

CD CDV LD Player ①

MDP-455GX

Operating Instructions

Before operating the unit, please read this manual thoroughly and retain it for future reference.



For the Customers in the USA

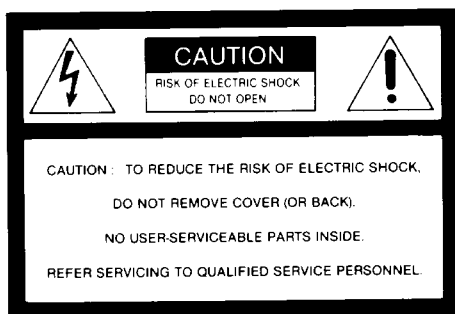
Owner's Record

The model number located on the rear panel. The serial number is located on the top panel. Record the model number and the serial number in the space provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. _____ Serial No. _____

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.



This symbol 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.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

INFORMATION

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

NOTE: 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 receiver.
- Connect the equipment into 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

The use of optical instruments with this product will increase eye hazard.

As the laser beam used in this videodisc player is harmful to the eyes, do not attempt to disassemble the cabinet. Refer servicing to qualified personnel only.

NOTICE FOR THE CUSTOMERS IN CANADA

This apparatus complies with the Class B limits for radio noise emissions set out in Radio Interference Regulations.

CAUTION:

TO PREVENT ELECTRIC SHOCK, DO NOT USE THE POLARIZED AC PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

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About Operating Voltage

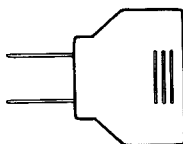
Before operating the Multi Disc Player, make sure that the operating voltage of your unit is identical with that of your local power supply.

How to Determine the Correct Operating Voltage

- Before operating the unit, find out the local voltage, and if necessary reset the selector at the rear (MDP-455GX only) of the Multi Disc Player to the voltage corresponding to your local power supply (100, 120, 220 or 240 volts AC). The voltage selector of this unit is set to 220 V AC originally. MDP-455, for the USA and Canada, operates at 120 V AC 60 Hz only and does not have the voltage selector.
- To reset the voltage selector, disconnect the power cord and turn the selector with a blade screwdriver so that the arrow on the selector points to the appropriate voltage.

How to Use the AC Power Plug Adaptor (supplied with the MDP-455GX)

- If the AC plug on your Multi Disc Player does not fit into the wall outlet, attach the supplied AC plug adaptor.



For Customers in the USA

For detailed safety precautions, see the enclosed leaflet, "IMPORTANT SAFEGUARDS".

If you have any questions or problems concerning your unit, please contact your nearest Sony dealer.

Introduction

This introduction explains the organization of this manual and the principles of operation of the Multi Disc Player (MDP).

About These Instructions

Consumer electronics manuals have been notorious for being hard to comprehend. Having recognized this fact, we have made an attempt with this manual to avoid the usual pitfalls by trying to not pretend that the equipment being described is as simple as a bread toaster. Most likely this is your first Multi Disc Player and may be the only one you will own. With that in mind, we have striven to write the instructions in straight-forward English while trying to keep the procedures simple and systematic.

Because the Multi Disc Player is capable of playing laser discs (LDs), compact discs (CDs), and compact disc videos (CDVs), these instructions are divided into the equivalent of three "manuals"—one for each type of disc—with a fourth section providing instructions common to all discs.

The following summarizes what you'll find in this manual.

To Play a Laser Disc (LD)

This section covers all functions associated with playing LDs (page 14). Unique to LD play are STILL/STEP, MULTI SPEED play, MEMORY play and FRAME/TIME search.

To Play a Compact Disc (CD)

This section explains the operation of CDs and compares most closely to CDV audio operations (page 24).

To Play a Compact Disc Video (CDV)

This section covers procedures for CDV operation and shares many functions with CD play (page 30). There are no functions unique to CDV play in this MDP.

To Play Any Disc (LD, CD, CDV)

Most of the procedures in this section fall into the advanced category (see page 32) and are collected here because they are common to LD, CD and CDV play.

What to Do First

Once you have read through this page, read "Principles of Operation" (page 6), then go ahead and connect up the Multi Disc Player to your television and/or stereo system using the connection diagrams on pages 11, 12 and 13. After you have done this, you will be ready to play a disc. We suggest an LD or CD. Begin with the section, "How to Load and Play an LD (or a CD)".

The Principles of Operation

Beyond the play of discs, the functions of the Multi Disc Player range from simple to advanced. Some functions vary depending on what type of disc (laser disc, compact disc, or compact disc video) you are playing. Nevertheless, keep in mind that the majority of the buttons have been designed to achieve a comparable effect for each type of disc you are playing. Therefore, the following paragraphs can briefly summarize what the basic Multi Disc Player functions allow you to do. (Control names that differ from the function name appear in uppercase letters.)

Primary Functions

are so-called because they entail the traditional functions of all disc players.

Variable Speed

group operations according to the fact that they let you vary play speed, therefore, easily locate ("search") scenes or tracks as you watch or listen.

Repeatable Functions

are memory functions that let you play selections repeatedly, according to a play list or randomly. Playback can be started from the point you stopped. Because the system finds and plays selections according to your request, some repeatable functions also serve as "search" functions.

Auxiliary Functions

are additional functions that simply add to what you can do with the Multi Disc Player.





