

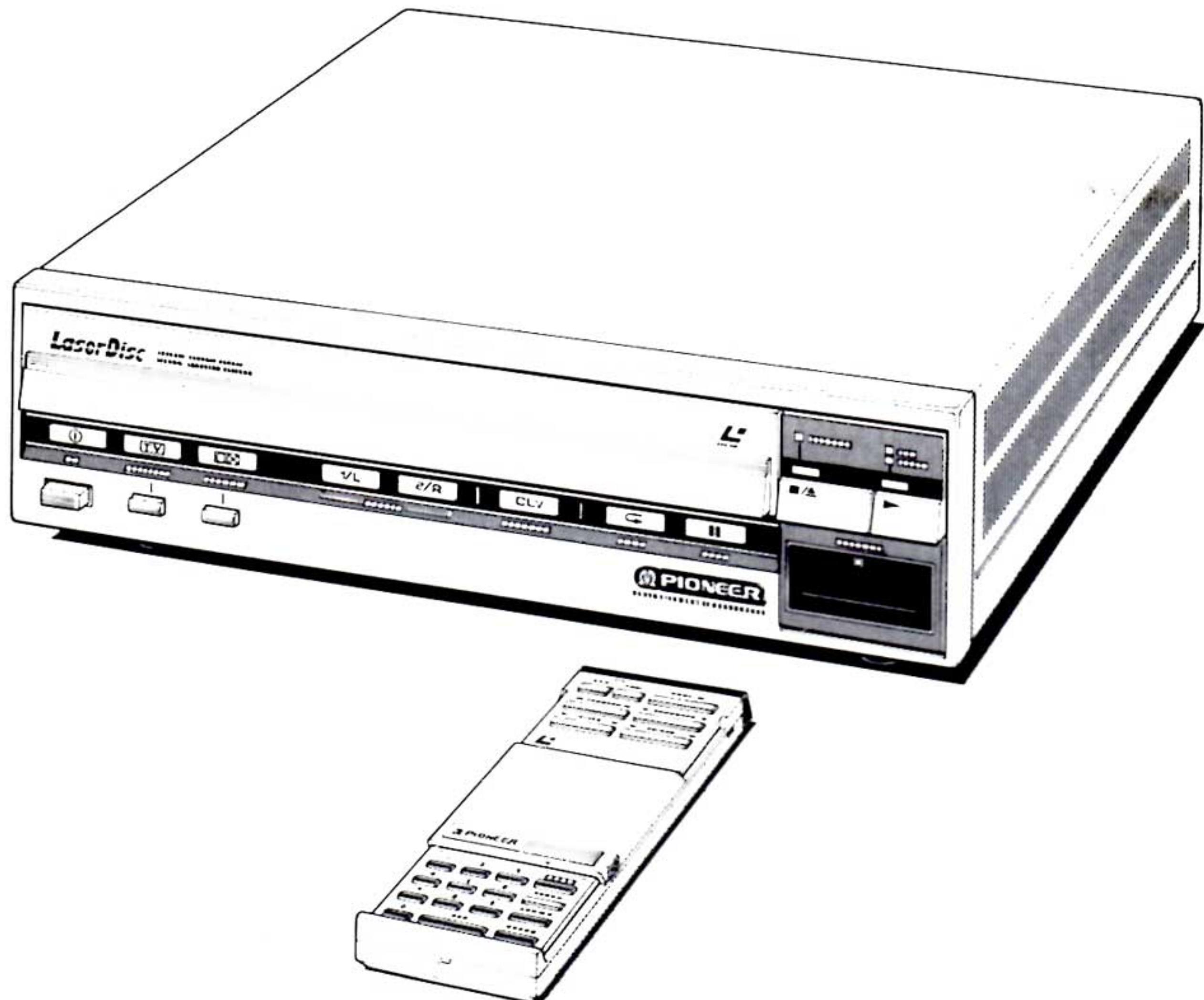
# *Operating Instructions*

VIDEO DISC PLAYER

# LD-700

LaserDisc™

NTSC



This set is for exclusive use with the NTSC color system, please use only NTSC video discs with the universally standardized LaserVision symbol.

The internal mechanisms of this player are secured with a transit screw. Before using the player, be sure to loosen this screw. (See P. 5)

## IMPORTANT NOTICE

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

**Caution:** Use of controls or adjustments, or performance of procedures other than those specified herein may result in hazardous radiation exposure.

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

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PIONEER®

# SAFETY INSTRUCTIONS

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

**RETAIN INSTRUCTIONS** — The 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 related instructions should be followed.

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

## WATER AND MOISTURE

- The appliance should not be used near water — for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.
- Do not handle the power cord with wet hands. This is extremely dangerous because you may get an electric shock.
- Moisture will form in the operating sections of the appliance and the appliance's performance will be impaired if the appliance is brought from cool surroundings into a warm room or if the temperature of the room rises suddenly. To prevent this, let the appliance stand in its new surroundings for about an hour before switching it on, or ensure that the room temperature rises gradually.

**ACCESSORIES** — Do not place the appliance on an unstable cart, stand, tripod, bracket or table. The appliance may fall and possibly cause serious injury, or serious damage to the appliance. Place the appliance on a stable cart, stand, tripod, bracket or table.

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

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

**POWER SOURCES** — The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

## POWER-CORD PROTECTION

- Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
- Always take hold of the plug to unplug it from the power outlet; do not unplug it by pulling on the cord. The cord may be damaged if you keep pulling on it.

**LIGHTNING** — For added protection for the appliance 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 appliance 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 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.

**FOREIGN OBJECTS AND LIQUID** — Never push objects of any kind into this appliance through openings as they may contact dangerous voltage areas or other hazards. Be careful not to spill liquid of any kind on the appliance.

EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE INSTRUCTIONS

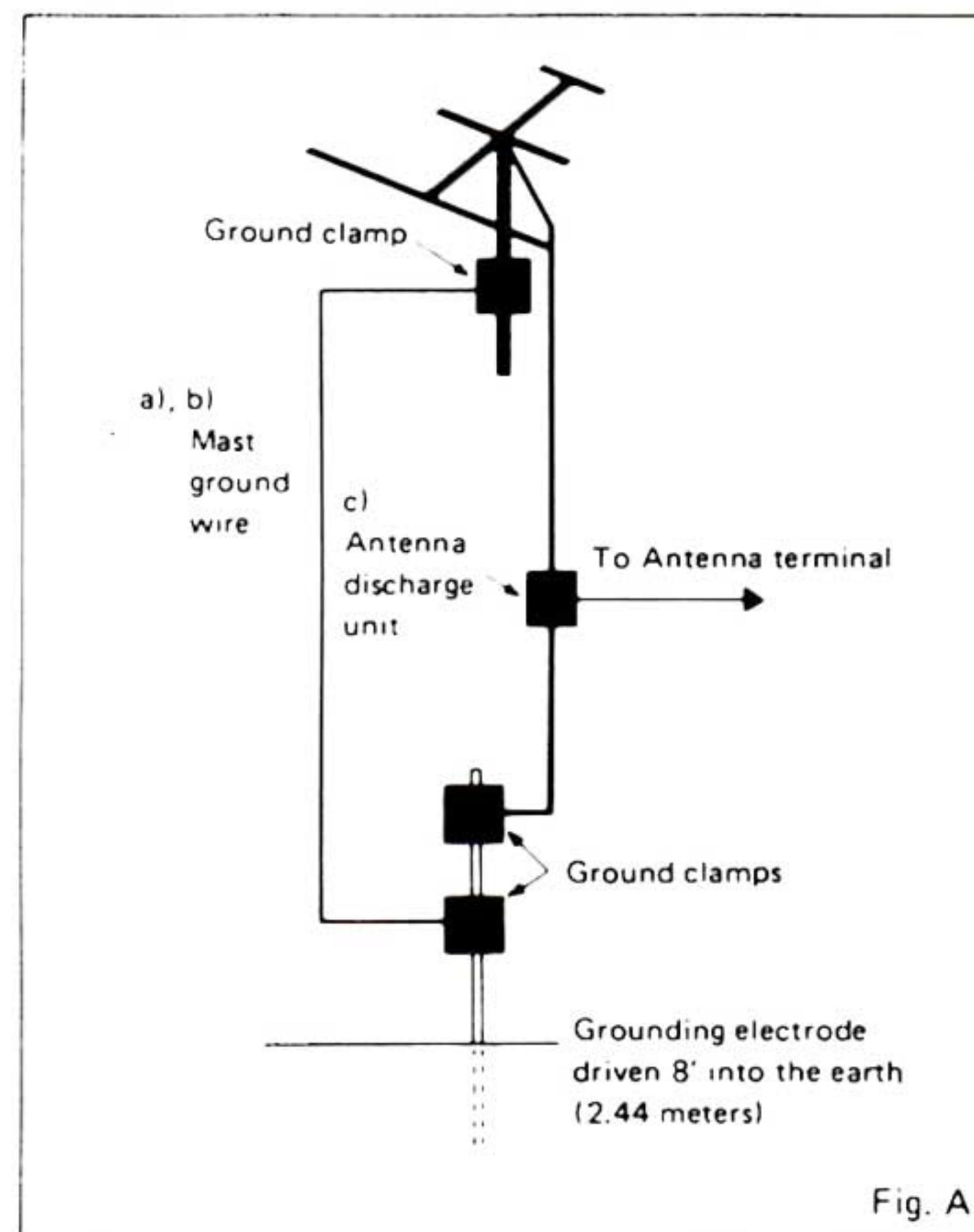


Fig. A

**OUTDOOR ANTENNA GROUNDING** — If an outside antenna is connected to the antenna terminal, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. Section 810 of the National Electrical Code, ANSI/NEPA No. 70-1981 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.

- a) Use No. 10 AWG copper wire, No. 8 AWG aluminum wire, No. 17 AWG copper-clad steel wire, bronze wire or larger wire as ground wires for both mast and lead-in.
- b) Secure lead-in wire from antenna to antenna discharge unit and mast ground wire to house with stand-off insulators, spaced from 4 feet (1.22 meters) to 6 feet (1.83 meters) apart.
- c) Mount antenna discharge unit as closely as possible to where lead-in enters house.

**NON-USE PERIODS** — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

**SERVICING** — The user should not attempt to service the appliance beyond that described in the operating instructions. Contact your nearest authorized Pioneer service center for all other servicing.

**DAMAGE REQUIRING SERVICE** — The appliance should be serviced by an authorized Pioneer service center or qualified service personnel when:

- The power-supply cord or the plug has been damaged;
- Objects have fallen onto, or liquid has been spilled into the appliance;
- The appliance has been exposed to rain;
- The appliance does not appear to operate normally or exhibits a marked change in performance; or
- The appliance has been dropped, or the enclosure damaged.

**REPLACEMENT PARTS** — When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have 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 the appliance, ask the service technician to perform safety checks to determine that the appliance is in safe operating condition.

# IMPORTANT



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

**CAUTION**  
**RISK OF ELECTRIC SHOCK**  
**DO NOT OPEN**

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

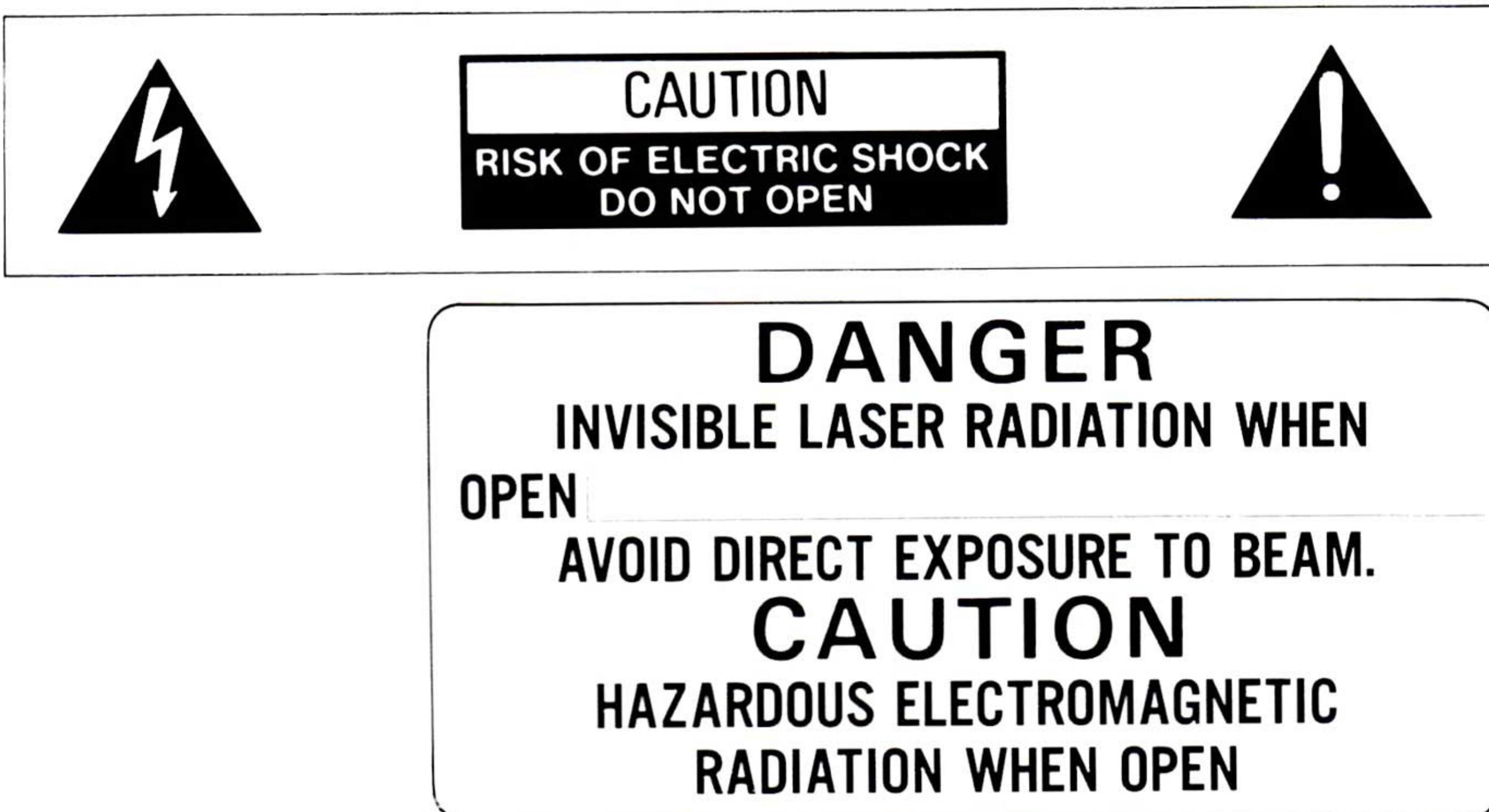


The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

# NOTICE

The following warning labels appear on your video disc player.

The warnings contained on these labels should be strictly adhered to:



Federal law requires the following warning: **CAUTION**

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

# FEATURES

## LASER DIODE CONSTRUCTION

A high-reliability, long-life laser diode is built into the pickup, the heart of the player.

## NON-CONTACT OPTICAL PICKUP OPERATES FROM SEMICONDUCTOR LASER

On a normal phonographic record, sound is produced as the stylus traces around the record's surface, coming into direct contact with the sound grooves on the record. On the optical video disc player LD-700, however, a fine laser light coming from the laser diode is directed at the disc's signal surface, and the resulting reflected light is picked up by a photo diode, thus reading the signals recorded on the disc. As a result, this system allows images and sounds to be played back without the pickup ever coming into physical contact with the signals recorded on the disc.

## PLAYS BOTH STANDARD PLAY (CAV) AND EXTENDED PLAY (CLV) DISCS

Video discs are two-side discs, just like phonographic records, but unlike records, they play from the inside toward the outer circumference.

Two types of discs are available: Standard play (CAV) discs play at a fixed r.p.m., whereas extended play (CLV) discs play at a fixed linear speed. The LD-700 is able to play both types, automatically selecting the correct speed.

## FRONT LOADING MECHANISM

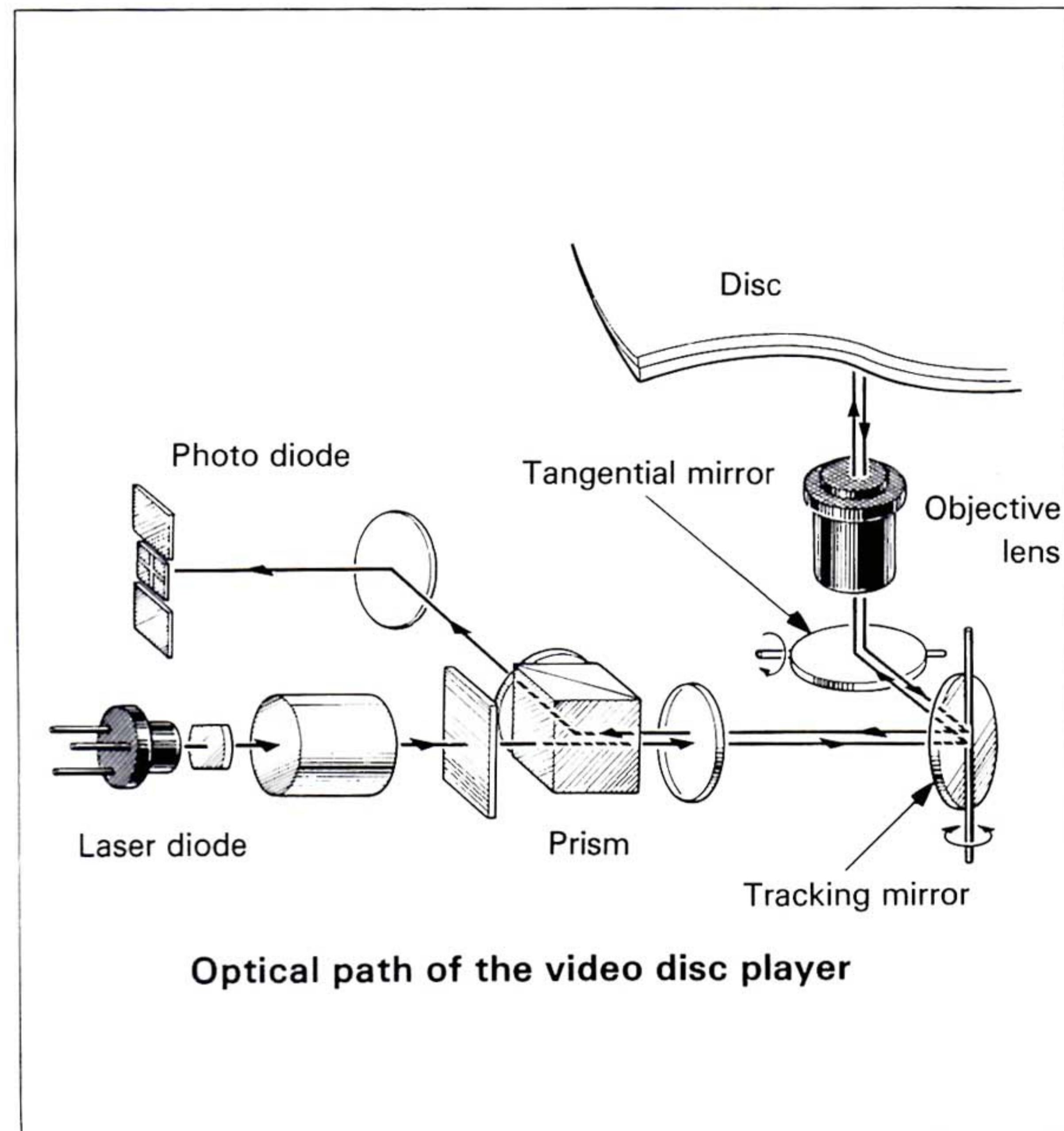
The LD-700 features front loading, making for easier operation, and allowing the best possible utilization of space.

## LUXURIOUS FUNCTIONS THROUGH INTERNAL COMPUTER CONTROL

Signals recorded on a disc are aligned in a spiral from the inside toward the outside of one side of the disc. On CAV discs, one revolution of the disc contains the signals recorded for one frame (picture). Thanks to built-in microcomputer control, you can enjoy still frame pictures, step-frame pictures, multi-speed, and high-speed (3x) playback, plus other convenient functions such as random access, chapter stop, and repeat interval playback.

## HIGH QUALITY STEREO SOUND

Two-channel sound signals are recorded on the disc in the form of FM signals using an independent carrier wave. We recommend that a stereo system, one from Pioneer, for example, be used to take full advantage of the high quality sound of the video disc.



## LOGIC-CONTROLLED FUNCTION SWITCH ALLOWS A NEW EASE OF OPERATION

Function buttons utilize logic-controlled, soft-touch switches that give the utmost in operating ease and reliability.

## CX NOISE-REDUCTION SYSTEM

The CX noise reduction system serves to cut down noise by about 10 dB or more without compromising the frequency response. It serves to expand the dynamic range and enable reproducing the sounds with a good signal-to-noise ratio.

## WIRELESS REMOTE CONTROL OPERATES ON INFRARED LIGHT BEAM

Most functions can be performed from your chair with the accessory remote control unit.

## HIGH-RELIABILITY DESIGN UTILIZES EXCLUSIVE LSI

Combining a high level of circuit technology, the LD-700 uses exclusive LSIs greatly compacting circuit parts, resulting in stable performance and highest quality.

# BEFORE OPERATION

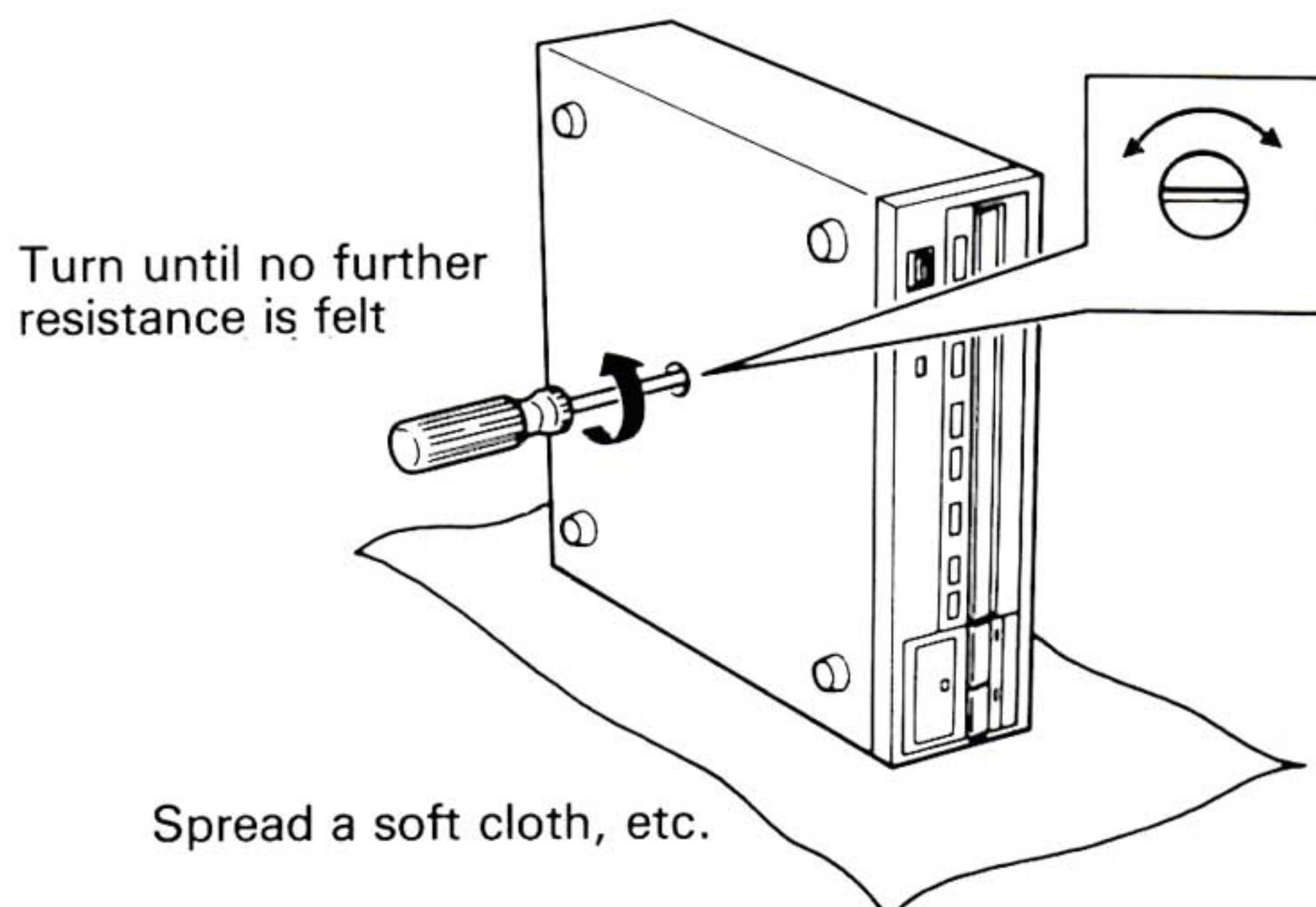
## IMPORTANT

### LOOSEN THE TRANSIT SCREW

In order to protect the player from vibration and shocks during shipping, the internal mechanisms are fixed with a transit screw. Loosen this screw before turning on the power. If you attempt to use the player without loosening the screw, it will not operate properly. As shown in the diagram, spread out a soft cloth, blanket, etc., and gently stand the player on its side, taking care not to scratch the finish. While supporting the player with your hand, insert a flat-blade screwdriver into the transit screw hole, fit it into the screw's groove, and turn the screw counterclockwise until no further resistance is felt. This screw cannot be removed even when fully loosened.

