# Owner's Manual

№512
CD/SACD™
Disc Player

mark levinson®

# FCC Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## Caution!

***Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.***

Canada
This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la Classe B est conforme à la norme NMB-003 du Canada.

For customer service and product shipment information, refer to the www.marklevinson.com Web site.



Part No. 070-19027 | Rev 0 | 06/08

A Harman International Company

# 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 with a dry cloth only.
7. Do not block any 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 other apparatus that produce 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 third prong is provided for your safety. If the provided plug does not fit into your 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 it exits from the apparatus.
11. Use only 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 or 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-supply cord or plug is 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. The MAINS cord is intended to be the safety disconnect device for this apparatus and shall remain readily operable at all times.
16. Ventilation should not be impeded by covering the ventilation openings with items such as newspapers, table cloths, curtains and so on.
17. No naked flame sources, such as candles, should be placed on the apparatus.

18. Terminals marked with this symbol may be considered hazardous live, and the external wiring connected to these terminals requires installation by an instructed person or the use of ready-made leads or cords.
19. This product must be terminated with a three-conductor AC mains power cord that includes an earth ground connection. To prevent shock hazard, all three connections must ALWAYS be used.

## *Warning!*

***To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. The apparatus shall not be exposed to dripping or splashing. No objects filled with liquids, such as vases, shall be placed on the apparatus.***

***This is a Class I laser product. Only a qualified service person should remove the cover or attempt to service this device, due to possible eye injury.***

# Safety Terms & Symbols

**Terms in This Manual**

These terms may appear in this manual:

**Warning!**

***Calls attention to a procedure, practice, condition or the like that, if not correctly performed or adhered to, could result in personal injury or death.***

**Caution!**

***Calls attention to a procedure, practice, condition or the like that, if not correctly performed or adhered to, could result in damage or destruction to part or all of the component.***

**Note**

*Calls attention to information that is essential to highlight.*

**Symbols on the Product**

These symbols may appear on the product:

Appears on the component to indicate the presence of noninsulated, dangerous voltage inside the enclosure – voltage that may be sufficient to constitute a risk of shock.



Appears on the component to indicate important operation and maintenance instructions included in the accompanying documentation.

Appears on the component to indicate compliance with the EMC (Electromagnetic Compatibility) and LVD (Low-Voltage Directive) standards of the European community.

# Documentation Conventions

This document contains general safety and operation instructions for the №512 CD/SACD™ player. It is important to read this document before attempting to use this product. Please pay particular attention to safety instructions.

*This manual is not intended as a general reference guide for home theater systems. If you're uncertain how to set up or maintain your system, seek the advice of a professional installer or ask your dealer for a recommendation.*

# Table of Contents

# Introduction

Thank you for purchasing the Mark Levinson® Nº512 CD/SACD player.

## Product Description

The Nº512 CD/SACD player is designed for aural excellence. Incorporating the best of past Mark Levinson designs, the Nº512 provides the highest standard of two-channel audio performance available, seamlessly supporting the playback of both SACD and PCM data types. From its classic industrial design to the thorough listening tests performed before release, the Nº512 meets the high-performance demands of Mark Levinson.

The highlight of the Nº512 player is its high-end data conversion capabilities. Its internal design focuses on preserving signal integrity while preventing the introduction of noise and jitter. Digital and analog signal paths are individually powered using separate toroidal transformers. All signals are carefully hand routed to ensure maximum isolation and minimum crosstalk. The Analog output topology routes analog signals in balanced mode wherever possible. The analog audio printed circuit board is manufactured using high performance Nelco, a modern equivalent of Arlon with similar high bandwidth properties.



Another important feature of the data conversion system is the handling of audio clocks. Since jitter and noise can cause inaccuracies during the data conversion process, a clean master clock provides improved digital-to-analog conversion with fewer time-based conversion errors. The No512 utilizes a custom Mark Levinson implementation of Direct Digital Synthesis to remove jitter on the audio master clock. The end result of this DDS technology is an extremely accurate and stable time reference producing superior performance and sound quality in all audio playback.

All system functions can be performed from the backlit, metal remote control, which feels both substantial and elegant in your hand. Additional features, such as track programming and shuffle, are available via the remote control.

For external controls, the No512 supports triggers, serial port control, and the ML Net protocol, which controls and synchronizes other Mark Levinson products through the use of an Ethernet port.

### What's in the Box

The following are included with your Nº512 CD/SACD player:

| Item | Quantity |
|---|---|
| Nº512 CD/SACD player | 1 |
| Nº512 remote control (with two AA alkaline batteries installed) | 1 |
| Nº512 owner's manual (this document) | 1 |
| White gloves | 1 pair |
| Detachable AC power cord*<br>**Varies by destination country* | 1 |

### Available Options

The following optional accessories are available for purchase:

- Rack mount kit – provides the mounting hardware necessary to install the Nº512 into an equipment rack.

Contact an authorized Mark Levinson dealer for availability and pricing. Authorized dealers may also have information on additional options.

### Product Registration

Register your Nº512 online at www.marklevinson.com within 15 days of purchase. Retain the original, dated sales receipt as proof of warranty coverage.



# Installation Considerations

The Nº512 CD/SACD player requires special care during installation to ensure optimal performance. Pay particular attention to instructions included in this section and to precautions included throughout this owner's manual.

### Unpacking

**DO** save all packing materials for possible future shipping needs.

**DO** inspect the Nº512 for signs of damage during shipment. If damage is discovered, contact your authorized Mark Levinson dealer for assistance in making appropriate claims.

**DO** locate and remove the accessory box from the carton. Make sure it contains all of the items listed in the "What's in the Box" table on this page. If not, contact your authorized Mark Levinson dealer.

## Placement and Ventilation

**DO** install the Nº512 CD/SACD player on its own shelf for proper ventilation.

**DO** install the Nº512 chassis on a solid, flat, level surface.

**DO** install the Nº512 CD/SACD player close to associated components to keep interconnecting cables as short as possible.

**DO** select a dry, well-ventilated location out of direct sunlight.

**DO** allow at least 3 to 4 inches (8 to 10cm) of clearance above the CD/SACD player for proper heat dissipation.

**DO NOT** place the Nº512 on a thick rug or carpet or cover the Nº512 CD/SACD player with a cloth, as this might prevent proper cooling.

**DO NOT** expose the Nº512 CD/SACD player to high temperatures, humidity, steam, smoke, dampness, or excessive dust. Avoid installing the player near radiators and other heat-producing appliances.

**DO NOT** install the Nº512 near unshielded TV or FM antennas, cable TV decoders, or other RF-emitting devices that might cause interference.



**DO NOT** place the Nº512 on a window sill or in any location where it will be exposed to direct sunlight.

**DO NOT** obstruct the IR (infrared) receiver/transmitter located on the front panel display. The remote control must be in line-of-sight with the front panel IR receiver. If strong sunlight or fluorescent light shines on the IR receiver, the remote control may be unreliable.

## Warning!

***MAKE SURE all components are properly grounded. Do not defeat the safety purpose of polarized or grounding-type plugs with "ground-lifter" or "cheater" adapters. Doing so may cause dangerous voltage to build up between components, which may result in personal injuries and/or product damage.***

# Power Requirements

At the factory, the Nº512 CD/SACD player is configured for 100, 120, 220, or 230–240 VAC power operation at 50Hz or 60Hz. Before operating the Nº512, ensure that the power label on the rear panel near the AC input connector indicates the correct operating voltage.

**Caution!**

***DO NOT attempt to adjust the operating voltage. Consult a Mark Levinson dealer if the operating voltage is incorrect or must be changed for relocation purposes.***

***Different operating voltages may require the use of different power cords and/or attachment plugs. Contact a Mark Levinson dealer for additional assistance.***

## Operating States

The Nº512 CD/SACD player is designed for continuous operation and has three operating states:

- **Off** – when the front panel Power switch is turned off or the power cord is removed from the rear panel.
- **Standby** – when the Nº512 is powered up, but the audio outputs are muted.
- **On** – when the Nº512 is powered up and fully functional.

**Caution!**

***BEFORE moving the Nº512 CD/SACD player, make sure it is powered off with the Power button. Then make sure the power cord is disconnected from the rear panel connector and the electrical outlet.***

# Unpacking

Perform the following steps to unpack the new Nº512 CD/SACD player.

1. Position the box so that the top side is facing up.
2. Use a utility knife to slice open the box and lift the box sides apart to reveal the inner box.
3. Carefully slice open the inner box and lift the box sides apart.
4. Remove the white accessory box and put it aside.
5. Carefully lift the Nº512 out of the box.
6. Remove the foam inserts from the sides of the player.
7. Remove the antistatic bag from the Nº512.



# Replacing the Remote Control Batteries

The Nº512 CD/SACD player remote control has two installed AA batteries. These should be replaced as required. We recommend using alkaline batteries, which are long-lasting and do not leak.

