

## LD-V4300D

LASERDISC PLAYER PLATINE LASERDISC LASERDISC-SPIELER RIPRODUTTORE DI LASERDISC REPRODUCTOR DE DISCOS LÁSER PAL/NTSC

LaserDisc "

English

**Operating Instructions** 

**Bedienungsanleitung** 

Manual de instrucciones

Istruzioni per l'uso

Mode d'emploi

**Français** 

Deutsch

**Italiano** 

Español

Thank you for buying this Pioneer product.

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

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

#### WARNING:

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

"This product complies with the Radio Interference requirements of the EC (European Community) Directive 87/308/EEC."

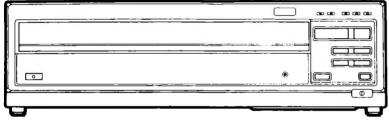
[For the product bearing the CE mark]

This product complies with the Low Voltage Directive (73/ 23/EEC), EMC Directives (89/336/EEC, 92/31/EEC) and CE Marking Directive (93/68/EEC). IMPORTANT NOTICE RECORD THE MODEL NUMBER AND SERIAL NUMBER OF THIS EQUIPMENT BELOW. THE NUMBERS ARE ON THE REAR PANEL.

MODEL NO. LD-V4300D SERIAL NO.

**KEEP THESE NUMBERS FOR FUTURE USE** 

LASER DISC Laser Barcode 2



## IMPORTANT



The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



#### 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 to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

## SAFETY INSTRUCTIONS

- READ INSTRUCTIONS All the safety and operating instructions should be read before the appliance is operated.
- RETAIN INSTRUCTIONS The safety and operating instructions should be retained for future reference. HEED WARNINGS – All warnings on the appliance and in the operating instructions should be adhered to.
- FOLLOW INSTRUCTIONS All operating and use instructions should be followed.
- CLEANING Unplug this video product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- ATTACHMENTS Do not use attachments not recommended by the video product manufacturer as they may cause hazards.
- WATER AND MOISTURE Do not use this video product near water – for example, near a bathtub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, etc.
- ACCESSORIES Do not place this video product on an unstable cart, stand, tripod, bracket, or table. The video product may fall, causing serious injury to a child or adult, and serious damage to the appliance. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the video product. Any mounting of the appliance should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.
- CART An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.



- VENTILATION Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the video product and to protect it from overheating. These openings must not be blocked or covered. They 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
- POWER SOURCES This video product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company. For video products intended to operate from battery power, or other sources, refer to the operating instructions.

#### POWER-CORD PROTECTION

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

- POLARIZATION This video product is equipped with a polarized alternating current line plug ta 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 purnose of the polarized plug.
- LIGHTNING For added protection for this video product receiver during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the video product due to lightning and power-line surges.
- POWER LINES An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
- OVERLOADING -- Do not overload wall outlets and extension cords as this can result in the risk of fire or electric shock.
- OBJECT AND LIQUID ENTRY Never push objects of any kind into this video product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the video product.
- SERVICING Do not attempt to service this video product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

#### DAMAGE REQUIRING SERVICE

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

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 iastructions. 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.

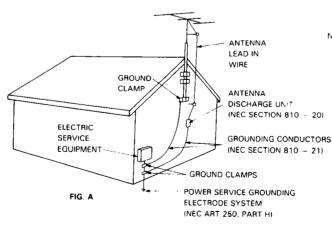
e. If the video product has been dropped or the cabinet has been damaged.

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 an-
- DUTDOOR 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 builtup static charges.

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

NEC -- NATIONAL ELECTRIC CODE



## IMPORTANT

#### CAUTION

This product contains a laser diode of higher class than 1. To ensure continued safety, do not remove any covers or attempt to gain access to the inside of the product. Refer all servicing to qualified personnel.

#### The following caution labels appear on your player:

Location:

On the rear panel of the player



On the bonnet of the player



AOVARSEL USYNLIG LASERSTRAING VED ÅRMING NÅR SIKKEINED SAF-BRYDERE ER UDE AF FUNKTION. UNGGA UDSATTELSE FOR STRAILING. VORSICHTI UNSICHTBARE LASER-STRAIRLING TRUTT AUS, WEBIN DECKEL UNSICHTBARE LASER-STRAIRLING TRUTT AUS, WEBIN DECKEL UDGR KLUPPE GÖFFREI STRAIRLING STRAIR. AUSSETZEN!

## IMPORTANT

If the apparatus is fitted with AC mains power outlet(s), see REAR PANEL FACILITIES for convenient connection of additional Hi-Fi component(s). Make all connections to the AC outlet(s) and the signal terminals first. Connect the plug to the wall socket last, make sure that the power switch is off.

#### THIS APPARATUS MUST BE EARTHED.

#### FOR USE IN THE UNITED KINGDOM

If the socket outlets in the home are not suitable for the plug supplied with this apparatus, it should be cut off and an appropriate three pin plug fitted. The plug severed from the mains lead must be destroyed as a plug with bared flexible cord is hazardous if engaged in a live socket outlet.

The wires in this mains lead are coloured in accordance with the following code:

Green-and-yellow	: Earth
Blue	: Neutral
Brown	: Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows. The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol or coloured green or green-and-yellow.

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

#### [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.

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

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

#### Information to User

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

#### [For Canadian model]

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

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

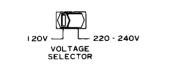
#### LINE VOLTAGE SELECTOR SWITCH

A 2-Point (120V/220-240V) voltage selector switch is located on the rear panel of the player.

Check that it is set properly before plugging the mains lead into an AC outlet. If the voltage is not properly set or if you move to an area where the voltage supply differs, adjust the selector switch as follows:

- 1. Disconnect the mains lead.
- Use a medium-sized (flat blade) screwdriver. Insert the tip of the screwdriver into the groove of the selector switch and turn it to set the player to the power voltage of your area.

Point arrow to power voltage of your area (Figure shows arrow pointing to 120 volts.)



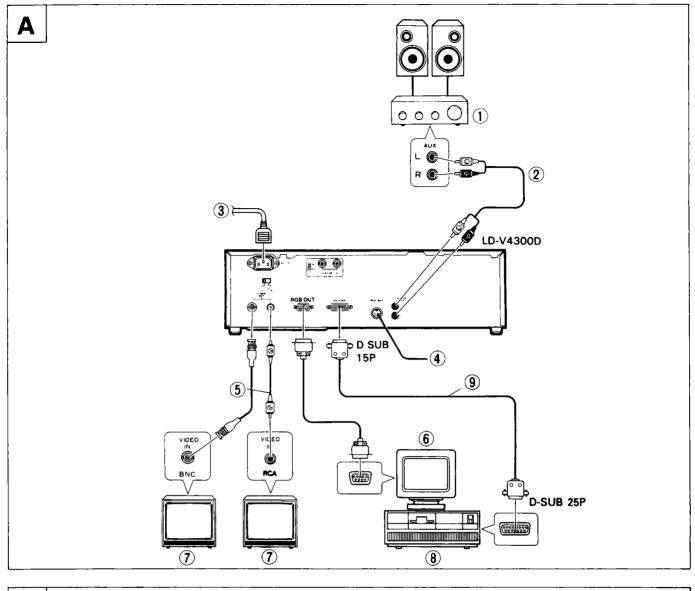
Use discs bearing the following mark with your player.

