

TOSHIBA



HDD/DVD VIDEO RECORDER
RD-XS34SB

OWNER'S MANUAL



OPERATIONS

Read "INSTALLATION GUIDE" first.



Introduction

Recording

Playback

Editing

Library

Function setup

Others

TOSHIBA



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Introduction

Recording

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Caution for safety

Read “SAFETY PRECAUTIONS”, “IMPORTANT SAFETY INSTRUCTIONS”, “Precautions” and others of the “INSTALLATION GUIDE” first.

About this product

Some differences

This DVD recorder is more similar to a computer than it is to a standard DVD player. In addition to a microprocessor, it contains a hard disc drive (an HDD), an operating system, random access memory (RAM), and a DVD-RAM/R/RW drive. The operating system includes software stored on the HDD that is transferred to the RAM when the machine is turned on and at other times during operation. This transfer can take time. Thus, when you turn on the DVD recorder, it may be a minute or so before it is ready to use. Likewise, other functions may not be performed as quickly as they would on other AV equipment. In addition, because programs stored on the DVD-RAM/R/RW drive cannot be accessed as quickly as those stored on the HDD, accessing those programs (or deleting a program from a DVD-RAM or DVD-RW disc) may take more time. Please take these factors into consideration as you use the DVD recorder.

About the hard disc drive (HDD)

Like any HDD, the HDD in the DVD recorder is a fragile device that is susceptible to partial or complete failure if it is jarred or as a result of use over time. It will not last forever. Therefore, do not use the HDD for longer term storage of programs you wish to retain. [If portions of the HDD become damaged, programs recorded on those portions may exhibit pixelization or block noise when played back. Repeated playback of the program may cause the problem to get worse and, eventually, the program may become unplayable. Accordingly, if you notice such noise in a program that you want to save, you should transfer to a recordable DVD disc as soon as possible.] Recordable DVD discs are also susceptible to damage if not handled and stored carefully and some or all of the programs on them may become unplayable. You can reduce these risks by using high quality DVD recordable discs and checking their playability from time to time. If it becomes necessary to service your DVD recorder, it may be necessary to delete some or all of the programs on the HDD.

Playback Restrictions

This owner's manual explains the basic instructions for this recorder. Some DVD video discs are produced in a manner that allows specific or limited operation during playback. As such, the recorder may not respond to all operating commands. This is not a defect in the recorder. Please refer to the notes on compatible discs later in this Introduction and to the discussion of DVD playback and features later in this manual.

“Ⓢ” may appear on the TV screen during operation. “Ⓢ” means that the operation is not permitted by the recorder or the disc.

Recording Restrictions

Copy-protected contents of DVD-Video disc, VIDEO CDs or audio CDs on the market cannot be copied on this recorder.

Contents without copy protection should be copied or edited only in accordance with applicable copyright laws, which may restrict copying or editing. Contents that permit single copying (copy once contents) can be recorded onto DVD-RAM discs, with some dubbing and editing restrictions. DVD-R/RW discs cannot record these contents.

Compatibility

In isolated cases, a disc bearing the DVD or CD logo may not fully and properly play back all features. This can be due, among other reasons, to problems and errors that can occur during the creation or recording of DVD and other software and the manufacture of software discs (including blank discs). Moreover, because of variations in the quality of discs, this recorder may not be able to record on all discs that bear a DVD-RAM, DVD-R or DVD-RW logo, but you should not encounter difficulty if you use only high quality recordable DVD discs.




Compatible discs

When you want to play DVD or CD software or copy programmes from the HDD to a recordable DVD, load an appropriate disc into the recorder. There are many types and formats of discs. Please use the following information to select an appropriate disc.

Notes

- Handle the disc according to the disc instruction manual.
- Toshiba cannot guarantee that all discs bearing the DVD or CD logos will operate as expected. Additionally, Toshiba cannot guarantee that discs recorded in this device will operate properly in other DVD players, recorders and/or personal computer drives.

For recording / playback

Disc	Mark	Specification	Remarks
DVD-RAM		<ul style="list-style-type: none"> • Single sided 4.7GB (12cm (4³/₄ in.)) • Double sided 9.4GB (12cm (4³/₄ in.)) 	<p>Read carefully the section “On DVD-RAM discs” (➡ page 8).</p> <p>Select a DVD-RAM disc that shows a statement on its package such as “this disc can be used with video recorders and drives compatible with 4.7GB DVD-RAM discs” or “this disc can copy images that permit single copying.”</p>
DVD-R		<ul style="list-style-type: none"> • 4.7GB For General Ver.2.0 (12cm (4³/₄ in.)) 	<p>Read carefully the section “On DVD-R discs” (➡ page 9).</p> <p>Depending on the disc status or the recording equipment, playback of the disc may not be possible on this recorder.</p>
DVD-RW		<ul style="list-style-type: none"> • Ver. 1.1 or later (12cm (4³/₄ in.)) 	<p>Read carefully the section “On DVD-RW discs” (➡ page 9).</p> <p>Depending on the disc status or the recording equipment, playback of the disc may not be possible on this recorder.</p>

Using different disc types for different purposes

DVD-RAM discs for your personal library

DVD-RAM discs comply with the global standard DVD-VR (Video Recording) format, and are optimized for recording of TV programs. You can rewrite repeatedly without deterioration of an image quality, erase unnecessary parts, divide a chapter, or specify playback area by frame. Its cartridge is suitable for a longer-term storage and family use, and its large capacity of 9.4 GB allows more recording space.











DVD-R discs when creating your own original discs for distribution



DVD-R discs are designed to comply with the global standard DVD-Video format, and can be recorded only once. DVD-R discs are convenient when you edit your original content (recorded personal events such as a wedding party) with this recorder, transfer them to the recorder and make copies to send to your friends or relatives. The discs can be played on other compatible DVD players. DVD-RW discs, which are rewriteable, can be used as well.

- * DVD-R and DVD-RW may not be the best suited format for recording TV programs. Because of the way the discs are formatted, it may not be possible to edit or divide the program as you may prefer, to record secondary languages, or programs that are copy protected in a way that allows only one copy. (NOTE: “Copy once” protected programs generally can be recorded to DVD-RAM discs.)
- * This recorder records on a DVD-R/RW disc in DVD-Video format only. In DVD-VR format, recording is not possible.
- * On DVD-R/RW discs, direct recording, copying or the method “Creating a DVD-Video using DVD-R/RW” (➡ page 122) are available.

We cannot guarantee that DVD-RAM/R/RW discs recorded on this recorder will be playable on all DVD recorders/players. Similarly, there is no guarantee that all DVD-RAM/R/RW discs recorded on other recorders will be playable on this recorder.

For playback only

Disc	Mark	Specification	Remarks
DVD video disc		<ul style="list-style-type: none"> • 12cm (4³/₄ in.) / 8cm (3¹/₄ in.) • Region number  or  	The region number of this DVD recorder is 2. If region numbers, corresponding to a specific playable area, are printed on your DVD video disc and you do not find  or  , or the disc is encoded to permit playback only in regions other than Region 2, disc playback will not be allowed by the recorder.
DVD-RW		<ul style="list-style-type: none"> • 12cm (4³/₄ in.) • DVD-VR mode 	It is not possible to play contents recorded from programs which are not copy-free. Depending on the disc status, playback may not be possible.
VIDEO CD		<ul style="list-style-type: none"> • 12cm (4³/₄ in.) / 8cm (3¹/₄ in.) • Version 1.1 and 2.0 	
Audio CD		<ul style="list-style-type: none"> • 12cm (4³/₄ in.) / 8cm (3¹/₄ in.) 	
CD-R		<ul style="list-style-type: none"> • 12cm (4³/₄ in.) • CD-DA (audio CD) format 	Depending on the disc status, playback may not be possible.
CD-RW			

- You cannot play discs other than those listed above.
- You cannot play non-standardized discs even if they may be labeled as above.
- You cannot play discs with specialized encoding (such as SACD discs) or the DVD audio portions of DVD Audio discs.
- You cannot play SVCD discs.
- This recorder uses the PAL colour system for recording and playback. The NTSC colour system is used for playback only, by selecting an appropriate setting. A disc may fail to play, if it has data in the PAL colour system and the NTSC colour system. You cannot add the PAL colour system data to the disc with the data recorded in the NTSC colour system even if they have region marks  or .
- There may be some DVD discs designed for this market that cannot be played on this recorder. If you encounter please contact TOSHIBA customer service.
- Toshiba cannot assure that all discs bearing the DVD or CD logos will operate as expected. Please see the discussion of compatibility on page 5.

- Toshiba is not liable for any damage or loss caused directly or indirectly by the malfunction of this recorder, including, without limitation, any one of the following:
 - Failure to record contents intended to be recorded by the consumer.
 - Failure to edit contents as intended by the consumer.
 - When a DVD-RAM/R/RW disc created on this recorder is used (e.g., insertion, playback, recording or editing) in another DVD player, recorder or personal computer drive.
 - When a DVD-RAM/R/RW disc that is used in the manner described in the immediately preceding bullet point is used again in this recorder.
 - When a DVD-RAM/R/RW disc that was recorded in another DVD recorder, or in a personal computer drive is used in this recorder.
- Some functions such as Library may not work with personal computer discs.
- Discs recorded in this recorder may not operate as expected on other DVD players, recorders or personal computer drives.

- Introduction
- Recording
- Playback
- Editing
- Library
- Function setup
- Others

On DVD-RAM discs

■ **Use only DVD-RAM discs that comply with DVD-RAM standard Version 2.0 or 2.1.**

The recorder cannot record on a disc formatted in any other standard. When using such a disc, initialize it by using the disc-format function of this recorder.

- The recorder may not record, dub, or edit some DVD-RAM discs, because they are edited/recorded with another manufacture's equipment or PC, contain a large number of titles, or have little remaining capacity. Also, a DVD-RAM disc may not be edited or recorded if its title contains still pictures.
- DVD-RAM discs formatted in UDF2.0 on a PC are not compatible with this recorder. Before using these discs, initialize them on this recorder.
- This recorder complies with current copyright protection technology and can copy a disc only when the disc permits copying once. When there is no indication on the disc, copying will not be allowed. Such an indication on a disc is required also for the Library Management database.

■ **DVD-RAM discs with cartridges are recommended for recording.**

- Two types of DVD-RAM discs are available: ones with cartridges and ones without cartridges. You can use either of them with this recorder, but the former ones are recommended.
- In order to record highly detailed data, make sure the disc is clean. DVD-RAM discs with cartridges are easier to handle in this regard.
- Do not open the cartridge shutter. The disc may not play, or may not be recorded or edited once it becomes dirty.
- There are two types of DVD-RAM cartridges; removable (TYPE 2/4) and not removable (TYPE 1). It is recommended you do not remove the disc even when you can.
Refer to the instruction manual that comes with the disc if it is absolutely necessary to remove the disc.
- Some commercially available cartridge discs cannot be recorded or edited once the inside discs are removed.



● **To protect recorded contents**

Slide the write-protect tab to "PROTECT" with something small enough. The disc can play, but cannot be edited or erased. Refer to the instructions that come with the disc.

■ **When using a disc without a cartridge (commercially available discs)**

- Discs without cartridges can easily attract fingerprints and dust, which is the reason they are not recommended. If you cannot avoid using them, handle with proper care.
- When you write in a title column on a disc, use a pen with a soft tip. Do not use a pen with a hard tip, such as a ballpoint pen.

Recommended discs

The following discs have been tested with this recorder:
9.4 GB double-sided cartridge: Panasonic LM-AD240U
4.7 GB single-sided cartridge: Panasonic LM-AB120U

- The company does not hold any responsibility to compensate the contents which should have been recorded, and any losses or damages (e.g. losses of business profit, or business intermission) that may arise from malfunction of this recorder (not recording/editing as intended).
Problems arising in the following situations are included.
 - When a DVD disc recorded on this recorder is used in a DVD recorder of another manufacturer, or used (insertion, playback, recording or editing) in a personal computer DVD drive.
 - When a DVD that has been used as above is used again in this recorder.
 - When a DVD disc recorded in a DVD recorder of another manufacturer, or in a personal computer DVD drive is used.
- Some functions such as Library may not work with PC discs.

On DVD-R discs

■ Standards

- DVD-R for General Ver.2.0 discs can be used for recording and playback.
- Discs compatible with 2X speed recording (labeled Ver.2.1/2X etc.) and discs compatible with 4X speed recording (labeled Ver.2.1/4X etc.) can also be used.
- Select discs labeled "for video," "for recording," "120 min." etc.
- DVD-R for authoring Ver.1.1 cannot be used.

■ Recording conditions

- Images for which copying is prohibited or restricted (copy once or copy prohibited) cannot be recorded. Even if the disc is labeled as CPRM compatible, this recorder can only be used to record copy-free material.

■ Recommended discs

Taiyo-Yuden 4X

■ Tested discs

Panasonic LM-RF120 (4.7GB/120 min.)

On DVD-RW discs

■ Standards

- Discs labeled DVD-RW Ver.1.1 can be used.
- Discs compatible with 2X speed recording (labeled Ver.1.1/2X etc.) can also be used.
- Select discs labeled "for video," "for recording," "120 min." etc.

■ Recording conditions

- Images for which copying is prohibited or restricted (copy once or copy prohibited) cannot be recorded. Even if the disc is labeled as CPRM compatible, this recorder can only be used to record copy-free material.
- DVD-VR mode recording is not possible.

■ Recommended discs*

JVC 2X






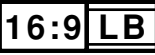
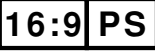
Note

- There are limitations on times of repeat recording on the same disc.

*Operation has been confirmed with recommended discs and tested discs, but some other discs may not be usable.

Marks on DVD video discs

The following are examples of marks and the meanings.

Mark	Meanings
	Number of audio streams recorded in the disc. (2 streams such as English and Japanese in this example.)
	Number of subtitle languages recorded in the disc. (2 subtitle languages are recorded in this example.)
	Number of camera angles recorded in the disc. (3 camera angles are recorded in this example.)
	Pictures are recorded in the standard picture shape (4:3 aspect ratio).
	
	Pictures are recorded in the 16:9 wide picture shape. TVs with 4:3 aspect ratio will display them in the letter box style.
	Pictures are recorded in the 16:9 wide picture shape. TVs with 4:3 aspect ratio will display them in the pan scan style (one or both sides of pictures are cut).
	Actual picture shape may vary depending on the aspect ratio or mode selection of the TV.

Introduction

Compatible discs (Continued)

Structure of disc contents

Normally, DVD video discs are divided into titles, and the titles are subdivided into chapters.

VIDEO CDs/audio CDs are divided into tracks.



Title: Divided contents of a DVD video disc. Roughly corresponds to a story title in short stories.

Chapter: Divided contents of a title. This corresponds to a chapter in a story.

Track: Divided contents of a VIDEO CD or an audio CD.

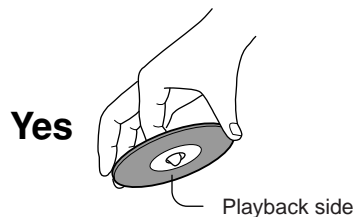
Each title, chapter, or track is assigned a number, which is called "title number", "chapter number", or "track number" respectively.

Some discs may not have these numbers.

When you record on the HDD or a DVD-RAM disc, one recording will always equal one title. You can divide a title into several chapters by marking borders in it to facilitate scene search.

On handling discs

- Do not touch the playback side of the disc.



- Do not stick paper or tape to discs.



On cleaning discs

- Fingerprints and dust on the disc cause picture and sound deterioration. Wipe the disc from the center outwards with a soft cloth. Always keep the disc clean.



- Do not use any type of solvent such as thinner, benzene, commercially available cleaners or antistatic spray for vinyl LPs. It may damage the disc.

On storing discs

- Do not store discs in a place subject to direct sunlight or near heat sources.
- Do not store discs in places subject to moisture and dust such as a bathroom or near a humidifier.
- Store discs vertically in a case. Stacking or placing objects on discs outside of their case may cause warping.

Discs and purposes

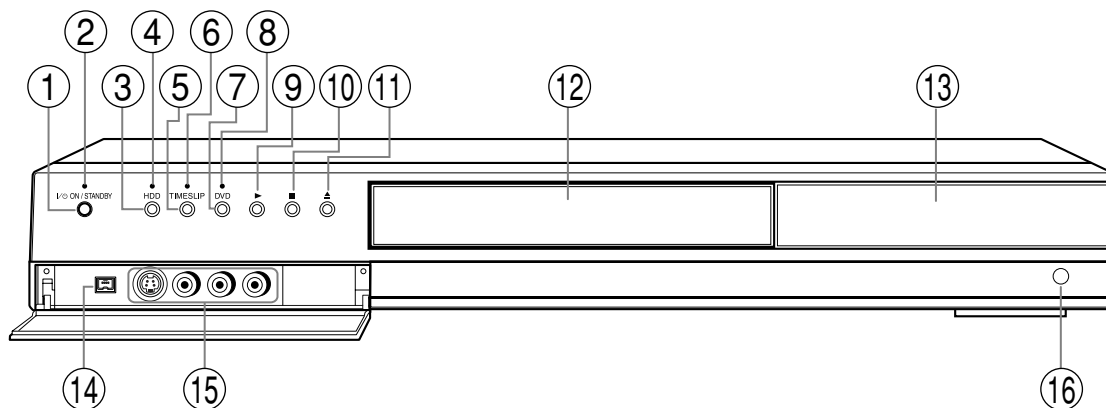
The table shows main functions which are available on this recorder per disc category. This will help you choose discs.

