

DVD/VIDEO CD/CD PLAYER

DVD-S80



Before connecting, operating or adjusting this product, please read these instructions completely. Please keep this manual for future reference.



OWNER'S MANUAL

Dear customer

Thank you for purchasing this product. For optimum performance and safety, please read these instructions carefully.

Getting started

CAUTION!

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

WARNING:

TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR PRODUCT DAMAGE, DO NOT EXPOSE THIS APPARATUS TO RAIN, MOISTURE, DRIPPING OR SPLASHING AND THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.

CAUTION:

**TO PREVENT ELECTRIC SHOCK MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.
This Class B digital apparatus complies with Canadian ICES-003.**



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

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



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



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

DANGER	- VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM. (FDA 21 CFR)
CAUTION	- VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM. (IEC60825-1)
ATTENTION	- RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU.
ADVARSEL	- SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING. UNGÅ UDSÆTTELSE FOR STRÅLING.
VARO!	- AVATTAESSA OLET ALTTIINA NÄKYVÄÄ JA NÄKYMÄTÖN LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING	- SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BETRÄKTA EJ STRÅLEN.
ADVARSEL	- SYNLIG OG USYNLIG LASERSTRÅLING NÄR DEKSEL ÅPNES. UNGÅ EKSPONERING FOR STRÅLEN.
VORSICHT	- SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.
注意	- 打开时有可见及不可见激光辐射。避免激光束照射。
注意	- ここを開くと可視及び不可視のレーザー光が出ます。ビームを直接見たり、感れたりしないでください。 RQLS0233

(Inside of product)

FCC INFORMATION (for U.S. customers only)

- IMPORTANT NOTICE: DO NOT MODIFY THIS UNIT!** This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modifications not expressly approved by Yamaha may void your authority, granted by the FCC, to use the product.
- IMPORTANT:** When connecting this product to accessories and/or another product use only high quality shielded cables. Cable/s supplied with this product **MUST** be used. Follow all installation instructions. Failure to follow instructions could void your FCC authorization to use this product in the USA.
- NOTE:** This product has been tested and found to comply with the requirements listed in FCC Regulations, Part 15 for Class "B" digital devices. Compliance with these requirements provides a reasonable level of assurance that your use of this product in a residential environment will not result in harmful interference with other electronic devices.

This equipment generates /uses radio frequencies and, if not installed and used according to the instructions found in the users manual, may cause interference harmful to the operation of other electronic devices. Compliance with FCC regulations does not guarantee that interference will not occur in all installations. If this product is found to be the source of interference, which can be determined by turning the unit "OFF" and "ON", please try to eliminate the problem by using one of the following measures:

Relocate either this product or the device that is being affected by the interference.

Utilize power outlets that are on different branch (circuit breaker or fuse) circuits or install AC line filter/s.

In the case of radio or TV interference, relocate/reorient the antenna. If the antenna lead-in is 300 ohm ribbon lead, change the lead-in to coaxial type cable.

If these corrective measures do not produce satisfactory results, please contact the local retailer authorized to distribute this type of product. If you can not locate the appropriate retailer, please contact Yamaha Electronics Corp., U.S.A. 6660 Orangethorpe Ave, Buena Park, CA 90620.

The above statements apply **ONLY** to those products distributed by Yamaha Corporation of America or its subsidiaries.

We Want You Listening For A Lifetime

YAMAHA and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion—and, most importantly, without affecting your sensitive hearing. Since hearing damage from loud sounds is often undetectable until it is too late, YAMAHA and the Electronic Industries Association's Consumer Electronics Group recommend you to avoid prolonged exposure from excessive volume levels.



User memo:

DATE OF PURCHASE _____

DEALER NAME _____

DEALER ADDRESS _____

TELEPHONE NUMBER _____

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

Please note them in the space provided below and keep for future reference.

MODEL NUMBER _____ **DVD-S80**

SERIAL NUMBER _____

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PRECAUTIONS

Before using this unit please read these operating instructions carefully. Take special care to follow the warnings indicated on the unit itself as well as the safety suggestions listed below. Afterwards keep them handy for future reference.

Safety


- Power Source**—The unit should be connected to a power supply only of the type described in the operating instructions or as marked on the unit. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company.
- Polarization**—If the unit is equipped with a polarized AC power plug (a plug having one blade wider than the other), that plug will fit into the AC outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
- Power Cord Protection**—AC power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Never take hold of the plug or cord if your hand is wet, and always grasp the plug body when connecting or disconnecting it.
- Overloading**—Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.
- Nonuse Periods**—When the unit is not being used, turn the power off. When left unused for a long time, the unit should be unplugged from the household AC outlet.
- Attachments**—Do not use attachments not recommended by the unit manufacturer as they may cause hazards.

Installation

Environment

- Water and Moisture**—Do not use this unit near water—for example, near a bathtub, washbowl, swimming pool, or the like. Damp basements should also be avoided.
- Condensation**—Moisture may form on the lens in the following conditions...
 - immediately after a heater has been turned on.
 - in a steamy or very humid room.
 - when the unit is suddenly moved from a cold environment to a warm one. If moisture forms inside this unit, it may not operate properly. To correct this problem, turn on the power and wait about one hour for the moisture to evaporate.
- Heat**—The unit should be situated away from heat sources such as radiators and the like. It also should not be placed in temperatures less than 5 °C (41 °F) or greater than 35 °C (95 °F).

Placement

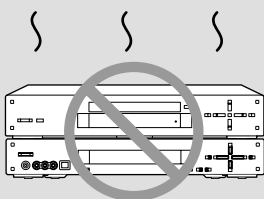
- Ventilation**—The unit should be situated so that its location or position does not interfere with its proper ventilation. Allow 10 cm (4") clearance from the rear of the unit.
- Foreign Material**—Care should be taken so that objects do not fall into and liquids are not spilled into the unit. Do not subject this unit to excessive smoke, dust, mechanical vibration, or shock.
- Carts and Stands**—The unit should be used only with a cart or stand that is recommended by the manufacturer. The unit and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the unit and cart combination to overturn. 
- Mounting**—Any mounting of the appliance should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

Maintenance

Disconnect this unit from the AC outlet before cleaning. Clean the cabinet, panel and controls with a soft cloth lightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzene.

Do not place the unit on amplifiers or equipment that may become hot.

The heat can damage the unit.



Accessories

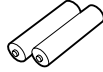


Please check and identify the supplied accessories.

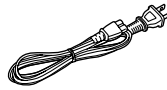
Remote control



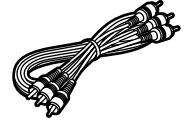
Batteries (x2)
for remote control



Power cable



Audio/Video cable



Note

The included power cable is for use with this unit only.
Do not use it with other equipment.

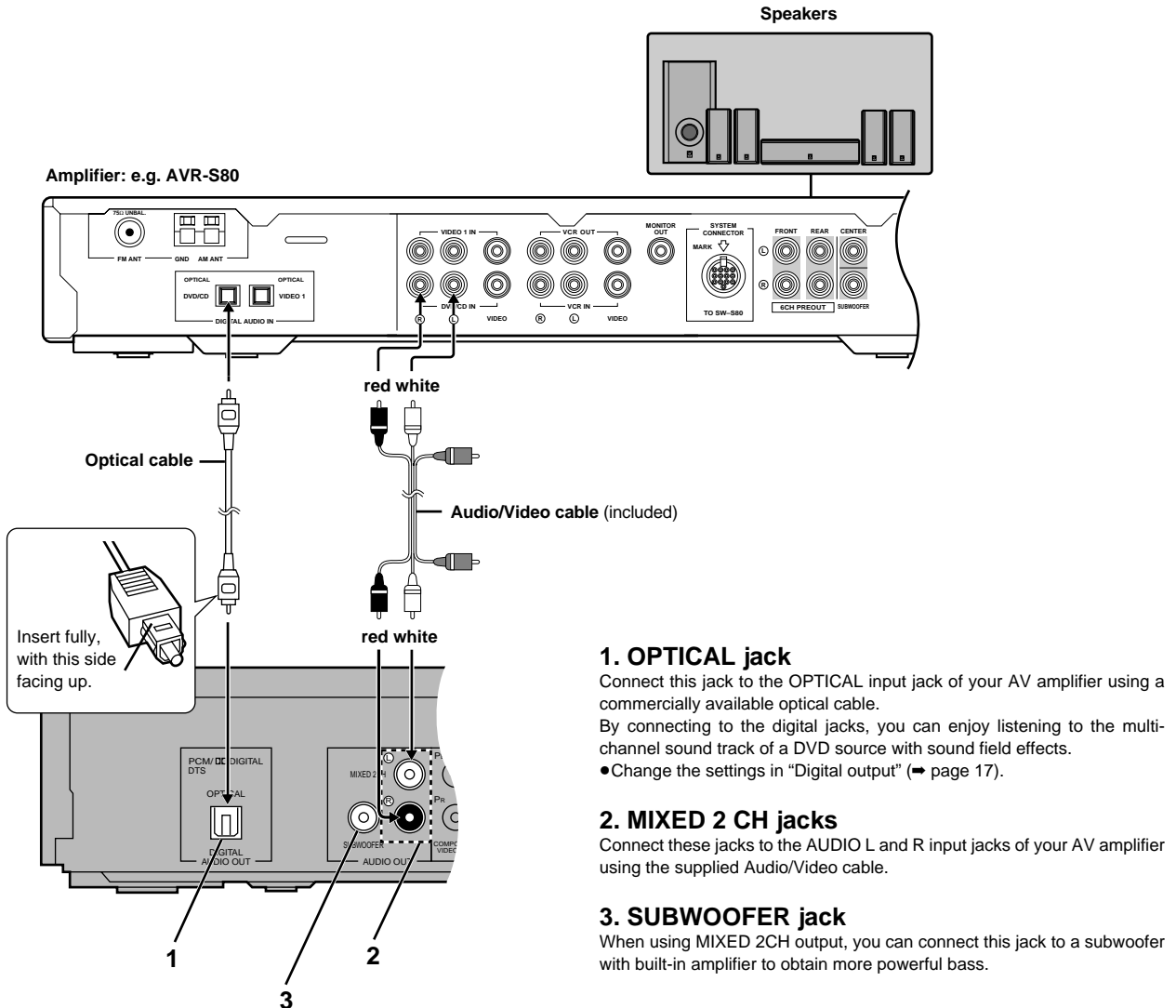
Getting started

Connection

Notes

- Never plug the power cable to a household AC outlet until all connections are complete.
- Please refer to the manuals of other equipment as necessary to make the best connections.

