



PIONEER®
The future of sound and vision.

LaserDisc™

NTSC



LD PLAYER

LD-S2

Thank you for buying this Pioneer product.
Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.

In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However, the method of connecting and operating the unit is the same.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD,
DO NOT EXPOSE THIS APPLIANCE TO RAIN OR
MOISTURE.

IMPORTANT NOTICE
[For U.S. and Canadian models]

The serial number for this equipment is located on the rear panel.
Please write this serial number on your enclosed warranty card
and keep it in a secure area. This is for your security.


LASER DISC

Operating Instructions

IMPORTANT



The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user of 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.

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION:

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



The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

SAFETY INSTRUCTIONS

READ INSTRUCTIONS — All the safety and operating instructions should be read before the appliance is operated.

RETAIN INSTRUCTIONS — The safety and operating instructions should be retained for future reference.

HEED WARNINGS — All warnings on the appliance and in the operating instructions should be adhered to.

FOLLOW INSTRUCTIONS — All operating and use instructions should be followed.

CLEANING — Unplug this video product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

ATTACHMENTS — Do not use attachments not recommended by the video product manufacturer as they may cause hazards.

WATER AND MOISTURE — Do not use this video product near water — for example, near a bathtub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, and the like.

ACCESSORIES — Do not place this video product on an unstable cart, stand, tripod, bracket, or table. The video product may fall, causing serious injury to a child or adult, and serious damage to the appliance. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the video product. Any mounting of the appliance should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

CART — An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.



VENTILATION — Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the video product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the video product on a bed, sofa, rug, or other similar surface. This video product should never be placed near or over a radiator or heat register. This video product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

POWER SOURCES — This video product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company. For video products intended to operate from battery power, or other sources, refer to the operating instructions.

POWER-CORD PROTECTION

Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

POLARIZATION — This video product is equipped with a polarized alternating current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

LIGHTNING — For added protection for this video product receiver during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the video product due to lightning and power-line surges.

POWER LINES — An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

OVERLOADING — Do not overload wall outlets and extension cords as this can result in the risk of fire or electric shock.

OBJECT AND LIQUID ENTRY — Never push objects of any kind into this video product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the video product.

SERVICING — Do not attempt to service this video product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

DAMAGE REQUIRING SERVICE

Unplug this video product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- When the power-supply cord or plug is damaged.
- If liquid has been spilled, or objects have fallen into the video product.
- If the video product has been exposed to rain or water.
- If the video product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the video product to its normal operation.
- If the video product has been dropped or the cabinet has been damaged.
- When the video product exhibits a distinct change in performance — this indicates a need for service.

REPLACEMENT PARTS — When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or having the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

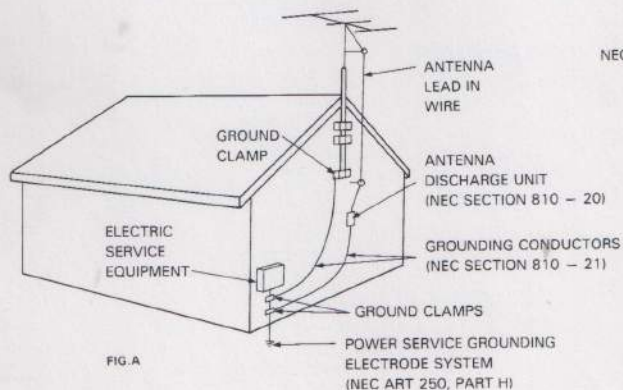
SAFETY CHECK — Upon completion of any service or repairs to this video product, ask the service technician to perform safety checks to determine that the video product is in proper operating condition.

OUTDOOR ANTENNA GROUNDING — If an outside antenna is connected to the antenna terminal, be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges.

In the U.S.A., section 810 of the National Electrical Code, ANSI/NFPA No. 70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

See Fig. A.

NEC — NATIONAL ELECTRIC CODE



- This player may be used with LaserVision Discs bearing the following symbol:

(LASERDISC SYSTEM)/(LaserVision Disc)*



This is the unified symbol mark of LASERDISC (LaserVision videodisc).

* LaserVision players and discs which bear this symbol and use the same television system, are mutually compatible.

This player is to be used exclusively with the NTSC color system. Please use NTSC LaserVision Disc only. PAL and SECAM system discs cannot be used with this player.

[For Canadian model]

CAUTION: 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.

ATTENTION: POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR, UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

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

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

**[FOR U.S. MODEL]
CAUTION**

- Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
- The use of optical instruments with this product will increase eye hazard.

[For Canadian model]

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.

[Pour le modèle Canadien]

L'interférence, radioélectrique générée par cet appareil numérique de type B ne dépasse pas les limites énoncées dans le Règlement sur les perturbations radioélectriques, section appareil numérique, du Ministère des Communications.

CAUTION: This product satisfies FCC regulations when shielded cables and connectors are used to connect the unit to other equipment. To prevent electromagnetic interference with electric appliances such as radios and televisions, use shielded cables and connectors for connections.

Information to User

Alteration or modifications carried out without appropriate authorization may invalidate the user's right to operate the equipment.

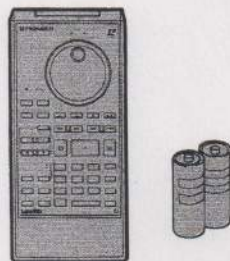
CONTENTS

Accessories	4	One-shot Memory	25
Precautions	5	Still with sound Playback	26
Reference LD Player – The Feeling of Quality	6	Strobe Motion Playback	26
Types of Discs that can be played with this Unit	8	To Search for a Desired Passage	27
Cares of Discs	10	To Search for a Particular Scene (Speed Scan)	28
Connections	11	To Search for a Particular Scene (Index Skip)	28
Names and Functions of Front Panel Components	14	To Search for a Particular Chapter (Chapter Skip)	29
Names and Functions of remote Control Unit		To Search for a Particular Scene (Frame Search)	30
Components	16	To Search for a Particular Scene (Time Search)	31
Names and Functions of Rear Panel Components	17	To Repeatedly Play a Desired Passage (Repeat Playback)	32
Remote Control Operations	18	To Play Only the Desired Chapters (Program Playback)	34
Display Switching	19	Troubleshooting	36
To Play LD	20	Specifications	38
To vary the Playback Direction or Speed			
(Multi-speed Playback)	24		
Still Frame/Frame Advance	25		

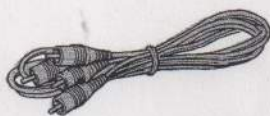
ACCESSORIES

When unpacking the player, first check to make sure that all of the accessories listed below are supplied.

- Remote control unit
- AA-size dry cell batteries x 2



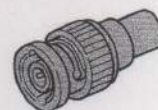
- Audio cord (RCA plug x 2 ↔ RCA plug x 2) x 1



- Video cord (RCA plug x 1 ↔ RCA plug x 1) x 1



- BNC - pin plug adaptor x 1



- S Video cord (S Video ↔ S Video)
Use to connect the player to a color monitor with S VIDEO IN terminal.



- Operating instructions

PRECAUTIONS

If it becomes necessary to transport or ship this unit in the future, be sure to first remove the disc (if present), retract the disc table to its closed position, turn the power off, and, after the "OFF" indicator stops blinking on the display, disconnect the power cord.

INSTALLING THE PLAYER

- Place the player on a stable platform next to the television and stereo system to be used with the player.
- When using the player with a stereo system, your speakers should be placed away from your television (or TV monitor).
- Do not place heavy objects such as a television or TV monitor on top of the player.
- Do not place the player on top of your TV set or TV monitor. Also, keep the player away from devices such as cassette decks which are sensitive to magnetic fields.

When FM or AM stations are being received, signal noise may be generated if the player is turned on. Turn off the player when not in use. Also, if there is signal noise when receiving radio stations with an indoor antenna, adjust the position or direction of the antenna.

INSTALL THE PLAYER IN A WELL VENTILATED PLACE AWAY FROM HEAT AND HUMIDITY

Do not install the player in a location subject to direct sunlight, or near a stove or radiator etc. This could adversely affect the cabinet and internal components. Also avoid installing the player in a humid or dusty location. This could result in a malfunction or accident. Do not install near a cookstove where the player could be affected by smoke, steam, or heat.

AVOID SOURCES OF HEAT

Do not put the player on sources of heat, such as an amplifier. When installing with audio components on a rack, avoid components that generate heat, by placing the player below such components where there is adequate ventilation and not much dust. Avoid placing the player on surfaces such as shaggy carpets, beds, and sofas which may block ventilation under the player and cause damage.

CAUTIONS FOR AUTOMATIC LOADING OPERATIONS

Since this player has an automatic loading construction, use the button on the player or the remote control for opening and closing of the disc table. To avoid damage, be careful not to apply any force to the moving disc table.

STRIPE PATTERNS APPEARING ON A TV PROGRAM

Stripe patterns may appear during a TV program if the player unit is turned on, depending on the quality of reception of the TV station. This is neither a malfunction of the television nor the player. If stripes appear while watching the TV, or when watching the TV for long periods of time, turn the player off.



CONDENSATION

Moisture will form in the operating section of the player if the player is brought from cool surroundings into a warm room or if the temperature of the room rises suddenly. When this happens, player's performance will be impaired.

To prevent this, let the player stand in its new surroundings for about an hour before switching it on, or make sure that the room temperature rises gradually.

The same, symptoms of condensation may be caused during summer, if the player is exposed to the breeze from an air conditioner. In such cases change the location of the player.

POWER-CORD CAUTION

Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause fire or give you an electrical shock. Check the power cord once in a while. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

CLEANING CARE

Use a soft, dry cloth for cleaning. For stubborn dirt, soak the cloth in a weak detergent solution; wring well first and wipe. Use a dry cloth to wipe it dry. Do not use any volatile agents such as benzine or paint thinner, as it may damage the surface of the player.

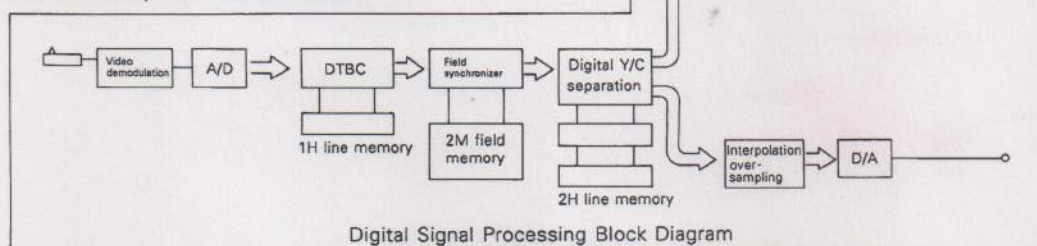
REFERENCE LD PLAYER — The Feeling of Quality

QUALITY 1

Full Digital Signal Processing For Pure Reproduction

In the LD-S2, all signals are processed digitally, realizing phase characteristics not obtainable with analog signal processing techniques.

The demodulated image signal is converted into an 8-bit digital signal at a sampling frequency of 14 MHz. This digital signal is processed by various circuits such as a digital TBC circuit, a digital Y/C separation circuit, a digital CNR circuit, an 8x fs interpolation oversampling circuit, and a 9-bit D/A conversion circuit.



Digital Signal Processing Block Diagram

QUALITY 2

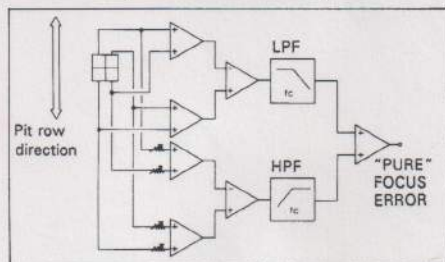
New Accufocus Pickup

Pioneer's Accufocus pickup has been further improved. The noise level of the head amplifier component, which inputs optical signals and converts and amplifies them for output as electrical signals, has been reduced over a wide frequency range. As a result, the signal-to-noise ratio has been improved by an impressive 6 dB, realizing an RF signal with low noise and a high degree of purity.

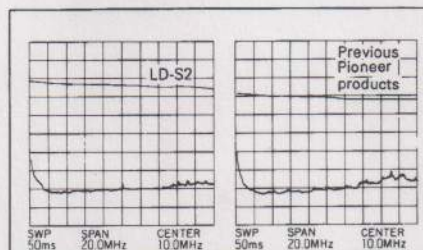
QUALITY 3

Silent Focus

Undesired vibration of the pickup objective lens is avoided by using a design which reduces the effects on focusing that are caused when the laser beam traverses rows of pits during searching or when the player is in still mode. As a result, servo motor sound is reduced and playability is improved, which, added to the fact that focusing has been made even more accurate than before, realizes an RF signal with unprecedented purity.



FRONT

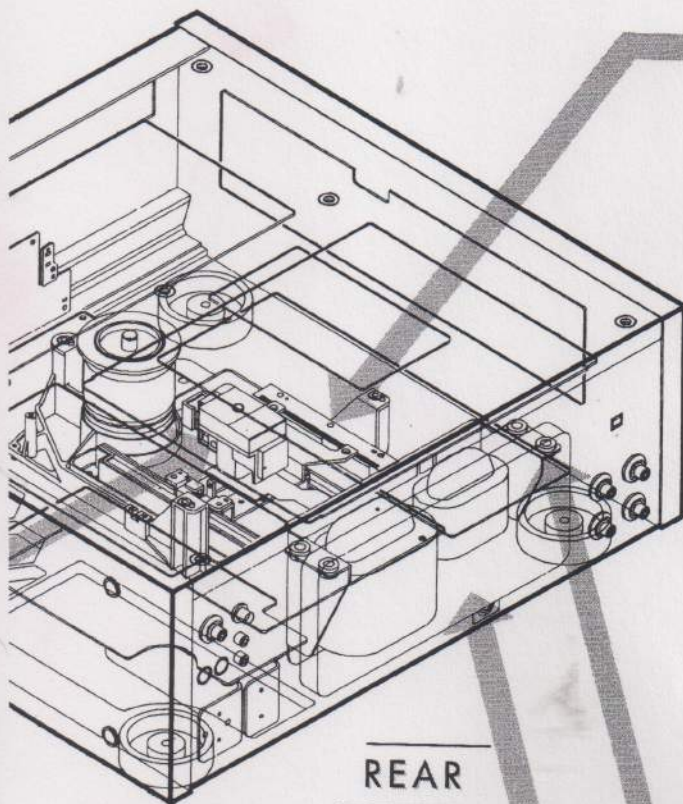


QUALITY 4

Under Chassis

The high carbon chassis is constructed so that vibrations are dampened by a graphite material which absorbs frictional energy generated by vibrations at the plane of contact between the base and the graphite. The chassis is formed using Pioneer's original honeycomb construction and a high-precision casting technique (stack molding), resulting in superior efficiency and vibration suppression.

