JVC

# DVD VIDEO PLAYER

# XV-521BK/XV-522SL/XV-523GD


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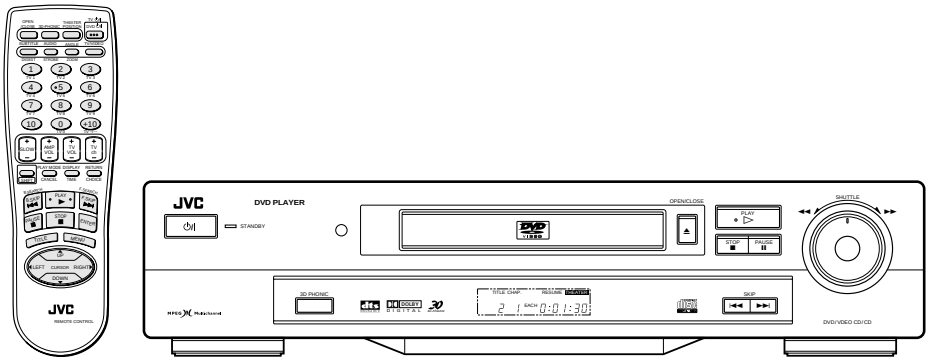



*INSTRUCTIONS*

**For Customer Use:**

Enter below the Model No. and Serial No. which are located on the rear, bottom or side of the cabinet. Retain this information for future reference.

Model No. _____

Serial No. _____


LVT0435-004B
[B]

# Warnings, Cautions and Others

**IMPORTANT** for the U.K.

**DO NOT** cut off the mains plug from this equipment. If the plug fitted is not suitable for the power points in your home or the cable is too short to reach a power point, then obtain an appropriate safety approved extension lead or consult your dealer.

**BE SURE** to replace the fuse only with an identical approved type, as originally fitted.

If nonetheless the mains plug is cut off ensure to remove the fuse and dispose of the plug immediately, to avoid a possible shock hazard by inadvertent connection to the mains supply.

If this product is not supplied fitted with a mains plug then follow the instructions given below:

**IMPORTANT.**

**DO NOT** make any connection to the terminal which is marked with the letter E or by the safety earth symbol or coloured green or green-and-yellow.

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

Blue : Neutral
Brown : Live

As these colours may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

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

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

**IF IN DOUBT - CONSULT A COMPETENT ELECTRICIAN.**

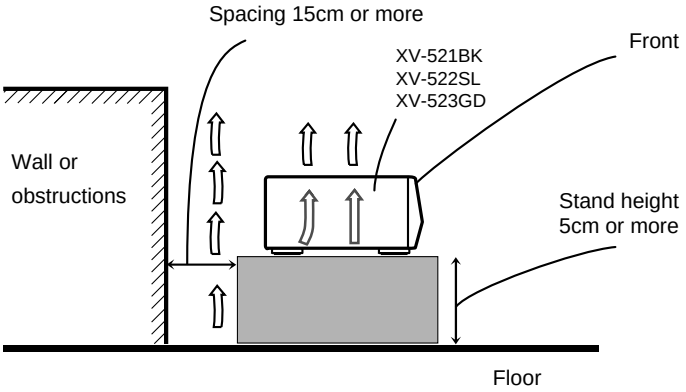
**Caution –– ⏻/I button!**

Disconnect the mains plug to shut the power off completely. The ⏻/I button in any position do not disconnect the mains line.The power can be remote controlled.

**CAUTION**
To reduce the risk of electrical shocks, fire, etc.:
1. Do not remove screws, covers or cabinet.
2. Do not expose this appliance to rain or moisture.

**Caution: Proper Ventilation**
To avoide risk of electric shock and fire and to protect from damage.
Locate the apparatus as follows:

| | |
|---|---|
| Front: | No obstructions open spacing. |
| Sides: | No obstructions in 3 cm from the sides. |
| Top: | No obstructions in 5 cm from the top. |
| Back: | No obstructions in 15 cm from the back |
| Bottom: | No obstructions, place on the level surface. |




## IMPORTANT FOR LASER PRODUCTS

### REPRODUCTION OF LABELS

① CLASSIFICATION MARK, PLACED ON REAR NECLOSURE

**CLASS 1**
**LASER PRODUCT**

② WARNING LABEL, PLACED INSIDE THE UNIT

**CAUTION:** Invisible laser radiation when open and interlock failed or defeated. AVOID DIRECT EXPOSURE TO BEAM. (e)

**VARNING:** Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen. (s)

**ADVARSEL:** Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling (d)

**VARO:** Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen. (f)

1. CLASS 1 LASER PRODUCT
2. **DANGER**: Visible and invisible laser radiation when open and interlock failed or defeated. Avoid direct exposure to beam.
3. **CAUTION**: Do not open the top cover. There are no user serviceable parts inside the Unit; leave all servicing to qualified service personnel.

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# Features

## Picture functions

■ Strobe function
The unit can display nine continuous still pictures on the TV screen.

■ Digest function
You can select the desired selection to be played from the opening scenes displayed on the TV screen.

■ Angle function*
You can select a desired angle from multiple camera angles recorded on the DVD VIDEO disc.

■ Zoom function
You can view scenes close-up.

■ Parental lock*
You can restrict the playback of DVD VIDEO discs with scenes which you do not want children to see, such as adult or violent films.

■ Theater position
You can select the picture character according to the lighting of your room.

## Audio functions

■ High quality digital sound
You can enjoy high quality sound with Dolby Digital or Linear-PCM.

■ Surround function*
The unit accommodates the Dolby Digital surround, DTS surround and MPEG Multichannel systems.
(The DTS surround and MPEG Multichannel signals are output only from the DIGITAL OUT jacks.)

■ 3D Phonic function
You can enjoy surround sound with your 2-channel system.

## Other functions

■ Multi-language subtitles and sound*
You can select a subtitle or sound language from those recorded on the DVD VIDEO disc.

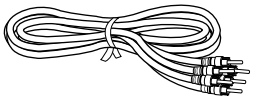
■ Multi-disc playback
You can enjoy Audio CD discs and Video CD discs, as well as DVD VIDEO discs.

■ Operation from the on-screen display
User-friendly on-screen displays allow you to operate the unit easily.

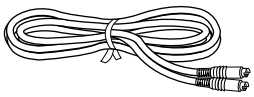
Functions with (*) mark only work on a DVD VIDEO disc that is compatible with each function.

# Supplied accessories

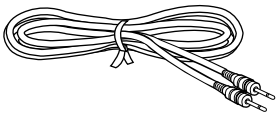
• Audio/video cable (x 1)



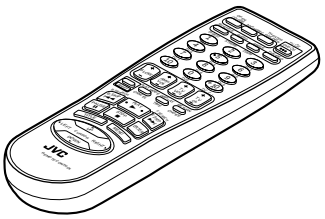
• S-video cable (x 1)



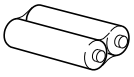
• AV compulink cord (x 1)



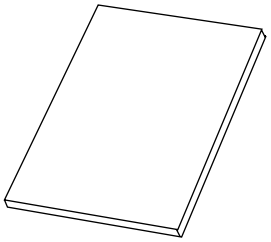
• Remote Control Unit (x 1)



• R6P(SUM-3)/AA(15F) batteries (x 2)



• Instruction manual (x 1)



• AC power cord (x 1)

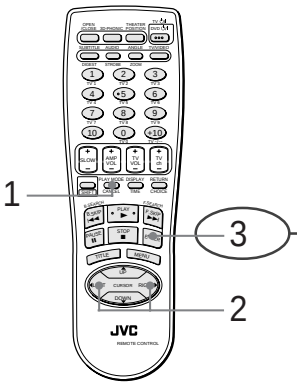
# About this instruction manual

This instruction manual basically explains operations as follows:

## To playback in random order [RANDOM]

DVD VIDEO | Audio CD | Video CD

You can play titles or tracks in random order by using the Random function.

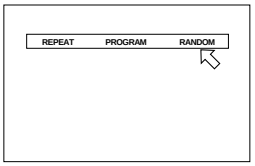



■ While stopped

1 Press PLAY MODE - CANCEL.

The play mode menu appears on the TV screen.

2 Use CURSOR ◄/► to move ↖ to [RANDOM].




The "RANDOM" indicator appears in the display window on the front panel.

3 Press ENTER.

The unit starts random playback.

After playing all titles/tracks of the disc, random playback ends.

**Hints**

The same title or track will not be played back more than once during random play.

- To stop/quit random playback in the middle
  Press STOP to stop playback. The unit is still in random playback mode, so pressing PLAY starts random playback again.
  To quit random playback, press STOP again while stopped. The "RANDOM" indicator in the display window turns off.

**NOTE**

Some DVD VIDEO discs may not be played back correctly in random mode.

These symbols indicate the types of discs which the operation can be used for.

The number indicates the following procedural step(s) in which the button(s) is(are) used.
You may also use the corresponding buttons on the front panel of the unit if available.

The number indicates the procedural step.

The names of buttons on the remote control unit (or on the front panel of the unit) are all given in uppercase letters.

Other convenient procedures, etc.

Additional supplemental remarks

# Notes on handling

## Important cautions

### Installation of the unit

- Select a place which is level, dry and neither too hot nor too cold (between 5˚C and 35˚C, 41˚F and 95˚F).
- Leave sufficient distance between the unit and the TV.
- Do not use the player in a place subject to vibrations.

### Power cord

- Do not handle the power cord with wet hands!
- A small amount of power (3.0 watts) is always consumed while the power cord is connected to the wall outlet.
- When unplugging the player from the wall outlet, always pull the plug, not the power cord.

### To prevent malfunction of the unit

- There are no user-serviceable parts inside. If anything goes wrong, unplug the power cord and consult your dealer.
- Do not insert any metallic object into the unit.
- Do not use any non-standard shape disc available on the market, because it may damage the unit.
- Do not use a disc with tape, seals, or paste on it, because damage to the unit may result.

### Note about copyright laws

- Please check the copyright laws in your country before recording from DVD VIDEO, Audio CD, and Video CD discs. Recording of copyrighted material may infringe copyright laws.

### Note about the copyguard system

- The DVD VIDEO disc is protected by the copyguard system. When you connect the unit to your VCR directly, the copyguard system activates and the picture may not be played back correctly.

## Safety precautions

### Avoid moisture, water and dust

Do not place the unit in moist or dusty places.

### Avoid high temperatures

Do not expose the unit to direct sunlight or place it near a heating device.

### When you're away

When away on travel or otherwise for an extended period of time, remove the plug from the wall outlet.

### Do not insert foreign objects into the unit

Do not insert wires, hairpins, coins, etc. into the unit.

### Do not block the vents

Blocking the vents may damage the unit.

### Care of the cabinet

When cleaning the unit, use a soft cloth and follow the relevant instructions on the use of chemically-coated cloths. Do not use benzene, thinner or other organic solvents and disinfectants. These may cause deformation or discoloring.

### If water gets inside the unit

Turn off the power switch and remove the plug from the wall outlet, then call the store where you made your purchase. Using the unit in this state may cause a fire or electrical shock.

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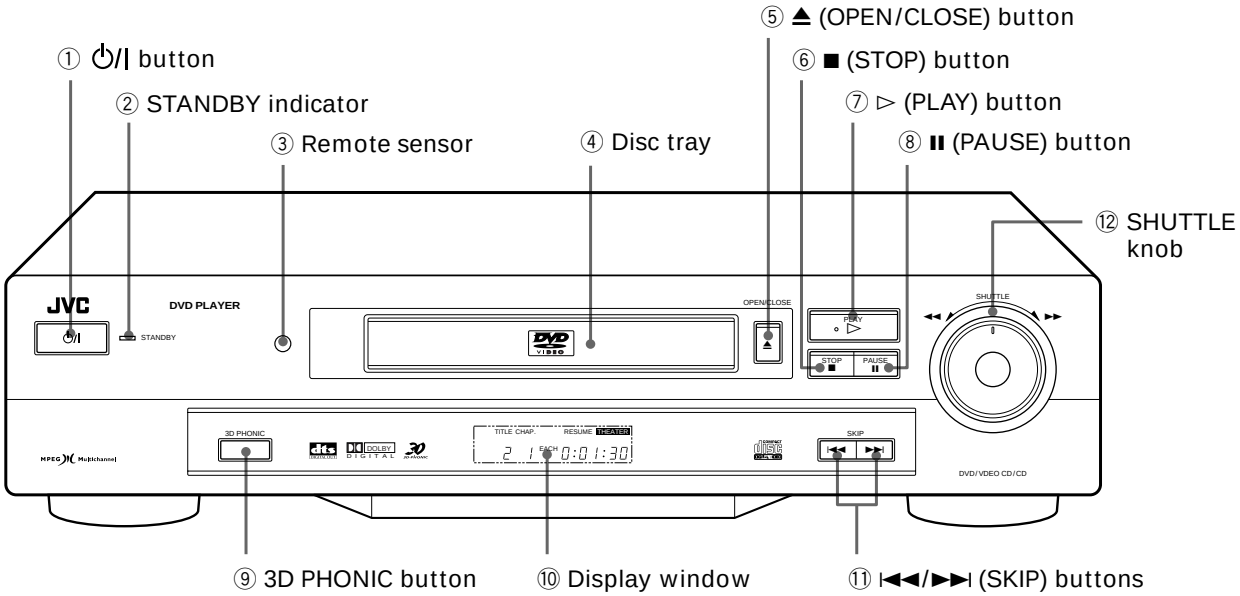
# Names of parts and controls

Refer to the corresponding pages indicated in () for details.

## Front panel




① ⏻/I button (17)
Turns the unit on or off (standby).

② STANDBY indicator
Lights when the power cord is connected and the unit is on standby. When the unit is turned on, the STANDBY indicator goes off.

③ Remote sensor
Receives the signal from the remote control unit.

④ Disc tray (17)
Used to load a disc.

⑤ ⏏ (OPEN/CLOSE) button (17)
Used to open and close the disc tray.

⑥ ■ (STOP) button (18)
Stops playback.
Also used to erase all programmed tracks for the program play.

⑦ ▷ (PLAY) button (18)
Starts playback. Also, used as a SELECT button for the PBC of Video CDs.

⑧ II (PAUSE) button (18)
Pauses playback.

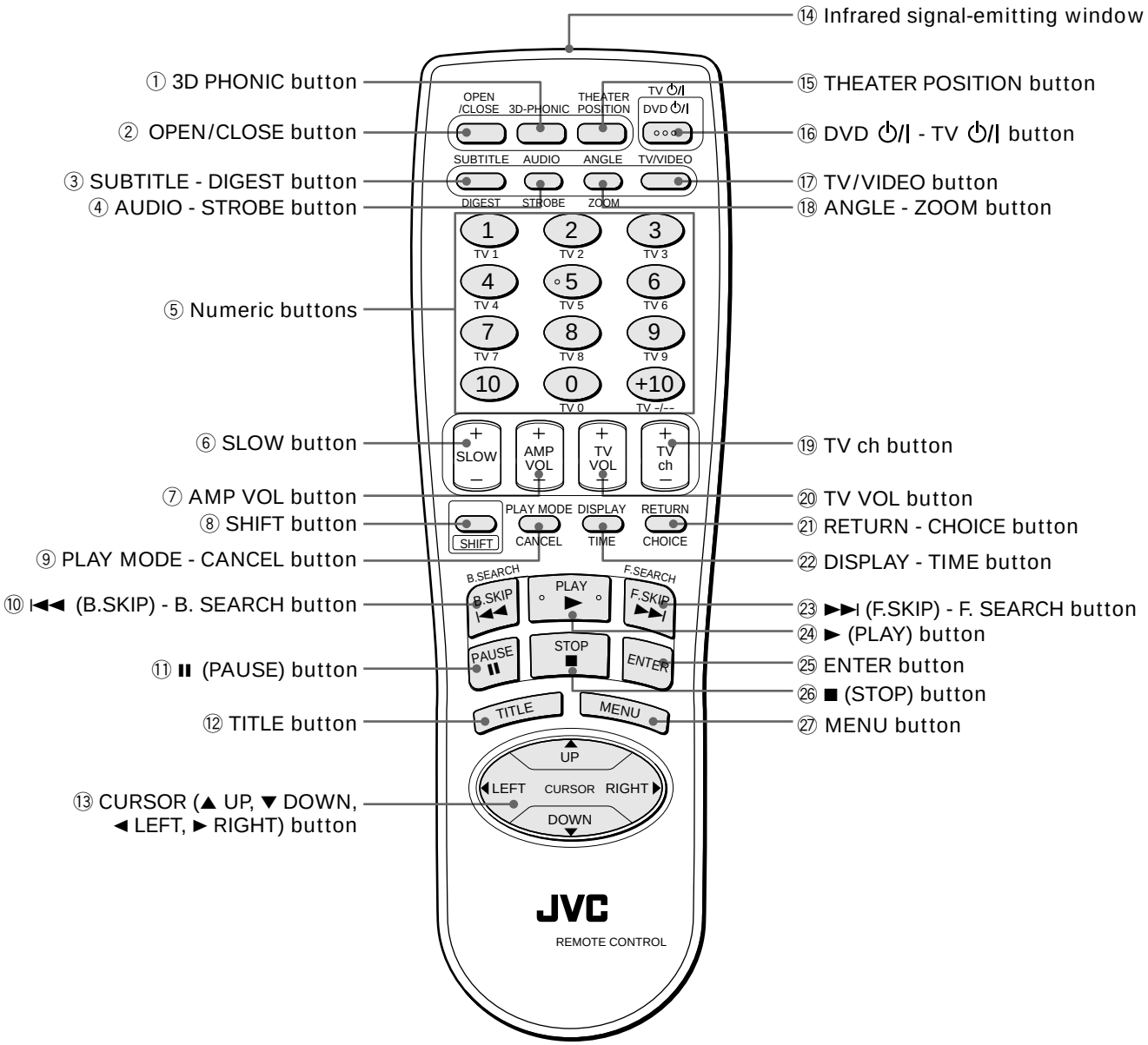
⑨ 3D PHONIC button (32)
Produces a simulated surround effect.

⑩ Display window
Indicates the current status of the unit.

⑪ ⏮/⏭ (SKIP) buttons (19, 21)
Used to skip a chapter, title or track.
Also, used for the page selection of a menu screen (for DVD VIDEO/Video CD).
Holding down ⏮ or ⏭ during playback reverses or advances playback rapidly.

⑫ SHUTTLE knob (19, 25)
Performs rapid advance/reverse playback operations. Also used for slow-motion playback of a picture (for DVD VIDEO/Video CD).

