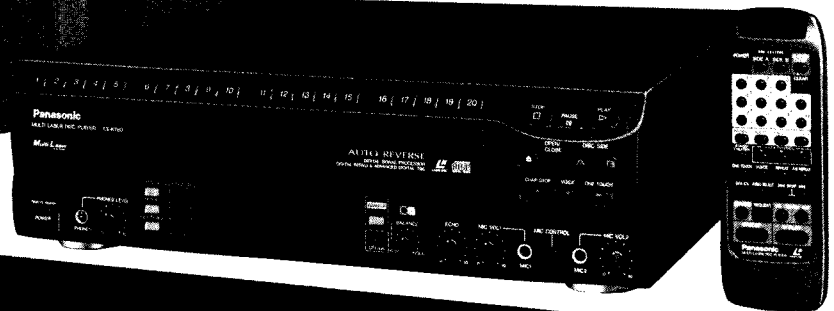


Panasonic

LD Auto Reverse
Multi Laser Disc Player

LX-K780 U CA

Operating Instructions



Multi Laser Disc Player

Before attempting to connect, operate or adjust this product,
please read these instructions completely.

VQT6050

Information for Your Safety

Note:

This unit can be used only where the power supply is AC 120 V, 50–60 Hz. It cannot be used elsewhere.

The model number and serial number of this product can be found on either the back or the bottom of the unit.

Please note them in the space provided below and retain this booklet as a permanent record of your purchase to aid identification in the event of theft.

MODEL NUMBER _____
SERIAL NUMBER _____

CAUTION:

THIS PRODUCT UTILIZES A LASER. USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE. DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.



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



This symbol warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.



This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included. Therefore, it should be read carefully in order to avoid any problems.

CAUTION: MULTI LASER DISC PLAYERS USE AN INVISIBLE LASER BEAM WHICH COULD CAUSE HAZARDOUS RADIATION EXPOSURE IF DIRECTED. BE SURE TO OPERATE THE PLAYER CORRECTLY AS INSTRUCTED.

WARNING:

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD AND ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.

FOR YOUR SAFETY

- **DO NOT REMOVE OUTER COVER.**
To prevent electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

FCC NOTE: (U.S. Only)

This device complies with Part 15 of the FCC Rules. To assure continued compliance follow the attached installation instructions and do not make any unauthorized modifications.

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

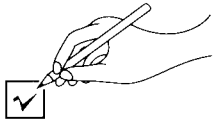
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION: (Canada Only)

TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

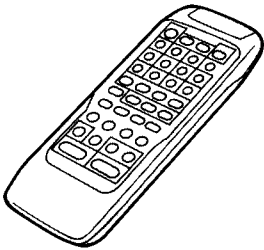
Contents

Accessories

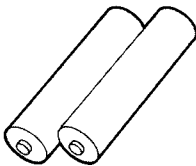


Before setting up the unit, make sure that you have the following accessories.

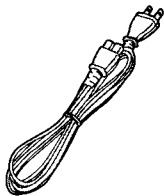
Infrared Remote Control



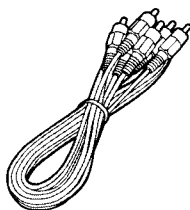
2 ANSI "AAA" Batteries for the Remote Control



AC Power Cord



Video/Audio Cord



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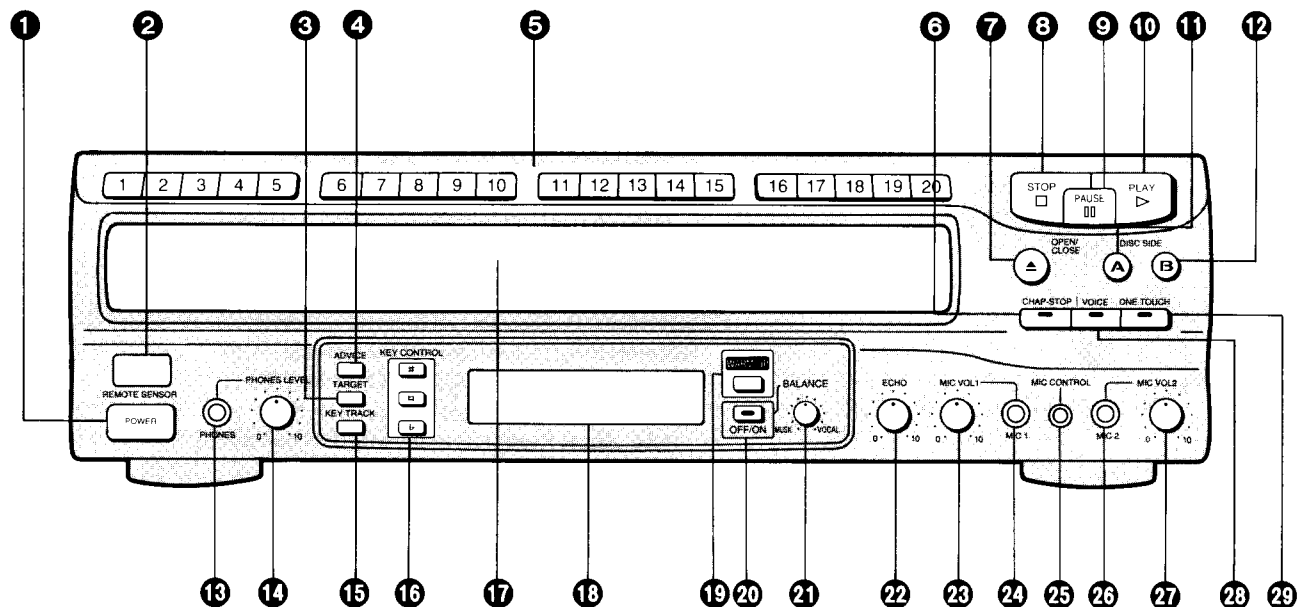
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Controls and indicators

Front Panel



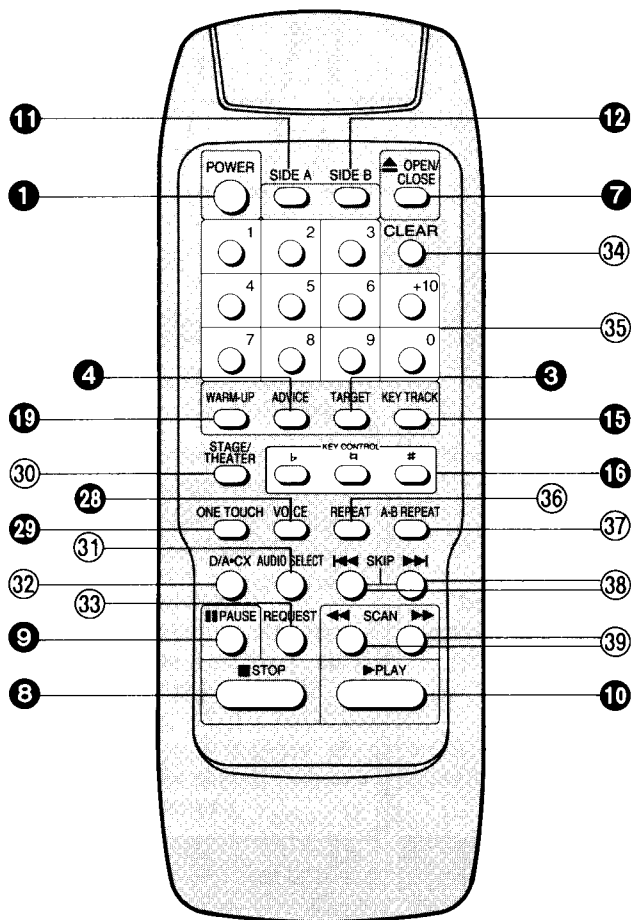
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26 MIC 2 Connector	14
27 MIC VOL 2 Control	14
28 VOICE*	15
29 ONE TOUCH*	22

*The indicator lights up or blinks when this button is pressed on.

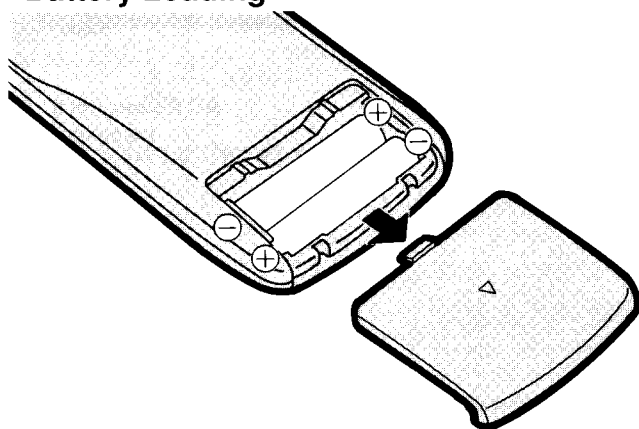
Remote Control

The buttons marked with a black circle by "●" have the same function as the buttons on the front panel of the unit.



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8 STOP	11
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11 SIDE A	11
12 SIDE B	11
15 KEY TRACK	21
16 KEY CONTROL (b) (c) (#)	16
19 WARM-UP	18
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29 ONE TOUCH	22
30 STAGE/THEATER	15
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37 A-B REPEAT	25
38 SKIP (Forward/Reverse)	12•16
39 SCAN (Forward/Reverse)	12

Battery Loading



Load batteries with their polarities (+ and -) aligned correctly.

■ Notes

- Do not use rechargeable batteries (i.e. NiCad batteries).
- Do not mix new and old batteries, nor different brands of batteries.
- Do not try to recharge or short-circuit the batteries.
- Do not break batteries open, heat them or incinerate them.
- Remove batteries when the Remote Control is not in use for long periods of time.
- Should the battery leak, clean and wipe the Battery Case and load in new batteries.

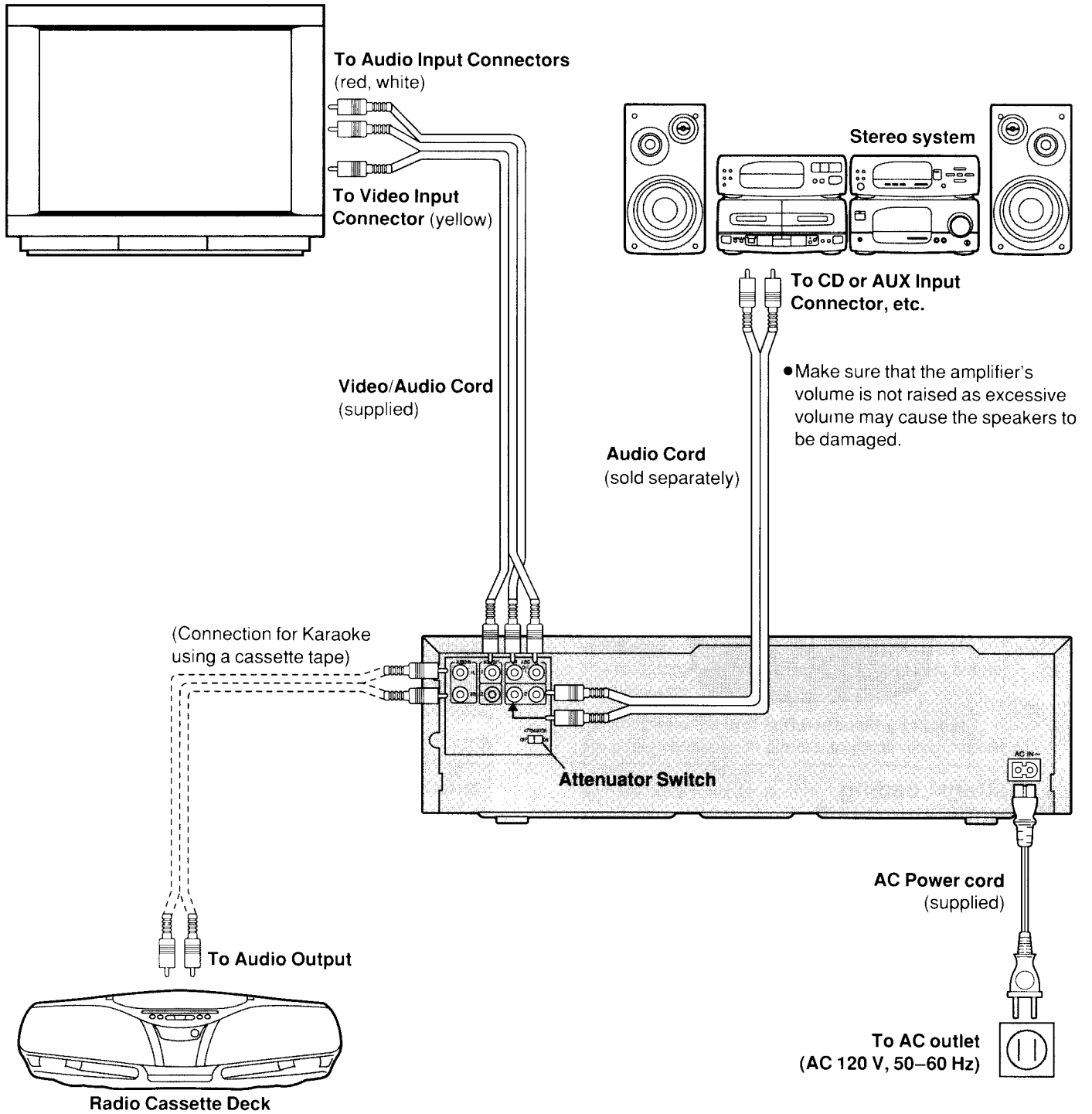
■ Battery Life (When to exchange batteries)

- Replace the batteries with new ones about every 6 months, however, battery life depends on the frequency of use or the selected mode of operation.
- Replace the batteries when the Remote Control cannot operate the unit at a close range.
- Use ANSI "AAA" size batteries.