The under chassis has a simplified construction which supports the main chassis directly at four contact locations. With this construction, vibrations are not transmitted to other parts of the player and vibrations caused by disc rotation are eliminated by the damping action of the chassis material itself (Material Damping).



REAR

QUALITY 5

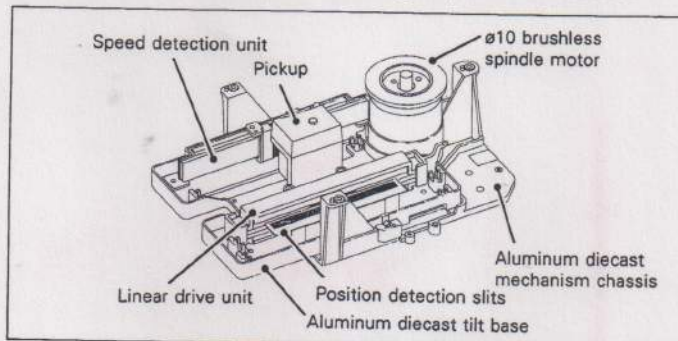
High-Performance R-Core Transformer

The power source concept utilized by the LD-S2 is an uncompromising separate power source design. Two transformers are employed — an audio system transformer and a video/servo system transformer. As a result, noise from the video/servo system is completely isolated from the audio system power source, realizing clean, distortion-free sound reproduction. In addition, a separate coil is used for the video RF signal, which is easily influenced by noise. Moreover, power to the various components used for video signal processing is independently regulated to completely eliminate power source noise effects, resulting in beautiful video image reproduction.

QUALITY 6

Linear Motor Direct-Drive Pickup Drive Mechanism

The slider mechanism used for moving the pickup employs a linear motor system. This mechanism works together with the $\phi 10$ shaft, high-torque, brushless spindle motor to realize high-speed disc access.



QUALITY 7

Intelligent Search Function

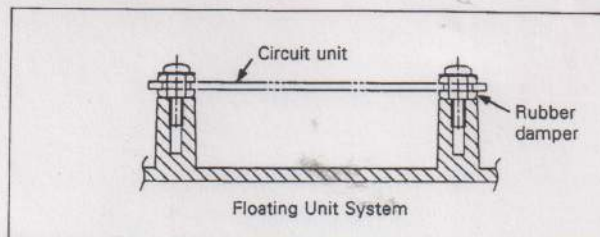
The linear drive unit's position detection system employs a large number of slits formed closely together at high density by an etching process. This system realizes high-speed searching by comparing these position detection slits with chapter, time, and frame information recorded on the disc. In addition, when searching is carried out for the first time, the disc information is mapped according to these position detection slits, resulting in further increased search speed during successive searches.

QUALITY 8

Floating Mount System

Power transformers are a source of vibration which can be harmful to the player. In the LD-S2, both the main transformer and the audio transformer are mounted using an original hanging mount technique so that they float above the chassis to prevent the transmission of vibrations to the player.



The circuit unit is also mounted using a floating mount system. This eliminates undesired vibrations and relieves stress generated in the printed circuit board, realizing a further increase in picture and sound quality.



TYPES OF DISCS THAT CAN BE PLAYED WITH THIS UNIT

The two disc types listed in the table below can be played with this unit.

*The marks shown in the left column are printed on the labels and jackets of the corresponding discs.

Mark	Disc	Size	Number of recorded sides	Audio recording system	Video recording system	Other
	CD VIDEO LD (*4)	12-inch, 8-inch	Two sides, one side	Digital/analog	CAV (*1) CLV (*2)	TOC
	LD (LASERDISC/ LaserVision Disc)	12-inch, 8-inch	Two sides, one side	Digital/analog (*3) or analog only	CAV, CLV	—

LD GLOSSARY

Chapter number

Chapter numbers are used to indicate the boundaries of the sections on a disc, similar to the "chapters" in a book. If chapter numbers are recorded on a disc, it is so indicated on the jacket of the disc, etc. Chapter numbers can be used to search for desired chapters (Chapter Search).

Frame number

Frame numbers are the numbers assigned to each picture frame on a CAV (standard play) disc. Frame numbers can be used to search for desired frames (Frame Search).

Time number

Time numbers indicate the time elapsed from the beginning of a CLV (extended play) disc. Time numbers can be used to search for desired scenes (Time Search).

Index number

Index numbers are used to indicate the boundaries of the sections on a chapter.

- Some discs, which have a TOC section, may be provided with the index number.

TOC

CD VIDEO LD discs are provided with a section called TOC (Table Of Contents) at the beginning of the disc. The TOC section is just like the table of contents of a book, and contains information on the contents (number of tracks, playing time, etc.) of the disc.

LDs (LASERVISION DISCS)

With this unit, only play LaserVision discs which bear the following mark.



This mark is the standard mark for LaserVision video discs. Players and discs which bear the LaserVision mark are mutually compatible as long as they conform to the same television system.

Two types of standard LaserVision disc are available — standard play (CAV) (*1) discs and extended play (CLV) (*2) discs — which differ with respect to their signal recording systems.

CAV (*1) DISCS

The jackets and labels of these discs are marked with a "Standard Play Disc CAV" or "Standard Play" indication.

Frames are recorded on these discs at a ratio of one frame per disc revolution, and the discs are played at a fixed rotational speed (CAV = Constant Angular Velocity) of 1,800 rpm. This system is well suited to special playback modes such as still frame playback and multi-speed playback. One side of a CAV disc can have a playback time of up to 30 minutes (for a 12-inch disc), which is equivalent to 54,000 frames. Each frame — from frame 1 to frame 54,000 — is encoded with its own frame number.

* Playback time varies according to the contents of the disc.

CLV (*2) DISCS

The jackets and labels of these discs are marked with a "Extended Play Disc CLV" or "Extended Play" indication.

Signals are recorded on these discs at a constant linear velocity (CLV), and the rotational speed during playback varies from 1,800 rpm for the innermost track to 600 rpm for the outermost track. As a result, one side of a CLV disc can have a playback time of up to 60 minutes (for a 12-inch disc), which is twice as long as a standard play (CAV) disc. CLV discs are encoded with time numbers which correspond to the elapsed play time from the beginning of the disc.

* Playback time varies according to the contents of the disc.

LASERVISION DISCS WITH DIGITAL AUDIO (*3)

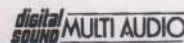
The jackets and labels of these discs bear the following mark.



These are LaserVision discs which contain digital audio signals in addition to conventional analog audio signals. This feature allows the high image quality of LaserVision discs to be enjoyed together with the superior quality of digital sound. The digital and analog audio signals are recorded on the disc using different frequency bands.

LASERVISION MULTI AUDIO DISCS WITH DIGITAL AUDIO

The jackets and labels of these discs bear the following mark.



These are LaserVision discs in which the recorded digital and analog audio signals differ in content. This allows the user to enjoy two different audio soundtracks by switching between the digital and analog sound.

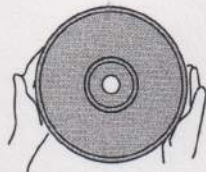
CD VIDEO LDs (*4)

A CD VIDEO LD is an LD with digital audio which is encoded with sub-codes (data such as TOC and track number data, excluding audio and video signals).

CARE OF DISCS

How to hold discs

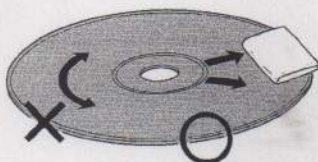
When loading or removing discs, try not to touch their playing surfaces.



Cleaning

Fingerprints or other dirt on the disc may affect sound and picture quality.

To clean your discs, use a soft clean cloth to wipe them. If necessary, moisten a soft cloth with diluted neutral detergent to remove heavy dirt or fingerprints.



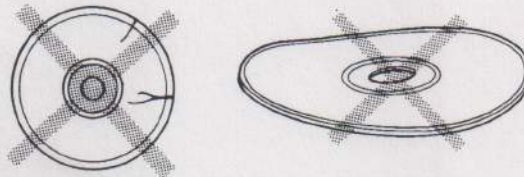
Do not wipe in a circular direction.

Gently wipe from the inside toward the outer edge.

Discs may not be cleaned with record cleaning sprays, or static prevention sprays, etc. Also do not use volatile liquids such as benzene, or thinner, etc.

NEVER PLAY CRACKED OR WARPED DISCS.

- The disc revolves on the player at a high speed when it is played. Never play a cracked, scratched or warped disc. This may damage the player or cause it to malfunction.



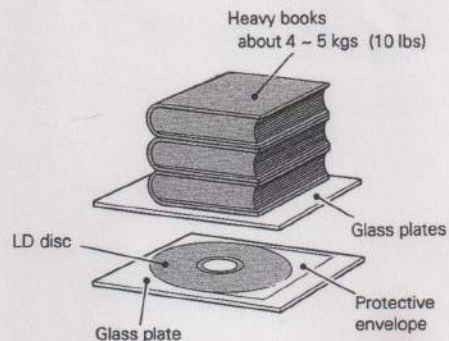
After using discs, store them upright

After playing a disc, always remove it from the player and return it to its jacket. Then store it standing upright away from heat and humidity.

- Store discs carefully. If you store discs at an angle, or stacked on top of each other, discs may become warped even when in their jackets.
- Do not leave discs in locations such as the seat of car, which may become excessively hot.

If an LD disc is warped...

If an LD disc is warped, put the disc into its protective envelope, and then place it between two flat plates of glass. Then place heavy books on top of the plates so that approximately 4 to 5 kgs (10 lbs) is applied. Leave the disc like this for a day or so. This may correct the warp.



CAUTION WHEN USING THE DISC

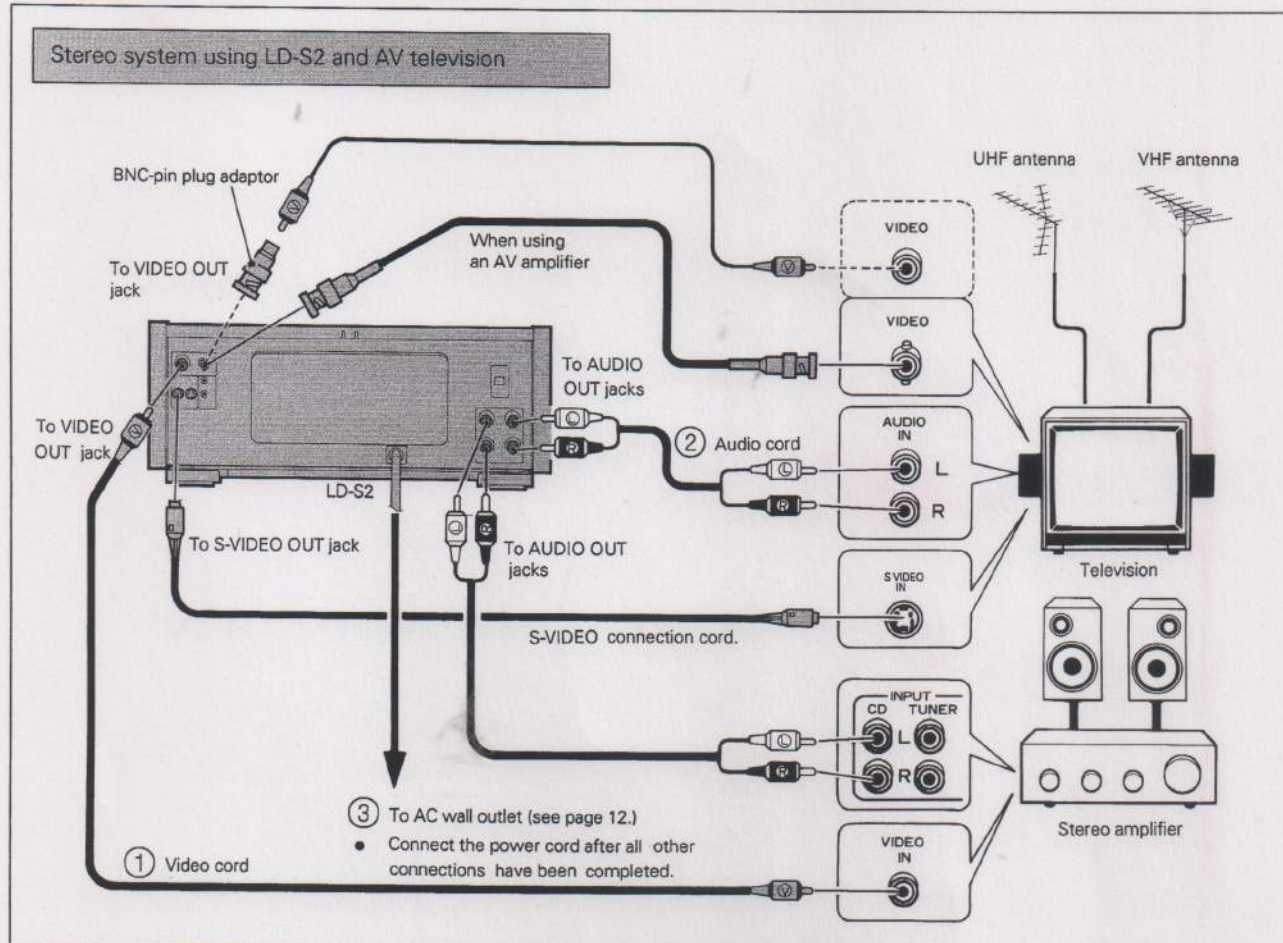
All rights reserved.

Unauthorized public performance, broadcasting or copying is a violation of applicable laws.

CONNECTIONS

● Only televisions equipped with a video input can be connected to this unit.

When using an AV television (or monitor TV) equipped with video and audio jacks



Making connections

- ① Connect VIDEO OUT jack of this unit to the video input jack of the AV television (or monitor TV).
- The VIDEO OUT 1 jack and S VIDEO OUT 1 jack output the signals for information regarding the operations and video signal. The VIDEO 2 jack and S VIDEO 2 jack output the video signal only. When the video input jack of your monitor TV is pin type jack, use the BNC - pin plug adapter.
- ② Connect AUDIO OUT jacks of this unit to the appropriate audio input jacks (AUX, CD, VDP, LD, VCR, etc.) of your stereo amplifier. (However, be careful not to connect to the amplifier's PHONO jacks.)
- Although it is possible to connect AUDIO OUT jacks of this unit to the audio input jacks of your TV to use the TV's speakers for audio playback, connecting to a stereo amplifier will allow you to take better advantage of the excellent sound quality provided by LaserVision discs.

