MDP-V90K
RMT-M47A

E Model
Chinese Model

Photo : GOLD

* "DOLBY", "AC-3", and the double-D symbol ⧄ are trademarks of Dolby Laboratories Licensing Corporation.

Model Name Using Similar Mechanism	MDP-V1
Optical Pick-up Type	KHS-150A

SPECIFICATIONS

System

Type
VIDEO CD/CD/LD player

Signal readout
Optical (Laser beam reflection)

Signal format system
EIA standard, NTSC color system
CCIR standard, PAL color system (for VIDEO CDs only)

Playing time
See "Optical discs" on page **46**.

Digital audio specifications
Signal-to-noise ratio
More than 115 dB (EIAJ)*

Dynamic range
More than 99 dB (EIAJ)

Wow and flutter
Below measurement limit
(± 0.001 % W.PEAK) (EIAJ)

Video specification
Horizontal video resolution
425 lines (LD)

Signal-to-noise ratio
More than 50 dB

* Measured according to EIAJ (Electric Industries Association of Japan) standards.

Input and Output

LINE OUT 1, 2
VIDEO output, Phono jack (1)
Output signal: 1 Vp-p, 75 ohms, unbalanced
AUDIO output, Phono jacks (2)
Stereo L, R
Analog: 200 mVrms
(1 kHz, 40 % modulation)
Digital: 200 mVrms
(1 kHz, –20 dB)

S VIDEO OUT 1, 2
Luminance: 1 Vp-p, 75 ohms, unbalanced, sync negative
Chrominance: 0.286 Vp-p, 75 ohms, unbalanced

OPTICAL DIGITAL OUT
–18 dBm, wavelength 660 nm

Dolby AC-3 RF OUT
Phono jack (1)
Output level: 400 m Vp-p
Output impedance: 75 ohms

HeadPHONES output
12 mW (8 ohms)

LINE IN
VIDEO input, Phono jack (1)
Input signal: 1 Vp-p, 75 ohms, unbalanced, sync negative
AUDIO input, Phono jacks (2)
Stereo L, R
Max. input level: 200 mVrms (–20 dB)
Input impedance:
more than 47 kilohoms

MIC 1/2 jacks
Standard jacks
1 mV
(Impedance below 1 kilohm)

General

Power requirements
110–240 V AC, 50/60 Hz

Power consumption
49 W

Operating temperature
5°C to 35°C

Ambient humidity
5% to 90 %

Dimensions
Approx. 430 × 127.5 × 413.5 mm (w/h/d)
including projecting parts and controls

Mass
Approx. 6.9 kg

Supplied accessories
Remote Commander RMT-M47A (1)
R6 (size AA) batteries (2)
Audio/Video Cable
(phono plug 3 ⟷ phono plug 3) (1)
AC plug adaptor (supplied with models other than Hong Kong and China models) (1)
Cushions (4)

Design and specifications are subject to change without notice.

VIDEO CD/CD/LD PLAYER

MICROFILM

SONY®

Optical discs

The MDP-V90K can play optical discs currently available for home entertainment, laser discs (LD) and compact discs (CD and VIDEO CD). The table below shows the discs available for this player.*

Disc class	Disc logo	Disc type	Size	Sides	Play time	
Laser Discs For movies, animation, operas, concerts, and karaoke	*LASER DISC* *Laser Vision*	LD Single (NTSC)	8 in. (20 cm)	Single	CAV	14 min
					CLV	20 min
		8-inch LD (NTSC)	8 in. (20 cm)	Double	CAV	28 min
					CLV	40 min
		12-inch LD (NTSC)	12 in. (30 cm)	Double	CAV	1 hr
					CLV	2 hr
Compact Discs For music, movies, animation, karaoke, and photographs	COMPACT disc DIGITAL AUDIO	CD Single	3 in. (8 cm)	Single	20 min (audio only)	
		CD	5 in. (12 cm)	Single	74 min (audio only)	
	COMPACT disc DIGITAL VIDEO	VIDEO CD (NTSC and PAL)	3 in. (8 cm)	Single	20 min	
			5 in. (12 cm)	Single	74 min	

* The MDP-V90K cannot play discs other than those shown above.

Multi audio discs

digital AUDIO MULTI AUDIO

Discs with these logos contain separate analog and digital tracks which may differ in content.

VIDEO CD standards to which the player conforms

This player conforms to Ver. 1.0, Ver. 1.1, and Ver. 2.0 of the VIDEO CD specifications. If you use a Ver. 2.0 CD, Play Back Control (PBC) functions and high-resolution still pictures (the new part of Ver. 2.0 of the VIDEO CD specifications) are available as well as normal playback of moving pictures and sound.

Discs conforming to the Dolby Digital system

With this type of disc, the player outputs only the left channel signals as monaural sound, muting the sound of the right channel when analog audio is selected. Thus, you cannot alternate the right and left channels of analog audio with the Audio Monitor function.

MODEL IDENTIFICATION
— BACK PANEL —
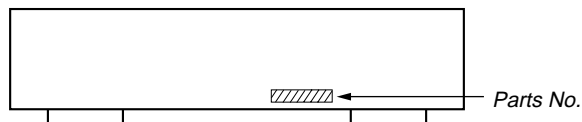
Parts No.

Parts No.	Model
3-971-070-4☐	E, Hong Kong model
3-971-070-5☐	Chinese model

Operating voltage and AC plug

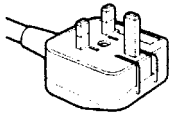This unit does not have a voltage selector. You can operate the unit between 110 and 240 V AC, 50/60Hz.

Models other than Hong Kong and China models

If the AC plug of your unit does not fit into the wall outlet, attach the supplied AC plug adaptor.
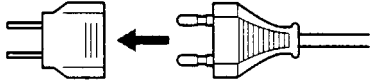
Model for Hong Kong

The model for Hong Kong has an AC plug as shown below. The AC plug adaptor is not supplied with these units.

Model for China

The model for China has an AC plug as shown below. The AC plug adaptor is not supplied with these units.

If you have any questions or problems concerning your unit, please contact your nearest Sony dealer.

Thank you for purchasing the Sony Laser Disc Player.
Before operating the unit, please read this manual thoroughly and retain it for future reference.

The MDP-V90K, an easy-to-operate laser disc player, allows you to:
• Play many types of optical discs (LDs, CDs and VIDEO CDs)
• Play a double sided LD without turning it over
• Play VIDEO CDs which conform to Ver. 2.0 of VIDEO CD standards, using its Play Back Control (PBC) functions which allow you to:
  – Perform interactive playback using menu screens
  – View high-resolution still pictures
• Locate the desired scene on a VIDEO CD by observing several scenes at one time — Digest Play
• Reduce distortion of the picture on a VIDEO CD — DNR: Digital Noise Reduction
• The COLOR SYSTEM selector allows you to play VIDEO CDs regardless of the TV system (PAL, NTSC or Multi Monitor system)
• Continue an LD/VIDEO CD from the point at which you stopped— Auto Resume
• Use enjoyable functions such as Program, Shuffle, Auto Program or Repeat play
• Play karaoke (sing along with a disc)
  The player enters karaoke mode when a microphone is connected. Features include:
  – 9 song reservation from two discs for non-stop karaoke entertainment—Reserve
  – Digital key controller to adjust backup key to your voice*
  – Digital echo to create the ideal mood
  – Singing along with the original vocals—Vocal Select*
  – Automatic applause—Auto Effect*
  – Getting help when you forget words or melody—Vocal Support
  – Adding richness to your voice—Karaoke Star
  – Playing karaoke with non-karaoke discs—Karaoke Pon*
  – Playing karaoke with video tapes—LINE IN input *
  – Pausing after a song is played—Auto Pause *
  * These functions are also available in non-karaoke mode.

Conforming to Ver. 2.0 of VIDEO CD standards

This player conforms to Ver. 1.0, Ver. 1.1, and Ver. 2.0 of the VIDEO CD standards. If you use a Ver. 2.0 VIDEO CD, Play Back Control (PBC) functions (the new part of Ver. 2.0 of the VIDEO CD standards) enable you to play the disc interactively following menus on the screen. You can also enjoy high-resolution still pictures, as well as normal playback of moving pictures and sound.

Compatible color systems

This player plays LDs recorded in the NTSC color system, and VIDEO CDs in both the NTSC and PAL color systems.

Notes on chip component replacement
• Never reuse a disconnected chip component.
• Notice that the minus side of a tantalum capacitor may be damaged by heat.
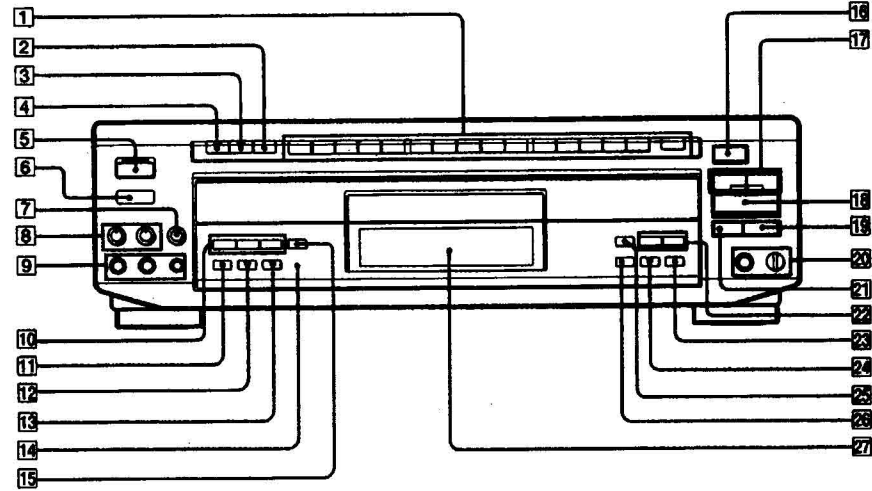
See the pages indicated in ( ) for details.