	DVD-RAM disc	DVD-RW disc	DVD-R disc
Characteristics on this recorder	Suitable for repeat use of the disc, and data storage for video library. Copy once contents can be recorded using a compatible disc.	Suitable for saving data in DVD-Video format to play on compatible devices. You can erase recorded contents to use the disc repeatedly.	Suitable for saving data in DVD-Video format to play on compatible devices. Once you execute DVD-Video finalizing process on a recorded disc so that it can be played on other players, you cannot make addition, correction and deletion of contents on the disc.
For the first use	No preparatory steps required, however initializing is recommended.	Initialize the disc.	No preparatory steps required.
Recording a TV program	Yes	Yes	Yes
Erasing recorded contents	Yes	Yes If the disc has been executed DVD-Video finalizing process, first cancel the process then delete contents.	Yes Deleting contents cannot restore the disc space. <u>After you execute DVD-Video finalizing process on a recorded disc, you cannot delete contents of the disc.</u>
Recording additional content on a recorded disc	Yes	Yes If the disc has been executed DVD-Video finalizing process, first cancel the process then delete contents.	Yes <u>After you execute DVD-Video finalizing process on a recorded disc, you cannot add contents to the disc.</u>
Indexing recorded contents Naming a title Creating a thumbnail	Yes Yes	Yes Yes <u>After you execute DVD-Video finalizing process on a recorded disc, you cannot name a title or create a thumbnail.</u>	Yes Yes <u>After you execute DVD-Video finalizing process on a recorded disc, you cannot name a title or create a thumbnail.</u>
Collecting favorite scenes (Playlist Editing) Making a new title from a Playlist containing favorite scenes (Copy within the same disc)	Yes Yes	No No	No No
Playing contents recorded on this recorder, on other devices	Contents can be played on any devices compatible with DVD-RAM discs. Follow the instruction of the device to play.	Execute DVD-Video finalizing process on this recorder. This process makes the disc playable on other compatible devices. (Some models excepted.)	Execute DVD-Video finalizing process on this recorder. This process makes the disc playable on other compatible devices. (Some models excepted.)
When a message appears and the loaded disc cannot be used:	Initialize the disc. If it is still unusable, try to execute DVD-RAM physical format.	Initialize the disc.	—

Index to Parts and Controls

See pages with arrows for details.

Front panel

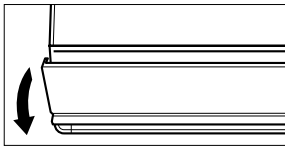


* The above illustration displays the front panel with the cover open. See the following page on how to open or close the cover.

- ① **ON/STANDBY button** ➔ pages 20, 21
Turns the power on/restores the unit in the standby mode.
- ② **ON/STANDBY indicator** ➔ page 20, 21
Displays the operational state of the recorder.
- ③ **HDD button** ➔ page 34, 40
Press this to operate the HDD.
- ④ **HDD indicator** ➔ page 34, 40
Illuminates in the HDD mode.
- ⑤ **TIMESLIP button** ➔ page 64, 65
Selects the time slip mode.
- ⑥ **TIMESLIP indicator** ➔ page 64, 65
Illuminates in the time slip mode.
- ⑦ **DVD button** ➔ page 34, 62, 80
Press this to operate a disc inside the disc tray.
- ⑧ **DVD indicator** ➔ page 34, 62, 80
Illuminates in the DVD mode.
- ⑨ **▶ (PLAY) button** ➔ page 62
Starts playback.
- ⑩ **■ (STOP) button** ➔ page 37, 62
Stops playback or recording.
- ⑪ **▲ (OPEN/CLOSE) button** ➔ page 20
Opens and closes the disc tray.
- ⑫ **Disc tray** ➔ page 20
Loads a disc into the disc drive.
- ⑬ **Front panel display** ➔ page 18
- ⑭ **DV IN connector** ➔ page 136
Use this when recording from a digital video camera.
- ⑮ **INPUT jacks** ➔ page 39
Use this when recording from other input source such as a VTR or a camcorder.
- ⑯ **Remote sensor** ➔ page 12 in "INSTALLATION GUIDE"

■ To open or close the cover on the front panel

Put your finger on the left edge of the cover and pull it down to open.

**Note**

- Do not place a heavy object on the cover while it is open. Doing so may damage the recorder.

FROM ANT.) input socket ⇨ page 14 in
"INSTALLATION GUIDE"

Connects to an aerial or satellite signal.

(TO TV) output socket ⇨ page 14 in
"INSTALLATION GUIDE"

Connects the supplied coaxial cable to a TV.

CHANNEL CHANGE IR jack ⇨ page 48 in
"INSTALLATION GUIDE"

Connects the supplied IR control cable to control
satellite channels according to timer
settings.

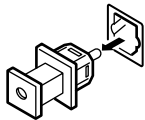
BITSTREAM/PCM COAXIAL AUDIO
input jack ⇨ page 20 in **"INSTALLATION**

Use this jack to connect the recorder to an audio
device equipped with a coaxial digital audio input

10 DIGITAL BITSTREAM/PCM OPTICAL AUDIO OUTPUT jack ➔ page 20 in “INSTALLATION GUIDE”

Use this to connect the recorder to an audio receiver equipped with an optical digital audio input jack.

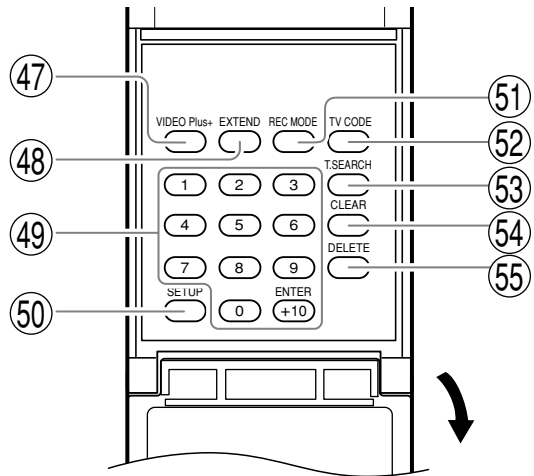
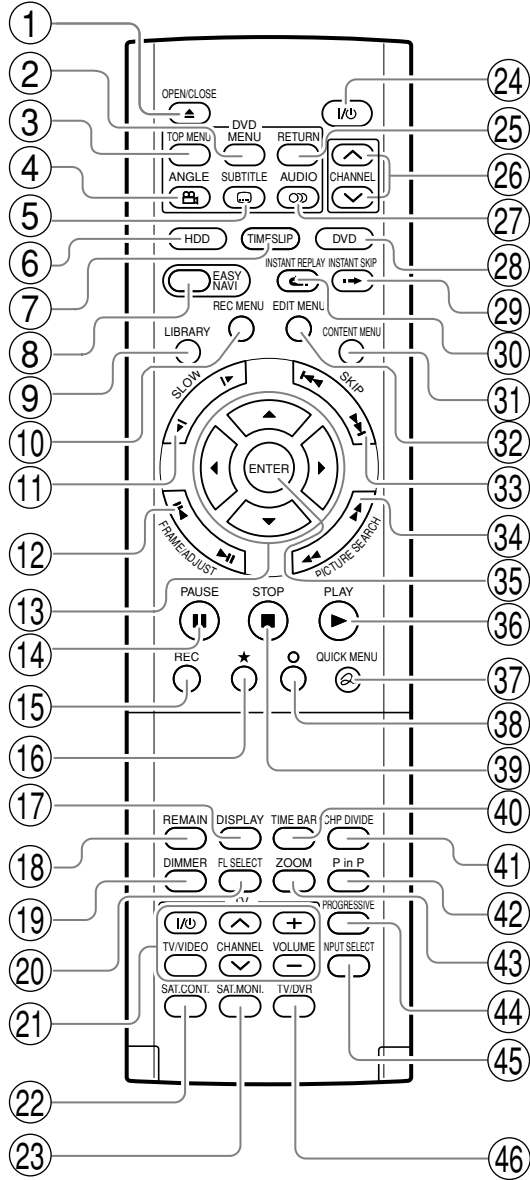
When connecting the optical digital cable, remove the cap and fit the connector into the jack firmly. When not using the jack, keep the cap inserted to protect it from dust intrusion.



11 AV2(SAT/DECODER)IN/OUT socket ➔ page 39

Use this socket when connecting the video or other equipment that has the terminal in this shape.

Remote control



- ① OPEN/CLOSE button ➔ page 20, 21
- ② MENU button*¹
- ③ TOP MENU button ➔ page 63
- ④ ANGLE button ➔ page 72
- ⑤ SUBTITLE button ➔ page 73
- ⑥ HDD button ➔ page 34, 40
- ⑦ TIMESLIP button ➔ page 64, 65
- ⑧ EASY NAVI button ➔ page 23
- ⑨ LIBRARY button ➔ page 140
- ⑩ REC MENU button ➔ page 42
- ⑪ SLOW button ➔ page 67
- ⑫ FRAME/ADJUST button ➔ page 42, 68
- ⑬ Direction buttons (▲/▼/◀/▶) ➔ page 57, 150
- ⑭ PAUSE button ➔ page 37, 58
- ⑮ REC button ➔ page 36
- ⑯ ★ button ➔ page 57
- ⑰ DISPLAY button ➔ page 82
- ⑱ REMAIN button ➔ page 27
- ⑲ DIMMER button ➔ page 19
- ⑳ FL SELECT button ➔ page 19
- ㉑ Buttons for TV operation ➔ page 44 in "INSTALLATION GUIDE"
- ㉒ SAT.CONT. button ➔ page 19, 34
- ㉓ SAT.MONI. button ➔ page 41
- ㉔ ON/STANDBY button ➔ page 20, 21
- ㉕ RETURN button*²
- ㉖ CHANNEL buttons ➔ page 20, 35
- ㉗ AUDIO button ➔ page 75
- ㉘ DVD button ➔ page 34, 40, 62
- ㉙ INSTANT SKIP button ➔ page 66
- ㉚ INSTANT REPLAY button ➔ page 66
- ㉛ CONTENT MENU button ➔ page 57, 95
- ㉜ EDIT MENU button ➔ page 108
- ㉝ SKIP button ➔ page 65
- ㉞ PICTURE SEARCH button ➔ page 57, 66
- ㉟ ENTER button ➔ page 57, 150
- ㊱ PLAY button ➔ page 62
- ㊲ QUICK MENU button ➔ page 24, 84
- ㊳ O button ➔ page 150
- ㊴ STOP button ➔ page 40
- ㊵ TIME BAR button ➔ page 83
- ㊶ CHP DIVIDE button ➔ page 90
- ㊷ P in P button ➔ page 71
- ㊸ ZOOM button ➔ page 74
- ㊹ PROGRESSIVE button ➔ page 17 in "INSTALLATION GUIDE"
- ㊺ INPUT SELECT button ➔ page 40
- ㊻ TV/DVR button ➔ page 37
- ㊼ VIDEO Plus+ button ➔ page 48
- ㊽ EXTEND button ➔ page 44, 47
- ㊾ Number buttons ➔ page 48, 69
- ㊿ SETUP button ➔ page 150
- ① REC MODE button ➔ page 36
- ② TV CODE button ➔ page 44 in "INSTALLATION GUIDE"
- ③ T.SEARCH button ➔ page 69
- ④ CLEAR button ➔ page 69
- ⑤ DELETE button ➔ page 52

*¹ MENU

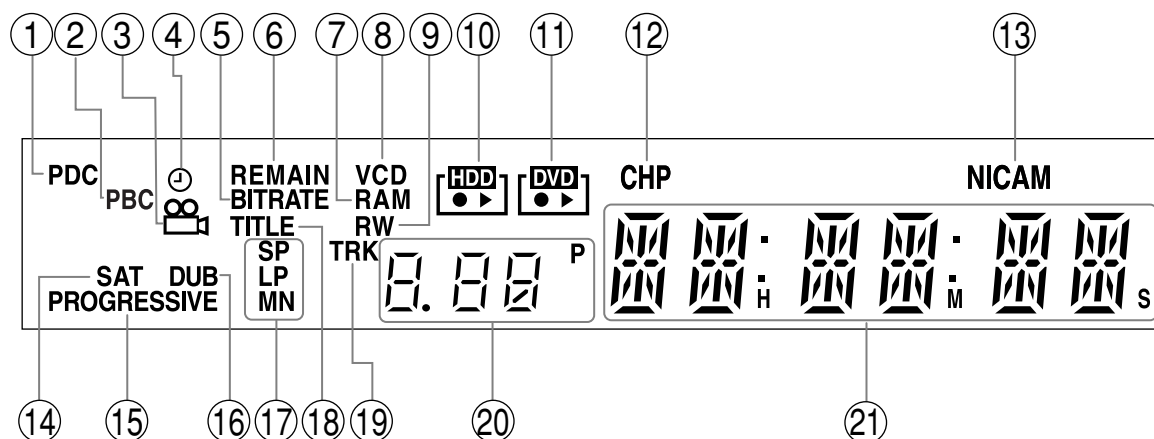
Use this to display a menu screen that is recorded on a DVD video disc.

Operate the menu screen as the same manner as "Locating a title using the top menu (➔ page 63)". A menu screen is not recorded on some discs.

*² RETURN

Returns to the previous screen (the screen may be specified depending on the disc). Refer to the instructions of the disc.

Display



- ① **PDC indicator (Programme Delivery System)**
Illuminates when setting a PDC controlled programme recording.
- ② **PBC indicator**
Illuminates when a PBC-controllable VIDEO CD is loaded.
- ③ **Angle icon** ➡ page 72
Illuminates when playing a scene recorded with multi angles.
- ④ **Programme recording indicator**
Illuminates when the recorder holds a timer programme.
- ⑤ **Bit rate indicator**
Illuminates when displaying the bit rate selected for recording, or when displaying the actual bit rate.
- ⑥ **REMAIN (Remaining space) indicator**
Illuminates when an available recording time is displayed.
- ⑦ **DVD-RAM indicator**
Illuminates when a DVD-RAM disc is loaded.
- ⑧ **VCD/CD indicator**
VCD : Illuminates when a VIDEO CD is loaded.
CD : Illuminates when an audio CD is loaded.
- ⑨ **DVD-R/RW indicator**
R : Illuminates when a DVD-R disc is loaded.
RW : Illuminates when a DVD-RW disc is loaded.
- ⑩ **HDD indicator**
Displays an operating state of of the HDD as below.
● : Recording
▶ : Playback
●▶ : Dubbing to the same disc, etc.
- ⑪ **DVD indicator**
Displays an operating state of a DVD disc as below.
● : Recording
▶ : Playback
●▶ : Dubbing to the same disc, etc.
- ⑫ **CHP (Chapter) indicator**
Illuminates when a chapter number is displayed.
- ⑬ **NICAM indicator**
Illuminates when "NICAM" (➡ page 158) is set to "On" and while receiving stereo stereo/Mode I, II/mono programmes of NICAM broadcasts.
- ⑭ **SAT indicator**
See the next page.
- ⑮ **PROGRESSIVE indicator**
Illuminates when video signals are output in the progressive format.

■ Dimming the display

Pressing the DIMMER button on the remote control changes the brightness of the display (normal/dimmed/off).

■ Switching the display

Every time you press the FL SELECT button, the display changes between the channel, title number, and time. The display may not change, depending on the disc or recording conditions.

①⑥ DUBBING indicator

Illuminates when copying.

①⑦ Picture quality mode indicator ➡ page 161

The current picture quality mode lights up.
The modes are: MN (Manual)/SP (Standard Play)/LP (Long Play)/SP+LP+MN (Auto)

①⑧ Title indicator

Illuminates when a title number is displayed.

①⑨ TRK (Track) indicator

Illuminates when a track number is displayed.

①⑩ Channel indicator

Displays the current channel or other numbers such as a title number, track number, bit rate or input selection.

①⑪ Multi display

Displays the current time, elapsed time, remaining time, starting time of programmed recording, chapter number or message, etc.

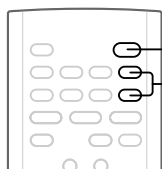
■ SAT indicator and channel selection

While the SAT indicator illuminates, you can select channels of a connected satellite receiver from the recorder.

