **740P's 12 Volt trigger**. Finally, there's a facility to reset all software settings back to their factory defaults.

Please refer to the accompanying quick reference diagram for a snapshot of the entire Setup menu.

When you are in Setup mode, there are three (3) front panel items used to program this preamplifier; The "Setup" button for navigating up and down through the various menu levels, the rotary volume control for scrolling through the available choices within each programmable item, and the "OK" button for confirming and saving your selections.

What follows are step-by-step examples of how to configure an input, assign the two 12 Volt triggers and reset the software back to the factory default. We will begin by walking through all 5 available options for the "B1" input:

1. To enter the Setup mode, begin by pressing the "Setup" button; "SETUP" will appear in the display window.
2. Rotate the volume control clockwise until "INPUTS" appears in the display. Press "OK".
3. Rotate the volume control clockwise until "B1" appears in the display. Press "OK".
4. "LABEL" will appear in the display. Press "OK".
5. "AUX1" will appear in the display. By rotating the volume control clockwise, you will scroll through more than 25 generic choices appearing in alphabetical order (AUX1 ... CD ... TUNER, etc.), various MOON source model names (i.e. ANDROMEDA ... 650D, etc) and finally a choice called "CUSTOM" which allows you to create your own text label of up to 8 characters in length (refer to the example at the end of this section for more details). When you assign the "B1" input label to "MiND" (for the *MOON intelligent Network Device* music streamer), you are also automatically configuring this component's internal software which will allow it to operate with the MiND app, provided that the proper SimLink connections have been made with your other MOON components. Functions available using the MiND app are discussed in the next section.
6. When the label name you wish to assign to the B1 input appears in the display, press the "OK" button. "SAVED" will briefly appear in the display followed by "LABEL".

7. Press the "Setup" button and the label you've just assigned to the B1 input will appear in the display.
8. At this point you can (i) continue configuring other options for the B1 input (see the next step), (ii) configure another input such as B2 (rotate the volume control clockwise to access the B2 input), or (iii) leave the Setup mode (press the "Setup" button once and "INPUTS" appears in the display; the press it again and "EXITING" will appear in the display)
9. The next option to configure for the B1 input is the maximum volume setting. Press "OK" and "LABEL" will appear in the display. Then slowly rotate the volume control clockwise until "MAX VOL" appears in the display. Press "OK" and the factory default of "80.0dB" will appear in the display; this is the maximum volume level.
10. The maximum setting can be changed by rotating the volume control. A slow rotation makes 0.1dB adjustments and a faster rotation results in 1.0dB adjustments. Once you've found a desired setting, press "OK" and "SAVED" will briefly appear in the display followed by "MAX VOL". The lowest possible setting is 40.0dB.
11. The next option to configure for the B1 input is volume offset. This allows you to compensate for the different output levels amongst your various source components you will be connecting to the **740P**. Slowly rotate the volume control clockwise and "OFFSET" will appear in the display. Press "OK" and the factory default of "+6.0dB" will appear in the display.
12. You can adjust the volume offset in either 0.1dB (slow rotation) or 1.0dB (faster rotation) increments to either +10.0dB by rotating the volume control clockwise or -10.0dB rotating the volume control counter-clockwise. Once you've found the appropriate setting, press "OK" and "SAVED" will briefly appear in the display the "OFFSET".
13. The fourth configurable option is the volume bypass feature for use with home-theater processors and source components that have their own volume control. When activated, the volume control of the **740P** is bypassed and the volume level is adjusted using the component connected to the input. Slowly rotate the volume control clockwise and "BYPASS" will appear in the display. Press "OK".
14. The factory default of "BYPASS N" will appear in the display. Use the volume control to alternate between "BYPASS N" and "BYPASS Y" and then press "OK". Next you will be asked to confirm your selection as "SURE ? N" will appear in the display. Rotate the volume control until "SURE ? Y" appears in the display. Press "OK" and "SAVED" will briefly appear in the display followed by "BYPASS". When you set the volume bypass to "Y", the volume setting you saved for the input with "OFFSET" will be maintained.
15. The fifth and final configurable option for the B1 input is to disable it when it won't be used. Slowly rotate the volume control clockwise and "ENABLE" will appear in the display. Press "OK".
16. The factory default is "ENABLE Y" which will appear in the display. Use the volume control to alternate between "ENABLE N" and "ENABLE Y". Press "OK" and "SAVED" will briefly appear in the display followed by "ENABLE". When an input has been disabled it will appear only in the Setup menu as "B1 N/A".
17. You have now passed through all five configuration options for the B1 input. At this point, you can (i) repeat the above process for the another input by pressing the "Setup" button and then use the volume control to select the next input to configure, (ii) exit from the Setup procedure by pressing the "Setup" button three times or (iii) continue with the Setup procedure and either assign the 12 Volt trigger outputs or reset the **740P** back to factory default status (see the following examples).