***To replace the remote control batteries:***

1. Locate the battery compartment cover on the bottom of the remote control.
2. Using a Phillips-head screwdriver, remove the three screws from the battery compartment cover and set them aside.
3. Remove the battery compartment cover.
4. Remove the old batteries.
5. Observing the proper polarity, insert the new batteries.
6. Position the cover over the battery compartment and replace the screws removed in Step 2.
7. Always properly dispose of the old batteries.

# Disc Compatibility

The Nº512 CD/SACD player can play back discs bearing any of the following logos:

Super Audio CD:
- Single layer, dual layer or hybrid layer
- 5″ or 3″ discs
- Digital audio (DSD)

Audio CD:
5″ or 3″ discs
Linear PCM digital audio

### About CD-R/CD-RW

CD-R/CD-RW discs recorded in the Audio CD format and finalized correctly are playable. However, depending upon the quality of the disc and/or condition of the recording, some CD-R/CD-RW discs may not be playable.

Unfinalized CD-R/CD-RW discs cannot be played.

### Note

If you record a disc using a personal computer, even if it is recorded in a compatible format, there are cases in which it may not play because of the settings of the application software used to create the disc. Check with the owner's manual of the software application for more detailed information.



# Handling and Care of Discs

Discs require special care and handling to ensure their optimal performance. Pay particular attention to the following:

**DO** remove the disc from its storage case by pressing down on the center of the case and lifting the disc out, holding it carefully by the edges.

**DO** hold the disc at its center hole and outer edges. Avoid handling the sides of the disc.

**DO** load single-sided discs with the label side facing upward, and double-sided discs with the side intended for playback facing downward. All loaded discs must align with the circular guide inside the disc drawer.

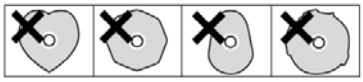
**DO** return discs to their cases when not in use. Discs should be stored in an upright position out of direct sunlight and excessive heat, humidity or cold. Long exposure to high temperatures may warp the disc.

**DO** clean a dirty disc by carefully wiping the recorded surface of the disc from the hole in the center straight outward towards the outer edge with a soft, dry cloth.

**Caution!**

***Dirty or damaged discs might affect playback performance or damage the player. DO NOT attempt to load a cracked, chipped, scratched, warped, dirty, or otherwise damaged disc into the disc drawer.***

**DO NOT** use chemicals such as record sprays, antistatic sprays or fluids, benzine or thinner to clean the disc. Such chemicals may do irreparable damage to the disc's plastic surface.



**DO NOT** use irregularly shaped discs, as they may damage the player. Mini discs may be used so long as they can be properly seated in the disc drawer.

**DO NOT** write on the disc label or disc surface with ballpoint pens, pencils or other sharp-tipped writing instruments. Do not glue paper or attach stickers to discs. Although not as fragile as the recorded side, damage to the label side of the disc can render the disc unplayable.

**Caution!**

***The Nº512 is a single disc player. DO NOT attempt to insert more than one disc into the disc drawer at a time. This may cause damage to the player, disc or both.***

# Front Panel Overview

The numbers in the Nº512 front panel illustration correspond with the summary list of items below.


1. Time button
2. Repeat button
3. Display button
4. Front Panel Display and IR Receiver
5. LED Indicators
6. Stop button
7. Play button
8. Pause button
9. Standby button
10. Next button
11. Previous button
12. Disc Drawer
13. Drawer button
14. CD/SACD button
15. Power button



### 1. Time button

Indicates the time mode that is used on the front panel display. Multiple presses of the Time button scrolls through the four time mode options, using the Time On Disc and Time Remaining LEDs to indicate which mode is selected at any point. Refer to the following section, “Front Panel Display”, for more details about the Time Indicator option.

### 2. Repeat button

Scrolls between the normal playback mode and the two available Repeat modes – Track Repeat or Disc Repeat. Multiple presses of the Repeat button scrolls through the available options. When a new mode is selected, the front panel display confirms the selection by briefly displaying a message – REPEAT OFF, REPEAT TRK, OR

REPEAT DSC. The Track Repeat or Disc Repeat LEDs on the front panel light if the respective Track Repeat or Disc Repeat options are selected.

Repeat modes continue repeating the track or disc until the Repeat mode is deactivated via the Repeat button, the disc is ejected or the Stop button is pressed.

### 3. Display button

Controls the brightness intensity level of the front panel display and all LEDs. Multiple presses of the Display button scrolls through the brightness levels – Off, pressing any key lights the display at medium intensity for several seconds before turning it off again so that the display can indicate the action that you performed.

**Note**

When the Display is turned to Off, the active front panel LEDs remain lit but at their dimmest setting.

### 4. Front Panel Display and IR Receiver

The 16-character display provides control and status information as well as current track and disc information. The location of information within the display identifies what kind of information it is. Refer to the next section, “Front Panel Display”, for more details.



Infrared commands transmitted from the Nº512 remote control are received by an IR receiver behind the display. Remote control of the Nº512 player may be unreliable if there is not a clear line of sight between the remote control and the front panel display, where the IR receiver is installed.

### 5. LED Indicators

Provide setting information when certain conditions are selected.

When the LED is lit, the following condition exists:

- **Disc Repeat** – all tracks on the disc are repeated.
- **Track Repeat** – the current track is repeated.
- **Volume Fixed** – the volume level is set to Fixed.
- **SACD** – a SACD disc is currently loaded.
- **Time on Disc** – the display time is showing the total time that the currently-loaded disc has been playing.
- **Time Remaining** – the display time is showing the total amount of time left to be played on the disc.

More detailed explanations of each LED can be found in the section of the manual that discusses each related function.

### 6. Stop button

Stops the playback of a loaded CD or SACD disc.

### 7. Play button

Starts playback of a loaded CD or SACD disc. From a newly loaded disc, pressing the Play button begins playback from the first track on the disc. If the disc is in Pause mode, then pressing the Play button resumes playback from the same point at which it was paused.

If the Play button is pressed while the drawer is open, the drawer closes and, if a disc was loaded, begins playing.

Some disc formats may not be supported by the Nº512 player. Refer to the "Disc Compatability" section found earlier in the manual for more information.

Irregular shaped discs are not supported by the Nº512 player; however, mini 3" discs are acceptable so long as they can be seated properly in the disc drawer.

### 8. Pause button

Pressing the Pause button pauses the playback at that point within the track. The far left side of the front panel display shows double bars (||) to indicate that the player is in Pause mode.

To remove the player from Pause mode, press the Pause button again or press the Play button. The double-bars symbol disappears from the display and playback of the disc resumes from the point at which it was paused.



### 9. Standby button

Activates and deactivates the Standby mode. The Standby LED located directly above the Standby button is illuminated when the Nº512 is operational and blinks slowly when the Nº512 is in Standby mode. To remove the Nº512 from Standby mode, press the Standby, Drawer, or Play button.

### 10. Next button

Allows you to skip to the next track or to fast forward (⏭) through the disc.

To skip a track – press the button once to advance to the beginning of the next track.

To fast forward – press and hold the button for longer than one second, then release. The Nº512 advances through the disc at twice the normal playback speed, while playing snippets of audio. Observe on the front panel display that a single arrow ( ▸ ) is displayed.

There are three fast forward speeds available - 2x speed, 4x speed, and 8x speed - and each selected speed is indicated by an additional arrow on the display. To increase the speed of the fast forward, press and hold the button for longer than one second, then release. Performing this operation multiple times scrolls through the fast forward settings - 2x, 4x, 8x, and then fast forward Off, which returns the Nº512 to normal playback mode.

### 11. Previous button

Allows you to restart the current track or to fast rewind (⏮) through the disc.

To restart the current track – press the button once to return to the beginning of the currently playing track. If the playback is within the first second of the track, then pressing the Previous button returns the playback to the beginning of the *previous* track.

To fast rewind – press and hold the button for longer than one second, then release. The Nº512 rewinds through the disc at twice the normal playback speed, while playing snippets of audio. Observe on the front panel display that a single arrow ( ◀ ) is displayed.

There are three fast rewind speeds available - 2x speed, 4x speed, and 8x speed – and each selected speed is indicated by an additional arrow on the display. To increase the speed of the fast rewind, press and hold the button for longer than one second, then release. Performing this operation multiple times scrolls through the fast rewind settings – 2x, 4x, 8x, and then fast rewind off, which returns the Nº512 to normal playback mode.

### 12. Disc Drawer

Made from solid aluminum, it is normally opened and closed by pressing the Drawer button.



The drawer can also be closed by gently nudging the front edge inward. The Nº512 interprets the gentle pressure as a request to close the door.

**Caution!**

***Do NOT try to force the drawer closed – doing so may cause damage to the player.***

### 13. Drawer button

Controls the disc drawer. Pressing the button opens, or closes, the drawer.

### 14. CD/SACD button

Allows you to select different layers on a SACD disc. When a SACD disc is first loaded, the Nº512 automatically selects the 2-channel SACD layer.