#### NOTE:

*When transporting the player to another location, always be sure to retighten this screw so as to protect the player from shocks during transit. To tighten the screw, set the player again on its side, insert a screwdriver into the hole, and while pressing in on the screw, turn it in a clockwise direction until it is securely tightened.*



When standing up the player, always be sure to stand it on its side. Do not set it with its front panel facing up (rear-panel terminals down).

*The player's pickup moves in a front-rear direction. If the player is set with its front panel facing up when removing the transit screw, the pickup may fall when the screw is released, possibly resulting in damage to the player.*

### INSTALLING THE VIDEO DISC PLAYER

- Choose a stable platform next to the television and stereo system with which you plan to use the player.
- When using the player with a stereo system, your speakers should be installed somewhat separated from your television (video monitor TV).
- Do not place heavy items on top of the player. Also, cassette tape decks and other components easily affected by magnetism should be installed separately from the player.

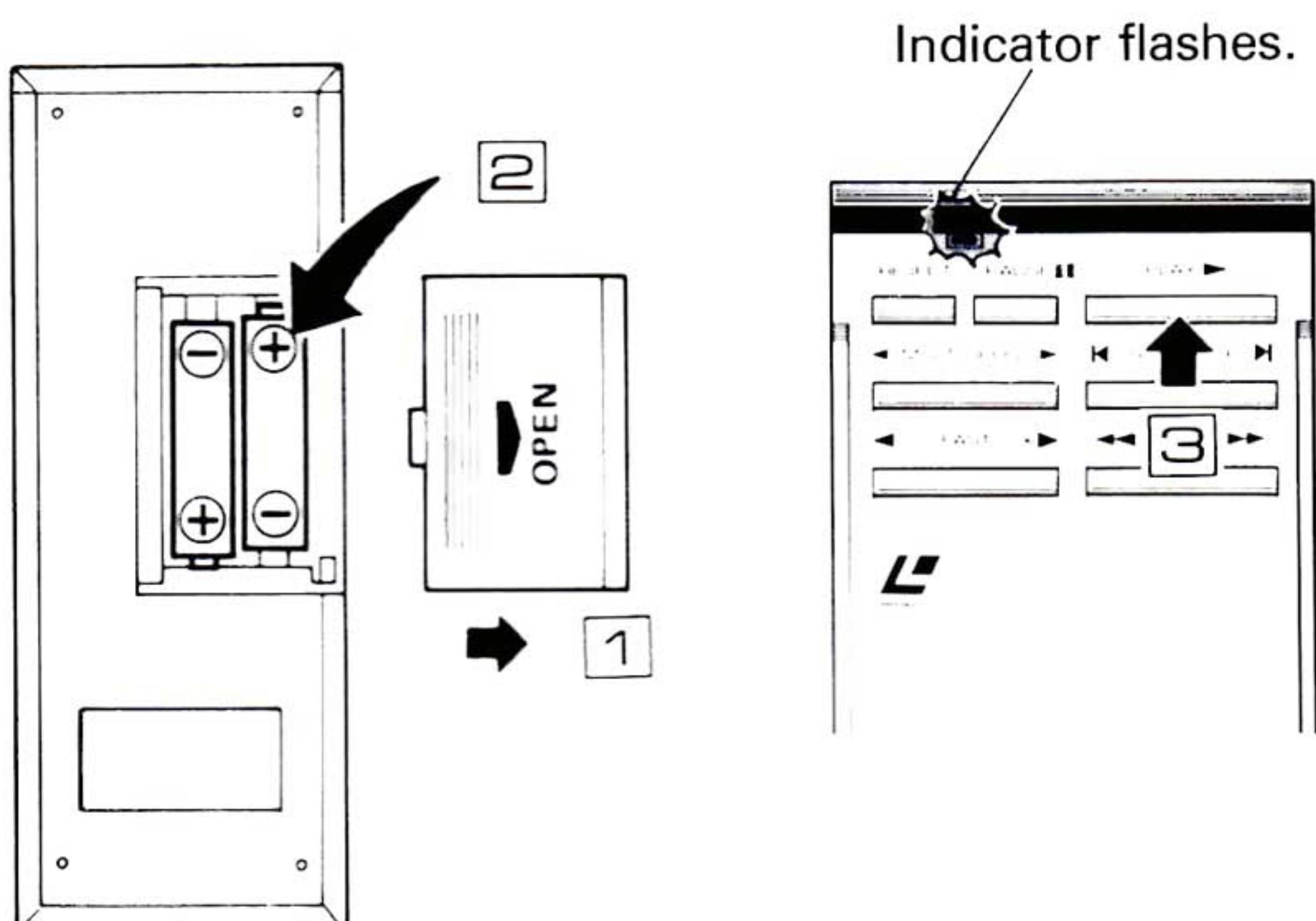
### PREPARING THE REMOTE CONTROL UNIT

The player's remote control unit may be found inside the cardboard panel resting on top of the player when you open the packing case. Remove the remote control unit and insert batteries in it.

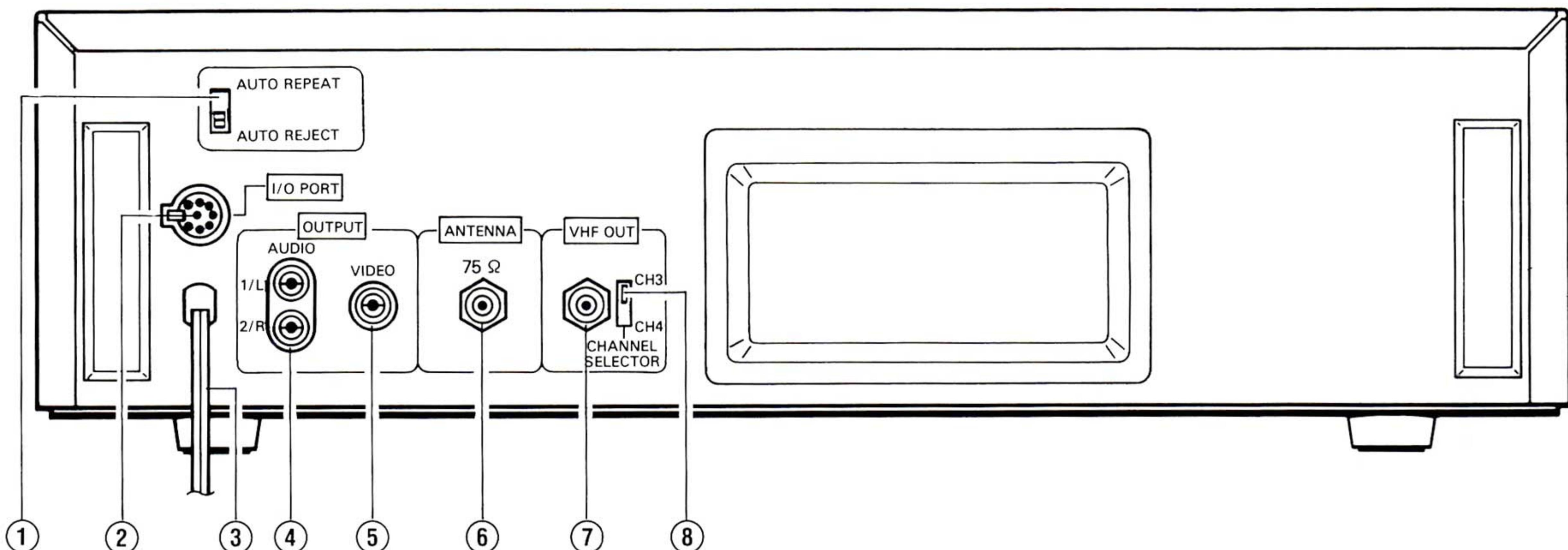
1. Open the battery compartment cover on the rear of the remote control unit. The cover should open easily if you press on it with your thumb while sliding it to the right.
2. Take out the 2 accessory size "AA" dry batteries and insert them into the battery compartment in accordance with the diagram in the compartment, then replace the cover.
3. Press the buttons on the remote control unit and confirm that the red indicator flashes.

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

1. *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.*
4. *Both rechargeable and non-rechargeable batteries are available. Be sure to use your batteries in accordance with the caution labels affixed to them.*



# REAR PANEL FACILITIES



## ① AUTO REPEAT/AUTO REJECT SELECTOR

This switch is for selecting the operation to be performed after one side of the disc has played to the end in the play mode.

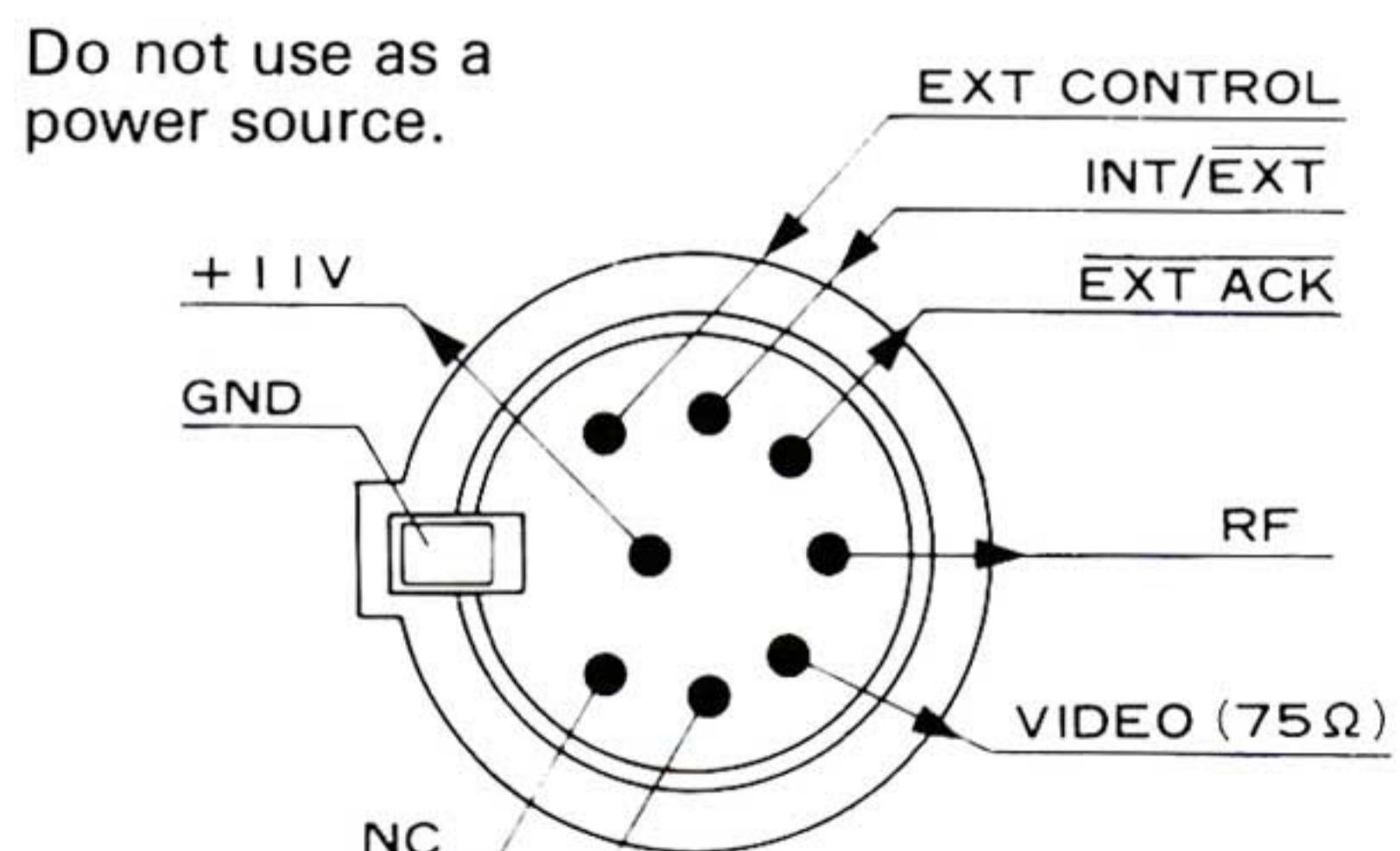
**AUTO REPEAT:** When the play mode ends on one side of the disc, the pickup returns to the starting position, and the player performs continuous repetitive play.

**AUTO REJECT:** When the play mode ends on one side of the disc, the player enters the stop mode, and the pickup returns to the standby position.

## ② I/O PORT

These are I/O ports used when the player's functions are controlled by an external controller.

### I/O PORT Terminal locations



## ③ POWER CORD

Plug this into a wall socket.

## ④ AUDIO OUTPUT

These jacks provide the left and right channel audio signals for connection to a stereo hi-fi system.

## ⑤ VIDEO OUTPUT

This terminal is only for connection to a color video monitor TV (one which has a video input terminal). It provides the direct video signal. This terminal is not for connection to conventional TV sets.

## ⑥ ANTENNA TERMINAL (75 OHM UNBAL)

If your VHF antenna cable is a 75-ohm coaxial cable type, connect it to this terminal. If your VHF antenna cable is a 300-ohm twin-lead feeder type, connect it to this terminal through the antenna adapter (furnished with the player).

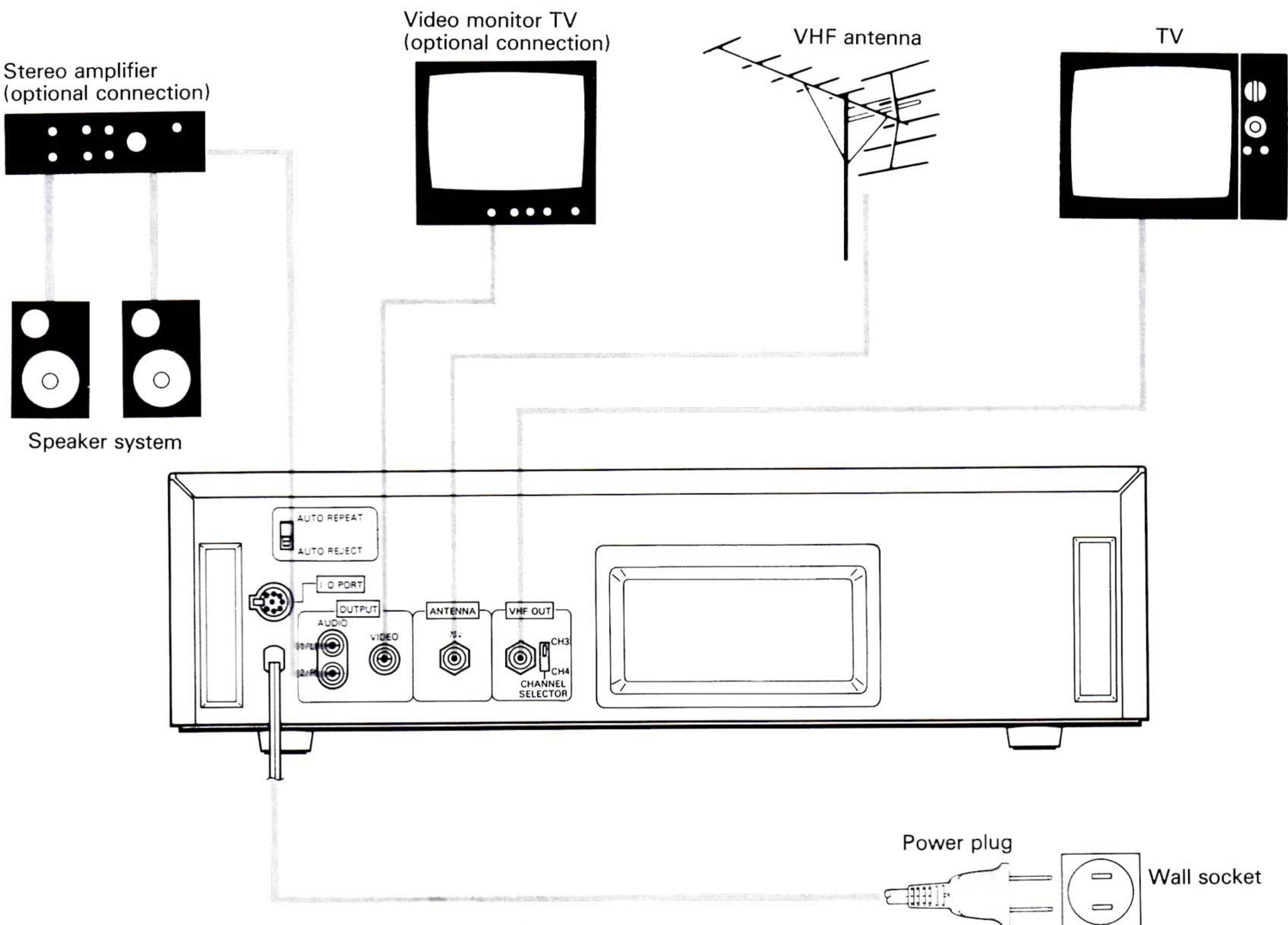
## ⑦ CH.3/4 VHF OUT

This terminal provides audio and video signals which are converted to VHF channel 3 or channel 4 by the built-in VHF converter. Set the CHANNEL SELECTOR to the open channel that you will use to receive the video disc signal on your television.

## ⑧ VHF CHANNEL SELECTOR

This slide switch is for selecting a VHF output channel. Set to the channel which is not used for commercial TV broadcasts in your area.

# CONNECTIONS



**NOTE: Leave the player and TV set unplugged while connections are being made.**

1. Remove the VHF antenna cable from the VHF antenna terminal(s) on your TV set, and connect the cable to the ANTENNA terminal on the player. For coaxial antenna cables (75-ohm), an F-type plug must be fitted to the end of the cable. If the 75-ohm coaxial cable does not have an F-type plug attached to its end, use the accessory 75-ohm F-type plug adapter to connect. For twin-lead feeder antenna cable (300-ohm), first prepare the wire leads, and connect them to the 300-ohm terminals of the furnished 300-ohms to 75-ohms F-type plug adapter. Then connect the adapter (F-type plug) to the ANTENNA terminal on the player.

**1**

**75-ohm coaxial cable preparation**

1. Remove the adapter fitting.
2. Prepare the end of the cable.
3. Attach the fitting to the cable.
4. Return the fitting to the adapter.

Hold with pliers.  
Unit: mm  
Push through hole.

**Antenna adapter**

Unit: mm

**300-ohm feeder preparation**

1. Cut out the center portion.
2. Twist the lead wire.
3. Loosen the adapter screws, connect the antenna wires under the toothed washers and tighten.
4. Tighten the terminal cap.

ANTENNA terminal on the player

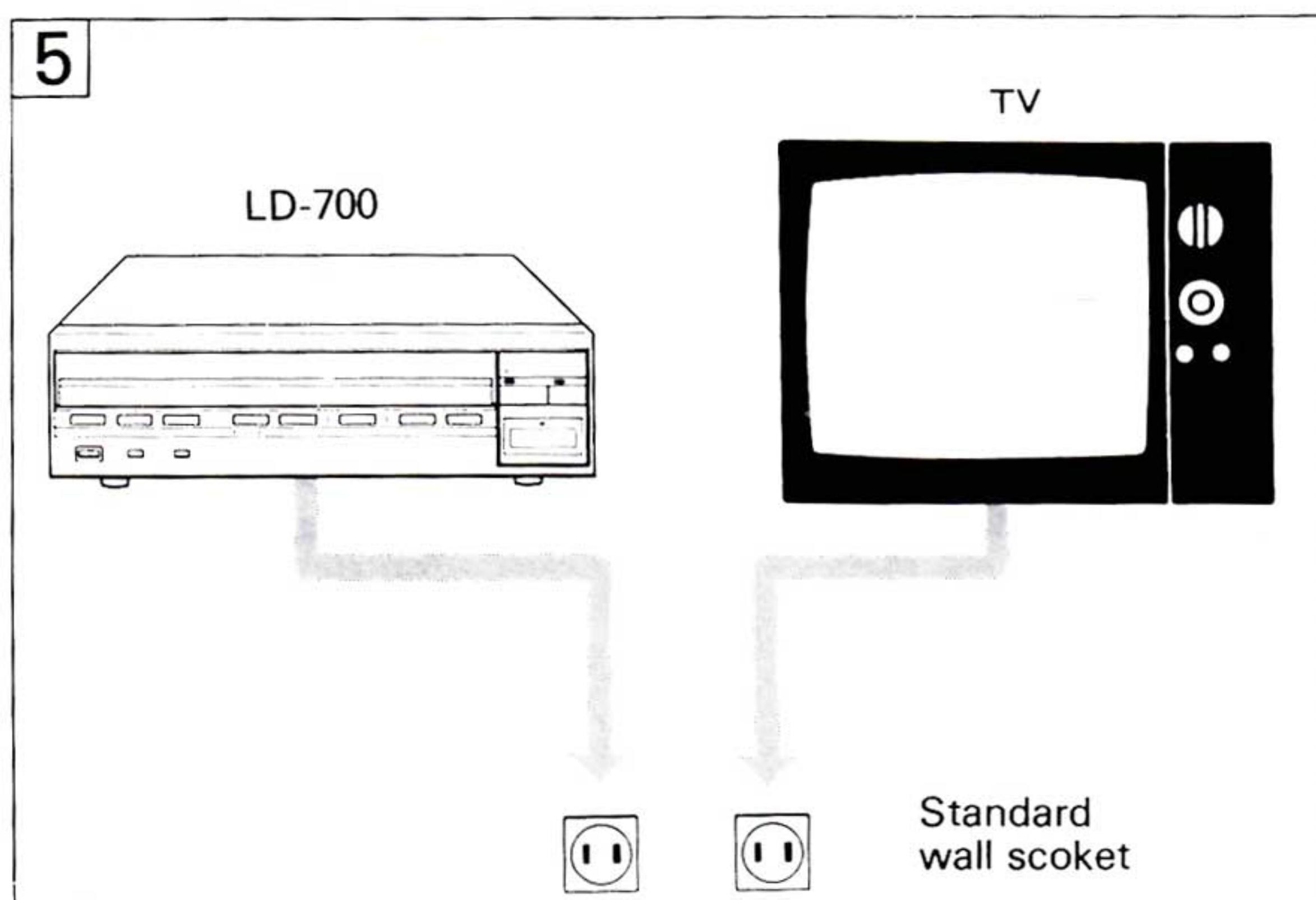
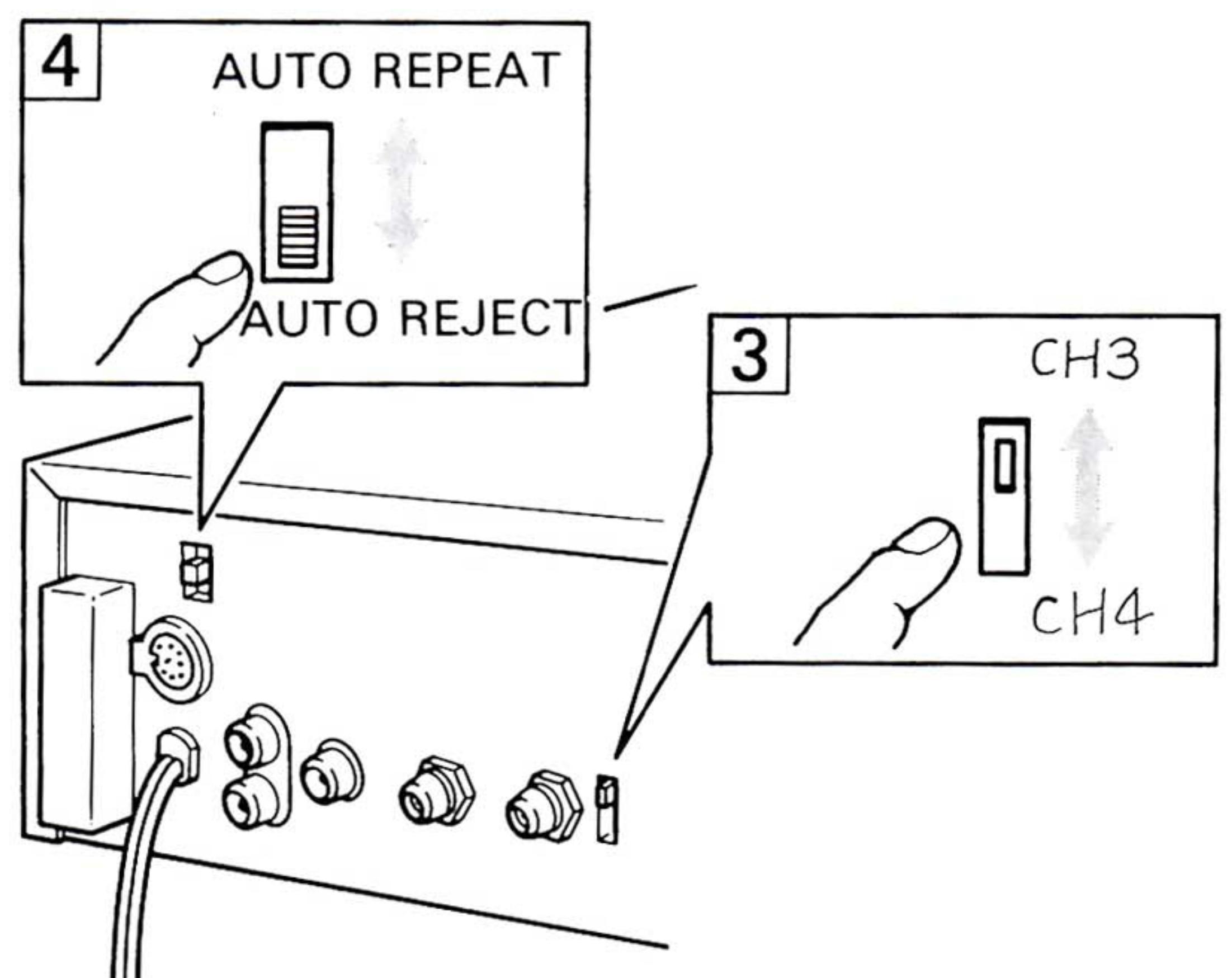
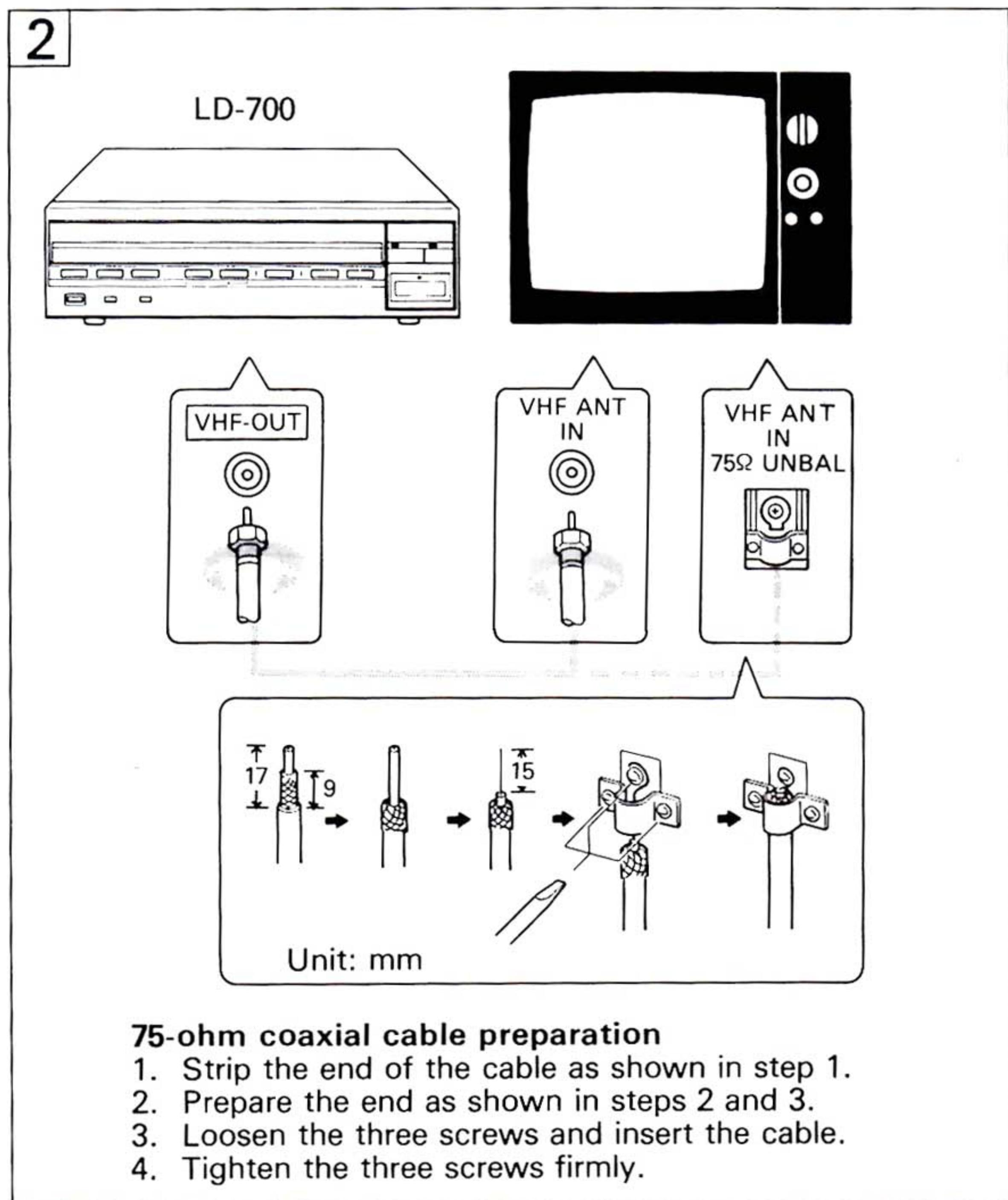
## CONNECTIONS