Primary Functions	Variable speed Functions	Repeatable Functions	Auxiliary Functions
Power Open/Close Play Pause Stop	Variable Speed Scan (SHUTTLE RING) Still/Step Scan (STILL/STEP) Variable Speed Play (MULTI SPEED, SPEED SET)	Pre-Programmed Play (AUTO PGM, PGM) Intro Scan (INTRO) Random Play (SHUFFLE) Index Play (CUSTOM INDEX) Chapter/Track Search (ACS/AMS) Frame/Time Search (FRAME/TIME) Memory Play (MEMORY PLAY) Auto Pause (AUTO PAUSE) Repeat Play (1/ALL, REPEAT, REPEAT A↔B)	Picture Enhance Functions: (PICTURE ENHANCE, PICTURE DIRECT) Sound Quality Functions: (AUDIO MONITOR, ANALOG, CX) On-Screen Display (DISPLAY) Audio/Video Time Counter (AV TIME)

Introduction to Your Player

The MDP-455/455GX Multi Disc Player integrates the functions of three machines in one: laser disc, compact disc, and compact disc video player. The entertainment potential afforded by the combined capabilities of this multi-faceted machine amount to some 35 to 40 functions. Below follows an explanation of the kinds of discs the MDP plays.

The MDP-455/455GX Plays Three Classes of Optical/Digital Discs*

The MDP-455/455GX Multi Disc Player plays all three types of optical discs currently available for home entertainment. The following table illustrates their types and features.

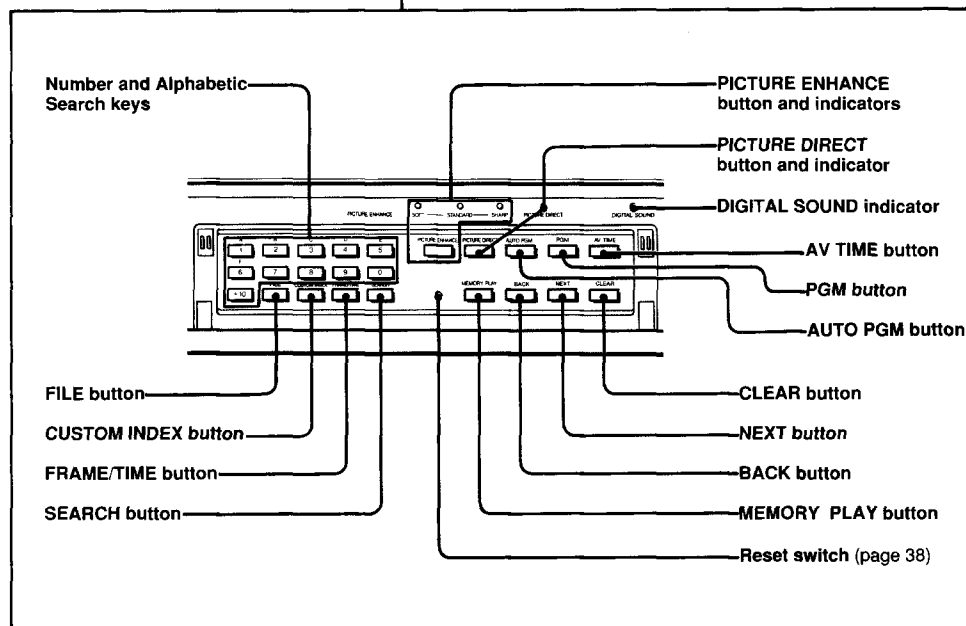
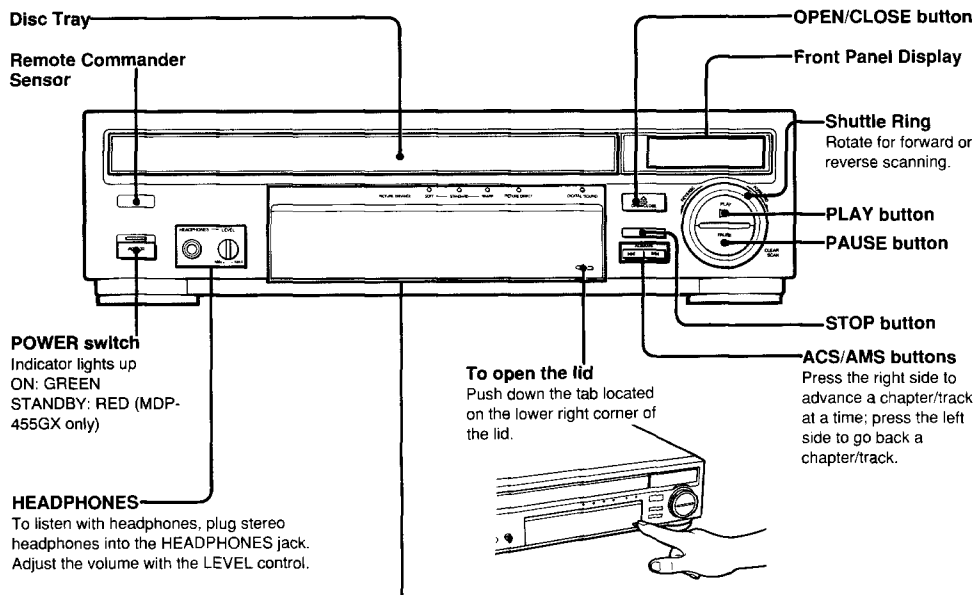
Disc Class	Disc Logo	Disc Type	Size	Play Side	Play Time	
Laser Discs For movies, operas, and concerts		LD Single	8 in. (20 cm)	Single Side	CAV	14 min
					CLV	20 min
		8-inch LD	8 in. (20 cm)	Double Side	CAV	28 min
					CLV	40 min
		12-inch LD	12 in. (30 cm)	Double Side	CAV	1 hr
					CLV	2 hr
Compact Discs For music		CD Single	3 in. (8 cm)	Single	20 min	
		CD	5 in. (12 cm)	Single	74 min	
Compact Disc Videos For music videos and educational material (Digital Audio)		CDV	5 in. (12 cm)	Single	Video+Audio 5 min Audio 20 min	
		VSD	5 in. (12 cm)	Single	Video + Audio 5 min	

* These apply only to those discs recorded in the NTSC standard. The MDP-455/455GX cannot play CED, VHD discs or PAL video discs.

