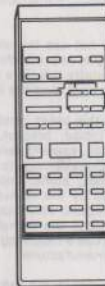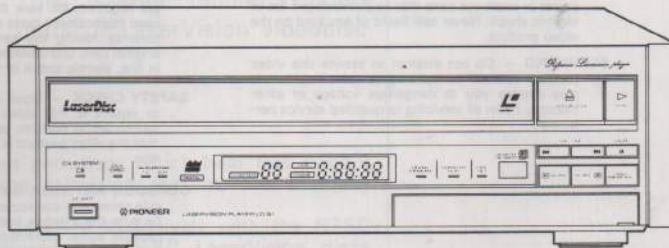LaserDisc ™

## Operating Instructions

### LASERVISION PLAYER
# LD-S1

NTSC

L' LaserVision



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 connect-
ing and operating the unit is the same.

**WARNING:** TO PREVENT FIRE OR SHOCK HAZ-
ARD, 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.

[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.

## Ω PIONEER®
The future of sound and vision.

**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.

**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.

**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.

**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.

**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:
a. When the power-supply cord or plug is damaged.
b. If liquid has been spilled, or objects have fallen into the video product.
c. If the video product has been exposed to rain or water.
d. 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.
e. If the video product has been dropped or the cabinet has been damaged.
f. 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.
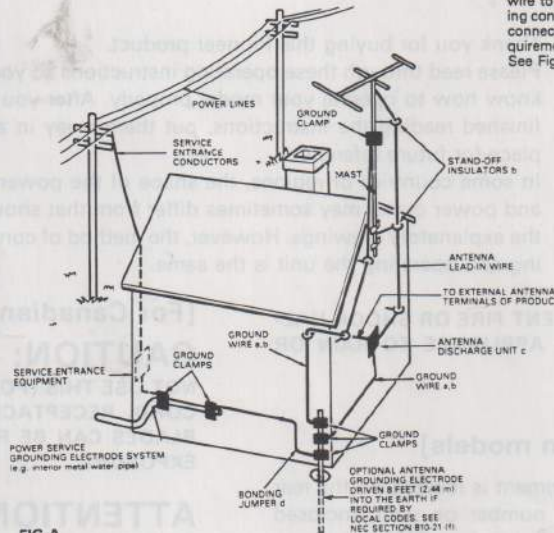See Fig. A.



POWER LINES
GROUND CLAMP
SERVICE ENTRANCE CONDUCTORS
MAST
STAND-OFF INSULATORS b
ANTENNA LEAD-IN WIRE
TO EXTERNAL ANTENNA TERMINALS OF PRODUCT
GROUND WIRE a,b
ANTENNA DISCHARGE UNIT c
GROUND WIRE a,b
SERVICE ENTRANCE EQUIPMENT
GROUND CLAMPS
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (e.g. interior metal water pipe)
BONDING JUMPER d
OPTIONAL ANTENNA GROUNDING ELECTRODE DRIVEN 8 FEET (2.44 m) INTO THE EARTH IF REQUIRED BY LOCAL CODES. SEE NEC SECTION 810-21 (f)

**FIG. A**

a) Use No. 10 AWG (5.3 mm²) copper wire, No. 8 AWG (8.4 mm²) aluminum wire, No. 17 AWG (1.0 mm²) copper-clad steel wire, bronze wire or larger wire as ground wire.
b) Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4 feet (1.22 meters) to 6 feet (1.83 meters) apart.
c) Mount antenna discharge unit as closely as possible to where lead-in enters house.
d) Use jumper wire not smaller than No.6 AWG (13.3 mm²) copper, or the equivalent, when a separate anntenna-grounding electrode is used.
See NEC section 810-21 (j).

# IMPORTANT 1

⚡

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.

## [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.

---

Only LaserVision videodiscs bearing the symbol below should be used with this player.

**LaserVision**

This is the unified symbol mark of 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 discs only. PAL and SECAM system LaserVision discs cannot be used with this player.

---

## INFORMATION TO USER [FOR U.S. MODEL]

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

If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- reorient the receiving antenna
- relocate this component with respect to the receiver
- move this component away from the receiver
- plug this component into a different outlet so that component and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:
"How to Identify and Resolve Radio-TV Interference Problems".
This booklet is available from the US Government Printing Office, Washington, D.C., 20402, Stock No. 004-000-00345-4.

*The above instructions apply only to units which will be operated in the United States.*

---

# CONTENTS

3

<VRB1006>

# FEATURES

**Extended Play (CLV) Disc Special Playback.**
The use of a built-in digtal memory makes it possible
to special playback extended play discs.

**A Complete Set of Special Playback Options**
In addition to still/step and multi-speed playback,
there are more special playback options to add to
your AV enjoyment.

- **Still playback with sound** — makes it possible
  to freeze any frame on the disc with natural
  sound
- **Strobe motion** — holds a frame for a specified
  time then the frame following the time interval
  will be displayed and so on. The sound track is
  played back as normally.
- **Noiseless scan** — permits rapid scan search in
  forward or reverse without noise stripes and
  other distortion of the picture

**Last memory function records the point where
you previously left off.**
The player records the last frame you viewed on a
disc after playback is interrupted. The next time, you
view the same side of the disc, the player automat-
ically picks out for you the section of the disc just
proceeding the point you last viewed.

**DIGITAL SOUND FROM LASERVISION WITH
DIGITAL SOUND DISCS**
Discs with 🔲 mark have digital recordings which
can be played to output digital sound.

**LARGE EASY-TO-VIEW DISPLAY**
The large display in the center of the front panel
shows chapter, frame/time so you always know
where you are on a disc.

## CONFIRMATION OF ACCESSORIES

THE FOLLOWING ACCESSORIES ARE SUPPLIED WITH THIS PLAYER.

- Remote control unit
- Size "AAA" (IEC R03)
  dry cell battery x 2

- Video cord
  (Pin plug ⟷ Pin plug)

- Audio cord
  (Pin plug x 2 ⟷ Pin plug x 2)
  Use to connect the player
  to a stereo amplifier etc.

- Operating instructions
- Warranty card

4

# PRECAUTIONS

## INSTALLING THE PLAYER

● Choose a stable platform next to the television and stereo system with which you plan to use the player.

● When using the player with a stereo system, your speakers should be installed somewhat separated from your television (or TV monitor).

● Do not place heavy objects such as your 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 cassettes decks which are sensitive to magnetic fields.

## 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 cooking ranges 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 such as amplifiers, by placing the player below such components where there is adequate ventilation with little 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 keys on the player or the remote control keys for removal and insertion of the disc table. To avoid damage, be careful not to apply any force to the moving disc table.

---

## CONDENSATION

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

**To prevent this, let the player stand in its new surroundings for about an hour before switching it on, or ensure 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.

---

### WHEN STRIPES APPEAR ON THE TELEVISION SCREEN

If the power for this unit is left on while viewing a TV broadcast, a striped pattern may appear on the TV screen. This is not a malfunction of this unit or the television set. When such striped patterns occur, or after watching a TV broadcast for prolonged periods of time, switch the power for the unit off.

---

### CLEANING CARE

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

# LASERVISION VIDEODISCS

LaserVision videodiscs basically come in two forms: standard play discs and extended play discs. Discs on which the ordinary sound is accompanied by digitally recorded sound are also available.

## STANDARD PLAY (CAV) DISC

Standard play discs are played at constant angular velocity (CAV).

## EXTENDED PLAY (CLV) DISCS

These discs are played back at constant linear velocity (CLV), and are therefore able to play for a longer length of time than standard play discs. Special playback is not offered with conventional Pioneer players. But, special playback that is virtually equivalent to that of a standard play disc can be obtained using the memory function of this unit.

## LASERVISION WITH DIGITAL SOUND DISCS

**digital SOUND** The jackets and labels of these discs bear the symbol on the left.

In addition to conventional analog sound signals, LaserVision with Digital Sound Discs also have recorded on them the same kind of PCM sound signals that are recorded on Compact Discs.
With these discs, the high quality pictures of LaserVision discs and digital sound, can be enjoyed at the same time.
The two types of sound, digital and analog, are recorded onto the discs using different frequency bands.



Record signal spectrum
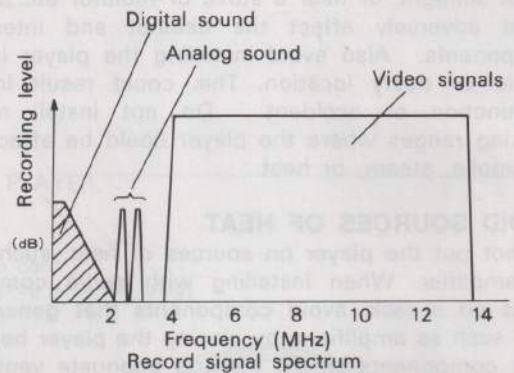
## CARE OF DISCS
### How to hold discs

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

(How to hold discs)
When holding with both hands, hold the disc by its edges.

When holding with one hand, hold the disc by its center hole and one edge.
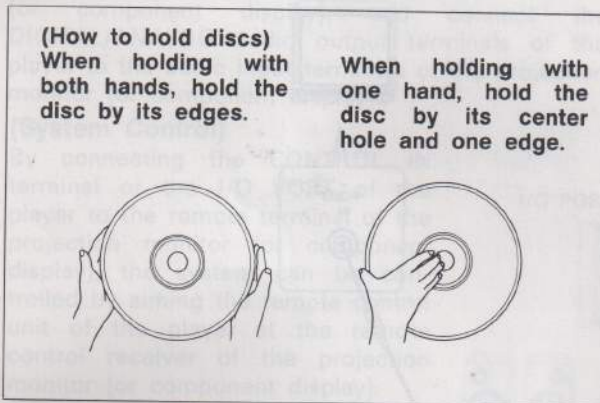
### Cleaning

The presence of fingerprints or other dirt etc. on the disc, will not directly affect the recorded signal. Nevertheless, dirt on the disc will cause the brightness of the light reflected from the signal surface to be reduced, which may adversely affect sound and picture quality. If a disc is dirty, clean the disc before playing it.

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.

Gently wipe from the inside toward the outer edge.

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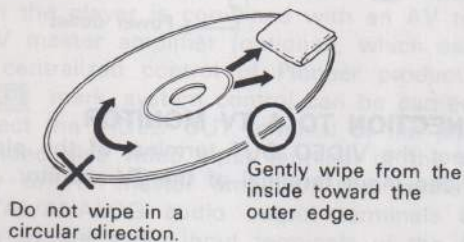
Discs may not be cleaned with record cleaning sprays, or static prevention sprays etc. Also do not use volatile liquids such as benzene, or thinner etc.

### Do not use damaged discs

Do not use damaged discs that are warped or cracked etc. This may result in damage to the player.

### After using discs, store them vertically upright

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

- Take care when storing discs. 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 unbelievable hot.

If a disc becomes warped, put the disc into its protective envelope, and then place it between flat plates made of glass etc. Then place thick books etc. on top of the plates so as to apply a weight of 4 to 5 kg, and leave the disc like this for a day or so. This may alleviate the warp.
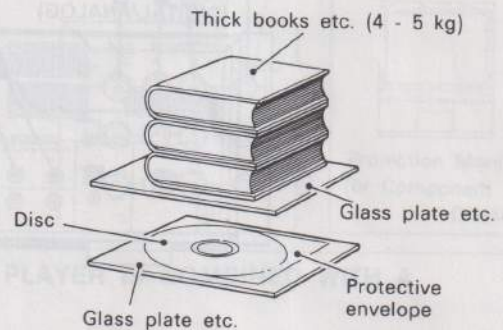
Thick books etc. (4 - 5 kg)

Disc

Glass plate etc.

Glass plate etc.