(It is necessary to finish the connection and the settings (➡ page 48, "INSTALLATION GUIDE").)

Each time you press the SAT.CONT. button, the SAT indicator turns on and off.

ON/STANDBY button



ON/STANDBY button
CHANNEL buttons

When the power turns on, the ON/STANDBY indicator changes from red (standby mode) to green (operation). After a few seconds, a start-up screen appears. The following icon appears at the top right corner of the screen.



When this icon disappears, the recorder is ready to operate. If the disc drive contains a disc, it takes a little longer to start up.

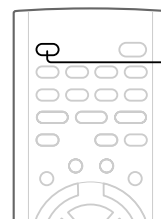
■ Viewing TV channels through this recorder

After turning the power on, the recorder will output TV channel signals to the connected TV (also in the stop mode).

You can select a desired channel by pressing the CHANNEL or the number buttons.

While the SAT indicator is on, channels of the connected satellite receiver are selected. It is necessary to finish the connection and the settings. Refer to ➔ page 48, INSTALLATION GUIDE.

▲ button



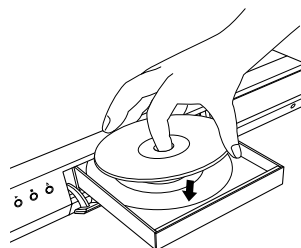
OPEN/CLOSE button

2 Insert a disc.

Disc without a cartridge

Insert with the playback side down.

There are two kinds of disc size. Place a disc to fit the guide. If a disc is out of the guide, it may result in damage to the disc or malfunction.



Place a disc in the inside hollow.

DVD-RAM disc with cartridge (TYPE1/TYPE2/TYPE4)

Single sided

Turn the printed side up, and insert the cartridge into the tray frame following the direction of the arrow on the cartridge.

Double sided

Turn the desired recording/playback side up, and insert the cartridge into the tray frame following the direction of the arrow on the cartridge.

3 Close the disc tray.

Press  on the front panel or the OPEN/CLOSE button on the remote control.

Notes

- Use the button on the front panel or the remote control to open and close the disc tray. Do not push or hold the disc tray while it is moving. Doing so may cause the recorder to malfunction.
- Do not insert a disc which is unplayable, or any object other than a playable disc.
- Do not apply downforce to the disc tray. Doing so may cause the recorder to malfunction.
- If the disc tray stops while closing, the mechanical . he recorder to
-

Introduction

Before operating this recorder (Continued)

■ Start-up/Shutdown (closing) icons

These icons are displayed at the top right corner of the screen when startup or finishing. While they are flashing, the recorder is operating as follows:



Start-up, reading a disc, finishing the recording



Unloading a disc, finishing the operation



Opening a disc tray



Closing a disc tray

■ Status display

Each time you operate the recorder, the following displays appear on the TV screen to indicate the status of the recorder.

Status display

e.g.



Main on-screen displays

(Depending on the disc, some of these may not appear.)

- ▶ : Playback
- || : Pause
- : Stop
- ▶▶ : Fast-forward
- ◀◀ : Fast-reverse
- ▶▶ : Forward skip*
- ◀◀ : Reverse skip*
- ▶▶x1/2 : Forward slow-motion
- ◀◀x1/2 : Reverse slow-motion
- ||▶ : Forward frame by frame playback
- ◀|| : Reverse frame by frame playback
- : Recording
- || : Recording pause
- Title End : When title playback is completed
- ▶→ : Instant skip
- ↶ : Instant replay
- Chapter Divide : Chapter division
- ▶1/20 : Forward skip by 1/20
- ◀1/20 : Reverse skip by 1/20

* Accompanied with the followings:

- HDD** **DVD-RAM** **DVD-RW** **DVD-R** :
Title number/title name and chapter number/
chapter name
- DVD-VIDEO** :
Title number and chapter number
- VCD** **CD** :
Track number

Notes

- To disable the status display, set "On screen display" (▶ page 159) to "Off."
- You can add the current status of the settings to this display. See ▶ page 82.

Key operation - EASY NAVI & QUICK MENU

The EASY NAVI button opens the “EASY NAVI Main Menu”, a main gate to the functions of this recorder. From this menu, you can access the desired functions while viewing a current picture. Additionally, the QUICK MENU button provides you a sub-menu of the current function.

■ EASY NAVI

Press EASY NAVI.

Sound is muted and the following GUI appears. (Actual displays vary depending on operational status.)

● Item selection

Press ▲ / ▾

Introduction

Key operation - EASY NAVI & QUICK MENU (continued)

- **To exit the EASY NAVI**
Press EASY NAVI again.

Note

- For a disc other than the specified one, the finder cannot be operated. To play the disc, exit the EASY NAVI then press the PLAY button, or select the "Play Contents" function.
- If a loaded disc contains NTSC signals, more functions will be unavailable.

■ Quick Menu operation

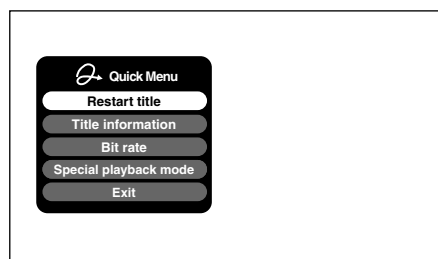
To access various optional functions of this recorder, open the Quick Menu. The Quick Menu displays a list of selections relevant to your current mode.

- **Opening a Quick Menu**

- 1) **Press QUICK MENU.**

The following menu ("Quick Menu") appears.
(Actual selections vary depending on operational status.)

e.g.



- 2) Press ▲ / ▼ to select an item, then press ENTER.

- **To exit the Quick Menu**

Press QUICK MENU again.

Alternatively

Select "Exit" with ▲ / ▼, then press ENTER.



Recording

Recording variations for many types of programmes or situations.

Before recording

Please be sure to read this critical background information prior to making a recording.

This recorder is equipped with a built-in HDD. Conventional video cassette recorders have required tapes to record, while this recorder enables recording on the HDD whenever you want, without selecting an available tape or confirming its recording time or tape remaining. Further, the DVD-RAM drive on this recorder can record on a DVD-RAM/RW/R disc in the same way as a tape. You can also copy contents recorded on the HDD to a DVD-RAM/RW/R disc to create your own library.

■ Is your recorder ready?

Before recording a TV program on this recorder, insure that channels you want to record are correctly tuned in on this recorder.

If not tuned in, read the separate "INSTALLATION GUIDE" volume again, and confirm all the necessary connections and settings have been done.

Also, insure the clock is set precisely for program recording. Set the clock using the "Initial settings" menu (➡ page 26, INSTALLATION GUIDE).

■ Disc initializing

Whenever you use a new DVD-RAM/RW disc on this recorder, be sure to initialize the disc. For DVD-RAM disc, initialization is indispensable to the database system of this recorder.

Normally, the HDD does not need to be formatted. If the HDD does not work normally due to a problem, format the HDD for possible recovery. Once you format the HDD, all the recorded titles and Library information are deleted. Before formatting, be sure to write Library information to a DVD-RAM disc and check any titles to be deleted.

DVD-RW discs can be emptied by initializing. DVD-R discs can be used on this recorder without initializing.

For details of initialization of DVD-RAM/RW discs, see ➡ page 28.

If an initialized DVD-RAM disc is still unusable, it may become usable by executing "DVD-RAM physical format" in the "Management settings" menu. For "DVD-RAM physical format", see ➡ page 29.

■ Note on recording on a DVD-RAM disc

Confirm disc compatibility and prepare an available DVD-RAM disc to record on (➡ page 6, 8).

Some discs may need to be formatted for use on this recorder. A message will appear asking you to execute disc formatting. Follow the procedure displayed on-screen to format the DVD-RAM disc compatible with this recorder.

Some DVD-RAM discs formatted on a PC may not be usable.

Notes

- This recorder records on a DVD-RAM disc if it complies with DVD-RAM standard Version 2.0 or 2.1. However, you may not record on some DVD-RAM discs that have complicated contents (often, to protect the recorded data). When you select a DVD-RAM disc that has already been recorded, check that the disc is suitable for recording or the remaining time of the disc is displayed. It is recommended to use a new DVD-RAM disc for an important recording.
- Depending on the source recording device used and how that device is set up, the video and sound quality of the recording may vary slightly from the video and sound quality of the source device.

■ Note on recording on a DVD-RW disc

Confirm disc compatibility and prepare an available DVD-RW disc to record on (➡ page 6, 9).

Some discs may need to be initialized for use on the recorder. A message will appear asking you to execute disc initializing. Follow the procedure displayed on-screen for initialize the DVD-RW disc compatible with this recorder.

Some DVD-RW discs initialized on a PC may not be usable.

To play a DVD-RW disc recorded on this recorder on other devices, finalize the DVD-RW disc on this recorder. (➡ page 132)

The finalization disables the disc's rewritability. To rewrite a finalized DVD-RW disc, cancel the finalization (➡ page 135).

- On DVD-RW discs recorded on other devices, you cannot execute DVD-Video finalize process or cancel the finalize process, or add recordings on this recorder.
- You cannot rewrite or edit a DVD-RW disc if recorded in DVD-VR mode.
- DVD-RW discs which are recorded on other devices and not finalized yet, cannot be read on this recorder. Do not rush to initialization. Check that the contents can be erased or not.

■ **Note on recording on a DVD-R disc**

Confirm disc compatibility and prepare an available DVD-R disc to record on (➡ page 6, 9).

To play a DVD-R disc recorded on this recorder on other devices, finalize the DVD-R disc on this recorder. (➡ page 132)

The finalization permanently disables the disc's writeability. (Cancelling the finalization is not possible.)

- DVD-Video finalize process cannot be cancelled if once executed on a DVD-R disc.
- On DVD-R discs recorded on other devices, you cannot execute DVD-Video finalize process or add recordings on this recorder.
- DVD-R discs with the method of "DVD-Video Creation" have been already executed the DVD-Video finalize process. Therefore, they cannot be added the contents.

■ **If you want to record contents which will be copied to a DVD-R/RW disc later on**

See ➡ page 38.

■ **To check space remaining on a disc**

1) **Press the REMAIN button.**

The current capacity per disc is displayed at the bottom of the screen. The current capacity of the selected drive is displayed on the front panel display.

2) **After checking the capacity, press the button again to turn off the display.**

Note

- You can also check the capacity of the disc by selecting "Disc budget calculation" from the Quick Menu within the REC MENU (➡ page 46).

■ **When "HDD recording is not possible due to..." appears**

The HDD is full. To record new content, delete unnecessary titles or transfer some content to a DVD-RAM disc.

■ **Programmed recording and operational status**

The recorder gives priority to programmed recordings in every operating mode. Even if the recorder is playing, recording or editing, or even in standby mode, at a starting time of a programmed recording the recorder will make itself ready or stop those operations and start the recording.

However, "Creating a DVD-Video using DVD-R/RW" (➡ page 122) and "DVD-Video finalizing process" (➡ page 132) operations may have priority over programmed recordings.

■ **When the programmed settings overlap**

Before the first recording is completed, the second programme is scheduled to begin recording. When using a DVD-RAM disc, the recording of the previous programme stops 15 seconds before the next programme starts. (If you have been recording over 8 hours on the same drive, the current recording stops approximately 2 minutes before the next programme starts.)

When using a DVD-R or DVD-RW disc, the recording of the previous programme stops about 2 minutes before the next programme starts, to complete data process. In this 2 minutes, you cannot operate the loaded DVD-R or DVD-RW disc.

■ **On a programmed recording across the change-over of Daylight-saving time**

- When the clock gains across Daylight-saving time during a programmed recording, it means that the recording completion time is consequently set one-hour earlier. In this case, set the programmed recording one-hour longer in advance. If not set accordingly, the programmed recording stops one-hour shorter.
- When the clock loses across Daylight-saving time during a programmed recording, it means that the recording completion time is consequently set one-hour later. In this case, as the programmed recording continues one-hour longer, delete unnecessary chapters by chapter dividing after the completion of recording.

Notes

- The "Loading" icon appears in the top right of the screen after recording. This indicates that the unit is executing the final recording process (writing managing information). Operations other than changing channels cannot be done until this icon disappears. The time for executing this process differs depending on the recording time or capacity of the disc.
- Note that all recording content may be deleted if the unit is disconnected from a wall outlet, or a power failure occurs, during recording.
- If a power failure occurs within 5 minutes prior to the programmed recording start time, the programmed recording may not be executed.
- A programmed recording may not be executed correctly if scheduled when Daylight-Saving time starts or ends.

Recording

Before recording (Continued)

Initializing a DVD-RAM/RW disc (Logical Format)

Be sure to read this section prior to using a DVD-RAM/RW disc on this recorder for the first time. For DVD-R, initializing is not necessary.

A disc should be initialized in the following cases: (The recorder may display a message to request you to do so.)

e.g.

- When you use a DVD-RAM/RW disc on this recorder for the first time.
- If data fragments produced by repeated recording or erasing have accumulated.
- If a disc error has occurred.
- When you want to record on a DVD-RAM disc for PC. (➡ page 8)

Initializing formats a disc logically and insures that it will perform to its full capability. However, this erases all data on the disc, so make sure that it does not matter if data on the disc is erased whenever you initialize a disc.

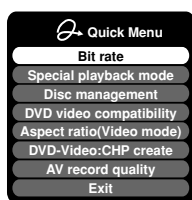
■ How to initialize a disc

To initialize a DVD-RAM disc, load it in the recorder. See ➡ page 20 for loading a disc.

1) During stop, press QUICK MENU.

The following menu appears. (The actual contents depends on the operational status of the recorder.)

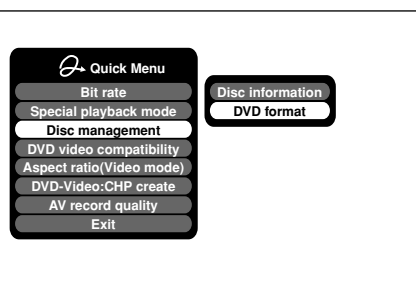
e.g.



2) Press ▲ / ▼ to select “Disc management,” then press ENTER.

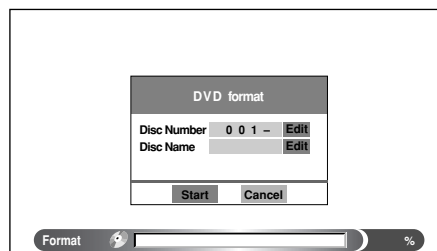
A sub-menu appears on the right side.

e.g.



3) Press ▲ / ▼ to select “DVD format,” then press ENTER.

e.g.



Numbering a disc

The recorder automatically numbers discs when initializing. However, you can assign a desired number (using 3 digits) and designate sides A and B on a double-sided disc. (DVD-RW discs cannot be numbered.)

- (1) Press the ▲ / ▼ buttons to select “Edit” of “Disc Number” then press the ENTER button.
- (2) Press the ▲ / ▼ buttons to select a digit.
- (3) Press the ◀ / ▶ buttons to shift.
- (4) Repeat steps (2) and (3).
- (5) Press the ENTER button.

Naming a disc

You can name a disc.

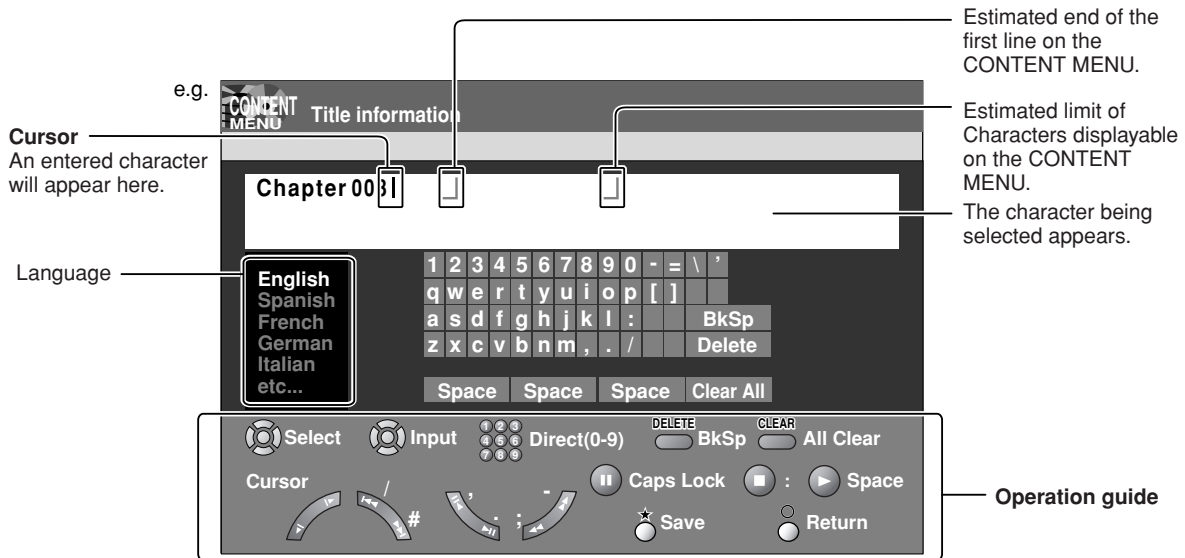
- (1) Press the ▲ / ▼ buttons to select “Edit” of “Disc Name,” then press the ENTER button. The character input window appears.
- (2) Enter a disc name following the procedure of “Entering characters” (➡ page 30).
- (3) Press the ★ button to eliminate the window.



