

SONY®

3-077-160-11(1)

CD/DVD Player

Operating Instructions



DVP-NS999ES

© 2002 Sony Corporation

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture. To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

CAUTION

The use of optical instruments with this product will increase eye hazard. As the laser beam used in this CD/DVD player is harmful to eyes, do not attempt to disassemble the cabinet.

Refer servicing to qualified personnel only.

The following caution label is on the side of the player.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage"

within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and

maintenance (servicing) instructions in the literature accompanying the appliance.

CAUTION

TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

For customers in the U.S.A

Owner's Record

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

Model No. DVP-NS999ES

Serial No. _____

CAUTION

You are cautioned that any change or modifications not expressly approved in this manual could void your authority to operate this equipment.

Note

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

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

Welcome!

Thank you for purchasing this Sony CD/DVD Player. Before operating this player, please read this manual thoroughly and retain it for future reference.

Precautions

On safety

- Caution – The use of optical instruments with this product will increase eye hazard.
- To prevent fire or shock hazard, do not place objects filled with liquids, such as vases, on the apparatus.
- Should any solid object or liquid fall into the cabinet, unplug the player and have it checked by qualified personnel before operating it any further.

On power sources

- The player is not disconnected from the AC power source as long as it is connected to the wall outlet, even if the player itself has been turned off.
- If you are not going to use the player for a long time, be sure to disconnect the player from the wall outlet. To disconnect the AC power cord, grasp the plug itself; never pull the cord.
- Should the AC power cord need to be changed, have it done at a qualified service shop only.

On placement

- Place the player in a location with adequate ventilation to prevent heat build-up in the player.
- Do not place the player on a soft surface such as a rug that might block the ventilation holes.
- Do not place the player in a location near heat sources, or in a place subject to direct sunlight, excessive dust, or mechanical shock.

On operation

- If the player is brought directly from a cold to a warm location, or is placed in a very damp room, moisture may condense on the lenses inside the player. Should this occur, the player may not operate properly. In this case, remove the disc and leave the player turned on for about half an hour until the moisture evaporates.
- When you move the player, take out any discs. If you don't, the disc may be damaged.

On adjusting volume

Do not turn up the volume while listening to a section with very low level inputs or no audio signals. If you do, the speakers may be damaged when a peak level section is played.

On cleaning

Clean the cabinet, panel, and controls with a soft cloth slightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzine.

On cleaning discs

Do not use a commercially available cleaning disc. It may cause a malfunction.

IMPORTANT NOTICE

Caution: This player is capable of holding a still video image or on-screen display image on your television screen indefinitely. If you leave the still video image or on-screen display image displayed on your TV for an extended period of time you risk permanent damage to your television screen. Projection televisions are especially susceptible to this.

If you have any questions or problems concerning your player, please consult your nearest Sony dealer.

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About this Manual

- Instructions in this manual describe the controls on the remote. You can also use the controls on the player if they have the same or similar names as those on the remote.
- “DVD” may be used as a general term for DVD VIDEOS, DVD-Rs, and DVD-RWs.
- The meanings of the icons used in this manual are described below:

Icon	Meaning
	Functions available for DVD VIDEOS or DVD-Rs/DVD-RWs in video mode
	Functions available for DVD-RWs in VR (Video Recording) mode
	Functions available for VIDEO CDs or CD-Rs/CD-RWs in video CD format
	Functions available for Super Audio CDs
	Functions available for music CDs or CD-Rs/CD-RWs in music CD format
	Functions available for DATA CDs (CD-ROMs/CD-Rs/CD-RWs containing MP3* audio tracks)

* MP3 (MPEG 1 Audio Layer 3) is a standard format defined by ISO/MPEG which compresses audio data.

This Player Can Play the Following Discs

Format of discs	
DVD VIDEO (page 88)	
DVD-RW (page 88)	
Super Audio CD (page 90)	
VIDEO CD	
Music CD	

“DVD VIDEO” and “DVD-RW” are trademarks.

Region code

The player has a region code printed on the rear panel and only will play DVD VIDEOS (playback only) labeled with identical region codes. This system is used to protect copyrights.

DVD VIDEOS labeled  will also play on this player.

If you try to play any other DVD VIDEO, the message “Playback prohibited by area limitations.” will appear on the TV screen. Depending on the DVD VIDEO, no region code indication may be labeled even though playing the DVD VIDEO is prohibited by area restrictions.



Example of discs that the player cannot play

The player cannot play the following discs:

- All CD-ROMs (including PHOTO CDs)/CD-Rs/CD-RWs other than those recorded in the following formats:
 - music CD format
 - video CD format
 - MP3 format that conforms to ISO9660* Level 1/Level 2, or its extended format, Joliet
- Data part of CD-Extras
- DVD-ROMs
- DVD Audios
- * A logical format of files and folders on CD-ROMs defined by ISO (International Standards Organization).

Also, the player cannot play the following discs:

- A DVD VIDEO with a different region code.
- A disc recorded in a color system other than NTSC, such as PAL or SECAM (this player conforms to the NTSC color system).
- A disc that has a non-standard shape (e.g., card, heart).
- A disc with paper or stickers on it.
- A disc that has the adhesive of cellophane tape or a sticker still left on it.

Note

Some DVD-Rs, DVD-RWs, CD-Rs, or CD-RWs cannot be played on this player due to the recording quality or physical condition of the disc, or the characteristics of the recording device.

The disc will not play if it has not been correctly finalized. Also, images in DVD-RWs with CPRM* protection may not be played if they contain a copy protection signal. "Copyright lock" appears on the screen. For more information, see the operating instructions for the recording device. Note that discs created in the Packet Write format cannot be played.

* CPRM (Content Protection for Recordable Media) is a coding technology that protects the copyright of images.

Note on playback operations of DVDs and VIDEO CDs

Some playback operations of DVDs and VIDEO CDs may be intentionally set by software producers. Since this player plays DVDs and VIDEO CDs according to the disc contents the software producers designed, some playback features may not be available. Also, refer to the instructions supplied with the DVDs or VIDEO CDs.

Copyrights

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents, other intellectual property rights owned by Macrovision Corporation, and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

Notes about the Discs

- To keep the disc clean, handle the disc by its edge. Do not touch the surface.



- Do not expose the disc to direct sunlight or heat sources such as hot air ducts, or leave it in a car parked in direct sunlight as the temperature may rise considerably inside the car.
- After playing, store the disc in its case.
- Clean the disc with a cleaning cloth.
Wipe the disc from the center out.

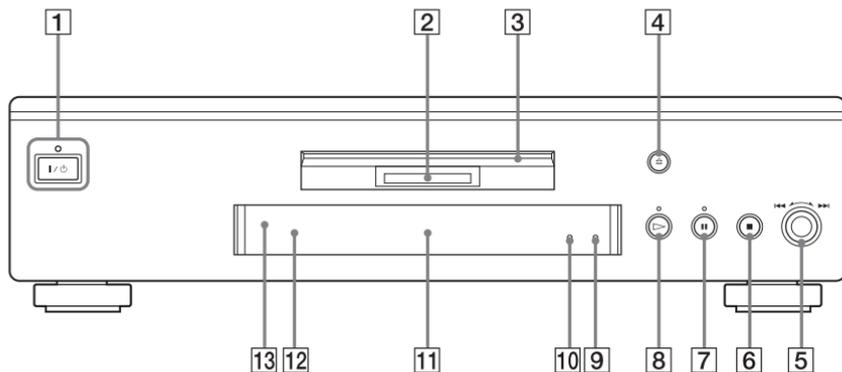


- Do not use solvents such as benzine, thinner, commercially available cleaners, or anti-static spray intended for vinyl LPs.

Index to Parts and Controls

For more information, refer to the pages indicated in parentheses.

Front panel



1  (on/standby) button (35)
Lights up in green when the power is on and lights up in red when the player is in standby mode.

2 MULTI CHANNEL indicator
Lights up when:
— playing a disc that contains three or more audio signal channels.
— no disc is inserted.

3 Disc tray (35)

4  (open/close) button (35)

5  (previous/next) dial (36)

6  (stop) button (36)

7  (pause) button (36)

8  (play) button (35)

9 FL OFF indicator (10)

10 VIDEO OFF indicator (35)

11 Front panel display (10)

12 SUPER AUDIO CD indicator

Lights up when:

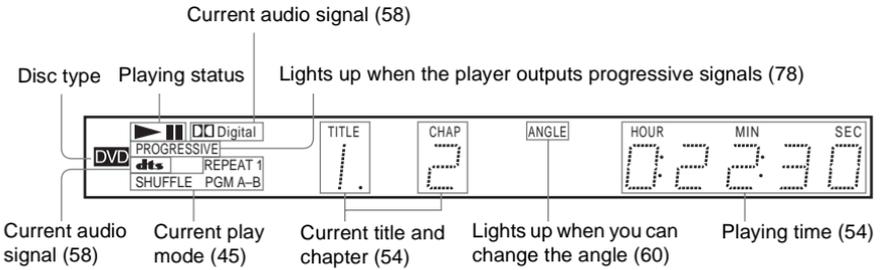
— playing an HD (High Density) layer of Super Audio CDs.

— no disc is inserted.

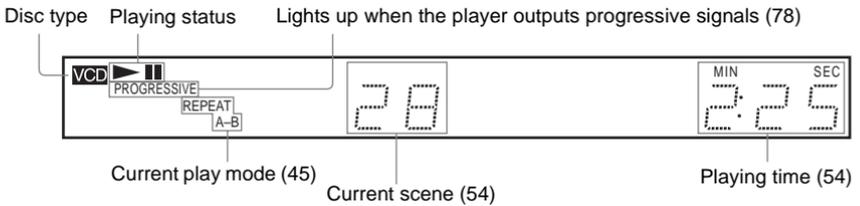
13  (remote sensor) (17)

Front panel display

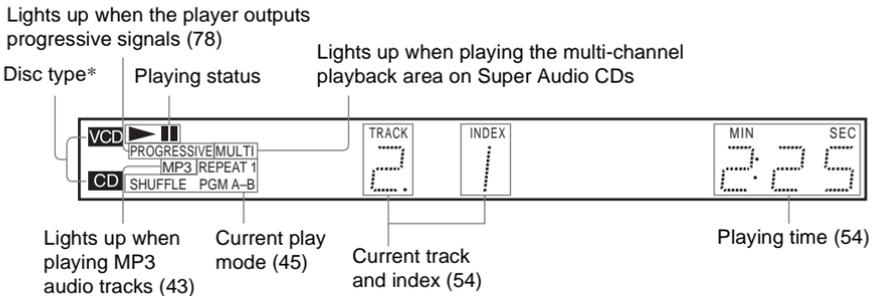
When playing back a DVD VIDEO/DVD-RW



When playing back a VIDEO CD with Playback Control (PBC) (42)



When playing back a CD, Super Audio CD, DATA CD (MP3 audio), or VIDEO CD (without PBC)



* When playing the HD layer of Super Audio CDs, the disc type is not displayed.

When the front panel display turns off, the FL OFF indicator lights up on the player.

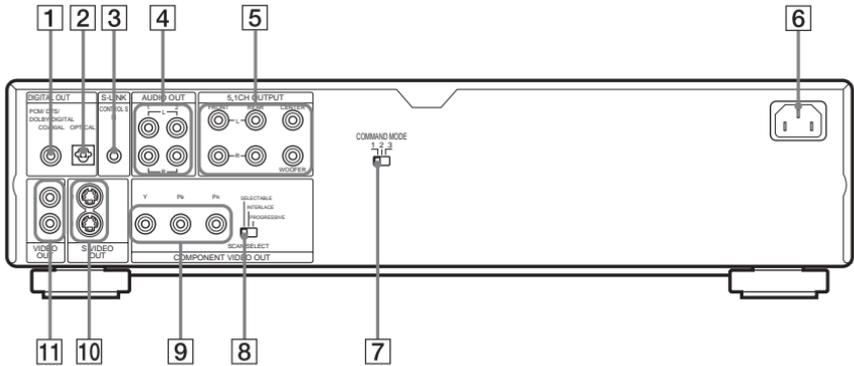
To turn off the front panel display

Toggle the scroll key up or down to display "FL ON/OFF" in the LCD screen. Then point the remote to the player and press down on the scroll key so that  appears in the LCD screen.

Hint

You can adjust the lighting of the front panel display by setting "DIMMER" in "CUSTOM SETUP" (page 79).

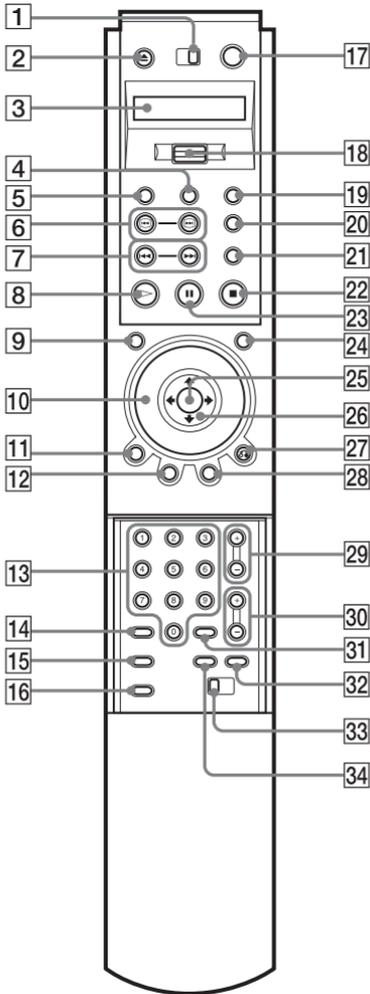
Rear panel



- 1** DIGITAL OUT (COAXIAL) jack (27) (28) (29)
- 2** DIGITAL OUT (OPTICAL) jack (27) (28) (29)
- 3** S-LINK/CONTROL S IN jack (21)
- 4** AUDIO OUT L/R 1/2 jacks (26) (27) (28)
- 5** 5.1CH OUTPUT jacks (29)
- 6** AC IN terminal (17)

- 7** COMMAND MODE switch (1, 2, 3) (17)
- 8** COMPONENT VIDEO OUT/SCAN SELECT switch (78)
- 9** COMPONENT VIDEO OUT (Y, P_B, P_R) jacks (21)
- 10** S VIDEO OUT 1/2 jacks (21)
- 11** VIDEO OUT 1/2 jacks (21)

Remote



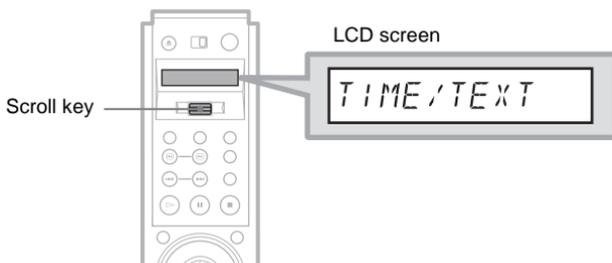
- 1** TV/DVD switch (72)
- 2** ▲ OPEN/CLOSE button (35)
- 3** LCD (Liquid Crystal Display) screen (13)
- 4** PROGRAM button (45)
- 5** VIDEO CONTROL button (62)
- 6** ⏪ ⏩ SEARCH buttons (37)
- 7** ⏮ ⏭ PREV/NEXT (previous/next) buttons (36)
- 8** ▷ PLAY button (35)
The ▷ button has a tactile dot.*

- 9** PICTURE NAVI (picture navigation) button (50)
- 10** Click shuttle (37)
- 11** DISPLAY button (14)
- 12** TOP MENU button (39)
- 13** Number buttons (39)
The number 5 button has a tactile dot.*
- 14** CLEAR button (46)
- 15** SEARCH MODE button (49)
- 16** PICTURE MEMORY button (77)
- 17** I/⏻ (on/standby) button (35) (72)
- 18** Scroll key (13)
- 19** A-B button (48)
- 20** BOOKMARK button (51)
- 21** REPLAY button (36)
- 22** ■ STOP button (36)
- 23** ■ PAUSE button (36)
- 24** JOG button (38)
- 25** ENTER button (31)
- 26** ⏪/⏩/⏮/⏭ button (39)
- 27** ⏮ RETURN button (36)
- 28** MENU button (39)
- 29** CH (channel) +/- buttons (72)
The + button has a tactile dot.*
- 30** VOL (volume) +/- buttons (72)
The + button has a tactile dot.*
- 31** ENTER button
- 32** WIDE MODE button (72)
- 33** COMMAND MODE switch (DVD 1, 2, 3) (17)
- 34** TV/VIDEO button (72)

* Use the tactile dot as a reference when operating the player.

Guide to the Remote Control LCD Screen

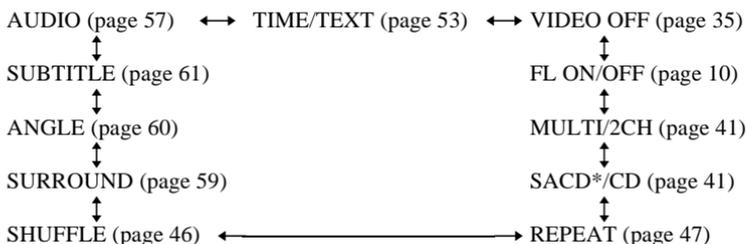
The supplied remote has an LCD (Liquid Crystal Display) screen and scroll key for controlling the player. By pushing the scroll key up or down, you can call up various displays and functions such as “TIME/TEXT” and “SUBTITLE.”



Operating the LCD and scroll key

1 Toggle the scroll key up or down to select a command.

The following commands are contained in the LCD. The commands will scroll continuously if you keep the scroll key pushed up or down. For details about each of the command, see the pages in parentheses.

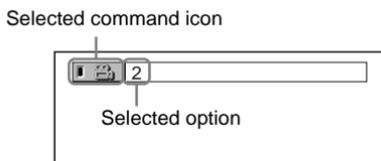


* Super Audio CD.

2 Point the remote at the (remote sensor) on the player and press down on the word PUSH imprinted on the scroll key so that appears in the LCD screen.

The player will respond to the selected command as long as the command remains in the LCD screen. Some commands require you to press down on the scroll key repeatedly. The display appears on the TV screen.

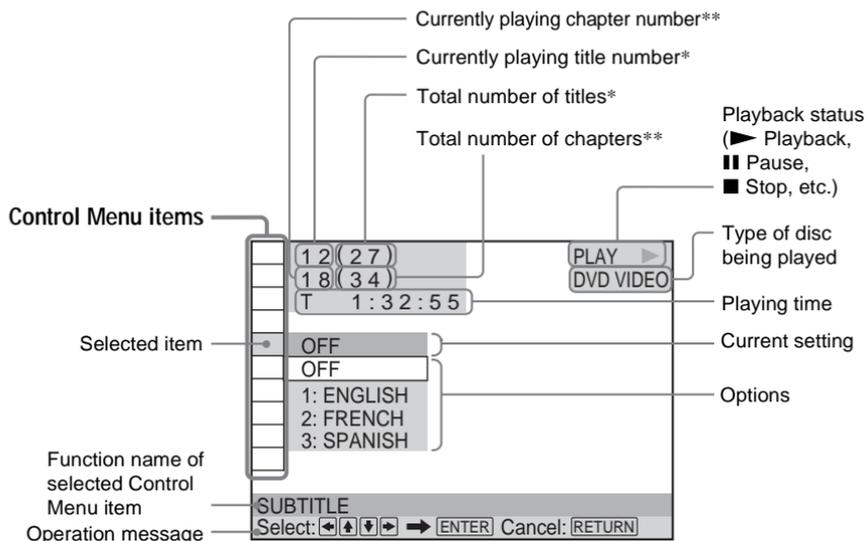
Example: When “ANGLE” is selected.



Guide to the Control Menu Display

You can use the Control Menu to select a function and view related information. The Control Menu display shows different items depending on the disc type.

Example: Control Menu display 1 when playing a DVD VIDEO.

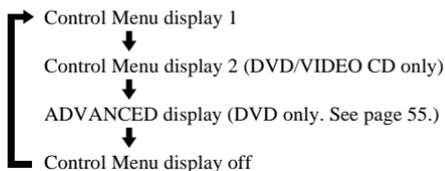


* Displays the scene number for VIDEO CDs (PBC is on), track number for VIDEO CDs/ Super audio CDs/CDs, album number for DATA CDs.

** Displays the index number for VIDEO CDs/ Super audio CDs/CDs, MP3 audio track number for DATA CDs.

Using the Control Menu display

1 Press DISPLAY repeatedly to turn on or change the Control Menu display as follows:



2 Select the Control Menu item you want to set up for the current disc using **↑/↓**, and press ENTER.

Available options for the selected Control Menu item appear.

3 Select the option you want by pressing **↑/↓**, and press ENTER.

Hint

You can skip the ADVANCED display by setting "OFF" under "ADVANCED" in the Control Menu (page 55).

List of Control Menu items

Following are brief explanations on the Control Menu items. Available options for each item are described on the pages in parentheses.

Item	Item Name, Function, Relevant Disc Type
	TITLE (page 49)/SCENE (page 49)/TRACK (page 49) Selects the title, scene, or track to be played. DVD-V DVD-RW VCD
	CHAPTER (page 49)/INDEX (page 49) Selects the chapter or index to be played. DVD-V DVD-RW VCD
	ALBUM (page 43) Selects the album to be played. DATA CD
	TRACK (page 49) Selects the track to be played. SA-CD CD DATA CD
	INDEX (page 49) Selects the index to be played. SA-CD CD
	ORIGINAL/PLAY LIST (page 40) Selects the type of titles to be played, the ORIGINAL one or an edited PLAY LIST. DVD-RW
	TIME/TEXT (page 49, 53) TIME/MEMO (page 49, 66) Checks the elapsed time and the remaining playback time. Input the time code for picture and music searching. Displays the DVD/Super Audio CD/CD text, or the DATA CD's track name. Allows you to name a disc, or displays the label (Disc Memo) you assigned to the disc. DVD-V DVD-RW VCD SA-CD CD DATA CD
	MULTI/2CH (page 41) Selects the playback area on Super Audio CDs when available. SA-CD
	AUDIO (page 57) Changes the audio setting. DVD-V DVD-RW VCD CD DATA CD
	SUBTITLE (page 61) Displays the subtitles. Changes the subtitle language. DVD-V DVD-RW
	ANGLE (page 60) Changes the angle. DVD-V
	SURROUND (page 59) Selects the surround functions. Available when 4 to 6 speakers are connected. DVD-V DVD-RW VCD CD DATA CD
	ADVANCED (page 55) Displays the information (bit rate or layer) of the disc currently playing. DVD-V DVD-RW
	PARENTAL CONTROL (page 67) Set to prohibit playback on this player. DVD-V VCD SA-CD CD

	<p>SETUP (page 75) QUICK Setup (page 31) Use Quick Setup to choose the desired language of the on-screen display, the aspect ratio of the TV, the audio output signal, and the size of the speakers you are using. CUSTOM Setup In addition to the Quick Setup setting, you can adjust various other settings. RESET Returns the settings in “SETUP” to the default setting.</p> <p style="text-align: right;">DVD-V DVD-RW VCD SA-CD CD DATA CD</p>
	<p>PROGRAM (page 45) Selects the title, chapter, or track to play in the order you want.</p> <p style="text-align: right;">DVD-V VCD SA-CD CD</p>
	<p>SHUFFLE (page 46) Plays the title, chapter, or track in random order.</p> <p style="text-align: right;">DVD-V VCD SA-CD CD</p>
	<p>REPEAT (page 47) Plays the entire disc (all titles/all tracks/all albums) repeatedly or one title/chapter/track/album repeatedly.</p> <p style="text-align: right;">DVD-V DVD-RW VCD SA-CD CD DATA CD</p>
	<p>A-B REPEAT (page 48) Specifies the parts you want to play repeatedly.</p> <p style="text-align: right;">DVD-V DVD-RW VCD SA-CD CD</p>
	<p>VIDEO CONTROL (page 62) Adjusts the video signal from the player in various ways. Select the setting that suits the program you are watching. Or, make detailed adjustments to each element of the picture qualities, such as brightness, color, noise, sharpness, and many others.</p> <p style="text-align: right;">DVD-V DVD-RW VCD</p>
	<p>PICTURE NAVIGATION (page 50) Divides the screen into 9 subscreens to help you find the scene you want quickly.</p> <p style="text-align: right;">DVD-V VCD</p>

Hint

The Control Menu icon indicator lights up in green

 →  when you select any item except “OFF.” (“SURROUND,” “PROGRAM,” “SHUFFLE,” “REPEAT,” “A-B REPEAT” only).