## Remote control unit



① 3D PHONIC button (32)
Produces a simulated surround effect.

② OPEN/CLOSE button (17)
Opens and closes the disc tray.

③ SUBTITLE - DIGEST button (23, 31)
Used to display the subtitle selection display on the TV screen, as well as used to turn the subtitle on or off (for DVD VIDEO).
Pressing this button while holding down the SHIFT button displays beginning scenes of each title, chapter or track on the TV screen (for DVD VIDEO/Video CD).

④ AUDIO - STROBE button (24, 31)
Selects the audio (for DVD VIDEO/Video CD). Pressing this button while holding down the SHIFT button displays nine continuous still pictures (for DVD VIDEO/Video CD).

⑤ Numeric buttons (10, 16)
Used to select a title or track number, as well as used to enter a time for the Time search and a chapter number for the Chapter search.
Also used to select a TV channel in conjunction with the SHIFT button.

⑥ SLOW button (25)
Used for slow-motion playback of a picture (for DVD VIDEO/Video CD).

⑦ AMP VOL button (16)
Used to control the volume of a JVC audio amplifier/receiver.

⑧ SHIFT button
Used together with other buttons for activating their second functions.

⑨ PLAY MODE - CANCEL button
Displays an on-screen display for controlling the advanced playback functions. Pressing this button while holding down the SHIFT button cancels the last selection of the program.

⑩ ⏮ (B.SKIP) - B. SEARCH button (19, 21, 23)
Skips back a chapter, title or track. Also used for the page selection of a menu screen (for DVD VIDEO/Video CD).
Holding down this button during playback reverses playback rapidly.
Pressing the button while holding down the SHIFT button during playback also reverses playback rapidly. If you press the button while holding down the SHIFT button during rapid reverse playback, the speed increases.

⑪ ❚❚ (PAUSE) button (18)
Pauses playback.

⑫ TITLE button (20)
Displays the title menu of a DVD VIDEO disc on the TV screen.

⑬ CURSOR (▲ UP, ▼ DOWN, ◄ LEFT, ► RIGHT) buttons
Used to select an item form a menu or on-screen display, or to change the setting of an item in the on-screen display.

⑭ Infrared signal-emitting window
Point this window toward the remote sensor on the front panel when pressing buttons.

⑮ THEATER POSITION button (32)
Selects a picture character from 4 options (for DVD VIDEO/Video CD).

⑯ DVD ⏻/❙ - TV ⏻/❙ button (17)
Turns the unit on or off (standby). Pressing this button while holding down the SHIFT button turns the TV on or off.

⑰ TV/VIDEO button (16)
Switches the TV input mode.

⑱ ANGLE - ZOOM button (26, 30)
Changes camera angles during playback of a DVD VIDEO disc containing multiple camera angles. Pressing this button while holding down the SHIFT button zooms in the picture (for DVD VIDEO/Video CD).

⑲ TV ch button (16)
Changes the TV channels.

⑳ TV VOL button (16)
Adjusts the TV volume.

㉑ RETURN - CHOICE button (20, 35)
Returns to the previous menu (for DVD VIDEO/Video CD). Pressing this button while holding down the SHIFT button displays Preference on-screen display on the TV screen.

㉒ DISPLAY - TIME button (33, 34)
Displays the status information (only for DVD disc) or the time information (for any disc types). When the time information appears, pressing this button while holding the SHIFT button changes the time mode.

㉓ ⏭ (F.SKIP) - F. SEARCH button (19, 21, 23)
Skips forward a chapter, title or track. Also used for the page selection of a menu screen (for DVD VIDEO/Video CD).
Holding down this button during playback advances playback rapidly.
Pressing the button while holding down the SHIFT button during playback also advances playback rapidly. If you press the button while holding down the SHIFT button during rapid advance playback, the speed increases.

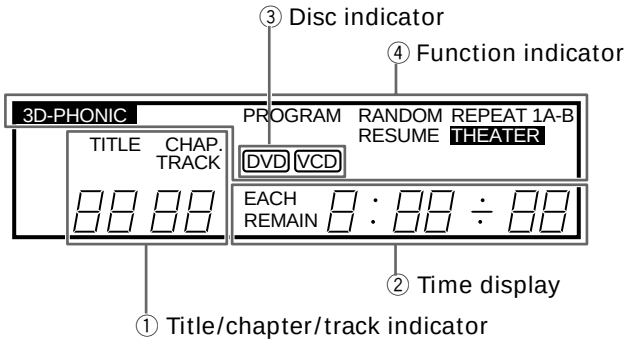
㉔ ► (PLAY) button (18)
Starts playback. Also used as a SELECT button for PBC of Video CDs.

㉕ ENTER button
Executes the selected item in a menu or on-screen display.

㉖ ■ (STOP) button (18)
Stops playback.
Also used to erase all the programmed tracks for the program play.

㉗ MENU button (20)
Displays a DVD menu on the TV screen.

## Display window




① Title/chapter/track indicator
Displays title/chapter, or track number.

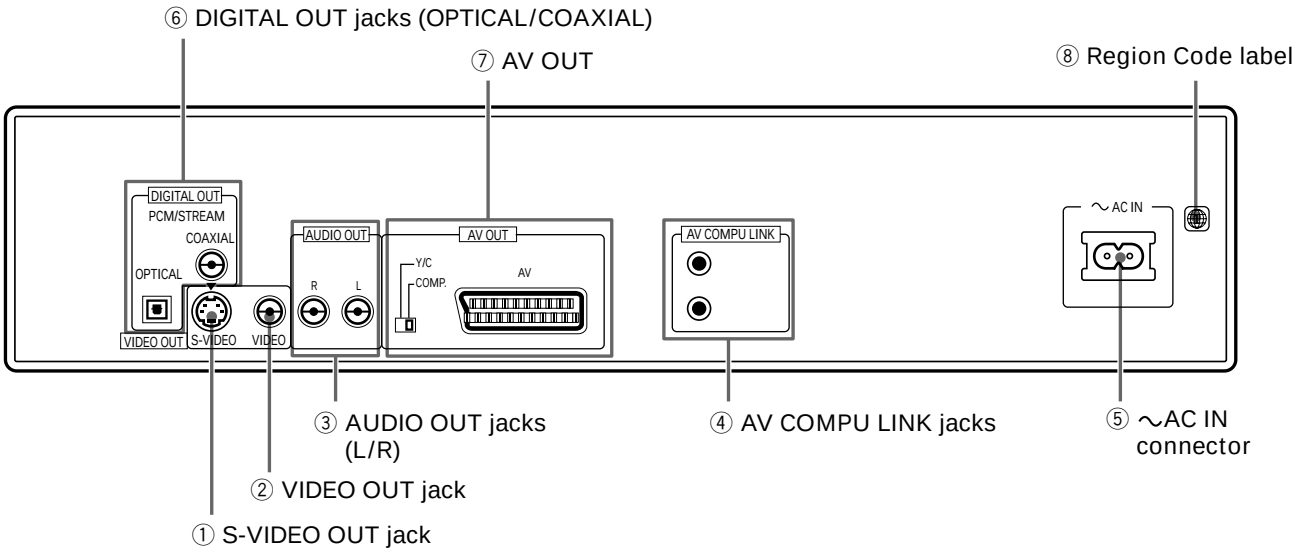
② Time display
Shows the cumulative or remaining time of the track or disc, or the total disc time.

③ Disc indicator
Indicates the type of the disc set in the tray. When a DVD VIDEO or Video CD disc is set, "DVD" or "VCD" is indicated. When an Audio CD is set, there is no indication.

④ Function indicator
Activated function indicators light up.

Preliminary Knowledge

## Rear panel




① S-VIDEO OUT jack (12)
Outputs an S-video signal.

② VIDEO OUT jack (12)
Outputs a composite video signal.

③ AUDIO OUT jacks (L/R) (12)
Output stereo analog audio signals.

④ AV COMPU LINK jacks (41)
Connect with other JVC equipment supporting the AV Compulink function to facilitate integrated operations.

⑤ ∼ AC IN connector (14)
Connects to the wall outlet using the supplied AC power cord.

⑥ DIGITAL OUT jacks (14)
Output digital audio signals. Both coaxical and optical connectors are provided. You must select the signal type correctly according to the external device connected to via the Preference display.

⑦ AV OUT (13)
The Standard 21-pin SCART connector feeds the video and audio signals. The video output signal is selected from composite (COMP) and Y/C by the COMP-Y/C switch. The audio signal is same as AUDIO OUT.

⑧ Region Code label (11)
Shows Region Code number.

# Operational Principles

## On-screen displays

The unit provides several on-screen displays.
With some displays, you can set or select preferences or functions, while the others are display-only.

### Opening displays

The Opening display appears automatically in some conditions.
At the bottom, the following information are indicated depending on the unit's status.

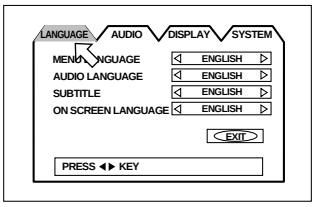
- NOW READING: The unit is now reading the disc information (TOC).
- REGION CODE ERROR!: The DVD VIDEO disc loaded cannot be played because the region code of the disc does not match the unit.
- OPEN: The disc tray is now opening.
- CLOSE: The disc tray is now closing.

Opening display

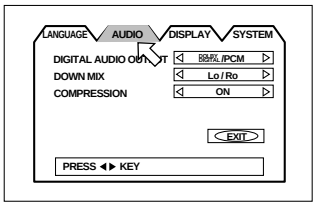
### Preference displays

When the unit is stopped, pressing the RETURN-CHOICE button while holding the SHIFT button accesses the preference display for setting the preferences.
There are four pages: LANGUAGE, AUDIO, DISPLAY and SYSTEM as shown in the right.
See page 35 for detailed information.

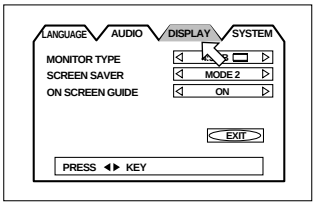
LANGUAGE



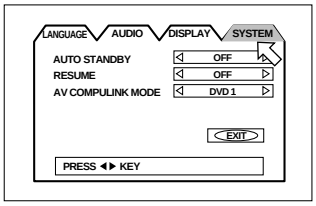

AUDIO




DISPLAY



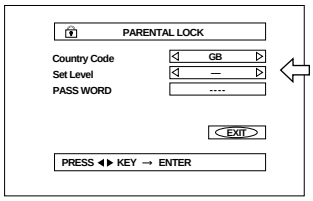

SYSTEM




### PARENTAL LOCK displays

When no disc is inserted or a DVD VIDEO disc is stopped, pressing the ENTER button while holding down the SHIFT button accesses the PARENTAL LOCK display in which you can set the level for limiting playback.
See page 39 for detailed information.

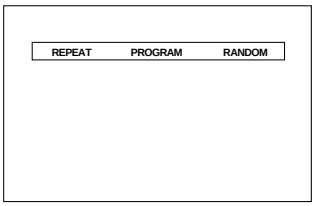
PARENTAL LOCK



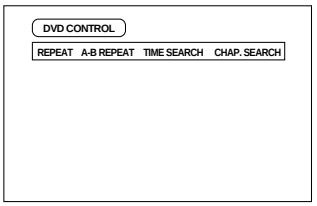
## Play mode displays

Pressing the PLAY MODE button accesses the play mode display in which you can control playback functions.
Different displays appear depending on the disc type and the unit's status.

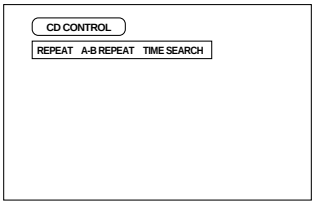
While stopped



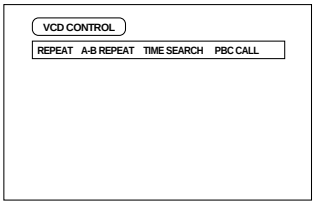

During DVD VIDEO playback




During Audio CD playback



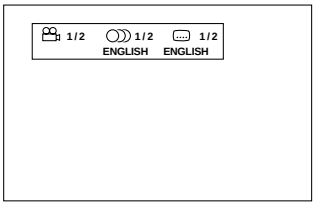

During Video CD playback



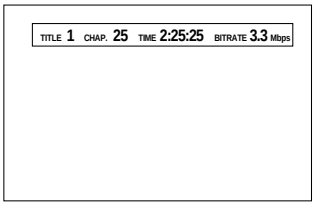

## Status displays

Pressing the DISPLAY-TIME button during playback accesses the status display.
For a DVD VIDEO disc, pressing the DISPLAY-TIME button toggles between the DVD VIDEO function status display, and the disc/time display and off.
For a Video CD or Audio CD disc, pressing the DISPLAY-TIME button switches the disc/time display on and off.

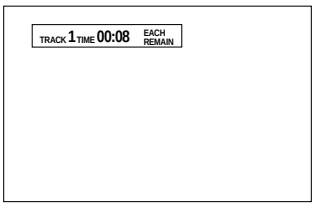
DVD VIDEO function status



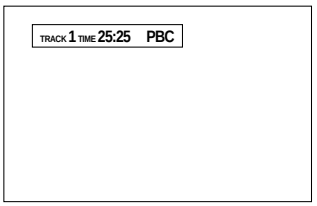

Disc/time (DVD VIDEO )




Disc/time (Audio CD/Video CD without PBC)



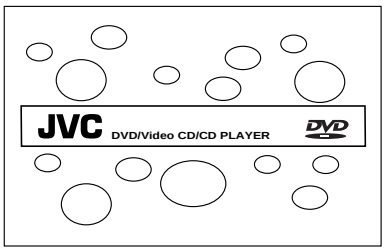

Disc/time (Video CD with PBC)




# To prevent the monitor from burning out [SCREEN SAVER]

A television monitor screen may be burned out if a static picture is displayed for a long time. To prevent this, the unit automatically activates the screen saver function if a static picture, such as an on-screen display or menu, is displayed for over 5 minutes.

- Pressing any button on the unit or the remote control unit will release the screen saver function and return to the previous display.
- You can select one of several screen saver modes available (see page 37).
- The screen saver function is not activated during Audio CD playback or after stopping Audio CD playback.



## On-screen guide icons

During DVD playback, you may see icons displayed over the picture. These have the following meanings.

: Displayed at the beginning of a scene recorded from multiple angles. (See page 30.)

: Displayed at the beginning of a scene recorded with multiple audio languages. (See page 31.)

: Displayed at the beginning of a scene recorded with multiple subtitle languages. (See page 31.)

You can set the unit not to display on-screen icons above via the preference settings described on page 38.

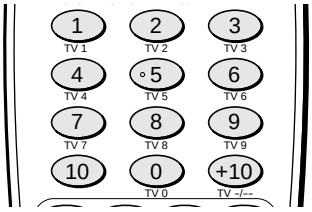
### About invalid operation icon

When you press a button, if the unit does not accept its operation, ⃠ appears on your television screen. Operations are occasionally unacceptable even if ⃠ is not displayed.

Note that some operations may not be accepted. For example, some discs may not allow rapid advance/reverse or slow-motion playback.



## How to use numeric buttons




### To select a track/title number

- To select a number between 1 and 10
  Press the corresponding button for the number.
- To select a number higher than 10
  Use the +10 button.

Examples:

| | |
|---|---|
| To select 13 | +10 → 3 |
| To select 34 | +10 → +10 → +10 → 4 |
| To select 40 | +10 → +10 → +10 → 10 |

### To enter a time or chapter number

The method for entering a time for Time search or chapter number for Chapter search is different from above. See the corresponding sections in this manual for the details.

### To select a TV channel.

Press the corresponding numeric buttons (between 0 and 9) while holding down the SHIFT button.

# About discs

## Playable disc types

Playable and non-playable disc types are as follows:

### Playable discs

| DVD VIDEO | Video CD | Audio CD | CD-R<br>CD-RW |
|---|---|---|---|
| | | | |

The DVD VIDEO Logo is a trademark.



- CD-R and CD-RW discs recorded with the audio CD format can be played back, though some may not be played back because of the disc characteristics or recording condition.
- DVD VIDEO players and DVD discs have their own Region Code numbers. This unit only can play back DVD VIDEO discs whose Region Code numbers include “2.”
  Examples of playable DVD VIDEO discs:

This unit accommodates discs for the PAL system.

### Non-playable discs

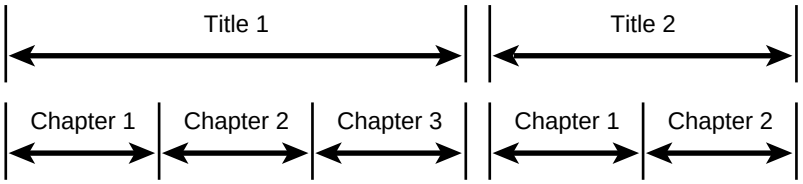
DVD-ROM, DVD-RAM, DVD AUDIO, DVD-R, DVD-RW, CD-ROM, PHOTO CD, CD-EXTRA, CD-G, CD-TEXT

- Playing back discs listed as “Non-playable discs” in the table above may generate noise and damage speakers.
- This unit can play back audio recorded in CD-G, CD-EXTRA and CD-TEXT discs.

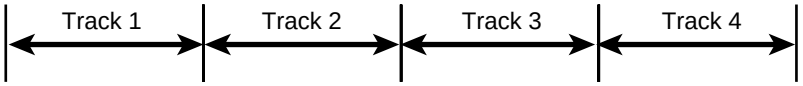
## Disc structure

A DVD VIDEO disc is comprised of “titles,” while an Audio CD, Video CD is comprised of “tracks.” Each title may be divided into some “chapters.” For example, if a DVD VIDEO disc contains some movies, each movie may have its own title number, and each movie may be divided into some chapters. In a DVD VIDEO karaoke disc, each song usually has its own title number and does not have chapters. In general, each title has independent content, while each chapter in the same title has continuity.

