

SONY[®]

3-751-327-23 (1)

LDP-1450

Operating Instructions Page 2

Mode d'emploi Page 34

Lasermax



Owner's Record

The model and serial numbers are located at the rear of the unit. Record the serial number in the space provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. LDP-1450 Serial No. _____

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

INFORMATION

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

Reorient the receiving antenna

Relocate the equipment with respect to the receiver

Move the equipment away from the receiver

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

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

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

The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a computing device pursuant to Subpart J of Part 15 of FCC Rules.

CAUTION

The use of optical instruments with this product will increase eye hazard.

As the laser beam used in this videodisc player is harmful to the eyes, do not attempt to disassemble the cabinet. Refer servicing to qualified personnel only.

For the Customers in canada

THIS APPARATUS COMPLIES WITH THE CLASS B LIMITS
FOR RADIO NOISE EMISSIONS SET OUT IN RADIO
INTERFERENCE REGULATIONS.

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Use NTSC videodiscs

This player is to be used exclusively with the NTSC colour system.
PAL/SECAM videodiscs cannot be used in this player.



LASER DISC

CED and VHD type videodiscs cannot be used in this player.

Features

LDP-1450 is designed to be controlled mainly by an external microcomputer with an RS-232C interface connector. Control codes from the computer allow various operations such as playback in varied speeds, repeat, pause, or search on the videodisc player.

Also, the OPTIONAL FUNCTION selector at the rear allows the videodisc player to operate in ways other than in the standard operation mode set at the factory.

No physical contact between pick-up and disc

A laser beam acts as the signal pick-up for contact-free playback and no wear on your valuable videodiscs. The audiovisual pit pattern is recorded below the surface of the videodisc for safe handling. There is no more need to be constantly on your guard against fingerprints and dust.

High speed access

Full stroke search on the disc is approximately 2 seconds (CAV, by frame).

Search operation by the second on CLV disc

Desired picture address on a CLV disc can be searched for by specifying the time (second) number recorded on the disc.

Remote control operation

By using the RM-2001 optional remote control unit, playback both in forward and reverse directions or special operations such as search and repeat are available. RM-2001 can be used with LDP-1450 only in wired mode.

Character generator incorporated

Character generator is incorporated in the LDP-1450 so that it can display a desired character according to a character code given by the connected computer. There are three character modes: 20 characters \times 1 line, and 10 characters \times 3 lines.

Automatic front loading

Videodiscs are inserted in front of the LDP-1450, which saves space when compared to top loading models.

Mountable on 19" rack

The videodisc player can be mounted on an EIA standard 19" rack. An optional RMM-121 rack mount kit is available to install the videodisc player into the 19" rack.

Black burst video out signals in the search mode

The characters or pictures output from the computer are superimposed over the videodisc picture, and they can even be seen in the search mode as the videodisc player uses the black burst video out signals to adjust the picture.

Screw-less mechanism for transportation

This new mechanism eliminates the need to tighten special screws to fix the laser pick-up before transporting the videodisc player.

Extended operation modes

By using the OPTIONAL FUNCTION selector, the LDP-1450 operates in extended operation modes. For example, the videodisc player stays in still or stop mode until it receives any operational commands, regardless of how the player is controlled.

There are three extended operation modes you can use.

Tips on Videodiscs

TYPES OF VIDEODISCS

CAV (constant angular velocity) disc

The CAV disc always rotates at a constant speed of 1800 r.p.m. and the laser beam moves from the inner part of the disc to the outer. Up to 30 minutes of playback (54,000 frames) is possible on one side of the disc. Each frame of the playback picture is recorded on one track and is reproduced in one rotation. The frame number is recorded on the track. Flexible playback operation such as variable speed playback, repeat play is possible using the frame numbers as reference.

CLV (constant linear velocity) disc

With the CLV disc, the rotational speed varies from 600 r.p.m. to 1800 r.p.m. so that a constant linear velocity is maintained. The laser beam moves from the inner part of the disc to the outer as with CAV discs. Playback of up to one hour is possible on one side of the disc, although only normal play, scan and search operations are possible. The elapsed playback time or the chapter number being played can be displayed on the monitor screen. Searches to the beginning of chapters or specified time codes is possible.

*1) Frames

The CAV discs have up to 54,000 "frames" which are numbered in sequence. One frame is recorded on one track, that is, a frame is played back with one rotation of the disc. You can search for a particular frame quickly or repeat a particular sequence of frames.

*2) Picture stop

When the player detects this code the playback enters the still mode. This code may be ignored in the scan and search modes.

*3) Chapters

There are CAV and CLV discs on which "chapters", as the chapter of a book, are pre-recorded. If a chapter number is displayed after a frame number has been displayed (on a CAV disc) or after playback time is displayed in minutes (on a CLV disc) when you change the display mode, the data are pre-recorded in chapters.

*4) Lead-in/Lead-out

When the player detects the lead-out code, it returns to the beginning of a disc, detects the lead-in code and repeats playback.