The “ANGLE” indicator lights up in green only when the angles can be changed. The “VIDEO CONTROL” indicator lights up in green when any setting other than “STANDARD” is selected. The “PICTURE NAVIGATION” indicator lights up in green when a bookmark is set.

Simple Start Guide

Quick Overview

A quick overview presented in this guide will give you enough information to start using the player for your enjoyment. To use the surround sound features of this player, refer to “Hookups” on page 21.

Notes

- You cannot connect this player to a TV that does not have a video input jack.
- Be sure to disconnect the power cord of each component before connecting.

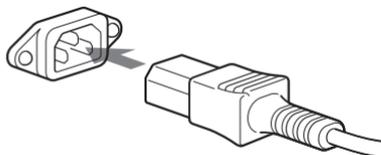
Step 1: Unpacking

Check that you have the following items:

- Audio/video cord (pinplug × 3 ↔ pinplug × 3) (1)
- Power cord (1)
- Remote commander (remote) (1)
- Size AA (R6) batteries (2)

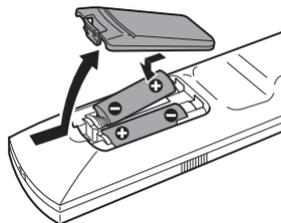
Connecting the power cord

Connect the supplied power cord to the AC IN terminal of the player.



Step 2: Preparing the Remote

You can control the player using the supplied remote. Insert two Size AA (R6) batteries by matching the ⊕ and ⊖ ends on the batteries to the markings inside the compartment. When using the remote, point it at the remote sensor  on the player.



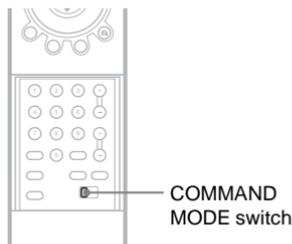
Notes

- Do not leave the remote in an extremely hot or humid place.
- Do not drop any foreign object into the remote casing, particularly when replacing the batteries.
- Do not expose the remote sensor to direct light from the sun or a lighting apparatus. Doing so may cause a malfunction.
- If you do not use the remote for an extended period of time, remove the batteries to avoid possible damage from battery leakage and corrosion.

When you have more than one Sony DVD player

If the supplied remote interferes with your other Sony DVD player, set the command mode for this player and the supplied remote to one that differs from the other Sony DVD player.

The default command mode setting for this player and the supplied remote is DVD 1.



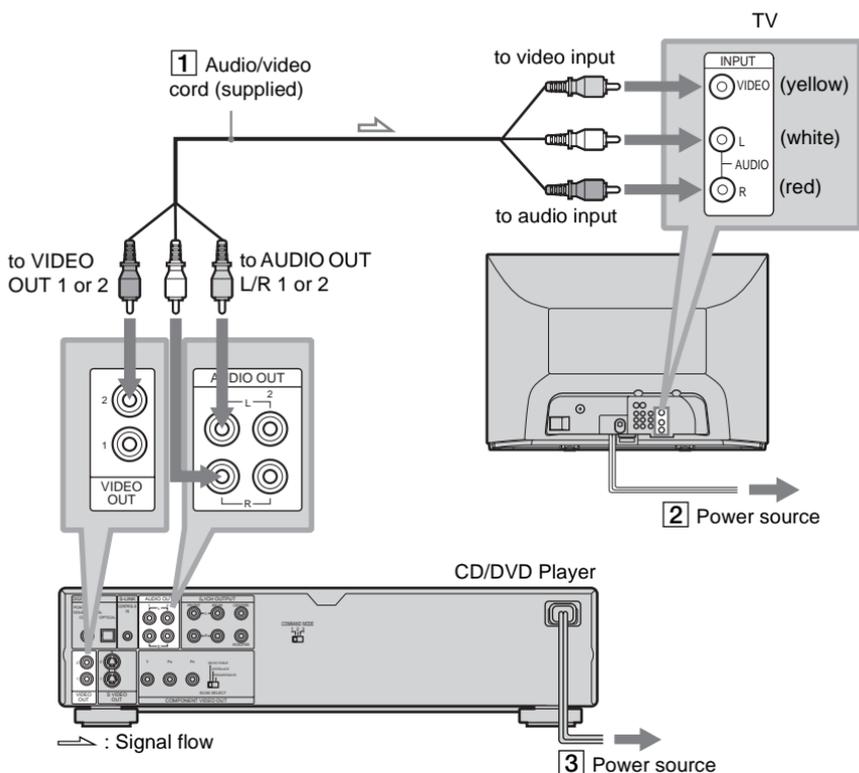
- 1** Slide the **COMMAND MODE** switch on the remote to select the command mode (**DVD 1**, **DVD 2**, or **DVD 3**) so that the setting for the remote differs from the other DVD players.

For example, if other DVD players respond to the default command mode setting for the supplied remote (**DVD 1**), set the remote to **DVD 2** or **DVD 3**.

- 2** Slide the **COMMAND MODE** switch on the rear of the player so it matches that of the supplied remote.

Step 3: TV Hookups

Connect the supplied audio/video cord and the power cords in the order (1~3) shown below. Be sure to connect the power cord last.



To change the aspect ratio for the connected TV

Depending on the disc and the TV type (standard 4:3 screen TV or wide screen TV), the image may not fit the TV screen. If this happens, change the aspect ratio (page 77).

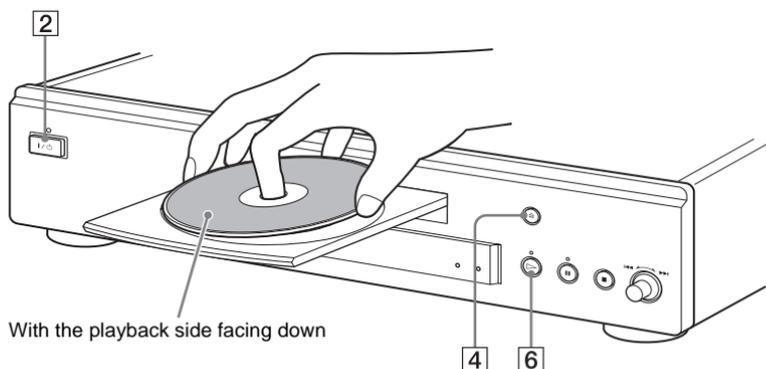
When connecting to a TV that accepts progressive (480p) format signals

You need to use the COMPONENT VIDEO OUT jacks to view progressive signals. Hook up your TV using pattern **C** on page 21, and then run Quick Setup on page 31.

💡 Hint

When connecting to a monaural TV, use a stereo-mono conversion cord (not supplied). Connect the VIDEO OUT 1/2 jack on the player to the TV's video input jack, and connect the AUDIO OUT L/R 1/2 jacks to the TV's audio input jack.

Step 4: Playing a Disc



- 1 Turn on the TV.
- 2 Press **I/⏻** on the player.
- 3 Switch the input selector on your TV so that the signal from the player appears on the TV screen.
- 4 Press **⏻** on the player to open the disc tray.
- 5 Place the disc on the tray with the playback side facing down.
- 6 Press **▶**.
The disc tray closes and the player begins playing the disc.

After step 6

Depending on the disc, a menu may be displayed on the TV screen. If so, select the item you want from the menu and play the DVD VIDEO (page 39) or VIDEO CD (page 42).

To stop playing

Press **■**.

To remove the disc

Press **⏻**.

To turn off the player

Press **I/⏻**. The player enters standby mode and the power indicator lights up in red.

Hooking Up the Player

Follow steps 1 to 4 to hook up and adjust the settings of the player.

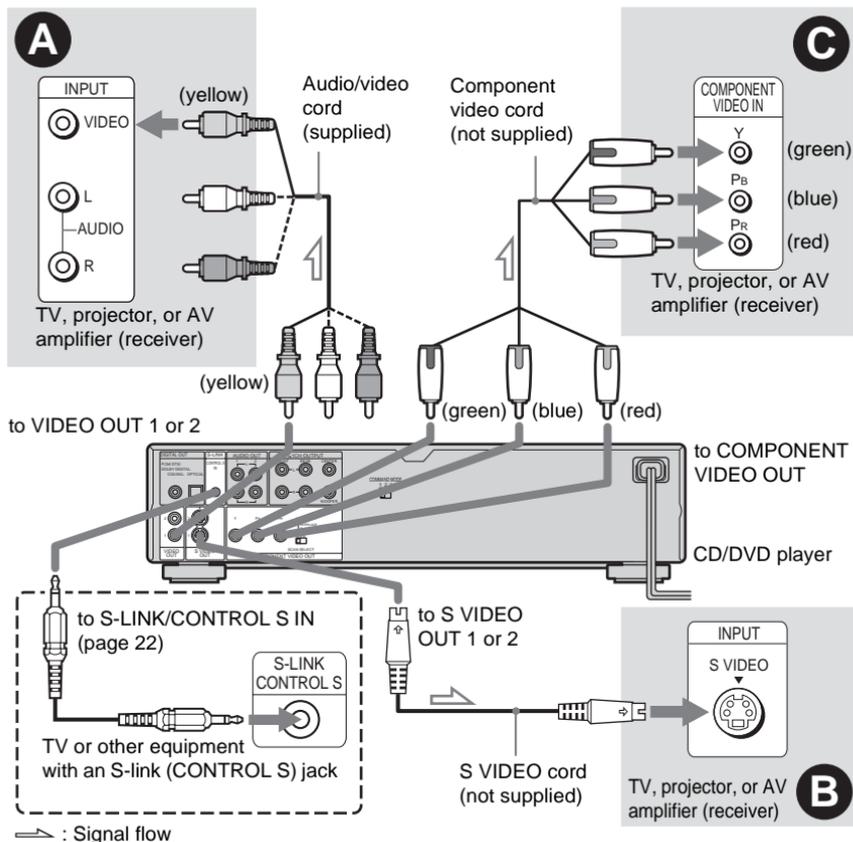
Before you start, disconnect the power cords, check that you have all of the supplied accessories, and insert the batteries into the remote (page 17).

Notes

- Plug cords securely to prevent unwanted noise.
- Refer to the instructions supplied with the components to be connected.

Step 1: Connecting the Video Cords

Connect this player to your TV monitor, projector, or AV amplifier (receiver) using a video cord. Select one of the patterns **A** through **C**, according to the input jack on your TV monitor, projector, or AV amplifier (receiver). In order to view progressive signal (480p) pictures with a compatible TV, projector, or monitor, you must use pattern **C**.



A If you are connecting to a video input jack

Connect the yellow plug of the audio/video cord (supplied) to the yellow (video) jacks. You will enjoy standard quality images.



Use the red and white plugs to connect to the audio input jacks (page 26). (Do this if you are connecting to a TV only.)

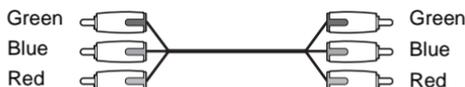
B If you are connecting to an S VIDEO input jack

Connect an S VIDEO cord (not supplied). You will enjoy high quality images.



C If you are connecting to a monitor, projector, or AV amplifier (receiver) having component video input jacks (Y, P_B, P_R)

Connect the component via the COMPONENT VIDEO OUT jacks using a component video cord (not supplied) or three video cords (not supplied) of the same kind and length. You will enjoy accurate color reproduction and high quality images. If your TV accepts progressive (480p) format signals, you must use this connection and set “COMPONENT OUT” to “PROGRESSIVE” in “SCREEN SETUP” (page 78).



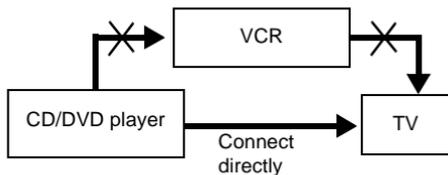
Hint

If your TV has an S-LINK (CONTROL S) jack, you can control the player by operating the remote toward the TV. This feature is convenient when you placed the player and the TV away from each other. After connecting the player with other components according to the above **A**, **B**, or **C**, connect the TV via the S-LINK/CONTROL S IN jack using an S-link (control S) cord (not supplied). Refer to the instructions supplied with the TV to be connected.



Notes

- Do not connect a VCR, etc. between your TV and the player. If you pass the player signals via the VCR, you may not receive a clear image on the TV screen. If your TV has only one audio/video input jack, connect the player to this jack.



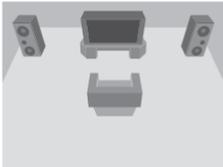
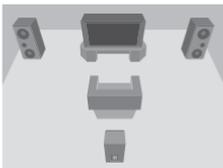
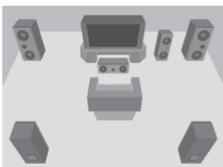
- Consumers should note that not all high definition television sets are fully compatible with this product and may cause artifacts to be displayed in the picture. In the case of progressive scan picture problems, it is recommended that you switch the connection to the standard definition output. If there are questions regarding your Sony TV set's compatibility with this DVD player, please contact our customer service center.

Step 2: Connecting the Audio Cords

Refer to the chart below to select the connection that best suits your system. Be sure to also read the instructions for the components you wish to connect.

Select a connection

Select one of the following connections, **A** through **D**.

Components to be connected	Connection	Your setup (example)
<p>TV</p> <ul style="list-style-type: none"> Surround effects: None 	A (page 26)	
<p>Stereo amplifier (receiver) and two speakers</p> <ul style="list-style-type: none"> Surround effects: None <p>or</p> <p>MD deck/DAT deck</p> <ul style="list-style-type: none"> Surround effects: None 	B (page 27)	
<p>AV amplifier (receiver) having a Dolby* Surround (Pro Logic) decoder and 3 to 6 speakers</p> <ul style="list-style-type: none"> Surround effects: Dolby Surround (Pro Logic) (page 88) 	C (page 28)	
<p>AV amplifier (receiver) with 5.1 ch input jacks and 4 to 6 speakers</p> <ul style="list-style-type: none"> Surround effects: <ul style="list-style-type: none"> Dolby Digital (5.1 ch) (page 88) DTS (5.1 ch) (page 88) Super Audio CD Multi channel (page 90) <p>or</p> <p>AV amplifier (receiver) with digital input jacks having a Dolby or DTS** decoder and 6 speakers</p> <ul style="list-style-type: none"> Surround effects: <ul style="list-style-type: none"> Dolby Digital (5.1ch) (page 88) DTS (5.1ch) (page 88) 	D (page 29)	

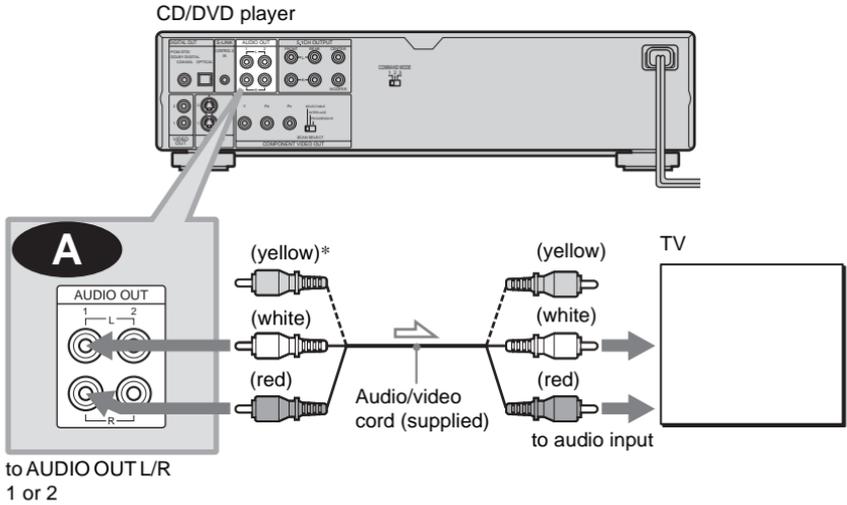
Hint

If you connect an AV amplifier (receiver) that conforms to the 96 kHz sampling frequency, use connection **D**.

- * Manufactured under license from Dolby Laboratories. “Dolby,” “Pro Logic,” and the double-D symbol are trademarks of Dolby Laboratories.
- ** Manufactured under license from Digital Theater Systems, Inc. US Pat. No. 5,451,942, 5,956,674, 5,974,380, 5,978,762 and other world-wide patents issued and pending. “DTS” and “DTS Digital Surround” are registered trademarks of Digital Theater Systems, Inc. Copyright 1996, 2000 Digital Theater Systems, Inc. All rights reserved.

A Connecting to your TV

This connection will use your TV speakers for sound.



→ : Signal flow

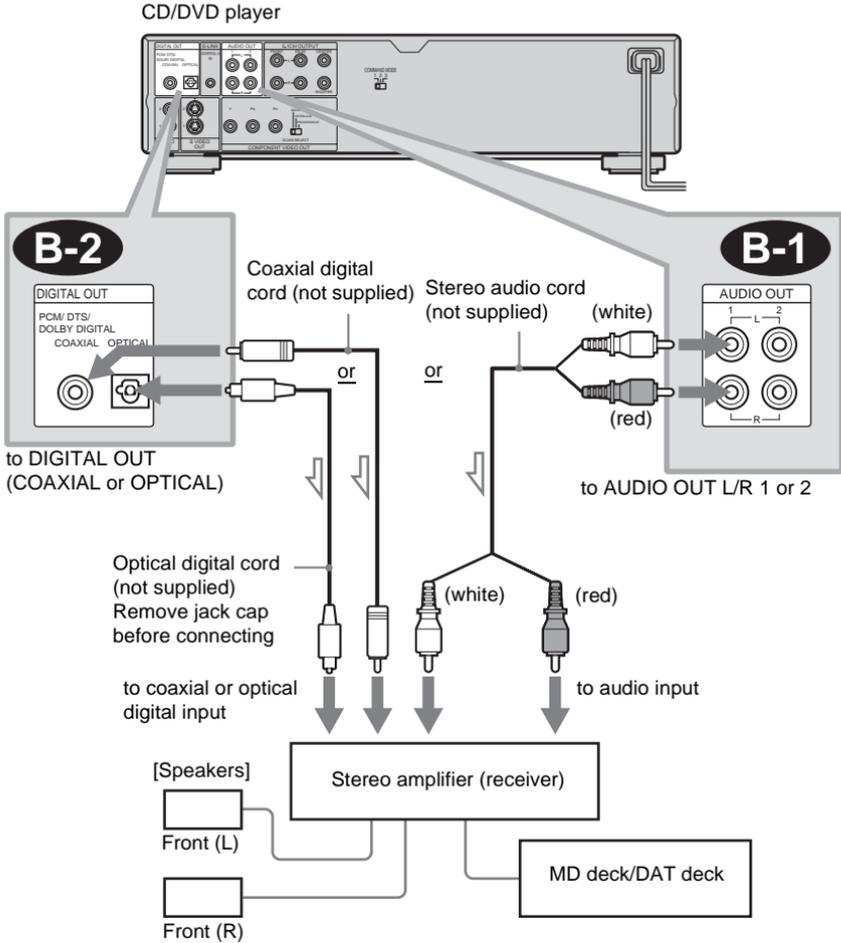
* The yellow plug is used for video signals (page 21).

Hint

When connecting to a monaural TV, use a stereo-mono conversion cord (not supplied). Connect the AUDIO OUT L/R 1/2 jacks to the TV's audio input jack.

B Connecting to a stereo amplifier (receiver) and 2 speakers/Connecting to an MD deck or DAT deck

If the stereo amplifier (receiver) has audio input jacks L and R only, use **B-1**. If the amplifier (receiver) has a digital input jack, or when connecting to an MD deck or DAT deck, use **B-2**. In this case, you can also connect the player directly to the MD deck or DAT deck without using your stereo amplifier (receiver).



⇒: Signal flow

Hints

- In connection **B-1**, you can use the supplied audio/video cord instead of using a separate stereo audio cord.
- To realize better surround sound effects, make sure that your listening position is in between your speakers.

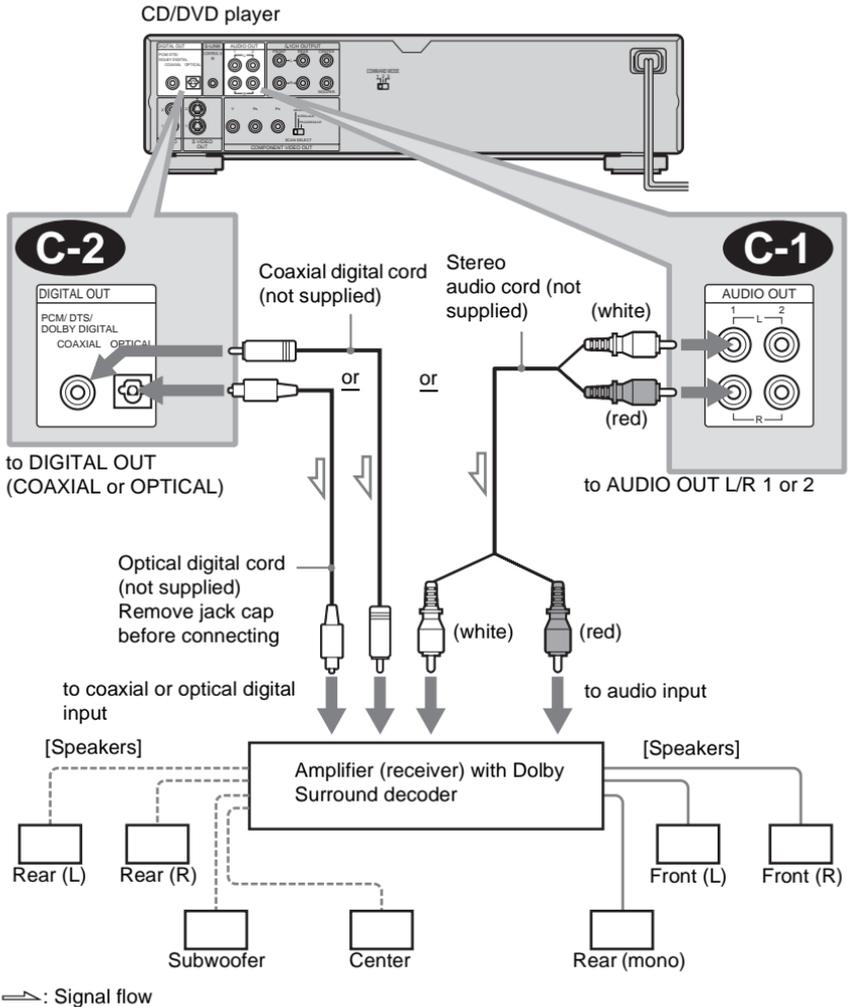
Note

Super Audio CD audio signals are not output from the digital jack.