Protective envelope

7

<VRB1006>

# CONNECTIONS

NOTE:
*Playback is only possible when the unit is connected to a TV with a video in terminal.*

Stereo amplifier

TV monitor

**INPUT**

PHONO   TUNER   AUX

VIDEO IN

AUDIO OUT
(DIGITAL/ANALOG)

VIDEO OUT

LD-S1
(Rear panel)

Power outlet
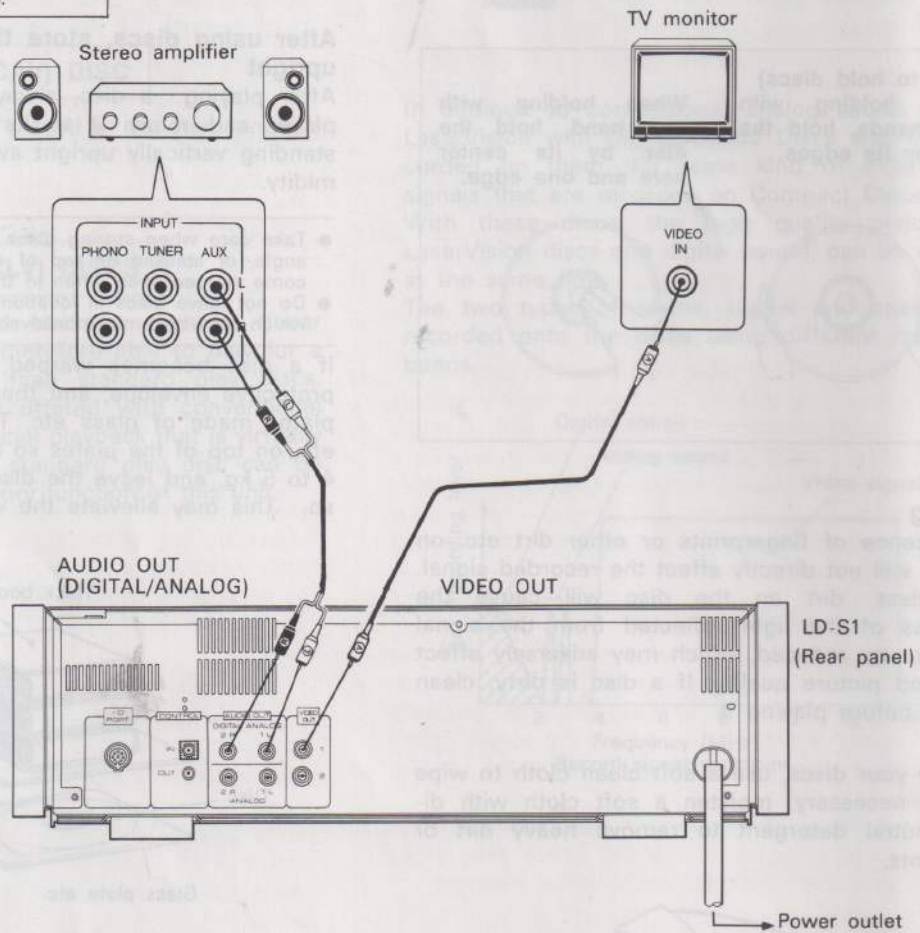
## CONNECTION TO A STEREO AMPLIFIER

With the supplied audio cord, connect the player's DIGITAL/ANALOG AUDIO OUT terminals with the stereo amplifier's AUX, TUNER, or similar terminals. (Do not connect it to the amplifier's PHONO terminals.)

The ANALOG AUDIO OUT terminals are for future system expansion. Their connection are not necessary for normal use.

## CONNECTION TO A TV MONITOR

Connect the VIDEO OUT terminal of the player to the video input terminal of the TV monitor.

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

Connect the VIDEO OUT terminal of the player to the video input terminal of the projection monitor (or component display), and connect the DIGITAL/ANALOG audio output terminals of the player to the audio input terminals of the projection monitor (or component display).

### (System Control)

By connecting the CONTROL IN terminal or the I/O PORT of the player to the remote terminal of the projection monitor (or component display), the system can be controlled by aiming the remote control unit of the player at the remote control receiver of the projection monitor (or component display).

● To use the CONTROL IN terminal, make use of a miniature phone plug cord.

● To use the I/O PORT, prepare a 8-pin U-shaped DIN plug ←→ mini-plug cord.

Please refer to the auto start function on page 16.

Please also refer to the operating instructions for the projection monitor (or component display).

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

The auto start function does not operate when using the I/O port. Also, the television screen will not set to the blue standby screen.



I/O PORT     CONTROL IN

Stereo amplifier

VCR

Projection Monitor (or Component Display)

### WHEN CARRYING OUT SYSTEM CONTROL WHEN THE PLAYER IS COMBINED WITH A PRODUCT WITH THE PIONEER 🎛 MARK,

When the player is combined with an AV receiver or AV master amplifier (optional), which can provide centralized control of Pioneer products with the 🎛 mark, system control can be carried out.

Connect the VIDEO OUT terminal of the player to the video disc video input terminal of the AV receiver or AV master amplifier, and connect the DIGITAL/ANALOG audio output terminals of the player to the audio input terminals of the AV receiver or AV master amplifier.

Connect the control output terminal of the AV receiver or AV master amplifier to the CONTROL IN terminal of the player, using a miniature phone plug ←→ miniature phone plug connecting cord.

For details concerning method of connection and operation, please refer to the operating instructions for your AV receiver or AV master amplifier.

*NOTE:*
*When a connecting cord has been connected to the CONTROL IN terminal, 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 receiver or AV master amplifier.*



CONTROL OUTPUT

VIDEO INPUT
VIDEO DISC
AUDIO INPUT

9

<VRB1006>
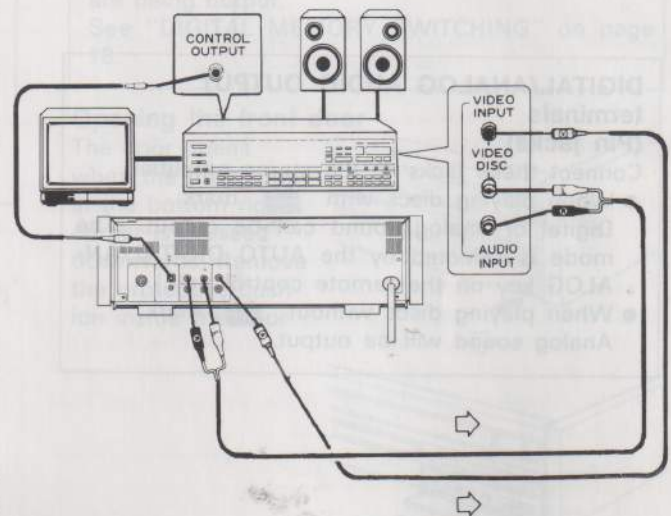
# PANEL FACILITIES

## REAR PANEL

**CONTROL IN and OUT terminals (miniature phone jack)**

These terminals are for communication of control codes, when the player is used together with other Pioneer products with the Pioneer [SR] mark.

**I/O PORT (U-shaped 8-pin DIN connector)**

This is the input/output port used when performing external control of the player. (See page 9.)

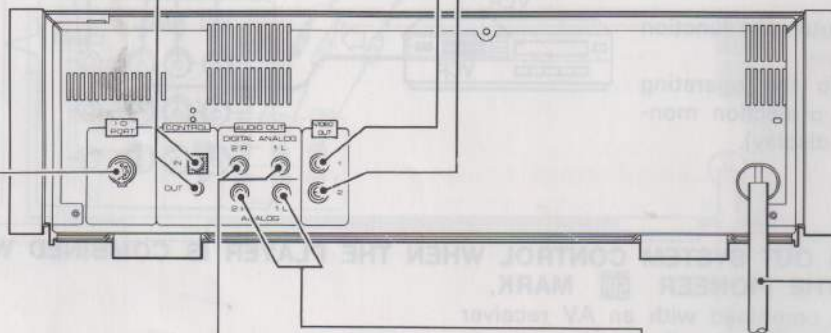**VIDEO OUT 1 terminal (Pin jack)**

Connect this jack to a TV monitor or a TV which is provided with a video input terminal.

**VIDEO OUT 2 terminal (Pin jack)**

Connect this jack to a second TV monitor.

**Power cord**

Connect this to a power outl

**DIGITAL/ANALOG AUDIO OUTPUT terminals (Pin jacks)**

Connect these jacks to the stereo amplifier.
- When playing discs with [digital sound] mark:
  Digital or analog sound can be output. (The mode is selected by the AUTO DIGITAL/AN-ALOG key on the remote control unit.)
- When playing discs without [digital sound] mark:
  Analog sound will be output.

**ANALOG AUDIO OUT terminals (Pin jacks)**

Connect these jacks to the stereo amplifier. Analog sound will be output.

**AUDIO OUTPUT TERMINALS**

This player includes two sets of audio outpu terminals. During normal use, connect th DIGITAL/ANALOG AUDIO OUT terminals wit the amplifier.

The ANALOG AUDIO OUT terminals have bee included for increasing the possible uses of th player. There is no need to connect them durin normal use.

10

<VRB1006>

## FRONT PANEL

### POWER button
Press this button to turn power to the player ON or OFF.

### EXTENDED PLAY (CLV) DISC indicator
This lights up when an extended play (CLV) disc is being played.

### CX SYSTEM indicator
Lights when the internal CX noise reduction system is operating.

### STAND-BY/PLAY indicator
● At the beginning of playback or during a search operation, the indicator flashes until the picture appears (STAND-BY).
● Lights during playback in the play mode (PLAY).

### DISC SET indicator
Lights during the disc has been set in the player.

### REMOTE SENSOR
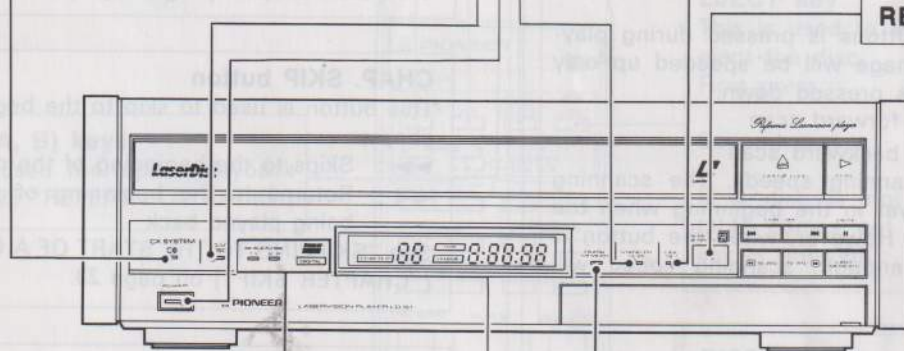
### AUDIO Indicator
● 1/L, 2/R — indicates audio channels during output.
● DIGITAL — lights when the digital sound of a digital sound disc is being output.

### DIGITAL MEMORY Indicator
This indicator lights when pictures that have travelled through the digital memory circuit (switchable with the DIGITAL MEMORY button) are being output.
See "DIGITAL MEMORY SWITCHING" on page 18.

### CHAPTER/FRAME·TIME Display
The display indicates chapter and frame numbers (standard play discs) or time numbers (extended play discs).

*NOTE:*
*When discs without chapter numbers are played back, CHAPTER and chapter numbers are not displayed.*

### Opening the front door
The door opens when the projection in the bottom right corner is pressed downwards. Remove the protective cushion inside the door.

Protective cushion

<VRB1006>

**OPEN/CLOSE button**

This opens and closes the disc table.
When this button is pushed after the disc i
loaded, the disc table will close and playbac
will start.
If this button is pushed during playback, play
back will stop and the disc table will open.

**PLAY button**

Press the PLAY button in the following situation

● To start playback when the disc is not rotating
● To return to PLAY mode from a mode othe
  than PLAY (pause, still frame, etc.)
● To start chapter program play.

**CHAP. SKIP button**

This button is used to skip to the beginning of
chapter.

►►❙ : Skips to the beginning of the next chapt
❙◄◄ : Returns to the beginning of the chapt
       being played back
See "SKIPPING TO THE START OF A CHAPTERS
("CHAPTER SKIP") on page 23.

**SCAN buttons**

If one of these buttons is pressed during play-
back, the video image will be speeded up only
while the button is pressed down.

⟨►►⟩ — For fast forward scan
⟨◄◄⟩ — For fast backward scan

There are two scanning speeds. The scanning
speed will be slower in the beginning when the
button is pressed. However, when the button is
held down long enough, scanning speed will
increase.

**PAUSE button**

When this is pressed, playback is temporar
interrupted. When pressed again, playback r
sumes from the point where it stopped.

**LAST MEMORY button**

See "LAST MEMORY FUNCTION" on page 17.

**[IN THE FRONT DOOR]**

**PHONES jack and LEVEL control**

Headphones equipped with a stereo miniat
phone plug can be plugged in here, for headpho
enjoyment of playback sound. (The sound is
same as from the DIGITAL/ANALOG output ter
nals).
Please use headphones with an impedance of 8
or more.
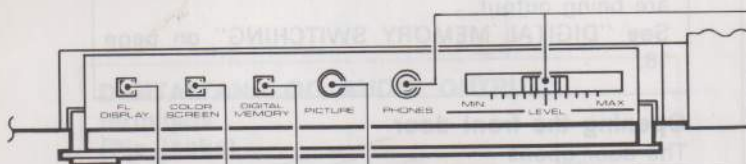
**FL DISPLAY button**

Press this button to cancel frame and time indica-
tions from the chapter, frame/time display to leave
chapter indication. (When discs without chapter en-
coded are played back, no information is displayed).
Normal display can be restored by pressing the
button again.

**PICTURE Dial**

See "PICTURE ADJUSTMENT" on page 18.

**COLOR SCREEN button**

See "COLOR SCREEN SWITCHING" on page 18.