- ③ Connect the power cord to an AC wall outlet.
- If an antenna and/or VCR is connected to the TV, do not remove or change the connection.
- When making connections to stereo amplifier equipped with a built-in D/A converter and an optical digital jack, refer to the connection instructions on the following page.
- System control is possible when this unit is combined in a system with other Pioneer components such as a AV television or an AV control center. (See page 13.)
- When connecting S-VIDEO jack, insert the plug with care. Forcing the plug into the jack with the wrong orientation may damage the plug and/or the jack.

CONNECTIONS (Continue)

Stereo amplifier connections

Connect AUDIO OUT jacks of this unit to CD, AUX, VDP, LD or VCR input jacks of your stereo amplifier.

- Do not connect to the amplifier's PHONO jacks.

Connecting to an optical digital jack

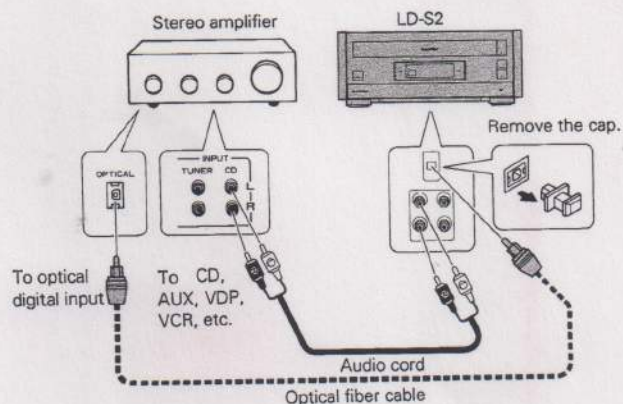
This unit can be connected to an amplifier equipped with an optical digital jack.

- Remove the protective dust cap from this unit's OPTICAL DIGITAL OUT jack.
- Use an optical fiber cable to connect OPTICAL DIGITAL OUT jack of this unit to the optical digital input jack of the amplifier.

- Align the plug of the optical fiber cable with the optical digital jack and fully insert the plug to make a secure connection.

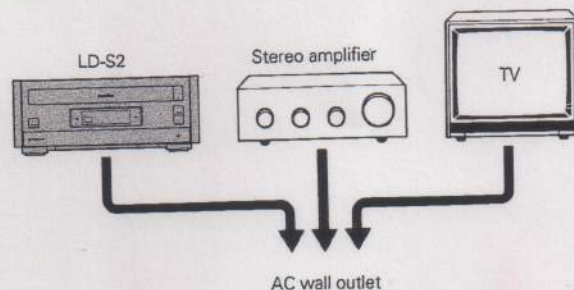
Use a separately sold optical fiber cable for the optical digital jack connections. However, when making optical digital connections, the LD-S2 can only be connected to an amplifier which uses the same type of optical transmission/reception module.

- Even when the player is connected to the AV control center with the optical fiber cable, connect the VIDEO OUT/AUDIO OUT jacks to the input jacks of the amplifier. Otherwise, the System Control cannot be carried out.



Connect the power cords of this unit and other components in the system to an AC wall outlet.

When the power cord of this unit is connected to an AC outlet, power is supplied to the unit's internal memory (such as the last memory) even when the POWER switch is OFF. Therefore, be sure to connect the power cord directly to a wall outlet. If the power cord is connected to an outlet such as a switched outlet on an amplifier, the various memory contents will be erased whenever the amplifier's power switch is turned off.



Precautions concerning use of optical fiber cables


- Fully insert the optical fiber cable plugs all the way into the jacks.
- Be careful not to fold or crimp the cable. When coiling an optical fiber cable for storage, make sure the diameter of the coil is 15 cm or larger.
- Use an optical fiber cable with a length of 3 m or less.
- Protect the optical fiber cable plugs from scratches and dust.
- When the unit is not connected using an optical fiber cable, be sure to keep the protective dust cap plugged into the optical digital output jack at all times.

SYSTEM REMOTE CONTROL CONNECTION

WHEN COMBINED WITH OPTIONAL PIONEER PROJECTION MONITOR (or COMPONENT DISPLAY)

Connect the VIDEO OUT jack of the player to the video input jack of the projection monitor (or component display), and connect the AUDIO OUT jacks of the player to the audio input jacks of the projection monitor (or component display).

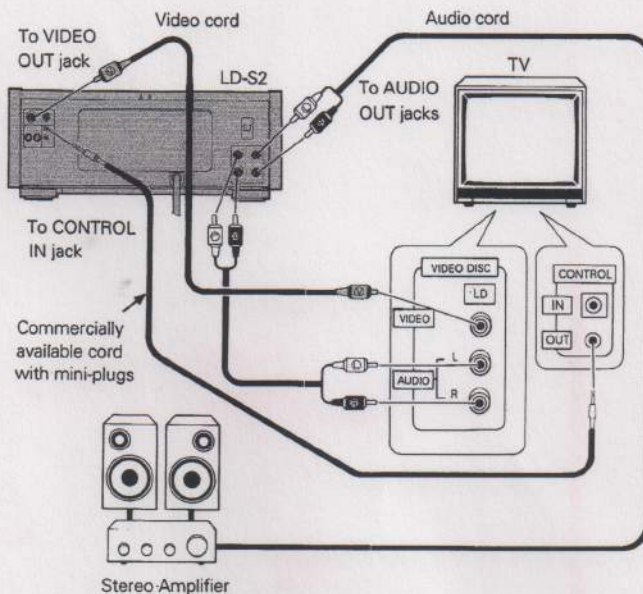
System Control

By connecting the CONTROL IN  jack of the player to the remote jack of the projection monitor (or component display), the system can be controlled by the remote control unit of the player at the remote control sensor of the projection monitor (or component display).


- Use a commercially available cord with mini-plugs for the projection monitor (or component display).

NOTE:


When system control connections have been made, the player cannot be directly controlled by the remote control unit. To operate the player, aim the remote control unit at the projection monitor (or component display).



PERFORMING SYSTEM CONTROL WHEN THE PLAYER IS COMBINED WITH A PRODUCT THAT HAS THE MARK

System control can be performed when the player is combined with an optional AV control center, which can provide centralized control of Pioneer products with the  mark.

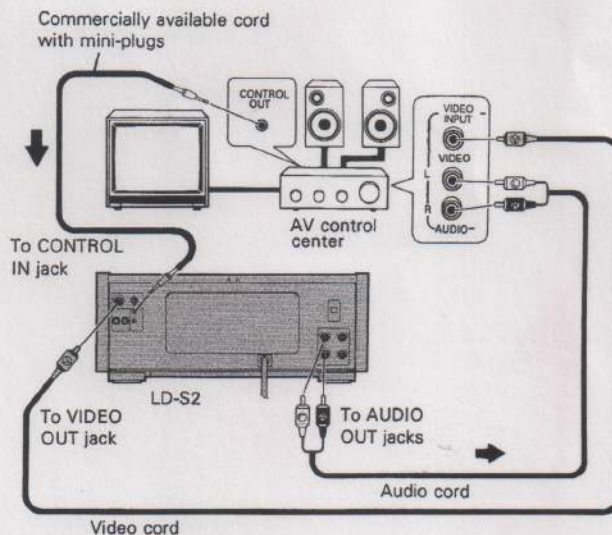
Connect the VIDEO OUT jack of the player to the video disc video input jack of the AV control center and connect the AUDIO OUT jacks of the player to the audio input jacks of the AV control center.

Connect the CONTROL OUT jack of the AV control center to the CONTROL IN  jack of the player using a commercially available cord with mini-plugs.

- For details concerning the connection and operation methods, please refer to the operating instructions for the AV control center.

NOTE:

When a connecting cord has been connected to the CONTROL IN jack, direct control of the player with the remote control unit is not possible. Operate the player with the remote control unit by aiming it at the AV control center.



NAMES AND FUNCTIONS OF FRONT PANEL COMPONENTS

A detailed description is provided on the indicated page(s).

20 POWER switch

Press to turn the power on and off (standby).