The **MOON 740P** is equipped with software that allows the MiND app to control various features of this preamplifier. With the MiND app you will be able to adjust the volume level, mute the output, place the preamplifier into 'Standby' mode and then place it back into operational mode. As well, when you begin playing a music track from the MiND app, the **740P** will automatically switch to the input configured for the MiND. With the MiND app, you are essentially

controlling your entire MOON system using a hand-held Apple (iPad, iPhone, iPod Touch) device.

You don't need to LABEL an input with "MiND" to achieve these aforementioned functions, but you must configure one input for MiND functionality. An example for this scenario would be the **MiND** streaming device feeding a digital signal to a **MOON 650D DAC /Transport**, which then outputs its analog signal to the **MOON 740P**.

Only one of the five inputs may be configured for the MiND. "B1" is the default input. If, in the previous section, you already assigned the "MiND" label to one of this preamplifier's inputs, then there's nothing required to do here – The corresponding input has been automatically configured for MiND and cannot be changed until you change the input 'LABEL' assignments. However, if you haven't assigned the "MiND" label to one of the **740P**'s inputs, the following example shows how to configure an input for MiND functionality:

1. You may either continue where we left off in the previous example by pressing "Setup" twice to return to the main menu and the turn the volume control until "MiND" appears in the display OR enter into the "Setup" mode from the beginning by pressing the "Setup" button and rotating the volume control until "MiND" appears in the display.
2. Press "OK" and "MiND:B1" will appear in the display.
3. Rotate the volume control clockwise until the input you want to configure appears in the display.
4. Press "OK" and "SAVED" will appear briefly in the display followed by "MiND".
5. Press the "Setup" button and "EXITING" will appear in the display.

Assigning a custom label to an input:

1. Using the example from the previous page for configuring an input, repeat steps 1 through 5.

2. When "CUSTOM" appears in the display press the "OK" button. The display will show ".....".
3. Rotate the volume control clockwise to scroll through the 26 letters of the English alphabet, first in uppercase and then lowercase, followed by the numbers 0 through 9, and finally several miscellaneous symbols including the space character. When you see the letter, number or symbol you wish to use, press "OK" to select it and then repeat this step for the next character.
4. You must assign all 8 characters when creating a custom input label; If your label requires only 5 characters, you will need to input a blank space for the remaining 3 characters. Note: If you decide to create a custom input label for MiND, it must be spelled exactly as it appears here – the software is case sensitive.
5. Once you've filled the last position, press "OK" and "SAVED" will briefly appear in the display followed by "INPUTS".
6. Press the "SETUP" button to exit from the Setup menu.

The **MOON 740P** is equipped with a 12 Volt trigger output. When an input is assigned to the 12 Volt trigger, the device connected to the trigger will automatically start-up whenever you switch to that input. The default setting for all five inputs is on. When you set the IR input to "Y", all inputs previously set to "Y" for that trigger will automatically be set to "N". Then the trigger will be controlled exclusively by an external IR signal. The following example shows how to configure one of them:

1. You may either continue where we left off in the previous example by pressing "Setup" twice to return to the main menu and the turn the volume control until "TRIG 1" appears in the display OR enter into the "Setup" mode from the beginning by pressing the "Setup" button and rotating the volume control until "TRIG 1" appears in the display.
2. Press "OK" and "B1 : Y" will appear in the display.

3. To disable the 12 Volt trigger, press "OK" and "B1 ? Y" appears in the display; rotate the volume control to alternate from "Y" to "N".
4. Press "OK" and "SAVED" will appear briefly in the display followed by "B1 : N".
5. To configure another input, rotate the volume control until that input appears in the display, then press "OK".
6. Repeat steps 3 and 4.
7. When you have finished with all of the inputs for the "TRIGGER" press the "Setup" button and "TRIGGER" will appear in the display. From this point you can (i) exit from the Setup procedure by pressing the "Setup" button again and "EXITING" will appear in the display or (iii) continue with the Setup procedure by disabling the infrared remote sensor, changing the IR codes, resetting the **700i** back to factory default status (see the following examples) or configuring more inputs (example on previous page).