If the SACD disc is a hybrid with alternate layers, multiple presses of the SACD/CD button scrolls through the multichannel SACD, the 2-channel SACD, and the CD layers. If a multichannel layer is selected, it is downmixed to a 2-channel output.

**Note**

When playing a SACD disc, the SACD layer is only available on the analog audio outputs. However, the CD layer may be played normally using digital or analog outputs.

The SACD LED under the front panel display lights when a SACD disc is loaded into the player. If the CD layer is selected on the disc, then the SACD LED is not lit.

Once playback of the SACD disc has started, the CD/SACD button becomes inactive. Only when the player is in Stop mode can the different layers of the SACD be accessed.

**Note**

If a normal CD is loaded in the player, then this button is inactive and has no function.

### 15. Power button

Controls the AC input to the Nº512 when the supplied power cord is connected between the rear panel power connector and an electrical outlet.

**Caution!**

***Before operating the Nº512, verify that the voltage label near the AC input connector indicates an operating voltage compatible with the voltage level of the electrical outlet you intend to use.***

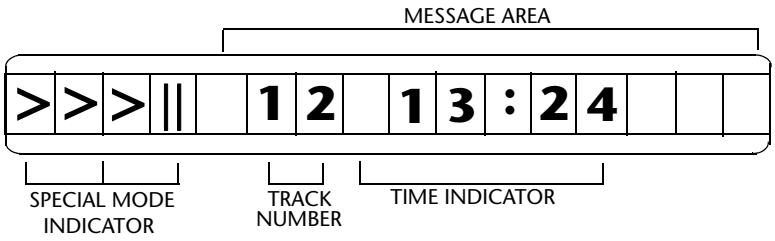
- When the Nº512 is off, pressing the Power button supplies AC power, putting the Nº512 into Standby mode.
- When the Nº512 is powered on or is in Standby mode, pressing the Power button turns off the Nº512.

**Note**

If the Nº512 is connected to ML Net and the master is in Standby mode, setting the power button to the On position also puts the Nº512 into Standby mode. The Nº512 can only be turned on if the master is turned on.

# Front Panel Display

The front panel display of the Nº512 CD/SACD player contains 16 characters, which display control, track, and status information. The placement of the information within the display identifies the type of information displayed, as shown in the figure below.




## Special Mode Indicator

The first four character positions of the front panel display are used to indicate the Pause, Fast Forward, and Fast Rewind modes.

- When the Pause mode is activated, the double-bar symbol (||) appears in the position indicated in the illustration above.
- When Fast Foward mode is activated, the first three positions indicate the fast forward arrow ( ▸ ). The number of arrows indicates which of the three fast forward speeds is currently being used ( ▸ , ▸ ▸ , or ▸ ▸ ▸ ).
- When Fast Rewind mode is activated, the first three positions indicate the fast rewind arrow ( ◂ ). The number of arrows indicates which of the three fast rewind speeds is currently being used ( ◂ , ◂ ◂ , or ◂ ◂ ◂ ).



## Track Number

The sixth and seventh character positions of the display are used to indicate the track number.

- If a disc is loaded and the Nº512 is in Play mode, then the display indicates the track number of the currently playing selection.
- If a disc is loaded but the Nº512 is in Stop mode, then the display indicates the total number of tracks on the loaded disc.

## Time Indicator

Character positions 8 to 13 of the display are used for the track time indicator.

When a disc is playing, there are four time modes available and the Time on Disc and Time Remaining LEDs are used in conjunction with these settings. All track times are shown in minutes and seconds.

The four time modes available are:

- **Time Elapsed in Track** – indicates how much time has elapsed in the track currently being played. The Time on Disc and Time Remaining LEDs are NOT lit. This is the default value for all discs initially.
- **Time Remaining on Track** – indicates how much time remains on the track currently being played. Only the Time Remaining LED is lit.
- **Time Elapsed on Disc** –indicates the total amount of time that the disc has been playing. Only the Time on Disc LED is lit.
- **Time Remaining on Disc** – indicates the total amount of time that the disc has left to play. Both the Time on Disc and Time Remaining LEDs are lit.

The Nº512 continues to display the time as selected until a new format is selected, the disc is ejected or the Stop button is pressed. When a disc is loaded but in Stop mode, the time indicator always displays the total time on the disc.

The Time Indicator mode is selected by pressing the Time button on the front panel or remote control. Multiple presses scrolls through the four time-mode options, using the Time on Disc and Time Remaining LEDs to indicate which mode is selected at any point.

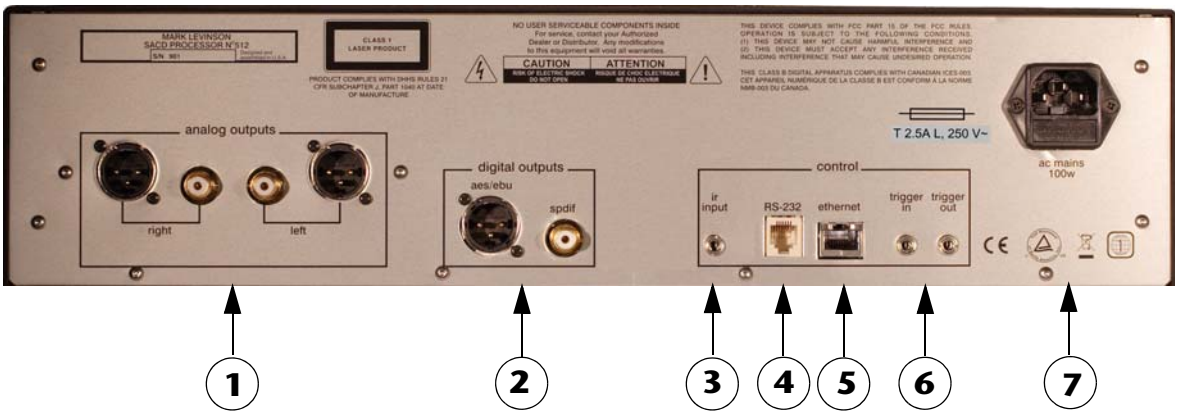


**Note**

While in Program or Shuffle modes, only time elapsed in track and time remaining on track options are available.

# Rear Panel Overview

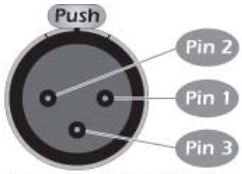
The numbers in the Nº512 rear panel illustration correspond with the summary list of items below.




1. Analog outputs
2. Digital outputs
3. IR input
4. RS-232 control port
5. Ethernet port
6. Trigger input and output
7. AC input



## 1. Analog Outputs




Balanced (male XLR) Input Connector

**Pin Assignments:**
Pin 1: Signal Ground
Pin 2: Signal + (non-inverting)
Pin 3: Signal – (inverting)
Connector shell is chassis ground

Provide two balanced XLR and two single-ended (unbalanced) RCA connectors for the stereo analog audio output.

The pin assignments, shown on the left, of the XLR-type female input connector are consistent with the standards adopted by the Audio Engineering Society. Refer to the operating manual of your preamplifier to ensure that the pin assignments of its balanced output connectors correspond to the Mark Levinson Nº512 CD/SACD player. If not, wire the cables so that the appropriate input pin connects to the equivalent output pin.

## 2. Digital Outputs

Provide an AES/EBU or an S/PDIF connector for the digital audio output.

## 3. IR Input

Accepts the input of IR (infrared) signals from other equipment. The 3.5mm jack accepts a stereo or mono plug.

### 4. RS-232 Control port

Provides serial control through a standard RS-232 connection. Refer to the separate document, *Nº512 Serial Protocol Definitions*, for further details.

### 5. Ethernet port

Used to support external or ML Net control over a standard Ethernet network. For information on how to set up and use the Ethernet port, refer to the "Network Setup" and "ML Net" sections found later in this manual.

### 6. Trigger Input and Output

Used to activate other components in the home entertainment system, such as amplifiers, lights, window shades, and video screens. The rear panel of the Nº512 has two trigger connectors – one input and one output. The trigger input can receive a 12V DC signal from a connected component. The trigger input passes through to the trigger output signal, enabling a daisy-chain of devices to be controlled by a single trigger signal.

Receiving a trigger signal causes the Nº512 to change its power state. If the Nº512 is in Standby mode, it is powered on when a 12V DC signal is received on the trigger input. Conversely, if the Nº512 is powered on, then 0V DC on the trigger signal puts the Nº512 into Standby mode.

The Trigger Output goes to 12V DC when the Nº512 is powered on and goes to 0V DC when the Nº512 is placed into Standby mode or powered off.