Connections

Connection to a TV with the video/audio input connectors or a stereo system

Before connecting other components to this unit, please read their corresponding manuals.



The plug of the Video/Audio Cord are color coded for the following connections.

Yellow plug To Video Connector

White plug To Audio Connector (left)

Red plug To Audio Connector (right)

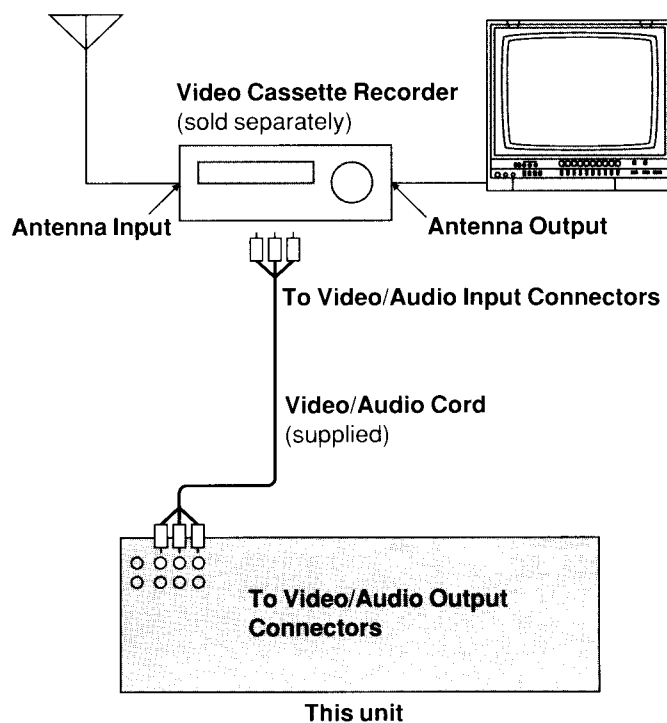
- Connect the plugs to their corresponding connectors.

Attenuator Switch

Set this switch to the "ON" position when using the speakers on your TV for Karaoke.

Connection to a TV without the video/audio input connectors

Make connections as shown below.



To view a laser disc on this unit

1. Set the input mode of your video cassette recorder (VCR) to the external input mode (such as LINE 1, etc.).
2. Select the channel (channel 3 or 4) for video playback.
3. Play the disc on this unit.

The disc

Type of discs that can be played back

The unit can play back laser discs bearing the following symbols.



LD (12")
Double-sided or single-sided disc
[CAV (standard play) max. 30 min.
per side]
[CLV (long-play) max. 60 min.
per side]

LD (8")
Double-sided disc
[CAV (standard play) max. 14 min.
per side]
[CLV (long-play) max. 20 min.
per side]



LD SINGLE (8")
Single-sided disc
[CAV (standard play) max. 14 min.]
[CLV (long-play) max. 20 min.]



CDV (5")
Single-sided disc
[Audio part (audio recording only)
max. 20 min.]
[Video part (video and audio
recordings) max. 5 min.]



CD (5")
Single-sided disc
[Max. 74 min.]

CD SINGLE (3")
Single-sided disc
[Max. 20 min.]

Glossary of disc

LD:
Abbreviation for Laser Disc. There are various types of LDs used for Karaoke, named LD audio multiplex disc, and discs for movies and music.

CAV (standard play):
Abbreviation for Constant Angular Velocity.
A number (frame number) from 1 up to 54,000 is assigned to each picture (frame).

CLV (long-play):
Abbreviation for Constant Linear Velocity. A longer playing time can be enjoyed with a CLV disc than with a CAV disc. The elapsed playing time (time number) from the beginning is recorded on the disc.

Chapter Number:
Number assigned to a song recorded on an LD. This enables quick access to the beginning of the desired song.

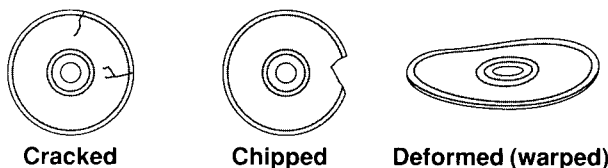
CDV:
Abbreviation for Compact Disc Video. It is composed of an audio recording (audio part) with a maximum length of 20 minutes, and video+audio recordings with a maximum length of 5 minutes.

CD:
Abbreviation for **Compact Disc**. It has a longer playing time than that of an LP record with hi-fi digital sound quality. There are two CD sizes: 5" CD and 3" CD single.

Track Number:
Number assigned to songs recorded on CDV or CD discs. This enables quick access to the beginning of the desired song.

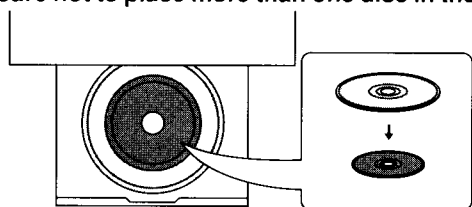
Handling of disc

Never use cracked or deformed (warped) discs, nor attempt to repair a broken disc with adhesive tape or glue and then use it.



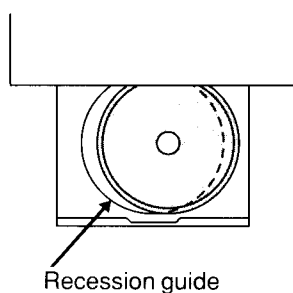
- Since the disc rotates at high speed, the use of a cracked or warped disc will cause it to break into pieces. This is dangerous and will also damage the unit.
- Should vibrations or a strange noise occur after playback starts (i.e. the disc does not rotate smoothly), immediately press the STOP Button.

Be sure not to place more than one disc in the disc tray.



- For example, make sure that the LD (8") is not put on the CD (5").
- If you start playback with two discs loaded, the unit and the discs will be damaged.

Never close the disc tray if the disc slips out of the recession guide.



- This will damage the unit and disc.

Never move or shake the unit during playback.

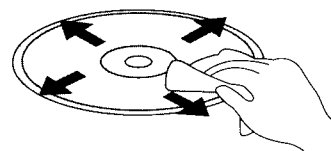
- This will damage the unit and disc.

Other precautions

- Do not use a CD stabilizer.
- Recording, renting, broadcasting, or showing to the public of any prerecorded discs may infringe on copyright laws.

Maintenance of disc

Use a soft cloth to clean a disc soiled with dust, smudges or fingerprints.



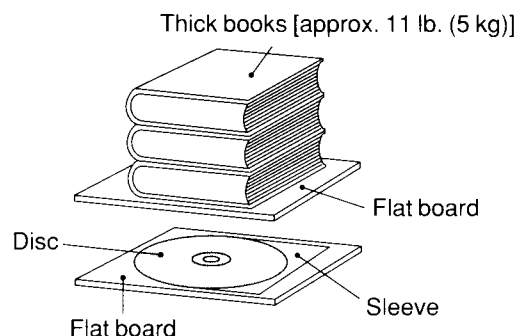
- Be sure to move the cloth from the center hole toward the outer edge as shown. (If you wipe the discs using a circular motion, circular scratches are likely to occur. This will cause noise during playback.)
- If the surface is extremely dirty, dip a soft cloth into water and wring the cloth well before wiping the disc. Then wipe again with a soft and dry cloth.
- Do not use benzene, thinner, a record cleaner, or an antistatic agent.

Storing of disc, etc.

Avoid places exposed to direct sunlight, high temperature or high humidity.

Never attempt to stick an adhesive label on a disc. Always put the disc into its case after use and store it in a vertical position.

- Storing discs in a slanted or stacked position may cause them to become warped.
- When a disc is warped, put it back into its sleeve and then between 2 flat boards as shown, and put a weight of about 5 kg (11 lb.) on the top board. Leave the disc as it is for about 24 hours. This may reduce warping.



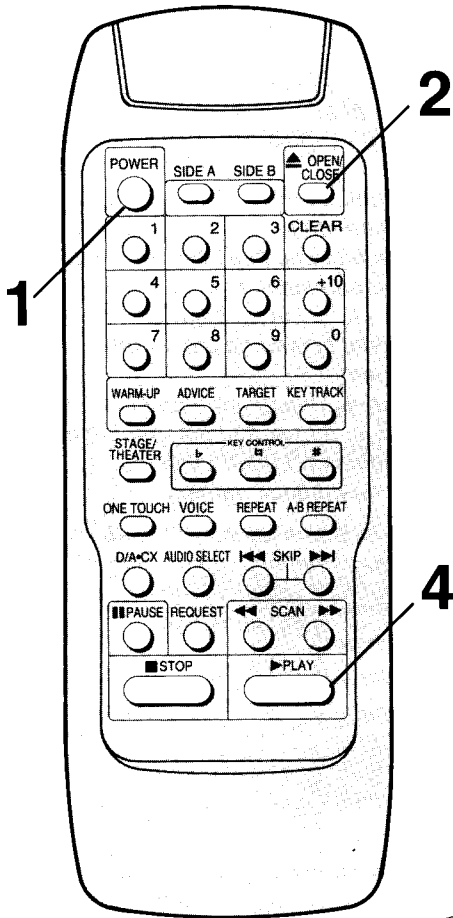
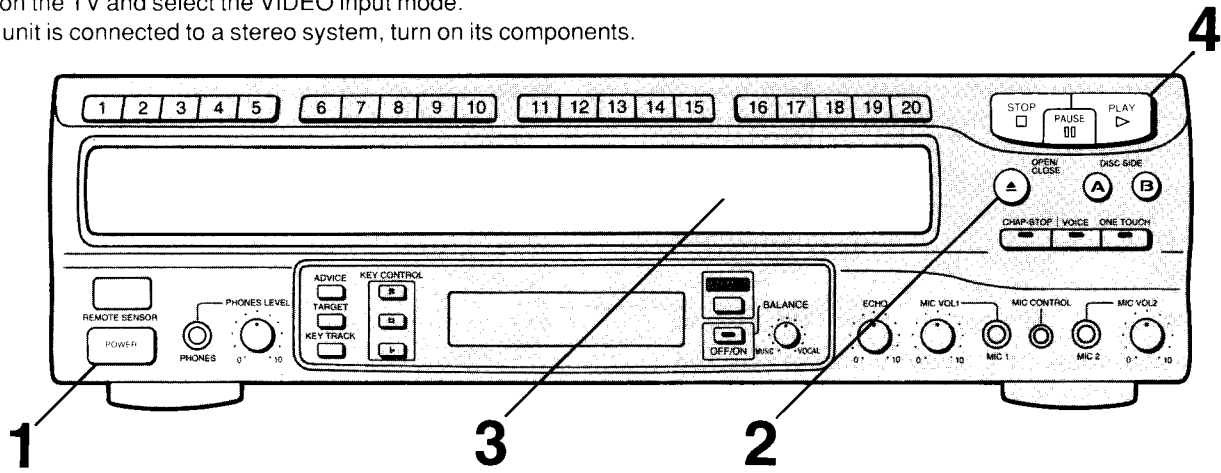
You cannot play the following discs on this unit:

- Video CD and photo CD,
- CD Graphics,
- CD-I and CD-ROM,
- MD (mini disc),
- Discs with an aluminum backing,
- Discs with other color TV systems (PAL or SECAM) or
- Video discs with CED and VHD systems.

Playing a disc

Preparation:

- Turn on the TV and select the VIDEO input mode.
- If the unit is connected to a stereo system, turn on its components.



How to place the disc on the disc tray

For double-sided LD:

Place the LD disc with side "A", or side 1 facing up.

For single-sided LD, LD single, CDV or CD:

Place the disc with the side bearing the album or track titles facing up.

