

Panasonic

LD Auto Reverse
Multi Laser Disc Player

LX-600 ^U _{CA}
Operating Instructions




LASER DISC


COMPACT
disc
DIGITAL AUDIO

Before attempting to connect, operate or
adjust this product, please read these
instructions completely.

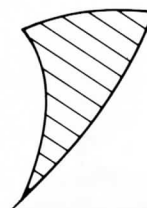
Dear Customer,

May we take this opportunity to thank you for purchasing this Panasonic Multi Laser Disc Player.

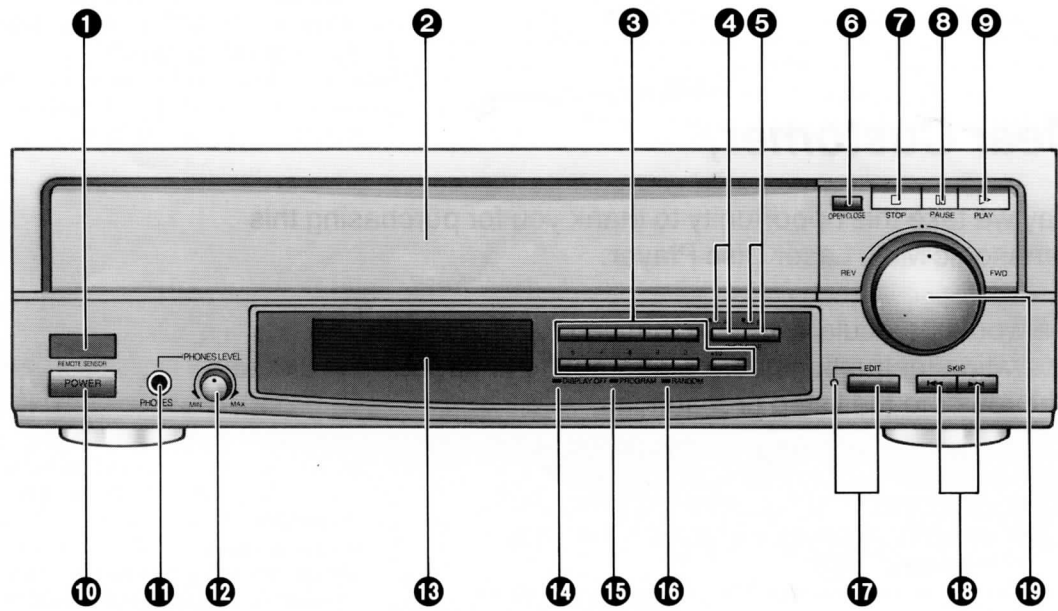
We would particularly advise that you carefully study the Operating Instructions before attempting to operate the unit and that you note the listed precautions.

HKmedia

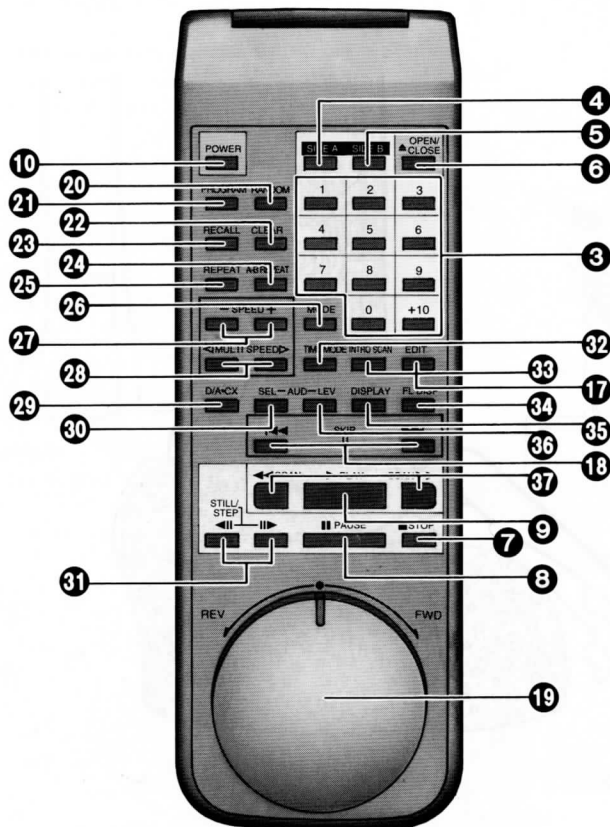
LPDB.com



Front Panel



Remote Controller



Note:

This unit can be used only where the power supply is AC 120 V, 50-60 Hz. It cannot be used elsewhere.

The model number and serial number of this product can be found on either the back or the bottom of the unit. Please note them in the space provided below and retain this booklet as a permanent record of your purchase to aid identification in the event of theft.

MODEL NUMBER _____
SERIAL NUMBER _____

CAUTION:

THIS PRODUCT UTILIZES A LASER. USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE. DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.



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 warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.



This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included. Therefore, it should be read carefully in order to avoid any problems.

CAUTION: MULTI LASER DISC PLAYERS USE INVISIBLE LASER BEAM WHICH COULD CAUSE HAZARDOUS RADIATION EXPOSURE IF DIRECTED. BE SURE TO OPERATE THE PLAYER CORRECTLY AS INSTRUCTED.

WARNING:

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD AND ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.

FCC NOTE: (U.S. Only)

This device complies with Part 15 of the FCC Rules. To assure continued compliance follow the attached installation and do not make any unauthorized modifications.

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 not 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: (Canada Only)

- TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.
- This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Accessory

Before you set up the unit, make sure that you have the following accessories.

- Infrared Remote Controller (With two ANSI "AA" size batteries)



- AC Power Cord



- Video Cord



- Audio Cord



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Controls And Indications

Front Panel

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Remote Controller

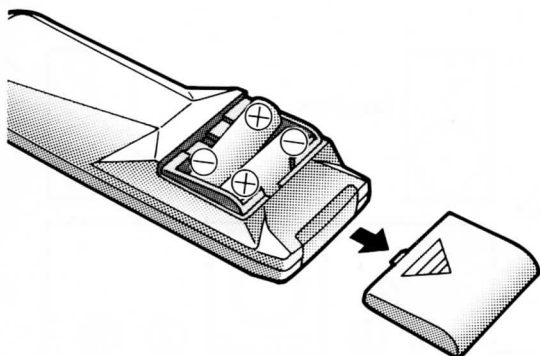
The following are special function buttons on only the Remote Controller.

No.	Name	Page
20	RANDOM Button	18
21	PROGRAM Button	21
22	CLEAR Button	15
23	RECALL Button	22
24	A-B REPEAT Button	18, 23
25	REPEAT Button	23
26	MODE Button	15
27	SPEED Buttons	17
28	MULTI SPEED Buttons	17
29	D/A • CX Button	26
30	AUDIO SELECT Button	26
31	STILL/STEP (Advance and Reverse) Buttons	17
32	TIME MODE Button	29
33	INTRO SCAN Button	16
34	FL DISPLAY Button	27
35	DISPLAY Button	28
36	AUDIO LEVEL Button	29
37	SCAN Button (REV) (FWD)	16

*These buttons are on both the Player and the Remote Controller.

Infrared Remote Controller

Battery Loading



Remove the Battery Case Cover by pushing it in the direction of the arrow as shown above and load the batteries with their polarities (+ and -) aligned correctly.

■ Notes for Battery Use

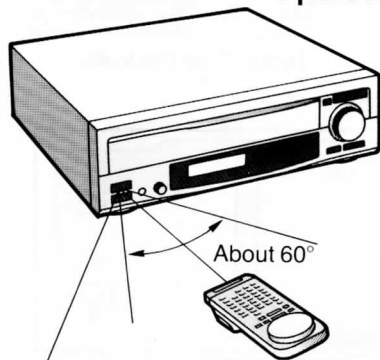
- Do not use rechargeable batteries (i.e. nickel cadmium—NiCad batteries).
- Do not mix new and old batteries, or different brands of batteries.
- Do not try to recharge or short-circuit the batteries.
- Do not break batteries open, heat them or incinerate them.
- Remove batteries when this unit is not in use for long periods of time.
- Should the battery electrolytes leak, clean and wipe the Battery Case and load new batteries.

■ Battery Life (When to exchange batteries)

Exchange the batteries with new ones about every 6 months. However, battery life depends on the frequency of use or the selected operation mode.

- Use ANSI "AA" size batteries.

Remote Controller Operation



Remote Sensor
(Remote Control Receiver)

- Point the Remote Controller at the Remote Sensor (Remote Control Receiver) within about 7 m and within about 30° from the front of the Player. (The operating distance varies with the room brightness.)