Recording


Before recording (Continued)


Entering characters





■ Operation guidance of the remote control

To enter the character, normally use the direction ▲/▼/◀/▶ buttons on the remote. About the other buttons to be used are shown on the operation guide.


 : Shifts the cursor.


 : Enters a number.

 : Erases one character immediately to the left side of the cursor.

 : Erases all of the characters.

 : Caps Lock

 : Saves the changes and returns to the previous screen.

 : Cancels the changes and returns to the previous screen.

 : Enters a space.

 : Enters a symbol.

■ Switching a language

Before entering a character, move a cursor to the language selection area by pressing the ◀/▶ buttons. Then press the ▲/▼ buttons to select a language, then press the ENTER button.

■ Entering characters

The cursor may be followed by unwanted characters. You can erase them if necessary by either of the following measures:

Erasing characters

- Erasing all the characters on the writing board
Select "Clear All" by pressing the ▲ / ▼ / ◀ / ▶ buttons, then press the ENTER button.
Alternatively, press the CLEAR button.
- Erasing one character before the cursor
Select "BkSp" by pressing the ▲ / ▼ / ◀ / ▶ buttons, then press the ENTER button.
Alternatively, press the DELETE button.

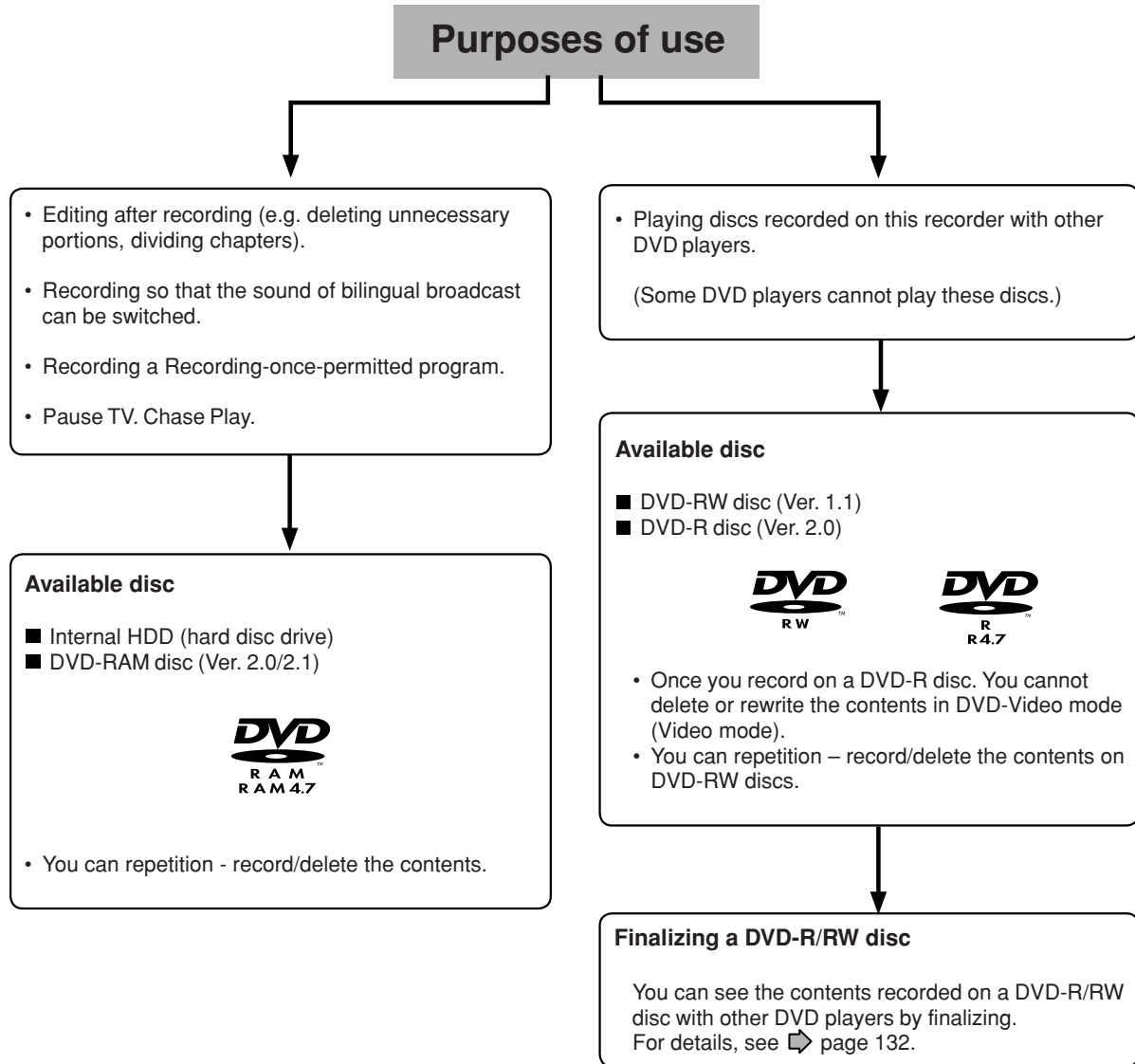
- (1) Press the ■■ button to select an input mode.
- (2) Press the ▲ / ▼ / ◀ / ▶ buttons to select a character, then press the ENTER button.
The selected character is input on the cursor.
- (3) Repeat steps (1) and (2) to enter characters.
- (4) When finished, press ★ to save the characters.
The characters you entered appears.

Notes

- You can enter up to 64 characters.
- When unnecessary information appears, or when you want to alter the input character, press the CLEAR button to erase all, or press the DELETE button to erase an unnecessary character.

Selecting a disc according to purposes of use (DVD-RAM/R/RW)

There are various types of discs having different standards.
Select one for your purpose of use.



When recording on a DVD-R/RW disc you need to set up the recorder due to the restriction by DVD-Video standard.
For details, see the next page.

Setting for recording on a DVD-R/RW disc in Video mode

This setting is necessary to play the contents on a DVD-R/RW disc with other DVD players.

Items to set up

When recording in Video mode, there are some restrictions by DVD-Video standard. Therefore, it is necessary to set up these items below. Set up the items in advance before copying contents from the HDD to a DVD-R/RW disc.

DVD compatible mode

Only the left channel sound and the right channel sound are available for recording in Video mode under DVD-R/RW standard.

Off: This is not for recording on a DVD-R/RW disc. Depending on Picture/Audio settings, making DVD Video may not be possible. (When recording directly on a DVD-R/RW disc of DVD-Video mode, the recording proceeds with "On (Mode I)" on even though "Off" is set.)

On (Mode I): In multichannel broadcasting, only the left channel sound is recorded.

On (Mode II): In multichannel broadcasting, only the right channel sound is recorded.

Aspect ratio

"4:3" and "16:9" cannot be mixed in one title. Therefore, set the aspect ratio before recording.
4:3: Set the aspect ratio to 4:3
16:9: Set the aspect ratio to 16:9

DVD-Video: CHP create

This is the setting to divide a title into some chapters. It is convenient to skip scenes.
Off: Chapter dividing is not available.
5 min, 10 min, 15 min, 20 min:
Select an interval for chapter dividing.

Note

- When the number of chapters reaches a limit, chapters are not divided anymore. The limit number of chapters is dependent on conditions of a DVD-R/RW disc.

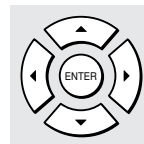
How to set up

1 Press SETUP.

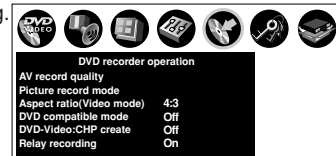


SETUP menu appears.

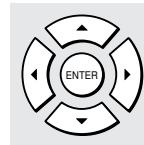
2 Select "DVD recorder operation" and press ENTER.



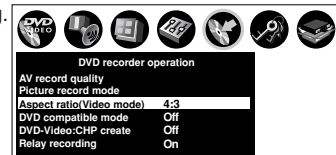
e.g.



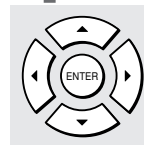
3 Select "Aspect ratio (Video mode)" and press ENTER.



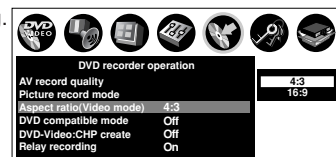
e.g.



4 Press ▲ / ▼ to select an item and press ENTER.



e.g.



Set up "DVD compatible mode" and "DVD-Video: CHP create" as step 3, 4.

Recording a TV programme

To record a TV programme currently being broadcast, follow the procedures of this chapter.

■ Preparation

1 Press HDD or DVD to select a media to record on.

HDD : To record on the HDD.

DVD : To record on a DVD-RAM/R/RW disc.

2 Press INPUT SELECT repeatedly to select a recording source.

Each time you press the button, the indicator alternates.

Ch: To record a TV programme with recorder tuner.

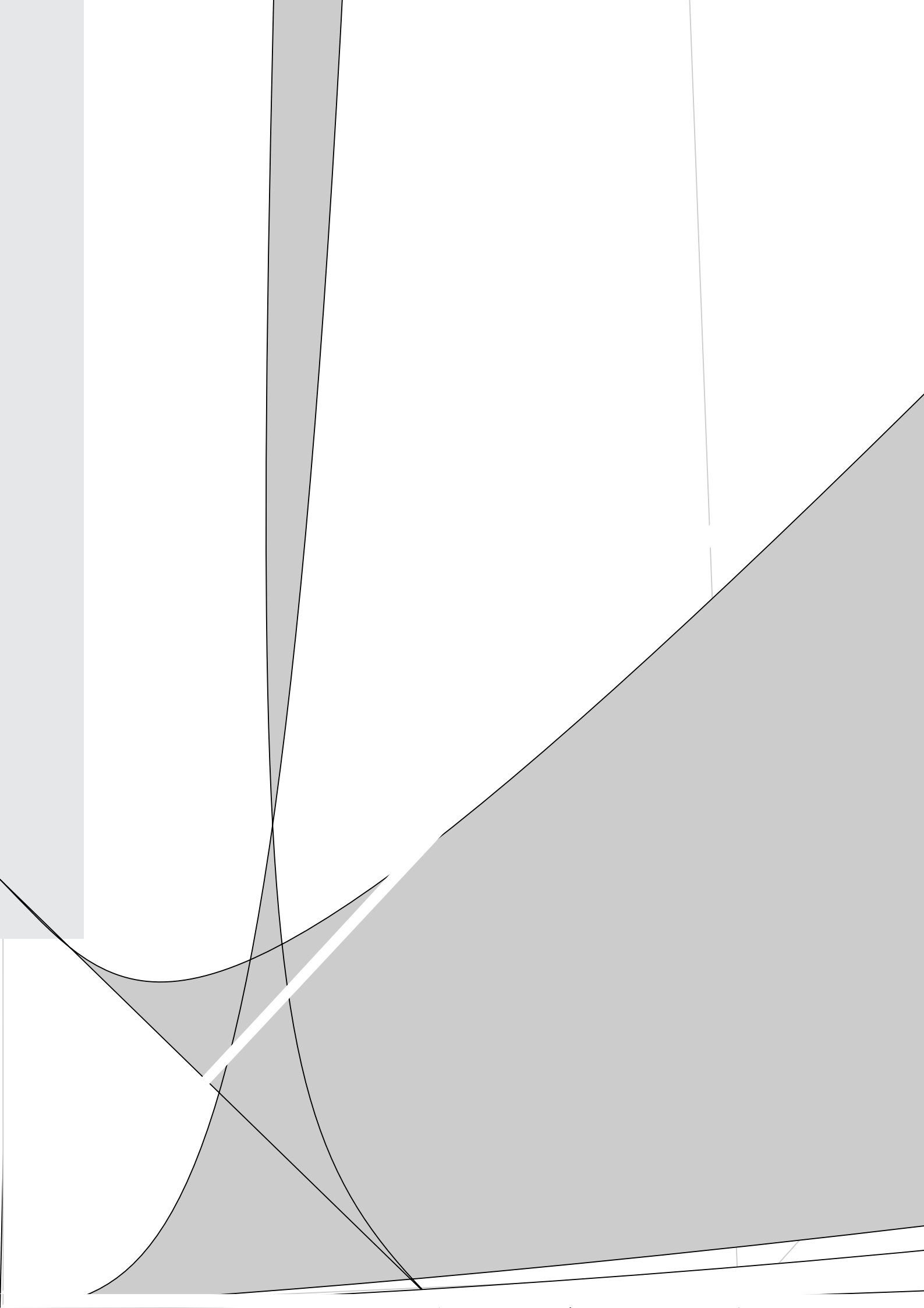
L: To record a source connected to the INPUT jacks on the front panel (➡ page 39).

AV1: To record a source connected to the AV1 socket on the rear panel (➡ page 39).

AV2: To record a source connected to the AV2 socket on the rear panel (➡ page 39).

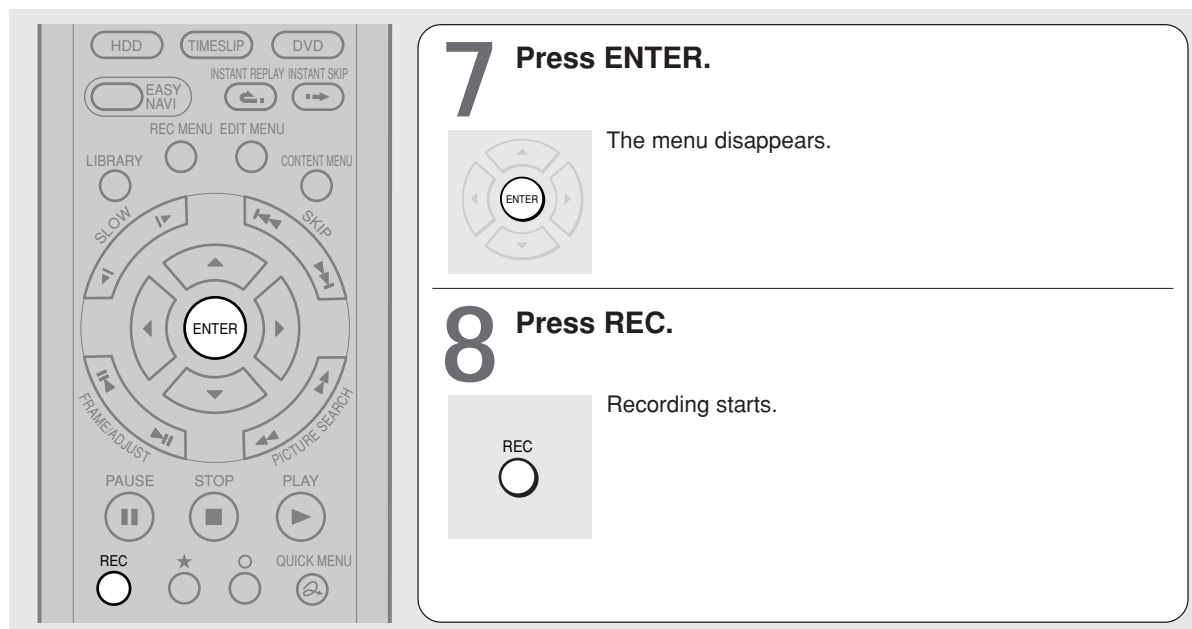
L-U: To record pictures currently played (➡ page 116).

To record a satellite programme, press the SAT.CONT. button to turn on the SAT indicator. The input you have set (➡ page 49, INSTALLATION GUIDE) is selected. For details, see ➡ page 19.



Recording

Recording a TV programme (Continued)



■ Selecting the recording mode

Before recording, you can select the setting of picture and sound quality. During stop mode, press the REC MODE button. By pressing the button repeatedly, you can select one from 5 settings of “AV record quality” appearing in the front panel display.