**DIGITAL MEMORY button**

See "DIGITAL MEMORY SWITCHING" on page

<VRB1006>

## REMOTE CONTROL UNIT

* Please refer to page 20 for how to load batteries in the remote control unit.

### CX key
This is the on/off key for the CX noise reduction system. (See page 22 "CX Discs".)

### AUDIO MONITOR key
These are for selecting the sound channels. (See page 21 "AUDIO PLAYBACK".)

### REPEAT (A, B) keys
These are used for repeat playback (See page 25 "REPEAT PLAYBACK".)

### DIGIT keys (0 - 9)

### SEARCH/MEMORY key
This key is used for search and memory repeat operations (search key function).
The key is also used for chapter program play program operations (memory key function).

### CLEAR key
Press the CLEAR key in the following situations.
● To cancel repeat playback mode.
● To cancel the search mode, or correct a numeric entry during search mode.
● To cancel chapter program play.

### AUTO DIGITAL/ANALOG key
When playing back LaserVision with Digital Sound Disc, this key can select the sound (digital or analog) output from the rear panel's DIGITAL/ANALOG AUDIO OUT terminals. (See page 21 "AUDIO PLAYBACK".)

### EJECT key
This is used to stop playback or to eject the disc.
First press:     Disc stops rotating.
Second press:    The disc table comes out.
If a disc is not loaded, the disc table comes out the first time the key is pressed.

### DISPLAY key
This is used to display or erase chapter, frame/time numbers and repeat mode on the TV screen. (See page 22 "CHAPTER AND FRAME/TIME DISPLAY".)

### CHAPTER/FRAME·TIME key
This is used for search operation. [See page 29 "SEARCH (RANDOM ACCESS)".]

### PROGRAM key
This is used for chapter program play.

13

<VRB1006>
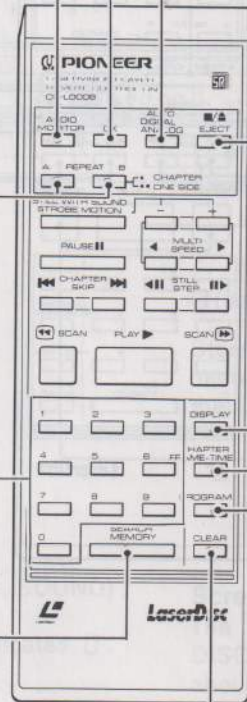
## STILL WITH SOUND/STROBE MOTION Key

Press this button during playback to get a still picture with sound. (See page 28.)

## PAUSE key

## CHAPTER SKIP keys

## PLAY key

## SCAN keys
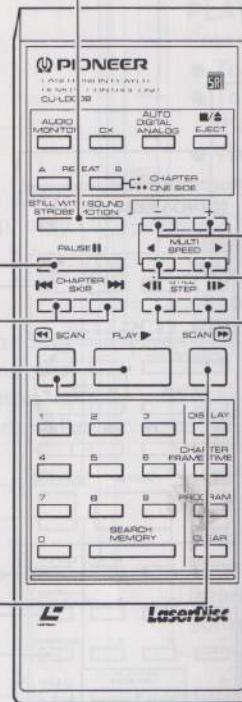
## —, + keys

● These keys are used to select speed during multi-speed playback

● They can also be used to set the time interval between still picture changes during strobe motion playback. (See page 28.)

## MULTI-SPEED ( ◄ , ► ) keys

Press these keys to start multi-speed playback.

► : multi-speed playback forwards

◄ : multi-speed playback in reverse

Speed selection is made with the —, + keys.

(See "CHANGING THE PLAYBACK SPEED (MULTI-SPEED PLAYBACK)" on page 24.)

## STILL/STEP keys

When one of these keys is pressed, the video image is stopped. Every time the key is subsequently pressed, the images advance one frame at a time.

❚❚► : Step forward

◄❚❚ : Step backward

In the case of rapidly moving scenes, completely still picture may not be possible to obtain (parts of the picture may shake slightly). This does not indicate a player malfunction or a faulty disc.

During frame advance with an extended play disc, the amount of advance differs slightly between outer and enter sections of the disc. There will also be instances when the screen will go out of focus momentarily just after frame advance.

14

# BASIC OPERATIONS

## PREPARATIONS

### SETTING UP THE SYSTEM

● If the player is connected to a TV monitor, turn on power to the TV monitor.

● Turn on power to the stereo amplifier and press the function selector for the input terminal to which the player is connected.

## TO START PLAYBACK



**Headphones Output**

### 1. Turn on power to the player.

■ The AUDIO indicator (1/L, 2/R, DIGITAL SOUND) lights.

■ The CHAPTER and FRAME displays indicates *0* .
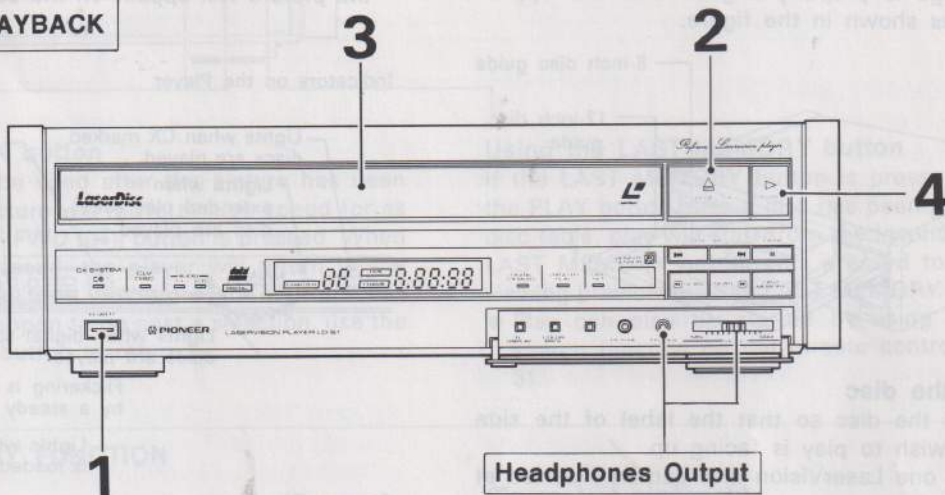
### Beware of Excessive Input

The digital sound of LaserVision with Digital Sound Discs features low noise and a wide dynamic range. However, excessive input may damage the speakers. Therefore, take caution in adjusting the volume of the amplifier.

Stereo headphones with a miniplug can be connected to this output. Sound volume is adjusted with the LEVEL control.
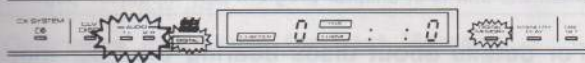
### Screen Display

The screen turns blue and the message "LASER-DISC" is displayed. This condition continues for about 15 minutes after which the screen display disappears.

(When the COLOR SCREEN button on the front panel has been pressed, the screen display will not appear.)

LASERDISC

When control terminals from a Pioneer projection monitor or a component display is connected to the rear I/O PORT, the screen will go black and no characters will be displayed.

15

<VRB1006>

## 2. Press the OPEN/CLOSE ( ⏏ ) button.

The door will open, and the disc table will come out.

### ABOUT THE SHAPE OF THE DISC TABLE

The LD-S1 can play 12-inch diameter, and 8-inch diameter LaserVision Discs.

When loading each size of disc, set the disc so that the edge is properly aligned with the appropriate guides shown in the figure.
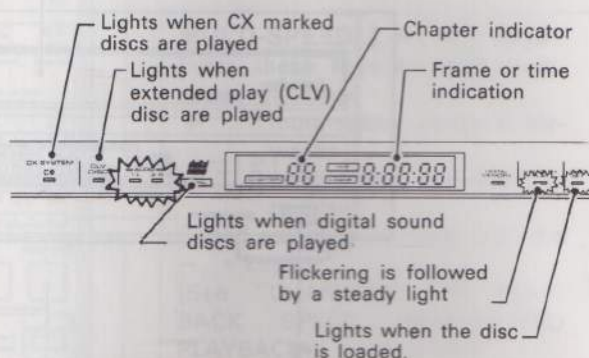


— 8-inch disc guide
— 12-inch disc guide
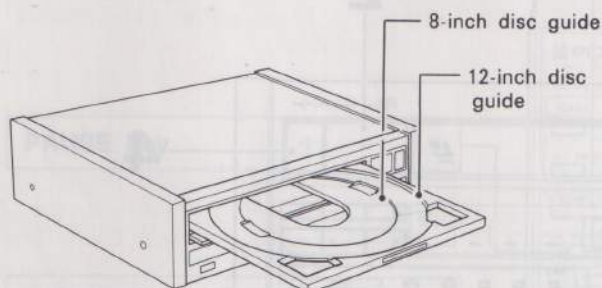
## 3. Load the disc

● Load the disc so that the label of the side you wish to play is facing up.

● Only one LaserVision disc can be inserted at a time.



— Label side up
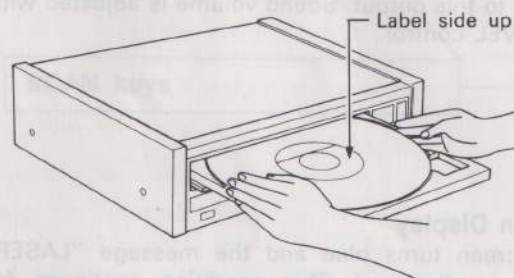
## 4. Press the PLAY ( ▷ ) Button.

■ The disc table is retracted into the player and playback will start. Instead of the PLAY button the OPEN/CLOSE button can be pressed to retract the disc table and start playback(auto start function).

If the PAUSE ( ❚❚ ) button on the front panel is pressed instead of the PLAY button, the disc will start in pause mode. Press the PLAY button and the picture will appear on the screen.

Indicators on the Player



— Lights when CX marked discs are played
— Lights when extended play (CLV) disc are played
— Chapter indicator
— Frame or time indication
Lights when digital sound discs are played
Flickering is followed by a steady light
Lights when the disc is loaded.

### Screen Display

The PLAY on the screen flickers

↓

Disc side message is displayed (May not be displayed with some discs)

↓

The beginning of the disc is searched and playback starts



PLAY
SIDE A

SEARCH
CHAPTER 0
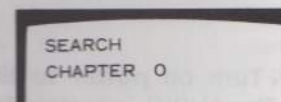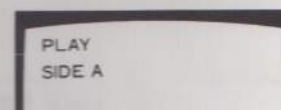
Auto start cannot be performed when the unit is control connected to a projection monitor or component display and when the unit is in chapter program play mode(see page 32).

**For details about discs bearing the ⬭ mark, see page 22.**
**For details about bilingual discs, see page 21.**

## CAUTIONS

### Do not move the player during playback

The disc rotates at high speed during playback. If the player is lifted or otherwise moved, the disc may be scratched, or the player may be damaged. When moving the player, first stop the playback and be sure to remove the disc.

### Make sure the disc is not dirty

If fingerprints or dirt adhere to the playback surface of the disc, the video and audio quality will be impaired. Before loading a disc, clean the disc's bottom surface if it is dirty (this is the opposite side to the label side, but it is the side with the signal which will be played back).

<VRB1006>

## TO START VIEWING IN THE MIDDLE OF THE DISC
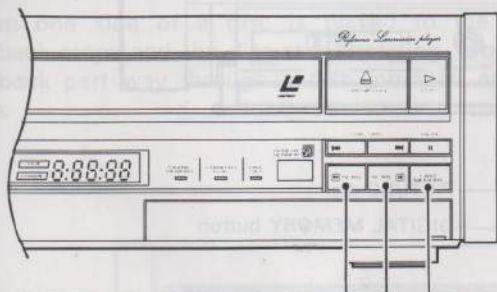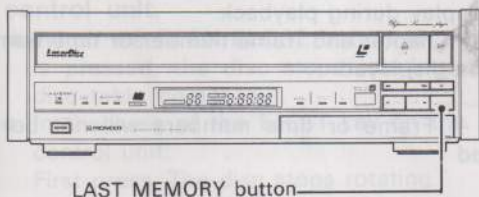
### Using the SCAN button

This button can be used after the picture has been called up. The picture will move at high speed for as long as the SCAN FWD (⏩) button is pressed. When the button is released, the player will return to the playback mode it was in before the button was pressed. If you happen to go past a selection, use the SCAN REV (⏪) button to return.

### LAST MEMORY FUNCTION

LAST MEMORY button

The last memory function is highly convenient for viewing story-type discs as it allows the player to memorize the part you were last viewing when you interrupt playback at a point midway on a disc. The next time you play the same side of the same disc, simply press the LAST MEMORY button and the playback will pick up the story for you at a point just before you left off.