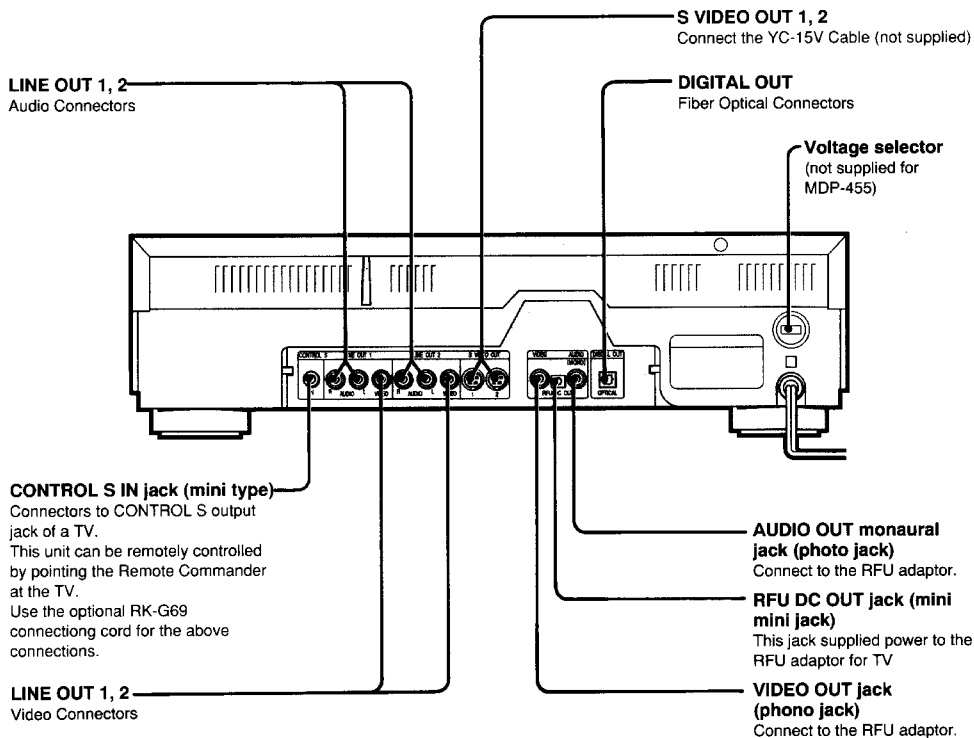
Installation and Connection

Front and Rear Panel Controls and Supplied Accessories

Front Panel



Rear Panel



Accessories

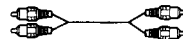
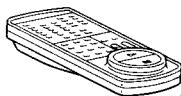
Make sure the shipping box contains the following accessories:

RMT-M12A Remote Commander

Two AA (R6) batteries

Video connecting cord
(phono 1 ↔ phono 1)

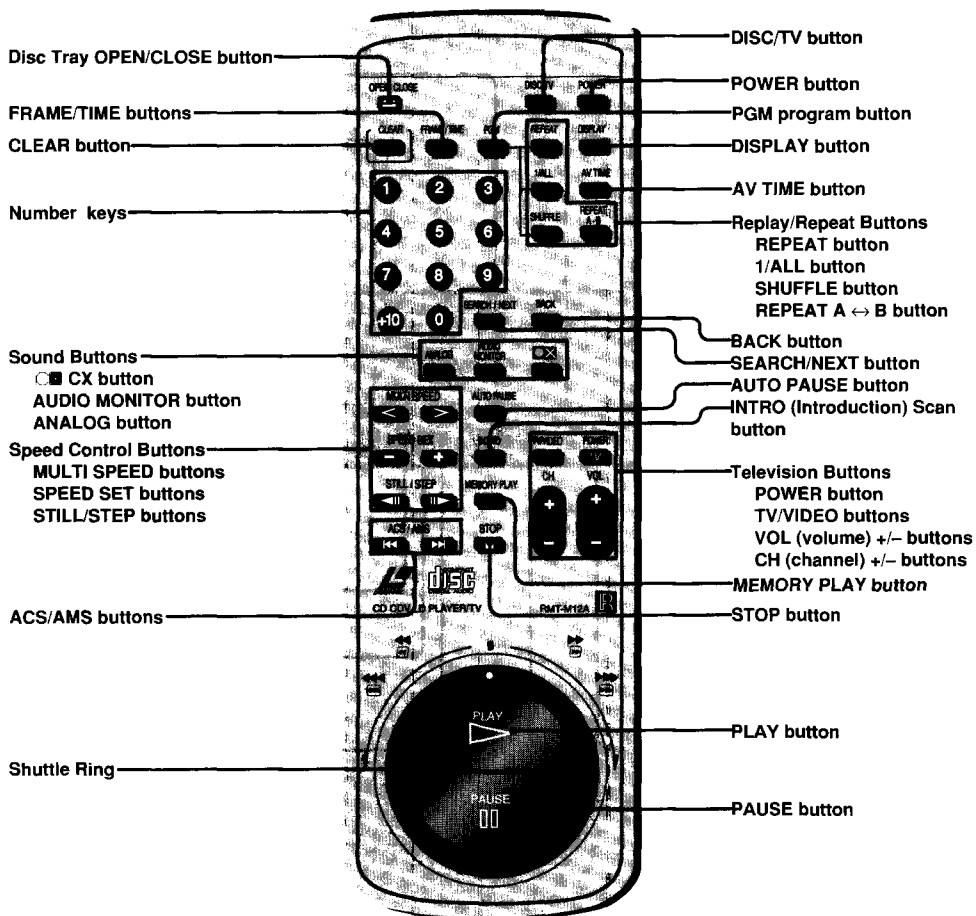
Audio connecting cord
(phono 2 ↔ phono 2)



AC plug adaptor (not supplied for MDP-455)
(See page 4.)