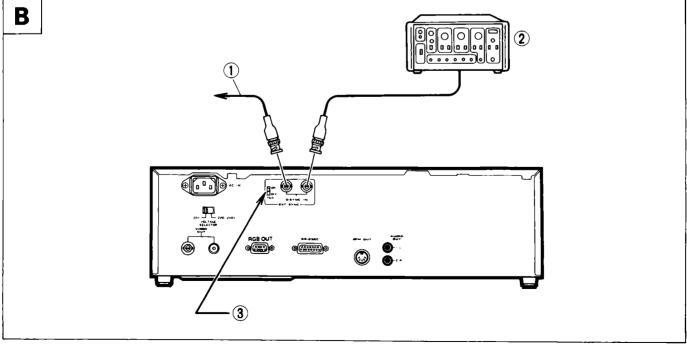


This is the standard LaserVision system mark. This LaserVision mark certifies compatibility with other laser optical video products bearing the same mark.

#### MAINTENANCE OF EXTERNAL SURFACES

- Use a polishing cloth or dry cloth to wipe off dust and dirt.
- When the surfaces are very dirty, wipe with a soft cloth dipped in some neutral cleanser diluted five or six times with water, and then wipe again with a dry cloth. Do not use furniture wax or cleaners.
- Never use thinners, benzine, insecticide sprays and other chemicals on near this unit, since these will corrode the surfaces.





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## FEATURES

## PLAYBACK OF BOTH PAL AND NTSC DISC POSSIBLE

The format (PAL/NTSC) of the loaded disc is identified and output of PAL signal or NTSC signal is selected automatically.

#### **EQUIPPED WITH RS-232C**

The RS-232C, which is the most common computer interface, is provided. There are no conventional, complicated interfaces. Control programs can be developed in a short time through easy mnemonic commands.

#### **HIGH-SPEED RANDOM ACCESS**

High-speed search is realized with a linear slider mechanism.

#### **BUILT-IN CHARACTER DISPLAY FUNCTION**

Up to 12 lines of 20 characters can be displayed at the same time.

#### **RGB DECODER BUILT IN**

Direct connection can be made to an RGB monitor.

## EXTERNAL SYNCHRONIZATION (During CAV disc playback)

Horizontal/Vertical lock in composite signal from an external source is possible because the unit is equipped with a sync signal input terminal. Also possible is synchronous playback such as multi-display.

## HANDLING PRECAUTIONS

#### **DEW CONDENSATION**

If this player is carried into a heated room from outside during the winter, or if the temperature of the room where the player is located is rapidly increased by a heater, etc., the lens or the operation section becomes covered with dew.

When this occurs, signal read out playback cannot be performed by the laser beam.

Depending on the degree of dew condensation, leave it for 1-2 hours at room temperature to eliminate dew condensation and allow playback to be performed.

Also, increase the room temperature gradually during winter so that dew condensation does not occur, then turn the power on. Dew condensation sometimes occurs during summer when air from an air conditioner hits this player. If this occurs, change the installation location.

#### TRANSPORTATION

Precautions should be taken when this player is transported so that no vibration or impacts are applied or that it is not dropped. Keep heat or water away from this player when it is transported.

Also, be sure to remove all discs when this player is transported since the disc might be scratched or the player might be damaged.

#### —— Items With Specific Precautions —— Do not move the player during playback.

Since the disc rotates at high speed during playback, the disc will be scratched if the player is lifted or moved during playback. When the player is moved, stop playback and remove the disc first.

Also, when the player is carried, the disc should be removed first.

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## PLAYER INSTALLATION PRECAUTIONS

When this player is placed on another player or placed on a rack, consideration should be given to avoiding temperature increase in the player.

# LD-V4300D Ventilation holes

## LASERDISCS

LaserDiscs are available as both active play/standard play (CAV) discs and long play/extended play (CLV) discs. Discs with digitally recorded sound are also available.

#### ACTIVE PLAY/STANDARD PLAY (CAV) DISC

Active play/standard play discs are played at constant angular velocity (CAV). Still-frame and other forms of trick playback are possible with these discs.

#### LONG PLAY/EXTENDED PLAY (CLV) DISCS

Long play/extended play discs are played back at constant linear velocity (CLV), and are therefore able to play for a longer length of time than CAV discs. CLV discs cannot be used for trick playback, but random access and repeat playback etc. are possible.

#### **DIGITAL SOUND DISCS**

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



This LaserDisc was recorded with the same PCM sound signals as recorded on compact discs.

#### **Aluminum Backed Discs**

Discs with one side covered with aluminum have been made for commercial use. The CAV disc can be used in the same manner as other discs. With the CLV disc, however, only normal playback is possible. If other operations are attempted with this disc, they result in malfunctioning, so please do not perform them.

#### LASERDISCS

#### **CARE OF DISCS**

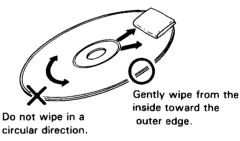
#### How to hold discs

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

How to hold the disc	
Holding with both hand	ds <sup>…</sup> Hold the disc by its edges with both hands, as shown in Fig. A.
Holding with one hand	• As shown in Fig. B, hold
	the disc by its center
	hole and one edge.
Fig. A	Fig. B

#### 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.



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

#### Do not use damaged discs

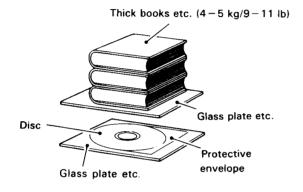
Do not use damaged discs that are warped or cracked etc. This may result in damage to the player.

#### 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 (9-11 lb), and leave the disc like this for a day or so. This may alleviate the warp.



CAUTION WHEN USING THE DISC

All rights reserved.

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

## CONNECTIONS

(See page 5) NOTE:

Leave the player and TV monitor unplugged while connections are being made.

## CONNECTIONS

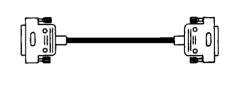
#### (Fig. A)

Before making or changing the connections, switch off the power switch and disconnect the power cord from the AC outlet.

- ① Stereo Amplifier
- 2 Auxiliary audio cords
- ③ ~AC in
- (4) Can be connected to LD-ROM adaptor
- (5) Auxiliary video cord
- 6 RGB monitor
- TV monitor (PAL or NTSC)
- (8) Host computer (controller)
- (9) Interface cable

#### Interface cable

Please use cable with pins arranged exclusively for player control. Ask your dealer for this cable.