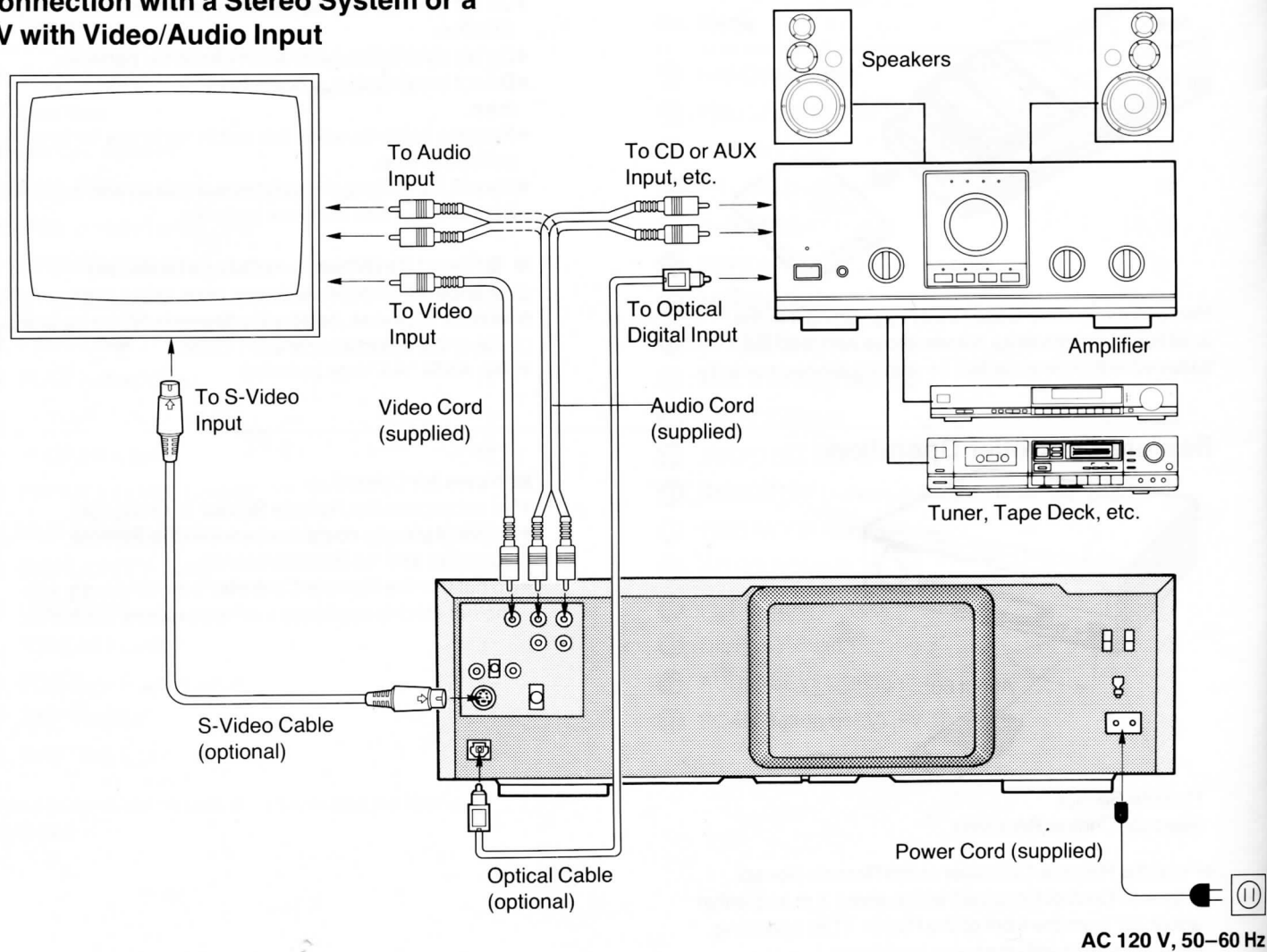
■ Notes for Operation

- Do not expose the Remote Sensor to strong light.
- Do not place any obstacles between the Remote Controller and the Remote Sensor.
- Do not use the Remote Controller simultaneously with another electric appliance's infrared remote controller.

Connection

Carefully read the user's manual of appliances to be connected to this unit.

Connection with a Stereo System or a TV with Video/Audio Input



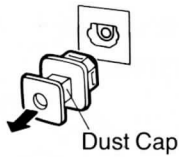
● Be especially careful not to raise the amplifier's volume so as to prevent the appliance's speakers being damaged.

Notes:

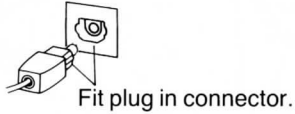
- Use the S-Video Cable (optional) when connecting the unit to a TV with an S-Video Input Connector.
- Use the Optical Cable (optional) when connecting the unit to a stereophonic amplifier with an Optical Digital Connector.

How to connect with Optical Cable

(1) Remove the dust cap from the connector.



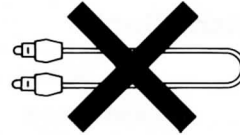
(2) Connect the cable.



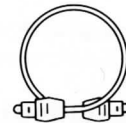
- This connector can be used only for the digital audio output, not for the analog audio output.
- The digital audio channel cannot be selected with AUDIO SELECT **30** Button.

Optical Cable (optional)

- Use an optical cable with the length of less than 3 m.
- Do not bend the optical cable.



- If you roll the optical cable for storage, make sure that the internal diameter of the loops is greater than 15 cm.



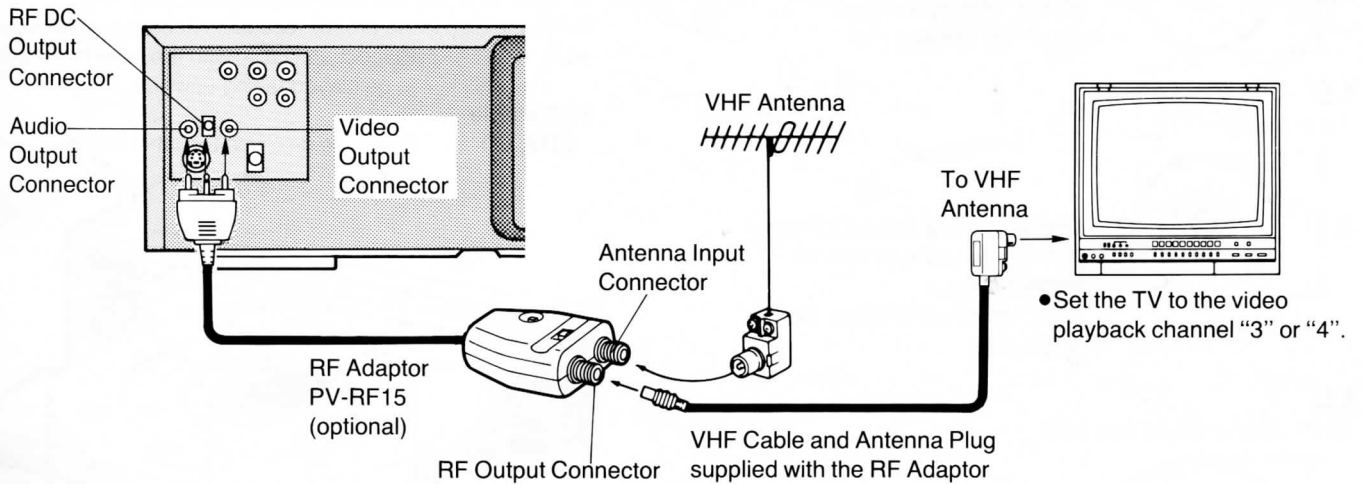
- Be especially careful not to scratch the plugs of the optical cable or leave it dusty.
- If the plugs become dusty, wipe them with a soft cloth before connecting.

To Make Connection with a TV not having Video/Audio Input Connectors

Use an optional RF Adaptor PV-RF15.

(See the RF Adaptor operating instructions.)

The playback audio is mono.



The Disc

Discs that can be played back

The unit can play back the following 6 kinds of laser discs without having to use any adaptor.

CD (Compact Disc) Single

[Single side only]



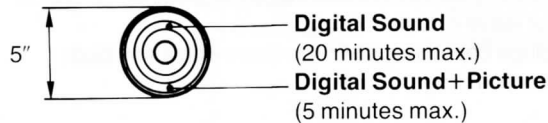
CD

[Single side only]



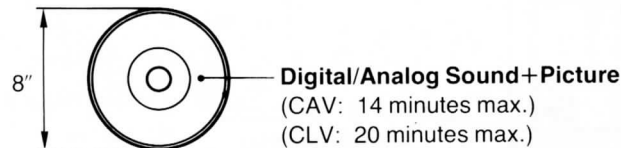
CDV (Compact Disc-Video)

[Single side only]



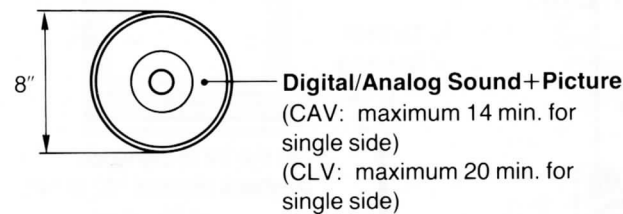
LD (Laser Disc) Single

[Single side only]



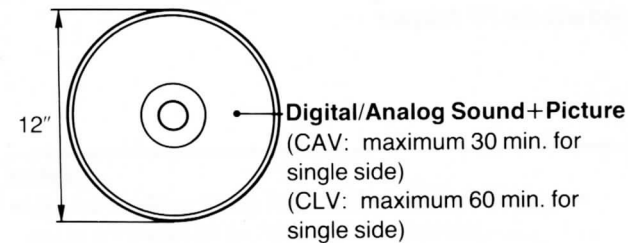
LD

[Both sides]



LD

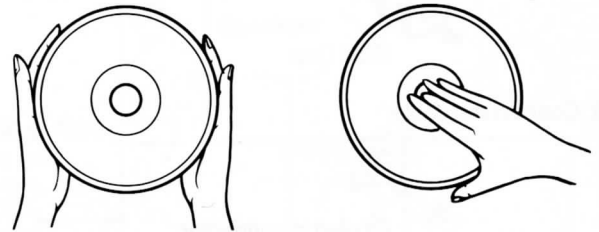
[Both sides or single side only]



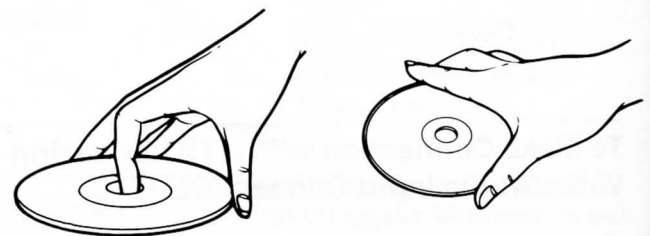
Handling the Disc

How to hold the Disc

- Hold the disc so that the disc's surface is not touched.
- LD (12")/LD, LD Single (8") Discs