Audio connection



Video connection

This unit equips three types of video jacks as follows:

1. VIDEO jack

This jack transmits conventional composite video signal. Connect this jack to your AV amplifier so that you can switch the both audio and video inputs at once.

2. S VIDEO jack

This jack transmits color and luminance separately and achieves high quality color reproduction. Connect this jack to your television using a commercially available S-Video cable. If your AV amplifier equipped with S VIDEO input and output jacks, connect to the AV amplifier so that you can switch the both audio and video inputs at once.

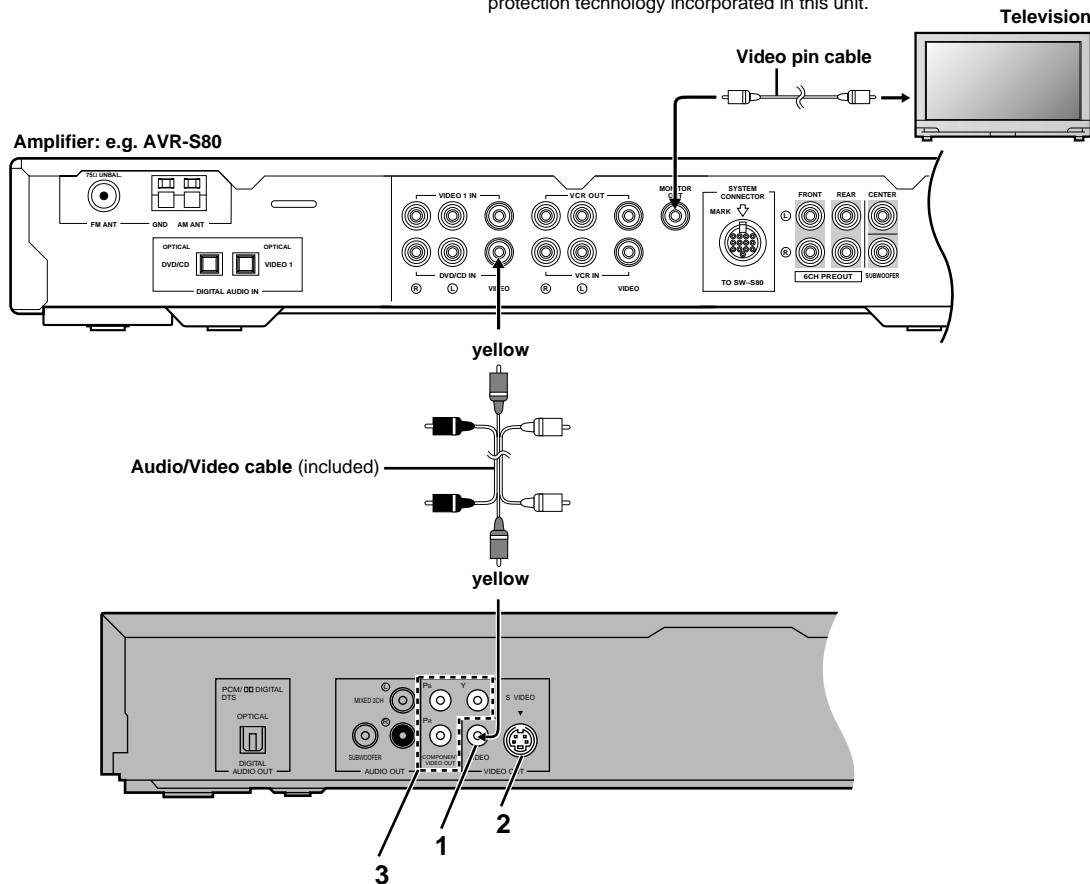
3. COMPONENT VIDEO OUT jacks

These jacks transmit color difference and luminance separately and provide the best quality picture. Connect these jacks to the corresponding jacks of your television. If your AV amplifier equipped with COMPONENT VIDEO input and output jacks, connect to the AV amplifier so that you can switch the both audio and video inputs at once.

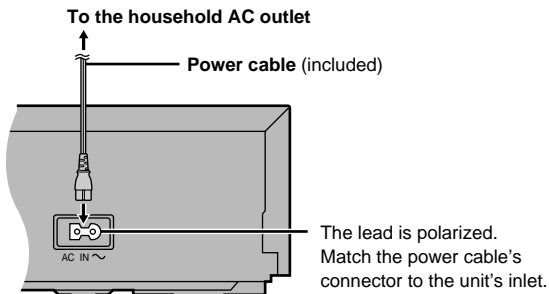
- After making this connection, change the black level for a better picture (➔ page 16, Video—Black Level Control).

Note

Do not connect this unit to a television through a video cassette recorder. If you do so, the picture may not be played back properly due to the copyright protection technology incorporated in this unit.



Connecting the power cable



Plug the power cable into the AC IN when all connections are complete, and then plug this unit to the household AC outlet.

Caution

Do not use other AC power cables than the one provided. Otherwise it may result in causing fire or an electrical shock.

To enjoy 5.1-ch surround sound

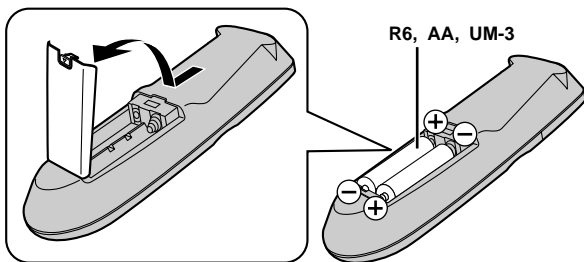
- Change the settings in "Digital output" to suit the equipment you connect (➔ page 17).

Note

You cannot use DTS Digital Surround decoders not suited to DVD.

The remote control

Batteries



- Insert so the poles (+ and -) match those in the remote control.
- Do not use rechargeable type batteries.

Do not:

- mix old and new batteries.
- use different types at the same time.
- heat or expose to flame.
- take apart or short circuit.
- attempt to recharge alkaline or manganese batteries.
- use batteries if the covering has been peeled off.

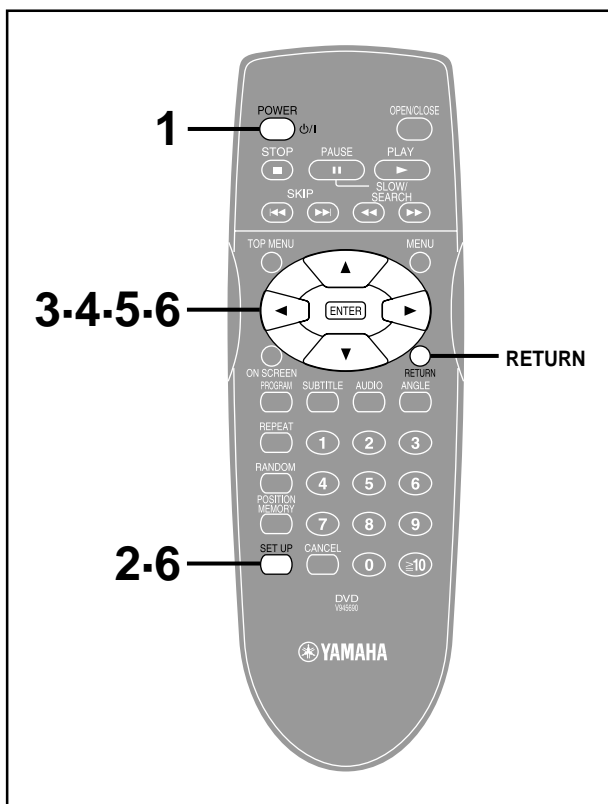
Mishandling of batteries can cause electrolyte leakage which can damage items the fluid contacts and may cause a fire.

Remove if the remote control is not going to be used for a long period of time. Store in a cool, dark place.

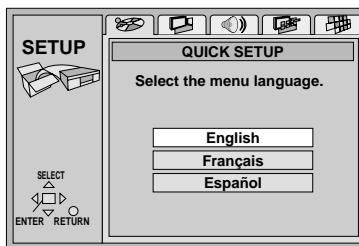
Use

Aim at the sensor, avoiding obstacles, at a maximum range of 7 m (23 feet) directly in front of the unit.