When the player detects the lead-in code or lead-out code in SCAN mode, the same result will be obtained.

Precautions

On safety

- Operate the unit with 120V AC, 60 Hz.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not to be used for an extended period of time.
- To disconnect a cord, pull it out by the plug. Never pull the cord itself.

On installation

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

On operation

- Do not operate the unit right after having transported it from a cold location directly to a warm location or in a room where the temperature rises suddenly because moisture may condense in the operating section of the unit. Wait for about an hour before turning the power on in the new location or keep the rise in room temperature gradual. If the unit is operated with moisture condensation, the unit and the disc may be damaged. Therefore remove the disc immediately when there is a possibility of moisture condensation and no picture is obtained.
To evaporate the moisture rapidly, leave the player turned on without a disc loaded.
- Remove the disc from the compartment after playing it, if the unit will not be used for any length of time. Do not transport the set with a disc in place.
- To open or close the disc compartment, press the OPEN/CLOSE button. Do not pull or push the disc compartment forcibly.
- When the disc compartment is in the open position, do not press down on it strongly, or place heavy objects.

COMPARISON OF SONY VIDEODISC CODE TYPES

| Type | purpose | location on disc | capacity | customer's creation method | encoding method |
|---------------------------------------|--|-------------------------------|---------------------------------------|--|--------------------------------------|
| I. CAV Discs | | | | | |
| Vertical blanking (partial listing) | | | | | |
| —frame number*1) (picture numbers) | frame access | all vertical blankings | 00001 to 54000 | not available | added automatically during mastering |
| —picture stop*2) | automatic stop on a frame during "play" and "slow" modes | designated vertical intervals | up to 54000 | list of time codes on a master tape to have stops | added during mastering |
| —chapter number*3) | divide content into chapters | designated vertical blankings | 00 to 79; min chapter = 30 tracks | list of first/last time codes on a master tape of all chapters | added during mastering |
| II. CLV Discs | | | | | |
| Vertical blanking | | | | | |
| —time code number | time code access | all vertical blankings | 00 hr 00 mins 00 sec to 01 hr 00 mins | not available | added automatically during mastering |
| —chapter number | divide content into chapters | designated vertical blankings | 00 to 79; minimum = 30 tracks | list of first/last time codes on a master tape of all chapters | added during mastering |
| III. CAV/CLV Discs | | | | | |
| Vertical blanking | | | | | |
| —Lead-in*4) | locate the beginning of the program on a disc | designated vertical blankings | --- | not available | added during mastering |
| —Lead-out*4) | locate the end of the program on a disc | designated vertical blankings | --- | not available | added during mastering |

On cleaning

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

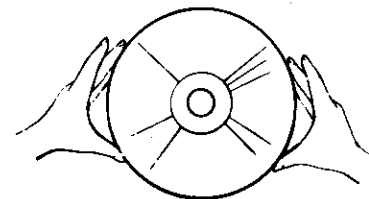
On packing

Do not throw away the carton and packing materials. They make an ideal container in which to transport the unit. When shipping the unit to another location, repack it as illustrated on the carton.

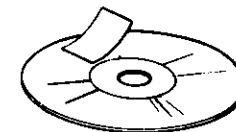
If you have any questions about this unit, contact your authorized Sony service facility.

Notes on Handling Videodiscs

Handle the disc by its edge, and keep the disc clean.



Do not stick paper or tape on the disc surface.



Not this way

Do not expose the disc to direct sunlight or heat sources such as hot air ducts, or leave it in a parked car in direct sunlight which can result in a considerable rise in the temperature.

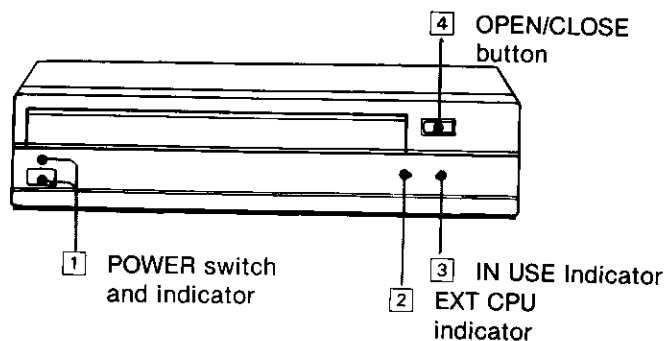
Before playing, clean the disc with a soft cloth.

Do not use solvents (such as benzine or thinner) or commercially available cleaners or anti-static sprays intended for audio discs.

After playing, store the disc in its case.

Parts Identification

FRONT PANEL



1 POWER switch and indicator

Press to turn the videodisc player on. The POWER indicator will be lit when the player is turned on. Press the button again to turn off the power.

2 EXT CPU indicator

Lights up when the player is controlled by an external computer through the RS-232C interface connector. In this mode, RM-2001 remote control unit cannot be used. The videodisc player will automatically respond to commands given by the external computer.