Procedure

TV screen

1

Turn on the unit.



2

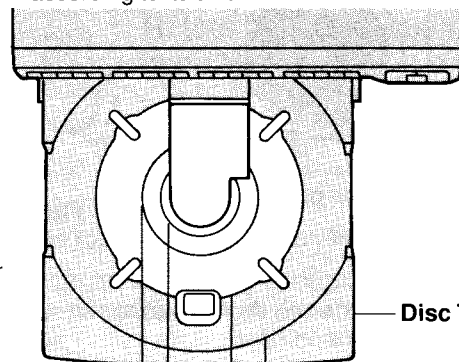
Open the Disc Tray.



3

Place the disc on the disc tray.

- Hold the disc so that the disc's surface is not being touched, and place it in the proper recession guide according to its size.



Disc Tray

CDV, CD (5")

LD (12")

CD SINGLE (3")

LD, LD SINGLE (8")

4

Start playback.

- When playback of side A of a double-sided disc is finished, side B is automatically played.



Press to temporarily interrupt playback.



TV screen



● Press **PAUSE** again to resume playback.

■ **Notes**

- The disc continues rotating even during pause. If the unit is left in the pause mode for a long period of time, the rotation motor's service life is shortened.
- If the pause mode continues for more than about 30 minutes, the unit automatically switches to the stop mode.

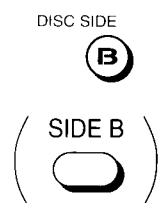
Stop playback.



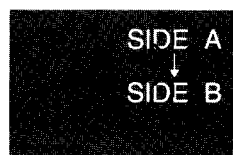
Playing side B of a disc

Double-sided LD only

TV screen

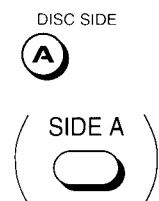


In the stop mode or during playback of side A,
Press **DISC SIDE B**.

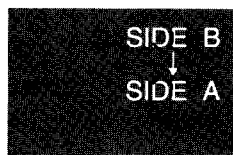


● When playback of side B is finished, the unit automatically returns to side A and stops.

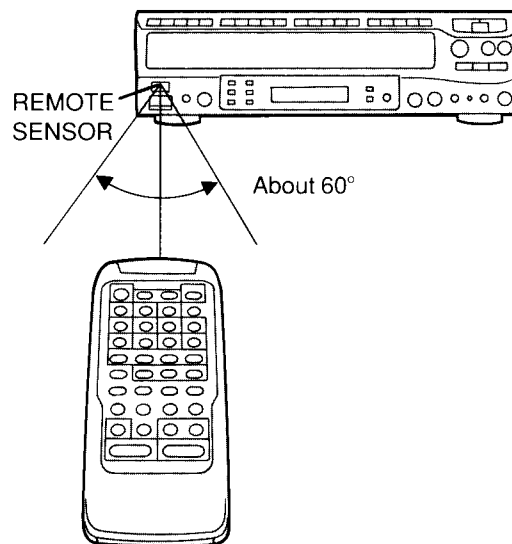
To play side A again while side B is being played,



Press **DISC SIDE A**.



Remote Control Operation



Point the Remote Control no more than about 7 m from the **REMOTE SENSOR** and within about 60° of the front of the unit.

- The operable distance varies with the brightness of the room.

■ **Notes for Operation**

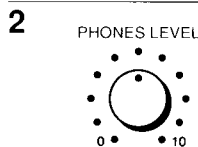
- Do not expose the **REMOTE SENSOR** to strong light.
- Do not place any obstacles between the Remote Control and the **REMOTE SENSOR**.
- Do not use the Remote Control simultaneously with another components infrared remote control.

Listening with headphones



1 Connect headphones (sold separately).

- A headphone with a large stereo plug can be connected.

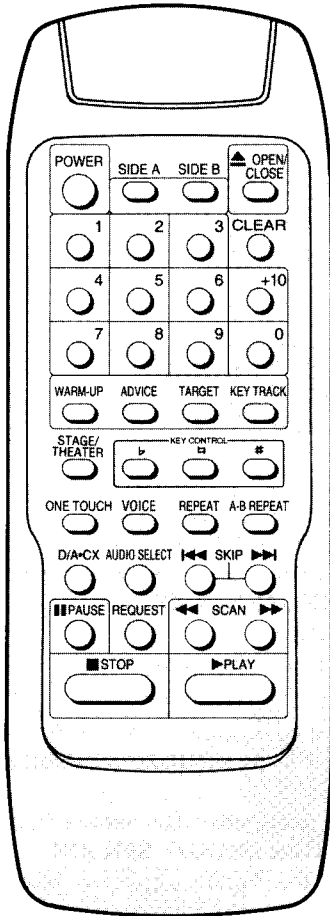


2 Rotate **PHONES LEVEL** Control to adjust the volume level.

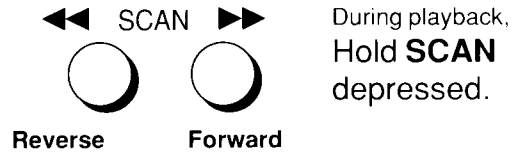
■ **Note**

Avoid listening with headphones at high volumes for an extended period of time, as it may affect your hearing.

Playing a disc (continued)



Forward (Reverse) playback using SCAN



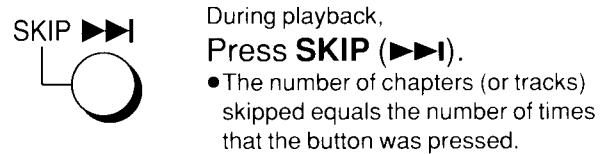
- For about 2 seconds after the button is pressed, the picture will play at a lower speed. After this initial time, the picture will play at a higher speed.
- If you release the button, normal playback resumes.

■ Note on CDV

- Playback cannot be performed across different parts on a CDV (i.e. video and audio).

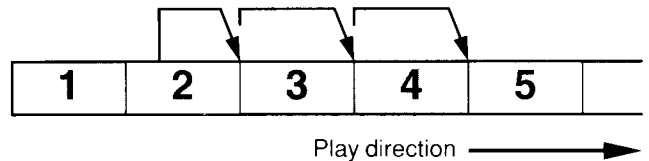
Skipping to the following or previous chapters (or tracks) (Skip Play)

To skip to the following (forward) chapters (or tracks)

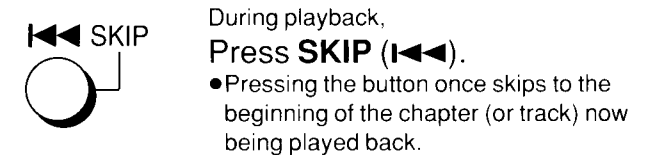


Example) To skip from chapter (or track) 2 (now being played) to the beginning of chapter (or track) 5

Press three times.

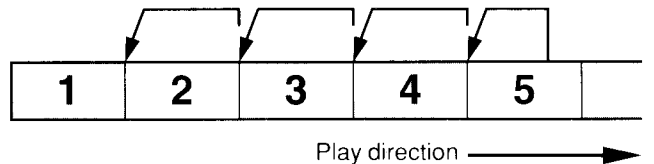


To skip to the previous (backward) chapters (or tracks)



Example) To skip from chapter (or track) 5 (now being played) to the beginning of chapter (or track) 2

Press four times.



■ Note on LD

This function is non-operational when an LD recorded without chapter numbers is used.

General information about Karaoke

Playing a disc
General information about Karaoke

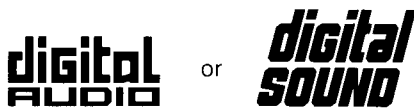
Karaoke using Multi Audio Karaoke LDs (See page 14.)





About a Multi Audio Karaoke LDs

This is a disc on which digital audio and analog audio signals are recorded in its left and right channels. Most commercially sold Karaoke discs are LDs with a multi audio format. The unit allows you to perform all Karaoke functions that are described on pages 14 through 21 in this manual.

The ADVICE and TARGET buttons are operational only when a Multi Audio Karaoke LD or an analog sound stereo Karaoke LD is used.

- LD with digital sound bear the logos shown below.



	Left channel	Right channel
Digital Sound	 Stereo accompaniment (left)	 Stereo accompaniment (right)
Analog Sound	 Mono accompaniment	 Mono accompaniment+master vocal

Karaoke using ordinary CDs or LDs with songs (See page 22.)

Normal LDs or CDs which are not recorded for Karaoke can also be used for Karaoke's accompaniment.

The ONE TOUCH button of this unit reduces the voice level of the singer.

This function is convenient for muting the prerecorded singer's voice when singing along with the instrumental accompaniment on non-Karaoke discs.



- The ADVICE and TARGET buttons are non-operational when these discs are being used.
- The KEY TRACK Button is operational only when an LD is used.

Karaoke using Multi Audio CDs (See page 23.)

About a Multi Audio CDs

This is a disc on which different sounds are recorded in its left and right channels as shown on the right.

- The KEY TRACK, ADVICE and TARGET buttons are non-operational when these discs are used.

	Left channel	Right channel
Digital Sound	 Mono accompaniment	 Master vocal

- On some discs, the prerecorded master vocal+mono accompaniment are recorded in the right channel.

Karaoke using audio or video cassette tapes (See page 24.)

Since this unit has audio input connectors, you can perform Karaoke using an audio or video cassette tape.

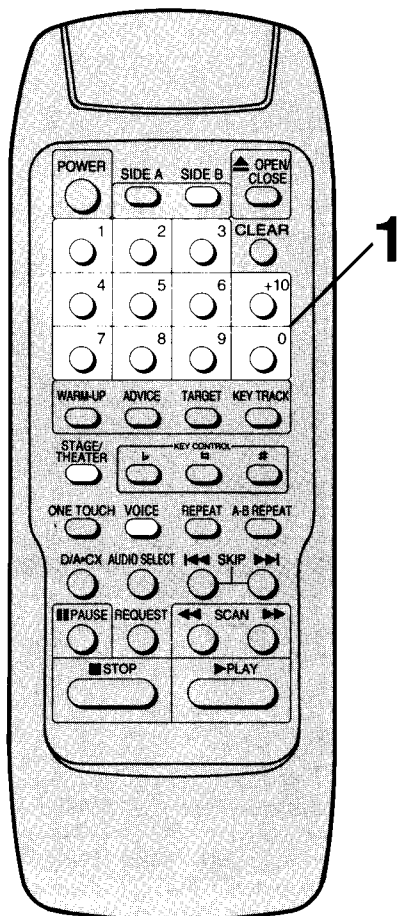
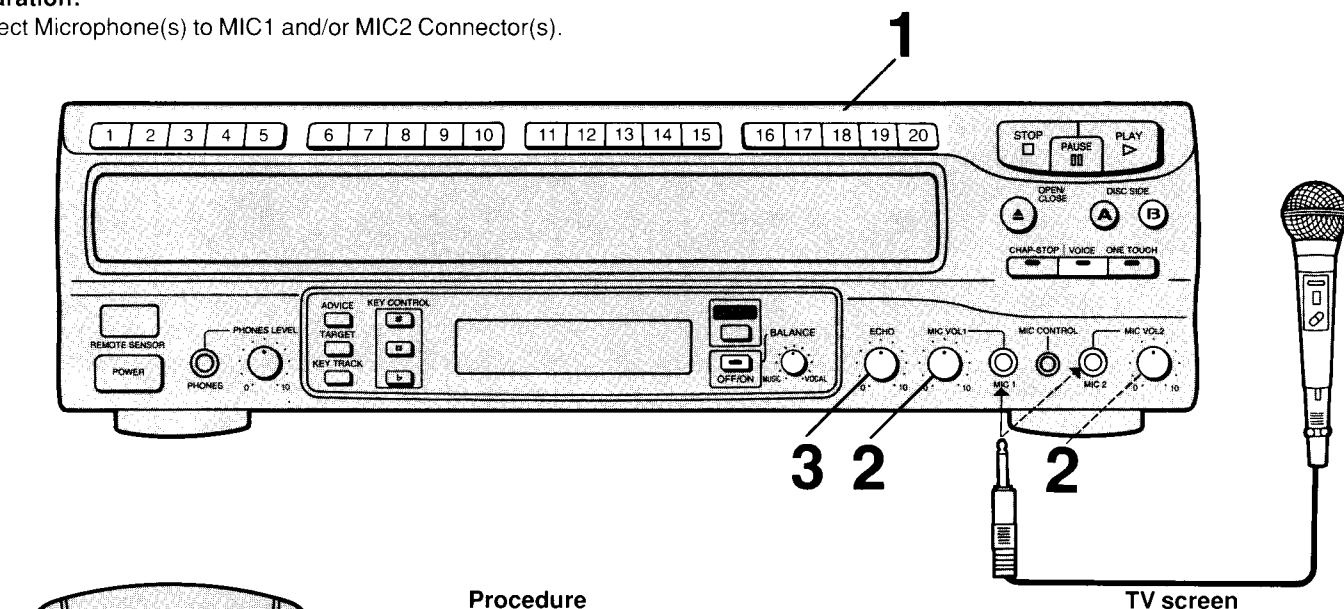
Make connections according to this manual (see page 6).

