

Owner's Manual

MOON


360D

CD Player



M O O N

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 Simaudio MOON 360D CD Player.

1. **ALWAYS** disconnect your entire system from the AC mains before connecting or disconnecting any cables, or when cleaning any component.
2. The MOON 360D 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 360D 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 360D 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 360D with any liquid. If a liquid substance does enter your 360D, 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 360D.
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 360D. If a problem occurs contact your MOON dealer.
12. **NEVER** expose the MOON 360D to extremely high or low temperatures.
13. **NEVER** operate the MOON 360D 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 360D CD Player

Congratulations!

Thank you for selecting the **MOON 360D CD Player** as a part of your hi-fi reproduction system. This CD Player 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 CD players available in its class. We have been building high-performance audio equipment for almost 30 years, and the know-how gained through our cumulative experience is an important reason why **MOON** CD Players are so musically satisfying.

The performance of your **360D** 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 CD Player.

Before setting up your new **MOON 360D**, we encourage you to please read this manual thoroughly to properly acquaint yourself with its features. We hope you enjoy listening to the **MOON 360D CD Player** 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 360D CD Player** should be removed from its box with care. The following accessories should be included inside the box with your CD Player:

- ✓ *AC power cable*
- ✓ *CRM-2 Full-Function remote control with two 'AA' batteries*
- ✓ *This owner's manual*
- ✓ *Warranty and product registration information (USA and Canada only)*

As soon as the CD Player 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 the CD Player. The customized packaging is specially designed to protect the **MOON 360D CD Player** from potential damage that may occur during shipping.

Please write the serial number of your new Simaudio **MOON 360D** in the space provided below for future reference.

Serial No.: _____

MOON 360D CD Player

Introduction

Your **MOON 360D CD Player** incorporates numerous significant design features to achieve its “world class” level of performance. This is an abbreviated list of the more important features:

10 stages of DC voltage regulation.

Internal upsampling which uses **24-bit/1.411MHz** processing.

Proprietary CD drive system with in-house developed hardware & software.

CD drive system mounted on our **M-Quattro** gel-based 4-point floating suspension for vibration damping, allowing ambient and spatial cues in your recordings to come to life like never before

BurrBrown PCM1798 high-resolution 24-bit/192-kHz Digital-to-Analog Converter and 8X oversampling digital filter.

S/PDIF **Digital input** for use as a digital-to-analog converter with either a digital music server or external transport

Optional **fully balanced differential analog outputs**

RS-232 port for i) full unsolicited bidirectional feedback in custom installation setups and ii) firmware updates.

IR input for external control.

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

All digital and analog audio circuitry mounted on a single circuit board, **each with their own respective ground plane**, to minimize signal path lengths and eliminate any potential for interference and signal degradation.

MOON Alpha Clocking System with PLL synchronization yielding 25 PPM of jitter.

Advanced analog signal path using a **DC servo circuit and proprietary analog filter**.

Circuit board with **pure copper tracings and gold plating** that yields low impedance characteristics.

Optimized selection of very high quality electronic components.

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

Low operating temperature to ensure a longer than normal life expectancy.

Installation & Placement

The **MOON 360D** requires reasonable ventilation to maintain an optimum and consistent operating temperature. As a result, it should be placed in a location with empty space around it for proper heat dissipation. As well, it 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 CD Player's performance and reliability. The **360D** uses a toroidal transformer; even though it is well shielded, you should not place the player too close to source components sensitive to EMI, such as turntables and phono preamplifiers. *You should never place another component directly on top of this CD Player.*

Compact discs are easily damaged, and must be kept very clean. Always store them in their jewel cases. Dirty or finger-marked discs will reproduce music poorly. Moreover, the player may even mute parts of a track, or be unable to find some tracks. If you need to clean a CD remember to use a soft lint-free cloth, using a radial action (i.e. starting from the center and aiming towards the edges). Do not attempt to clean a compact disc using a rotating motion.