C Connecting to an AV amplifier (receiver) having a Dolby Surround (Pro Logic) decoder and 3 to 6 speakers

You can enjoy Dolby Surround effects only when playing Dolby Surround audio or multi-channel audio (Dolby Digital) discs.

If your amplifier (receiver) has L and R audio input jacks only, use **C-1**. If your amplifier (receiver) has a digital input jack, use **C-2**.



Hint

For correct speaker location, refer to the operating instructions of the amplifier (receiver).

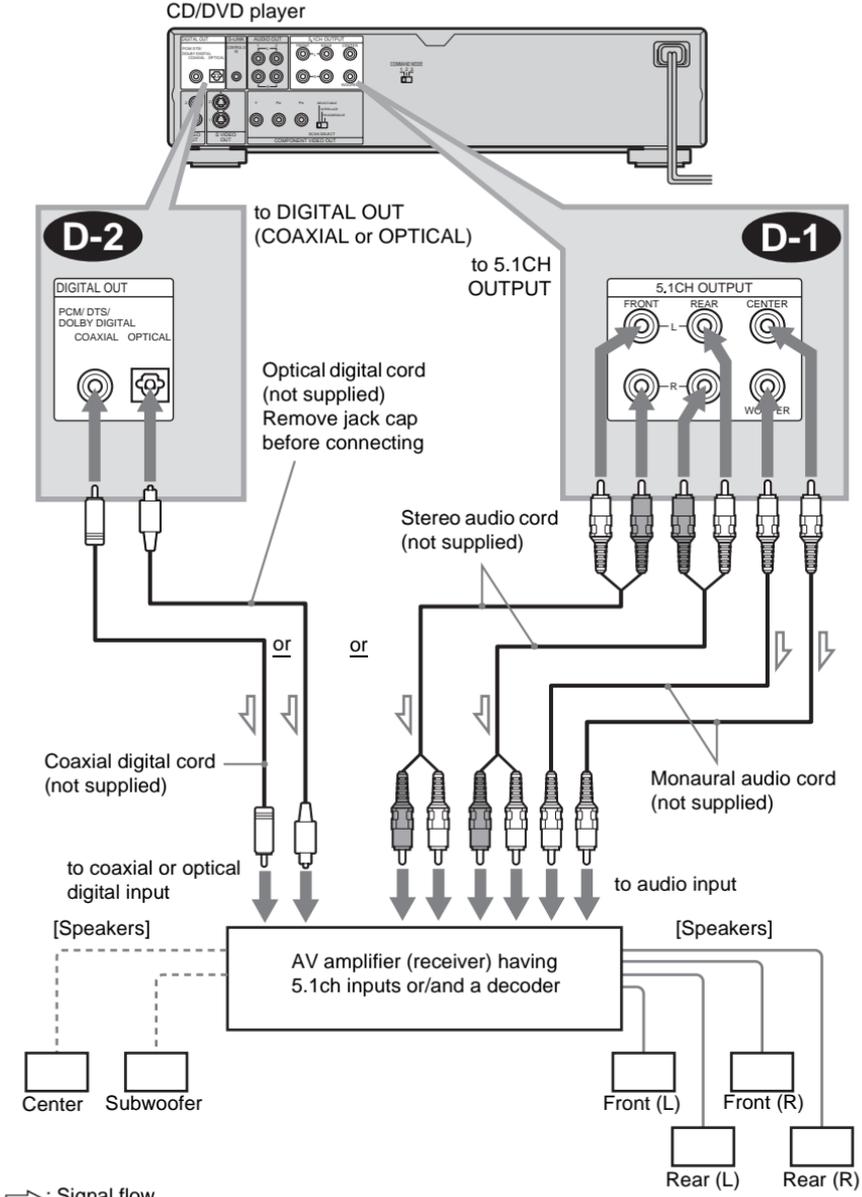
Notes

- When connecting 6 speakers, replace the monaural rear speaker with a center speaker, 2 rear speakers, and a subwoofer.
- Super Audio CD audio signals are not output from the digital jack.

D Connecting to an AV amplifier (receiver) with 5.1 ch input jacks and/or a digital input jack and 4 to 6 speakers

If your AV amplifier (receiver) has 5.1 channel inputs, use **D-1**.

If you want to use the Dolby Digital, or DTS decoder function on your AV amplifier (receiver), connect to its digital jack using **D-2**. With the following connections, you can enjoy a more realistic audio presence in the comfort of your own home.



D-1 : Connecting to the 5.1ch input jacks

You can enjoy 5.1ch surround sound using the internal Dolby Digital, DTS, or Super Audio CD Multi decoder of this player.

D-2 : Connecting to a digital jack

This connection will allow you to use the Dolby Digital, or DTS decoder function of your AV amplifier (receiver). You are not able to enjoy the surround sound effects of this player.

Hints

• For connection **D-2**

For correct speaker placement, refer to the instructions of the connected components.

- To enhance the sound performance:
 - Use high-performance speakers.
 - Use front, rear, and center speakers of the same size and performance.
 - Place the subwoofer between the left and right front speakers.

Notes

For connection **D-2**

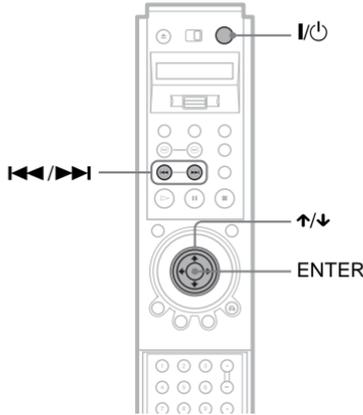
- After you have completed the connection, be sure to set “DOLBY DIGITAL” to “DOLBY DIGITAL” and “DTS” to “DTS” in Quick Setup (page 31).
- When you connect an amplifier (receiver) that conforms to the 96kHz sampling frequency, set “48kHz/96kHz PCM” in “AUDIO SETUP” to “96kHz/24bit” (page 82).
- Super Audio CD audio signals are not output from the digital jack.

Step 3: Connecting the Power Cord

Plug the player and TV power cords into an AC outlet.

Step 4: Quick Setup

Follow the steps below to make the minimum number of basic adjustments for using the player. To skip an adjustment, press **▶▶▶**. To return to the previous adjustment, press **◀◀◀**.



1 Turn on the TV.

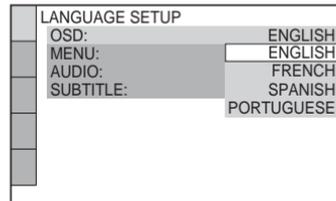
2 Press **I/Power**.

3 Switch the input selector on your TV so that the signal from the player appears on the TV screen.

“Press [ENTER] to run QUICK SETUP” appears at the bottom of the screen. If this message does not appear, select “QUICK” under “SETUP” in the Control Menu to run Quick Setup (page 76).

4 Press **ENTER** without inserting a disc.

The Setup Display for selecting the language used in the on-screen display appears.

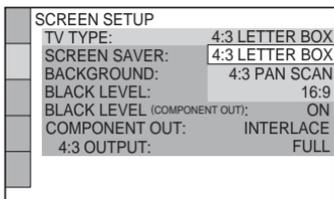


5 Press **↑/↓** to select a language.

The player uses the language selected here to display the menu and subtitles as well.

6 Press ENTER.

The Setup Display for selecting the aspect ratio of the TV to be connected appears.

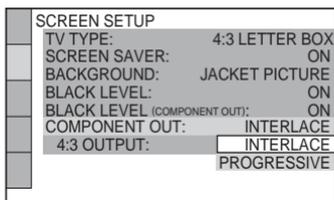


7 Press \uparrow/\downarrow to select the setting that matches your TV type.

- ◆ If you have a 4:3 standard TV
 - 4:3 LETTER BOX or 4:3 PAN SCAN (page 77)
- ◆ If you have a wide-screen TV or a 4:3 standard TV with a wide-screen mode
 - 16:9 (page 77)

8 Press ENTER.

The Setup Display for selecting the type of video signal appears.



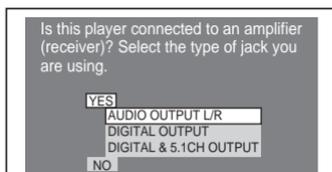
9 Press \uparrow/\downarrow to select the type of signals you wish to output to your TV.

Select "PROGRESSIVE" only if you have made video pattern **C** (page 21) and wish to view progressive video signals.

- ◆ Interlace format TV (standard TV)
 - INTERLACE (pages 78)
- ◆ Progressive format TV
 - PROGRESSIVE (pages 78)

10 Press ENTER.

The Setup Display for selecting the type of jack used to connect your amplifier (receiver) appears.



11 Press \uparrow/\downarrow to select the type of jack (if any) you are using to connect to an amplifier (receiver), then press ENTER.

Choose the item that matches the audio connection you selected on pages 26 to 29 (**A** through **D**).

A

• If you connect just a TV and nothing else, select "NO." Quick Setup is finished and connections are complete.

B-1 **C-1**

• Select "AUDIO OUTPUT L/R." Quick Setup is finished and connections are complete.

B-2 **C-2** **D-2**

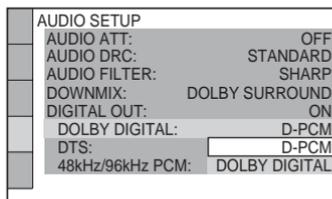
• Select "DIGITAL OUTPUT." The Setup Display for "DOLBY DIGITAL" appears.

D-1 or both **D-1** and **D-2**

• Select "DIGITAL & 5.1CH OUTPUT." The Setup Display for "DOLBY DIGITAL" appears.

12 Press \uparrow/\downarrow to select the type of Dolby Digital signal you wish to send to your amplifier (receiver).

Choose the signal that matches the audio connection you selected on pages 27 to 29 (**B** through **D**).



B-2 C-2

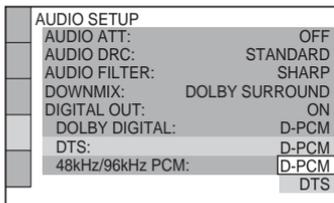
- D-PCM (page 81)

D-2

- DOLBY DIGITAL (only if the amplifier (receiver) has a Dolby Digital decoder) (page 81)

13 Press ENTER.

“DTS” is selected.



14 Press \uparrow/\downarrow to select the type of

DTS signal sent to your amplifier (receiver).

Choose the item that matches the audio connection you selected on pages 27 to 29 (**B** through **D**).

B-2 C-2

- D-PCM (page 82)

D-2

- DTS (only if the amplifier (receiver) has a DTS decoder) (page 82)

15 Press ENTER.

◆ When “DIGITAL OUTPUT” is selected in step 11

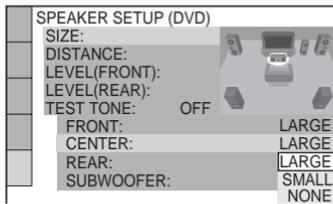
- Quick Setup is finished and connections are complete.

◆ When “DIGITAL & 5.1CH OUTPUT” is selected in step 11

- The Setup Display for “SPEAKER SETUP” appears.

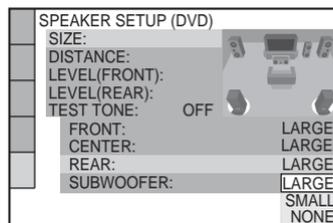
16 Press \uparrow/\downarrow to select the size of the center speaker.

If no center speaker is connected, select “NONE” (page 83).



17 Press ENTER.

“REAR” is selected.

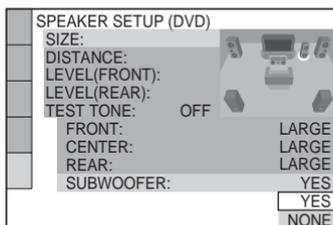


18 Press \uparrow/\downarrow to select the size of the rear speakers.

If no rear speaker is connected, select “NONE.”

19 Press ENTER.

“SUBWOOFER” is selected.



20 Press \uparrow/\downarrow to select whether or not you have connected a subwoofer.

21 Press ENTER.

Quick Setup is finished. All connections and setup operations are complete.

Enjoying the surround sound effects

To enjoy the surround sound effects of this player or your amplifier (receiver), set the following items as described below for the audio connection you selected on pages 27 to 29 (**B** through **D**). Each of these is the default setting and does not need to be adjusted when you first connect the player. Refer to page 75 for using the Setup Display.

Audio Connection (pages 26 to 29)

- A**
 - No additional settings are needed.
- B-1** **C-1**
 - Set “DOWNMIX” to “DOLBY SURROUND” (page 81).
- B-2** **C-2** **D-2**
 - Set “DOWNMIX” to “DOLBY SURROUND” (page 81).
 - Set “DIGITAL OUT” to “ON” (page 81).
- D-1**
 - Set “DISTANCE,” “LEVEL (FRONT),” and “LEVEL (REAR)” according to the connected speakers (page 83).

Hints

- **For connections** **B-1** **C-1** **D-1**
If the sound distorts even when the volume is turned down, set “AUDIO ATT” to “ON” (page 80).
- **For connections** **B-2** **C-2** **D-2**
Set “48kHz/96kHz PCM” to “96kHz/24bit” only if you connect an amplifier (receiver) that conforms to the 96 kHz sampling frequency (page 82).

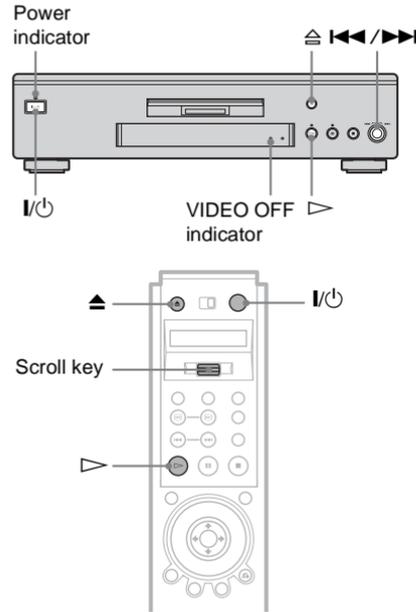
Playing Discs

Playing Discs DVD-V

DVD-RW VCD SA-CD CD

DATA CD

Depending on the DVD or VIDEO CD, some operations may be different or restricted. Refer to the operating instructions supplied with your disc.



- 1 Turn on your TV.
- 2 Press I/O.

The player turns on and the power indicator lights up in green.
- 3 Switch the input selector on your TV so that the signal from the player appears on the TV screen.
 - ◆ When using an amplifier (receiver) Turn on the amplifier (receiver) and select the appropriate channel so that you can hear sound from the player.

- 4 Press on the player, and place a disc on the disc tray.



With the playback side facing down

- 5 Press .

The disc tray closes, and the player starts playback (continuous play). Adjust the volume on the TV or the amplifier (receiver). Depending on the disc, a menu may appear on the TV screen. For DVD VIDEOS, see page 39. For VIDEO CDs, see page 42.

To enjoy the clarity of Super Audio CD/CD sound more

You can minimize the effect of the video output by switching it off. Toggle the scroll key up or down to display "VIDEO OFF" in the LCD screen. Then point the remote to the player and press down on the scroll key once so that appears in the LCD screen. When no video signal is output from the player, the VIDEO OFF indicator lights up on the player.

To turn off the player

Press I/O. The player enters standby mode.

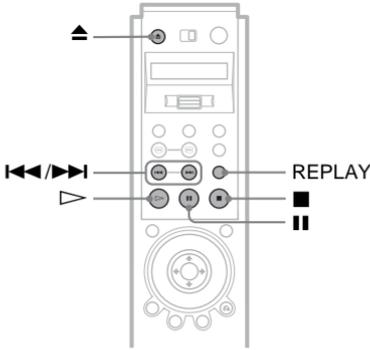
Hint

You can have the player turn off automatically whenever you leave it in stop mode for more than 30 minutes. To turn on this function, set "AUTO POWER OFF" in "CUSTOM SETUP" to "ON" (page 79).

Note

Super Audio CD audio signals are not output from the digital jack.

Additional operations



To	Operation
Stop	Press ■
Pause	Press ⏸
Resume play after pause	Press ⏸ or ▷
Go to the next chapter, track, or scene in continuous play mode	Press ▶▶ on the remote, or briefly turn the Playback Control on the player clockwise
Go back to the previous chapter, track, or scene in continuous play mode	Press ◀◀ on the remote, or briefly turn the Playback Control on the player counterclockwise
Stop play and remove the disc	Press ▲
Replay the previous scene (DVD VIDEO only)	Press REPLAY

Hint

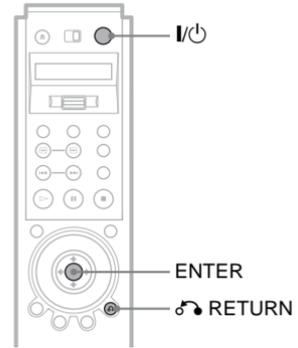
The Replay function is useful when you want to review a scene or dialog that you missed.

Note

You may not be able to use the Replay function with some scenes.

Locking the disc tray (Child Lock)

You can lock the disc tray to prevent children from opening it.



When the player is in standby mode, press ↶ RETURN, ENTER, and then I/⏻ on the remote.

The player turns on and “LOCKED” appears on the front panel display.

The ▲ button on the player or the remote does not work while the Child Lock is set.

To unlock the disc tray

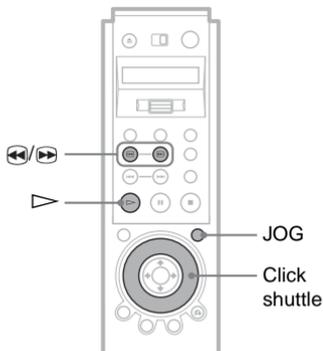
When the player is in standby mode, press ↶ RETURN, ENTER, and then I/⏻ again.

Note

Even if you select “RESET” under “SETUP” in the Control Menu (page 76), the disc tray remains locked.

Searching for a Particular Point on a Disc (Search, Shuttle mode, Jog mode)

You can quickly locate a particular point on a disc by monitoring the picture or playing back slowly.



Note
Depending on the DVD/VIDEO CD, you may not be able to do some of the operations described.

Locating a point quickly (Search)

During playback, keep pressing **▶▶** to locate a point in the playback direction or keep pressing **◀◀** to locate a point in the opposite direction. When you find the point you want, release the button to return to normal playback speed.

Using the click shuttle on the remote (Shuttle mode)

DVD-V DVD-RW VCD SA-CD CD DATA CD

Turn the click shuttle on the remote. The playback speed changes depending on the turning direction and degree of rotation as follows:

- ◆ **During playback**
- FF2▶▶ Fast forward (faster than FF1▶▶)
- ↕
- FF1▶▶ Fast forward
- ↕
- ×2▶ (DVD VIDEO/Super Audio CD/CD only)
- ↕
- PLAY▶▶ (normal speed)
- ↕
- ×2◀ (DVD VIDEO only)
- ↕
- FR1◀◀ Fast reverse
- ↕
- FR2◀◀ Fast reverse (faster than FR1◀◀)

If you turn the click shuttle quickly, the playback speed goes to “FF2▶▶” or “FR2◀◀” immediately.

◆ **During pause mode (DVD VIDEO, DVD-RW, VIDEO CD only)**

- SLOW1▶▶ (playback direction)
- ↕
- SLOW2▶▶ (playback direction – slower than SLOW1▶▶)
- ↕
- PAUSE|||
- ↕
- SLOW2◀◀ (opposite direction – slower than SLOW1◀◀) (DVD only)
- ↕
- SLOW1◀◀ (opposite direction) (DVD only)

To return to normal play
Press **▷**.

Playing a disc frame by frame using the click shuttle

(Jog mode) **DVD-V** **DVD-RW** **VCD**

- 1 Press JOG on the remote.
“JOG” appears in the LCD screen.
- 2 Turn the click shuttle.
Depending on the turning speed, playback goes to frame-by-frame playback in the direction that the click shuttle is turned. Turn the click shuttle clockwise to go forward, and counterclockwise to go backwards (DVD only). If you turn the click shuttle at a constant speed for a while, the playback speed goes to slow or normal.

To return to normal play

Press ▷.

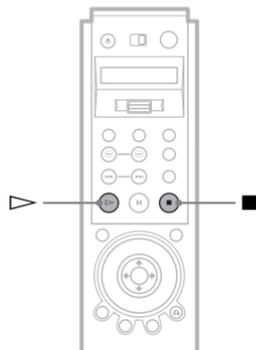
To turn off the Jog mode

Press JOG again so that “JOG” disappears from the LCD screen.

Resuming Playback From the Point Where You Stopped the Disc (Multi-disc Resume)

DVD-V **VCD**

The player stores the point where you stopped the disc for up to 300 discs and resumes playback the next time you insert the same disc. When you store a resume playback point for the 301st disc, the resume playback point for the first disc is deleted.



- 1 While playing a disc, press ■ to stop playback.

“RESUME” appears on the front panel display.

- 2 Press ▷.

The player starts playback from the point where you stopped the disc in step 1.

Hints

- To play from the beginning of the disc, press ■ twice, then press ▷.
- For DVD-RWs in VR mode, CDs, Super Audio CDs, and DATA CDs, the player remembers the resume playback point for the current disc unless the disc tray is opened, the power cord is disconnected, or only for DATA CDs, the player enters standby mode.

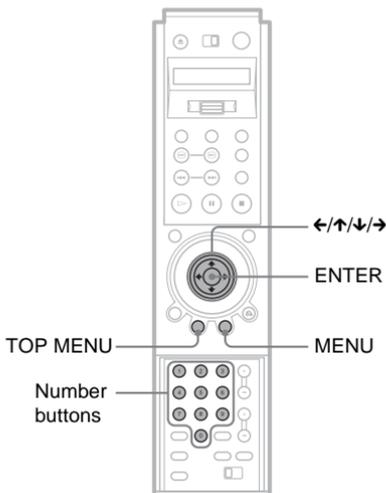
Notes

- “MULTI-DISC RESUME” in “CUSTOM SETUP” must be set to “ON” (default) for this function to work (page 80).
- The resume playback point for the current disc is cleared when:
 - you change the play mode.
 - you change the settings on the Setup Display.
- Resume Play does not work during Shuffle Play and Program Play.
- This function may not work with some discs.

Using the DVD's Menu

DVD-V

A DVD is divided into long sections of a picture or a music feature called “titles.” When you play a DVD which contains several titles, you can select the title you want using the TOP MENU button. When you play DVDs that allow you to select items such as the language for the subtitles and the language for the sound, select these items using the MENU button.



1 Press TOP MENU or MENU.

The disc's menu appears on the TV screen.

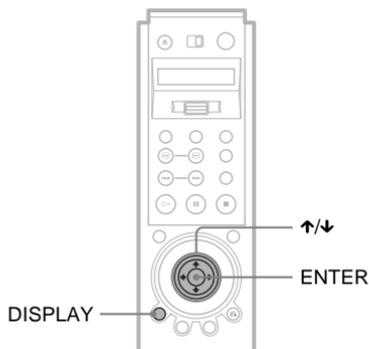
The contents of the menu vary from disc to disc.