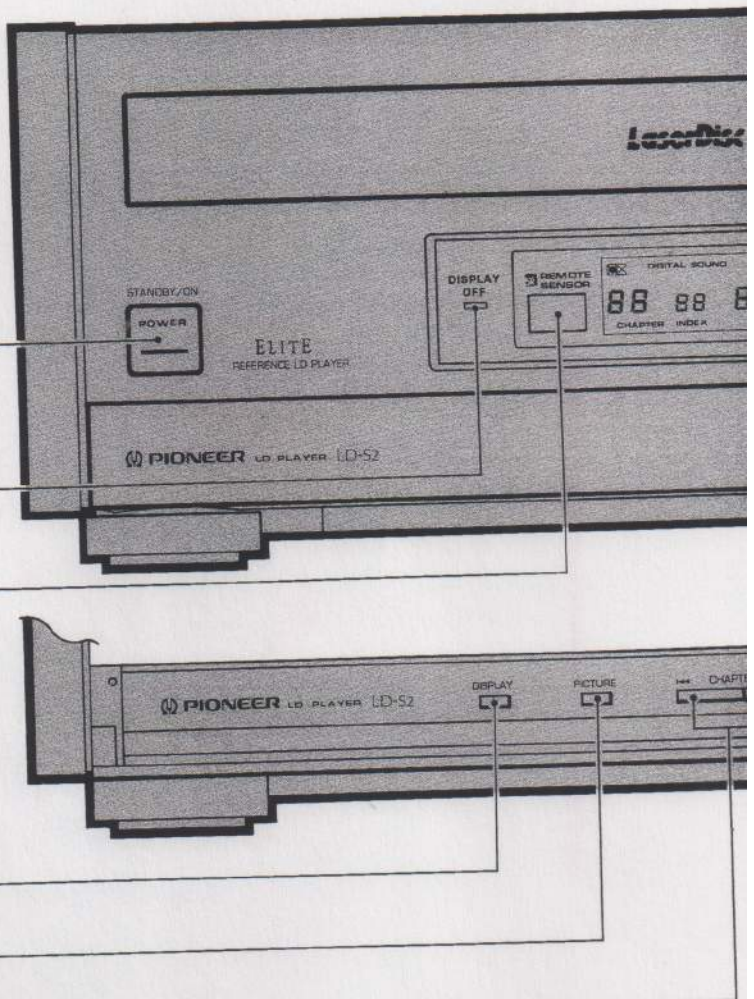
DISPLAY OFF indicator

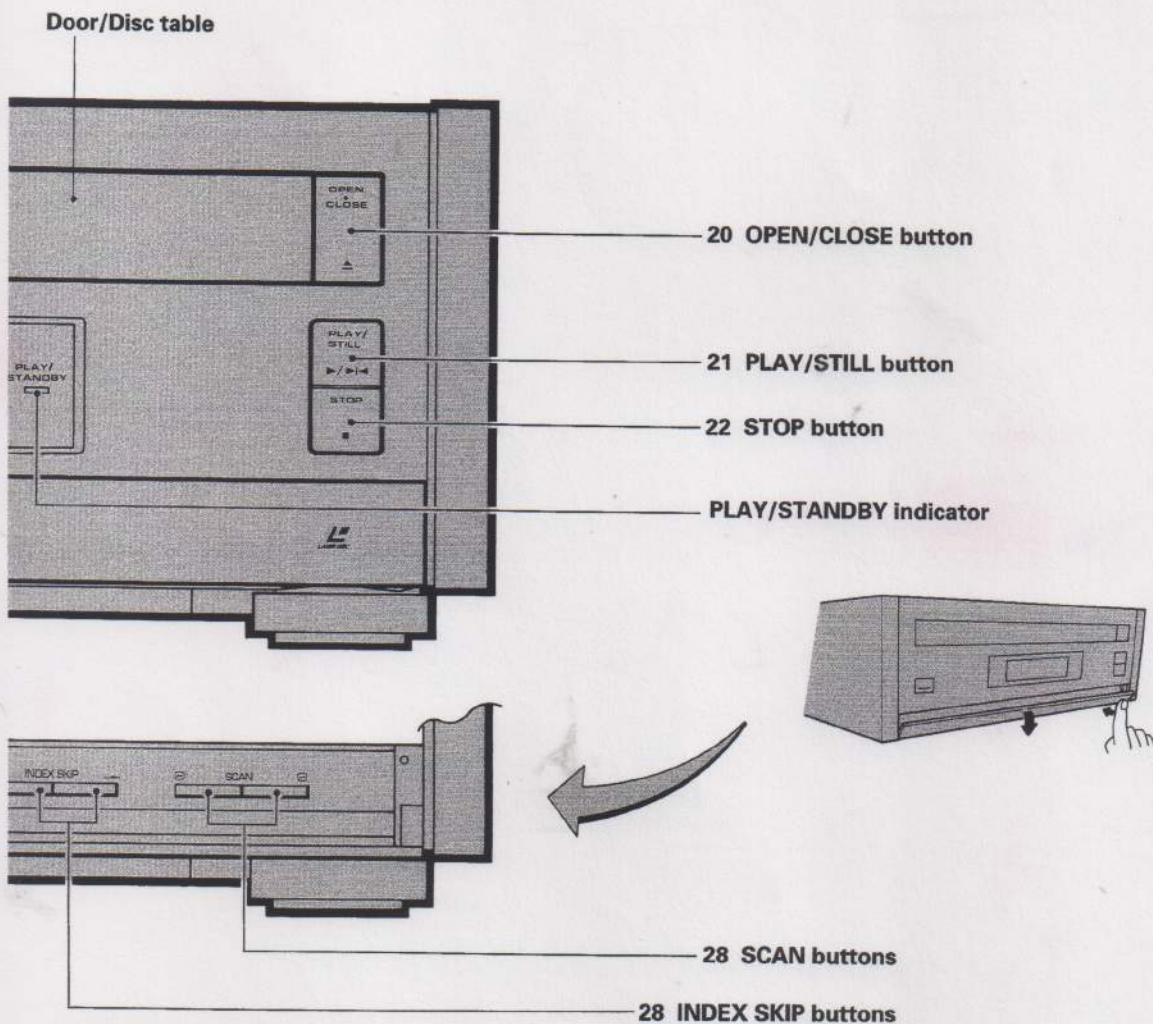
18 REMOTE SENSOR

20 DISPLAY button

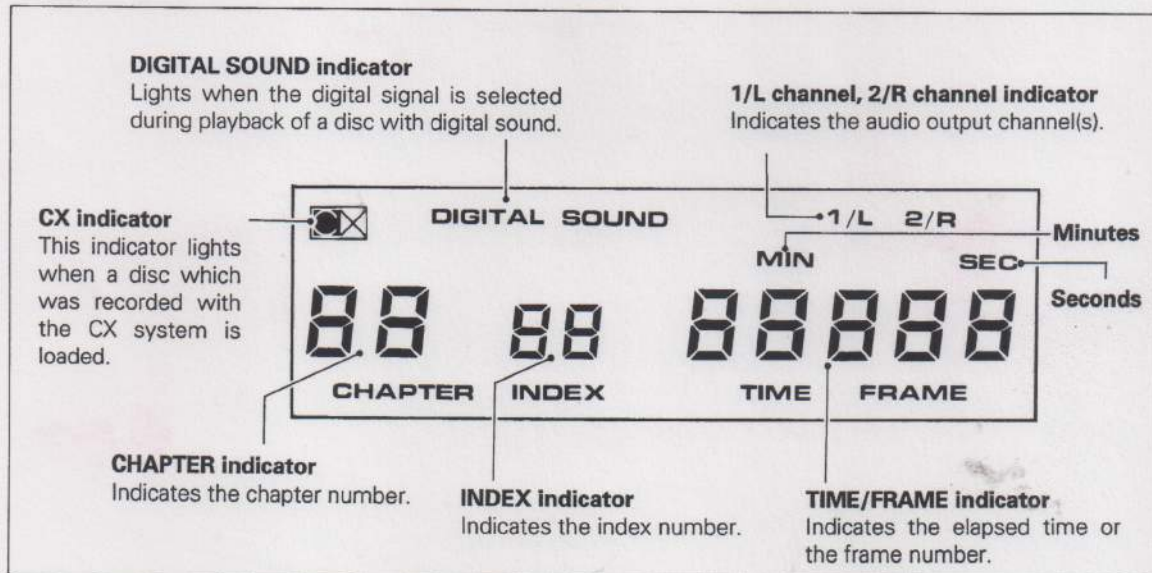
21 PICTURE button

29 CHAPTER SKIP buttons





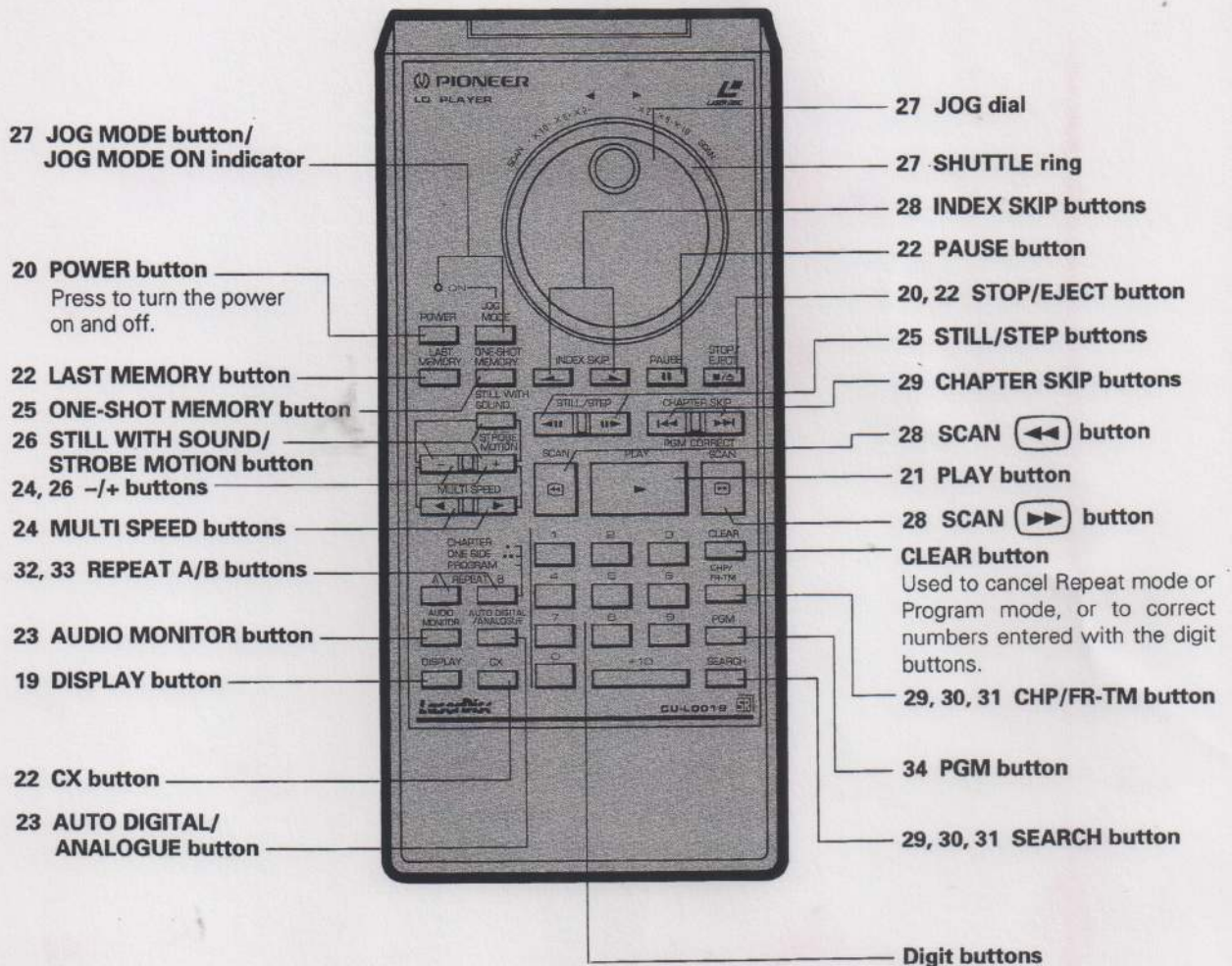
Display window



NAMES AND FUNCTIONS OF REMOTE CONTROL UNIT COMPONENTS

A detailed description is provided on the indicated page(s).

Remote control buttons with the same names or marks as buttons on the front panel of the player control the same operations as the corresponding front panel buttons.



NAMES AND FUNCTIONS OF REAR PANEL COMPONENTS

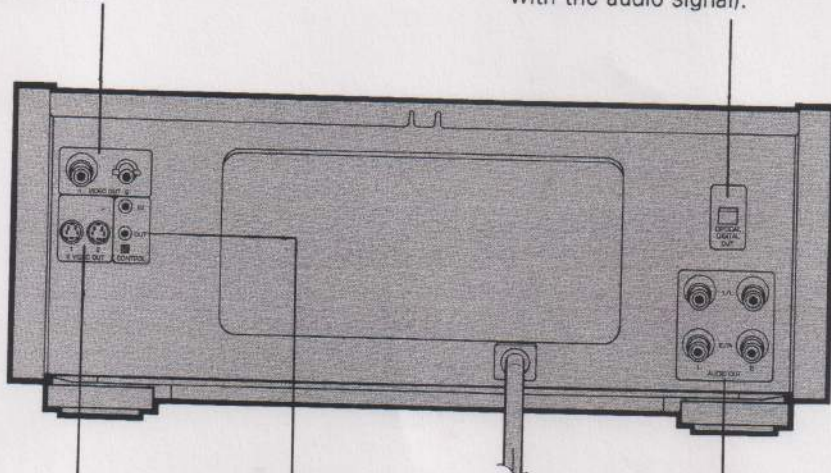
VIDEO OUT 1/2 jacks

Connect to the Video Input jack of the TV.

- 1 **(RCA jack):** When this jack is connected to the Video Input jack of the TV, the information regarding the operations can be displayed on the monitor TV screen.
- 2 **(BNC-pin plug adapter jack):** When this jack is connected to the Video Input jack of the TV, only the video signal is output and the information display cannot be carried out.

OPTICAL DIGITAL OUT jack

This jack outputs the optical digital signals of the audio data and subcode (signals which can be recorded together with the audio signal).



S VIDEO OUT jacks

Connect to the S Video Input jack of the TV.

- 1: When this jack is connected to the S Video Input jack of the TV, the information regarding the operations can be displayed on the TV screen and display window of the player.
- 2: When this jack is connected to the S Video Input jack of the TV, only the video signal is output and the information display cannot be carried out.

AUDIO OUT jacks

Connect to the CD or VDP Audio Input jacks of the stereo amplifier. Never connect to the PHONO jacks.

CONTROL IN/OUT jacks

System control can be performed when these jacks are connected to a product that has the **SR** mark.

Power cord

Connect to an AC wall outlet.

When the power cord of this player is connected to an AC outlet, power is supplied to the player's internal memory (such as the last memory) even when the POWER switch is STANDBY. Therefore, be sure to connect the power cord directly to a wall outlet. If the power cord is connected to an outlet such as a switched outlet on an amplifier, the memory contents will be erased whenever the amplifier's power switch is turned off.

REMOTE CONTROL OPERATIONS

INSERTING BATTERIES INTO THE REMOTE CONTROL UNIT

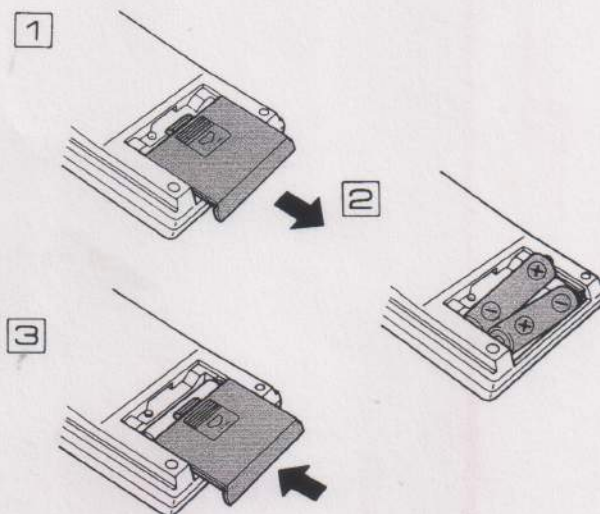
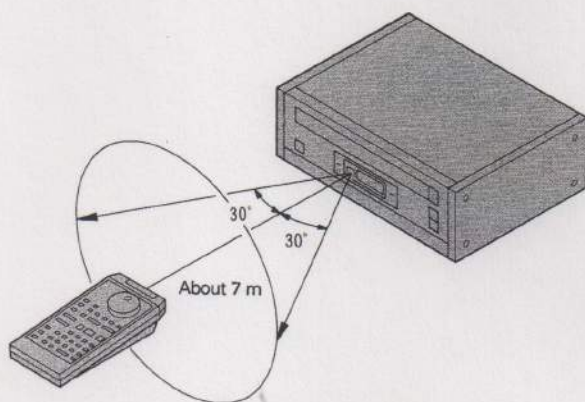
1. Open the battery compartment cover on the back of the remote control unit. The cover should open easily if you press on it with your thumb while sliding it in the direction of the arrow.
2. Take out the two accessory size "AA" (IEC R6) dry cell batteries, and insert them into the battery compartment in accordance with the display (\oplus , \ominus) inside the compartment.
3. Close the cover of the battery case.

Incorrect use of batteries may cause leakage or rupture.

Always be sure to follow these guidelines:

- A. Always insert batteries into the battery compartment correctly matching the positive \oplus and negative \ominus polarities, as shown by the display inside the compartment.
- B. Never mix new and used batteries.
- C. Batteries of the same size may have different voltages, depending on brand. Do not mix different brands of batteries.

When operating the remote control unit, point the unit's infrared signal transmitter at the remote control receiver (REMOTE SENSOR) on the front panel of the player. The remote control unit can be used within a range of about 7 meters (23 feet) from the remote sensor, and within angles of up to about 30 degrees.

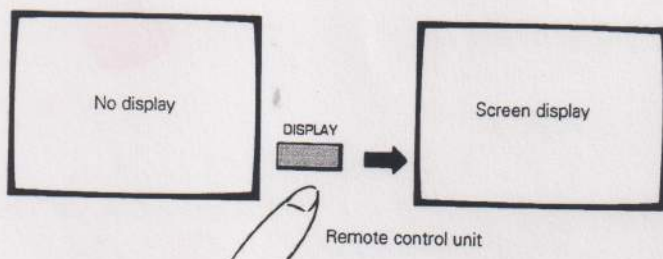


NOTE FOR USING THE REMOTE CONTROL UNIT

- If a plug is connected to the CONTROL IN terminal at the rear of the player, remote control operations cannot be done with the remote control unit aimed at the player's remote control sensor. Aim the remote control unit at the AV control center or the component display's sensor instead.
- If there is any obstacle between the remote control unit and the player, or if the unit is held at too large an angle relative to the front panel of the player, the signal from the remote control unit will fail to reach the remote sensor.
- If the player is operating in the vicinity of other appliances generating infrared rays, or if other remote control devices using infrared rays are used near the player, the player may operate improperly. Conversely, if the player's remote control unit is operated in the vicinity of other appliances which use an infrared remote control device, the other appliance may operate improperly. If this should happen, change the place of installation so that improper operation does not occur.
- If the range of operation of the remote control unit becomes too short, replace the batteries.
- When the unit is not to be used for a long period of time (more than one month), remove the batteries to prevent them from leaking inside the compartment. If leakage occurs, wipe up the liquid inside the compartment and replace the batteries with new ones.
- Do not place books or other objects on the remote control unit, since they might depress the buttons and run down the batteries.

DISPLAY SWITCHING

(The VIDEO OUT 1 jack must be connected for the display function. When the VIDEO OUT 2 jack is connected, the information display cannot be carried out.)