Controls on the Remote Commander

You can use the Remote Commander (the Remote) to control the player or the identical buttons on the player itself.

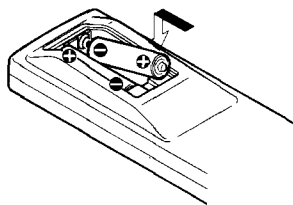


To Activate the Remote Commander

Open the back cover, and insert two size AA (R6) batteries according to the polarity indicated in the illustration. The batteries will last for about 6 months. If the range of the Remote Commander becomes noticeably short, replace all the batteries with new ones. If the Remote Commander is not to be used for a long time, remove the batteries to avoid damage from possible battery leakage.

Remote Commander Precautions

Do not let sunlight or powerful artificial light fall directly on the Remote Commander sensor on the front panel (of the player) as it may interfere with Remote Commander operation or damage the sensor.

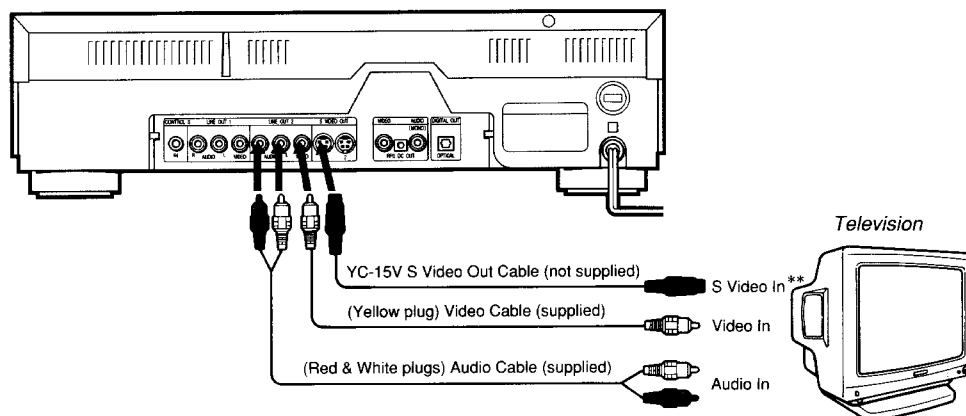


Insert two size AA (R6) batteries.

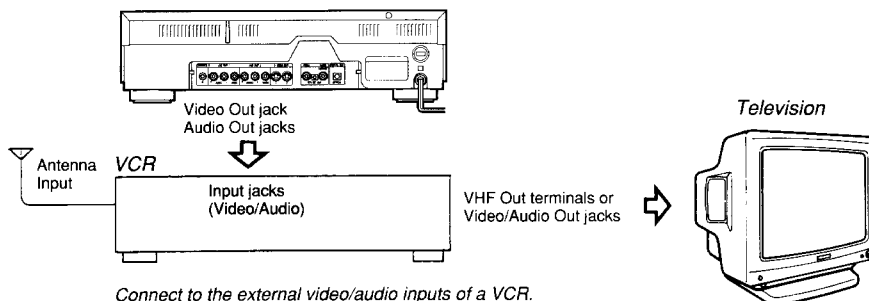
How to Connect the Television

To play LDs or CDs, hook up a television to the Multi Disc Player. Take out the supplied yellow video connecting cable and the red and white audio cables. Use this to connect the player to the television.* Once you have hooked-up the television, set the input selector on the TV to "Video". Before connecting or disconnecting any of the below cables, turn off all equipment.

Television Hook-Up



Television/VCR Hook-Up



Connecting Precautions:

- Make sure all equipment is turned off before connecting or disconnecting any cables.
- Connection methods may differ; when in doubt about a connection consult the TV or VCR manufacturer's manual.
- If noise emits from the video or audio input, try moving the equipment farther apart.
- Firmly insert plugs into the jacks. A loose connection may cause noise.
- To prevent later interference with TV broadcast reception, turn off all equipment connected but not currently in use.

