

SONY

3 750-463-21 (1)



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NATIONAL TECHNICAL DEPT.

FILE COPY
Do not remove

Photo of MDP-722GX

CD/CDV/LD Player

MDP-510/722GX

Operating Instructions


Owner's Record

The model number is located at the front and rear.
The serial number is located on the top panel.
Record 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.



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



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

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause 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 the receiving antenna

Relocate the equipment with respect to the receiver

Move the equipment away from the receiver

Plug the equipment into a different outlet so that equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:

"How to Identify and Resolve Radio-TV Interference Problems". This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

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.

Note to CATV system installer:

This reminder is provided to call the CATV system installer's attention to Article 820-22 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

Precautions

On Safety

- Should any solid object or liquid enter the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- *Unplug the unit from the wall outlet if the unit will not be used for an extended period of time.* To disconnect the cord, pull it by the plug. Never pull the cord itself.
- One blade of the plug is wider than the other for the purpose of safety and will fit into the power outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.

On Installation

- Avoid placing the player in a location subject to:
 - high humidity
 - high temperature
 - excessive dust
 - mechanical vibration
 - direct sunlight
- Allow adequate air circulation to prevent internal heat build up. Do not place the unit on surfaces (rugs, blankets, etc.) or near heat materials (curtains, draperies) that may block the ventilation holes.

On Moisture Condensation

Do not operate the unit right after having moved from a cold to a warm location or in a room where the temperature rises suddenly because moisture may condense in the operating sections of the unit. Wait for about an hour before turning on the power in the new location or raise the room temperature gradually. If the unit is operated with moisture condensation, the unit and the disc may be damaged. Therefore, when no picture is obtained when playing back, remove the disc immediately from the unit, since there is a possibility of moisture condensation. To evaporate the moisture rapidly, leave the player turned on without a disc loaded.

On the Disc Tray

- If the unit will not be used for any length of time, remove the disc from the tray after playing it.
- Do not move the unit with a disc in the disc tray.
- When the disc tray is in the open position, do not press down on it strongly, or place a heavy object on it.

On Cleaning

- Clean the cabinet, panel, and controls with a dry soft cloth, or a soft cloth lightly moistened with a mild detergent.
- Do not use any type of solvent, such as alcohol or benzene, which may damage the finish.

On Repacking

Do not throw away the carton and the packing materials. They make an ideal container in which to transport the unit in. Before transportation, remove the disc from the unit, wait 2 to 3 seconds after the \triangleright indicator in the display window stops blinking, and turn the power off.

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

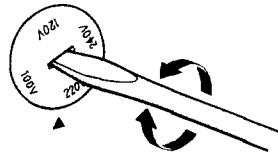
Operating Voltage

Before operating the unit, be sure that the operating voltage of your unit is identical with that of your local power supply.

MDP-510: 120 V AC, 60 Hz.

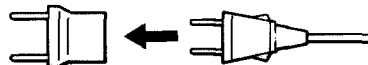
MDP-722GX: 100, 120, 220, 240 V AC, 50/60 Hz.

The MDP-722GX operates on either 100 V, 120 V, 220 V, or 240 V AC, 50/60 Hz. Before operating the unit, be sure to check that the operating voltage of your unit is identical to your local power supply. The voltage selector is located in the rear panel. To reset the selector, disconnect the AC power cord and turn the selector with a flat-headed screwdriver so that the arrow on the rear panel points to the appropriate voltage.



AC Plug Adaptor (supplied with the MDP-722GX)

If the AC plug of your unit does not fit the wall outlet, attach the supplied AC plug adaptor.



Contents

This manual covers the MDP-510 verified to the FCC rules and available in the U.S.A. and the MDP-722GX available in other countries.

Operations are the same regardless of the model name. Specifications vary only with regard to the power requirements.

The illustrations used in this manual are that of the MDP-722GX.

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Introduction

About the Unit

The MDP-510/722GX is a LD/CDV/CD player belonging to the CD Video System*1. All six types of optical discs given below, currently available for home entertainment use, can be played back on this unit.

CD single/8-cm CD



3 in/8 cm in diameter
Digital audio (max. 30 min.),
single-sided

CD



5 in/12 cm in diameter
Digital audio (max. 74 min.),
single-sided

CDV*2



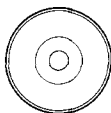
5 in/12 cm in diameter
Digital audio (max. 20 min.) and
video and audio (max. 5 min.),
single-sided

LD



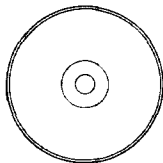
8 in/20 cm in diameter
Video and digital or analog audio
(max. 14 min. for CAV disc or 20 min.
for CLV disc, per side)

LD single



8 in/20 cm in diameter
Video and digital or analog audio
(max. 14 min. for CAV disc or 20 min.
for CLV disc), single-sided
LD single discs can be played back
without using adaptors.

LD



12 in/30 cm in diameter
Video and digital or analog audio
(max. 30 min. for CAV disc or 60 min.
for CLV disc per side)

- This unit plays back discs with any of the following logos on the label.



- Aluminum discs cannot be played back.
- CED and VHD discs cannot be played back.
- Discs with PAL, SECAM, or video signals other than the NTSC standard cannot be played back.

Main Features

Features available for LD/CDV/CD

- **Custom index**
Up to six points can be marked on a disc to be recalled later for playback or repeat operations.
- **AV calendar**
A total of up to 20 selections used in the operation and its accumulated playing time can be viewed at a glance.
- **Intro scan**
The first eight seconds of each chapter or selection can be played back automatically for easy access to the desired playback start point.
- **Program play**
Up to 16 chapters or selections can be programmed in the desired order.
- **Shuffle play**
All or a desired selection on a disc can be played in a random order.
- **Repeat play**
Four types of repeat playback: single repeat, A \leftrightarrow B repeat, custom index repeat, and repeat of one side of the disc is possible.
- **Disc protection system**
Any disc left in the unit, after the STOP button has been pressed, will be disengaged to protect it.

Additional features for LD

- **Digital pictures**
Four digital picture modes, Stop Motion, Flash Motion, Picture Art, and One Scene Memory are available.
- **Speed control**
Multi-speed play in 11 speed settings, step (frame-by-frame) in forward reverse and playback, and high quality still picture are available.
- **Memory stop**
Playback stopped at one scene can be resumed again from the same point.

Additional features for CDV

- **Direct access to the video portion**
The video portion is played back first. A press of the CDV button switches the playback between the audio portion and video portion.
- **Audio portion**
All of the functions available for the CD can be enjoyed.
- **Video portion**
All of the functions available for the CLV (Constant Linear Velocity) LD can be enjoyed for the video portion except for memory stop and time search.

Notes

*1 "CD VIDEO system" refers to LD and CDV discs and the players that combine the features of a CD player and an LD player in a single unit capable of playing CDV discs. The discs and players which belong to this system bear the unified mark.



*2 The Compact Disc Video (CDV) format consists of two sections. One is the 20 minutes of digital audio that is playable on any CD player. The other, 5 minutes of video and digital audio, requires a CDV player.

More Information on LD/CDV/CD

CAV discs

The Constant Angular Velocity (CAV) or standard-play disc rotates at a constant 1800 rpm. Each track, or the path traced by the laser in a single rotation of the disc, produces a single frame. Each side of the disc holds up to 54,000 frames, the equivalent of 30 minutes of playback. Each frame has a number that is stored with the data on the disc.

CLV discs

The Constant Linear Velocity (CLV) or extended play disc doubles the maximum playing time to 60 minutes by varying the rotational speed from a maximum of 1800 rpm to a minimum of 600 rpm as the laser beam moves away from the center of the disc. The disc surface therefore moves past the laser heads at a constant rate, and each track is longer than its predecessor.

Digital sound discs

A high quality digital audio signal, as well as the conventional analog audio signal, is recorded on some LDs. This unit plays back both digital and analog signals with priority given to the digital audio signals.

Chapter number

Some discs are divided into sections called chapters. Such discs usually have a list of chapters on the jacket or label. Each chapter is numbered for easy location with the chapter search function, or for use with the repeat and program functions.

Frame number

The frames on standard-play (CAV) discs are sequentially numbered for rapid access with the frame search function.

Time number

Extended-play (CLV) discs calculate positions in terms of playing time from the start of the disc. The time search function provides rapid access to desired scenes.

Track number

CD and CDV discs assign track numbers to each selection. Rapid access to desired tracks is possible with the track search function. Track numbers are also used with repeat and program functions.

LD with TOC (Table of Contents)

Among various LD software, there are discs with TOC (Table of Contents) signals recorded. When playing back LDs with TOC signals, the additional features given below can be enjoyed.

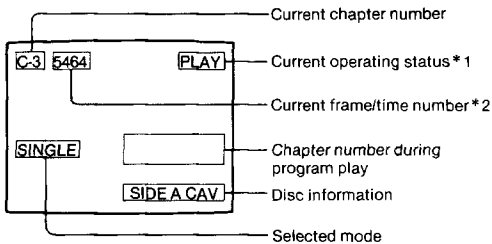
- Playback time display for one chapter (CAV, CLV)
- Remaining playback time (CAV, CLV)
- Time display for CAV disc
- AV calendar display
- Shuffle, delete shuffle

Screen Messages

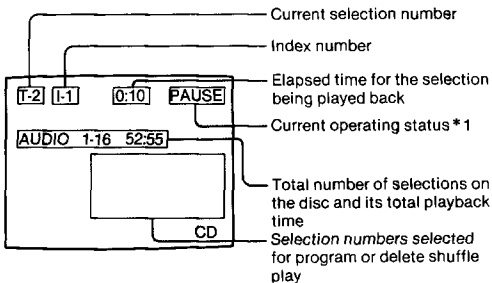
Explanation of the display

Information related to the unit's operation can be superimposed on screen by pressing the DISPLAY button on the Commander. Refer to the illustration below for examples of the display for each disc. When no video image from the disc is displayed, the information will appear on a blue background (when playing back an LD or CDV), or on a green background (when playing back CD). Note that the screen message is displayed only when the TV or monitor is connected to the LINE OUT 1 jack.

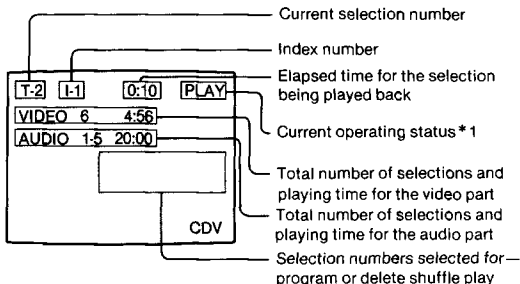
LD



CD



CDV



*1 For details see Chart A.

*2 For discs with no time data recorded for the "seconds," time data will be shown as "0:22."

*3 For details see Chart B.

Chart A—Examples of Current Operating Status Display

Display	Meaning
OPEN	Disc tray open
CLOSE	Disc tray closed
PLAY	Playback
STOP	Playback stop
PAUSE	Playback pause
⏏ / ⏪	Fast forward/reverse scan
SEARCH	Search
▶ × 1/2	Speed play at 1/2 times forward play (slow)

Chart B—Examples of Disc Information Display

Display	Meaning
SIDE A CAV	Side A of CAV disc
SIDE B CAV	Side B of CAV disc
SIDE A CLV	Side A of CLV disc
SIDE B CLV	Side B of CLV disc
1/L	Main/left audio channel
2/R	Sub/right audio channel
▷ DIGITAL	Digital audio
▷ ANALOG	Analog audio

Note

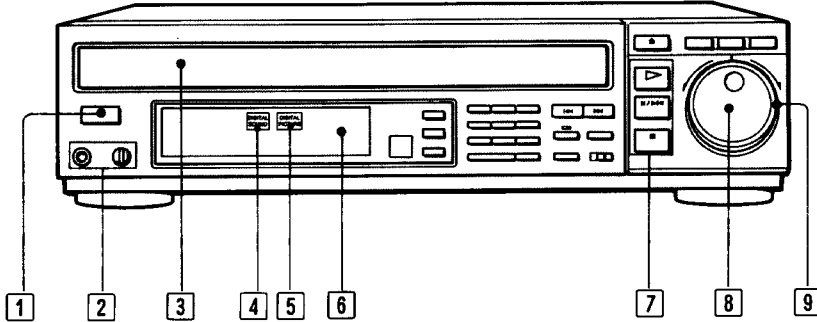
Side A and Side B are not identified on some LDs. In this case, the display will always indicate SIDE A.

Location and Function of Controls

Refer to the page indicated in the parentheses for details.

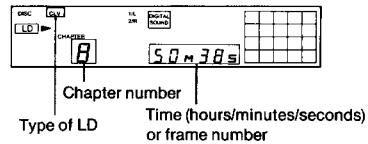
Front Panel

The buttons on the unit and those on the Remote Commander with an identical mark have the same function.