D-SUB 15 pins (to this player)

D-SUB 25 pins female type (to the controller)

#### EXTERNAL SYNCHRONIZATION OF THE PLAY-BACK VIDEO IMAGE

#### (Fig. 8)

The composite sync from the external sync generator are used for external synchronization of the playback video image (EXT SYNC MODE).

When multiple LaserDisc players or other video components are used simultaneously and synchronization is taken from the same sync generator, the playback images can be switched without disrupting the synchronization on the monitors.

The sync generator's composite output (3 Vp-p or more and less than 4.5 Vp-p, 75  $\Omega$  sync. negative) is connected to the player's EXT SYNC IN terminal.

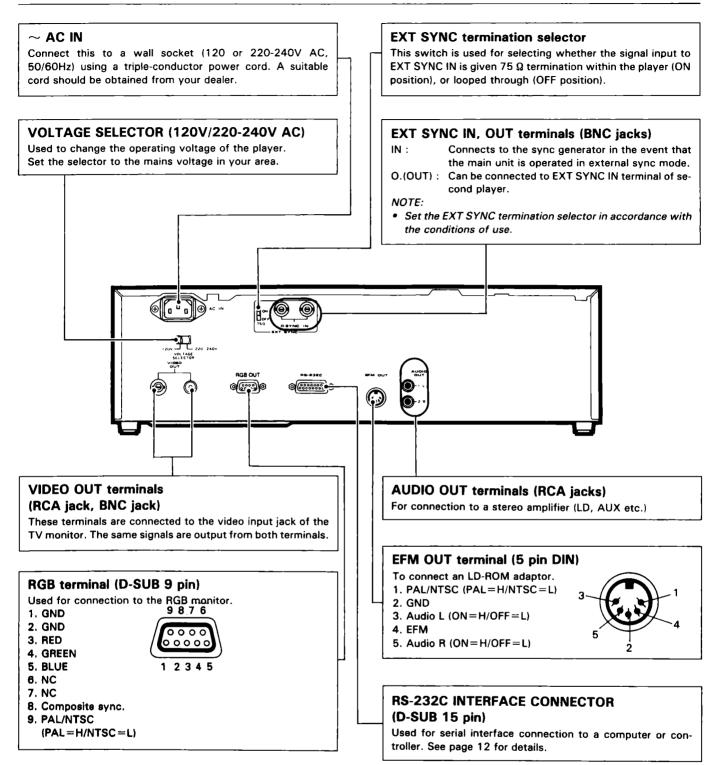
#### NOTE:

- External synchronization is possible only during CAV disc playback.
- Use PAL or NTSC sync generator or a generator with compatible specifications. If jitter and noise are contained in the external synchronizing signal, the player may not operate properly.
- Switch to the external synchronization mode while the player is in the set up mode. Error will occur if the composite sync signal enters the EXT SYNC IN after playback started, or the input to the EXT SYNC is interrupted during playback in external synchronization mode.

Can be connected to EXT SYNC IN terminal of the second player. In this case, set the 75  $\Omega$   $\,$  switch to "OFF."

- 2 PAL or NTSC sync. generator
- When using the EXT SYNC IN terminal only ... Set to ON.
   When also using the EXT SYNC OUT terminal ... Set to OFF.

## PANEL FACILITIES



#### **PARK** indicator

- · Indicates that the pickup is at the park position (extreme inner circumference) and in standby status.
- Blinks during opening/closing operation of the disc table, and goes off when opening/closing is completed.
- Lights up when a disc exists in the player.

#### **PAL and NTSC indicators**

- Displays the type of disc being played back during disc playback.
- In standby status, indicates the setting of the PAL/NTSC SELECT button.

Lit when the KEY LOCK command is entered from the extern-

When this indicator is lit, entries are not accepted from operation buttons other than the power switch. Also, entries are

not accepted from the operation buttons of the separately

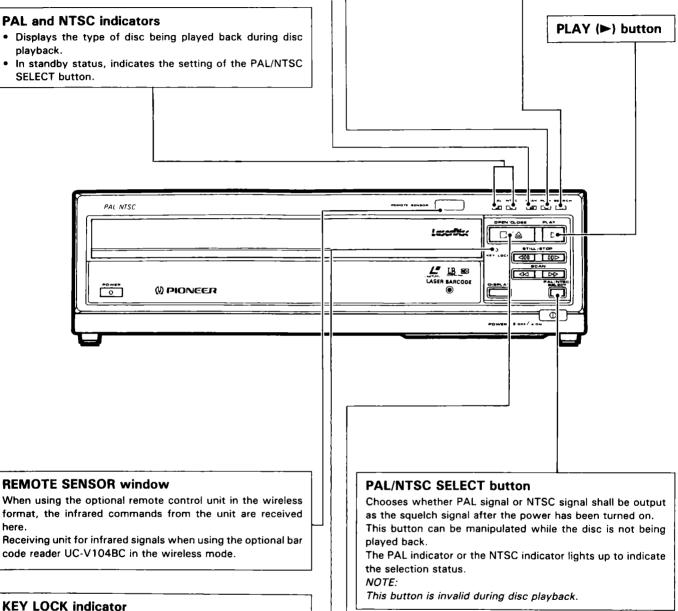
#### **PLAY** indicator

Lights during playback.

Blink when the disc rotation starts/stops.

#### **SEARCH** indicator

Lights during execution of search.



#### OPEN/CLOSE ( / ) button

This button is used to open and close the disc table. Setting a disc on the disc table then pressing this button retracts the disc table into the player. Pressing this button during player stops play. When pressed again, the table will be extended from the player.

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al control unit.

sold remote control unit.

here.

#### SCAN (◄◄, ►►) button

This is for quickly finding a particular point in the program from which you wish to play the disc. Scanning continues for as long as you keep the SCAN button depressed.

- ►► : Forward direction
- I Reverse direction

#### **DISC TABLE**

When power is switched on, and OPEN/CLOSE button is pressed, the disc table is expelled outward.

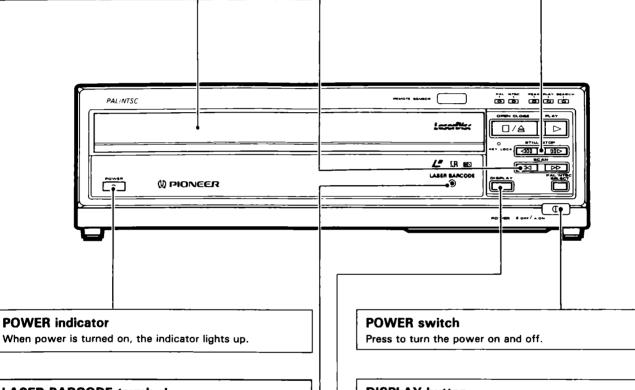
#### STILL/STEP (<!!) button

#### Functions only during CAV disc playback.

When either end of the button is pressed, the unit will enter frame-by-frame playback. Then, when the  $\blacksquare$  end is pressed, the picture will advance forward frame-by-frame. When the  $\triangleleft$   $\blacksquare$  end is pressed, the picture will reverse frame-by-frame.