### 7. AC Input

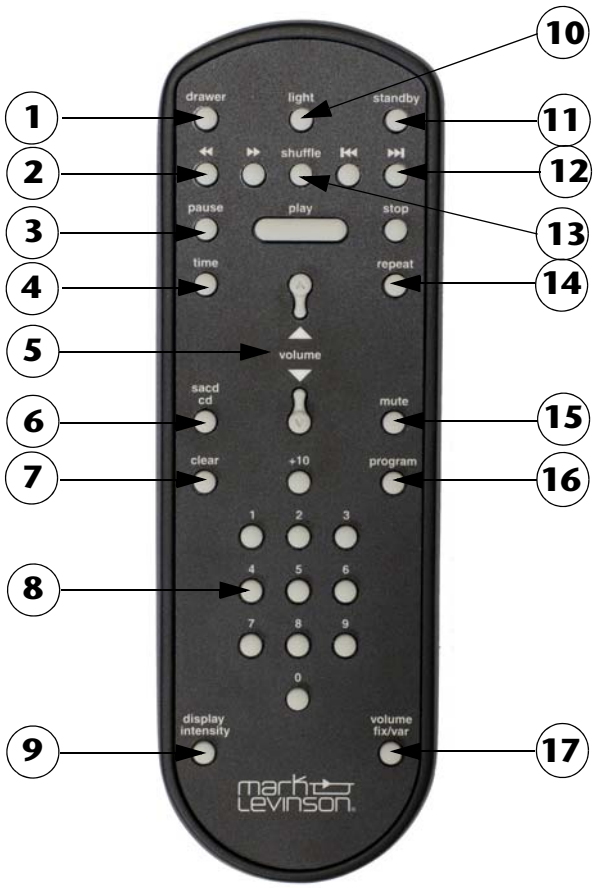
Provides AC power to the Nº512 when the supplied power cord is connected from the AC input connector on the Nº512 rear panel to an electrical outlet.

### Caution!

***Before operating the Nº512, verify that the voltage label near the AC input connector indicates an operating voltage compatible with the voltage level of the electrical outlet you intend to use.***

# Remote Control Overview

The numbers in the Nº512 remote control illustration correspond with the summary list of items below.




1. Drawer button
2. Fast Rewind and Fast Forward buttons
3. Transport buttons (Pause, Play, Stop)
4. Time button
5. Volume buttons
6. SACD/CD button
7. Clear button
8. Number keypad (0 to 9 and +10 buttons)
9. Display Intensity button
10. Light button
11. Standby button
12. Previous and Next buttons
13. Shuffle button
14. Repeat button
15. Mute button
16. Program button
17. Volume Fix/Var button

### 1. Drawer button

Controls the disc drawer. Pressing the button opens, or closes, the drawer. The drawer can also be closed by gently nudging the front edge inward. The Nº512 interprets the gentle pressure as a request to close the door.

**Caution!**

***Do NOT try to force the drawer closed – doing so may cause damage to the player.***

Irregularly shaped discs are not supported by the Nº512 player; however, mini discs are acceptable as long as they can be seated properly in the disc drawer.

### 2. Fast Rewind and Fast Forward button

Allows you to Fast Rewind (◂◂) or to Fast Forward (▸▸) through the disc.

To Fast Rewind – press and release the Fast Rewind (◂◂) button. The Nº512 rewinds through the disc at twice the normal playback speed, while playing snippets of audio. Observe on the front panel display that a single arrow ( ◂ ) is displayed.

To Fast Forward – press and release the Fast Forward (▸▸) button. The Nº512 advances through the disc at twice the normal playback speed while playing snippets of audio. Observe on the front panel display that a single arrow ( ▸ ) is displayed.



There are three fast rewind and three fast forward speeds available – 2x speed, 4x speed, and 8x speed – and each selected speed is indicated by an additional arrow on the display. To increase the speed, press and release the fast rewind (◂◂) or the fast forward (▸▸) button. Performing this operation multiple times scrolls through the settings – 2x, 4x, 8x, and then off, which returns the Nº512 to normal playback mode.

### 3. Transport buttons

Provide basic Pause (II), Play ( ▸ ) and Stop (■) controls.

**Pause** (II) – the playback is paused at that point within the track. The front panel display shows double bars (II) to indicate that the player is in Pause mode. Press the Pause button or the Play button to remove the Nº512 from the Pause mode. The double-bar symbol disappears from the display, and playback of the disc resumes from the point at which it was paused.

**Play** ( ▸ ) – starts playback of a loaded CD/SACD disc. For a newly loaded disc, pressing the Play button begins playback from the first track on the disc. If the disc is in Pause mode, then pressing the Play button resumes playback from the same point at which it was paused.

If the Play button is pressed while the drawer is open, the drawer closes and, if a disc was loaded, begins playing.

Pressing Play also takes the Nº512 out of Standby mode. If the player had a disc loaded when put into Standby mode, the disc starts playing when the Nº512 is taken out of Standby mode.

**Stop** (■) – stops the playback of a loaded CD/SACD disc. Pressing the Stop button also deactivates Shuffle mode.

### 4. Time button

Indicates the time mode that is used on the front panel display. Multiple presses of the Time button scrolls through the four time-mode options, using the Time on Disc and Time Remaining LEDs to indicate which mode is selected at any point. Refer to the "Front Panel Display" section found previously in this manual for more details about the Time Indicator option.

### 5. Volume buttons

Controls the volume level of the Nº512 audio output when the variable volume mode is active. Press the Up (▲) button to increase the volume level, or press the Down (▼) button to lower the volume level.

### 6. SACD/CD button

Allows you to select different layers on a SACD disc. When a SACD disc is first loaded, the Nº512 automatically selects the two-channel SACD layer.



If the SACD disc is a hybrid with alternate layers, multiple presses of the SACD/CD button scrolls through the multichannel SACD, the 2-channel SACD, and the CD layers. If a multichannel layer is selected, it is downmixed to a 2-channel output.

**Note**

When playing a SACD disc, the SACD layer is only available on the analog audio outputs. However, the CD layer may be played normally using digital or analog outputs.

The SACD LED under the front panel display lights when a SACD disc is loaded into the player. If the CD layer is selected on the disc, then the SACD LED is not lit.

Once playback of the SACD disc has started, the SACD/CD button becomes inactive. Only when the player is in Stop mode can the different layers of the SACD disc be accessed.

**Note**

If a normal CD is loaded in the player, then this button is inactive and has no function.

### 7. Clear button

Removes the last track entry from a program. This button only functions when Program mode is active.

### 8. Number Keypad

Includes the buttons 0 through 9 and the +10 button. The number keypad is used to enter specific track numbers. If the disc is loaded, pressing a number automatically starts the playback of that track number selected.

The numbers 1 through 9 can be used to play the individual track numbers. For higher numbered tracks, the +10 key MUST be pressed first and then followed by the appropriate 0 to 9 digit. If a second digit is not entered within a few seconds, the display clears without changing tracks.

Pressing the +10 button more than once adds to the initial digit. For instance, if you want to play Track 23, you would press the +10 button, the +10 button, and then the 3 button.

### 9. Display Intensity button

Controls the brightness intensity level of the Nº512 front panel display and all front panel LEDs. Multiple presses of the Display Intensity button scrolls through the brightness levels – High, Medium, Low, and Off.

If the display is set to off, pressing any key lights the display at medium intensity for several seconds before turning it off again so that the display can indicate the action that you performed.

**Note**

When the display intensity is set to Off, the active front panel LEDs remain lit but at their dimmest setting.



### 10. Light button

Illuminates the Nº512 remote control with a backlight. After a short period of illumination, the backlight automatically turns off.

### 11. Standby button

Activates and deactivates the Standby mode. The Standby LED located directly above the Standby button on the front panel is illuminated when the Nº512 is operational and blinks slowly when the Nº512 is in Standby mode. To remove the Nº512 from Standby mode, press the Standby, Drawer, or Play button.

### 12. Previous and Next buttons

Allows you to begin the previous (⏮) track or proceed to the next (⏭) track on the disc.

To Restart the Current Track – press the Previous (⏮) button to return to the beginning of the currently playing track. If the playback is within the first second of the track, then pressing the Previous (⏮) button returns the playback to the beginning of the *previous* track.

To Proceed to the Next Track – press the Next (⏭) button to advance to the beginning of the next track.

### 13. Shuffle Button

Randomly sorts the tracks on the loaded disc, creating a new playlist. To shuffle the playback order of the tracks, press the Shuffle button. The front panel displays “SHUFFLING” and playback starts automatically. To cancel Shuffle mode, press the Stop button.

Shuffle mode can be activated when the Nº512 is in Stop mode or when a disc is currently being played. While Shuffle mode is active, some button functions and features may not be available.

Shuffle mode randomly sorts up to 30 tracks. If the disc contains more than 30 tracks, some are not selected.

### 14. Repeat button

Scrolls between the normal playback mode and the two available Repeat modes – Track Repeat or Disc Repeat. Multiple presses of the Repeat button scrolls through the available options. When a new mode is selected, the front panel display confirms the selection by briefly displaying a message – REPEAT OFF, REPEAT TRK, OR REPEAT DSC. The Track Repeat or Disc Repeat LEDs on the front panel light if the respective Track Repeat or Disc Repeat options are selected.

Repeat modes continue repeating the track or disc until the Repeat mode is deactivated via the Repeat button, the disc is ejected or the Stop button is pressed.