If you want to control the **MOON 740P** using a wired aftermarket infrared remote control receiver with a universal remote control, you can disable the IR sensor located on the front panel as follows:

1. You may either continue where we left off in the previous example by pressing "Setup" twice to return to the main menu and the turn the volume control until "INFRARED" appears in the display OR enter into the "Setup" mode from the beginning by pressing the "Setup" button and rotating the volume control until "INFRARED" appears in the display.
2. Press "OK" and "NORMAL" will appear in the display.
3. To disable the **MOON 740P's** front panel IR sensor, rotate the volume control to alternate from "NORMAL" to "DISABLED".
4. Press "OK" and "SAVED" will appear briefly in the display followed by "INFRARED"
5. Press the "Setup" button to exit from the Setup menu.

The **MOON 740P** is equipped with a rear mounted IR input for use with aftermarket wired infrared remote control receivers. In the event that you want control the **MOON 740P** with a universal remote control and **NOT** the one included (FRM-3), you can change the RC-5 remote control system codes. This procedure is recommended when you have a large custom install setup that uses multiple integrated amplifiers and/or preamplifiers that operate on the RC-5 standard and you need to make each component unique w.r.t. remote control operation – up to 4 components. Before making the following change, you should have a basic understanding how to program a universal remote control. The following example shows how to change the IR codes that the **MOON 740P** will recognize:

1. You may either continue where we left off in the previous example by pressing "Setup" twice to return to the main menu and the turn the volume control until "IR CODE" appears in the display OR enter into the "Setup" mode from the beginning by pressing the "Setup" button and rotating the volume control until "IR CODE" appears in the display.
2. Press "OK" and "DEFAULT" will appear in the display.
3. To change the RC-5 system codes, rotate the volume control to scroll through the available sets of RC-5 compatible codes: "SYS11", "SYS14", "SYS15", and "SYS19".
4. Once you've decided on one, Press "OK" and "SAVED" will appear briefly in the display followed by "IR CODE".
5. From this point you can (i) exit from the Setup procedure by pressing the "Setup" button again and "EXITING" will appear in the display or (iii) continue with the Setup procedure by disabling the infrared remote sensor, changing the IR codes, resetting the **740P** back to factory default status (see the following example), configure the 12 Volt Trigger Output or configure more inputs (examples on previous pages).

Reset the MOON 740P software settings back to their factory defaults:

1. You may either continue were we left off in the previous example by turning the volume control until "RESET" appears in the display OR enter into the "Setup" mode from the beginning by pressing the "Setup" button and then rotating the volume control until "RESET" appears in the display.
2. Press "OK" and "RESET N" will appear in the display.
3. Rotate the volume control until "RESET Y" appears in the display.

4. Press "OK" and "SURE ? N" will appear in the display.
5. Rotate the volume control until "SURE ? Y" appears in the display.
6. Press "OK" and "SAVED" will briefly appear in the display followed by "RESET".
7. Press the "Setup" button again and "EXITING" will appear in the display.

Rear Panel Connections



Figure 2: Rear panel of MOON 740P Preamplifier

The rear panel of the **MOON 740P** dual-mono preamplifier will look similar to Figure 2 (above). There are two rows of connectors; the top row contains three (3) pairs of single-ended RCA inputs labeled S1, S2, and S3 on the left side; In the middle section are two pairs (2) of single-ended outputs. One output pair, labeled "VAR" is a variable output and the other, labeled "FIX" is a fixed output that bypasses the volume control. You should always connect your power amplifier to the "VAR" output unless your power amplifier has its volume control that you intend on using instead of the **740P**'s.

On the right side of the top row you will find a full-function bi-directional RS-232 port control and status for custom integration or automation using a DB9 connector. Immediately to the right of the RS-232 port are two (2) "SimLink" connectors labeled "in" and "out" on 1/8" mini jacks. Please refer to the next section entitled SimLink for more details. As well, there's a 1/8" mini-jack input for use with aftermarket infrared remote control receivers. Further to the right, there's a 12V trigger output on a 1/8" mini-jack.

The bottom row contains all balanced inputs/outputs on XLR connectors. There are two pairs (2) of balanced inputs (B1, B2) on the left side directly below the single-ended inputs. In the middle section is one pair of variable balanced outputs for use with a power amplifier equipped with balanced inputs.