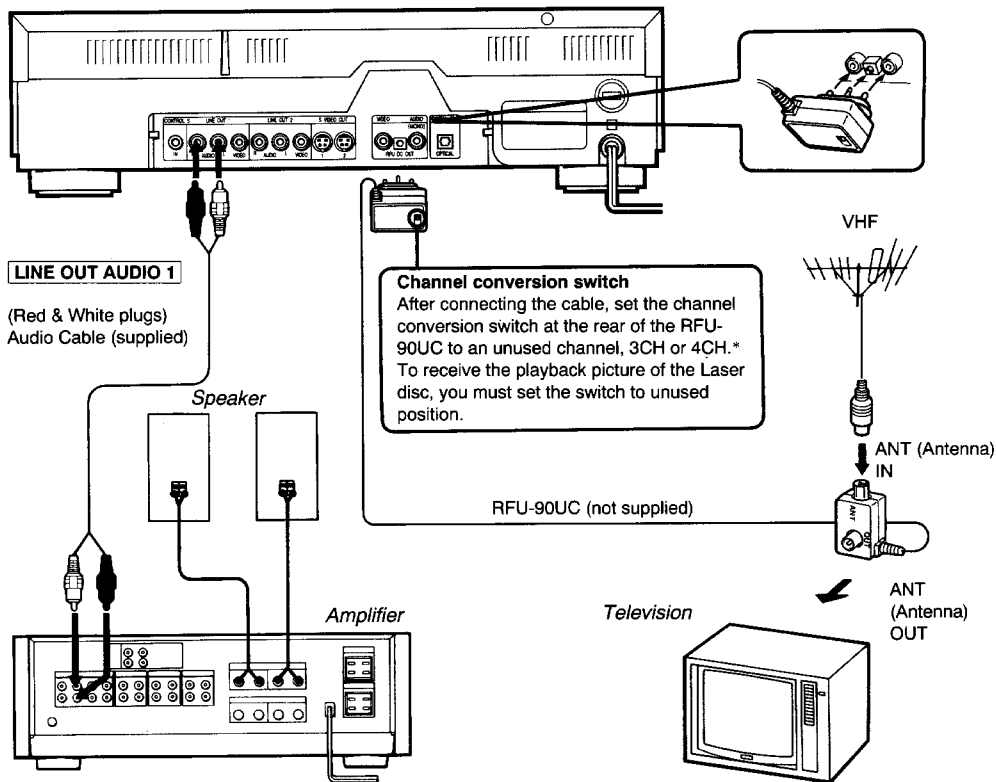
* If the TV only has a monaural phono jack for audio input, use a VMC-720M/730M Connecting Cable (not supplied).

** If your TV has an S Video Input jack, obtain a YC-15V S Video Connecting Cable, and use this instead of the supplied video cable to connect your television to the S VIDEO OUT connector on the Multi Disc Player.

When Your TV Does Not Have Audio/Video Inputs

For connection, use the optional RFU-90UC (RFU adaptor).

The audio signal of the disc is reproduced in monaural when connected to the TV via the RFU-90UC. To enjoy the disc in stereo, connect the player to an audio system (page 13).



Note on Connection:

One of the most important benefits of your Multi Disc Player is its Digital Stereo Sound (from either LD's or CD's). In order to get the advantage of Stereo Sound, you must hook your Player's L/R audio outputs to a stereo audio system or stereo TV. In addition, by using the video output jack, you will get a noticeably better picture. In order to connect this player to a TV without A/V inputs, you must purchase a RFU-90UC accessory from your dealer. **However**, if you connect your Player this way, you will not get stereo sound, and the picture quality will not be as good as it could be.

* Why is it necessary to select 3 or 4 ?

The Multi Disc Player sends its output to the TV as a VHF broadcast signal. Selecting an unused channel avoids interfering with regular broadcasts. When watching regular TV programs, turn the player off or press the TV/DISC button on the Remote Commander so that you can obtain a better picture. If TV picture quality is not satisfactory, refer to the manufacturer's manual and adjust the reception.

When watching TV broadcast.

Always turn off the Multi Disc Player to get better reception.

During FM or AM reception

Turn off the power of the Multi Disc Player to prevent the possibility of noise interference.

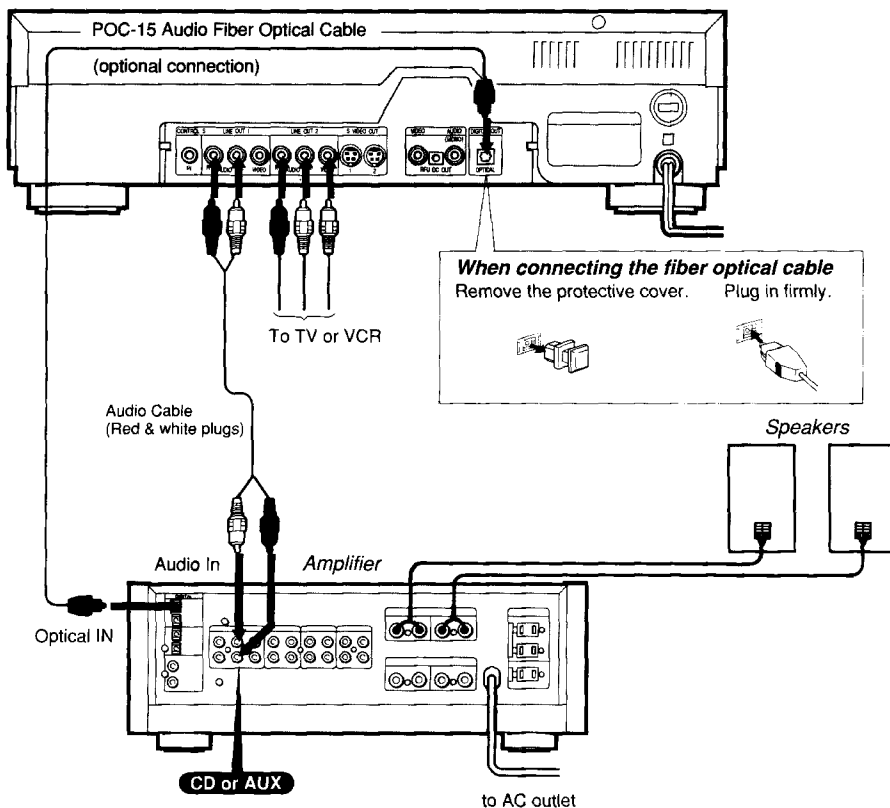
How to Connect Audio Equipment

To achieve full stereo sound from your Multi Disc Player, hook up a stereo system following the diagram below. Take out the supplied red and white audio connecting cable and use this to connect the Multi Disc Player to your amplifier or receiver. Before connecting or disconnecting any of the below cables, turn off all equipment.