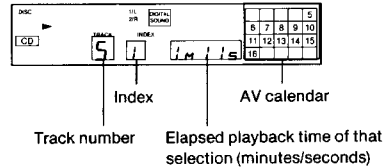


- 1 POWER switch**
- 2 HEADPHONES jack (stereo phone type) and LEVEL (headphone level) control (page 21)**
- 3 Disc tray (page 21)**
- 4 DIGITAL SOUND indicator**
Lights when CD, CDV, or the digital sound on a LD is played back.
- 5 DIGITAL PICTURE indicator (page 24, 29)**
Lights when the digital memory is used.
- 6 Display window**
Various indications appear in the display window during playback.
- 7 Basic control buttons and indicators**
▶ (Play) button and indicator
⏸ (Pause/still) button and indicator
■ (Stop) button
- 8 JOG dial (page 25)**
- 9 SHUTTLE ring (page 25)**

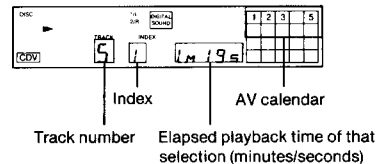
LD

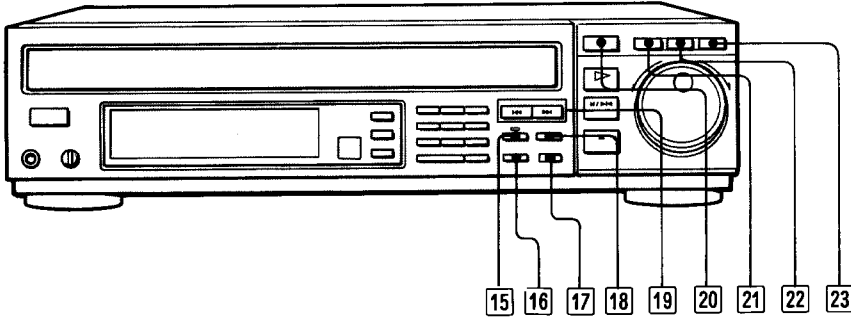
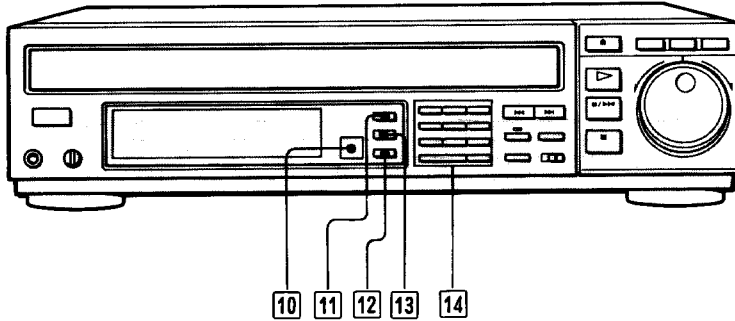


CD and Audio Portion of CDV



Video Portion of CDV





10 Remote sensor

Point the supplied Remote Commander here.

11 FILE button (page 43)

12 AUTO PGM (Auto program) button (page 41)

13 INDEX button (page 44)

14 Alphanumeric buttons

Press for direct access to a chapter/track or for custom index search operation, etc.

15 ON/OFF (Single side repeat) button (page 34, 38)

Press to repeat the one side of the disc.

16 PICTURE MODE (image processing select) button (page 24)

17 STOP MODE/MEMORY switch (page 22)

18 CDV button (page 21)

**19 ACS/AMS buttons (reverse/forward)
Automatic Chapter Select/Automatic Music Sensor**

20 OPEN/CLOSE button

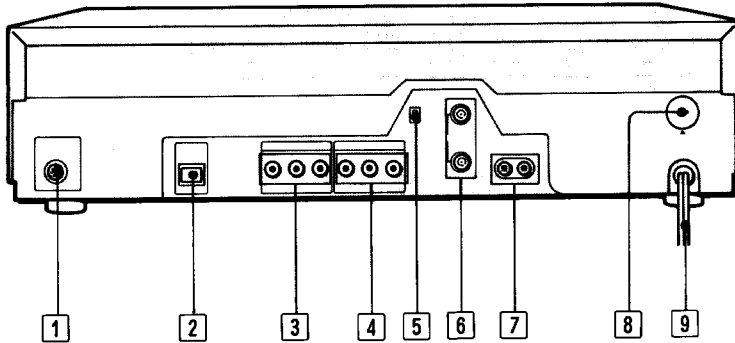
21 PICTURE ART button (page 28)

22 STOP MOTION button (page 28)

23 FLASH MOTION button (page 27)

Location and Function of Controls

Rear Panel



1 S video output jack (4-pin mini DIN type)

Connect to the S video input jack of a TV or a VCR.

2 OPTICAL DIGITAL OUT

Connect to the amplifier with an optical input or D/A converter. Use the optional connecting cable POC-15 for connection.

3 LINE OUT 1 jacks (phono type)

Connect to the video/audio input jacks of equipment such as a TV or a VCR.

4 LINE OUT 2 jacks (phono type)

Connect to the video/audio input jacks of equipment such as a TV or a VCR. Note that the screen messages are not displayed when connecting this jack connected to a TV.

5 3CH/4CH CHANNEL switch

Set to 3CH or 4CH, whichever is not active in your area when connecting the unit and the TV via antenna terminals. Refer to page 18.

6 VHF/UHF IN/OUT connectors (F-type)

Connect the unit and the TV via these connectors when your TV is not equipped with video/audio input connectors. Refer to page 19 and 20.

7 CONTROL S IN (input)/OUT (output) jacks (mini type)

IN: Connect to the CONTROL S output jack of a TV.

This unit can be remotely controlled by pointing the Remote Commander at the TV.

OUT: Connect to the CONTROL S input jack of a VTR.

If the CONTROL S IN jack of the unit is connected to the CONTROL S output of a TV, both the VCR and this unit can be remotely controlled by pointing the Remote Commander at the TV.

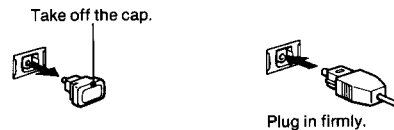
Use the optional RK-G69 connecting cord for the above connections.

8 Voltage selector (MDP-722GX only)

Set to the voltage of your local power supply. Refer to page 3 for details.

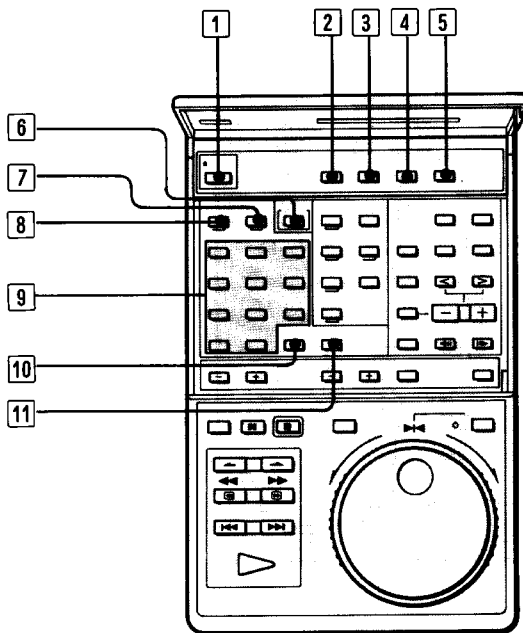
9 AC power cord

How to connect the OPTICAL DIGITAL OUT connector



Remote Commander

The buttons on the Remote Commander and those on the unit with an identical mark have the same function.



1 **OPEN/CLOSE button (page 21)**

Press to open or close the disc tray.

2 **DISPLAY button (page 7)**

Press to display disc informations. Press it again to clear the display.

3 **AV TIME (page 40)**

4 **AUDIO MONITOR button (page 23)**

5 **DISC/TV button (page 18)**

6 **CLEAR button**

Press to clear the numbers entered or to cancel the search, program, or other functions. This button affects the functions of the buttons underlined in yellow on the Remote Commander.

7 **FRAME/TIME button (page 32, 33)**

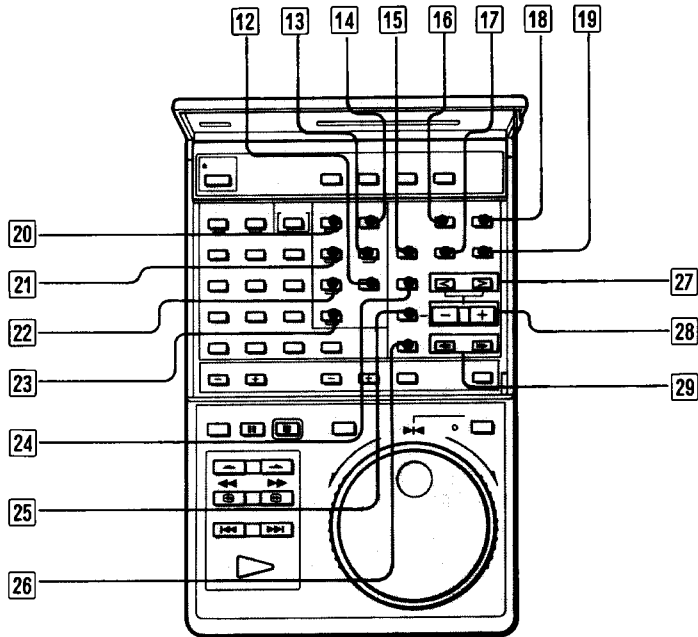
8 **PGM (Program) button (page 35, 39)**

9 **Alphanumeric buttons**

10 **SEARCH/NEXT button (page 32, 33, 36, 39, 43)**

11 **BACK button (page 36, 39, 43)**

Location and Function of Controls



12 INDEX MODE button (page 44)

13 INDEX FILE button (page 43)

14 AUTO PGM button (page 41)

15 ONE SCENE MEMORY button (page 29)

16 **CX** button (page 23)

17 RECALL button (page 29)

18 ANALOG button (page 23)

19 A.PAUSE/A.SPACE button (page 42)

20 REPEAT button (page 34, 38)

21 1/ALL button (page 34, 38)

22 SHUFFLE button (page 45)

23 REPEAT A ↔ B button (page 34, 38)

24 PICTURE ART button (page 28)

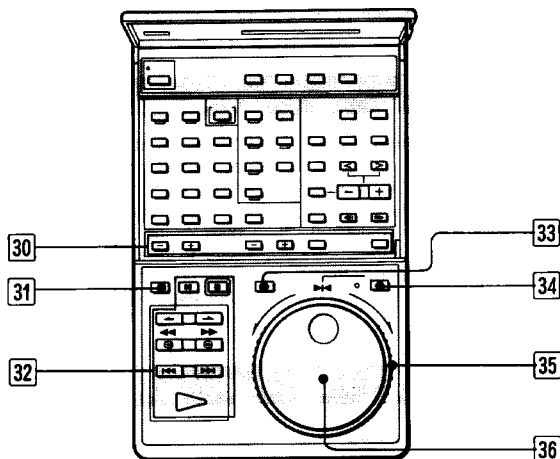
25 FLASH MOTION button (page 27)

26 STOP MOTION button (page 28)

27 MULTI SPEED buttons (page 24)

28 +/- (effect control) buttons (page 24, 27)

29 STILL/STEP buttons (page 26)



30 TV control buttons

Effective for Sony TVs with the mark.
CHANNEL +/-: To change the channel.
VOLUME +/-: To change the volume.
TV/VIDEO: To switch the output signal. (Not effective for some TVs.)
TV POWER: To turn on the power of the TV.

31 INTRO SCAN button (page 31, 37)

32 Basic operation buttons

- PLAY**
- PAUSE**
- STOP**

(Index search) buttons (page 37)
 (Scan reverse/forward) buttons
ACS/AMS (Automatic chapter select/automatic music sensor) buttons

33 CDV (playback portion switching) button (page 21)

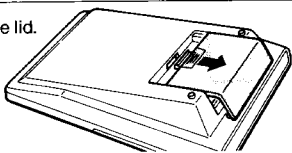
34 JOG/SHUTTLE mode select button and indicator (page 25)

35 SHUTTLE ring (page 25, 30, 37)

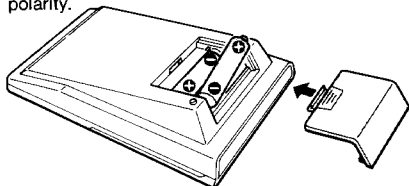
36 JOG dial (page 25, 30)

Installing Batteries

1 Open the lid.



2 Insert two R6 (size AA) batteries with correct polarity.



Battery life

Batteries will last for about six months under normal operating conditions.

Notes on the Remote Commander

- Do not let sunlight or light from a powerful artificial light source fall directly on the remote control sensor on the front panel as it may interfere with operation or damage the sensor.
- If a TV set with a CONTROL S output is connected to this unit's CONTROL S IN jack, you can control this unit by pointing the unit's Remote Commander towards the TV. Under this connection, however, the unit cannot be operated by pointing the Remote Commander at the unit since the control signal is only fed from the TV.