2. An accessory cable with F-type plugs at both ends is supplied with the player. Connect one end of this cable to the VHF OUT terminal on the player, and connect the other end to the VHF ANT IN (75-ohm, unbal. F-type jack) terminal on your TV set. If your TV has no F-type VHF ANT IN terminal, prepare the end of the cable. If your TV has no 75-ohm antenna terminal, purchase a 75-ohm (F-type jack)-to-300-ohm adapter and connect the cable to the adapter (75-ohm terminal). Then connect the adapter's twin-lead feeder to the TV's VHF IN (300-ohm balanced) antenna terminals.

3. Next, set the VHF CHANNEL SELECTOR on the player to channel 3 or 4, whichever is not used for commercial TV broadcasts in your area. Then set your TV to the same channel.

4. Set the AUTO REPEAT/AUTO REJECT switch  
**AUTO REPEAT** ... When the play mode ends on one side of the disc, the pickup automatically returns to the beginning of the program and commences repeat play.  
**AUTO REJECT** ... When the play mode ends on one side of the disc, the player automatically enters the stop mode, and the pickup returns to the standby position.  
 For normal use, set to the "AUTO REJECT" position.

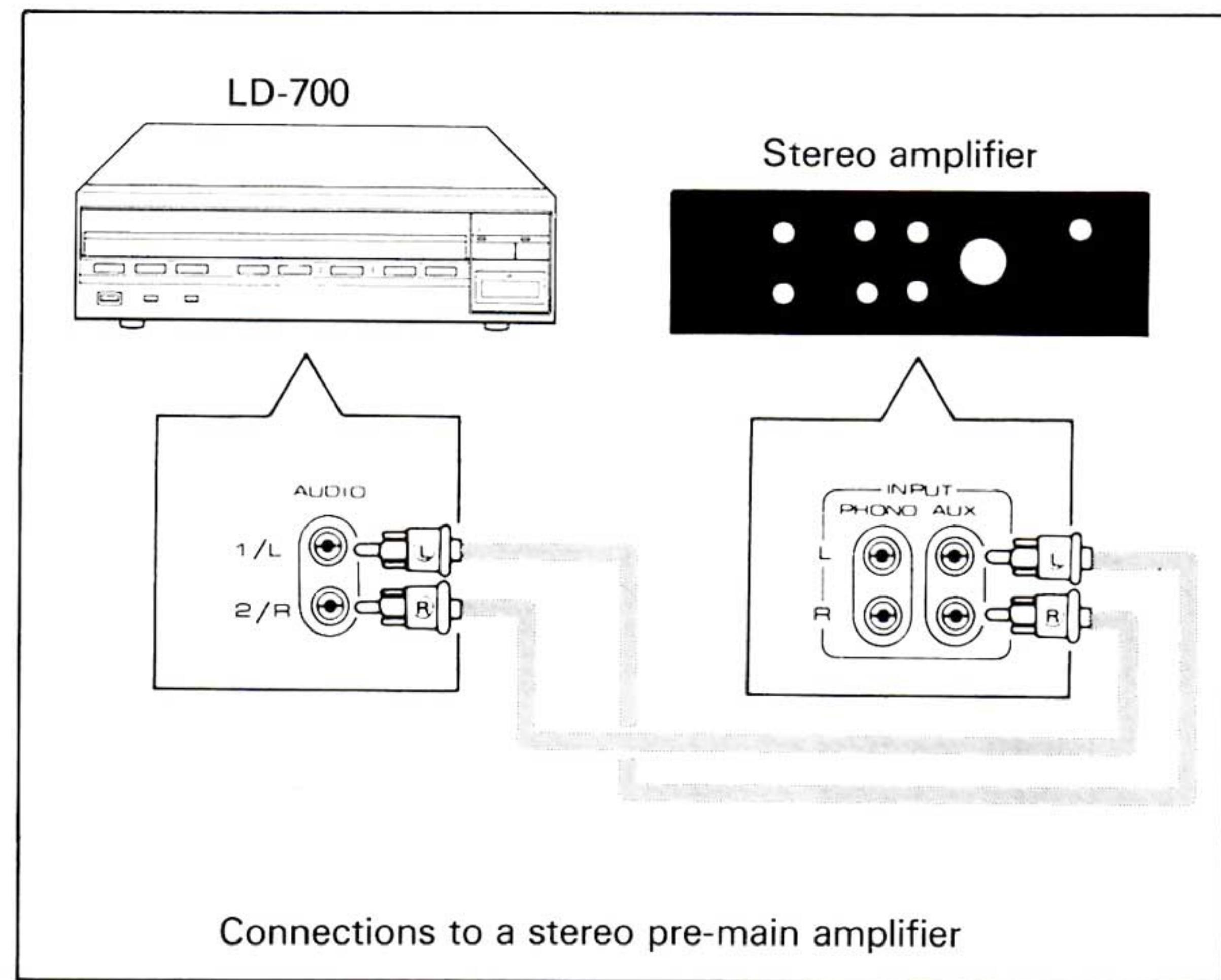
5. Plug the AC power cord of the player into a standard wall socket. This completes the standard connection procedure for video and audio reproduction through your TV.



## OPTIONAL CONNECTIONS

### 1. Stereo amplifier

The player can reproduce two-channel stereo hi-fi signals from video discs. To take full advantage of this capability, use the two audio connection cords to connect the AUDIO OUTPUT jacks on the player to the left and right channel AUX input (or tuner input) jacks on your stereo amplifier or receiver. Place the TV set to which you have the cable connected between the stereo speakers and shut off the TV set's volume control for best results.

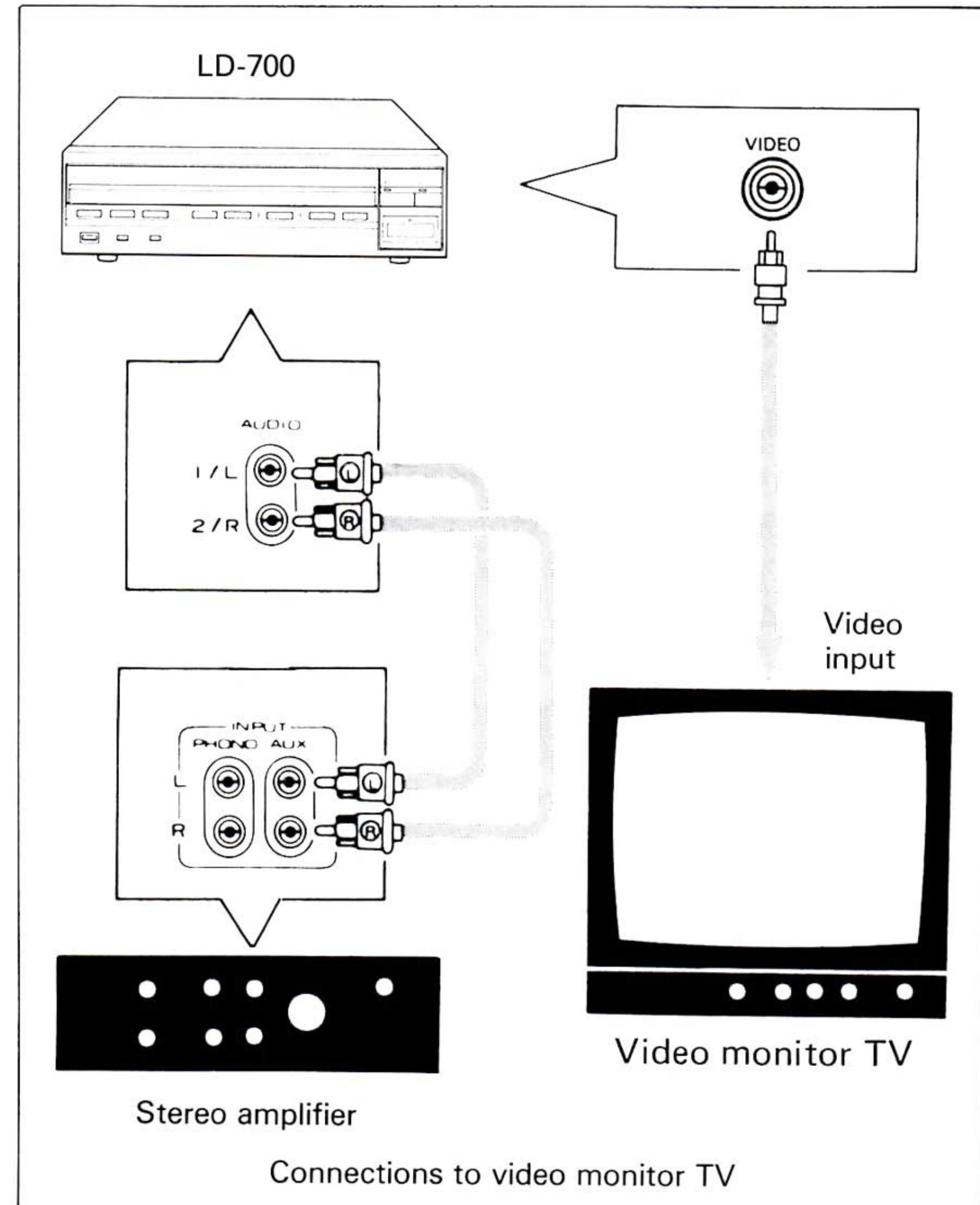


### 2. Video monitor TV

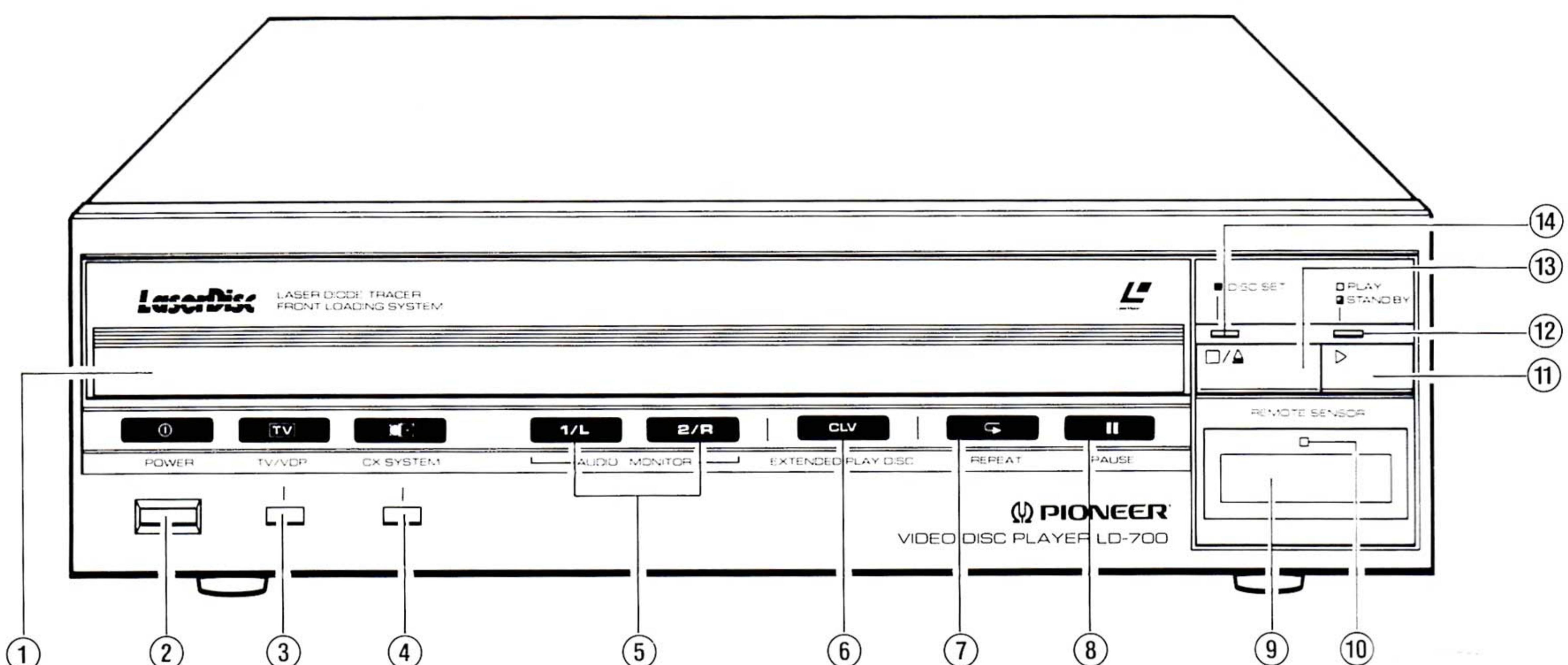
If you are using a video monitor TV (equipped with a video input terminal), use the accessory video connecting cable with pin-plugs to connect the VIDEO OUTPUT terminal on the player to the video input terminal on the monitor TV (terminated video input terminal). In this case, audio outputs on the player must be connected to audio inputs of the monitor TV or to a stereo system for audio reproduction.

**NOTE:**

*The video input terminal on the monitor TV in use may differ from the pin-jack. In this case, exchange the plug at one end of the cable for one that fits properly.*



# PANEL FACILITIES



## ① DISC TABLE

When the REJECT/OPEN button ( □ / ▲ ) is pressed, the disc table will open slightly toward the front. It can then be pulled out further by hand to load a disc.

## ② POWER

Press this button to turn the power on and off. The indicator lights up when the power is on.

## ③ TV/VDP

This switch is for selecting either video disc playback or VHF television reception. When the TV indicator is lit, the player is in the TV reception mode; when the indicator is out, video discs can be played.

## ④ CX SYSTEM

This is the ON/OFF switch for the CX noise reduction system. When playing discs with the CX mark, press this button; the CX indicator will light.

## ⑤ AUDIO MONITOR INDICATOR

These are to show the audio channels being reproduced.

## ⑥ EXTENDED PLAY (CLV) DISC INDICATOR

When extended play (CLV) discs are played back, this indicator automatically lights to show that such discs are being played.

## ⑦ REPEAT INDICATOR

This indicator lights during repeat interval playback.

## ⑧ PAUSE INDICATOR

This indicator lights when the remote control unit's PAUSE button is pressed, to show that the player is in the PAUSE mode.

## ⑨ INFRARED REMOTE CONTROL RECEIVER

This is the receiver for the infrared remote control signal.

## ⑩ REMOTE CONTROL INDICATOR

This lights up when a function command is received by the player.

## ⑪ PLAY (▶)

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

## ⑫ PLAY/STANDBY INDICATOR

During playback in the play mode, this indicator lights (PLAY). Also, at the beginning of playback, or during execution of search, when a button is pressed, it may require a short while for the command to be executed, and in this case, the indicator will flash (STANDBY).

## ⑬ REJECT/OPEN

This button is used to stop playback or to remove a disc. When the button is pressed, the player will enter the stop mode, and the disc table will open slightly toward the front.

## ⑭ DISC SET INDICATOR

This indicator lights when a disc is loaded onto the disc table, to show that a disc has been set within the player.

## ⑮ PAUSE ( ■ )

Press this button to temporarily halt video disc operation. Operation stops at the frame when the PAUSE button is pressed. The pause mode is released by pressing the PAUSE button again.

**⑯ REJECT**

When this button is pressed, playback ceases and the player enters the stop mode. The pickup returns to the standby position, and the disc rotation stops. When pressed twice, the player enters the stop mode, after which the disc table opens toward the front.

**⑰ ◀ MULTI-SPEED ▶**

When the right side of this button (▶) is pressed, the picture is sent forward at the speed selected with the MULTI-SPEED SELECTOR button ⑲. When the left side of the button (◀) is pressed, the picture moves in the reverse direction.

**⑱ ◀ X FAST X ▶**

Press the right end of this button for triple-speed forward play; press the left end for triple-speed reverse play.

**⑲ ◀ STILL/STEP ▶**

This is used for single-frame play and frame-by-frame play. When either end of this button is pressed, a single video frame will be reproduced. Then every time the right end of the button is pressed, the video image will advance a frame at a time; every time the left end is pressed, the video image will go in the reverse direction a frame at a time.

**⑳ ◀◀ SCAN ▶▶**

Use this button to quickly locate a specific part of the program that you want to see.

**㉑ AUDIO MONITOR**

These buttons are for selecting the sound channel to be played back from the disc. When the STEREO button is pressed, sound from both channels 1/L and 2/R will be played back. When either button 1/L or 2/R is pressed, only the sound from the channel corresponding to that button will be played back. The sound from the other channel will be eliminated, and its indicator will also go out.

**㉒ MULTI-SPEED SELECTOR**

This is used for selecting the playback speed during multi-speed (◀, ▶) play back.

**㉓ DIGIT BUTTONS**

These buttons are used to select the desired frame (or time) and chapter number for the SEARCH mode.

**㉔ SEARCH**

This is used to find specific frames (or time), or chapters on the video disc (random access).

**㉕ REPEAT (A, B)**

This is used to perform repeat playback of any desired interval (space between two selected points) within the programs on a disc.

**㉖ CLEAR**

This is used to correct numbers when performing search, or to cancel the search mode or interval repeat mode.

**㉗ CHAPTER**

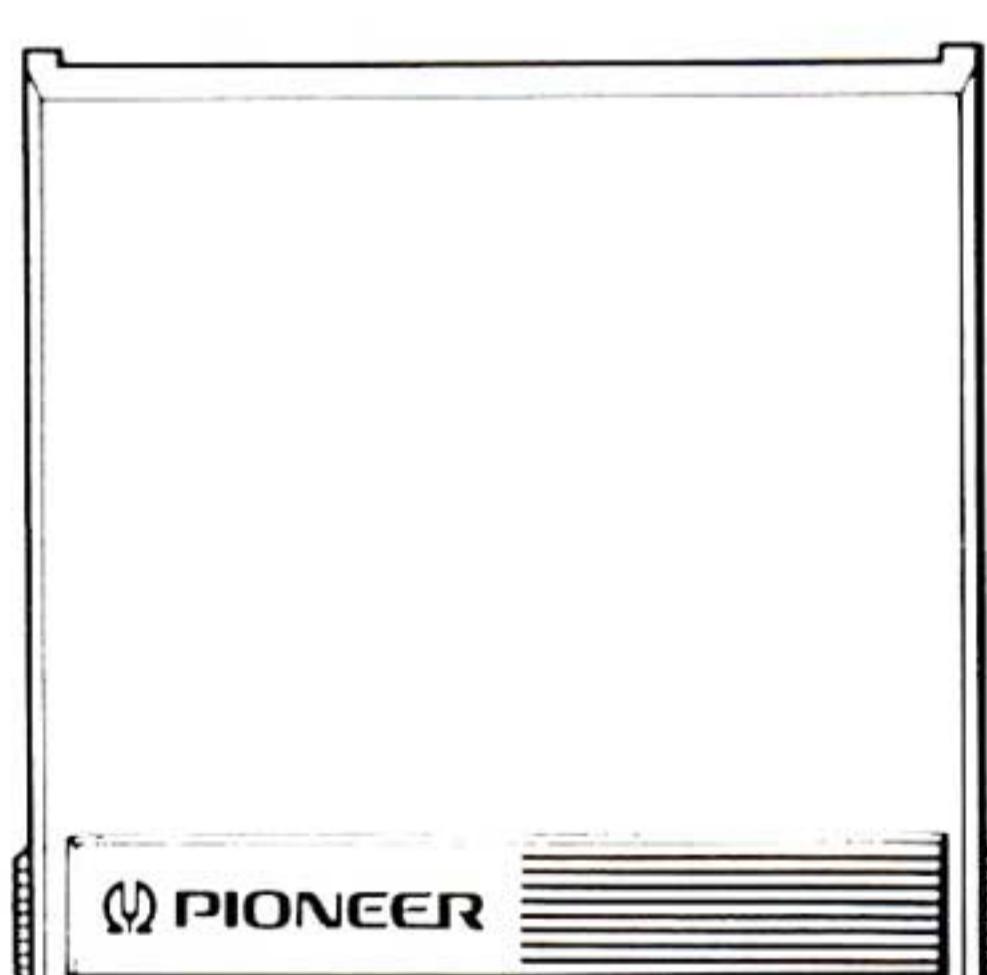
This button is used when performing search by chapter numbers.