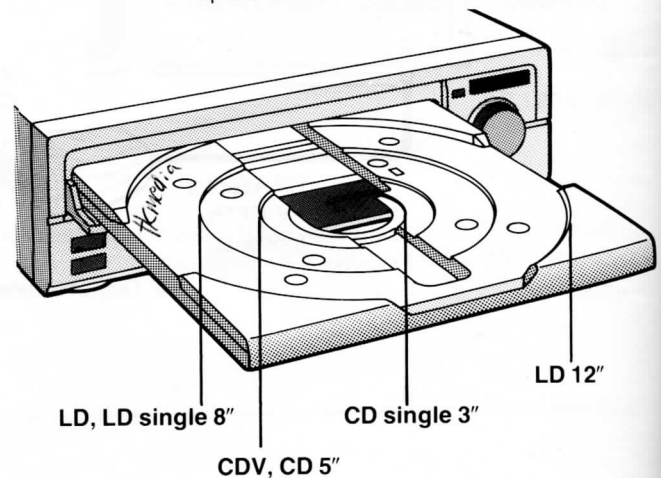
- CDV, CD (5")/CD Single (3") Discs



How to place the Disc on the Disc Tray

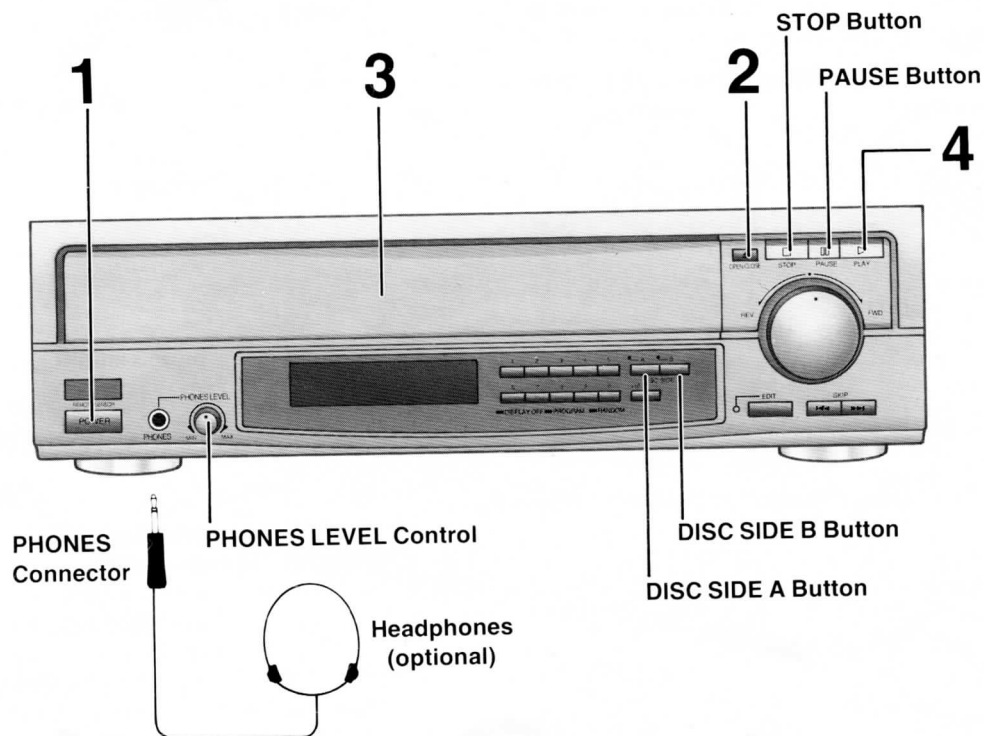
Place the disc in the proper recession according to its size.

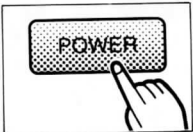
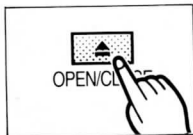

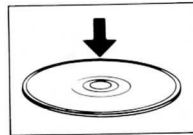
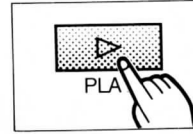
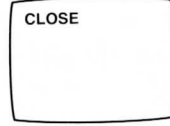
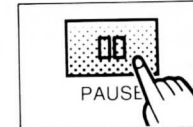
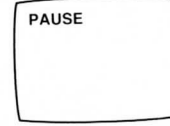
- LD Place the LD disc with the label of the side to be played facing upward.
- LD single, CDV, CD Place the disc with the label facing upward.



Operations

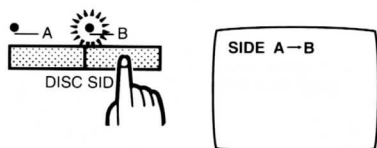
Playback



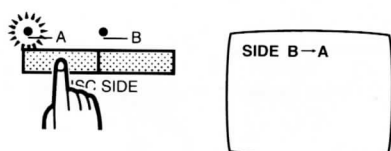
Operation	Display	Procedure
1 		Press POWER 10 Button.
2 		Press OPEN/CLOSE 6 Button.
3 		Insert the disc.
4 		Press PLAY 9 Button.
■ To stop Playback Press STOP 7 Button.		
■ To interrupt the Playback Temporarily		
		Press PAUSE 8 Button. ● Press PAUSE Button again to playback.

To change Side of the Disc [LD]

The title label side is called Side A and the opposite side is Side B. The explanations in this manual are based on a disc being placed in the Disc Tray with the title label side (Side A) upwards.

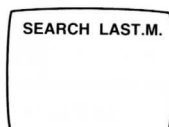


During Playback,
To play back Side B
Press **SIDE B ⑤ Button**.



To select Side A during Side B playback
Press **SIDE A ④ Button**.

Last Memory Function [LD]



When you press **STOP ⑦ Button** during the playback of an LD, the unit memorizes the point where the playback was stopped. If you press **PLAY ③ Button** in the stop mode, playback starts a little before the stop point of the previous playback. If any operation other than playback is performed in the stop mode, the Last Memory Function is cancelled. Removing the LD from the unit also cancels this function.

- This function does not work during Program Playback, Repeat Playback and Random Playback.

PHONES ⑪ Connector

You can listen to bilingual or stereophonic sound by connecting your headphone to this connector.

- The volume level can be adjusted with **PHONES LEVEL**

⑫ Control.

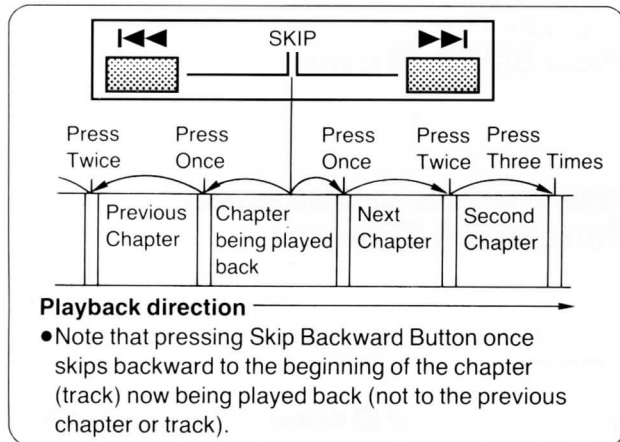
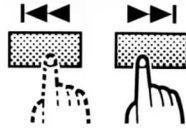
- Avoid listening with your headphones for an extended time at a loud volume as it may affect your hearing.

Notes:

- During playback, do not tilt or lift the unit, or subject it to strong impact.
- Do not open the Disc Tray with your hand.
- Strong pressure or impact should not be given to the opened Disc Tray, this will damage the unit. Therefore, be especially careful not to leave the unit with the Disc Tray open.

Search Function

Chapter/Track Skip Function (How to perform skip playback)



During playback,
Press **SKIP (Forward or Backward) 18 Button**.

Chapter/Track Search Function (How to playback a disc from the desired chapter or track)

Example: To playback at the beginning of chapter (track) number 3;



■ **To playback a Chapter or Track Number of 10 or above**

■ **To playback the Beginning of the Desired Chapter on B Side**

Press **Numeric 3 Button "3"**.

- Chapter (track) 3 will be played back.
- If the display "CHAPTER" does not appear on the TV screen when an LD disc is loaded, press MODE Button on the Remote Controller to display "CHAPTER".
- If a wrong chapter (track) number is selected, press the correct Numeric Button again.

Use the "+10" Button.

Example: To access chapter 14;
Press "+10" → "4".
To access chapter 20;
Press "+10" → "+10" → "0"

Press **SIDE B Button** and then **Numeric Button**.

Notes for Chapter Skip and Search Functions (LD)

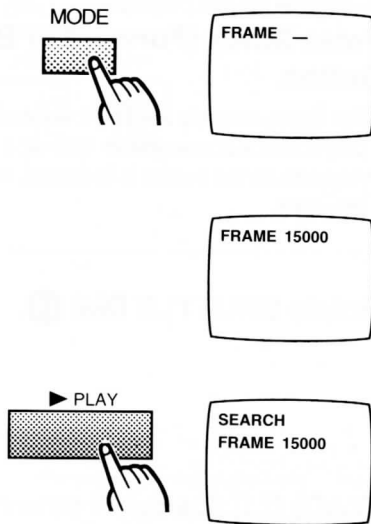
- These functions do not work with discs on which no chapters have been recorded.
- If the chapter number beyond the number of chapters recorded on an LD disc without a TOC signal is designated for Skip or Search playback, the segment a little before the end of the disc is played back.
- If no chapter number is designated by the Numeric Button after displaying the indication "CHAPTER" on the TV screen, the indication remains displayed until the Clear Button is pressed.