- The KEY TRACK, ADVICE and TARGET buttons are non-operational when these tapes are used.

Karaoke using Multi Audio Karaoke LDs

Preparation:

Connect Microphone(s) to MIC1 and/or MIC2 Connector(s).



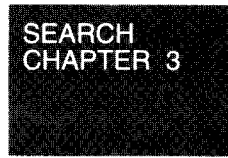
Procedure

1

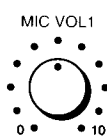


Select a desired chapter.

- The Direct Selection Buttons can select up to 20 chapters.

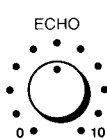


2



Rotate **MIC VOL** Control to adjust the voice volume of the microphone to sing a song.

3



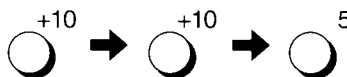
Rotate **ECHO** Control to adjust the echo level.

- Fully rotate the control counterclockwise when not using the echo effect.

To select a chapter whose number is above 21

Use the Numeric buttons on the Remote Control as shown below.

Example) 25th chapter



To select a chapter on side B

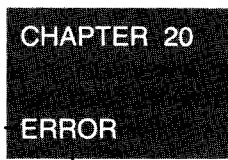
Example) 5th chapter on side B



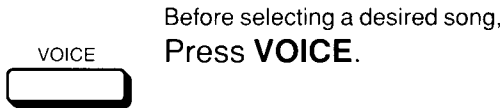
If acoustic feedback (howling) occurs, put the microphone(s) farther away from the speakers.
Another effective way to cut feedback is to reduce the microphone or the speaker volume.

Note

If an unrecorded chapter number is selected, the indication shown at the right is displayed. Depending on the disc type, sometimes a segment at the end of the previous chapter of the disc is played.



To practice singing a new tune or duet (Voice Changer)



Before selecting a desired song, Press **VOICE**.

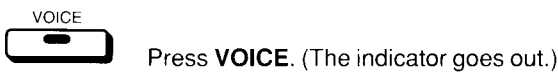
- If, for some reason or other, you stop singing, the prerecorded singer's voice volume is increased to help you with the melody and words.
- This function is also convenient to practice singing a song having alternately the male and female parts. For instance, if you stop singing after the male part, the prerecorded female voice is increased.

When a prerecorded singer's voice is heard while you are singing,



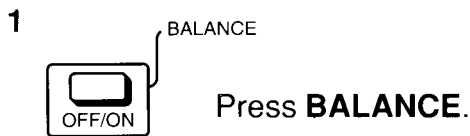
Rotate **MIC VOL** to increase your microphone volume.

To stop the Voice Changer function

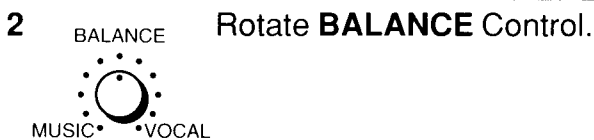


Press **VOICE**. (The indicator goes out.)

To adjust the volume of a prerecorded singer's voice (Multi Audio Balance)



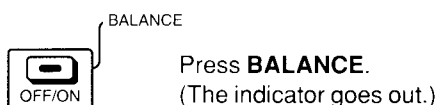
Press **BALANCE**.



Rotate **BALANCE** Control.

- Rotating counterclockwise will gradually reduce the volume of the prerecorded singer's voice.
- Fully clockwise rotation will return the prerecorded singer's volume to its original level. You can practice singing a song by adjusting the volume of your microphone and the prerecorded singer's voice to the same level.

To cancel the Multi Audio Balance mode



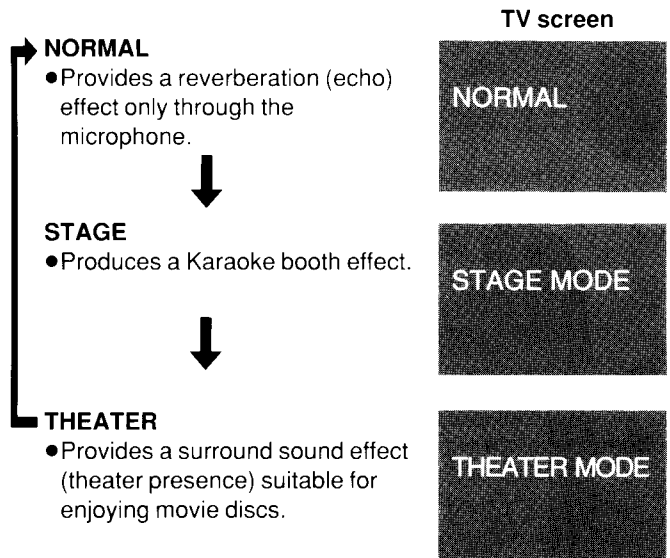
Press **BALANCE**. (The indicator goes out.)

To change the sound effect

Press **STAGE/THEATER**.



- Each time this button is pressed, the sound effect changes in the following order:

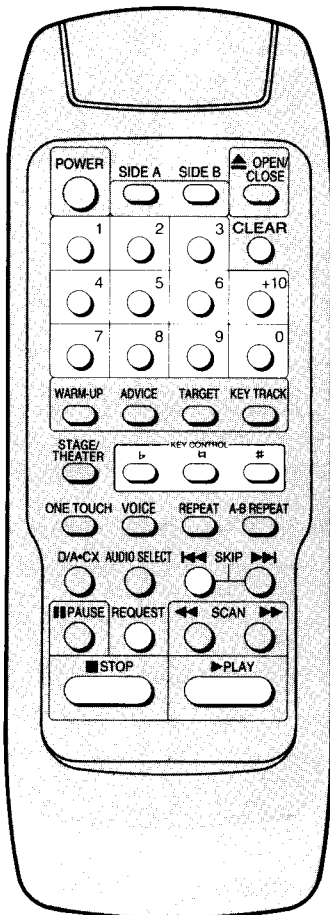
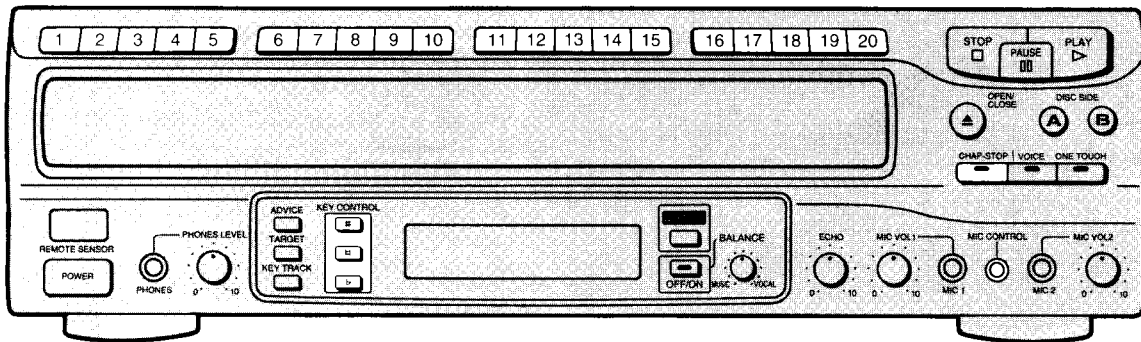


■ Notes

- When the Voice Changer or Multi Audio Balance mode is set to "ON", the prerecorded singer's voice is subject to the selected sound effect (only when a multi audio disc or tape is used).
- The Stage and Theater effects will not function correctly in the following cases:
 - when a mono amplifier is used,
 - when a TV is connected using the RF adaptor (sold separately), or
 - when the TV's surround sound function is operating.

When using a Karaoke LD recorded without the digital sound multi audio format, follow the procedures "Karaoke using ordinary CDs or LDs with songs" on page 22.

Various Karaoke functions



To replay the same song from the beginning



If you wish to sing again from the beginning of a chapter (or track),
 Press **SKIP** (◀◀).
 •The chapter (or track) is played again from the beginning.

To change the key of a song (Key Control)

TV screen

To raise a quarter tone
(sharp)



Press #.



To lower a quarter tone
♭ (flat)



Press ♭.



To return to the original key
□ (natural)

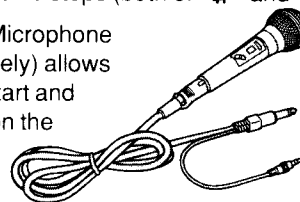


Press □.




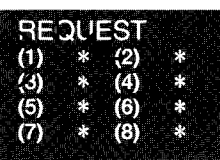

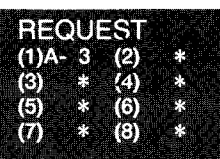
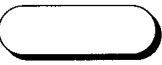
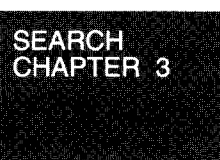
•The key changes up to 10 steps (both of “#” and “♭”).

The Panasonic Vocal Microphone RP-VK68 (sold separately) allows you to operate the Restart and Key Control functions on the microphone.



To MIC CONTROL Connector

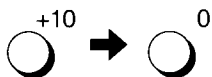
To program desired songs (Request)

How to program	TV screen
1 REQUEST  During playback, Press REQUEST.	
2  3 Press desired chapter (or track) No. with the Numeric Buttons.	
3  Press PLAY.	

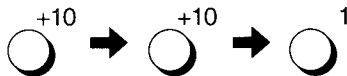
- The programmed chapters (or tracks) are played in the programmed order.
- Up to 8 chapters (or tracks) can be programmed.

How to program a two-digit chapter (or track) number

Example) To select the 10th chapter (or track)

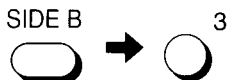


To select the 21st chapter (or track)



How to program chapters on side B [on a double-sided LD]

Example) To select the 3rd chapter on side B



■ Note


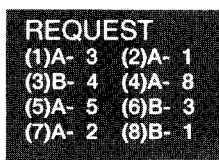

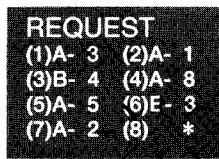
This function does not work while the CHAP-STOP button's indicator is lit. (See the right column on this page.)

Additional programming

Follow operation steps 1 and 2 in "How to program" above.

- If the programmed song is finished, the next one is played in sequence. After the next programmed song's number moves up on the TV screen, you can program the next desired song's number into the empty section.

To erase a programmed song number

How to program	TV screen
1 REQUEST  Press REQUEST.	
2  Press CLEAR.	

- Each time the CLEAR button is pressed, the song numbers disappear from the last one played up to the first.

To erase all programmed song numbers

In the stop mode,



- The data of all programmed song numbers is also erased if the unit's power is turned off or the disc tray is opened.

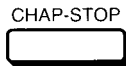
To start playing the desired song while a programmed song is being played



- If the Direct Selection button is pressed while a song is being played, the song selected with the Direct Selection button will play. After that song is finished, the next programmed song will play.

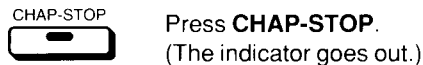
To stop playing the disc after each song is finished

Press **CHAP-STOP.**



- The unit can also stop playing the disc after each song is finished. This is convenient when you don't wish to play songs in succession.