MOON 360D CD Player

Front Panel Controls

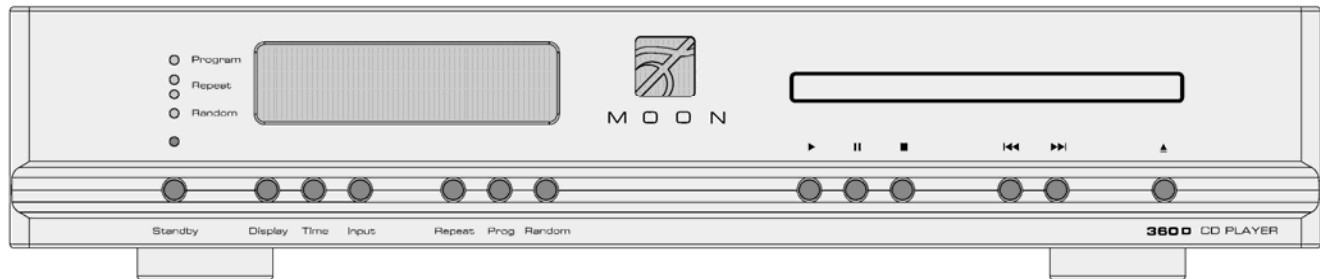


Figure 1: MOON 360D Front panel

The front panel will look similar to Figure 1 (above). The large digital display window indicates the track number of the compact disc currently playing (or the total number of tracks in stop mode) and time information.

The “Standby” button disengages the transport mechanism from the rest of the **360D’s** circuitry and turns off the digital display. However, when in “Standby” mode, all digital and analog audio circuitry remains powered up to help maintain optimal performance. The blue LED above the “Standby” button will no longer be illuminated when the player is in “Standby” mode.

Directly below the CD drawer on the right side of the front panel are six (6) buttons that control the CD drive:

To load a compact disc into the **360D**, press ▲, put the CD in the drawer with the label side facing up and press ▲ again to close the drawer. When a CD is first loaded into the **360D**, the total number of tracks, and total playing time will appear in the display. In the event that you load a CD that contains no musical tracks (i.e. data only), the word ‘DATA’ will appear in the display window. As well, if you load a disc that is not compatible with the **360D** (i.e. SACD, DVD-A, etc), the phrase ‘NO DISC’ will appear in the display window.

Press ► to begin playing a compact disc. Pressing || while a disc is already playing results in the current track being paused; Press either ► or || again to resume playing the disc.

Press ◀◀ to search backward or ▶▶ to search forward through the compact disc’s tracks. When you’ve located the track number, press ► to begin playing that track. In the event that you initiate a forward or backward track change while a disc is already playing, it will automatically start playing the track you select; you need not press ►.

Press and hold ◀◀ to search backward through the current track; Press and hold ▶▶ to search forward through current track.

Press ■ to stop the compact disc from playing. The laser will return to the start position of the disc. To open the drawer and remove the compact disc, press ▲.

If you inadvertently leave the drawer open, it will automatically close after approximately three (3) minutes.

Front Panel Controls (cont'd)

Directly below the display window on the left side of the front panel are six (6) buttons for advanced features:

The "Display" button allows you to turn the digital display on and off.

The "Time" button allows you to scroll through the four (4) different display modes for time information, as well as turn the digital display on and off. Each time you press the "display" button, the system scrolls to the next time information mode. By default, the **360D** will display the elapsed time of the track currently playing. The scrolling order is as follows:

1. Elapsed time of the current track
2. Remaining time of the current track
3. Elapsed time of the entire compact disc (or programmed tracks)
4. Remaining time of the entire compact disc (or programmed tracks)

The "Input" button is used to select an external digital source which must be connected to the S/PDIF digital input on the rear panel. The **MOON 360D** will function as a reference quality Digital-to-Analog converter. Examples of external digital sources include a music server, a disc transport, the S/PDIF digital audio output from a PC soundcard, etc.

When you select a digital signal from an external source, the display window will show "D1" followed by four dashes as follows "----" which indicates that the **360D** is in the process of locking onto the external digital signal – this may take several seconds. Once the **360D** successfully locks onto the digital signal, the four dashes will be replaced by the sampling rate of this digital signal. When the signal cannot be locked onto, "----" remains in the display window. The **MOON 360D** is capable of processing an external digital input signal at one of the following seven (7) different sampling rates: 32.0kHz, 44.1kHz, 48.0 kHz, 88.2kHz, 96 kHz, 176.2kHz and 192kHz.

The "Repeat" button performs three (3) functions: Pressing "Repeat" once will result in the entire disc being played again once it has reached the end of the final track. Pressing "Repeat" a second time will result in the track currently playing being repeated again once it has ended. To cancel this mode, simply press the "Repeat" button a third time. If you have created a program of selected tracks, pressing "Repeat" once will result in your entire program repeating itself once it has completed its cycle; Pressing "Repeat" a second time will result in the current track from your program being played again once it has ended; Pressing "Repeat" a third time will terminate the "Repeat" mode. When the repeat mode is engaged for the entire compact disc, both corresponding red LEDs to the left of the display window will be illuminated. When the repeat mode is engaged for a single track, only the lower corresponding red LED to the left of the display window will be illuminated.