2 Press </>/</> or the number buttons to select the item you want to play or change.

3 Press ENTER.

Selecting "ORIGINAL" or "PLAY LIST" on a DVD-RW

Some DVD-RWs in VR (Video Recording) mode have two types of titles for playback: originally recorded titles (ORIGINAL) and titles that can be created on recordable DVD players for editing (PLAY LIST). You can select the type of titles to be played.

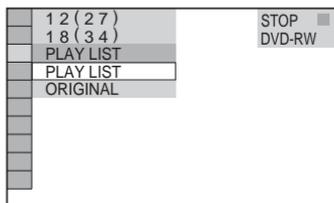


1 Press **DISPLAY** while the player is stopped.

The Control Menu appears.

2 Press **↑/↓** to select  (ORIGINAL/PLAY LIST), then press **ENTER**.

The options for "ORIGINAL/PLAY LIST" appear.



3 Press **↑/↓** to select the setting.

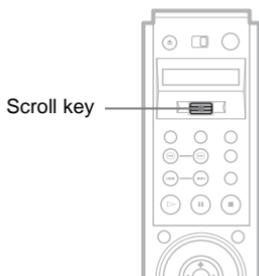
- **PLAY LIST**: plays the titles created from "ORIGINAL" for editing.
- **ORIGINAL**: plays the titles originally recorded.

4 Press **ENTER**.

To turn off the Control Menu

Press **DISPLAY** repeatedly until the Control Menu is turned off.

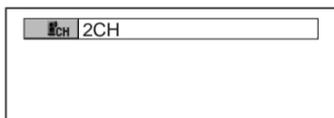
Selecting a Playback Area for a Super Audio CD **SA-CD**



Selecting a playback area on a 2 channel + Multi-channel Super Audio CD

Some Super Audio CDs consist of a 2 channel playback area and a multi-channel playback area. You can select the playback area you want to listen to.

- 1 Toggle the scroll key up or down while the player is stopped to display "MULTI/2CH" in the LCD screen.
- 2 Point the remote at the player and press down on the scroll key so that  appears in the LCD screen. The following display appears.



- 3 Press down on the scroll key repeatedly to select "MULTI" for a multi-channel playback area or "2CH" for a 2 channel playback area. The "MULTI" indicator in the front panel display lights up when playing a multi-channel playback area.

Selecting a playback layer of hybrid Super Audio CDs

Some Super Audio CDs consist of an HD layer and a CD layer. You can select the playback layer you want to listen to.

- 1 Toggle the scroll key up or down while the player is stopped to display "SACD/CD" in the LCD screen.
- 2 Point the remote at the player and press down on the scroll key so that  appears in the LCD screen.
- 3 Press down on the scroll key repeatedly to select "SACD" for an HD layer or "CD" for a CD layer. When playing a CD layer, the "CD" indicator in the front panel display lights up.

Notes

- For details about Super Audio CD discs, see page 90.
- Each play mode function works only within the selected layer or playback area.

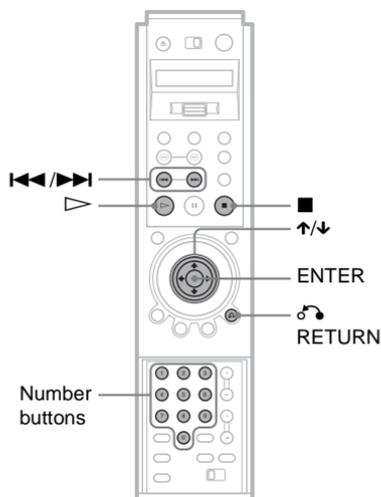
Hint

You can also select "MULTI/2CH" from the Control Menu (page 14).

Playing VIDEO CDs With PBC Functions (PBC Playback)

VCD

PBC (Playback Control) allows you to play VIDEO CDs interactively by following the menu on the TV screen.



1 Start playing a VIDEO CD with PBC functions.

The menu for your selection appears.

2 Select the item number you want by pressing \uparrow/\downarrow or the number buttons.

3 Press ENTER.

4 Follow the instructions in the menu for interactive operations.

Refer to the instructions supplied with the disc, as the operating procedure may differ depending on the VIDEO CD.

Hint

To play without using PBC, press \lll/\ggg or the number buttons while the player is stopped to select a track, then press \triangleright or ENTER.

“Play without PBC” appears on the TV screen and the player starts normal play. You cannot play still pictures such as a menu.

To return to PBC playback, press \blacksquare twice then press \triangleright .

Note

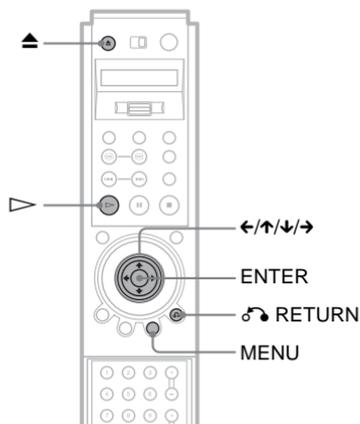
Depending on the VIDEO CD, “Press ENTER” in step 3 may appear as “Press SELECT” in the instructions supplied with the disc. In this case, press \triangleright .

To return to the menu

Press \curvearrowright RETURN.

Playing an MP3 Audio Track **DATA CD**

You can play back DATA CDs (CD-ROMs/CD-Rs/CD-RWs) recorded in MP3 (MPEG1 Audio Layer 3) format.



1 Press and place a DATA CD on the disc tray.

2 Press .

The disc tray closes, and the player starts to play the first MP3 audio track in the first album on the disc.

Notes

- The player can play MP3 audio tracks recorded in the following sampling frequencies: 32 kHz, 44.1 kHz, 48 kHz.
- The playback order may be different from the edited order. See “The playback order of MP3 audio tracks” for details (page 44).

Selecting an album and track

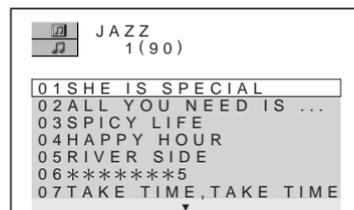
1 Press MENU.

The list of MP3 albums recorded on the DATA CD appears.



2 Select an album using and press ENTER.

The list of tracks contained in the album appears.



3 Select a track using and press ENTER.

The selected track starts playing.

When a track or album is being played, its title is shaded.

To go to the next or previous page

Press or .

To return to the previous display

Press .

To turn off the display

Press MENU.

Notes

- Only the letters in the alphabet and numbers can be used for album or track names. Anything else is displayed as “*.”
- ID3 tags cannot be displayed.

About MP3 audio tracks

You can play MP3 audio tracks on CD-ROMs, CD-Rs, or CD-RWs. However, the discs must be recorded according to ISO9660 level 1, level 2, or Joliet format for the player to recognize the tracks.

You can also play discs recorded in Multi Session.

See the instructions of the CD-R/RW device or recording software (not supplied) for details on the recording format.

To play a Multi Session CD

This player can play Multi Session CDs when an MP3 audio track is located in the first session. Any subsequent MP3 audio tracks, recorded in the later sessions, can also be played back.

When audio tracks and images in music CD format or video CD format are recorded in the first session, only the first session will be played back.

Notes

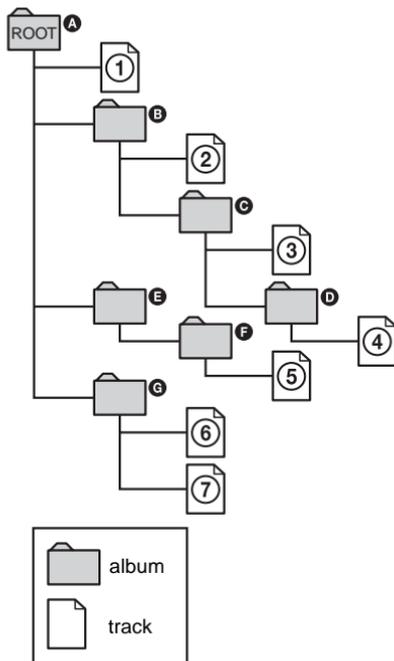
- If you put the extension “.MP3” to data not in MP3 format, the player cannot recognize the data properly and will generate a loud noise which could damage your speaker system.
- The player cannot play audio tracks in MP3PRO format.

The playback order of MP3 audio tracks

The playback order of albums and tracks recorded on a DATA CD is as follows.

◆Structure of disc contents

Tree 1 Tree 2 Tree 3 Tree 4 Tree 5



When you insert a DATA CD and press \triangleright , the numbered tracks are played sequentially, from ① through ⑦. Any sub-albums/tracks contained within a currently selected album take priority over the next album in the same tree. (Example: C contains D so ④ is played before ⑤.)

When you press MENU and the list of MP3 albums appears (page 43), the albums are arranged in the following order: A → B → C → D → F → G. Albums that do not contain tracks (such as album E) do not appear in the list.

⚙ Hints

- If you add numbers (01, 02, 03, etc.) to the front of the track file names, the tracks will be played in that order.
- Since a disc with many trees takes longer to start playback, it is recommended that you create albums of no more than two trees.

Notes

- Depending on the software you use to create the DATA CD, the playback order may differ from the illustration above.
- The playback order above may not be applicable if there are more than a total of 999 albums and tracks in the DATA CD.
- The player can recognize up to 499 albums (the player will count just albums, including albums that do not contain MP3 audio tracks). The player will not play any albums beyond the first 499 albums. Of the first 499 albums, the player will play no more than a combined total of 999 albums and tracks.

Various Play Mode Functions (Program Play, Shuffle Play, Repeat Play, A-B Repeat Play)

You can set the following play modes:

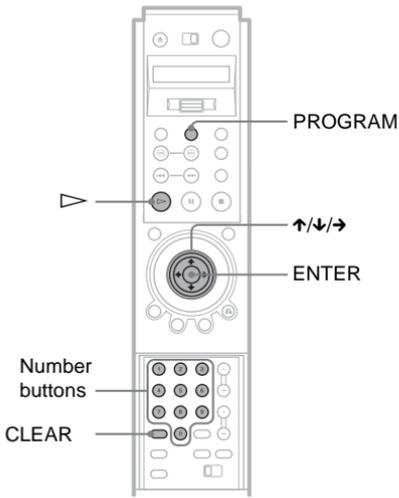
- Program Play (page 45)
- Shuffle Play (page 46)
- Repeat Play (page 47)
- A-B Repeat Play (page 48)

Note

The play mode is canceled when:
 – you open the disc tray.
 – the player enters standby mode by pressing I/⏻.

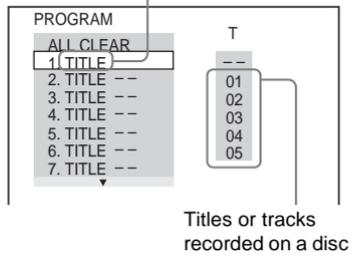
Creating your own program (Program Play) DVD-V VCD SA-CD CD

You can play the contents of a disc in the order you want by arranging the order of the titles, chapters, or tracks on the disc to create your own program. You can program up to 99 titles, chapters, and tracks.

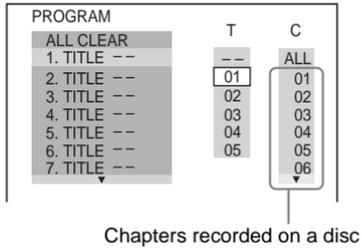


1 Press PROGRAM.
 The display for programming appears.

"TRACK" is displayed when you play a VIDEO CD, Super Audio CD, or CD.

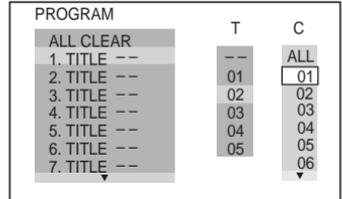


2 Press →.
 The cursor moves to the title or track row "T" (in this case, "01").

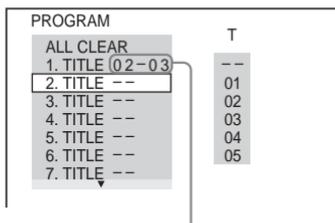


3 Select the title, chapter, or track you want to program.

◆ When playing a DVD VIDEO
 For example, select chapter "03" of title "02."
 Press ↑/↓ or the number buttons to select "02" under "T," then press ENTER.



Next, press ↑/↓ or the number buttons to select "03" under "C," then press ENTER.



Selected title and chapter

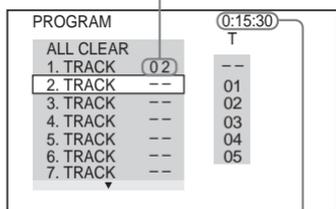
◆ **When playing a VIDEO CD, Super Audio CD, or CD**

For example, select track "02."

Press \uparrow/\downarrow or the number buttons to select "02" under "T," then press ENTER.

The track number may be displayed in 3 digits for a Super Audio CD.

Selected track



Total time of the programmed tracks

4 To program other titles, chapters, or tracks, repeat steps 2 to 3.

The programmed titles, chapters, and tracks are displayed in the selected order.

5 Press \triangleright to start Program Play.

Program Play begins.

When the program ends, you can restart the same program again by pressing \triangleright .

To return to normal play

Press CLEAR during playback. To play the same program again, select "ON" in step 2.

To turn off the display

Press PROGRAM repeatedly until the display is turned off.

To change or cancel a program

- 1 Press PROGRAM.
- 2 Select the program number of the title, chapter, or track you want to change or cancel using \uparrow/\downarrow or the number buttons, and press \rightarrow .
- 3 Follow step 3 of "Creating your own program (Program Play)" (page 45) for new programming. To cancel a program, select "--" under "T," then press ENTER.

To cancel all the titles, chapters, or tracks in the programmed order

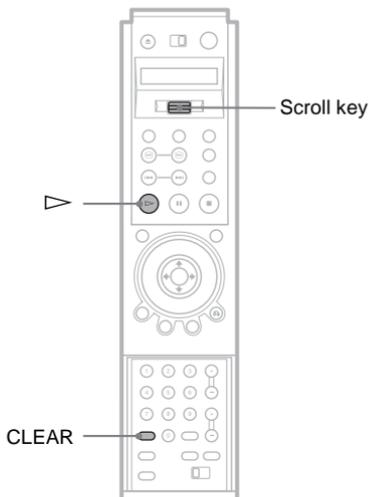
- 1 Press PROGRAM.
- 2 Press \uparrow and select "ALL CLEAR."
- 3 Press ENTER.

💡 Hints

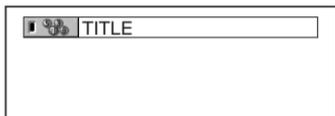
- You can do Repeat Play or Shuffle Play of the programmed titles, chapters, or tracks. During Program Play, follow the steps of "Repeat Play" (page 47) or "Shuffle Play" (page 46).
- You can select "PROGRAM" from the Control Menu (page 14)

Playing in random order (Shuffle Play) DVD-V VCD SA-CD CD

You can have the player "shuffle" titles, chapters, or tracks. Subsequent "shuffling" may produce a different playing order.



- 1 Toggle the scroll key up or down to display "SHUFFLE" in the LCD screen.
- 2 Point the remote at the player and press down on the scroll key so that  appears in the LCD screen. The following display appears.



- 3 Press down on the scroll key repeatedly to select the item to be shuffled.

◆ When playing a DVD VIDEO

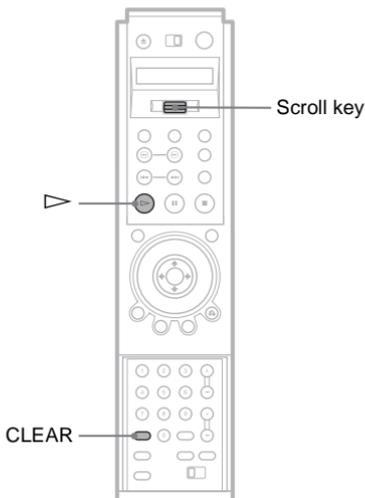
- TITLE
- CHAPTER

◆ When playing a VIDEO CD, Super Audio CD, or CD

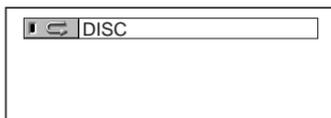
- TRACK

◆ When Program Play is activated

- ON: shuffles titles, chapters, or tracks selected in Program Play.



- 1 Toggle the scroll key up or down to display "REPEAT" in the LCD screen.
- 2 Point the remote at the player and press down on the scroll key so that  appears in the LCD screen. The following display appears.



- 3 Press down on the scroll key repeatedly to select the item to be repeated.

◆ When playing a DVD VIDEO

- DISC: repeats all of the titles.
- TITLE: repeats the current title on a disc.
- CHAPTER: repeats the current chapter.

◆ When playing a DVD-RW

- DISC: repeats all the titles of the selected type, "ORIGINAL" or "PLAY LIST" (page 40).
- TITLE: repeats the current title on a disc.
- CHAPTER: repeats the current chapter.

To return to normal play

Press CLEAR, or select "OFF" in step 3.

Hints

- You can set Shuffle Play while the player is stopped. After selecting the "SHUFFLE" option, press . Shuffle Play starts.
- Up to 200 chapters in a disc can be played in random order when "CHAPTER" is selected.
- You can also select "SHUFFLE" from the Control Menu (page 14).

Playing repeatedly (Repeat Play)

DVD-V DVD-RW VCD SA-CD CD DATA CD

You can play all of the titles or tracks on a disc or a single title, chapter, or track repeatedly.

You can use a combination of Shuffle or Program Play modes.

- ◆ **When playing a VIDEO CD, Super Audio CD, or CD**
 - DISC: repeats all of the tracks.
 - TRACK: repeats the current track.
- ◆ **When playing a DATA CD (MP3 audio)**
 - DISC: repeats all of the albums.
 - ALBUM: repeats the current album.
 - TRACK: repeats the current track.
- ◆ **When Program Play or Shuffle Play is activated**
 - ON: repeats Program Play or Shuffle Play.

To return to normal play

Press CLEAR, or select “OFF” in step 3.

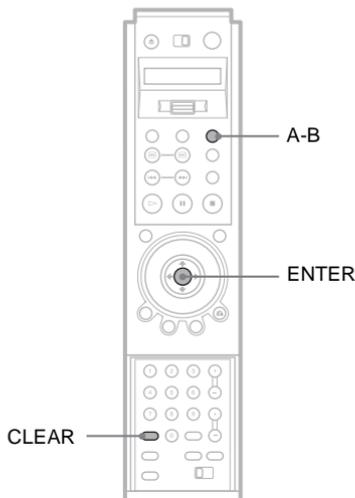
Hints

- You can set Repeat Play while the player is stopped. After selecting the “REPEAT” option, press . Repeat Play starts.
- You can also select “REPEAT” from the Control Menu (page 14).

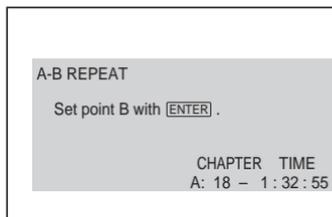
Repeating a specific portion (A-B Repeat Play)

You can play a specific portion of a title, chapter, or track repeatedly. This function is useful when you want to memorize lyrics, etc.



- 1 During playback, when you find the starting point (point A) of the portion to be played repeatedly, press A-B. The starting point (point A) is set.



- 2 When you reach the ending point (point B), press ENTER or press A-B again.

The set points are displayed and the player starts repeating this specific portion.

To return to normal play

Press CLEAR.

Hint

You can also select “A-B REPEAT” from the Control Menu (page 14).

Notes

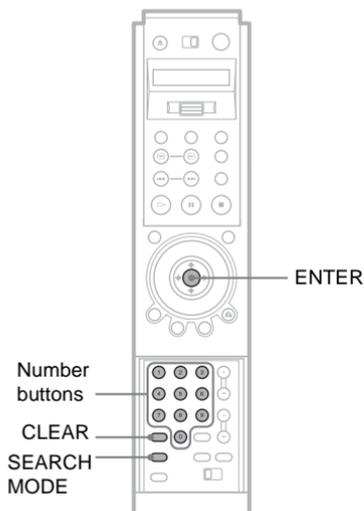
- When you set A-B Repeat Play, the settings for Shuffle Play, Repeat Play, and Program Play are canceled.
- A-B Repeat Play does not work for titles containing still pictures on a DVD-RW in VR mode.
- A-B Repeat Play does not work across multiple titles on a DVD-RW in VR mode.

Searching for a Scene

Searching for a Title/ Chapter/Track/Index/ Scene (Search mode) **DVD-V**

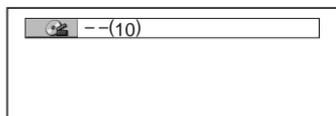
- DVD-RW** **VCD** **SA-CD** **CD**
- DATA CD**

You can search a DVD by title or chapter, and you can search a VIDEO CD/Super Audio CD/CD by track, index, or scene. As titles and tracks are assigned unique numbers on the disc, you can select the desired one by entering its number. Or, you can search for a scene using the time code.



1 Press SEARCH MODE.

The following display appears. "-- (**)" appears next to the icon (** refers to a number). The number in parentheses indicates the total number of titles, tracks, indexes, scenes, etc., of the disc.



2 Press SEARCH MODE repeatedly to select the search method.

◆ When playing a DVD VIDEO/DVD-RW

- TITLE
- CHAPTER
- TIME/TEXT
- TIME/MEMO

Select "TIME/TEXT" or "TIME/MEMO" to search for a starting point by inputting the time code.

◆ When playing a VIDEO CD

- TRACK
- INDEX

◆ When playing a VIDEO CD with PBC Playback

- SCENE
- INDEX

◆ When playing a Super Audio CD/CD

- TRACK
- INDEX

◆ When playing a DATA CD (MP3 audio)

- ALBUM
- TRACK

3 Select the number of the title, track, scene, time code, etc. you want by pressing the number buttons to select the digit.

For example, to find the scene at 2 hours, 10 minutes, and 20 seconds after the beginning, select "TIME/TEXT" or "TIME/MEMO" in step 2 and enter "21020."

If you make a mistake

Cancel the number by pressing CLEAR, then select another number.

4 Press ENTER.

The player starts playback from the selected number.

To turn off the display

Press SEARCH MODE repeatedly until the display is turned off.

Hints

- You can display the first scenes of titles, chapters or tracks recorded on the disc on a screen divided into 9 sections. You can start playback directly by selecting one of the scenes. See “Searching by Scene (PICTURE NAVIGATION)” below.
- You can also select “TITLE,” “CHAPTER,” “TRACK,” “INDEX,” “SCENE,” “TIME/TEXT” (“TIME/MEMO”), or “ALBUM” from the Control Menu (page 14).
- You can search for a chapter (DVD VIDEO/DVD-RW) or track (Super Audio CD/CD) by pressing the number buttons and ENTER.

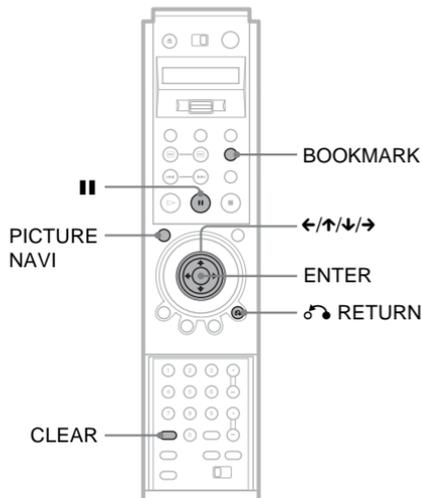
Note

You cannot search for a still picture on a DVD-RW in VR mode.