To stop this function



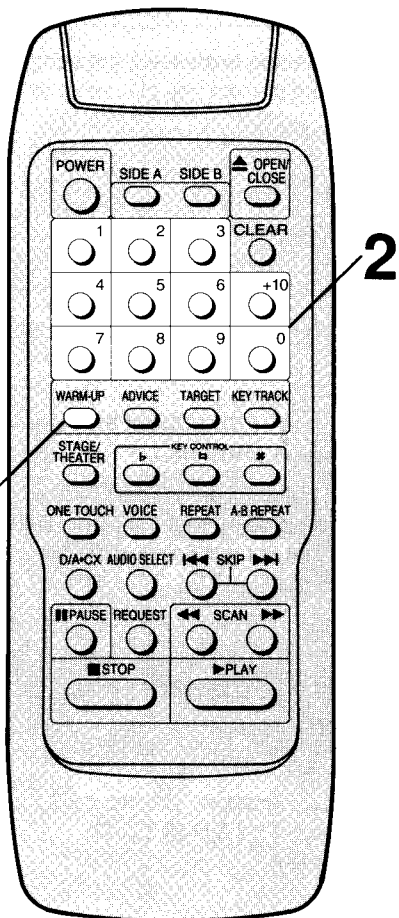
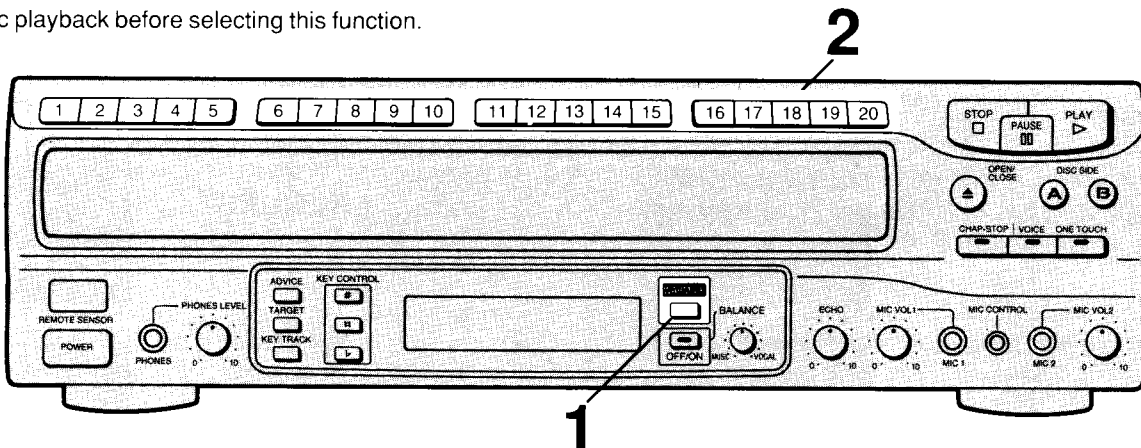
■ Note

This function does not work during playback of a requested song.

Various Karaoke functions (continued)


Preparation:


Stop disc playback before selecting this function.



Warming your voice up by using the unit's keyboard

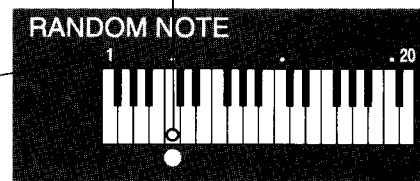
(1) Warming your voice up by using a single note (RANDOM NOTE)

1  Press **WARM-UP** once.
•The button lights up red.

2  Press any of "1"–"20" to select a note.

Example) Press "5" to hear a single note and display the "O" mark on the position "5".

This line denotes the positions (1–20) of the note selection buttons (keyboard). (Only natural keys can be selected.)




The green mark moves according to your key. Sing the note so that the green mark comes underneath the "O".

•You can also enjoy playing a song composed of natural keys by using the Note Selection Buttons (Keyboard).

(2) Warming your voice up by using an octave

[C (do), D (re), E (mi), F (fa), G (sol), A (la), B (ti), C (do)]

1  Press **WARM-UP** twice.
•The button lights up green.

2  Press any of "1"–"20" for note selection.

Example) Press "5" to output an octave in the forward and the reverse direction. The "O" mark is displayed and moved according to output notes.

This line denotes positions (1–20) of the note selection buttons (keyboard). (Only natural keys can be selected.)




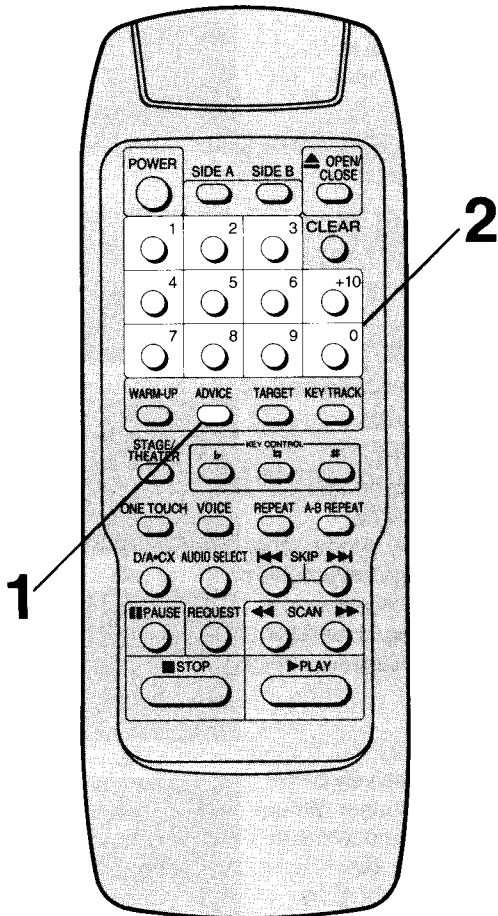
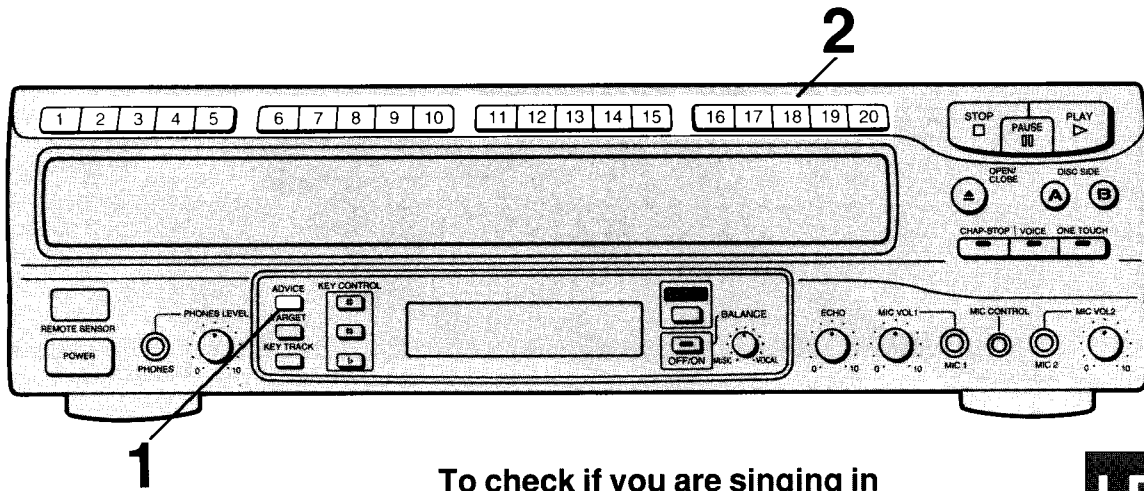
Sing the octave so that the green mark (indicating your voice key) comes underneath the "O" mark.

■ Notes

- If you press "14" or higher button of the note selection keyboard, the entire octave cannot be heard.
- This function is canceled when disc playback starts.

To stop this function

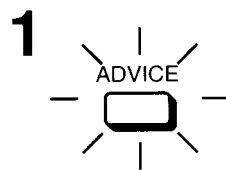
 Press **WARM-UP**.
(The indicator goes out.)



To check if you are singing in tune with the prerecorded song (ADVICE) LD only

Procedure

TV screen



Press **ADVICE**.

• Each time this button is pressed, the level check changes:

□ → 1 → 2 → 3 → OFF □

• Level 3 is the most difficult level.



Select a desired song.

• The indicator of the ADVICE Button stops blinking and stays lit.



3

Symbols are displayed according to your key (i.e. if you are singing in or out of tune with the prerecorded singer).

Start singing with accompaniment.

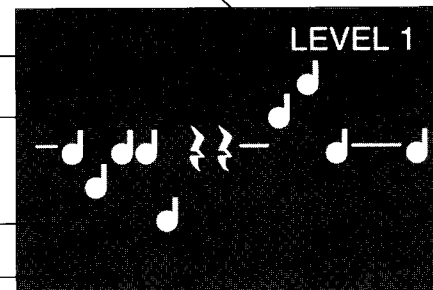
Too high (red note)

A bit higher (yellow note)

In tune (green note)

A bit lower (yellow note)

Too low (red note)



A pause (red) appears if you don't sing a part of a prerecorded song.

You need not sing when this white bar appears.

To change the level while singing

ADVICE Press **ADVICE**.
 (Each time this button is pressed, the level changes.)

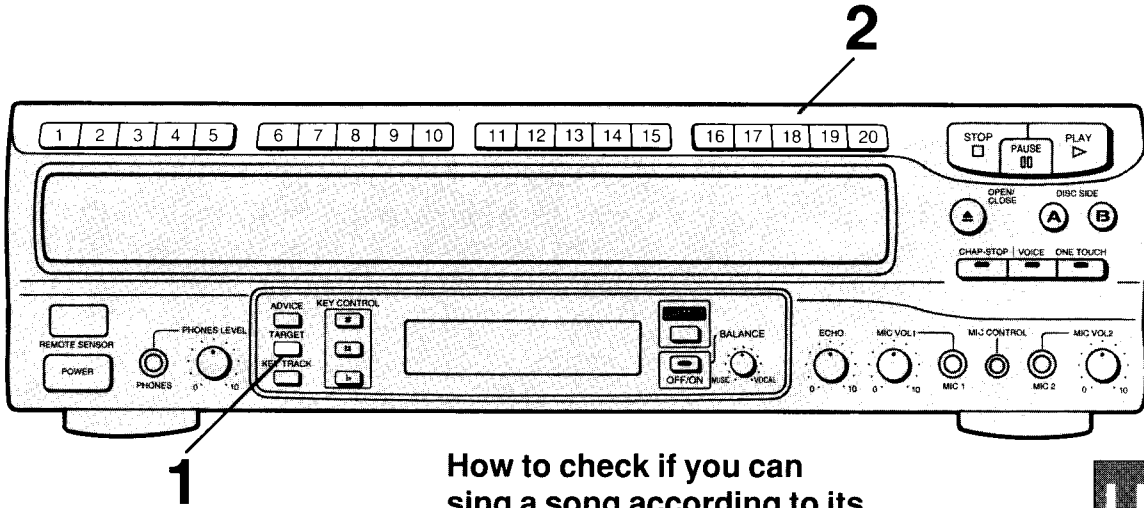
To stop this function

ADVICE Press **ADVICE**.
 (The indicator goes out.)

Notes

- Depending on the type of disc, the symbol "*" appears below the LEVEL display. If this occurs, notes may not be displayed correctly. If you select the Voice Changer or Multi Audio Balance function, the ADVICE function is canceled.
- Depending on the type of prerecorded song, the note may not be displayed correctly, or the message "INACTIVE" is displayed.

Various Karaoke functions (continued)

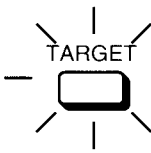


How to check if you can sing a song according to its original notes (TARGET)



LD only

Procedure

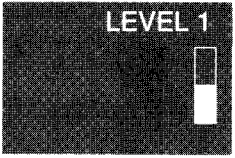
TV screen

- 1**  Press **TARGET**.

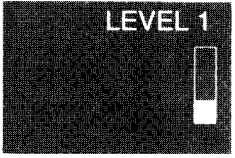
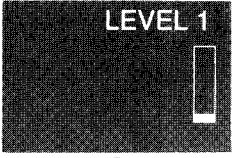

 - Each time this button is pressed, the level check changes:
1 → 2 → 3 → OFF
 - Level 3 is the most difficult level.

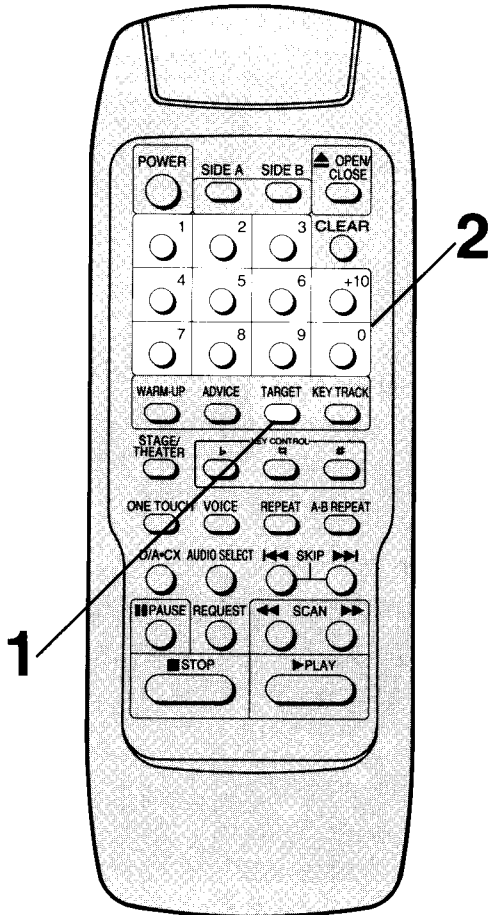

- 2**  Select a desired song.