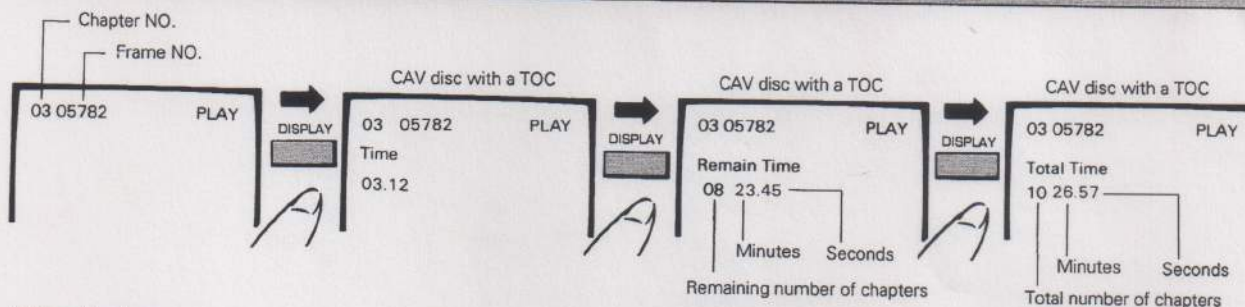
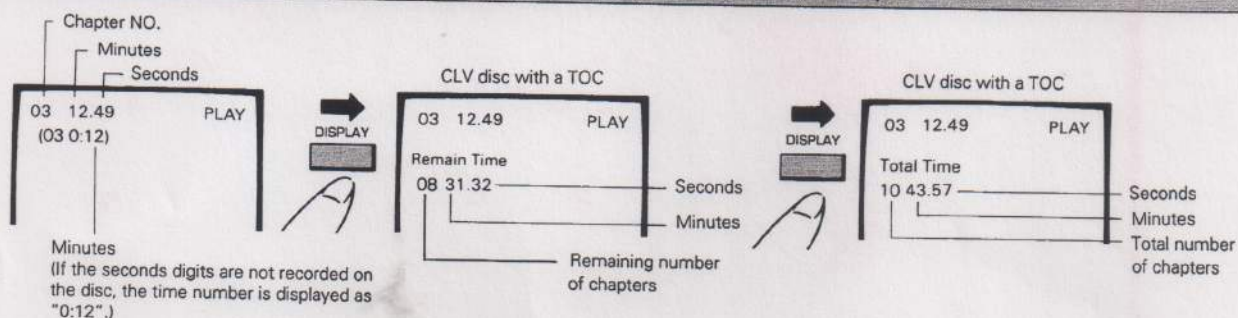
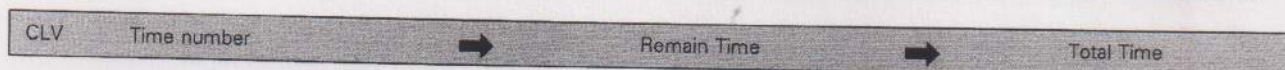
Information regarding the operations being carried out can be displayed on the screen of the monitor TV. When DISPLAY on the remote control unit is pressed the first time, the screen is displayed.

With LD discs containing a TOC ...

Each time DISPLAY is pressed, the display changes in the following order: time/frame number (elapsed play time/frame from the beginning of the disc) → Remain Time (remaining play time of the disc) → Total Time (total play time of the disc) → display off.

With LD discs having no TOC...

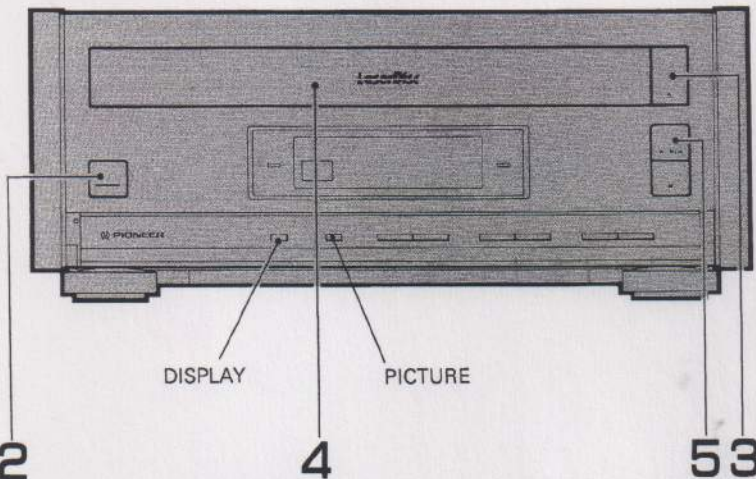
Each time DISPLAY button is pressed, the display changes in the following order: time/frame number → display off.



Other displays

Lights - Flashes	Function	Lights - Flashes	Function
OPEN	Opening of the table	Repeat Program	Program repeat
CLOSE	Closing of the table	Program	Program mode
STOP	Stop mode	Step-	Chapter program step
PLAY	Play mode	Last Memory	Last memory
PAUSE	Pause mode	Digital	Digital signal setting
STILL	Frozen picture	Analog	Analog signal setting
1/2, 1/4...	Slow-speed play	Stereo	Stereo
x2, x3	High-speed play	1/Lch	Main audio/Left channel
Index	Index search	2/Rch	Sub audio/Right channel
Repeat Memory	Memory repeat	One-Shot	One-Shot memory
Repeat A-B	A-B repeat	CX ON	CX noise reduction system ON
Repeat Side-A (B)	One side repeat	CX OFF	CX noise reduction system OFF
Repeat Chapter	Chapter repeat		

TO PLAY LD



When the power cord is connected to an AC outlet, power is supplied to the player's internal memory (such as the last memory) even when POWER switch is **STANDBY**. Therefore, be sure to connect the power cord directly to a wall outlet. If the power cord is connected to an outlet such as a switched outlet on an amplifier, the memory contents will be erased whenever the amplifier's power switch is turned off.

1 Turn on the power to the TV and/or audio system.

When using a stereo system for audio playback:
Turn on the power to the amplifier and set the amplifier's input selector to the input corresponding to the jacks connected to the LD-S2 (such as "CD").

2 Turn on the power to this unit.

Front panel

STANDBY/ON



or

Remote control unit



3 Open the disc table.

Front panel



or

Remote control unit



State of the display window during playback:



CLV

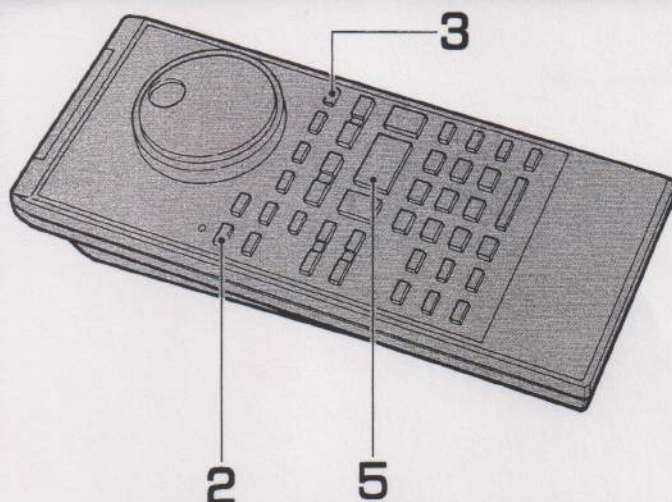


CAV

To turn off the player's display window:
Press **DISPLAY**. The indicators on the display window are turned off. When the **VIDEO OUT 1** jack or **S VIDE OUT 1** jack is connected, the displays on the TV screen are also turned off. In this state, the circuit for display function does not affect the sound quality. When you wish to turn the display function back on, press **DISPLAY** again.

CAUTION:

The commercially available adaptors, such as a caption adaptor, etc., cannot be used.



Front panel buttons and remote control unit buttons with the same name or mark have the same function.

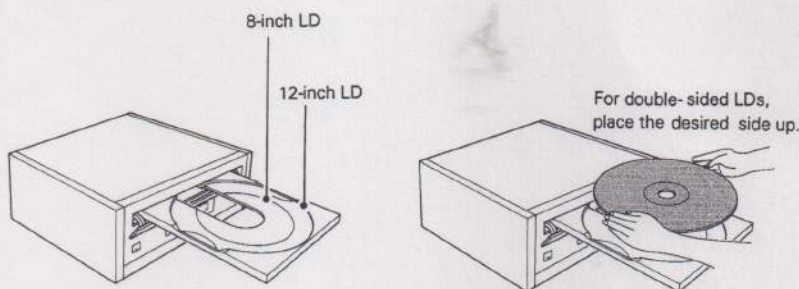
4

Load a disc

As shown in the following diagram, place the disc on the disc table in the groove corresponding to the size of the disc.

If the disc is not centered correctly on the disc table, the disc will not be played or the disc or the player may be damaged.

Always place the disc correctly according to the required disc size on the disc table.



5

Start playback.

Front panel



or

Remote control unit



Precautions concerning disc loading

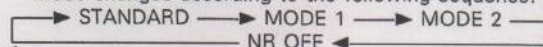
- Do not place more than one disc on the disc table. If two discs are placed one on top of the other on the disc table, discs may be scratched and/or malfunction may occur.
- With this unit, playback of thin-type 8-inch LDs is carried out without the use of adapters. Therefore, do not use any type of adapter with this unit.
- With single-sided LDs, always be sure to load discs with the label side facing upward.

To avoid malfunctions, be especially careful about the following points.

- Do not place any object other than a disc on the disc table.
- Do not move the player while a disc is playing. This will cause the disc to be scratched.
- Be careful not to catch your finger in the disc table section while the disc table is being retracted into the unit. Also, be careful that children do not put their hands into the inside of the unit while the disc table is open. This may cause injury.

To adjust the picture quality to match the software:

- Press PICTURE. Set the picture quality mode to the desired position. When this button is pressed once, the current mode is displayed (allowing you to confirm the current setting). After this, every time the button is pressed the mode changes according to the following sequence.



(STANDARD: Noise reduction is carried out for the color signal only.

MODE 1: } Use when the image signal-to-noise ratio is poor or when the image is soft.

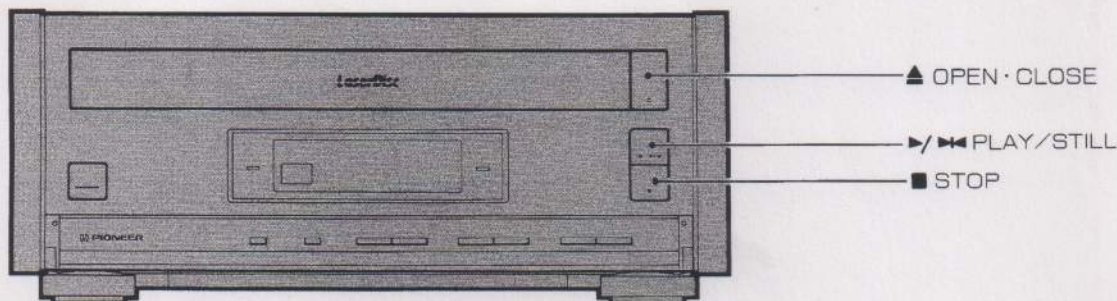
MODE 2: }

NR OFF: Use to obtain a straight image.

When the power is turned on, the picture quality mode is automatically set to the STANDARD position. However, if the last memory function is used, the picture quality mode is set to the memorized position.

- The PICTURE button is used to adjust the picture quality and turn on/off the noise reduction.

TO PLAY LD (Continue)



To pause playback temporarily

Remote control unit



Playback is interrupted and "PAUSE" appears on the screen. Press **PAUSE** **||** again resumes playback from the position where **PAUSE** was pressed.

To stop playback

Front panel



or

Remote control unit



When **PLAY** **▶** is next pressed, disc playback starts again from the beginning.

To stop playback and take out the disc

Front panel



or

Remote control unit



Twice

After removing the disc from the disc table, press **OPEN/CLOSE** **▲** or **PLAY** **▶** to close the table.

Discs marked with the **⊠** mark

Discs marked are recorded with the CX noise reduction system for powerful audio reproduction with little noise. The indicator on the front panel lights when such a disc is played. However, some discs marked are not encoded with the signals necessary to instruct the unit to automatically switch on the CX system. If the indicator does not light when a disc with a **⊠** mark is played, press CX on the remote control unit.

- **⊠** is a trademark of CBS inc. This player meets the CX EXPANDING SPECIFICATION.

To watch a TV broadcast:

Switch to the broadcast using the controls of your TV.

Interrupting playback and then resuming playback later at the interrupted location (Last Memory)

- This function is appropriate for use when watching long, story-type discs where you wish to stop and start the disc a number of times.

To interrupt playback: Press **LAST MEMORY**.

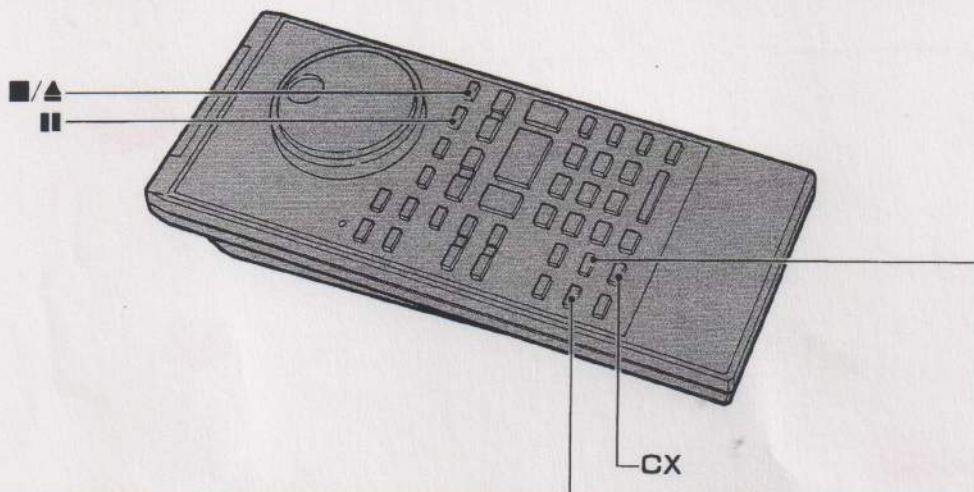
- When **LAST MEMORY** is pressed, various information such as disc type (standard/extended play), side (A/B), size (12-inch/8-inch), and the current frame number/time number are stored in the player's memory and playback is stopped.
- The stored information remains in memory even if the disc is removed or the power is turned off.

To resume playback at the interrupted location:

1. **Make sure that the same disc (with the same side up) is placed on the disc table.**
2. **Press **LAST MEMORY**.**
- Playback resumes from a location slightly before the location at which playback was last interrupted.

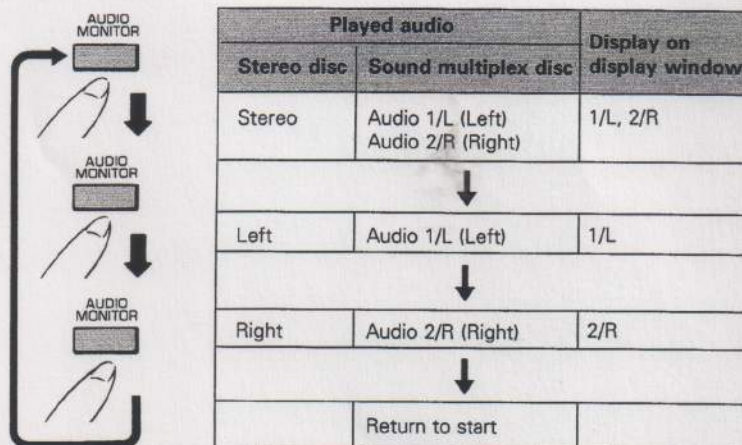
Notes:

- If a factor such as the disc size (12-inch, 8-inch), disc type (CLV, CAV), or disc side (A, B) differs from the memorized information, the disc table will open.
- If the Last Memory operation is carried out with a disc which is different from the disc currently stored in memory, the stored memory contents will be erased and replaced by the information for the new disc.
- If a power outage occurs or the power cord is unplugged from the wall outlet, the stored memory contents will be erased.