#### NOTE:

If this button is pressed during CLV disc playback, "CLV" appears on the screen to indicate that the button does not function.



## LASER BARCODE terminal (stereo miniature phone jack)

A terminal for connecting an optional remote control unit RU-

V103 in the wired mode.

To be connected when using the optional bar code reader UC-V104BC in the wired mode.

#### **DISPLAY** button

This button is used to display or erase chapter number and frame numbers on the TV screen.

When the power is turned ON with this button pressed, the function switches to setting mode. (see page 14) *NOTE:* 

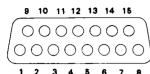
- During CLV disc playback, elapsed time numbers will be displayed in place of frame numbers.
- When only the DISPLAY button is pressed, the display appears and reappears alternately each time the button is pressed.

## **INTERFACE CONNECTOR TERMINALS**

Used when external control is performed by using a controller or computer.

#### [Shape]

#### 15 pin D-SUB connector

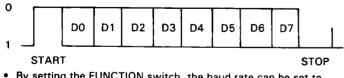


#### [Terminal names]

Pin No.	Terminal	I/O	Level
1	GND	-	-
2	TxD	Output	RS-232C
3	RxD	Input	RS-232C
4	DTR	Output	RS-232C
5	Not used	-	_
6	V SYNC	Output	TTL
7	H SYNC	Output	TTL
8	Not used	-	-
9	ТхD	Output	TTL
10	RxD	Input	TTL
11	GND	_	-
12	DUMP	Output	-
13	AUX1	Output	TTL
14	AUX2	Output	TTL
15	GND	-	_

Signals for both the RS-232C level (No.2 and 3) and TTL level (No. 9 and 10) are provided. However, they cannot be used at the same time. They also cannot be connected together.
The following is the data format:

#### 1 START + 8 DATA + 1 STOP



• By setting the FUNCTION switch, the baud rate can be set to either 9600 bits/sec, 4800 bits/sec or 1200 bits/sec.

#### [Function]

[	
1. GND	: Ground (TxD, RxD use)
2. TxD	: Transmitted Data (RS-232C)
3. RxD	: Received Data (RS-232C)
4. DTR	: Data Terminal Ready (RS-232C)
6. V SYNC	: Playback vertical sync output (TTL)
7. H SYNC	: Playback horizontal sync output (TTL)
9. TxD	: Transmitted data (TTL)
10. RxD	: Received data (TTL)
11. GND	: Ground
12. DUMP	: Audio CH2 signal output
13. AUX1	: Video indicator output (TTL) High during stop but low during screen

H (During sto	ор) <u>Н</u>
	L (During playback)
14. AUX2	: Jump TOGGLE output (TTL)
15. GND	: Ground (for synchronizing signal output use.)

playback.

#### NOTES:

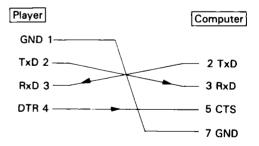
- Do not connect terminals 5 and 8 to ground; make sure it is free.
- Be sure to perform plugging and unplugging when the power is turned off.

## CONNECTIONS TO COMPUTER RS-232C PORTS

Connect the player TxD, RxD and GND to the computer RxD, TxD and GND respectively.

Although TxD and RxD are provided for both RS-232C and TTL levels, they cannot be used at the same time. The player DTR (Terminal 4) is connected to the computer CTS (Clear to Send), if necessary.

(Use a separately sold interface cable.)



In regard to the data format, it has 1 start bit, 8 data bits, and 1 stop bit. The baud rate can be selected with the FUNCTION switch. (See page 14)

#### INTERFACE CONNECTOR TERMINALS

#### **CONTROL COMMANDS**

**RxD** Terminal Control Command Input

	Command	Mnemonic
1	OPEN	OP
2	REJECT	RJ
3	START	SA
4	PLAY	(address) PL
5	PAUSE	PA
6	STILL	ST
7	STEP FORWARD	SF
8	STEP REVERSE	SR
9	SCAN FORWARD	NF
10	SCAN REVERSE	NR
11	MULTI-SPEED FORWARD	(address) MF
12	MULTI-SPEED REVERSE	(address) MR
13	SPEED	argument SP
14	SEARCH	address SE
15	STOP MARKER	address SM
16	FRAME	FR
17	TIME	TM
18	CHAPTER	СН
19	AUDIO CONTROL	argument AD
20	VIDEO CONTROL	argument VD
21	DISPLAY CONTROL	argument DS
22	CLEAR	CL
23	FRAME NUMBER REQUEST	?F
24	TIME CODE REQUEST	?т
25	CHAPTER NUMBER REQUEST	?C
26	PLAYER ACTIVE MODE REQUEST	?P
27	DISC STATUS REQUEST	?D
28	COMMUNICATION CONTROL	argument CM
29	CCR MODE REQUEST	?M
30	CLOSE	CO

	Command	Mnemonic	
31	MILTI-TRACK JUMP FORWAD	argument JF	
32	MILTI-TRACK JUMP REVERSE	argument JR	
33	LDP MODEL NAME REQUEST	?X	
34	PIONEER USER'S CODE REQUEST	?U	
35	PHILIPS USER'S CODE REQUEST	\$Y	
36		#1	
37		?N	
38	TELEVISION SYSTEM SELECT	argiment TS	
39	TELEVISION SYSTEM REQUEST	?S	
40	KEY LOCK	argument KL	
41	REG. A SET (DISPLAY)	argument RA	
42	REG. B SET (SQ CONT)	argument RB	
43	REG. C SET (MISCELLANY)	argument RC	
44	REG.D SET (RS-232C)	argument RD	
45	CLEAR SCREEN	CS	
46	PRINT	argument PR	
47	LEAD OUT SYMBOL	LO	
48	REG. A REQUEST (DISPLAY)	\$A	
49	REG. B REQUEST (SQ CONT)	\$B	
50	REG. C REQUEST (MISCELLANY)	\$C	
51	REG.D REQUEST	\$D	

• Command mnemonics use ASCII alpha characters and the ? symbol. There is no distinction between capitals and small letters.

 The argument and address are decimal and use ASCII numerals.

• An address indicated by ( ) can be omitted.

• A command line can have up to 20 characters and is terminated with CR code (ODH).

 Refer to the "Users Manual" for the control protocol and command explanation.

## **FUNCTION SWITCHES**

The LD-V4300D has FUNCTION switches for initialization and setting of the modes of the player.