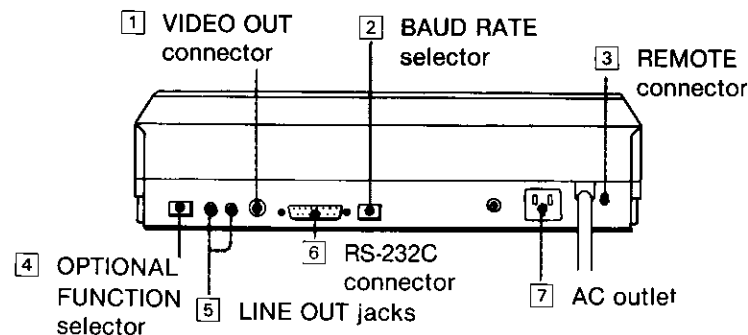
3 IN USE indicator

Blinks while loading or unloading a videodisc, or lights up when the videodisc is being played back within the player. This indicator is not lit when the disc is not loaded on the player even if the power to the player is on.

4 OPEN/CLOSE button

Press to open the disc compartment, and press again to close it. The compartment will also close automatically when it is pushed lightly. Be sure to push the center of the compartment for proper operation of the player.

REAR PANEL

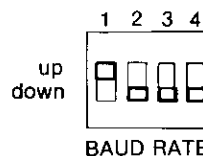


1 VIDEO OUT connector

BNC connector for output of composite video signals

2 BAUD RATE selector

Select the data transmission speed on the RS-232C line. The baud rate can be set to 9600, 4800, 2400, or 1200 baud. Be sure that the speed set on the videodisc player is matched to that on the connected computer. The data speed is initially set to 1200 at the factory.



| Switch setting | | | | Baud rate |
|----------------|------|------|------|-----------|
| 1 | 2 | 3 | 4 | |
| up | down | down | down | 1200 |
| down | up | down | down | 2400 |
| down | down | up | down | 4800 |
| down | down | down | up | 9600 |

Set the switches to the desired positions using the tip of a ball-point pen or a similar object.

3 REMOTE connector

Connect to the RM-2001 optional remote control unit. Without the wire the remote control unit is not effective with the videodisc player.

4 OPTIONAL FUNCTION selector

Set the selector so that the videodisc player operates in an extended operation mode. To select an extended operation mode, this selector should be set to the desired position before turning the power on. For details, see page 20.

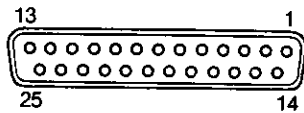
5 LINE OUT jacks

Phono jacks (RCA-type) for audio signal output. The audio signals of the channel 1 (CH-1) are output from the 1/L jack, and the signals of the channel 2 are output from the 2/R jack.

6 RS-232C connector

Standard 25-pin RS-232C interface connector for communication with an external computer. Refer to page 25 for making connections with an external computer.

Pin assignment



| Pin No. | Signal |
|---------|---------------------------|
| 1 | FG (Frame ground) |
| 2 | TxD (Transmit data) |
| 3 | RxD (Receive data) |
| 4 | RTS (Request to send) |
| 5 | CTS (Clear to send) |
| 6 | DSR (Data set ready) |
| 7 | GND |
| 20 | DTR (Data terminal ready) |

Each signal conforms to the RS-232C specifications.
(Output level ON: more than +5V, OFF: less than -5V)

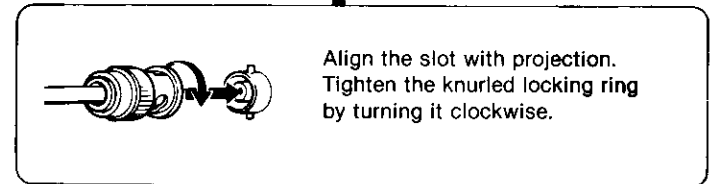
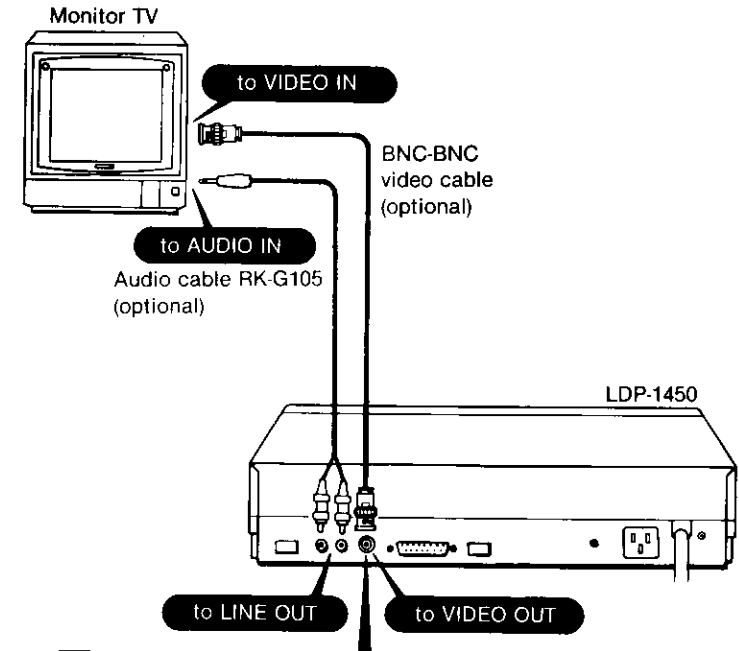
Note: Check the RS-232C pin assignment of the external computer to be connected. There is a modem mode and terminal mode for pin assignment. The RS-232C pin assignment for LDP-1450 is for the terminal mode.