**㉘ FRAME/TIME**

This is used when performing search by frame number (or by time number on extended play discs).

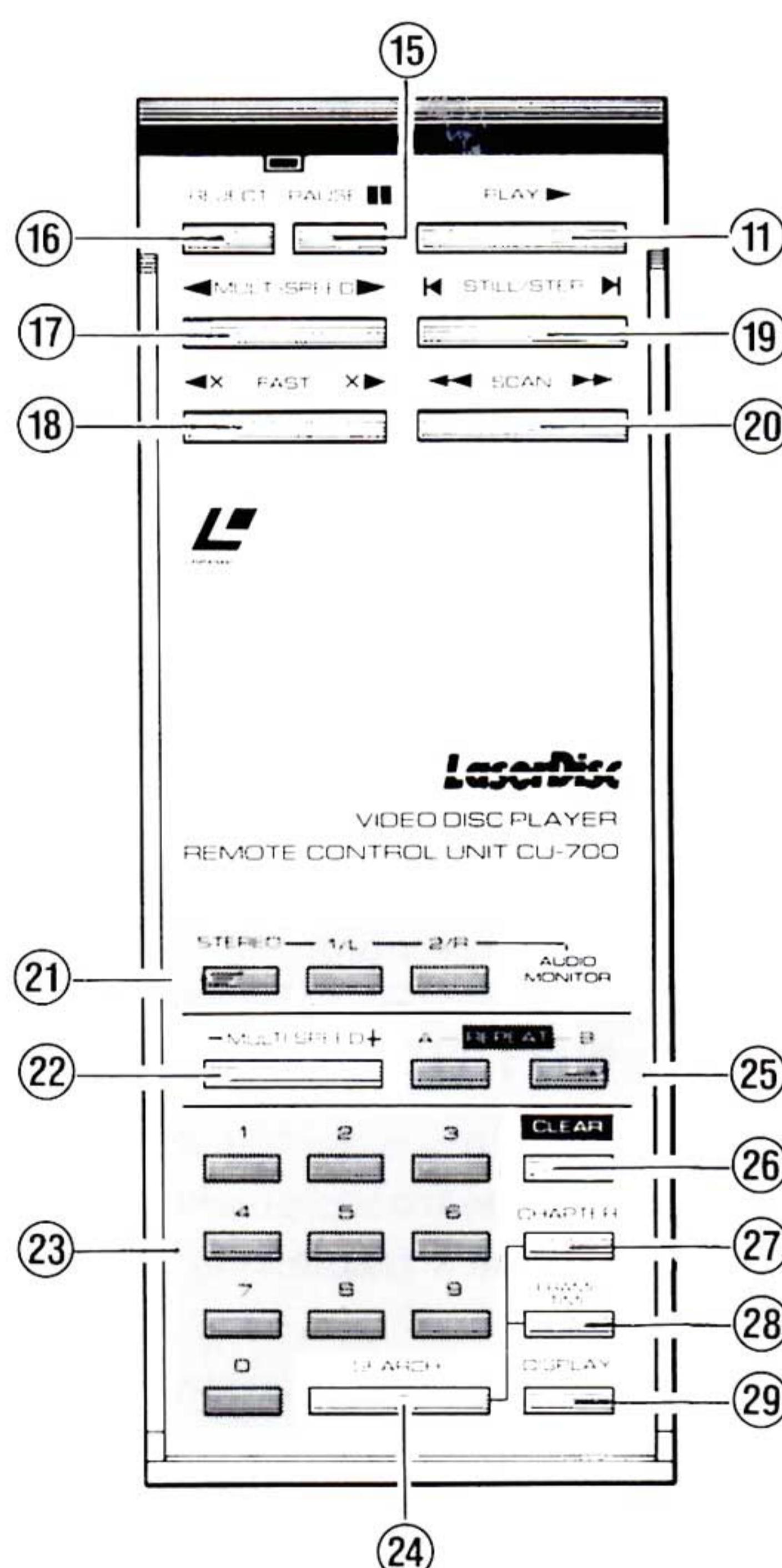
**㉙ DISPLAY**

This is used to display and erase chapter numbers and frame numbers (or time numbers on extended play discs) on the TV screen.



**Slide cover**

The slide cover is attached to the remote control unit and cannot be removed.



# DISC HANDLING PRECAUTIONS

In order to get the highest quality picture and sound from your video discs, and to enable you to enjoy them for many years to come, please note and abide by the following precautions:

## USE NTSC VIDEO DISCS

This player is for exclusive use with the NTSC color system; please use only NTSC video discs with the universally standardized LaserVision symbol. PAL and SECAM system video discs cannot be used with this player.

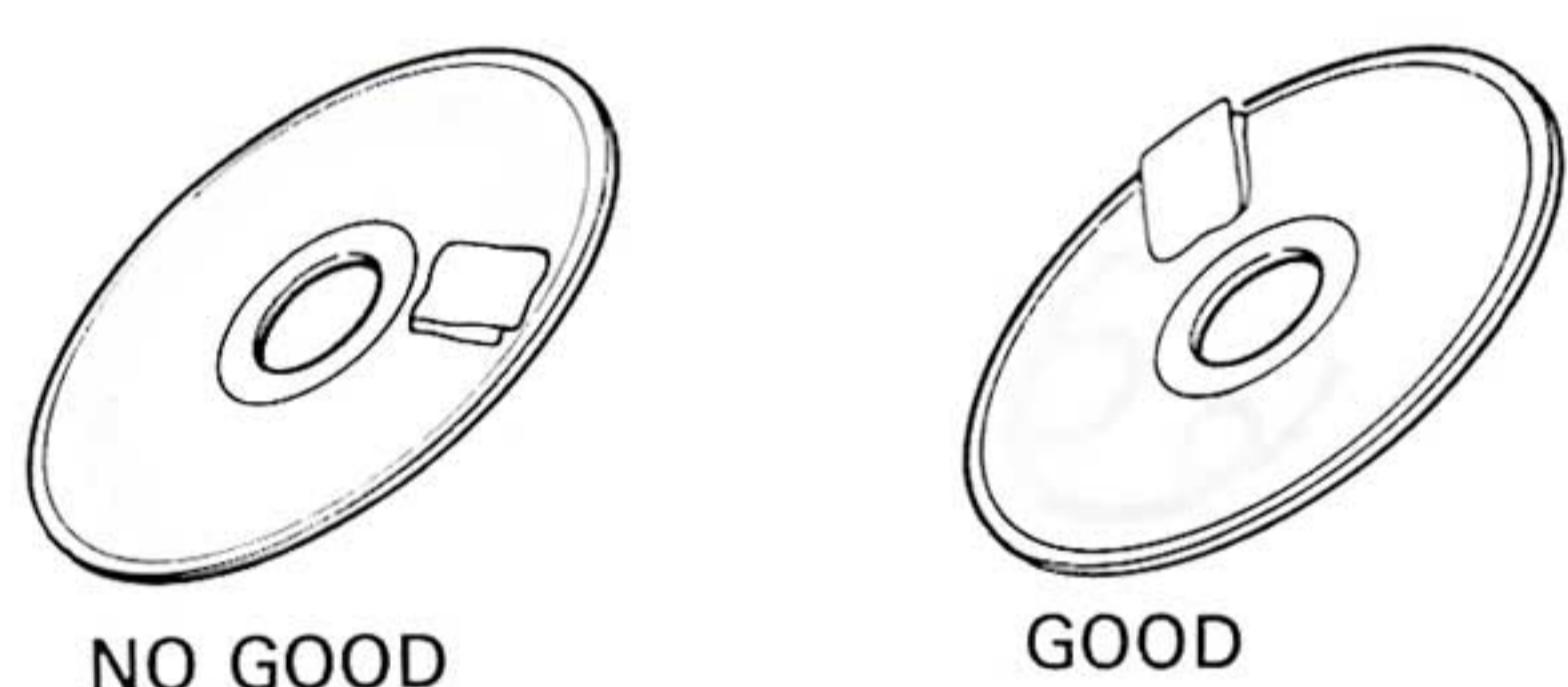


- CED and VHD type video discs cannot be used with this player.

## BEFORE PLAYING, CLEAN YOUR DISCS

When dirty discs are played, their original picture and sound quality are lost. Always be sure to clean your discs before playing them. Use a soft cloth to lightly dust away any dirt on the playing surface of the disc.

### (How to clean discs)



## AS FAR AS POSSIBLE, TRY NOT TO TOUCH THE SURFACE OF THE DISC

When holding discs, handle them as shown in the illustration, trying as far as possible not to touch their playing surfaces.

**Holding with both hands ...** 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.

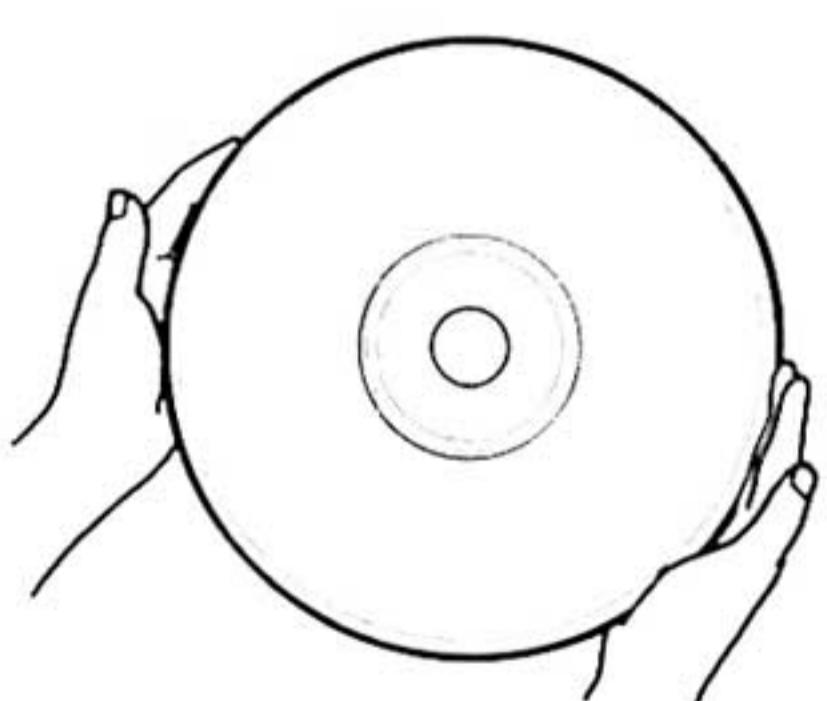


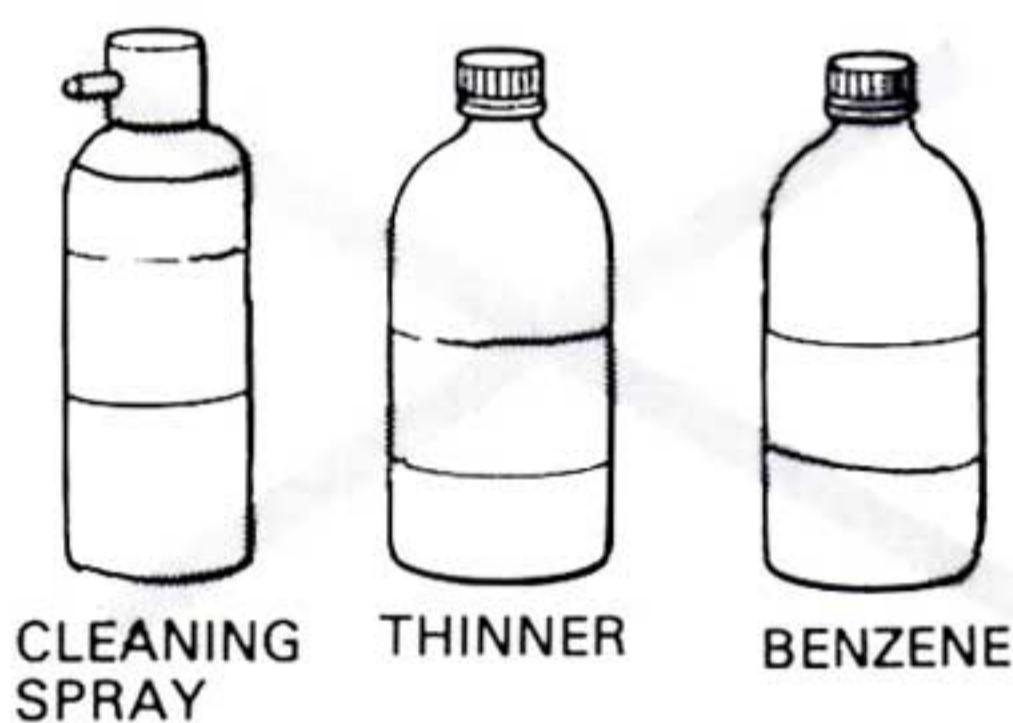
Fig. A



Fig. B

## DO NOT USE RECORD SPRAYS

Record cleaning sprays, static prevention sprays, etc., cannot be used on video discs. Also, do not use other types of cleaners, etc., containing benzene, thinner or other volatile chemicals. Using such preparations may cause damage to the surface of discs.



## STORE DISCS VERTICALLY, AND AVOID LOCATIONS WITH HIGH TEMPERATURE OR HUMIDITY

After playing a disc, always remove it from the player and return it to its jacket, then store it vertically in a location not subject to high temperatures or humidity. If stored at an incline, or stacked on top of each other, discs may become warped.

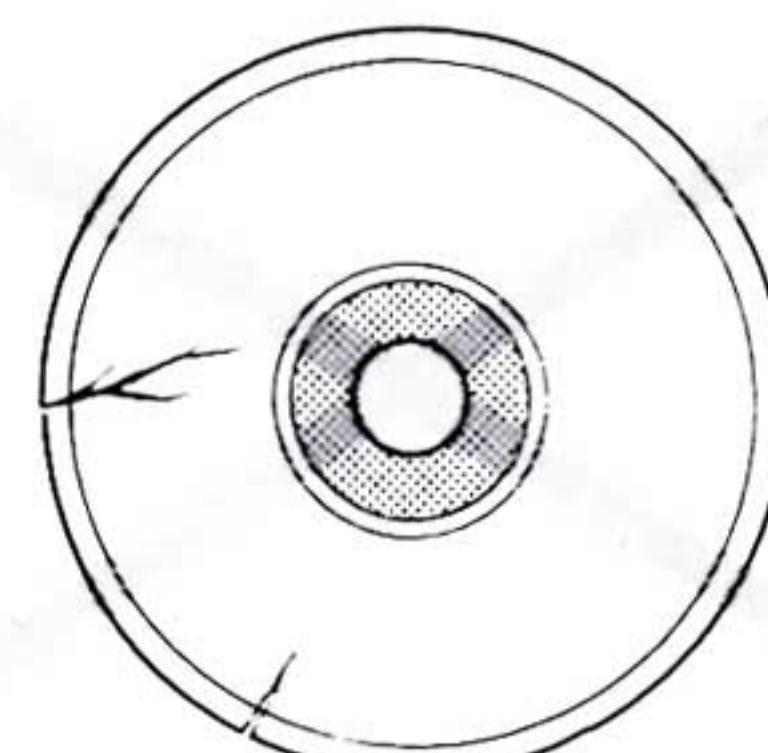


## LABEL SIDE FACING UPWARD

Video discs are placed on the disc table of the player with the label of the side to be played facing upward, just like a phonograph record.

## DO NOT USE DAMAGED DISCS

Discs rotate inside the player at high speeds. Do not use damaged (warped, cracked, etc.) discs. The player may be damaged as a result.



*NOTE: Be sure to read all instructions printed on discs and their jackets.*

# OPERATION

## HAVE YOU LOOSENERED THE TRANSIT SCREW?

BEFORE USING THE PLAYER, BE SURE TO LOOSEN THE TRANSIT SCREW (See page 5).

Do not set the player on its side with a disc loaded on the disc table. When setting the player on its side, always be sure to remove any disc from the player first.

## TO BEGIN PLAYBACK

1. Turn on your television's power switch, and set its channel selector to an empty channel.
2. Turn on the player's power switch.
3. Press the REJECT/OPEN button ( $\square / \triangle$ ).
4. Pull the disc table out slowly with your hand.
5. Set the disc on the disc table, with the label side you wish to play facing up.

NOTE:

- Only one video disc can be inserted at the same time.
- Disc which are recorded on one side only must be loaded on the disc table with the label side facing up. If you attempt to load such one-sided discs upside down on the disc table, the player will not operate.
- Take special care when loading 8-inch discs on the disc table. Align the disc inside the guides on the disc table and be sure that the disc is mounted securely.

6. Push in the disc table.

Push the disc table in slowly until it locks with a click.

NOTE:

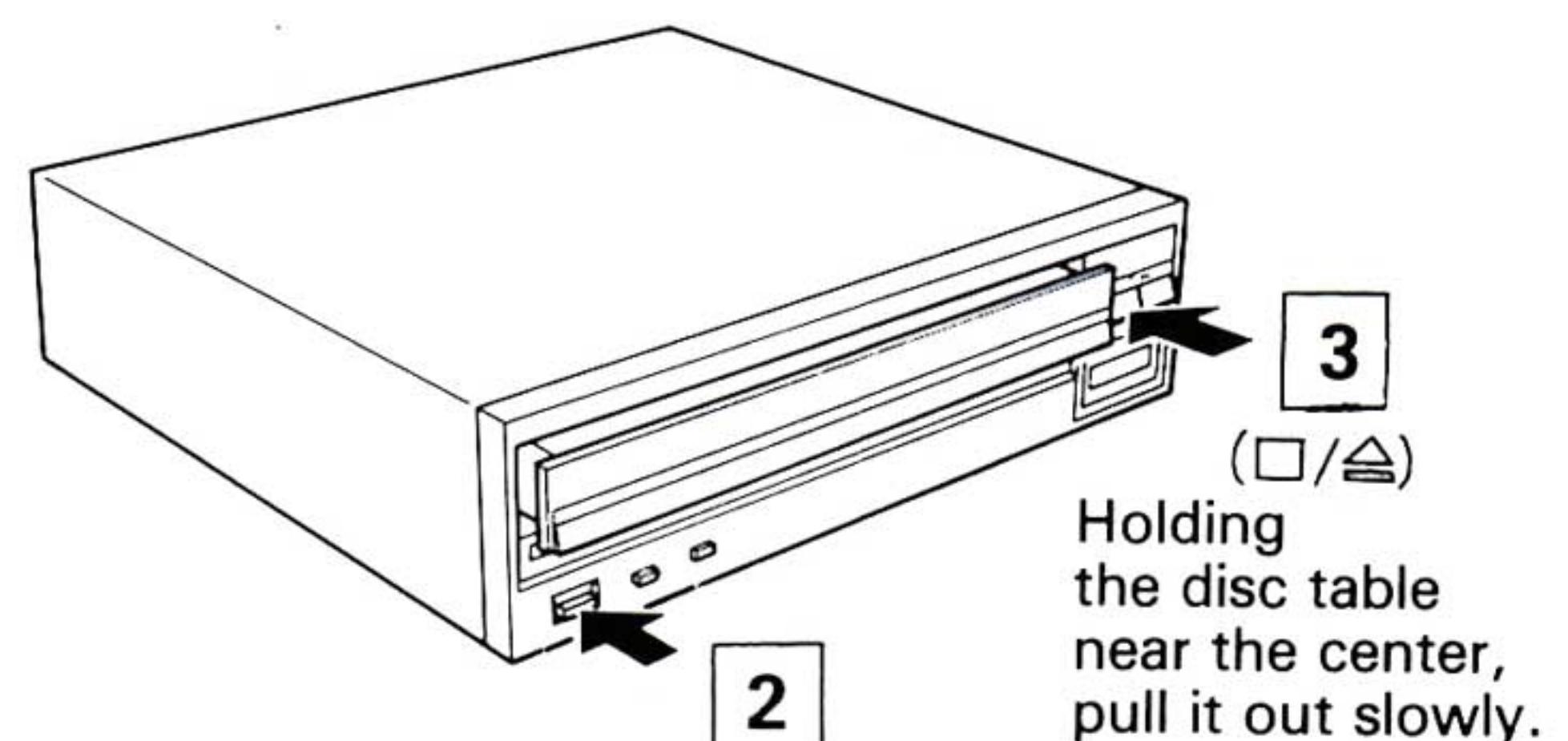
If the disc is not set in the designated position, the disc table will not lock, and will open slightly once again. In this event, pull the disc table to open, and reload the disc correctly.