Note for Track Search Function (CD, CDV or LD with a TOC signal)

If a chapter (track) number unrecorded on a disc is designated, the message "ERROR" flashes on and off on the TV screen, and the indication "E" on the unit's Multi-Function Display. The Track Search function does not work.

Frame Search Function [LD (CAV)]

Example: To start playback from frame number 15000



1 Press **MODE** (26) Button during playback.

- Press this button until the display "FRAME" appears on the TV screen.
- This step is not necessary for a disc on which no chapters have been recorded.

2 Press **Numeric** (3) Buttons

"1" → "5" → "0" → "0" → "0".

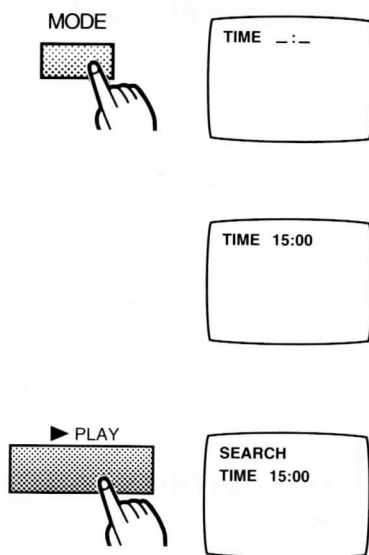
- If you press a wrong Numeric Button, press **CLEAR** (22) Button and then the correct Numeric Button.

3 Press **PLAY** (9) Button.

- Playback starts from the designated frame.
- If you perform Frame Search during Still playback, the designated frame will also be played back in the still picture.

Time Search Function [LD (CLV)]

Example: To start playback at the position "15 minutes 00 seconds" from the beginning of the disc



1 Press **MODE** (26) Button during playback.

- Press the button until the display "TIME" appears on the TV screen.
- This step is not necessary for a disc on which no chapters have been recorded.

2 Press **Numeric** (3) Buttons

"1" → "5" → "0" → "0".

- If you press a wrong Numeric Button, press **CLEAR** (22) Button and then the correct Numeric Button.

3 Press **PLAY** (9) Button.

- Playback starts from the designated time number.

Notes:

- If a double-faced LD is used, you can designate the desired frame number on the reverse side by pressing **SIDE A** or **SIDE B** Button to start playback of the reverse side and designate the frame number.
- If an unrecorded frame number is designated, the segment a little before the end of the disc is played back.

- If a disc has time numbers recorded only in minutes, playback starts from the beginning of the designated minute even if the seconds are designated.
- If a double-faced LD is used, you can designate the desired time number on the reverse side by pressing **SIDE A** or **SIDE B** Button to start playback of the reverse side and designate the time number.
- If an unrecorded time number is designated, the segment a little before the end of the disc is played back.

Various Playback

Forward (Backward) Playback

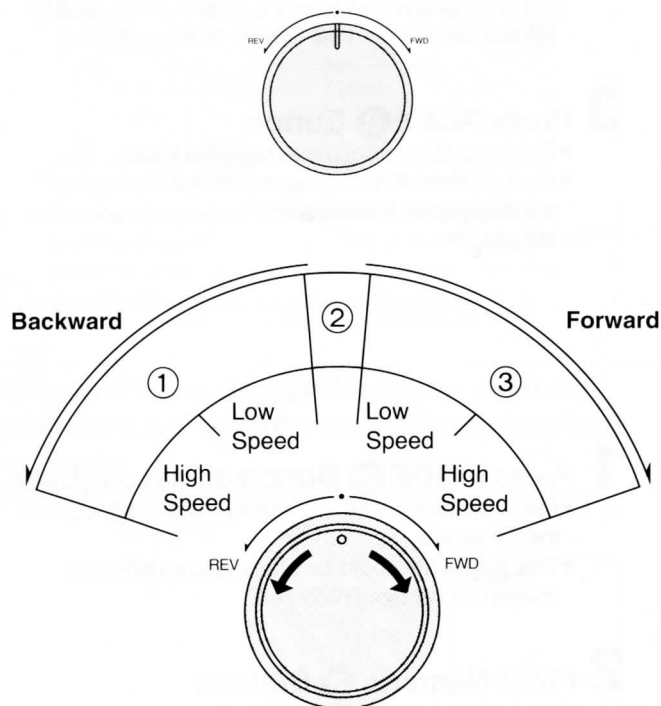
- During Forward (Backward) Playback no sound can be heard in the LD and video part of a CDV disc.
- On CDV discs, Forward (Backward) playback is not possible across the video part and audio part.

During the normal playback,

Press **SCAN (Forward or Backward) 37 Button**.

- For approximately the first 2 seconds, the picture will be played back at low speed, then at a faster speed.
- As soon as the button is released, normal playback resumes.

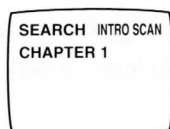
Playback Using the Shuttle Dial



Rotate **SHUTTLE Dial 19**.

- ① **Backward Playback**
- ② **Playback**
- ③ **Forward Playback**

Intro Scan Playback [LD] [CD]



The beginning of each chapter/track (tune) will be played back in succession for approx. 10 seconds each.

- 1** In the Stop mode, Press **INTRO SCAN 33 Button**.
 - Intro Scan will start.
- 2** When the desired frame (the desired tune) is reached, Press **PLAY 9 Button**.
 - Normal playback will start.

Note:

No audio is reproduced during the various playback even if SHUTTLE Dial is set to the Normal Playback position.

Notes:

- When pressing SCAN Buttons, MULTI SPEED Button, EDIT Button, RANDOM Button, A-B REPEAT Button or REPEAT Button, during Intro Scan Playback, the Intro Scan mode will be cancelled.
- With an LD disc, after scanning all chapters on the disc, the unit will then return to the beginning of the disc and switch over to normal playback.

- In case of an LD (CLV) disc on which the seconds are not recorded, the playing time is not fixed.
- With a disc that has no chapter numbers, the beginning of the disc will be played back for approx. 10 seconds, and the Multi Laser Disc Player will then return to the beginning of the disc and switch over to normal playback.
- With a CD disc, after scanning all tracks (tunes) on the disc, the unit will return to the beginning of the disc and switch over to normal playback.

Still Playback [LD (CAV)]



Note:

Still playback cannot be performed on a CLV disc.

During the normal playback,

Press **STILL/STEP (Advance or Reverse) 31 Button**.

■ To resume the Normal Playback

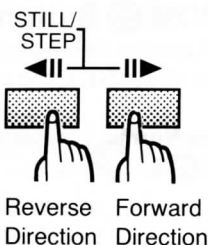
Press **PLAY 9 Button** again.

■ The Disc with the Automatic Picture Stop Function

If a disc on which a special signal "Picture Stop Code" has been recorded is played back the still playback is automatically performed at the frame designated by the code.

If a series of still pictures are recorded on that disc following the point marked with the Picture Stop Code, these still pictures can be advanced or reversed frame by frame with STILL/STEP Advance or Reverse Button. Press **PLAY 9 Button** to resume the normal playback.

Still Advance/Reverse Playback [LD (CAV)]



During the still playback,

Press **STILL/STEP (Advance or Reverse) 31 Button**.

- Each time pressing advances or reverses the still picture.
- Button is kept depressed the still picture advances or reverses one frame per second. (The indication "1/30" appears.)

■ To resume the Normal Playback

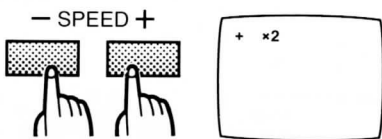
Press **PLAY 9 Button**.

Note:

Still Advance/Reverse Playback cannot be performed on a CLV disc.

Multi-Speed Playback [LD (CAV)]

To change the Playback Speed



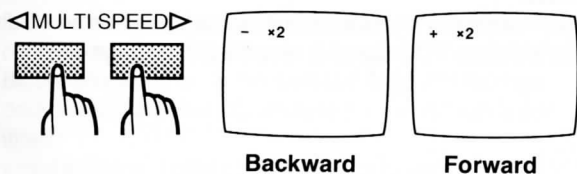
During playback,

Press **SPEED - or + 27 Button**.

- Each time it is pressed, the playback speed changes.

On Screen Display	Description
×3	3 times normal playback speed
×2	2 times normal playback speed
×1	Normal playback speed
1/2	Playback of 15 frames/sec.
1/4	Playback of about 8 frames/sec.
1/8	Playback of about 4 frames/sec.
1/16	Playback of about 2 frames/sec.
1/30	Playback of 1 frame/sec.
1/60	Playback of 1 frame every 2 seconds
1/90	Playback of 1 frame every 3 seconds

To change the Playback Direction



Press **MULTI SPEED 28 ◀ (backward direction) or ▶ (forward direction) Button**.

- These buttons enable you to change the direction of the playback whose speed is adjusted with SPEED - or + 27 Button, i.e. from forward direction to backward direction and vice versa in one of the ten playback modes described above.

Note:

Multi-Speed Playback cannot be performed on a CLV disc.

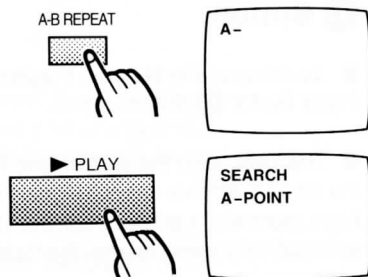
■ To resume the Normal Playback

Press **PLAY 9 Button**.


Various Playback (continued)


Custom Index Playback

You can memorize a desired segment into the unit.



1 During playback,
Press **A-B REPEAT**  Button.

2 Press **PLAY**  Button.
• The playback starts from the point where A-B REPEAT  Button was pressed.

■ **To resume the normal playback**
Press **A-B REPEAT**  Button twice.

Random Playback

You can play back a disc in a random order.