7 AC outlet

This outlet supplies ac power to other video equipment whose power consumption is no more than 300 watts. The power is constantly supplied to the connected equipment regardless of the power switch setting of the player.

Connections

The video monitor which has a BNC video input can be used with LDP-1450. Use a BNC-BNC coaxial cable for video signal connection, and a cable with phono plugs for audio signal connection.



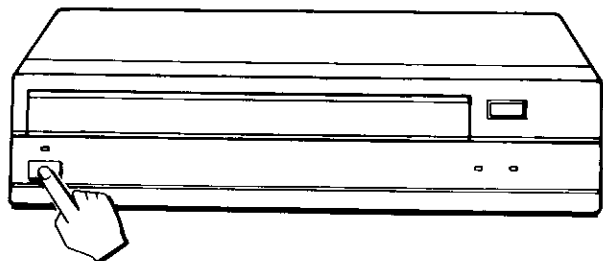
- To play back the audio on a stereo system, connect the LINE OUT connectors to the auxiliary (or tape or tuner) inputs of the amplifier.
- Use the red plug of the audio cable for the right channel (R) connection.

To Play Back a Videodisc

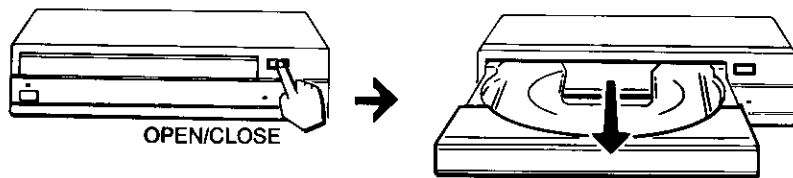
The procedure outlined below shows only the simple operations of the videodisc player to play back the videodisc. The disc is automatically and endlessly played back after it is set in the videodisc player. Without the remote control unit or control signals from the external computer, other operations such as pause, repeat, search, playback in various speeds are not available. For the operations which are only available with the remote control unit, see page 24. For the computer controlled operations, read the separate LDM-G1000 Interface Manual.

Before starting the operation, keep in mind the following precautions.

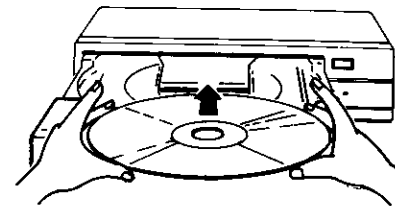
- To open and close the disc compartment, press the OPEN/CLOSE button.
 - Place a disc in the tray with the side to be played back facing down (with the label of the desired side up). Note that the laser reads from below.
 - If a disc is not placed correctly in the tray or the disc has a defect which prevents normal playback, the disc compartment will be ejected as soon as the defect is encountered.
- 1 Turn on the videodisc player by pressing the POWER switch. The POWER indicator will light up.



- 2 Press the OPEN/CLOSE button to open the disc compartment.



- 3 Place the disc with the desired program label facing up.



Place in the indentation.

- 4 Press the OPEN/CLOSE button. The disc starts rotating and the IN USE indicator will blink for a few seconds. Playback begins automatically, and the IN USE indicator lights up.

To stop the playback and remove the disc

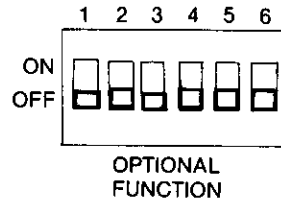
Press the OPEN/CLOSE button to stop playing the disc, no matter what mode the player is in. The disc will stop rotating, and the disc compartment will be ejected.

Notes

- At the beginning of the playback, the picture may be distorted. This symptom tends to occur especially when a CLV disc is used.
- To avoid damaging the disc, do not move the videodisc player while it is operating or while it contains a disc.

Extended Operation Modes

The LDP-1450 is equipped with the OPTIONAL FUNCTION selector at its rear.



The three switches, from 1, 2 and 4, of the OPTIONAL FUNCTION selector enable the use of extended operation modes.

Notes

- All switches of the OPTIONAL FUNCTION selector are set to the OFF position at the factory. To use an extended operation mode, set the corresponding switch to the ON position.
- Switches 3, 5 and 6 are not used.

Precaution

Be sure to set the switch while the power is turned off, and then turn on the power.

Changing the switch position while the power is turned on does not affect the current operation mode.