7. Press the play button ( $\blacktriangleright$ ).

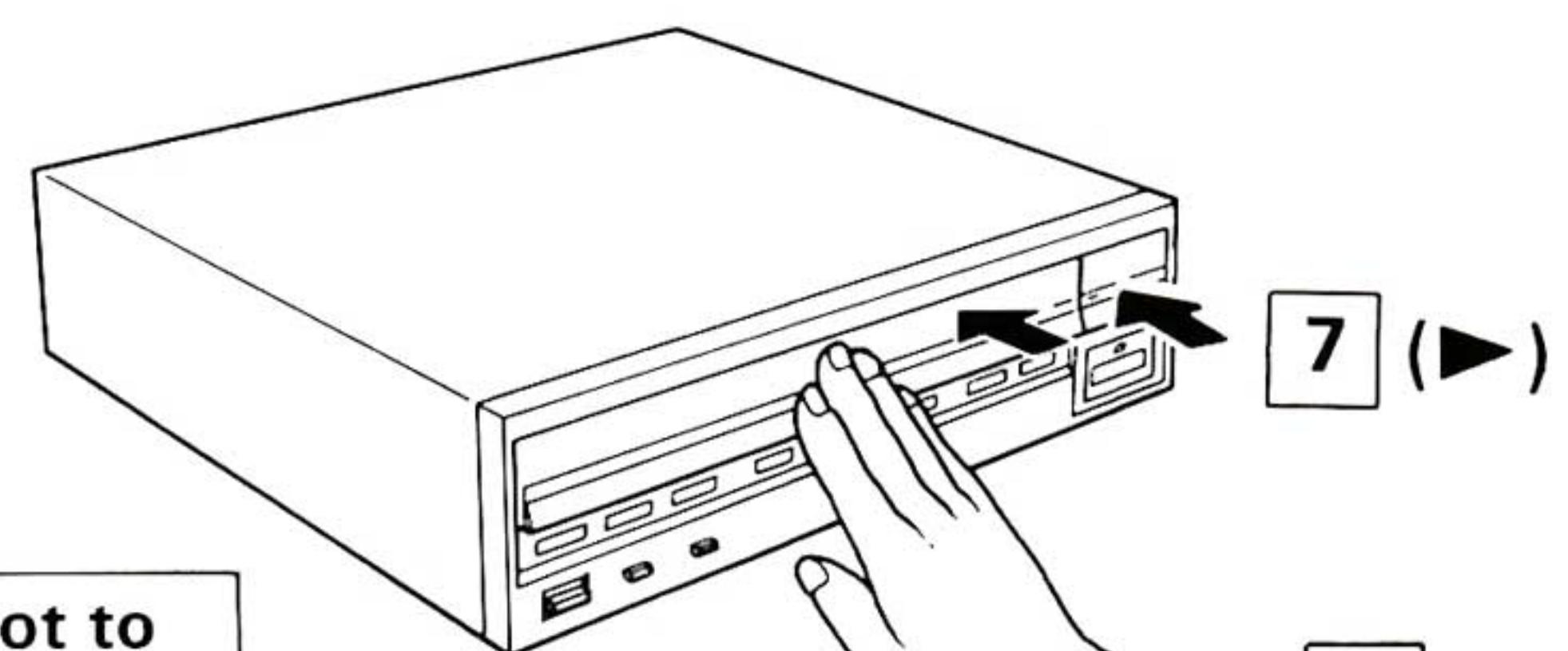
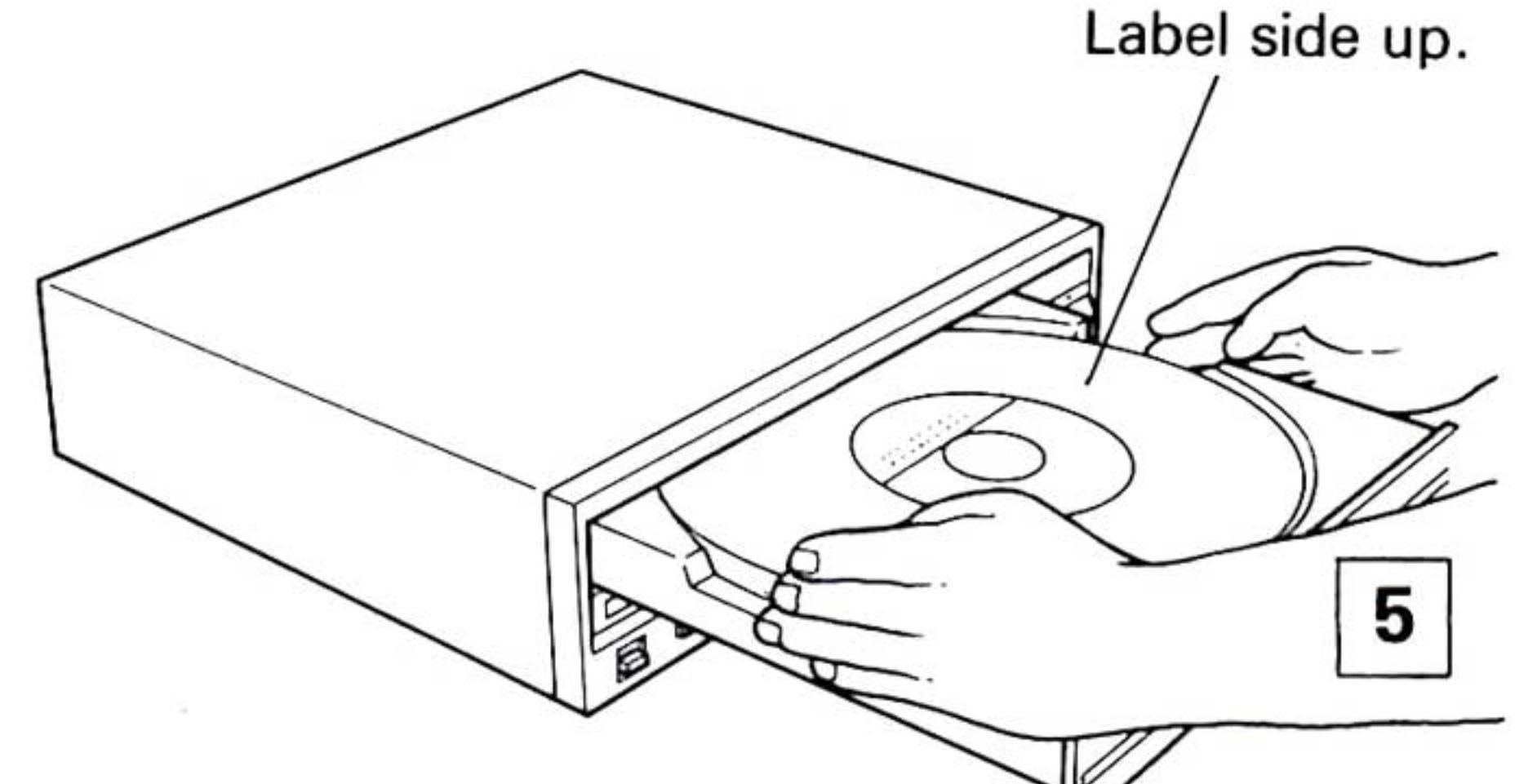
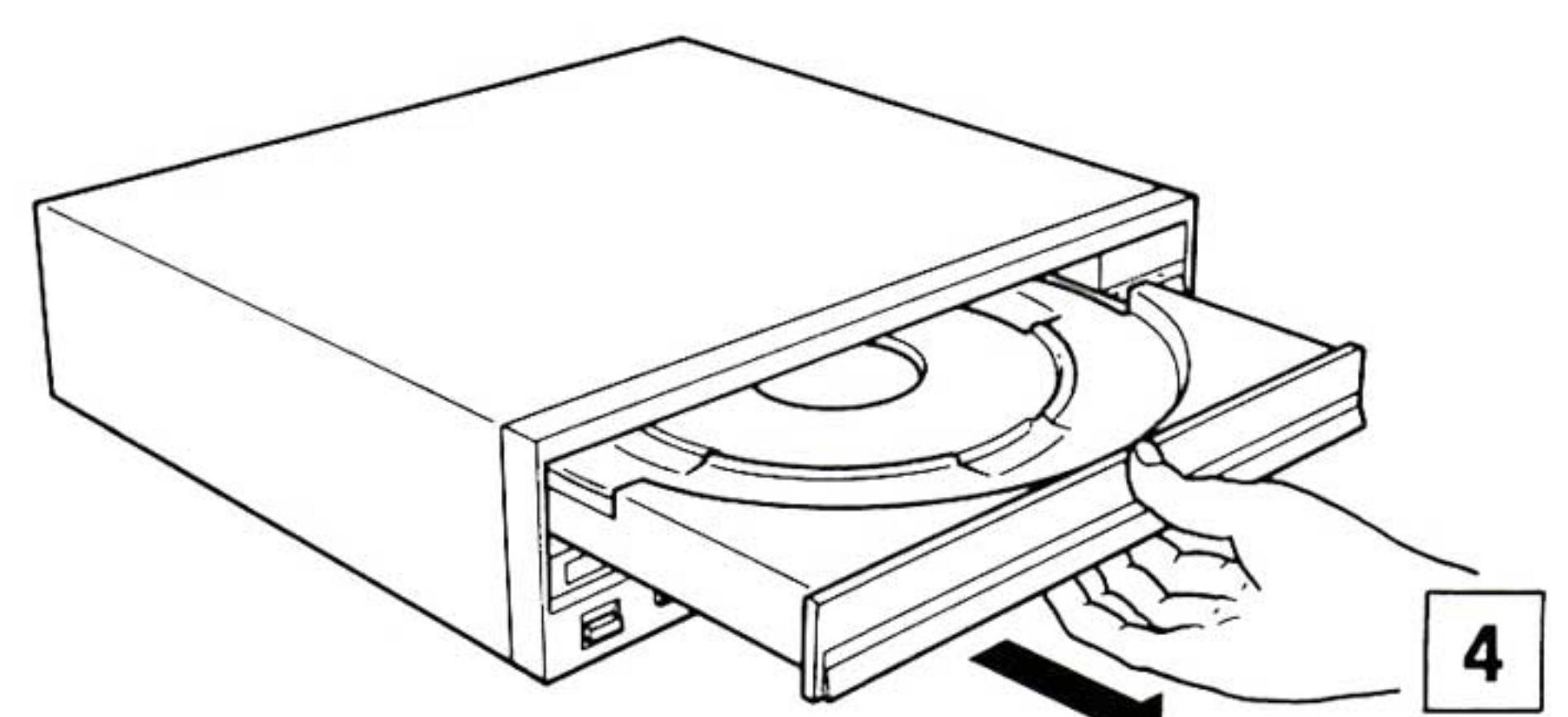
NOTE:

- When playing discs which display the  $\square \times$  mark, press the CX button.
- When playing extended play (CLV) discs, the fast (3x), still/step, and multi-speed modes cannot be used.

- 1 TV power switch ON; set to empty channel (3 or 4).



( $\square / \triangle$ )  
Holding  
the disc table  
near the center,  
pull it out slowly.



Be careful not to  
pinch your finger.

Locks with a click.

## VHF CHANNEL ADJUSTMENT FOR VIDEO DISC PLAYBACK

The video and audio signals picked up from the video disc are passed to the TV set as VHF television signals (CH3 or CH4). Channel tuning should be performed following the procedure listed below.

1. Press one of the channel selector buttons on your TV set not occupied by a broadcasting TV station.
2. Start disc play back.
3. Adjust the tuning knob of your TV set corresponding to the channel selector button pressed in step 1 above until the picture from the disc playback is at its clearest.

NOTE:

Details on tuning may be found in the instruction manual for the TV set in use.

## NOTICE

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

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

## TO STOP PLAYBACK

### 1. Press the REJECT/OPEN button (□/△) on the player or the REJECT button on the remote control unit.

- When the player's REJECT/OPEN button is pressed, the player will enter the stop mode, and the disc table will open slightly to the front.
- When using the REJECT button on the remote control unit:

**Button pressed once** ... The player enters the stop mode, and the pickup returns to its original position.

**Button pressed twice** ... The player enters the stop mode, and the disc table opens slightly to the front.

### 2. Pull the disc table out slowly by hand.

### 3. Remove the disc.

When finished playing a disc, do not leave it loaded inside the player. Always return it to its jacket, and store it in a vertical position.

### 4. Push in the disc table, and turn off the power.

#### CAUTION

When the disc table is in its open (pulled out) position, do not press down on it strongly, or place items other than discs (particularly, heavy items) on it. Forcing the disc table up or down when it is in its open position may cause damage to the player. It is also dangerous since, depending on the installation location, it may even cause the player to fall over. When not using the player, always be sure to push the disc table into the player.

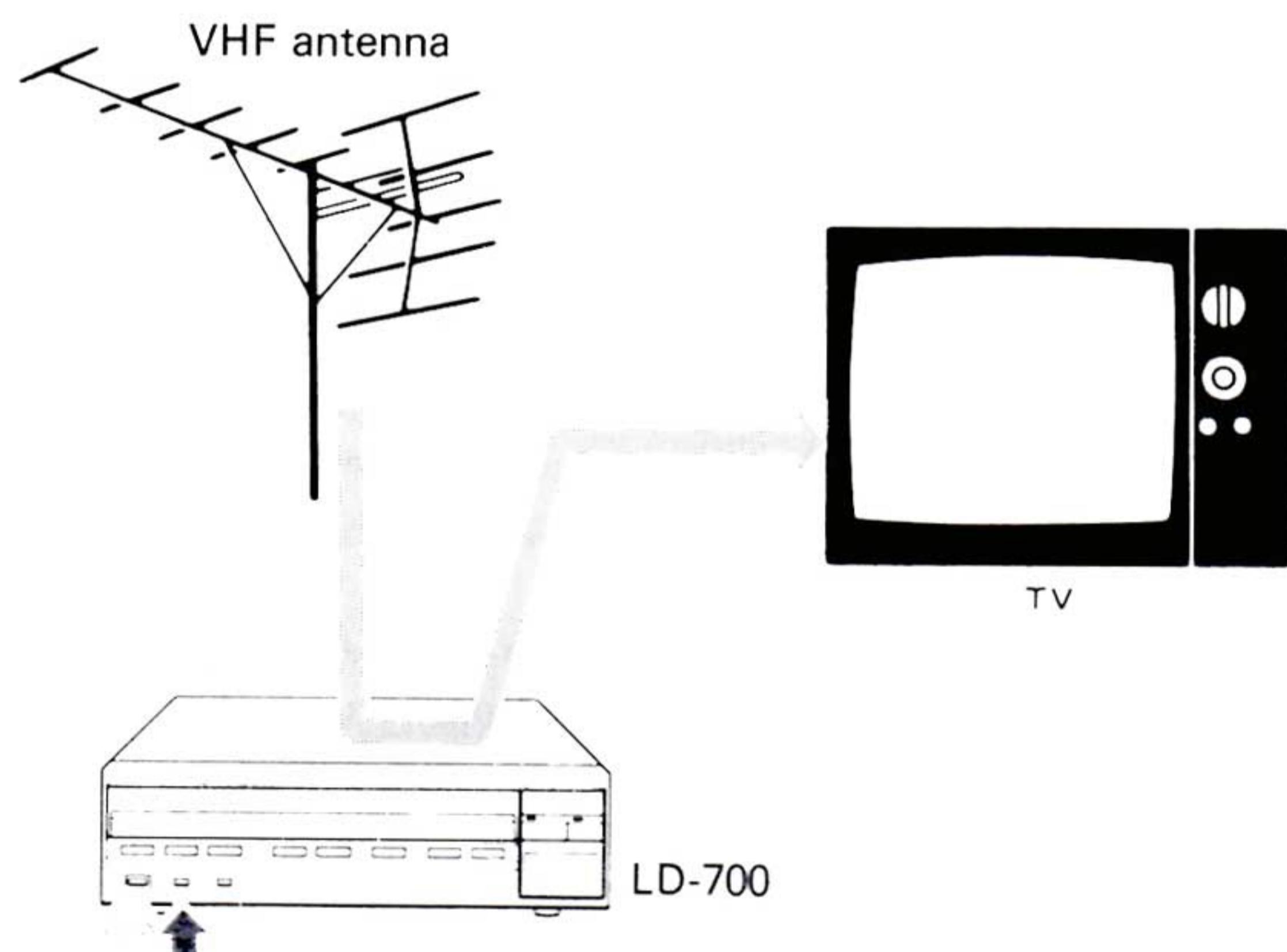
## TO WATCH A TELEVISION BROADCAST

When a VHF television antenna has been connected in accordance with the procedures given in these operating instructions, television broadcasts can be received normally by meeting either of the following conditions:

- Turn off the player's power switch** ... The VHF television antenna will be connected to the TV through the player.
- Turn on the TV indicator** ... Press the TV/VDP button on the player's front panel. The TV indicator will light, and the VHF television antenna will be connected to the TV through the player.

#### NOTE:

*Even when the TV indicator lights, and a television broadcast is showing on the TV screen, the player will continue in the playback mode if it has been so set.*



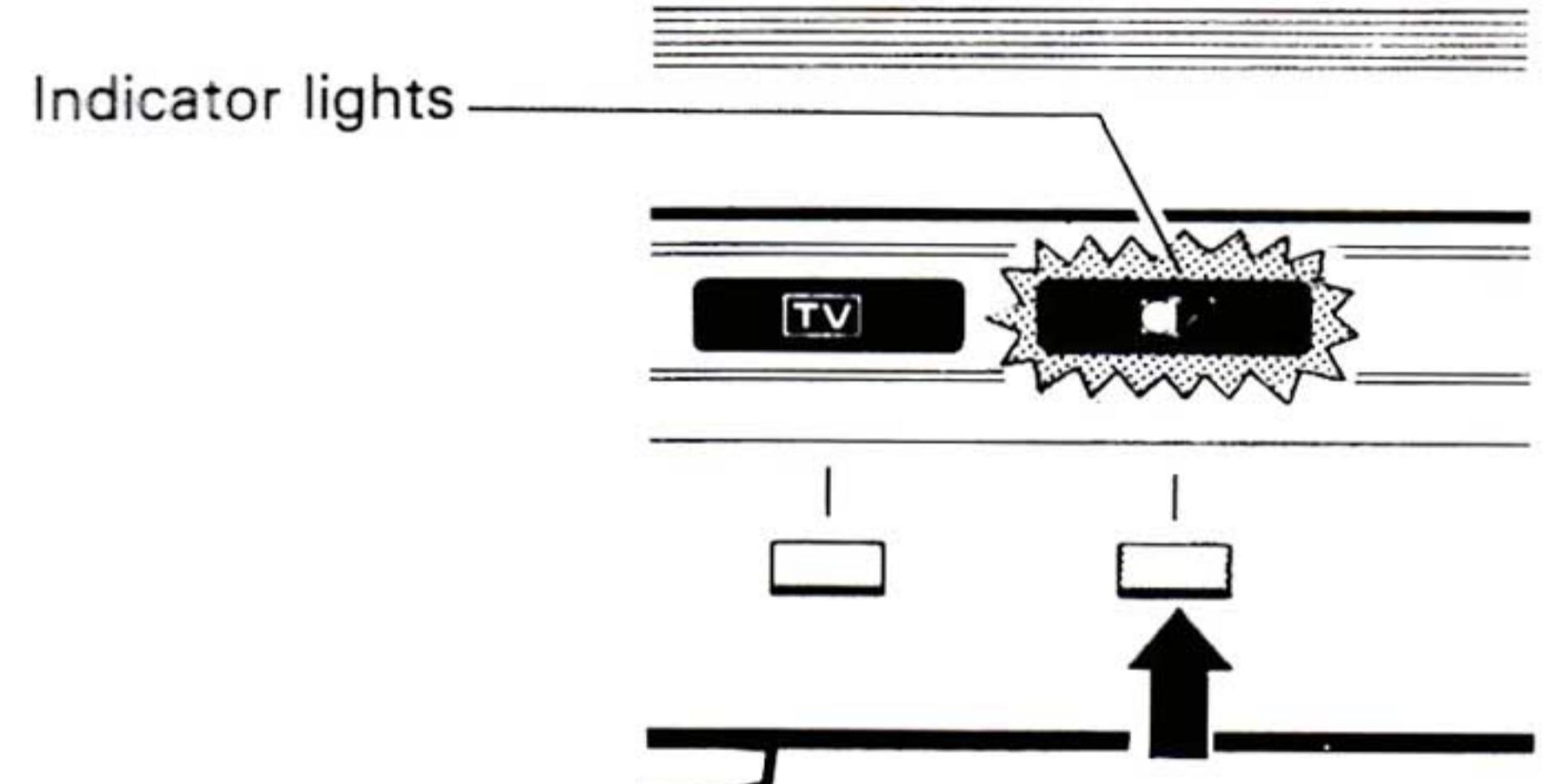
Turn off power, or turn on TV indicator.

## CX NOISE REDUCTION SYSTEM

The CX noise reduction system is used to reduce noise which may be caused during recording of the disc and thus it improves signal-to-noise ratio. When a disc marked with the CX symbol is to be played, press the CX button on the front panel. An indicator light will confirm that the CX decoder is operational.

While the CX decoder will significantly improve the dynamic range of a CX disc, the disc can be played quite satisfactorily without decoding. However, discs with no CX symbol should not be played with the CX control on. The function can be disabled by pressing the CX button again, making sure that the indicator lamp goes out.

In addition, the CX system is turned off automatically when playback stops at the end of a disc, when play is stopped manually, or the REJECT/OPEN button is pressed.



*On some CX discs, a special code is recorded which automatically turns the CX system on and off. When such a disc is played, the player reads the code, and the CX system's on/off controls are performed automatically, making it impossible to turn the CX system on and off with the player's CX button. If you find during playback that the CX system does not respond to the CX button, it indicates that the CX switching is being performed automatically; it is not a malfunction.*

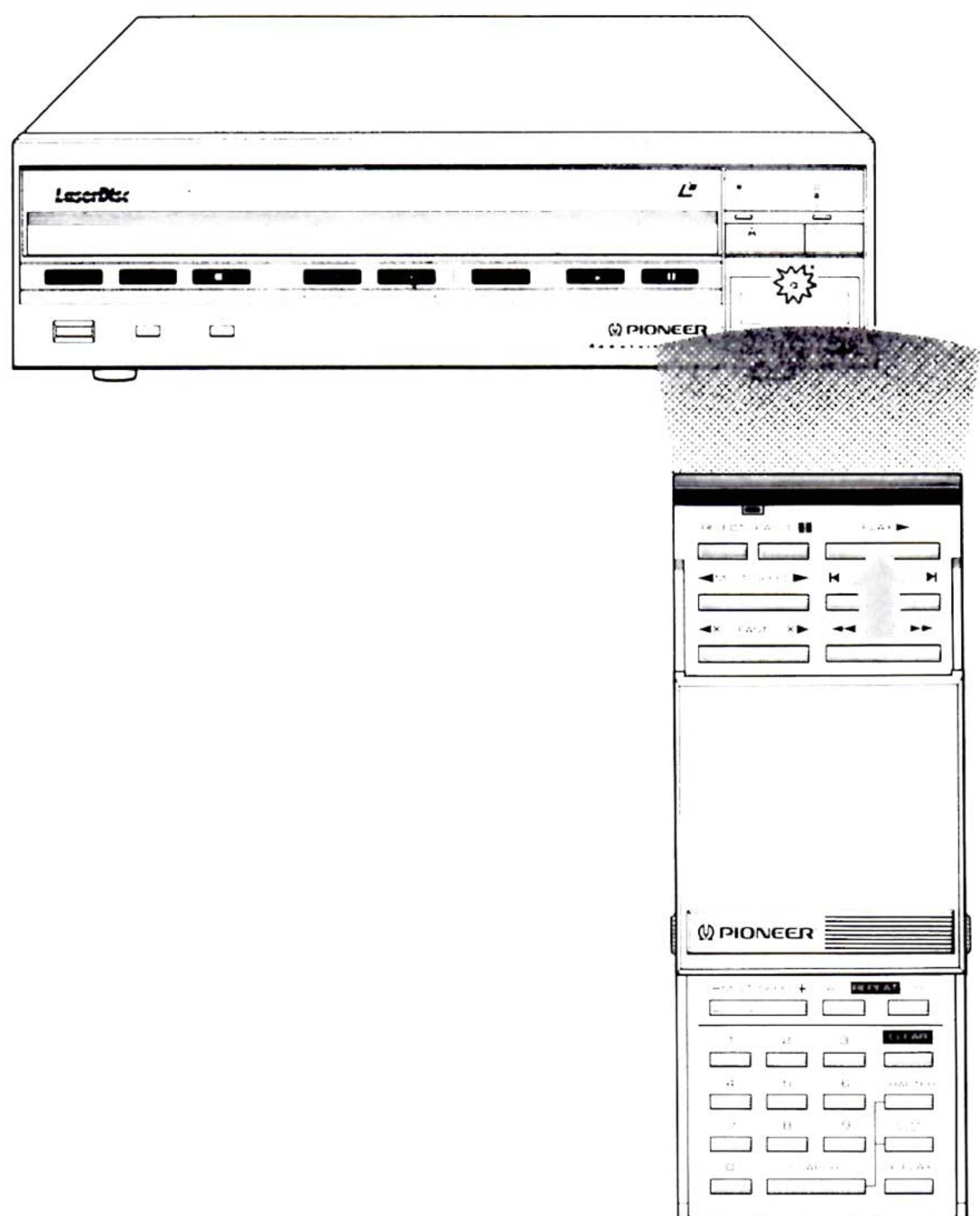
# OPERATION WITH THE REMOTE CONTROL UNIT

When operating the remote control unit, point the front part of the unit at the remote control receiver on the player. The remote control unit may be used within a range of several meters from the player. When a command from the remote control unit is received by the player, the indicator lights above the remote control receiver on the player front panel.

## NOTES:

- Even if the remote control unit is operated within 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.
- 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.

The **SCAN**, **FAST**, **MULTI-SPEED**, and **STILL/STEP** buttons on the remote control unit are rocker type switches, so they will not operate if you press the center of the buttons.



## AUDIO REPRODUCTION

Look at the audio indicator on the player's front panel. When playback of a disc is begun, the audio portion is also automatically played. Audio indicators 1/L, 2/R will both light, indicating that both audio channels are being played back.