### Operation Procedure for Last Memory Function
(To interrupt playback)
1. Press the LAST MEMORY button.
   - The disc table will open when the following three data have been registered in the memory.
   ① Register whether the disc loaded is a standard play disc or an extended play disc.
   ② Register which side is up, A side or B side.
   ③ A few frame numbers before, or a time number just previous to the point you left off.

2. Eject the disc and turn off the power.

### Using the LAST MEMORY button

If the LAST MEMORY button is pressed instead of the PLAY button after a disc has been placed on the disc table, play will start from the location where the LAST MEMORY button was pressed to discontinue viewing previously. (See LAST MEMORY FUNCTION.)
- Play can also be started by using the chapter search function on the remote control. See page 31.

### (To restart playback)
1. Load the same disc (with the same side up) on the disc table.
2. Press the LAST MEMORY button.

### Screen Display
"LAST MEMORY" is displayed on the screen.

```
┌─────────────────┐
│                 │
│   LAST MEMORY   │
│                 │
│                 │
└─────────────────┘
```
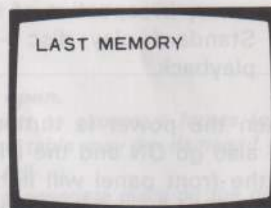
- The registered frame or time number will be called up and playback will start from there.

NOTE:
*If type of disc and the side of the disc loaded do not agree with the data registered in the memory, the disc table will slide open again.*

The data will be retained in the memory for about a week even when the power is turned off.
The Last Memory function registers playback data of the most recently played disc.
Note that Last Memory data will be overwritten when the function is used with a new disc.

17

<VRB1006>

## [Buttons inside the front door and dial settings]

FL DISPLAY button
COLOR SCREEN button

PICTURE dial
DIGITAL MEMORY button
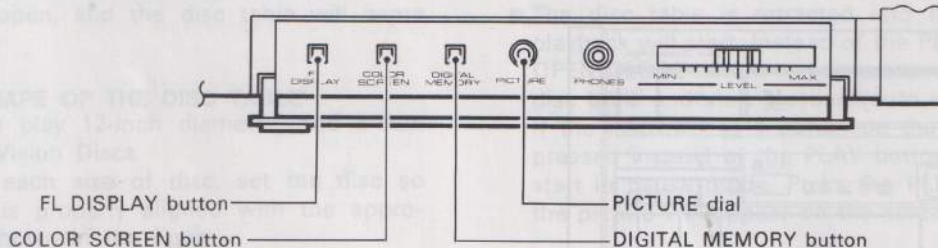
### DIGITAL MEMORY SWITCHING

In order to perform a number of trick playback functions, the player will automatically determine whether picture signals read out the disc are to be output as they are or travel through the digital memory before being output.

**Only in case of normal playback with extended play discs is it possible to use the DIGITAL MEMORY button to manually control whether picture signals are to travel through the digital memory or not.**

● Auto ON (picture signals travel through the memory irrespective of switch selection)
  Standard play disc — Fast forward scan, fast backward scan, search, strobe motion
  Extended play disc — All playback modes except normal playback

● Auto OFF (picture signals do not travel through the memory irrespective of switch selection)
  Standard play disc — Play, still, multi-speed playback

When the power is turned on, the Digital Memory will also go ON and the DIGITAL MEMORY indicator on the front panel will light. Each time the DIGITAL MEMORY button is pressed, the memory function is switched ON or OFF. When the memory is off, the DIGITAL MEMORY indicator goes off.

*NOTE:*
*If trick playback or fast forward/fast backward functions are used with an extended play disc when the Digital Memory is off, the picture may be distorted but this does not mean that the player or the disc are at fault.*

### COLOR SCREEN SWITCHING

The COLOR SCREEN button is used to select standby screen color (blue or black) and whether function display is to be made or not.
● BLUE SCREEN — "STOP", "SEARCH" and other information is displayed on the screen

● BLACK SCREEN — No information is displayed on the screen

When the power is turned on, the screen color is blue. When the COLOR SCREEN button is pressed the screen color switches from black to blue and vice versa.

*NOTE:*
*When the screen color has been set to black, the DISPLAY key on the remote control unit will not operate.*

### FRAME/TIME DISPLAY SWITCHING

Use the FL DISPLAY button to select whether frame or time numbers are to be displayed on the front panel display during playback.
● ON — Chapter and frame number or time number will be displayed

● OFF — Frame or time numbers will not be displayed

When the power is turned on, the button will automatically be set to position ON.
When the FL DISPLAY button is pressed, the function is turned ON or OFF.

### PICTURE ADJUSTMENT

The picture can be adjusted with the PICTURE dial during playback.
● Turn the dial clockwise for a sharper picture
● Turn the dial counterclockwise for a softer picture
Set the dial to the position that will yield the most suitable picture quality.

### AUTOMATIC PICTURE STOP FUNCTION

Some discs have picture stop codes which are a special type of signals. When such a disc is played and the frame (picture) with the picture stop code is reached during normal play, multi-speed (excluding X2 and X3) and strobe motion play, the picture will automatically stop in the still mode.

## TO STOP PLAYBACK

When one side of a disc is played to the end, playback stops and the disc stops rotating. To stop playback part way through a disc, proceed as follows.

**2**

**1,3**

**4**
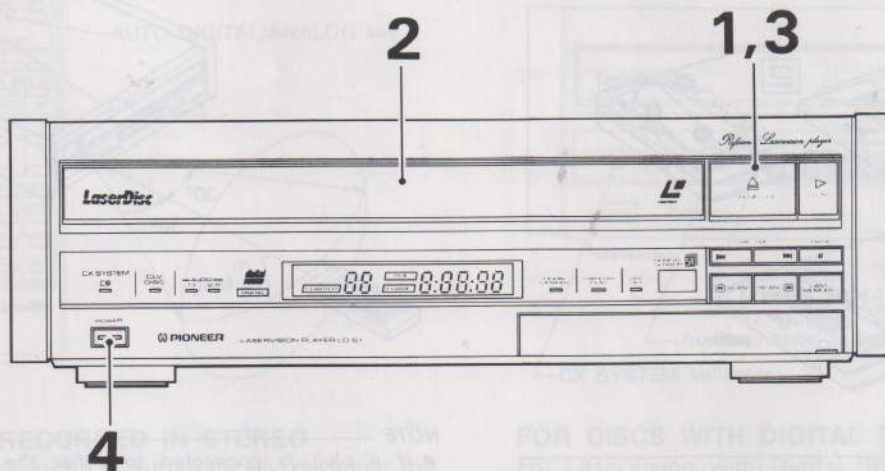
**1.** **Press the OPEN/CLOSE button on the player, or the EJECT key on the remote control unit.**

● When the OPEN/CLOSE button on the player is pressed, the disc stops rotating, and the disc table comes out.

● In the case of the EJECT key on the remote control unit:
First press: The disc stops rotating.
Second press: The disc table comes out.

### Screen Display

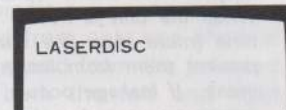(When the COLOR SCREEN button has been set to black screen, no screen display appears.)

● Until the disc stops

```
STOP
SIDE  A
```

● Disc stops

```
LASERDISC
SIDE  A
```

● Disc table comes out

```
LASERDISC
```
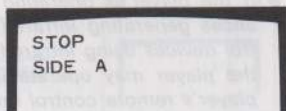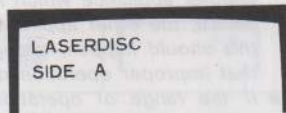
● There are discs that side name is not displayed.

Approximately 15 minutes after the disc stops, the screen display will disappear.

**2.** **Remove the disc.**

● Return the disc to its jacket, and store it vertically.

**3.** **Press the OPEN/CLOSE button on the player.**

**4.** **Wait a few seconds and turn off the power.**

---

NOTE:

**Do not leave the disc table open.**

If the open disc table is subject to excessive forces (especially vertical force), the disc table may be damaged. It may also cause the player to fall.

Do not place anything except appropriate discs on the disc table. Be sure to close the disc table after using the player.

---

# REMOTE CONTROL OPERATIONS

## PUT BATTERIES INTO REMOTE CONTROL UNIT

1. Open the rear cover, by pulling in the direction of the arrow while pushing down on the cover.
2. Unwrap the supplied size "AAA" (IECR03) dry cell batteries, and put them into the battery compartment in accordance with polarity indications.
3. Close the cover of the battery compartment.



---
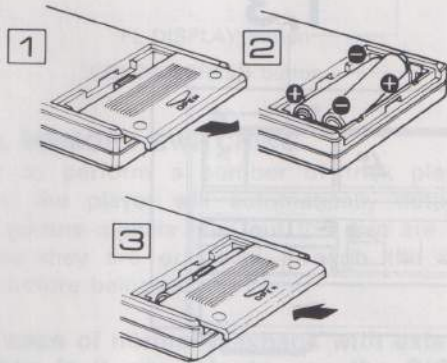
*Incorrect use of batteries may lead to leakage or rupture. Always be sure to follow these guidelines:*

*A. Always insert batteries into the battery compartment correctly matching the positive (+) and negative (−) polarities as shown in the display inside the compartment.*

*B. Never mix new and used batteries.*

*C. Batteries of the same size may have differing voltages, depending on brand. Do not mix different brands of batteries.*

*D. Both rechargeble and non-rechargeable batteries are available. Be sure to use your batteries in accordance with the caution labels affixed to them.*

## REMOTE CONTROL UNIT OPERATING RANGE

The operating range of the remote control unit is within about 7 m (23 feet) of the player, and 30 degrees either side of the remote sensor.
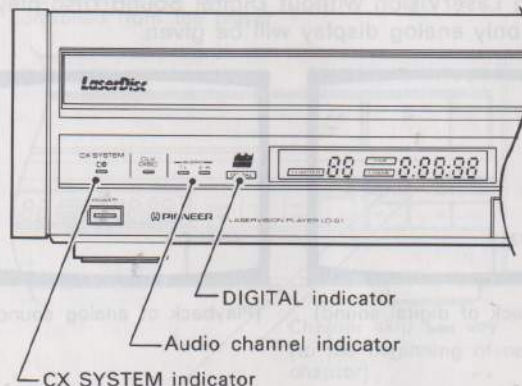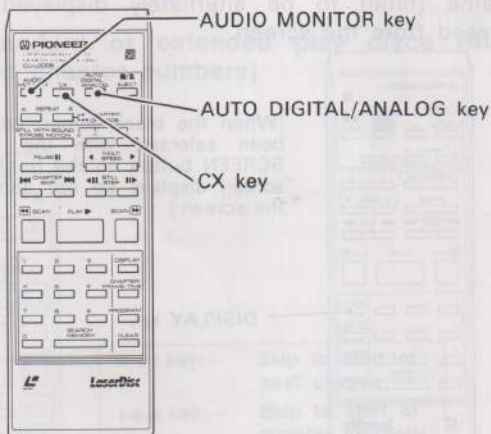


---
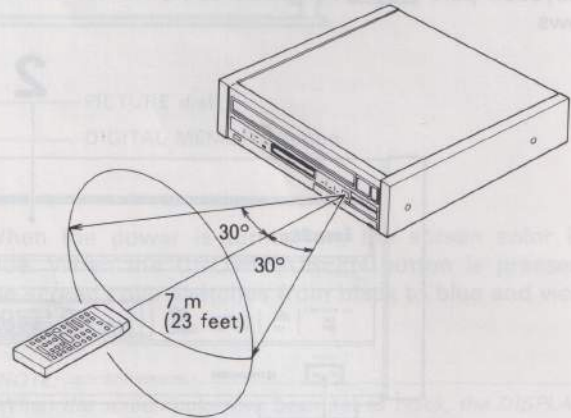
NOTE:

● *If a plug is connected to either the CONTROL IN terminal or the I/O PORT on the rear panel of the player, pointing the remote control unit at the REMOTE SENSOR will not enable remote control operation.*

● *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 may fail to reach the remote sensor. If the remote control unit is operated on a table as shown below, the signal will not reach the sensor, so please be aware of this.*
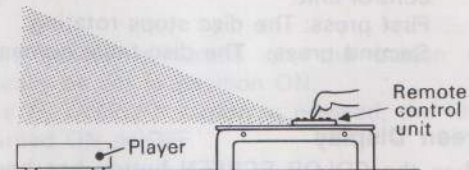


● *If the player is operating in the vicinity of other appliances generating infrared rays, or if other remote control devices using infrared rays are used near the player, the player may operate improperly. Conversely, if the player's remote control unit is operated in the vicinity of another appliance which has 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 battery compartment. If leakage occurs, wipe up the liquid inside the compartment and replace the batteries with new ones.*

● *Please do not put books etc. on top of the remote control unit. If keys are continuously depressed, the batteries will run down.*

**AUDIO PLAYBACK**

Sound reproduction is available in normal playback, still with sound and strobe motion playback modes. During still (except still with sound), multi-speed and scan modes the sound is supressed.