 - The indicator of the TARGET Button stops blinking and stays lit.
 - A green bar is displayed on the TV screen.



- 3** Start singing with accompaniment.

 - Each time you sing off-key, or don't sing at all, the bar becomes gradually shorter, and its bar color changes to yellow.
 - If you sing progressively worse, the bar color changes to red. If the bar point decreases further, the song stops.
 - If you sing progressively better, the bar becomes longer. When you finish a song and a blue or green bar appears, the message "WELL DONE" is displayed on the TV screen.








To change the level while singing

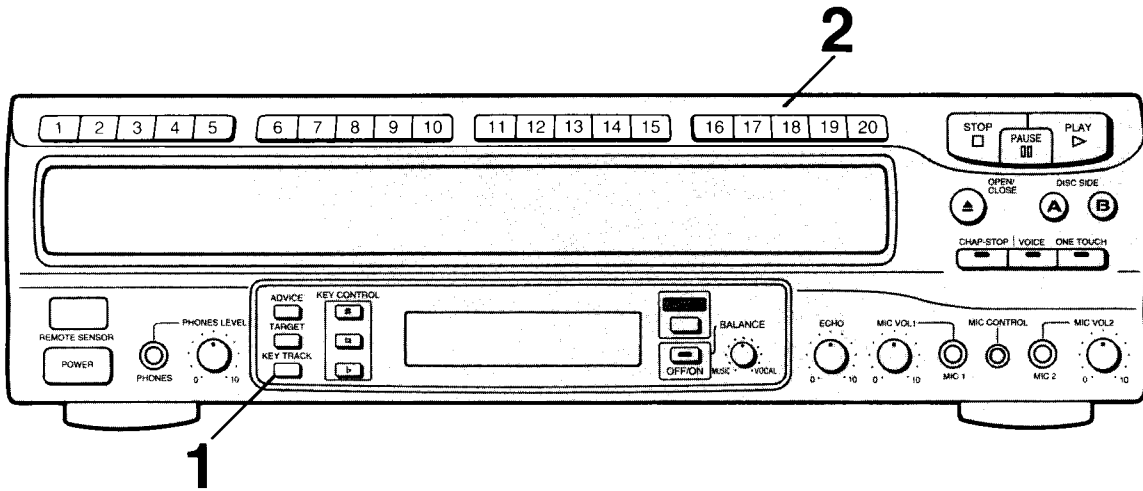
TARGET  Press **TARGET**.
(Each time this button is pressed, the level changes.)

To stop this function

TARGET  Press **TARGET**.
(The indicator goes out.)

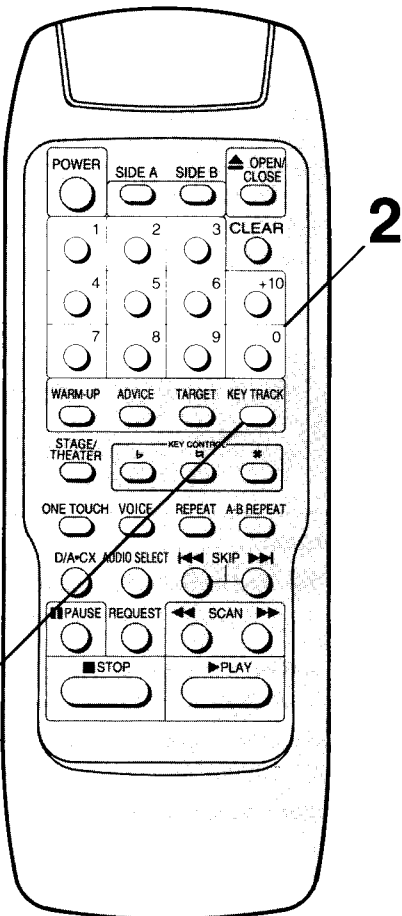
Notes

- You cannot program desired songs for this function.
- When you use a disc that displays the symbol "*" on the TV screen during this function, the bar remains unchanged unless the microphone input is obtained.
- Depending on the type of disc, the symbol "*" appears below the LEVEL display. If this occurs, the bar may not become shorter or longer correctly. If you select the Voice Changer or Multi Audio Balance function, the TARGET is canceled.
- Depending on the type of prerecorded songs chosen, the bar will become shorter at the introduction or during the interlude, and the message "INACTIVE" is displayed.



To display your key while you are singing (KEY TRACK)

LD only



Procedure

TV screen

1 KEY TRACK

Press **KEY TRACK**.

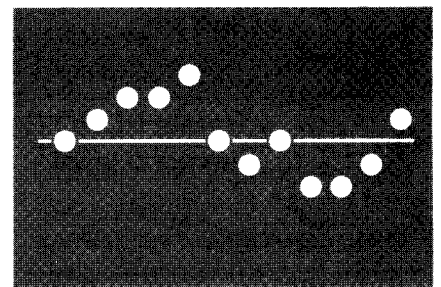


2 **3**

Select a desired song.

3

Start singing with accompaniment.
 •Your key is displayed in six steps.



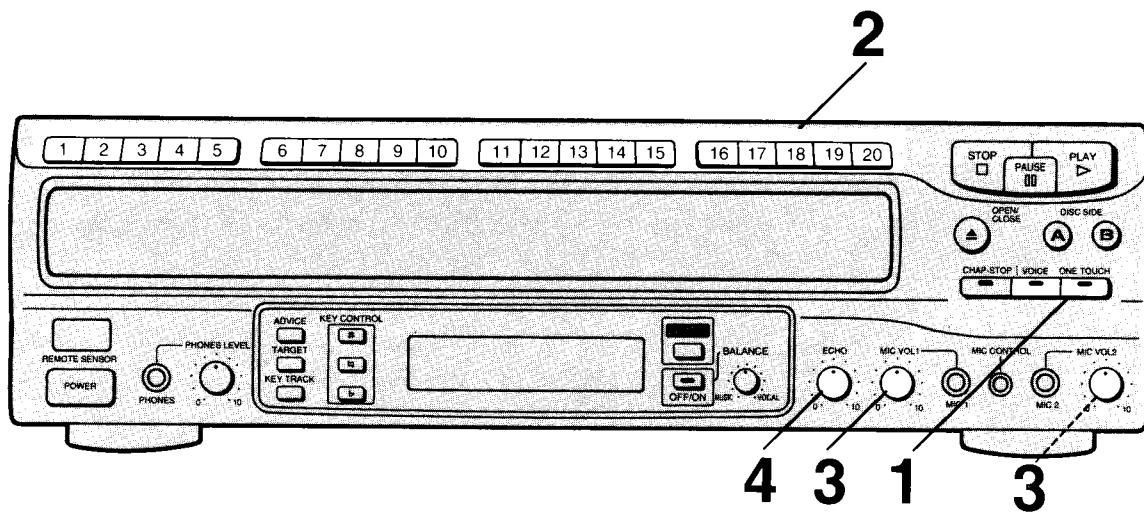
To stop this function

KEY TRACK



Press **KEY TRACK**.
 (The indicator goes out.)

Karaoke using ordinary CDs or LDs with songs

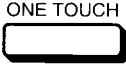


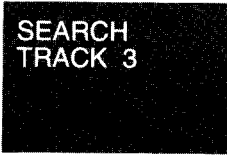
To reduce the prerecorded singer's voice (One Touch Karaoke)

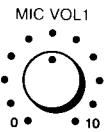
Procedure

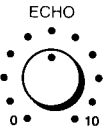
TV screen

- 1** Press **ONE TOUCH**.


- 2** Select a desired song.


- 3** Rotate **MIC VOL** Control to adjust the microphone volume and sing.



- 4** Rotate **ECHO** Control to adjust the echo level.



- The prerecorded singer's voice becomes reduced like a Karaoke disc.

To change the sound effect
See page 15.


To resume normal playback

-  Press **ONE TOUCH**.
(The indicator goes out.)

■ Notes


- Depending on the type of prerecorded songs, some prerecorded singer's voices cannot be reduced.
- This function may not work correctly in the following cases:
 - when the sound effect "STAGE" is selected,
 - when a mono amplifier is used,

To practice singing a new tune or duet (Voice Changer)

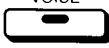
- After step 1,
Press **VOICE**.
- 

- If you stop singing, the prerecorded singer's voice is played at the originally recorded level.

If the prerecorded singer's voice volume is reduced while you are singing,

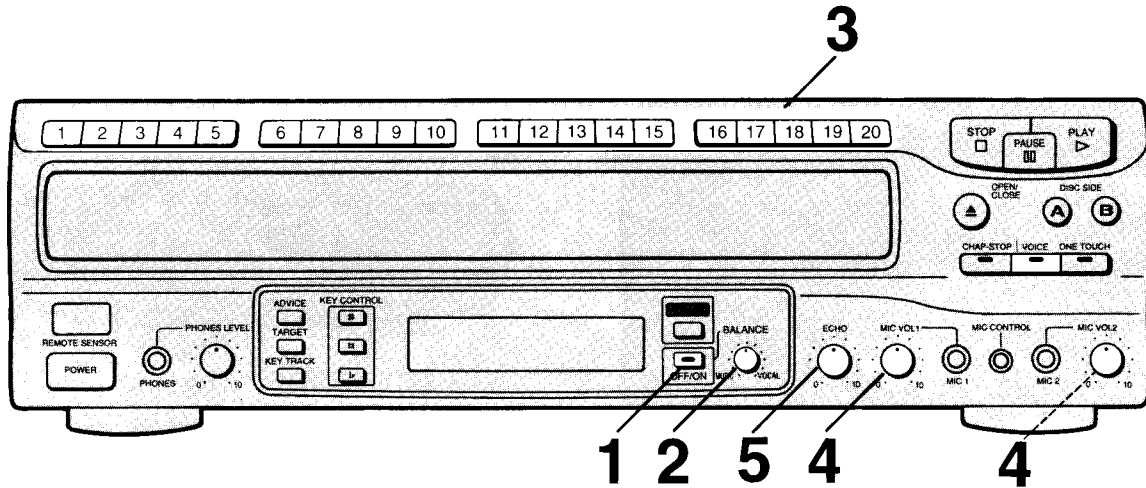
-  Rotate **MIC VOL** to increase your microphone volume.

To stop the voice changer function

-  Press **VOICE**.
(The indicator goes out.)


Karaoke using Multi Audio CDs

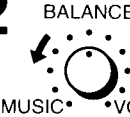
Karaoke using ordinary CDs or LDs with songs
Karaoke using Multi Audio CDs






To practice singing a new tune or duet (Voice Changer)

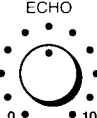
Procedure TV screen

1  Press **BALANCE**.

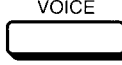
2  Fully rotate **BALANCE** Control counterclockwise.

3  Select a desired song. 

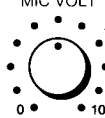
4  Rotate **MIC VOL** Control to adjust the microphone volume and sing.


5  Rotate **ECHO** Control to adjust the echo level.

To change the sound effect
See page 15.


 Before selecting a desired song, Press **VOICE**.
• Set the **BALANCE** Control to the center position.

When a prerecorded singer's voice volume is heard while you are singing,

 Rotate **MIC VOL** to increase your microphone volume.


To stop the voice changer function
 Press **VOICE**.
(The indicator goes out.)

To adjust the volume of a prerecorded singer's voice (Multi Audio Balance)

 Rotate **BALANCE** Control to adjust the volume of a prerecorded singer's voice.

- Rotating counterclockwise will gradually reduce the volume of the prerecorded singer's voice. At fully-rotated position, only the accompaniment will be heard.
- Clockwise rotation will gradually increase the volume. Adjust this control and your microphone volume to an appropriate level for singing Karaoke.