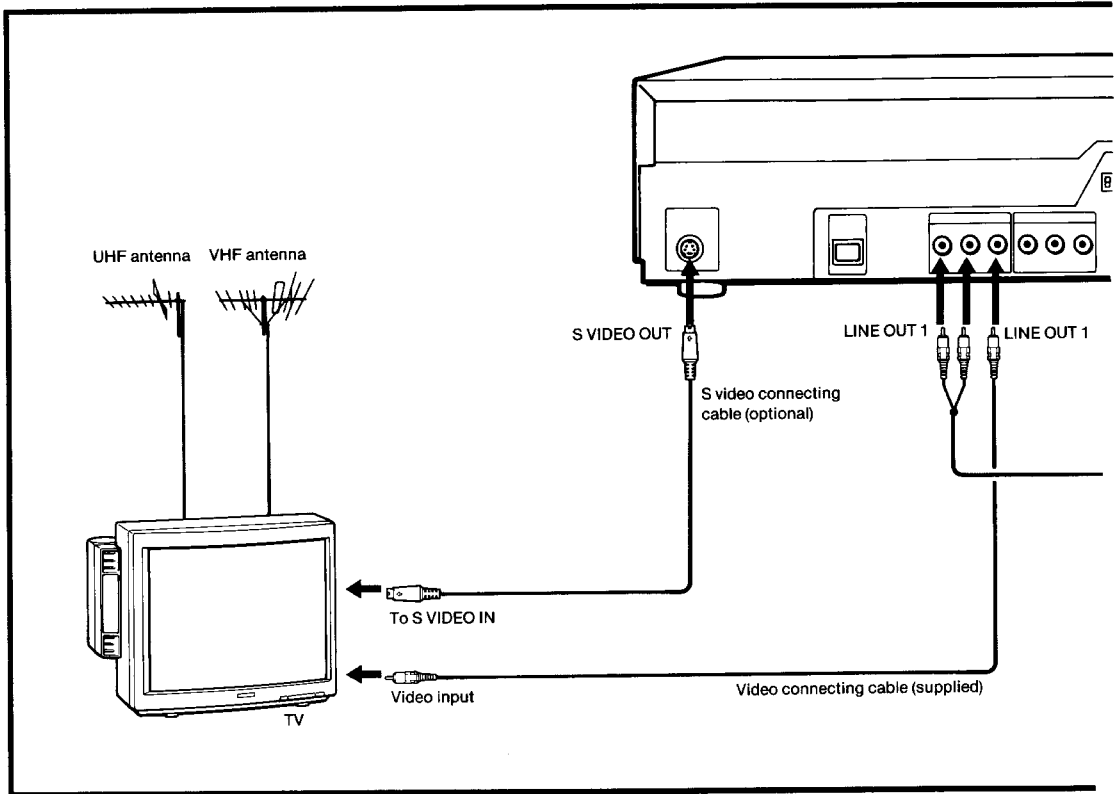
Connections

Various system connections can be considered depending upon the equipment you have. The following are some examples of how you can enjoy the features of the unit.

Before You Begin

- Make sure that all equipment is turned off before connecting or disconnecting any cables.
- Check the color of the plugs: yellow for video; white for left audio channel; and red for right audio channel.
- Firmly insert the plugs into the jacks. A loose connection may cause noise.
- When unplugging, hold the plug itself. Never pull by the cable.
- To prevent interference, turn off all equipment that is connected, but is not currently used.
- If noise or hum should occur in the screen or sound, or in the equipment connected to the unit, put more distance between the units.
- Refer to the instruction manuals of the other equipment since connections may vary depending upon the equipment used.

Example (1)—Connecting to a TV with Video/Audio Inputs



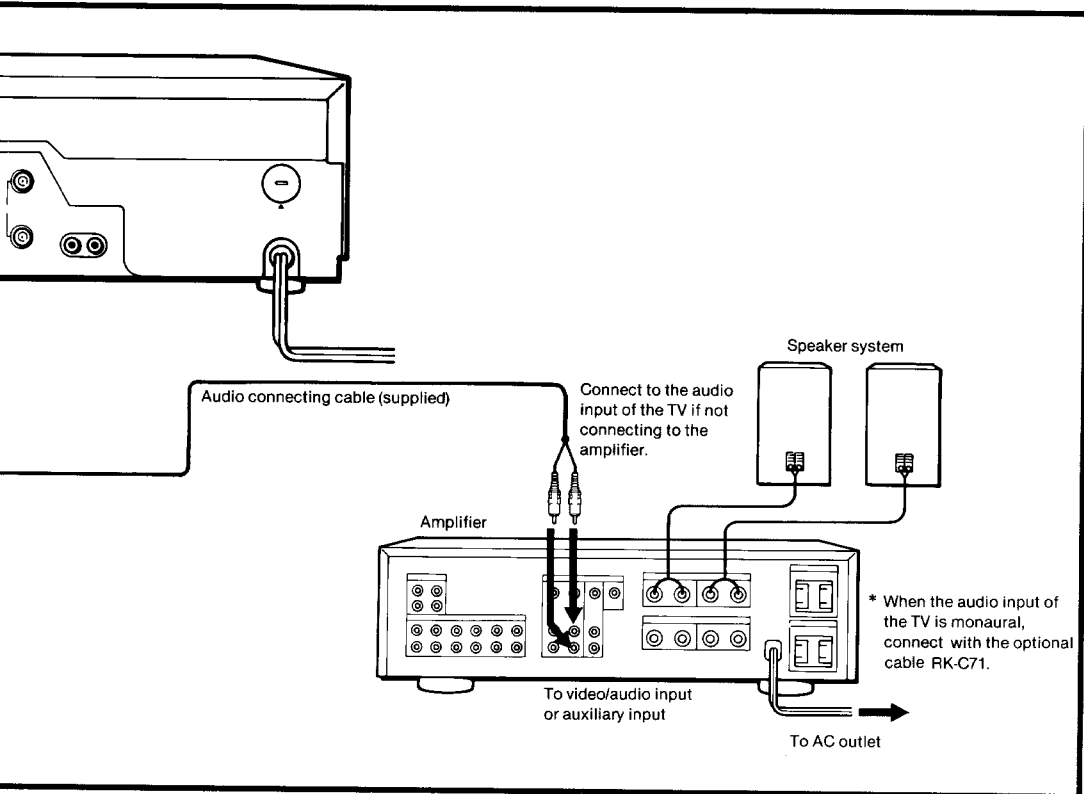
First Check Your TV

If your TV is equipped with video/audio inputs

Connect the player and the TV using the LINE OUT jacks.
Refer to "Connecting Examples (1), (2), and (3)."

If your TV is not equipped with video/audio inputs

Connect the player and the TV using the VHF/UHF OUT antenna terminal. Refer to "Connecting Example (4)."

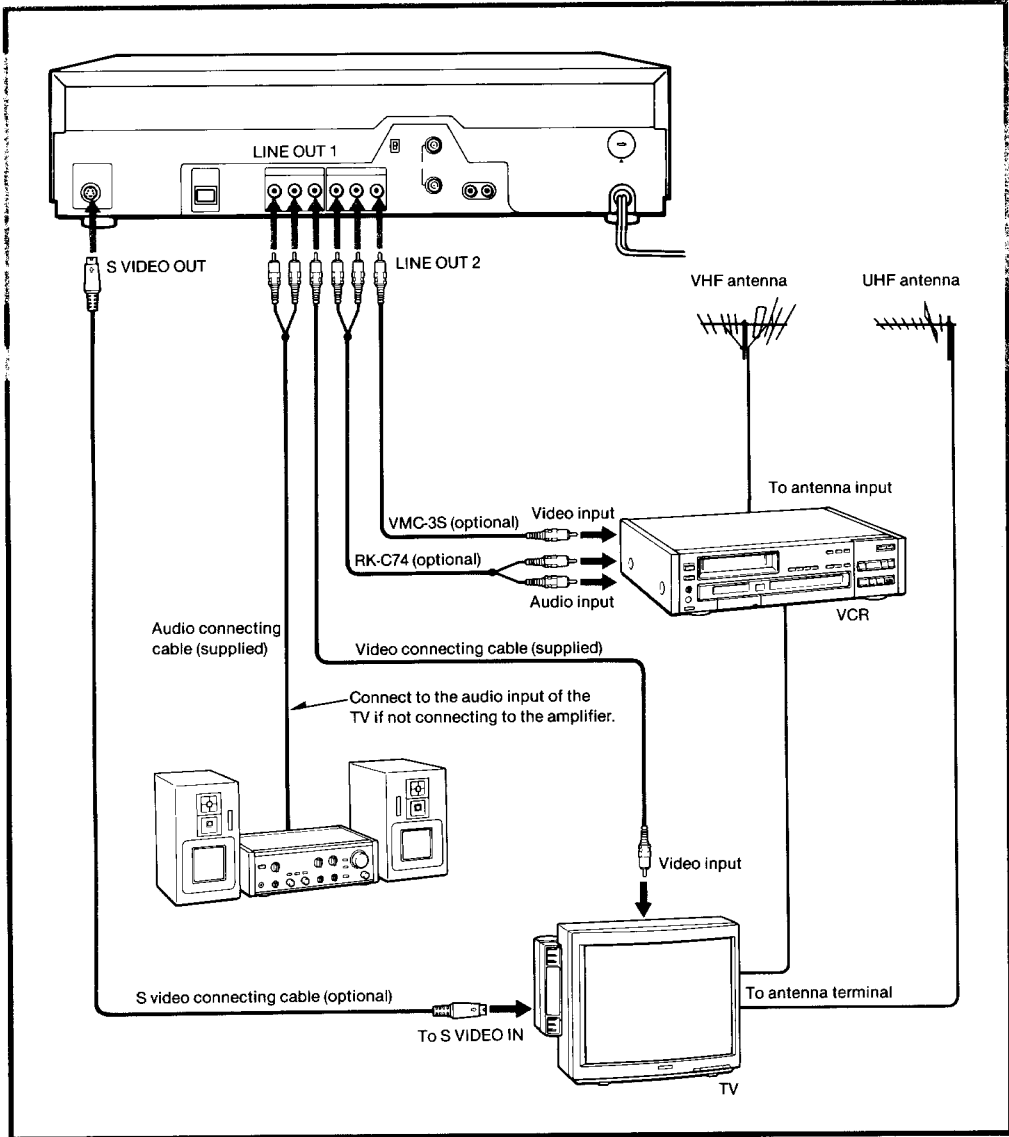


To view clearer TV broadcasts
Turn off the power of the unit.

When viewing picture from the player
Set the input selector of the TV to VIDEO.

When receiving FM/AM programs
Turn off the power of the player to avoid signal interference.

Example (2)—Connecting to a TV and a VCR with Video/Audio Inputs



When viewing the picture from the disc player
Set the input selector of the TV to VIDEO.

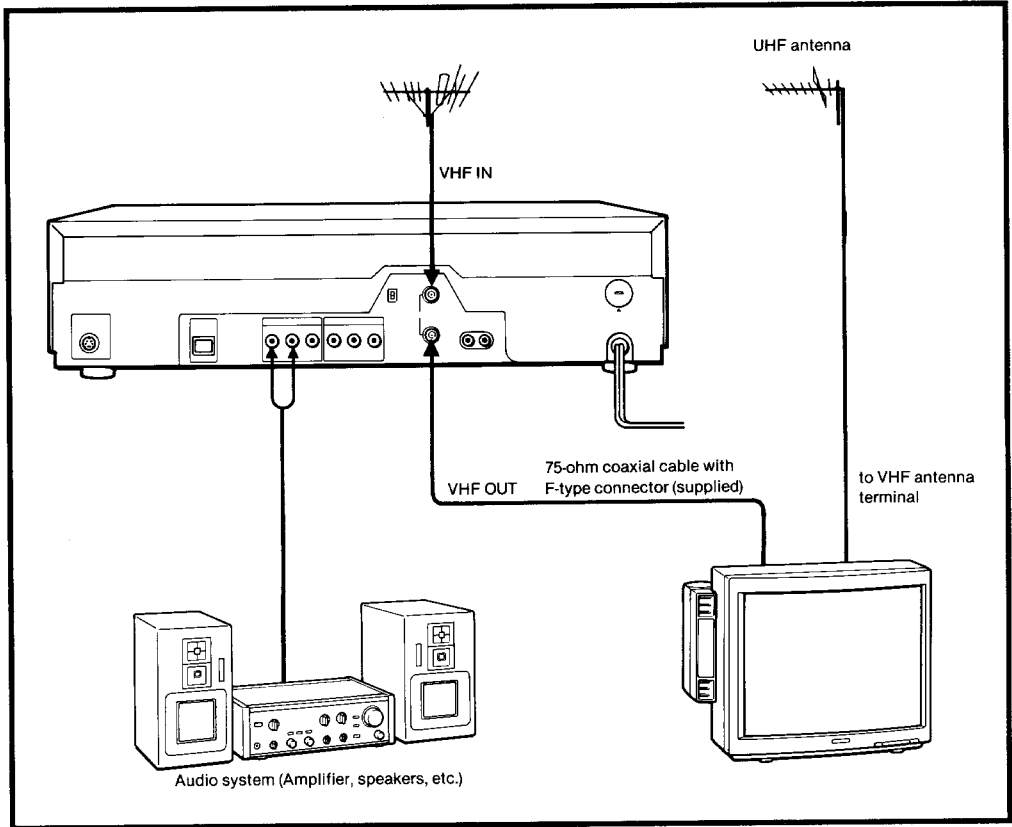
To view clearer TV broadcasts
Turn off the power of the unit.

When receiving FM/AM programs
Turn off the power of the player to avoid signal interference.

Example (3)—Connecting to a TV without Video/Audio Inputs

Step 1—Connect the VHF antenna and the TV to the player

Refer to "How to connect the antenna, player, and the TV" section on page 19 for details.



To enjoy stereo sound

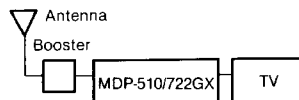
The audio signal of the disc is reproduced in monaural when connected to the TV via the VHF/UHF OUT connector. In order to enjoy the audio signals from the disc in stereo, connect to an audio system as given in the connecting example above.

To view clearer TV broadcasts

Turn off the power of the player.

Using a booster

If the TV signal is weak in your area, the connection above which inserts the video disc player between the antenna and the TV set may weaken it further, thus significantly degrading the picture quality. Under such circumstances, use of a booster is highly recommended. Consult your dealer for the most suitable booster that matches your local signal situation.



Example (3)—Connecting to a TV without Video/Audio Inputs

Step 2—Select the channel for video disc playback

Step 2—Select the channel for video disc playback

The video disc player sends its output to the TV as a VHF broadcast signal. By selecting the unused channel as the video disc output channel, it avoids interference to the disc's playback picture by regular broadcast signals.