QUICK SETUP



- 1 Press [POWER $\text{\textcircled{I}}$] to turn on the unit.
- 2 Press [SET UP] to show the QUICK SETUP screen.



- 3 Press [\blacktriangle , \blacktriangledown , \blacktriangleleft , \blacktriangleright] to select the menu language and press [ENTER].
- 4 Press [\blacktriangle , \blacktriangledown] to select "Yes" to continue and press [ENTER].
- 5 Press [\blacktriangle , \blacktriangledown , \blacktriangleleft , \blacktriangleright] to select the item and press [ENTER].
 - Audio Language (For setting details \Rightarrow page 16)
 - Subtitle Language (For setting details \Rightarrow page 16)
 - TV Aspect (For setting details \Rightarrow "TV Aspect" below)
- 6 Press [ENTER] and then [SET UP] to end the settings.

Remote control only

The **QUICK SETUP** screen appears when you press [SET UP] the first time after purchase and assists you to make necessary settings. You can access this screen again later if you need to (\Rightarrow page 16, Others—QUICK SETUP).

Preparation

Turn on the television and select the appropriate video input on the television to suit the connections for the player.

To return to the previous screen

Press [RETURN].

TV Aspect

Select "4:3" (regular) or "16:9" (widescreen) to suit your television.

If you have a regular 4:3 television, you can also select how video on some discs is shown (\Rightarrow page 16, Video—TV Aspect).

• 4:3 Pan&Scan (Factory preset)

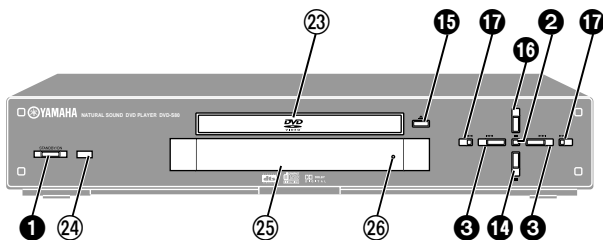
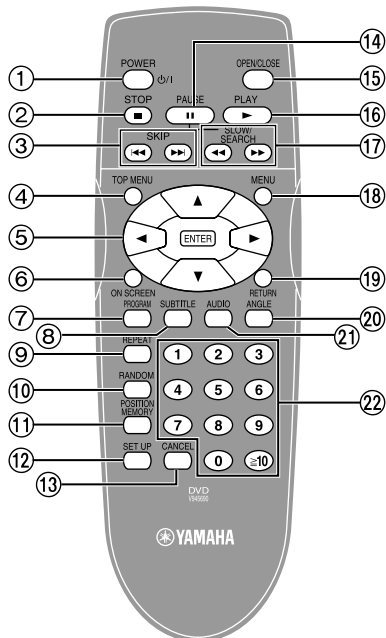
The pan and scan (the original widescreen images are converted for viewing on a regular television) version of the video is automatically selected if recorded on the disc.



• 4:3 Letterbox

The letterbox (the original widescreen images appear with black bands above and below) version of the video is automatically selected if recorded on the disc.





Buttons such as ❶ function the same as the controls on the remote control.

- ❶ Standby/on switch (POWER \odot/I) 6
Press to switch the unit from on to standby mode or vice versa.
In standby mode, the unit is still consuming a small amount of power.
- ❷ Stop button (■ STOP) 8
- ❸ Skip buttons (◀◀, ▶▶) SKIP 9
- ❹ Top menu button (TOP MENU) 8, 11
- ❺ Cursor buttons (▲, ▼, ◀, ▶)/Enter button (ENTER) 6, 8
- ❻ Display button (ON SCREEN) 13
- ❼ Program button (PROGRAM) 10
- ❽ Subtitle button (SUBTITLE) 8, 12
- ❾ Repeat button (REPEAT) 10
- ❿ Random play button (RANDOM) 11
- ⓫ Position memory button (POSITION MEMORY) 9
- ⓬ Setup button (SET UP) 6, 17
- ⓭ Cancel button (CANCEL) 10
- ⓮ Pause button (|| PAUSE) 8
- ⓯ Open/Close button (OPEN/CLOSE) 8
- ⓰ Play button (▶ PLAY) 8
- ⓱ Slow/Search buttons (◀◀, ▶▶) SLOW/SEARCH 9
- ⓲ Menu button (MENU) 8, 11
- ⓳ Return button (RETURN) 6
- ⓴ Angle button (ANGLE) 12
- ⓵ Audio button (AUDIO) 12
- ⓶ Numbered buttons (1–9, 0, \cong 10) 8
- ⓷ Disc tray 8
- ⓸ Remote control signal sensor
- ⓹ Display
- ⓺ Standby indicator
When the unit is connected to the household AC outlet, this indicator lights up in standby mode and goes out when the unit is turned on.

Operations in these instructions are described mainly with the remote control, but you can do the operations on the main unit if the controls are the same.

Disc information

Discs that can be played

DVD-Video	DVD-R	Audio CD	Video CD
Indication used in instructions			
DVD-V		CD*	VCD

*Including CD-R/RW and discs recorded with MP3.
Do not use irregularly shaped discs (e.g. heart-shaped), as these can damage the unit.

Region number supported by this player

Region numbers are allocated to DVD players and software according to where they are sold.

- The region number of this player is "1".
- The player will play DVD-Video marked with labels containing "1" or "ALL".

Example:



Discs that cannot be played

DVD-Audio, PAL discs, DVD-ROM, DVD-RAM, CD-ROM, CDV, CD-G, +RW, DVD-RW, CVD, SVCD, SACD, Divx Video Discs and Photo CD.

DVDs that can be played

This unit has a Dolby Digital decoder so you can play DVDs with this mark.

This unit does not have a DTS decoder. Connect this unit to equipment that has a DTS decoder to enjoy DVDs with this mark.



Playing DVDs and Video CDs

The producer of these discs can control how they are played so you may not always be able to control play as described in these operating instructions. Read the disc's instructions carefully.

CD-R and CD-RW discs

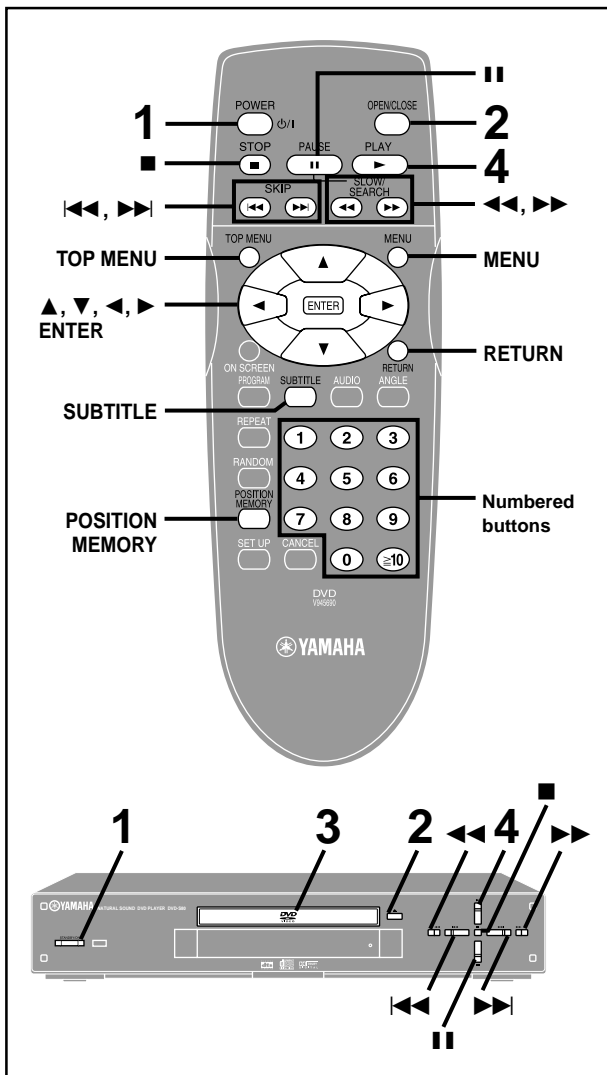
This unit can play CD-DA (digital audio) and video CD format audio CD-R and CD-RW that have been finalized (a process that enables CD-R/CD-RW players to play audio CD-R and CD-RW) upon completion of recording. It may not be able to play some CD-R or CD-RW due to the condition of the recording.

DVD-R discs

It may not be possible to play these discs in all cases due to the type of disc or condition of the recording.

Handling precautions

- Do not write on the label side with a ball-point pen or other writing instrument.
- Do not use record cleaning sprays, benzine, thinner, static electricity prevention liquids or any other solvent.
- Do not attach labels or stickers to discs. (Do not use discs with exposed adhesive from tape or left over peeled-off stickers.)
- Do not use scratch-proof protectors or covers.
- Do not use discs printed with label printers available on the market.



To stop play

Press [■] (→ page 9, Resume function).

To pause play

Press [⏸] during play.

Press [▶] (PLAY) to restart play.

■ Auto standby

The unit switches to standby mode after about 30 minutes in the stop mode.

Notes

● If "⊙" appears on the television

The operation is prohibited by the unit or disc.

● The disc continues to rotate while the menu is displayed even after you finish playing an item. Press [■] when you finish to preserve the unit's motor and your television screen.

● Volume may be lower when playing DVDs than when playing other discs or during television broadcasts.

If you turn the volume up on the television or amplifier, be sure to reduce the volume again before playing other sources so that a sudden increase in output does not occur.