### 15. Mute button

Mutes the audio outputs. When the Mute button is pressed, the front panel display briefly states “Full Mute” and the output is muted. Press the Mute button again to return the volume to its previous level. Mute is only available if the Volume control is set to variable and is otherwise inactive.

### 16. Program Button

Allows you to customize the playlist of any CD or SACD disc. This feature is only available when a disc is loaded. Up to 30 tracks can be programmed from a single disc.

To select the playlist, press the Program button. The front panel display shows the message “PGM MODE” to indicate that the player is now in Program mode. The display then shows the message “0 PGM 0” to indicate that there are currently no tracks in the program.

To add tracks to the program, enter the number of each track using the number keypad. After each entry, the display shows the track number and time for the track number pressed. Then the program message follows – the first number is the last track number added to the program, and the last number is the total number of tracks added to the program. When the program is complete, press the Play button to begin the playback.

Use the Clear button to delete the last track entry in the program. To cancel the program, press the Program button or the Drawer

button. When a program is canceled, the player returns to normal operation and the program is deleted from memory.

Program mode can also be accessed while a disc is currently playing. Pressing the Program button saves the currently playing track as the first track in the program. Use the number keypad to enter other tracks from the disc into the program.

When a program is complete, the unprogrammed tracks on the disc are unavailable until they are added to the program or until Program mode is exited.

### 17. *Volume Fix/Var* button

Allows you to select a fixed or variable volume control. The volume selection is indicated by the Volume Fixed LED under the front panel display.

If the Volume Fixed LED is NOT lit, then the volume is variable and can be changed with the remote control Volume Up (▲) and Down (▼) buttons. The variable volume attenuates the output level from 0 (off) to 73.2 (maximum volume). The variable volume level defaults to 30 when the Nº512 is taken out of Standby mode or powered on, or if the volume is changed from Fixed to Variable.

If the Volume Fixed LED is lit, then the volume is set to a fixed level and cannot be changed with the remote control Volume buttons. The fixed level is the line level, or 61.2, and is only available when using the analog outputs. We recommend using this option only if you are using the system-level volume controls in a pre-amplifier or media console.



**Note**

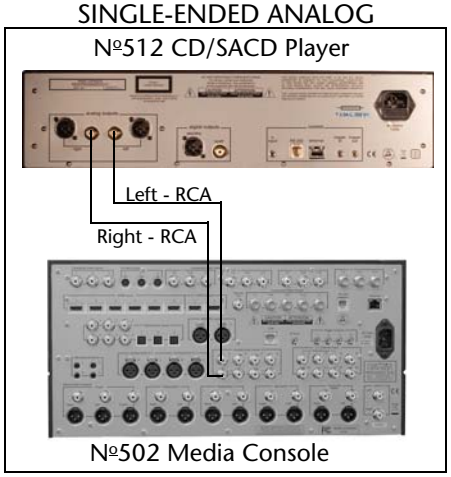
Different layers on an SACD disc may have some variance in volume level. We recommend lowering the volume before changing layers to avoid potentially loud volume level variances.

# Initial Setup

The player can be connected using either analog or digital outputs. Use the appropriate setup procedure below.

## Set Up Using Analog to a Preamplifier

SINGLE-ENDED ANALOG




BALANCED ANALOG


To set up the Nº512 using the analog audio outputs into a preamplifier, perform the following steps. Refer to the cabling diagram on the left, as needed.

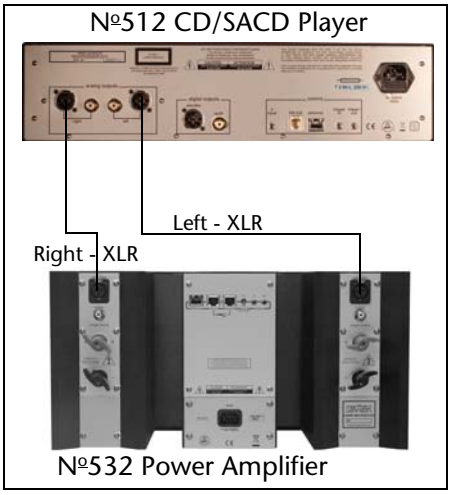
1. Ensure that all components are powered off before making connections.
2. Connect an audio cable from the Nº512 rear panel Analog Output Right connector to the Analog Input Right connector on the preamplifier rear panel. RCA or XLR connectors may be used.
3. Connect an audio cable from the Nº512 rear panel Analog Output Left connector to the Analog Input Left connector on the preamplifier rear panel. RCA or XLR connectors may be used.
4. Turn on the Nº512 player.
5. Turn on the preamplifier.
6. Turn on the amplifier.
7. Do not proceed until all equipment has gone through its initialization process and is fully powered on.
8. On the Nº512, press the Drawer button on the front panel to open the CD drawer.
9. Place a CD or SACD disc in the drawer. Make sure that the disc is data-side down and seated properly in the drawer.
10. Press the Drawer button to close the drawer.
11. Press the Play button after the disc has loaded.

The first track should now be playing.

If you do not hear audible sound, refer to the “Troubleshooting” section found later in the manual for suggestions.

## Set Up Using Analog to an Amplifier

SINGLE-ENDED ANALOG



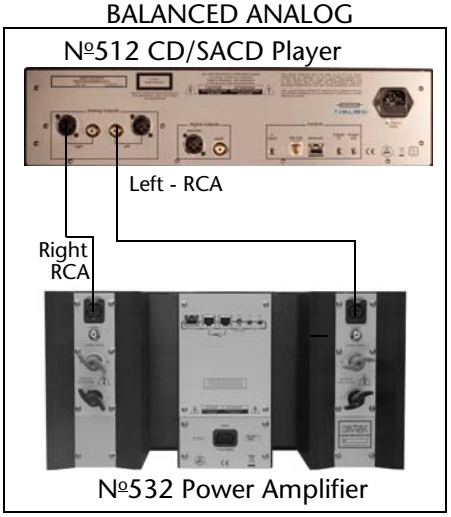

To set up the Nº512 using the analog audio outputs directly into an amplifier, perform the following steps. Refer to the cabling diagram on the left, as needed.

1. Ensure that all components are powered off before making connections.
2. Connect an audio cable from the Nº512 rear panel Analog Output Right connector to the Analog Input Right connector on the amplifier rear panel. RCA or XLR connectors may be used.
3. Connect an audio cable from the Nº512 rear panel Analog Output Left connector to the Analog Input Left connector on the amplifier rear panel. RCA or XLR connectors may be used.
4. Turn on the Nº512 player.
5. Verify that the Volume level is NOT set to Fixed - the Volume Fixed LED on the front panel should NOT be illuminated.

## *Warning!*

***Since the volume and mute controls are NOT active when the volume is set to Fixed, you will have no way to turn the volume down when a disc is played.***

BALANCED ANALOG




6. Turn on the amplifier.
7. Do not proceed until all equipment has gone through its initialization process and is fully powered on.
8. On the Nº512, press the Drawer button on the front panel to open the CD drawer.
9. Place a CD or SACD disc in the drawer. Make sure that the disc is data-side down and seated properly in the drawer.
10. Press the Drawer button to close the drawer.
11. Decrease the volume level to a suitable setting. The default value is 30.
12. Press the Play button after the disc has loaded.

The first track should now be playing.

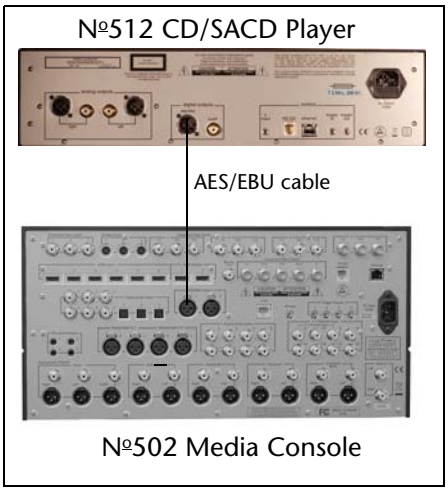
If you do not hear audible sound, refer to the “Troubleshooting” section found later in the manual for suggestions.

## Set Up Using Digital Outputs

To set up the Nº512 using the digital audio outputs, perform the following steps. Refer to the cabling diagram on the left, as needed.

### Note

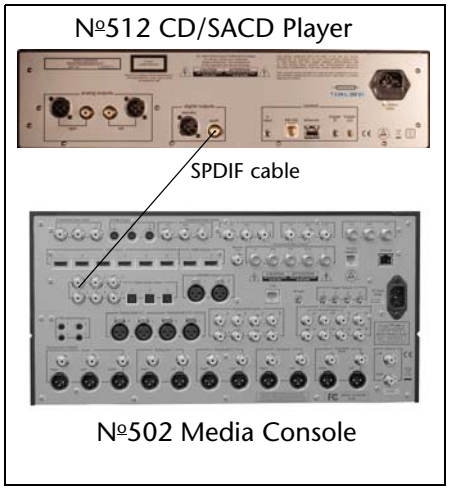
When playing a SACD disc, the SACD layer is only available on the analog audio outputs. However, the CD layer may be played normally using digital or analog outputs.