Searching by Scene

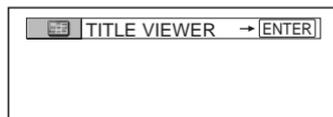
(PICTURE NAVIGATION)

You can divide the screen into 9 subscreens and find a desired scene quickly.



1 Press PICTURE NAVI during playback.

The following display appears.



2 Press PICTURE NAVI repeatedly to select the item.

Refer to the explanations given for each item in the following sections.

- TITLE VIEWER (DVD VIDEO only)
- CHAPTER VIEWER (DVD VIDEO only)
- BOOKMARK (DVD VIDEO/VIDEO CD only)
- TRACK VIEWER (VIDEO CD only)
- STROBE PLAYBACK (DVD VIDEO/VIDEO CD only)
- ANGLE VIEWER (DVD VIDEO only)

3 Press ENTER.

To return to normal play

Press  RETURN.

Hint

You can also select “PICTURE NAVIGATION” from the Control Menu (page 14).

Notes

- Depending on the disc, you may not be able to select all functions.
- The sound is muted when using this function.

Scanning the title, chapter, or track (TITLE VIEWER, CHAPTER VIEWER, TRACK VIEWER)

DVD-V **VCD**

You can divide the screen into 9 subscreens and display the first scenes of titles, chapters, or tracks.

You can also play back from the selected title, chapter, or track. After performing step 3 of “Searching by Scene (PICTURE NAVIGATION)” above, select the scene using , and press ENTER.

Hint

If there are more than 9 titles, chapters, or tracks,  is displayed at the bottom right.

To display the additional titles, chapters, or tracks, select the bottom right scene (the position 9) and press . To return to the previous scene, select the top left scene (the position 1) and press .

1	2	3
4	5	6
7	8	9



Setting and selecting a favorite scene (Bookmark) **DVD-V** **VCD**

You can have the player store specific portions of the disc in memory and play them immediately whenever you want (Bookmark). Up to 9 bookmarks per disc for a total of 300 discs can be stored in memory.

You can play back from the bookmarked scene. After performing step 3 of “Searching by Scene (PICTURE NAVIGATION)” above, select the bookmark using , then press ENTER.

To set a bookmark

During playback, press BOOKMARK when you find a scene to be bookmarked.

To reset the bookmark

After displaying the bookmarks with the PICTURE NAVIGATION function, select the bookmark you want to reset using , then press CLEAR.

To reset all the bookmarks for the player

Select “BOOKMARK RESET →” of “CUSTOM SETUP” in the Setup Display (page 80).

Hint

The number of the bookmark you selected is displayed on the front panel display.

Note

The player can store the bookmarks of up to 300 discs in memory. When you have the player store over 300 discs in memory, bookmarks of the oldest disc are erased.

Dividing a scene into 9 sections (STROBE PLAYBACK) **DVD-V VCD**

You can display 9 consecutive moving pictures on the screen.

When you press **||** after performing step 3 of “Searching by Scene (PICTURE NAVIGATION)” above, the moving pictures pause.

Displaying different angles simultaneously (ANGLE VIEWER)

DVD-V

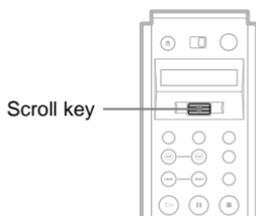
If various angles (multi-angles) for a scene are recorded on the DVD VIDEO, you can display all of the angles recorded on the disc on the screen divided into 9 sections.

You can also play back from the selected angle. After performing step 3 of “Searching by Scene (PICTURE NAVIGATION)” above, select the angle using **←/↑/↓/→**, and press **ENTER**.

Checking the Playing Time and Remaining Time

DVD-V DVD-RW VCD
SA-CD CD DATA CD

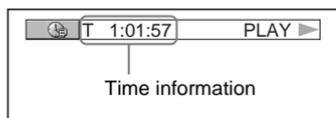
You can check the playing time and remaining time of the current title, chapter, or track. Also, you can check the Disc Memo, DVD/Super Audio CD/CD text, or track/album name (MP3 audio) recorded on the disc.



1 Toggle the scroll key up or down during playback to display "TIME/TEXT" in the LCD screen.

2 Point the remote at the player and press down on the scroll key so that  appears in the LCD screen.

The following display appears.



3 Press down on the scroll key repeatedly to change the time information.

The display and the kind of time information that you can check depend on the disc you are playing.

◆ When playing a DVD VIDEO or DVD-RW

- T *:*: (hours: minutes: seconds)
Playing time of the current title
- T-*:*:
Remaining time of the current title
- C *:*:
Playing time of the current chapter
- C-*:*:
Remaining time of the current chapter

◆ When playing a VIDEO CD (with PBC functions)

- *: (minutes: seconds)
Playing time of the current scene

◆ When playing a VIDEO CD (without PBC functions), Super Audio CD, or CD

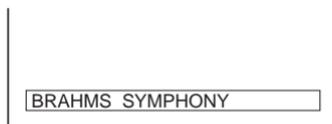
- T *: (minutes: seconds)
Playing time of the current track
- T-*:
Remaining time of the current track
- D *: (minutes: seconds)
Playing time of the current disc
- D-*:
Remaining time of the current disc

◆ When playing a DATA CD (MP3 audio)

- *: (minutes: seconds)
Playing time of the current track

To check the Disc Memo, DVD/Super Audio CD/CD text, or track/album names (MP3 audio)

Press down on the scroll key repeatedly in step 3 to display the Disc Memo or text recorded on the DVD/Super Audio CD/CD/DATA CD. The DVD/Super Audio CD/CD text appears only when text is recorded in the disc. You cannot change the text. If the disc does not contain text, "NO TEXT" appears. In this case, you can label the disc. To label the disc, see page 66.



For DATA CDs, the track/album names of the MP3 audio track appears (page 56).

Checking the information on the front panel display

You can view the time information and text displayed on the TV screen also on the front panel display. The information on the front panel display changes as follows when you change the time information on your TV screen.

When playing a DVD VIDEO or DVD-RW

Title playing time and the current title and chapter number

TITLE	CHAP	HOUR	MIN	SEC
1	2	1:03	24	



Remaining time of the current title

TITLE	CHAP	HOUR	MIN	SEC
1	2	-1:15	36	



Playing time and number of the current chapter

CHAP	HOUR	MIN	SEC
2	0:22	30	



Remaining time of the current chapter

CHAP	HOUR	MIN	SEC
2	-0:13	20	



Text

SONY HITS/S

When playing a VIDEO CD (without PBC functions), Super Audio CD, or CD

Track playing time and the current track and index number

TRACK	INDEX	MIN	SEC
2	1	2:25	



Remaining time of the current track

TRACK	INDEX	MIN	SEC
2	1	-1:50	



Playing time of the disc

MIN	SEC
32	12



Remaining time of the disc

MIN	SEC
-20	18



Text

SONY HITS/S

When playing a DATA CD (MP3 audio)

Track playing time and the current track and album number

TRACK	INDEX	MIN	SEC
10	21	2:25	



Track name

01HAPPY BIRT

Hints

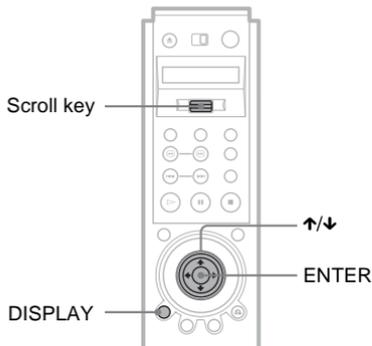
- When playing VIDEO CDs with PBC functions, the scene number and the playing time are displayed.
- Long text that does not fit in a single line will scroll across the front panel display.
- You can check the time information and text using the Control Menu (page 14).

Notes

- Depending on the type of disc being played, the disc's text or track name may not be displayed.
- The player can only display the first level of the disc's text, such as the disc name or title.
- Playing time of MP3 audio tracks may not be displayed correctly.

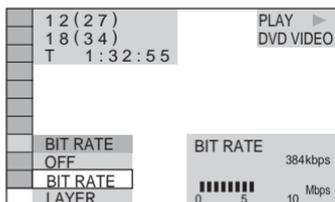
Checking the Play Information

You can check information such as the bit rate or the disc layer that is being played.



Checking the play information of a DVD (ADVANCED) DVD-V DVD-RW

- 1 Press DISPLAY during playback. The Control Menu is displayed.
- 2 Press ↑/↓ to select  (ADVANCED), then press ENTER. The options for "ADVANCED" appear.



- 3 Press ↑/↓ to select items. For each item, see "Display of each item" below.
 - BIT RATE: displays the bit rate.
 - LAYER: displays the layer and the pick-up point.
- 4 Press ENTER.

To turn off the ADVANCED display
Select "OFF" in step 3.

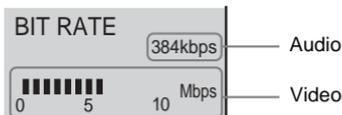
To turn off the Control Menu

Press DISPLAY repeatedly until the Control Menu is turned off.

Display of each item

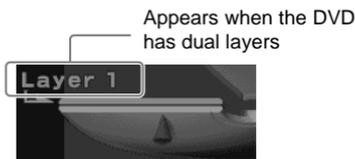
By pressing DISPLAY repeatedly, you can display either "BIT RATE" or "LAYER," whichever was selected in "ADVANCED."

◆BIT RATE



Bit rate refers to the amount of video/audio data per second in a disc. While playing a disc, the approximate bit rate of the playback picture is displayed as Mbps (megabits per second) and the audio as kbps (kilobits per second). The higher the bit rate, the larger the amount of data. However, this does not always mean that you can get higher quality pictures or sounds.

◆LAYER

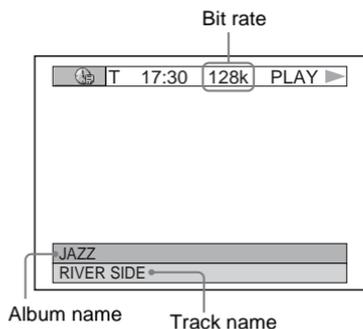


Indicates the approximate point where the disc is playing. If it is a dual-layer DVD, the player indicates which layer is being read ("Layer 0" or "Layer 1"). For details on the layers, see page 88 (DVD VIDEO).

Checking the play information of a DATA CD DATA CD

You can display the audio bit rate (the amount of data per second of the current audio) on the TV screen.

- 1 While playing MP3 audio tracks on a DATA CD, toggle the scroll key up or down to display "TIME/TEXT" in the LCD screen.
- 2 Point the remote at the player and press down on the scroll key so that  appears in the LCD screen.
The audio bit rate appears on the TV screen.



Sound Adjustments

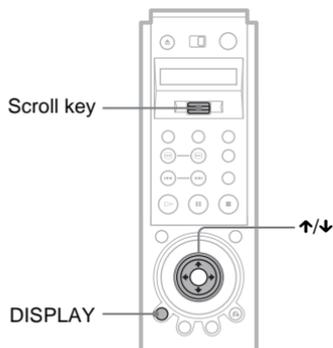
Changing the Sound

DVD-V DVD-RW VCD CD

DATA CD

When playing a DVD VIDEO recorded in multiple audio formats (PCM, Dolby Digital, or DTS), you can change the audio format. If the DVD VIDEO is recorded with multilingual tracks, you can also change the language.

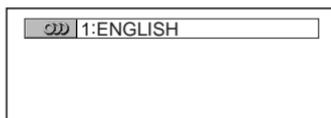
With CDs, DATA CDs, or VIDEO CDs, you can select the sound from the right or left channel and listen to the sound of the selected channel through both the right and left speakers. For example, when playing a disc containing a song with the vocals on the right channel and the instruments on the left channel, you can hear the instruments from both speakers by selecting the left channel.



1 Toggle the scroll key up or down during playback to display “AUDIO” in the LCD screen.

2 Point the remote at the player and press down on the scroll key so that  appears in the LCD screen.

The following display appears.



3 Press down on the scroll key repeatedly to select one of the audio options.

◆ **When playing a DVD VIDEO**

Depending on the DVD VIDEO, the choice of language varies.

When 4 digits are displayed, they indicate a language code. Refer to “Language Code List” on page 92 to see which language the code represents.

When the same language is displayed two or more times, the DVD VIDEO is recorded in multiple audio formats.

◆ **When playing a DVD-RW**

The types of sound tracks recorded on a disc are displayed. The default setting is underlined.

Example:

- 1: MAIN (main sound)
- 1: SUB (sub sound)
- 1: MAIN+SUB (main and sub sound)

◆ **When playing a VIDEO CD, CD, or DATA CD (MP3 audio)**

The default setting is underlined.

- STEREO: The standard stereo sound
- 1/L: The sound of the left channel (monaural)
- 2/R: The sound of the right channel (monaural)

 **Hint**

You can also select “AUDIO” from the Control Menu (page 14).

Note

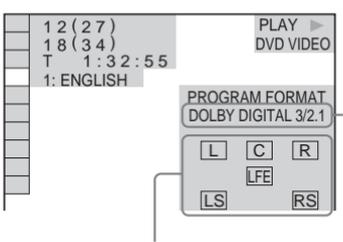
You cannot change the sound for Super Audio CDs.

Displaying the audio information of the disc **DVD-V**

Press DISPLAY during playback to display the Control Menu. Select "AUDIO" using **↑/↓**. The channels being played are displayed on the screen.

For example, in Dolby Digital format, multiple signals ranging from monaural to 5.1 channel signals can be recorded on a DVD VIDEO. Depending on the DVD VIDEO, the number of the recorded channels may differ.

Current audio format*

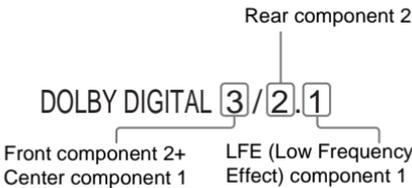


Currently playing program format**

*"PCM," "DTS," or "DOLBY DIGITAL" is displayed.

In the case of "DOLBY DIGITAL," the channels in the playing track are displayed by numbers as follows:

For Dolby Digital 5.1 ch:



**The letters in the program format display indicate the following sound components:

- L: Front (left)
- R: Front (right)
- C: Center
- LS: Rear (left)
- RS: Rear (right)
- S: Rear (monaural): The rear component of the Dolby Surround processed signal and the Dolby Digital signal
- LFE: Low Frequency Effect signal

Hint

When playing Dolby Digital or DTS sound tracks, "LFE" is enclosed in a dotted line when the LFE signal is not being output.

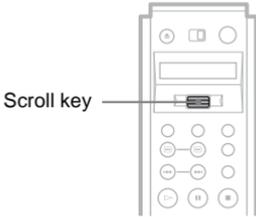
SURROUND Mode

Settings **DVD-V** **DVD-RW** **VCD**

CD **DATA CD**

You can enjoy surround sound while playing discs recorded in the Dolby Surround (Pro Logic) format.

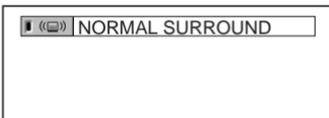
This function is available when you connect 4 or more speakers and set "REAR" in "SIZE" of "SPEAKER SETUP" to any setting other than "NONE."



1 Toggle the scroll key up or down during playback to display "SURROUND" in the LCD screen.

2 Point the remote at the player and press down on the scroll key so that  appears in the LCD screen.

The following display appears.



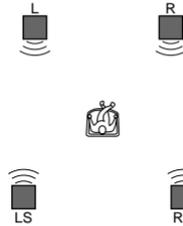
3 Press down on the scroll key repeatedly to select one of the surround modes.

• NORMAL SURROUND

Discs with 2 channel audio signals are decoded with the Dolby Surround (Pro Logic) decoder to create surround effects. The rear speakers will emit identical monaural sounds. If you are using a center speaker, the appropriate sounds for the center speaker will be delivered.

• ENHANCED SURROUND

Provides a greater sense of presence from a Dolby Surround (Pro Logic) source with a monaural rear channel signal. Produces a stereo like effect in the rear channels.



L: Front speaker (left)
R: Front speaker (right)
LS: Rear speaker (left)
RS: Rear speaker (right)

To cancel the setting

Select "OFF" in step 3.

Hint

You can also select "SURROUND" from the Control Menu (page 14).

Notes

- If you use the DIGITAL OUT (OPTICAL or COAXIAL) jack and set "DOLBY DIGITAL" to "DOLBY DIGITAL," and "DTS" to "DTS" in "AUDIO SETUP," sound will come from your speakers but it will not have the surround effect.
- If the player is set up to output the signal from the DIGITAL OUT (OPTICAL or COAXIAL) jack, the surround effect will not be heard when you play a CD.

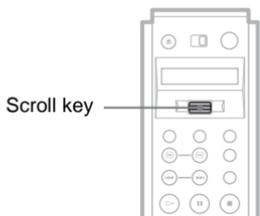
Note

Depending on the DVD VIDEO, you may not be able to change the angles even if multi-angles are recorded on the disc.

Changing the Angles

DVD-V

If various angles (multi-angles) for a scene are recorded on the DVD VIDEO, "ANGLE" appears in the front panel display. This means that you can change the viewing angle.



- 1 Toggle the scroll key up or down during playback to display "ANGLE" in the LCD screen.
- 2 Point the remote at the player and press down on the scroll key so that  appears in the LCD screen.

The following display appears.



- 3 Press down on the scroll key repeatedly to select an angle. The scene changes to the selected angle.

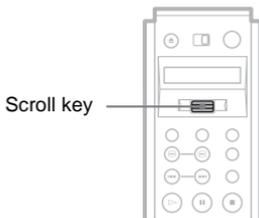
 **Hints**

- You can display all the angles on a screen divided into 9 sections and start playback directly from the chosen angle. (page 52).
- You can also select "ANGLE" from the Control Menu (page 14).

Displaying the Subtitles

DVD-V **DVD-RW**

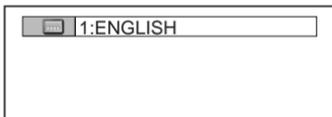
If subtitles are recorded on the discs, you can change the subtitles or turn them on and off whenever you want while playing a DVD.



1 Toggle the scroll key up or down during playback to display "SUBTITLE" in the LCD screen.

2 Point the remote at the player and press down on the scroll key so that  appears in the LCD screen.

The following display appears.



3 Press down on the scroll key repeatedly to select a setting.

◆ **When playing a DVD VIDEO**

Select the language.

Depending on the DVD VIDEO, the choice of language varies.

When 4 digits are displayed, they indicate a language code. Refer to "Language Code List" on page 92 to see which language the code represents.

◆ **When playing a DVD-RW**

Select "ON."

To turn off the subtitles

Select "OFF" in step 3.

Hint

You can also select "SUBTITLE" from the Control Menu (page 14).

Note

Depending on the DVD VIDEO, you may not be able to change the subtitles even if multilingual subtitles are recorded on it. You also may not be able to turn them off.

Adjusting the Picture

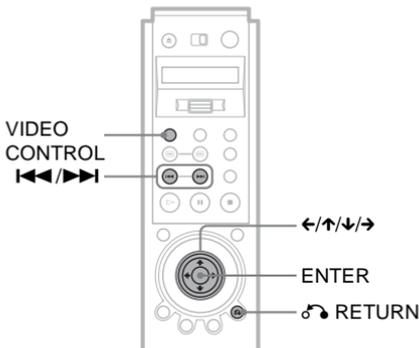
(VIDEO CONTROL) **DVD-V** **DVD-RW**

VCD

You can adjust the video signal of DVD or VIDEO CD from the player to obtain the picture quality you want.

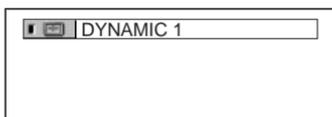
Choose the preset Video Control setting that best suits the program you are watching, or select "MEMORY" to adjust individual picture items, such as color, brightness, etc., creating a fixed set of picture item adjustments for the disc in either case.

As long as "PLAYBACK MEMORY" in "CUSTOM SETUP" is set to "ON" (default), the Video Control settings for up to 300 discs remain in the player's memory, and will be automatically applied whenever you play the same disc. When you store a Video Control setting for the 301st disc, the setting for the 1st disc is canceled.



1 Press VIDEO CONTROL during playback.

The following display appears.



2 Press VIDEO CONTROL repeatedly to select the setting you want.

The default setting is underlined.

- STANDARD: Displays a standard picture.
- DYNAMIC 1: Produces a bold dynamic picture by increasing the picture contrast and the color intensity.
- DYNAMIC 2: Produces a more dynamic picture than DYNAMIC 1 by further increasing the picture contrast and the color intensity.
- CINEMA 1: Enhances details in dark areas by increasing the black level.
- CINEMA 2: White colors become brighter and black colors become richer, and the color contrast is increased.
- MEMORY: Adjusts the picture in greater detail.

Hints

- When you watch a movie, "CINEMA 1" or "CINEMA 2" is recommended.
- You can also select "VIDEO CONTROL" from the Control Menu (page 14).

Note

Video Control settings for DVD-RWs in VR mode will be canceled when you open the disc tray or when the player enters standby mode.

Adjusting the picture items in "MEMORY"

You can adjust each element of the picture qualities individually.

- DVE (digital video enhancer): Sharpens or softens the outlines of the images. "SOFT" is available only for DVDs.
- BNR (block noise reduction): Reduces "block noise" or mosaic like patterns in the picture.
- Y NR (luminance noise reduction): Reduces noise contained in the luminance element of the video signal.
- C NR (chroma noise reduction): Reduces noise contained in the color element of the video signal.

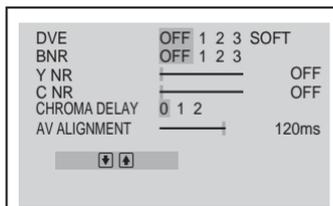
- **CHROMA DELAY:**
Adjusts colors that appear to have shifted horizontally.
- **AV ALIGNMENT:**
Adjusts delay between the picture and sound.
- **PROGRESSIVE 1:**
Sets a threshold at which the player determines the progressive conversion method.
When “COMPONENT OUT” in “SCREEN SETUP” is set to “PROGRESSIVE,” the player automatically detects whether the software is video based or film based, and converts the video signals in the corresponding progressive conversion method. When the set point is closer to “VIDEO,” the video based software conversion is more likely to be selected; when closer to “FILM,” the film based conversion is the likely choice. When set specifically to “VIDEO,” the video based software conversion will be always applied regardless of the software type. See “Glossary” for details about the video based software and film based software (page 88).
- **PROGRESSIVE 2:**
Adjusts the progressive video signals processed under the video based software conversion. Set closer to “STILL” for software containing static pictures such as scenery. Or, set closer to “MOVE” for software containing dynamic moving pictures such as a car chase.
- **PICTURE:**
Changes the contrast.
- **BRIGHTNESS:**
Changes the overall brightness.
- **COLOR:**
Makes the colors deeper or lighter.
- **HUE:**
Changes the color balance.
- **GAMMA:**
Adjusts the brightness of selected areas. See “Adjusting the brightness of selected areas (Gamma Correction)” for details (page 64).

- 1 Press **VIDEO CONTROL** repeatedly to select “MEMORY,” then press **ENTER**. The “DVE” adjustment bar appears.