TO ENTER STILL OR STOP MODE WHEN POWER IS TURNED ON

Use switch 1 of the OPTIONAL FUNCTION selector.

- 1 Turn the power off, if it is turned on.
- 2 Set switch 1 to ON.
- 3 Turn the power on.

The videodisc player will enter the still mode at the first track of the CAV disc, or the stop mode at the first track of the CLV disc when the power is turned on.

This mode prevents the videodisc player from starting playback automatically. This mode will be convenient in case the host computer needs certain period of time for its initialization, for example.

Note

This switch is effective whether or not an external computer is connected to the videodisc player.

TO EXECUTE COMMANDS FROM THE COMPUTER WITHOUT RETURNING CODES

Use switch 2 of the OPTIONAL FUNCTION selector.

- 1 Turn the power off, if it is turned on.
- 2 Set switch 2 to ON.
- 3 Turn the power on.

The videodisc player will not return codes in response to the commands sent from the external computer. For the videodisc player in such a state, a simplified control program will do, since no interrupt processing will be required.

Notes

- Even when switch 2 is set to ON, the videodisc player will return the required information in response to the ADDR INQ, CHAPTER # INQ, ROM VERSION INQ and STATUS INQ commands.
- An interval of at least 33 msec is required between two different commands so that the videodisc player can distinguish a command from the preceding one.

TO USE THE REMOTE CONTROL UNIT WHILE THE VIDEO DISC PLAYER IS CONTROLLED BY AN EXTERNAL COMPUTER

In the standard operation mode, the videodisc player does not accept the signal from the remote control unit when it is controlled by an external computer. However, you can make the player accept the remote control unit signal while it is under the control of external computer.

Use switch 4 of the OPTIONAL FUNCTION selector.

- 1 Turn the power off, if it is turned on.
- 2 Set switch 4 to ON.
- 3 Turn the power on.

Note

Switch 2 of the OPTIONAL FUNCTION selector should be set to OFF.

In this state, the videodisc player accepts the signal issued by the remote control unit, and returns the code to the external computer. The codes returned correspond to the keys on the remote control unit pressed as follows:

| Key pressed | Code returned | Key pressed | Code returned |
|-------------|---------------|-------------|---------------|
| 0 | 10H | REV SCAN | 1FH |
| 1 | 11H | FWD SCAN | 20H |
| 2 | 12H | REV PLAY | 21H |
| 3 | 13H | FWD FAST | 22H |
| 4 | 14H | REV FAST | 23H |
| 5 | 15H | FWD STEP | 24H |
| 6 | 16H | REV STEP | 25H |
| 7 | 17H | ENTER | 26H |
| 8 | 18H | CL | 27H |
| 9 | 19H | MODE | 28H |
| INDEX | 1AH | REPEAT | 29H |
| CH1 | 1BH | SEARCH | 2AH |
| CH2 | 1CH | SKIP | 2BH |
| STOP | 1DH | MENU | 2CH |
| PLAY | 1EH | | |

Note

Pressing a key on the remote control unit does not cause immediately the corresponding operation of the player. The player simply returns the code listed above. For example, pressing the PLAY key does not start playback, but the player will return the code 1EH to the computer. A control program should be prepared so that the player starts playback when the computer receives the code 1EH from the player.

Operation with the RM-2001 Remote Control Unit

Before controlling the videodisc player from the RM-2001, be sure to connect the remote control unit to the player. The main functions available with the remote control unit are as follows. For details about the remote control unit, read the RM-2001 Operating Instructions.

Play

Normal playback of a videodisc both in forward and reverse directions.

Fast

Triple-speed playback both in forward and reverse directions.

Stop

To stop playing back a videodisc.

Still/Step

To obtain a still picture one by one both in forward and reverse directions.

Scan

About 100 times of normal speed playback.

Search

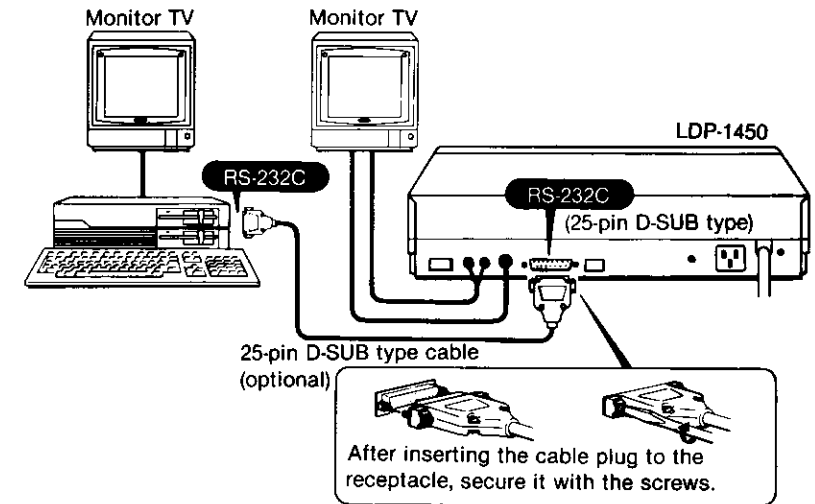
To search for a specified picture on a disc.