1 Set the 3CH/4CH CHANNEL switch on the rear panel to an unused channel.

The playback picture of the video disc is received on the selected channel.

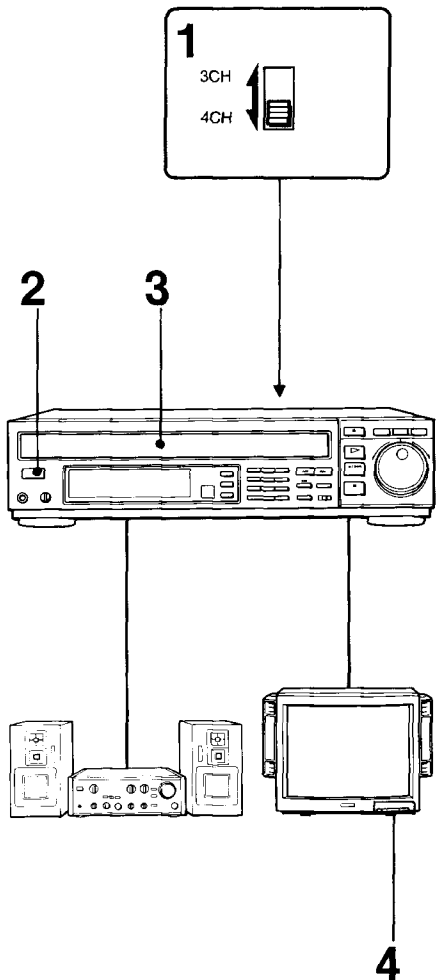
2 Turn on the power to the unit.

3 Open the disc tray and insert the disc and playback.
Refer to Playing a Disc section on page 21.

4 Turn on the TV and switch to the channel set in step 1.

When watching regular TV programs

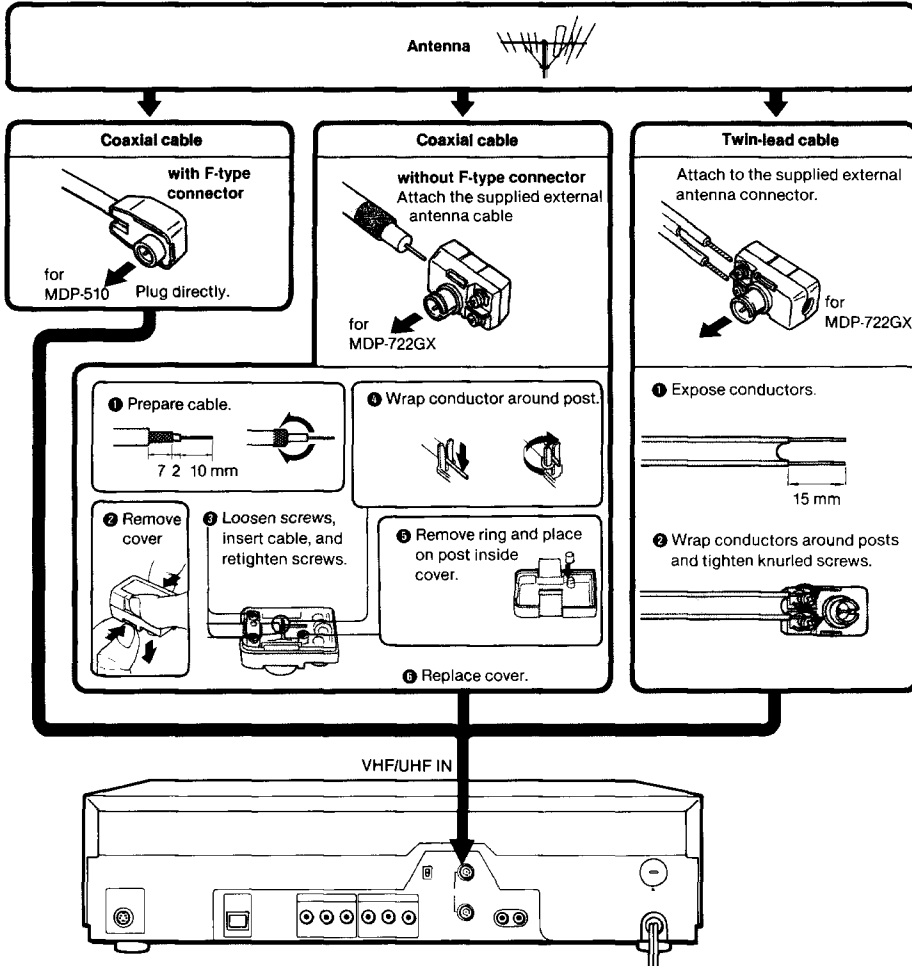
Turn the player off or press the DISC/TV button on the Remote Commander so that the "DISC" indication in the player's display window disappears. Then select the desired channel on the TV. If the TV's picture and sound quality is not satisfactory, refer to the instruction manual of the TV and adjust the channels.



How to connect the VHF antenna or CATV cable, TV, and the player

1 Unplug the antenna lead from your TV and plug it into the VHF/UHF IN connector.

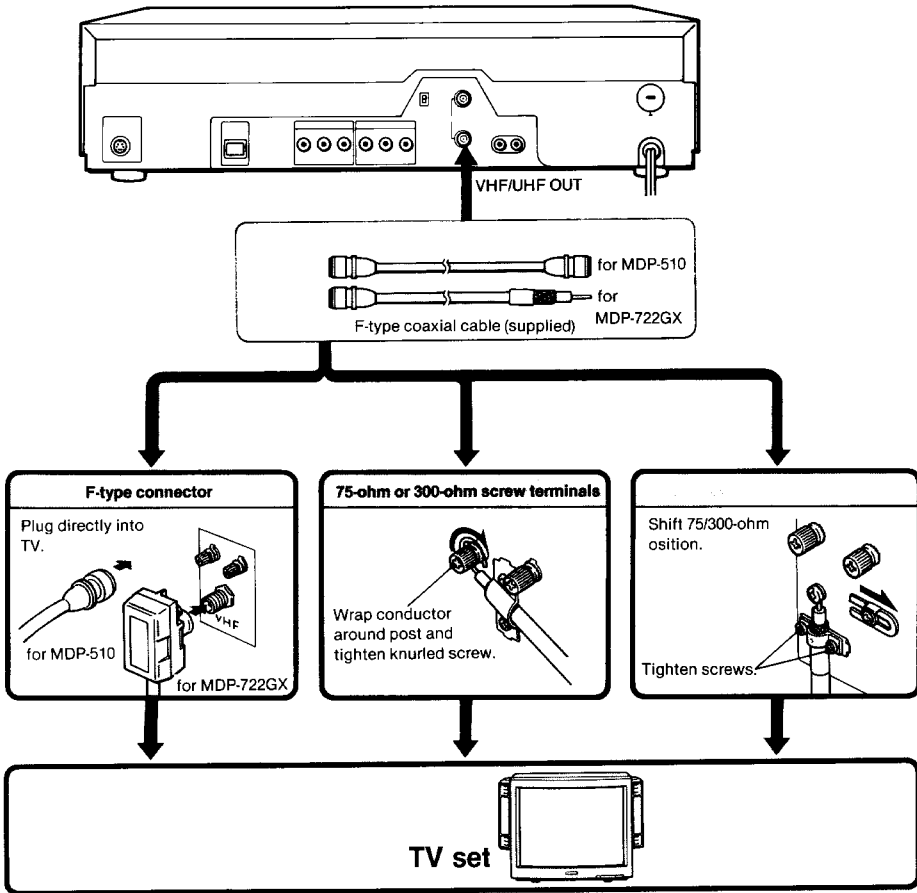
- If your television is not connected with a VHF antenna lead, skip this step.
- If your antenna lead does not belong the example below, consult your Sony dealer or a qualified electrician.



Connections

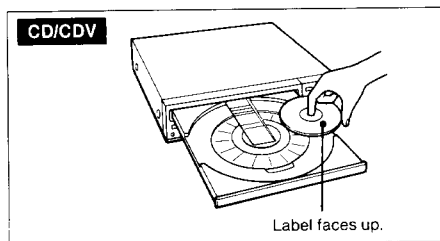
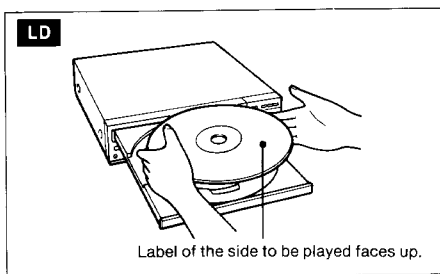
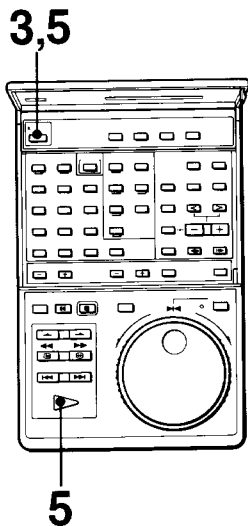
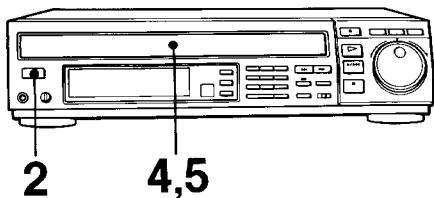
2 Plug the supplied coaxial cable with F-type connector to the VHF/UHF OUT connector of the player. Then connect the other end of the cable to the antenna terminal of your TV.

- This connection is necessary even if your TV is not connected to a VHF antenna lead.
- If your TV's antenna terminal does not belong to the example above, consult your Sony dealer or a qualified electrician.



Playing a Disc

LD
CDV
CD



The buttons on the Remote Commander and those on the unit with identical marks have the same function.

Operation

- 1 Turn on the TV.**
Select VIDEO INPUT or channel 3 or 4 (selected in page 18) to receive the disc's playback picture.

If you've connected the player's audio output to a stereo system, turn on the amplifier and select the audio input for disc playback.

- 2 Turn on the unit.**
- 3 Press \blacktriangle to open the disc tray.**
- 4 Place the disc on the tray.**
Be sure to place the disc in the proper position.
- 5 Close the disc tray by pushing the disc tray or by pressing \blacktriangle or \blacktriangleright .**
Playback starts.
On a CDV disc, playback starts from the video portion.

To switch the CDV's playback portion

Press CDV on the Remote Commander. If it is pressed while playing back the video portion, playback starts from the beginning of the audio portion. If it is pressed while playing back the audio portion or while the disc is in the pause mode, playback starts from the video portion.

To have the player stand by at the beginning of the disc

Press II on the Remote Commander or $\text{II}/\blacktriangleleft$ on the unit instead of step 5. The disc tray closes and the unit will pause at the beginning of the disc. Press \blacktriangleright to start playback.

To listen to the sound from the player only

Connect headphones to the unit. Adjust the volume with the LEVEL control.

Notes on disc tray

- Do not push down the tray or place a heavy object on it.
- Be careful not to pinch your fingers between the tray and the unit.
- Insert only one disc at a time. Otherwise the player may be damaged.
- An LD single disc can be played back without attaching an adaptor.
- Make sure that the disc is placed properly in the tray. Incorrect positioning may damage the disc.
- If the disc tray fails to close properly and slides out again, reinsert the disc.
- Always keep the tray closed when not using the player to keep dust and dirt from entering the optical system.

Playing a Disc

The buttons on the Remote Commander and those on the unit with identical marks have the same function.

To Stop Playback Momentarily

Press **II**.

The **II** indicator on the unit lights.

When playing back a LD or a CDV (video portion), a still picture appears on the screen and no sound is heard.

When playing back a CD or a CDV (audio portion), "PAUSE" appears on a green (for CD) or blue (for CDV) background and the unit will pause.

To resume playback

Press **II** or **>**.

Playback will start from the point where the button was pressed.

To Stop and Resume at the Same Point Later—Memory Stop (available for LD only)

Set the **STOP MODE/MEMORY** switch on the unit to the right.

The M. STOP indicator in the display window lights.

Start playback and stop at the desired point by pressing **■**.

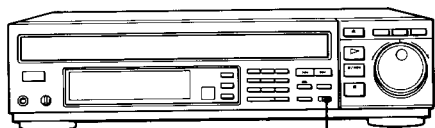
To resume playback

Press **>**.

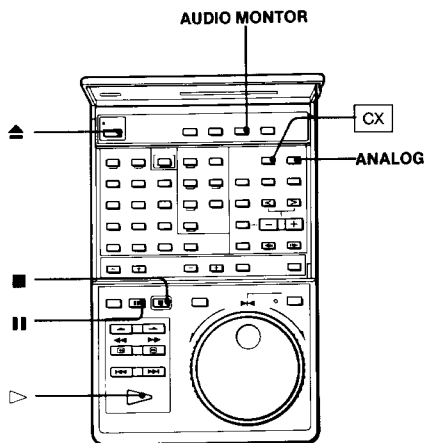
Playback starts from the point where **■** was pressed, instead of starting from the beginning of the disc.

Notes during memory stop

- The memory stop function is cleared when the power is turned off, when search buttons are pressed, or when the disc compartment is opened.
- There may be a slight difference between the stop and the start position.
- Shuffle, program play, single selection repeat, and A \leftrightarrow B repeat, cannot be performed.



STOP MODE/MEMORY



To Stop Playback

Press ■.

To resume playback

Press ▷.

Playback starts from the beginning of the disc.

To Remove the Disc

Press ▲.

Remove the disc and press ▲ to close the tray.