To Achieve Digital Sound

Digital sound recordings afford high quality sound reproduction, (see Glossary, p. 41). If your amplifier also has a fiber optical connector, or if you have a D/A converter unit with optical input, according to the diagram below (on the right), connect the POC-15 Audio Fiber Optical Cable (not supplied) between the DIGITAL OUTPUT connector on the Multi Disc Player and the amplifier or D/A converter. Note that digital signals are always output from the Multi Disc Player except when you play discs that are not digitally recorded. Such discs output analog sound.

Audio Equipment Hook-Up



Connecting Precautions:

- Make sure all equipment is turned off before making any of the above connections.
- Firmly insert plugs into the jacks. A loose connection may cause noise.
- When listening to a radio broadcast, switch off the Multi Disc Player to get better reception.

To Play a Laser Disc

This section shows you how to conduct all the procedures associated with playing LDs.

How to Load and Play an LD (Laser Disc)

After you have connected the Multi Disc Player to the TV and/or stereo system, you can begin playing a laser disc. Locate the POWER, OPEN/CLOSE, and PLAY buttons on the Remote Commander or the front panel of the player.

1 Turn on the TV and stereo system.

TV. Set the input selector on the TV to "**Video**", or select the channel used for the Multi Disc Player playback (channel 3 or 4; when using the RFU adaptor).

Stereo System. Turn on the amplifier or receiver and select CD or AUX for audio output.

2 Turn on the multi disc player.



Player or Remote
Commander

Press the POWER button on the player or Remote Commander (the Remote).

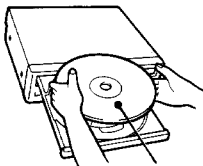
3 Open the disc tray.

OPEN/CLOSE



Press the OPEN/CLOSE button.

4 Place the disc on the tray.



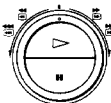
Carefully center a single disc on the tray. If you insert more than one disc, or if the disc is not seated properly, it may not play or it may damage the disc or unit.

5 Start playback.



Press PLAY (▶) located inside the Shuttle Ring.

To Advance or Reverse



Rotate the Shuttle Ring.

To Advance or Go Back a Chapter at a Time

ACS/AMS



Press or hold down the ACS/AMS button.

To Interrupt Play



Press PAUSE (||). The sound mutes and the picture freezes. To resume playback, press PAUSE (||) or PLAY (▶).

To Stop Playback



Press STOP (■).
To play again from the beginning, press PLAY (▶).

To Stop Play and Remove the Disc

OPEN/CLOSE



Press OPEN/CLOSE (▲). Remove the disc and close the empty tray.

To Have the Player Pause Before Starting



Press the PAUSE (II) button on the player or the Remote Commander immediately after doing step 4 on page 14.
The tray closes and the player waits at the start of the disc until you press PLAY (▶).

To Activate Play with an Optional Timer

Set the timer with the AC power cord connected to the player.

When the timer supplies power at the preset time, the player starts playing the disc. If there is no disc in the player, the player goes off automatically.

To Enhance the picture

PICTURE ENHANCE



(on the player)

Press PICTURE ENHANCE on the player to select the desired mode. The indicator of the selected mode lights up. Each time you press this button, the mode lights changes in the order of STANDARD, SHARP and SOFT.

SOFT: Soft picture
Reduce screen noise
STANDARD: Standard picture
SHARP: Sharp picture
Refine the images

Even if you turn off the power, the mode will remain stored in the player's memory. If you unplug the power cord, the mode will return to STANDARD.

To Play a Disc without using the Picture Enhancement Function

PICTURE DIRECT



(on the player)

Press PICTURE DIRECT on the player. The indicator lights up. The screen noise reducing function is canceled and the player reproduces pictures faithfully in their original state. You can make the picture sharper, however, screen noise may occur on some discs.

To Cancel Picture Direct Play ...

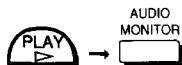
PICTURE DIRECT



(on the player)

Press PICTURE DIRECT again.

To Play a Stereo LD or a Second Audio Program (SAP) LD



Press **PLAY** (▶), then keep pressing the **AUDIO MONITOR** button.

This function alternates the sound output on a disc that has been recorded on two sound tracks, such as bilingual discs.

The procedure below indicates how the output and the display changes with each press.

Procedure	Display	Output Sound	
		Stereo Disc	SAP Disc
1 Press PLAY (▶).	1/L 2/R	Stereo (Both speakers)	Soundtrack 1 (left channel) Soundtrack 2 (right channel)
2 Press AUDIO MONITOR.	1/L	Left speaker	Soundtrack 1 (left channel)
3 Press AUDIO MONITOR again. Press AUDIO MONITOR again to return to stereo status.	2/R	Right speaker	Soundtrack 2 (right channel)



To Switch from Digital to Analog Sound



Press the **ANALOG** button to switch the player to **analog or digital sound**. Digital affords a better quality sound reproduction. If the LD contains a digital sound signal, the player automatically sends that output to the amplifier or receiver. When you press the **ANALOG** button on the Remote Commander, you can switch to analog sound. With certain discs there may be a difference in volume.

Discs with a (CX) Label



Discs bearing the  (CX) label are recorded with the CX. Noise Reduction system, which gives lower noise levels and higher dynamic range. The  (CX) indication appears on the screen when a CX disc is played. However, some CX discs do not include the recoding necessary activate the player's CX noise reduction system. If the CX indicator does not appear, press the button on the Remote Commander to manually activate the system.