# Index to parts and controls

Front

[1] Number buttons (15) (18) (37)
[2] CLEAR button (19) (27) (29) (30) (36) (38)
[3] NEXT DISC RESERVE button and indicator (36)
[4] RESERVE button and indicator (35) (37)
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   During STANDBY : Lights up red
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[9] MIC 1, 2 and CONTROL (MIC 1/2) jacks (13)
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[21] II (Pause) button (11)
[22] I◀◀/▶▶I ACS/AMS (PREV/NEXT) buttons (11) (15) (20)
[23] RETURN button (15)
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[25] VIDEO CD DNR indicator-button (34)
[26] VIDEO CD DIGEST button (22)
[27] Display (12)

Remote commander (RMT-M47A)
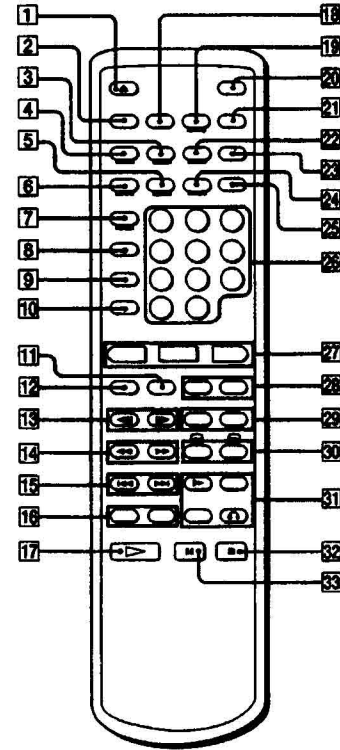
[1] ≜ OPEN/CLOSE button (10) (11) (13)
[2] ANALOG/◻■ button (33)
[3] 1/SIDE/ALL button (26) (28) (29)
[4] REPEAT button (26)
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[6] PROGRAM/RESERVE button (30) (35) (36)
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[8] AUTO PAUSE button (14)
[9] VIDEO CD DNR button (34)
[10] KARAOKE STAR button (39)
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[13] ◀II/II▶ STILL/STEP buttons (11) (24)
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[16] DISC SIDE A/B buttons (11) (30) (35)
[17] ▷ SELECT/PLAY button (10) (11)
[18] AUDIO MONITOR button (33)
[19] FRAME/TIME/SCENE button (19)
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[21] DISPLAY button (16) (17) (29)
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[25] CLEAR button (19) (27) (29) (30) (36) (38)
[26] Number buttons (15) (18) (37)
[27] KEY CONTROL buttons (39)
   b DOWN button
   ♩ NATURAL button
   # UP button
[28] VOCAL/SELECT buttons (38)
[29] EFFECT MODE/EXECUTE buttons (40)
[30] ◀━/━▶ V. INDEX buttons (21)
[31] VIDEO CD buttons (15) (20) (22)
   I▶ SLOW button
   DIGEST button
   PBC ON/OFF button
   ☊ RETURN button
[32] ■ STOP button (11) (12)
[33] II PAUSE button (11)

⊖ A function activated by pressing a button with an orange mark can be canceled by pressing the CLEAR button.

Basic Operations

Playing a disc

OPEN/CLOSE
POWER

SELECT/PLAY

🔆
• You can also turn on the player by pressing ▲ OPEN/CLOSE on the player.

Notes
• If you place more than one disc on the tray, or if the disc is not seated properly, the disc may not start playing, and may cause damage the disc or player.
• Do not transport the player while playing a disc as doing so may damage your disc or player. Before transporting the player, perform the following instructions.
  1. Remove the disc.
  2. Press ▲ OPEN/CLOSE. The player closes the disc tray.
  3. After "NO dISC" is displayed on the front panel display, turn the power off.
  4. Unplug the AC power cord.
• Do not use a CD stabilizer when playing a CD or VIDEO CD as doing so may damage your disc or player.

This section shows you how to play an LD, CD or VIDEO CD.

Before you start...
Connect the player to your TV and set the input selector on the TV to "Video" (see "Connecting the player" on page 6).

Loading and playing a disc

1 Press POWER to turn on the player.
You can also directly turn on the player by pressing ▷ SELECT/PLAY on the remote commander or player.

2 Press ▲ OPEN/CLOSE to open the disc tray.
The front cover of the player automatically slides down and the disc tray comes out.

3 Place a disc on the disc tray.

LD (Side A)

Place only one disc on the tray, carefully fitting it in the circle on the tray.

CD, VIDEO CD, or LD Single (Label faces up)

4 Press ▷ SELECT/PLAY.
The disc tray closes and the disc starts playing. You can also start playing by pressing the disc tray to close it.

When you play a double-sided LD
The upper side of the LD (side A) starts playing. When the upper side ends, the other side (side B) starts playing automatically.

To play a VIDEO CD with Play Back Control (PBC) functions (Ver. 2.0 VIDEO CD)
Ver. 2.0 VIDEO CDs have Play Back Control (PBC) functions, which allow you to play them interactively. To play a VIDEO CD using PBC functions, see "Playing a VIDEO CD using PBC functions" on page 15 for details.

🔆
• When playing a double-sided LD, the player determines that the upper side of the disc is side "A" and the other side is "B," regardless of the label "A" or "B" printed on the disc.
• When playing side A of an LD, "SIDE A" appears on the front panel display. When playing side B of an LD, "SIDE B" appears on the front panel display.
• When playback of LD side B ends, the player stops.
• When playing a CD or VIDEO CD, the DISC SIDE B button does not function.

Notes
• When you press ▮▮ PAUSE, the picture goes blank when playing a CLV LD, and the picture freezes when playing a CAV LD or VIDEO CD (see "Viewing frame-by-frame action" on page 24).
• Do not press POWER on the player during playback as doing so may damage your disc or player. Be sure to press ▮ STOP before pressing POWER on the player.

To	Press
Stop play	▮ STOP
Pause play	▮▮ PAUSE
Resume play after pause	▮▮ PAUSE or ▷ SELECT/PLAY
Scan forward or backward	◀◀/▶▶ SCAN
Skip chapters or tracks	�◀◀/▶▶▮ PREV/NEXT (ACS/AMS)
Play step by step	◀▮/▮▶ STILL/STEP (CAV LDs only)
Go to a chapter/track	Number button During PBC VIDEO CD playback, press number buttons to select items in the on-screen menu (see page 15 for details).
Remove the disc	▲ OPEN/CLOSE

To start playing from the beginning of either LD side
Press DISC SIDE A to play the upper side of the LD from the beginning.
Press DISC SIDE B to play the other side of the LD from the beginning.

To pause playing just before starting
Press ▮▮ PAUSE instead of pressing ▷ SELECT/PLAY after you place the disc on the tray.
The disc tray closes and the player waits at the start of the disc until you press ▷ SELECT/PLAY or ▮▮ PAUSE. If you want to start from side B of an LD, press ▮▮ PAUSE, then DISC SIDE B.

To stop playing and turn off the player
Press ▮ STOP, and then press POWER.
You can resume playback of an LD from the point you stopped at by simply pressing ▷ SELECT/PLAY (see "Resuming LD/VIDEO CD playback" on page 25).

To stop playing and remove the disc
Press ▲ OPEN/CLOSE.
Remove the disc and press ▲ OPEN/CLOSE again to close the empty tray.

To listen with headphones
Plug headphones into the PHONES jack on the front panel and adjust the volume with the LEVEL control beside the jack.

DISPLAY

1-3

☝
- The AV calendar shows the chapters/tracks remaining on the disc. As chapters/tracks are played, the corresponding numbers on the calendar disappear.
- While playing a Ver. 2.0 VIDEO CD using PBC functions, the AV calendar shows the numbers you can use to select items from the menu.
- When there is no disc in the player, "NO dISC" appears on the front panel display.

Notes
- The AV calendar is available for LDs containing TOC (Table of Contents) data, CDs, or VIDEO CDs.
- When you play a VCR or a similar equipment using LINE IN, the current key level always appears on the front panel instead of a chapter/track number (see "Playing karaoke using auxiliary equipment" on page 43).

Reading the front panel display

The illustration below is an example of what is displayed on the front panel of the player.

When playing an LD

Playing disc type

Playing disc side

AV calendar on side A (">" indicates that the disc contains more than 20 chapters)

Output sound

Selected function

Time (hr/min/sec) or frame number

Chapter number   AV calendar on side B

When playing a VIDEO CD or CD

Playing disc type

AV calendar (">" indicates that the disc contains more than 20 tracks)

Output sound

Selected function

Time (hr/min/sec)

Track number   Index number (CD) or Video index number (VIDEO CD)

Viewing the on-screen display

Press DISPLAY. The on-screen display appears (see "About on-screen indications" on page 16).

Playing disc side

Current chapter number   Time   Playing mode

Playing Karaoke

POWER

MIC ½ and CONTROL   ⏏ OPEN/CLOSE

MIC LEVEL ½

☝
- You can connect microphones to both the MIC 1 and 2 jacks. The microphone level of each jack can be adjusted independently with the MIC 1 and MIC 2 LEVEL controls.
- You can use infrared cordless microphones by connecting the infrared receiver to the MIC jacks (see "Using the infrared cordless microphone system (not supplied)" on page 42).
- To control the player from the karaoke microphone, plug the control plug into the CONTROL jack (see "Using the optional karaoke microphone" on page 42).
- You can enjoy karaoke using auxiliary equipment such as a VCR (see "Playing karaoke using auxiliary equipment" on page 43).

Notes
- If you insert more than one disc, or if the disc is not seated properly, the disc may not start playing, and may damage the disc or player.
- When playing a double-sided LD, the player determines that the upper side of the disc is side "A" and the other side is "B," regardless of the label "A" or "B" printed on the disc.

This section gives you short instructions for playing "karaoke" (singing along with a disc).

1 Set the MIC LEVEL 1 and 2 controls on the player to MIN.

MIC 1 LEVEL   MIC 2 LEVEL

2 Plug a microphone into the MIC 1 or 2 jack on the player.
When using the karaoke microphone F-KM1 (not supplied), plug the CONTROL plug into the CONTROL (MIC 1/2) jack.

Karaoke microphone F-KM1 (not supplied)

MIC plug   Control plug

3 Press POWER to turn on the player.

4 Turn on the TV and stereo system.
TV:
Set to "Video."
Stereo system:
Turn on the amplifier or receiver and select CD or AUX (the jacks to which you connected the player) for audio output.

5 Press ⏏ OPEN/CLOSE.
The disc tray comes out.

6 Place a disc on the disc tray.

LD (Side A)

CD, VIDEO CD, or LD Single (Label faces up)

Place only one disc on the tray, carefully fitting it in the circle on the tray.

Playing Karaoke (continued)

MIC LEVEL ½

ECHO LEVEL   Number buttons

AUTO PAUSE

ℹ️
• If you press ■ STOP or ≜ OPEN/CLOSE while playing a song in karaoke mode (with microphones connected), the sound automatically fades out before playback stops (Auto Fade Out).
• If howling occurs
  – Move the microphone away from the speakers.
  – Lower the microphone volume or echo level.
  – Lower the overall volume.
• If the sound is distorted or the picture flickers when listening through your TV speakers, set the ATT switch at the rear of the player to ON to lower the output level.

Notes
• If you want to use the menu of a Ver. 2.0 karaoke VIDEO CD, make sure that the PBC ON/OFF button indicator on the player is lit and press ▷ SELECT/PLAY to display the menu before entering the song number. If the PBC ON/OFF button indicator is not lit, press ■ STOP to stop playing the disc, then press the PBC ON/OFF button to turn it on (see "Playing a VIDEO CD using PBC functions" on page 15 for details).
• To stop playing a song on a Ver. 2.0 karaoke VIDEO CD and return to the menu, press the RETURN button instead of ■ STOP.
• If you reserve several songs (see "Selecting karaoke song order" on page 35), the player plays them continuously, then pauses.
• You can also use the Auto Pause function in non-karaoke mode (without microphones connected). Each time you press the AUTO PAUSE button, the Auto Pause function is turned on/off.
• Auto Pause does not function during PBC playback on a Ver. 2.0 VIDEO CD (if the PBC ON/OFF button indicator on the player is lit). However, if the disc is a karaoke VIDEO CD with a menu for song selection, playback automatically pauses and returns to the menu each time a song is played.