These switches are memory switches that can be set directly by buttons on the player or via remote control unit while observing the display.

#### HOW TO SET

#### Setting Mode of FUNCTION Switch

To set the FUNCTION switch, the player must be set in FUNC-TION switch setting mode.

Keep the DISPLAY button pressed and switch the power of the player on. Now you are in FUNCTION switch setting mode.

## Switch setting by player's button and via remote control unit

When the player is set to FUNCTION switch setting mode, the menu for switch setting will be displayed on the screen.

The switch setting can be made by the button and via remote control unit while observing the menu.

The menu screen consists of 5 pages from page 0 to page 4; page 0 indicates how to set the switch; page 1 shows the contents of menu screens; pages 2 to 3 are for switch setting; page 4 displays a list of switches.

#### $\langle PAGE \ SELECTION \rangle$

Use the SCAN buttons. When the ( $\triangleright \triangleright$ ) button for page-up and ( $\triangleleft \triangleleft$ ) button for page-down.

#### **(SETTING ITEM SELECTION)**

Use the STILL/STEP  $(\square \supseteq \triangleright)$  button. When the  $(\square \supseteq \triangleright)$  button is pressed at the switch setting page, the item to be set will be marked. Press the  $(\square \square \triangleright)$  button several times until the item you want to set is marked.

#### **(CHANGE OF SETTING VALUE)**

By pressing the STILL/STEP ( $\triangleleft$ ) button, the set value of the marked setting item will be changed. Display the new set value on the screen and set the switch.

#### *(INITIAL VALUE SETTING)*

By pressing the OPEN/CLOSE ( $\blacksquare/\triangleq$ ) button of the player or the REJECT button on the remote control unit, all set values can be initialized.

You can leave the function setting mode by pressing the DIS-PLAY button. FUNCTION switch contents and TV mode (PAL/NTSC) are recorded in the memory switch.

The Table below shows a list of buttons and their functions necessary for setting the FUNCTION switches.

Button of the player	Button of the remote con- trol unit	Function
DISPLAY + POWER ON		Sets the player to FUNCTION switch setting mode.
SCAN (⊳⊳)	SCAN (►►)	page-up of the menu screen.
SCAN (⊲⊲)	SCAN (	page-down of the menu screen.
STILL/STEP (]]])	STEP (	Selects the setting item of the menu screen.
STILL/STEP (<[□])		Selects the set value of the menu screen.
OPEN/CLOSE	REJECT	Initializes all switches.
DISPLAY	DISP	Leaves the function setting mode.

#### SW1: Player Control Switch (page 2)

Switch number	Function	ON (=1)	OFF (=0)	Initial value
S0	SIDE REPEAT	AUTO	OFF	OFF
S1	LOAD START	AUTO	OFF	OFF
\$2	POWER ON START	AUTO	OFF	OFF
53	NO USE	-	OFF	OFF
S4	SQUELCH	BLACK	BLUE	OFF
S5	NO USE	-	OFF	OFF
S6	NO USE	-	OFF	OFF
<b>S</b> 7	TEST MODE	ON	OFF	OFF

SO :	At ON, one side of the disc is played back repeated-
	ly. When set to OFF, after playback of one disc side,
	reject occurs automatically (auto return).

- S1 : At ON, when the disc table is pushed in, playback starts automatically.
- S2 : At ON, playback starts automatically when the power is engaged.
- S3 : Not used. Set to 0.
- S4 : Selects the back color during squelch. When set at ON, a black screen is selected, and when set at OFF, a blue screen is selected.
   S5, S6 : Not used. Set to 0.
- S7 : When set to ON, the test mode is established. Set to OFF.

#### SW2: RS-232C Control Switch (page 3)

Switch number	Function	ON (=1)	OFF (=0)	Initial value
SO	BAUD RATE	00 : 9600 bps		01
<b>S</b> 1	BAOD HATE		01:4800 bps 10:1200 bps	
S2	NO USE	-	OFF	OFF
S3	NO USE	-	OFF	OFF
S4	NO USE	_	OFF	OFF
S5	NO USE	-	OFF	OFF
S6	TxD TERMINA- TOR	(CR)+(LF)	<cr></cr>	(CR)
<b>S</b> 7	NO USE	_	OFF	OFF

S0, S1: Sets the serial transmission speed. The baud rate can be set to any one of three speeds: 1200 baud, 4800 baud or 9600 baud.

Switch number		Baud rate (BIT/SEC)	
S1	SO		
OFF	OFF	9600	
OFF	ON	4800	
ON	OFF	1200	
ON	ON	NO USE	

S2, S3, S4, S5 : Not used. Set to 0.

Selects the terminal code of the status character string output from TxD terminal. Selects  $\langle CR \rangle \langle LF \rangle$  when at ON and  $\langle CR \rangle$  at OFF. Not used. Set to 0.

Na

**S6**:

**S7**:

#### **TV Mode Recording**

When the power is engaged the player TV mode (PAL/NTSC) can be recorded in the memory switch.

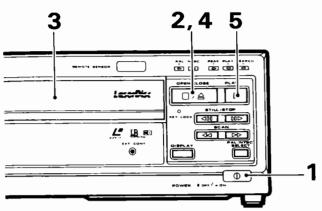
- ① While pressing down on the DISPLAY button, set the POWER switch to ON and the FUNCTION switch to setting mode.
- 2 Select the TV mode with the PAL/NTSC SELECT button.
- (3) Press the DISPLAY button and release the FUNCTION switch setting mode.
- For details of the function switches, refer to the "User's Manual for the LD-V4300D.

## **OPERATION**

#### PREPARATION

Turn on the power for the TV monitor and other equipments.

#### STARTING PLAYBACK



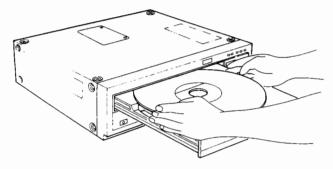
#### 1. Turn the player power on.

• POWER indicator is lit.

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

• The disc table will be extended from the player.

#### 3. Set the disc on the disc table.



#### NOTE:

- Only one disc should be inserted at a time.
- Take special care when loading 8-inch (20cm) discs on the disc table.

Align the disc inside the guides on the disc table and be sure that the disc is mounted securely.

 Check if the disc is dirty or not. Since fingerprints and dirt on a disc cause image quality and tone quality deterioration, clean the surface that faces downward (opposite side from label; signal playback is on the surface that faces down) before setting it in place, if it is dirty.

#### 4. Press the OPEN/CLOSE button ( $\blacksquare$ / $\triangleq$ ).

- The disc table will close.
- · Be careful not to pinch your finger.
- If LOAD START AUTO has been selected with the FUNCTION switch, playback begins automatically when the disc table closes.