The "Prog" button allows you to program a selection of tracks in the order that you wish to listen them. After loading a compact disc into the **MOON 360D**, select the first track you wish to listen to, using the ◀ or ▶ buttons and then press "Prog". To program a second track, select it the same way you did for the first one and press "Prog" again. Repeat this operation as many times as you want to program tracks. Once you've completed programming your track selection(s), the digital display window will show the number of tracks that have been programmed and their total time. To begin playing your programmed selections, simply press the ▶ button. Pressing ■ will only suspend the playing of the programmed selection. Pressing ■ a second time will clear your program selection from the **360D's** memory. As well, opening the drawer at any time will also clear your program. Whenever a program is active, the corresponding red LED to the left of the display window will be illuminated.

The "Random" button, when pressed, will play each of the tracks on a compact disc in a completely random order, as opposed to the sequential order as they appear on the disc. If you have already created a program of selected tracks, it will play these programmed tracks in a random order. Whenever the random mode is engaged, the corresponding red LED to the left of the display window will be illuminated.

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Rear Panel Connections



Figure 2: MOON 360D Rear panel with optional balanced analog outputs

The rear panel will look similar to Figure 2 (above). On the left side is the analog audio output. There is one pair of RCA analog audio output connectors labeled “ANALOG OUT” that you should connect to a stereo analog input on your preamplifier or integrated amplifier.

In the event that you have purchased your **MOON 360D** with optional balanced analog circuitry, there will be a pair of XLR balanced outputs located to the right of the RCA analog outputs. In this case, we strongly recommend that you use the balanced XLR connectors on your **360D** to maximize its level of performance:

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 amplifier and 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 +4 Volts, the other will be carrying a signal of -4 Volts. When these two inverted signals on a balanced line are input into a differential preamplifier, 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 not be processed.

The **MOON 360D** is equipped with a S/PDIF digital input and a S/PDIF digital output, each on an RCA connector. The digital output allows you to use your **360D** as a stand-alone CD transport, whereby digital signal processing will be handled externally by another digital-to-analog converter or surround processor. The digital input allows you to use your **360D** as a digital-to-analog converter in conjunction with a digital audio source component. Please refer to page 8 of the previous section for complete details. You should always use a 75Ω digital audio cable terminated with RCA connectors whenever using the **360D**'s digital input and/or output to achieve optimal sonic performance.

Your **MOON 360D** is equipped with several features for custom type installations: To the right of the “Digital Output” is a full-function bi-directional “RS-232” port control and status for custom integration or automation and uses a DB9 connector. As well, there's a 1/8” mini jack input for use with aftermarket infrared remote control receivers. The “IR in” connector is located to the right of the “RS-232” port. Immediately to the right of the “IR” input 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.

Finally on the right side is the “AC Power” section with a main power switch (“0”=off, “1”=on) and IEC receptacle for the included AC power cord.

Rear Panel Connections (cont'd)

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 CD Player 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 degrades the performance of your components.

SimLink™

The SimLink™ provides communication features between various **MOON** components. For example, if you were to connect the **360D** to the **340i** via the SimLink™, pressing the ► (play) button on the **360D** will cause the **340i** to automatically switch to the input labeled 'CD'. A second feature of SimLink™ involves the "Standby" function. By pressing down and holding the "Standby" button for 2 seconds on either the **360D** or **340i**, both units will go into "Standby" mode. 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.

Operating the 360D

We recommend that you leave your **MOON 360D** CD Player 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 CD Player may not be a bad idea. Once fully "broken-in", please keep in mind that your **360D** will require several hours of playing time before it reaches its peak performance after you've powered it up again.

Making the AC Connection: Connect the supplied AC power cable to the IEC receptacle, located on the rear panel of the integrated amplifier's chassis. Ensure that the AC wall outlet you use has a functioning ground. For the best sonic performance, it is preferable that you plug your **MOON 360D** directly into a dedicated AC outlet and avoid using an extension cord. In order to obtain the maximum performance from your audio system, we strongly recommend that the detachable power cord not come into physical contact with any of the interconnect and speaker cables running to and from your **360D**. In the event that this can't be avoided, you should ensure that any cables coming into contact with each other are crossed at a ninety degree angle to minimize the contact area.