During playback or in the stop mode,
Press **RANDOM**  Button.

- The RANDOM Lamp on the unit lights up.
- After all music is played back, the unit stops.

■ **To resume the Normal Playback**
Press **RANDOM**  Button again.

Notes for Custom Index Playback:

- The Custom Index Playback is released when the operation buttons except PLAY, PAUSE are pressed or SHUTTLE Dial is rotated.
- This playback cannot be performed across the video and audio parts.
- This playback cannot be performed during Random Playback and Program Playback.

Note:

The Random Playback cannot be performed on an LD disc on which no TOC signal is recorded. (See page 31.)

Edit Playback

Normal Edit Playback [LD] [CD]

Example: How to edit onto a 46 minutes tape.

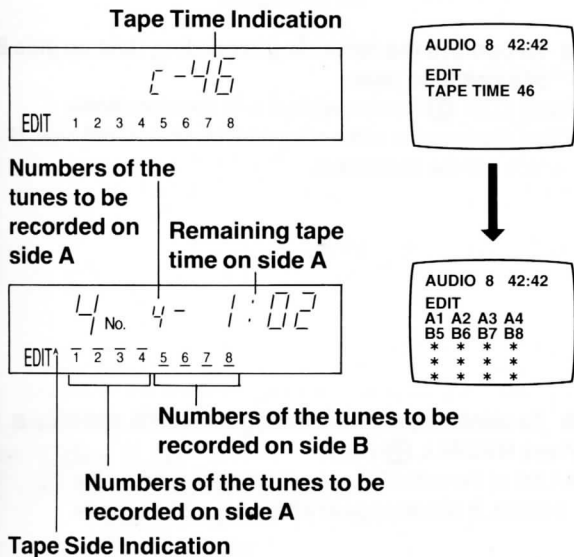


1 Press **EDIT** Button.

2 Press **Numeric** Buttons "4", "6",

- It is possible to edit up to 20 tunes.
- It is possible to specify a recording time of up to 99 minutes.
- If you press a wrong Numeric Button, press STOP Button, first press EDIT Button again, then input the correct tape time with Numeric Button.

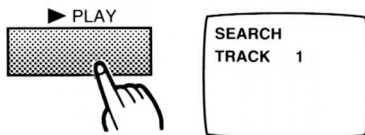
After specifying, it divides automatically the tunes to be dubbed onto side A and B of the cassette tape.



3 Use a cassette tape as specified above and put the tape deck into the recording mode.

4 Press **PLAY** Button.

- Lights up during Edit Playback.
- Editing on side A will start.
- When the editing is finished on side A, this unit will be put in the pause mode at the start of the first tune to be edited onto side B of the tape.

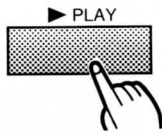


Preparation

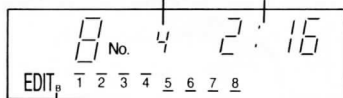
1. Prepare the audio equipment. For the necessary connections, see page 8.
2. Before you insert an audio cassette tape into the tape deck, make sure that the erasure prevention tab is still intact.
3. Insert a disc and press STOP Button to put this unit into the stop mode.

- Notes:**
- During editing, all operation buttons except the OPEN/ CLOSE (Play) Button, STOP Button, DISPLAY Button, TIME MODE Button, AUDIO LEVEL INDICATION Button and RECALL Button, FL DISPLAY Button are non-operational.
 - When half of the specified tape time (23 minutes in case of a 46-minute tape) is shorter than the first tune on the disc, that tune will not be included in the editing calculation. In this case, specify and use a longer tape.
 - The Edit Playback cannot be on a LD disc on which no TOC signal is recorded. (See page 31.)

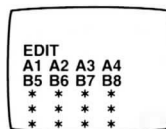
Edit Playback (continued)



Numbers of tunes to be recorded on side B Remaining tape time on side B



Tape Side Indication



5 Prepare side B of the tape and put the tape deck into the recording mode.

6 Press **PLAY** Button.

- Editing on side B will start.
- When the editing is finished on side B, this unit will switch over to the stop mode. When **STOP** Button is then pressed again, the editing mode will be cancelled.

■ **To stop the editing midway**
Press **STOP** Button.

■ **To confirm the remaining recording time on side B of a cassette tape**

Press **EDIT** Button, while it is in the stop mode.

- This displays the remaining time on side A and side, B which can be confirmed.

■ **To confirm the tunes edited on side A and side B**
Press **RECALL** Button.

- A list of the edited tunes will be displayed on the TV screen. It will disappear after about 20 seconds.

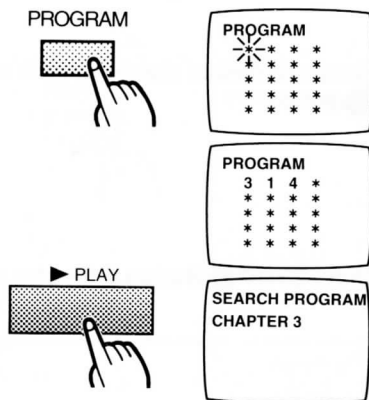
Notes:

- The Edit Playback cannot be performed on a LD disc on which no TOC signal is recorded. (See page 31.)
- The Edit Playback cannot be performed on a Chapter "0" of LD disc.

Programmed Playback

To playback chapters or tracks in a user-specified order:

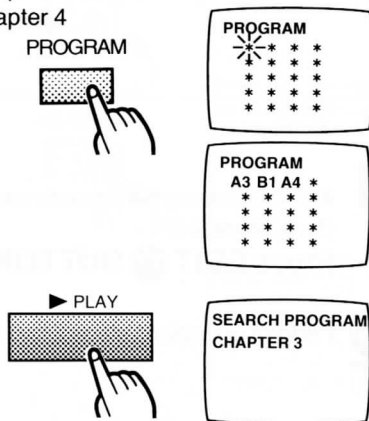
Example: to playback the disc in the order chapter (or track) 3→1→4.



- 1** During playback or in the stop mode, Press **PROGRAM** **(2)** Button.
 - 2** Press **Numeric** **(3)** Buttons “3”, “1” and “4”.
 - Up to 20 chapters (tracks) can be programmed in sequence.
 - The disc side indication “A” and the chapter number are displayed automatically when an LD is used.
 - 3** Press **PLAY** **(9)** Button.
 - The PROGRAM Lamp lights up and the Program playback starts.
 - After all programmed chapters (or tracks) are played back, the unit is put into the stop mode and the programming display appears on the TV screen.
- **To stop the Program Playback**
Press **STOP** **(7)** Button.
- **To resume the normal playback**
Press **PROGRAM** **(2)** Button during the Program playback.

To perform the Program Playback on both sides [LD]

Example: To play back in the order of
 Side A Chapter 3
 → Side B Chapter 1
 → Side A Chapter 4



- 1** Press **PROGRAM** **(2)** Button during playback or in the stop mode.
- 2** Press **SIDE A** **(4)** (or **SIDE B** **(5)**) Button and then **Numeric** **(3)** Button.
SIDE A → “3”
SIDE B → “1”
SIDE A → “4”
- 3** Press **PLAY** **(9)** Button.

Notes:

- If the number of programmed chapters (or tracks) is beyond 20, the indication “-F” blinks on Multi-Function Display and the indication “FULL” on the TV screen. No further programming is possible.
- The chapter or track number on Side A or B being played back is displayed on the Chapter/Track Number Indicators section of the Multi-Function Display.
- If you press a wrong Numeric Button, press CLEAR Button and then the correct Numeric Button.

- When a chapter on SIDE A is selected, the corresponding bar above the Chapter Number Indicators on the Multi-Function Display lights up. The bars below the Chapter Number Indicators are for selected chapters on Disc B.

Programmed Playback (continued)

To delete the Programmed Chapters/Tracks
(Programmed chapters/tracks can be deleted individually.)

LDDB.COM

To add Programmed Chapters or Tracks
(New programmed chapters or tracks are added to the last one.)

To cancel the Program Playback
(all programmed chapters or tracks)

1. Press **RECALL** **(23)** Button until the chapter or track number to be deleted blinks.
2. Press **CLEAR** **(22)** Button.

Select the desired chapter or track number with Numeric **(3)** Button.

Press **STOP** **(7)** Button in the stop mode.

Program Skip Function

To skip chapters or tracks during Program Playback

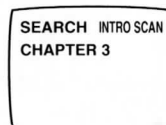


Press **SKIP (Forward or Backward)** **(18)** Button.

- Note that pressing SKIP Backward Button once skips backward to the beginning of the chapter (track) now being played back (not to the previous one).

Program Intro Scan [LD] [CD]

The beginning of each programmed chapter/track (tune) will be played back in the programmed order for approx. 10 seconds each.



- 1 With this unit in the stop mode, perform the programming steps (1–2) on page 21, and then, Press **INTRO SCAN** **(33)** Button.

- 2 When the desired scene (tune) is reached, Press **PLAY** **(9)** Button.
 - Normal program playback will start.

Program Edit Playback [CD]

Editing tracks onto an audio cassette in the programmed order.
It is possible to edit up to 20 programs.

- 1 After performing the procedures for Program Playback (1–2) on page 21, Press **EDIT** **(17)** BUTTON.

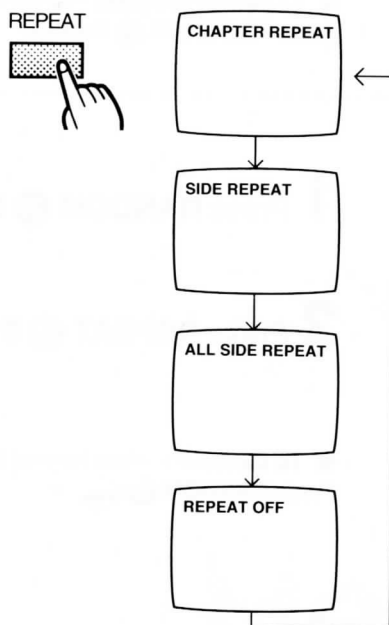
- 2 Perform operations steps 2 to 6 on page 19–20.