1. Ensure that all components are powered off before making connections.
2. Connect an audio cable from the Nº512 rear panel Digital Output connector to the Digital Input connector on the preamplifier rear panel. S/PDIF or AES/EBU connectors may be used.
3. Turn on the Nº512 player.
4. Turn on the preamplifier.
5. Turn on the amplifier.
6. Do not proceed until all equipment has gone through its initialization process and is fully powered on.



7. On the Nº512, press the Drawer button on the front panel to open the CD drawer.




8. Place a CD in the drawer. Make sure that the disc is data-side down and seated properly in the drawer.
9. Press the Drawer button to close the drawer.
10. Press the Play button after the disc has loaded.

The first track should now be playing.

If you do not hear audible sound, refer to the “Troubleshooting” section found later in the manual for suggestions.

# Internal Web Page

When connected to a computer, the Nº512 has an internal Web page that provides access to:

- **Network Setup** – allows the user to modify the network setup parameters. Accessing the internal Web page is the ONLY way to modify the network setup parameters of the Nº512 player.
- **Status Information** – provides basic status information for the Nº512.
- **Display Intensity** – allows the Nº512 front panel display and LED brightness level to be adjusted. Use the pulldown menu to select one of the four brightness settings available - High, Medium, Low, and Off.

The Nº512 MUST be connected to a computer via the Ethernet port before you can access the internal Web page. Continue to the next section - "Network Setup" - for further instructions.

The Web page also has a Restore Defaults button, which resets the parameters to their factory default values. Clicking the Restore Defaults button displays a pop-up asking for confirmation; click Yes to restore the factory default values.



# Network Setup

The Nº512 CD/SACD player supports a network connection through the Ethernet port. The Nº512 can connect to a network through use of a router or directly to a computer.

The Nº512 can be:

1. **Connected to a router with DHCP active** – We highly recommend using this option. Since DHCP (Dynamic Host Configuration Protocol) automatically assigns the IP (Internet Protocol) addresses, setup is much simpler.

2. **Connected to a router with DHCP not active** – This method requires more advanced networking knowledge to set up because it uses fixed static IP addressing.

3. **Connected directly to a computer with no router** – We recommend only using this option when a router is not available. This method requires more advanced networking knowledge to set up because it uses fixed static IP addressing and a special network crossover cable.

This section provides general instructions for all three methods.

**Note**

The Nº512 does not support wireless connection. However, a cable attached from the player to a wireless adapter can be used to interface with a wireless network.

### *Material Requirements*

The following materials are required to connect the Nº512 to the network with a router:

- Nº512 CD/SACD player
- Two twisted-pair network cables
- PC-compatible computer with 10/100BaseT network card
- 10/100BaseT router

**Note**

While a switch or hub may be used to connect the Nº512 to a network, a router MUST be used for the initial connection because you will need to access the status page of the router to locate the name of the Nº512. Typically, switches and hubs do not have status pages.

The following materials are required to connect the Nº512 to a computer without the use of a router:



- Nº512 CD/SACD player
- Network crossover cable
- PC-compatible computer with 10/100BaseT network card

### *Computer Requirements*

The PC-compatible computer used to connect to the Nº512 must have the following software installed:

- Windows® 2000 or Windows XP
- Web browser (Microsoft® Internet Explorer® 6.0 or higher preferred)

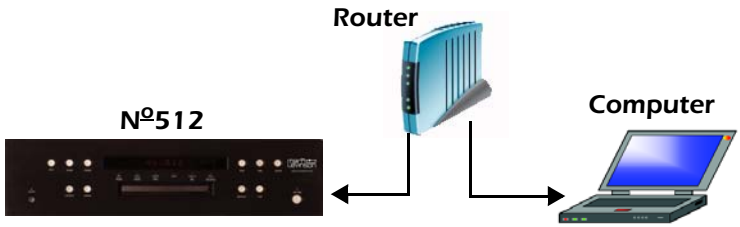
**Note**

If DHCP is not active, then the computer must be set up with a Static IP address. Refer to the “Setting Up the Computer” section found later in this procedure for instructions.

## Connecting the Cables

The Nº512 can be connected to the computer in two ways – through a router or directly to the computer. *Before connecting the cables, ensure that both the computer and the Nº512 are powered down.*

### *To Connect Using a Router:*



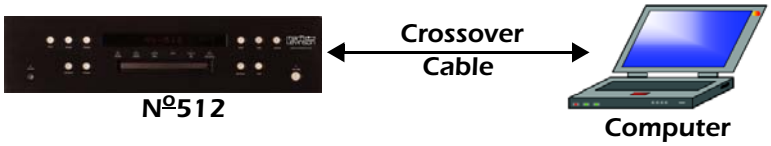

1. Connect a network cable from the router to the Ethernet port on the rear panel of the Nº512.

2. Connect a second network cable from the router to the Ethernet port of the computer.

### *To Connect Without a Router:*

Use a **network crossover cable** to connect the Nº512 directly to the computer. Different from a standard network cable, the crossover cable is designed to connect network access ports directly together without a hub, router, or switch.






Connect the crossover cable from the Ethernet port on the rear panel of the Nº512 to the Ethernet port of the computer.

## Network Setup Parameters

Accessible only through the Nº512 internal Web page, the network setup parameters include:

- **Static IP Address** – provides a fixed IP address. This IP address is NOT automatically selected; it must be entered. If DHCP is on, then an IP address doesn't need to be entered. IP address 192.168.50.8 is the factory default value.
- **Subnet Mask** – identifies the subnet mask for the Nº512. This IP address is automatically assigned by DHCP. If DHCP is off, then the address must be entered manually and it must agree with the subnet mask address of the router. IP address 255.255.255.0 is the factory default value.
- **Host Name** – indicates the network name given to the Nº512 player. The host name is made up of two parts that are separated by an underscore. The first part contains one

to eight characters that can be modified via the internal Web page. The second part contains the last six characters of the MAC address for each №512. This MAC address is unique for every player.

The Host Name default is "NO512_xxxxxx" where "xxxxxx" stands for the last six characters of the unique MAC address for each player.

- **DHCP** – turns the DHCP capability on or off. When activated, DHCP assigns a unique IP address to the №512. The factory default value is On. *We recommend leaving DHCP set to On.*

## Connecting With DHCP (Recommended)

If you are using a router with DHCP active to connect to the №512, use this procedure. Otherwise, skip to the next procedure.

Connect one №512 player to the router, as described in the earlier "Connecting the Cables" section. Make sure that everything is powered off before making cable connections.

1. Turn on the PC and the router. Verify that the router has DHCP active.

2. Press the Power button on the №512.



3. On the computer, open the Internet Explorer Web browser.

4. Access the status page of the router to identify the name of the №512 player. Refer to your router's owner's manual to determine how to access the status page.

   Most routers identify the device names of all located devices on the status page. However, some may only list the assigned IP address.

**Note**

If you are using ML Net, you can also use the №502 to determine the name of the №512 player. Refer to the ML Net section of the №502 Owner's Manual for further details.

5. Type the name or assigned IP address of the №512 player into the address (URL) line of the web browser and press the Enter button.

6. The №512 internal Web page is now displayed. The top of the page provides the general status of the №512. The bottom of the page contains the network parameters setup.

7. Observe that the Status section of the Web page identifies the Host Name and IP address of the №512 player. The host name can be modified, but only the first eight characters are affected; anything after the underscore may not be modified.

***To change the host name of the Nº512:***

A. Type the new name into the white box to the right of the parameter. The new name must be made from the capital letters, A to Z, and the numbers, 0 to 9. Underscores may also be used. Only eight characters are allowed.

B. Click the Submit button to save the new value.

8. Type the new host name of the Nº512 into the address line of the Web browser. The Nº512 Web page loads, reflecting the new information. Skip this step if you didn't modify the host name.

   When the page loads, observe that the last six characters of the player's MAC address are appended to the new host name.

The network connection is now complete.

## Setting Up the Computer

If DHCP is not used, then the computer must be set up, too. Use this procedure to set up the computer, then continue to the appropriate section to connect to the Nº512 player.

For the computer to find the Nº512, the TCP/IP (Internet Protocol) and LAN (Local Area Network) settings of the computer must be set up. The parameter setups vary slightly depending upon the operating system of the computer. Refer to the procedure below that matches the operating system on your computer.



**Note**

Due to your preference settings in the Windows operating system, the names and order of the dialog boxes may vary slightly from these instructions.

### Network Setup for Windows XP

1. From the Start menu, select Control Panel.
2. Double-click on the Network Connections option.
3. Double-click on the Local Area Connection option.
4. Click the Properties button to open the Local Area Connection Properties menu.

**Note**

If the computer is not currently connected to an active network, Step 3 has already opened the Local Area Connection Properties menu.