### NOTE:

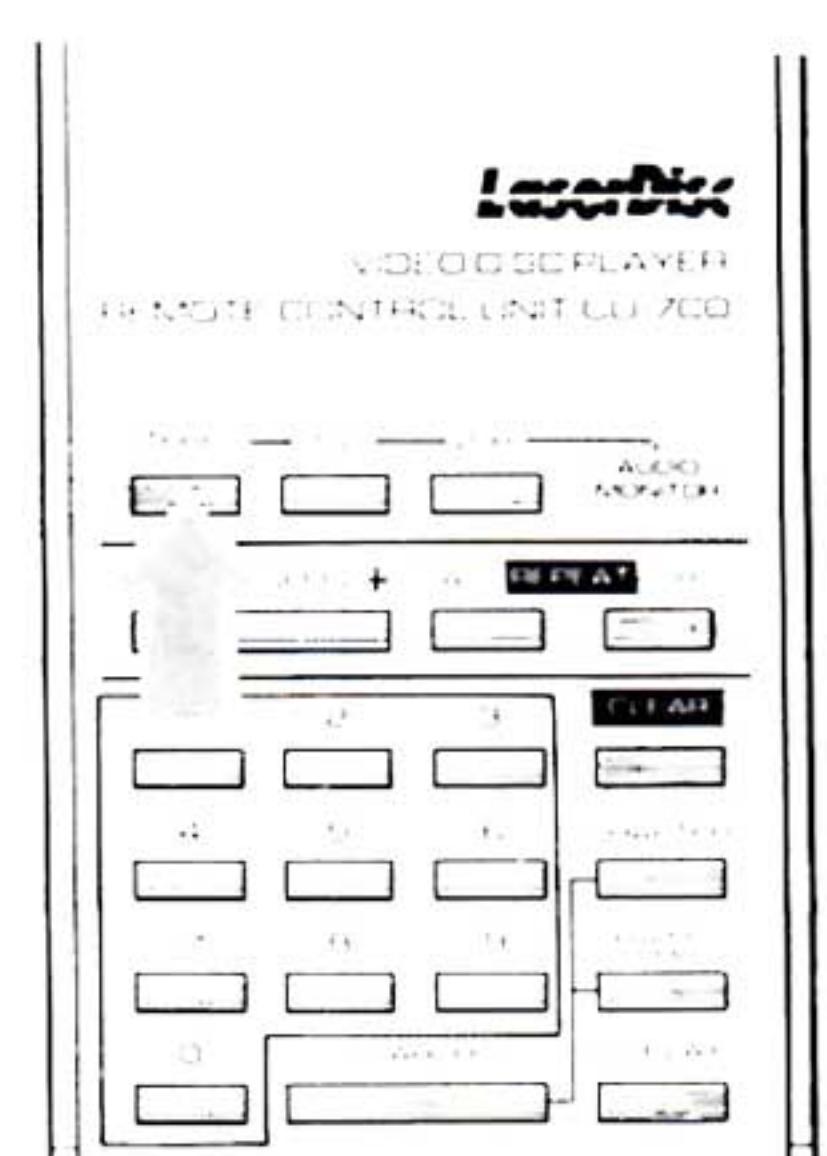
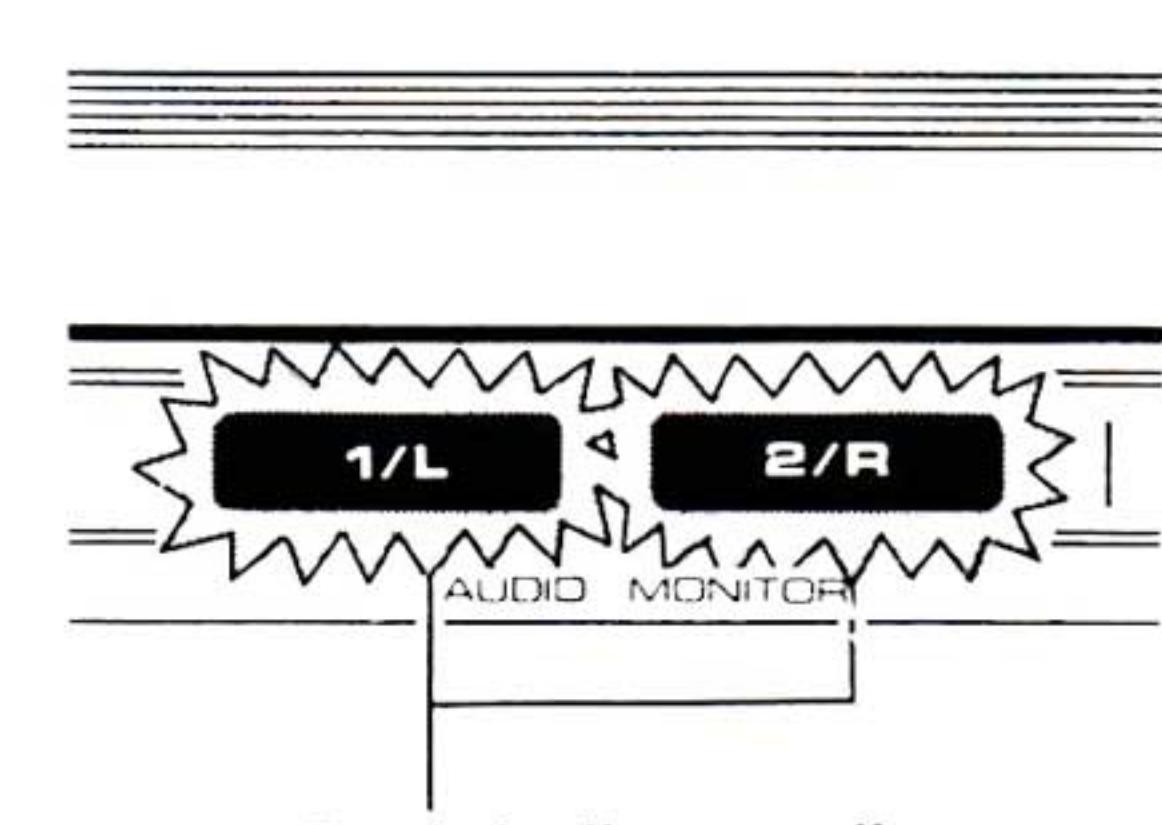
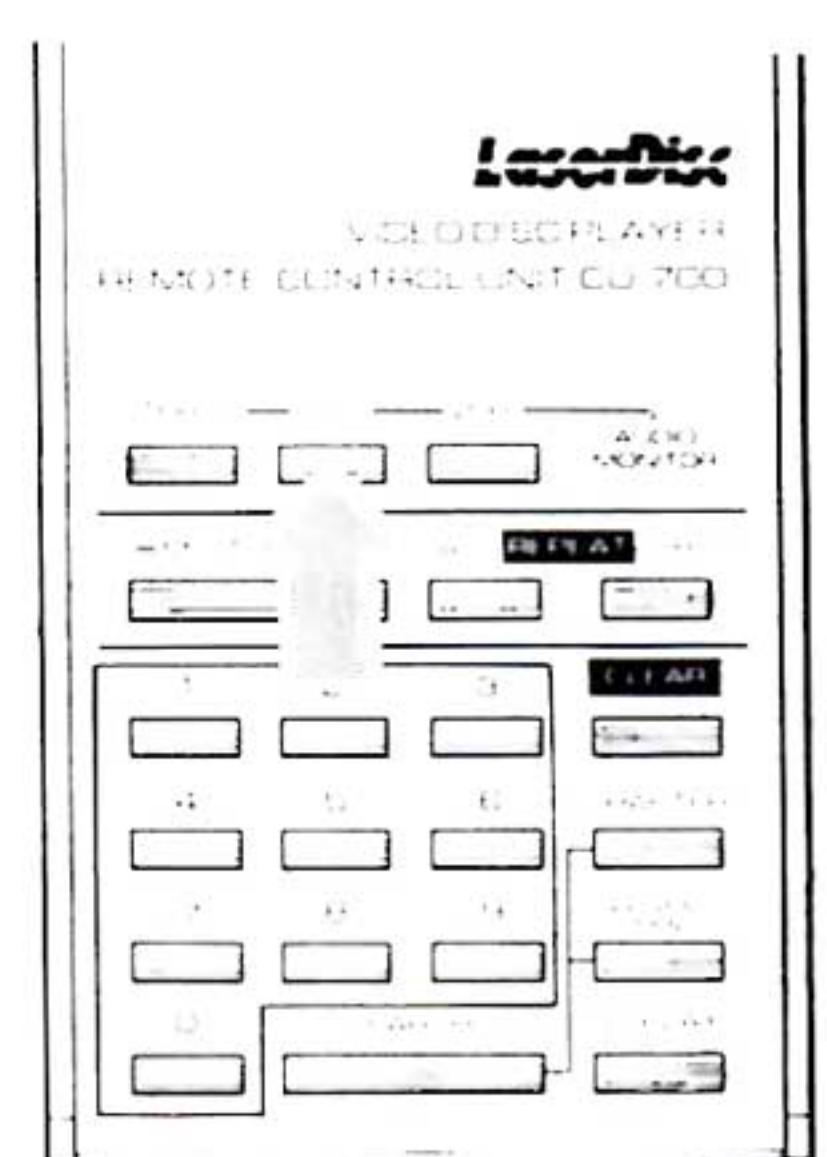
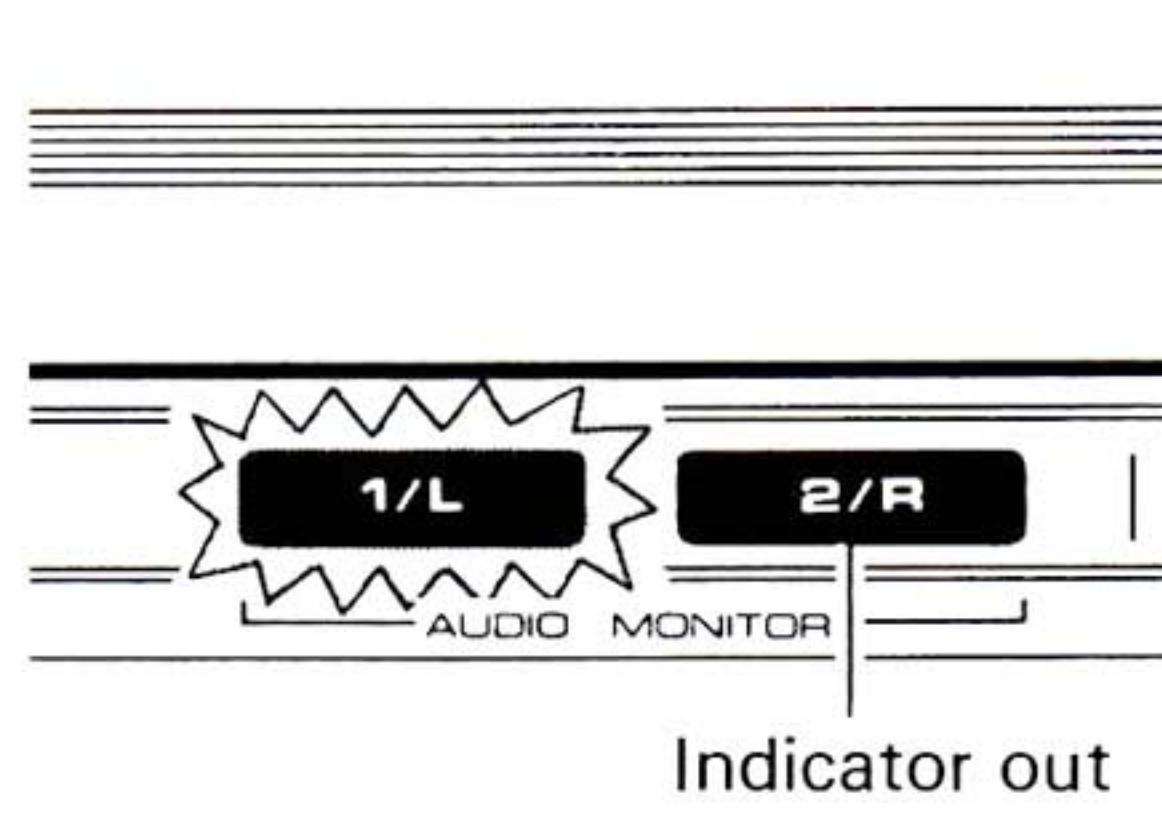
Audio reproduction is only possible in the normal play mode.

When you wish to listen to only one of the audio channels, for example when playing a disc recorded in two languages, press either the 1/L or 2/R button, corresponding to the audio channel to which you wish to listen. The player will switch to the audio channel corresponding to the button pressed, and the indicator for the other audio channel will go out.

### NOTE:

When only one audio channel is in use, the sound is still fed to both audio outputs.

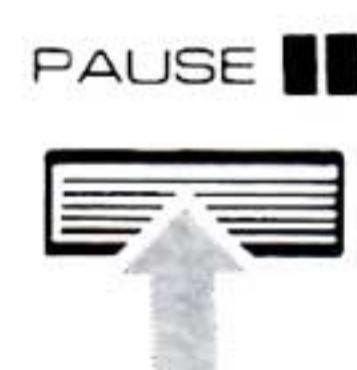
When playing discs recorded with stereo sound, check to make sure that both the 1/L and 2/R audio indicators are lit. If one of the indicators is not lit, press the STEREO button to turn the indicator for the other channel on.



## OPERATION WITH THE REMOTE CONTROL UNIT

### PAUSE ■■

Operation is interrupted at the point where you press the PAUSE button, and the video picture disappears from the TV screen. The pause indicator will light during the pause mode. To resume playback, press either the PAUSE, PLAY, or SCAN button.



### ◀◀SCAN▶▶

This is for quickly finding a particular point in the disc program from which you wish to play the disc. Scanning continues in the forward direction for as long as you keep the ►► marked end of the SCAN button depressed. Scanning continues in the reverse direction for as long as you keep the ◀◀ marked end of the SCAN button depressed. The player returns to the previous mode when you release the SCAN button.

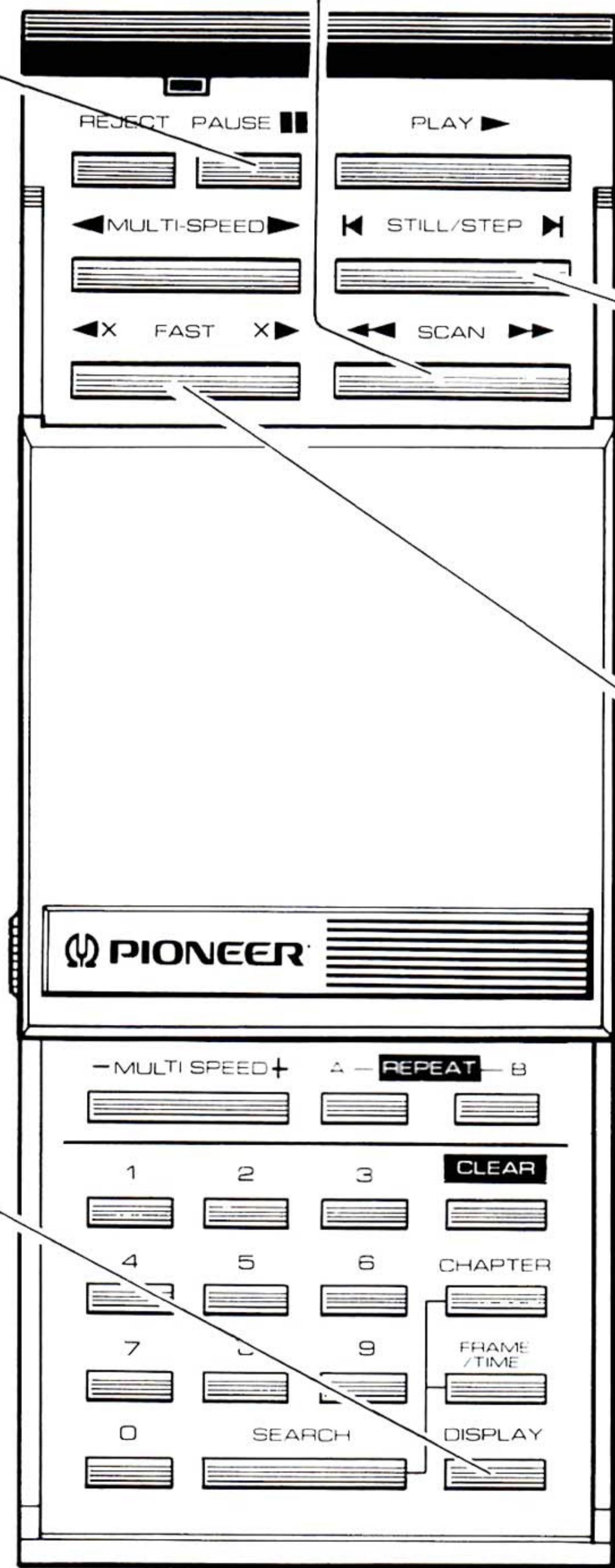
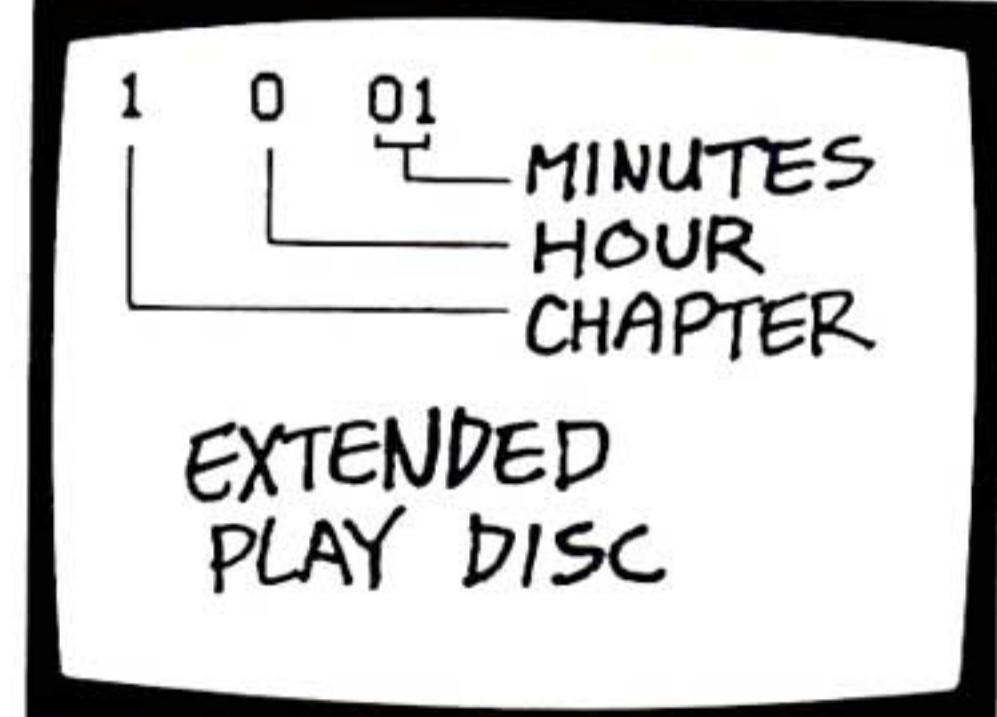
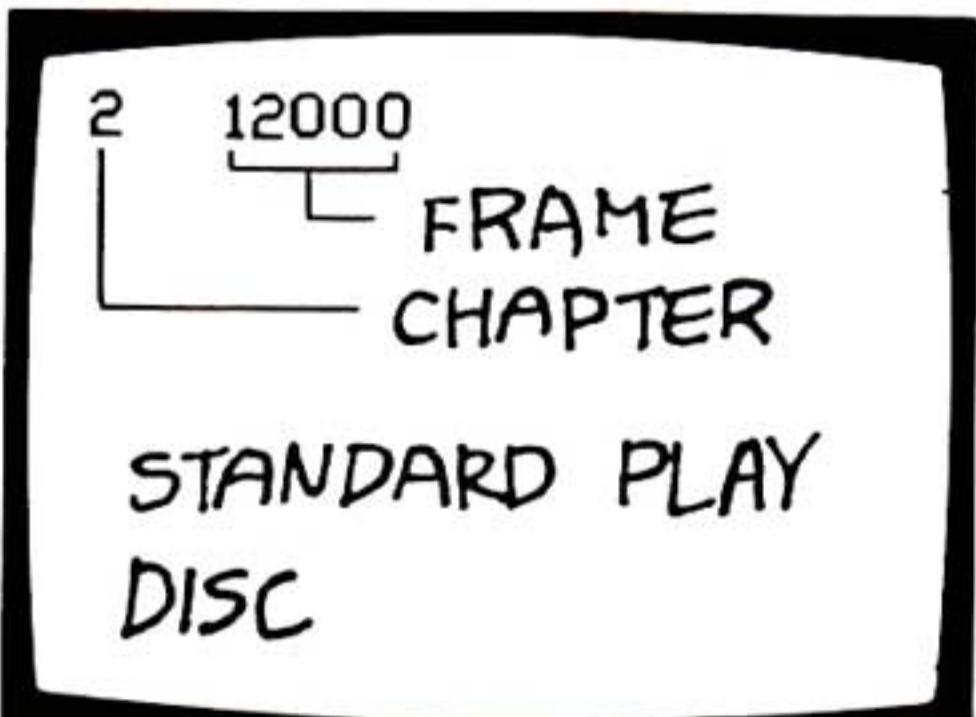


### CHAPTER/FRAME (TIME) DISPLAY

Discs have recorded on them CHAPTER numbers—corresponding to the "chapters" of a book, and FRAME numbers—corresponding to a book's "pages" (extended-play discs have TIME numbers [units: minutes] showing the elapsed playing time from the beginning of the disc's program, instead of frame numbers). These CHAPTER numbers and FRAME (TIME) numbers are alternately displayed and erased on the screen each time the DISPLAY button is pressed.

#### NOTE:

*When playing a disc which does not have recorded chapter numbers, no chapter numbers will be shown on the screen even if the DISPLAY button is pressed. As a result, the chapter stop, and chapter number search operations explained below cannot be performed.*

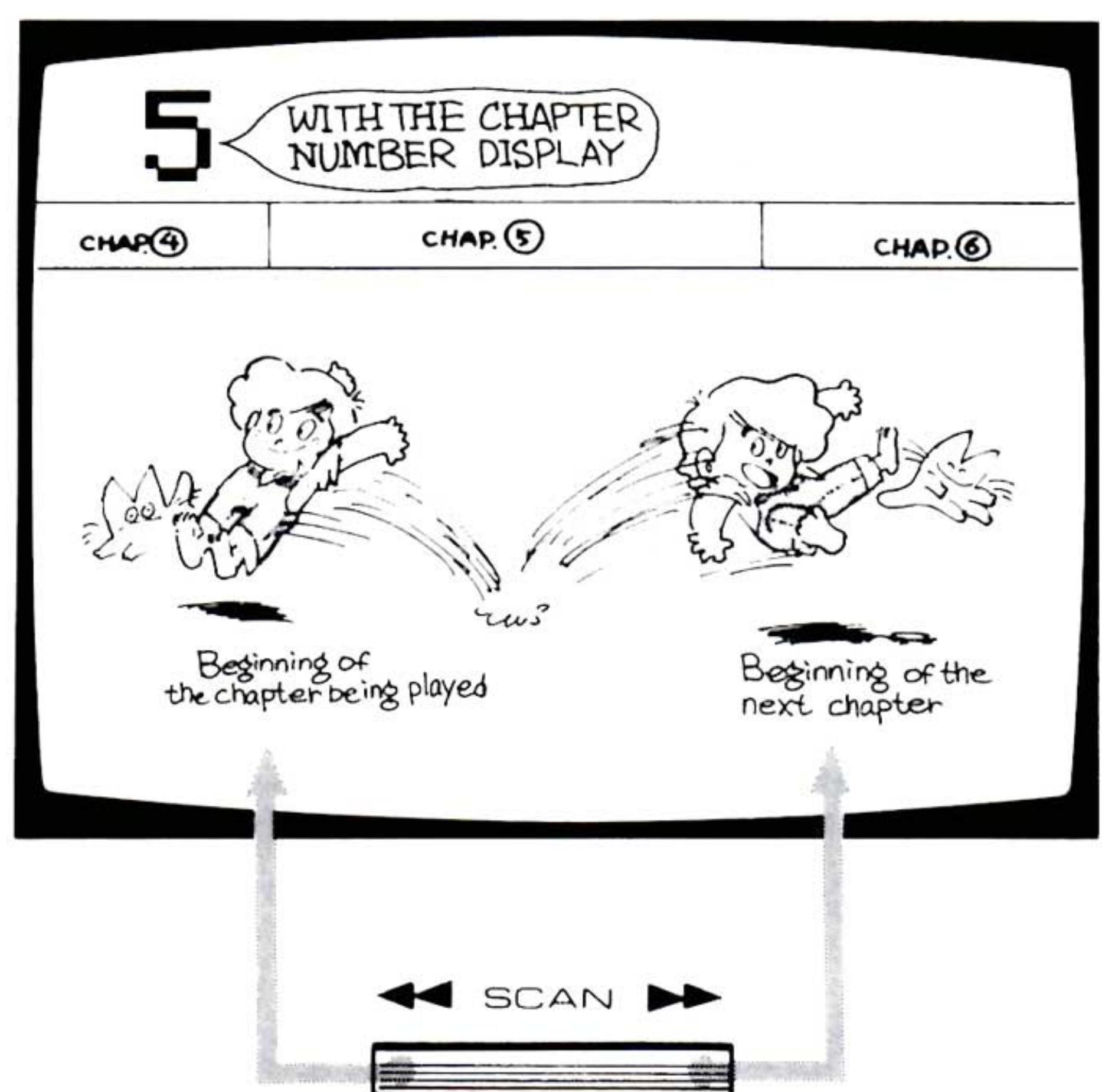


## CHAPTER STOP

On video discs which have more than one chapter on a side, it is convenient to be able to skip from the middle of one chapter to the beginning of the next chapter. To do this, first press the DISPLAY button so the chapter number is displayed on the TV screen. Then press the ►►-marked end of the SCAN button. Keep pressing the button and the disc will be scanned to the beginning of the next chapter. Scanning stops automatically when the beginning is reached, and the player switches back to the previous function mode with standard play discs; on extended play discs, however, it switches to the normal play mode. Release the SCAN button at this point; scanning will not continue, even if you keep the button depressed. Likewise, if you wish to return to the beginning of the chapter being played, display the chapter number on the TV screen and press the ◀◀-marked end of the SCAN button. Release the SCAN button when the beginning of the chapter is reached.