AUDIO MONITOR key

AUTO DIGITAL/ANALOG key

CX key

DIGITAL indicator

Audio channel indicator

CX SYSTEM indicator

## FOR DISCS RECORDED IN STEREO

Stereo playback mode is automatically on when the power is turned on. No adjustments need to be made to play stereo discs. Both the 1/L and 2/R audio indicators light.

## FOR BILINGUAL DISCS

Select the channel with the AUDIO MONITOR key. When the key is pressed, the sound mode will be displayed for when the key is pressed. If the AUDIO MONITOR key is pressed while the mode is displayed, the sound will switchover as follows:

| | Indicator | Screen display |
|---|---|---|
| For stereo playback | | ST. |
| When listening to only audio channel 1 or the left channel | | 1/L |
| When listening to only audio channel 2 or the right channel | | 2/R |

When the audio output terminals are connected to a stereo component and sound from only one channel (1/L or 2/R) is selected, the sound from the selected channel will be output to both the left and right speakers.

## FOR DISCS WITH DIGITAL SOUND

For LaserVision with Digital Sound Discs, the output from the rear panel's DIGITAL/ANALOG AUDIO OUT terminals can be switched by key operation.

When listening to digital sound, press the AUTO DIGITAL/ANALOG key on the remote control unit to have the DIGITAL indicator on the player light up.

### Indicator display and output sound from the audio output terminals

| Disc | Front panel indicator | Output sound | |
|---|---|---|---|
| | | DIGITAL/ANALOG OUT terminals | ANALOG OUT terminals |
| With *digital sound* mark | *digital sound* DIGITAL Lights | Digital sound | Analog sound |
| | *digital sound* DIGITAL Does not light | Analog sound | Analog sound |
| Without *digital sound* mark | *digital sound* DIGITAL Does not light | Analog sound | Analog sound |

The display (ST., 1/L, 2/R) shown on the screen indicates the switching of analog sound.

<VRB1006>

When the AUTO DIGITAL/ANALOG key is pressed while a LaserVision with Digital Sound Discs is being played, "DIGITAL" or "ANALOG" will be displayed in the lower left portion of the screen. The display will disappear approximately 2 seconds after the key is released.

During LaserVision without Digital Sound Disc playback, only analog display will be given.
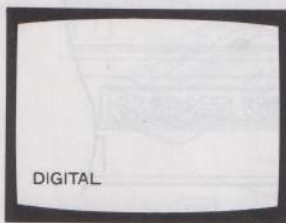


| DIGITAL | ANALOG |
| --- | --- |
| (Playback of digital sound) | (Playback of analog sound) |

### For digital sound discs (bilingual)

For digital sound discs with bilingual recordings, if digital sound is selected, bilingual sound cannot be changed with the remote control unit's AUDIO MONITOR key. Switch to analog sound before selecting bilingual sound. For bilingual selection with digital sound, use the amplifier's balance control knob or the speaker mode switch.

Sound will be output only during normal playback mode. No sound will be output during still, multi-speed, scan and search modes.

### CX Discs

In case of CX discs that have codes to turn ON/OFF the CX system, the player will automatically read the code and switch to CX ON/OFF. Press the CX key for CX discs that do not cause the CX SYSTEM indicator on the front panel to light during playback.

● When playing a disc which does not bear the CX mark, do not turn the CX system on. Doing so will result in unnatural sound.
● The CX system is only good for analog sound. It has no relation to the digital sound for the LaserVision with Digital Sound Disc.

◯✕ is a trademark of CBS Inc.
This player meets the CX EXPANDING SPECIFICATION.

## CHAPTER AND FRAME/TIME DISPLAY

Pressing the DISPLAY key, allows the chapter and frame (time) to be alternately displayed on or erased from the screen.
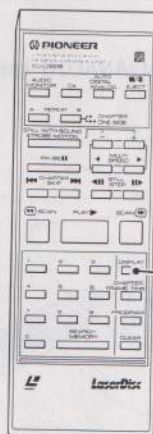


(When the black screen color has been selected with the COLOR SCREEN button on the front panel, screen displays do not appear on the screen.)

DISPLAY key

● Chapter numbers
  (Standard and extended play discs)
These indicate divisions within a disc program, and correspond to the chapter numbers in a book.

Some discs do not have chapter numbers recorded on them. In the case of such discs, chapter numbers are not displayed.
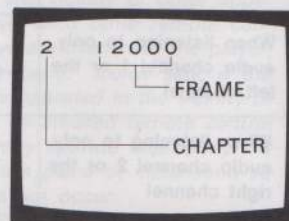
● Frame numbers (Standard play discs)
Frame numbers are allocated one by one to each frame from the start of the disc program. These correspond to the page numbers in a book.

● Time numbers (Extended play discs)
These represent the elapsed time from the start of the disc for normal playback mode.
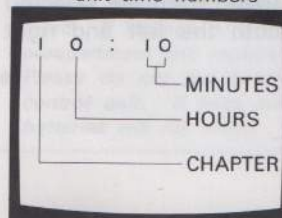
In the case of some discs, time numbers are recorded with minutes as the smallest units, while with other discs, the time numbers are recorded with seconds as the smallest units.
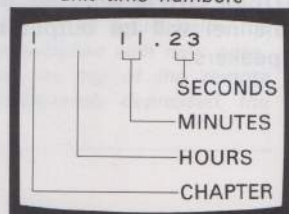
Standard play disc



2   12000
      └── FRAME
    └── CHAPTER

Extended play disc

| Disc with minute unit time numbers | Disc with second unit time numbers |
| --- | --- |
| 10 : 10 | 11.23 |

10 : 10
      └── MINUTES
    └── HOURS
  └── CHAPTER

11.23
      └── SECONDS
    └── MINUTES
   └── HOURS
  └── CHAPTER

<VRB1006>

## SKIPPING TO THE START OF CHAPTERS (CHAPTER SKIP)

(When the black screen color has been selected with the COLOR SCREEN button on the front panel, screen displays do not appear on the screen.)
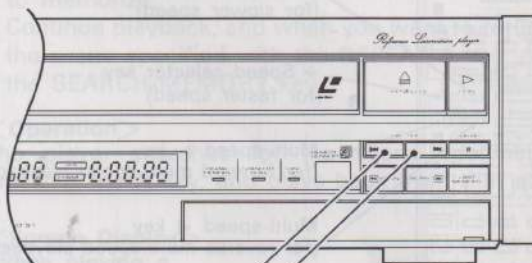
### (For standard or extended play discs with recorded chapter numbers)
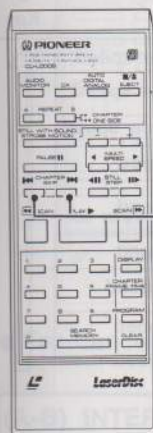


►►I key:— Skip to start of next chapter.

I◄◄ key:— Skip to start of chapter currently being played.



Chapter skip ►►I key (to the beginning of next chapter)

Chapter skip I◄◄ key (to the beginning of the chapter being played back)

Using the CHAPTER SKIP keys, the player to jump to the beginning of the next chapter, or to jump to the beginning of the chapter currently being played. (During skip operation, "SEARCH" is displayed, and the sound and picture are interrupted.)

The chapter display on the front panel indicates the chapter number of the selection being searched.
If a chapter skip is performed in playback mode, the frame that was displayed when the CHAPTER SKIP key was pressed will be shown as a still picture until the skip is concluded to ensure a clean transition.

If the key is repeatedly pressed, the player jumps to the beginning of chapters in accordance with the number of times the key is pressed. Also, if the key is continuously pressed, the number of the chapter to be skipped to continuously changes. This makes it easy to skip several chapters forward or backward.

**During chapter program play, the CHAPTER SKIP key causes the player to jump to the next (or previous) memory step. (See page 32.)**
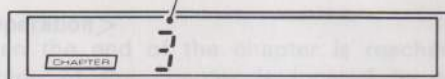
<Screen Display>
(Skipping to start of chapter 3)



SEARCH
CHAPTER 3

<Player indicators>
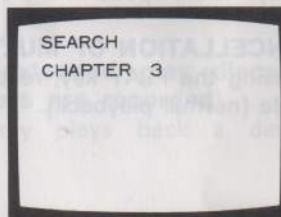
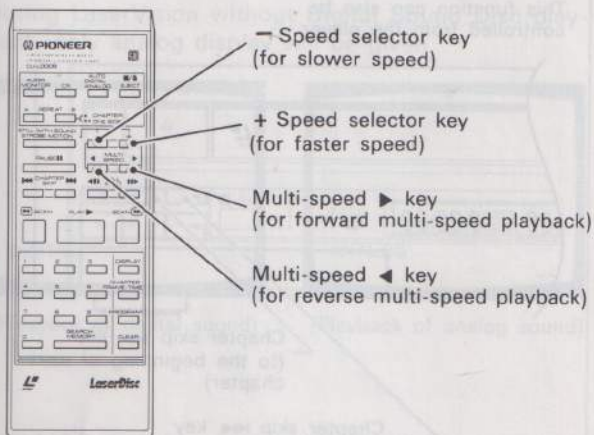Number of chapter being searched



CHAPTER

NOTE:
● In the case of discs on which chapter numbers have not been recorded, the chapter skip function cannot be used.
● When chapter skipping in the reverse direction, be careful of the number of times you press the key. The first time you press the key, the player jumps to the beginning of the currently playing chapter. The second time you press the key, the player jumps to the beginning of the preceding chapter.
● If skipping is performed beyond the range of the recorded chapter numbers, the player goes into play mode at the end of the disc, and then stops playing back after about 10 seconds. If you skip to a number which is greater than the recorded number, please return in the reverse direction within 10 seconds.
● If chapter skip operation is performed during repeat playback, the repeat mode is cancelled.

<VRB1006>

## CHANGING THE PLAYBACK SPEED (MULTI-SPEED PLAYBACK)

During multi-speed playback, sound is not output.

— Speed selector key
(for slower speed)

+ Speed selector key
(for faster speed)

Multi-speed ▶ key
(for forward multi-speed playback)

Multi-speed ◀ key
(for reverse multi-speed playback)

## EXECUTION OF MULTI-SPEED
Press the MULTI-SPEED key
▶ key: Multi-speed in the forward direction
◀ key: Multi-speed in the reverse direction

## CANCELLATION OF MULTI-SPEED
Pressing the PLAY key, restores the player to PLAY mode (normal playback).

## SPEED SELECTION
When power is turned on, the "1/4" (one-fourth normal playback) speed is selected.
The speed can be set using the (−, +) speed selection key.
— side : Slower speed
+ side : Faster speed

| "−" Key | Display on Screen | Speed | "+" Key |
|---|---|---|---|
| | X 3 | 3 times normal play mode speed | |
| | X 2 | 2 times normal play mode speed | |
| | X 1 | Same as normal play mode speed | |
| | 1 / 2 | 1/2 normal play mode speed | |
| | 1 / 4 | 1/4 normal play mode speed | |
| | 1 / 8 | 1/8 normal play mode speed | |
| | 1 / 16 | 1/16 normal play mode speed | |
| | STEP1 | 1/30 normal play mode speed | |
| | STEP3 | 1/90 normal play mode speed | |

With extended play discs occasional blurring may occur.

### <Screen Display>
When slow motion at 1/2 speed of normal playback has been selected(When the black screen color has been selected with the COLOR SCREEN button on the front panel, screen displays do not appear on the screen.)

1/2
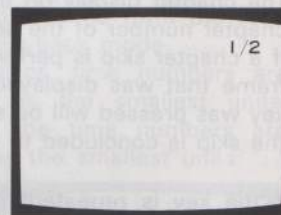
NOTE:
● The set speed is remembered when another playback mode is selected, but when playback is stopped, the speed is restored to the 1/4 normal play mode speed.
● When chapter and frame/time display is performed during multi-speed playback, the speed is displayed during playback.

# REPEAT PLAYBACK

This player is capable of four kinds of repeat playback. To start repeat playback, use the remote control unit after playback has begun.

(When the black screen color has been selected with the COLOR SCREEN button on the front panel, screen displays do not appear on the screen.)



- (A-B) interval repeat
- Chapter repeat
  Side repeat
- Memory repeat
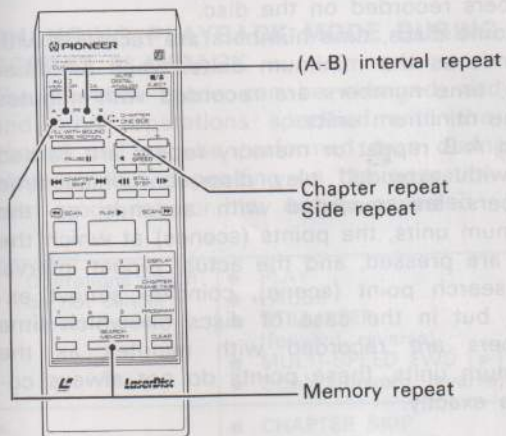
● **For canceling, refer to page 27.**

## (A-B) INTERVAL REPEAT

This function repeatedly plays a specified interval.
**<Procedure>**
1. Press the REPEAT A key at the first scene of the interval you wish to repeat.
2. Continue playback, and press the REPEAT B key at the end of the interval you wish to repeat.