(Example: DVD VIDEO disc)




(Example: Audio CD/Video CD)



# Connections

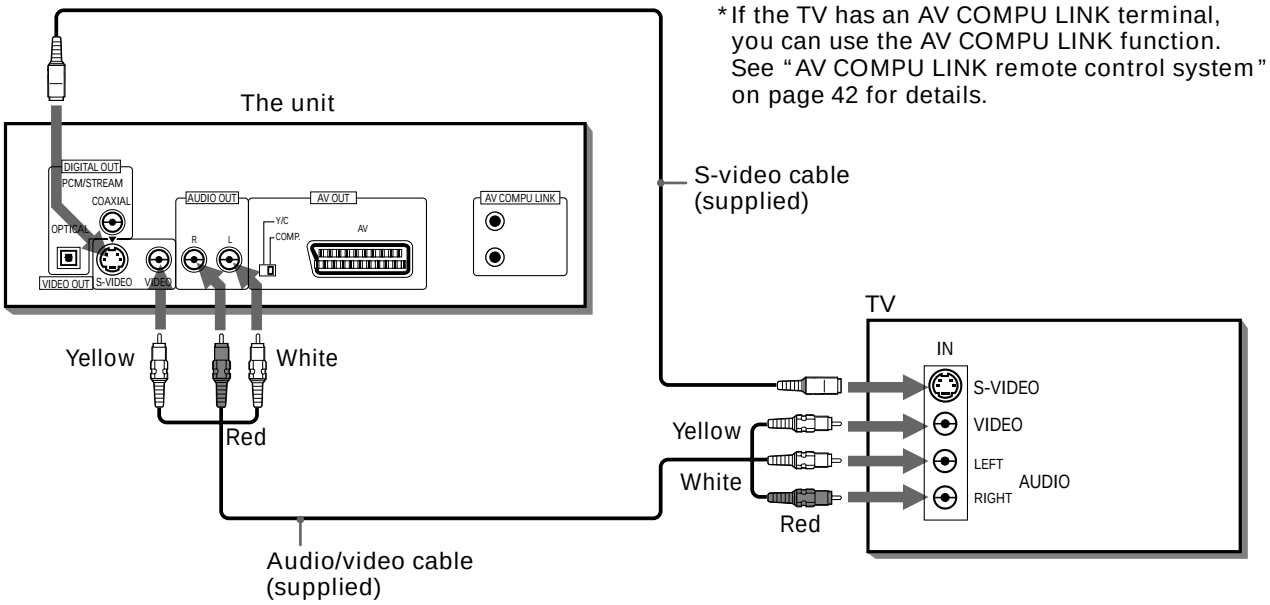
*In the following description, “TV” may be substituted with “monitor” or “projector.”
*Before using the unit, you have to connect the unit to a TV and/or amplifier.

## Before making any connections

- Do not connect the AC power cord until all other connections have been made.
- Since different components often have different terminal names, carefully read the instructions supplied with the component you are going to connect.

## To connect to a TV

You can enjoy using the unit by simply connecting it to a TV. To improve audio sound quality, connect the audio outputs to your separate audio equipment. (See the following pages.)




Connect the unit to a TV equipped with stereo audio input and video input jacks using the supplied audio/video cables.

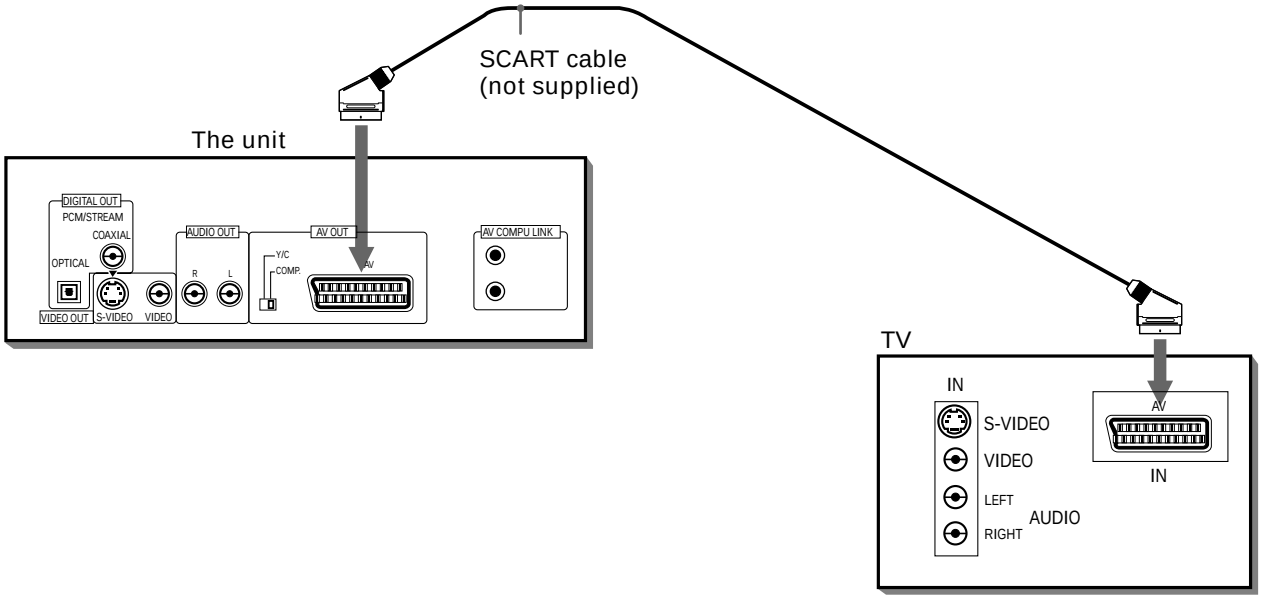
- If your TV has a monaural audio input instead of stereo, you need to use an optional audio cable which converts stereo audio output to monaural.
- If your TV has an S-video input, you should connect it with the S-VIDEO output of the unit using the supplied S-video cable in addition to the (standard) video connection to get better picture quality.

**NOTES**

- Connect VIDEO OUT of the unit directly to the video input of your TV. Connecting VIDEO OUT of the unit to a TV via a VCR may cause a monitor problem when playing back a copy-protected disc.
- Connect the unit to a PAL television. Do not connect the unit to an NTSC television.

## To connect to a TV with the SCART connector

You can enjoy using the unit by simply connecting it to your television set with a 21-pin SCART cable. To hear audio sound with better quality, connect the audio output to your audio equipment.




Connect the unit's AV OUT connector with your TV's SCART connector using an optional SCART cable.

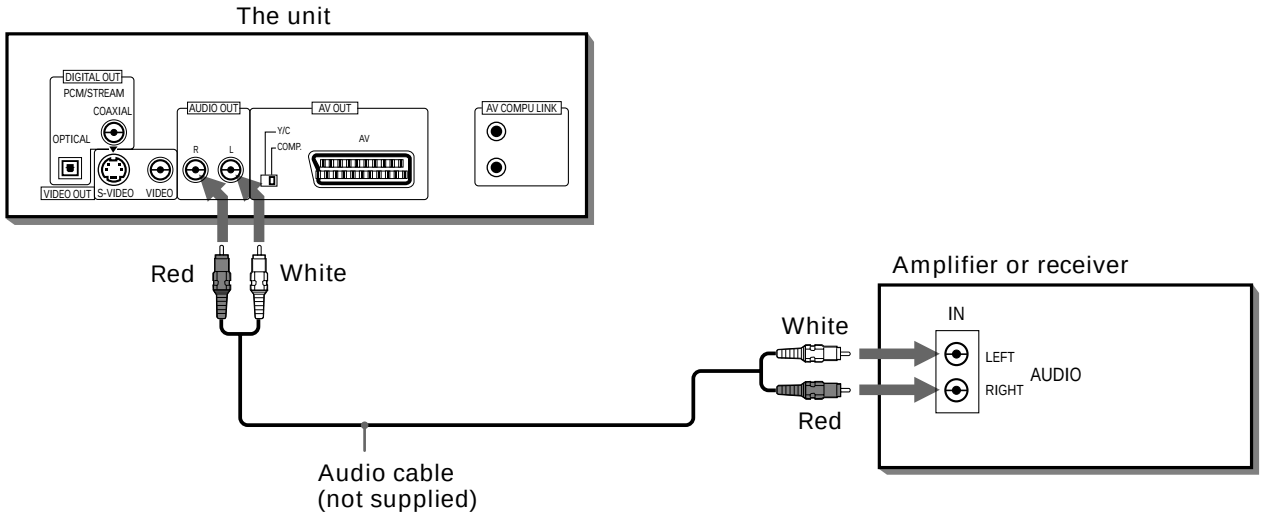
- Set the COMP.-Y/C switch correctly according to your TV. If the TV only accommodates the regular (composite) video signal, set the switch to "COMP". If the TV accommodates the Y/C signal, set the switch to Y/C so that you can enjoy better-quality pictures.

**NOTE**

- Do not connect the unit to an NTSC television. Connect it to a PAL television.

## To connect to an audio amplifier or receiver

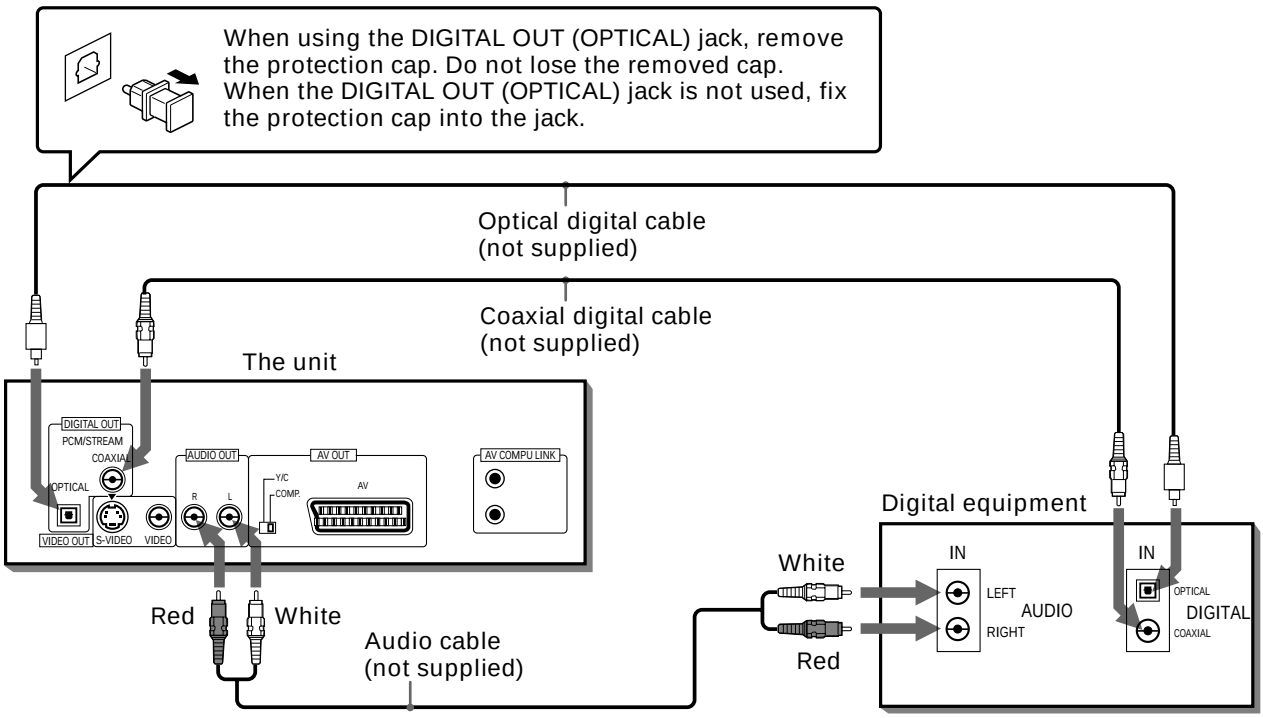
You can enjoy high-quality audio by connecting the unit's audio output to your amplifier or receiver.




- Connect the unit's AUDIO OUT to any line-level inputs (such as AUX, DVD, CD, etc.) of an audio amplifier or receiver.

## To connect to audio equipment with a digital input

You can enhance the sound quality by connecting the unit's DIGITAL OUT to the digital input of an amplifier, DAT or MD by using an optional digital cable. The digital audio signal from a disc is directly transferred. If you connect the unit to a Dolby Digital, DTS or MPEG Multichannel decoder or an amplifier with a built-in decoder by using an optional digital cable, you can enjoy high-quality surround sound.
When you make the digital connection, also make the analog connection, because, depending on the disc type, no audio may be reproduced from the DIGITAL OUT.




NOTES

- When you connect the unit's DIGITAL OUT to digital audio equipment, before using, make the "DIGITAL AUDIO OUTPUT" setting in the "AUDIO" page of the preference display correctly according to the connected audio equipment. If the "DIGITAL AUDIO OUTPUT" is not set correctly, loud noise may be generated from speakers, causing damage to your speakers. See "DIGITAL AUDIO OUTPUT" on page 36.
- With the digital connection, the unit's settings for COMPRESSION and DOWN MIX in the AUDIO page of the preference display are invalid. Settings for these items must be made from the decoder.

## To connect the power cord

When all the audio/video connections have been made, insert the smaller plug of the supplied AC power cord to the unit's AC IN connector, then insert the other end to the wall outlet. Make sure that plugs are inserted firmly. The STANDBY indicator lights and setup is completed.

### ⚠ Warning

- Disconnect the power cord if you are not going to use the unit for a long time.
- Disconnect the power cord before cleaning the unit.
- Disconnect the power cord before moving the unit.
- Do not connect or disconnect the power cord with wet hands.
- Do not pull the power cord when disconnecting it, as this may damage the cord and cause fire, electric shock, or other accidents.

### ⚠ Caution

- Do not damage, alter, twist, or pull the power cord, as this may cause fire, electric shock, or other accidents.
- To prevent any accidents or damages caused by an unsuitable AC power cord, only use the supplied power cord. If the cord is damaged, contact a dealer and get the new power cord.
- Do not put anything heavy, or the unit, on the power cord, as this may cause fire, electric shock, or other accidents.

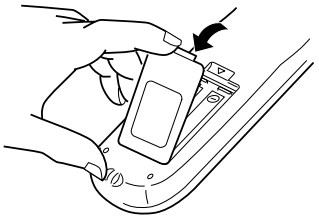
# Using the remote control unit

Using the remote control, you can operate not only all the functions of the unit but also basic functions of your TV.

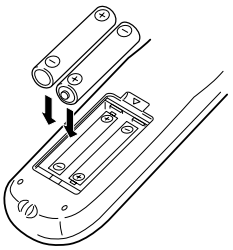
## To install batteries in the remote control unit

The battery compartment is located on the back of the remote control unit.

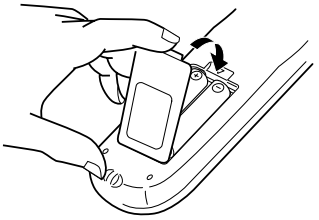
1 Press down on the point shown by the arrow at the top of the compartment cover, and pull up the cover to open the compartment.



2 Place the two accessory R6P (SUM-3)/AA(15F) batteries in the remote control according to the polarity markings (“+” and “–”) inside the compartment and on the batteries.



3 Place the cover over the compartment, and press down lightly.



- The batteries will last about six months with normal use. If the functions of the remote control become erratic, replace the batteries. See below for more information.

### Precautions for the safe use of batteries

Observe the following precautions for the safe use of batteries. If they are used improperly their life will be shortened, they may burst or their contents may leak.

**Precaution**

- Remove the batteries from the remote control if it is not going to be used for a long period of time.
- Remove dead batteries and dispose of them properly.
- Never leave dead batteries lying around, take them apart, mix them with other refuse, or throw them into an incinerator.
- Never touch liquid that has leaked out of a battery.
- Do not mix new and old batteries, or batteries of different types, when replacing them.

## To use the remote control unit for TV operation

You can operate your TV from the remote control unit.

Setting the remote control signal for operating your TV.

1 Holding down TV/VIDEO, enter the manufacturer code of your TV listed below by using the numeric buttons (0 - 9). Do not release TV/VIDEO. Keep holding it until the next step is completed.

Manufacturer code list

| No. | Manufacturer |
|---|---|
| 01 | JVC |
| 02 | JVC |
| 03 | JVC |
| 04 | JVC |
| 05 | THOMSON |
| 06 | FERGUSON |
| 07 | PHILIPS |
| 08 | GRUNDIG |
| 09 | SONY |

| No. | Manufacturer |
|---|---|
| 10 | PANASONIC |
| 11 | ITT |
| 12 | MIVER |
| 13 | HITACHI |
| 14 | TOSHIBA |
| 15 | MITSUBISHI |
| 16 | FINLUX |
| 17 | NOKIA |
| 18 | SHARP |

| No. | Manufacturer |
|---|---|
| 19 | SAMSUNG |
| 20 | FUNAI |
| 21 | GOLDSTAR |
| 22 | NEC |

Example:

To enter the manufacturer code “01”:
Press “0” then “1.”

2 Press ■ (STOP) while holding down TV/VIDEO.

The following buttons can be used for operating the TV:

| | |
|---|---|
| SHIFT + TV ⏻/I DVD ⏻/I | Turns the TV on or off. |
| + TV ch − | Changes the TV channels. |
| + TV VOL − | Adjusts the TV volume. |
| SHIFT + 1 to 10 (TV 1) 0 (TV 0) +10 (TV –/--) | Selects the TV channels.<br>*For some TVs, pressing “+10” while holding down SHIFT functions as the “–/--.” “10” functions as the ENTER button if your TV requires pressing the ENTER button after selecting a channel number. |
| TV/VIDEO | Switches input mode (either TV or VIDEO). |

3 Try to operate your TV by pressing DVD ⏻/I - TV ⏻/I while holding SHIFT.
If your TV turns on or off, you have successfully set the control signal.

NOTES

- The remote control unit is initially set for operating a JVC TV.
- If there is more than one code listed for the manufacturer of your TV, try them one by one until you succeed.

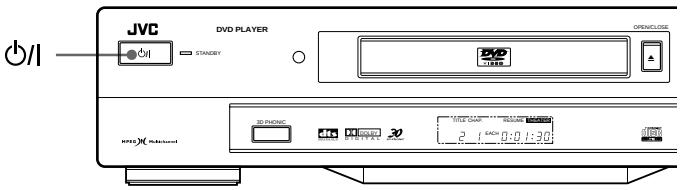
## To control the volume of a JVC’s amplifier or receiver

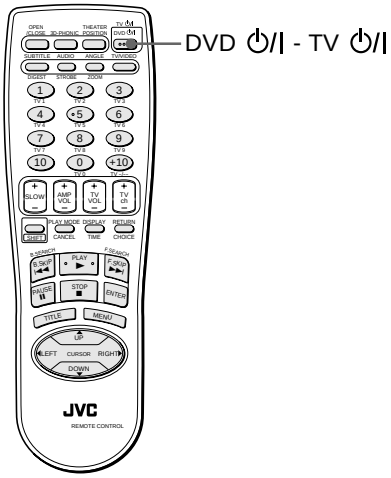
You can control the volume of a JVC’s amplifier or receiver by using the AMP VOL button on the remote control unit.