When a menu screen appears on the television

DVD-V VCD

Remote control only

Press the numbered buttons to select an item.

To select a 2-digit number

Example: To select item 23, press [≧10] → [2] → [3].

● When playing DVDs, you can also use [▲, ▼, ◀, ▶] to select items. Press [ENTER] to confirm your selection.

Play of the selected item now begins.

Other buttons used to operate menus

Read the disc's instructions for further details about operation.

[▶▶]: Shows the next menu.

[◀◀]: Shows the previous menu.

[RETURN]: Shows the menu screen. VCD

[TOP MENU]: Shows the first menu screen. DVD-V

[MENU]: Shows the menu screen. DVD-V

Starting play from a selected title or track

DVD-V CD VCD

Remote control only

Press the numbered buttons to select the item.

To select a 2-digit number

Example: To select track 23, press [≧10] → [2] → [3].

CD (MP3 discs)

Press [ENTER] after pressing the numbered buttons.

(You do not have to press [≧10].)

Play starts from the selected item.

Note

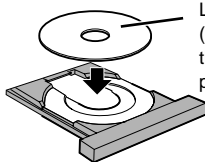
This works only when stopped with some discs.

DVD-V CD VCD

Preparation

Turn on the television and select the appropriate video input on the television to suit the connections for the player.

- 1 Press [POWER ⏻/⏻] to turn on the unit.
- 2 Press [OPEN/CLOSE] to open the disc tray.
- 3 Place the disc on the disc tray.



Label must face upward.
(With double-sided discs, load so the label for the side you want to play is facing up.)

- 4 Press [▶] (PLAY).

The disc tray closes and play begins.

CD (MP3 discs)

Group and track names are displayed on the television.

Press [SUBTITLE] to turn the display on or off.

Skipping chapters or tracks

DVD-V CD VCD

During play or while paused
Press [**⏮**] or [**⏭**].

- Each press increases the number of skips.

Fast forward and rewind—SEARCH

DVD-V CD VCD

During play
Press [**⏮**] or [**⏭**].

- Audio will be heard during search. You can turn this audio off if you want to (➔ page 16, Audio—Audio during Search).

Slow-motion play

DVD-V VCD

While paused
Press [**⏮**] or [**⏭**].

Frame-by-frame viewing

DVD-V VCD

Remote control only

While paused
Press [**⏮**] or [**⏭**].

The frame changes each time you press the button.

- The frames change in succession if you press and hold the button.
- Pressing [**⏮**] also activates forward frame-by-frame.

Notes

- The speed of search and slow-motion increases up to 5 steps.
- Press [**▶**] (PLAY) to restart play.
- You cannot move backwards with Video CD during slow-motion and frame-by-frame.

When playing Video CDs with playback control

Pressing buttons to perform skip, search or slow-motion may take you to a menu screen.

Resume function

DVD-V CD VCD

(When the elapsed play time is displayed)

The position you stopped play at is recorded by the unit when “▷” is flashing on the display.



While “▷” is flashing, press [**▶**] (PLAY) to start play from where you stopped it. (When playing DVD ➔ Chapter Preview below)

- The position is cleared when the disc tray is opened or the unit is switched to standby.
- Press [**■**] to clear the position.

Position Memory function

Remote control only

This function allows you to memorize a position to start from even after switching the unit to standby or changing discs.

1. During play, press [POSITION MEMORY].
2. Press [POWER ⏻/⏼] to switch the unit to standby, or press [OPEN/CLOSE] to remove the disc.
3. When you are ready to play the disc again, press [**▶**] (PLAY). Play starts from the memorized position and the position is cleared. (When playing DVD ➔ Chapter Preview below)

Position memorized

To clear the position before play

Press [**■**] before recalling the memorized position.

- You can memorize positions on up to five different discs at a time. When you memorize another position, the earliest position is replaced.

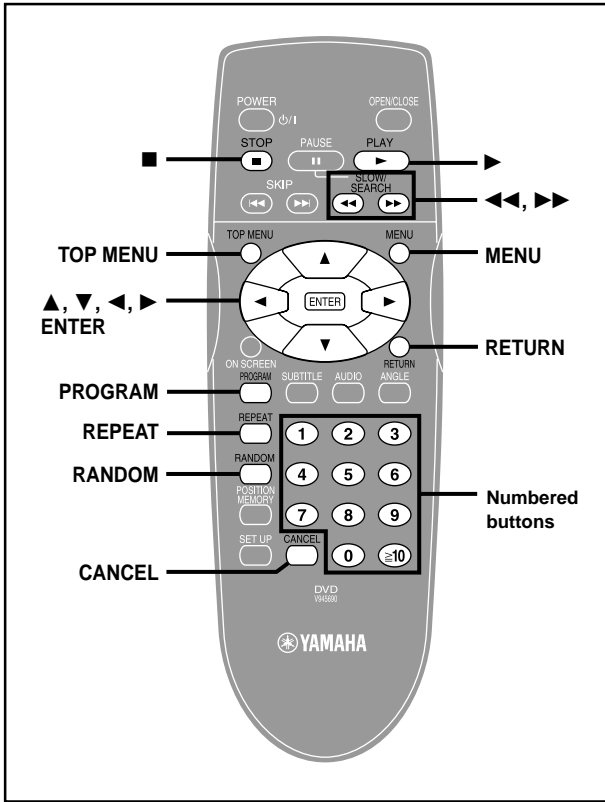
Chapter Preview DVD-V

The following message appears immediately after you press [**▶**] (PLAY).

Press PLAY to Preview Chapters

Press [**▶**] (PLAY) while the message is displayed and the beginning portions of each chapter up to the current one are played. Full play resumes from the point where you pressed [**■**] or [POSITION MEMORY]. (This feature works only within a title.)

If you do not press [**▶**] (PLAY), the message disappears and play starts from where you pressed [**■**] or [POSITION MEMORY].



DVD-V **CD** **VCD**

(When the elapsed play time is displayed)

Repeat play

Remote control only

During play

Press **[REPEAT]**.

Each time you press the button:

DVD-V

Chapter (C) → Title (T)* → OFF

CD **VCD**

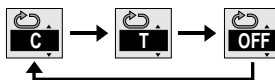
Track (T) → Entire disc (A) → OFF

CD (MP3 discs)

Track (T) → Group (G)* → OFF

*"All (A)" during program and random play.

e.g. DVD-Video



If the Video CD has playback control

1. Press **[■]** during play until "PBC PLAY" is cleared from the display.
2. Press the numbered buttons to select a track to start play (⇒ page 8).
3. Press **[REPEAT]** (⇒ above).

Note

You cannot use repeat play to repeat an entire DVD or an entire MP3 disc.

■ To repeat only your favorite tracks

Start program play (see right) and press **[REPEAT]** to display "A".

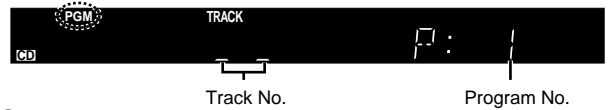
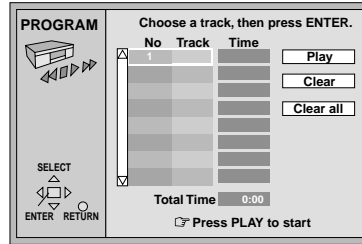
Program play

Remote control only

You can select up to 32 tracks/chapters to play in the order you choose.

While stopped

- 1 Press **[PROGRAM]**.
e.g. CD



- 2 **DVD-Video, MP3 discs only**

Press the numbered buttons to select a title (DVD-Video) or group (MP3 discs).

- Some items cannot be selected.
- Different titles have different soundtracks and subtitles.

- 3 Press the numbered buttons to select a track (CD or VCD) or chapter (DVD-Video) (and, for MP3 discs press **[ENTER]**).

- Repeat steps 2 and 3 to program other items.
- To select an item using the cursor buttons
Press **[ENTER]** and **[▲, ▼]** to select an item, then press **[ENTER]** again to register the number.
All the items on a disc, a title or a group are selected when you select "ALL".
- Times are not displayed when programming DVD-Video and MP3.

- 4 Press **[▶]** (PLAY).

Play now begins in the programmed sequence.

- Some items cannot be played even if you program them. **DVD-V**

To add or change items

Press **[▲, ▼]** to select an available item, then repeat steps 2 and 3.

To move to the page before or after the one shown

Press **[◀▶]** or **[▶▶]**.

To clear the programmed items one by one

Press **[▲, ▼]** to select the item number (No) and press **[CANCEL]**. (Alternatively, you can select "Clear" with **[▲, ▼, ◀, ▶]** and press **[ENTER]**.)

To clear the whole program

Move to "Clear all" with **[▲, ▼, ◀, ▶]** and press **[ENTER]**. The whole program is also cleared when the unit is turned off or the disc tray is opened.

To exit the program mode

Press **[PROGRAM]** while stopped. (The program is retained in memory.)

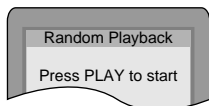
Random play

DVD-V CD VCD

Remote control only

While stopped

- 1 Press [RANDOM].



- 2 Press the numbered buttons to select a title (DVD-Video only) and press [▶] (PLAY).

•Some titles cannot be selected. **DVD-V**
Play now begins in random order.

To exit the random mode

Press [RANDOM] while stopped.