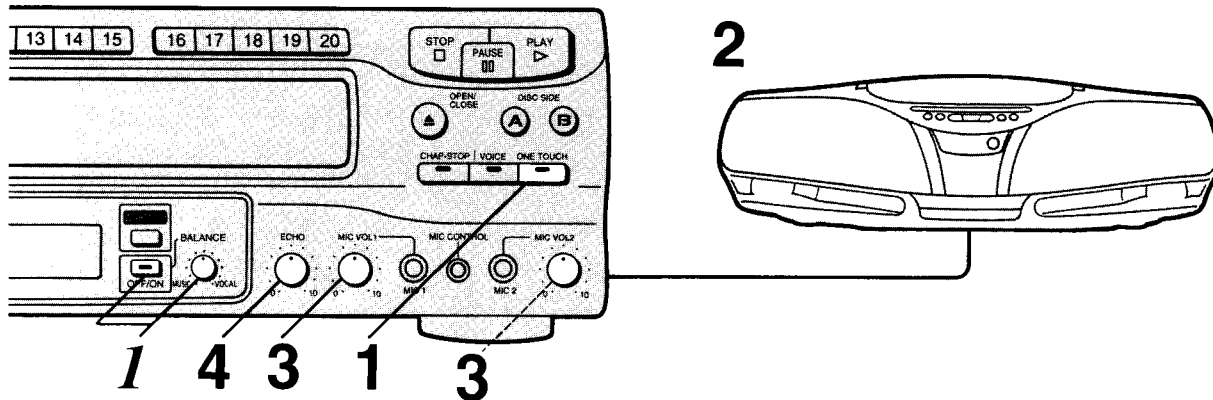
To cancel the Multi Audio Balance mode

 Press **BALANCE**.
(The indicator goes out.)

Karaoke using audio or video cassette tapes

Preparation:

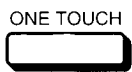
- Make necessary connections (see page 6).
- When a disc is being played, press the STOP button of the unit.



To reduce the prerecorded singer's voice on a music tape (One Touch Karaoke)

Procedure

1 Press **ONE TOUCH**.

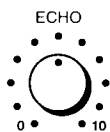


2 Start playing a cassette tape.

3 Rotate **MIC VOL1** to adjust the microphone volume and sing.



4 Rotate **ECHO** to adjust the echo level.



To change the sound effect
See page 15.

■ Notes

- Depending on the type of prerecorded songs, some prerecorded singer's voices cannot be reduced.
- See page 22 "Karaoke using ordinary CDs or LDs with songs" on how to operate the Voice Changer function.

To resume normal playback

ONE TOUCH

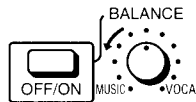


Press **ONE TOUCH**.
(The indicator goes out.)

Using a Karaoke tape with the Multi Audio format

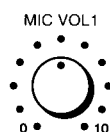
Procedure

1 Press **BALANCE** and fully rotate **BALANCE** Control counterclockwise.

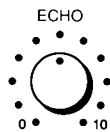


2 Start playing a cassette tape.

3 Rotate **MIC VOL1** to adjust the microphone volume and sing.



4 Rotate **ECHO** to adjust the echo level.

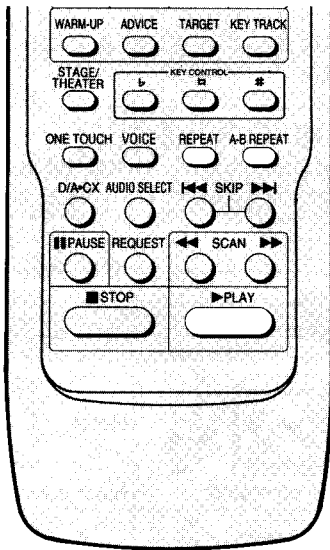


To change the sound effect
See page 15.

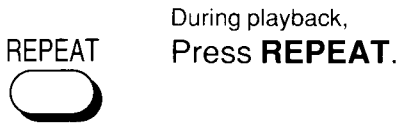
- See page 23 "Karaoke using Multi Audio CDs" on how to operate the Voice Changer or Multi Audio Balance function.

Various playback

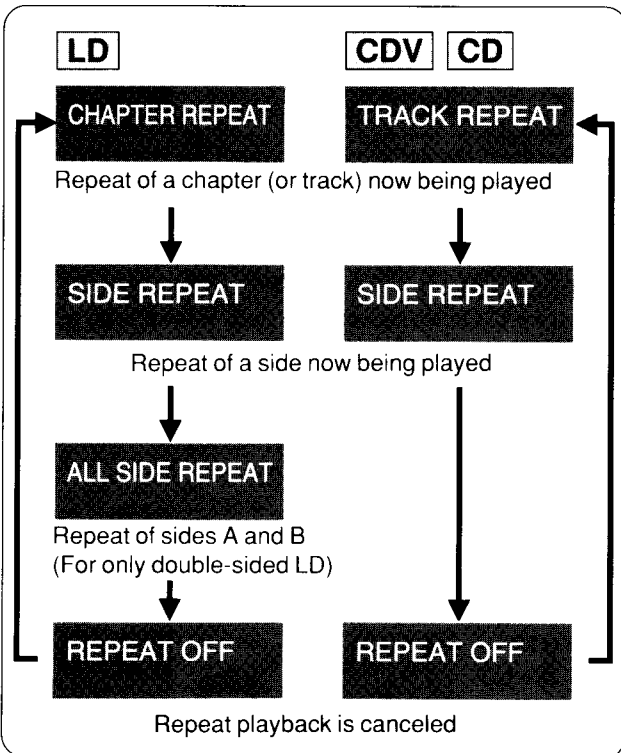
Karaoke using audio or video cassette tapes
Various playback



Repeat Playback



- Each time this button is pressed, the display on the TV screen changes in the order shown by the arrows in the diagram below.



- **Note on LD**
If the REPEAT button is pressed when a disc recorded without chapter numbers is used, the side being played is repeated.

Return to the segment you want to view or listen to again (Custom Index)

TV screen

1 During playback, at the position where you want to return, Press **A-B REPEAT**.

2 Press **PLAY**.

- Playback restarts from the position where you pressed the A-B REPEAT button in step 1.

To resume normal playback

- A-B REPEAT Press **A-B REPEAT** twice.

Repeat Playback between two designated points (A-B Repeat)

TV screen

A During playback, at the position where you want to start Repeat playback, Press **A-B REPEAT**.

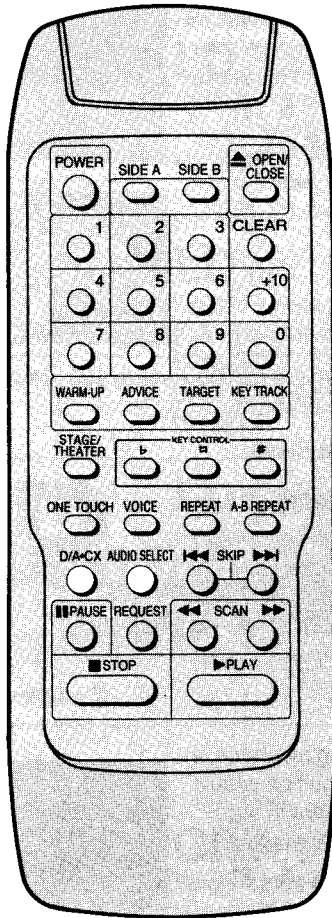
B At the position where you want to stop Repeat playback, Press **A-B REPEAT**.

- Repeat playback between points A and B starts.
- To resume normal playback
A-B REPEAT Press **A-B REPEAT**.
- The message "A-B OFF" appears on the TV screen.

- **Note on LD**
When a CLV disc is used, the A and B points are memorized according to the recording time numbers recorded on the disc. If a CLV disc with the timer numbers recorded in minutes is used, the actual start and end points of A-B Repeat playback may not match exactly as selected.

- **Note on CDV**
The Custom Index and A-B Repeat do not work across different parts on a CDV (i.e. video and audio).

Audio channel selection



Discs with stereo sound or bilingual audio

AUDIO SELECT



Press **AUDIO SELECT**.

- Each time this button is pressed, the audio channel output from the speakers changes as shown in the table.

TV screen	Stereo disc	Bilingual disc
STEREO	Stereo sound	Hello Bonjour Main audio Sub audio
AUDIO 1 / L	Left channel audio	Hello Hello Main audio
AUDIO 2 / R	Right channel audio	Bonjour Bonjour Sub audio

Discs with digital audio

LD only

D/A•CX



Press **D/A•CX**.



- Each time this button is pressed, the audio output through the audio output terminal (on the rear of the unit) alternately changes from digital to analog.
- Some discs change in the following order each time this button is pressed:



"ANALOG" indicates that the CX noise reduction system of the analog audio functions, and "CX OFF" indicates that this system does not function.

■ Note

When a disc is recorded with different levels of digital and audio signals, the volume level changes when the D/A•CX button is pressed to select digital or analog audio.

is a trademark of CBS Corporation.

The CX noise reduction system reproduces powerful sound with minimum noise. This unit conforms with the extended specifications for the CX noise reduction system.

■ Note

If a disc not bearing the CX symbol is played with the "CX ON" display on the TV screen, the sound quality will be inferior.

Discs bearing CX mark



LD only

D/A•CX



Press **D/A•CX**.

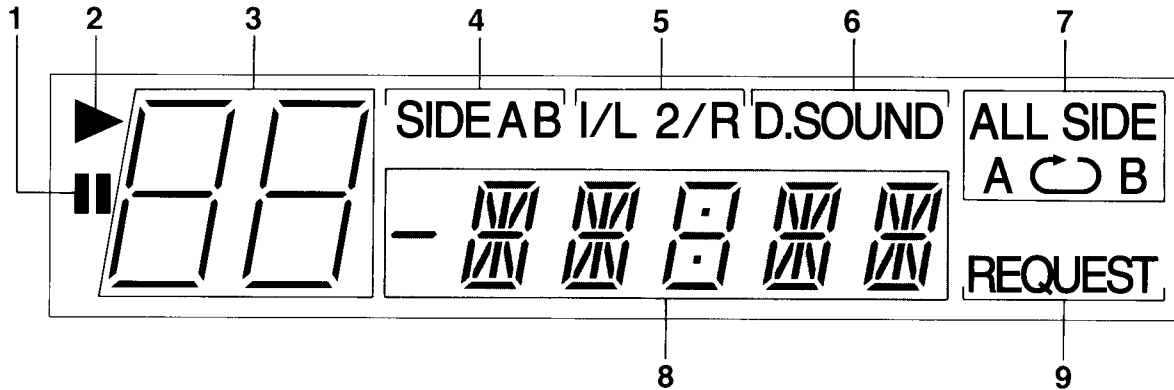


- Since almost all discs bearing the CX symbol automatically operate the CX noise reduction system, it is not necessary for you to operate this button. However, if the CX noise reduction system does not function automatically, press this button to display the indication "CX ON" on the TV screen.

Multi-function display/ On screen display

Audio channel selection
Multi-function display/On screen display

The indicators on the Multi-Function Display light up or blink depending on the operational mode.
The illustration below shows all possible indicators.



Description of indicators (on the Multi-Function Display)

- 1 **Temporary interruption** (pause operation)
- 2 **All playback operation**
- 3 **Chapter (or track) number**
- 4 **Side being played** (For LD only)
- 5 **Audio channel**
- 6 **Digital sound output**
- 7 **Various playback operation** (such as Repeat playback, etc.)
- 8 **Frame number** [LD (CAV)]
Time number [LD (CLV), CDV or CD]
Message (See "Messages" at right on this page.)
- 9 **This indicator appears when a chapter (or track) has been programmed.**

Messages (on the Multi-Function Display)

- The following messages are displayed in the shaded area.
- OPEN** The Disc Tray is open.
 - CLOSE** The Disc Tray is now being closed.
 - PLAY** Playback starts. (Only for LD)
 - OFF** Power is turned off.
 - A---B** Side to be played is being changed from side A to side B. (Only for LD)
 - B---A** Side to be played is being changed from side B to side A. (Only for LD)
 - KEY** Key control is now operating.

Displaying a list of recordings on a disc (on the TV screen)

Load a disc.

- The TOC signals are being read (except an LD recorded without a TOC).



Set the unit to the stop mode.

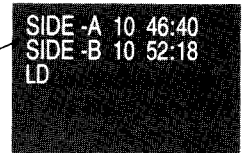
What is TOC?

Abbreviation for **Table Of Contents**. TOC signals are similar to a table of contents of a book and includes disc information (i.e. the number of chapters/tracks and their playing times).

- The time information displayed may differ from that which is supplied with the disc.

LD with a TOC signal

Total number of recorded chapters and their total playing time



- When an LD recorded without a TOC is used, no display appears on the TV screen.
- If you want to display the total number of chapters and their total playing time on side B, press the SIDE B button. Then, press the STOP button after the message "TOC READ" is displayed.

CDV

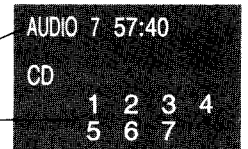
Total number of tracks of the audio/video sections and their total playing time



Recorded track Nos.

CD

Total number of tracks and their total playing time



Recorded track Nos.

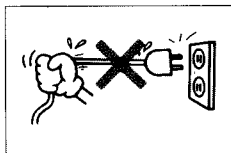
Helpful Hints

Precautions for use

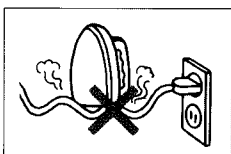
Cautions for safety

To avoid any malfunctions of the unit, and to protect against electric shock, fire or personal injury, please observe the following.