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

			Press AUDIO MONITOR.	Press AUDIO MONITOR.
		During playback.	Press AUDIO MONITOR.	Press AUDIO MONITOR.
Reproduced sound	Stereo disc	Stereo	Left channel	Right channel
	SAP disc	Main sound/1 on left channel Second sound/2 on right channel	Main sound/1 only	Second sound/2 only
Indicators lit		1/L, 2/R	1/L	2/R

To switch digital/analog audio sound on an LD

When a digital sound LD is played back, the digital sound is automatically output from the AUDIO OUT jacks. To listen to the analog sound, press ANALOG to turn off the DIGITAL SOUND indicator. Press ANALOG again to return to digital sound output. Note that on some discs, there is difference in the recording level between the analog and digital sound.

To activate the [CX] noise reduction system

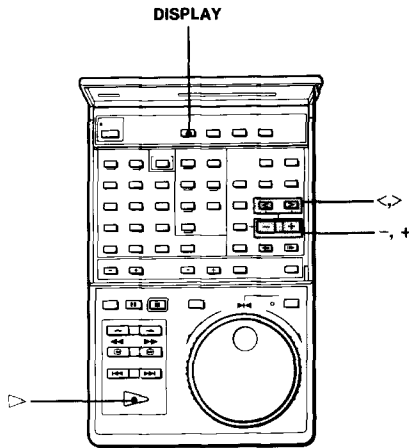
Discs with the [CX] label are recorded with the [CX] noise reduction system, which gives lower noise levels and higher dynamic range. The [CX] indicator on the unit lights when the unit detects a disc recorded with the [CX] noise reduction system. Some discs do not have the codes which automatically activate the player's the [CX] noise reduction system. When playing back discs with the [CX] label, check the [CX] indicator. If the indicator is not turned on, press the [CX] button to turn it on.

To Display a Desired Video Picture on the Screen during CD/CDV (audio portion) Playback

A desired still video picture can be displayed on the screen instead of the blue or green display when playing back discs with audio signals only.

- 1 Before playing back the CD or CDV (audio portion), install a disc with video images.
- 2 Store a desired video picture referring to the "To Store and Recall a Desired Scene—One Scene Memory/Recall" section (page 29).
- 3 Press RECALL to call up that video picture.
- 4 Playback the CD or CDV (audio portion).

Changing Speed and Direction—Speed Play



The buttons on the Remote Commander and those on the unit with identical marks have the same function.

To Change the Speed —Using MULTI SPEED

- 1 Press **<** or **>** to designate the playback direction.
Press **<** for reverse and **>** for forward direction.
- 2 Press **+** or **-** to set the playback speed.
Press **+** to increase and **-** to reduce the playback speed.

The playback speed can be set in eleven steps in both the forward and reverse directions.

Speed Indication	Approximate Speed
× 10	10 times normal speed
× 5	5 times normal speed
× 3	3 times normal speed
× 2	2 times normal speed
× 1	normal speed
× 1/2	1/2 normal speed
× 1/4	1/4 normal speed
× 1/8	1/8 normal speed
× 1/16	1/16 normal speed
× 1/30	1/30 normal speed
× 1/90	1/90 normal speed

Fast
↑
↓
Slow

Sound during speed play

The sound is muted in all playback speeds except × 1 forward.

When a still picture is displayed suddenly

Automatic picture stop code is recorded on some discs. When the player detects this code, while playing back in the following speeds: × 1, × 1/2, × 1/4, × 1/8, × 1/16, 1/30, and 1/90, playback stops at the point displaying a still frame. Operate the JOG/SHUTTLE or press **>**, **⏪**, **⏩**, **⏮**, **⏭**, **<** / **>** to resume normal playback.

How to use the PICTURE MODE button for maximum picture quality

For better picture quality in the following situations, press the PICTURE MODE button so the DIGITAL PICTURE indicator lights.

1. When the still picture is distorted while playing back a CAV disc. Picture blur could be observed especially for pictures with high speed movement.
2. When the transition between normal speed and speed play is not smooth.

In this mode, however, the video signal is played back via the digital memory and the picture may not be smooth for scenes with high speed movement. Therefore, press it again to turn off the DIGITAL PICTURE indicator for normal operation.

To resume normal playback

Press **>**.

To Change the Direction

Press **<** for reverse or **>** for forward direction.

The direction can be changed from any playback speed.

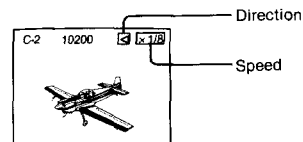
To resume normal playback

Press **>**.

To Display Playback Speed and Direction

Press **DISPLAY**.

The selected direction (< or >) and speed is displayed on the screen.



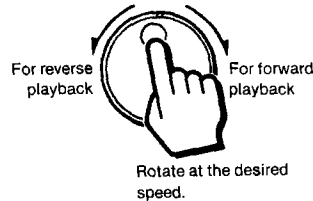
The buttons on the Remote Commander and those on the unit with identical marks have the same function.

To Change the Speed —Using JOG/SHUTTLE

- 1 Press **JOG/SHUTTLE** on the Remote Commander so the indicator light up.
- 2 Select the playback speed.

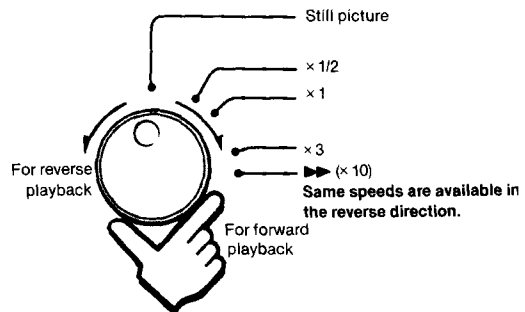
Using the JOG dial

One rotation of the dial corresponds to one picture frame. Turn the dial in the desired direction and speed. Normal speed, 1/2 times normal speed, and frame-by-frame picture is available.



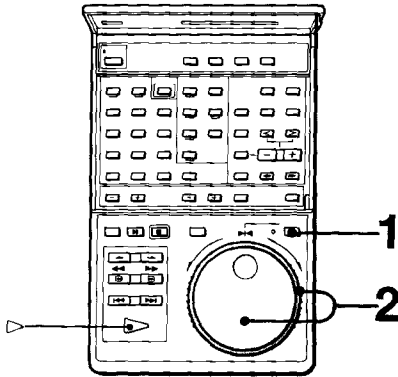
Using the SHUTTLE ring

The playback speed is selected by the holding the dial at the desired speed position. The approximate positions of the various speeds are as follows. A still picture appears on the screen when JOG/SHUTTLE is released.



To resume normal playback

Press **>**.



Sound during speed play

The sound is muted in all playback speeds except $\times 1$ forward.

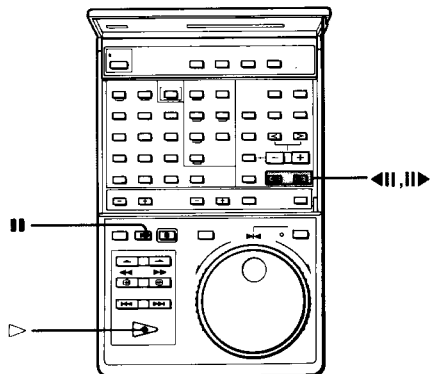
SHUTTLE ring

The SHUTTLE ring functions even when JOG/SHUTTLE on the Remote Commander is not pressed. In this case, the selectable playback speed is limited to approximately $\times 10$ or $\times 30$ normal speed.

Using the JOG/SHUTTLE on the unit

Press **II/▶◀** on the unit instead of step 1. The selectable speeds are the same as given in step 2. The SHUTTLE ring functions even when **II/▶◀** is not pressed. In this case the selectable speeds are limited to approximately $\times 10$ or $\times 30$ normal speed.

Still and Step (Frame-by-frame) Play



To View a Still Picture

Press **||**.
The picture stops at the current frame.

To resume normal playback

To View Frame-by-Frame Picture —Step Playback

- 1 Press **◀||** or **||▶** (STILL/STEP) once to make a still picture.
- 2 Press **||▶** to advance the picture one frame.
Press **◀||** to reverse the picture one frame.
Keep pressing **◀||** or **||▶** to consecutively advance or reverse the picture or reverse frame-by-frame.

To resume normal playback

Press **▷**.

Sound during still and step play
The sound is muted.

Enjoying Digital Pictures

LD
CDV

Flash Motion

A series of still pictures flashes on the screen at specific intervals with normal sound playback.

Stop Motion

The playback picture can be stopped while the sound continues to playback.

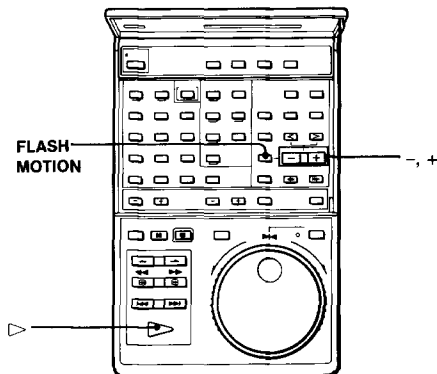
Picture Art

A painted effect can be created from the picture on the screen.

One Scene Memory

The picture on the screen can be stored in the memory at the press of the button and recalled later.

Flash Motion



Operation

FLASH MOTION on the unit can also be used.

During playback, press FLASH MOTION.

The FLASH MOTION button on the unit lights. The picture freezes, and after a certain period of time, the next freeze picture appears. The sound is heard continuously.

To change the freeze picture's switching interval

Press + to for shorter intervals.

Press - to for longer intervals.

To resume normal playback

Press ▷.

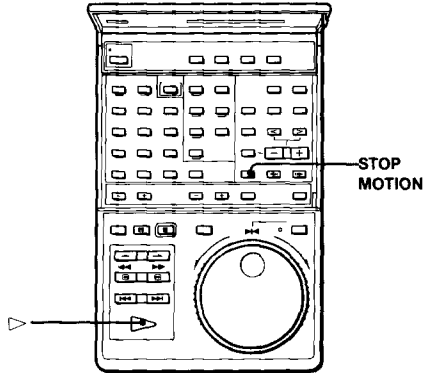
Switching to other digital picture modes

Press STOP MOTION (page 28), PICTURE ART (page 28), ONE SCENE MEMORY (page 29), or RECALL (page 29).

"FLASH" indication

"FLASH" indication appears in the lower left hand corner when DISPLAY is pressed.

Stop Motion



Operation

STOP MOTION on the unit can also be used.

During playback, press STOP MOTION.

The STOP MOTION button on the unit lights. The picture freezes at that point but the sound can be heard continuously. Note that the disc continues to advance in the playback mode, even though a freeze picture is displayed on the screen.

To resume normal playback

Press ▶.

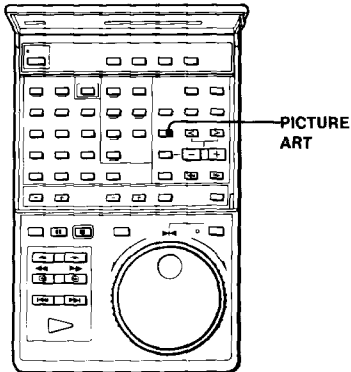
Switching to other digital picture modes

Press FLASH MOTION (page 27), PICTURE ART (page 28), ONE SCENE MEMORY (page 29), or RECALL (page 29).

"S. MOTION" indication

"S. MOTION" indication appears in the lower left hand corner when DISPLAY is pressed.

Picture Art



Operation

PICTURE ART on the unit can also be used.

During operation with the DIGITAL PICTURE indicator turned on, press PICTURE ART.

The PICTURE ART button on the unit lights. A painted effect is given to the picture. The sound can be heard continuously. Note that the disc continues to advance in the playback mode during the PICTURE ART process.

To change the degree of the effect

Press PICTURE ART repeatedly.

The effect will increase with each press of the button up to two levels and return to normal play with the third press.

To resume normal playback.

Press PICTURE ART repeatedly until the PICTURE ART button on the unit is turned off on the third press.

During other digital picture modes

Picture art function can be used during flash motion, stop motion, one scene memory, or recall mode.

To Store and Recall a Desired Scene —One Scene Memory/Recall

LD
CDV

One Scene Memory

Use this function to store a picture during normal playback with the DIGITAL PICTURE indicator turned off.

1 Press ONE SCENE MEMORY.

The picture at that instant is stored in the digital memory. Playback continues.

2 Press RECALL.

The picture stored in the digital memory in step 1 is recalled on the screen. The sound is continuously played back.

To resume normal playback

Press RECALL again.

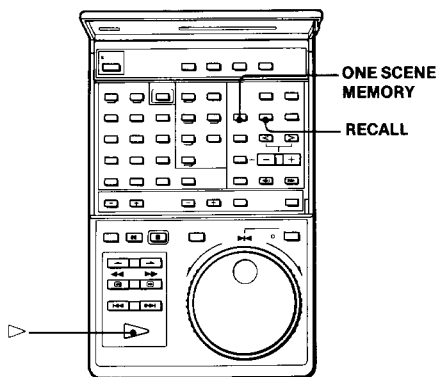
Even When ONE SCENE MEMORY is not Pressed

By pressing RECALL, the digital picture that is automatically stored in the digital memory during the operation below will be recalled on the screen.

- When flash motion, stop motion, picture art, or one scene memory is used.
- When the DIGITAL PICTURE indicator is turned on and playback of any kind is performed.
- When the DIGITAL PICTURE indicator is turned off, but still or step play on CLV, or speed play or scan mode on CLV/CAV disc had been performed.