Note:

Program Skip cannot be performed if the indication "A—B" or "B—A" is displayed on the Multi-Function Display during Program Playback on both sides of an LD.

Repeat Playback

Chapter (Track)/Side/All Side Repeat:



During playback,

Press **REPEAT** Button.

- Each time this button is pressed, the display on the TV screen changes in the order shown in the diagram on the left.

To play back repeatedly the Chapter (track) now being played back.

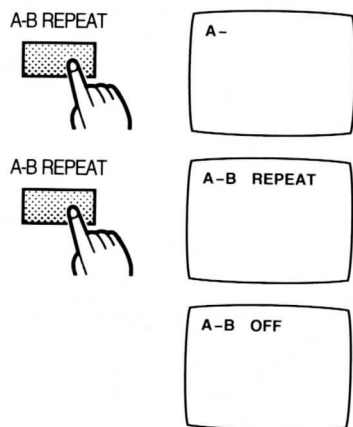
To play back repeatedly the Whole Side now being played back.

To play back repeatedly both Disc Sides.

- The function only works when a double-faced LD disc is used.

Repeat playback is cancelled.

Repeat Playback between Two Designated Points (A-B Repeat)



1 During playback, at the point where you wish to start Repeat playback, Press **A-B REPEAT** Button.

2 At the desired end point of the Repeat playback, Press **A-B REPEAT** Button again.
• Repeat playback between A and B starts.

■ **To cancel the A-B Repeat Playback**

Press **A-B REPEAT** Button to display the message "A-B OFF" on the TV screen.

Note: (Chapter Repeat)

When playing back an LD disc without chapter number, pressing the REPEAT Button starts Side Repeat playback. The Chapter Repeat playback cannot be performed.

Notes: (A-B Repeat)

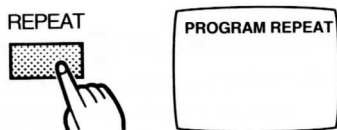
- A-B Repeat playback across both sides cannot be performed on an LD disc.
- Repeat playback on a CLV disc (long-play LD) is performed according to the time number recorded on the

disc. Therefore, if a CLV disc with time numbers recorded in minutes is used for Repeat playback, the designated start and end points (A and B) may not exactly match the actual Repeat playback start and end points. However, this is not a malfunction.

- On a CDV disc, A-B Repeat playback across both video and audio parts cannot be performed.
- A-B Repeat playback cannot be performed during Random playback.

Repeat Playback (continued)

Program Repeat Playback

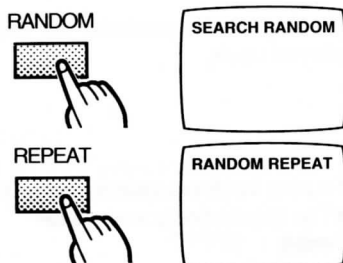


During Program playback,
Press **REPEAT** **25** Button.

- Refer to pages 21 and 22 for information on how to perform Program playback.

■ **To cancel Program Repeat Playback**
Press **PROGRAM** **21** Button.

Random Repeat Playback



1 Press **RANDOM** **20** Button.

2 Press **REPEAT** **25** Button.

■ **To cancel Random Repeat Playback**
Press **RANDOM** **20** Button.




Note:

Random Repeat playback cannot be performed on an LD disc without a TOC signal. (See page 31.)

Helpful Hints

Audio Channel Selection

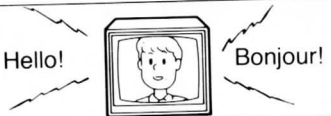


Discs with Stereophonic Sound

Audio Indication	Playback Sound
1/L 2/R	
1/L	
2/R	

Each time you press **AUDIO SELECT** (30) Button the sound changes as shown sound.

- 1/L 2/R Stereophonic sound
- 1/L Left channel audio through both speakers
- 2/R Right channel audio through both speakers

Discs with Bilingual Audio

Audio Indication	Playback Sound
1/L 2/R	
1/L	
2/R	

Each time you press **AUDIO SELECT** (30) Button the sound changes as shown sound.

- 1/L 2/R Main voice through left channel and sub-voice through the right channel
- 1/L Main voice through both speakers
- 2/R Sub-voice through both speakers

Discs with Digital Audio [LD]

digital
AUDIO SOUND

Digital audio discs bear the marks shown at left.

You can select digital or analog audio which is output from the Audio Output Connectors on the rear panel by pressing **D/A • CX** (29) Button. (The indication "D. SOUND" appears on the Multi-Function Display while the digital sound is played back.)

The digital sound is always selected after POWER is on.

Notes:


- Since digital audio and analog audio have been recorded at different levels on some discs, the playback volume changes when **D/A • CX** (29) Button is pressed to select digital or analog audio.
- Depending on the disc used, each push of the **D/A • CX** (29) Button will change the indication on a TV screen in the following sequence.


→ **DIGITAL** → **CX ON** → **CX OFF** →

"CX ON" and "CX OFF" indicates that the analog sound system is activated or deactivated.


Disc Bearing CX Mark [LD]




Discs bearing  mark have an automatic CX noise reduction system for powerful reproduction with minimum noise.

If the CX noise reduction system does not function automatically during playback of a disc bearing the  mark, press **D/A • CX** (29) Button to display the indication "CX ON" on the TV screen.

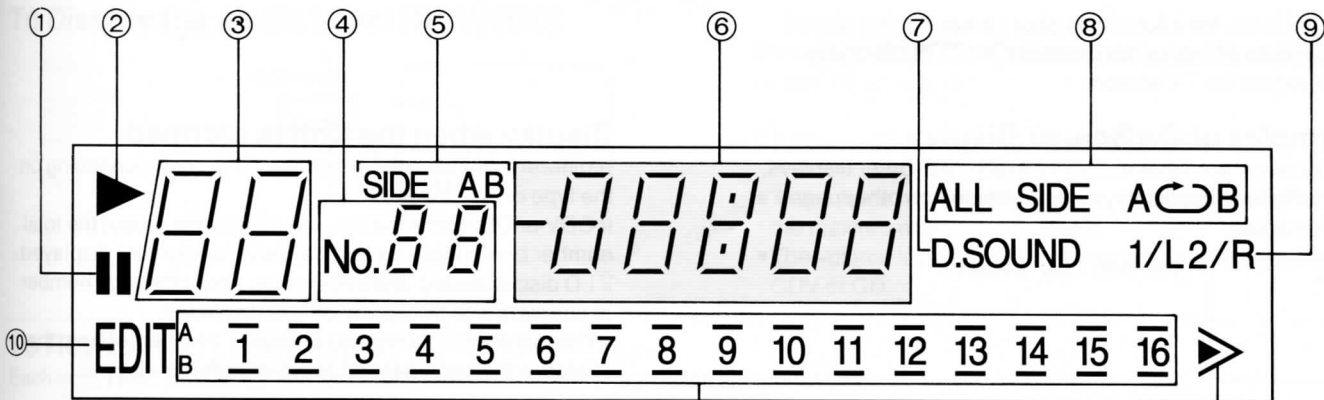
Note:

If a disc without the  mark is played back in the CX ON mode, the sound quality is inferior.

 is a trademark of CBS Corporation.

This unit conforms with the extended specifications for the CX system.

Multi-Function Display



The Multi-Function Display 13 indicator lights or blinks corresponding to the operation mode.

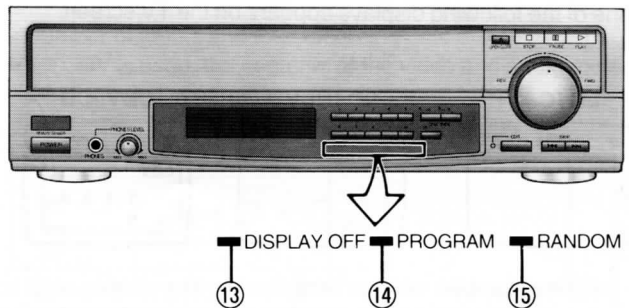
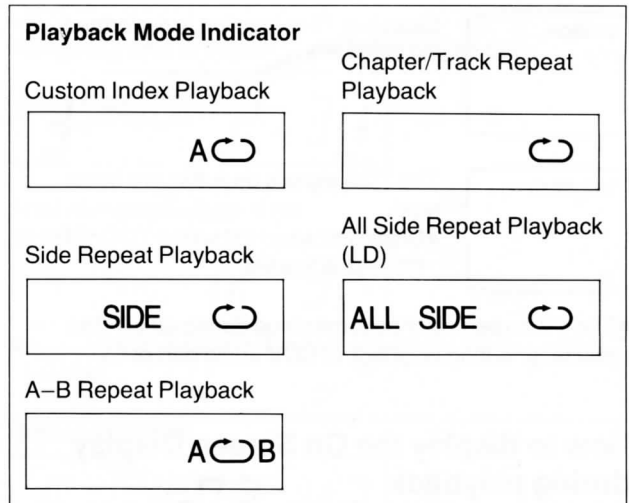
The illustration below shows all possible indicators.