Notes

- During recording, you cannot change the recording parameters, such as modes, channels, etc.
- The number of titles cannot exceed 99 for a DVD-RAM/RW/R disc or 396 for the HDD.
- One continuous recording cannot exceed in any case 8 hours. Recording automatically stops at 8 hours.
- During normal recording, you can set the programmed recording using the REC MENU.
- You cannot start recording immediately before a programmed recording starts.
- For recorded sound, see ➡ page 76.
- During monaural sound recording, the same sound is recorded on both the left and right channels.
- When “Audio” is set to “L-PCM”, multi-channel sound is recorded as stereo sound. When playing this recorded sound, you will hear NICAM Mode I and NICAM Mode II sounds simultaneously. Press the AUDIO button to select a desired sound.
- When “DVD compatible mode” is set to “On (Mode I)” or “On (Mode II)”, the unit records the same sounds on both the left and right channels when receiving monaural sound. When receiving the NICAM Mode I/Mode II sound, the selected sound, Mode I or Mode II, is recorded on both the left and right channels.
- Depending on the disc condition, pressing the REC button may take a longer time to start recording.
- When a starting time of a programmed recording comes, a recording in execution is stopped and the programmed recording starts. If you do not want to stop the recording, cancel the timer program before it starts.
- Even if you set “Aspect ratio(video mode)” (➡ page 162) to “16:9”, images are recorded in 4:3 aspect ratio when using a DVD-R or DVD-RW disc with “Rate” set to “1.0” (Mbps) or “1.4” (Mbps).
- Be careful of a programmed recording across the change-over of Daylight-saving time (➡ page 27).

■ **To stop recording**

Press **STOP**.

■ **To pause recording (to omit an unnecessary portion)**

During recording, press PAUSE.

To resume recording, press it again.

Note

- Pausing recording automatically creates a new chapter division at that point.

■ **To change a TV channel to be recorded**

1) **During recording, press PAUSE.**

Recording pauses.

2) Press **CHANNEL** to change the channel.

3) Press **PAUSE** to resume recording.

■ **To view a TV programme while recording another**

1) Start recording on this recorder.

2) Press the **TV/DVR** button.

3) Using the channel selector of the TV, select a desired channel on the TV.

If you press the **TV/DVR** button again, you will go back to the display that you are recording.

■ **To record and play at the same time**

● **To start recording while playing a disc**

Stop playback, then select the other disc by pressing the **HDD** or **DVD** button, and start recording on that disc.

● **To play a disc while recording on another disc**

Select the disc that is not being recorded by pressing the **HDD** or **DVD** button, and start playback on the disc.

Note

- During a dubbing job, the unoccupied drive is available for recording or playback, however, cannot perform a function which records and plays simultaneously.

■ **To set an end time of a recording which is in progress**

1) **During recording, press QUICK MENU.**

The Quick Menu appears.

2) Press **▲ / ▼** to select "End time" then press **ENTER**.

The display changes as follows:


e.g.



3) Press **◀ / ▶** to select an item then press **ADJUST** to change the value.

4) Press **ENTER**.

Notes

- By setting an end time, it is memorized as a programmed one, and the  indicator in the front panel display illuminates to indicate that the recorder holds a timer program of recording.
- The programmed end time must be set for 5 minutes later than the current time.

Recording

Recording a TV programme (Continued)

■ To play a recorded title while recording another on the same disc (Recorded Title Play)

HDD **DVD-RAM**

During recording, you can play a title recorded on the same disc.

1) While recording, press **CONTENT MENU**.

2) Press **▲ / ▼ / ◀ / ▶** to select a desired title, then press the **ENTER**.

Playback of the selected title starts.

Pressing the **STOP** button stops playback, and the content currently recorded returns. If you press the **PLAY** button, playback resumes from the location you last stopped.

Notes

- The playback picture may appear after a delay of several seconds.
- While you are using this function, the following operations/functions are not available.
 - Programmed playback (repeat playback, intro scan etc.)
 - Editing (Playlist programming, dubbing, title/chapter naming, title thumbnail setting, etc.)
- This function is not available at a 10 minutes overlapped portion of the relay recording or A-B recording (➡ page 50).
- Depending on the data condition, playback may pause.
- During a dubbing job, this function is not available.

■ When recording contents which will be copied to a DVD-RW/R disc later on

Before recording, set "DVD compatible mode" (➡ page 162) to "On".


Each timer program must to be set its "DVD compatible mode" from the Quick Menu.

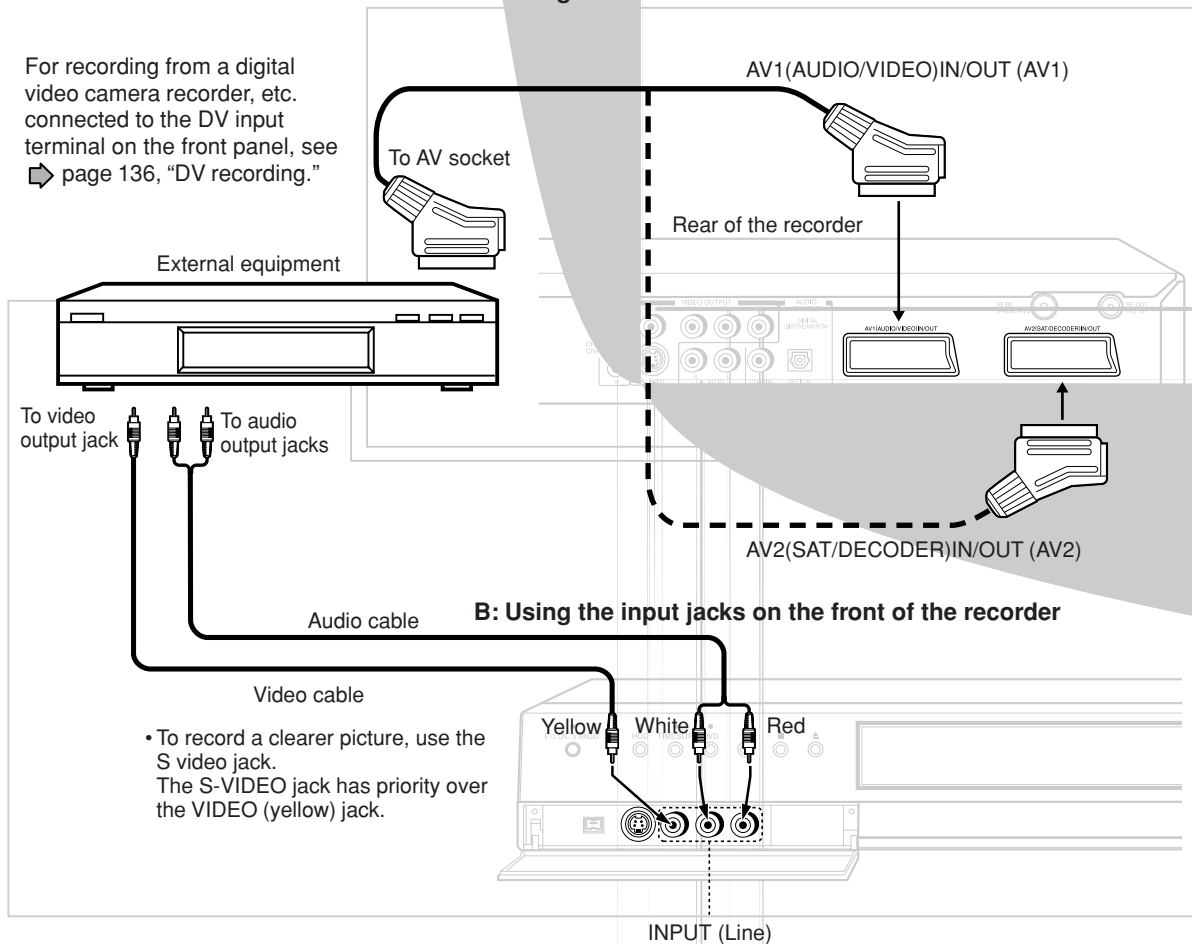
Recording an external source

You can record programmes from connected external sources on the HDD or a DVD-RAM/R/RW disc.

Connect according to A or B.

A: Using the AV socket on the rear of the recorder

For recording from a digital video camera recorder, etc. connected to the DV input terminal on the front panel, see  page 136, "DV recording."




- To record a clearer picture, use the S video jack. The S-VIDEO jack has priority over the VIDEO (yellow) jack.

■ Preparation

- When you record on a DVD-RAM/R/RW disc, load it into the recorder.
 - Load a disc which has sufficient remaining space to record the programme.
 - Make sure the loaded disc is not write-protected.


Notes

- If a source of high quality sound track such as DVD audio is recorded with this recorder, the sound quality becomes regular audio CD quality. Refer to the instructions of the connected equipment.
- When you record an external source onto a DVD-R/RW disc or the contents which will be copied to a DVD-R/RW disc later on, set the connected equipment to output sound you want to record (if selectable such as multiplex broadcasting), as the recorder records sounds of external source in stereo onto a DVD-R/RW disc, ignoring the setting of "DVD compatible mode" ( page 162).
- DVD-R/RW discs cannot record contents with copy restriction signal embedded (copy-protected or copy once contents), DVD-RAM discs can record copy once contents.
- Some satellite programmes via a connected tuner may contain both 4:3 pictures and 16:9 pictures. DVD-R/RW discs cannot record such contents, under restriction of the DVD-Video standard. To record these programmes, use the HDD or DVD-RAM discs.

(Continued)

Recording

Recording an external source (Continued)



1 Press **INPUT SELECT** repeatedly so that “L,” “AV1” or “AV2” appears on the front panel display, corresponding to the input in which the device is connected.

Each time you press the button, the indicator changes.

L: To record pictures from equipment connected to the INPUT jacks on the front panel.

AV1: To record pictures from equipment connected to the AV1 socket on the rear panel.

AV2: To record pictures from equipment connected to the AV2 socket on the rear panel.

L-U: To record pictures currently played (➡ page 116).

To record a satellite programme, press the SAT.CONT. button to turn on the SAT indicator. The input you have set (➡ page 49, INSTALLATION GUIDE) is selected. For details, see ➡ page 19.

2 Press **HDD** or **DVD** to select a recording media.

HDD : To record on the HDD.
DVD : To record on a DVD-RAM/R/RW disc.

3 Start playback of the source content on the connected equipment.

4 Press **REC** of this recorder to start recording.

5 When recording is completed, press **STOP**.

■ Notes on recording from a connected VCR or camcorder

● Check the condition of the source equipment before playing.

Set the equipment in good condition, e.g. clean the head or adjust the tracking, etc. to obtain optimum playback. Bad conditions may produce noises in playback. These noises may be detected as copy protection signals, resulting in stop of recording on this recorder.

Play a source in an usual mode. Avoid using any correcting or enhancing features, as they may add signals which can be detected as copy protection signals.

Source quality or tape condition beyond adjustments on the source equipment may stop a recording on this recorder.

● Do not operate the source equipment during recording on this recorder.

Operations such as pausing, resuming, fast-forwarding (CUE) and fast-reversing (REVIEW), etc. may produce noises, which may be detected as copy protection signals. Therefore, first start playback on the source equipment to confirm that the desired source can be played properly, and then start recording on this recorder. Do not operate the source equipment during recording. After completing the desired scene, stop the recording on the recorder, and then stop the playback on the source equipment. Delete unnecessary scenes using editing functions (▶ page 118). If you want to operate the source equipment during recording, pause or stop the recording. After operating the source equipment, resume the recording as above.

● When recording from a camcorder

Follow the above notes. Be sure to power the camcorder by its AC adapter, not batteries. If batteries are used, the recording may be finished on the way.

■ Satellite monitor function

• To view a satellite programme while recording a TV programme

- 1) Start recording on this recorder.
- 2) Press the SAT.MONI. button.
- 3) Select a desired satellite channel.

• To view a satellite programme while the recorder is in the playback or stop mode

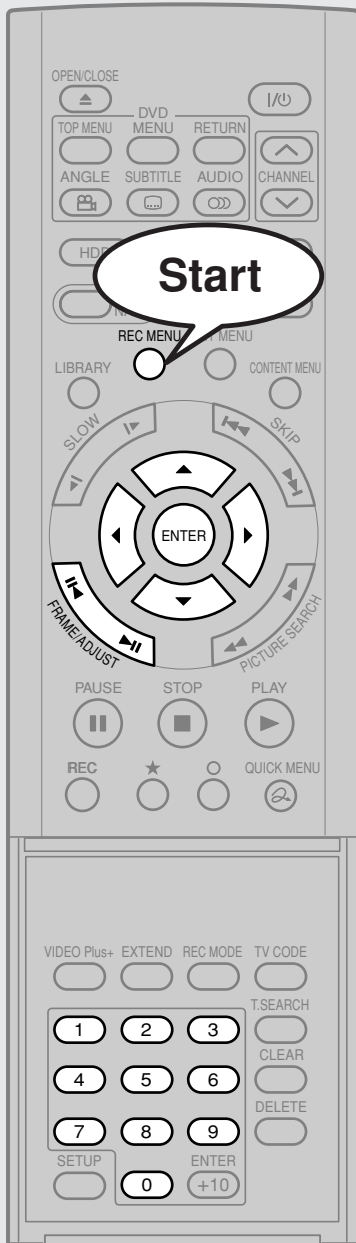
- 1) Press the SAT.MONI. button.
- 2) Select a desired satellite channel.

Notes

- Pressing the SAT.MONI. button again ends the satellite monitor function.
- While the satellite monitor function is working, "SATMON" is displayed on the front panel display.

Programming a recording (REC MENU)

Use the REC MENU to program a recording. It will take less time to prepare, as it provides all necessary information for recording, including estimated disc space remaining.
 For more information, see “Before recording” (➡ page 26).
 Be careful when you program a recording across the change-over of Daylight-saving time (➡ page 27).



1 During stop, press REC MENU.

The “REC MENU Timer Programming” appears.

e.g.

Exec	CH	Date	Start	End	Media	Mode	Rate	Audio	Disc
1	---	-----	----	----	HDD	SP	4.6	D	---

2 Press ENTER.

“CH” is ready for setting.

e.g.

Exec	CH	Date	Start	End	Media	Mode	Rate	Audio	Disc
2	2	-----	----	----	HDD	SP	4.6	D	---

3 Select an item by pressing ◀/▶, then press ADJUST (⏮/⏭) to set the item.

e.g.

Exec	CH	Date	Start	End	Media	Mode	Rate	Audio	Disc
4	4	4/10 (Su)	7 00	8 00	DVD	SP	4.6	D	---

- Refer to the setting items on the next page.
- You can also set the item by pressing the ▲ / ▼ buttons.
- “CH” can be input by the number buttons.
 To select channels of the connected satellite receiver, first press the SAT.CONT. button so that “S” appears in “CH”, then select the channels (1-999). The number buttons are also available. Be sure to keep the satellite receiver powered on.

e.g.

Exec	CH	Date	St
1	1	-----	---

SAT.CONT.	S	---
(1)	(2)	(3)
(4)	(5)	(6)
(7)	(8)	(9)
(0)	+10	S 551

e.g.

4 When complete, press ENTER.

To programme another recording, press the ▼ button to move to the next line, then repeat steps 2 to 4.

5 Press REC MENU to exit.

Your programme is entered.
 • If you want to turn off the power, press the power button.

■ Setting items

Exec	√	A timer program with this mark will be executed, To disengage, remove this indicator.
CH	1-99, L, AV1, AV2	Select a channel you want to record. (While “L”, “AV1” or “AV2” is selected, the number buttons are not available to select channels.)
Date	Specified date (from today to 2 month later) Every Sunday to Saturday, Monday to Thursday, Monday to Friday, Monday to Saturday, everyday.	Select a date of a TV programme you want to record.
Start*	0:00 - 23:59	Enter a starting time of recording. (An initial setting is 10 minutes later.) You can also use the number buttons under the lid.
End*	0:00 - 23:59	Enter an end time. (Set the timer to begin recording no sooner than 2 minutes past the current time. Recording must not exceed 8 hours.) You can also use the number buttons under the lid.
Media	DVD	When you record on a DVD-RAM/RW/R disc.
	HDD	When you record on the HDD.
	A-B	When you use A – B (double-side) recording (▶ page 50). “Mode” is automatically set to “Auto”.
Mode	SP	Standard setting of recording time and picture quality. (Not applicable when “L-PCM” is selected.)
	LP	For longer recording, but inferior to “SP” in picture quality. (Not applicable when “L-PCM” is selected.)
	MN(Manual)	Customized setting of rate (bit rate).
	Auto	To set a rate automatically according to the remaining volume of the disc. (If the disc does not have room for the TV programme, the programme cannot be recorded to the end.) When you select an HDD, the recorder records for a length of time corresponding to that of a blank DVD-RAM disc (4.7GB). Not applicable to a recording for 2.5 hours or longer.
Rate	1.0, 1.4, 2.0-9.2	Not applicable when “SP”, “LP” or “Auto” is selected. You can set a rate at intervals of 0.2Mbps from 2.0 to 9.2. (The upper limit of the value depends on the “Audio” setting.)
Audio	□□ D /M1**	Standard setting.
	□□ D /M2**	Superior to □□ D/M1. Recommended for recording music programmes.
	L-PCM	Uncompressed original digital audio. Equal quality to audio CD, but recordable time will be shorter.
Disc		A programmed recording onto a Reservation Disc is marked with an icon.