### NOTE:

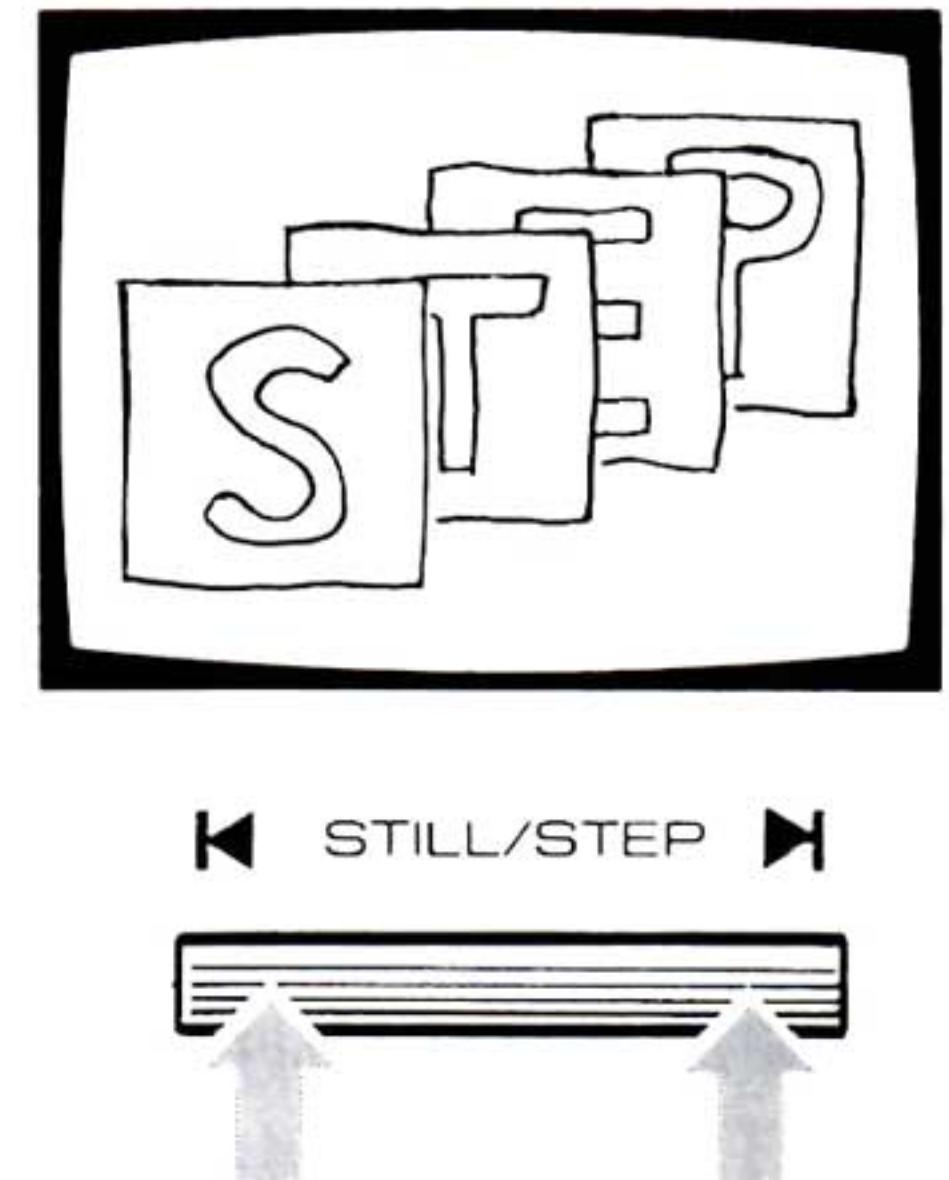
*The chapter stop function cannot be used with some home-study and other special discs. Depending on the disc used, chapter stop operation may not function, but this is not a malfunction.*



## ◀ STILL/STEP ▶

### (standard play disc only, with remote control unit)

Press this button for still video reproduction or step-by-step reproduction of a frame. Pressing either end of the button will produce a still video image. Then each time you press the ► marked end of the button, the image will advance to the next frame, each time you press the ◀ marked end of the button, the image will go backwards to the preceding frame.



## ◀ X FAST X ▶

### (standard play disc only, with remote control unit)

Press and hold the X► marked end of the FAST button to play the disc at three times normal speed in the forward direction. Press and hold the ◀X marked end of the FAST button to play the disc at three times normal speed in the reverse direction. Fast play continues for as long as you keep pressing the button, and audio is not reproduced during the fast play. The player returns to the previous mode when you release the FAST button.



## ◀ MULTI-SPEED ▶

(standard play disc only, with remote control unit)

With this function, you can choose from a fast 3-times normal playback speed to an ultra-slow one frame every 3 seconds, allowing you to enjoy playback at whatever speed you desire.

When the ▶ marked end of the MULTI-SPEED button is pressed, the picture moves forward, and when the ◀ marked end of the MULTI-SPEED button is pressed, it reverses direction. By using the -MULTI-SPEED + button, you can select from the following 9 speed levels:

FAST \*3 (3x normal play mode)

FAST \*2

NORM \*1 (normal play mode)

SLOW /2

SLOW /4 (1/4 normal play mode: initial setting)

SLOW /8

SLOW /16 (1/16 normal play mode)

STEP 1

STEP 3 (1 frame every 3 seconds)

The speed of the MULTI-SPEED mode is automatically reset to SLOW /4 whenever the power is switched on.

To change the set speed, use the -MULTI-SPEED + button. Each time the (+) side is pressed, the multi-speed function is set alternately to SLOW /2 → NORM \*1 → FAST \*2 → FAST \*3.

Each time the (-) side is pressed, the function is set in the slow direction, SLOW /8 → SLOW /16 → STEP 1 → STEP 3.

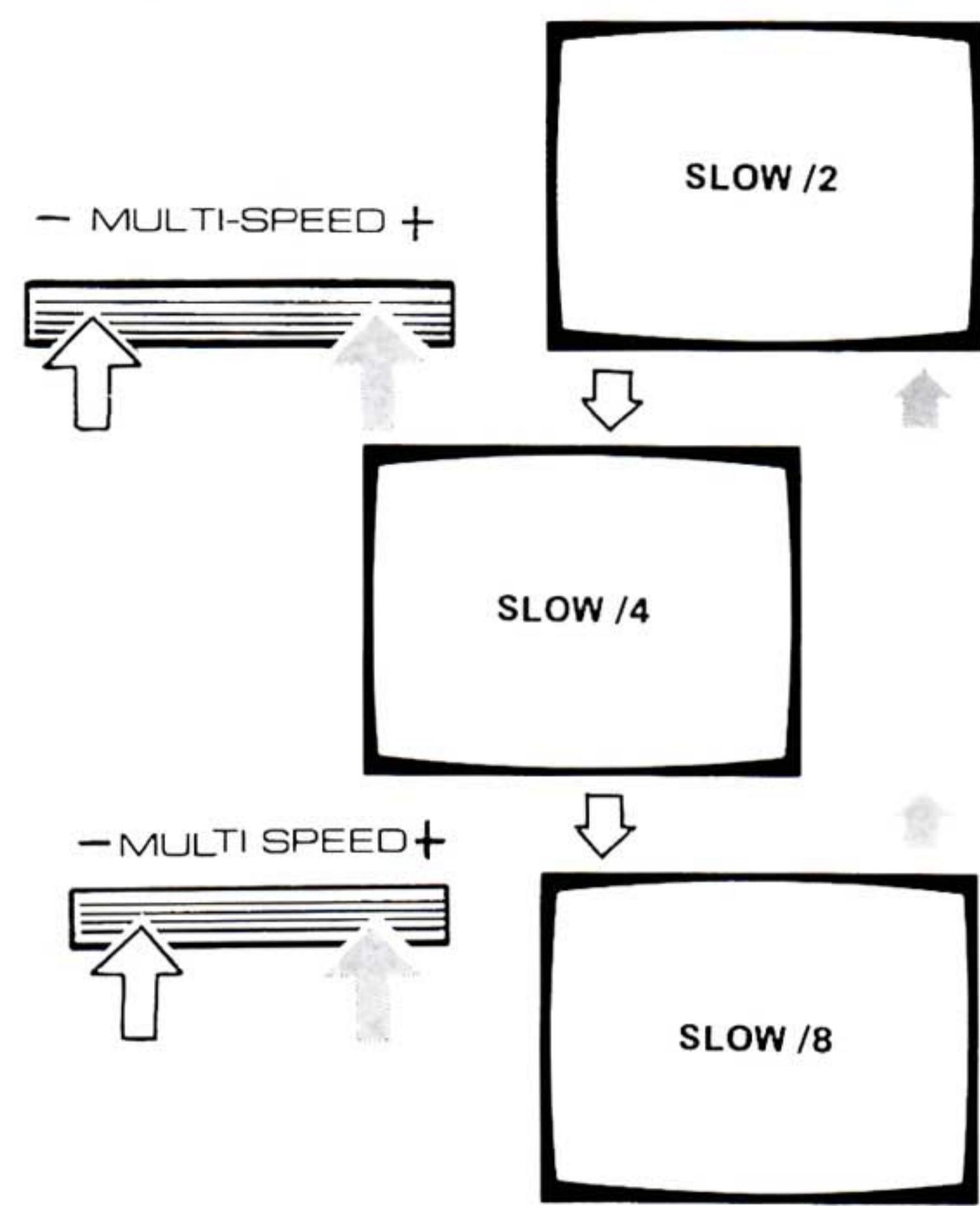
**While the button is held depressed, the newly set speed is displayed on the TV screen.**

When a speed is set, it will be memorized even if you switch to another playback mode, but if the REJECT button is pressed to place the player in the stop mode, the speed will automatically be reset to SLOW /4.

The MULTI-SPEED button can be used to set the speed for multi-speed playback even when the player is in a playback mode other than the multi-speed mode. In this way, you can set the playback speed before actually switching to the multi-speed mode.

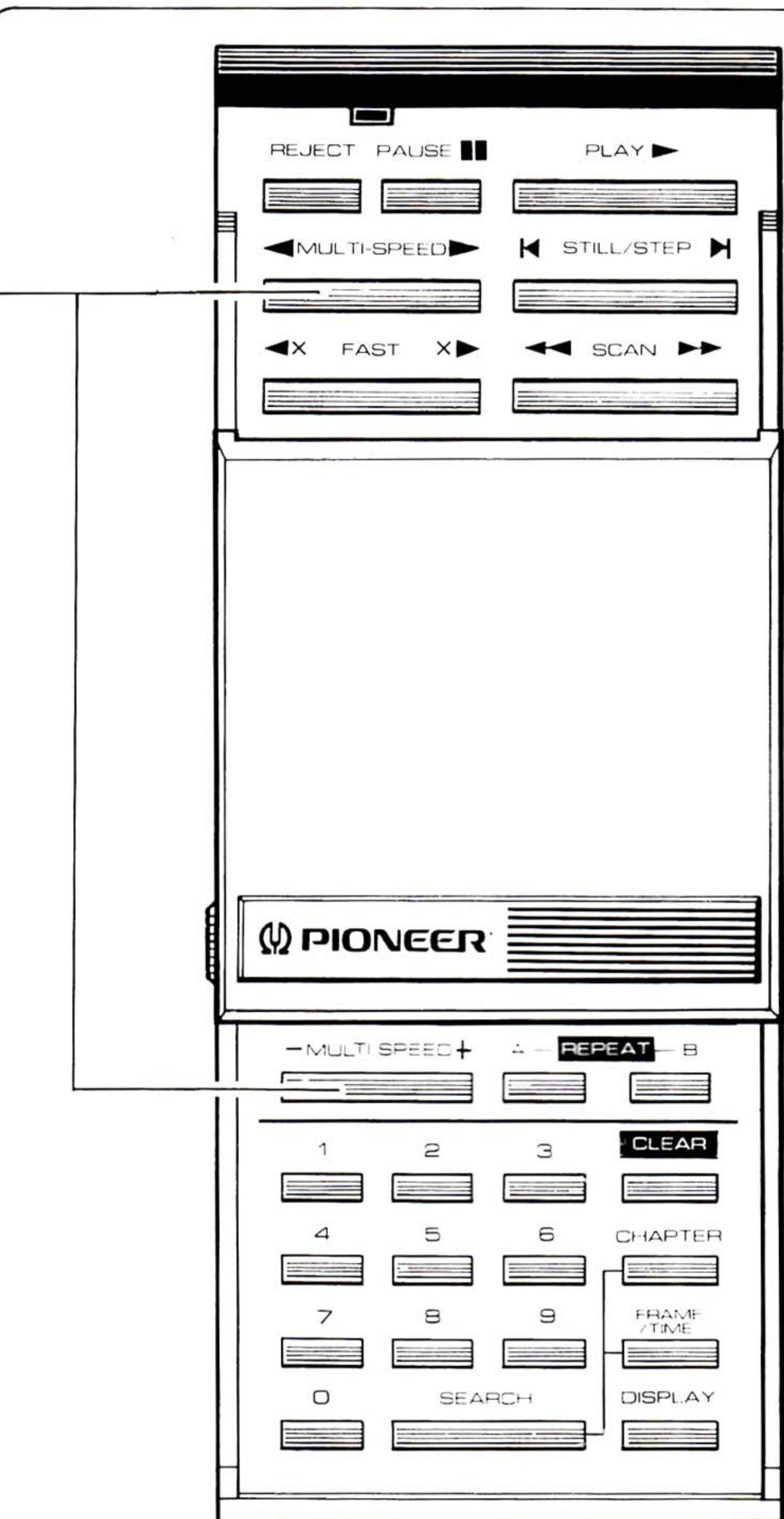
## AUTOMATIC PICTURE STOP

The player has a function called "automatic picture stop" which freezes the program at the frame designated by a specially recorded code in the video disc. The freeze frame occurs when the player is in the normal play or NORM \*1, SLOW or STEP of MULTI-SPEED mode. When the automatic picture stop has occurred, simply press the PLAY button to release the freeze frame.



### NOTES:

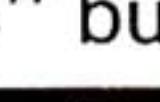
- During interval repeat playback (see p. 19), the FAST \*2, and FAST \*3 speeds cannot be used for playback. Even if the FAST \*2 or FAST \*3 speeds are displayed on the screen, playback will be at the NORM \*1 speed.
- During multi-speed playback, audio signals are not reproduced.



## INTERVAL REPEAT PLAYBACK

This function allows you to perform repeat play (256 times) of any interval between frames which you designate.

### (Repeat Playback Procedures)

- At the beginning point of the interval you wish to repeat playback, press the repeat "A" button.
- Allow the playback to continue, and when you reach the point at which you wish repeat playback to end, press the repeat "B" button. When the repeat "B" button is pressed, the player will search for the picture (frame) at which you pressed the repeat "A" button, and at that point, it will begin playback in the same mode as that the player was in when the repeat "B" button was pressed. At that time, the repeat indicator (  ) will light. When the playback reaches the picture (frame) at which you pressed the "B" button, the player will once again search for the frame at which you pressed the "A" button, and begin playback again from that point.

#### NOTE:

- If you press the "A" button, and then return to a point in the program earlier than that frame and press the "B" button there ("B" < "A"), the player will repeat the interval between the point at which you pressed the "A" button and the end of the program (the outermost circumference of the disc).
- Designation of the interval to be repeated can be made on standard play discs during the play, still, and multi-speed playback modes. On extended-play discs, it can be designated during playback in the play mode only.
- If you designate a repeat interval during multi-speed playback on a standard play disc, the "A" button will respond to inputs during forward or reverse playback, but the "B" button will respond only when playback is in the forward direction.
- The automatic picture stop function also operates during the repeat playback mode.

With standard play discs, the play, still/step, and multi-speed (► only) operation buttons all function during repeat playback, allowing you to change the playback mode as desired. (However, note that with the multi-speed mode, the only normal play speeds available are FAST\*2 and FAST\*3. During repeat playback, the SCAN (◀◀, ▶▶), FAST-(◀X, X►), multi-speed reverse direction (◀), and pause buttons do not operate.

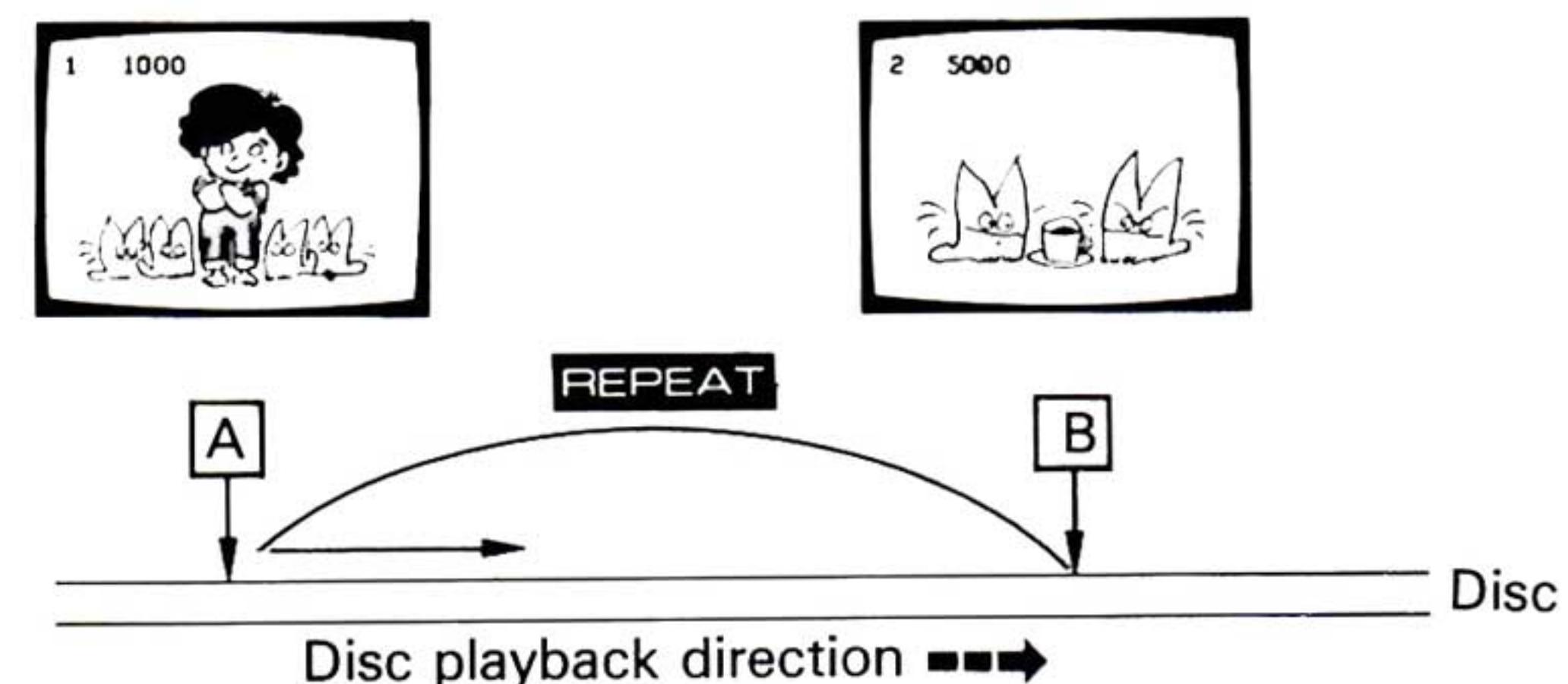
### [To Cancel the Repeat Mode]

- When the designated interval has been played back 256 times, the repeat mode will be cancelled (repeat indicator goes out).
- To cancel the repeat mode during repeat playback, press the CLEAR button.

Press **CLEAR**

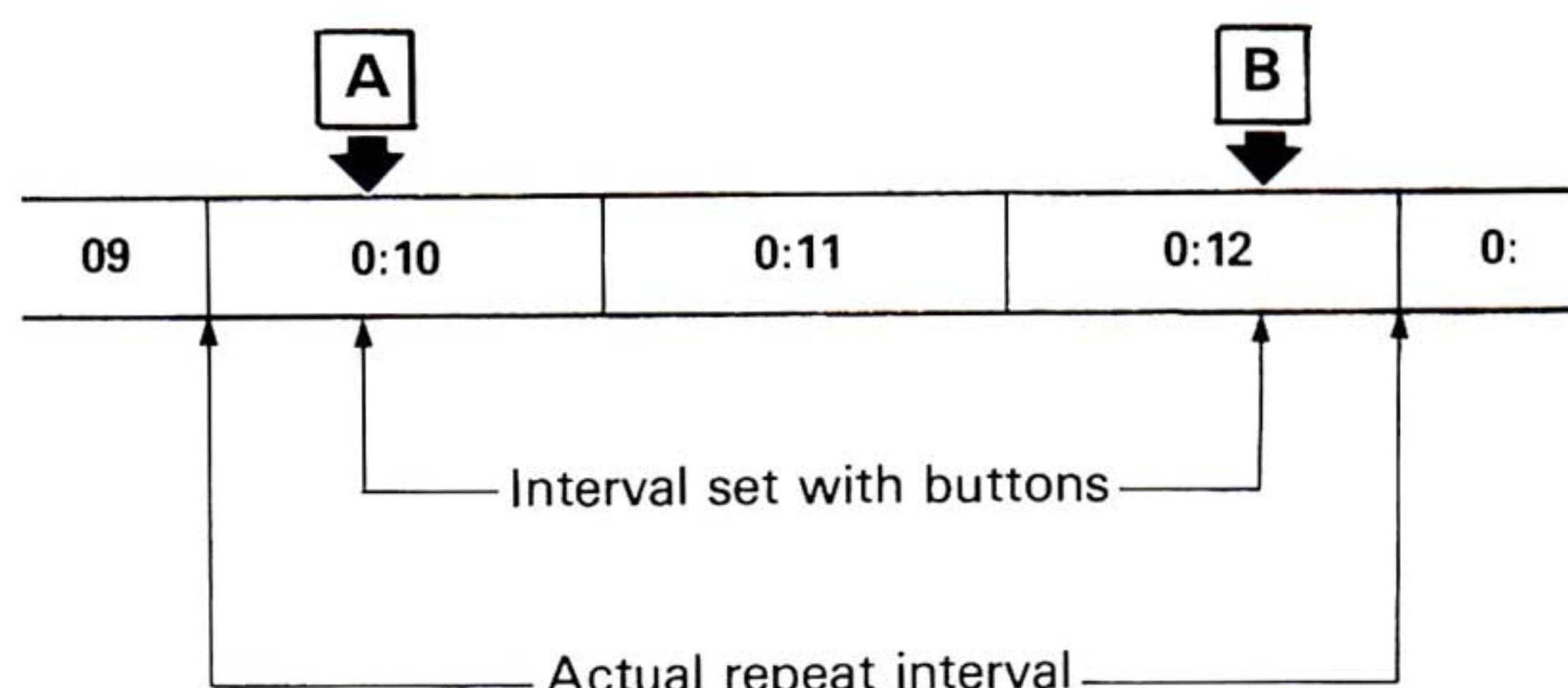
### [EXAMPLE] To repeat the interval between frames numbered 1000 and 5000

- At frame 1000, press the "A" button.
- Allow playback to continue, and at frame 5000, press the "B" button.
  - The player will then search for frame 1000, and begin playback in the same mode as that the player was in when the "B" button was pressed.
  - When the playback reaches frame 5000, the player will once again search for frame 1000, and begin playback again. The player will repeat this operation 256 times.



### NOTICE

When playing extended-play discs, playback is performed by TIME numbers (units: minutes). As a result, the interval set with the A, B buttons may not agree exactly with the actual repeat interval. For example, if the A button is pressed at any point when the display indicates TIME 0:10, and the B button is pressed at any point when the display shows TIME 0:12, the repeat playback will actually start from the beginning of TIME 0:10, and end at the end of TIME 0:12. In other words, there may be up to 59 seconds deviation between the point the buttons are pressed, and the actual start/end points of playback.



#### NOTE:

On extended play discs, the minimum repeat interval is 1 minute (if you press REPEAT A, B buttons in the same "TIME" number).

**[To redesignate the repeat interval during repeat playback]**

Even if the player is presently in the repeat play back mode, you can change point A (beginning point) and point B (ending point), so long as they fall within the bounds of the presently repeating interval.

**To change point A ...** During repeat playback, if the "A" button is pressed, the frame (or time) at that point will be rememorized as point A, and the former point A will be cancelled. The interval between the new point A and point B will be repeat played, but the total number of repeat plays will still total 256, including the number of repeat plays before the new point A was designated. When a total of 256 repeat plays has been performed, repeat play will be cancelled.

**To Change point B ...** During repeat playback, if the "B" button is pressed, the frame (or time) at that point will be rememorized as point B, and the former point B will be cancelled. Repeat play will be cancelled when the interval between point A and the new point B has been repeat played 256 times.

**[To repeat play the entire side of a disc]**

If you wish to repeat play all programs recorded on one side of a disc, you can select this function by setting the AUTO REPEAT/AUTO REJECT selector switch on the rear panel of the player. For details regarding the AUTO REPEAT/AUTO REJECT selector switch, see page 8, connections "4."

## RANDOM ACCESS

This function uses frame numbers, chapter numbers, and time numbers to allow you to quickly display any desired picture. This operation is performed with the remote control unit while a picture is being played back.

### FRAME NUMBER SEARCH

(standard play disc only, with remote control unit)

The player searches for the image at a designated frame number, and plays that image as a still picture.

**[EXAMPLE] To search for frame numbered 12340**

1. Press the FRAME/TIME button.

- The word FRAME will appear on the screen.