- 1 **Pause Indicator**
- 2 **Playback Indicator (for all playback)**
- 3 **Chapter/Track Number**
- 4 **Program/Index Number**
- 5 **Disc Side Indicator (for LD only)**
- 6 **Frame/Time Number and Display of Messages**
 - Refer below for further information on the message display.
- 7 **Digital Sound Output Indicator**
- 8 **Playback Mode Indicator**
 - See right diagram.
- 9 **Audio Channel Indicators**
- 10 **Edit Indicator**
- 11 **Chapter/Track Number Indicators**
 - When an LD without a TOC Signal is used, one of the bars above and below the numbers is lit.
 - However, no indicator is lit if a disc without chapter numbers is used.
 - When a CDV, a CD or an LD with a TOC signal is used, first all bars are lit and the bars go out one by one as the corresponding playback is finished.
 - During the Program playback of a double-faced LD, the bars beyond the Chapter Number indicators indicate the programmed chapters on Disc A. The bars below indicate the programmed chapters on Disc B.
 - If an LD with the chapter number "0" is used, this number cannot be displayed.
- 12 **Over Mark**
 - If a disc with more than 17 recorded chapters or tracks, is used, the indication ">" is lit. If the 17th or the subsequent chapter or track is played back, the ">" is lit.

□ The shaded area of the display is for messages. Their meanings are:

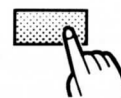
- [OPEN] The Disc Tray is open.
- [CLOSE] The Disc Tray is being closed.
- [OFF] The power is off.
- [PLAY] The playback starts (only for LD).
- [A---B] Side A is changed with Side B (only for LD).
- [B---A] Side B is changed with Side A (only for LD).

- 13 **DISPLAY OFF Lamp**
- 14 **PROGRAM Lamp**
 - Lights up during Program Playback or Program Repeat Playback.
- 15 **RANDOM Lamp**
 - Lights up during Random Playback or Random Repeat Playback.



To Turn Off the Multi-Function Display

FL DISP



Press **FL DISPLAY 34** Button.

•The Multi-Function Display is turned off and the DISPLAY OFF Lamp on the unit lights up.

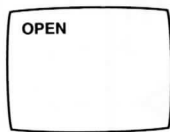
■ **To resume the normal state**
Press **FL DISPLAY 34** Button again.

On Screen Display

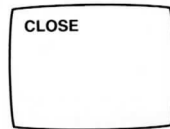
If the TV is on, the information about a track being played back, elapsed time, or the operation mode of the unit is displayed on the TV screen.

Examples of On Screen Display

The following are several display examples. Other displays, e.g. audio function displays, are explained on other pages in this manual.



The Disc Tray is open.



Closing Disc Tray.



Search or Skip function is performed.



The TOC signals on a disc are being read.
 •Displayed when LD with a TOC, CDV or CD disc is loaded.

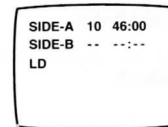
- The TV screen color becomes blue during an LD disc pause, or during playback of CDV audio part or CD.

Display when the Unit is stopped

A different display appears on the TV screen depending on the type of disc loaded.

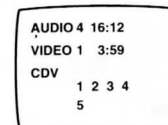
If CDV or CD disc is loaded, the information about the total number of recorded tracks and their duration are displayed. If LD disc is loaded, the information about the total number of chapters and their duration are displayed.

- The displayed information may be a bit different from that listed in the explanations supplied with the disc.

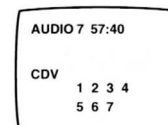


LD with a TOC Signal

(No display appears if a disc without a TOC signal is loaded)




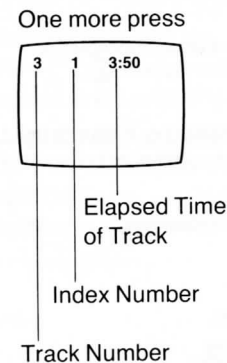
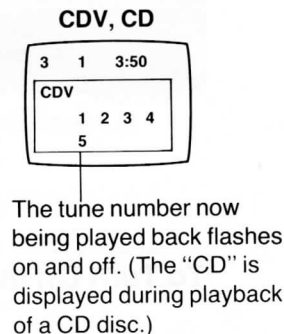
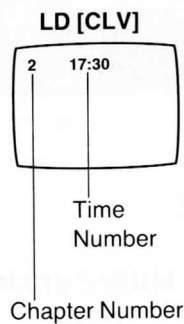
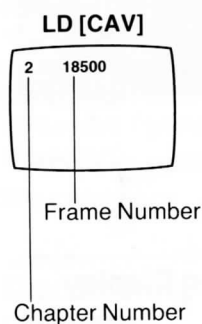
CDV



CD

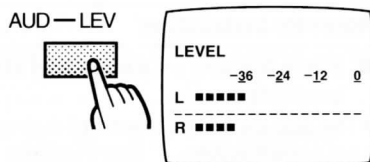
How to display the On Screen Display during playback

Press **DISPLAY (On Screen Indication)**  Button, and one of the following displays appears on the TV screen.



- When playing back a CLV disc with no seconds recorded, only the minutes are displayed (e.g. "17: ").
- When playing back a disc on which no chapter numbers have been recorded, no chapter number is displayed.

To Display the Audio Level [CDV] [CD]



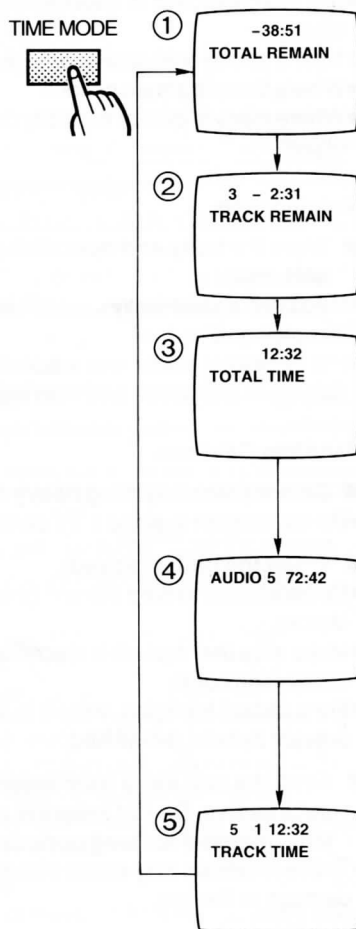
Press **AUDIO LEVEL** **(45)** Button to display the audio level on the TV screen.

If it is pressed again, the audio level disappears.

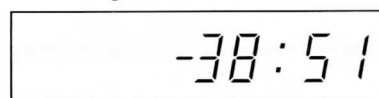
- The volume meter is the peak meter type which indicates the maximum registered volume.
- The volume level indicates the recorded signal level on a CDV or CD.

To Review the Time Display

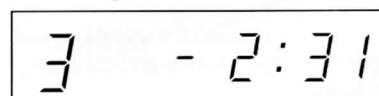
Each time **TIME MODE** **(42)** Button is pressed, the display changes as shown below.



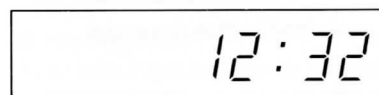
Remaining time of the disc



Remaining time of the track now being played back

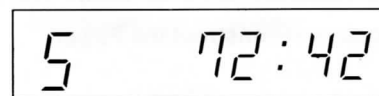


Total elapsed playback time



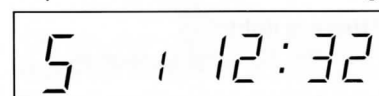
- Elapsed time if playback was started from the beginning of the disc.

Recorded content



- Number of tracks and total recording time are displayed.
- If a CDV is used, the contents of the video and audio parts are displayed separately.

Elapsed time of the track now being played back



- When an LD is used, a chapter number now being played back and the total elapsed time of the playback from the beginning of the disc are displayed.

- If **DISPLAY** **(45)** Button is pressed, the time display disappears.

Notes for Audio Level:

- The numerical volume level may differ from the recording level of a cassette deck.
- The volume level is not displayed during the playback of a CDV's video part.
- The low-frequency signal cannot be displayed correctly.

Notes for Time Display:

- During playback of an LD with TOC, the time display is displayed alternately in the order of **(4)↔(5)**.

- Each time **TIME MODE** Button is pressed during the Random playback, the time display is changed in the order to **(2)→(4)→(5)→(2)**. (CDV, CD)
- The time information displayed on Multi-Function Display may differ a bit from that listed in the explanations supplied with the disc. This is because the explanations list only the actual playing time of each track, while this unit displays the playing time including the time of the intervals between tracks.

Cautions

To ensure safe operation, please observe the following:

Formation of Condensation inside the Unit

Condensation (dew) forms when warm air comes in contact with a cold object, for example on a window in a heated room in winter.

Condensation may form in the unit if:

- The unit is in a room where the heater has just been turned on.
- The unit is in a room with steam or high humidity.
- The unit is brought from cold surroundings into a well-heated room, especially in winter.
- The unit is suddenly brought from cool surroundings, such as an air-conditioned room or car, to a place which is hot and humid.

When condensation has formed inside the unit, the unit may not operate correctly.

Normally, as condensation forms gradually, it may take about 10–15 minutes before the unit functions incorrectly due to condensation.

Wait about 20 minutes before trying to use the unit if the unit was in one of the conditions described above and confirm that no condensation has formed in the unit.

Cautions for Use

Follow these cautions to avoid malfunction or serious damage to the unit.

- **Disconnect the Power Cord from the AC outlet by pulling the plug, not the cord.**
- **Keep the Power Cord away from heating appliances.**
- **Do not put any heavy object on the Power Cord.**
- **Do not attempt to repair or reconstruct the Power Cord.**
- **Keep the unit away from sources of liquids, such as basins, bathtubs, and so on.**
- **Do not remove the outer panel.**
 - Touching internal parts of the unit is dangerous, and may cause serious damage to the unit.
- **Do not use the unit if there is lightning.** ⚡
 - Unplug the Power Cord from the AC outlet as soon as possible.

Exterior influences such as lightning and static electricity can affect normal operation of this unit. If this occurs, turn the unit off and on again with POWER Button, or disconnect and then reconnect the Power Cord to the AC outlet. The unit will operate normally.