* “Start” and “End” accept time up to 30:59 if you use the number buttons. When you enter a time over 24:00 and press the ENTER button, “Date” will gain one day, and the time will be corrected to 0:00-6:59.

** The digital recording technology for consumer products of Dolby Laboratories is used for □□ D/M1 and □□ D/M2. Dolby Digital 192 kbps is set for □□ D/M1 and Dolby Digital 384 kbps for □□ D/M2.

Notes

- See ▶ page 53, 161 for details on “Mode”, “Rate”, and “Audio”.
- If you record with setting the bit rate to about 4.0 Mbps or below, the recorded pictures may not be played properly if change the playback speed. There will be noise, and the picture quality is lower than other rate settings.

■ Suggestions for the picture quality setting

- **For normal recording or when you cannot decide which mode to choose.**
Select “SP”.
- **When you need a longer recording time and video quality is not important**
Select “LP” lower quality than “SP” in picture quality, but it can record longer.
- **To record a high picture quality**
Select “MN (Manual)” to set a desired bit rate. The higher the bit rate, better the picture quality is, but the shorter the recording length becomes. We recommend that you set this between 6.0 Mbps and 6.8 Mbps.
- **To fill the disc**
Select “Auto”. A bit rate is calculated automatically according to the remaining volume of the disc. Some contents may not be recorded on the disc even if you select this function. This is not the function to make full use of the remaining space capacity.

(Continued)

Recording

Programming a recording (REC MENU) (Continued)

Notes

- The disc tray does not close automatically, even when the recording start time arrives. Set the recorder loaded an available DVD-RAM/R/RW disc beforehand.
- It is not possible to record the same contents onto both the HDD and a DVD-RAM/RW/R disc simultaneously.
- When there is little time before a programmed recording starts, you may not be able to start another recording.
- Playback of the DVD drive pauses when a programmed recording onto the HDD starts.
- Confirm the “DVD compatible mode” (➡ page 162) setting. “On (Mode I)” or “On (Mode II)” records main sound or sub-sound of multiplex broadcasts respectively, and does not record the other. Therefore, select “On (Mode I)” or “On (Mode II)” only when you record onto a DVD-R/RW disc.
- When recording onto a DVD-R/RW disc, set “DVD compatible mode” (➡ page 162) to the desired recording sound for each timer program.

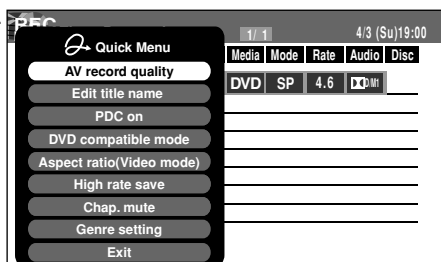
■ Setting the details for every timer programme

You can specify detail items for each of your timer programme.

1) Press QUICK MENU at step 3 on ➡ page 42.

The Quick Menu is displayed.

e.g.



2) Press ▲ / ▼ to select an item and press ENTER.

AV record quality

Select an item from registered selections (1-5) for the picture and audio quality.

Edit title name

Enter a name for the timer program.
Use the input screen to enter a name (➡ page 30).

PDC on

Perform the programme PDC recording.

PDC (Programme Delivery Control System)

Programme PDC is a system of telling the recorder when a programme actually starts. Typically, when you want to record a programme you will tell the recorder to start recording, probably, five minutes before the advertized starting time of the programme and to finish ten minutes or so after the programme is due to finish. So even if the programme starts early or finishes late you will normally still get to see what you wanted to record. However when live programmes over-run or the day's television schedule is changed from that advertized, you may miss the desired programme

which may have been delayed or even cancelled and the recorder will record the programme even if it is two or more hours late. With PDC, you enter the exact start time and the recorder will wait until the signal is sent to confirm the programme is starting and the recorder will record the programme even if it is two or more hours late.

PDC off

Perform the normal programmed recording.

DVD compatible mode

When recording onto a DVD-R/RW disc or recording a content which will be copied to a DVD-R/RW, make this selection (➡ page 162) for each timer program.

“Off” setting is neglected and regarded as “Main” in DVD-R/RW recording.

Aspect ratio(Video mode)

Select the aspect ratio when recording onto a DVD-R/RW disc. (➡ page 162)

High rate save

Use this feature when you want to save space while using the best picture quality rate for recording. This will use 9.2 Mbps for recording and reduce the rate temporarily for the portion where the high rate is not required where picture is fairly constant.

Off : This feature is disabled and the normal recording is performed.

On : This feature is enabled.

Notes

- When the audio quality is set to “L-PCM”, the picture quality is set to “Manual 8.0 Mbps”. When the audio quality is set to any other selection, the picture quality is set to “Manual 9.2 Mbps”.
- While this is set to “On,” you cannot change the mode or rate.
- The space used may not change, depending on the picture contents.

Chap. mute

This feature automatically creates divisions for chapters when no audio (no audible sound) portion is found.

For example, when you have recorded a programme of music clips, you can use this feature to jump to the beginning of a clip during playback. It does not create completely independent chapters or automatically divide into chapters when no audio portion is found.

Off : This feature is disabled.

On : Division for chapters when no audio portion is found.

Notes

- Divisions for chapters may not be created, depending on the contents of the programme or the condition of no audio portion, or it may be created at different positions. A division for a chapter may be created within a music clip.
- Depending on the specification made for the recording sound level, a division for a chapter may not be created or it may be created at different positions.
- Setting "On" may create many chapters, and their number may reach the maximum allowed. At that point, no more chapters can be created. In this case, decrease the chapters, for example by combining chapters (➡ page 94).
- This feature is not available on DVD-R/RW discs. To create chapters automatically during recording on DVD-R/RW discs, set "DVD-Video:CHP create." (➡ page 162).

Genre setting

You can set a genre before setting programmed recording.

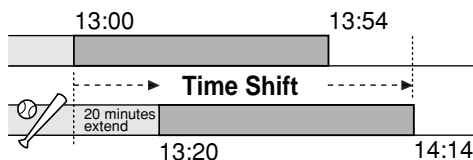
To see the registered list, refer to Genre setting (➡ page 163).

Set the genre according to recording contents.

The selection you have made for the timer program is shown at the bottom of the display.

■ Shifting a time period of a recording (Time Shift)

If a prior TV programme extends beyond its scheduled time and into one that you programmed, you can shift the programmed start and end time of the recording.



1) Press REC MENU.

The REC MENU appears.

2) Press ▲ / ▼ to select a timer program you want to shift the time period.

3) Press EXTEND.

"Start time" and "End time" are ready to be input.

4) Press EXTEND repeatedly.

Each time you press the button, "Start time" and "End time" is shifted in 10 minutes intervals to, up to 60 minutes later.

5) Press ENTER.

6) Press REC MENU to exit.

Note

- After you shifted the time of a timer program which will be repeated daily or weekly, you should restore the original start/stop time for future recordings.

■ Adding a timer program

1) Press REC MENU.

The REC MENU appears.

2) Press ▼ to select a blank line, then press ENTER.

3) Press ◀ / ▶ to select the item, then press ADJUST to set the item.

4) When complete, press ENTER.

5) Press REC MENU to exit.

Note

- While the recorder is preparing for or executing a programmed recording, you cannot add a timer program which will start within 5 minutes and 15 seconds from the current time.

■ Deleting a timer program

1) Press REC MENU.

The REC MENU appears.

2) Press ▲ / ▼ to select a timer program you want to delete.

3) Press QUICK MENU.

The Quick Menu appears.

4) Press ▲ / ▼ to select "Program cancel", then press ENTER.

Check the message, then delete the entry.

5) Press REC MENU to exit.

Note

- You cannot delete a timer program while another is executed.

Recording

Programming a recording (REC MENU) (Continued)

■ Correcting a timer programme

- 1) Press **REC MENU**.
The REC MENU appears.
- 2) Press **▲ / ▼** to select a timer program you want to change, then press **ENTER**.
- 3) Press **◀ / ▶** to select an item, then press **ADJUST** to set the item.
- 4) Press **ENTER**.
The modification is registered.
- 5) Press **REC MENU** to exit.

Important

- You cannot correct a timer programme within 5 minutes before the recording start time. You can only delete the timer program.

Note

- You can programme a timer recording whose start time has already passed, unless the another programme recording will start within 5 minutes. The portion of the program before the recording starts cannot be saved.

■ Elapsed programing (using past data for programing)

- 1) Press **REC MENU**.
The REC MENU appears.
- 2) Press **QUICK MENU**.
The Quick Menu appears.
- 3) Press **▲ / ▼** to select “Elapsed programing”, then press **ENTER**.
The “Elapsed programing” list appears.
- 4) Press **▲ / ▼** to select a program, then press **ENTER**.
- 5) Press **◀ / ▶** to select an item to correct, then press **ADJUST** to change the value.
- 6) When complete, press **ENTER**.
- 7) Press **REC MENU** to exit.

Note

- Up to 36 past programmes are saved. Addition of a new one deletes the oldest one.

■ Deleting the past data for programming

- 1) On the REC MENU, press **QUICK MENU**.
- 2) Press **▲ / ▼** to select “Elapsed programing”, then press **ENTER**.
The “Elapsed programing” list appears.
- 3) Press **▲ / ▼** to select a program to delete.
- 4) Press **QUICK MENU**, then **▲ / ▼** to select “Elapsed programing delete”, and press **ENTER**.
The selected data is deleted.
If you want to delete all data at once, select “All elapsed programing delete”.

■ Remaining volume

- 1) Press **REC MENU**.
The REC MENU appears.
- 2) Press **QUICK MENU**.
The Quick Menu appears.
- 3) Press **▲ / ▼** to select “Disc budget calculation” then press **ENTER**.
The Disc budget calculation menu appears.
- 4) Press **▲ / ▼** to select a timer program, then press **ENTER** or press **ADJUST**.
The recorder calculates on a bar graph how much a specific programme (identified by a check mark) will occupy on the disc.
Pressing the **ADJUST** button can display or remove the check mark.

e.g.

CH	Date	Start	End	Media	Mode	Rate	Audio	Result
3	4/10 (Su)	11:30	11:50	HDD	MN	6.6	DD-M2	○
10	4/13 (We)	9:30	10:00	DVD	MN	6.6	DD-M2	○
42	4/16 (Sa)	10:30	11:30	HDD	LP	2.2	DD-M1	○
4	4/16 (Sa)	8:30	11:30	DVD	SP	4.6	DD-M2	✕

Selected program Available disc space

When the entry item is marked X, the recording does not fit. Change the setting.

5) Correct the parameters of the timer programme if necessary.

(Skip to step 7 if you do not need this.)

You can change "Media", "Mode", "Rate" and "Audio".

Select an item you want to modify and press the ENTER button. The item will be ready to be altered. Press the ADJUST button to modify. When complete, press the ENTER button.

You can adjust to a lower mode (SP to LP) and/or lower the rate to reduce the quality of the recording, and thus provide more disc capacity (space).

6) Press ★.

Programme modification is registered.

7) Press REC MENU to exit the GUI.

Notes

- When a Reservation disc (➡ page 51) is inserted in the recorder, you cannot check the remaining volume of other discs.
- The nearest 8 programmes are calculated at a time.
- While the recorder is preparing for or executing a programmed recording, any programme modification cannot be registered. Only programmes which will start after 5 minutes or later can be modified.
- Available disc volume is not displayed for a DVD-R/RW disc on which DVD-Video finalize process was executed.

■ To stop a programmed recording

To finish,

Press ■ on the front panel twice.

When you press it once, a message appears. While the message is displayed, press the ■ button once again.

To pause recording,

Press II on the front panel.

To resume recording, press it again.

■ Turning the power off automatically after completing a programmed recording

1) While executing a programmed recording, press QUICK MENU.

The Quick Menu appears.

2) Press ▲ / ▼ to select "Auto power off" then press ENTER.

■ Keeping the power on even after the programmed recording finished

If the recorder turns itself on to execute a programmed recording, it will turn itself off after finishing the recording. You can restrict this and keep the recorder powered on.

1) While executing a programmed recording, press QUICK MENU.

2) Press ▲ / ▼ to select "Continuous power on" then press ENTER.

■ Delaying the end time of a programmed recording while it is recording

While a programmed recording has started, open the lid of the remote control and press EXTEND.

The first press displays the programmed end time (in the front panel display).

Each time you press the button, it is delayed 10 minutes, up to 60 minutes.

Notes

- Pressing a button except EXTEND in the above procedure will set the currently selected delay.
- You cannot delay the end time of a programmed recording which will end within 1 minute from the current time.
- Even if you delay the end time of a programmed recording, the recording will stop when the disc is exhausted. Also it will stop if 8 hours elapsed.

Recording

HDD DVD-RAM DVD-RW DVD-R

VIDEO Plus+ Recording

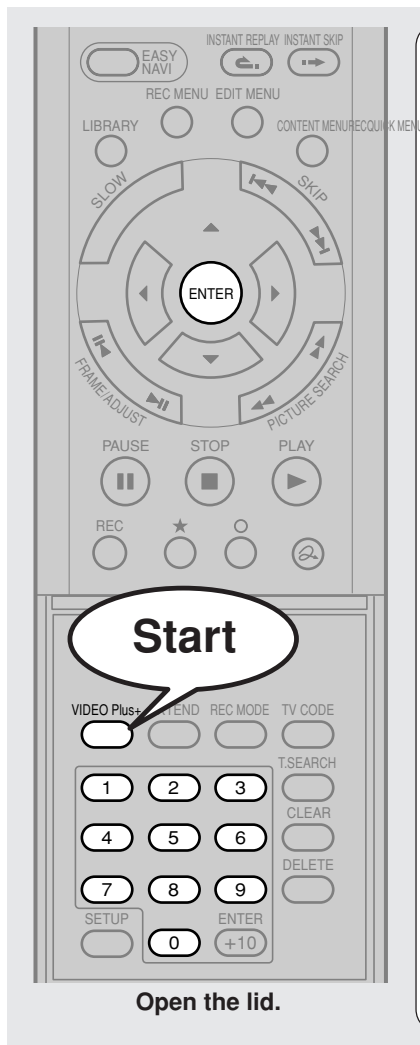
You can program a recording simply by entering the corresponding PlusCode® numbers.

■ Preparation

- Make sure that the recorder's clock, receiving channels and their guide channels are set correctly (➔ page 24, "INSTALLATION GUIDE").
- When you record on a DVD-RAM/R/RW disc, load it into the recorder.
 - Load a disc which has space available to record the programme.
 - Make sure the loaded disc is not write-protected.

For satellite receiver users:

- Finish the set top box setting (➔ page 49, "INSTALLATION GUIDE"), and turn on the satellite receiver.



1 Press VIDEO Plus+.



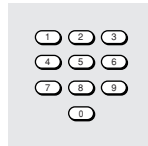
The "REC MENU Timer Programming" with the PlusCode input window appears.

e.g.

Exec	CH	Date	Start	End	Media	Mode	Rate	Audio	Disc
✓	3	4/10 (Su)	11:30	11:50	HDD	MN	6.6	DDP02	
✓	10	4/13 (We)	9:30	10:00	DVD	MN	6.6	DDP02	
...	HDD	SP	4.6	DDP01	

VIDEO PLUS+
PLUS CODE: ■■■■■■■■

2 Press the appropriate number buttons to enter the PlusCode.



- Refer to newspapers or TV magazines to obtain PlusCodes.
- To correct entered digits, press the CLEAR button to erase them and press the number buttons to re-enter again.

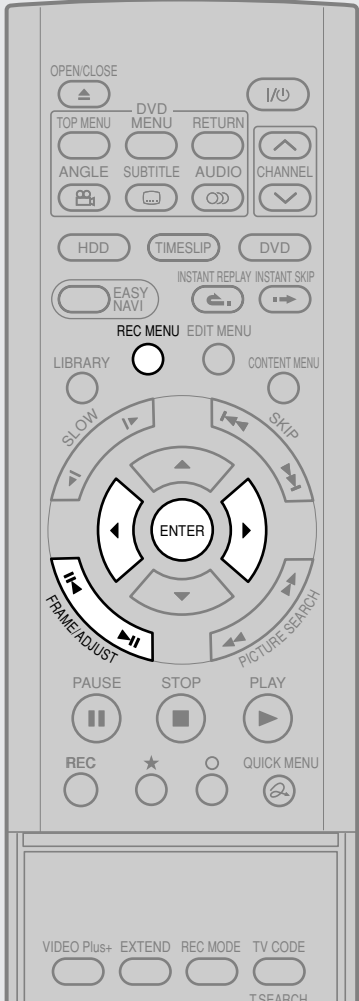
Note

- When you enter the number starting from 0, a 9-digit number is entered.