#### 5. Press the PLAY button (►).

#### STOPPING PLAYBACK

If SIDE REPEAT OFF has been selected with the FUNCTION switch, after playback of one side is completed, the stop mode is established automatically.

To stop playback while a disc is being played, perform the following.

#### 1. Press the OPEN/CLOSE ( / A ) button twice.

- When it is pressed once, playback stops and disc rotation stops.
- When it is pressed again, the disc table comes out.

#### 2. Remove the disc.

 Place the removed disc in its jacket and store it vertically, avoiding locations with high temperatures and high humidity.

#### 3. Press the OPEN/CLOSE (■/ ▲) button.

• The disc table will close.

#### 4. Turn the power off after several seconds.

#### NOTES:

- Do not keep the disc table pulled out.
- If strong force is applied to a pulled out disc table (especially vertical force), trouble will be occur. Also, the player might drop depending on where it is installed.
- Do not place items other than a disc, on the disc table, and be sure to push it back in after the player is used.

#### CX SYSTEM

A built-in CX system decoder is provided.

The audio S/N can be improved and the dynamic range extended by using a disc with a CX mark.

When a disc on which the CX system on/off code has been recorded is played back, the code is read for automatically turn on/off.

\* CX is a trademark of CBS Inc.

This player meets the CX EXPANDING SPECIFICATION.

#### **CONCERNING SOUND**

This unit can also play back LaserDisc recorded in digital audio. Through AD command from interface connector, playback sound output becomes as follows.

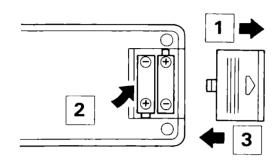
DISC COM- MAND	Disc with only analog audio recording	Disc with only digital audio recording	Disc with both analog and digi- tal audio record- ing
O AD	OFF	OFF	OFF
1 AD	Analog 1/L	Digital 1/L	Analog 1/L
2 AD	Analog 2/R	Digital 2/R	Analog 2/R
3 AD	Analog STEREO	Digital STEREO	Analog STEREO
4 AD	OFF	OFF	OFF
5 AD	Analog 1/L	Digital 1/L	Digital 1/L
6 AD	Analog 2/R	Digital 2/R	Digital 2/R
7 AD	Analog STEREO	Digital STEREO	Digital STEREO

## **OPERATION WITH THE OPTIONAL REMOTE CONTROL UNIT**

The optional remote control unit RU-V103 can be operated in a wireless (infrared ray) format or a wired format in which a cable is connected to the front panel of the player. In both cases, batteries are needed to power the remote control unit. Therefore, be sure to insert batteries before using the unit for the first time.

#### PREPARATION

- 1. Open the battery compartment cover on the rear of the remote control unit.
- 2. Insert the 2 size 'AA' (IEC R6) dry cell batteries into the battery compartment in accordance with the diagram in the compartment, then replace the cover.
- 3. Press the button on the remote control unit and confirm that the indicator flashes.



#### NOTES:

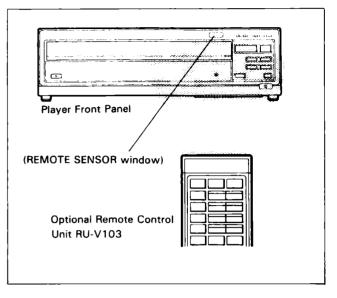
- The lifespan of the remote control unit batteries differs according to how often the unit is used. For the wired mode, replace the batteries when a command from the unit is no longer received by the player. For the wireless mode, replace the batteries when the distance from which the unit can be operated becomes noticeably shorter.
- When the unit is not used for a long period of time (more than one month), take the batteries out to prevent them from leaking inside the compartment. If leakage takes place, wipe up the liquid inside the compartment and replace the batteries with new ones.
- Do not place books or other objects on the remote control unit since they might depress the buttons and run down the batteries.

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

- Always insert batteries into the battery compartment correctly matching the positive (+) and negative (-) polarities as shown in the display inside the compartment.
- (2) Never mix new and used batteries together.
- (3) Batteries of the same size may have differing voltages, depending on brand. Do not mix different brands of batteries together.

#### WIRELESS REMOTE CONTROL

Point the front part of the unit at the REMOTE SENSOR window on the player. The remote control unit may be used within a range of several meters from the player.

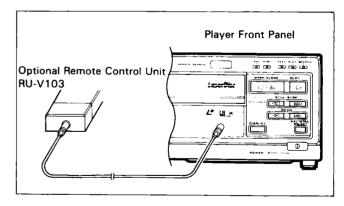


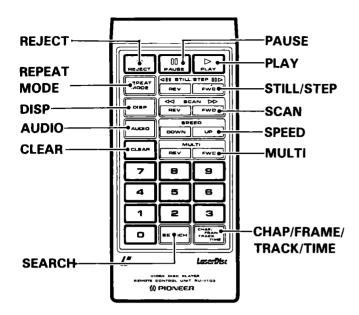
#### NOTE:

- Even if the remote control unit is operated in the effective range, remote control operation may be impossible if there is any obstacle between the player and the remote control unit.
- If the player is operated 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. Or the reverse, if the player's remote control unit is operated in the vicinity of other appliances which use an infrared remote control device, the other appliance may operate improperly.

#### WIRED REMOTE CONTROL

Connect the RU-V103 to the player front panel remote control using the remote control connection cable.





#### PLAY (>)

To begin playing a disc or resume play after another playback mode, press this button.

#### REJECT

Terminates playback.

#### PAUSE (

Stops playback temporarily.

Pause is released when the PLAY button is pressed.

#### 

This button functions the same as the SCAN button of the main player.

Forward direction

Reverse direction

#### 

Functions only during CAV disc playback. Functions the same as the STILL/STEP button of the main player.

#### MULTI

Functions only during CAV disc playback.

When the MULTI FWD button is pressed, the picture moves forward. When the REV button is pressed, it reverses direction. The playback mode is restored when the PLAY button is pressed. When the SPEED UP or DOWN button is pressed, the speed will be indicated. Set the multi-speed while the indication is being displayed.

#### [Speed Selection]

When power is turned on "x1" is selected.

Using the "UP" and "DOWN", selection of 9 speeds is possible. During the time the "UP" and "DOWN" buttons are being pressed, the speed is displayed on the screen.

"DO But		Screen Dis- play	Speed	"UP" But- ton
		x3	3-times play mode speed	
		×2	2-times play mode speed	
		×1	Same as play mode speed	
		1/2	1/2 play mode speed	
		1/4	1/4 play mode speed	
		1/8	1/8 play mode speed	
		1/16	1/16 play mode speed	
		STEP 1	Plays one frame ev- ery second	
	,	STEP 2	Plays one frame ev- ery two seconds	

The selected speed is remembered even when another playback mode is selected.

During playback modes other than multi-speed mode, the player can also accept "UP" and "DOWN" button operations, so the speed of multi-speed playback can be set in advance.