On the right side are a pair of 4-pin XLR connectors labeled "EXTERNAL SUPPLY" "INPUT 1" and "INPUT 2" which are reserved for use with **MOON 820S** external power supply. Finally, to the far right is the "AC Power" section with the main power switch ("0"=off, "1"=on) and the IEC receptacle for the included AC power cord.

All rear panel connectors 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 preamplifier and the rest of your components be completely turned off.

SimLink™

The SimLink™ provides communication features between various **MOON** components. For example, if you were to connect the **650D** to the **740P** Preamplifier via the SimLink™, pressing the ► (play) button on the **650D** would cause the preamplifier automatically switch to its designated input for the CD Player. **You must assign the input with the name "650D" for this feature to work.** If you were to adjust the brightness level of the large digital display window using the "Display" button on the **740P**, the brightness level of the **650D**'s display will automatically adjust to the same brightness level as that of the **740P**. Since the SimLink™ is a true bi-directional connection, adjusting the **650D**'s brightness level will automatically adjust the brightness level of the **740P**.

A third feature of SimLink™ involves the "Standby" function. By pressing down and holding the "Standby" button for 2 seconds on the **740P**, all other **MOON** components connected via the SimLink will go into "Standby" mode along with the **740P**. The same logic applies when switching from "Standby" to active mode.

The connection rules for the SimLink™ are very basic. You must always connect the supplied cable between one component's "SimLink™ Out" jack and another component's "SimLink™ In" jack. If you inadvertently connect the cable between either two "SimLink™ In" or two "SimLink™ Out" jacks, the SimLink™ communication feature will not function. Also, there is no master component in a SimLink™ chain; no one particular component operates as the main communications controller.

If you are using your **MOON 740P** with an older MOON product such as a SuperNova, you will need to update the software of the older product to allow for complete SimLink™ functionality. Contact your retailer for further details.

Operating the **740P**

We recommend that you leave your **MOON 740P** dual-mono preamplifier powered up at all times to maintain optimal performance. When you plan to be away from your home for a few days, powering off the preamplifier may not be a bad idea. Once fully "broken-in", please keep in mind that your **740P** will require several hours of playing time before it reaches its peak performance after you've powered it up again.

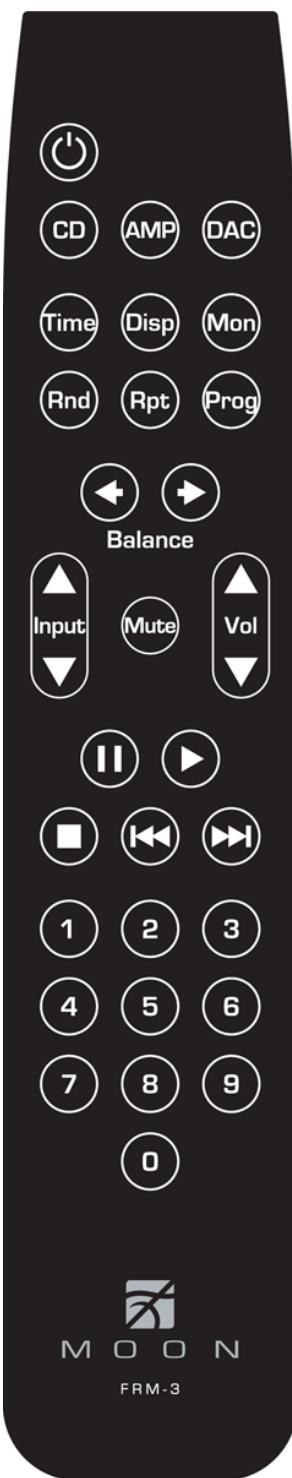
Turning on your **MOON 740P** for the first time

Prior to turning the preamplifier on for the first time, make sure that every cable is properly connected to avoid any problems. Flick the main rocker switch, located on the rear panel, labeled "POWER" to the '1' (on) position to place your **740P** in to standby mode. Next, briefly press the push button labeled "Standby" located on the front panel. You will hear a very faint click sound confirming that everything is in order. The blue LED on the front panel will illuminate, indicating that the **740P** is now powered up and ready for use.

On and Off Sequence

To avoid having any annoying noises (ie. "thumps" and "pops") emanate from your speakers when powering your **740P** on or off, you should always power up your **740P** preamplifier before powering up your amplifier. As well, always power down your **740P** after powering down your amplifier.