Repeat

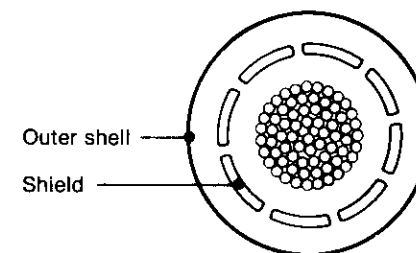
Playback between two specified frames or time numbers on a CAV disc or a CLV disc.

Connections with an External Computer

Connect the computer with a standard RS-232C interface to the videodisc player.



Interface cable to be connected to the RS-232C 25-pin D-SUB type connector must be shielded as follows.

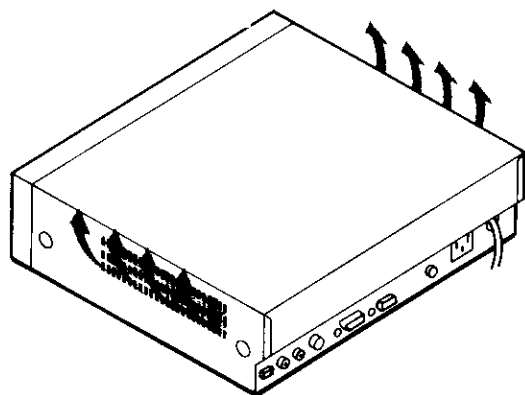


For details on connecting with an external computer, refer to operating manual of the computer, and for operation, refer to the LDM-G1000 interface manual.

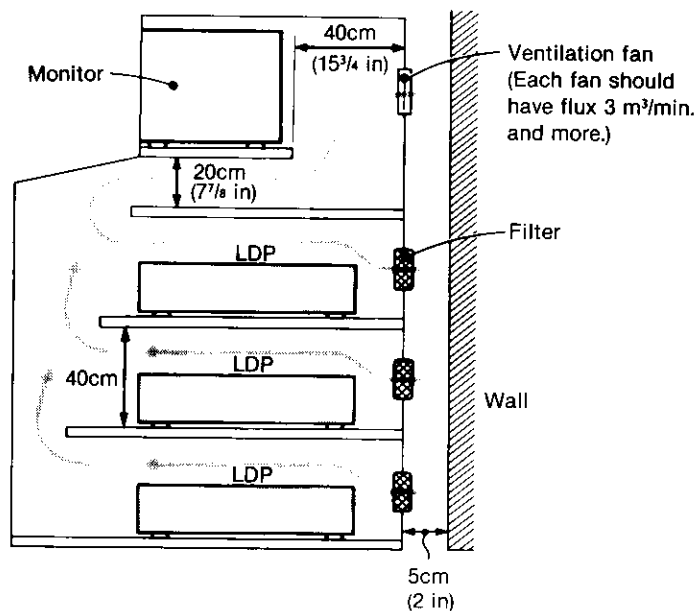
Note on Installing the Player in a Rack

When the videodisc player(s) is(are) installed in a rack, special consideration should be taken to prevent internal heat buildup.

Ventilation holes on the LDP-1450



Recommended ventilation when installed in a closed rack



- The air in the rack should be circulated from the bottom to the top as indicated.
- The temperature in the rack should not be over 35°C (95°F).
- Allow at least 5 cm (2 inches) behind the rack when installing it against the wall.
- The distance between each shelf should be at least 40 cm (15 3/4 inches).
- The holes located at the back of the rack should have filters to prevent dust from being drawn into the rack.
- At least two ventilation fans should be used and should be installed in the back of the rack as indicated in the figure.
- If a monitor is installed in the same rack, care should be taken to prevent the heat from the monitor affecting the players.

Recommended ventilation when installed in a standard 19" rack

- Use the optional RMM-121 rack mount kit to install the player(s) in a standard 19" rack.
- Three ventilation fans with flux 3 m³/min should be used for five players installed in a standard 19" rack. If you have any questions regarding ventilation in a rack, consult your authorized Sony representative.

Note

When the player is used in a dusty place, powdery dust will be drawn in the player and contaminate the objective lens in the optical pick-up system. Ask your nearest Sony service facility for lens cleaning

Troubleshooting

Many apparent malfunctions may be caused by a misoperation or an oversight. If any difficulty arises in operation, check through this list of symptoms and causes. Should the difficulty persist, unplug the unit and contact your authorized Sony service facility.