7 Press one of the number buttons to enter the song number.

The song starts playing. To select a song on side B of an LD, press DISC SIDE B, then press the number button. To enter a song number greater than 15, see page 18.

8 Set the ON/OFF switch on the microphone to ON and turn the MIC LEVEL 1 or 2 control to adjust microphone volume.

MIC 1 LEVEL   MIC 2 LEVEL
MIN MAX   MIN MAX

9 Turn the ECHO LEVEL control to adjust the echo level.

The same echo level is applied to both MIC 1 and MIC 2.
Now you can enjoy playing karaoke.
When the song finishes, the player pauses until you enter the next song number.

ECHO LEVEL
MIN MAX

Pausing automatically in karaoke mode

When you connect a microphone, the player automatically switches to karaoke mode. In karaoke mode, the player pauses every time a song is played (Auto Pause).

To play songs on the disc continuously in karaoke mode
Press AUTO PAUSE.
"A. PAUSE OFF" appears on the screen briefly and the AUTO PAUSE button indicator on the player goes off.
Each time you press AUTO PAUSE, the on-screen indication changes as follows and the AUTO PAUSE button indicator on the player turns off or on.

⌐→ A. PAUSE OFF ──→ A. PAUSE ⌐
└──────────────────────────────┘
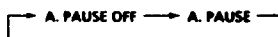
AUTO PAUSE button indicator	Songs are played
On	Pausing at end of each song
Off	Continuously

Playing a VIDEO CD using PBC functions (PBC Playback)
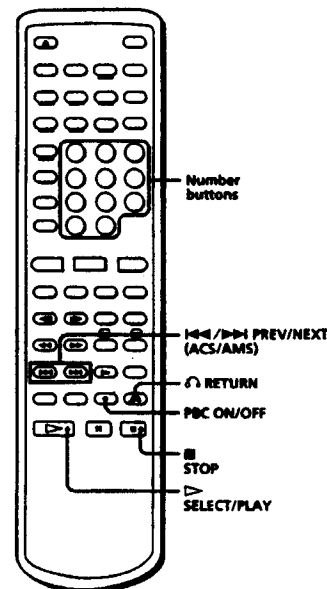
Number buttons

I◄◄ /►►I PREV/NEXT (ACS/AMS)

⌐ RETURN

PBC ON/OFF

■ STOP

▷ SELECT/PLAY

ℹ️
• To select a song over 10, Press >10, then press two number buttons, first the tens digit, then the ones digit (see page 18). To use the number buttons on the player, see page 18.
• You can view high-resolution still pictures on some Ver. 2.0 VIDEO CDs.

Note
• If no menus appear on the screen:
  – check that the disc is a Ver. 2.0 VIDEO CD ("PBC" is lit on the front panel display when a Ver. 2.0 VIDEO CD is in the player.)
  – turn on the PBC ON/OFF button indicator
  – press ▷ SELECT/PLAY to display a menu

VIDEO CDs conforming to Ver. 2.0 of the VIDEO CD standards have Play Back Control (PBC) functions, which enable you to play the VIDEO CD interactively, following menus on the screen. Operation methods may differ depending on the disc. For details, refer to the instructions supplied with the disc. Use the number buttons, ▷ SELECT/PLAY, I◄◄ /►►I PREV/NEXT (ACS/AMS), and ⌐ RETURN during PBC playback.

1 Place a Ver. 2.0 VIDEO CD (with PBC functions) on the disc tray, then press ▷ SELECT/PLAY to close the disc tray.
"PBC" lights up when a Ver. 2.0 VIDEO CD is in the player.

Lights up.

2 Check to see that the PBC ON/OFF button indicator on the player lights up.
A menu appears on the screen and the player waits for you to select a number on the menu. On some discs, moving pictures may play for a while before the menu appears.

PBC ON/OFF button and indicator

3 Enter a number to select the item in the menu.

4 Play the VIDEO CD interactively, following the menus.
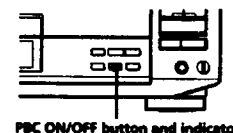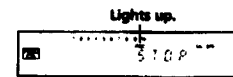
Playing a Ver. 2.0 VIDEO CD interactively

To	Press
Select an item in the menu	Number button
Jump to another scene	▷ SELECT/PLAY or a number button when "SELECT" flashes on a moving picture
Go back to the menu	⌐ RETURN Operation methods may differ depending on the disc. For details, refer to the instructions supplied with the disc.
Scroll the menu	I◄◄ /►►I PREV/NEXT (ACS/AMS)

If "⛔ NOT VALID NOW" appears on the screen
You have pressed an unoperable button. Use the operable buttons, following the menu.

Canceling PBC playback
Press ■ STOP to stop playing the VIDEO CD, then press PBC on the remote commander, or PBC ON/OFF on the player to turn off the PBC ON/OFF button indicator. Now you can play the VIDEO CD continuously but menus for interactive playback are not displayed.

To turn on PBC playback again
The PBC ON/OFF button indicator must be lit to use PBC functions. If it is not lit, press ■ STOP to stop playing the disc, then press the PBC ON/OFF button to turn it on. Press ▷ SELECT/PLAY to display a menu.

Additional Operations
About on-screen indications
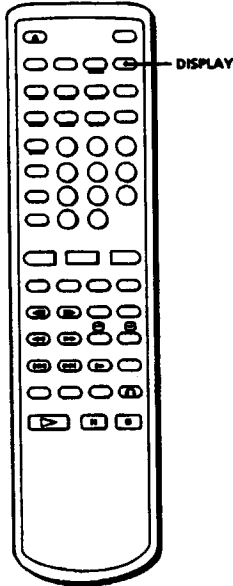
DISPLAY

Notes
- The AV calendar for LDs (display of remaining chapter numbers) is only available for LDs with TOC data.
- When playing an LD without TOC data, total playing time of the disc does not appear.
- When playing an LD without chapters, the chapter number does not appear.
- When playing a CLV LD without time data to the second, a two-digit number such as "22:", meaning 22 minutes, appears.
- Messages concerning sound control functions such as "1/L, 2/R" or "♪ DIGITAL, ♪ ANALOG" appear only briefly when you press the AUDIO MONITOR or ANALOG/□ button.

You can view the operating status of the player or disc information on the screen.

Displaying on-screen indications

Press DISPLAY.
The operating status of the player is displayed on the screen.

- Message 1 (see table below)
- Current frame number or elapsed time
- Index number
- Current chapter, track, or scene number
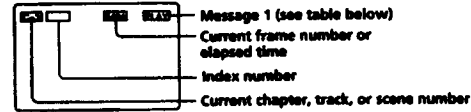
Press DISPLAY again.
Operating status and disc information are displayed on the screen.

- Message 2 (see table below)
- Number of chapters/tracks and total playing time (only for LDs with TOC, CDs, and VIDEO CDs)
- AV calendar (chapters/tracks remaining to be played) (only for LDs with TOC, CDs, and VIDEO CDs)
- Selected functions
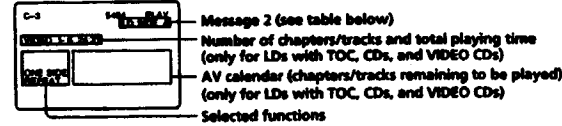
Press DISPLAY once again to turn off the indications.

Message 1

Display	Current status of the player
OPEN	Disc tray open
CLOSE	Disc tray closed
PLAY	Playing a disc
STOP	Operation stopped
PAUSE	Operation momentarily stopped
◄◄/►►	Speed scanning
SEARCH	Searching

Message 2

Display	Currently playing
LD SIDE A	Side A of LD
LD SIDE B	Side B of LD
CD	CD
VIDEO CD	VIDEO CD
1/L	First soundtrack/left channel
2/R	Second soundtrack/right channel
♪ DIGITAL	Digital sound
♪ ANALOG	Analog sound
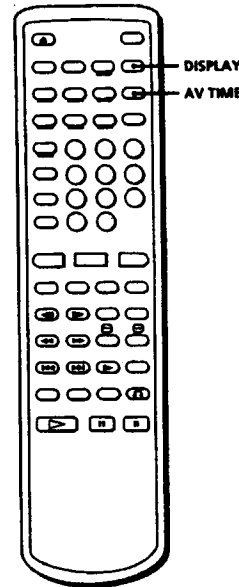
DISPLAY
AV TIME

Notes
- When playing an LD without TOC data, you can only view the total elapsed time (for a CLV disc) or current frame number (for a CAV disc).
- When playing a Ver. 2.0 VIDEO CD using PBC functions:
  - the scene number (such as "S-5") is displayed instead of the track number
  - you can only view the elapsed time for the current scene
- The display does not show remaining time for chapters or tracks that are 51 or more chapters or tracks away from the beginning of the disc.

Checking the elapsed or remaining time of the disc

You can check the elapsed or remaining time on the screen.
Press DISPLAY, then press AV TIME repeatedly.
Each time you press AV TIME, the on-screen display changes as follows:

LDs with TOC
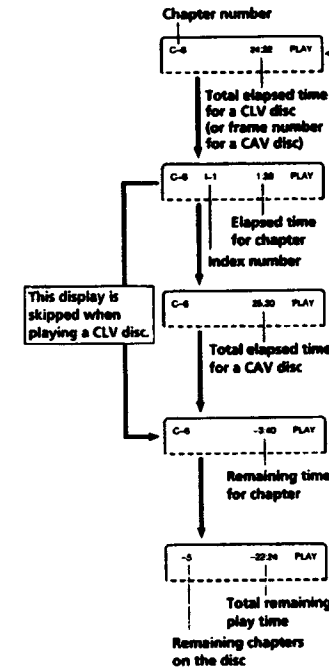
CDs/VIDEO CDs
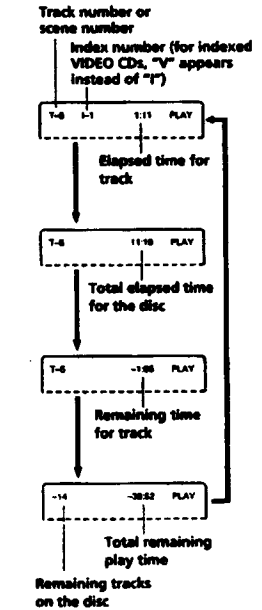
Selecting a chapter or track directly (Chapter/Track Search)

ϔ
* In addition to normal play mode, you can do Chapter/Track Search while in Freeze Frame (CAV LDs or VIDEO CDs), Repeat, or Pause mode. When the selected chapter or track is located after the search, playback continues in the same mode.
* When you do Chapter/Track search while a song is automatically paused in karaoke mode, the selected chapter or track starts playing immediately, without entering pause mode.
* You can enter 0 to select chapter 0 on LDs.
  To enter 0, press >10 (or >15 on the player), then press 10/0 (or 10 on the player).