Understanding Displays and Messages When Playing LDs

You can determine player operating status or disc information in one of two ways: (1) by displaying the information on the TV screen, or (2) by looking at the front panel display. Locate the DISPLAY button on the Remote Commander.

To View On-Screen Information...

DISPLAY

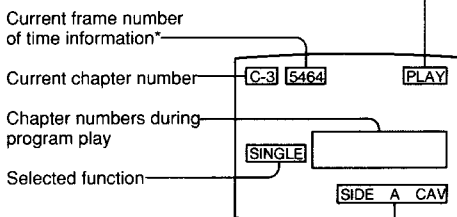


Press DISPLAY on the Remote Commander.

To turn off the display, press DISPLAY again.

Reading the On-Screen Messages.....

The illustration below is an example of what appears on screen while the player is operating. The table below is a key to the messages that appear on the right.



Message 1 (Examples)

Screen Display	Current Status of the Player
OPEN	Disc tray open
CLOSE	Disc tray closed
PLAY	Playing LD
STOP	Operation stopped
PAUSE	Operation momentarily stopped
⏮ / ⏭	Variable speed (Shuttle Ring) scan
SEARCH	Searching
X 1/2	Scanning at 1/2-speed

Message 2 (Examples)

Screen Display	Currently Playing
SIDE A CAV	Standard-play disc side A**
SIDE B CAV	Standard-play disc side B
SIDE A CLV	Extended-play disc side A
SIDE B CLV	Extended-play disc side B
1/L	First soundtrack/left channel
2/R	Second soundtrack/right channel
DIGITAL	Digital sound
ANALOG	Analog sound

* Discs not indicating time data to the second indicate instead as two-digit numbers such as, "0:22".

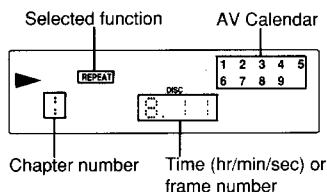
** Some discs do not contain Side A or B identification coding. In that case, disc side indications may not be accurate.

Reading the Front Panel Display

The illustration to the right is an example of what is displayed on the front panel of the player.

Finding Out Play Status

When playing an LD containing TOC (Table of Contents) data, the AV Calendar shows information on the total number of selections on the disc or those programmed to play. As selections are played, the corresponding numbers on the display disappear.



How to Search Using Variable Speed Play (for CAV discs)

To find a scene, play the disc back or forward at varying speeds.* Use Multi Speed and Speed Set for CAV standard-play LDs. Use the Shuttle Ring, which lets you scan gradually, for all discs. Locate the MULTI SPEED, SPEED SET, DISPLAY buttons and the Shuttle Ring on the Remote Commander.

To Change Speed and Direction (Multi Speed)

- 1 Press MULTI SPEED to select the direction.



To reverse <
To advance >

- 2 Press SPEED SET to select the speed.

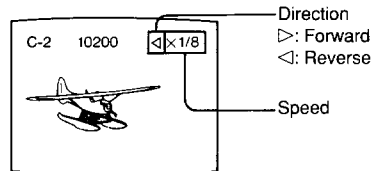


To reduce speed -
To increase speed +
(You can press SPEED SET first, or do either step without the other.)

- 3 Press DISPLAY.



The play speed and direction appear on screen.



- 4 Press PLAY.



Normal playback resumes.

Discs with Automatic Picture Stop Code

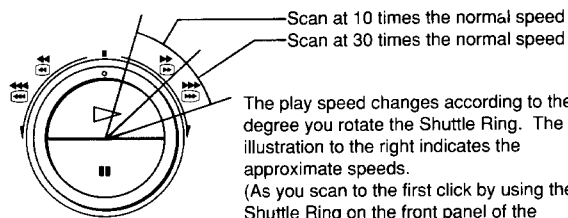
When an automatic picture stop code (found on educational discs) is encountered during variable speed play, the unit automatically stops at that frame. To resume playback, press PLAY, MULTI SPEED, or turn the Shuttle Ring.

Extended-Play (CLV) or Non-CAV Discs

Variable Speed Play, Freeze Frame, and Step Play are not possible with CLV discs. When a MULTI SPEED button is pressed, the screen goes blank and the message "SIDE A (or "B") CLV" appears.

To Change Speed and Direction Gradually (Variable Speed Scan)**

Rotate the Shuttle Ring in the forward or reverse direction.



The play speed changes according to the degree you rotate the Shuttle Ring. The illustration to the right indicates the approximate speeds.
(As you scan to the first click by using the Shuttle Ring on the front panel of the player, the speed is approximately 10 times normal speed. As you continue past the first click, the 30 times normal speed.)

To Resume Normal Play

Release the Shuttle Ring.

* A certain amount of visual noise and instability is inevitable with all variable speed operations.

** Scanning speed varies as the laser beam moves away from the center of a CLV disc.

How to Search by Chapter Numbers

LDs are divided into sections called "chapters". Chapters are usually listed on the jacket or label of the disc. By entering the desired chapter number, you can have the player find the chapter and play it. Use ACS/AMS—Automatic Chapter Sensing/Automatic Music Sensing—to advance or reverse a chapter at a time.

Locate the number keys and the ACS/AMS buttons on the Remote Commander or the front panel of the player.

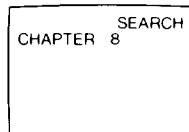
To Locate a Particular Chapter

For example, to locate chapter 8, press "8" on the Remote.



Press one of the number keys on the Remote or front panel corresponding to the chapter you want to play.

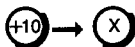
The player starts searching for Chapter 8.