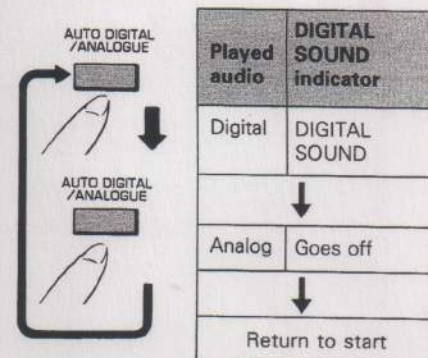
To listen to only one channel of a stereo disc, or to select the audio on a sound multiplex disc

During playback



To listen to the analog audio of an LD digital audio disc:

During playback



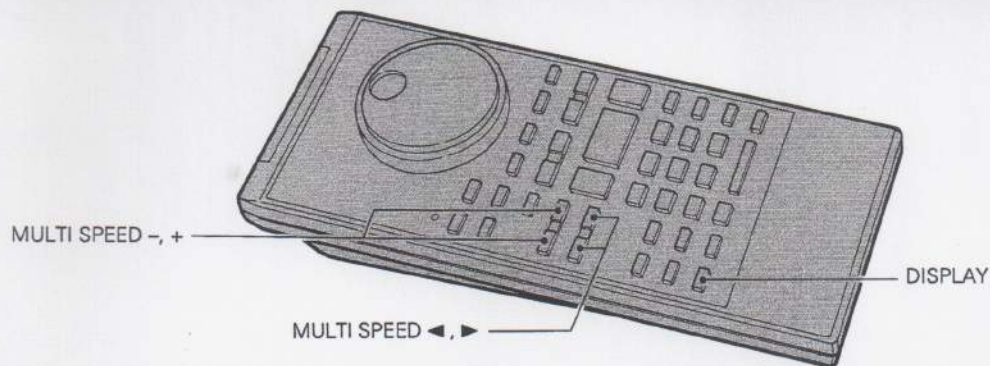
With a Multi Audio disc (an LD bearing the "MULTI AUDIO" mark), you can listen to the various audio tracks recorded on the disc by using AUTO DIGITAL/ANALOGUE to select between the analog and digital audio tracks, and by using AUDIO MONITOR button to select between the left (1/L) and right (2/R) channels.

Examples of the various types of audio recorded on Multi Audio discs

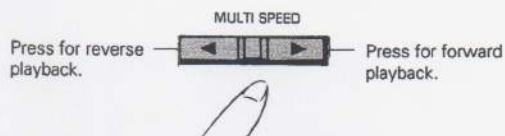
Disc	Audio	Analog audio	Digital audio
Movies, animations, etc.		Audio of the main program	Soundtrack
Dual music		Music 1	Music 2
Various types of digital audio karaoke		1/L Karaoke (monaural) 2/R Assisting vocals	Stereo karaoke
Stereo bilingual		Native language	Foreign language 1

Disc	Audio	Analog audio	Digital audio
Trilingual		Native language	1/L Foreign language 1 2/R Foreign language 2
Quadlingual		1/L Native language 2/R Foreign language 1	1/L Foreign language 2 2/R Foreign language 3

TO VARY THE PLAYBACK DIRECTION OR SPEED (Multi-speed Playback)



To vary the playback direction or speed

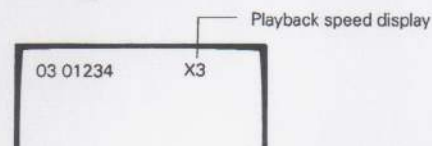
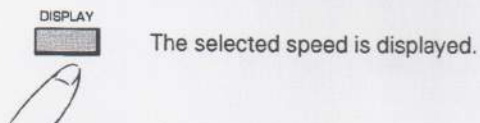


To return to normal playback operation, press PLAY button.

Faster
↑
↓
Slower

Speed display	Speed
x3	3 times the normal playback speed.
x2	Twice the normal playback speed.
x1	Normal playback speed.
1/2	1/2 the normal playback speed.
1/4	1/4 the normal playback speed.
1/8	1/8 the normal playback speed.
1/16	1/16 the normal playback speed.
1/30	1/30 the normal playback speed.
1/90	1/90 the normal playback speed.

To display the playback speed on the monitor TV screen



No sound?

During Multi-speed playback, sound is not heard.

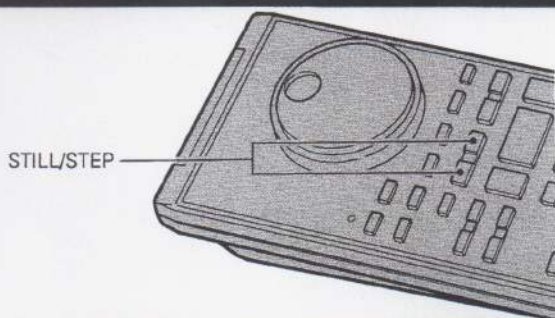
When MULTI SPEED ◀ or ▶ is pressed for the first time:

The x1/4 speed is set automatically.

If playback automatically switches to still frame display mode

If a disc containing special signals called "picture stop codes" is played at x1, x1/2, x1/4, x1/8, x1/16, x1/30, or x1/90 speed, playback pauses automatically whenever the unit encounters a frame where a picture stop code is encoded, and the still picture of that frame is displayed on the monitor screen. To move from that position, press PLAY ▶, MULTI SPEED ◀▶, ◀◀▶▶ or ◀◀ / ▶▶.

STILL FRAME/ FRAME ADVANCE



To freeze the picture — Still Frame



Press either of these buttons.

A still frame is displayed. To return to normal playback, press PLAY ►.

To view frames one by one — Frame Advance



First, display a still frame.



Each press switches frames in the reverse direction.

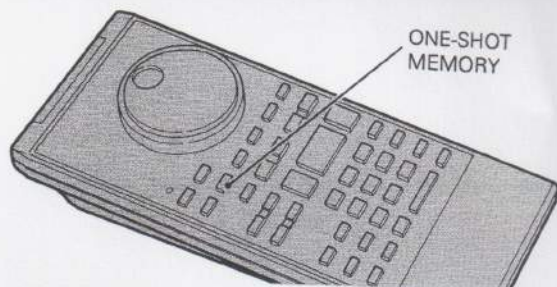
Each press advances frames in the forward direction.



Holding the button depressed advances frames continuously. To return to normal playback, press PLAY ►.

During still frame or frame advance operations
Sound is not heard.

ONE-SHOT MEMORY



The One-Shot Memory function stores the image of a single frame in the player's memory. When the One-Shot Memory function is activated and playback of the current disc is completed, the stored image is recalled and displayed on the screen. Since the image is displayed even after playback is completed, this function is convenient for displaying an image on the screen while changing discs.



During normal playback, press ONE-SHOT MEMORY when the desired scene appears on the screen. The frame displayed when the button was pressed is stored in memory.

"One-shot" is displayed on the TV screen for a few seconds.

After playback is finished, the memorized frame appears on the screen.



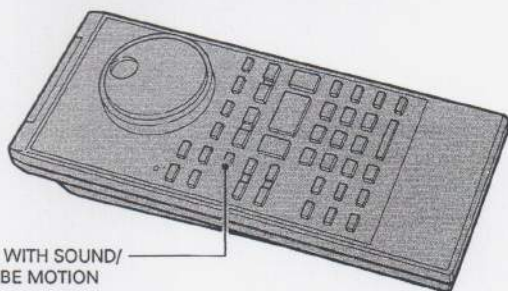
In this state, even if you change discs the scene displayed on the TV screen does not change. To cancel the One-Shot Memory function in order to play the video from another disc, press ONE-SHOT MEMORY again.

Notes:

- With the One-Shot Memory function, since the player memorizes the selected frame by recording its address, a frame which is slightly different than the one you thought you selected may be displayed. Also, if seconds are not recorded on the disc, a completely different frame may be displayed.
- While the memorized image is displayed on the TV screen, the character display will not appear on the screen. The display on the player can be switched by using DISPLAY on the remote control unit.

STILL WITH SOUND PLAYBACK

With the Still with Sound Playback function, you can stop the video image and display a still frame while continuing to listen to normal playback of the audio part.

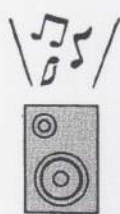


STILL WITH SOUND/
STROBE MOTION

During normal playback, press STILL WITH SOUND/STROBE MOTION button when the desired scene appears on the screen.



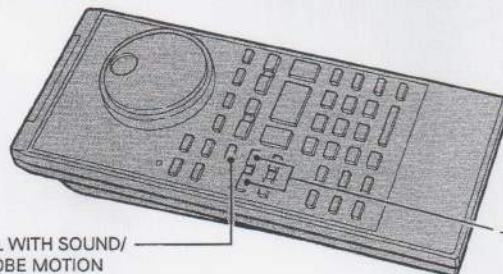
The screen is frozen at the current frame and the audio continues playing.



To resume normal playback:
Press PLAY.

STROBE MOTION PLAYBACK

With the Strobe Motion Playback function, the still frame displayed using the Still with Sound Playback function is replaced with successive still frames at regular intervals (variable), resulting in a strobe motion effect.



STILL WITH SOUND/
STROBE MOTION

+, -

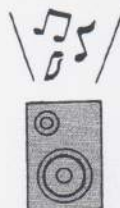


After pressing STILL WITH
SOUND/STROBE MOTION,
press + or -.



- : Increases the frame replacement interval.
+ : Decreases the frame replacement interval.

The still frames shown on the screen are replaced in sequence according to the selected replacement interval, while the audio continues as normal.



By repeated pressing of **+** and **-**, one of seven different replacement intervals can be selected.

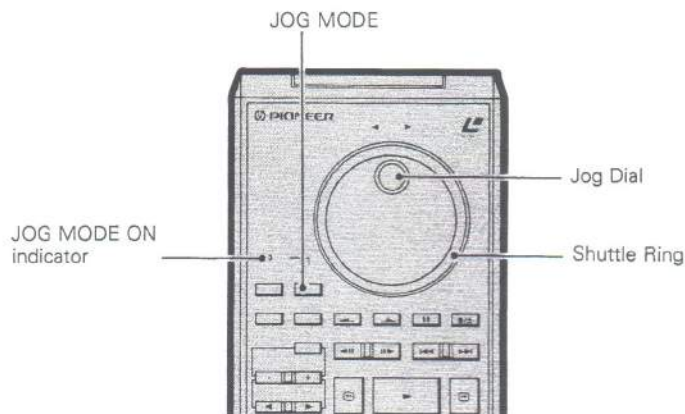
"-" key	Screen display	Replacement interval	"+" key
↓	x1	Every frame	↑
	1/2	Every 2 frames	
	1/4	Every 4 frames	
	1/8	Every 8 frames	
	1/16	Every 16 frames	
	1/30	Every second	
	1/90	Every 3 seconds	

Normal playback is carried out at 30 frames/second.
When the power is turned on, the replacement interval is initialized at "Every 4 frames".
In order to maintain normal audio playback, faster than normal playback modes such as x2 and x3 are not provided.

To resume normal playback:
Press PLAY.

TO SEARCH FOR A DESIRED PASSAGE

Using the Shuttle Ring and Jog Dial changes playback speed and direction. This function is useful to search for a desired passage.



Jog dial

Playback is advanced according to the speed and direction of rotation of the jog dial. Both forward and reverse playback is possible, and frames can be advanced at speeds of 1/2 speed, normal speed, and double speed. Rotating the jog dial clockwise forwards playback. Conversely, rotating it counterclockwise left reverses playback. To use the jog dial, first press JOG MODE so that the JOG MODE ON indicator lights.

When the jog dial stops rotating, the frame is displayed.

Shuttle ring

Playback advances according to the setting direction and angle of the shuttle ring. Both forward and reverse playback is possible, and playback can be advanced at speeds of 2-times, 5-times, 10-times, and fast-forward/fast-reverse (scan). Rotating to the right forwards playback. Conversely, rotating it to the left reverses playback.

Normal playback resumes when you release the shuttle ring.

No audio is output during operation of the jog dial and shuttle ring (even when normal playback speed is engaged).

To resume normal playback after using the jog dial:

Press PLAY.

When not using the jog dial, set JOG MODE to OFF.

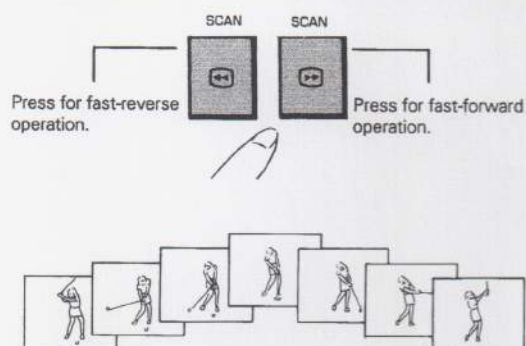
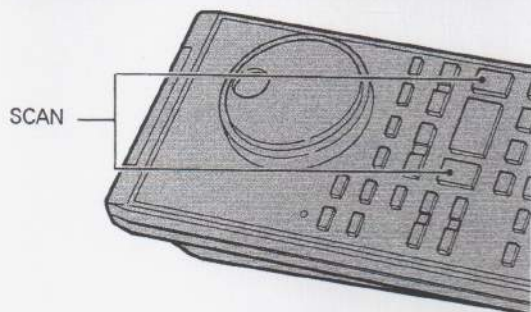
Although JOG MODE will automatically switch OFF (JOG MODE ON indicator goes out) approximately 5 minutes after you stop operating the jog dial, it is recommended that you set JOG MODE to OFF as soon as you finish using the jog dial in order to prevent unnecessary battery consumption.

When scanning to the end of the disc:

The frame is displayed.

TO SEARCH FOR A PARTICULAR SCENE

(Search using fast forward or fast reverse — Speed Scan)



Fast-forward or fast-reverse picture images can only be viewed while one of these buttons is held depressed.

Scan speed:

For about two seconds after the button is pressed, the scan speed is fairly slow, after that, it change to high speed.

When fast forward playback reaches the end of the disc:

A still frame is displayed.

When fast-reverse playback reaches the beginning of the disc:

Normal playback resumes.