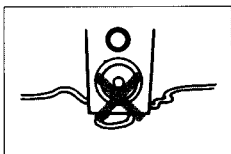
Hold the plug firmly when connecting or disconnecting the AC power cord.



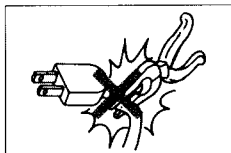
Keep the AC power cord away from heating appliances.



Never put any heavy object on the AC power cord.

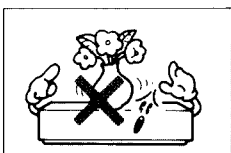


Do not attempt to repair or reconstruct the AC power cord in any way.



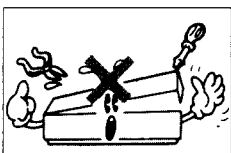
Keep the unit away from any liquids.

If water is spilled on/into the unit, malfunctions, electric shock or fire may possibly occur.



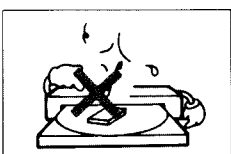
Do not remove the outer panel.

- Touching any internal parts of the unit is dangerous.
- Do not insert any foreign object into the unit.



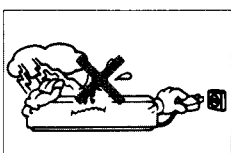
Do not put any foreign object on the Disc Tray.

Never permit children to place anything in the Disc Tray.



Do not use the unit when there is lightning.

- If this occurs, immediately unplug the AC power cord from the AC outlet.
- Exterior electric influences such as lightning and static electricity can affect normal operation of the unit. If this occurs, turn the power off and on using the POWER button, or unplug the AC power cord and reconnect it to an AC outlet. The unit will operate normally.



Handling cautions

Do not place anything heavy on the unit.

Do not place a TV on the unit.

Keep the unit away from insecticides or volatile substances.

Do not let the unit's cabinet touch rubber or vinyl material for long periods of time.

These materials may cause discoloration and surface damage to the unit.

When moving the unit,

- make sure that the unit is disconnected from all connection cords.
- do not subject it to strong impact.
- When moving this unit long distances, wrap it up carefully in a blanket or rug to prevent it from being scratched.

After using the unit,

Be sure to remove the disc from the unit and turn it off.

When the unit is not in use for long periods of time,

- Be sure to disconnect the AC power cord from the AC outlet. If the unit is left connected to the AC outlet, power of about 5 W is consumed.
- Turn on the unit occasionally to keep the unit's mechanical parts in optimal condition.

Notes for installation

Place the unit on an even and stable place that is well ventilated.

The rear panel becomes hot during operation, but this is not a malfunction.

Do not place the unit in the following places:

- In a room exposed to direct sunlight for long periods of time.
- where there is steam or soot.
- where there is dust or high humidity.
- near a strong light source or heating appliance.
- where there is a strongly magnetized object.

If the unit is placed near the TV:

The picture and audio may be adversely affected during playback of the unit. If this occurs, place the unit farther away from the TV.

Maintenance of cabinet

Wipe the cabinet and operation panel of the unit with a soft cloth.

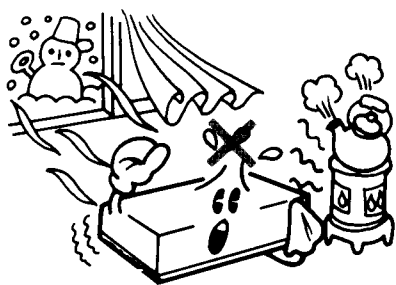
- For persistent stains, use a soft cloth moistened with mild detergent and water, and then wipe with a dry cloth.
- If you use a chemically treated cloth for cleaning, read the directions carefully.

If there is noise interference on the TV while a broadcast is being received

Depending on the reception condition of the TV, interference may appear on the TV screen while you watch a TV broadcast and the unit is left on. This is not a malfunction of the unit or the TV. To watch a TV broadcast, turn off the unit.

Formation of condensation in the unit

- Condensation (dew, so-called "sweating") may form if warm air comes in contact with any cold parts inside the unit, due to sharp changes in temperature and humidity (for example on a window in a heated room in the winter).
- When condensation forms inside the unit, the unit may not operate correctly. However, when the condensation is dissolved, the unit will operate normally.
- If condensation forms inside the unit and the unit cannot operate correctly, leave the unit at room temperature until the unit becomes operational. Depending on the surrounding condition, this may take 1 or 2 hours.
- Since there is the possibility that condensation forms on the disc inside the unit, wipe the disc with a soft and dry cloth by moving the cloth from the center hole toward the outer edge.

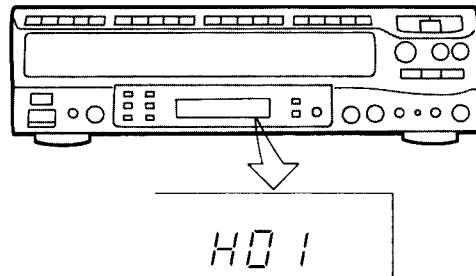


Before requesting service

Problem during playback, etc.	Suggested Remedy or Remark
Playback	
Playback does not start when the PLAY button is pressed.	<ul style="list-style-type: none"> ● Load the disc correctly after checking the side to be played. ● The disc is dirty. Wipe it with a soft, clean cloth. ● Condensation has formed inside the unit. Leave the unit at room temperature for 1 or 2 hours.
Side B of a disc cannot be played.	<ul style="list-style-type: none"> ● The LD SINGLE, CDV and CD are single-sided discs.
Video	
No picture.	<ul style="list-style-type: none"> ● Turn on the TV. ● Make connections correctly.
Picture is distorted or unstable during Fast Forwarding or Rewinding.	<ul style="list-style-type: none"> ● This is not a malfunction.
Still playback or frame advance/reverse cannot be performed.	<ul style="list-style-type: none"> ● These functions do not work on CLV (long-play LD) or CDV discs.
Audio	
No sound is reproduced.	<ul style="list-style-type: none"> ● Make connections correctly. ● Make the correct audio input selection and volume adjustment on the TV or components of the stereo system.

Self-Diagnosable Function for Error Message Display

This unit has a self-diagnosable function which detects a problem or malfunction within the unit and displays its corresponding error message on the display of the unit. Please refer to the table shown below when an error message occurs.



Error Message	Problem	Remedy
U 1 0 F 1 0	<ul style="list-style-type: none"> ● The disc is loaded with the wrong side down. ● The disc is dirty. 	<ul style="list-style-type: none"> ● Load the disc correctly with the side to be played facing up. ● Wipe it with a soft and clean cloth.
U 1 1	<ul style="list-style-type: none"> ● The disc is dirty. 	<ul style="list-style-type: none"> ● Wipe it with a soft and clean cloth.
H □ □	<ul style="list-style-type: none"> ● It is considered that the unit is not functioning properly. The numeric characters displayed after "H" or "F" varies depending on the malfunctioning condition. 	<ul style="list-style-type: none"> ● Turn the unit off and on again by pressing the POWER Button twice, or disconnect and then reconnect the AC Power Cord of the unit to the AC outlet. (These operations will make the unit operate normally if external electrical influences such as lightning or static electricity have affected the operation of the unit.)
F □ □		

Problem during Karaoke	Suggested Remedy or Remark
While any disc is used,	
No sound effect works.	<ul style="list-style-type: none"> ● Use a stereo amplifier. (When a mono amplifier is used, the unit's sound effects do not work effectively.)
The unit stops after only one chapter (or track) is played.	<ul style="list-style-type: none"> ● Press the CHAP-STOP button (the indicator goes out).
A desired song cannot be programmed.	<ul style="list-style-type: none"> ● Press the CHAP-STOP button (the indicator goes out).
While a Multi Audio Karaoke LD is used,	
The Voice Changer function does not work.	<ul style="list-style-type: none"> ● Rotate the BALANCE Control to the "VOCAL" position (when the BALANCE button is on). ● Press the BALANCE button off (the indicator goes out).
When a desired song is selected after the ADVICE or TARGET button is pressed, the message "INACTIVE" is displayed.	<ul style="list-style-type: none"> ● Depending on the type of prerecorded songs, the ADVICE and TARGET functions do not work.
While practicing the TARGET, the bar on the TV screen gets shorter during the spoken part of a song.	<ul style="list-style-type: none"> ● If you do not speak that part of the song, the bar point is reduced. Also, during ADVICE, the notes of the spoken part are displayed.
The ADVICE and TARGET do not work correctly.	<ul style="list-style-type: none"> ● Reduce the speaker's volume. (If the speaker volume is high, feedback occurs, and these functions may not work correctly.) ● Do not attempt to sing a song at a very high or low key. ● These functions do not work correctly if you sing a duet alone or in different keys in a female-male duet. ● This function may not work correctly when the following songs are played: <ul style="list-style-type: none"> — If the analog accompaniment has been recorded in stereo, — A song that starts without an introduction. — With the accompaniment recorded at different levels or with an incorrect synchronization on the left and right channels. — If another instrument also plays the singer's melody line.
While an ordinary CD or LD with song is used,	
The volume of a prerecorded singer's voice cannot be reduced with the ONE TOUCH button.	<ul style="list-style-type: none"> ● This button has no effect on the song, depending on the recording method. ● This button has no effect on a mono-recorded song (or disc).
The Voice Changer function does not work.	<ul style="list-style-type: none"> ● When an ordinary disc is used, make sure that the indicator of the ONE TOUCH button is ON.
The Multi Audio Balance function does not work.	<ul style="list-style-type: none"> ● This function does not work when an ordinary disc is used.
While a Multi Audio CD is used,	
The Voice Changer function does not work.	<ul style="list-style-type: none"> ● When a CD sound multiplex disc is used, make sure that the indicator of the ONE TOUCH button is OFF. If it is ON, press the ONE TOUCH button to turn off the indicator.
The Multi Audio Balance function does not work.	<ul style="list-style-type: none"> ● Press the BALANCE button and rotate the BALANCE Control to the "VOCAL" position.

Specifications

Power Source:	AC 120 V 50–60 Hz	
Power Consumption:	38 W (Power off, approx. 5 W)	
Television System:	NTSC	
Format:	Laser Vision Video Disc System	
Weight:	18.04 lbs. (8.2 kg)	
Outer Dimensions:	16 ¹⁵ / ₁₆ " (W) × 5" (H) × 15 ¹⁵ / ₁₆ " (D) [430 (W) × 127 (H) × 404 (D) mm] (protruding parts are not included.)	
Allowable Operating Temperature:	+5–+35°C (+41–+95°F)	
Allowable Operating Humidity:	5–90% (provided that no condensation forms)	
Disc Format:	(1) Laser Vision Disc	
	12" (30 cm) Long Play Disc (CLV)	1800–600 rpm, 2-hour playing time (max.) on double sides
	12" (30 cm) Standard Play Disc (CAV)	1800 rpm, 1-hour playing time (max.) on double sides
	8" (20 cm) Long Play Disc (CLV)	40-minute playing time (max.) on double sides
	8" (20 cm) Standard Play Disc (CAV)	20-minute playing time (max.) on single side 28-minute playing time (max.) on double sides 14-minute playing time (max.) on single side
	(2) Compact Disc	
	5" (12 cm) Disc	500–200 rpm, 74-minute playing time (max.) on single side
	3" (8 cm) Disc	500–300 rpm, 20-minute playing time (max.) on single side
	(3) Compact Disc with Video	
	Video part	2700–1800 rpm, 5-minute playing time (max.) on single side
	Audio part	500–300 rpm, 20-minute playing time (max.) on single side
Video Signal Output:	1 V p-p (with 75Ω, negative polarity sync.)	
Audio Signal Output:	(1) Digital audio output; 200 mVrms (1 kHz, –20 dB) (2) Analog audio output; 200 mVrms (1 kHz, 40% modulated)	
Audio Signal Input:	Standard; 200 mV (1 kHz) Input impedance; more than 47 kΩ	
Digital Audio Signal Output Characteristic:	(1) Frequency response; 4 Hz–20 kHz (EIAJ) (2) S/N ratio; 102 dB (EIAJ) (3) Dynamic range; 94 dB (EIAJ) (4) Wow and flutter; Below measurable limit (5) Total harmonic distortion; 0.005% (EIAJ) 1 kHz	
Microphone Connectors (MIC1 and MIC2):	–70 dB omnidirectional microphone, less than 600Ω	
Headphone Connector:	32Ω (30 mW), impedance; 8Ω or more	

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