**<Operation>**
● The player searches for the scene where the A key was pressed, and then plays back from that scene.
● When playback reaches the scene where the B key was pressed, the player searches for scene A, and then plays back again.

**<Screen display>**
(During playback of standard play disc.)

(When the A key is pressed)

```
            MEM. A
```

(Searching for A, after pressing the B key)

```
REPEAT         A-B. R
FRAME  □□□□□
```
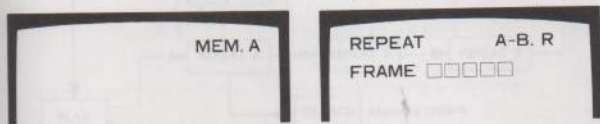
**NOTE:**
● If you press the A key and then return to an earlier point in the program and press the B key (B < A), the player will repeat the interval between B and A, using B as the starting point and A as the end point.
● When the A key is pressed when chapter and frame (time) are being displayed, the indication MEM.A will flash on the screen when A key is pressed. When the B key is pressed, the indication A-B.R will be continuously displayed.

## MEMORY REPEAT

This function allows you to specify a scene which you want to see again, and lets you return to the scene using the SEARCH/MEMORY key.
**<Procedure>**
1. Press the REPEAT A key at the scene you wish to memorize.
2. Continue playback, and when you want to return to the scene specified with the REPEAT A key, press the SEARCH/MEMORY key.
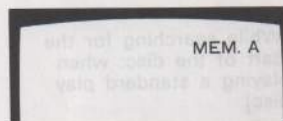
**<Operation>**
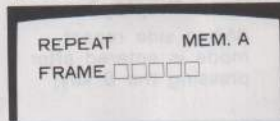The player searches for the scene specified by pressing the A key, and plays back from that scene.

**<Screen Display>**
**(When playing a standard play disc)**

(When the A key is pressed)

```
           MEM. A
```

(When the SEARCH/MEMORY key is pressed)

```
REPEAT        MEM. A
FRAME □□□□□
```

## CHAPTER REPEAT

**(For standard and extended play discs on which chapter numbers are recorded)**
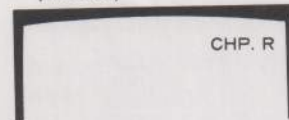This function repeatedly plays back a desired chapter.

**<Procedure>**
Press the REPEAT B key while playing the chapter which you want to be repeated.
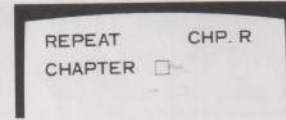
**<Operation>**
When the end of the chapter is reached, the beginning of the chapter is located by the search function and the chapter is replayed.

**<Screen Display>**

(When the B key is pressed)

```
            CHP. R
```

(While searching for the start of the chapter)

```
REPEAT        CHP. R
CHAPTER  □
```

<VRB1006>

## SIDE REPEAT

This function repeatedly plays one side of a disc.

**<Procedure>**
Press the REPEAT B key in chapter repeat mode. (Accordingly, if you are in normal play mode, you should press the REPEAT B key twice in succession.)

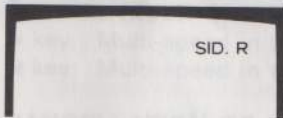**<Operation>**
When the end of the side being played is reached, the search function locates the beginning of the side which is then replayed.

*NOTE:*
- *If the REPEAT B key is pressed when a disc without chapter numbers is being played, the player will go into side repeat mode.*
- *When chapter and frame (time) are being displayed, the indication CHP.R or SID.R will remain displayed.*

**<Screen Display>**

| (When side repeat mode is entered after pressing the B key) | (While searching for the start of the disc: when playing a standard play disc) |
|---|---|
| SID. R | REPEAT          SID. R<br>FRAME          0 |
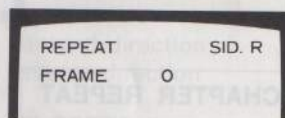
## REPEAT INTERVALS FOR EXTENDED PLAY DISCS

In the case of extended play discs, memory repeat and A-B repeat are carried out using time numbers recorded on the disc.
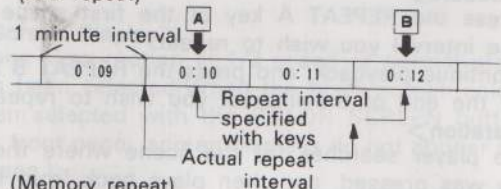
On some discs, time numbers are recorded with seconds as the minimum units, while on other discs, time numbers are recorded with minutes as the minimum units.

When A-B repeat or memory repeat are carried out with extended play discs on which time numbers are recorded with seconds as the minimum units, the points (scenes) at which the keys are pressed, and the actual repeat interval and search point (scene), coincide almost exactly, but in the case of discs on which time numbers are recorded with minutes as the minimum units, these points do not always coincide exactly.
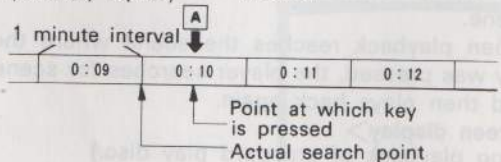
*NOTE:*
*In the case of extended play discs on which time numbers are recorded in minute units, the minimum A-B repeat interval is one minute. Also if the A and B repeat keys are pressed within the same "minute", A-B repeat is not performed.*

(A-B repeat)
1 minute interval

| 0 : 09 | 0 : 10 | 0 : 11 | 0 : 12 |

Repeat interval specified with keys
Actual repeat interval

(Memory repeat)
1 minute interval

| 0 : 09 | 0 : 10 | 0 : 11 | 0 : 12 |

Point at which key is pressed
Actual search point

<VRB1006>

## TO CANCEL REPEAT MODE

Press the CLEAR key to return to normal playback. (A
- B) interval repeat and side repeat functions can be
cleared with the REPEAT B key.

## CHANGING PLAYBACK MODE DURING REPEAT PLAYBACK

The playback mode can be changed, and search
and other operations specified with the remote
control unit can be performed even during repeat
playback, but depending on the operation the re-
peat mode may or may not be canceled.

| Operations which do not cancel repeat mode | ● PLAY<br>● PAUSE<br>● STILL/STEP<br>(forward, reverse)<br>● MULTI-SPEED FWD (▶)<br>● SCAN (forward, reverse) |
|---|---|
| Operations which cancel repeat mode | ● CHAPTER SKIP<br>(forward, reverse)<br>● SEARCH operation<br>(Frame/time, chapter,<br>DIGIT key input)<br>● CHAPTER PROGRAM PLAY<br>● MULTI-SPEED REV (◀)<br>(See Note) |

*NOTE:*
*The side repeat function is not cancelled when the
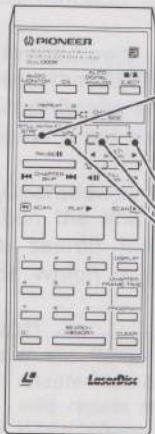multi-speed reverse operation is performed*

## CHANGING THE REPEAT MODE WITH THE REPEAT KEY

The REPEAT B key, can be used to change the
repeat mode as shown in the diagram below.
Please refer to this when you wish to specify or
change the repeat mode.

### [Changing the repeat mode using the REPEAT B key]
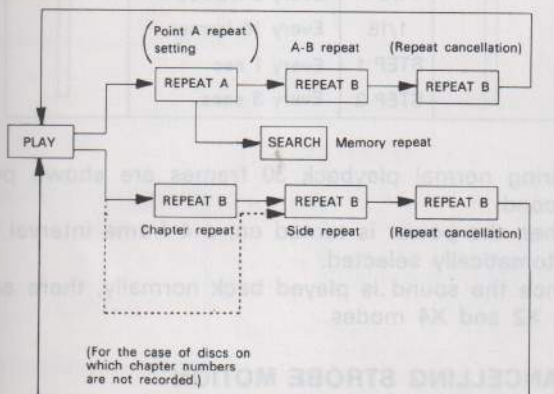
# STILL WITH SOUND, STROBE MOTION

STILL WITH SOUND/STROBE MOTION
key (Still with Sound playback)

STILL WITH SOUND/STROBE MOTION
key and –, + keys
(Strobe motion playback)

## STILL WITH SOUND PLAYBACK

You can turn any frame into a still picture and view it while enjoying the sound.

### \<Operation\>

Press the STILL WITH SOUND key to view the desired frame in the still picture mode.

### \<Function\>

The same picture is shown, but the sound is reproduced as normally. Since the same picture is displayed, this feature can also be enjoyed during repeat and programmed playback while you listen to the sound.

At this time, chapter, frame/time displays (operated by the DISPLAY key) on the screen and the chapter, frame/time in the front panel display indicates audio playback position.
(When the black screen color has been selected with the COLOR SCREEN button on the front panel, screen displays do not appear on the screen.)

## CANCELLING STILL WITH SOUND

This function can be cancelled by pressing the PLAY key, the ◀ and ▶ MULTI-SPEED keys or the STILL/STEP (◀❚❚,❚❚▶) keys.

## STROBE MOTION PLAYBACK

Still pictures are shown at designated intervals (variable) in Still with Sound mode.

### \<Operation\>

Press the – or + key during Still with Sound playback.

### \<Function\>

Still pictures will be shown one after the other at the chosen time intervals while normal sound reproduction takes place.

By pressing the – or + key, a total of seven types of intervals can be selected.

– : The intervals become longer

+ : The intervals become shorter

| "–" key | Screen display | designated interval | "+" key |
|---|---|---|---|
| | 1/1 | Every other frame | |
| | 1/2 | Every 2 frames | |
| | 1/4 | Every 4 frames | |
| | 1/8 | Every 8 frames | |
| | 1/16 | Every 16 frames | |
| | STEP 1 | Every 1 sec. | |
| | STEP 3 | Every 3 secs. | |

During normal playback 30 frames are shown per second.
When the power is turned on, a 4 frame interval is automatically selected.
Since the sound is played back normally, there are no X2 and X4 modes.

## CANCELLING STROBE MOTION

This function can be cancelled by pressing the PLAY key, the ◀ and ▶ MULTI-SPEED keys or the STILL/STEP (◀❚❚,❚❚▶) keys.

28

<VRB1006>

# SEARCH (RANDOM ACCESS)

This function searches for a required scene using either frame numbers, chapter numbers, or time numbers.

(When the black screen color has been selected with the COLOR SCREEN button on the front panel, screen displays do not appear on the screen.)
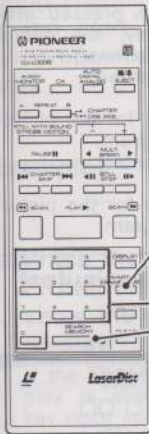
CHAPTER/FRAME·TIME key
(to specify the search mode.)

DIGIT key
(to specify the frame number to be searched.)

SEARCH/MEMORY key
(to carry out the search.)

---

### FRAME NUMBER SEARCH

(Standard play discs only)
The player searches for the image with a specified frame number, and plays it back as a still picture.
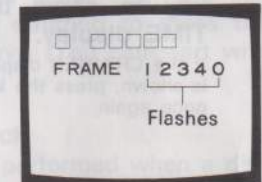
[Example]     To search for frame number 12340

**1.** Press the CHAPTER/FRAME·TIME key to show the FRAME display.

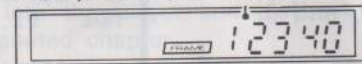If the CHAPTER display is shown, press the key once again.
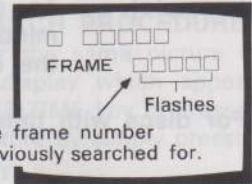
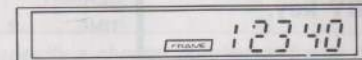The frame number previously searched for.

FRAME      Flashes
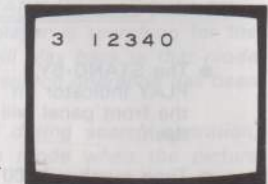
**2.** Press DIGIT keys 1, 2, 3, 4, and 0.

FRAME  1 2 3 4 0

Flashes

Front panel display    Flashes

FRAME  12340

**3.** Press the SEARCH/MEMORY key.

SEARCH
FRAME  1 2 3 4 0

FRAME  12340

● The STAND-BY/PLAY indicator on the front panel flashes.

● Frame number 12340 is displayed on a still picture.