Notes for Installation

- **Place the unit on a even and stable place that is well ventilated.**
 - The rear panel becomes hot during operation, but this is not a malfunction.
- **If the unit is placed near the TV:**

The picture and audio may be adversely affected during playback of the unit. If this occurs, place the unit farther away from the TV.
- **Do not place the unit in the following places:**
 - In a room exposed to direct sunlight for long periods of time.
 - Near a strong light source or a heater.
 - Where there is steam or soot.
 - Where there is dust or humidity or a strongly magnetized object.

Maintenance

- **Wipe the body and operation panel of the unit with a soft, clean cloth.**
 - If you use a chemically treated cloth for cleaning, refer to its notes on use.
 - For persistent stains, use a soft cloth moistened with mild detergent and water, and then wipe with a dry cloth.

Handling Cautions

- **Do not place anything heavy on the unit.**
 - Do not attempt to place a TV on the unit.
- **When the unit is moved:**
 - Be careful not to drop the unit or subject it to other strong shocks.
 - Make sure that the unit is disconnected from all connection cords.
 - For a distant transport, wrap it in a blanket or rug to prevent its being scratched.
- **Keep the unit away from insecticides or volatile substances. Do not keep the unit touching rubber or vinyl material for long periods of time.**
 - These materials may cause discoloration and surface damage to the unit.

Noise Interference on the TV Screen while Receiving a TV Broadcast

Depending on the reception condition of the TV broadcast, noise interference may appear on the TV screen while you watch a TV broadcast and the unit is left on. This is not a malfunction of the unit or the TV. If this occurs, turn off the unit.

Notes for Disc

This unit can play back discs bearing the trademarks shown below.



TOC (Table of Contents) Signal

The TOC signals are recorded onto the beginning of all CD and CDV discs. This signal is similar to a table of contents and includes information about the music and their playing times. Some LD discs also contain this signal.

The Random playback of this unit do not work on discs without a TOC signal.

Notes for Use

- CED and VHD system video discs cannot be played back with this unit. *No DVD!*
- Since this unit complies with the NTSC color TV system, discs with other color TV systems (PAL or SECAM) cannot be played back.
- This unit does not correspond to CD Graphics and CD-ROM specifications.
- Do not use a CD stabilizer.

Never use Cracked or Warped Discs.

- Since the disc rotates at a high speed, use of cracked or disformed (warped) one is quite dangerous. Never attempt to repair a broken disc with adhesive tape or glue and then use it.

This will damage the unit.

- Should a strange noise or vibration be heard or occur after starting playback, i.e. the disc does not rotate smoothly, immediately press STOP **7** Button or OPEN/CLOSE **6** Button to stop the disc rotation.



Cracked

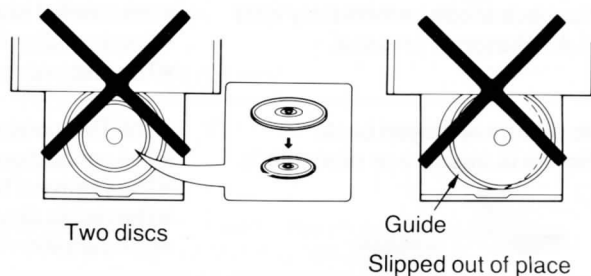


Chipped



Disformed (warped)

- Place one disc in the Disc Tray according to the proper recession guide for playback. Never place two or more discs in the Disc Tray and never attempt playback with a disc that has slipped out of the recession.

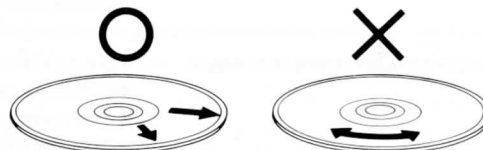


Notes for Storage

- After use, always put the disc into its case and store it in a vertical position. Storing discs in a slanted position or stacked may cause them to become warped.
- Do not store the discs in places exposed to direct sunlight, high temperature or high humidity.
- Never attempt to stick a label on a disc. Be careful not to scratch the disc surface.

Maintenance

- To clean a disc soiled with fingerprints or dust, use a soft and dry cloth.
- If the surface is extremely dirty, dip a soft cloth into water and wring the cloth well before wiping the disc. Then wipe again with a soft and dry cloth.
- When wiping discs, always move the cloth from the center hole toward the outer edge.



(Circular scratches along a line of pits made by circular wiping are more likely to cause noise.)

- Do not use benzene, thinner, nor a record cleaner.
- Do not use an antistatic agent. This may damage the disc.

Your attention is drawn to the fact that recording, broadcasting, showing, playing to the public and rental of prerecorded discs may infringe copyright laws.

Before Requesting Service

Symptom	Check Points
No power	●The Power Cord is not connected to an AC outlet. <i>Duh!</i>
The Disc Tray cannot be opened.	●The unit is not turned on.
Playback does not start. Playback stops immediately after PLAY Button is pressed.	●The disc is not loaded correctly. ●Unrecorded side of the disc is selected. ●Condensation has formed in the unit. ●The disc is dirty. (Wipe it with a soft, clean cloth.)
No picture is played back. Picture is obscure or unstable.	●The TV (monitor) is not on. ●The connection is not correct. ●The speakers have been placed close to the TV. ●The disc is dirty or scratched. ●Condensation has formed in the unit.
Still, Still Advance (Reverse) or Multi-Speed playback cannot be performed.	●The disc being played back is the CLV or the video part of CDV which cannot be played back in Still, Still Advance (Reverse) or Multi-Speed playback.
Picture is distorted/unstable during Scan Forward/Backward playback.	●This is not a malfunction.
No sound is reproduced. The sound can hardly be heard.	●The audio input selection is not correct on the TV (monitor) or the stereo system (amplifier or AV selector). ●The connection is not correct. ●The volume adjustment is not correct on the TV (monitor) and the stereo system. ●If an amplifier is set to the "optical digital input" position during analog audio playback, the audio cannot be heard. ●The CX system is set to "ON" when a disc without CX mark is used. ●The pause or still playback is performed. ●The Multi-Speed playback is performed. ●The disc is dirty or scratched. ●Condensation has formed in the unit.
Remote Controller does not work.	●Batteries have not been loaded correctly. ●Batteries are exhausted. ●The Remote Controller is not pointed at the Remote Sensor of the unit. ●Distance is too far (beyond 7 m from the unit). ●There is an obstacle between the Remote Controller and the Remote Sensor.
Searching time is too long.	●The disc is dirty or scratched.

Specifications

Information for Your Safety

Power Source:	AC 120 V 50–60 Hz
Power Consumption:	36 W (Power off: approx. 6 W)

Television System:	NTSC
Format:	Laser Vision Video Disc System, Compact Disc with Video and Compact Disc Digital Audio System
Weight:	20.02 lbs. (9.1 kg)
Dimensions:	16 ¹⁵ / ₁₆ " (W) × 5" (H) × 16 ⁵ / ₁₆ " (D) [430 (W) × 127 (H) × 414 (D) mm] (protruding parts are not included)
Operating Temperature:	+5°C ~ +35°C (+41° ~ +95°F)
Operating Humidity:	5~90% (provided that no condensation forms)
Disc Format:	(1) Laser Vision Disc 12" (30 cm) Long Play Disc (CLV) 1800–600 rpm 2-hour playback time (max.) on double sides 12" (30 cm) Standard Play Disc (CAV) 1800 rpm 1-hour playback time (max.) on double sides 8" (20 cm) Long Play Disc (CLV) 40-minute playback time (max.) on double sides 8" (20 cm) Long Play Disc (CLV) 20-minute playback time (max.) on single side 8" (20 cm) Standard Play Disc (CAV) 28-minute playback time (max.) on double sides 8" (20 cm) Standard Play Disc (CAV) 14-minute playback time (max.) on single side (2) Compact Disc 5" (12 cm) Disc 500–200 rpm 74-minute playback time (max.) on single side 3" (8 cm) Disc 500–300 rpm 20 minute playback time (max.) on single side (3) Compact Disc with Video Video Part 2700–1800 rpm 5-minute playback time (max.) on single side Audio Part 500–300 rpm 20-minute playback time (max.) on single side
Video Signal Output Level:	1 V p-p (at 75 ohm, synchronizing load)
S-Video Output Level:	Y Output/1 Vp-p (at 75 ohm, synchronizing load)
(Y/C Separate Signal Output)	C Output/0.286 Vp-p
Audio Signal Output Level:	(1) Digital audio output; 200 m Vrms (1 kHz, –20 dB) (2) Analog audio output; 200 m Vrms (1 kHz, 40% modulated)
Digital Audio Signal Output Characteristic:	(1) Frequency response; 4 Hz–20 kHz (EIAJ) (2) S/N ratio; 102 dB (EIAJ) (3) Dynamic range; 96 dB (EIAJ) (4) Wow and flutter; Below measurable limit (5) Total harmonic distortion; 0.003% (EIAJ) 1 kHz
Headphone Connector:	32 ohm (30 mW), Impedance; more than 8 ohm

Quick Reference

Operate by following the direction of the arrows.

- Turn the unit on.
- Load the disc.

Operation	Procedure
Playback	
Changing Side A with Side B (or vice versa)	
To skip to the desired scene (tune)	Backward Forward
To access the desired scene (tune)	~ ,
To start playback from the desired frame number or time number	MODE ~ →
Still or Still Advance/Reverse playback	Backward Forward • Press either button to perform Still Playback.
Changing playback speed	- SPEED +
Changing playback direction	<MULTI SPEED>
Forward (Backward) Playback	
Intro Scan Playback	INTRO SCAN
Program playback	PROGRAM ~ , →
Repeat playback of Chapter, Track, Single Side, or All Sides	REPEAT

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