Remote Control Operation



The **MOON 740P** Dual-Mono Preamplifier uses the '**FRM-3**' full function, all aluminum backlit remote control (figure 3). It operates on the Philips RC-5 communication protocol and is can be used with other MOON components such as CD Players, DAC's, Integrated Amplifiers, as well as other Preamplifiers.

The '**FRM-3**' remote uses three AAA batteries (included). To install them, use a Phillips head screwdriver #1 to remove the three screws located on the rear plate; insert the batteries in the correct direction and then screw the rear plate back into place.

To operate the **740P** with this remote control, you must first press the **AMP** button located on the second row from the top.

The **Power** button switches the **740P** between 'Standby' and 'On' mode.

The **Balance** **◀** and **Balance** **▶** buttons control channel balance; Pressing the left arrow button causes a decrease in the volume level of the right channel; pressing the right arrow button causes a decrease in the volume level of the left channel. The balance adjustment operates in 1% increments. When the balance is equal for both channels, "**← 00 →**" will briefly appear in the front panel display. The range for the balance control varies from "**← 100**" for left channel only to "**100 →**" for right channel only.

The **Input** **▲** and **Input** **▼** buttons allow you to sequentially scroll through each of the preamplifier's inputs, performing the identical function as the 'Input' buttons located on the **740P**'s front panel

The **Mute** button, located between the input and volume buttons, reduces your volume setting to zero, performing the identical function as the 'Mute' button located on the **740P**'s front panel.

The **Vol▲** and **Vol▼** buttons increase and decrease the volume level. From 30 to 80dB, holding either button down results in 1.0dB volume changes; repeatedly pressing either button very briefly results in 0.1dB volume changes.

The **Disp** button allows you to adjust the brightness of the digital display window. It also provides you with the option of turning off the display, performing the identical function as the 'Display' button located on the **740P**'s front panel..

Figure 3: FRM-3 Remote Control

Backlight Function

Your **FRM-3** features a backlight capability that allows you to effortlessly operate this remote control in a darkened environment. Since battery lifespan is substantially reduced when the backlighting feature is activated, the **FRM-3** includes 3 different operational modes to help preserve battery life:

Default Mode (#1): The backlight is triggered on by either moving the remote control (via an internal motion detector) or by pressing any button on the remote's keypad; The backlight will remain illuminated for a full five (5) seconds after the last event (motion or pressed button). To activate the "Default Mode", press and hold the "CD" button for three (3) seconds. The backlight will illuminate once, very briefly for confirmation.

Button Mode (#2): The backlight is triggered ONLY by pressing any button on the remote's keypad - the internal motion detector is deactivated; The backlight will remain illuminated for a full five (5) seconds after the last button is pressed. To activate the "Button Mode", press and hold the "AMP" button for three (3) seconds. The backlight will illuminate twice, very briefly for confirmation.

Off Mode (#3): The backlight feature is completely disabled. To activate the "Off Mode", press and hold the "DAC" button for three (3) seconds. The backlight will illuminate three times, very briefly for confirmation.