3   12340

Chapter number of selection being searched. (Example:3)

CHAPTER  3  FRAME  12340

## TIME NUMBER SEARCH

**(Extended play discs only)**
This function allows you to search for pictures corresponding to the elapsed playing time from the beginning of a disc program.
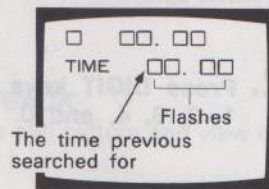
After a search is completed a still image is shown.

**[Example]   To search for the picture 12 minutes from the beginning of the disc program.**
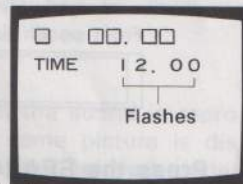
**(For discs with time recorded in seconds)**

**1. Press the CHAPTER/FRAME·TIME key to show the TIME display.**
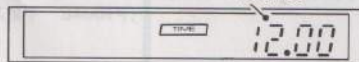If the CHAPTER display is shown, press the key once again.

```
□   00. 00
TIME   00. 00
```
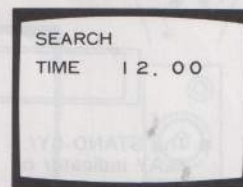Flashes
The time previous searched for

**2. Press DIGIT keys 1, 2, 0, and 0.**

```
□   00. 00
TIME   12. 00
```
Flashes

Front panel display   Flashes
```
TIME  12.00
```

**3. Press the SEARCH/ MEMORY key.**

```
SEARCH
TIME   12. 00
```
```
TIME  12.00
```

● The STAND-BY/ PLAY indicator on the front panel will flash.
● Time number 12.00 is displayed on a still picture.

```
3    12. 00

Still Picture
```
Chapter number of selection being searched. (Example:3)
```
CHAPTER  3  TIME  12.00
```

---
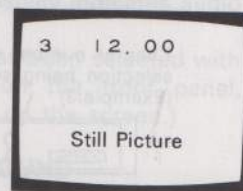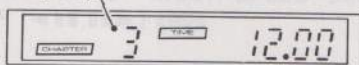
## How to enter numbers for time number searches

When the search time is entered with the DIGIT keys, the same numeric entry will represent different times depending on whether time numbers are recorded on the disc in seconds or minutes.
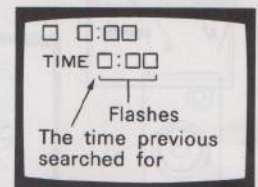For example, if DIGIT keys 1 and 2 are pressed after pressing the CHAPTER/FRAME·TIME key, the search times for the two kinds of disc are as follows:
● For a disc on which seconds are recorded,
TIME    0.12
will appear, and the player will search for the picture 12 seconds from the start of the program.
● For a disc on which minutes are recorded,
TIME    0:12
will appear, and the player will search for the picture 12 minutes from the start of the program.
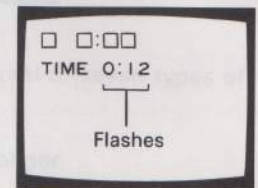
**(For discs with time recorded in minutes)**

**1. Press the CHAPTER/FRAME·TIME key to show the TIME display.**
If the CHAPTER display is shown, press the key once again.

```
□   □:00
TIME  □:00
```
Flashes
The time previous searched for

**2. Press DIGIT keys 1, and 2.**
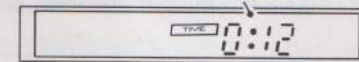
```
□   □:00
TIME  0:12
```
Flashes

Front panel display   Flashes
```
TIME  0:12
```

**3. Press the SEARCH/ MEMORY key.**

```
SEARCH
TIME  0:12
```
```
TIME  0:12
```
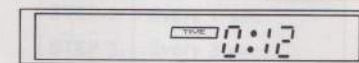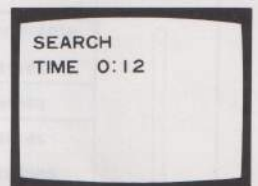
● The STAND-BY/ PLAY indicator on the front panel will flash.
● Time number 0:12 is displayed on a still picture.

```
3   0:12

Still Picture
```
Chapter number of selection being searched. (Example:3)
```
CHAPTER  3  FRAME  0:12
```

<VRB1006>
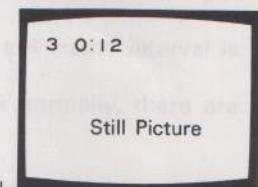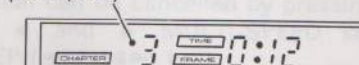
## CHAPTER NUMBER SEARCH

**(For standard and extended play discs on which chapter numbers are recorded.)**

During chapter number search, the player searches for the start of the specified chapter. After the search operation has been completed, the still mode starts.

**[Example]**       To search for the start of Chapter 3.

**1.** Press the CHAPTER/ FRAME•TIME key to show the CHAPTER display.

If the FRAME or TIME display is shown, press the key once again.

```
□  □□.□□
CHAPTER   ⬚⬚ ← Flashes
        The number of the
        chapter previously
        searched for.
```
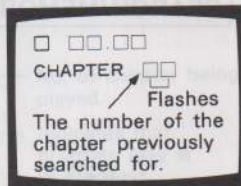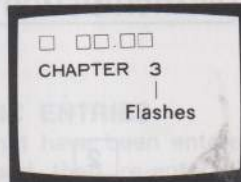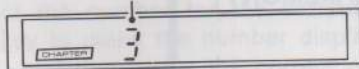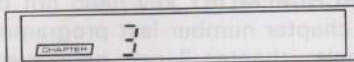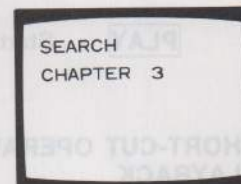
**2.** Press DIGIT key 3.

```
□  □□.□□
CHAPTER  3
         |
       Flashes
```

Front panel display
Flashes

```
[CHAPTER]  3
```

**3.** Press the SEARCH/ MEMORY key.

```
SEARCH
CHAPTER  3
```

```
[CHAPTER]  3
```
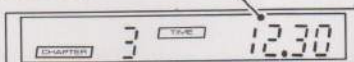
- The STAND-BY/ PLAY indicator on the front panel flashes.

- The beginning of chapter 3 is shown in still mode.

```
3  12.30


    Still picture
```

Frame or time numbers of selection being searched.

```
[CHAPTER]  3  [TIME]  12.30
```

## CORRECTING WRONG ENTRY

- If you make a wrong entry with the DIGIT keys, press the CLEAR key, and after "0" is displayed, enter the number again.

## CANCELLING SEARCH OPERATION

- To cancel the search mode during key input operation, press the CLEAR key, and after "0" is displayed, press the CLEAR key again.

## SHORTCUTS TO THE SEARCH PROCEDURE

- If you want to search for the same picture indicated by the numeric display which appears when the CHAPTER/FRAME•TIME key is pressed, you can search for the picture by simply pressing the SEARCH/MEMORY key.

- If you want to change the search numbers (for frame, time or chapter search) which you just entered while playing the same disc, you can simplify the operation by omitting to press the CHAPTER/FRAME•TIME key. (You can start with DIGIT key entry.)

## Playback started by Search

If chapter number search is performed when a disc has been placed on the disc table, the disc table retracts into the player and playback starts from the designated chapter.

If no other searches have been made after the power was turned on, the search mode is restricted to "CHAPTER" and searches can be made by following the DIGIT and SEARCH/MEMORY sequence.

The CHAPTER number search function can also be used to restart playback after the disc has been temporarily stopped. In this case, normal playback starts when the search operation is completed.

*NOTE:*

- *If you specify a chapter number or frame number in the case of a standard play disc, or a time number in the case of an extended play disc, which is larger than maximum recorded number, the player will search near the end of the side being played.*

- *If the PLAY key or MULTI-SPEED key is pressed during search operation (when the STAND-BY/PLAY indicator is flashing during the time the player is searching for the specified image), the player will play back in that mode (play or multi-speed) after the search operation has been completed.*

- *If the PAUSE key is pressed during search operation, the player will go into pause mode when the picture being searched for is found.*

# CHAPTER PROGRAM PLAY

This function enables specific chapters to be played back in a desired sequence regardless of the sequence in which they were originally recorded on the disc.

(Chapter program play is possible only for discs on which chapter numbers are recorded.)



**5** PLAY key (to start programmed playback)

**1** PROGRAM key (to set program input mode)

**3 )4** DIGIT keys and SEARCH/MEMORY key
**2** (for number inputs)

<Procedure>
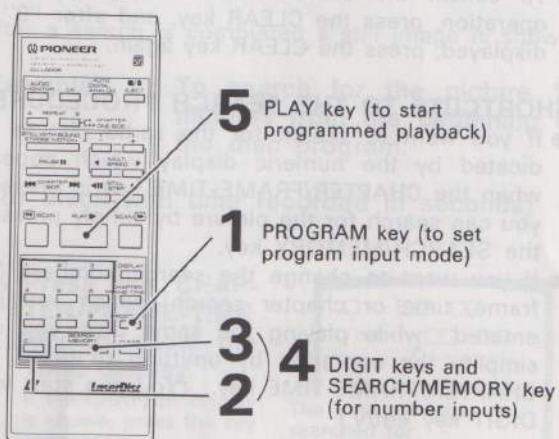
A maximum of 10 steps can be programmed.
The programmed chapter numbers are displayed on the screen in order.

| STEP 1. | Press the PROGRAM key. |
| STEP 2. | Enter a chapter number using DIGIT keys 0 - 9. |
| STEP 3. | Press the SEARCH/MEMORY key. |
| STEP 4. | If required, repeat steps 2 and 3. |
| STEP 5. | Press the PLAY key. |

<Operation>
● Playback is in the programmed order.
● When all programmed chapters have been played, the disc stops rotating, and the player enters program entry mode again. In either case, the previously entered program is cleared.

[Example]    To program playback of chapters 3, 6, and 2.

**PROGRAM**



**3**

**SEARCH/MEMORY**



**6**

**SEARCH/MEMORY**



**2**
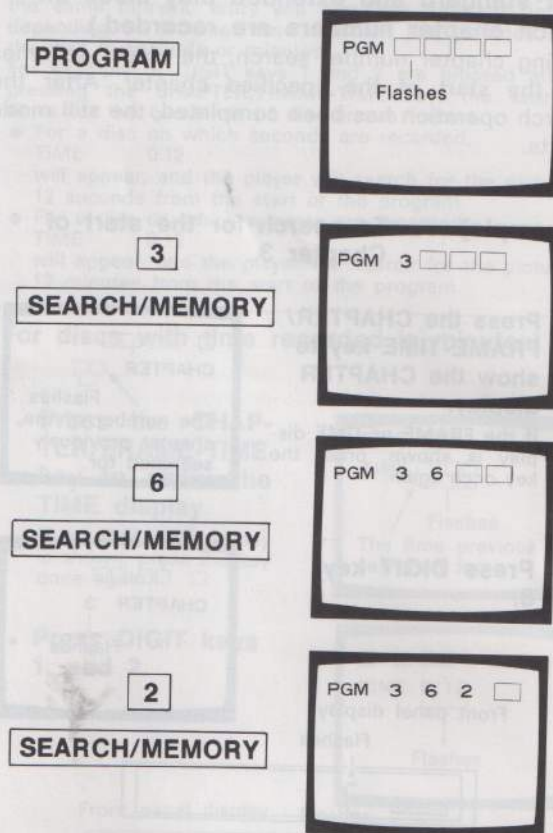
**SEARCH/MEMORY**



**PLAY** ..... Start of program play.

## SHORT-CUT OPERATION OF PROGRAMMED PLAYBACK

● The SEARCH/MEMORY key need not be pressed after the chapter number last programmed.
For example, chapter 3 can be played back by pressing the PROGRAM, 3, PLAY keys.
● Also, in program mode, the PROGRAM key need not be pressed.
For example, chapter 4 can be played back by pressing the 4, PLAY keys.

<VRB1006>

## PROGRAMMED CHAPTER DISPLAY
### [While programming]
Chapter numbers entered with the DIGIT keys are displayed on the screen.

If more than four numbers are entered, the number which was first entered will scroll leftward off the screen, but it will not be erased from memory.
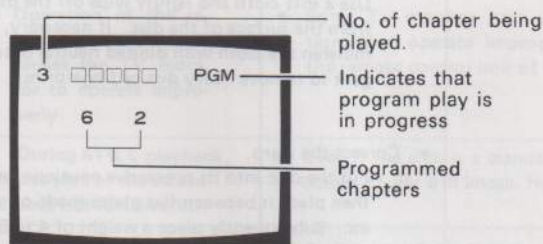
For example, if 3, 6, 2, and 5 are programmed, the entry of 5 will cause 3 to disappear from the screen, but 3, 6, 2, and 5 will all be memorized.