5. Click on the Internet Protocol (TCP/IP) line item so that it is highlighted.
6. Click the Properties button.

7. Select the “Use the Following IP Address” option. The IP Address, Subnet Mask, and Default Gateway boxes are no longer grayed out and can now be modified.

8. Enter the following values:
   - IP address: 192.168.50.x
     where x stands for a number other than 8
   - Subnet mask: 255.255.255.0
   - Do not enter a value in the Default Gateway parameter

**Note** 192.168.50.8 is the default static IP address for the Nº512. The computer must be on the same subnet and have a unique address.

9. Click “OK” to save and exit the menu.

10. Open the Internet Explorer Web browser.

11. From the menu bar, select the Tools ▸ Internet Options menu.

12. Select the Connections tab.

13. Click the LAN Settings button.



14. Verify that “Use a proxy server for your LAN” is NOT checked.

15. Click “OK” to save and exit the menu.

#### *Network Setup for Windows 2000*

1. From the Start menu, select Settings ▸ Control Panel.

2. Double-click on the Network and Dial-Up Connections option.

3. Double-click on the Local Area Connection option.

4. Click the Properties button to open the Local Area Connection Properties menu.

**Note** If the computer is not currently connected to an active network, Step 3 has already opened the Local Area Connection Properties menu.

5. Click on the Internet Protocol (TCP/IP) line item so that it is highlighted.

6. Click the Properties button.

7. Select the "Use the Following IP Address" option. The IP Address, Subnet Mask, and Default Gateway boxes are no longer grayed out and can now be modified.

8. Enter the following values:
   - IP address: 192.168.50.x
     where x stands for a number other than 8
   - Subnet Mask: 255.255.255.0
   - Do not enter a value in the Default Gateway parameter

**Note**

192.168.50.8 is the default static IP address for the Nº512. The computer must be on the same subnet and have a unique address.

9. Click "OK" to save and exit the menu.
10. Open the Internet Explorer Web browser.
11. From the menu bar, select the Tools ▸ Internet Options menu.
12. Select the Connections tab.
13. Click the LAN Settings button.
14. Verify that "Use a proxy server for your LAN" is NOT checked.
15. Click "OK" to save and exit the menu.



### *Connecting With Static IP Addressing*

If you plan to connect with static IP addresses (DHCP is turned off), use this procedure. Otherwise, skip to the next procedure to connect directly to a computer.

Connect one Nº512 player to the router, as described in the previous "Connecting the Cables" section. Make sure that everything is powered off before making cable connections.

For the computer to find the Nº512, the TCP/IP and LAN settings of the computer must be set up. Refer to the previous "Setting up the Computer" section for instructions.

1. Turn on the PC and the router. Verify that the router has DHCP turned off, if required.
2. Set up the router to the IP address 192.168.50.x, where x stands for a number other than 8, 0, 255, or the number used for the computer IP address. Refer to the router's owner's manual for instructions on how to enter the IP address.

**Note**

192.168.50.8 is the default static IP address for the Nº512. The router must be on the same subnet as the player and computer, but also must have its own unique address.

3. Press the Power button on the Nº512.

4. On the computer, open the Internet Explorer Web browser.

5. On the address line (URL), type the static IP address of the Nº512 (192.168.50.8 is the default value) and press the Enter button. There may be a short delay before the Nº512 Web page loads.

6. The Home tab of the Nº512 internal Web page is now displayed. The tab is in red text to indicate that it is the current page. The top of the page provides the general status of the Nº512. The bottom of the page contains the network parameters setup.

7. Observe that the Status section of the Web page identifies the host name of the Nº512 player. The host name can be modified, but only the first eight characters are affected; anything after the underscore may not be modified.

   ***To change the host name of the Nº512:***

   A. Type the new name into the white box to the right of the parameter. The new name must be made from the capital letters, A to Z, and the numbers, 0 to 9. Underscores may also be used. Only eight characters are allowed.

   B. Click the Submit button to save the new value.

   C. Click the Refresh button in the Status section of the Web page to observe the new host name.

8. Observe that the Status section of the Web page also identifies the IP address of the Nº512 player. The static IP address can be modified, if desired.

   ***To change the IP address of the Nº512:***

   A. Type the new IP address into the white box to the right of the parameter.

   B. Click the Submit button to save the new value.

   C. Enter the new IP address of the Nº512 into the browser. The Nº512 Web page loads, reflecting the new information.

The network connection is now complete.

## Direct Connection

If you are not using a router, use this procedure to connect directly to a computer. For the computer to find the Nº512, the TCP/IP and LAN settings of the computer must be set up. Refer to the previous "Setting up the Computer" section for instructions.

Connect one Nº512 player to the computer, as described in the previous "Connecting the Cables" section. Make sure that both the player and the computer are powered off before connecting.

1. Press the Power button on the Nº512.

2. On the computer, open the Internet Explorer Web browser.

3. On the address line (URL), type the static IP address of the Nº512 (192.168.50.8 is the default) and press the Enter button. There may be a short delay before the Nº512 Web page loads.

4. The Home tab of the Nº512 internal Web page is now displayed. The tab is in red text to indicate that it is the current page. The top of the page provides the general status of the Nº512. The bottom of the page contains the network parameters setup.

5. Observe that the Status section of the Web page identifies the host name of the Nº512 player. The host name can be modified, but only the first eight characters are affected; anything after the underscore may not be modified.

   ***To change the host name of the Nº512:***

   A. Type the new name into the white box to the right of the parameter. The new name must be made from the capital letters, A to Z, and the numbers, 0 to 9. Underscores may also be used. Only eight characters are allowed.

   B. Click the Submit button to save the new value.

   C. Click the Refresh button in the Status section of the Web page to observe the new host name.

6. Observe that the Status section of the Web page also identifies the IP address of the Nº512 player. The static IP address can be modified, if desired.

   ***To change the IP address of the Nº512:***

   A. Type the new IP address into the white box to the right of the parameter.

   B. Click the Submit button to save the new value.

   C. Enter the new IP address of the Nº512 into the browser. The Nº512 Web page loads, reflecting the new information.

The network connection is now complete.

# ML Net

The ML Net protocol allows you to control two or more Mark Levinson products simultaneously via the Ethernet port.

**Note**

Since ML Net operates through the use of a router and the Ethernet connection, all devices must have networking capability. Refer to the previous "Network Setup" section to set up the №512 for network operation.

## *Masters and Slaves*

ML Net uses a single "Master" device to control specific functions of other ML Net-capable Mark Levinson products. An ML Net system can only have one master device; all other devices in the system become "Slaves". Slave devices receive and respond to the commands of the master device.

The №512 CD/SACD player is always a slave device. A separate master device must be used in conjunction with the №512 player.

As a slave device, the №512 responds to the following ML Net commands sent from the master device:



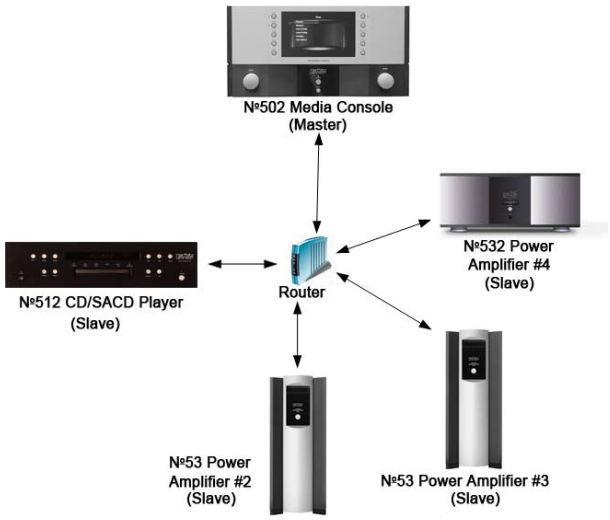
- **Standby State** – the master device controls the Standby state of the №512 player.
- **Synchronized LEDs** – the Standby LEDS of the master device and all assigned slave devices blink in unison.

## Connecting the Devices

After configuring each device on the network, connect all of the devices together. *Ensure that all components are powered off or in Standby mode before connecting to the Ethernet ports.*

Each device must be connected to the same network and use the same subnet. Refer to the "Network Setup" section for instructions on how to connect the №512 to the network.

The figure below illustrates a typical ML Net setup:




If more devices are desired than the router can handle, connect the additional devices first to a switch, then connect the uplink of the switch to a normal port on the router.

## *Discovering Slaves*

Before the master device can control any slave device, the slave devices must be “discovered” and assigned to the master device. Refer to the owner’s manual of the designated master device for further information about discovering and assigning slave devices.

# Troubleshooting

Incorrect operation is sometimes mistaken for malfunction. If problems occur, see this section for troubleshooting information. If problems persist, contact your authorized Mark Levinson dealer.