In the following description, the buttons on the remote control unit are mainly used, however, you may use the corresponding buttons on the front panel of the unit if available.

# Turning on/off the unit

Press ⏻/| on the front panel or press DVD ⏻/| - TV ⏻/| on the remote control unit.




**Hints**

- You can turn on the unit by pressing the PLAY button on the front panel or the remote control unit. In this operation, the unit starts playback if the disc is set in the disc tray.
- You can also turn on the unit by pressing the OPEN/CLOSE button on the front panel or the remote control unit. In this case, the disc tray opens.

**NOTE**

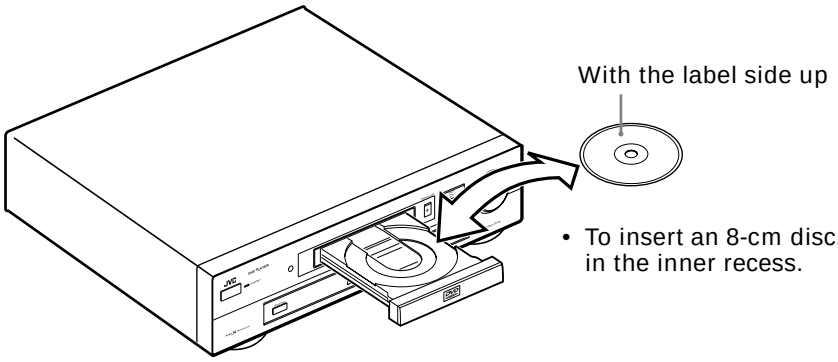
Even if you press the ⏻/| or DVD ⏻/| - TV ⏻/| button to turn off the unit, the unit is not disconnected from the AC power source as long as it is connected to the wall outlet. This state is called the standby mode. In this state, the unit is designed to consume a very small quantity of power.



# Inserting and removing discs

1 Press OPEN/CLOSE to open the disc tray.

2 Place the disc in the tray.




- To insert an 8-cm disc, place it in the inner recess.

3 Press OPEN/CLOSE to close the disc tray.

**NOTES**

- The unit can playback DVD VIDEO, Audio CD, and Video CD discs only. Do not load other disc types. For details about playable disc types, see page 11.
- When loading a disc in the tray, be sure to position the disc inside the recess. Otherwise, the disc may be damaged when the tray is closed, and the disc may not be removed from the unit.

# Basic playback

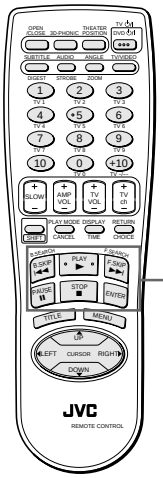
Now you can play a disc. First, let's enjoy simple playback according to following procedure.

## To start playback

DVD VIDEO Audio CD Video CD

### Press PLAY.

The unit starts playback from the beginning.




NOTES

- During playback, the display window shows the title/chapter or track number being played.
- With Video CD discs with PBC control or some DVD discs, the menu display may appear on the TV screen after starting playback. In such a case, select an item to be played back from the menu.
  For operation using a menu, see page 20.
- With some DVD discs, the unit starts playback automatically after inserting the disc.

## To stop playback completely

DVD VIDEO Audio CD Video CD

### Press STOP.

The unit stops playback.

## To stop playback temporarily

DVD VIDEO Audio CD Video CD

### Press PAUSE.

The unit pauses playback. To continue playback, press PLAY.

## To advance or reverse playback rapidly while monitoring

DVD VIDEO Audio CD Video CD

■ During playback

### From the remote control unit

### Hold down ⏮ or ⏭.

Holding down ⏭ advances playback rapidly, while holding down ⏮ reverses playback at 5 times the normal speed. Releasing the button returns the unit to normal playback.

### or

### Press ⏮ or ⏭ while holding down the SHIFT button.

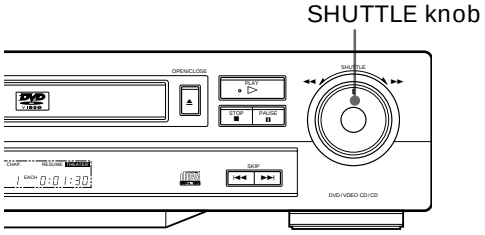
Each press of ⏮ or ⏭ while holding down the SHIFT button increases the playback speed from 2 x to 60 x the normal speed.

Pressing PLAY returns the unit to normal playback.

### From the front panel

### Use the SHUTTLE knob.

To advance playback rapidly, turn the shuttle knob to the right and hold, and to reverse play rapidly, turn the shuttle knob to the left and hold. By releasing the shuttle knob, the unit returns to normal playback. The playback speed changes according to the amount you turn the shuttle knob.




Hints

Holding down the ⏮ or ⏭ button on the front panel also advances or reverses playback rapidly.

## To locate the beginning of the scene or song

DVD VIDEO Audio CD Video CD

■ During playback

### Press ⏮ or ⏭.

Press ⏮ to locate the beginning of the current chapter, title, or track, and press ⏭ to locate the beginning of the next chapter, title, or track.

NOTE

When you play a Video CD disc with the PBC function or a DVD VIDEO disc, the unit may locate a different place, but it will generally locate the beginning of the title or chapter or track.

# Resuming playback

The unit can memorize the position on a disc where you interrupt playback, and resume playback from that position next time you press PLAY.

## To memorize the interrupted position

DVD VIDEO Video CD

1 Set the RESUME setting on the SYSTEM page of the preference display to ON.

(See page 38 for details about how to set.)

2 At the position you want to interrupt playback, press STOP, or press DVD ⏻/I - TV ⏻/I on the remote control or ⏻/I on the front panel.

The unit memorizes the interrupted position, while [RESUME] lights in the display window.

Hints

If you interrupt playback by pressing STOP in step 2 above and then turn off the power, the memory is not cleared.

## To resume playback

DVD VIDEO Video CD

■ While the disc you interrupt playback last time is still in the disc tray

### Press PLAY.

The unit starts playback from the position where you interrupted playback last time.

● To clear the resume position memory

Carry out one of the followings.

* Take out the disc from the tray
* Press STOP while stopped
* Turn on the unit by pressing DVD ⏻/I - TV ⏻/I (on the remote control) or ⏻/I (on the front panel).

NOTES

- Do not press ⏻/I (on the front panel) or DVD ⏻/I - TV ⏻/I (on the remote control) to turn on the unit if you want to resume playback, which will clear the resume position memory.
- The resume function does not work with Audio CD discs.
- The resume function does not work if RESUME on the SYSTEM page of the preference display is set to OFF.
- In the case of a Video CD disc with PBC function, the unit may resume playback from a point slightly earlier than the resume point you stored.
- The resume function does not work in the program or random mode.

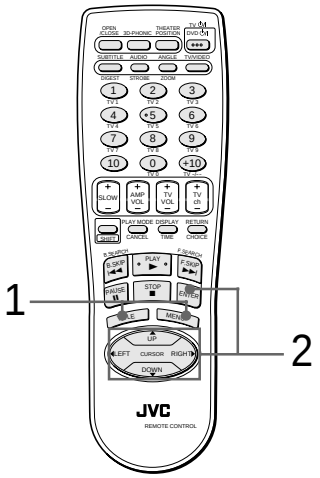
# Playing from a specific position on a disc

You can play a disc from the selected track, title or chapter, or from the specified time.

## To locate a desired scene from the DVD menu

DVD VIDEO

DVD VIDEO discs generally have their own menus which show the disc contents. These menus contain various items such as titles of a movie, names of songs, or artist information, and display them on the TV screen. You can locate a desired scene by using the menu.




■ Whenever a DVD VIDEO disc is loaded

1 Press MENU or TITLE.

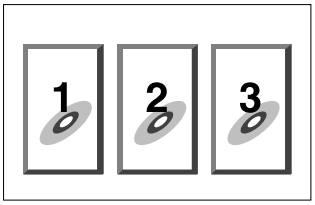
The menu appears on the TV screen.

Hints

About menu

Normally, a DVD VIDEO disc which contains more than one title may have a "title" menu which lists the titles. In this case, the menu appears on the TV screen by pressing the TITLE button. Some DVD VIDEO discs may also have a different menu which appears by pressing the MENU button.

Example




See the instructions of each DVD VIDEO disc for its particular menu.

2 Use CURSOR ◄/►/▲/▼ to select a desired item, then press ENTER.

The unit starts playback of the selected item.

Hints

With some discs, you can also select items by entering the corresponding number using the numeric buttons, which may cause the unit to automatically start playback.

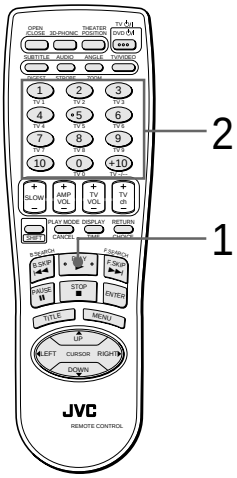
NOTES

- When ⃠ appears on the TV screen by pressing TITLE in step 1:
  The disc does not have a menu listing the titles.
- When ⃠ appears on the TV screen by pressing MENU in step 1:
  The disc does not have a menu
- The menu button does not work while stopped.

## To locate a desired scene from the menu of the Video CD with PBC

Video CD

Some Video CD discs are compatible with the PBC function. PBC is an abbreviation of "PlayBack Control." A Video CD disc recorded with PBC has its own menus, such as a list of the songs of the disc and items recorded on the disc. You can also locate a specific scene by using the menu.

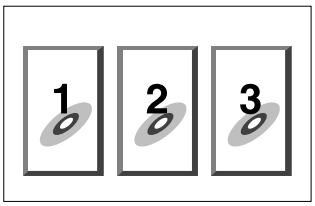



■ When a Video CD disc with PBC is stopped

1 Press PLAY.

A disc menu appears on the TV screen (The PBC function is activated).

Example:




"Pbc" is indicated in the display window on the front panel.

2 Use the numeric buttons to select the desired number of the item.

- See page 10 for details about how to use the numeric buttons.

Playback starts from the selected item.

You can return to the menu by pressing RETURN - CHOICE.

When "NEXT" or "PREVIOUS" appears on the TV screen, the unit generally works as follows:

- Pressing ►►I advances to the next page.
- Pressing I◄◄ returns to the previous page.

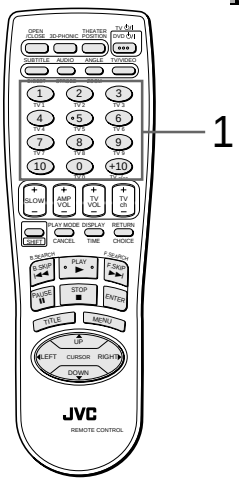
* The method of the operation is different depending on the disc.

Hints

- To activate the PBC function when a PBC-compatible Video CD disc is being played back without the PBC function, press STOP then press PLAY.
- You can also activate the PBC function using the play mode menu display as follows.
  1. Press PLAY MODE - CANCEL.
  2. Use the CURSOR ◄/► to move to [PBC CALL], then press ENTER.
- If you want to playback a PBC-compatible Video CD disc without activating the PBC function, start playback by using the numeric buttons instead of the PLAY button. See the next paragraph.

## To locate a desired selection using the numeric buttons

DVD VIDEO Audio CD Video CD




You can play a desired title (DVD VIDEO) or track (Audio CD/Video CD) by specifying the number.

■ For DVD VIDEO: While stopped
For Audio CD: Whenever an Audio CD disc is loaded
For Video CD: During playback without PBC function or while stopped

**1** Use the numeric buttons to specify the desired title or track number.

The unit starts playback from the selected title or track.

- See page 10 for details about how to use the numeric buttons.

The selected title or track number appears in the display window on the front panel.

Display window

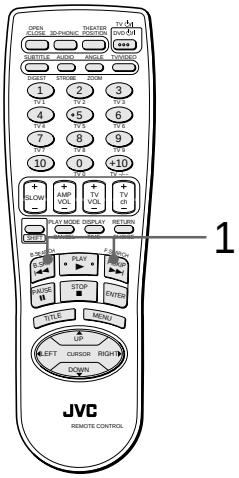
TITLE
TRACK
1 15

NOTES

- When ⃠ appears on the TV screen.
  The title or track you have specified is not contained in the disc.
- This function does not work during Video CD playback with PBC function

## To locate a desired selection using I◄◄ or ►►I

DVD VIDEO Audio CD Video CD




■ For DVD VIDEO: During playback
For Audio CD: During playback
For Video CD: During playback without PBC function

**1** Press I◄◄ or ►►I.

With an Audio CD or Video CD, pressing the button skips a track. With a DVD VIDEO disc, pressing the button skips a chapter or title depending on the disc configuration.

The selection number appears in the display window on the front panel.

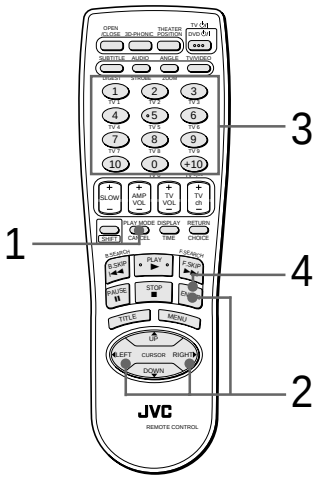
- To locate a subsequent selection, press ►►I once or repeatedly until the desired selection number appears in the display.
- To locate to beginning of the current selection, press I◄◄ once.
- To locate a former selection, press I◄◄ repeatedly until the desired selection number appears in the display.

NOTES

- This function may not work with some DVD VIDEO discs.
- This function does not work during Video CD playback with PBC function

## To locate a desired scene by specifying the chapter number [CHAP. SEARCH]

If the current title of a DVD VIDEO disc being played is divided into chapters, you can skip to a desired chapter by specifying the chapter number using the on-screen display.



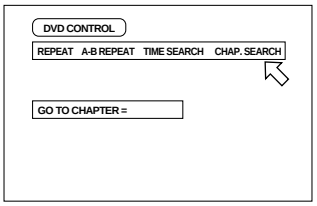

■ During DVD VIDEO playback

**1** Press PLAY MODE - CANCEL.

The DVD play mode menu appears on the TV screen.

**2** Use CURSOR ◄/► to move ⇖ to [CHAP. SEARCH], then press ENTER.

"GO TO CHAPTER = " appears under the menu.




**3** Use the numeric buttons (0 ~ 9) to enter the desired chapter number.

Example:

To select chapter number 8:
Press "8" → ENTER.

To select chapter number 37:
Press "3" → "7" → ENTER.

**4** Press ENTER.

The unit starts playback from the selected chapter.

Hints

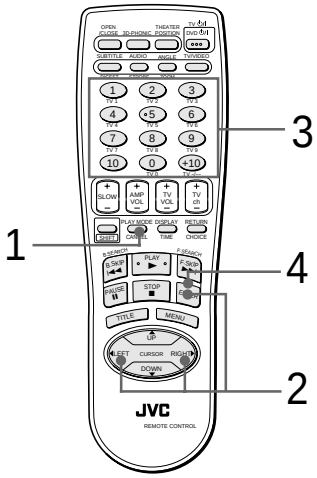
The "10" and "+10" buttons are not used in this function.

NOTES

- When the chapter number is incorrect in step 3:
  Overwrite the incorrect number with the correct number.
- When ⃠ is displayed in the TV screen in step 4:
  The chapter you have selected is not contained in the disc, or chapter search does not work on the disc.
- With some discs, the unit automatically starts searching for the chapter after entering the chapter number in step 3.
- To turn off the play mode menu:
  Press PLAY MODE.

## To locate a desired position in the current title or track [TIME SEARCH]

You can play a disc from the desired position by specifying the elapsed time from the beginning of the current title or track using the TIME SEARCH function. Note that some DVD VIDEO discs do not contain time information, and the TIME SEARCH function cannot be used.




■ For DVD VIDEO: During playback
For Audio CD: During playback
For Video CD: During playback without PBC function

**1** Press PLAY MODE - CANCEL.

The play mode menu appears on the TV screen.

**2** Use CURSOR ◄/► to move ⇖ to [TIME SEARCH], then press ENTER.

"GO TO" appears under the menu.

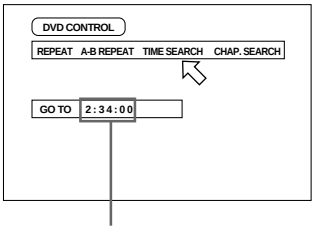
**3** Use the numeric buttons (0 ~ 9) to enter the time.

You can specify the elapsed time of the current title or track to set the location which you want to playback from.

## 4 Press ENTER.

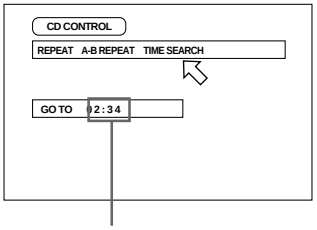
The unit starts playback from the specified time.

(for DVD VIDEO)



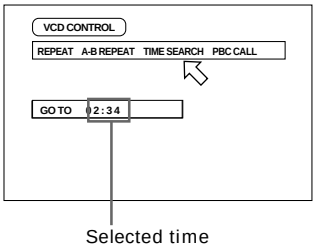

Selected time

(for Audio CD)




Selected time

(for Video CD)




Selected time

**Hints**

- "10" and "+10" buttons are not used in this function.
- You can specify the time in hour/minute/second format for DVD VIDEO discs, and in minute/second format for Audio and Video CD discs.

Example (for DVD VIDEO):
To playback from 2(H):34(M):00(S)

**GO TO _ : _ _ : _ _**

↓ Press "2".

**GO TO 2 : _ _ : _ _**

↓ Press "3".

**GO TO 2 : 3 _ : _ _**

↓ Press "4".

**GO TO 2 : 3 4 : _ _**

↓

Press ENTER.

You do not have to press "0" to enter the trailing zeros (for the last two digits in the example above). Of course, it is possible to enter them.

- When you make a mistake
  Move the cursor to the incorrect value, then press the correct button to re-select the value.

**GO TO 2 : 3 5 : _ _**

↓ Press CURSOR ◄.

**GO TO 2 : 3 _ : _ _**

↓ Press "4".