2. Press 1 2 3 4 0.

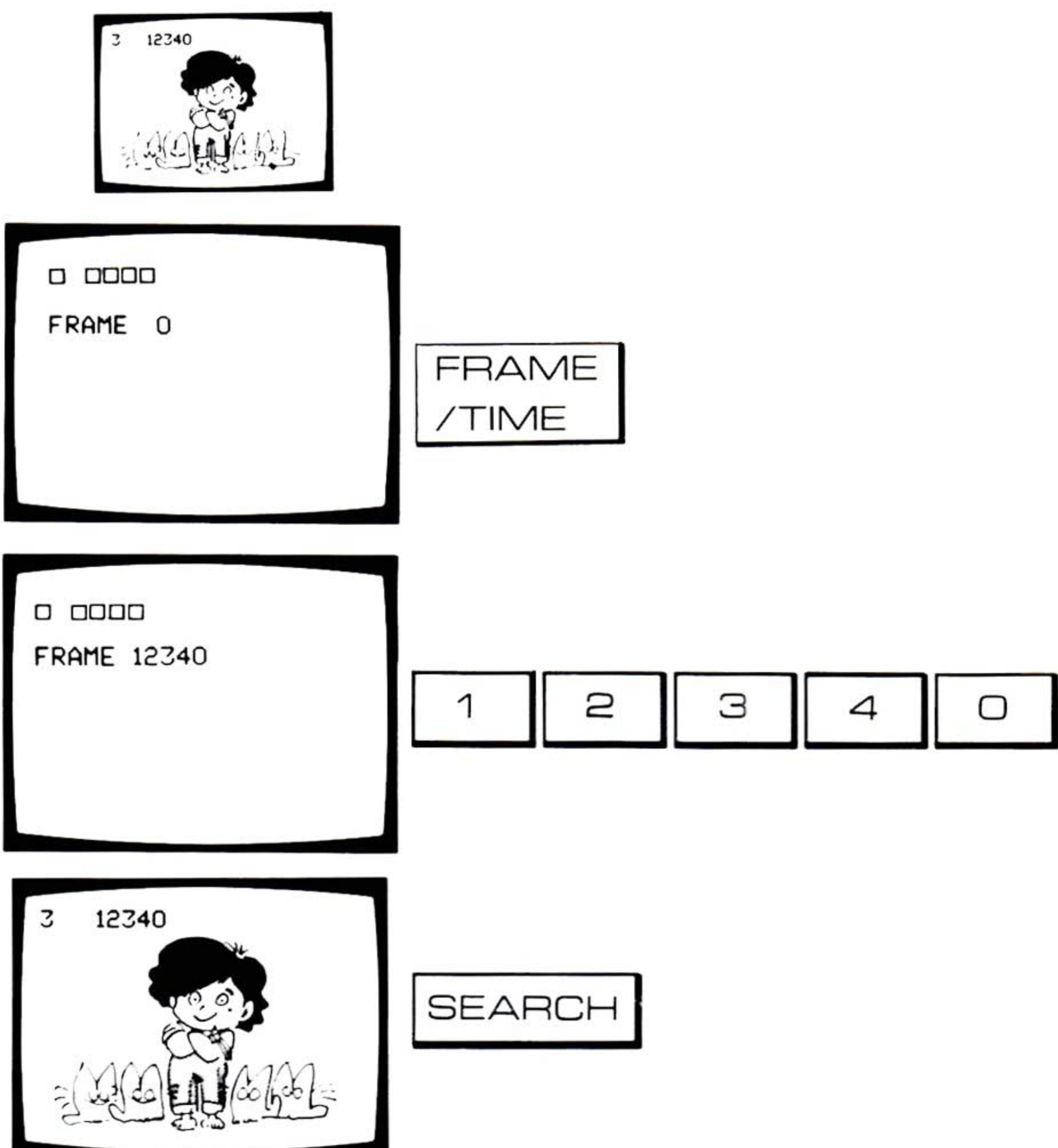
- FRAME 1 2 3 4 0 will be displayed on the screen.
- If you press a mistaken number button, press the CLEAR button, and reenter the correct number.

*To cancel the search mode, press the CLEAR button, and after FRAME 0 is displayed, press the CLEAR button once again.*

3. Press the SEARCH button.

- The present picture will disappear from the screen, and the PLAY/ STANDBY indicator will begin flashing. When the designated frame has been found, it will be played on the screen as a still picture.
- During the search operation, if the PLAY, or MULTI-SPEED button is pressed, playback will begin in that mode upon completion of the search operation.

*Exercise care when performing the search operation, since if you designate a number larger than the highest chapter number, frame number (standard play discs) or time number (extended play discs) recorded on the disc, the player will search for the outermost circumference of the disc (the end of the disc's program).*



## CHAPTER NUMBER SEARCH

(with remote control unit)

This function allows you to search for the beginning of a program chapter.

*Chapter number search cannot be performed when playing back discs on which chapter numbers are not recorded.*

### [EXAMPLE] To search for the beginning of chapter 3

1. Press the CHAPTER button.

- The word CHAP. will be displayed on the screen.

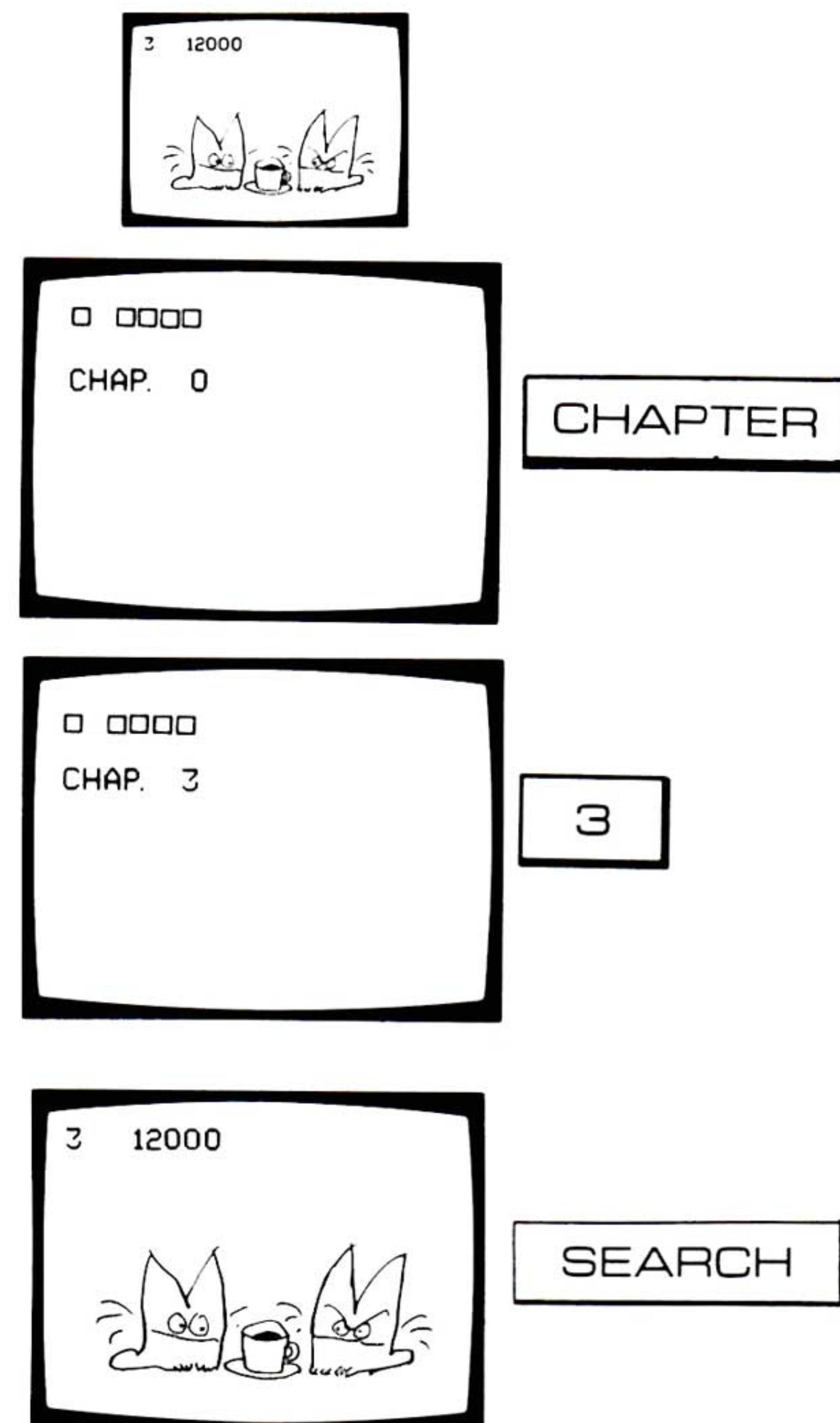
2. Press 3.

- CHAP. 3 will be displayed on the screen.
- If you press a mistaken number button, press the CLEAR button, and then reenter the correct number.

*To cancel the search mode, press the CLEAR button, and after CHAP. 0 appears on the screen, press the CLEAR button once again.*

3. Press the SEARCH button.

- The picture will disappear from the screen, and the PLAY/STANDBY indicator will begin flashing. When the player finds the beginning of the designated chapter, it will be played in the still picture mode on standard play discs, or the normal play mode on extended play discs.
- On standard play discs, if the PLAY or MULTI-SPEED button is pressed during the search operation, playback will commence in the selected mode upon completion of the search.



## TIME NUMBER SEARCH

(extended play disc only, with remote control unit)

This function allows you to search for pictures corresponding to the elapsed playing time from the beginning of a program.

### [EXAMPLE] To search for the picture 12 minutes from the beginning of a program.

1. Press the FRAME/TIME button.

- The word TIME will appear on the screen.

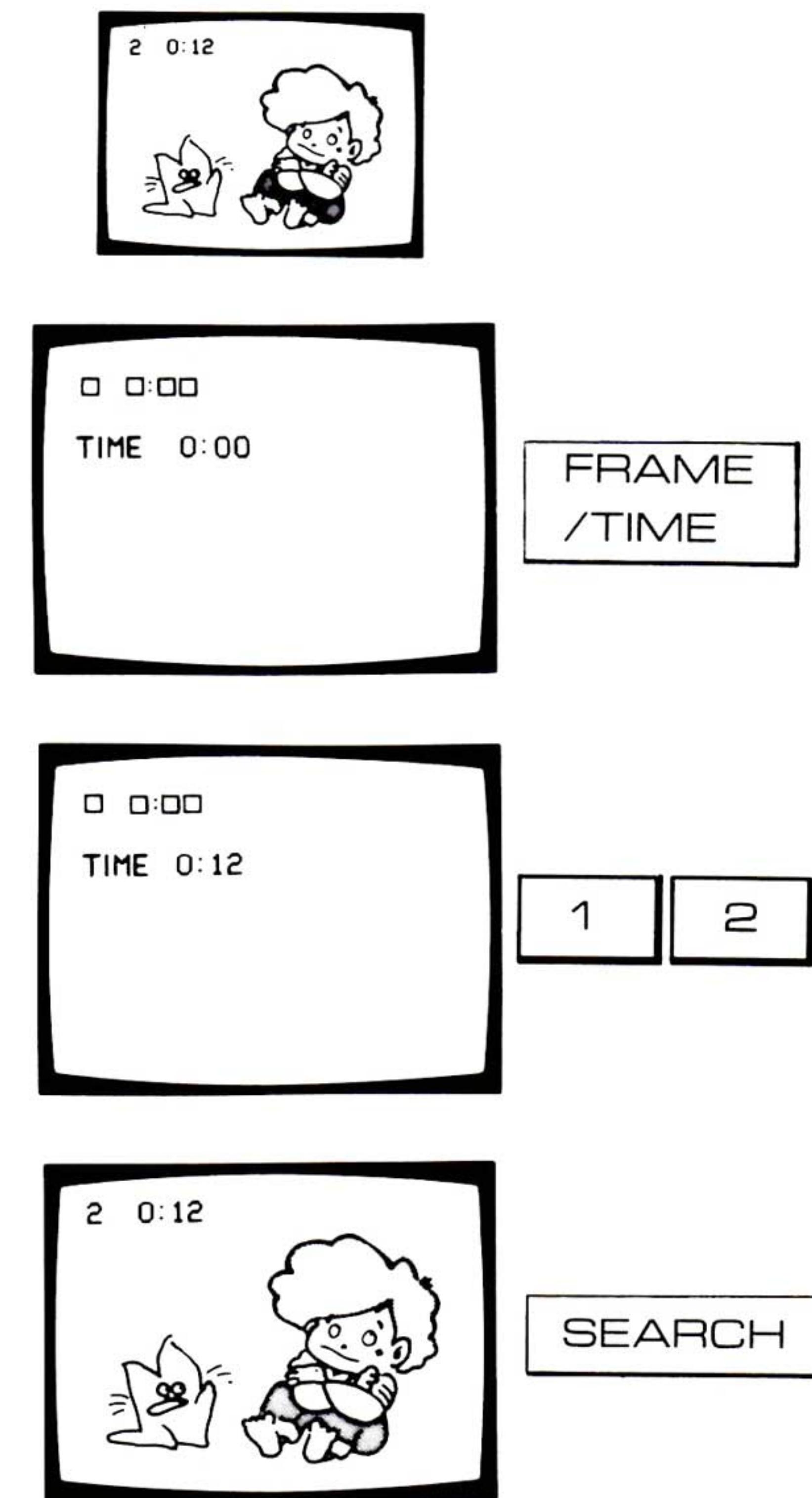
2. Press 1, 2.

- The display TIME 0:12 will appear on the screen.
- If you press a mistaken number button, press the CLEAR button and then reenter the correct number.

*To cancel the search mode, press the CLEAR button, and after TIME 0:00 is displayed on the screen, press the CLEAR button once again.*

3. Press the SEARCH button.

- The picture will disappear from the screen, and the PLAY/STANDBY indicator will begin flashing. When the player finds the picture corresponding to the time number, it will enter the play mode.



When performing search, the search program will remain memorized until playback is stopped, the end of the program is reached, or the search designation is changed. As a result, merely by pressing the FRAME/TIME, and SEARCH buttons, or the CHAPTER and SEARCH buttons, you can perform the same search that you performed earlier.

# PLAYER HANDLING PRECAUTIONS

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## LOCATION

Place the player on a sturdy, level surface. Avoid placing the player in locations subject to extremely high and low temperatures. In particular, do not use the player in direct sunlight, radiators, and other heating appliance. Heat can adversely effect the housing and internal parts. Also protect from high humidity, dust, smoke, steam, oil, and possible water spillage.

## OPERATING TEMPERATURE

The player can be operated in an environment of between 5 and 35°C (41 to 95°F). Do not use the player in an extremely hot or cold environment.

## POWER SOURCES

This player is designed to operate on an AC power supply of 120 V, 50/60 Hz. Do not use it with a DC power supply or an AC power supply of a different voltage or frequency.

## POWER CORD

Handle the power cord by the plug. Do not pull out the plug by tugging on the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock.

Do not place furniture on the power cord or pinch the cord between two pieces of furniture. A damaged power cord can cause fire or give you a strong shock.

## WHILE IN OPERATION

Do not move or bump the player while a disc is being played since this could prevent the player from operating properly and may even result in a breakdown.

## THE COVER

Do not attempt to inspect or change any of the internal parts. If you open the player and touch any of the parts, you may get a strong electric shock.

## CLEANING

- Unplug the player from the wall outlet before cleaning.
- Use a soft, clean cloth to wipe off dust and dirt accumulated on the player. If necessary, moisten a soft cloth with diluted neutral detergent to remove heavy dirt.
- Never use paint-thinner, benzene or other solvents. They react with the surface and cause color changes and melting.

# TROUBLESHOOTING

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

SYMPTOM	CAUSE	REMEDY
<b>Disc table does not open when REJECT/OPEN button is pressed.</b>	<ul style="list-style-type: none"> <li>Power cord is not properly plugged into AC wall socket.</li> <li>Power switch is not turned on.</li> </ul>	<ul style="list-style-type: none"> <li>Plug in power cord.</li> <li>Turn on power switch.</li> </ul>
<b>Disc does not rotate.</b>	<ul style="list-style-type: none"> <li>Power is not on.</li> <li>Disc table hasn't been pushed securely into player.</li> </ul>	<ul style="list-style-type: none"> <li>Plug in power cord. Turn on power switch.</li> <li>Push in disc table slowly until it locks with a click.</li> </ul>
<b>Disc stops rotating soon after starting.</b>	<ul style="list-style-type: none"> <li>You are playing the unrecorded side of a disc.</li> </ul>	<ul style="list-style-type: none"> <li>Turn disc over.</li> </ul>
<b>Disc rotates but there is no picture.</b>	<ul style="list-style-type: none"> <li>TV is not turned on.</li> <li>Wrong connections from player to TV.</li> <li>TV set is not turned to channel 3 or 4.</li> <li>Player VHF CHANNEL SELECTOR is at the wrong setting.</li> <li>Player is in the PAUSE mode.</li> </ul>	<ul style="list-style-type: none"> <li>Turn on TV.</li> <li>Make correct connections.</li> <li>Set TV to the channel (3 or 4) that is not used for TV broadcasting in your area.</li> <li>Set selector to same channel as the TV's empty channel.</li> <li>Press the PLAY button.</li> </ul>
<b>Picture quality is bad.</b>	<ul style="list-style-type: none"> <li>Bad connections between player and TV set.</li> <li>Player VHF out channel is different from TV channel.</li> <li>TV fine tuning has not been adjusted.</li> <li>Poor disc.</li> </ul>	<ul style="list-style-type: none"> <li>Check all connections, particularly F-type plugs.</li> <li>Both TV and player must be set to the same channel (3 or 4) which is not used for TV broadcasting in your area.</li> <li>Adjust TV fine tuning knob for optimum picture quality.</li> <li>Try playing a different disc. If other discs give good quality, the problem is with that particular disc.</li> </ul>
<b>TV no longer receives other channels after it has been connected to video disc player.</b>	<ul style="list-style-type: none"> <li>Antenna cable has not been connected.</li> <li>The TV indicator is not light.</li> </ul>	<ul style="list-style-type: none"> <li>Connect VHF antenna cable to antenna terminal on video disc player.</li> <li>Press the TV/VDP button to make the indicator light, or turn off the player's power switch.</li> </ul>
<b>Particular part of a particular video disc does not playback properly.</b>	<ul style="list-style-type: none"> <li>Damaged disc.</li> </ul>	<ul style="list-style-type: none"> <li>Press the SCAN button to skip over the damaged portion.</li> </ul>
<b>Remote control does not work.</b>	<ul style="list-style-type: none"> <li>Remote control unit batteries are weak.</li> <li>An obstacle between the player and the remote control unit.</li> <li>Remote control unit is not located in a good direction for transmission.</li> </ul>	<ul style="list-style-type: none"> <li>Replace batteries.</li> <li>Remove the obstacle or shift the remote control position.</li> <li>Locate the remote control unit in front of the player.</li> </ul>

# SPECIFICATIONS

## 1. General

System and Disc spec.	Complies with MCA, Phillips specifications
*1 Maximum playing time	
12-inch standard play disc	30 min/side
12-inch extended play disc	60 min/side
8-inch standard play disc	14 min/side
8-inch extended play disc	20 min/side
Spindle motor revolutions	
Standard play disc	1,800 RPM
Extended play disc	1,800 RPM (inner circumference) to 600 RPM (outer circumference)

## 2. Video characteristics

Format	NTSC specifications
Video output	
Level	1Vp-p nominal, sync. negative, terminated
Impedance	75 ohms unbalanced
Terminal	Pin-jack
VHF output	
Channel	Channel 3 or 4 (switchable)
Impedance	75 ohms unbalanced
Terminal	F-type jack

## 3. Audio characteristics

Audio output	Two-channel: stereo or two individual channels
Level	650 mV nominal (1 kHz 100% mod. 50 kilohms terminated)
Terminal	Stereo pin-jacks

## 4. Functions

	CAV	CLV
Play (Normal play mode with sound)	YES	YES
Pause (Pause mode without picture and sound)	YES	YES
Scan forward/reverse	YES	YES
Fast forward/reverse (3X normal play)	YES	NO
Multi-speed play	YES	NO
Still/Step forward/reverse	YES	NO
Interval repeat play	YES	YES
Multi-speed display	YES	NO
Frame number display	YES	NO
Elapsed time number display	NO	YES
Chapter number display	*2	*2
Frame number search	YES	NO
Chapter number search	*2	*2
Elapsed time number search	NO	YES
Chapter stop (with chapter number display)	*2	*2
Automatic picture stop (special discs only)	*3	NO
Remote control (infrared wireless control)	YES	YES

## 5. I/O port

(I/O terminals for external control)	
Terminal	DIN, 8 pins

## 6. Others

Power requirements	120V AC, 50/60 Hz
Power consumption	33 watts
Dimensions	420 (W) x 414.8 (D) x 120 (H) mm 16-17/32 (W) x 16-5/16 (D) x 4-3/4 (H) in.
Net weight (without package)	12.4 kg (27.3 lbs)
Operating temperature	+5 to +35 degrees C
Operating humidity	0 to 90%

## 7. Furnished accessories

Remote control unit (CU-700)	1
Size "AA" dry batteries	2
VHF connecting cable with F-type plugs	1
Audio connecting cords with pin-plugs	1
Video connecting cable with pin-plugs	1
300-ohms to 75-ohms F-type plug	1
75-ohms F-type plug adaptor	1
Operating instructions	1
Warranty card	1

### NOTES:

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

\*1 Actual playback time differs for each disc.

\*2 Only for discs recorded with chapter codes.

\*3 Only for discs recorded with picture stop codes.

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# DISC HANDLING PRECAUTIONS

In order to get the highest quality picture and sound from your video discs, and to enable you to enjoy them for many years to come, please note and abide by the following precautions:

## BEFORE PLAYING, CLEAN YOUR DISCS

When fingerprints or other dirt are on the disc surface, it will cause a skipping, jumping or sticking problem. Always be sure to clean your discs before playing them. Use a soft clean cloth to wipe off them. If necessary, moisten a soft cloth with diluted neutral detergent to remove heavy dirt or fingerprints.

Record cleaning sprays, static prevention sprays, etc., cannot be used on video discs. Also, do not use other types of cleaners, etc., containing benzene, thinner or other solvents. Using such preparations may cause damage to the surface of discs.

## AS MUCH AS POSSIBLE, TRY NOT TO TOUCH THE SURFACE OF THE DISC

When holding discs, handle them as shown in the illustration, try as much as possible not to touch their playing surfaces.

If the surfaces of the discs are scratched, it may cause track skipping, if the scratches are severe.

**Holding with both hands ...** 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.

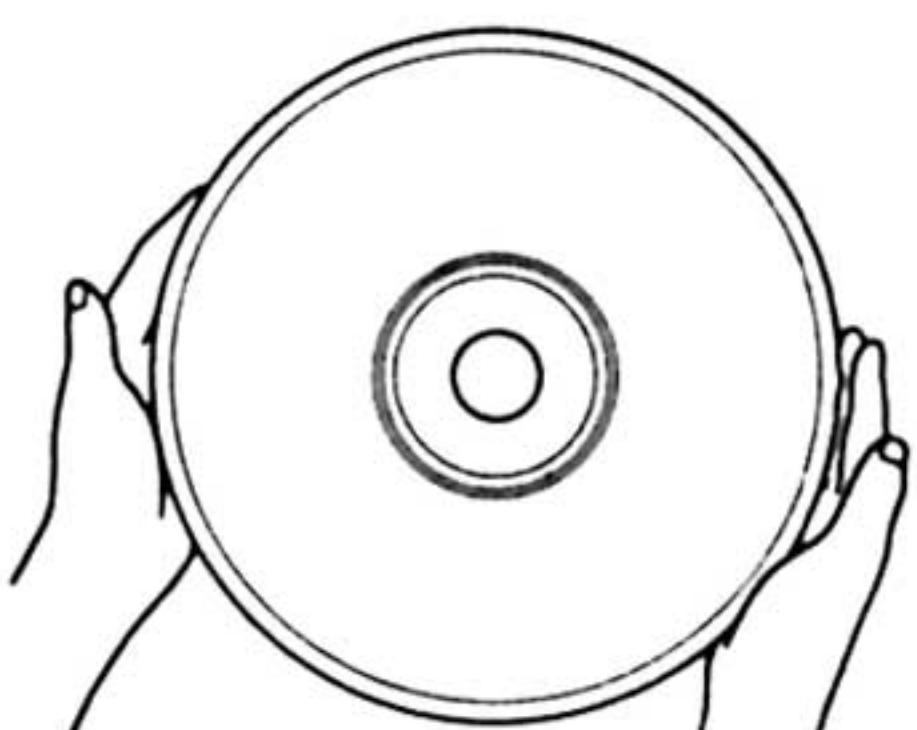


Fig. A



Fig. B

## DO NOT USE DAMAGED DISCS

Discs rotate inside the player at high speed. Do not use damaged (warped, cracked, etc.) discs. The player may be damaged as a result.

## KEEP YOUR VIDEO DISC PLAYER AWAY FROM HEAT

Do not place the player on top of the amplifier or any other unit that emits heat since heat may adversely affect the player and possibly warp a loaded disc.

If the player is used with other audio equipment in the same rack, place it on the lowest shelf away from heat and keep the area well-ventilated.



## STORE DISCS VERTICALLY, AND AVOID LOCATIONS WITH HIGH TEMPERATURE OR HUMIDITY

If the disc becomes warped, the image may be disturbed, or the quality of the image may be degraded. After playing a disc, always remove it from the player and return it to its jacket, then store it vertically in a location not subject to high temperatures or humidity. If stored at an incline, or stacked on top of each other, discs may become warped. If the disc becomes warped, put the disc into the protective envelope, and place it on a flat desk top. Subsequently, place a flat board on the disc, and load it with weights of about 4 ~ 5 kg (about 10 lbs). If it is left in this state for one day, sometimes the warp will be alleviated.