To resume normal playback

Press RECALL again.



The picture selected with ONESHOT MEMORY does not appear

The picture stored in the digital memory with ONE SCENE MEMORY will be erased if any of the following occurred **after** pressing ONESHOT MEMORY. The last scene in the operations below will be stored in the digital memory instead.

- When flash motion, stop motion, picture art is used.
- When playback of any kind with the DIGITAL PICTURE indicator turned on takes place.

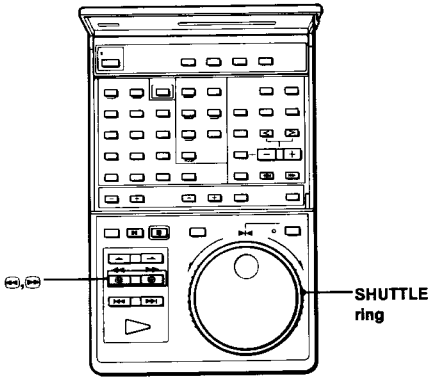
When RECALL does not function

- The picture in the digital memory is erased when the power is turned off.
- The DIGITAL PICTURE indicator should be turned on at least once.
- Recall functions only **after** a picture is stored in the digital memory. Therefore, recall will not function **during** stop motion, and flash motion.

“RECALL” indication


“RECALL” indication appears in the lower left hand corner when DISPLAY is pressed.


Locating a Particular Scene



Speed Scan

Using

To scan in reverse, keep pressing .

To scan in forward, keep pressing .

To stop scanning, release the button.

Using the SHUTTLE ring

To scan in reverse, keep the SHUTTLE ring turned fully to the left.

To scan forward, keep the SHUTTLE ring turned fully to the right.

To stop scanning, release the SHUTTLE ring.

Sound during reverse or forward scanning

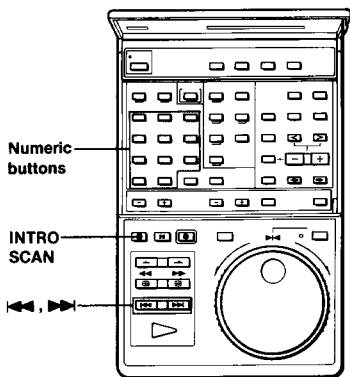
The sound is muted.

Scanning on CLV discs

The scanning speed varies between the inner and outer sections of the disc.

Locating a Particular Scene —Chapter/Track Search

LD
CDV



Press DISPLAY to have information appear on the screen for ease of operation.

Some LDs are divided into sections called chapters. CDVs are divided into sections called tracks which correspond to each selection. You can locate the beginning of a desired scene by designating its chapter or track number. The chapter/track number is indicated on the disc jacket or label.

To Locate a Chapter or a Selection Directly

Press the numeric buttons of the desired chapter/track.

If you pressed a wrong number

Simply press the correct number again.

If the chapter or selection number is greater than 10

Use buttons [+10] and [0].

e.g. To play from chapter/selection 14, press [+10]/4.

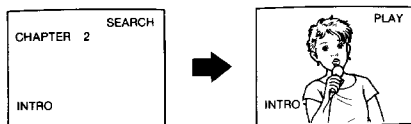
To play from chapter/selection 20, press [+10]/+10/0.

To cancel the [+10] button, press [+10] repeatedly until 1- is displayed.

To Locate and Play the Beginning of Every Chapter/Selection—Intro Scan

Press INTRO SCAN.

Eight seconds of each selection is played back.



When the desired chapter/selection is played back

Press INTRO SCAN.

Normal playback is resumed from that point.

To resume playback from the desired chapter/selection

Press the number of that chapter/selection.

Playback starts from the beginning of that chapter/selection.

To Skip or Search for Chapter or Selection

To locate the beginning of the current or preceding chapter or selection

Press ◀ once to return to the beginning of the current chapter/selection.

Press ◀ repeatedly, before the picture appears on the screen, to go to the beginning of previous chapter/selection.

To locate the beginning of a succeeding chapter or selection

Press ▶ once to proceed to the beginning of the next chapter/selection.

Press ▶ repeatedly to advance to the beginning of each chapter/selection one after the other.

Notes on chapter/track search

- If chapter/track search is activated from the still, pause, or speed play mode the unit enters that mode, after searching instead of playback.
- If the selected number is greater than the total number of chapters/tracks on the disc, playback will stop or will be ignored. However, when the unit is in REPEAT mode with the REPEAT indication in the

display window, playback starts from the beginning of the disc.

- Chapter search cannot be performed on LDs without chapter numbers. With these LDs, only the frame/time number is displayed on the screen during playback.

Locating a Particular Scene—Frame Search

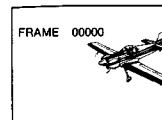
Press DISPLAY to have information appear on the screen for ease of operation.

Each separate picture on a CAV disc is called a frame. You can locate the desired scene by designating the frame number of desired scene.

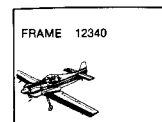
Operation

Example: To locate a frame with the frame number 12340.

1 Press FRAME/TIME.

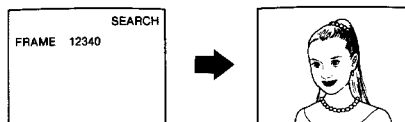


2 Press 1, 2, 3, 4, and 0.



3 Press SEARCH/NEXT.

Playback starts from frame 12340.

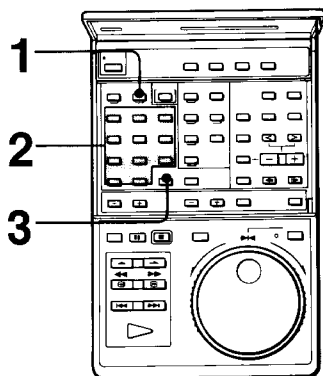


If you pressed a wrong number

Press FRAME/TIME to reset the display to zero and enter the correct number.

To cancel the frame search mode

Before SEARCH/NEXT is pressed, press CLEAR.
After SEARCH/NEXT is pressed, press ■.



Notes on frame search

- If frame search is activated from the still, pause, or speed play mode, the unit enters that mode after searching instead of playback.
- If the selected number is greater than the total number of frames on the disc, playback will stop. However, when the unit is in the REPEAT mode with the REPEAT indication in the display window, playback will resume from the beginning of the disc.

Locating a Particular Scene—Time Search

LD
(CLV)

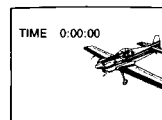
Press DISPLAY to have information appear on the screen for ease of operation.

The CLV disc indicated its playback positions with the elapsed time from the beginning of the disc.

Operation

Example: To locate the 12-minute and 05-second point:

1 Press FRAME/TIME.

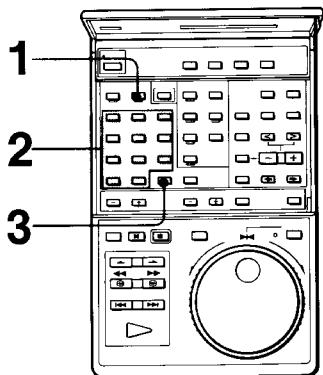
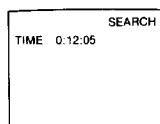


2 Press 1, 2, 0, and 5.



3 Press SEARCH/NEXT.

Playback starts from the 12-minute and 5-second point.



If you pressed a wrong number

Press FRAME/TIME to reset the display to zero and enter the correct number. (5 digits for a disc containing time data to the second, and 3 digits for a disc containing time data to the minute.)

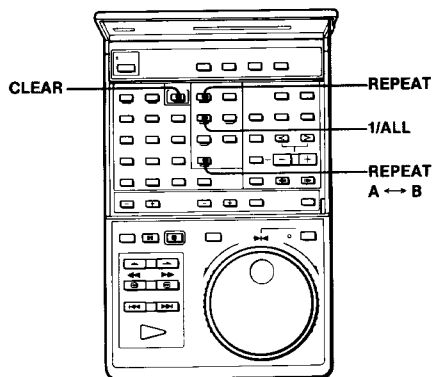
To cancel the time search mode

Before SEARCH/NEXT is pressed, press CLEAR.
After SEARCH/NEXT is pressed, press ■.

Notes during time search

- If time search is activated from the still, pause, or speed play mode, the unit enters that mode after searching instead of playback.
- If the disc does not have time data to the second, enter the time in minutes only.
- If the time set is greater than the total time of the disc, playback stops. However, if the unit is in the REPEAT mode with the REPEAT indication in the display window, playback will resume from the beginning of the disc.

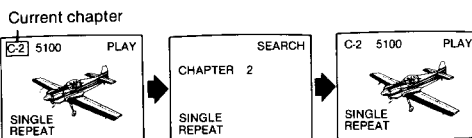
Repeating Particular Scenes—Repeat Play



Press DISPLAY to have information appear on the screen for ease of operation.

To Repeat the Current Chapter or Selection—Single Play

- 1 Press REPEAT.
- 2 Press 1/ALL.
Playback of that chapter or selection is repeated. REPEAT and SINGLE indicator lights on the unit.

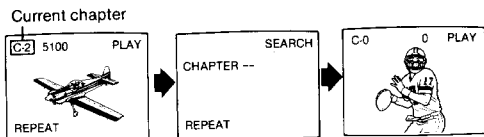


To cancel single play

Press REPEAT and turn off the REPEAT indicator.

To Repeat the Entire Disc—Continuous Play


Press REPEAT.
The REPEAT indicator lights on the unit.
The disc returns to the first chapter/selection after playing back the last chapter/selection.





To cancel continuous play

Press REPEAT again and turn off the REPEAT indicator.

Using the on the unit

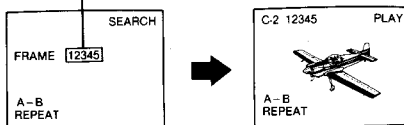
 can be used instead of REPEAT on the Remote Commander.

To cancel the repeat modes activated by  press  again.

To Repeat a Particular Portion—A ↔ B Repeat

- 1 Playback the disc and press REPEAT A ↔ B at the start point (point A).
Repeat A-B indicator blinks in the display window.
- 2 Advance the picture to the end point (point B).
- 3 Press A ↔ B REPEAT.
The REPEAT A-B indication lights in the display window. The player returns to the start point (point A) and automatically repeats the designated portion.

Start point of A ↔ B repeat.



To cancel A ↔ B repeat

Press CLEAR.

To Repeat between Specific Custom Indexes

See page 44.

Playing in a Desired Order—Program Play

Press DISPLAY to have information appear on the screen for ease of operation.

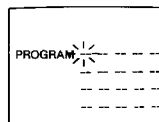
Up to 20 chapters (LD) or tracks (CDV) can be played back in the desired order.

Operation

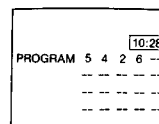
Example: To play chapters 5, 4, 2, and 6 of a LD in this order.

1 Press PGM.

PGM indicator blinks on the unit.



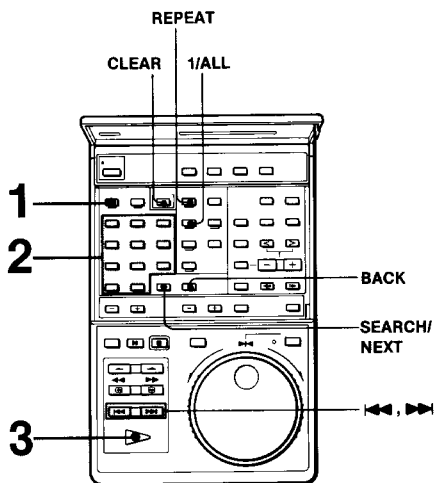
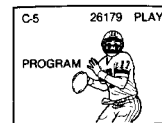
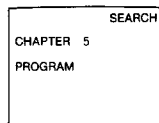
2 Press "5", "4", "2", and "6" in this order.



Total program time is displayed for LDs with TOC (Table of contents signal). Press AV TIME to see if TOC is recorded on your disc.

3 Press >.

Chapter 5 is searched for and playback continues through chapters 4, 2, and 6, then stops.



Playing in a Desired Order—Program Play

If you pressed a wrong number

To re-enter from the first number, press CLEAR, PGM, then enter the correct numbers.

To change a specific number, press NEXT (for the next number) or BACK (for the previous number) to blink the wrong number, and then enter the correct number.

If the chapter/selection number is greater than 10

Use buttons $\boxed{+10}$ and $\boxed{0}$.

e.g. To enter 14, press $\boxed{+10}/\boxed{4}$.

To enter 20, press $\boxed{+10}/\boxed{+10}/\boxed{0}$.

To cancel the $\boxed{+10}$ button, press $\boxed{+10}$ repeatedly until 1— is displayed.

To check the program contents during program play

Press PGM and the program contents will be displayed on the screen for approximately three seconds.

The chapter/selection number that is played back flashes.

To repeat program play

Press REPEAT to light the REPEAT indicator on the unit.

To cancel program play

Press CLEAR or 1/ALL. Normal playback is resumed.

The program will not be erased unless the power of the unit is turned off or the disc is removed.

To skip to a different chapter/selection during program play

Using $\boxed{\leftarrow/\rightarrow}$

Press $\boxed{\rightarrow}$ (scan) to advance to the next chapter/selection.

Press $\boxed{\leftarrow}$ to return to the beginning of the current chapter/selection.

Using $\boxed{\leftarrow/\rightarrow}$

$\boxed{\rightarrow}$ will scan to the next chapter/selection in the program.

$\boxed{\leftarrow}$ will return to the beginning of the current chapter/selection but no further.