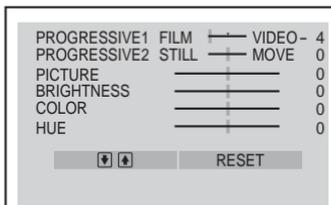


- 2 Press **←/→** to adjust the outline, then press **ENTER**.
The adjustment is saved, and the “BNR” adjustment bar appears.
- 3 Repeat step 2 to adjust “BNR” and the other items such as “Y NR,” and “C NR.”
- 4 When you reach the “GAMMA” adjustment bar, press **↓**.
Video Control display 1 appears. To go to Video Control display 2, press **↓** again. You can check all the adjustments other than “GAMMA.”

Video Control display 1



Video Control display 2



To turn off the display
Press **↶ RETURN**.

🔔 Hints

- To reset the picture items to the default values, press \rightarrow after step 4 to select "RESET" in Video Control display 2 and press ENTER.
- You can skip the adjustment without saving by pressing \uparrow/\downarrow in step 2.
- Video based software, such as TV drama, animation, and live music software are more adequately processed under the video based conversion. Film based software such as movies are better processed under the film based conversion.

Notes

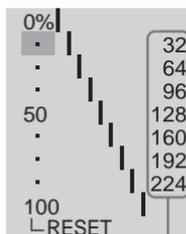
- If the outlines of the images on your screen should become blurred, set "BNR" to "OFF."
- Depending on the disc or the scene being played, the "BNR," "Y NR," or "C NR" effect may be hard to discern.
- Depending on the disc or the scene being played, noise found in the disc may become more apparent. If this happens, it is recommended that you use the BNR function with the DVE function. If the condition still does not improve, reduce the DVE level, or select "SOFT" (DVD only).
- Some DVDs contain both video based and film based sections. For example, a DVD may contain a movie taken on film, and a "Making of" sequence taken on video.
- If the progressive format image becomes unclear or unnatural when "MEMORY" is set to "PROGRESSIVE 1" or "PROGRESSIVE 2," try viewing with "PROGRESSIVE 1" set to "VIDEO." If this does not improve the picture, view the images in Interlace format through the COMPONENT VIDEO OUT jacks (page 78), or switch to another jack.

Adjusting the brightness of selected areas (Gamma Correction)

Depending on your TV or viewing environment, images on the screen may lose definition when a certain area of the image is so light that it appears washed out, or so dark that it blends into the surrounding dark areas. By correcting the Gamma value, you can adjust the brightness of selected areas to get a clearer image. While the "BRIGHTNESS" adjustment controls the brightness of the entire image, the "GAMMA" adjustment is useful when only some portions of the image need adjusting.

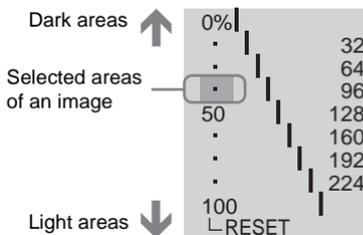
Example: You are watching a movie that is rich in shadows and you want to see the hidden details of the scenery. If you use the "BRIGHTNESS" adjustment, the entire image will become brighter, losing definition in the areas that were initially bright. The "GAMMA" adjustment enables you to select the dark part and gradually increase its brightness without sacrificing the overall definition.

- 1 After step 3 of "Adjusting the picture items in MEMORY," press \uparrow/\downarrow to display the "GAMMA," adjustment bar, and press ENTER or \rightarrow . The "GAMMA" adjustment display appears.

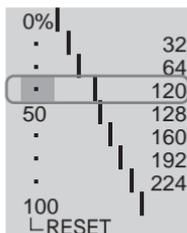


Current Gamma setup value

- 2 Press \uparrow/\downarrow to select areas of an image. The upper region adjusts the dark areas and the lower region adjusts the light areas.



- 3** Press **←/→** to adjust the brightness level of the area that you selected.
← decreases the level (darkens the area), and **→** increases the level (lightens the area). The level can be adjusted between 16 and 235. The level for the dark areas can never be greater than the light areas.



Gamma value and the position of the bar change in accordance with your adjustment

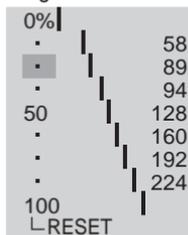


To reset only the gamma value to the default setting
 Select “RESET” in the “GAMMA” adjustment display by pressing **↑/↓**, and press **ENTER**.

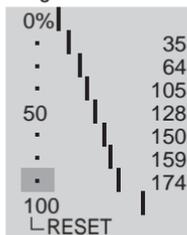
Hint
 You can move the gamma adjustment display horizontally by pressing **◀/▶**.

- 4** Repeat steps 2 and 3 to adjust the brightness level of other areas that you select.
 Try to keep the line that connects the brightness level of each area as smooth and straight as possible, as shown below.

How to lighten the dark areas of an image



How to darken the light areas of an image



To prevent the image from appearing overly altered, do not give the line any sharp changes. Gradually make the adjustments while viewing the image on your TV screen.
 Press **↶** RETURN to stop making adjustments to the image.

- 5** Press **ENTER**.
 The “GAMMA” adjustment bar appears and the adjusted gamma values are stored in memory.

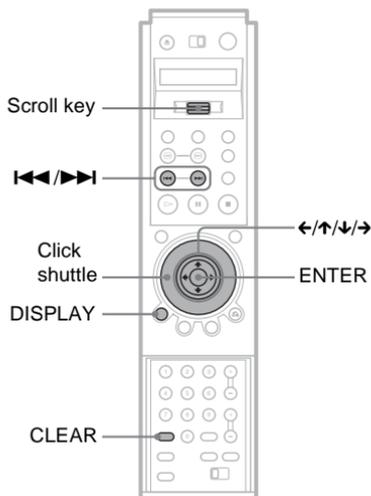
Using Various Additional Functions

Labeling the Disc **DVD-V**

VCD SA-CD CD

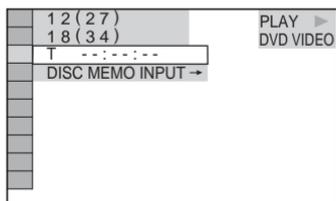
You can label a disc if no text is recorded on the disc (Disc Memo).

You can put a personal title of up to 20 characters on the disc. The Disc Memo can be anything you like, such as a title, musician's name, category, or date of purchase.



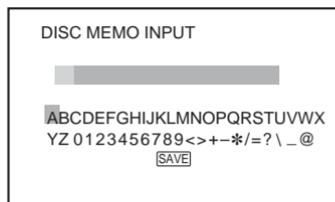
- 1 Insert the disc you want to label.
- 2 Press DISPLAY.
The Control Menu appears.
- 3 Press **↑/↓** to select **(TIME/MEMO)** and press ENTER.

“DISC MEMO INPUT →” appears.



- 4 Press **↓** to select “DISC MEMO INPUT →” and press ENTER.

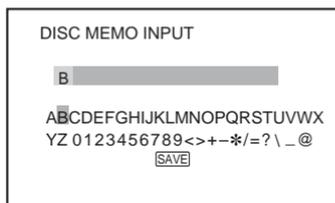
The “DISC MEMO INPUT” display appears.



- 5 Select a character by pressing **←/→/↑/↓**, or by turning the click shuttle.

The selected character changes the color.

- 6 Press ENTER.



- 7 Repeat steps 5 and 6 to input other characters.

- 8 When you have entered all the characters for a Disc Memo, select “SAVE” by pressing **←/↑/↓/→**, and press ENTER.

The Disc Memo is stored.

To turn off the display

Press **↶** RETURN.

To erase a character

- 1 Press **◀** or **▶** to move the cursor to the character you want to erase.
- 2 Press CLEAR.

To insert or overwrite a character

- 1 Press **◀◀** or **▶▶** to move the cursor to the insertion point or the character you want to correct.
- 2 Select a correct character by pressing **←/↕/→** or turning the click shuttle.
- 3 **To insert a character**, press ENTER.
To overwrite, press **◀◀** or **▶▶**.

To check the Disc Memo

Toggle the scroll key up or down to display "TIME/TEXT" in the LCD screen. Then point the remote at the player and press down on the scroll key so that  appears in the LCD screen. Press down on the scroll key repeatedly until the Disc Memo appears at the bottom of the TV screen.

Note

You can label up to 300 discs. When you have the player store over 300 discs in memory, each new Disc Memo erases the oldest Disc Memo from those first stored.

Locking Discs (CUSTOM PARENTAL CONTROL, PARENTAL CONTROL)

You can set two kinds of playback restrictions for the desired disc.

- Custom Parental Control

You can set playback restrictions so that the player will not play inappropriate discs.

- Parental Control

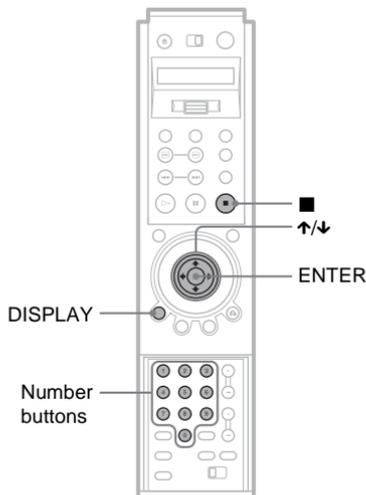
Playback of some DVD VIDEOS can be limited according to a predetermined level, such as the age of the users. Scenes may be blocked or replaced with different scenes.

The same password is used for both Parental Control and Custom Parental Control.

Custom Parental Control **DVD-V**

VCD SR-CD CD

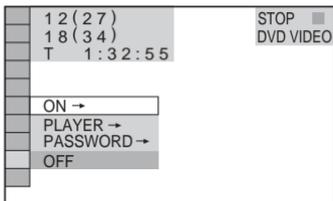
You can set the same Custom Parental Control password for up to 300 discs. When you set the 301st-disc, the first disc is canceled.



- 1 Insert the disc you want to lock.
If the disc is playing, press  to stop playback.
- 2 Press DISPLAY while the player is stopped.
The Control Menu appears.

- 3** Press **↑/↓** to select  (PARENTAL CONTROL), then press **ENTER**.

The options for “PARENTAL CONTROL” appear.



- 4** Press **↑/↓** to select “ON →,” then press **ENTER**.

◆ If you have not entered a password

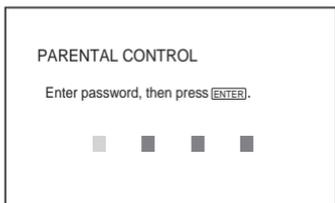
The display for registering a new password appears.



Enter a 4-digit password using the number buttons, then press **ENTER**. The display for confirming the password appears.

◆ When you have already registered a password

The display for entering the password appears.



- 5** Enter or re-enter your 4-digit password using the number buttons, then press **ENTER**.

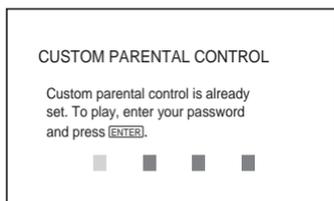
“Custom parental control is set.” appears and then the screen returns to the Control Menu.

To turn off the Custom Parental Control function

- 1 Follow steps 1 through 3 of “Custom Parental Control.”
- 2 Press **↑/↓** to select “OFF →,” then press **ENTER**.
- 3 Enter your 4-digit password using the number buttons, then press **ENTER**.

To play a disc for which Custom Parental Control is set

- 1 Insert the disc for which Custom Parental Control is set. The “CUSTOM PARENTAL CONTROL” display appears.



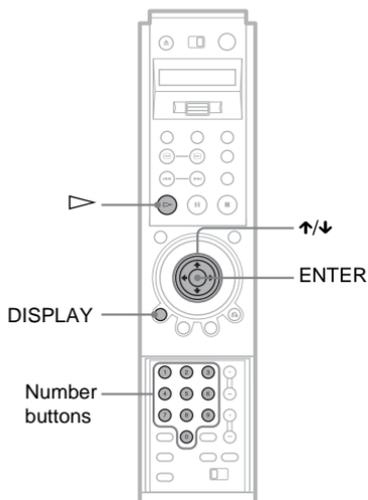
- 2 Enter your 4-digit password using the number buttons, then press **ENTER**. The player is ready for playback.

Hint

If you forget your password, enter the 6-digit number “199703” using the number buttons when the “CUSTOM PARENTAL CONTROL” display asks you for your password, then press **ENTER**. The display will ask you to enter a new 4-digit password.

Parental Control (limited playback) **DVD-V**

Playback of some DVD VIDEOS can be limited according to a predetermined level such as the age of the users. The “PARENTAL CONTROL” function allows you to set a playback limitation level.



The display for confirming the password appears.

◆ **When you have already registered a password**

The display for entering the password appears.

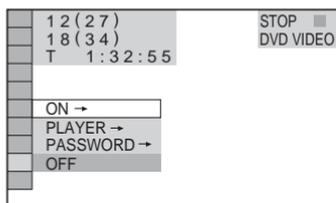


- 1** Press DISPLAY while the player is stopped.

The Control Menu appears.

- 2** Press \uparrow/\downarrow to select  (PARENTAL CONTROL), then press ENTER.

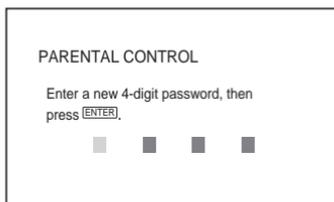
The options for “PARENTAL CONTROL” appear.



- 3** Press \uparrow/\downarrow to select “PLAYER →,” then press ENTER.

◆ **If you have not entered a password**

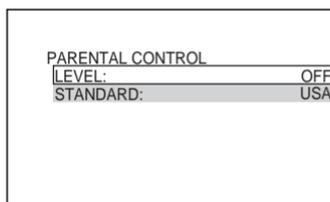
The display for registering a new password appears.



Enter a 4-digit password using the number buttons, then press ENTER.

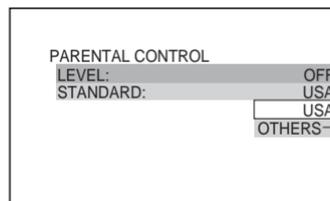
- 4** Enter or re-enter your 4-digit password using the number buttons, then press ENTER.

The display for setting the playback limitation level appears.



- 5** Press \uparrow/\downarrow to select “STANDARD,” then press ENTER.

The selection items for “STANDARD” are displayed.



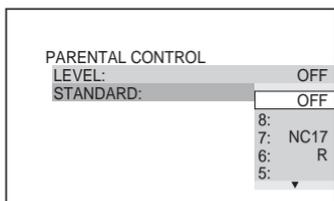
- 6** Press \uparrow/\downarrow to select a geographic area as the playback limitation level, then press ENTER.

The area is selected.

When you select “OTHERS →,” select and enter a standard code in the table on page 70 using the number buttons.

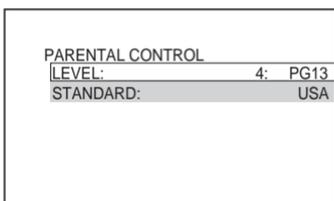
- 7** Press \uparrow/\downarrow to select “LEVEL,” then press ENTER.

The selection items for “LEVEL” are displayed.



8 Select the level you want using \uparrow/\downarrow , then press ENTER.

Parental Control setting is complete.



The lower the value, the stricter the limitation.

To turn off the Parental Control function

Set “LEVEL” to “OFF” in step 8.

To play a disc for which Parental Control is set

- 1 Insert the disc and press \triangleright .
The display for entering your password appears.
- 2 Enter your 4-digit password using the number buttons, then press ENTER.
The player starts playback.

Hint

If you forget your password, remove the disc and repeat steps 1 to 3 of “Parental Control (limited playback).” When you are asked to enter your password, enter “199703” using the number buttons, then press ENTER. The display will ask you to enter a new 4-digit password. After you enter a new 4-digit password, replace the disc in the player and press \triangleright . When the display for entering your password appears, enter your new password.

Notes

- When you play discs which do not have the Parental Control function, playback cannot be limited on this player.

- Depending on the disc, you may be asked to change the parental control level while playing the disc. In this case, enter your password, then change the level. If the Resume Play mode is canceled, the level returns to the previous level.

Area Code

Standard	Code number
Argentina	2044
Australia	2047
Austria	2046
Belgium	2057
Brazil	2070
Canada	2079
Chile	2090
China	2092
Denmark	2115
Finland	2165
France	2174
Germany	2109
India	2248
Indonesia	2238
Italy	2254
Japan	2276
Korea	2304
Malaysia	2363
Mexico	2362
Netherlands	2376
New Zealand	2390
Norway	2379
Pakistan	2427
Philippines	2424
Portugal	2436
Russia	2489
Singapore	2501
Spain	2149
Sweden	2499
Switzerland	2086
Thailand	2528
United Kingdom	2184

Changing the password

- 1 Press **DISPLAY** while the player is stopped.
The Control Menu appears.
- 2 Press **↑/↓** to select  (PARENTAL CONTROL), then press **ENTER**.
The options for "PARENTAL CONTROL" appear.
- 3 Press **↑/↓** to select "PASSWORD →," then press **ENTER**.
The display for entering the password appears.
- 4 Enter your 4-digit password using the number buttons, then press **ENTER**.
- 5 Enter a new 4-digit password using the number buttons, then press **ENTER**.
- 6 To confirm your password, re-enter it using the number buttons, then press **ENTER**.

If you make a mistake entering your password

Press **←** before you press **ENTER** and input the correct number.

If you make a mistake

Press **↶** RETURN.

To turn off the display

Press **DISPLAY** repeatedly until the display is turned off.

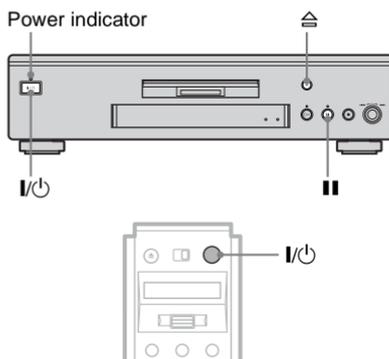
Operation Sound Effects

(Sound Feedback)

The player beeps when the following operations are performed.
The default setting of the Sound Feedback function is set to off.

Operation	Operation sound
Power is turned on	One beep
Power is turned off	Two beeps
▷ is pressed	One beep
 is pressed	Two beeps
Playback is stopped	One long beep
Operation is not possible	Three beeps

Setting Sound Feedback



- 1 Press **I/O** on the player or the remote.
The power indicator lights up in green.
When there is a disc in the player, press **△** and remove the disc. Then press **△** again to close the disc tray.
- 2 Press and hold **||** on the player for more than two seconds.
You will hear one beep and the Sound Feedback function is turned on.

To turn off the Sound Feedback function

When there is no disc in the player, press and hold **||** on the player for more than two seconds. You will hear two beeps and the Sound Feedback function is turned off.

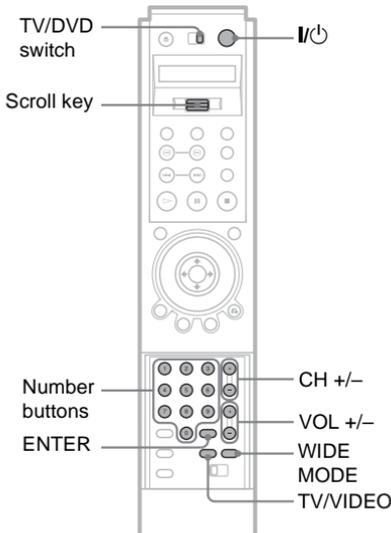
Controlling Your TV or AV Amplifier (Receiver) With the Supplied Remote

By adjusting the remote signal, you can control your TV with the supplied remote. If you connect the player to an AV amplifier (receiver), you can control the volume with the supplied remote.

Notes

- Depending on the connected unit, you may not be able to correctly control your TV or AV amplifier (receiver) using some of the buttons below.
- If you enter a new code number, the code number previously entered will be erased.
- When you replace the batteries of the remote, the code number you have set may be reset to the default setting. Set the appropriate code number again.

Controlling TVs with the remote



- 1 Slide the TV/DVD switch to TV.
- 2 While holding down I/O, press down on the scroll key.
"TV P-1" (default) appears in the LCD screen.
- 3 Release I/O.

4 Toggle the scroll key up or down to select your TV's manufacturer code (see "Code numbers of controllable TVs" below).

5 Press down on the scroll key.
The manufacturer code flashes and the remote is set.
When the TV/DVD switch is set to TV, the remote performs the following:

I/O	Turns the TV on or off
VOL +/-	Adjusts the volume of the TV
WIDE MODE	Switches to or from the wide mode of a Sony wide TV
TV/VIDEO	Switches the TV's input source between the TV and other input sources
CH +/-, number buttons and ENTER	Selects the channel of the TV

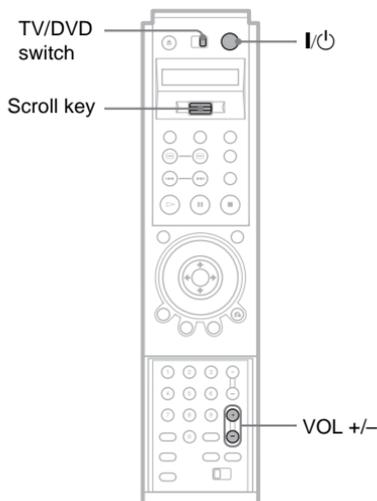
Code numbers of controllable TVs

If more than one code number is listed, try entering them one at a time until you find the one that works with your TV.

Manufacturer	Code number
Sony (default)	1
Akai	4
AOC	4
Centurion	12
Coronado	3
Curtis-Mathes	12
Daytron	12
Emerson	3,4,14
Fisher	11
General Electric	6,10
Gold Star	3,4,17
Hitachi	2,3
J.C.Penney	4,12
JVC	9
KMC	3
Magnavox	3,8,12
Marantz	4,13

MGA/Mitsubishi	4,12,13,17
NEC	4,12
Panasonic	6,19
Philco	3,4
Philips	8,21
Pioneer	16
Portland	3
Proscan	10
Quasar	6,18
Radio Shack	5,14
RCA	4,10
Sampo	12
Samsung	3,12,20
Sanyo	11,14
Scott	12
Sears	7,10,11
Sharp	3,5,18
Sylvania	8,12
Teknika	3,8,14
Toshiba	7
Wards	3,4,12
Yorx	12
Zenith	15

Controlling the volume of your AV amplifier (receiver) with the remote



- 1** Slide the TV/DVD switch to DVD.
- 2** While holding down I/Power, press down on the scroll key.
“AV P-90” (default) appears in the LCD screen.
- 3** Release I/Power.
- 4** Toggle the scroll key up or down to select your AV amplifier (receiver)’s manufacturer code (see “Code numbers of controllable AV amplifiers (receivers)” below).
- 5** Press down on the scroll key.
The manufacturer code flashes and the remote is set. The VOL +/- buttons control the AV amplifier’s volume.
 - ◆ If you want to control the TV’s volume Slide the TV/DVD switch to TV.

Code numbers of controllable AV amplifiers (receivers)

If more than one code number is listed, try entering them one at a time until you find the one that works with your AV amplifier (receiver).