## No Power

1. Examine the power cord to ensure that it is connected to both the rear panel connector of the №512 and an electrical outlet.
2. Make sure the №512 is powered on with the Power button.
3. Make sure the №512 is **not** in Standby mode.
4. Examine the electrical circuit breaker to ensure that power is being supplied to the electrical outlet to which the №512 is connected.
5. Verify that the power rating on the rear panel of the №512 matches the power rating of the electrical outlet. If the power levels do not match, then no power is sent to the outputs of the player.
6. Verify that the AC Mains fuse on the rear panel of the №512 is not blown. For further instructions, refer to the "Replacing the AC Mains Fuse" description in the "Care and Maintenance" section that follows.



## No Output

1. Make sure that the №512 is powered on and playing audio.
2. Verify that the №512 is not in Pause mode. The display should not show the double bar (||) symbol.
3. Verify that Mute is turned off.
4. Verify that the volume level is set to an audible level.
5. Examine cables to ensure a solid connection between the №512 and associated components.
6. If using the digital outputs, verify that the disc in the player is not an SACD disc and that the front panel SACD LED is not lit.
7. Verify that the power rating on the №512 rear panel matches the power rating of the electrical outlet. If the power levels do not match, then power is NOT sent to the outputs of the player.

## Front Panel Display Not Working

Verify that Display Intensity parameter has not been set to Off. Press the Display button on the front panel, or the Display Intensity button on the remote control to access the parameter. Ensure that Off is not selected.

### Disc Loads but Won't Play

1. Verify that the disc uses formatting that is supported by the Nº512 CD/SACD player. Refer to the list of compatible disc formats found earlier in the manual.
2. Verify that the disc is not scratched or otherwise damaged.
3. Verify that the disc is not dusty, soiled, or marked with fingerprints.
4. Reload the disc, making sure that the disc is firmly seated in the tray and the label is facing up.
5. Verify that the loaded disc is NOT blank.

### Audio Has a Humming Sound

1. If a cable TV connection is present, disconnect the cable from the wall outlet. If this eliminates the humming sound, a ground loop isolation device is required. Contact your dealer or cable provider for assistance.
2. Disconnect the components one at a time to isolate the problem. Once the problem is identified, make sure the associated component is properly grounded and connected to the same electrical circuit as the Nº512.



### Remote Control Doesn't Work

1. Eliminate obstructions between the remote control IR transmitter and the front panel display IR receiver/transmitter. The remote control must be in line-of-sight with the front panel IR receiver for proper operation.
2. Replace the remote control batteries. Verify that the remote control batteries are inserted correctly with the proper polarity.
3. Make sure the IR input connector is not being used.
4. Make sure the front panel display IR receiver/transmitter is not exposed to strong sunlight, halogen light, or fluorescent light. This can cause IR reception to become unreliable. If the Nº512 is placed inside a glass cabinet, tinted glass will reduce the remote control range.
5. If you have multiple Mark Levinson products, verify that you are using the proper remote control for the product in question.

### RF Interference

1. Verify that the Nº512 is not positioned too close to RF-emitting devices. Move such items one at a time to isolate which device is causing the problem.
2. Replace unshielded cables with shielded cables wherever possible.

### Can't Assign in ML Net

You must assign the slave from the master device. Verify that the slave you want to assign is listed in the master device list and check its current state.

If the current state is assigned, you must first unassign it from the ML Net system. Once a slave is assigned, it will not accept another assignment until it has first been unassigned. Once the device is unassigned, you can then reassign it to the desired ML Net system.

For further explanations on assigning slave devices, refer to the owner's manual of the master device.

### No Response to Commands in ML Net

1. Verify that the master device and the №512 are properly connected together with a router.

2. Verify that the №512 network setup is correct. A PC-compatible computer is required to access the internal Web page of the №512 to verify its network settings. Refer to the "Network Setup" section found earlier in this manual for more details.

### No Connectivity Via Ethernet

1. Verify all network cables are properly connected between the router, switch, or hub and the №512. Verify that the computer network cable is in the correct port.



2. Verify that the №512 network setup is correct. A PC-compatible computer is required to access the internal Web page of the №512 to verify its network settings. Refer to the "Network Setup" section found earlier in this manual for more details.

3. Verify the age of the router, switch, or hub. If the router, switch, or hub is more than ten years old, a communication issue with the №512 may exist. Power cycle the №512 and use a newer router, switch, or hub between the network and the №512.

### Router Can't Find the Device Name

If you can't connect to the internal web page through the device, then you'll need to find the device name through the router. The status page of most routers identify the device names of all located devices. In some cases, the device name may not be listed but the IP address that's assigned to the device is noted. Put this assigned IP address into the browser address (URL) line and the internal web page for the device should load.

If you are using ML Net, you can also use the №502 to determine the name of each connected device. Refer to the ML Net section of the №502 Owner's Manual for further details.

### If All Else Fails...

1. Power cycle the №512, waiting at least 10 seconds between powering the №512 off and on.

2. Contact an authorized Mark Levinson dealer.

# Care & Maintenance

The Nº512 requires routine care and maintenance to ensure optimal performance. The bulleted items indicate maintenance procedures that should be performed on a regular basis.

**Note**

Failure to perform the maintenance procedures included in this section may void the manufacturer's warranty and/or standard repair policies.

- To remove dust from the Nº512's exterior surface, use a feather duster or a low-pressure blower.
- To remove dirt and fingerprints from the Nº512's exterior surface, use a soft, lint-free cloth. DO NOT use metal polish or a cloth made with steel wool.

  If needed, this cloth can be dampened with isopropyl alcohol. DO NOT dampen the cloth with benzene, acetone-based cleaners, or other commercial cleaners.

  Wipe the Nº512's exterior surface in the same direction as the grain of the brushed aluminum.

**Caution!**

***DO NOT apply liquid directly to the Nº512's exterior surface. Doing so may damage electrical components.***



## Replacing the AC Mains Fuse

Use these instructions to verify the condition of the fuse and to replace one that has blown.

1. Power down the Nº512.
2. Remove the power cord from the rear panel connector.
3. Use a small flat-bladed screwdriver to remove the fuse drawer from the AC Mains inlet.
4. Verify whether the fuse is good or blown.
5. Replace the fuse with a new one, if required. Verify that the new fuse matches the rating and size noted on the fuse label, located beside the AC Mains inlet on the rear panel of the Nº512.
6. Carefully slide the fuse drawer into the AC Mains inlet and press firmly in place.

# Restoring Factory Defaults

Pressing the Factory Default button on the internal Web page of the №512 player resets all settings to their factory default values.

If the internal Web page is not available, there is also a key press sequence available. Follow the instructions below to reset the factory default settings from the front panel.

1. Power off the №512.

2. Press and hold the Time button.

3. Press the Power button to turn on the power.

4. Keep holding down the Time button until the front panel display states CLEARING.

5. Release the Time button. The display cycles through the messages: CLEARING, FACTORY, SETTINGS, RESTORED.

When the RESTORED message is displayed, the factory default process is complete and the №512 returns to normal operation.

# Specifications

All specifications are subject to change without notice.

**Output Connectors**
- two balanced XLR analog outputs
- two single-ended RCA analog outputs
- two digital outputs – one AES (XLR) and one S/PDIF (RCA)

**Control Connectors**
- one Ethernet port
- one RS-232 port
- one IR port, 3.5mm mono mini plug
- one 3.5mm mono (tip/sleeve) mini plug trigger input, 12V
- one 3.5mm mono (tip/sleeve) mini plug trigger output, 12V
- three-pin IEC standard power connector

**Frequency Response**
+0.0dB/–0.2dB PCM/CD
+0.0dB/–0.5dB DSD/SACD

**Signal-to-Noise Ratio**
108dB

**Dynamic Range**
108dB

**Total Harmonic Distortion**
92dB PCM/CD
99dB DSD/SACD

**Decodable Formats**
CD and SACD

**Fixed Output Level**
4V (balanced), 2V (single-ended)

**Maximum Output Level**
16V (balanced), 8V (single-ended)

**Output Impedance**
10Ω

**Power Requirements**
100/120/220/230–240V~, 100W, 50/60Hz, factory set for destination country

**Dimensions**
- Height: 4.56 in (116mm)
- Width: 17.39 in (442mm)
- Depth: 17.63 in (448mm)

**Weight**
32.5 lbs ( kg)

**Operating Environment**
- Operating temperature: +5º to +35ºC (41º to 95ºF)
- Storage temperature: –20º to 55ºC (–4º to 131ºF)
- Operating humidity: 5% to 80% noncondensing

# Declaration of Conformity

**Application of Council Directive(s):**

2004/108/EC and 2006/95/EC, as amended.

**Standard(s) to Which Conformity Is Declared:**

EN 55013:2001 + A1:2003 + A2:2006
EN 55020:2007
EN 61000-3-2:2006
EN 61000-3-3:1995 + A1:2001 + A2:2005
EN 60065:2002

**Manufacturer:** Harman Specialty Group
3 Oak Park Drive
Bedford, MA 01730-1413

The equipment identified here conforms to the Directive(s) and Standard(s) specified above.

**Type of Equipment:** CD/SACD player
**Models:** Mark Levinson No. 512
**Date:** August 2008



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