Program play on LDs with TOC (Table of Contents)

e.g. Display window when program play for chapters 5, 4, 2, 6 was performed.

DISC	CHAP	SEL	TIME	TABLE OF CONTENTS		
CLD	▶	▶	▶	6	2	4
CHAPTER	2	3	19M 17S			
STEP						

Current chapter

Chosen selections

Order within the program

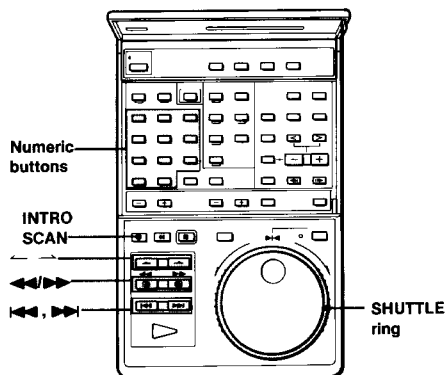
Total playing time

When chapter 0 or a track/selection number greater than 21 is programmed, total playing time is not displayed.

Note

If the selected number is greater than the total number chapters/selections on the disc, the program may not be effective.

Locating a Particular Selection



Press **DISPLAY** to have information appear on the screen for ease of operation.

Each of the selections on a CD and CDV is given a track number. The track numbers are indicated on the disc jacket or label.

To Locate a Selection Directly

Press the numeric buttons to enter the desired selection number.

Playback starts from that selection and continues to the end of the disc.

If you pressed a wrong number

Simply press the correct number again.

If the selection number is greater than 10

Use buttons **+10** and **0**.

e.g. To play from selection 14, press **+10/4**.

To play from selection 20, press **+10/+10/0**.

To cancel the **+10** button, press **+10** repeatedly until 1- is displayed.

To Skip and Search for Selections

To locate the beginning of the current or preceding selection

Press **◀◀** once to return to the beginning of the current selection.

Press **◀◀** repeatedly.

To locate the beginning of a succeeding selection

Press **▶▶** once to proceed to the beginning of the next selection.

Press **▶▶** repeatedly.

To Locate a Particular Point in a Selection

Using the **◀▶**

To scan in reverse, keep pressing **◀◀**.

To scan ahead, keep pressing **▶▶**.

To stop scanning, release the button.

Using the **SHUTTLE ring**

To scan in reverse, keep the **SHUTTLE ring** turned fully to the left.

To scan ahead, keep the **SHUTTLE ring** turned fully to the right.

To stop scanning, release the **SHUTTLE ring**.

To Locate an Index

This function is only possible with a disc on which index numbers are recorded. An index number is a number assigned to a section of a selection to allow that section to be located easily.

Press **←** or **→** to locate the desired index number.

The selected index number appears in the display window.

To Locate and Play the Beginning of Every Selection—Intro Scan

Press **INTRO SCAN**.

The first eight seconds of each selection is played back.

When the desired selection is found

Press **INTRO SCAN**.

Normal playback is resumed from that point.

To resume playback from the beginning of a desired selection

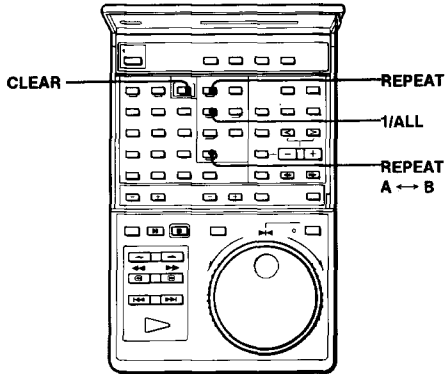
Press the number of that selection.

Sound during searching

A low level sound is heard.

When search is activated from the pause mode, the sound is muted.

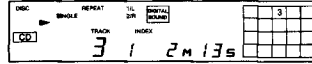
Repeating Particular Selections—Repeat Play



Press DISPLAY to have information appear on the screen for ease of operation.

To Repeat the Current Selection—Single Play

1 Press REPEAT.



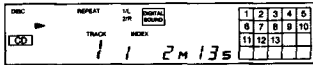
2 Press 1/ALL.
REPEAT and SINGLE indicator lights and the current selection is repeated.

To cancel single play

Press REPEAT again and turn off the REPEAT indicator.

To Repeat the Entire Disc—Continuous Play

Press REPEAT.
The REPEAT indicator lights.
The disc returns to the first selection after playing back the last selection.



To cancel continuous play

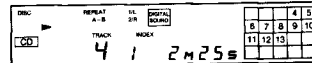
Press REPEAT again and turn off the REPEAT indicator.

Using the on the unit

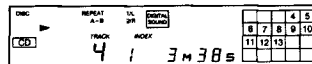
can be used instead of REPEAT on the Remote Commander.
To cancel the repeat modes activated by press again.

To Repeat a Particular Portion—A ↔ B Repeat

1 Playback the disc and press REPEAT A ↔ B at the start point (point A).
Repeat A-B indicator blinks in the display window.



2 Advance the disc to the end point (point B) and press A ↔ B REPEAT.
The REPEAT A-B indicator lights in the display window.
The player returns to the start point (point A) and repeats the designated portion.



To cancel A ↔ B REPEAT

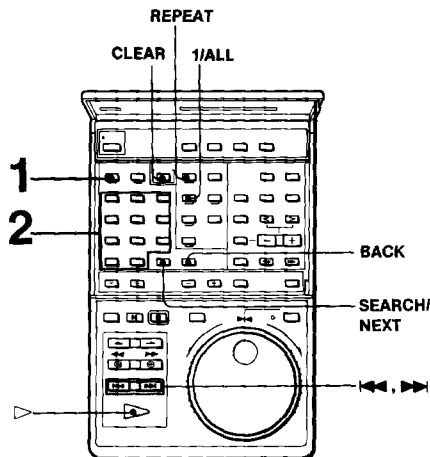
Press CLEAR.

To Repeat between Specific Custom Indexes

See page 44.

Playing in a Desired Order—Program Play

CD
CDV



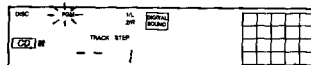
Press DISPLAY to have information appear on the screen for ease of operation.

Up to 20 selections can be played back in the desired order.

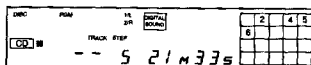
Operation

Example: To play selections 5, 4, 2, and 6 of a CD in this order.

- 1 Press PGM.
The PGM indicator blinks in the display window.



- 2 Press "5," "4," "2," and "6" in this order.
The selected numbers appear in the AV calendar.
The total program time is displayed in the display window.



- 3 Press \triangleright .
Selection 5 is searched for. Playback starts and continues through selections 4, 2, and 6, then stops.

If you pressed a wrong number

To re-enter from the first number, press CLEAR, PGM, then enter the correct numbers.

To change a specific number,

Referring to the screen

Press NEXT (for the next number) or BACK (for the previous number) to blink the wrong and then enter the correct number.

Referring to the display window

Press NEXT (from the first number) or BACK (for the previous number) to call up the number to the display window. Refer to the number under the TRACK indicator for the location of that selection within the program.

If the selection number is greater than 10

Use buttons [+10] and [0].

e.g. To enter 14, press [+10]/[4].

To enter 20, press [+10]/[+10]/[0].

To cancel the [+10] button, press [+10] repeatedly until 1- is displayed.

To repeat program play

Press REPEAT so the REPEAT indicator lights.

To cancel program play

Press CLEAR or 1/ALL. Normal playback is resumed. The program will not be erased unless the power to the unit is turned off or the disc is removed.

To skip to a different selection during program play

Using \lll \lll \lll

Press \lll to advance to the next selection.

Press \lll to return to the beginning of the current track.

Using \lll \lll \lll

\lll will scan to the next selection on the program list.

\lll will return to the beginning of the current selection but no further.

When entering selection numbers

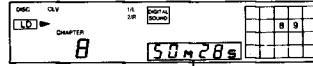
- When a selection number greater than 21 is programmed, total program time will not be displayed on the display window.
- A selection number not recorded on a disc cannot be programmed.

Changing the Time Display

If you are playing back LD with TOC, start from step 1.
If you are playing back other discs, start from step 2.

Operation

1 Display during playback. (LD with TOC)

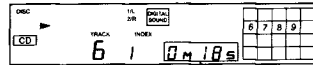


Elapsed playback time on the disc (CAV)*

* When playing back a CLV LD with TOC, the number of elapsed playback frames will be displayed in the same section.

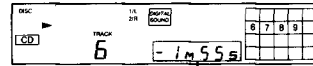
Press AV TIME.

2 Display during playback.



Elapsed time for the chapter/selection

3 Press A/V TIME.



Remaining time for the chapter/selection

4 Press A/V TIME.



Remaining number of chapters/selections

Remaining time on the disc**.

** With a CDV disc, the time display appears for either one of the portions, audio or video, that is being played back.

5 Press A/V TIME.

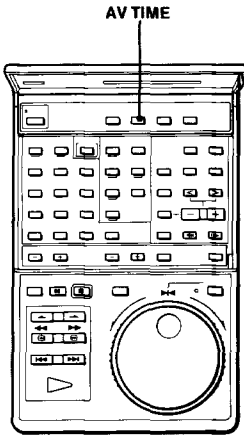
Back to 1 for LD with TOC.
Back to 2 for other discs.

When DISPLAY is pressed after turning on the TV

Disc information, such as in page 7, is displayed.

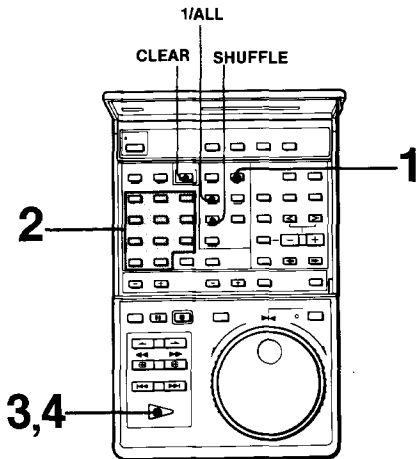
LDs without TOC

NO TOC will be displayed on the screen when AV TIME is pressed.



Auto Program Play

LD
with TOC
CDV
CD



Press DISPLAY to have information appear on the screen for ease of operation.

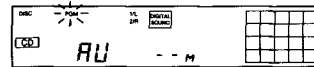
You can make two programs from a disc fit within a desired time length. The unit chooses the selections in the order that is recorded on the disc. When the chosen selection adds up to exceed the desired total program time, a selection with the playing time closest to the remaining time will be chosen.

Operation

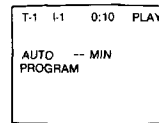
Example: To make a tape with a 30 minute recording on both sides.

1 Press AUTO PGM.

In the display window.



On the screen.

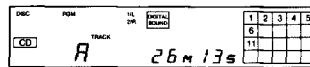


2 Press $+10 \rightarrow +10 \rightarrow +10 \rightarrow 0$ to enter the desired time length.

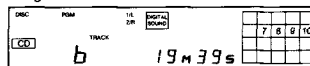
Chapter/selection number for Program A and Program B appears.

In the display window

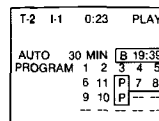
Program A



Program B $\downarrow \uparrow$ Appears alternately.



On the screen



Playing time for Program A and B alternately blinks.

P indicates the end of each program.

To change the time setting

Press AUTO PGM again and enter the correct numbers.

To cancel auto program play

Press CLEAR, SHUFFLE, or 1/ALL and return to normal play. The auto program will not be erased unless you turn off the power or remove the disc.

If your disc has more than 19 chapters/selections
Up to 19 chapters/selections can be used in one auto program play operation.

If the time length set is shorter than any of the chapters/selections in the disc
The auto program play cannot be used.

3 Press \triangleright .

Playback of Program A starts and enters the pause mode at the end.

The program number disappears from the AV calendar after being playback.

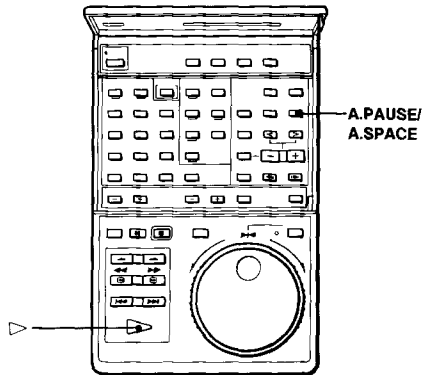
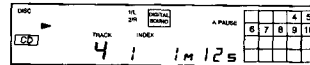
4 Set the tape to the beginning of side B and press \triangleright .

Playback of Program B starts and enters the stop mode at the end.

Auto Pause/Auto Space Play

To Pause after Playing Back One Chapter/Selection—Auto Pause

- 1 Before playback, press A. PAUSE/A. SPACE once.**
A.PAUSE is displayed in the display window.
- 2 Press ▷.**
The unit enters the pause mode after playing back one chapter/selection.
- 3 Press ▷ to playback the next chapter/selection.**



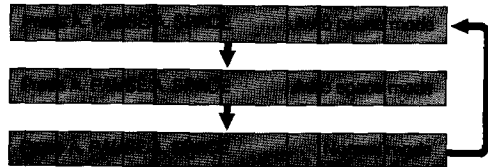
To Insert a Blank Space between Chapters/Selections—Auto Space

- 1 Before playback, press A. PAUSE/A. SPACE twice.**
A.SPACE is displayed in the display window.
- 2 Press ▷.**
A blank space of approximately 3 seconds will be inserted between each chapter/selection.