#### NOTE:

- During multi-speed playback, the audio sound is canceled.
- When the MULTI button is pressed during CLV disc playback, "CLV" appears on the screen to indicate that speed selection does not function.
- Both PAL and NTSC modes are available for the speed data.

#### AUDIO

Used to select the audio channel.

	Screen display	Contents
(1)	Digital stereo	Stereo playback of digital audio
(2)	Digital 1/L	First channel or left chan- nel of digital audio
(3)	Digital 2/R	Second channel or right channel of digital audio
(4)	Audio off	No audio output
(5)	Analog stereo	Stereo playback of analog audio
(6)	Analog 1/L	First channel or left chan- nel of analog audio
(7)	Analog 2/R	Second channel or right channel of analog audio
(8)	Audio off	No audio output

- For disc on which both digital audio and analog audio are recorded, steps (1) to (8) above are repeated.
- For disc of digital audio only, steps (1) to (4) are repeated.
- For disc of analog audio only, steps (5) to (8) are repeated.

#### NOTE:

When playing back the audio from one channel with a stereo device, the sound will be output from both speakers.

#### DISP (DISPLAY)

This button is used to display or erase chapter number and frame numbers on the TV screen.

#### NOTES

- During CLV disc playback, elapsed time numbers will be displayed in place of frame numbers.
- For disc on which the chapter number has not been recorded, the chapter is not displayed.

#### CHAP/FRAME/TRACK/TIME

#### 0~9

#### SEARCH

With CAV discs, search is possible with either frame numbers or chapter numbers.

With CLV discs, search is possible with either time numbers, frame numbers and chapter numbers.

The search mode (time, frame, or chapter) setting is done by the CHAP/FRAME/TRACK/TIME button.

Specify the number to be searched using the  $0\!\sim\!9$  buttons and press the SEARCH button to execute.

With CAV disc, a still image is established after searching. With CLV disc, play mode is established after searching.

#### [Example]

#### • CAV discs

To search for a frame number, set to frame mode with the CHAP/FRAME/TRACK/TIME button.

If 15005EARCH are pressed in sequence, the frame corresponding to frame number "1500" will be searched and displayed in freeze-frame.

To search for a chapter number, set to chapter mode with the CHAP/FRAME/TRACK/TIME button.

If 1 5 SEARCH are pressed in sequence, the first frame of chapter number "15" will be searched and displayed in freeze-frame.

#### • CLV discs

To search for a time number, set to time mode with the CHAP/FRAME/TRACK/TIME button.

If 1510 SEARCH are pressed in sequence, the scene corresponding to time number "15'10" will be searched and played back at normal play.

To search for a frame number, set to frame mode with the CHAP/FRAME/TRACK/TIME button.

If 1510 SEARCH are pressed in sequence, the frame corresponding to "15 seconds and 10 frames" (there are 30 frames from 0 to 29 per second) will be searched and played back at normal play. To search for a chapter number, set to chapter mode with the CHAP/FRAME/TRACK/TIME button.

If 15 SEARCH are pressed in sequence, the first frame of chapter number "15" will be searched and played back at normal play.

#### [Elimination of Search Steps]

When you want to change the search numbers of the search (Chapter, Frame, Time) executed just previously during playback of the same disc, you can begin with operation of numerical input.

#### [Clearing of Search]

The search mode is cleared when the CLEAR button is pressed.

#### NOTE:

- If numerical values greater than the chapter no., frame no. and time no. recorded on the disc are designated, searching takes place near the end of the playback surface.
- With CAV disc, if the PLAY button is pressed during search, the play mode is established after searching. If the MULTI button is pressed during search, the multi-speed mode is established after searching.
- If the PAUSE button is pressed during search, the pause mode is established after searching.
- If playback is terminated, the search mode becomes chapter mode.

#### CAUTION DURING COMPUTER CONTROL:

- With CLV disc, if search is executed by serial command, the pause mode is established after completion of search.
- The search mode of remote control is completely independent from that of computer control and they do not affect each other.

#### CLEAR

- Used to clear the search input mode.
- Used to abort search.

#### REPEAT MODE

Used to set the repeat playback mode.

Displays the selected mode on the screen.

Screen display	
SIDE REPEAT	Playback of one disc side is repeat- ed.
CHAPTER REPEAT*	Only the chapter currently being played back is played back repeat- edly.
AUTO RETURN	When playback progresses to the end of one disc side, the stop mode is engaged.

\*

Does not function with disc on which chapter number has not been recorded.

NOTE:

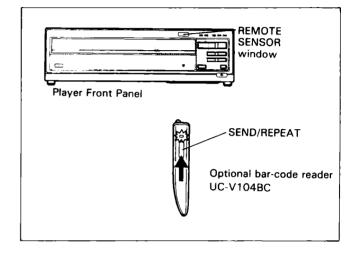
- The REPEAT MODE button can be engaged only during playback.
- If multi-speed reverse playback is engaged during chapter repeat mode, the beginning of the chapter which should be repeated is searched at the time when the chapter immediately beforehand has been entered and playback occurs in stationary frame.
- Chapter repeat is cleared by execution of search and side repeat is established.
- If control is affected by RS-232C during chapter repeat, side repeat is established. (When RC command is used, there are times when auto return is established.)
- During RS-232C control, there are times when the REPEAT MODE button cannot be engaged, depending on the status of player operation.

### OPERATION WITH THE OPTIONAL VIDEO DISC BAR-CODE READER

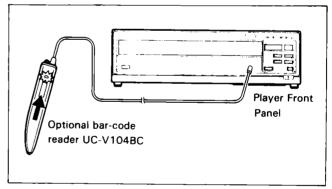
Optional bar-code reader UC-V104BC can be used. In this case, establish signal reception from bar-code reader by either wireless (infrared ray) format or wired format. Whichever format is selected, always insert a battery in the bar-code reader.

For method of using the bar-code reader, refer to the UC-V104BC operating instructions.

#### Wireless reception



#### Wired reception



## TROUBLESHOOTING

Incorrect operations are often mistaken for trouble and malfunctions. If you think that there is something wrong with this component, check the points below. Sometimes the trouble may lie in another component. Investigate the other components and electrical appliances being used.

If the trouble cannot be rectified even after exercising the checks listed below, ask your nearest PIONEER authorized service center or your dealer to carry out repair work.