- The following list includes troubles when the RM-2001 optional remote control unit is used.

| Symptom | Cause |
|---|---|
| The disc compartment is ejected automatically. | <ul style="list-style-type: none"> • The videodisc is not placed correctly on the tray. • The videodisc is scratched or has dirt on its surface. • The disc is upside down. The side to be played back should be placed facing down. |
| The disc compartment does not come out. | <ul style="list-style-type: none"> • Power is not turned on. |
| Pressing the PLAY button on RM-2001 has no effect. | <ul style="list-style-type: none"> • An external computer is connected to the player. • The IN USE indicator is blinking. Wait until this indicator lights up. • The SEARCH or REPEAT button on the RM-2001 has been pressed when the picture is muted by the STOP button. Clear the search or repeat mode with the CL button or continue the search or repeat operation to the end. |
| Picture is not displayed, although the IN USE indicator lights. | <ul style="list-style-type: none"> • The monitor TV is not turned on. • The connection of the monitor TV is not correct. • The input selector of the monitor TV is not set correctly. • The disc is upside down. The side to be played should be facing down. |

| | |
|--|---|
| Poor picture quality | <ul style="list-style-type: none"> • Connection of the monitor TV is not correct. • An equipment is near the player to transmit noise and affect the picture quality of the videodisc. • The disc to be played back has a scratch or dirt on the surface. • There is moisture condensation in the videodisc player. |
| No audio | <ul style="list-style-type: none"> • The speaker system or TV monitor is not connected correctly. • The volume setting of the amplifier or TV monitor is too low. • Audio is muted in all modes other than normal playback. |
| Playback of a certain section of the disc is not possible. | <ul style="list-style-type: none"> • The videodisc is scratched or has dirt on a section of it. Press the FWD button on RM-2001 to advance playback past this point. |
| A certain section of the videodisc cannot be located by searching. | <ul style="list-style-type: none"> • The videodisc is scratched or has dirt on a section of it. Replace the defective disc with another one. |
| The RM-2001 remote control unit does not operate. | <ul style="list-style-type: none"> • Improper connection to REMOTE connector. • An external computer is connected to the player. |

The picture is muted and the IN USE indicator is lit.

- The PAUSE button on RM-2001 has been pressed (with a CLV disc).
- A search operation is taking place. If the specified number is invalid (not on the disc) or if a defective disc prevents the proper section from being found, the player remains in the search mode for about 20 seconds.

Fast forward or reverse playback is not possible.

- A CLV disc is used.

Specifications

Playback system

| | |
|----------------------|---|
| Disc format | Laser Vision |
| Pick-up method | Laser beam (reflective) |
| Laser | Diode laser ($\lambda = 7800\text{\AA}$) |
| Emission duration | Continuous |
| Laser output | 0.4 mW* max |
| Videodisc | 12" and 8" |
| Maximum playing time | CAV: 30 min/side CLV: 60 min/side |
| Spindle revolution | CAV: 1800 r.p.m. CLV: 1800 to 600 r.p.m. |
| Access time | CAV: 2 sec (full stroke average by frame) 10 sec (by chapter) CLV: 10 sec |

Video

| | |
|------------|--|
| Signal | EIA standards, NTSC color |
| Output | 1.0 V p-p, 75 ohms unbalanced, sync negative |
| Resolution | 400 lines |

Audio

| | |
|-----------------------|---|
| Output | Line out: -3.7 dBV (1 kHz, 100% MOD, load impedance 47 kilohms) load impedance 2 kilohms and more unbalanced |
| Signal-to-noise ratio | CX ON: 70 dB and more CX OFF: 56 dB and more |
| Frequency response | 40 Hz to 20kHz |

* This output is the value measured at a distance of about 1.6 mm from the objective lens surface on the Optical Pick-up Block.

General

| | |
|-----------------------|--|
| Power requirements | 120 V AC, 60 Hz |
| Power consumption | 39 W |
| Operating temperature | 5°C to 35°C (40°F to 95°F) |
| Operating humidity | 25% to 80% |
| Storage temperature | -20°C to 60°C (-4°F to 140°F) |
| Dimensions | Approx. 430 × 100 × 410 mm (w/h/d) (16 ¹⁵ / ₁₆ × 3 ¹⁵ / ₁₆ × 16 ¹ / ₈ inches) |
| Weight | Approx. 9.7 kg (21 lb 6 oz) |
| Optional accessories | Interface Manual LDM-G1000 Rack Mount Kit RMM-121 Remote Control Unit RM-2001 |

Design and specifications subject to change without notice.



Please change pages 7, 8, 9, 10 of your LDM-G1000 Interface Manual to these new pages inserted.