Remote operation with multiple MOON components

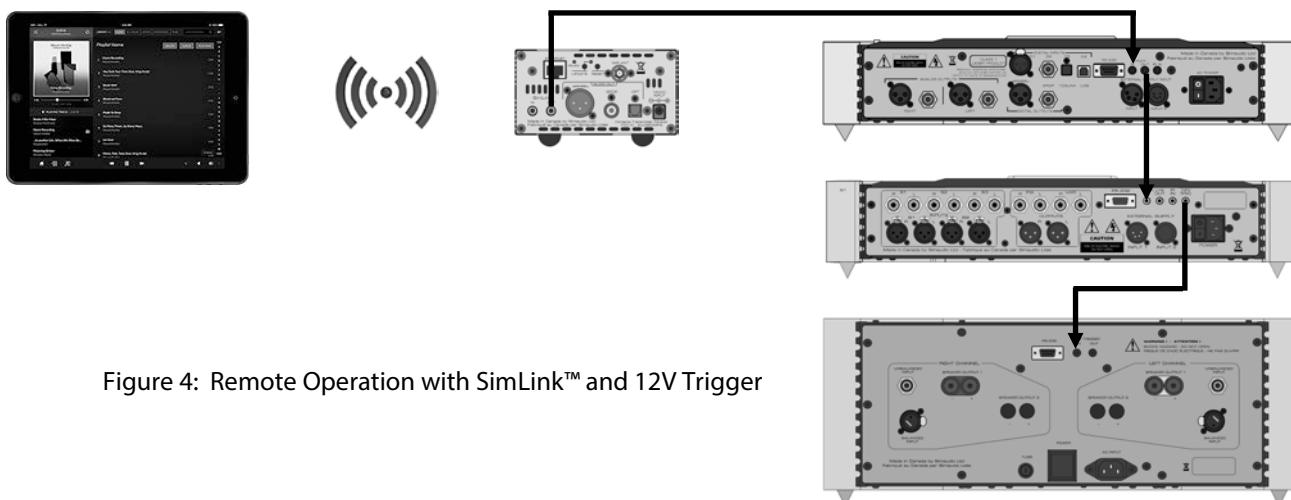


Figure 4: Remote Operation with SimLink™ and 12V Trigger

In figure 4 we have a MiND Music Streamer connected to a **650D** DAC via their respective SimLink™ ports (using a 1/8" mini-jack cable), and the **650D** connected to a **740P** Preamplifier also via their respective SimLink™ ports. Finally, the **740P** is connected to a **860A** amplifier via their respective 12V Triggers (also using a 1/8" mini-jack cable); The 12V trigger output on the **740P** is connected to the 12V trigger input on the **860A**. When you launch the MiND App on your Apple smart device (full list on the MiND page of our website) and select this system's ZONE, the MiND will turn on, as will the **650D**, **740P** and **860A**; The **740P** will automatically switch to the "MiND" assigned input, as described previously in the "Software Setup" section. To shut down the system, press "Off" for this ZONE in the MiND app.



Figure 5: Remote Operation with 12V Trigger

In figure 5 we have a **740P** Preamplifier and **860A** amplifier connected together via their respective 12V triggers; The 12V trigger output on the **740P** is connected to the 12V trigger input on the **860A** (using a 1/8" mini-jack cable). When you turn on the **740P** via remote control (or its Standby button), the **860A** will turn on automatically. The same rule applies when you put the **740P** into Standby mode.

Balanced Operation

When using an unbalanced interconnect, the audio signal runs through both the center wire and the shield/ground wire. Any noise picked up by this interconnect (ie. nearby magnetic fields such as an AC power cord) will be reproduced by the integrated amplifier, then heard through the loudspeakers. Conversely, a balanced interconnect has three separate conductors; one for the ground and two for the actual signal.

These two signals are identical except that one is 180 degrees out of phase with the other. For example, when one conductor is carrying a signal of +10 Volts, the other will be carrying a signal of -10 Volts. When these two inverted signals on a balanced line are output from the **MOON 740P**, any noise picked up by the interconnect will be eliminated since a differential circuit amplifies only the difference between these two signals: Noise on a balanced interconnect will be equal on both conductors and therefore cancel out.

Specifications

Configuration	Fully balanced, dual-mono
Balanced inputs (XLR)	2 pairs
Single-ended inputs (RCA)	3 pairs
Input Impedance	22,000Ω
Input Sensitivity	200mV – 4,0V RMS
Balanced outputs (XLR)	1 pair
Single-ended outputs (RCA)	2 pairs (fixed and variable)
Output Impedance	50Ω
Gain Control	M-eVOL2
Gain	9dB
Signal-to-noise Ratio	120dB @ full output
Frequency Response	5Hz - 100kHz +0/-0.1dB
Crosstalk @ 1kHz	116dB
Intermodulation Distortion	0.0003%
THD (20Hz - 20kHz)	0.001%
Remote Control	All Aluminum Full-Function (FRM-3)
Display Type	8 character dot matrix LED
Power Consumption @ idle	20 Watts
AC Power Requirements	120V / 60Hz or 240V / 50Hz
Shipping Weight	35 lb / 16 kg
Dimensions (W x H x D, inches / cm) 18.75 x 4.0 x 16.5 / 47.6 x 10.0 x 41.9	

Balanced Input Pin Assignment:

Pin 1	Ground
Pin 2	Positive
Pin 3	Negative

NOTE: If you require the RS-232 codes for your **740P**, please visit the "Contact Us" page and complete the "Information request" form on our website at www.simaudio.com.



Fuse Replacement: For the 120V version use a 0.2A slow blow (5 x 20mm size).

For the 230V version use a 0.1A slow blow (5 x 20mm size).

Quick Reference: MOON 740P Setup Menus