Using menus to play MP3 discs

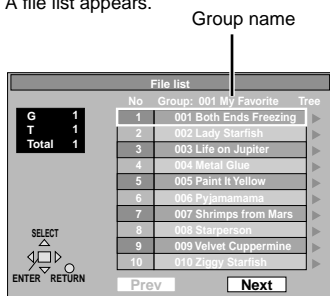
CD (MP3 discs)

Remote control only

This unit can play MP3 files recorded on CD-R/RW with a computer. Files are treated as tracks and folders are treated as groups.

- 1 Press [TOP MENU] or [MENU].

A file list appears.



- 2 Press [▲, ▼] to select the track and press [ENTER].

Play starts and continues to the last track in the last group.

"☐" indicates the track currently playing.

To show other pages

Press [▲, ▼, ◀, ▶] to select "Prev" or "Next" and press [ENTER].

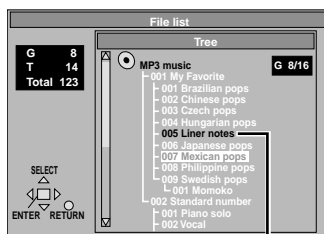
After listing all the tracks in one group, the list for the next group appears.

To close the file list screen

Press [TOP MENU] or [MENU].

Using the tree screen to find a group

- 1 Press [▶] while a track is highlighted to display the tree screen.



You cannot select groups that contain no compatible files.

- 2 Press [▲, ▼] to select a group and press [ENTER].

The file list for the group appears.

For your reference

Press [◀, ▶] to jump layers in the tree screen.

To return to the file list screen

Press [RETURN].

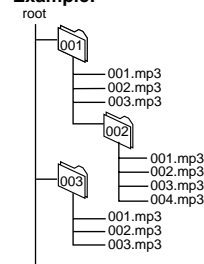
Notes

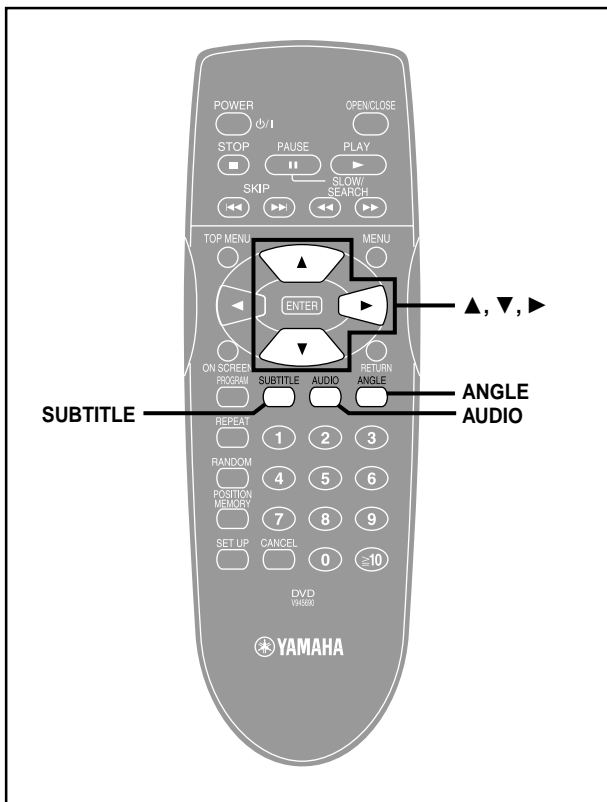
- Discs must conform to ISO9660 level 1 or 2 (except for extended formats). MP3 files must have the extension ".MP3" or ".mp3".
- This unit is compatible with multi-session but if there are a lot of sessions it takes more time for play to start. Keep the number of sessions to a minimum to avoid this.
- This unit is not compatible with ID3 tags.
- This unit is not compatible with files with a sampling rate of 32 kHz.

Naming folders and files

At the time of recording, prefix folder and file names with 3-digit numbers in the order you want to play them (this may not work at times).

Example:





DVD-V

Remote control only

Some DVDs have multiple soundtracks, subtitle languages and camera angles, and you can change these during play.

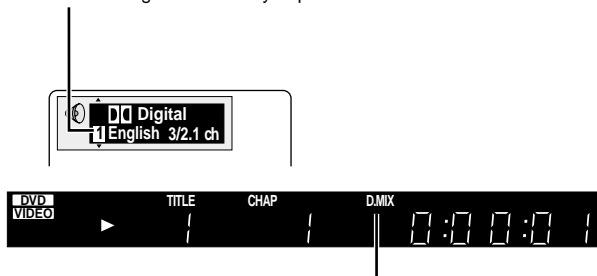
- “—” or “—” is displayed instead of the language number in circumstances such as when no languages is recorded on the disc.

Soundtracks

During play

Press [AUDIO].

The number changes each time you press the button.



“D.MIX” indicates that a multi-channel soundtrack can be down-mixed to two channels.

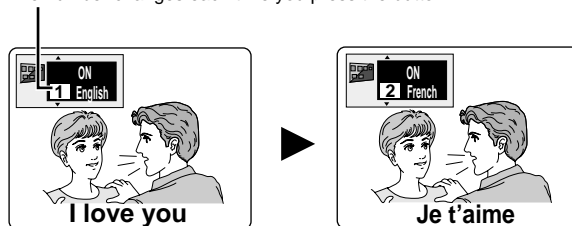
- You can also use this button to turn the vocals on and off on karaoke discs. Read the disc's instruction for details.
- Refer to **B** on page 15 for audio signal type details.

Subtitles

During play

Press [SUBTITLE].

The number changes each time you press the button.



- In some cases, the subtitle language is not changed to the selected one immediately.
- If the subtitles overlap closed captions recorded on discs, turn the subtitles off.

To clear/display the subtitles

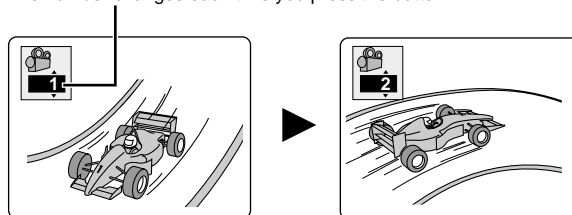
1. Press [SUBTITLE].
2. Press [▶].
3. Press [▲, ▼] to select “OFF” or “ON”.

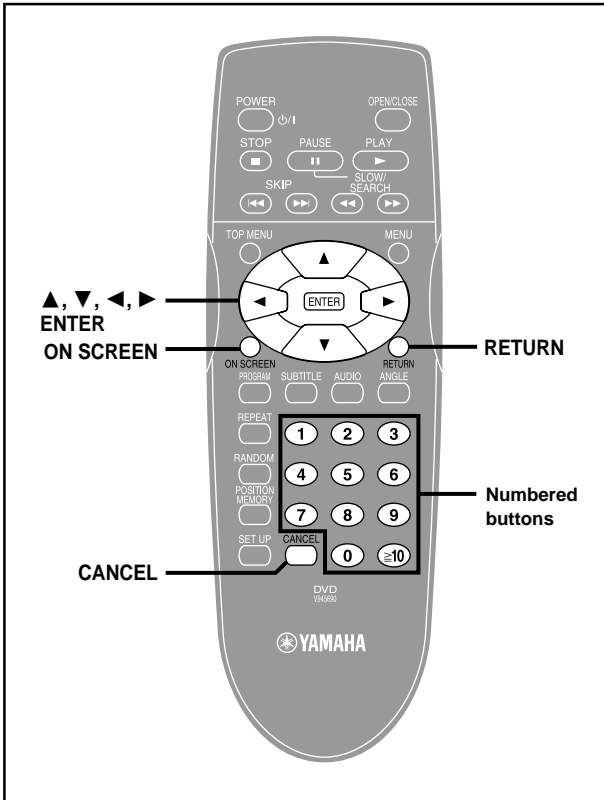
Angles

During play

Press [ANGLE].

The number changes each time you press the button.





On-Screen Menu Icons are menus that contain information about the disc or unit. These menus allow you to perform operations by changing this information.

Common procedures

DVD-V CD VCD

Remote control only

1 Press [ON SCREEN].

Each time you press the button:

Disc information

Original display ← Unit information (⇒ step 2)

2 **Unit information only**

While the leftmost icon is highlighted

Press [▲, ▼] to select the menu.

Each time you press the button:

Play menu ↔ Video menu

Display menu ↔ Audio menu

3 Press [◀, ▶] to select the item.

4 Press [▲, ▼] to select the setting.

- Items with "▲" or "▼" above and below can be changed by [▲, ▼].
- Press [ENTER] if the setting does not change after pressing [▲, ▼].
- Some items require different operations. Read the following explanations.

For your reference

- Depending on the condition of the unit (playing, stopped, etc.) and the type of software you are playing, there are some items that you cannot select or change.
- When numbers are displayed (e.g. title No.), the numbered buttons are also effective for setting. After entering numbers, press [ENTER] to register the setting.

To clear the icons

Press [RETURN] until the menus disappear.