COMMAND LIST (1)

| | | | | | | | |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| ACK (0AH): Acknowledge receipt of a command | LDP-2000 | LDP-1500/ 1500P | LDP-1550/ 1550P | LDP-1600P | LDP-1450 | LDP-3300P | LDP-3600D |
| ADDR INQ (60H): Inquire for current address | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| AUDIO MUTE OFF (25H): Cancel audio muting | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| AUDIO MUTE ON (24H): Mute audio output | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| C.E. (41H): Clear entry | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| CH-1 ON (46H): Turn CH-1 on | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| CH-1 OFF (47H): Turn CH-1 off | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| CH-2 ON (48H): Turn CH-2 on | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| CH-2 OFF (49H): Turn CH-2 off | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| CHAPTER # INQ (76H): Inquire for current chapter number | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| CHAPTER # MODE (69H): Set to chapter number mode | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| C.L. (56H): Clear all | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| COMPLETION (01H): Complete a specified operation | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| CONTINUE (61H): Resume the mode prior to STILL | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| CX ON (6EH): Activate CX system | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| CX OFF (6FH): Deactivate CX system | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| EJECT (2AH): Open the disc compartment | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

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| | | | | | | | |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| EJECT ENABLE (74H): Activate eject function | LDP-2000 | LDP-1500/ 1500P | LDP-1550/ 1550P | LDP-1600P | LDP-1450 | LDP-3300P | LDP-3600D |
| EJECT DISABLE (75H): Deactivate eject function | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ENTER (40H): Terminate a command | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ERROR (02H): Error condition raised | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| F-FAST (3BH): Fast forward play | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| F-FAST (4BH): Fast reverse play | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| F-PLAY (3AH): Normal forward play | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| F-PLAY (4AH): Normal reverse play | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| F-SCAN (3EH): Scan in forward | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| R-SCAN (4EH): Scan in reverse | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| F-SLOW (3CH): Slow forward play | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| R-SLOW (4CH): Slow reverse play | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| F-STEP (3DH): Variable forward play | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| R-STEP (4DH): Variable reverse play | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| FWD RELATIVE SEARCH (2DH): Search multiple tracks forward | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| REV RELATIVE SEARCH (2EH): Search multiple tracks backwards | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

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| | LDP-2000 | LDP-1500/ 1500P | LDP-1550/ 1550P | LDP-1600P | LDP-1450 | LDP-3300P | LDP-3600D |
|--|----------|--------------------|--------------------|-----------|----------|-----------|-----------|
| FWD STEP AND STILL (2BH): Advance one frame forward and still | | ○ | ○ | ○ | ○ | ○ | ○ |
| REV STEP AND STILL (2CH): Advance one frame backward and still | | ○ | ○ | ○ | ○ | ○ | ○ |
| FWD TRACK JUMP (2DH): Jump multiple tracks forward | | | ○ | ○ | | | |
| REV TRACK JUMP (2EH): Jump multiple tracks backward | | | ○ | ○ | | | |
| FRAME # MODE (55H): Set to frame number mode | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| INDEX ON (50H): Activate index function | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| INDEX OFF (51H): Deactivate index function | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| LID OPEN (03H): Inform of lid open | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| MARK RETURN (07H): Mark set position is found | | ○ | ○ | ○ | ○ | ○ | ○ |
| MARK SET (73H): Set mark position | | ○ | ○ | ○ | ○ | ○ | ○ |
| M-SEARCH (5BH): Locate the memorized location | (○) | ○ | ○ | ○ | ○ | ○ | ○ |
| MEMORY (5AH): Memorize the current location | (○) | ○ | ○ | ○ | ○ | ○ | ○ |
| MENU (42H): Search for program area heading | (○) | ○ | ○ | ○ | ○ | ○ | ○ |
| MOTOR OFF (63H): Stop spindle motor | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| MOTOR ON (62H): Start up spindle motor | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| NAK (0BH): Reject receipt of a command | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| NO FRAME NUMBER (06H): Target frame is illegal | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

| | LDP-2000 | LDP-1500/ 1500P | LDP-1550/ 1550P | LDP-1600P | LDP-1450 | LDP-3300P | LDP-3600D |
|--|----------|--------------------|--------------------|-----------|----------|-----------|-----------|
| NON C.F. PLAY (71H): Disengage color framing | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| NOT TARGET (05H): Target frame not found | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Numeric data 0-9 (30H-39H) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| PSC ENABLE (28H): Enable picture stop code | | ○ | ○ | ○ | ○ | ○ | ○ |
| PSC DISABLE (29H): Disable picture stop code | | ○ | ○ | ○ | ○ | ○ | ○ |
| REPEAT (44H): Playback a designated sequence | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| ROM VERSION INQ (72H): Inquire ROM version | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| SEARCH (43H): Locate target address | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| STATUS INQ (67H): Inquire status of player | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| STILL (4FH): Still picture | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| STOP (3FH): Halt video and audio playback | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| USER INDEX CONTROL (80H): Set user defined index | | | | | ○ | ○ | ○ |
| USER INDEX ON (81H): Activate user defined index | | | | | ○ | ○ | ○ |
| USER INDEX OFF (82H): Deactivate user defined index | | | | | ○ | ○ | ○ |
| USER'S CODE INQ (79H): Inquire USER'S CODE | | ○* | ○** | ○ | ○ | ○ | ○ |
| VIDEO ON (27H): Output video signal while in active area | | ○ | ○ | ○ | ○ | ○ | ○ |
| VIDEO OFF (26H): Mute video output | | ○ | ○ | ○ | ○ | ○ | ○ |

* Available from ver 2.4.

** Available from ver 2.1.