Notes
* Chapter Search does not function properly if the LD does not contain chapter numbers, or if the chapter number entered does not exist.
* You cannot use Track Search when you play a Ver. 2.0 VIDEO CD using PBC functions. Entering a number selects an item in the menu.
* If you do Track Search on a Ver. 2.0 VIDEO CD using the PBC functions before the AV calendar appears on the front panel display, the PBC function is turned off.

LDs are divided into sections called "chapters." CDs and VIDEO CDs are divided into sections called "tracks." Simply enter the desired chapter/track number to start playing it immediately.

Locating a particular chapter/track

Press one of the number buttons to enter the chapter/track number.
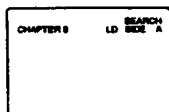
To play a chapter on the opposite side of the LD, press DISC SIDE B (or A), then enter the chapter number.

To enter a number greater than 10
Press ⊕ on the remote, then press two number buttons in sequence, first the tens digit, then the ones digit. If you press ⊕ by mistake, press ⊕ again, then enter the correct one digit number.

To	Press
Enter 10	⓪
Enter 14	⊕, then ①, then ④
Enter 20	⊕, then ②, then ⓪
Enter 25	⊕, then ②, then ⑤

To enter a number greater than 15 using the number buttons on the player
Press >15 first, then the corresponding number buttons. To enter "0", use 10.
   Example: To enter 30
            Press >15 first, then 3 and 10.

To check the current chapter/track number on the screen
Press DISPLAY to display the chapter/track number.
The number appears in the upper left-hand corner of the screen. If the LD does not contain chapter numbers, no number is displayed.

Searching by frame, time, or scene number (Frame/Time/Scene Search)

ϔ
* In addition to normal play mode, you can do Frame/Time/Scene Search while in Freeze Frame, Repeat, or Pause mode. When the specified frame, time, or scene is located after the search, playback continues in the same mode.
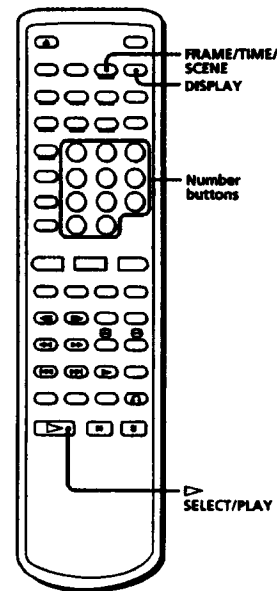
Video scenes are counted as a series of still pictures or "frames." When playing a CAV (standard-play) LD, the player keeps track of the number of frames, allowing you to locate a scene on the CAV disc by specifying the frame number.

When playing a CLV (extended-play) LD, the player keeps track of the elapsed playing time, allowing you to locate a particular point on the CLV LD by specifying the total elapsed time.

On Ver. 2.0 VIDEO CDs (with PBC functions), "scene numbers" are assigned to some points on moving pictures and to each still picture, allowing you to locate a scene you want to view on the VIDEO CD by specifying the scene number. This is only available during PBC playback (when the PBC ON/OFF button indicator on the player is lit). You can check the scene number by pressing the DISPLAY button during PBC playback (see "Checking the elapsed or remaining time of the disc" on page 17).

Entering the frame number, elapsed time, or scene number

1 Press FRAME/TIME/SCENE while playing the disc.

When playing	Indication
CAV LD	FRAME 00000
CLV LD	TIME 0:00:00
Ver. 2.0 VIDEO CD (with PBC functions)	SCENE 00000
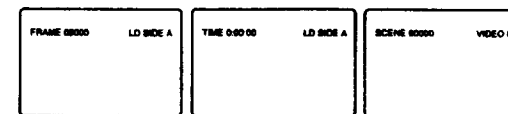
2 Enter the multi-digit number corresponding to the frame, time or scene you want to locate.
   To locate frame number 12340 on the CAV LD, press ①, ②, ③, ④ and ⓪.
   To locate the 12 minutes, 5 second point on the CLV LD, press ①, ②, ⓪ and ⑤.
   To locate scene 123 on the VIDEO CD, press ①, ② and ③.

   If you enter the wrong number, press FRAME/TIME/SCENE to clear the number, then enter the correct number.

3 Press ▷ SELECT/PLAY.
   Playback starts from the frame, time, or scene you entered.

To check the frame number or time
Press DISPLAY.
The current frame number, time, or scene number is displayed.

To cancel Frame/Time Search
Press CLEAR before pressing ▷ SELECT/PLAY.

Searching for a particular point on a disc
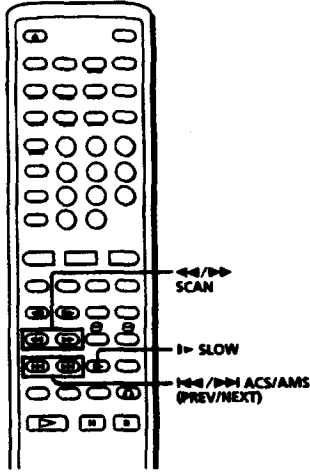
ACS/AMS is the abbreviation for Automatic Chapter Sensor/ Automatic Music Sensor.

- In addition to normal play mode, you can also do Speed Scan and Skip Search while in Freeze Frame (CAV LDs or VIDEO CDs), Repeat, or Pause mode. After the scan or search, playback continues in the same mode.
- If you hold down ◄◄/►► SCAN after pressing II PAUSE while playing a VIDEO CD, the scanning speed increases. (When playing a Ver. 2.0 VIDEO CD using PBC functions, you can do this operation only while the picture is moving and the playing time is displayed.) The picture where you pressed II PAUSE freezes and remains on the screen. Navigate by using the time display. Release ◄◄/►► SCAN to display the picture at the indicated time. The new picture freezes. Press ▷ SELECT/PLAY to resume playback.

Notes
- When scanning a CLV LD or VIDEO CD, frames are skipped.
- A certain amount of visual noise and instability is inevitable when scanning an LD.

You can locate a particular point on a disc by scanning scenes, skipping chapters/tracks, playing back slowly or using the video index.

Scanning a disc quickly (Speed Scan)

Hold down ◄◄/►► SCAN while playing the disc.

To	Hold down
Scan forward	►► SCAN
Scan backward	◄◄ SCAN

To resume normal playback, release ◄◄/►► SCAN.

Skipping chapters or tracks (Skip Search)

Press or hold down I◄◄ /►►I ACS/AMS (PREV/NEXT).

To go to the beginning of	Press
Next chapter/track	►►I ACS/AMS (NEXT) once
Current chapter/track	I◄◄ ACS/AMS (PREV) once
Previous chapter/track	I◄◄ ACS/AMS (PREV) twice before the picture or sound resumes

Hold down ►►I or I◄◄ to skip chapters/tracks continuously.

Skip Search on Ver.2.0 VIDEO CDs
If the PBC function is turned on, Skip Search may not be operated properly on some VIDEO CDs. The PBC function should be set to off (the PBC ON/OFF button indicator on the player is turned off) when operating Skip Search.

Locating a point slowly by observing the screen (Slow-motion Play)

You can use this function only for VIDEO CDs.
Press I► SLOW while playing a VIDEO CD. You will not hear the sound during the operation. When you find the point, press ▷ SELECT/PLAY to return to the normal speed.
Each time you press the I► SLOW button during Slow-motion Play, the playback speed changes. Three speeds are available. With each press, the on-screen indication changes as follows:

┌─ SLOW 1 ──► SLOW 2 ──► SLOW 3 ─┐
└─────────────────────────────────┘
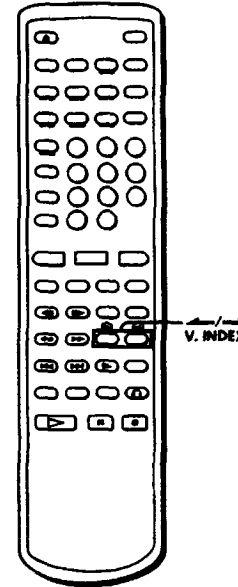
What is an index?
It is the division of a track or disc into numbered sections. It allows you to easily locate a desired point on the disc. To determine whether or not a disc has an index, look at the disc's packaging.

Locating a point using the video index (Video Index Search)

This function is available only on indexed VIDEO CDs. You can locate any point on the disc using the video index.

While playing a track, press ◄— V.INDEX or —► V.INDEX repeatedly.
- To locate the current or preceding video index numbers, press ◄— V.INDEX.
- To locate the next or subsequent video index numbers, press —► V.INDEX.

Front panel display

Video index number
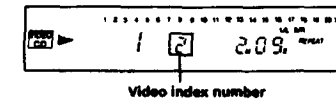
Screen

Video index number

Video Index Search on Ver. 2.0 VIDEO CDs
To operate Index Search on a VIDEO CD, the PBC ON/OFF button indicator on the player should not be lit. Press ■ STOP to stop playback, then press PBC ON/OFF to turn off the PBC ON/OFF button indicator.

Locating by observing several scenes at one time (Digest Play)
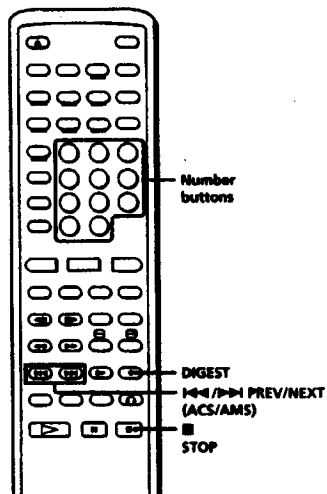
Number buttons

DIGEST
◄◄/►►◄ PREV/NEXT
(ACS/AMS)
■ STOP

Notes
• You cannot do Digest Play while using PBC functions on a Ver. 2.0 VIDEO CD. To do Digest Play on a Ver. 2.0 VIDEO CD, press ■ STOP to stop playing, then press the PBC ON/OFF button to turn off the PBC ON/OFF button indicator on the player.
• If you start Disc Digest before you start playing in Shuffle or Program Play mode, the player automatically enters normal play mode.

You can locate the track or scene you want by observing several still pictures at one time on the screen. Two kinds of Digest Plays are available: Disc Digest (for discs which contain two or more tracks) and Track Digest (for discs which contain one track only). When you press DIGEST, the player automatically enters Disc Digest mode or Track Digest mode according to the number of the track.
This function is available only on VIDEO CDs.
In Digest Play mode, you will not hear the sound.

Locating the track you want on a disc (Disc Digest)

You can locate the track you want by observing the first picture of up to 9 tracks on the disc at one time on the screen.