The player finds Chapter 8 and starts playing from the beginning of Chapter 8.

To Enter a Number Greater Than 10*

Do this to make a numerical sum. For example, to enter 14, press +10 and 4; to enter 30, press +10, +10, +10 and 0.



Press +10 and one of the number keys.



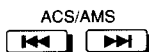
If you make a mistake while entering numbers, press +10 repeatedly until -- or 1 - is displayed, then enter the correct numbers.

To Check the Current Chapter Number



Press DISPLAY on the Remote to display the chapter number (upper left-hand corner) on screen. You can also look at the AV Calendar on the front panel display for the chapters on the disc left to be played.

To Advance or Go Back a Chapter at a Time (Skip Search)



Press ACS/AMS (◀◀) once to return to the beginning of the current chapter.

Press ACS/AMS (▶▶) to advance to the beginning of the next chapter.

Press ACS/AMS (◀◀) twice before the picture reappears to return to the beginning of the previous chapter.

Hold down the ACS/AMS button for continuous skip search.

To Resume Normal Play**



Press PLAY (▶).

* Chapter Search does not function properly if the disc does not contain chapter numbers or the chapter number entered does not exist.

** Once the searched chapter has played, if the player is in repeat mode ("REPEAT" is displayed on the front panel or screen), playback starts from the beginning of the disc.

How to Search by Frame Number or Time—Frame/Time Search

Video scenes are counted as a series of still pictures or "frames". The player keeps track of the number of frames that have been played from the beginning of the disc to the current position. Similarly, the player also keeps track of the elapsed playing time from the beginning of the disc. To play from a particular frame or time, use the Frame/Time Search function. Locate the FRAME/TIME, SEARCH/NEXT (or SEARCH) buttons, and number keys on the Remote Commander or the front panel of the player.

On CAV (standard-play) discs, enter a frame number. On CLV (extended-play) discs, enter the time.*

To Enter the Elapsed Frame or Time

- 1 Press the **FRAME/TIME** button.



The screen displays the current frame (for CAVs) or current time (for CLVs) as "00000".

- 2 Enter the desired multi-digit number corresponding to the frame or time you want found.**



Enter five digits for CAVs.
Enter four digits for CLVs displaying the time to the second.
Enter two digits for CLVs displaying the time to the minute.

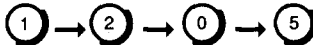
Sample Entry for CAV Discs

To locate frame number 12340, press the number keys in the order on the right:



Sample Entry for CLV Discs

To locate the 12-minute, 5-second point, press the number keys in the order on the right:



If you make a mistake, press **FRAME/TIME** again to return the display to zero, and then enter the correct numbers.

- 3 Press **SEARCH/NEXT** on the Remote (or **SEARCH** on the player).



Play starts from the time or frame specified in step 2.

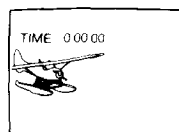
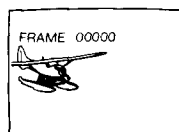
To Check the Frame/Time Numbers



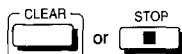
These numbers appear on screen when you press **DISPLAY**. You can also find them on the front panel display.

CAV
(standard-play) disc

CLV
(extended-play) disc



To Cancel Frame/Time Search



Before pressing the **SEARCH/NEXT** button, press **CLEAR**. If you have already pressed the **SEARCH/NEXT** button, press **STOP** (■).

In addition to play mode, you can conduct Frame/Time Search while in Freeze-Frame, Variable Speed Play, Repeat or Pause mode. When the specified frame or time appears after the search, play continues in the same mode.

* "CAV" or "CLV" should be noted somewhere on the disc jacket.

** If you enter a frame or time number not contained on the disc, play stops.

How to Play Frame-by-Frame (for CAV discs)

Once you have found a particular scene, you can examine the progression of that scene by advancing or reversing the action one frame at a time (Step Play), or freezing the action into a still picture (Freeze Frame).* Locate the PAUSE, and STILL/STEP buttons on the Remote Commander.

To Play One Frame at a Time (Step Play)

- 1 Press PAUSE (II) once.





The frame freezes.

- 2 Press STILL/STEP repeatedly.
Hold down the button for continuous frame-by-frame action.



Each press shifts the image one frame backward or forward.

To reverse 
To advance 

In addition to pause mode, you can achieve Step Play while the player is in play mode by pressing one of the STILL/STEP buttons while the disc is playing.

To Freeze the Action (Freeze Frame)



Press PAUSE (II) once.

To Resume Normal Play.....



Press PAUSE (II) again, or
Press PLAY (▶).

Extended-Play (CLV) Discs

Freeze Frame and Step Play are not possible with CLV discs. When the PAUSE button is pressed, the screen goes blank and the message "SIDE A (or B) CLV" appears.

How to Continue Play from the Point You Stopped at — Memory Play —

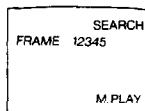
This function can only be used for LDs, and in the continuous play mode**. Even if you use the STOP (■) button to stop, you can still continue play from the point you stopped at.

To Play Again from the Point You Stopped at



Press MEMORY PLAY while in the stop mode.

The player starts searching for the point you stopped at.



Play starts at the point you stopped.

If you turn off the power, press MEMORY PLAY before you turn on the power. The player will turn on automatically and continue playing again from the point you stopped at. (If the power is turned on first, this function cannot be performed. The player will start playing from the very beginning of the disc.)

* This function can only be performed on CAV discs.

** You cannot use this function in the shuffle, program and single repeat play. If you press ▶, ◀◀ / ▶▶ or ▲ while in the stop mode, this function is canceled.