**GO TO 2 : 3 4 : _ _**

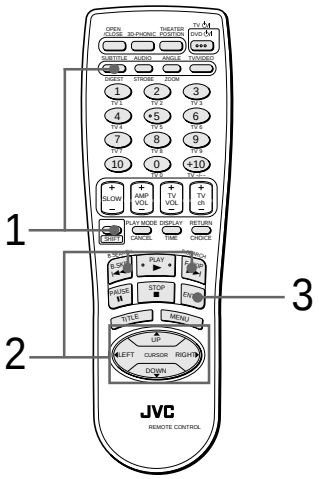
**NOTES**

- When ⃠ appears on the TV screen in step 2:
  The time you have selected is not contained on the disc, or the time search function does not work on the disc.
  Also note that the time search function does not work during Video CD playback with the PBC function.
- To turn off the play mode menu:
  Press PLAY MODE.
- The TIME SEARCH function cannot be used during program playback.

## To locate a desired scene from the digest display [DIGEST]

DVD VIDEO Video CD

The unit can display the opening scene of each title or chapter on a DVD VIDEO or each track of a Video CD. You can select a desired scene from those displayed on the TV screen.

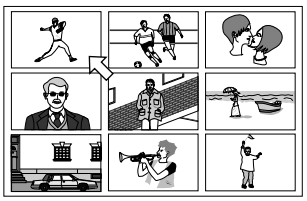



■ For DVD VIDEO: While stopped or during playback
For Video CD: While stopped or during playback without PBC function.

## 1 Press SUBTITLE - DIGEST while holding down SHIFT.

Up to nine opening scenes are displayed.

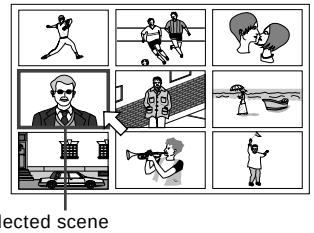
- While a DVD VIDEO disc is stopped:
  The opening scene of each title appears on the TV screen.
- During DVD VIDEO disc playback:
  The opening scene of each chapter in the current title appears on the TV screen.
- When a Video CD disc is loaded:
  The opening scene of each track appears on the TV screen .



## 2 Use CURSOR ◄/►/▲/▼ to select the desired scene.

The selected scene is indicated by ⇖.

If there are more than 9 scenes, the digest screen will have more than one page. In this case, pressing ►►I advances to the next page, while pressing I◄◄ returns to the previous page.




Hints

- When the lower right scene is selected, pressing CURSOR ► advances to the next page if available. Similarly, when the upper left scene is selected, pressing CURSOR ◄ returns to the previous page (if available).
- When there are more than one digest page, after pressing SUBTITLE - DIGEST while holding down SHIFT, pressing ►►I before all 9 scenes of the first page appear on the TV screen will advance to the next page. Similarly, pressing I◄◄ before all the scenes of the second or latter page appear on the TV screen will return to the previous page.

3 Press ENTER.

The unit starts playback from the selected title or track.

NOTE

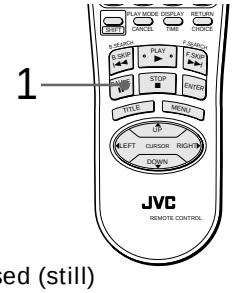
With some discs, depending on the contents, it may take some time until all the scenes appear on the screen.

# Special picture playback

The unit provides special picture playback functions including Frame-by-frame, Strobe, Slow-motion and Zoom.

## To advance a still picture frame-by-frame

DVD VIDEO Video CD




■ While paused (still)

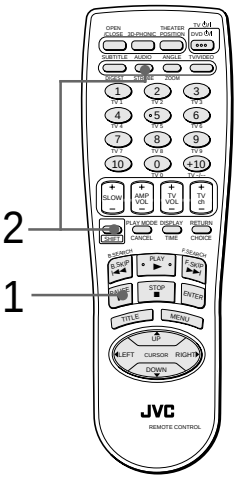
1 Press PAUSE.

Each time you press PAUSE, the still picture advances to the next frame.

Pressing PLAY returns to the normal playback mode.

## To display still pictures [STROBE]

DVD VIDEO Video CD



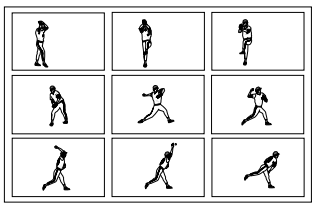

■ During playback

1 At the point you want to view as continuous photographs, press PAUSE.

The unit pauses playback.

2 Press AUDIO - STROBE while holding down SHIFT.

Nine continuous still pictures appear on the TV screen.



Hints

- Pressing PAUSE when the nine still pictures appear will advance to the next nine still pictures.

- To cancel strobe play
  Press AUDIO - STROBE while holding down SHIFT.

NOTES

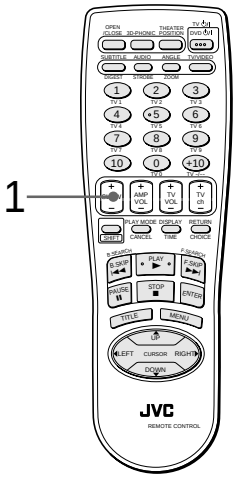
- Pressing and holding PAUSE for more than 1 second also activates the Strobe function.
- If you press AUDIO - STROBE while holding down SHIFT during playback, nine still pictures also appear but they advance in realtime.

## To playback in slow-motion [SLOW]

DVD VIDEO Video CD

■ During playback

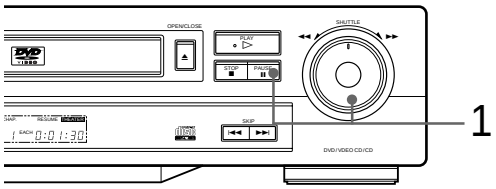
### From the remote control unit




1 Press SLOW.

To play forward slow-motion, press SLOW "+", and to play reverse slow-motion (for DVD VIDEO discs only), press SLOW "–". First, the unit plays the slowest speed, and each time you press the button, the playback speed increases.

### From the front panel




1 Press PAUSE, then use the SHUTTLE knob.

To play forward slow-motion, turn the SHUTTLE knob to the right. To play reverse slow-motion (for DVD VIDEO discs only), turn it to the left. The more you turn the knob, the more the slow-motion speed increases.

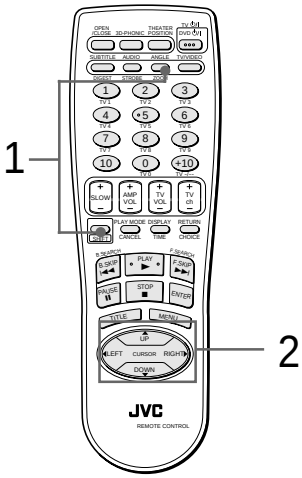
- To return to normal playback
  Press PLAY.

- To pause slow-motion playback
  Press PAUSE.

NOTES

- The sound is muted during slow-motion playback.
- Reverse slow-motion playback is not possible for a Video CD.

## To zoom a scene [ZOOM]

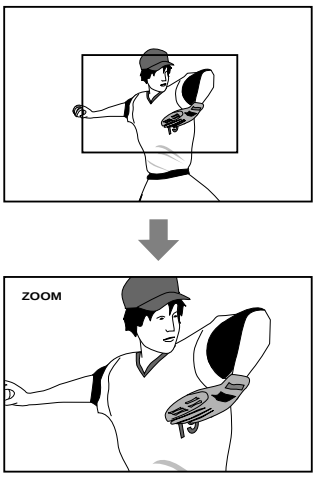



■ During playback or while paused

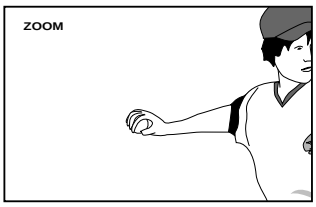
1 Press ANGLE - ZOOM while holding down SHIFT.

"ZOOM" appears on the TV screen.

The unit zooms in to the center part of the scene to produce a double-sized image.




2 Use CURSOR ◄/►/▲/▼ to move the zoomed-in scene.




• To pause zoom play
Press PAUSE.
To resume zoom play, press PLAY.

• To return to normal playback
Press ANGLE - ZOOM while holding down SHIFT.

**NOTE**

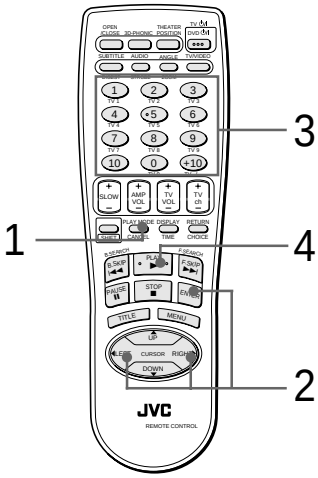
During Zoom play, the picture may be garbled or noisy.

# Changing the playback order

You can play titles or tracks in the desired order or in random order.

## To playback in the desired order [PROGRAM]

You can play titles or tracks in the desired order by using the Program function.

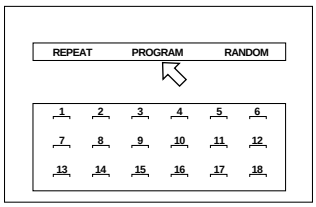



■ While stopped

1 Press PLAY MODE - CANCEL.

The play mode menu appears on the TV screen.

2 Use CURSOR ◄/► to move ↖ to [PROGRAM] and press ENTER.



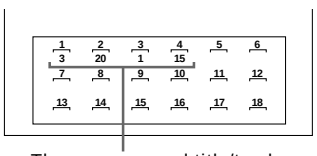

The program table appears under the menu bar (as shown above).

The "PROGRAM" indicator appears in the display window on the front panel.

3 Select the titles or tracks in the desired order using the numeric buttons.

See page 10 for details about how to use the numeric buttons.

Up to 18 titles or tracks can be programmed. You may select the same title or track more than once.




The programmed title/track number is shown under each program number.

Advanced operations

- When you specify a wrong selection
  Press PLAY MODE - CANCEL while holding down the SHIFT. The last selection programmed is erased.
- To clear the program
  Press STOP.

## 4 Press PLAY to start program play.

When all of the programmed titles/tracks have finished playback, the unit stops but the program remains.

**NOTES**

- Some DVD VIDEO discs may not be played back correctly in program mode.
- During program playback, pressing ►►I skip to the next selection of the program. Pressing I◄◄ returns to the beginning of the current selection, however, you cannot skip back to the previous selection.
- By pressing PLAY MODE - CANCEL during program playback, the program table is displayed on the TV screen and the current program number is indicated in yellow.

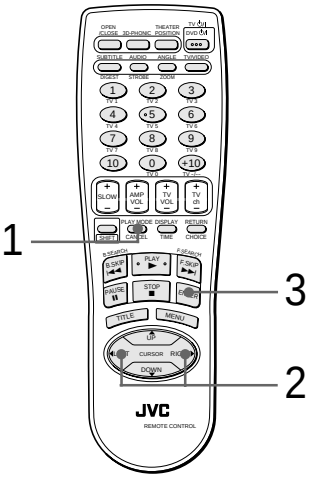
- To quit program playback
  Press STOP twice.
  The "PROGRAM" indicator in the display window turns off and the program is cleared.

**Hints**

While stopped and the play mode menu is displayed on the TV screen, by moving ↖ to [PROGRAM] and pressing ENTER, the program mode quits. Note that the program remains.

# To playback in random order [RANDOM]

You can play titles or tracks in random order by using the Random function.

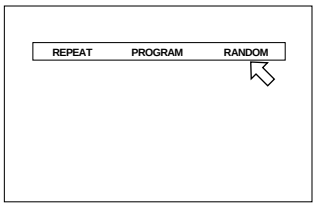



■ While stopped

## 1 Press PLAY MODE - CANCEL.

The play mode menu appears on the TV screen.

## 2 Use CURSOR ◄/► to move ↖ to [RANDOM].




The "RANDOM" indicator appears in the display window on the front panel.

## 3 Press ENTER.

The unit starts random playback.

After playing all titles/tracks of the disc, random playback ends.

**Hints**

The same title or track will not be played back more than once during random play.

- To stop/quit random playback in the middle
  Press STOP to stop playback. The unit is still in random playback mode, so pressing PLAY starts random playback again.
  To quit random playback, press STOP again while stopped. The "RANDOM" indicator in the display window turns off.

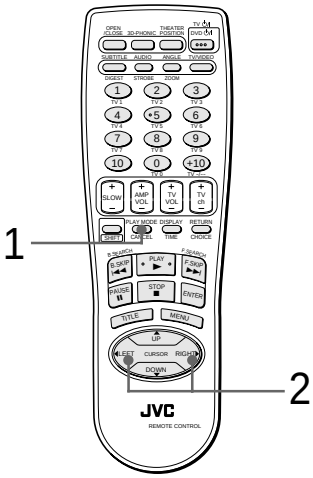
**NOTE**

Some DVD VIDEO discs may not be played back correctly in random mode.

# Repeat playback

You can repeat playback of the current selection or all disc contents. You can also repeat playback of a desired part.

## To repeat the current selection or all disc contents [REPEAT]




■ In any condition except Video CD playback with PBC

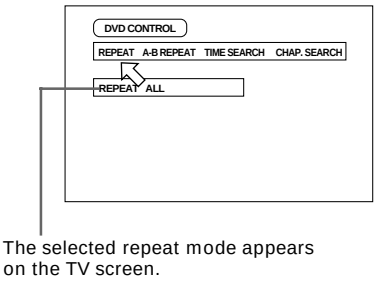
1 Press PLAY MODE - CANCEL.

The play mode menu appears on the TV screen.

2 Use CURSOR ◄/► to move ↖ to [REPEAT], then press ENTER.

Each time you press ENTER, the repeat mode changes as follows:

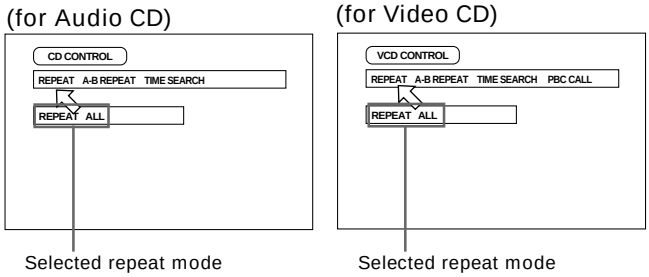
- For DVD VIDEO




**REPEAT ALL (all title repeat)**
↓
*** REPEAT TITLE (current title repeat)**
↓
*** REPEAT CHAPTER (current chapter repeat)**
↓
**No indication (off)**

* While stopped, you cannot select REPEAT TITLE or REPEAT CHAPTER.

- For Audio/Video CD




**REPEAT ALL (all track repeat)**
↓
**REPEAT 1 (current track repeat)**
↓
**No indication (off)**

- To stop repeat playback
  Press STOP.

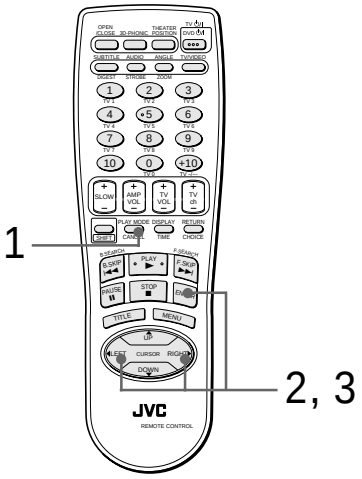
- If you press STOP in REPEAT ALL mode, the unit stops playback but remains in the mode.
- If you press STOP in REPEAT1, TITLE REPEAT or CHAPTER REPEAT mode, the unit stops playback and quits the mode.

- To quit repeat playback
  With ↖ pointed at [REPEAT], press ENTER repeatedly until the mode is set to off.

NOTES

- Some DVD VIDEO discs do not allow the title repeat or/ and chapter repeat.
- Some DVD VIDEO discs automatically stops playback in the middle of the disc.
- Repeat playback function cannot be used during Video CD playback with PBC function.
- To turn off the play mode menu display
  Press PLAY MODE - CANCEL.

## To repeat a desired part [A-B REPEAT]




■ During playback

1 Press PLAY MODE - CANCEL.

The play mode menu appears on the TV screen.

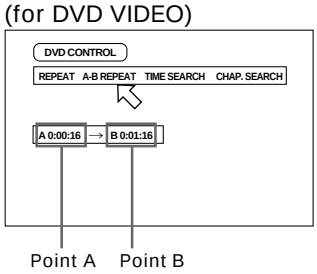
2 Use CURSOR ◄/► to move ↖ to [A-B REPEAT], then press ENTER at the beginning of the part you want to repeat (point A).

Make sure that REPEAT mode is off. If any one of the REPEAT modes is selected, you cannot move ↖ to [A-B REPEAT].

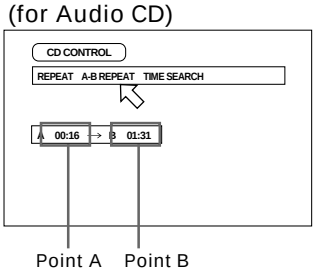
3 Press ENTER at the end of the part you want to repeat (point B).

The unit locates "A" and starts repeat playback between "A" and "B."

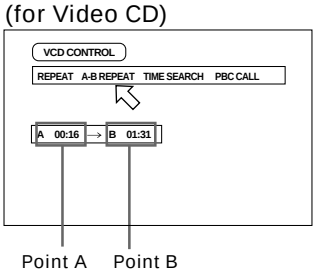
(for DVD VIDEO)




(for Audio CD)




(for Video CD)




- To quit A-B repeat playback
  Press STOP. The unit stops playback and quits the A-B repeat mode.

**Hints**

- During playback, pressing ENTER when ↖ is pointed at [A-B REPEAT] quits the A-B repeat mode and continues playback.
- You can also quit the A-B repeat mode by pressing ⏮ or ⏭.

**NOTES**

- To turn off the play mode menu
  Press PLAY MODE - CANCEL.
- If ⊘ appears when pressing ENTER in step 2 during DVD playback
  You cannot repeat the selected portion because of the disc contents.
- The A-B REPEAT function cannot be used during program playback.

# Selecting a scene angle of DVD VIDEO

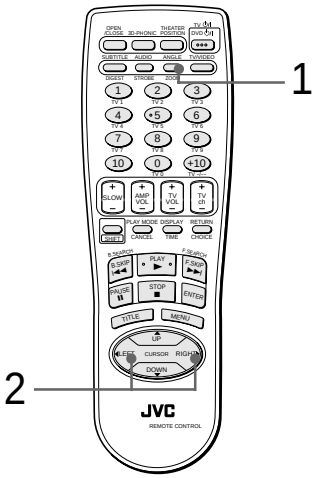
You can enjoy a variety of scene angles if the DVD VIDEO disc contains "multi-angle" parts, where multiple cameras were used to shoot the same scene from different angles.