1 Press DIGEST in stop mode.
The screen shows still pictures of the first scenes of tracks 1 to 9 on the disc.

To view still pictures of the tracks numbered over 9, press ►►◄ NEXT. The screen shows still pictures of tracks 10 to 18.
If there are more tracks, "►►■" is displayed on the upper right side of the screen.
To go back to the previous screen, press ◄◄ PREV.

2 Press the number button to select the track.
The player starts playing from the selected track.

To select a track over 10, press >10, then press two number buttons, first the tens digit, then the ones digit (see page 18).

Canceling Disc Digest Play

Press ■ STOP.

Number buttons (1 - 9)
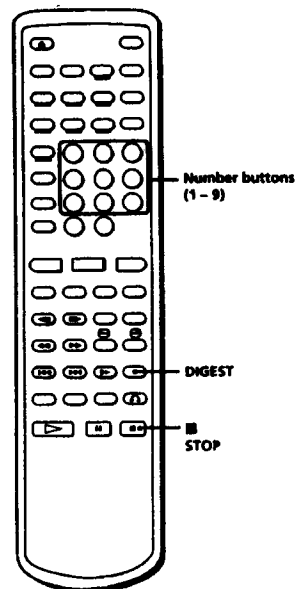
DIGEST
■ STOP

Note
• If you start Track Digest before you start playing in Shuffle or Program Play mode, the player automatically enters normal play mode.

Locating the point you want in a track (Track Digest)

You can have the player divide a track into 9 sections. You can locate the point you want by viewing the first picture of each section at one time on the screen.

1 Press DIGEST in stop mode.
The player divides the track into 9 sections and the screen shows still pictures of each section in order.

2 Press the number button (1 - 9) to select the point you want.
The player starts playing from the selected point.
The player may start playing from a point which is a little different from the one displayed during Track Digest.

Canceling Track Digest Play

Press ■ STOP.

Viewing frame-by-frame action

During any scene, you can freeze play into a still picture, and then advance or reverse the action frame-by-frame.

Freezing the action (Freeze Frame)

You can use this function for CAV LDs and VIDEO CDs.
Press **II** PAUSE while playing a CAV LD or VIDEO CD.
The sound mutes and the picture freezes.

To resume normal playback
Press ▷ SELECT/PLAY.

Playing frame-by-frame (Step Play)

You can use this function only for CAV LDs.

1 Press ◄II/II► STILL/STEP while playing a CAV LD.
The sound mutes and the picture freezes.

2 Press ◄II/II► repeatedly to advance or reverse the action frame-by-frame.
Hold down ◄II/II► to view continuous frame-by-frame action.

To resume normal playback
Press ▷ SELECT/PLAY.

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• When you play a CLV LD, Freeze Frame and Step Play are not available. When you press **II** PAUSE, the screen goes blank. If you press ◄II/II► STILL/STEP, "CLV SIDE A" or "CLV SIDE B" appears briefly.

◄II/II►
STILL/STEP

▷
SELECT/PLAY

II
PAUSE

Resuming LD/VIDEO CD playback (Auto Resume)

POWER

DISC SIDE A/B

■
STOP

II
PAUSE

▷
SELECT/PLAY

ϔ
• Each time you stop playing, the point at which you stopped last is memorized.
• The point at which you stopped playing is cleared when:
 – you press ▲ OPEN/CLOSE, DISC SIDE A/B or I◄◄ /►►I PREV/NEXT (ACS/AMS)
 – you do a Chapter Search
 – you do a Frame/Time Search
 – you turn off the power by pressing POWER on the player
 – you unplug the AC power cord of the player
 If an LD is in the player and you press ▲ OPEN/CLOSE to close the disc tray while it is opening, the point at which you stopped is retained.

Notes
• Do not turn off the power by pressing POWER on the player during playback. If you do so, the player cannot memorize the point for Auto Resume. Furthermore, it may damage your disc and player.
• If you press ▷ SELECT/PLAY when the power is off, the player turns on automatically. If a disc is loaded, playback resumes where you last stopped.
• For VIDEO CDs, the player memorizes the point at which you stopped regardless of the PBC ON/OFF setting.
• If you connect a microphone (switching the player to karaoke mode), Auto Resume is canceled. Although Auto Resume is not canceled if you switch the player's input mode to LINE IN, it is canceled if you connect a microphone.

This function operates automatically only for LDs or VIDEO CDs in non-karaoke mode (without microphones connected). Once you press **■** STOP (or POWER on the remote) to stop playing an LD or VIDEO CD, the player memorizes the point you stopped at so that you can continue viewing from the same point.

1 Press ■ STOP (or POWER on the remote) to stop playing an LD or VIDEO CD.
"A. RESUME" appears on the screen and the point you stopped at is stored.

2 Press ▷ SELECT/PLAY.
The player searches for the scene at which you stopped playing, then playback starts.

To pause playing just before starting
If the player is turned on, press **II** PAUSE instead of ▷ SELECT/PLAY.
If the player is turned off, press POWER or ▷ SELECT/PLAY to turn on the player, then press **II** PAUSE.

To view from the beginning of the disc
For LDs, press DISC SIDE A to start playing from the beginning of side A. Press DISC SIDE B to start playing from the beginning of side B.
For VIDEO CDs, press DISC SIDE A to start playing from the beginning of the disc.
The point at which you stopped is cleared.

Playing a section repeatedly (Repeat Play)

Notes
- You cannot use Repeat and Reserve at the same time.
- You cannot use Repeat while using PBC functions on a Ver. 2.0 VIDEO CD. To use Repeat on a Ver. 2.0 VIDEO CD, press ■ STOP to stop playing, then press the PBC ON/OFF button to turn off the PBC ON/OFF button indicator on the player.
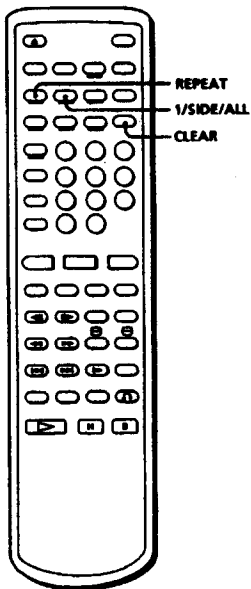
Repeat play allows you to play the disc over and over. You can replay both sides, a single side, or one chapter of an LD; a whole disc or a single track on a CD or VIDEO CD; or a selected portion of the disc.

Repeating the whole disc (All Disc Repeat)

Press REPEAT.
"REPEAT" appears on the screen briefly. "REPEAT" lights up on the front panel display. When playing an LD, the player plays through both sides of the LD repeatedly. When playing a CD or VIDEO CD, the player plays all the tracks on the disc repeatedly.
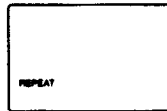
Repeating the selected chapter/track (Single Repeat)

Press 1/SIDE/ALL once, then press REPEAT.
"SINGLE" and "REPEAT" appear on the screen briefly. "REPEAT 1" lights up on the front panel display. The player plays the selected chapter/track repeatedly.
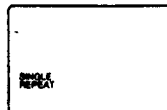
Repeating the current side of the LD (One Side Repeat)

Press 1/SIDE/ALL twice, then press REPEAT.
"ONE SIDE" and "REPEAT" appear on the screen briefly. "REPEAT 1 SIDE" lights up on the front panel display. The player plays the selected disc side repeatedly.

To check the repeat status
Press DISPLAY twice.

Canceling Repeat Play

Press CLEAR.

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- You can scan the disc between points A and B by holding down ◀◀/▶▶ SCAN.

Note
- You can do Repeat A◀→B only on the current side of an LD. You cannot do it on both sides of the LD.
- You cannot do Repeat A◀→B while using PBC functions on a Ver. 2.0 VIDEO CD.
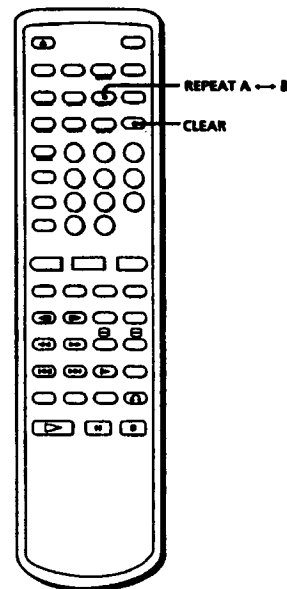
Replaying a selected portion on the disc (Repeat A◀→B)

1 **Press REPEAT A◀→B at the beginning of the scene or phrase you want to repeat.**
This tells the player where to start. "REPEAT" and "A-" appear, and "B" flashes on the front panel display.

2 **Let the player run to the end of the scene or phrase.**

3 **Press REPEAT A◀→B again.**
This tells the player where to end. "REPEAT" and "A-B" appear on the front panel display. The player repeatedly plays the scenes or phrases between the two points you specified
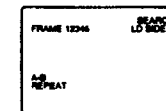
To repeat a different portion
Repeat steps 1 to 3 to reenter new start and end points.

To cancel Repeat A ◀→ B
Press CLEAR.

Playing songs in random order (Shuffle Play)

You can play the songs on a disc in random order, each song once (Shuffle Play). If you select the songs you want to play in advance, the player plays only selected songs in random order (Delete Shuffle). The player needs the TOC data of the disc to do Shuffle Play and Delete Shuffle Play, so these functions are available only on LDs containing TOC data, CDs, and VIDEO CDs.

Shuffle playing on one side of a disc (One Side Shuffle)

1 **Place a disc on the disc tray, then press ▲ OPEN/CLOSE to close the tray.**
When you use a CD or VIDEO CD, the AV calendar appears on the front panel display, showing that TOC data was read.
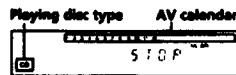
2 **(This step is for an LD. Skip this step when playing a CD or VIDEO CD.)**
Press ▷ SELECT/PLAY and wait for the AV calendar to appear on the front panel display, then press ■ STOP to stop playing.
The player reads the TOC data of the LD.
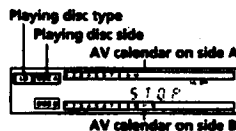
3 **Press SHUFFLE.**
"SHUFFLE" flashes on the front panel display.
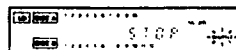
4 **Press ▷ SELECT/PLAY.**
Songs start playing. All songs on the disc are played once in random order. To play side A of a double-sided LD, press DISC SIDE A, then press ▷ SELECT/PLAY. To do Shuffle Play on side B, perform steps 3 and 4 in playback mode or pause mode while on side B.

Shuffle playing on both sides of a double-sided LD (Both Sides Shuffle)

1 **Follow steps 1 to 3 above to enter SHUFFLE mode.**
Make sure that both AV calendars for side A and side B appear, and "SHUFFLE" flashes on the front panel display.