3 Press ENTER.



The entered programme is highlighted.



4 Select an item by pressing ◀/▶, then press **ADJUST (⏮/⏭)** to set the item, if necessary.

For details about items, see ➡ page 42.

To record a program from the connected satellite recorder, keep the satellite receiver powered on.

5 Press **ENTER**.

6 To enter another program, repeat steps 1 to 5.

7 After completing all your entries, press **REC MENU**.

The REC MENU disappears.

To confirm your data, it is recommended to turn on the REC MENU again.

Notes

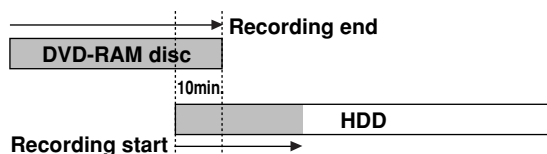
- The maximum timer program capacity is 32. Any new program will be rejected if the recorder is full. To enter a new program, you must cancel an existing one (➡ page 45).
- Depending on the program, an actual recording may continue a few minutes longer than programmed.
- Entries made under the following conditions will be rejected.
 - when an entry is for a non existing program.
 - when the digit order of an entry is in error.
 - when the guide channel has not yet been set.
- To erase a timer program, press the QUICK MENU button to display a Quick Menu on the REC MENU. For details, see “Deleting a timer program” (➡ page 45).
- When recording onto a DVD-R/RW disc, set “DVD compatible mode” (➡ page 44) to the desired recording sound for each timer program.
- In the event of a broadcast delay, the next program starts even if when the start time arrives prior to the end of the previous program.

Others

Relay recording HDD DVD-RAM

This function automatically diverts a recording to the HDD if a DVD-RAM disc is near capacity.

When the remaining time of the DVD-RAM disc has reached about 10 minutes, the recorder starts recording the same content on the HDD as well as DVD-RAM. The chapter marks are automatically made at the start and end points of the overlapped recording portion. You can delete the unnecessary overlapped portion afterwards by referring to the chapter marks.



To engage the Relay Recording function, set "Relay recording" to "On" (➡ page 162).

Notes

- When the capacity of the HDD is not sufficient, the operation is cancelled.
- While recording the overlapped portion, you cannot pause the recording.
- While recording the overlapped portion, you cannot play a recorded title on the same disc.
- When another programmed recording is set just after the relay recording, the relay recording stops about 2 minutes before the next programmed recording starts.

A–B recording HDD DVD-RAM

This function records one programme at the highest possible rate onto a double sided DVD-RAM disc (9.4GB) or 2 single sided DVD-RAM discs (4.7GB). You can record a long programme with a clearer picture on a DVD-RAM disc.

The A–B recording function records the first half of the programme on the DVD-RAM disc and second half of the programme on the HDD. After the recording, copy the second half recorded on the HDD to the DVD-RAM disc. You can create a DVD-RAM library that has each half of a programme recorded at the highest possible quality.

Notes

- For A–B recording, use a 12 cm DVD-RAM disc (4.7GB single sided or 9.4GB double sided) that is formatted on this unit just before recording. Do not use an 8-cm disc. Check that the total available space of the HDD is sufficient for the recording one DVD-RAM disc.
- DVD-RW/R discs are not available on the A-B recording.

● To use the A–B recording function

At step 3 (➡ page 42), set "Media" to "A–B". "Mode" is automatically set to "Auto".

When the timer setting is completed, "Ⓢ" illuminates on the front panel display.

● When recording starts

The same content is recorded on the HDD and the DVD-RAM disc 10 minutes before the unit exchanges the recording media.

Chapter marks are automatically made at the start and end points of the overlapped recording portion, so you can delete the unnecessary overlapped portion afterwards.

If no DVD-RAM disc is loaded, or the loaded disc contains recorded content, all of the recording is made entirely on the HDD. The recording will contain one title with a chapter mark at a dividing point.

During A–B recording, the picture quality mode is set to "Auto" and the unit automatically calculates the picture rate from the disc capacity. Even if the picture rate is set to "Auto", the picture quality of the A–B recording is lower than that of the recording on the HDD, because the unit adds 10 minutes of the overlapped portion to the recording time for capacity calculation. Therefore, the picture rate will remain when the unit cannot record onto a DVD-RAM disc and records on the HDD instead.

● After recording

Copy the second half of the programme recorded on the HDD to the alternate side of the double sided DVD-RAM disc, or another single sided DVD-RAM disc. See ➡ page 106 for dubbing operations. When you want to delete the overlapped portion, perform the procedure detailed on ➡ page 52 to delete the overlapped portion either on the HDD or the DVD-RAM disc.

If the entire programme has been recorded on the HDD, copy both parts of programme onto both sides of a blank double sided DVD-RAM disc or two single sided DVD-RAM discs by referring to the chapter mark at the dividing point.

Reservation Disc (“Lock program record”)

DVD-RAM

This function is convenient when you wish to record multiple serial related programs on the same disc.

The disc on which you write the reservation data is called “Reservation Disc.” A Reservation Disc may contain only one reservation.

Once a Reservation Disc is created, you cannot use other discs to record the same serial program. The Reservation Disc can be used only for recording a program reserved for the Reservation Disc.

As an example, if you create a Reservation Disc for a serial broadcast from 9 pm to 10 pm on Monday, then you can use that disc only for that program. When you attempt to make a reservation or record that serial, the recorder will ask you to insert that Reservation Disc.

1) Load a DVD-RAM disc.

2) Press REC MENU.

The REC MENU appears.

3) Press ▲ / ▼ to select the program you want to record.

Make sure that “Media” shows “DVD”.

4) Press QUICK MENU.

The Quick Menu appears.

5) Press ▲ / ▼ to select “Lock program record” then “Yes” and press ENTER.

After the recording data is entered, a Reservation disc icon appears on the REC MENU.

If the Reservation Disc is not loaded, the entry data and icon are displayed in gray.

● To cancel the Reservation Disc setting

Load the disc you want to cancel and select the recording option on the REC MENU. Press the QUICK MENU button to select “Unlock program record” then “Yes”, and press the ENTER button.

● To delete the information of a Reservation Disc

If you lose a Reservation Disc, delete the information of the Reservation Disc.

Press the QUICK MENU button to select the program of which data you want to delete, and press the QUICK MENU button. Select “Program record unlock” and then “Unlock selected program.”

If no programmed recording is set on the loaded disc, press the QUICK MENU button to select “Program record unlock” and then “Unlock prog. rec. disc”.

If you schedule a date for programmed recording on the Reservation Disc, the recording information is automatically deleted after the programmed recording is completed.

● To stop the Reservation Disc recording

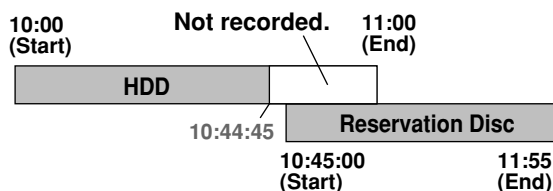
Press the STOP button on the front panel once. The message appears.

While it is displayed, press the STOP button again. Recording stops.

■ If the start time of a programmed recording of a Reservation Disc comes while recording

A recording start time has priority. The current recording stops about 15 seconds before the start time, and a recording of a Reservation Disc starts on time.

e.g. When a start time of a programmed recording of a Reservation Disc comes during recording on the HDD:

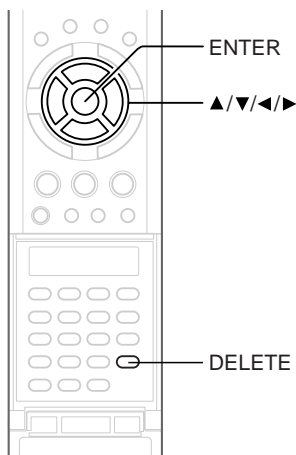


To delete recorded content

HDD DVD-RAM DVD-RW DVD-R

Important note

Any deleted title/chapter (original) cannot be restored. Before deleting, be sure to check contents on the disc.



- 1) Perform steps 1 and 2 in “Playing recorded contents (CONTENT MENU)” (➡ page 57) to select a title (chapter).
- 2) Press the DELETE button.
Alternate method:
Press the QUICK MENU button, then press the ▲ / ▼ buttons to select “Title delete” (“Chapter delete”) and press the ENTER button.
- 3) Read the message and press the ◀ / ▶ buttons to select “Yes,” then press the ENTER button.

Notes


- Deleting a title (a chapter) decreases the numbers of the succeeding titles (chapters).
- A chapter of about 5 seconds or shorter may not be deleted. Deleting a short chapter may not change the display of the available disc volume.
- Deleting a playlist title/chapter does not affect the original title/chapter.
- Deleting an original title/chapter affects all the corresponding playlist title/chapters.
- Deleting all chapters in a title erases the title itself.
- Title and chapter which contains still pictures cannot be deleted.
- On a DVD-R/RW disc, deleting is not possible if the disc is finalized (➡ page 132).
- Chapters in a DVD-R/RW disc cannot be deleted.
- On a DVD-RW disc, only a title last recorded can restore the disc capacity by being deleted.
- On a DVD-R disc, deleting cannot restore the disc capacity.

To protect recorded content

HDD DVD-RAM

You can protect recorded content from unexpected deletion.

Protection is provided for each title (original).

- 1) Perform steps 1 and 2 in “Playing recorded contents (CONTENT MENU)” (➡ page 57) to select a title.
- 2) Press the QUICK MENU button, and press the ▲ / ▼ buttons to select “Title information”. Then press the ENTER button.
- 3) Press the QUICK MENU button, and press the ▲ / ▼ buttons to select “Lock” and then press the ENTER button.
The mark  appears.

Notes

- To cancel protection, repeat this procedure.
- Disc initialization erases all titles on a disc even if they are protected.
- Executing “All HDD titles delete” (➡ page 163) erases all titles on the HDD even if they are protected.

Technical information

● About recording time

The recording time of a typical VCR (Video Cassette Recorder) is determined by the length of a video tape and recording speed (SP, LP, etc.). Video tapes with various recording times are available in the market. On the other hand, the recording time of a DVD-RAM/R/RW depends on the bit rate (Mbps: amount of data transmitted per second), which can be varied in MPEG2 (Moving Picture Experts Group2) compression technology.

As an example, when you pour water into a bucket from a faucet, the faster the water flows, the sooner the bucket is filled with water. On the other hand, the slower the water flows, the more slowly the bucket is filled. The DVD-RAM/R/RW is, so to speak, such a bucket, and the degree you turn the faucet is bit rate, the time required to fill the bucket with water is the recording time available for a disc. The higher you set the bit rate (making much more water flow), the sooner a disc is filled. Consequently, the recording time becomes shorter. The lower you set the bit rate, the longer time it takes to fill a disc.

● About picture quality (SP, LP, Auto, MN(Manual mode))

The higher you set the bite rate, the more the volume of information for the picture. The lower the bit rate, the less the volume of picture information. However a high bit rate does not always mean that the picture quality is high. The difference between the 1.4 Mbps and 9.2 Mbps is obvious, but when comparing similar bit rates, the difference may be insignificant. Generally when you set the bit rate low for longer recording time, the data volume shortage will result in a lack of detail information. As a result, the picture quality is decreased (more noticeable with dynamically moving images). For example, square noises (block noise) may occur in a scene with fast action or a scene with light and shadows, such as a water surface.

This recorder has a two settings, 2 hour recording at "SP" mode or 4 hour recording at "LP" mode (both assume a blank 4.7 GB DVD-RAM). It is recommended to consider the "SP" mode as a standard mode and use the "LP" mode when you want to record for long time regardless of the picture quality. If you want to record for about 2 hours or are uncertain which one to select, select the "Auto" mode.

On a blank 4.7 GB DVD-RAM disc, the "Auto" mode automatically sets the appropriate bit rate corresponded to the recording time from about 1 hour to up to 2 and a half hours so that you can achieve the best picture quality. If a part of a DVD-RAM disc has already been recorded, the "Auto" mode sets the bit rate suitable for the remaining space on the disc. (The picture quality is determined referring the remaining space just before recording. When the remaining space is scarce in the disc, the picture quality may decrease from what you set beforehand or the recording may stop halfway.) "Auto" mode is available also on DVD-R/RW recordings.

When you want to record a music program or animation with high picture quality, it is recommended that you select the "MN" mode. If you select more than 6 Mbps, you can usually record with considerably higher picture quality. However the higher you set the bit rate, the shorter the recording time.

● DD D /M1, DD D /M2

Sound recording format onto DVD-RAM discs. When recording, sounds are converted into digital signals and compressed. In playback, they are extracted to the original sound. The standard differentiates DD D /M1 and DD D /M2 in data volume to use. DD D /M1 and DD D /M2 are applied the digital recording technology for consumer products of Dolby Laboratories. Dolby Digital 192 kbps is set for DD D /M1 and Dolby Digital 384 kbps for DD D /M2.

● L-PCM (Linear PCM)

Sound recording format, like Dolby Digital. However, sounds are converted into digital signals and recorded as they are without compression. This process requires more data than Dolby Digital.

Introduction

Recording

Playback

Editing

Library

Function setup

Others



Playback

Play your favorite contents.

- Information on playback
- Playing recorded contents (CONTENT MENU)
- Playing a DVD video disc
- Pausing a TV broadcast to resume later
- Playing a TV programme currently being recorded
- Playing at various speeds
- Locating by entering the number
- Watching a TV broadcast in the sub window (P in P Playback)
- Selecting the camera angle
- Selecting Subtitles
- Zooming a picture
- Selecting the sound
- Viewing JPEG files
- Playing MP3/WMA Files
- Checking the current status and settings
- Functions in the Quick Menu

Information on playback

The operation procedure depends on the kind of disc. See the respective pages for basic procedure to play the disc.

- **To play contents recorded onto the HDD or DVD-RAM discs**

Playing recorded contents (CONTENT MENU) (➡ page 57)

- **To play a DVD video disc**

Playing a DVD video disc (➡ page 62)

- **To play a DVD-R/RW disc**

DVD-R/RW discs recorded on this recorder

Playing recorded contents (CONTENT MENU) (➡ page 57)

DVD-R/RW discs recorded on other devices

Playing recorded contents (CONTENT MENU) (➡ page 57)

Playing a DVD video disc (➡ page 62)

DVD-R/RW discs recorded in DVD-VR mode

Playing a DVD-RW disc recorded in DVD-VR mode (➡ page 61)

- **To switch the drive to play**

Press the STOP button to stop playback. Then press the HDD or DVD button to select the drive.

- **To switch the picture to view TV broadcasts**

Press the STOP button to stop playback.

- **To start recording**

Press the STOP button to stop playback.

Then press the HDD or DVD button to select a recording media, and press the REC button to start recording.

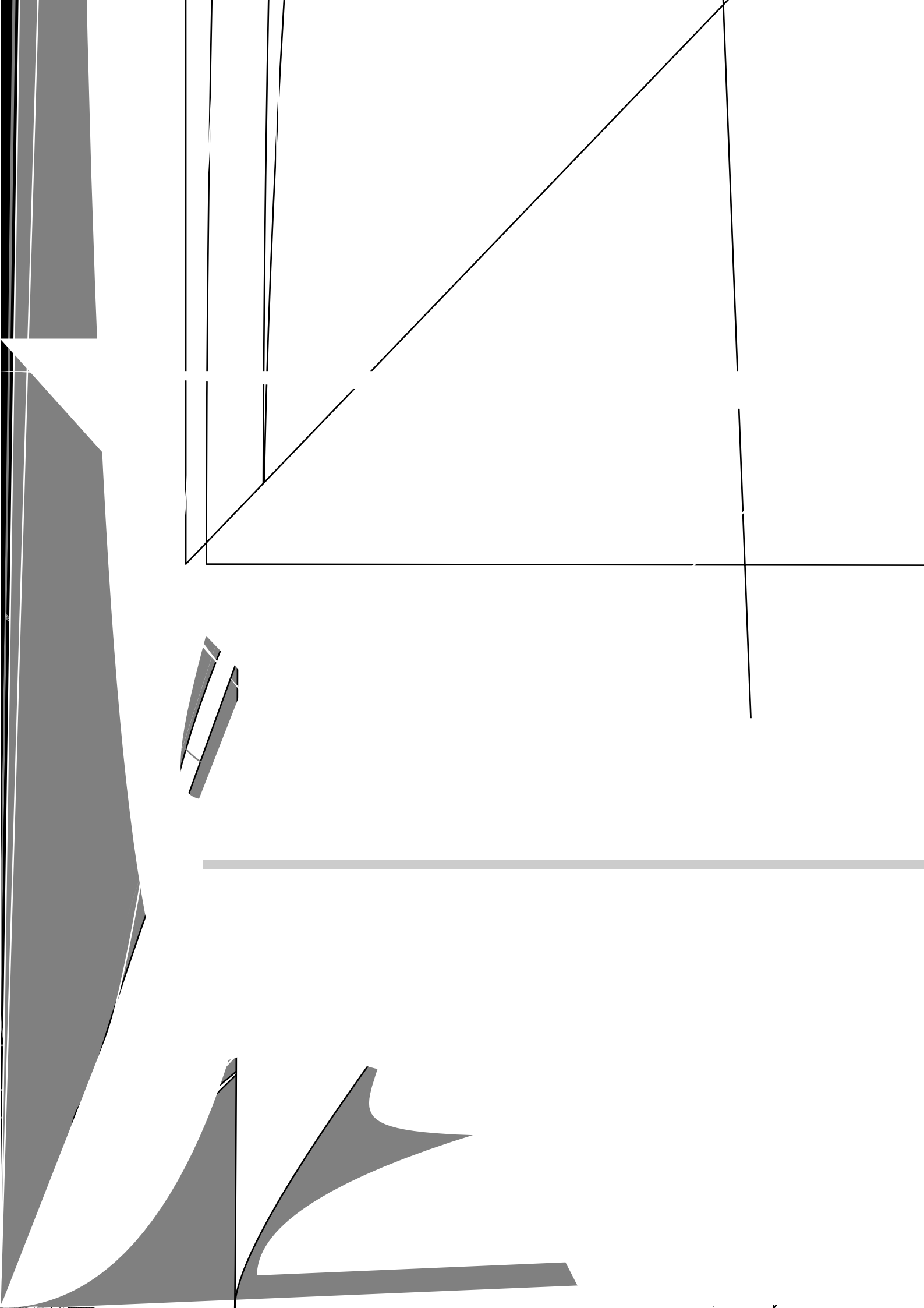
- **Screen Protection**

If you pause playback or display a menu and leave it still for about 15 minutes, the recorder switches the output picture source to a TV broadcast or connected equipment.