Turning on your MOON 360D for the first time: Prior to turning this CD Player on for the first time, make sure that every cable is properly connected to avoid any problems. Then turn on your CD Player in the following manner:

- 1) Flick the main rocker switch labeled "POWER" to the '1' (on) position on the rear panel.
- 2) Press the push button labeled "Standby" on the **360D**, the blue LED will confirm operation and the digital display will show 'no disc'. You are now ready to load a compact disc and begin listening to music.

On and Off Sequence: To avoid having any annoying noises (i.e. "thumps" and "pops") emanate from your speakers when powering your **360D** on or off, you should

- 1) Always power up your **360D** CD Player before powering up your preamplifier and/or integrated amplifier.
- 2) Always power down your **360D** CD Player after powering down your preamplifier and/or integrated amplifier.

Remote Control Operation



Figure 3: CRM-2 Remote Control

The **MOON 360D** CD Player uses the '**CRM-2**' full-function remote control (figure 3). It operates on the Philips RC-5 communication protocol and is can be used with other Simaudio MOON components.

The '**CRM-2**' remote uses two AA batteries (included). To install them, simply slide the back plate off in the direction of the arrow; insert the batteries in the correct direction and then replace the back plate.

To engage the '**CRM-2**' remote for use with the **360D** CD Player, you must first press the button labeled **CD**.

The **POWER** button located on the upper left will switch the CD Player to either 'Stand by' or 'On' mode.

Certain buttons found on this remote control perform identical functions to their corresponding button located on the **360D's** front panel. Please refer to page 8 for a more detailed description of the "**RANDOM**", "**REPEAT**", "**PROG**" and "**TIME**" buttons.

0 thru 9	Direct access track number selection
OPEN/CLOSE	Open/Close the Compact Disc drawer
DISPLAY	Turns the front panel display on and off
TIME	Changes the time display mode on front panel (refer to TIME button on page 8 for more details)
◀ INPUT ▶	To switch from listening to the disc loaded in the player to an external digital source connected to the player
■	Stop playing the CD's current track
	Pauses the player
▶	Play the compact disc loaded into the player
◀◀	<u>Press Once:</u> Go back to the previous track on the disc
◀◀	<u>Press and hold:</u> Scan backward through current track
▶▶	<u>Press Once:</u> Skip to the next track on the disc
▶▶	<u>Press and hold:</u> Scan forward through current track

MOON 360D CD Player

Specifications

Configuration	Single-ended
Power Supply Transformer	25VA
Power Supply Capacitance	19,800 μ F
Transport Mechanism	Proprietary Design
Digital Filter / Digital-to-Analog Converter	BurrBrown PCM1798
Frequency Response (audible)	20Hz - 20kHz +0/-0.2dB
Frequency Response (full range)	2Hz - 72kHz +0/-3dB
THD @1kHz, 0dBFS (A-weighted)	< 0.001%
Intermodulation Distortion	< 0.004%
Dynamic Range	> 116dB
Signal-to-noise Ratio	> 115dB @ full output
Slew Rate	50V/ μ s
Channel Separation	> 115db
Low Level Linearity	\pm 1.0dB to below 120dbFS
Intrinsic Jitter	< 25 picoseconds RMS
Analog Output - Standard	1 pair Single-ended RCA's
Analog Output Impedance - Standard	100 Ω
Max. Analog Output @ 0dBFS - Standard	2.0 Volts RMS
Analog Output - Optional	1 pair Balanced XLR's
Analog Output Impedance - Optional	50 Ω
Max. Analog Output @ 0dBFS - Optional	4.0 Volts RMS
Digital Input / Output	S/PDIF RCA
Digital Input / Output Impedance	75 Ω (0.5 Volts)
Standard Remote Control	Full-Function
Power Consumption @ idle	15 Watts
AC Power Requirements	120V / 60Hz or 240V / 50Hz
Shipping Weight	18 lbs / 8 Kgs
Dimensions (W x H x D, inches)	16.9 x 3.5 x 13.1

Balanced Pin Assignment: Pin 1	Ground
Pin 2	Positive
Pin 3	Negative

NOTE: In the event that you require the RS-232 codes for your **MOON 360D**, please contact Simaudio Ltd. directly by either email (service@simaudio.com) or by toll-free telephone (877-980-2400).



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).