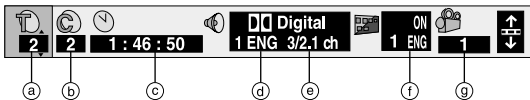
■ To change the position of the icons

1. Press [◀, ▶] to select the rightmost icon.
2. Press [▲, ▼] to move the icons.
(There are 5 positions.)

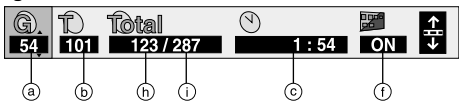


Disc information

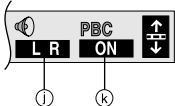
e.g. DVD-Video



e.g. MP3 disc



e.g. Video CD



- a) **T: Title number** **DVD-V**
- T: Track number** **CD** **VCD**
- G: Group number** **CD** (MP3 discs)
- b) **C: Chapter number** **DVD-V**
- T: Track number in group** **CD** (MP3 discs)
- c) **Time** **DVD-V**

- Press [▲, ▼] to show the elapsed play time or remaining time for the title (or chapter during program and random play).
- Select a position to start play by specifying a time with the numbered buttons and press [ENTER].

Changing the time display **CD** **VCD**

Press [▲, ▼] to show the elapsed play time, remaining time for the track, or remaining time for the disc.

Elapsed play time **CD** (MP3 discs)

(display only, cannot be changed)

- d) **Soundtrack language** **DVD-V** (→ page 12)

(See **A** on page 15 for language abbreviations.)

- e) **Audio signal type** **DVD-V**

(See **B** on page 15 for details.)

Karaoke vocal on/off (Karaoke DVD only) **DVD-V**

Solo: OFF or ON

Duet: OFF, V1+V2, V1 or V2

- f) **Subtitle language** **DVD-V** (→ page 12)

(See **A** on page 15 for language abbreviations.)

Subtitles on/off **DVD-V**

ON ↔ OFF

Group/Track name display on/off **CD** (MP3 discs)

ON ↔ OFF

- g) **Angle number** **DVD-V** (→ page 12)

- h) **Track number in disc** **CD** (MP3 discs)

- i) **Total number of tracks on disc** **CD** (MP3 discs)

- j) **Audio mode** **VCD**

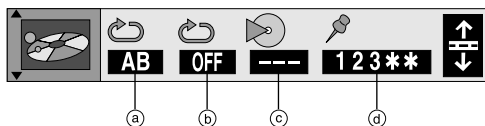
LR ↔ L ↔ R

- k) **Playback control** **VCD**

Indicates whether playback control is on or off.

Unit information

Play menu



- a) **A-B repeat** **DVD-V** **CD** **VCD**

You can repeat a section between points A and B within a title or track.
[ENTER] (start point) → [ENTER] (finish point)

To cancel: [ENTER]

- Some subtitles recorded around point A or B may fail to appear.

DVD-V

- The unit automatically determines the end of a title/track as point B when the end of the title/track is reached.

- b) **Repeat play** (→ page 10)

DVD-V **CD** (MP3 discs)

Chapter (C) ↔ Title (T)* Track (T) ↔ Group (G)*

↑ OFF ↓

CD **VCD**

Track (T) ↔ Entire disc (A)

↑ OFF ↓

*"All (A)" during program and random play.

- c) **Play mode display** **DVD-V** **CD** **VCD**

---: Normal play PGM: Program play RND: Random play

- d) **Marker** **DVD-V** **CD** **VCD**

You can mark up to 5 positions to play again.

[ENTER] (The unit is now ready to accept markers.)

To mark a position: [ENTER] (at the desired point)

To mark another position: [◀, ▶] → [ENTER]

To recall a marker: [◀, ▶] → [ENTER]

To erase a marker: [◀, ▶] → [CANCEL]

Video menu



Cinema image **DVD-V** **VCD**

You can change the picture quality for movie viewing.

→ **Nor.:** Normal mode (Factory preset)



Cin.1: Mellows images and enhances detail in dark scenes

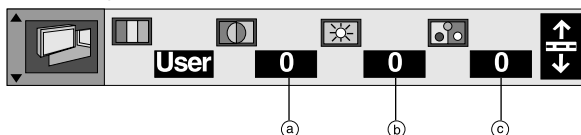


Cin.2: Sharpens images and enhances detail in dark scenes



→ **User:** User mode

The following items are also displayed when you select "User".

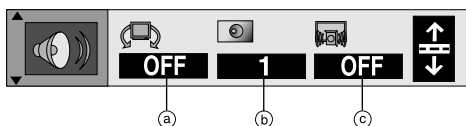


- a) **Contrast** (−7 to +7)

- b) **Brightness** (0 to +15)

- c) **Color** (−7 to +7)

Audio menu



a) **ADVANCED SURROUND** **DVD-V** (Dolby Digital, 2-channel or over only)

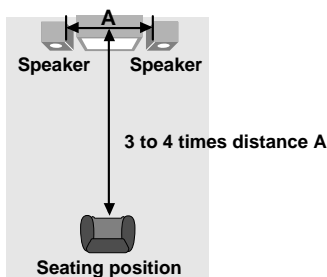
Use **ADVANCED SURROUND** Virtual Surround Sound to enjoy a surround-like effect if you are using 2 front speakers. If you are playing a disc with surround effects recorded on it, the effect is broadened and sound seems to come from virtual speakers on either side.

- **1**: Natural effect
- ↕
- **2**: Emphasized effect
- ↕
- **OFF**: Cancel (Factory preset)

Optimum seating position

<When using the television's speakers>

Distance A =
Television's width



- Turn **ADVANCED SURROUND** off when using Dolby Pro Logic. Dolby Pro Logic will not work correctly if it is on.
- **ADVANCED SURROUND** will not work, or will have less effect with some discs.
- Turn off the surround sound effects on the equipment you have connected when using this effect.
- Turn **ADVANCED SURROUND** off if it causes distortion.

b) **BASS EXTENSION** **DVD-V** **CD** **VCD**

Turn **BASS EXTENSION** on when you have connected an active subwoofer to the **SUBWOOFER** terminal on the rear of the unit (→ page 4).

- **OFF** (Factory preset)
- ↕
- **1**: Natural bass effect
- ↕
- **2**: Emphasized bass effect

- Turn **BASS EXTENSION** off when using Dolby Pro Logic. Dolby Pro Logic will not work correctly if it is on.

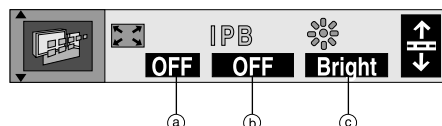
c) **CINEMA DIALOGUE** **DVD-V** (Dolby Digital, 3-channel or over, where the dialogue is recorded in the center channel)

This mode makes the dialogue in movies easier to hear.

ON ↔ OFF (Factory preset)

- **CINEMA DIALOGUE** will not work, or will have less effect with some discs.

Display menu



a) **4:3 TV ZOOM** **DVD-V**

ON ↔ OFF

Expand a letterbox picture (→ page 6) to fill more of a regular 4:3 aspect television (The sides of the picture are cut off when you select ON).

- **4:3 TV ZOOM** is cleared when you open the disc tray or switch the unit to standby.

- Depending on the video format of the disc and current play status, this feature may not work as described.

- Menus may act or appear differently while **4:3 TV ZOOM** is on.

b) **IPB display** **DVD-V** (→ page 19, Glossary)

ON ↔ OFF

Displays the picture type (I/P/B) in the still picture mode.

c) **Display dimmer** **DVD-V** **CD** **VCD**

Changes the brightness of the unit's display.

Bright ↔ Dim ↔ Auto* (**DVD-V** **VCD**)

- *The display is dimmed during play, but brightens when you perform operations such as slow-motion, search, and pause.

A Audio/Subtitle language

ENG: English	SVE: Swedish	CHI: Chinese
FRA: French	NOR: Norwegian	KOR: Korean
DEU: German	DAN: Danish	MAL: Malay
ITA: Italian	POR: Portuguese	VIE: Vietnamese
ESP: Spanish	RUS: Russian	THA: Thai
NLD: Dutch	JPN: Japanese	*: Others

B Signal type/data

LPCM/□□Digital/DTS/MPEG: Signal type

k (kHz): Sampling frequency

b (bit): Number of bits

ch (channel): Number of channels

Example: 3/2 .1ch

├ L: 1: Subwoofer signal (not displayed if there is no subwoofer signal)

├ 0: No surround

├ 1: Mono surround

├ 2: Stereo surround (left/right)






├ 1: Center

├ 2: Front left+Front right

├ 3: Front left+Front right+Center

Changing settings

This chart shows the settings for this unit. Change the settings to suit your preferences and to suit the unit to the environment in which it is being used. These settings are retained in memory until they are changed, even if the unit is turned off. See page 17 for details on menu operation.