### [During program play]
When chapter or frames (time) numbers are displayed with the DISPLAY key, the program is displayed simultaneously.

```
3 □□□□□  PGM ───── No. of chapter being
                   played.
                   Indicates that
   6  2             program play is
                   in progress
                   Programmed
                   chapters
```

- No. of chapter being played.
- Indicates that program play is in progress
- Programmed chapters

## CORRECTION OF NUMERIC ENTRIES
To correct all the numbers that have been entered, press the PROGRAM key and then re-enter the numbers.

To correct the number for the current step, press the "0" key to make the number displayed for that step "0", and then enter the correct number.

## PROGRAMMED CHAPTER SKIP
If the CHAPTER SKIP key is pressed during chapter program play, a program step can be skipped.
Example: If chapters 3, 6, 2, and 5 have been programmed

- During playback of chapter 2 (step 3) the ►► marked side of the CHAPTER SKIP key is pressed:
  → The player skips to the start of chapter 5 (step 4).
- During playback of chapter 2 (step 3) the ◄◄ marked side of the CHAPTER SKIP key is pressed:
  → The player skips to the start of chapter 2.

If the key is repeatedly pressed, steps will be skipped accordingly.

## PROGRAM PLAYBACK FROM THE STOP MODE
If program operation is performed when the disc is not rotating or when the disc table is open playback can be started in programmed play mode. When the player is in program entry mode, auto start will not take place even if the OPEN/CLOSE keys are pressed. When the program has been entered, program play is started by pressing the PLAY key.

---

### To Cancel Program Play

➡ **Press the CLEAR key.**

This operation will cancel programmed play and normal playback continues. In this instance, the program will also be cleared.
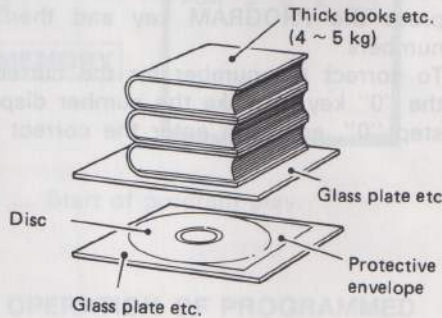- Program play is also cancelled when search or repeat operations are performed.
- Program play is also cancelled when reverse (◄) multi-speed operation.

*NOTE:* ─────────
- *Program entry can be performed from play, stop, pause and repeat modes, but when performed from repeat mode, the repeat mode is cancelled.*
- *When a chapter number not on the disc is programmed, the step for that number is skipped during program play.*

---

# TROUBLESHOOTING

Before concluding that the player is out of order, please refer to this troubleshooting guide to make sure that there is not a simple remedy for the problem. The vast majority of performance problems have their source in set up errors, bad connections to other equipment, or malfunctions of other equipment (TV, stereo system). Find the trouble symptom on the chart below, and try the suggested remedies.

| SYMPTOM | CAUSE | REMEDY |
|---|---|---|
| 1. Disc table does not come out. | • Power is not on. | • Plug in power cord and turn on power switch. |
| 2. Autostart does not occur. | • Other equipment connected to I/O port on rear. (Automatic start function cannot be used when controlling through I/O port.)<br>• A program is being input for chapter program play. (There will not be auto-start when in chapter program mode, even when the disc table is closed. After inputting the program, press the PLAY key.) | |
| 3. The disc stops even after it spins, and the disc table opens.<br><br>The picture image goes out during play-back. | • Disc is very dirty.<br><br><br><br><br><br>• Disc is warped.<br><br><br><br><br><br><br><br><br><br><br><br><br>• Moisture has condensed on the player. | • Clean the disc.<br>Use a soft cloth and lightly wipe off the dirt from the surface of the disc. If necessary, moisten the cloth with diluted neutral detergent to remove heavy dirt or fingerprints.<br><br>• Correct the warp.<br>Put the disc into its protective envelope, and then place it between flat plates made of glass, etc. Subsequently place a weight of 4 to 5 kg on top of the plates, and leave the disc like this for a day or so. This may alleviate the warp.<br><br>Thick books etc. (4 ~ 5 kg)<br>Glass plate etc.<br>Disc<br>Protective envelope<br>Glass plate etc.<br><br>• Remove disc and let player stand for 1 to 2 hours until it is dry. |
| 4. Disc rotates but there is no picture. (Picture appears, but is of poor quality or unstable.) | • TV monitor is not turned on.<br>• The player and TV monitor are wrongly connected.<br>• The connector plug is loose or disconnected. | • Turn on the power.<br>• Make correct connections.<br><br>• Make sure connections are reliable. |
| 5. When playing a particular disc, picture is of poor quality or unstable. | • The disc is very dirty.<br>• The disc is warped. | Refer to instructions under "REMEDY", item 3. |
| 6. Sound is unnatural or distorted. | • The CX system is turned on for a disc which has no "CX" mark. | • Press the CX key on the remote control unit, so that the CX SYSTEM indicator on the front panel goes out. |

34

<VRB1006>

| SYMPTOM | CAUSE | REMEDY |
|---|---|---|
| 7. No sound output. | • MULTI-SPEED playback is being performed. | • Press the PLAY key on the remote control unit, and restore the player to normal play mode. |
| 8. Cannot control player with remote control unit. | • Other equipment is connected to I/O port on rear panel, or a plug is inserted in CONTROL IN terminal.<br>• The remote control unit is to far from the player, or is at too great an angle relative to the remote sensor on the player.<br><br><br>• Remote control unit batteries are weak.<br>• There is an obstacle between the remote sensor on the player and the remote control unit. | • Commands from remote control not accepted when I/O port or CONTROL IN terminal are in use.<br>• Operate the remote control unit within a range of 7 m, 30 degrees either side of the remote sensor.<br>If the operating range is greatly reduced, please replace the batteries.<br>• Replace the batteries.<br>• Remove the obstacle, or change the position of the remote control unit. |
| 9. Operation of the remote control unit causes the TV monitor to operate improperly. | • Some TV monitor have remote control functions that operate improperly in response to the remote control unit of the player. | • Move the TV monitor and the player further apart, or cover the remote sensor of the TV monitor during disc playback, so that it cannot receive remote control signals. |
| 10. During STILL playback, one part of the screen does not remain still. | • Even if the disc is a standard play disc, in the case of rapidly moving scenes, it may not be possible to obtain a fully still image. However this does not mean that the player or disc is defective. | |
| 11. CHAPTER SKIP, CHAPTER PROGRAM PLAY and CHAPTER NUMBER SEARCH cannot be performed. | • A disc on which chapter numbers are not recorded is being played. (With discs on which chapter numbers are not recorded, functions which use chapters do not operate.) | |
| 12. A considerable length of time is required for searching or before playback begins. (About 40 seconds or more.) | • With some discs it takes considerable time to read the recorded codes. (This is not a malfunction.) | • If the time taken is extremely long, press the CLEAR key on the remote control unit. (Please note that if this is done, that the scene which appears may differ somewhat from that which was being searched for.) |
| 13. The player takes too long to return to point A during A–B (INTERVAL) REPEAT operation. | • Same as item 12 above. | • If you press the CLEAR key on the remote control unit, a scene very close to point A will appear, but A–B REPEAT will be cancelled. |
| 14. In SEARCH, CHAPTER SKIP, and CHAPTER PROGRAMMED PLAY modes, the disc table comes out. | • The disc is very dirty.<br><br>• The disc is warped. | Refer to instructions under "REMEDY" for item 3. |
| 15. The scene found in TIME NUMBER SEARCH mode is not the scene that was specified. | • Press the DISPLAY key on the remote control unit, and check if time numbers are recorded on the disc in minutes or seconds, and if necessary re-enter the search time.<br>    For example, to specify a 12 minute search:<br>        For a disc on which time numbers are recorded in minutes, you must enter:<br>        [CHAPTER/FRAME·TIME] [1] [2] [SEARCH/MEMORY]<br>                  "minutes"<br>        For a disc on which time numbers are recorded in seconds, you must enter:<br>        [CHAPTER/FRAME·TIME] [1] [2] [0] [0] [SEARCH/MEMORY]<br>                  "minutes"   "seconds" | |

# SPECIFICATIONS

## 1. General

System ..............................LaserVision VideoDisc player
Spindle motor speed
  Standard play disc ..........................1,800 RPM
  Extended play disc ..........................1,800 RPM
                    (inner circumference)
       to 600 RPM (outer circumference)
       (when using 12-inch disc)
Power requirements .....................AC 120 V, 50/60 Hz
Power consumption .....................................55 W
Dimensions..............457(W) X 468(D) X 136(H) mm
     17-15/16(W) X 18-3/8(D) X 5-3/8(H) in
Net weight (without package) ...........................16.8 kg
Operating temperature .....................+5°C to +35°C
                      (41°F to 95°F)
Operating humidity..............................5% to 90%
  (There should be no moisture condensation)

## 2. Disc

LaserVision Videodisc
*Maximum playing time
  12-inch standard play disc .........1 hour/both sides
  12-inch extended play disc ........2 hour/both sides
  8-inch standard play disc...........28 min/both sides
  8-inch extended play disc.........40 min/both sides
*Actual playback time differs for each disc.

## 3. Video characteristics

Format......................................NTSC specifications
Video output
  Level .............................1 Vp-p nominal, sync.
                     negative, terminated
  Impedance ..........................75 Ω unbalanced
  Output terminals ...................2 pin jack terminals

## 4. Audio characteristics

Digital sound output level ..........................200 mVrms
                      (1 kHz, -20 dB)
Analog sound output level .........................200 mVrms
                      (1 kHz, 40%)

Digital sound properties

| Frequency properties | 4 Hz - 20 kHz (±0.5 dB) |
|---|---|
| S/N ratio | 105 dB |
| Dynamic range | 97 dB |
| Channel separation | 100 dB |
| Total harmonic distortion | 0.0035% |

Output terminal................................Pin jacks

## 5. Functions

Functions controlled by player buttons and dials
- Disc table Open/Close
- Play
- Pause
- Chapter skip forward and reverse
- Scan forward/reverse
- Starting Last Memory playback
- Display ON/OFF switch(FL Display)
- Color Screen (blue/black) switch
- Digital Memory ON/OFF switch
- Picture adjustment

Remote control unit functions

| Functions | Standard Play (CAV) Disc | Extended Play (CLV) Disc |
|---|---|---|
| PLAY | YES | YES |
| EJECT | YES | YES |
| CX SYSTEM SELECTION | YES*(1) | YES*(1) |
| ANALOG AUDIO CHANNEL SELECTION (Stereo, 1/L, 2/R) | YES | YES |
| DIGITAL/ANALOG AUDIO SELECTION | YES*(2) | YES*(2) |
| PAUSE | YES | YES |
| SCAN (Forward, Reverse) | YES | YES |
| STILL/STEP (Forward, Reverse) | YES | YES |
| CHAPTER SKIP (Forward, Reverse) | YES*(3) | YES*(3) |
| MULTI-SPEED PLAY (Forward/reverse 9 steps) | YES | YES |
| STILL WITH SOUND PLAYBACK | YES | YES |
| STROBE MOTION PLAYBACK | YES | YES |
| A-B REPEAT | YES | YES |
| MEMORY REPEAT | YES | YES |
| CHAPTER REPEAT | YES*(3) | YES*(3) |
| SIDE REPEAT | YES | YES |
| MULTI-SPEED DISPLAY | YES | YES |
| FRAME NUMBER DISPLAY | YES | NO |
| TIME NUMBER DISPLAY | NO | YES |
| CHAPTER NUMBER DISPLAY | YES*(3) | YES*(3) |
| FRAME NUMBER SEARCH | YES | NO |
| TIME NUMBER SEARCH | NO | YES |
| CHAPTER NUMBER SEARCH | YES*(3) | YES*(3) |
| CHAPTER PROGRAM PLAY | YES*(3) | YES*(3) |

NOTE:
1. Effective when using LaserVision discs with the CX mark.
2. For playback of LaserVision with Digital Sound Disc
3. Only for discs recorded with chapter codes.

**Other Functions**
AUTOMATIC PICTURE STOP...........................Only for
      discs recorded with picture stop code.

Digital sound playback of LaserVision with
Digital Sound Disc .................................................
Output from the DIGITAL/ANALOG AUDIO OUT
terminals. (The remote control unit can also switch
between digital and analog sound.)

## 6. Other Terminals
I/O PORT ........................................8-pin, DIN(U-shaped)
Headphones jack........................Stereo miniature jack
Control input/output ...................Both miniature jacks

## 7. Furnished Accessories
Remote control unit (CU-LD008)............................1
Size "AAA" (IEC R03) dry cell batteries ..............2
Audio cord.....................................................................1
Video cord......................................................................1
Operating instructions .................................................1
Warranty card.................................................................1

LaserDisc is a trademark of Pioneer Electronic Corporation.