2 **Press CLEAR to turn off "SIDE" on the front panel display.**

3 **Press ▷ SELECT/PLAY.**
The songs on side A are played in random order, then the songs on side B are played in random order.
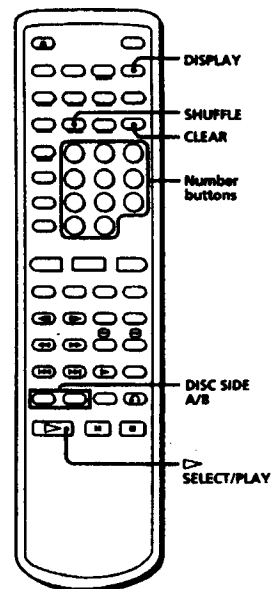
ᵗ
• You can delete songs numbered up to 99. To delete a song over 10, press >10, then press two number buttons in sequence, first tens digit, then the ones digit (see page 18). To use the number buttons on the player, see page 18.
• You can repeat Shuffle and Delete Shuffle Play. Press REPEAT on the remote commander. Each time repeat finishes, the order of the songs is reshuffled.

Playing your favorite songs in random order (One Side Delete Shuffle)

To select your favorite songs in random order, delete the songs you do not want to play from the disc. If you use an LD, make sure the AV calendars appear on the front panel display.

1 **Press SHUFFLE to enter SHUFFLE mode.**
"SHUFFLE" flashes on the front panel display.

2 **Press DISPLAY twice to use the on-screen display.**

3 **Press the number buttons to delete songs you do not want to play.**
The deleted song numbers are displayed on the screen.
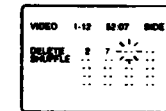
If you enter a wrong number, press CLEAR. With each press, the last song you entered is restored (the number on the screen disappears).

4 **Press ▷ SELECT/PLAY.**
The remaining songs on the disc are played once in random order. To play the remaining songs on side A of a double-sided LD, press DISC SIDE A, then press ▷ SELECT/PLAY. To play with the Delete Shuffle function on side B, perform steps from 1 to 4 in playback mode or pause mode while on side B.

Delete shuffle playing on both sides of an LD (Both Sides Delete Shuffle)

Play side B and wait for the AV calendar to appear on the front panel display, then perform the following steps.

1 **Follow steps 1 to 3 above to delete songs.**
To delete songs on side B of a double-sided LD, press DISC SIDE B, then press the number buttons. The songs deleted from side B appear in squares.

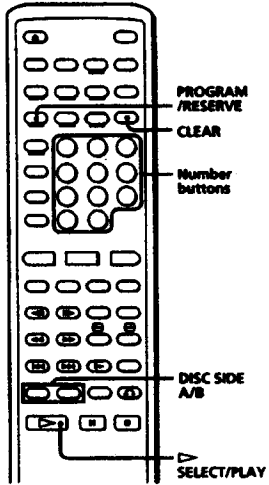**2** **Press CLEAR on the remote commander to turn off "SIDE" on the front panel display.**

3 **Press ▷ SELECT/PLAY.**
The remaining songs on side A are played in random order, then the remaining songs on side B are played in random order.

Canceling Shuffle Play or Delete Shuffle Play

Press CLEAR. "SHUFFLE" on the front panel display goes off. The player exits Shuffle mode.
All the deleted songs are restored.

## Playing songs in any order you like (Program Play)

SELECT/PLAY

PROGRAM /RESERVE
CLEAR
Number buttons
DISC SIDE A/B

ֲ
• You can select songs numbered up to 99. To select a song over 10, Press >10, then press two number buttons, first the tens digit, then the ones digit (see page 18). To use the number buttons on the player, see page 18.
• You can skip to the previous or next song in the program by pressing the |◀◀ /▶▶| PREV/NEXT (ACS/AMS) button.
• Even when the playback of the whole program is complete, the program is not cleared. The program is cleared when:
  – you press CLEAR (except while "PGM" on the front panel display is flashing) to exit Program mode.
  – you open the disc tray or turn off the player.
• To repeat playing the program automatically, press REPEAT on the remote commander.

Notes
• You cannot use Program while using PBC functions on a Ver. 2.0 VIDEO CD. To use Program on a Ver. 2.0 VIDEO CD, press ■ STOP to stop playing, then press the PBC ON/OFF button to turn off the PBC ON/OFF button indicator on the player.
• To check the total playing time of the program on an LD:
  – Use an LD with TOC data
  – Press ▷ SELECT/PLAY (and press SIDE B) make the player read the LD's TOC data, before you press PROGRAM/RESERVE.
• If you select songs numbered over 50, or if the total playing time exceeds 100 minutes, the time display changes to "--:--."

You can select up to 25 songs to be played in any order you like, regardless of disc side, even while a song is being played. The songs are played continuously in the order you specify. This is available in non-karaoke mode (without microphones connected). In karaoke mode, use Reserve instead of this function (see "Selecting karaoke song order" on page 35).

Selecting songs to make a program

1 Press PROGRAM/RESERVE.
"PROGRAM" appears. "PGM" flashes on the front panel display.
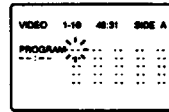
2 Press the number buttons to select songs in the order you want them to play.
When you play a double-sided LD, select the disc side by pressing DISC SIDE A (or B), then press the number buttons to select songs in the order you want them to play. The songs selected from side B appear in squares.
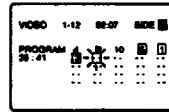
If you enter a wrong number, press CLEAR. With each press, the last song you entered is deleted.

3 Repeat step 2 until you finish selecting songs.

4 Press ▷ SELECT/PLAY.
The selected songs are programmed and the on-screen display disappears. "PGM" lights up on the front panel display. The selected songs are played in order you selected them.

To make a program while checking the total playing time
You can check the total playing time of the program while selecting songs. The time is displayed both on the screen and front panel displays. Each time you select a song, its playing time is added.
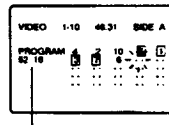
Total playing time of the program

If you enter ❚❚ PAUSE in the program
You can enter ❚❚ PAUSEs among songs you select, to make the player automatically pause during the program. If you enter a ❚❚ PAUSE, the total playing time is re-counted from --:-- (zero).

To check the contents of the program
Press DISPLAY twice.
The numbers of the selected songs appear. If playing a song, its number flashes.

Canceling Program Play
Press CLEAR.
"CLEAR" appears briefly and "PGM" on the front panel display goes off. The player exits Program mode and all the programmed songs are cleared.

Playing a disc within a specified period of time (Auto Program Play)

AUTO PGM
Number buttons
DISC SIDE A/B
❚❚ PAUSE
▷ SELECT/PLAY

ֲ
• To use the number buttons on the player, see page 18.
• You can skip to the previous or next song in the program by pressing the |◀◀ /▶▶| PREV/NEXT (ACS/AMS) button.
• If an LD contains 51 or more chapters on the playing side, Auto Program may not operate correctly.

Note
• You cannot use Program while using PBC functions on a Ver. 2.0 VIDEO CD. To use Program on a Ver. 2.0 VIDEO CD, press ■ STOP to stop playing and then press the PBC ON/OFF button to turn off the PBC ON/OFF button indicator on the player.

With Auto Program Play, the player divides the tracks on the disc into what it calls "Program A" and "Program B", playing both A and B for the amount of time entered. Since the player pauses between the two programs, this feature is useful for making tapes.
Decide how long you want the disc to play and then enter half that amount of time.
This function is available only on CDs, VIDEO CDs and LDs with TOC.

To ensure correct operation for LDs
When you play an LD with TOC, press ❚❚ PAUSE, and then press DISC SIDE A or DISC SIDE B to display the AV calendar before you press AUTO PGM. Make sure that you cannot make programs consisting of chapters from both sides of LD using Auto Program.
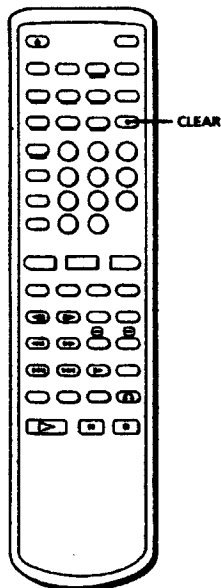
Programming the songs automatically

1 Press AUTO PGM.
"AUTO PGM" appears. "AUTO PGM" flashes on the front panel display.
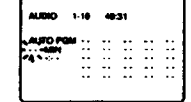
2 Enter the desired playing time with the number buttons.

To enter 11 minutes or more
Press ⑩ and then press two number buttons in sequence, first the tens digit, then the ones digit.
For example, to enter 30 minutes, press ⑩, ③ and then ⓪.

Even if you enter the wrong time, you can enter the correct time by pressing the number buttons.

The player selects the songs for both Program A and B, and the total playing time of two programs appear alternately.

Pause
Program A
Total playing time of Program A

Program B
Total playing time of Program B
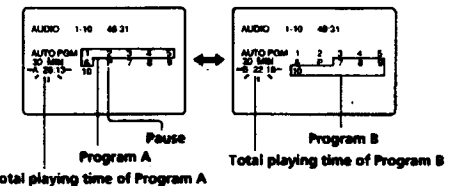
3 Press ▷ SELECT/PLAY.
The contents of Program A start playing and the player pauses at the end of Program A. To play Program B, press ▷ SELECT/PLAY again.

To check the contents of the program
Press DISPLAY twice.
The selected song numbers in program A and program B appear.

Playing a disc within a specified period of time (Auto Program Play) (continued)

CLEAR

Assignment of the time to Program A and B

If you enter a playing time shorter than half the disc playing time, some songs on the disc may not fit into the specified time and may not be programmed. On the other hand, if you enter a playing time longer than the disc playing time, all songs will be stored only in Program A. This is because Program A always has priority over B.
The table below shows how the player assigns the time in such cases.

Example for a 40-minute disc:

You enter	Program A plays	Program B plays	Total playing time
15 min	15 min (or less)	15 min (or less)	30 min (or less)
30 min	30 min (or less)	10 min (about)	40 min
45 min	40 min (all songs)	0 min	40 min

Canceling Auto Program Play

Press CLEAR.
"CLEAR" appears briefly and "AUTO PGM" on the front panel display goes off. The player exits Program mode and the program contents are cleared.

Using the sound control functions

AUDIO MONITOR
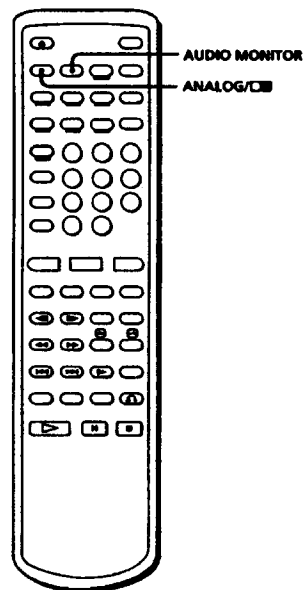
ANALOG/☐☐

Notes
- If you select the analog sound during playback of the disc which conforms to the Dolby Digital system, only the sound of the left channel is output from both speakers. With this type of disc, you cannot use AUDIO MONITOR to alternate the left and right channels of analog sound.
- The output level may differ between digital and analog sound.