Menus	Items	Options (Underlined items are the factory preset.)
	Audio <u>DVD-V</u> Choose the preferred audio language.	<u>English</u> French Spanish Original ^{#1} Other **** ^{#2}
	Subtitle <u>DVD-V</u> Choose the preferred subtitle language.	<u>Automatic</u> ^{#3} English French Spanish Other **** ^{#2}
	Menus <u>DVD-V</u> Choose the preferred language for disc menus.	<u>English</u> French Spanish Other **** ^{#2}
	Ratings <u>DVD-V</u> Set a ratings level to limit DVD-Video play. • The password screen is shown if you choose levels 0 to 7 or if you choose "Ratings" when levels 0 to 7 have been selected (⇒ page 17). • Select "Level 0" to prevent play of discs that do not have ratings levels recorded on them.	Setting ratings (When level 8 is selected) 8 <u>No Limit</u> 1 to 7 ^{#4} 0 Lock All <hr/> Changing ratings (When level 0–7 is selected) Unlock Player Change Password Change Level Temporary Unlock
	TV Aspect (⇒ page 6) Choose the setting to suit your television and preference.	<u>4:3 Pan&Scan</u> 4:3 Letterbox 16:9
	Still Mode (⇒ page 19, Glossary) Specify the type of picture shown when paused.	<u>Automatic</u> Field Frame
	Black Level Control Change the black level of the picture if you connected a television through the COMPONENT VIDEO OUT terminals.	<u>Lighter</u> : when connected to a TV through the VIDEO OUT or S VIDEO OUT terminal. Darker: when connected to a TV through the COMPONENT VIDEO OUT (Y/P _B /P _R) terminals.
	PCM Down Conversion <u>DVD-V</u> (⇒ page 17)	<u>No</u> Yes
	Dolby Digital <u>DVD-V</u> (⇒ page 17)	<u>Bitstream</u> PCM
	DTS Digital Surround <u>DVD-V</u> (⇒ page 17)	<u>Off</u> <u>Bitstream</u>
	D. Range Compression <u>DVD-V</u> Dolby Digital only (⇒ page 19, Glossary) Change the dynamic range for late night viewing.	<u>Off</u> On
	Audio during Search Choose whether to have sound during search.	<u>On</u> Off
	Menu Language Choose the preferred language for these menus and the on-screen messages.	<u>English</u> Français Español
	On-Screen Messages Choose whether to show on-screen messages or not.	<u>On</u> Off
	Demo A demonstration of the unit's on-screen displays starts when you select "On". The demonstration stops when you press a button and the setting reverts to "Off".	<u>Off</u> On
	QUICK SETUP (⇒ page 6) Answer questions to make basic settings.	Yes <u>No</u>

^{#1} The original language of each disc will be selected.

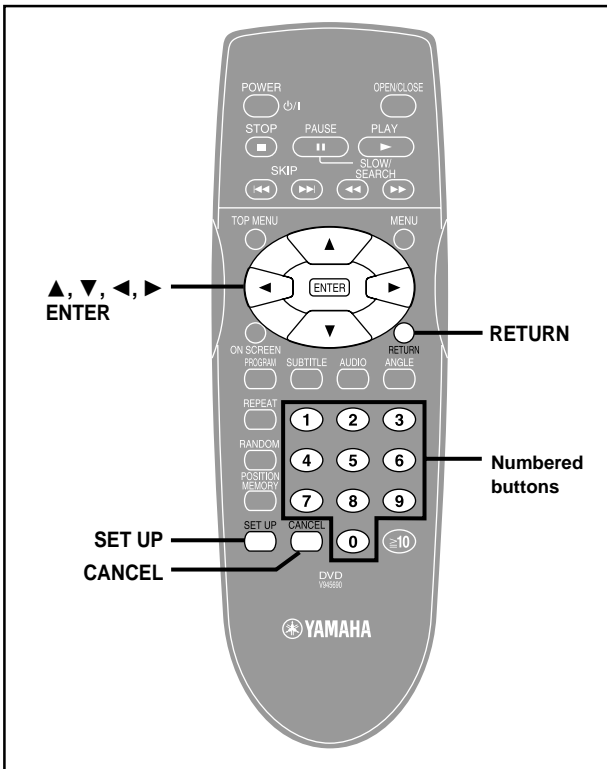
^{#2} Input a code number with the numbered buttons (see below).

^{#3} If the language selected for "Audio" is not available, subtitles of that language will automatically appear if available on that disc.

^{#4} Prohibits play of DVD-Video with corresponding ratings recorded on them.

Language code list

Abkhazian: 6566	Byelorussian: 6669	Georgian: 7565	Kashmiri: 7583	Mongolian: 7778	Serbo-Croatian: 8372	Tigrinya: 8473
Afar: 6565	Cambodian: 7577	German: 6869	Kazakh: 7575	Nauru: 7865	Shona: 8378	Tonga: 8479
Afrikaans: 6570	Catalan: 6765	Greek: 6976	Kirghiz: 7589	Nepali: 7869	Sindhi: 8368	Turkish: 8482
Albanian: 8381	Chinese: 9072	Greenlandic: 7576	Korean: 7579	Norwegian: 7879	Singhalese: 8373	Turkmen: 8475
Ameharic: 6577	Corsican: 6779	Guarani: 7178	Kurdish: 7585	Oriya: 7982	Slovak: 8375	Twi: 8487
Arabic: 6582	Croatian: 7282	Gujarati: 7185	Laotian: 7679	Pashto, Pushto: 8083	Slovenian: 8376	Ukrainian: 8575
Armenian: 7289	Czech: 6783	Hausa: 7265	Latin: 7665	Persian: 7065	Somali: 8379	Urdu: 8582
Assamese: 6583	Danish: 6865	Hebrew: 7387	Lithuanian, Lettish: 7686	Polish: 8076	Spanish: 6983	Uzbek: 8590
Aymara: 6588	Dutch: 7876	Hindi: 7273	Lingala: 7678	Portuguese: 8084	Sundanese: 8385	Vietnamese: 8673
Azerbaijani: 6590	English: 6978	Hungarian: 7285	Lithuanian: 7684	Punjabi: 8065	Swahili: 8387	Volapük: 8679
Bashkir: 6665	Esperanto: 6979	Icelandic: 7383	Macedonian: 7775	Quechua: 8185	Swedish: 8386	Welsh: 6789
Basque: 6985	Estonian: 6984	Indonesian: 7378	Malagasy: 7771	Rhaeto-Romance: 8277	Tagalog: 8476	Wolof: 8779
Bengali, Bangla: 6678	Faroese: 7079	Interlingua: 7365	Malay: 7783	Romanian: 8279	Tajik: 8471	Xhosa: 8872
Bhutani: 6890	Fiji: 7074	Irish: 7165	Malayalam: 7776	Russian: 8285	Tamil: 8465	Yiddish: 7473
Bihari: 6672	Finnish: 7073	Italian: 7384	Maltese: 7784	Samoan: 8377	Tatar: 8484	Yoruba: 8979
Breton: 6682	French: 7082	Japanese: 7465	Maori: 7773	Sanskrit: 8365	Telugu: 8469	Zulu: 9085
Bulgarian: 6671	Frisian: 7089	Javanese: 7487	Marathi: 7782	Scots Gaelic: 7168	Thai: 8472	
Burmese: 7789	Galician: 7176	Kannada: 7578	Moldavian: 7779	Serbian: 8382	Tibetan: 6679	



Entering a password (Ratings)

DVD-V

The password screen is shown when you select levels 0 to 7.

1. Input a 4-digit password with the numbered buttons and press [ENTER].
 - If you enter a wrong number, press [CANCEL] to erase it before you press [ENTER].
 - The lock symbol appears closed to show the rating is locked.
 - **Do not forget your password.**
2. Press [ENTER] to confirm the 4 digits.

Now, when you insert a DVD-Video that exceeds the ratings limit you set, a message appears on the television. Follow the on-screen instructions.

Digital output

DVD-V

Change the settings when you have connected equipment through this unit's DIGITAL AUDIO OUT terminal (OPTICAL).

PCM Down Conversion

Select how to output audio with a sampling frequency of 96 kHz.

Select "Yes" if the equipment you connect cannot process signals with a sampling frequency of 96 kHz.

- Select "No" if you use analogue connection, irrespective of the type of equipment.

No (Factory preset):

Output as 96 kHz. There is no output if the disc has copy protection. Select "Yes" in this case.

Yes:

Converted to 48 kHz for output.

Dolby Digital and DTS Digital Surround

Bitstream: (Factory preset for Dolby Digital and DTS Digital Surround)

Select if the equipment you connected can decode the signal.

PCM:

Select if the equipment you connected cannot decode the signal.

Off:

Select if the equipment you connected cannot decode the signal.

IMPORTANT

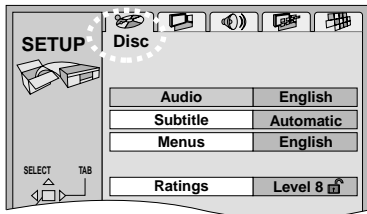
If the equipment you connected cannot decode the signal, the setting must be changed to PCM or Off. If not, signals the equipment cannot process will be output by this unit, causing high levels of noise which can damage your hearing and the speakers.

Common procedures

Remote control only

See page 16 for menu and option details.

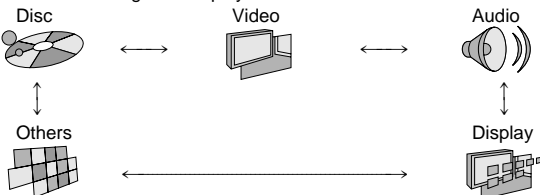
1 Press [SET UP] to show the menus.



- The QUICK SETUP screen appears when you press [SET UP] the first time after purchase (→ page 6).

2 Press [◀, ▶] to select the menu's tab.

The screen changes to display the menu.



3 Press [▲, ▼] to select the item you want to change and press [ENTER].

4 Press [▲, ▼, ▶, ▶] to select the option and press [ENTER].

The screen now shows the menu again.

To return to the previous screen

Press [RETURN].

When you are finished

Press [SET UP].

Troubleshooting guide

Before requesting service, make the below checks. If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, consult your dealer for instructions.