Hints

At the beginning of "multi-angle" parts, appears on the TV screen.

## To select a scene angle from the normal screen [ANGLE]

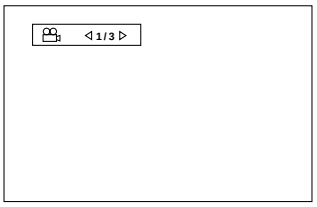
DVD VIDEO




■ During DVD VIDEO playback

1 Press ANGLE - ZOOM.

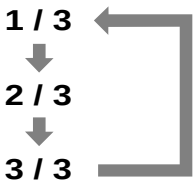
The Angle selectin display appears on the TV screen.




2 Press ANGLE - ZOOM or CURSOR ◄/► to select the desired angle.

Each time you press ANGLE or CURSOR ◄/►, the angle changes.

Example:

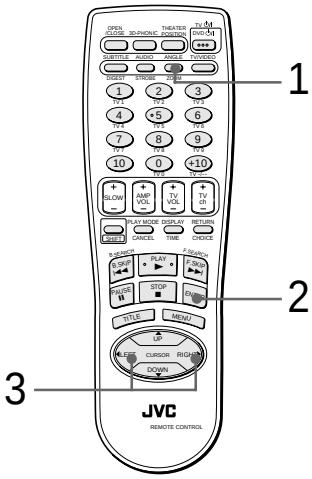



NOTES

- The Angle selection display will automatically disappear if you do not change the angle for 10 seconds.
- To turn off the Angle selection display manually, press ENTER.
- When ⊘ appears on the TV screen
  The current scene is not recorded from multiple angles.

## To select a scene angle from the angle list display [ANGLE]

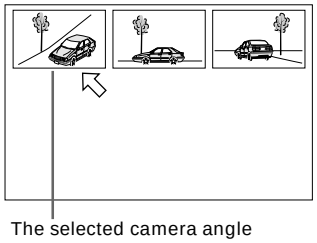
DVD VIDEO




■ During DVD VIDEO playback

1 Press and hold ANGLE - ZOOM for more than 1 second.

Up to nine camera angles recorded on a disc appear on the TV screen.


The selected camera angle

2 Use CURSOR ▲/▼/◄/► to select the desired angle.

3 Press ENTER.

■ The selected angle appears on the TV screen.

NOTES

- When ⊘ appears on the TV screen in step 1:
  The current scene is not recorded from multiple angles.
- During the operation above, audio is muted.

Advanced operations

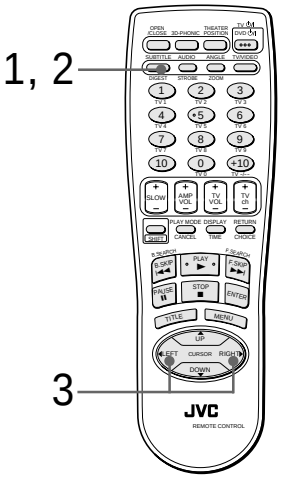
# Changing the language and sound

For DVD VIDEO discs, you can select the subtitle language, as well as the audio language/sound included on a disc.
For Video CD discs, you can select the audio channel(s).

## To select the subtitle language [SUBTITLE]

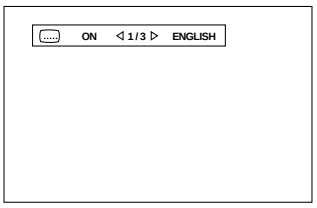
DVD VIDEO

■ During DVD VIDEO playback




1 Press SUBTITLE.

The Subtitle selection display appears on the TV screen.




2 To turn the subtitle on and off, press SUBTITLE.

3 To select the desired subtitle language, press CURSOR ◄/►.

Each time you press CURSOR ◄/►, the subtitle language changes.

Example:

**1/3 ENGLISH**
↓
**2/3 FRENCH**
↓
**3/3 SPANISH**
↓
**–/3 (off)**

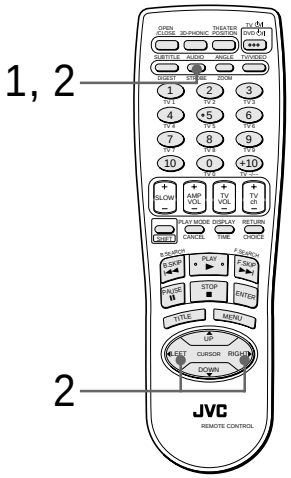
NOTES

- For DVD VIDEO, the selected language may be abbreviated on the TV screen. See "Appendix A: Table of languages and their abbreviations" at the end of this manual.
- The Subtitle selection display will automatically disappear if you do not change the subtitle for 10 seconds.
- To turn off the Subtitle selection display manually, press ENTER.
- When ⃠ appears on the TV screen:
  You cannot select the subtitle.

## To change the audio language or sound [AUDIO]

DVD VIDEO Video CD

By AUDIO selection, you can choose the audio language of movies or choose to enjoy karaoke with or without the vocal.

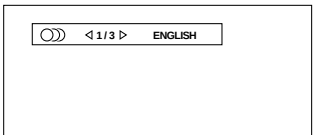



■ During playback

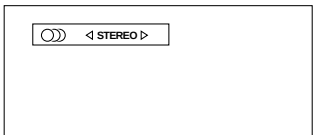
1 Press AUDIO - STROBE.

The Audio selection display appears on the TV screen.

(DVD VIDEO)




(Video CD)




2 Press AUDIO - STROBE or CURSOR ◄/► to select the desired audio.

- For DVD VIDEO
  Each time you press AUDIO - STROBE or CURSOR ◄/►, the audio language or sound changes.

Example:

**1/3 ENGLISH**
↓
**2/3 FRENCH**
↓
**3/3 SPANISH**

- For Video CD
  Each time you press AUDIO - STROBE or CURSOR ◄/►, the playback audio changes as follows.

**STEREO**
↓
**L**
↓
**R**

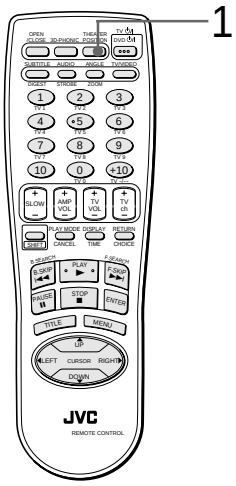
NOTES

- For DVD VIDEO, the selected language may be abbreviated on the TV screen. See "Appendix A: Table of languages and their abbreviations" at the end of this manual.
- The Audio selection display will automatically disappear if you do not change the audio for 10 seconds.
- To turn off the Audio selection display manually, press ENTER.
- When ⃠ appears on the TV screen (for a DVD VIDEO disc):
  You cannot select the audio.

# Selecting the picture character

You can select the quality of the image from among four options (OFF, 1, 2 and 3) according to the type of programming, picture tone or personal preferences.

## To select the picture character [THEATER POSITION]

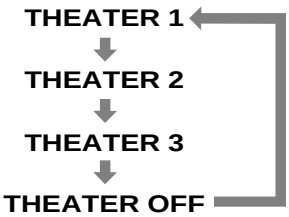



■ During playback

1 Press THEATER POSITION to select the desired picture character.

Each time you press the button, the picture character changes as follows:

Selected picture character

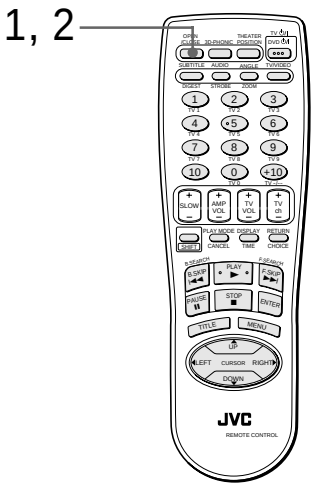



"THEATER OFF" is the normal position. Selecting a higher number tones down the picture character.

# Enjoying virtual surround sound

Using the 3D Phonic function, you can get a simulated surround effect from your stereo system.

## To simulate surround sound [3D PHONIC]

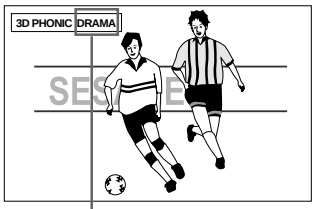



■ During playback

1 Press 3D PHONIC.

2 Select the desired effect mode by pressing 3D PHONIC.

Each time you press 3D PHONIC, the effect mode changes as follows:




Selected effect mode

- ACTION:
  Suitable for action movies and sports programs in which sounds dynamically move.
- DRAMA:
  Natural and warm sound. You can enjoy movies in a relaxed mood.
- THEATER:
  You can enjoy sound effects like in a major theater in Hollywood.

* When you play a DVD VIDEO disc recorded in Dolby Digital which contains more than 2 channels, ACTION does not appear.

NOTES

- With a Video CD disc, if the AUDIO setting is set to L or R, you cannot activate the 3D Phonic function (i.e. the 3D Phonic mode is fixed to OFF).

  Conversely, when the 3D Phonic function is active, changing the AUDIO setting to L or R from STEREO cancels the 3D Phonic function.
- The 3D phonic function works correctly when playing back discs recorded in the Dolby Surround or Dolby Digital 5.1-CH format.

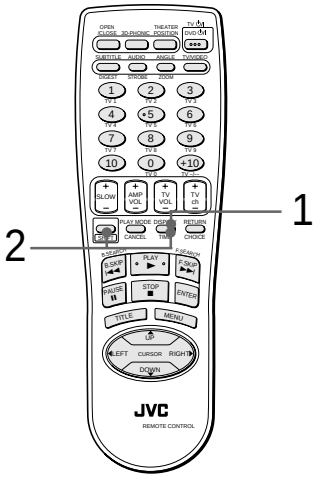
  It also works when playing back discs other than those above, but does not provide the correct effect.
- The 3D Phonic function does not affect the DTS or Dolby Digital bitstream signal from the DIGITAL OUT jack.
- The sound effect will not be set or operate, even if 3D PHONIC is pressed, for the sound of DVD VIDEO discs recorded in Linear PCM.
- When you set the 3D PHONIC function to on, the DOWN MIX and COMPRESSION settings in the AUDIO page of the preference display are disabled.

# Checking the status

You can check the disc/time information, as well as the DVD functions, of the disc.

## To check the disc/time information

DVD VIDEO Audio CD Video CD




■ During playback

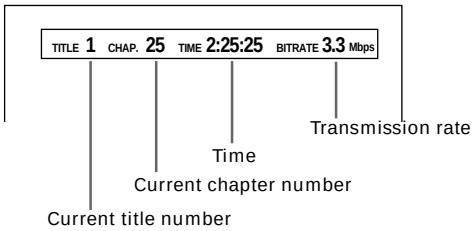
1 Press DISPLAY - TIME once for a Audio CD or Video CD disc, or twice for a DVD VIDEO disc.

The disc/time display appears on the TV screen.

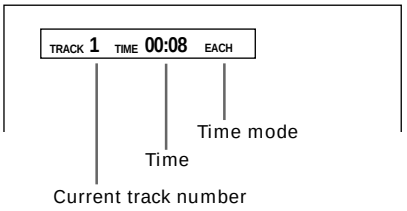
Hints

During playback of a DVD VIDEO disc, pressing DISPLAY-TIME while holding down SHIFT directly turns on the disc/time display.

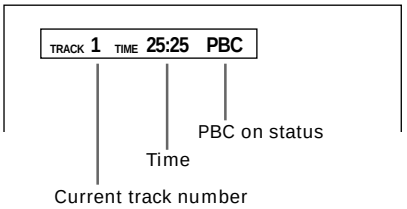
(for DVD VIDEO)




(for Audio CD or Video CD playing without PBC)




(for Video CD playing with PBC)



2 To change the time display mode (only for Audio CD or Video CD without PBC), press DISPLAY - TIME while holding down SHIFT.

The time display mode cycles as below.

(for Audio CD)

**EACH**
**(current track elapsed time)**
↓
**EACH REMAIN**
**(current track remaining time)**
↓
**TOTAL**
**(disc elapsed time)**
↓
**TOTAL REMAIN**
**(disc remaining time)**

(for Video CD without PBC)

**EACH**
**(current track elapsed time)**
↓
**EACH REMAIN**
**(current track remaining time)**

The selected time information is displayed on the TV screen, as well as in the front panel display window.

■ While stopped

You can check the total disc time and current (selected) track time of an Audio CD/Video CD only from the front panel display window.

1 Press DISPLAY - TIME while holding down SHIFT.

When EACH and REMAIN are indicated, the current (selected) track time appears. When only REMAIN is indicated, the total disc time appears.

Hints

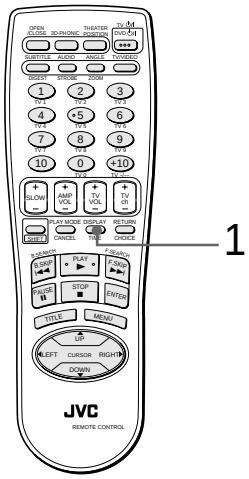
You can change the current (selected) track by pressing ⏮ or ⏭.

- To turn off the disc/time display
  Press DISPLAY-TIME.

## To check the DVD function status

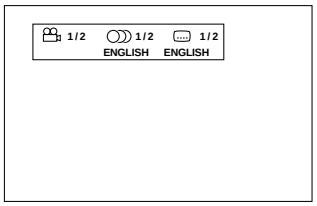
DVD VIDEO

■ During DVD VIDEO playback




1 Press DISPLAY – TIME.

The DVD function status display appears on the TV screen.




The current selections of the camera angle, audio language and subtitle language are displayed.

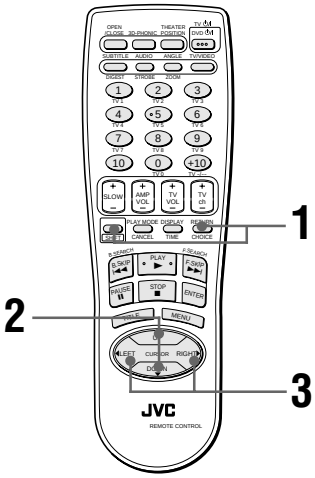
- To turn off the DVD function status display
  Press DISPLAY-TIME twice.

Advanced operations

# Selecting preferences

You can set various preferences for playback via four dedicated displays.

## How to set preferences

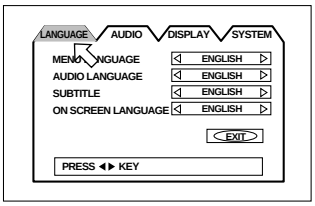



**1** When a DVD or Video CD disc is stopped or no disc is inserted, press RETURN-CHOICE while holding down SHIFT.

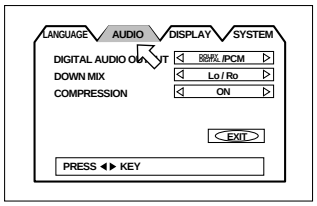
One of the preference pages appears on the TV screen.

There are four preference pages: LANGUAGE, AUDIO, DISPLAY and SYSTEM. To turn the page, move ⇦ to the desired tab using CURSOR ◄/►.

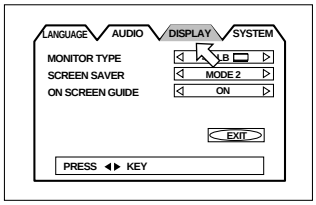
**LANGUAGE**



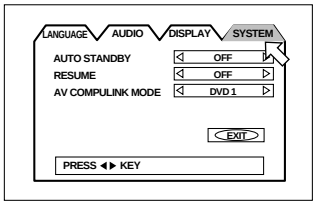

**AUDIO**



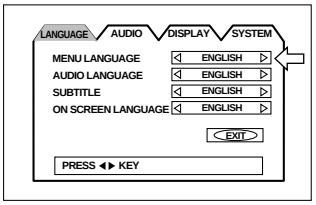

**DISPLAY**




**SYSTEM**




**2** Move ⇦ to select the item you want to set by using CURSOR ▲/▼.




**3** Press CURSOR ◄/► to select the setting you want.

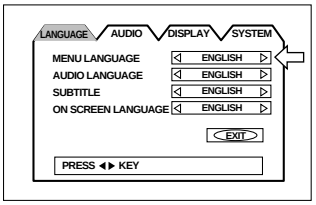
- To turn off the preference display, press RETURN-CHOICE while holding down SHIFT, or move ⇦ to [EXIT] and press ENTER.
- For details about each setting, see the following paragraphs:

## LANGUAGE page

### MENU LANGUAGE

You can select the default "display" language to be displayed if it is contained on the disc.

Each time you press CURSOR ►, the language setting changes in the following order:




**ENGLISH → SPANISH → FRENCH → CHINESE → GERMAN → ITALIAN → JAPANESE → language code from AA to ZU**

(See "Table of languages and their abbreviations" at the end of this manual.)

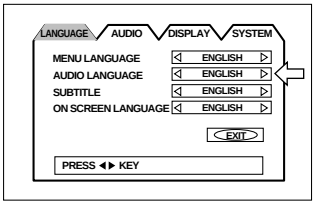
Pressing CURSOR ◄ changes the language setting in the reverse order of the above.

* If the selected language is not recorded, the disc's default display language will be displayed.

### AUDIO LANGUAGE

You can select the default audio language to be played if it is contained on the disc.

Each time you press CURSOR ►, the language setting changes in the following order:




**ENGLISH → SPANISH → FRENCH → CHINESE → GERMAN → ITALIAN → JAPANESE → language code from AA to ZU**

(See "Table of languages and their abbreviations" at the end of this manual.)

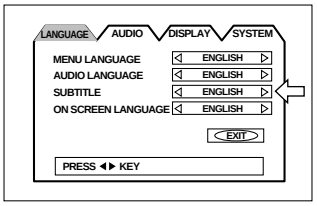
Pressing CURSOR ◄ changes the language setting in the reverse order of the above.

* If the selected language is not recorded, the disc's default audio language will be played.

## SUBTITLE

You can select the default subtitle language to be displayed if it is contained on the disc.

Each time you press CURSOR ►, the language setting changes in the following order:




ENGLISH → SPANISH → FRENCH → CHINESE → GERMAN → ITALIAN → JAPANESE → language code from AA to ZU

(See "Table of languages and their abbreviations" at the end of this manual.)

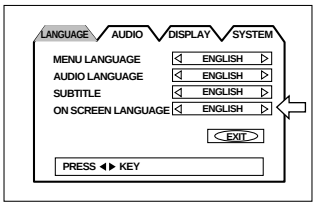
Pressing CURSOR ◄ changes the language setting in the reverse order of the above.