Playing a stereo disc or Second Audio Program (SAP) disc

When playing SAP discs such as bilingual discs, you can alternate the sound output using AUDIO MONITOR.

To alternate the sound output
Press AUDIO MONITOR while playing the disc.
Each time you press AUDIO MONITOR, the on-screen indication changes as follows:

┌─ 1/L ──► 2/R ──► 1/L 2/R ─┐

Indication	From stereo disc	From SAP disc
1/L	Left channel	First sound track (Left channel)
2/R	Right channel	Second sound track (Right channel)
1/L 2/R	Stereo (Both channels)	First sound track (Left channel) Second sound track (Right channel)

When you select 1/L (or 2/R), the sound of the left (or right) channel is output from both speakers.

Listening to analog sound on an LD

If your LD contains digital sound tracks, the player automatically outputs digital sound. To listen to sound recorded on analog sound tracks, use ANALOG/☐☐.

Press ANALOG/☐☐ while playing the disc.
"♪ ANALOG" appears briefly on the screen and the analog sound is output.

To return to digital sound
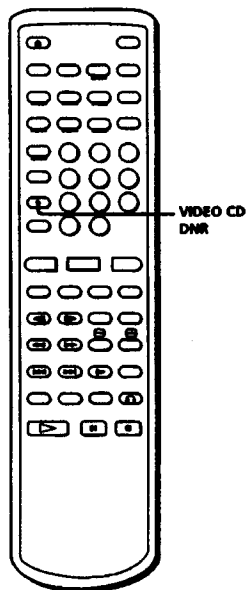Press ANALOG/☐☐ repeatedly until "♪ DIGITAL" appears on the screen.

Playing discs with the ☐☐ (CX) logo

LDs bearing the ☐☐ logo are recorded with the CX noise reduction system, which gives lower noise level and higher dynamic range on analog sound. The player detects most ☐☐ discs and activates the CX noise reduction system automatically when outputting analog sound. If your ☐☐ LD does not contain a code to activate the CX noise reduction system, you can activate the CX noise reduction system manually while playing only analog sound.

To activate the CX noise reduction system manually
Press ANALOG/☐☐ repeatedly until "CX ON" appears. The CX noise reduction system is activated.

Reducing Distortion of the Picture (DNR: Digital Noise Reduction)

VIDEO CD
DNR

Notes
- The effect of the DNR function may not be noticeable with the disc which contains low level noise.
- When you turn on the power of the player, the DNR function is automatically turned on.

This is available only for VIDEO CDs. You can make picture clearly by reducing distortion of the picture.

Each time you press VIDEO CD DNR, the on-screen indication changes as follows:

DNR → DNR ACTIVE → off

The DNR function reduces the blur noise which may appear around the still object, and block noise which may appear on the high-speed motion picture.
The DNR ACTIVE function has the ACTIVE function in addition to the DNR function above. The ACTIVE function gives you a clear-cut picture by emphasizing the outline of the pictures without increasing noise on the picture.

To turn off the DNR function
Press VIDEO CD DNR so that the DNR indicator-button on the player goes off.

Selecting karaoke song order (Reserve)

PROGRAM
/RESERVE

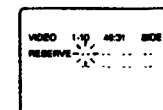CLEAR

Number
buttons

DISC SIDE
A/B

SELECT/PLAY
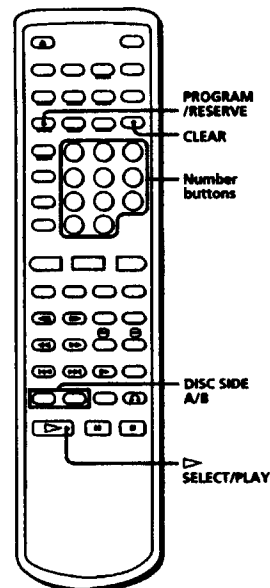
Note
- You cannot use Reserve while using PBC functions on a Ver. 2.0 VIDEO CD. To use Reserve on a Ver. 2.0 VIDEO CD, press ■ STOP to stop playing, then press the PBC ON/OFF button to turn off the PBC ON/OFF button indicator on the player.

This is available in karaoke mode. You can select up to 9 songs to be played in any order you like, regardless of disc side, even while a song is being played. The songs are played continuously in the order you selected so that you can enjoy non-stop karaoke playing. You can also select songs on another disc (Next Disc Reserve).

Selecting songs on the current disc

1 Press PROGRAM/RESERVE.
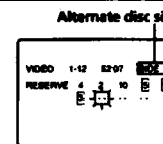"RESERVE" appears. The RESERVE button indicator on the player flashes.

2 Press the number buttons to select songs in the order you want them to play.
When you play a double-sided LD, select the disc side by pressing DISC SIDE A (or B), then press the number buttons to select songs.
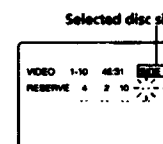
If you enter a wrong number, press CLEAR. With each press, the last song you entered is deleted.

3 To enter songs from the other side of the double-sided LD, press DISC SIDE B (or A), then press the number buttons to select the songs in the order you want them to play.
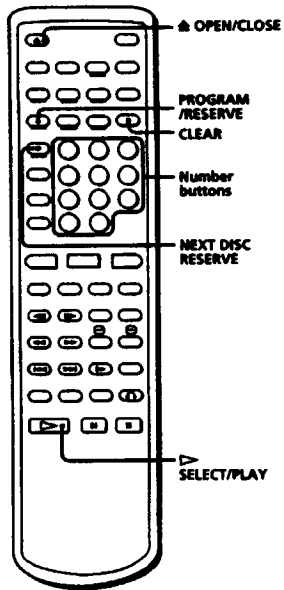
4 Repeat steps 2 and 3 until you finish selecting songs.

5 Press PROGRAM/RESERVE.
On-screen indications disappear. The RESERVE button indicator on the player lights up.

If you reserve songs while playing a song, the reserved songs start playing, without pausing, after the current song.

If you reserve songs while the player is stopped, press ▷ SELECT/PLAY. The reserved songs start playing.

Selecting karaoke song order (continued)

- ▲ OPEN/CLOSE
- PROGRAM /RESERVE
- CLEAR
- Number buttons
- NEXT DISC RESERVE
- ▷ SELECT/PLAY

ϋ
- You cannot use Next Disc Reserve in non-karaoke mode (without microphones connected). Instead, you can select up to 25 songs in non-karaoke mode (see "Playing songs in any order you like" on page 30).

Notes
- When you play songs using Reserve (and Next Disc Reserve), the songs are played continuously, and you cannot use Auto Pause. The player enters pause mode after playing all the reserved songs.
- You cannot use Reserve and Repeat at the same time.
- You cannot select tracks over 80 on a CD or VIDEO CD using Next Disc Reserve.

Selecting songs on another disc (Next Disc Reserve)

1 Press NEXT DISC RESERVE after steps 1 to 4 on the previous page.
" ● " appears on the screen, rotating. Now you can select songs on another disc. Follow steps 2 (and 3) on the previous page to select the songs.

 →
Songs on another disc
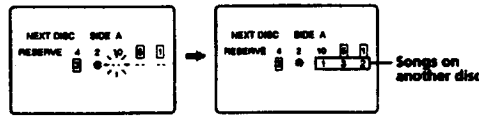
2 Press PROGRAM/RESERVE (then press ▷ SELECT/PLAY).
The songs on the current disc are played, then the player stops automatically and prompts you to change the disc.
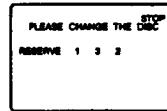
3 Press ▲ OPEN/CLOSE to open the disc tray, then change the disc.

4 Press ▷ SELECT/PLAY or push in the disc tray.
The selected songs on the new disc start playing automatically.

Canceling Reserve and Next Disc Reserve
Press CLEAR.
"CLEAR" appears briefly and the player exits Reserve mode. The RESERVE button indicator on the player goes off. All the reserved songs are cleared.
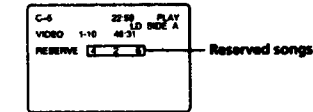
ϋ
- You can enter 0 to select chapter 0 on LDs. To enter 0, press >10 (or >15 on the player), then press 10/0 (or 10 on the player).

To enter a number greater than 10
Press ⑩ on the remote, then press two number buttons in sequence, first the tens digit, then the ones digit.
If you press ⑩ by mistake, press ⑩ again to flash "– –" on the screen, then enter the correct one digit number.

To	Press
Enter 10	⑩
Enter 14	⑩ , then ①, then ④
Enter 20	⑩ , then ②, then ⑩
Enter 25	⑩ , then ②, then ⑤

To enter a number greater than 15 using the number buttons on the player
Press >15 first, then the corresponding number buttons. To enter "0", use 10.
Example: To enter 30
Press >15 first, then 3 and 10.

To check the songs to be played
Press DISPLAY twice.
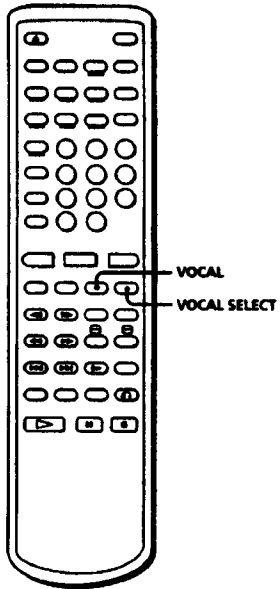The numbers of the reserved songs appear. When a song has been played, its number disappears.

Reserved songs

To skip the current song
Press ▶▶I.
The next reserved song starts playing.

Using karaoke functions

℣
- When you connect your VCR to the LINE IN input on the player and set the player to line in mode (see "Playing karaoke using auxiliary equipment" on page 41), you can also use Vocal Select for karaoke video tapes.

Note
- On some VIDEO CDs, original vocals are recorded on the left channel. If you play such a disc, the player outputs the vocals and backup sound. To listen to backup sound only, use the AUDIO MONITOR button to select "2/R" (see "Using the sound control functions" on page 32).

You can enjoy karaoke using various functions.

Singing along with the original vocals (Vocal Select)

You can listen to words or melody you forget by listening to the original vocals. This is available in karaoke mode for karaoke discs or tapes.

To listen to the original vocals on MULTI AUDIO LDs
On MULTI AUDIO karaoke LDs, vocals are recorded on an analog track. When playing MULTI AUDIO karaoke LDs, the player automatically outputs the backup sound recorded on digital tracks in stereo. To listen to the vocals, use Vocal Select. You can easily select the analog track on which the vocals are recorded.