Power

Page

No power.	●Insert the AC power cable securely into the household AC outlet.	5
The unit is automatically switched to the standby mode.	●To conserve power, the unit automatically switches to standby after approximately 30 minutes in the stop mode. Turn the power back to ON.	–

Operation

No response when buttons pressed.	<ul style="list-style-type: none"> ●Some operations may be prohibited by the disc. ●The unit may not be operating properly due to lightning, static electricity or some other external factor. <p>Reset procedure: Press [STANDBY/ON] to switch the unit to the standby mode and then back to ON. Alternatively, press [STANDBY/ON] to switch the unit to the standby mode, disconnect the AC power cable, and then reconnect it.</p>	– –
No operations can be performed with the remote control.	<ul style="list-style-type: none"> ●Check the batteries are installed correctly. ●The batteries are depleted: Replace them with new ones. ●Point the remote control at the remote control signal sensor and operate. 	6 6 7
Play fails to start even when [▶] (PLAY) is pressed. Play starts but then stops immediately.	<ul style="list-style-type: none"> ●Condensation has formed: Wait 1 to 2 hours for it to evaporate. ●This unit cannot play discs other than DVD-Video, CD and Video CD. ●This unit cannot play DVD-Video with a region number other than "1", "ALL" or multiple region numbers including "1". ●The disc may be dirty and may require cleaning. ●Ensure that the disc is installed with the label of the side to be played facing upwards. 	– 7 7 – 8
Alternative languages fail to be selected.	<ul style="list-style-type: none"> ●An alternative language is not selected with discs which do not contain more than one language. ●In the case of some discs, the alternative language cannot be selected with [AUDIO] or [SUBTITLE]. Try selecting it from the disc's menu if one is available. 	– 8
No menus.	●Menus are only displayed if they are recorded on the disc.	–
No subtitles.	<ul style="list-style-type: none"> ●Subtitles appear only with discs that contain them. ●Subtitles are cleared from the television. Display the subtitles. 	– 12
Soundtrack and/or subtitle language is not the one selected with the SETUP menus.	●The language is not recorded on the disc.	–
Angle cannot be changed.	●This function is dependent on software availability. Even if a disc has a number of angles recorded, these angles may be recorded for specific scenes only.	12
CINEMA DIALOGUE has no effect.	●This feature does not work when the unit is outputting bitstream signals.	–
You have forgotten your ratings password.	<ul style="list-style-type: none"> ●Reset all the settings to Factory Preset. While stopped, press and hold [◀◀] and [■] on the unit and then also press and hold [▲] on the unit until "Initialized" disappears from the television. Turn the unit off and on again. All settings will return to the default values. 	–

Picture

Picture distorted.	●Some distortion is normal during SEARCH.	–
No picture.	<ul style="list-style-type: none"> ●Ensure that the equipment is connected properly. ●Make sure the television is on. ●Ensure the television's video input setting (e.g., VIDEO 1) is correct. 	5 – –
The picture shown on the television is not normal. (The sides of the picture are cut off or black bands appear at the top and bottom of the screen.)	<ul style="list-style-type: none"> ●Go to the Video menu in the SETUP screen, and change "TV Aspect" to suit your television. You may also need to change the screen mode on the television itself. ●Ensure that the unit is connected directly to the television, and is not connected through a video cassette recorder. ●The 4:3 TV ZOOM function is on. 	6, 16 – 15
Picture quality is poor.	●Check the settings in the On-Screen Menu Icons' Video menu.	14

Sound

No sound.	●Check the connections.	4, 5
Distorted sound.	<ul style="list-style-type: none"> ●Check the volume on the equipment you have connected. ●Ensure that the input settings for the television and stereo system are correct. ●Turn ADVANCED SURROUND off if it causes distortion. 	– – 15
Piercing noise comes from the speakers.	●If you have connected this unit to other equipment through the DIGITAL AUDIO OUT terminal, ensure you have selected the correct settings for "Dolby Digital" and "DTS Digital Surround" in the SETUP menu's Audio menu.	17

"NO PLAY"	●You inserted a disc the unit cannot play; insert one it can.	7
"CHECK DISC"	●Disc is dirty. Wipe the disc clean.	–
"H□□" □□ stands for a number.	●Trouble is likely to have occurred. The number following "H" depends on the status of the unit. Reset procedure: Press [STANDBY/ON] to switch the unit to the standby mode and then back to ON. Alternatively, press [STANDBY/ON] to switch the unit to the standby mode, disconnect the AC power cable, and then reconnect it. ●If the service numbers fail to clear, note the service number and contact a qualified service person.	–
"NO DISC"	●You haven't inserted a disc; insert one. ●You haven't inserted the disc correctly; insert it correctly.	– 8

Television displays

No on-screen display.	●Go to Display in the SETUP menus, and select "On" for "On-Screen Messages".	16
On-Screen Menu Icons not displayed or only partially displayed on the television.	●Press [▲, ▼] while the rightmost icon is highlighted to move them.	13
The disc's menu is displayed in a different language.	●Go to Disc in the SETUP menus, and select the preferred language for "Menus".	16

Maintenance

To clean this unit, wipe with a soft, damp cloth.

- Never use alcohol, paint thinner or benzine to clean this unit.
- Before using chemically treated cloth, read the instructions that came with the cloth carefully.

Glossary

Bitstream

This is the digital form of multiple channel audio data (e.g., 5.1 channel) before it is decoded into its various channels.

Decoder

A decoder restores the coded audio signals on DVDs to normal. This is called decoding.

Dolby Digital

This is a method of coding digital signals developed by Dolby Laboratories. Apart from stereo (2-channel) audio, these signals can also be 5.1-channel audio. A large amount of audio information can be recorded on one disc using this method.

Dolby Pro Logic

A surround system where a 4-channel audio track is recorded as 2 channels and then is restored to 4 channels for play. The surround channel is monaural and can reproduce up to 7 kHz.

DTS (Digital Theater Systems)

This surround system is used in many movie theaters around the world. There is good separation between the channels, so realistic sound effects are possible.

Dynamic range

Dynamic range is the difference between the lowest level of sound that can be heard above the noise of the equipment and the highest level of sound before distortion occurs.

Frame still and field still

Frames are the still pictures that go together to make a moving picture. There are about 30 frames shown each second.

One frame is made up of two fields. A regular television shows these fields one after the other to create frames.

A still is shown when you pause a moving picture. A frame still is made up of two alternating fields, so the picture may appear blurred, but overall quality is high. A field still is not blurred, but it has only half the information of a frame still so picture quality is lower.

I/P/B

MPEG 2, the video compression standard adopted for use with DVD-Video, codes frames using these 3 picture types.

I: Intra coded picture (I-picture)

This is the standard picture and is a complete picture in itself. This means it has the best picture quality and is the best to use when adjusting the picture.

P: Predictive coded picture (P-picture)

This picture is calculated based on past I or P-pictures.

B: Bidirectionally-predictive coded picture (B-picture)

This picture is calculated by comparing past and future I and P-pictures so it has the lowest volume of information.

Linear PCM (pulse code modulation)

These are uncompressed digital signals, similar to those found on CDs.

Playback control (PBC)

If a Video CD has playback control, you can select scenes and information with menus (called menu play in these instructions).

Specifications

Signal system:	NTSC
Operating temperature range:	+5 to +35 °C (+41 to +95 °F)
Operating humidity range:	5 to 90 % RH (no condensation)
Discs played [8 cm (3") or 12 cm (5")]:	
(1) DVD-Video, DVD-R (DVD-Video compatible)	
(2) CD-Audio (CD-DA)	
(3) Video CD	
(4) CD-R/CD-RW (CD-DA, Video CD formatted discs)	
(5) MP3	
• Maximum number of tracks and groups recognizable:	999 tracks and 99 groups
• Compatible compression rate:	between 32 kbps and 320 kbps

Video output:	
Output level:	1 Vp-p (75 Ω)
Output terminal:	Pin jack (1 system)
S video output:	
Y output level:	1 Vp-p (75 Ω)
C output level:	0.286 Vp-p (75 Ω)
Output terminal:	S terminal (1 system)

Component video output:	
Y output level:	1 Vp-p (75 Ω)
P _B output level:	0.7 Vp-p (75 Ω)
P _R output level:	0.7 Vp-p (75 Ω)
Output terminal:	Pin jack (1 system)
	(Y: green, P _B : blue, P _R : red)

Audio output:	
Output level:	2 Vrms (1 kHz, 0 dB)
Output terminal:	Pin jack
Number of terminal:	
2ch:	1 system
Subwoofer output (0.1ch):	1 system
Audio performance:	
(1) Frequency response:	
• DVD (linear audio):	2 Hz–22 kHz (48 kHz sampling) 2 Hz–44 kHz (96 kHz sampling) 2 Hz–20 kHz
• CD audio:	
(2) S/N ratio:	115 dB
• CD audio:	
(3) Dynamic range:	
• DVD (linear audio):	102 dB
• CD audio:	98 dB
(4) Total harmonic distortion:	
• CD audio:	0.0025 %
Digital audio output:	
Optical digital output:	Optical terminal
Pickup:	Wave length: 658 nm/790 nm Laser power: CLASS IIa/CLASS I
Power supply:	AC 120 V, 60 Hz
Power consumption:	14 W
Dimensions:	435 (W)×247.5 (D)×74.5 (H) mm [17 ³ / ₁₆ " (W)×9 ³ / ₄ " (D)×2 ¹⁵ / ₁₆ " (H)] (excluding protrusions)
Weight:	2.6 kg (5.72 lb)

Power consumption in standby mode: approx. 3 W

Note

Specifications are subject to change without notice.
Weight and dimensions are approximate.

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