During Speed Scan operation

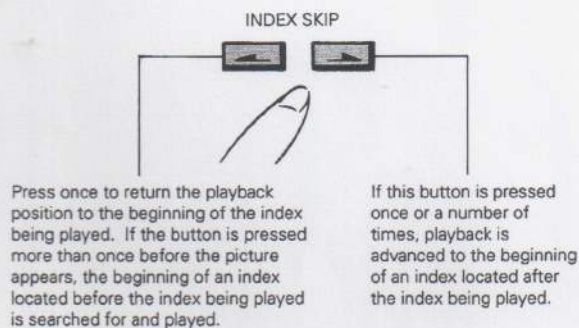
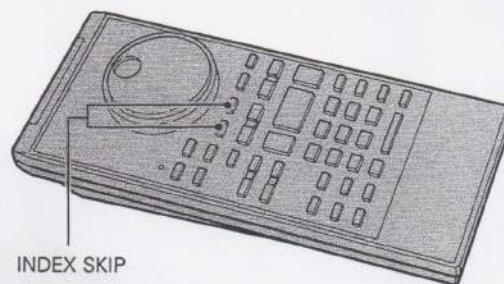
Sound is not heard.

Note on CAV (standard play) discs

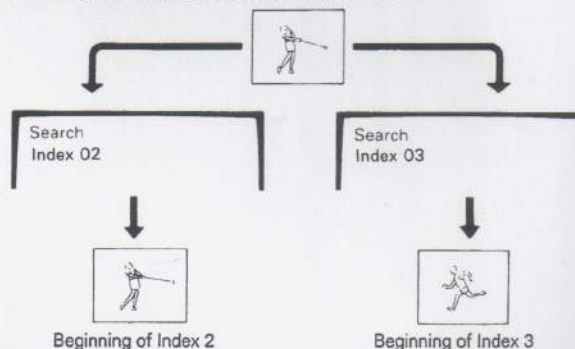
- Noise may appear during Speed Scan operation. However, this is not a malfunction.

TO SEARCH FOR A PARTICULAR SCENE

(Search using Index — Index Skip)
(Discs having a TOC only)



Example: If the present index number is 2.



When Index Skip reaches the end of the chapter:

A still frame is displayed.

NOTES:

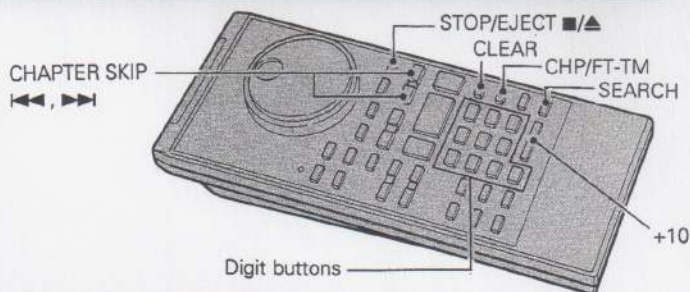
- Index Skip cannot be carried out with discs having no index.
- With some discs, the player searches for slightly before or after the beginning of index.

TO SEARCH FOR A PARTICULAR CHAPTER

Chapter Skip

The term "chapter" refers to each section on an LD. If chapter numbers are encoded on a disc, it is so indicated on the disc jacket.

- Chapter Search is not possible with discs which are not divided into chapters.

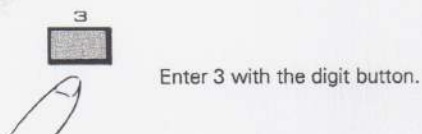


To search by designating the chapter number

Example:

To play from the beginning of Chapter 3:

<Direct Search>



Display on screen

Search
Chapter 03

Chapter 3 is searched for.



Playback starts.

<Normal Search>



When the display shows Frame No. or Time No. press this button again.

Enter 3 with the digit button

With Direct Search, playback starts from the beginning of the designated chapter. With Normal Search, the beginning of the designated chapter is played with still frame. Press PLAY ► to start normal playback.

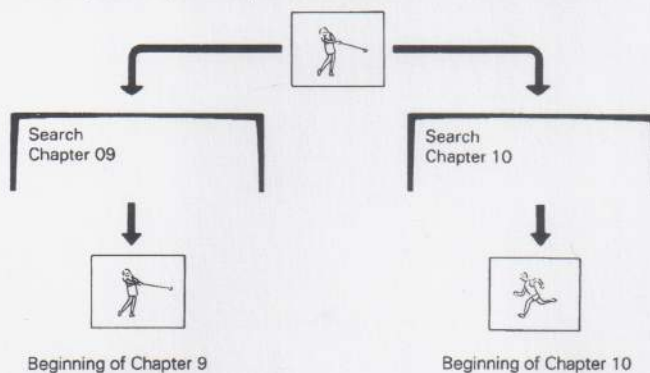
To search for the beginning of a chapter



Press once to return the playback position to the beginning of the chapter being played. If the button is pressed more than once before the picture reappears, the beginning of a chapter located before the chapter being played is searched for and played. The position of the located chapter corresponds to the number of times the button is pressed.

If this button is pressed once or a number of times, playback is advanced to the beginning of a chapter located after the chapter being played. The position of the located chapter corresponds to the number of times the button is pressed.

Example: if the preset chapter number is 9.



If you make a mistake during direct search?

Press CLEAR and enter the correct digit button.

To identify the present chapter number and frame (or time) number:

The numbers are displayed in the front panel display window. The information can also be displayed on the monitor TV screen by pressing DISPLAY on the remote control unit.

To cancel the search operation

Press STOP/EJECT ■ / ▲ or CLEAR while the player is searching for the chapter.

To search for chapter number 10 or above:

Use [+10] button.

(Example) To enter 17: [+10], [7]
To enter 30: [+10], [+10], [+10], [0]

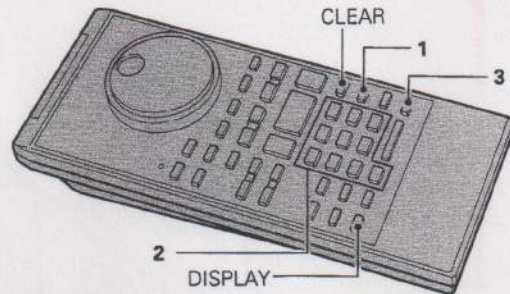
CAUTION

- With some LDs, if a chapter number beyond the last chapter number is specified, the end of the disc is played with still frame. (If "00" is specified, playback restarts from the beginning of the disc.)
- Chapter Skip is not possible with discs which are not divided into chapters. When such a disc is played, only the frame number or time number can be displayed on the monitor screen.

TO SEARCH FOR A PARTICULAR SCENE

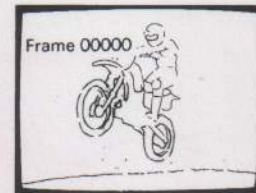
(Search for a Frame — Frame Search) (CAV standard discs only)

The term "frame" refers to each of the picture images recorded on a CAV standard disc.
Any desired frame can be searched for by specifying its frame number.

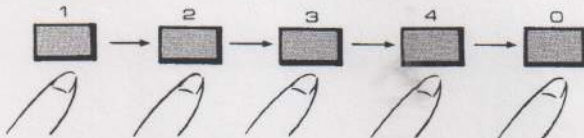


Example: To search for frame number 12340:

1. Press **CHP/FR-TM**. When the display shows chapter NO., press this button again. "Frame 00000" is displayed.

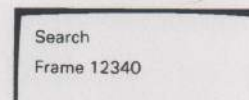


2. Enter **1**, **2**, **3**, **4** and **0** with the digit buttons.



If you make a mistake during entry:
Press the **CLEAR** button to reset the frame number to "00000", and press the correct buttons (all 5 digits) again.

3. Press **SEARCH**.



Frame 12340 is searched for.



If frame Search is started from the Still Frame, Multi-speed Playback, or pause mode, the designated frame is played with still frame.

The designated frame is played with still frame. Pressing **PLAY** ► resumes normal playback. (When **PLAY** ► is pressed during search, normal playback starts at the designated frame.)

To enter a frame number:

Use the **0** - **9** digit buttons. The **+10** button does not function.

To identify the present chapter number and frame number:

The numbers are displayed in the front panel display window.
The information can also be displayed on the monitor TV screen by pressing **DISPLAY** on the remote control unit.

To cancel Frame Search:

Press **CLEAR**.

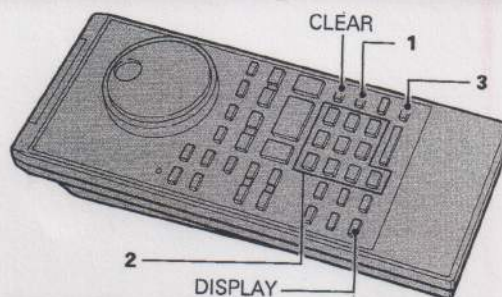
CAUTION

If a frame number beyond the last frame number on the disc is specified, the end of the disc is played with still frame. (If "00000" is specified, the beginning of the disc is played with still frame.)

TO SEARCH FOR A PARTICULAR SCENE

(Search for a time number — Time Search) (CLV extended play discs only)

The time number indicates the time elapsed from the beginning of the disc, which is recorded on CLV discs. Any desired scene can be searched for by specifying its time number.

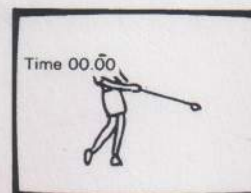


To search for the scene located at time number 12 min. 34 sec (CLV)

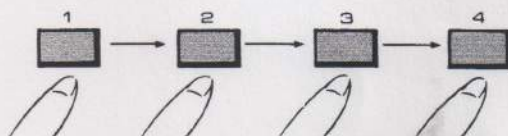
1. Press CHP/FR-TM.



When the display shows chapter No., press this button again.



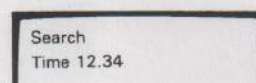
2. Enter 1, 2, 3 and 4 with the digit buttons.



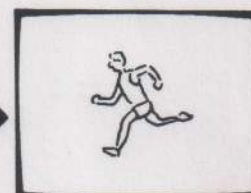
If you make a mistake during entry:
Press CLEAR to reset the time number to "00•00", and press the correct digit buttons (4 digits with discs containing information on the digits of seconds, 2 digits with discs without the seconds information) again.



3. Press SEARCH.



Time number 12.34 is searched for.



The scene located at the specified time number is played with still frame. Press PLAY ► to start normal playback. (If PLAY ► is pressed during search, normal playback will start.)

To identify the present chapter number and time number:

The numbers are displayed in the front panel display window. The information can also be displayed on the monitor TV screen by pressing DISPLAY on the remote control unit.

To enter the time number:

Use the 0 - 9 digit buttons. The +10 button does not function.

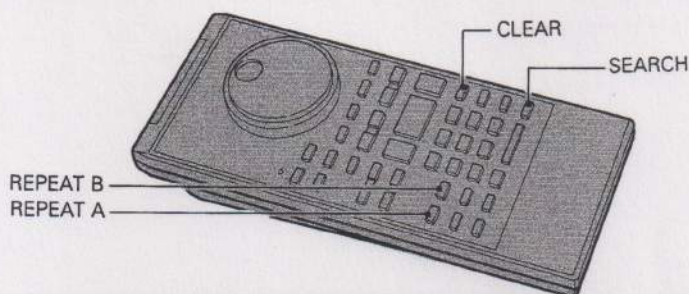
To cancel Time Search:

Press CLEAR.

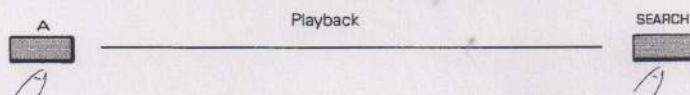
CAUTION

- If a disc does not contain information on the digits of seconds, specify the time number only as far as the minute digits.
- If a time number beyond the last time number on the disc is specified, the end of the disc is played with still frame.

TO REPEATEDLY PLAY A DESIRED PASSAGE — Repeat Playback



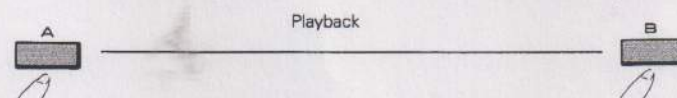
To specify a point to return to later — Memory Repeat



Point A is memorized.
"Memory" appears on the monitor TV screen.

When you wish to return to point A, press
SEARCH.

To repeat a specified section — A-B Repeat



Press REPEAT A at the start point of the section
to be repeated.
"Memory" appears on the monitor TV screen.

Press REPEAT B at the end point of the section to be
repeated. Playback returns to the beginning of the
section and the section is repeated continuously.

To repeat the current chapter — Chapter Repeat



When the end of the chapter is reached, the player
returns to the beginning of the chapter and the
chapter is played back repeatedly.

Press REPEAT B while the chapter to be repeated
is playing.

To exit repeat mode:

Press CLEAR. Repeat mode is canceled and normal playback
continues from the current point.

To specify a different point in Memory Repeat mode:

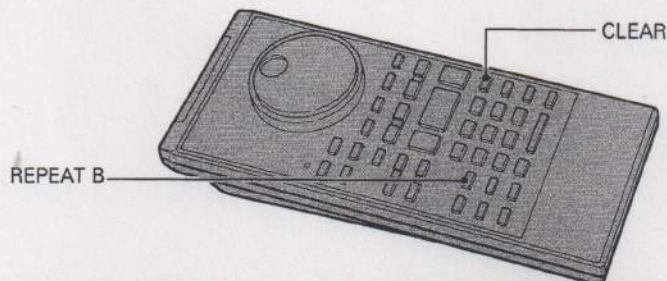
Press REPEAT A at the new point. The previously memorized
point is erased and replaced with the new point.

With LDs which have no chapter numbers:

Chapter repeat cannot be carried out.

To identify the present repeat playback mode:

The information can be displayed on the monitor TV screen by
pressing DISPLAY on the remote control unit.



To repeat one side of a disc — One Side Repeat

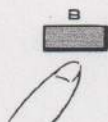


Press REPEAT B twice. "Repeat Side-A (B)" appears on the monitor TV screen.
When playback reaches the end of the playback side, the player returns to the beginning of the disc and the same side is played back repeatedly.

To repeat a program — Program Repeat

With the program repeat function, you can repeatedly play programmed chapters in their programmed order.

- See page 34 for details on programming.



Press REPEAT B while the program is being played.

The following operations can be carried out during repeat playback.

- Normal playback
- Pause
- Still frame/frame advance or reverse
- Forward direction (▶) multi-speed playback
- Fast-forward/fast-reverse

The following operations cancel repeat playback.