* If the selected language is not recorded, the disc's default subtitle language will be displayed.

## ON SCREEN LANGUAGE

You can select the on-screen display language to be displayed.

Each time you press CURSOR ►, the language setting changes as follows:



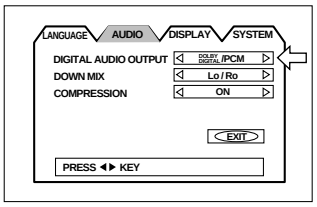
| | | |
|---|---|---|
| English | ON SCREEN LANGUAGE | ENGLISH |
| German | BILDSCHIRMMENUE-SPRACHE | DEUTSCH |
| French | LANGUE D'ECRAN | FRANCAIS |

Pressing CURSOR ◄ changes the language setting in the reverse order of the above.

# AUDIO page

## DIGITAL AUDIO OUTPUT

To connect the unit's digital output to an external device equipped with a digital input, this item must be set correctly.




- PCM ONLY:
  When you connect the DIGITAL OUT jack of the unit to the linear PCM digital input of other audio equipment.

- STREAM/PCM:
  When you connect to the digital input of an amplifier to a built-in DTS, Dolby Digital, or MPEG multichannel decoder.

- DOLBY DIGITAL/PCM:
  When you connect to the digital input of a Dolby Digital decoder, or an amplifier with a built-in Dolby Digital decoder.

The following chart shows the relationship between types of playback discs and output signals.

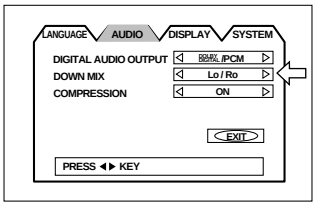
| Playback discs | Output | | |
|---|---|---|---|
| | STREAM/PCM | DOLBY DIGITAL/PCM | PCM ONLY |
| DVD with 48-kHz, 16-bit linear PCM | 48-kHz, 16-bit linear PCM | ← | ← |
| DVD with 48-kHz, 20/24-bit linear PCM | 48-kHz, 20-bit linear PCM | ← | ← |
| DVD with 96-kHz, linear PCM | No output | ← | ← |
| DVD with DTS | DTS bitstream | No output | ← |
| DVD with Dolby Digital | Dolby Digital bitstream | ← | 48-kHz, 16-bit linear PCM |
| DVD with MPEG multichannel | MPEG bitstream | 48-kHz, 16-bit linear PCM | ← |
| Video CD | 44.1-kHz, 16-bit linear PCM | ← | ← |
| Audio CD | 44.1-kHz, 16-bit linear PCM | ← | ← |
| Audio CD with DTS | DTS bitstream | ← | ← |

NOTES

- The unit does not provide the DTS decoding function.
- When playing a DVD VIDEO or Audio CD disc with DTS, use a DTS decoder to get correct signals from your speakers. Never use the unit's analog output jacks, which output incorrect signals that may damage your speakers.

  If you connect the analog outputs and digital outputs simultaneously, be sure to select the source of the amplifier correctly, or set the level control of the amplifier connected to the analog outputs to minimum.

## DOWN MIX




To playback a DVD VIDEO disc recorded with surround multichannel audio correctly, the DOWN MIX setting must be properly made according to your audio system.
Note that this setting affects the output signal from the AUDIO (both DIGITAL and ANALOG) output jacks when playing back a DVD VIDEO disc recorded with surround multichannel audio.

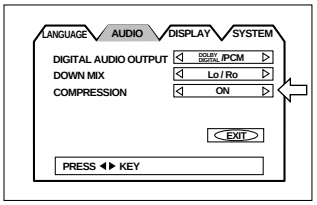
- Lt/Rt
  When you enjoy multichannel surround audio by connecting the unit's AUDIO output (normally, the DIGITAL output) to a surround decoder.

- Lo/Ro
  When you enjoy conventional 2-channel stereo audio by connecting the unit's AUDIO output(s) to a stereo amplifier/receiver or television set, or when you duplicate audio of a DVD VIDEO disc recorded with surround audio to your MD, cassette, etc.

**NOTE**

The Down mix function does not work when the 3D PHONIC function is activated.

## COMPRESSION




You can compress the dynamic range of the sound if needed. Using this function, you can listen to sound at low volumes easily.

- ON
  Audio is played back with the dynamic range compressed.

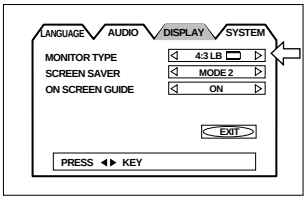
- OFF
  Audio is played back as it was recorded.

**NOTES**

- The Compression function works only when playing back a disc recorded with DOLBY DIGITAL 1CH or 2CH. The setting is not effective for other discs.
- The Compression function does not work when the 3D PHONIC function is activated.

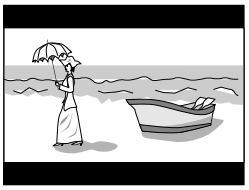
# DISPLAY page

## MONITOR TYPE

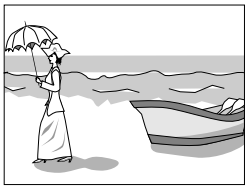



You can select the monitor type to match your TV when you playback DVD VIDEO discs recorded for wide screen televisions.

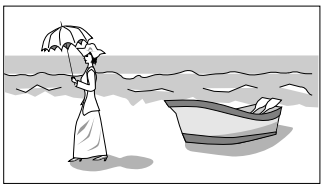
- 4:3 LB (Letter Box Conversion)
  When you connect a normal TV to the unit.
  When you play a wide picture recorded on a DVD VIDEO disc, the picture is displayed with bands across the upper and lower portions of the screen.



- 4:3 PS (Pan Scan Conversion)
  When you connect a normal TV to the unit.
  When you play a wide picture recorded on a DVD VIDEO disc, a portion of the picture is automatically cut off from the left and right sides of the image.
  Depending on the disc, it may not be possible to playback in this mode. In that case, the picture is played back as in 4:3 LB mode.



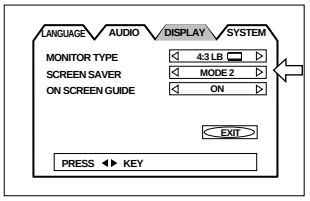
- 16:9 WIDE (Wide Television screen)
  When you connect a wide-screen TV to the unit.



## SCREEN SAVER

A television monitor screen may be burned out if a static picture is displayed for a long time. To prevent this, the unit automatically activates the screen saver function if a static picture, such as an on-screen display or menu, is displayed for over 5 minutes.

- MODE 1
  The current picture gets dark.




- MODE 2
  The "screen saver" picture appears and its brightness changes.

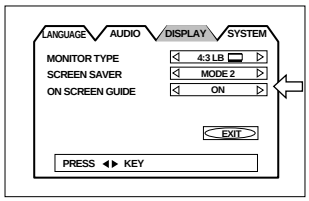
- OFF
  The screen saver function is off.

**NOTES**

- The monitor screen of a projector or projection TV is easily burned out if the screen saver mode is set to OFF and a static picture is displayed for a long time.
- The screen saver function is not activated when the selected disc is an Audio CD.

### ON SCREEN GUIDE

The unit can display “on-screen guide” icons or characters on the picture, which show what is happening to the disc or the unit.



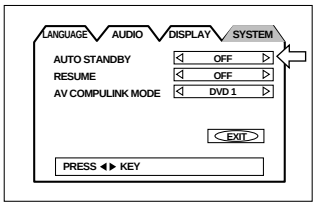

- ON
  The on-screen guide will be displayed.
- OFF
  The on-screen guide will not be displayed.

Examples of “on-screen guide” icons or characters:

## SYSTEM page

### AUTO STANDBY

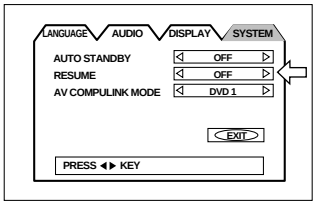
When the unit is stopped for more than 30 minutes or 60 minutes, the unit enters standby mode automatically.




- 60
  Time is set to 60 minutes.
- 30
  Time is set to 30 minutes.
- OFF
  The auto standby function is off.

### RESUME

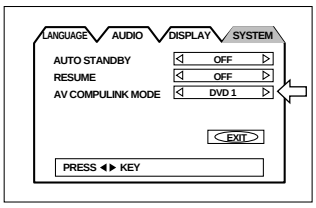
You can select the resume function to be on or off.
See page 19.




- ON
  Pressing PLAY while stopped or on standby starts playback from the resume point if it is memorized.
- OFF
  Pressing PLAY while stopped or on standby starts playback from the beginning of the disc.

### AV COMPULINK MODE

If you use the AV Compulink system, you must set this item correctly.
Select from the three options: “DVD1,” “DVD2” and “DVD3” according to the equipment to be connected.
See page 42.

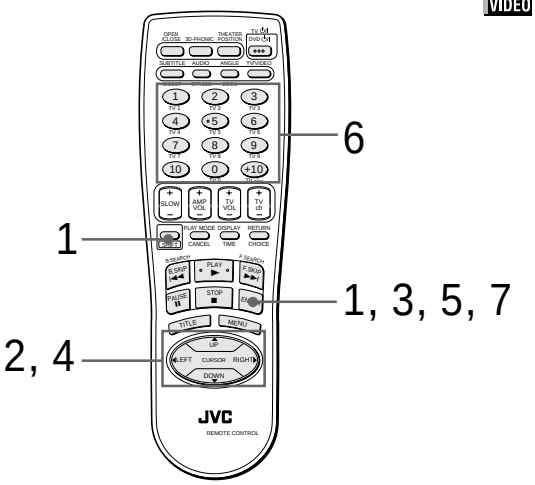


# Limiting playback by children

This function restricts playback of DVD VIDEO discs which contain violent (and other) scenes according to the level set by the user. For example, if a movie which includes violent scenes supports the parental lock feature, such scenes which you do not want to let children view can be cut or replaced with other scenes.

## To set Parental Lock for the first time [PARENTAL LOCK]

DVD VIDEO




■ While a DVD VIDEO disc is stopped or no disc is inserted

1 Press ENTER while holding down SHIFT.

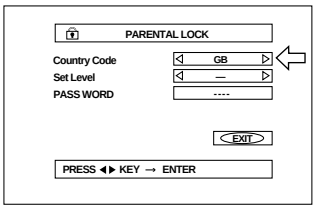
The Parental Lock on-screen display appears on the TV screen.

⇦ points [Country Code].

2 While ⇦ points [Country Code], use CURSOR ◄/► to select the country code.

The country code whose standards were applied to rate the DVD VIDEO disc should be selected.

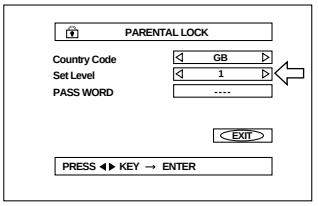
See "Appendix B: Country code list for parental lock."



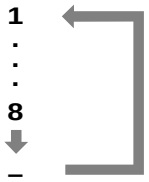

3 Press ENTER.

⇦ moves to [Set Level].

4 While ⇦ points [Set Level], use CURSOR ◄/► to select the parental lock level.




Each time you press CURSOR ◄/►, the parental level changes as follows:




Hints

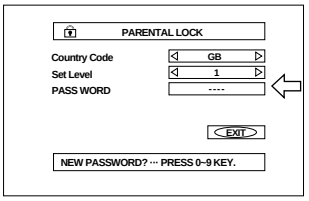
"1" is the strictest level. "–" means no restriction.

Discs rated higher than the selected level are restricted.

5 Press ENTER.

⇦ moves to [PASSWORD].

6 Enter your 4-digit password using the numeric buttons (0 to 9).




7 Press ENTER.

The parental level and password are set.

⇦ moves to [EXIT].

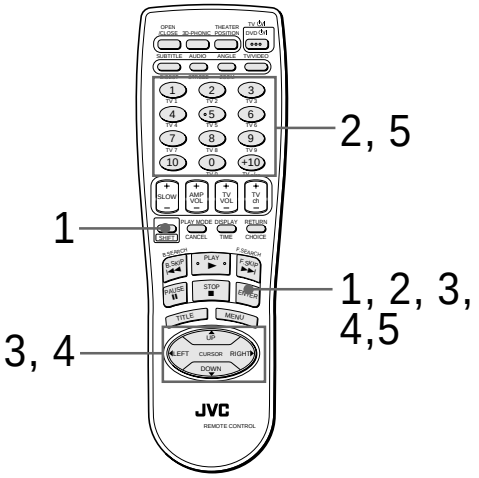
Pressing ENTER again returns to the opening display.

Hints

If you enter an undesired password in step 6 above, reenter the password before pressing ENTER.

## To change the settings [PARENTAL LOCK]

DVD VIDEO



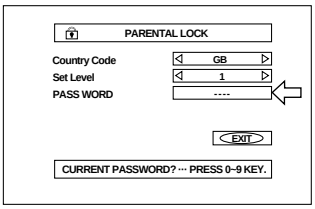

You can change the Parental lock settings later.

■ While a DVD VIDEO disc is stopped or no disc is inserted

**1** Press ENTER while holding down SHIFT.

The Parental Lock on-screen display appears on the TV screen.

⇦ points [PASSWORD].




**2** Enter your current 4-digit password using the numeric buttons (0 to 9) and press ENTER.

⇦ moves to [Country Code] if you enter the correct password.

If you enter the wrong password, "WRONG! RETRY……" appears on the TV screen, and you cannot go to next step.

**3** To change the country code, use CURSOR ◄/► to select the desired country code and press ENTER.

⇦ moves to [Set Level].

When you change the country code, you must select the parental level.

**4** To change the set level, use CURSOR ◄/► to select the desired level while ⇦ points [Set Level], and then press ENTER.

⇦ moves to [PASSWORD].

**5** Enter the password using the numeric buttons (0 to 9) and press ENTER.

⇦ moves to [EXIT].

The password entered in the above step becomes the new password. If you do not change the password, enter the same password as in the step 2.

Even if you want to change only the country code and/or parental level, do not forget to enter the password after changing the country code and/or parental level. Otherwise, the new country code and/or parental level will not become effective.

Pressing ENTER again returns to the opening display.

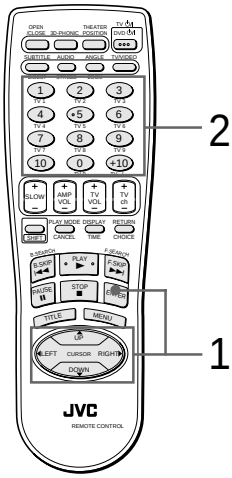
**NOTES**

- When you enter the wrong password more than 3 times in step 2 above, ⇦ moves to [EXIT] automatically and CURSOR ▲/▼ does not work.
- If you forget your password in step 2

  Enter "8888."

## To temporarily release the Parental lock [PARENTAL LOCK]

DVD VIDEO

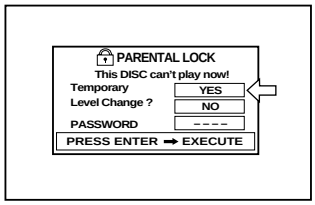



When you set the parental level strictly, some discs may not be played back at all. When you insert such a disc and try to play it, the following Parental Lock on-screen display appears on the TV screen, asking you whether you want the parental lock to be temporarily released or not.

**1** Use the CURSOR ▲/▼ to move ⇦ to [YES], then press ENTER.

⇦ moves to the PASSWORD field.

When selecting [NO], press OPEN/CLOSE to remove the disc.




**2** Enter your 4-digit password using the numeric buttons (0 to 9).

If you enter the wrong password, "WRONG! RETRY…" appears on the TV screen, and you cannot go to next step.

The Parental lock is released, and the unit starts playback.

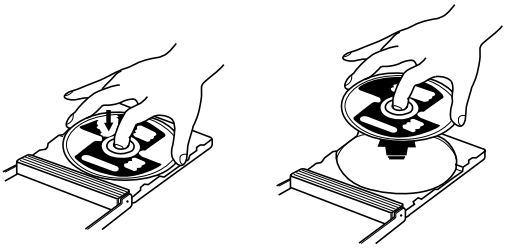
**NOTE**

When you enter the wrong password more than 3 times in step 2 above, ⇦ moves to [NO] automatically and CURSOR ▲/▼ do not work.

# Care and handling of discs

## How to handle discs

When handling a disc, do not touch the surface of the disc.
Since discs are made of plastic, they are easily damaged. If a disc gets dirty, dusty, scratched or warped, the images and sound will not be picked up correctly, and such a disc may cause the player to malfunction.



## Label side

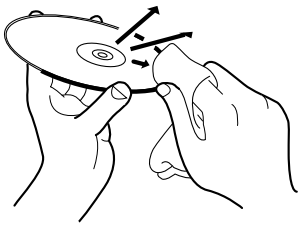
Do not damage the label side, stick paper to or use any adhesive on its surface.

## Storage

Make sure that discs are kept in their cases. If discs are piled on top of one another without their protective cases, they can be damaged. Do not put discs in a location where they may be exposed to direct sunlight, or in a place where the humidity or temperature is high. Avoid leaving discs in your car!

## Maintenance of discs

If there are fingerprints or other dirt adhering to a disc, wipe with a soft dry cloth, moving from the center outwards. If a disc is difficult to clean, wipe with a cloth moistened with water. Never use record cleaners, petrol, alcohol or any anti-static agents.



CAUTION
Sometimes during play noise or images may be garbled. This is sometimes due to the disc. (It may not be up to industry standards.)
These symptoms are caused by the discs, not by the malfunction of the unit.

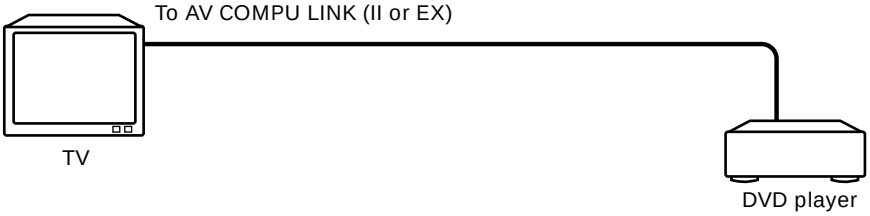
# AV COMPU LINK remote control system

When you buy a separate TV, VCR, DVD player, receiver, or other component and connect them to each other, you have to operate each component individually. JVC's AV COMPU LINK remote control system meets the demands of a system made up of single components and has the ease of operation of a single unit.