To cancel the auto pause/auto space function

One press of A. PAUSE/A. SPACE changes the player's status as shown below.



Marking an Index—Custom Index

LD
CDV
CD

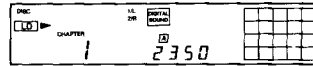
A custom index is a index code that can be marked on any position of the disc. By assigning an index on a disc, you can easily locate that position during playback. You can also repeat playback between the two indexes. On this unit, up to 6 custom indexes can be marked.

The INDEX button on the unit functions the same as the INDEX FILE button on the Commander and the FILE button on the unit functions the same as the INDEX MODE button on the Commander.

To Mark an Index

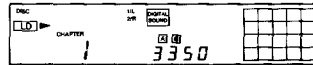
1 During play, press INDEX FILE.

[A] indicator lights in the display window and that point is stored in the memory.



2 Press INDEX FILE at the next desired point.

[B] indicator lights in the display window. By pressing the INDEX FILE, up to 6 indexes ([A] to [F]) can be marked.



To Change/Erase the Index Point

1 Press SEARCH/NEXT or BACK.

Press until the index indicator ([A] to [F]) that you want to change starts blinking.

2 Press CLEAR.

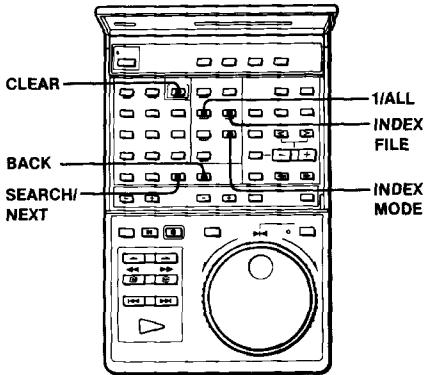
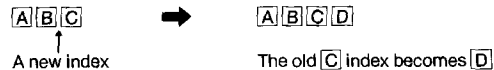
The index selected in step 1 is erased.

3 Press INDEX FILE at the correct point.

If a new custom index is marked in a position before another index

Already marked indexes will be shifted as follows.

Example: If you mark a new index between [B] and [C].

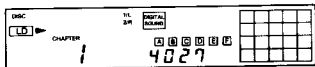


Marking an Index—Custom Index

Playing from the Desired Custom Index

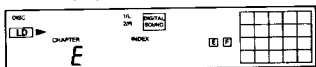
1 Press INDEX MODE.

The AV calendar disappears from the display window. Numeric buttons 1 to 6 now function as custom index buttons [A] to [F].

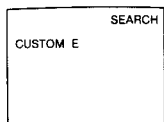


2 Select a custom index by pressing one of the custom index buttons [A] to [F].

In the display window.



On the screen.



To move to another custom index point

Press one of the custom index buttons [A] to [F]. Playback starts from that index point.

To resume normal play

Press INDEX MODE or CLEAR.

Playing between Two Custom Indexes

1 Press 1/ALL to light the SINGLE indicator in the display window.

2 Press INDEX MODE.

3 Press the custom index button [A] to [F] of the start point.

The portion between the custom index selected in step 3 and the next custom index will be played.

To resume normal play

Press CLEAR or INDEX MODE.

Repeating between Two Custom Indexes

1 Press 1/ALL to light the SINGLE indicator in the display window.

2 Press REPEAT so that the REPEAT indicator in the display window lights.

3 Press INDEX MODE.

4 Press the custom index button [A] to [F] of the start point.

The portion between the point selected in step 4 and the next index will be repeated.

To cancel repeat play between two indexes

Press REPEAT.

Custom index on a CDV disc

Custom index mark starts from the audio portion.

Playing in a Random Order—Shuffle Play

The chapters/selections on the disc can be played back in a random order.

Shuffling All the Chapters/ Selections

- 1 Press **SHUFFLE**.
- 2 Press **▷**.
After all of the chapters/selections of the disc are played back in a random order, playback stops.

To stop playing

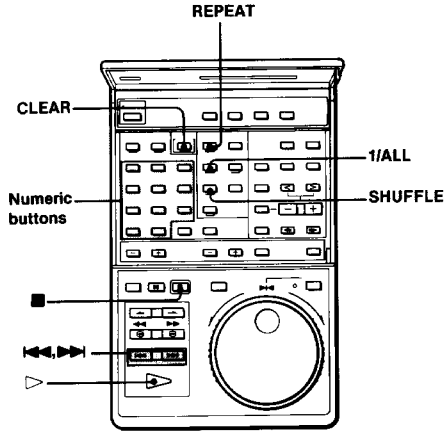
Press **■**.

To resume normal playback

Press **CLEAR** or **1/ALL**. Playback continues from the next chapter/selection in order.

To repeat shuffle play

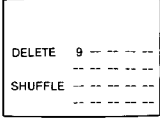
Press **REPEAT**.



To Play only the Desired Chapters/ Selections in a Random Order —Delete Shuffle

Delete the undesired chapters/selections before or during playback.

- 1 Press **SHUFFLE**.
- 2 Press the numeric button for the unwanted chapter/ selection.
The **DELETE SHUFFLE** indicator lights in the display window.
The chapter/selection being played back cannot be deleted.



- 3 Press **▷**.
The playback starts after the player selects the chapter/ selection to shuffle.

When delete shuffle ends

The player remains in the delete shuffle play mode.

To resume normal playback

Press **CLEAR** or **1/ALL**.

Shuffle play with LDs without TOC (Table of contents)
Shuffle play cannot be performed for LDs without TOC signals. "NO TOC" will be indicated on the screen.

When to press SHUFFLE
When starting playback by pushing in the disc tray, press the **SHUFFLE** button after the **PLAY** indicator in display window stops blinking. The shuffle function may not activate when **SHUFFLE** is pressed right after the disc table is closed.

To skip chapter/selections during shuffle play
Press **▶▶**. Press repeatedly to skip to successive chapters/selections. The player cannot return to the previous chapter/selection even when **◀◀** is pressed.

Shuffle play on CDV
All of the chapters/selections from the audio and video portion are played back in a random order.

Specifications

Type CD video system player
 Signal read-out Optical (laser beam reflection)
 Signal format EIA standards, NTSC color system
 Playing time

LD	CAV		
		30 cm (12 in) double-sided	60 minutes
		20 cm (8 in) double-sided	28 minutes
		20 cm (8 in) single-sided	14 minutes
	CLV	30 cm (12 in) double-sided	120 minutes
		20 cm (8 in) double-sided	40 minutes
		20 cm (8 in) single-sided	20 minutes
CD	12 cm (5 in) single-sided	74 minutes	
	8 cm (3 in) single-sided	20 minutes	
CDV	Audio portion	20 minutes	
	Video portion	5 minutes	

Digital Audio Specifications

Frequency response 4 Hz to 20 kHz (+ 0.5 dB/- 1.0 dB)
 Signal-to-noise ratio More than 107 dB (EIAJ) *
 Dynamic range More than 96 dB (EIAJ)
 Total harmonic distortion 0.003% or less (EIAJ, 1 kHz)
 Channel separation More than 100 dB (EIAJ)
 Wow and flutter Below + 0.001% W. PEAK (EIAJ)

Video Specifications

Horizontal resolution 425 lines
 Signal-to-noise ratio More than 46 dB
 Digital memory quantization 6 bits, 3 fsc (10.7 MHz)

Input and outputs

Video outputs (x 2) 1.0 Vp-p, 75 ohms, unbalanced, sync negative
 S video output Luminance: 1 Vp-p, 75 ohms, unbalanced, sync negative
 Chrominance: 0.286 Vp-p, 75 ohms, unbalanced
 Audio outputs (x 2) Digital audio: 200 mVrms (1 kHz, - 20 dB)
 Analog audio: 200 mVrms (1 kHz, 40% modulation)

OPTICAL DIGITAL OUT

Wave length 660 nm
 Output level -18 dBm

HEADPHONES out

28 mW (32 ohms), Impedance: More than 8 ohms

VHF/UHF IN/OUT 75 ohms, unbalanced
 Channel 3 or 4 (switchable)

CONTROL S IN Mini (1)
 CONTROL S OUT Mini (1)

* Measured according to EIAJ (Electronic Industries Association of Japan) standards.

General

Power requirements
 MDP-510: 120 V AC, 60 Hz
 MDP-722GX: 100 V/120 V/220 V/240 V AC selectable, 50 Hz/60 Hz
 Power consumption 42 W
 Dimensions Approx. 430 x 110 x 419 mm (w/h/d) (17 x 4³/₈ x 16¹/₂ inches)
 Weight MDP-510: Approx. 8.1 kg (17 lb 14 oz)
 MDP-722GX: Approx. 8.0 kg (17 lb 10 oz)
 Operating temperature + 5° C to + 35° C
 Ambient humidity 5 to 90%

Remote Commander—RMT-J722

Principle of operation Infrared pulse
 Power requirements 3 V DC (Two size R6 batteries)
 Dimensions Approx. 105 x 43 x 157 mm (w/h/d) (4¹/₄ x 1³/₄ x 6¹/₄ inches)
 Weight Approx. 260 g (9 oz) including batteries

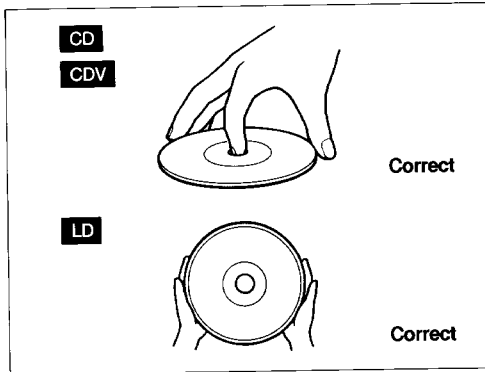
Accessories Supplied

Remote Commander RMT-J722 (1)
 Size R6 batteries (2)
 Antenna connector (MDP-722GX only) (1)
 Coaxial cable with F type connector (1)
 Video connecting cable (1 phono to 1 phono) (1)
 Audio connecting cable (2 phono to 2 phono) (1)
 AC plug adaptor (MDP-722GX only) (1)

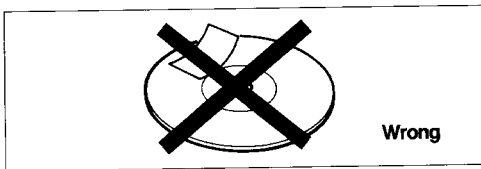
Design and specifications are subject to change without notice.

Notes on Disc Handling

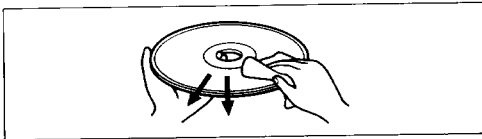
- Handle the disc by its edge. Do not touch the rainbow colored surface to keep the disc clean.



- Do not stick tape or paper on the labeled surface.

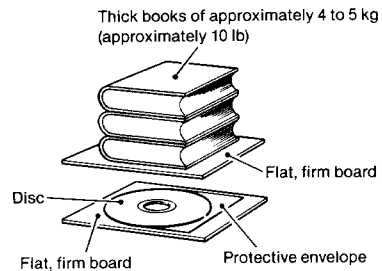


- Do not expose the disc to direct sunlight or heat sources such as hot air ducts. Do not leave the disc parked in direct sunlight where there can be a considerable rise in temperature.
- Before playing, clean the disc with the cleaning cloth. Wipe the disc from the center out.



- Do not use solvents such as benzene thinner, commercially available cleaners or anti-static spray used for analog discs.
- After playing, remove the disc from the player and place it to the jacket or the case. Store the disc up right vertically. Do not pile up the discs since the disc may be warped.

- Store the disc vertically and avoid locations subject to high temperature or humidity. If the disc becomes warped, the playback picture may be disturbed or the picture quality may be degraded. After playing a disc, always remove it from the player and return it to its jacket. Store it vertically in a location not subject to high temperature or humidity. If stored at an inclined position, or piled on top of each other, discs may become warped. If the discs become warped, refer to the following procedure.
 - 1) Put the disc into the protective envelope.
 - 2) Place a flat board on the disc.
 - 3) Load it with weights of approximately 4 to 5 kg (approx. 10 lb).
 - 4) Leave the disc in this state for 2 to 3 days. The warp could sometimes be alleviated.



Troubleshooting

Symptom	Points to check
No power	<ul style="list-style-type: none">• Power cord properly plugged into AC outlet?
Playback does not start when \triangleright is pressed.	<ul style="list-style-type: none">• Unit correctly plugged in ?• Disc inserted ?• Recording side facing upward ?
\blacktriangleright indicator lights, but no picture or sound is played back.	<ul style="list-style-type: none">• TV or monitor switched on ?• TV properly connected to the player ?• Input selector of TV, TV tuner, or monitor set to the required position ?
Poor picture or sound quality.	<ul style="list-style-type: none">• Proper channel selected for disc player playback on the TV ?• TV properly connected to the player ?• Any source of noise nearby ?• Disc dirty or scratched ?• Any condensation on player objective lens ?
No sound.	<ul style="list-style-type: none">• TV properly connected to the player ?• Volume control on TV, TV tuner, monitor, or amplifier set high enough ?• Playback performed at normal speed ? (The player will not output sound on speeds other than $\times 1$ speed playback.)
Remote Commander does not operate.	<ul style="list-style-type: none">• Player switched on?• Batteries correctly inserted ?• Batteries exhausted ?• Any obstacles between Remote Commander and the player sensor ?• Cord connected to CONTROL S jack?
Picture distorted during scan modes.	<ul style="list-style-type: none">• Picture distortion may occur depending upon the condition of the connected equipment.