1 Press VOCAL. The previous Vocal Select mode setting appears on the screen.
2 Press SELECT repeatedly until the vocals are heard.
With each press, the on-screen indication changes as follows:

┌─► VOCAL 1 ──► VOCAL 2 ──► VOCAL 3 ─┐
└────────────────────────────────────┘

Indication	Output sound recorded on
VOCAL 1	Right analog track
VOCAL 2	Left analog track
VOCAL 3	Right analog track (with stereo sound on digital tracks)

To listen to the original vocals on karaoke CDs, VIDEO CDs, or tapes
When playing karaoke CDs, VIDEO CDs in karaoke mode (with microphones connected), or when playing karaoke tapes using LINE IN, the player automatically outputs backup sound recorded on the left channel. To listen to the vocals, use Vocal Select to also output the original vocals recorded on another track.
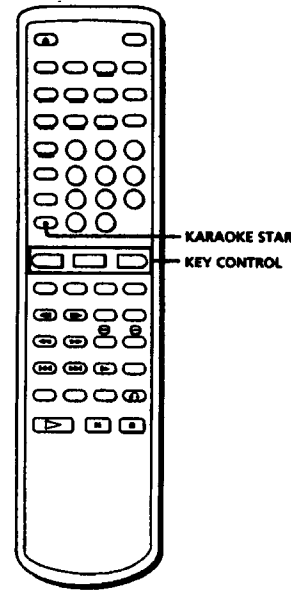
1 Press VOCAL. The previous Vocal Select mode setting appears on the screen.
2 Press SELECT repeatedly to select the sound.
With each press, the on-screen indication changes as follows:
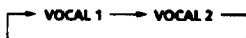
┌─► VOCAL 1 ──► VOCAL 2 ─┐
└─────────────────────────┘

Indication	Output
VOCAL 1	Vocals with backup sound from both speakers
VOCAL 2	Stereo (Backup sound from left speaker and vocals from right speaker)

To cancel Vocal Select
Press VOCAL again.
"VOCALSEL OFF" appears on the screen briefly.

℣
- In karaoke mode, the key returns to the original key when playback pauses automatically at the end of a song. If Auto Pause is canceled, the key does not change at the end of a song.
- You can also adjust the key from the karaoke microphone (see "Using the optional karaoke microphone" on page 42).
- You can also use Key Control in non-karaoke mode (without microphones connected).

Note
- When you use KARAOKE STAR, the ECHO LEVEL control should be set to the appropriate level. If the control is set to MIN, the karaoke star function has no effect.
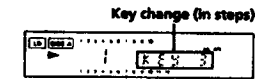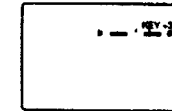
Changing the backup key (Key Control)

You can adjust the backup key to your voice.

Press ♯ UP or ♭ DOWN repeatedly to find the backup key that suits your voice.

To	Press
Raise the key	♯ UP
Lower the key	♭ DOWN
Return to the original key	♮ NATURAL

The key is adjustable to one of 17 steps (8 steps higher, 8 steps lower than the original key, and the original key). Your setting appears on the screen briefly. In karaoke mode (with microphones connected), or when you use LINE IN, the key change (in steps) is always displayed on the front panel display.

Adding richness to your voice (Karaoke Star)

If you feel that your voice lacks depth, use the karaoke star function.

Press KARAOKE STAR. The KARAOKE STAR indicator-button on the player lights green and "K. STAR 1" appears on the screen. Initially, the effect level is low.
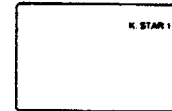

To increase the effect level, press KARAOKE STAR again. The KARAOKE STAR indicator-button on the player lights orange and "K. STAR 2" appears on the screen, and the effect level becomes high. With each press, the on-screen indication changes as follows:

┌─► K. STAR 1 ──► K. STAR 2 ──► K. STAR OFF ─┐
└───┘

To cancel Karaoke Star
Press KARAOKE STAR so that the KARAOKE STAR indicator-button goes off.

Using karaoke functions (continued)

EFFECT MODE
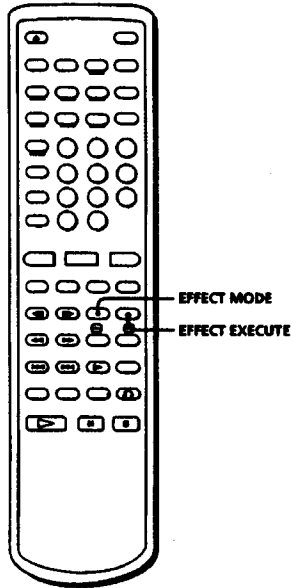
EFFECT EXECUTE

* Even in non-karaoke mode, you can use the applause function.

Note
* The EFFECT EXECUTE button does not function during applause. To use the EFFECT EXECUTE button, press it after applause finishes.
* When playing karaoke using LINE IN, you can only use the applause function manually.
* You cannot use Applause while using PBC functions on a Ver. 2.0 VIDEO CD. To use the applause function, press ■ STOP to stop playback, then press the PBC ON/OFF button to turn off the PBC ON/OFF button indicator on the player.

Applauding the singer

The player can liven up karaoke entertainment by applauding the singer.

To select automatic applause
The player applauds at the beginning and end of each song automatically (except during PBC playback on a Ver. 2.0 VIDEO CD). You can select two types of applause.
Press EFFECT MODE on the remote commander or AUTO EFFECT on the player to turn on the AUTO EFFECT button indicator. With each press, the on-screen indication changes as follows:

EFFECT 1 ── EFFECT 2 ── EFFECT OFF ──

| Indication	Select
EFFECT 1	Applause only
EFFECT 2	Applause and cheers
EFFECT OFF	Cancel (the indicator turns off)

To applaud manually
You can applaud the singer any time you like.
Press EFFECT EXECUTE on the remote commander.
Each time you press EFFECT EXECUTE, the player applauds.
When you applaud manually, the player applauds according to the Auto Effect Applause setting. When the Auto Effect Applause is set to EFFECT 1, the player does "Applause" only. When the Auto Effect Applause is set to EFFECT 2 or EFFECT OFF, the player does "Applause and cheers".

KARAOKE PON
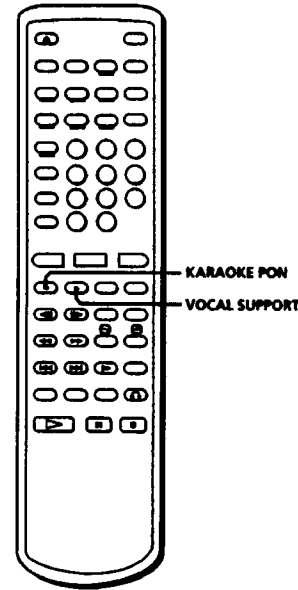
VOCAL SUPPORT

* Using the Vocal Support function, you can sing a duet by yourself. You can sing the male part (or female part) and the other part comes in when you stop singing.
* You can also use Karaoke Pon in non-karaoke mode (without microphones connected).

Notes
* You cannot use Vocal Support in non-karaoke mode (without microphones connected).
* Karaoke Pon is only available for discs recorded in stereo. With monaural discs, the backup level is also lowered.
* You cannot completely shut off the vocals by using Karaoke Pon. Even with stereo discs, if the voice deviates from the center, its level may not be lowered well.
* When using Karaoke Pon, stereo effect is reduced.

Letting the vocals help you (Vocal Support)

You can let the original vocals come in when you forget the words or melody. This is available for MULTI AUDIO discs, or multiplex discs or tapes.

Press VOCAL SUPPORT to turn on the VOCAL SUPPORT indicator on the player.
"SUPPORT" appears on the screen briefly.
While you are singing into the microphone, the player outputs the backup sound, but when you are not, it also outputs the singer's voice to help you.

To turn off Vocal Support
Press VOCAL SUPPORT again to turn off the VOCAL SUPPORT indicator on the player.
"SUPPORT OFF" appears on the screen briefly.

Enjoying karaoke with non-karaoke discs (Karaoke Pon)

With a disc recorded in stereo, you can enjoy karaoke even if it is a non-karaoke disc.

Press KARAOKE PON to turn on the KARAOKE PON function.
"KARAOKE PON" appears on the screen.
The volume of the singer's voice is lowered.

To turn off Karaoke Pon
Press KARAOKE PON again to turn off the KARAOKE PON function.
"K. PON OFF" appears on the screen briefly.

Using karaoke functions (continued)

## Using the optional karaoke microphone

You can control the player from the karaoke microphone (F-KM1, not supplied) by connecting the control plug to the CONTROL jack on the player.

To sing repeatedly
You can go back to any point of a song using the REPEAT button on the microphone. Hold down REPEAT and release it at the desired point. Playback continues again from the point at which the button is released.

To use Key Control
You can change the backup key by pressing KEY CONTROL #/♭ on the microphone. This is the same operation as KEY CONTROL on the player or remote commander (see "Changing the backup key" on page 37).

REPEAT
ON/OFF
KEY CONTROL #/♭

Control plug

To CONTROL (MIC 1/2) jack

To MIC 1 or MIC 2 jack

MIC plug
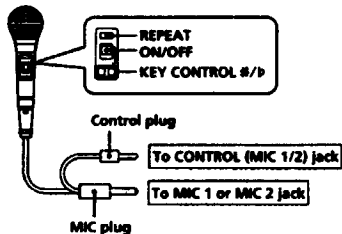
Using the infrared cordless microphone system (not supplied)

You can use infrared cordless microphones by connecting the infrared receiver to the MIC jacks on the player.

IFM-V1K
Connect the infrared receiver to the MIC 1/2 jacks.

to MIC jack

Plug adaptor
(supplied with IFM-V1K)

Cordless
microphone

Infrared receiver

Infrared cordless microphone system (IFM-V1K)
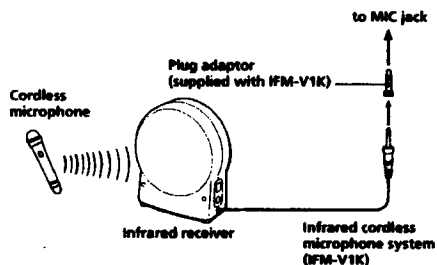
♥
• When you use LINE IN, the left channel is output automatically, even if microphones are not connected. To listen to the right channel, or to listen to both channels in stereo, use Vocal Select. Vocal Select operates as it would do for CDs (VOCAL 1 and VOCAL 2). See "Singing along with the original vocals" on page 38 for details.
• When you use LINE IN, you can only use the applause function manually.

Note
• When you play karaoke using auxiliary equipment such as a VCR using LINE IN:
  – Always turn on the LD player.
  – Stop playing the disc by pressing ■ STOP. When playing a disc, you cannot use LINE IN.

Playing karaoke using auxiliary equipment

You can also enjoy karaoke by connecting auxiliary equipment such as a VCR to the LINE IN AUDIO/VIDEO inputs on the player. The karaoke functions such as Vocal Select, Key Control, Applause, Karaoke Star, Vocal Support, and Karaoke Pon are available as they would be for discs.

1   Connect the VCR to the LINE IN AUDIO/VIDEO inputs on the rear.
2   Press LINE IN on the player.

If a disc is being played, press ■ STOP to stop playing it. Now you can enjoy playing karaoke with your video tape. To return to playing a disc, press ▷ SELECT/PLAY.

VIDEO
L
AUDIO
R
LINE IN
VCR

VMC-810 Audio/Video Cable (not supplied)