AV COMPU LINK

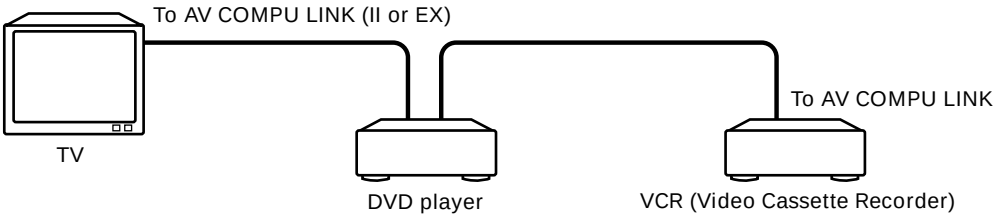
## Connection and setup

Using the AV COMPU LINK cable, connect the AV COMPU LINK terminals of each component to one another.



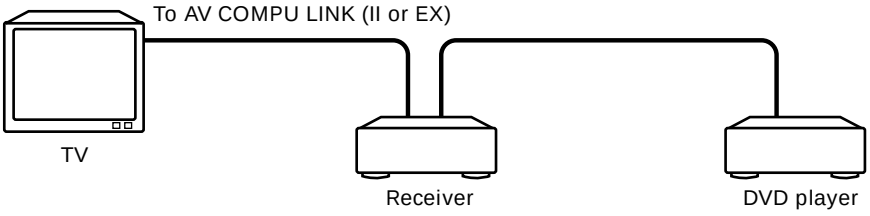

- If you connect a DVD player to a television via AV COMPU LINK, set the DVD player's AV COMPU LINK setting as follows.

  - When connecting to VIDEO-1 input terminal of the television: DVD2
  - When connecting to VIDEO-2 input terminal of the television: DVD3




- If you connect a DVD player to a television and VCR via AV COMPU LINK, set the VCR's Remote Control Code and DVD player's AV COMPU LINK setting as follows.

  - When connecting to VIDEO-1 input terminal of the television:
    DVD player's AV COMPU LINK setting: DVD2
    VCR's Remote Control Code: B
  - When connecting to VIDEO-2 input terminal of the television:
    DVD player's AV COMPU LINK setting: DVD3
    VCR's Remote Control Code: A




- If you connect a DVD player to a television and receiver via AV COMPU LINK, set the DVD player's AV COMPU LINK setting to DVD1.

  - The DVD player's AV COMPU LINK setting is operated in the SYSTEM page of the preference display. See page 38 for operation.
  - For information on the connection between the TV and the Receiver, refer to the Receiver's Instructions.

### Notes for connection

- If you connect a DVD player to a receiver via AV COMPU LINK in a system including a Dolby digital decoder, some functions may not be performed automatically.
- The AV COMPU LINK terminal on some televisions indicates “II.” Do not connect the terminal indicating “II” with the AV COMPU LINK terminal on a receiver. If connected, the system will not work correctly.
- Connect the AUDIO OUT jacks of the DVD player to the audio input jacks of a receiver that indicating “DVD.” Otherwise, the system will not work correctly.
- There may be no description about connections to a DVD player in the instruction manual of a television or VCR. However a television or VCR with AV COMPU LINK terminals indicating “II” or “EX” can be connected to a DVD player.

## Operation

You can enjoy pictures and/or sound by just putting a source component (which plays back the pictures and/or sound such as a DVD player or VCR) into play mode. You do not have to operate the TV and receiver including not having to perform power switching.

1 Turn on the main power of the television.

2 Insert a disc into the source component.

3 Press PLAY of the source component.

The following actions are performed automatically:
- Turning on the power for the television.
- Setting the source of the television to the external input (VIDEO-1 or VIDEO-2).
- Turning on the power for the receiver.
- Setting the source of the receiver to the component which has started playback.

# Troubleshooting

What appears to be a malfunction may not always be serious. Please go through the following list before requesting service.

| Symptom | Possible case | Remedy |
|---|---|---|
| Power does not come on. | Power plug is not inserted securely. | Plug in securely. |
| Remote control does not work. | Too far from the unit. | More closer to the unit. |
| | The tip of the remote unit is not pointed in the right direction. | Point the infrared light- emitting window toward the remote sensor on the front panel. |
| | Batteries are exhausted. | Replace the batteries with new ones. |
| | Battery polarity is incorrect. | Take out the batteries and insert them again in the correct direction. |
| No picture is displayed on the monitor. | Connection of video cable is incorrect. | Connect the cable correctly. |
| | Input selection of TV is incorrect. | Select correctly. |
| | Disc is not playable. | Use a playable disc. (See page 11.) |
| Picture is noisy. | The unit is connected to a VCR directly and the copyguard function is activated. | Connect the unit so that the picture signal flows directly to the TV. |
| No audio is reproduced. | Connection is incorrect. | Check the connections. |
| | Input selection of amplifier is incorrect. | Select correctly. |
| No audio is reproduced when playing back a DVD disc recorded with 96-kHz, linear PCM audio. | The audio signal is derived from the unit's DIGITAL OUT. | Use the AUDIO OUT when playing back such discs. |
| Sound is distorted or noise is generated. | Disc is dirty. | Wipe the disc surface. |
| Picture does not fit the television screen. | MONITOR TYPE is not correctly set. | Select monitor type correctly. (See page 37.) |
| | Television is not correctly set. | Set the television correctly. |
| Operation is not possible. | Microcomputer malfunction due to lightning or static electricity. | Turn off the power and unplug the power cord, then connect the power cord again. |
| | Moisture condensation caused by a sudden change of temperature or humidity. | Turn off the power, then turn it on a few hours later. |

# Specifications

## General

| | |
|---|---|
| Readable discs: | DVD VIDEO, Audio CD, Video CD |
| Video format: | PAL |

## Other

| | |
|---|---|
| Power requirements: | AC 230V ∿ , 50Hz |
| Power consumption: | 17 W (POWER ON), 3.0 W (STANDBY mode) |
| Mass: | 3.2 kg (7.1 lbs) |
| Dimensions (W x H x D): | 435 mm x 95 mm x 297 mm<br>(17-3/16'in x 3-3/4'in x 11-3/4'in) |

## Video output

| | | |
|---|---|---|
| VIDEO OUT (pin jack): | 1.0 Vp-p (75 Ω) | |
| S-VIDEO OUT (S jack): | Y Output: | 1.0 Vp-p (75 Ω) |
| | C Output: | 286 mVp-p (75 Ω) |
| Horizontal resolution: | 500 Lines | |
| Signal to noise ratio: | 65 dB | |

## Audio output

| | | |
|---|---|---|
| ANALOG OUT (pin jack): | | 2.0 Vrms (10 k Ω) |
| DIGITAL OUT: | COAXIAL: | 0.5 Vp-p (75 Ω termination) |
| | OPTICAL: | – 21 to –15 dBm (Peak) |

## Audio characteristics

| | | | |
|---|---|---|---|
| Frequency response: | CD | (sampling frequency 44.1 kHz): | 2 Hz to 20 kHz |
| | DVD | (sampling frequency 48 kHz): | 2 Hz to 22 kHz |
| | DVD | (sampling frequency 96 kHz): | 2 Hz to 44 kHz |
| Dynamic range: | 16 bit: More than 98 dB | | |
| | 20 bit: More than 106 dB | | |
| | 24 bit: More than 106 dB | | |
| Wow and flutter: | Unmeasurable (less than ± 0.002%) | | |
| Total harmonic distortion: | Less than 0.002% | | |

* Specifications and appearance subject to change without prior notice.

# Appendix A: Table of languages and their abbreviations

When you select the subtitle language or sound, the languages shown below are displayed as abbreviations. To select the desired language, select the abbreviation corresponding the language you want to.

| | |
|---|---|
| AA | Afar |
| AB | Abkhazian |
| AF | Afrikaans |
| AM | Ameharic |
| AR | Arabic |
| AS | Assamese |
| AY | Aymara |
| AZ | Azerbaijani |
| BA | Bashkir |
| BE | Byelorussian |
| BG | Bulgarian |
| BH | Bihari |
| BI | Bislama |
| BN | Bengali, Bangla |
| BO | Tibetan |
| BR | Breton |
| CA | Catalan |
| CO | Corsican |
| CS | Czech |
| CY | Welsh |
| DA | Danish |
| DZ | Bhutani |
| EL | Greek |
| EO | Esperanto |
| ET | Estonian |
| EU | Basque |
| FA | Persian |
| FI | Finnish |
| FJ | Fiji |
| FO | Faroese |
| FY | Frisian |
| GA | Irish |
| GD | Scots Gaelic |
| GL | Galician |
| GN | Guarani |
| GU | Gujarati |
| HA | Hausa |
| HI | Hindi |
| HR | Croatian |
| HU | Hungarian |
| HY | Armenian |
| IA | Interlingua |
| IE | Interlingue |

| | |
|---|---|
| IK | Inupiak |
| IN | Indonesian |
| IS | Icelandic |
| IW | Hebrew |
| JI | Yiddish |
| JW | Javanese |
| KA | Georgian |
| KK | Kazakh |
| KL | Greenlandic |
| KM | Cambodian |
| KN | Kannada |
| KO | Korean (KOR) |
| KS | Kashmiri |
| KU | Kurdish |
| KY | Kirghiz |
| LA | Latin |
| LN | Lingala |
| LO | Laothian |
| LT | Lithuanian |
| LV | Latvian, Lettish |
| MG | Malagasy |
| MI | Maori |
| MK | Macedonian |
| ML | Malayalam |
| MN | Mongolian |
| MO | Moldavian |
| MR | Marathi |
| MS | Malay (MAY) |
| MT | Maltese |
| MY | Burmese |
| NA | Nauru |
| NE | Nepali |
| NL | Dutch |
| NO | Norwegian |
| OC | Occitan |
| OM | (Afan) Oromo |
| OR | Oriya |
| PA | Panjabi |
| PL | Polish |
| PS | Pashto, Pushto |
| PT | Portuguese |
| QU | Quechua |
| RM | Rhaeto-Romance |

| | |
|---|---|
| RN | Kirundi |
| RO | Rumanian |
| RU | Russian |
| RW | Kinyarwanda |
| SA | Sanskrit |
| SD | Sindhi |
| SG | Sangho |
| SH | Serbo-Croatian |
| SI | Singhalese |
| SK | Slovak |
| SL | Slovenian |
| SM | Samoan |
| SN | Shona |
| SO | Somali |
| SQ | Albanian |
| SR | Serbian |
| SS | Siswati |
| ST | Sesotho |
| SU | Sundanese |
| SV | Swedish |
| SW | Swahili |
| TA | Tamil |
| TE | Telugu |
| TG | Tajik |
| TH | Thai |
| TI | Tigrinya |
| TK | Turkmen |
| TL | Tagalog |
| TN | Setswana |
| TO | Tonga |
| TR | Turkish |
| TS | Tsonga |
| TT | Tatar |
| TW | Twi |
| UK | Ukrainian |
| UR | Urdu |
| UZ | Uzbek |
| VI | Vietnamese |
| VO | Volapuk |
| WO | Wolof |
| XH | Xhosa |
| YO | Yoruba |
| ZU | Zulu |

# Appendix B: Country code list for parental lock

This list is used for the parental Lock operation. For details, see page 39.

| | |
|---|---|
| AD | Andorra |
| AE | United Arab Emirates |
| AF | Afghanistan |
| AG | Antigua and Barbuda |
| AI | Anguilla |
| AL | Albania |
| AM | Armenia |
| AN | Netherlands Antilles |
| AO | Angola |
| AQ | Antarctica |
| AR | Argentina |
| AS | American Samoa |
| AT | Austria |
| AU | Australia |
| AW | Aruba |
| AZ | Azerbaijan |
| BA | Bosnia and Herzegovina |
| BB | Barbados |
| BD | Bangladesh |
| BE | Belgium |
| BF | Burkina Faso |
| BG | Bulgaria |
| BH | Bahrain |
| BI | Burundi |
| BJ | Benin |
| BM | Bermuda |
| BN | Brunei Darussalam |
| BO | Bolivia |
| BR | Brazil |
| BS | Bahamas |
| BT | Bhutan |
| BV | Bouvet Island |
| BW | Botswana |
| BY | Belarus |
| BZ | Belize |
| CA | Canada |
| CC | Cocos (Keeling) Islands |
| CF | Central African Republic |
| CG | Congo |
| CH | Switzerland |
| CI | Côte d'Ivoire |
| CK | Cook Islands |
| CL | Chile |

| | |
|---|---|
| CM | Cameroon |
| CN | China |
| CO | Colombia |
| CR | Costa Rica |
| CU | Cuba |
| CV | Cape Verde |
| CX | Christmas Island |
| CY | Cyprus |
| CZ | Czech Republic |
| DE | Germany |
| DJ | Djibouti |
| DK | Denmark |
| DM | Dominica |
| DO | Dominican Republic |
| DZ | Algeria |
| EC | Ecuador |
| EE | Estonia |
| EG | Egypt |
| EH | Western Sahara |
| ER | Eritrea |
| ES | Spain |
| ET | Ethiopia |
| FI | Finland |
| FJ | Fiji |
| FK | Falkland Islands (Malvinas) |
| FM | Micronesia (Federated States of) |
| FO | Faroe Islands |
| FR | France |
| FX | France, Metropolitan |
| GA | Gabon |
| GB | United Kingdom |
| GD | Grenada |
| GE | Georgia |
| GF | French Guiana |
| GH | Ghana |
| GI | Gibraltar |
| GL | Greenland |
| GM | Gambia |
| GN | Guinea |
| GP | Guadeloupe |
| GQ | Equatorial Guinea |

| | |
|---|---|
| GR | Greece |
| GS | South Georgia and the South Sandwich Islands |
| GT | Guatemala |
| GU | Guam |
| GW | Guinea-Bissau |
| GY | Guyana |
| HK | Hong Kong |
| HM | Heard Island and McDonald Islands |
| HN | Honduras |
| HR | Croatia |
| HT | Haiti |
| HU | Hungary |
| ID | Indonesia |
| IE | Ireland |
| IL | Israel |
| IN | India |
| IO | British Indian Ocean Territory |
| IQ | Iraq |
| IR | Iran (Islamic Republic of) |
| IS | Iceland |
| IT | Italy |
| JM | Jamaica |
| JO | Jordan |
| JP | Japan |
| KE | Kenya |
| KG | Kyrgyzstan |
| KH | Cambodia |
| KI | Kiribati |
| KM | Comoros |
| KN | Saint Kitts and Nevis |
| KP | Korea, Democratic People's Republic of |
| KR | Korea, Republic of |
| KW | Kuwait |
| KY | Cayman Islands |
| KZ | Kazakhstan |
| LA | Lao People's Democratic Republic |
| LB | Lebanon |
| LC | Saint Lucia |

| | |
|---|---|
| LI | Liechtenstein |
| LK | Sri Lanka |
| LR | Liberia |
| LS | Lesotho |
| LT | Lithuania |
| LU | Luxembourg |
| LV | Latvia |
| LY | Libyan Arab Jamahiriya |
| MA | Morocco |
| MC | Monaco |
| MD | Moldova, Republic of |
| MG | Madagascar |
| MH | Marshall Islands |
| ML | Mali |
| MM | Myanmar |
| MN | Mongolia |
| MO | Macau |
| MP | Northern Mariana Islands |
| MQ | Martinique |
| MR | Mauritania |
| MS | Montserrat |
| MT | Malta |
| MU | Mauritius |
| MV | Maldives |
| MW | Malawi |
| MX | Mexico |
| MY | Malaysia |
| MZ | Mozambique |
| NA | Namibia |
| NC | New Caledonia |
| NE | Niger |
| NF | Norfolk Island |
| NG | Nigeria |
| NI | Nicaragua |
| NL | Netherlands |
| NO | Norway |
| NP | Nepal |
| NR | Nauru |
| NU | Niue |
| NZ | New Zealand |
| OM | Oman |
| PA | Panama |

| | |
|---|---|
| PE | Peru |
| PF | French Polynesia |
| PG | Papua New Guinea |
| PH | Philippines |
| PK | Pakistan |
| PL | Poland |
| PM | Saint Pierre and Miquelon |
| PN | Pitcairn |
| PR | Puerto Rico |
| PT | Portugal |
| PW | Palau |
| PY | Paraguay |
| QA | Qatar |
| RE | Réunion |
| RO | Romania |
| RU | Russian Federation |
| RW | Rwanda |
| SA | Saudi Arabia |
| SB | Solomon Islands |
| SC | Seychelles |
| SD | Sudan |
| SE | Sweden |
| SG | Singapore |
| SH | Saint Helena |
| SI | Slovenia |
| SJ | Svalbard and Jan Mayen |
| SK | Slovakia |
| SL | Sierra Leone |
| SM | San Marino |
| SN | Senegal |
| SO | Somalia |
| SR | Suriname |
| ST | Sao Tome and Principe |
| SV | El Salvador |
| SY | Syrian Arab Republic |
| SZ | Swaziland |
| TC | Turks and Caicos Islands |
| TD | Chad |
| TF | French Southern Territories |
| TG | Togo |
| TH | Thailand |

| | |
|---|---|
| TJ | Tajikistan |
| TK | Tokelau |
| TM | Turkmenistan |
| TN | Tunisia |
| TO | Tonga |
| TP | East Timor |
| TR | Turkey |
| TT | Trinidad and Tobago |
| TV | Tuvalu |
| TW | Taiwan, Province of China |
| TZ | Tanzania, United Republic of |
| UA | Ukraine |
| UG | Uganda |
| UM | United States Minor Outlying Islands |
| US | United States |
| UY | Uruguay |
| UZ | Uzbekistan |
| VA | Vatican City State (Holy See) |
| VC | Saint Vincent and the Grenadines |
| VE | Venezuela |
| VG | Virgin Islands (British) |
| VI | Virgin Islands (U.S.) |
| VN | Vietnam |
| VU | Vanuatu |
| WF | Wallis and Futuna Islands |
| WS | Samoa |
| YE | Yemen |
| YT | Mayotte |
| YU | Yugoslavia |
| ZA | South Africa |
| ZM | Zambia |
| ZR | Zaire |
| ZW | Zimbabwe |
| | |
| | |
| | |
| | |

## SAFETY INSTRUCTIONS
## “SOME DOS AND DON’TS ON THE SAFE USE OF EQUIPMENT”

This equipment has been disigned and manufactured to meet international safety standards but, like any electrical equipment, care must be taken if you are to obtain the best results and safety is to be assured.

★★★