Manufacturer	Code number
Sony	80, 88, 89, 91
Denon	84, 85, 86
Kenwood	92, 93
Onkyo	81, 82, 83
Pioneer	99
Sansui	87
Technics	97, 98
Yamaha	94, 95, 96

Hint

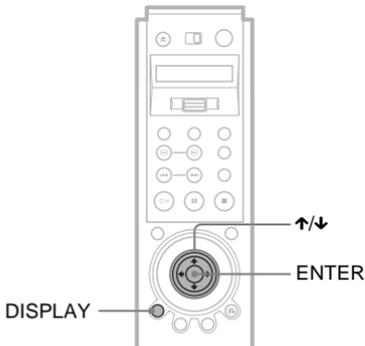
If you want to control the TV's volume even when the TV/DVD switch is set to DVD, repeat steps 1 through 5 and enter the code number 90 (default).

Using the Setup Display

By using the Setup Display, you can make various adjustments to items such as picture and sound. You can also set a language for the subtitles and the Setup Display, among other things. For details on each Setup Display item, see pages from 76 to 84.

Note

Playback settings stored in the disc take priority over the Setup Display settings and not all the functions described may work.

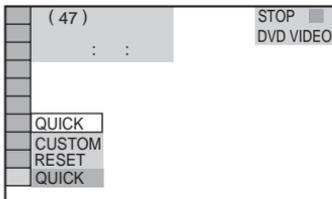


- 1 Press DISPLAY while the player is stopped.

The Control Menu appears.

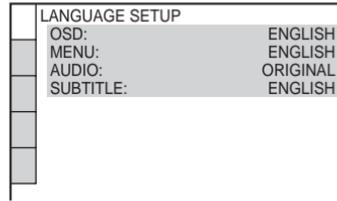
- 2 Press \uparrow/\downarrow to select  (SETUP), then press ENTER.

The options for "SETUP" appear.



- 3 Press \uparrow/\downarrow to select "CUSTOM," then press ENTER.

The Setup Display appears.



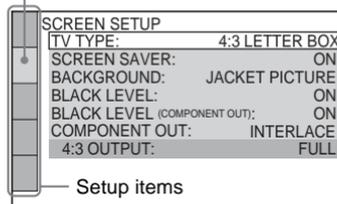
- 4 Press \uparrow/\downarrow to select the setup item from the displayed list:

"LANGUAGE SETUP," "SCREEN SETUP," "CUSTOM SETUP," "AUDIO SETUP," or "SPEAKER SETUP." Then press ENTER.

The Setup item is selected.

Example: "SCREEN SETUP"

Selected item

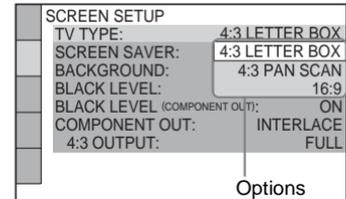


Setup items

- 5 Select an item using \uparrow/\downarrow , then press ENTER.

The options for the selected item appear.

Example: "TV TYPE"

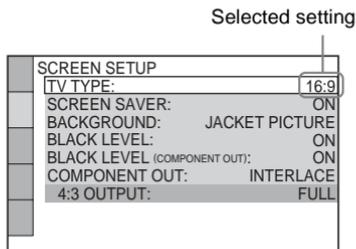


Options

- 6 Select a setting using \uparrow/\downarrow , then press ENTER.

The setting is selected and setup is complete.

Example: "16:9"



To turn off the display

Press DISPLAY repeatedly until the display is turned off.

To enter the Quick Setup mode

Select "QUICK" in step 3. Follow from step 5 of the Quick Setup explanation to make basic adjustments (page 31).

To reset all the "SETUP" settings

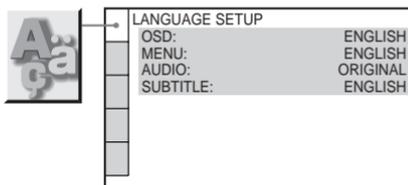
- 1 Select "RESET" in step 3 and press ENTER.
- 2 Select "YES" using \uparrow/\downarrow .
You can also quit the process and return to the Control Menu by selecting "NO" here.
- 3 Press ENTER.
All the settings explained on pages 76 to 84 return to the default settings. Do not press \mathbb{I}/\mathbb{C} while resetting the player, which takes a few seconds to complete.

Setting the Display or Sound Track Language

(LANGUAGE SETUP)

"LANGUAGE SETUP" allows you to set various languages for the on-screen display or sound track.

Select "LANGUAGE SETUP" in the Setup Display. To use the display, see "Using the Setup Display" (page 75).



◆ OSD (On-Screen Display)

Switches the display language on the screen.

◆ MENU (DVD VIDEO only)

Switches the language for the disc's menu.

◆ AUDIO (DVD VIDEO only)

Switches the language of the sound track. When you select "ORIGINAL," the language given priority in the disc is selected.

◆ SUBTITLE (DVD VIDEO only)

Switches the language of the subtitle recorded on the DVD VIDEO.

When you select "AUDIO FOLLOW," the language for the subtitles changes according to the language you selected for the sound track.

💡 Hint

If you select "OTHERS \rightarrow " in "MENU," "SUBTITLE," or "AUDIO," select and enter a language code from "Language Code List" on page 92 using the number buttons.

Note

When you select a language in "MENU," "SUBTITLE," or "AUDIO" that is not recorded on a DVD VIDEO, one of the recorded languages will be automatically selected.

Settings for the Display

(SCREEN SETUP)

Choose settings according to the TV to be connected.

Select "SCREEN SETUP" in the Setup Display. To use the display, see "Using the Setup Display" (page 75).

The default settings are underlined.



SCREEN SETUP	
TV TYPE:	4:3 LETTER BOX
SCREEN SAVER:	ON
BACKGROUND:	JACKET PICTURE
BLACK LEVEL:	ON
BLACK LEVEL (COMPONENT OUT):	ON
COMPONENT OUT:	INTERLACE
4:3 OUTPUT:	FULL

◆ TV TYPE

Selects the aspect ratio of the connected TV (4:3 standard or wide).

<u>4:3 LETTER BOX</u>	Select this when you connect a 4:3 screen TV. Displays a wide picture with bands on the upper and lower portions of the screen.
4:3 PAN SCAN	Select this when you connect a 4:3 screen TV. Automatically displays a wide picture on the entire screen and cuts off the portions that do not fit.
16:9	Select this when you connect a wide-screen TV or a TV with a wide mode function.

4:3 LETTER BOX



4:3 PAN SCAN



16:9



Note

Depending on the DVD, "4:3 LETTER BOX" may be selected automatically instead of "4:3 PAN SCAN" or vice versa.

◆ SCREEN SAVER

The screen saver image appears when you leave the player in pause or stop mode for 15 minutes, or when you play back a Super Audio CD, CD, or DATA CD (MP3 audio) for more than 15 minutes. The screen saver will help prevent your display device from becoming damaged (ghosting). Press \blacktriangleright to turn off the screen saver image.

<u>ON</u>	Turns on the screen saver function.
OFF	Turns off the screen saver function.

◆ BACKGROUND

Selects the background color or picture that appears on the TV screen when the player is in stop mode or playing a Super Audio CD, CD, or DATA CD (MP3 audio).

<u>JACKET PICTURE</u>	The jacket picture (still picture) appears, but only when the jacket picture is already recorded on the disc (CD-EXTRA, etc.). If the disc does not contain a jacket picture, the "GRAPHICS" picture appears.
PICTURE MEMORY	Your favorite picture appears in the background. To store a scene in memory, see "To store a picture in memory" below.
GRAPHICS	A preset picture stored in the player appears.
BLUE	The background color is blue.
BLACK	The background color is black.

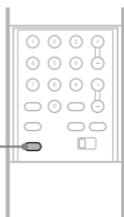
To store a picture in memory

The player can store one scene in memory for the background.

During playback, when you find a scene to be stored in memory, press PICTURE MEMORY.

The picture is stored in memory.

PICTURE
MEMORY



Note

If you operate the player while the picture is being stored in memory, the player will fail to store the picture.

◆ BLACK LEVEL

Selects the black level (setup level) for the video (NTSC) signals output from the jacks other than COMPONENT VIDEO OUT.

<u>ON</u>	Sets the black level of the output signal to the standard level.
OFF	Lowers the standard black level. Use this when the picture becomes too white.

◆ BLACK LEVEL (COMPONENT OUT)

Selects the black level (setup level) for the video (NTSC) signals output from the COMPONENT VIDEO OUT jacks. You cannot select this when “PROGRESSIVE” is selected in “COMPONENT OUT” (see below).

<u>ON</u>	Sets the black level of the output signal to the standard level.
OFF	Lowers the standard black level. Use this when the picture becomes too white.

◆ COMPONENT OUT

Selects the type of signal output from the COMPONENT VIDEO OUT jacks on the player. See page 89 for more information about the different types.

<u>INTERLACE</u>	Select this when you are connected to a standard (interlace format) TV.
PROGRESSIVE	Select this when you have a TV that can accept progressive signals.

To switch the video signal format

If you have selected “PROGRESSIVE” for a TV that does not accept signals in progressive format 480p, or if the software’s video signals are not suited for progressive video signal conversion, view the image in Interlace format.

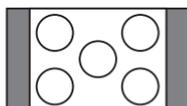
- 1 Set the COMPONENT VIDEO OUT/SCAN SELECT switch on the rear panel of the player to “INTERLACE.”
- 2 Set “COMPONENT OUT” to “INTERLACE.”
- 3 Reset the COMPONENT VIDEO OUT/SCAN SELECT switch to “SELECTABLE.”
Normally leave the switch in this position when using the COMPONENT VIDEO OUT jacks.

When “PROGRESSIVE” is selected in “COMPONENT OUT”

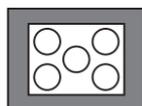
• 4:3 OUTPUT

Adjust this when you watch progressive signals on a standard 4:3 aspect ratio television. If you can change the aspect ratio on your progressive format (480p) compatible TV, change the setting on your TV, not the player.

<u>FULL</u>	Select this when you can change the aspect ratio on your TV.
NORMAL	Select this when you cannot change the aspect ratio on your TV. Shows a 16:9 aspect ratio signal with black bands on left and right sides of the image, and a 4:3 aspect ratio signal with black bands on all sides of the image.



16:9 aspect ratio TV



4:3 aspect ratio TV

Custom Settings (CUSTOM SETUP)

Use this to set up playback related and other settings.

Select "CUSTOM SETUP" in the Setup Display. To use the display, see "Using the Setup Display" (page 75).

The default settings are underlined.



CUSTOM SETUP	
AUTO POWER OFF:	OFF
AUTO PLAY:	OFF
DIMMER:	BRIGHT
PAUSE MODE:	AUTO
PLAYBACK MEMORY:	ON
TRACK SELECTION:	OFF
MULTI-DISC RESUME:	ON
BOOKMARK RESET	→
CD DIRECT:	OFF

◆ AUTO POWER OFF

Switches the Auto Power Off setting on or off.

<u>OFF</u>	Switches this function off.
ON	The player enters standby mode when left in stop mode for more than 30 minutes.

◆ AUTO PLAY

Switches the Auto Play setting on or off. This function is useful when the player is connected to a timer (not supplied).

<u>OFF</u>	Switches this function off.
ON	Automatically starts playback when the player is turned on.

◆ DIMMER

Adjusts the lighting of the front panel display.

<u>BRIGHT</u>	Makes the lighting bright.
DARK	Makes the lighting dark.
AUTO DARK	Makes the lighting dark if you do not operate the player or the remote for a short while.
AUTO OFF	Turns off the lighting if you do not operate the player or the remote for a short while.
OFF	Turns off the lighting.

◆ PAUSE MODE (DVD VIDEO/DVD-RW only)

Selects the picture in pause mode.

<u>AUTO</u>	The picture, including subjects that move dynamically, is output with no jitter. Normally select this position.
FRAME	The picture, including subjects that do not move dynamically, is output in high resolution.

◆ PLAYBACK MEMORY

The player can store "SUBTITLE" and other settings of each disc for up to 300 discs (Playback Memory).

Set this function "ON" or "OFF."

<u>ON</u>	Stores the settings in memory when you eject the disc.
OFF	Does not store the settings in memory.

The following settings are stored in memory.

- ANGLE (page 60)*
- AUDIO (page 57)*
- BOOKMARK (page 51)**
- DISC MEMO (page 66)***
- VIDEO CONTROL (page 62)*
- SUBTITLE (page 61)*

* DVD VIDEO only

** DVD VIDEO/VIDEO CD only

*** DVD VIDEO/VIDEO CD/Super Audio CD/CD only

Note

The player can store the settings of up to 300 discs. When you store the setting of disc number 301, the first disc setting is canceled.

◆ TRACK SELECTION (DVD VIDEO only)

Gives the sound track which contains the highest number of channels priority when you play a DVD VIDEO on which multiple audio formats (PCM, DTS, or Dolby Digital format) are recorded.

<u>OFF</u>	No priority given.
AUTO	Priority given.

Notes

- When you set the item to "AUTO," the language may change. The "TRACK SELECTION" setting has higher priority than the "AUDIO" settings in "LANGUAGE SETUP" (page 76).
- If PCM, DTS, and Dolby Digital sound tracks have the same number of channels, the player selects PCM, DTS, and Dolby Digital sound tracks in this order.

◆ MULTI-DISC RESUME (DVD VIDEO/VIDEO CD only)

Switches the Multi-disc Resume setting on or off. Resume playback point can be stored in memory for up to 300 different DVD VIDEO/VIDEO CD discs (page 38).

<u>ON</u>	Stores the resume settings in memory for up to 300 discs (The settings remain in memory even if you select OFF.)
OFF	Does not store the resume settings in memory. Playback restarts at the resume point only for the current disc in the player.

◆ BOOKMARK RESET→

Resets the bookmarks. Select this and press ENTER. The "BOOKMARK RESET" display appears. Press ENTER again to erase all of the bookmarks in all of the discs.

◆ CD DIRECT

Eliminates the use of unnecessary circuits when playing CDs. This setting will be activated when you open or close the disc tray.

This function affects the output from the following jacks:

- AUDIO OUT L/R 1/2 jacks
- 5.1CH OUTPUT jacks

<u>OFF</u>	Select this when playing CD discs, including CDs with DTS tracks.
ON	Eliminates the use of unnecessary circuits when playing CDs.

Note

If you select "ON" when playing CDs with DTS tracks, the sound will become noisy.

Settings for the Sound (AUDIO SETUP)

"AUDIO SETUP" allows you to set the sound according to the playback and connection conditions.

Select "AUDIO SETUP" in the Setup Display. To use the display, see "Using the Setup Display" (page 75). The default settings are underlined.



AUDIO ATT:	OFF
AUDIO DRC:	STANDARD
AUDIO FILTER:	SHARP
DOWNMIX:	DOLBY SURROUND
DIGITAL OUT:	ON
DOLBY DIGITAL:	D-PCM
DTS:	D-PCM
48kHz/96kHz PCM:	48kHz/16bit

◆ AUDIO ATT (attenuation)

If the playback sound is distorted, set this item to "ON." The player reduces the audio output level.

This function affects the output of the following jacks:

- AUDIO OUT L/R 1/2 jacks
- 5.1CH OUTPUT jacks

<u>OFF</u>	Normally select this position.
ON	Select this when the playback sound from the speakers is distorted.

◆ AUDIO DRC (Dynamic Range Control) (DVD VIDEO/DVD-RW only)

Allows smaller sound to be heard at low volume when playing a DVD that conforms to "AUDIO DRC." This affects the output from the following jacks:

- AUDIO OUT L/R 1/2 jacks
- 5.1CH OUTPUT jacks
- DIGITAL OUT (OPTICAL or COAXIAL) jack only when "DOLBY DIGITAL" is set to "D-PCM" (page 81).

<u>STANDARD</u>	Normally select this position.
TV MODE	Makes the low sounds clear even if you turn the volume down.
WIDE RANGE	Gives you the feeling of being at a live performance.

◆ AUDIO FILTER (except Super Audio CD)

Selects the digital filter to reduce noise above 22.05 kHz (Sampling frequency (Fs) of the audio source is 44.1 kHz), 24 kHz (Fs is 48 kHz), or 48 kHz (Fs is above 96 kHz).

<u>SHARP</u>	Provides a wide frequency range and spatial feeling.
<u>SLOW</u>	Provides smooth and warm sound.

Note

There may be little effect by changing the digital filter depending on the disc or playback environment.

◆ DOWNMIX (DVD VIDEO/DVD-RW only)

Switches the method for mixing down to 2 channels when you play a DVD which has rear sound elements (channels) or is recorded in Dolby Digital format. For details on the rear signal components, see “Displaying the audio information of the disc” (page 58). This function affects the output of the following jacks:

- AUDIO OUT L/R 1/2 jacks
- DIGITAL OUT (OPTICAL or COAXIAL) jack when “DOLBY DIGITAL” and “DTS” is set to “D-PCM” (page 81).

<u>DOLBY SURROUND</u>	Select this when the player is connected to an audio component that conforms to Dolby Surround (Pro Logic).
<u>NORMAL</u>	Select this when the player is connected to an audio component that does not conform to Dolby Surround (Pro Logic).

◆ DIGITAL OUT

Select this if audio signals are to be output via the DIGITAL OUT (OPTICAL or COAXIAL) jack.

<u>ON</u>	Normally select this position. When you select “ON,” see “To set the digital output signal” for further settings.
<u>OFF</u>	The influence of the digital circuit upon the analog circuit is minimal.

Note

Super Audio CD audio signals are not output from a digital jack.

To set the digital output signal

The following switch the method of outputting audio signals when you connect a component such as an amplifier (receiver) or MD deck with a digital input jack. For connection details, see page 24. Select “DOLBY DIGITAL,” “DTS,” and “48 kHz/96 kHz PCM” after setting “DIGITAL OUT” to “ON.”

AUDIO SETUP	
AUDIO ATT:	OFF
AUDIO DRC:	STANDARD
AUDIO FILTER:	SHARP
DOWNMIX:	DOLBY SURROUND
DIGITAL OUT:	ON
DOLBY DIGITAL:	D-PCM
DTS:	D-PCM
48kHz/96kHz PCM:	48kHz/16bit

If you connect a component that does not conform to the selected audio signal, a loud noise (or no sound) will come out from the speakers, damaging your ears or speakers.

- DOLBY DIGITAL (DVD VIDEO/DVD-RW only)

Select the type of Dolby Digital signal.

<u>D-PCM</u>	Select this when the player is connected to an audio component without a built-in Dolby Digital decoder. You can select whether the signals conform to Dolby Surround (Pro Logic) or not by making adjustments to the “DOWNMIX” item in “AUDIO SETUP” (page 81).
<u>DOLBY DIGITAL</u>	Select this when the player is connected to an audio component with a built-in Dolby Digital decoder.

- DTS (DVD VIDEO only)

Selects the type of DTS signal.

D-PCM	Select this when the player is connected to an audio component without a built-in DTS decoder.
DTS	Select this when the player is connected to an audio component with a built-in DTS decoder.

- 48kHz/96kHz PCM (DVD VIDEO only)
- Selects the sampling frequency of the audio signal.

48kHz/16bit	The audio signals of DVD VIDEOS are always converted to 48kHz/16bit.
96kHz/24bit	All types of signals including 96kHz/24bit are output in their original format. However, if the signal is encrypted for copyright protection purposes, the signal is only output as 48kHz/16bit.

Notes

- Even if you set “48kHz/96kHz PCM” to “96kHz/24bit,” the sampling frequency is converted to 48kHz/16bit when a “SURROUND” mode (page 59) is selected.
- The analog audio signals from the AUDIO OUT L/R jacks and 5.1CH OUTPUT jacks are not affected by this setting and keep their original sampling frequency level.

Settings for the Speakers (SPEAKER SETUP)

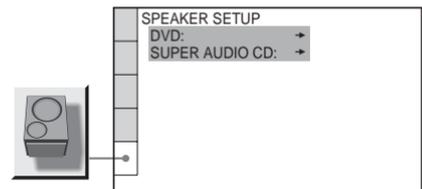
To obtain the best possible surround sound, set the size of the speakers you have connected and their distance from your listening position. Then use the test tone to adjust the volume of the speakers to the same level.

This setting is effective when connecting the speaker with 5.1 CH OUTPUT jacks (page 29).

You can create two different Speaker Setup settings, one for Super Audio CDs and one for all other types of discs.

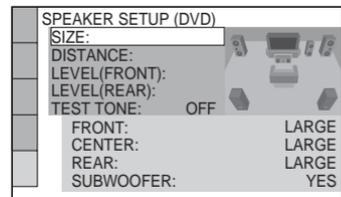
When nothing is set in “SUPER AUDIO CD,” the “DVD” setting you have set becomes effective when you play Super Audio CDs.

- 1 Follow steps 1 through 4 of “Using the setup display” (page 75) to select “SPEAKER SETUP” in the Setup display.



- 2 Select “DVD” or “SUPER AUDIO CD” using \uparrow/\downarrow , then press ENTER.

Example: when “DVD” is selected.



3 Set the following items in the order that they are explained below.

The default settings are underlined.

To return to the default setting

Select the item, then press CLEAR. Note that only the “SIZE” setting does not return to the default setting.

◆ SIZE

Selects the size of the speakers.

• FRONT

<u>LARGE</u>	Normally select this position.
SMALL	Select this when the speaker cannot reproduce adequate bass frequencies.

• CENTER

<u>LARGE</u>	Normally select this position.
SMALL	Select this when the speaker cannot reproduce adequate bass frequencies.
NONE	Select this if you do not connect a center speaker.

• REAR

<u>LARGE</u>	Normally select this position.
SMALL	Select this when the speaker cannot reproduce adequate bass frequencies.
NONE	Select this if you do not connect rear speakers.

• SUBWOOFER

<u>YES</u>	Select this if you connect a subwoofer to output the LFE (low frequency effect) signals from the subwoofer.
NONE	Select this if you do not connect a subwoofer.

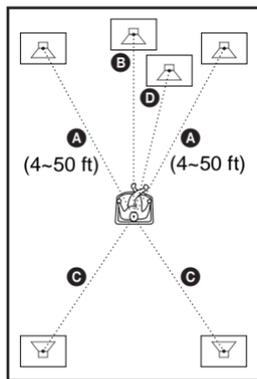
Notes

- The cut off frequency for the subwoofer is fixed at 120 Hz.
- If your speakers are too small to reproduce low bass frequencies, utilize a subwoofer for low frequency sound. When you set the speaker settings to “SMALL,” the bass redirection circuitry will be activated and the bass frequencies for the speakers are output from the subwoofer.
- Even if there are fewer than 6 speakers connected, the player distributes the audio signal components to the front speakers.

◆ DISTANCE

Sets the distance from your listening position to the speakers.

Set the distance to your front speakers in “FRONT” first (A). Values in “CENTER” (center speaker), “REAR” (rear speaker), and “SUBWOOFER” will automatically change to the same value (B, C, and D). Then adjust these values to reflect the actual distance to your center speaker, rear speakers, and subwoofer.



Be sure to change the value in the Setup Display each time you move the speakers. Start from the front speaker. The default adjustments are in parentheses.

<u>FRONT</u> (10 ft)	Set this between 4 and 50 feet in 0.25 foot increments.
CENTER (10 ft)	Set this within ± 6 feet of the “FRONT” setting in 0.25 foot increments. For example, if “FRONT” is set to 6 feet, “CENTER” can be set between 0 and 12 feet.

REAR (10 ft)	Set this within –18 feet and +6 feet of the “FRONT” setting in 0.25 foot increments. For example, if “FRONT” is set to 17 feet, “REAR” can be set between –1 and 23 feet.
SUBWOOFER (10 ft)	Set this within –18 and +6 feet of the “FRONT” setting in 0.25 foot increments. For example, if “FRONT” is set to 18 feet, “REAR” can be set between 0 and 24 feet.