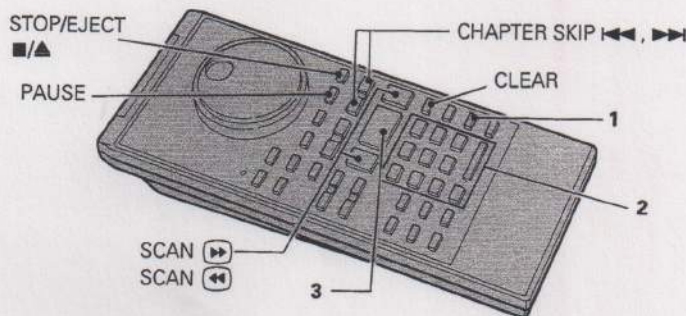
- Chapter skip (forward or reverse)
- Search operations (chapter/frame time, digit input)
- Program playback
- Reverse direction (◀) multi-speed playback*

* One Side Repeat and Memory Repeat are not canceled.

TO PLAY ONLY THE DESIRED CHAPTERS — Program Playback

Up to 20 chapters can be played in any desired order.

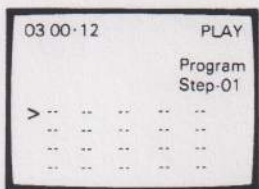
- You can view the state of programming on the monitor TV screen.



Example: To play chapter No. 9, No. 7 and No. 18 in this order

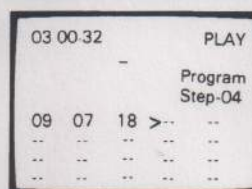
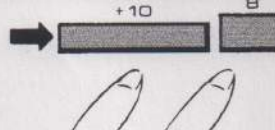
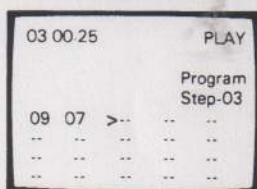
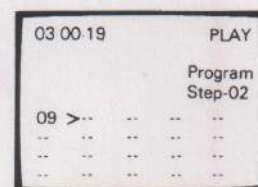
- Programming can be performed when the player is in either stop mode or play mode.

1 Press PGM.

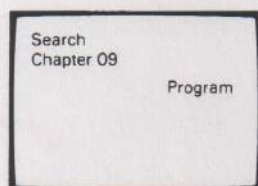


2 Enter 9, 7, +10, and 8 with the digit buttons.

If you make a mistake during entry; Press CLEAR and enter the correct number with the digit buttons.



3 Press PLAY.



The first chapter in the program is searched for and played. In this example, Program Playback starts at the beginning of chapter number 9. After tracks No. 9, No. 7, and No. 18 have been played, the player enters stop mode.

To stop program playback:

- Press STOP on the front panel or STOP/EJECT on the remote control unit, or ...
- Press CLEAR on the remote control unit.

To erase the program contents:

- Open the disc table, or ...
- When the unit is in stop mode, press CLEAR.

Programming a pause:

Inserting a pause in your program can be very useful when carrying out recording.

- For example, when recording on both sides of a cassette tape, if you program a pause after the last chapter to be recorded on the first side, program playback will pause at that point to allow you to switch tape sides.
- To resume program playback when the unit is in pause mode, press PAUSE.

To program a pause:

In step 2 of the above procedure, press PAUSE instead of entering a chapter number.

Notes:

- A pause cannot be programmed at the beginning of a program (Step-01), and two pauses cannot be programmed one after the other.
- A pause inserted in a program is counted as one step.
- When a pause is programmed at the end of a program (last step), the player does not enter pause mode.

Programmed pause indication:

"P" is displayed on the monitor TV screen.

To go to the previous or next chapter in a program:

Press CHAPTER SKIP or CHAPTER SKIP/PGM CORRECT.

To check the program contents

Once a program has been created, the program remains in the player's memory, and the contents of that program are displayed when PGM is pressed. During playback, the programmed chapter number is displayed with the ">" mark.

To modify the program contents

To erase a programmed chapter number or pause

1. Press PGM.
2. Use ◀◀ and ▶▶ PGM CORRECT to move the cursor ">" to the left side of the chapter number or pause to be deleted.
3. Press CLEAR.

To change a programmed chapter number or pause

1. Press PGM.
2. Use ◀◀ and ▶▶ PGM CORRECT to move the cursor to the left side of the chapter number or pause to be changed.
3. Enter the new chapter number with the digit buttons. To enter a pause, press PAUSE.
4. Press PGM to complete programming.

Note concerning program modification

- It is not possible to erase or change a programmed chapter while that chapter is being played.

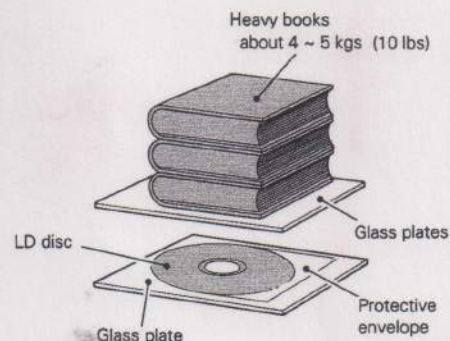
Notes:

- If the shuttle ring is used to fast-forward or fast-reverse (scan) during program playback, the playback position will move to another chapter, but when the shuttle ring is returned to its home position, the next chapter in the program will be played.
- If ► MULTI SPEED is pressed during program playback, the unit will enter multi-speed playback mode and the playback position will move to successive chapters according to the order of the program.
If ◀ MULTI SPEED is pressed during program playback, multi-speed playback will begin in the reverse direction but program playback will not be carried out.
- Do not program chapter numbers which do not exist on the disc, as this may inhibit execution of the program.

TROUBLESHOOTING

Incorrect operations are often for trouble and malfunctions. If you think that there is something wrong with this component, check the points below. Sometimes the trouble may lie in another component. Inspect the other components and electrical appliances being used. If the trouble cannot be rectified even after executing the checks listed below, ask your nearest PIONEER authorized service center or your dealer to carry out repair work.

SYMPTOM	CAUSE	REMEDY
1. Disc table is not ejected when OPEN/CLOSE is pressed.	<ul style="list-style-type: none"> Power cord is not properly plugged into AC wall socket. Power switch is not turned on. 	<ul style="list-style-type: none"> Plug in power cord. Turn on power switch.
2. Disc table comes out.	<ul style="list-style-type: none"> Disc is dirty. The disc is not properly set on the disc table. Moisture has condensed on parts in the player. Disc is warped. 	<ul style="list-style-type: none"> Clean disc. Set the disc properly. Remove disc and let player stand for 1 to 2 hours until it is dry. Try to alleviate the warp. (Refer to Symptom 7, remedy column.)
3. Remote control does not work.	<ul style="list-style-type: none"> The CONTROL IN terminal on the rear panel is connected to PIONEER projection monitor or AV control center. Batteries are weak. There is an obstacle between the player and the remote control unit. Remote control unit is not in a good location for transmission. A fluorescent light is shining in the remote sensor window. 	<ul style="list-style-type: none"> Aim the remote control unit at the projection monitor or AV control center. Replace batteries. Remove the obstacle or shift the remote control position. Operate the remote control unit in front of the player. Turn off the light.
4. Operation of the remote control unit causes the TV to operate improperly.	<ul style="list-style-type: none"> Some TV sets have remote control functions that operate improperly in response to the remote control unit of the player. 	<ul style="list-style-type: none"> Move the TV and the player further apart, or cover the remote sensor of the TV during disc playback.
5. Disc is rotating but there is no picture.	<ul style="list-style-type: none"> The TV set is not turned on. Wrong connections from player to TV. The plugs of the connection cords are disconnected, or are not fully pushed in. 	<ul style="list-style-type: none"> Turn on TV. Make correct connections. Make sure that connections are made correctly.
6. Picture continuously moves vertically.	<ul style="list-style-type: none"> The TV vertical hold control is not adjusted properly. 	<ul style="list-style-type: none"> Adjust vertical-hold control on TV.
7. Particular disc does not playback properly. The playback stops in the middle of the disc program.	<ul style="list-style-type: none"> The playing surface of the disc is dirty. The disc is warped. 	<ul style="list-style-type: none"> Use a soft cloth and lightly wipe off the dirt from the surface of the disc. If necessary, moisten a cloth with diluted neutral detergent to remove heavy dirt or fingerprints. Put the disc into the protective envelope, then place it on a flat desk top. Subsequently, place a flat board e.g. glass plate on the disc, and load it with about 4 ~ 5 kgs (about 10 lbs). If it is left in this state for one day, sometimes the warp will be alleviated.



SYMPTOM	CAUSE	REMEDY
8. Sound is unnatural or distorted.	<ul style="list-style-type: none"> ● CX system is turned ON for disc which has no mark. 	<ul style="list-style-type: none"> ● Press CX to turn CX system OFF.
9. No sound output during playback.	<ul style="list-style-type: none"> ● MULTI-SPEED or STILL/STEP playback is being performed. 	<ul style="list-style-type: none"> ● Press PLAY to set the player to normal play mode.
10. During STILL playback, a part of the screen image shakes.	_____	<ul style="list-style-type: none"> ● Even if the disc is a standard play disc, there may be some cases in which a fully still image cannot be obtained, but this does not mean that the player or the disc is defective.
11. CHAPTER SKIP, CHAPTER PROGRAM PLAY and CHAPTER NUMBER SEARCH cannot be performed.	<ul style="list-style-type: none"> ● Disc in which no chapter numbers are recorded is loaded. 	<ul style="list-style-type: none"> ● Press DISPLAY to check if chapter number is displayed.
12. Certain discs take too long to search or do not search.	<ul style="list-style-type: none"> ● It takes time to read the recorded code, depending on the disc. 	<ul style="list-style-type: none"> ● Press CLEAR and picture will appear. (At this point, a slightly different scene from that which has been searched for may appear.)
13. Certain discs take too long to start or do not start.	<ul style="list-style-type: none"> ● There are errors when the disc code is read (There is no damage to the unit). 	<ul style="list-style-type: none"> ● Press STOP to stop the playback. Press PLAY to start the playback again. (Repeat this operation a few times.)
14. The player takes too long to find point A during A-B REPEAT operation.	<ul style="list-style-type: none"> ● Same as item 12 above. 	<ul style="list-style-type: none"> ● Same as item 12 above. (The repeat mode is cancelled).
15. Picture other than instructed is searched in TIME NUMBER SEARCH mode.	<ul style="list-style-type: none"> ● Method of inputting numerals in the TIME NUMBER SEARCH mode differs, depending on whether time number is recorded on disc in minutes or minutes and seconds, as shown below: [e.g.] 12-minute search ● Disc in which time number is recorded in minutes <div style="text-align: center;"> <div>CHP/FR-TM</div> <div>12</div> <div>SEARCH</div> <div>"minutes"</div> </div> <ul style="list-style-type: none"> ● Disc in which time number is recorded in minutes and seconds <div style="text-align: center;"> <div>CHP/FR-TM</div> <div>1200</div> <div>SEARCH</div> <div>"minutes" "seconds"</div> </div>	

SPECIFICATIONS

1. General

[illegible]

2. Disc

LaserVision Discs

*Maximum playing times

12-inch standard play disc	1 hour/both sides
12-inch extended play disc	2 hours/both sides
8-inch standard play disc	28 min/both sides
	14 min/one side
8-inch extended play disc	40 min/both sides
	20 min/one side

Spindle motor speed

Standard play disc	1,800 rpm
Extended play disc	1,800 rpm (inner circumference) to 600 rpm (outer circumference)

(For a 12-inch disc)

* Actual playback time differs for each disc.

3. Video characteristics (2 pairs)

Format..... NTSC specifications
Video output
Level..... 1 Vp-p nominal, sync. negative, terminated
Impedance..... 75 Ω unbalanced
Jacks..... RCA jack/BNC jack

4. S-Video output (2 pairs)

Y (luminance) - Output level	1 Vp-p (75 Ω)
C (color) - Output level	286 mVp-p (75 Ω)
Jacks	S-VIDEO jacks

5. Audio characteristics (2 pairs)

Output level	
During analog audio output	200 mVrms (1 kHz, 40%)
During digital audio output	220 mVrms (1 kHz, -20 dB)
Jacks	Both RCA jacks
Number of channels	2

Digital Audio Characteristics

Frequency response	4 Hz ~ 20 kHz (± 0.2 dB) (EIAJ)
SN ratio	115 dB (EIAJ)
Dynamic range	100 dB (EIAJ)
Channel separation	110 dB(EIAJ)
Total harmonic distortion	0.0015% (EIAJ)
Wow and flutter	Limit of measurement (0.001% W. PEAK) or less (EIAJ)

6. Other Terminals

Control input/output Both miniature jacks
Optical digital output Optical digital jack

7. Accessories

Remote control unit (CU-LD019)	1
Size "AA" (IEC R6) dry cell batteries	2
Video cord	1
Audio cord	1
BNC - pin plug adaptor	1
S video cord	1
Operating instructions	1

8. Player Functions


- Display ON/OFF
- Power ON/OFF by remote control unit POWER
- Picture adjustment
- Last Memory

9. Functions

Remote control unit operations (CU-LD019)

	Function	Standard play Disc (CAV)	Extended play Disc (CLV)
Basic Functions	Single-side play	YES	YES
	Pause	YES	YES
	Stop	YES	YES
Search	Fast forward and reverse	YES	YES
	Chapter skip	YES	YES
	Index skip	YES*1	YES*1
	Direct chapter number search	YES	YES
	Frame number search	YES	NO
	Time number search	NO	YES
Program	Chapter program play	YES	YES
	Program correction	YES	YES
Repeat	Repeat between 2 points	YES	YES
	Memory repeat	YES	YES
	Chapter repeat	YES	YES
	One-side repeat	YES	YES
	Program repeat	YES	YES
Trick play	Still/Step (Forward/Reverse)	YES	YES
	Multi-speed (Forward/Reverse 9-level variable)	YES	YES
	Still with Sound	YES	YES
	Strobe motion	YES	YES
	Jog dial/Shuttle ring	YES	YES
Time display	Elapsed time display	YES*1	YES*1
	Remaining total time display	YES*1	YES*1
	Total number of chapters, total time display	YES*1	YES*1
Others	CX system ON/OFF	YES*2	YES*2
	AUTO DIGITAL/ANALOG switch	YES*3	YES*3
	One-shot memory	YES	YES
	Audio channel selection (Stereo, 1/L, 2/R)	YES	YES
	Last memory	YES	YES

*1 Only discs with TOC

*2 Valid for analog sound playing a disc with the  mark.

*3 Can only be used with discs with digital sound tracks.

NOTE:

The specifications and design of this product are subject to change without notice, due to improvement.

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