	Symptom	Cause	Remedy
1.	When OPEN/CLOSE button is pressed, disc table does not come out.	<ul> <li>Power is not on.</li> <li>KEY LOCK indicator is lit (during KEY LOCK, operation buttons other than the POWER switch are not accepted).</li> </ul>	<ul> <li>Press the POWER switch to turn the power on, then press the OPEN/CLOSE button.</li> </ul>
2.	Although the disc rotates, it stops soon and the disc table comes out.	<ul> <li>Disc is very dirty.</li> <li>Disc is warped.</li> </ul>	<ul> <li>Clean the disc.</li> <li>Correct the warp. Place the disc in a protective envelope and place it between two flat sheets such as glass sheets, then place a heavy item on top for one day. Sometime the warp can be corrected.</li> </ul>
		Player dew condensation	<ul> <li>Take the disc out for 1-2 hours, then use it after the dew disappears.</li> </ul>
3.	PLAY indicator is lit but no video appears. (Even if video appears, the image quality is bad, and noise appears.)	<ul> <li>TV monitor power is not on.</li> <li>The plug of the connecting cable for the TV monitor came off from its terminal or was improperly plugged in.</li> </ul>	<ul> <li>Turn the TV monitor on.</li> <li>Connect it properly (plug it in completely).</li> </ul>
4.	No sound is heard (noise oc- curs)	<ul> <li>Incorrect operation of amplifier.</li> <li>Amplifier's connecting cable plug came off from its terminal or was improperly plugged in.</li> <li>Multi-speed playback occurs (no audio output during multi-speed)</li> <li>Audio is off during remote control operation.</li> </ul>	<ul> <li>See amplifier's operating instructions.</li> <li>Connect it properly (plug it in completely).</li> <li>Select ordinary playback (press the PLAY button).</li> <li>Turn the audio on.</li> </ul>
5.	Bad image and disoriented video on a specific disc. The disc table comes out in the middle.	• Disc is very dirty or warped.	See Remedy for Symptom 2.
6.	STILL/STEP cannot be perfor- med.	<ul> <li>CLV disc playback. STILL/STEP cannot be per- formed with a CLV disc.</li> </ul>	_
7.	Part of a still screen moves.	<ul> <li>When there is frequent activity on the screen, part of a still screen sometimes moves. This is not caused by a bad disc or bad player.</li> </ul>	_

#### TROUBLESHOOTING

Symptom	Cause	Remedy
<ol> <li>Player and remote control unit operation buttons do not function.</li> </ol>	<ul> <li>KEY LOCK indicator is lit. (During KEY LOCK, operation buttons other than the power switch are not accepted.)</li> </ul>	
<ol> <li>Start time and search time are extremely long.</li> </ol>	<ul> <li>For some discs, it takes a long time to read signals; this is not a trouble indication.</li> </ul>	<ul> <li>When the CLEAR button on the optional re- mote control unit is pressed, video appears. However, please understand that it may devi- ate slightly from a subject search screen.</li> </ul>
10. Optional remote control unit or bar-code reader does not operate.	<ul> <li>Battery has worn down.</li> <li>[During wireless operation]</li> <li>Distance is too long or there is an obstruction.</li> <li>Strong light from a fluorescent lamp strikes the Remote Sensor window.</li> <li>[During wired operation]</li> <li>Connection cord plug is removed or not inserted fully into socket.</li> </ul>	<ul> <li>Replace with new battery.</li> <li>Use within several meters of the player front panel with no obstructions present.</li> <li>Arrange so that strong fluorescent light does not strike the window.</li> <li>Inset the plug securely.</li> </ul>
11. During multi-speed play- back, stripes appear on the screen.	<ul> <li>When playback is performed with a speed that exceeds a 3-time reverse speed, stripes ap- pear on the screen. However, this is not caused by a bad disc or bad player.</li> </ul>	

## SPECIFICATIONS

#### 1. General

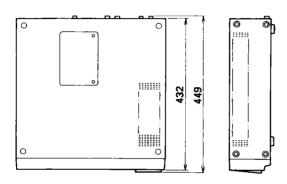
System and Disc specifications  $\cdots$  LaserVision Videodisc system Maximum playing time

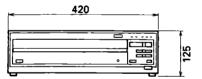
30 cm (12-inch) CAV disc
30 cm (12-inch) CLV disc
20 cm (8-inch) CAV disc 14 min/side
20 cm (8-inch) CLV disc 20 min/side
Spindle motor speed (When 30 cm disc is used.)
During PAL disc playback
CAV disc 1500 rpm
CLV disc
During NTSC disc playback
CAV disc 1800 rpm
CLV disc
Power requirements
50/60Hz
Max. power consumption
120 V 0.8 A/220-240 V 0.4 A

 Net weight (without package)
 12.6kg (28 lb)

 Dimensions
 420(W) x 449(D) x 125(H) mm

 16-9/16(W) x 16-15/16(D) x 4-15/16(H) in





Operating temperature ····	+5°C to +35°C
	(41°F to 95°F)
Operating humidity	
	(There should be no condensation.)

#### 2. Video characteristics

Format ·····PAL/NTSC (automatic switchover) Video output Level ······· 1 Vp-p nominal sync. negative, terminated

Impedance	···· 75 Ω unbalanced
Terminal	BNC jack, RCA jack

#### 3. Audio characteristics

Audio output ···· Two-channel: stereo or two individual channels
Level
Terminal ····· Two RCA-jacks

#### 4. Functions

[Operations provided by player front panel function buttons]

Function	CAV disc	CLV disc	
PLAY	YES	YES	
REJECT	YES	YES	
SCAN FWD.REV	YES	YES	
STILL/STEP FWD.REV	YES	NO	
DISPLAY ON/OFF	YES	YES	
PAL/NTSC	Automatic switchover during play- back	switchover during play-	

Operations by	/ a	separately	sold	remote	control unit	I.
---------------	-----	------------	------	--------	--------------	----

Function	CAV disc	CLV disc
PLAY	YES	YES
PAUSE	YES	YES
REJECT	YES	YES
REPEAT MODE	YES	YES
STILL/STEP FWD.REV, STILL	YES	NO
MULTI-SPEED FWD.REV	YES	NO
SCAN FWD.REV	YES	YES
AUDIO SELECT	YES	YES
VIDEO ON/OFF	YES	YES
DISPLAY ON/OFF	YES	YES
CLEAR	YES	YES
FRAME NUMBER SEARCH	YES	YES
TIME NUMBER SEARCH	NO	YES
CHAPTER NUMBER SEARCH	YES*	YES*

\* Enabled when a disc with recorded chapter numbers is played back.

(Other Function)

 CX system --- Auto selection operation when a disc with recorded CX auto selection codes is played back.

#### 5. Other Terminals

- LASER BARCODE (front panel)...Stereo miniature phone jack
- EFM OUT (rear panel) ...... 5 pin, DIN connector
- RGB OUT (rear panel) ------------------9 pin, D-SUB connector
- EXT SYNC IN/OUT BNC jacks

#### 6. Accessories

- Operating instructions

#### NOTE:

The playback time depends on the content of a disc.

Specifications and design subject to possible modifications without notice, due to improvements.



This equipment accepts softwares with the LaserBarcode mark or the LaserBarcode2 mark.

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