Note

If each of the front or rear speakers are not placed at an equal distance from your listening position, set the distance according to the closest speaker.

◆ LEVEL (FRONT)

Varies the level of the front speakers. Be sure to set “TEST TONE” to “ON” for easy adjustment.

The default adjustments are in parentheses.

L (0 dB)	Set this between –6 dB and 0 dB in 0.5 dB increments.
R (0 dB)	Set this between –6 dB and 0 dB in 0.5 dB increments.
CENTER (0 dB)	Set this between –12 dB and 0 dB in 0.5 dB increments.
SUBWOOFER (DVD: –5 dB/ SUPER AUDIO CD: 0 dB)	For DVDs: (When “SIZE” are set to the default settings): Set this between –10 dB and +10 dB in 0.5 dB increments. (When “SIZE” are not set to the default settings): Set this between –15 dB and +5 dB in 0.5 dB increments. For Super Audio CDs: Set this between –10 dB and +10 dB in 0.5 dB increments.

◆ LEVEL (REAR)

Varies the level of the rear speakers. Be sure to set “TEST TONE” to “ON” for easy adjustment.

The default adjustments are in parentheses.

L (0 dB)	Set this between –12 dB and 0 dB in 0.5 dB increments.
R (0 dB)	Set this between –12 dB and 0 dB in 0.5 dB increments.

To adjust the volume of all the speakers at one time

Use the amplifier’s (receiver’s) volume control.

◆ TEST TONE

The speakers will emit a test tone. Use this when you use the 5.1CH OUTPUT jacks and adjust “LEVEL (FRONT)” and “LEVEL (REAR).”

OFF	The test tone is not emitted from the speakers.
ON	The test tone is emitted from each speaker in sequence while adjusting level.

Adjusting the speaker volume and level

- 1 Select “SPEAKER SETUP” in the Setup Display.
- 2 Select “TEST TONE” and set to “ON.”
You will hear the test tone from each speaker in sequence.
- 3 From your listening position, select “LEVEL (FRONT)” or “LEVEL (REAR)” and adjust the value using \uparrow/\downarrow .
The test tone is emitted from both left and right speakers simultaneously.
- 4 Select “TEST TONE” and set to “OFF” to turn off the test tone.

Note

The test tone signals are not output from the digital jack.

Troubleshooting

If you experience any of the following difficulties while using the player, use this troubleshooting guide to help remedy the problem before requesting repairs. Should any problem persist, consult your nearest Sony dealer.

Power

The power is not turned on.

- ➔ Check that the AC power cord is connected securely.

Picture

There is no picture/picture noise appears.

- ➔ Re-connect the connecting cord securely.
- ➔ The connecting cords are damaged.
- ➔ Check the connection to your TV (page 21) and switch the input selector on your TV so that the signal from the player appears on the TV screen.
- ➔ The disc is dirty or flawed.
- ➔ If the picture output from your player goes through your VCR to get to your TV or if you are connected to a combination TV/VIDEO player, the copy-protection signal applied to some DVD programs could affect picture quality. If you still experience problems even when you connect your player directly to your TV, please try connecting your player to your TV's S VIDEO input (page 21).
- ➔ You have set "COMPONENT OUT" in "SCREEN SETUP" to "PROGRESSIVE" even though your TV cannot accept the signal in progressive format. In this case, set the COMPONENT VIDEO OUT/SCAN SELECT switch on the rear panel of the player to INTERLACE. Then set "COMPONENT OUT" to "INTERLACE" after you can see the TV screen correctly, and reset the COMPONENT VIDEO OUT/SCAN SELECT switch to SELECTABLE.

- ➔ Even if your TV is compatible with progressive format 480p signals, the image may be affected when you set "COMPONENT OUT" to "PROGRESSIVE." In this case, set "COMPONENT OUT" to "INTERLACE."
- ➔ You have selected VIDEO OFF (page 35).

The picture does not fill the screen, even though the aspect ratio is set in "TV TYPE" under "SCREEN SETUP."

- ➔ The aspect ratio of the disc is fixed on your DVD.

Sound

There is no sound.

- ➔ Re-connect the connecting cord securely.
- ➔ The connecting cord is damaged.
- ➔ The player is connected to the wrong input jack on the amplifier (receiver) (page 27, 28, 29).
- ➔ The amplifier (receiver) input is not correctly set.
- ➔ The player is in pause mode or in Slow-motion Play mode.
- ➔ The player is in fast forward or fast reverse mode.
- ➔ If the audio signal does not come through the DIGITAL OUT (OPTICAL or COAXIAL) jack, check the audio settings (page 81).
- ➔ Super Audio CD audio signals are not output from the digital jack.

Sound distortion occurs.

- ➔ Set "AUDIO ATT" in "AUDIO SETUP" to "ON" (page 80).

The sound volume is low.

- ➔ The sound volume is low on some DVDs. The sound volume may improve if you set "AUDIO DRC" to "TV MODE" (page 80).
- ➔ Set "AUDIO ATT" in "AUDIO SETUP" to "OFF" (page 80).

The surround effect is difficult to hear when you are playing a Dolby Digital, or DTS sound track.

- ➔ Check the speaker connections and setting (page 29, 31, 81).
- ➔ The 5.1 channel sound is not recorded on the disc being played.

The sound comes from the center speaker only.

- ➔ Depending on the disc, the sound may come from the center speaker only.

Operation

The remote does not function.

- ➔ The batteries in the remote are weak.
- ➔ There are obstacles between the remote and the player.
- ➔ The distance between the remote and the player is too far.
- ➔ The remote is not pointed at the remote sensor on the player.
- ➔ The command mode setting on the remote does not match the setting on the player (page 17).

The disc does not play.

- ➔ The disc is turned over.
Insert the disc with the playback side facing down on the disc tray.
- ➔ The disc is skewed.
- ➔ The player cannot play certain discs (page 6).
- ➔ The region code on the DVD does not match the player.
- ➔ Moisture has condensed inside the player (page 3).
- ➔ The player cannot play DVD-Rs, DVD-RWs, CD-Rs, or CD-RWs that are not finalized (page 7).

The MP3 audio track cannot be played (page 43).

- ➔ The DATA CD is not recorded in the MP3 format that conforms to ISO9660 Level 1/Level 2 or Joliet.
- ➔ The MP3 audio track does not have the extension “.MP3.”
- ➔ The data is not formatted in MP3 even though it has the extension “.MP3.”
- ➔ The data is not MPEG1 Audio Layer 3 data.
- ➔ The player cannot play audio tracks in MP3PRO format.

“Copyright lock” appears and the screen turns blue when playing a DVD-RW disc.

- ➔ Images taken from digital broadcasts, etc., may contain copy protection signals, such as complete copy protection signals, single copy signals, and restriction-free signals. When images that contain copy protection signals are played, a blue screen may appear

instead of the images. It may take a while when looking for playable images.

The title of the MP3 audio album or track is not correctly displayed.

- ➔ The player can only display numbers and alphabet. Other characters are displayed as “*.”

The disc does not start playing from the beginning.

- ➔ Program Play, Shuffle Play, Repeat Play, or A-B Repeat Play has been selected (page 45).
- ➔ Resume play has taken effect (page 38).

The player starts playing the disc automatically.

- ➔ The disc features an auto playback function.
- ➔ “AUTO PLAY” in “CUSTOM SETUP” is set to “ON” (page 79).

Playback stops automatically.

- ➔ While playing discs with an auto pause signal, the player stops playback at the auto pause signal.

Some functions such as Stop, Search, Slow-motion Play, Repeat Play, Shuffle Play, or Program Play cannot be performed.

- ➔ Depending on the disc, you may not be able to do some of the operations above. See the operating manual that comes with the disc.

The language for the sound track cannot be changed.

- ➔ Try using the DVD’s menu instead of the scroll key on the remote (page 39).
- ➔ Multilingual tracks are not recorded on the DVD being played.
- ➔ The DVD prohibits the changing of the language for the sound track.

The subtitle language cannot be changed or turned off.

- ➔ Try using the DVD’s menu instead of the scroll key on the remote (page 39).
- ➔ Multilingual subtitles are not recorded on the DVD being played.
- ➔ The DVD prohibits the changing of the subtitles.

The angles cannot be changed.

- ➔ Try using the DVD's menu instead of the scroll key on the remote (page 39).
- ➔ Multi-angles are not recorded on the DVD being played.
- ➔ The angle can only be changed when the "ANGLE" indicator lights up on the front panel display (page 10).
- ➔ The DVD prohibits changing of the angles.

The player does not operate properly.

- ➔ When static electricity, etc., causes the player to operate abnormally, unplug the player.

Nothing is displayed on the front panel display.

- ➔ "DIMMER" in "CUSTOM SETUP" is set to "OFF" or "AUTO OFF." Set "DIMMER" to any setting other than "OFF" or "AUTO OFF" (page 79).

5 numbers or letters are displayed on the screen and on the front panel display.

- ➔ The self-diagnosis function was activated. (See the table on page 87.)

The disc tray does not open and "LOCKED" appears on the front panel display.

- ➔ Child Lock is set (page 36).

The disc tray does not open and "TRAY LOCKED" appears on the front panel display.

- ➔ Contact your Sony dealer or local authorized Sony service facility.

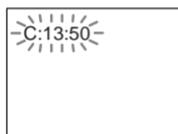
"Data error" appears on the TV screen when playing a DATA CD.

- ➔ The MP3 audio track you want to play is broken.
 - ➔ The data is not MPEG1 Audio Layer 3 data.
-

Self-diagnosis Function

(When letters/numbers appear in the display)

When the self-diagnosis function is activated to prevent the player from malfunctioning, a five-character service number (e.g., C 13 50) with a combination of a letter and four digits appears on the screen and the front panel display. In this case, check the following table.



First three characters of the service number	Cause and/or corrective action
C 13	The disc is dirty. ➔ Clean the disc with a soft cloth (page 8).
C 31	The disc is not inserted correctly. ➔ Re-insert the disc correctly.
E XX (xx is a number)	To prevent a malfunction, the player has performed the self-diagnosis function. ➔ Contact your nearest Sony dealer or local authorized Sony service facility and give the 5-character service number. Example: E 61 10

Glossary

Chapter (page 10)

Sections of a picture or a music feature that are smaller than titles. A title is composed of several chapters. Depending on the disc, no chapters may be recorded.

Dolby Digital (page 29, 81)

Digital audio compression technology developed by Dolby Laboratories. This technology conforms to 5.1-channel surround sound. The rear channel is stereo and there is a discrete subwoofer channel in this format. Dolby Digital provides the same 5.1 discrete channels of high quality digital audio found in Dolby Digital cinema audio systems. Good channel separation is realized because all of the channel data are recorded discretely and little deterioration is realized because all channel data processing is digital.

Dolby Surround (Pro Logic) (page 28)

Audio signal processing technology that Dolby Laboratories developed for surround sound. When the input signal contains a surround component, the Pro Logic process outputs the front, center, and rear signals. The rear channel is monaural.

DTS (page 29, 82)

Digital audio compression technology that Digital Theater Systems, Inc. developed. This technology conforms to 5.1-channel surround sound. The rear channel is stereo and there is a discrete subwoofer channel in this format. DTS provides 5.1 discrete channels of high quality digital audio.

Good channel separation is realized because all of the channel data is recorded discretely and little deterioration is realized because all channel data processing is digital.

DVD VIDEO (page 6)

A disc that contains up to 8 hours of moving pictures even though its diameter is the same as a CD.

The data capacity of a single-layer and single-sided DVD is 4.7 GB (Giga Byte), which is 7 times that of a CD. The data capacity of a double-layer and single-sided DVD is 8.5

GB, a single-layer and double-sided DVD is 9.4 GB, and double-layer and double-sided DVD is 17GB.

The picture data uses the MPEG 2 format, one of the worldwide standards of digital compression technology. The picture data is compressed to about 1/40 (average) of its original size. The DVD also uses a variable rate coding technology that changes the data to be allocated according to the status of the picture. Audio information is recorded in a multi-channel format, such as Dolby Digital, allowing you to enjoy a more real audio presence.

Furthermore, various advanced functions such as the multi-angle, multilingual, and Parental Control functions are provided with the DVD.

DVD-RW (page 6)

A DVD-RW is a recordable and rewritable disc with the same size as the DVD VIDEO. The DVD-RW can be recorded in two different modes: VR mode and Video mode. VR (Video Recording) mode enables various programming and editing functions, some of which are limited in the case of Video mode. Video mode complies with DVD VIDEO format. A disc recorded in Video mode can be played on other DVD players, while a disc recorded in VR mode can only be played on DVD-RW compliant players. "DVD-RW" appearing in this manual, and the on-screen displays refer to DVD-RWs in VR mode.

Film based software, Video based software (page 62)

DVDs can be classified as Film based or Video based software. Film based DVDs contain the same images (24 frames per second) that are shown at movie theaters. Video based DVDs, such as television dramas or sit-coms, displays images at 30 frames (or 60 fields) per second.

Index (CD)/Video Index (VIDEO CD) (page 10)

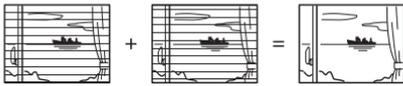
A number that divides a track into sections to easily locate the point you want on a CD or VIDEO CD. Depending on the disc, no index may be recorded.

Interlace format (page 78)

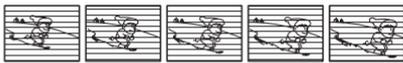
Interlace format shows every other line of an image as a single "field" and is the standard method for displaying images on television. The even number field shows the even numbered lines of an image, and the odd numbered field shows the odd numbered lines of an image.

Progressive conversion method (page 62)

• Video based software conversion
Video shows an image by alternately displaying every other line of an image (field) at 30 frames (60 fields) per second (Interlace format).

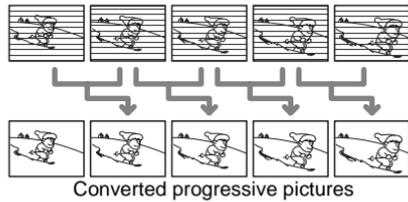


The Interlace format displays 30 frames (60 fields) per second by displaying every other line of the image, causing scanning lines to appear across the image. Furthermore, since only half of the image is shown at once, the amount of information contained in an image is limited.

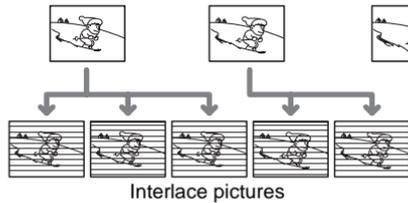


The Progressive format displays 60 entire frames per seconds. The player accomplishes this by converting each field into a frame by using either a field-based conversion method or a frame-based conversion method. The appropriate method is automatically selected by the player according to the movement of the images on the screen. If the movement on the screen is slow, the frame-based conversion method borrows adjacent field information to fill in the missing information. If the movement on the screen is rapid, the field-based conversion method creates the missing information by predicting the movement of the images on the screen from field to field. The end result is an image that is higher in quality when compared to the Interlace format.

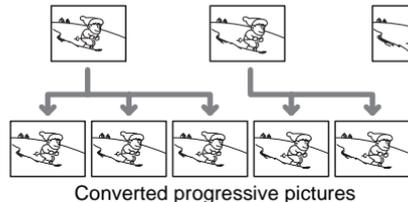
Interlace pictures



- Film based software conversion
Film shows an image by displaying an entire image at 24 frames per second. When you watch a film on television, the television displays every other line of the frame as a field, thus reducing information level and the clarity of the film image.



This player solves this problem by increasing the speed at which the frames are displayed, consecutively showing 3 identical frames followed by 2 identical frames in the time that it normally takes to show 2 consecutive frames. The end result is that the 24 frames per second are increased to 60 frames per second, which is the speed at which Progressive video signals are shown.



This not only allows film to be shown in a frame based format, it also increases the clarity and sharpness which is unique to Progressive format images.

Progressive format (page 78)

Compared to the Interlace format that alternately shows every other line of an image (field) to create one frame, the Progressive format shows the entire image at once as a single frame. This means that while the Interlace format can show 30 frames (60 fields) in one second, the Progressive format can show 60 frames in one second. The overall picture quality increases and still images, text, and horizontal lines appear sharper.

Scene (page 10)

On a VIDEO CD with PBC (playback control) functions, the menu screens, moving pictures and still pictures are divided into sections called "scenes."

Super Audio CD (page 6)

A Super Audio CD disc can reproduce sounds that are extremely faithful to the original sound by use of DSD (Direct Stream Digital) technology. This technology utilizes a sampling frequency of 2.8224 MHz, which is 64 times that of a conventional CD, and 1-bit quantization that enables the disc to hold 4 times the amount of information that a standard PCM format CD can hold. Super Audio CDs are divided into the following types.

- Super Audio CD (single layer disc)

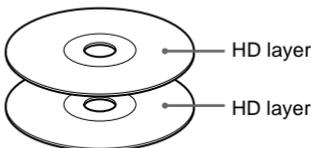
This disc consists of a single HD layer*.

*High density signal layer for the Super Audio CD



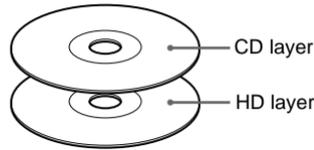
- Super Audio CD (dual layer disc)

This disc consists of dual HD layers and is capable of extended play over long periods. Also, as the dual layer disc consists of dual HD layers on one side only, you do not have to turn the disc over during playback.



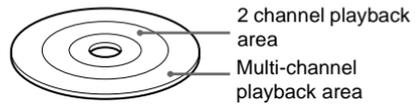
- Super Audio CD + CD (Hybrid disc)

This disc consists of an HD layer and a CD layer. Also, as the dual layers are on one side only, you do not have to turn the disc over during playback. You can play the CD layer using a conventional CD player.



- 2 channel + Multi-channel Super Audio CD

This disc consists of the 2 channel playback area and the multi-channel playback area.



Title (page 10)

The longest section of a picture or music feature on a DVD, movie, etc., in video software, or the entire album in audio software.

Track (page 10)

Sections of a picture or a music feature on a CD or VIDEO CD (the length of a song).

Specifications

System

Laser: Semiconductor laser

Signal format system: NTSC

Audio characteristics

Frequency response: DVD VIDEO (PCM 96 kHz): 2 Hz to 44 kHz (44 kHz: -2 dB \pm 1 dB), Super Audio CD: 2 Hz to 100 kHz (50 kHz: -3 dB \pm 1 dB), CD: 2 Hz to 20 kHz (\pm 0.5 dB)

Harmonic distortion: DVD VIDEO/Super Audio CD: 0.0012 %, CD: 0.0016 %

Dynamic range: DVD VIDEO/Super Audio CD: 103 dB, CD: 99 dB

Wow and flutter: Less than detected value (\pm 0.001% W PEAK)

Outputs

(**Jack name:** Jack type/Output level/Load impedance)

AUDIO OUT 1/2: Phono jack/2 Vrms/10 kilohms

DIGITAL OUT (OPTICAL): Optical output jack/-18 dBm (wave length: 660 nm)

DIGITAL OUT (COAXIAL): Phono jack/0.5 Vp-p/75 ohms

5.1CH OUTPUT: Phono jack/2 Vrms/10 kilohms

COMPONENT VIDEO OUT(Y, P_B, P_R):
Phono jack/Y: 1.0 Vp-p/P_B, P_R:
interlace*=0.648 Vp-p, progressive or
interlace**=0.7 Vp-p/75 ohms

* BLACK LEVEL is ON

** BLACK LEVEL is OFF

VIDEO OUT 1/2: Phono jack/1.0 Vp-p/75 ohms

S VIDEO OUT 1/2: 4-pin mini DIN/Y:
1.0 Vp-p, C: 0.286 Vp-p/75 ohms

General

Power requirements:

120 V AC, 60 Hz

Power consumption:

20 W

Dimensions (approx.):

430 \times 113 \times 349 mm (17 \times 4 $\frac{1}{2}$ \times 13 $\frac{3}{4}$ in.) (width/height/depth) incl. projecting parts

Mass (approx.):6.4 kg (14 lb 2 oz)

Operating temperature: 5 $^{\circ}$ C to 35 $^{\circ}$ C (41 $^{\circ}$ F to 95 $^{\circ}$ F)

Operating humidity: 25 % to 80 %

Supplied accessories

See page 17.

Specifications and design are subject to change without notice.

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Language Code List

For details, see pages 57, 61, 76.

The language spellings conform to the ISO 639: 1988 (E/F) standard.

Code Language	Code Language	Code Language	Code Language
1027 Afar	1183 Irish	1347 Maori	1507 Samoan
1028 Abkhazian	1186 Scots Gaelic	1349 Macedonian	1508 Shona
1032 Afrikaans	1194 Galician	1350 Malayalam	1509 Somali
1039 Amharic	1196 Guarani	1352 Mongolian	1511 Albanian
1044 Arabic	1203 Gujarati	1353 Moldavian	1512 Serbian
1045 Assamese	1209 Hausa	1356 Marathi	1513 Siswati
1051 Aymara	1217 Hindi	1357 Malay	1514 Sesotho
1052 Azerbaijani	1226 Croatian	1358 Maltese	1515 Sundanese
1053 Bashkir	1229 Hungarian	1363 Burmese	1516 Swedish
1057 Byelorussian	1233 Armenian	1365 Nauru	1517 Swahili
1059 Bulgarian	1235 Interlingua	1369 Nepali	1521 Tamil
1060 Bihari	1239 Interlingue	1376 Dutch	1525 Telugu
1061 Bislama	1245 Inupiak	1379 Norwegian	1527 Tajik
1066 Bengali;	1248 Indonesian	1393 Occitan	1528 Thai
Bangla	1253 Icelandic	1403 (Afan)Oromo	1529 Tigrinya
1067 Tibetan	1254 Italian	1408 Oriya	1531 Turkmen
1070 Breton	1257 Hebrew	1417 Punjabi	1532 Tagalog
1079 Catalan	1261 Japanese	1428 Polish	1534 Setswana
1093 Corsican	1269 Yiddish	1435 Pashto;	1535 Tonga
1097 Czech	1283 Javanese	Pushto	1538 Turkish
1103 Welsh	1287 Georgian	1436 Portuguese	1539 Tsonga
1105 Danish	1297 Kazakh	1463 Quechua	1540 Tatar
1109 German	1298 Greenlandic	1481 Rhaeto-	1543 Twi
1130 Bhutani	1299 Cambodian	Romance	1557 Ukrainian
1142 Greek	1300 Kannada	1482 Kirundi	1564 Urdu
1144 English	1301 Korean	1483 Romanian	1572 Uzbek
1145 Esperanto	1305 Kashmiri	1489 Russian	1581 Vietnamese
1149 Spanish	1307 Kurdish	1491 Kinyarwanda	1587 Volapük
1150 Estonian	1311 Kirghiz	1495 Sanskrit	1613 Wolof
1151 Basque	1313 Latin	1498 Sindhi	1632 Xhosa
1157 Persian	1326 Lingala	1501 Sangho	1665 Yoruba
1165 Finnish	1327 Laothian	1502 Serbo-	1684 Chinese
1166 Fiji	1332 Lithuanian	Croatian	1697 Zulu
1171 Faroese	1334 Latvian;	1503 Singhalese	
1174 French	Lettish	1505 Slovak	
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