A still picture may be displayed after all titles are played. In this case, the screen protection activates after about 10 seconds.

Notes

- Do not move the recorder during playback. It may damage the disc.
- Occasionally the picture may stop at the last scene, or the main menu may appear after playing.
If you display a still picture such as the main menu on the TV screen for a prolonged period, the TV may be damaged (image burn). To prevent this, press the STOP button to stop playback.
- A still picture for about 15 minutes while the TIMESLIP indicator illuminates, will return to normal playback. If the playback is completed, a still picture of the title end will continue unless you press the TIMESLIP button.



Playback

Playing recorded contents (CONTENT MENU) (Continued)

■ To stop playback

Press STOP.

■ To pause playback (still playback)

Press PAUSE.

To resume normal playback, press the PLAY button or the PAUSE button.

Note

- Sound is muted during still mode.

■ Resuming playback from the location last stopped (Title resume)

The recorder memorizes the location you last stopped playback to resume there.

To use this function, set "HDD/RAM title play" (➡ page 160) to "Title resume." The recorder will memorize the location you last stopped at in each title, so you can resume playback there. For example, if there are 6 titles, you can start each of them as if you had stored 6 video tapes in the recorder.

- **To return to the beginning of the title**
During playback, press the QUICK MENU button, then press the ▲ / ▼ buttons to select "Restart title," then press the ENTER button.
- **To play another title**
Press the CONTENT MENU button to display "CONTENT MENU Title List," then select a title.

You can make the recorder memorize only the very last point, regardless of the number of titles. Set "HDD/RAM title play" (

■ Viewing the first scenes of titles (Original) (Intro scan)

1) After step 1 on ➡ page 57, press QUICK MENU.
The Quick Menu appears.

2) Press ▲ / ▼ to select “Special playback mode”, then press ENTER.

3) Press ▲ / ▼ to select “Intro scan”, then press ENTER.

The recorder plays the first 5 seconds of each title beginning from title 1.

You can go forward or back by pressing the SKIP buttons.

▶▶ : to go to the next title.

◀◀ : to go back to the current title.
Press twice to go back to the previous title.

4) When you find a desired title, press ENTER.
The selected title is played.

Notes

- To stop Intro Scan, press the STOP button twice.
- This feature can be used only titles (Original) recorded on the HDD or a DVD-RAM disc.

■ Playing all titles (Original/Playlist) in a disc

Set “HDD/RAM title play” (➡ page 160) to “Serial playback”. You can play all titles in the HDD and DVD-RAM disc in the order of the thumbnails on the CONTENT MENU, as if they were recorded in one video tape.

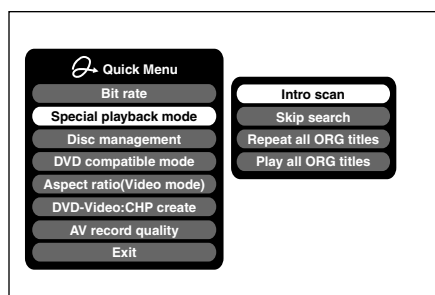
■ Playing all titles (Original) in a disc (Play All ORG Titles)

You can play all Original titles in the HDD or a DVD-RAM disc in the order of the thumbnails on the CONTENT MENU, as if they were recorded in one video tape.

1) During stop, press QUICK MENU.
The Quick Menu appears.

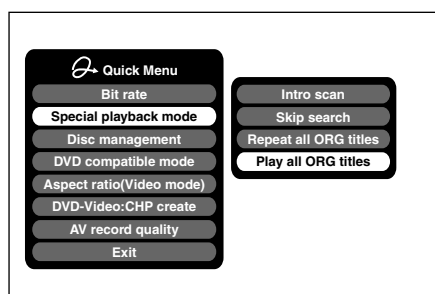
2) Press ▲ / ▼ to select “Special playback mode”, then press ENTER.

e.g.



3) Press ▲ / ▼ to select “Play all ORG titles”, then press ENTER.

e.g.



Playback starts from the beginning of title 1.

Notes

- To stop “Play all ORG titles”, press the STOP button twice. (However, doing this when you are playing a title recorded in the HDD or a DVD-RAM disc while recording (➡ page 38) will stop the recording.) Alternatively, press the QUICK MENU button to display the quick menu, and press the ▲ / ▼ buttons to select “Cancel play all ORG titles” and press the ENTER button.
- When the last title is complete, All ORG Title Play stops.
- If you select “Repeat all ORG titles” at step 3), “Play all ORG titles” repeats.
- This function is available only for titles recorded on the HDD or DVD-RAM discs.

Playing recorded contents (CONTENT MENU) (Continued)

■ Checking the background information on a selected title

1) At step 2 on ➡ page 57, select a title (chapter) then press QUICK MENU.

The Quick Menu appears.

2) Press ▲ / ▼ to select “Title information”, then press ENTER.

Detailed information of a selected title (chapter) appears. You can switch the chapters in the title by pressing the PICTURE SEARCH (◀◀ / ▶▶) buttons.

Notes

- From the Quick Menu on the “CONTENT MENU Title Information”, you can change the details such as name, genre or time, which will help sorting and searching on Library system (➡ page 140). Also you can protect the title from unexpected erasure (➡ page 52).
- To return to the previous display, press the O button.
- To cancel the procedure, press the CONTENT MENU button.

■ Changing the order of the titles

You can change the order or sort the titles by genre.

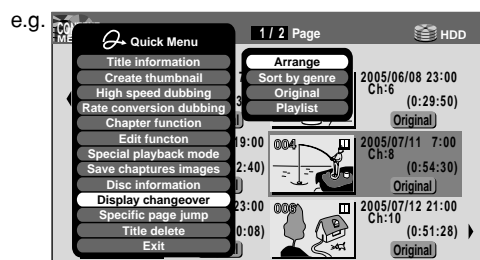
1) Press CONTENT MENU.

The CONTENT MENU appears.

2) Press QUICK MENU.

The Quick Menu appears.

3) Press ▲ / ▼ to select “Display changeover”, then press ENTER.



4) Press ▲ / ▼ to select the item, then press ENTER.

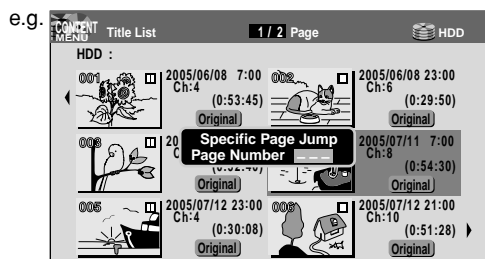
- **Arrange**
The titles are rearranged along with the selected order. Press the ▲ / ▼ buttons to select the order, then press the ENTER button.
- **Sort by genre**
Titles of the selected genre are sorted. Press the ▲ / ▼ buttons to select the genre, then press the ENTER button.
- **Original**
Titles (Original) are sorted.
- **Playlist**
Titles (Playlist) are sorted.

Note

- The recorder holds your selection until the power is turned off. To cancel, select “Display changeover” then “Cancel Arrange/Narrowing” from the Quick Menu.

■ Jumping to a specified page

- 1) Press **CONTENT MENU**.
The CONTENT MENU appears.
- 2) Press **QUICK MENU**.
The Quick Menu appears.
- 3) Press **▲ / ▼** to select “Specific page jump”, then press **ENTER**.
- 4) Enter the page number you want by pressing **ADJUST, ▲ / ▼** or the number buttons.



To clear the number, press the **CLEAR** button.

- 5) Press **ENTER**.
The specified page appears.

■ Playing a DVD-RW disc recorded in DVD-VR mode

See page 57.

Notes

- Some disc's conditions or discs which contain copy once contents may not permit proper playback.
- “Title resume” (page 160) is not available.


Playback


DVD-RW DVD-R DVD-VIDEO VCD CD

Playing a DVD video disc

You can also play VIDEO CDs, audio CDs or finalization processed DVD-R/RW discs in the same manner. To play recorded contents, follow the instructions on  page 57.

■ Preparation

- Turn on a TV or audio system and select the corresponding input source that the recorder is connected to.
- Load a disc you want to play. ( page 20)



1 Press DVD.

The DVD indicator on the front panel illuminates. This status indicates that the recorder is ready to play a disc in the disc tray (DVD mode).

2 Press PLAY.

Playback starts.

- Depending on the disc, playback starts automatically by loading the disc.
- The recorder may take a short time to start playback. This occurs because the recorder is reading the data of a disc.

■ To stop playback

Press **STOP**.



■ To pause playback (still playback)

Press **PAUSE**.



To resume normal playback, press the **PLAY** button or the **PAUSE** button.

Note

- Sound is muted during still mode.

Note

- DVD video disc provides high resolution pictures and a lot of information. Because of this, you may notice some fine picture noises on TV screen, which you have never seen with regular broadcast TV programme. While the amount of noise depends on the TV you use with the recorder, you should generally reduce the sharpness adjustment on your TV when viewing DVD video discs.

■ Resuming playback from the location last stopped (Resume Play)

DVD-RW DVD-R DVD-VIDEO VCD CD

You can resume playback from the location where you stopped.

If you press the PLAY button after stopping playback, playback resumes from the location you have stopped.

If you stop playback by pressing the STOP button twice, the resume playback feature will be cancelled.

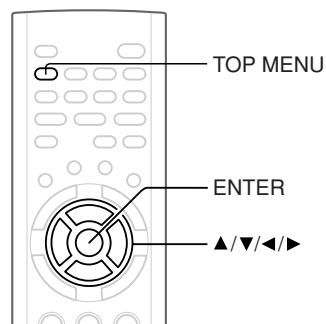
Notes

- Resume feature cannot function when:
 - you select a disc menu language (➡ page 154) or change the parental lock setting (➡ page 155).
 - you play a PBC-featured VIDEO CD.
 - you open the disc tray.
 - you cancel the DVD-Video finalizing process of a DVD-RW disc.
- There may be a difference in the location where playback resumes depending on the disc.
- While the recorder retains a location in memory, initial setting changes with GUI may function only after the memory is cleared.

Locating a title using the top menu

DVD-RW DVD-R DVD-VIDEO

Some DVD video discs may include a top menu, on which you can view the structure of contents or select a scene. Most of the top menus automatically appear in certain scenes, and also are displayed on demand. Actual operation of the top menu depends on the disc. This section explains a general example of how to operate a top menu. Also refer to the instructions of the disc itself.



- 1) Press TOP MENU.
- 2) Press ▲ / ▼ / ◀ / ▶ to select the title you want.
If the titles in the top menu are assigned a number, you can directly locate a specific title by pressing its designated number with the number buttons.
- 3) Press ENTER.

Notes

- The instructions above describe basic procedures which may vary depending on the contents of the DVD video disc. If different instructions appear on the TV screen, follow those instructions.
- If you display the top menu during playback and press the TOP MENU button again without selecting any title, the recorder may resume playback from the point where you first pressed the TOP MENU button. (depending on the actual DVD video disc.)
- This method of locating a title is available only on a disc that contains a top menu.
- Instruction notes of discs may refer to the button that displays the top menu as the TITLE button.

Introduction

Recording

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Function setup

Others

Playing a TV programme currently being recorded

You can begin playback from the beginning of a programme currently being recorded. You will find this function of great advantage on long programmes, as you do not have to wait for the end of recording to begin playback.



1 While recording a TV programme on the HDD or a DVD-RAM disc, press TIMESLIP.

The recorder displays a TV program as it is being recorded.

2 Go back to the beginning of the TV program using SKIP.



When you go back to the beginning, playback starts automatically.

You can confirm how far you are from the current broadcast by pressing the TIME BAR button.

3 Locate a scene you want through the following operations if necessary.

Fast-forward/fast-reverse:

Press the PICTURE SEARCH button.

Forward/reverse slow-motion:

Press the SLOW buttons.

Forward/reverse frame by frame play:

First press the PAUSE button then press the FRAME button.

- To resume normal playback, press the PLAY button.
- You can play in fast-forward to within 10 seconds prior to the current broadcast.

4 Press TIMESLIP to exit.

The current broadcast returns.

Notes

- Time slip recording/playback stops when the disc is filled up. You can play up to a location where the recorder stopped the recording. The time slip recording/playback cannot begin if the disc is full.
- The playback picture may appear after a delay of several seconds.
- The playback location will never be identical to the record location in the programme. It will always trail the record location by a few seconds.
- While using time slip recording/playback, you cannot program a recording.
- While the TIMESLIP indicator is on, you cannot change the setting of the feature that turns off the recorder after a programmed operation has finished.
- Even while "Auto power off" is selected, the recorder does not turn off if the recording end time comes during playback of a programme being recorded.
- This function is not available on a DVD-RAM disc while the A-B recording is executing or when "Relay recording" is set to "On."
- Playback may jump a few seconds back or pause depending on the disc or data condition.

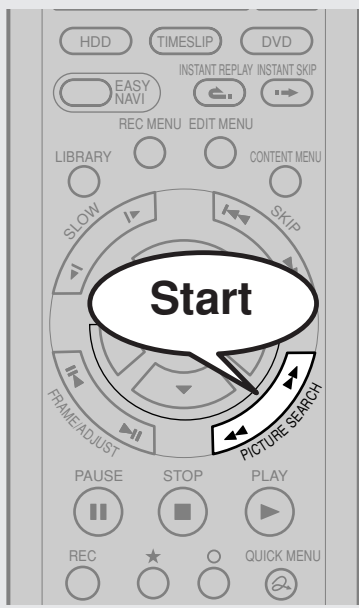
Playback

HDD DVD-RAM DVD-RW DVD-R DVD-VIDEO VCD CD

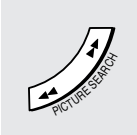
Playing at various speeds

Playing in fast reverse or fast forward

HDD DVD-RAM DVD-RW DVD-R DVD-VIDEO VCD CD



1 During normal playback, press **PICTURE SEARCH**.



▶▶ : Fast forward playback
◀◀ : Fast reverse playback

Each time you press the button, the playback speed changes.
During fast forward playback at “▶▶” speed, sound is reproduced. (Not available on VIDEO CDs.)

- This function is not available when you play a title recorded on a DVD-RAM disc while recording another.

Notes

- The playback speed may vary depending on the disc.
- Depending on the disc or data condition, picture and sound in fast forward playback at “▶▶” speed may be disturbed.

■ To resume normal playback

Press **PLAY**.

■ To skip the contents in pre-determined increments

HDD DVD-RAM DVD-RW DVD-R DVD-VIDEO VCD CD

During playback, press **INSTANT SKIP**.

Each time you press the button, you can skip by the specified time.

You can select the interval per press of the button. See “Instant skip interval” (➡ page 160).

■ To skip by 1/20 of whole

HDD DVD-RAM DVD-RW DVD-R DVD-VIDEO VCD CD

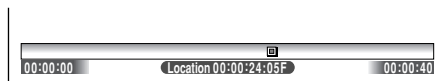
During playback, press **◀/▶**.

Each time you press the button, you can skip by 1/20 of the current title or track if it is longer than 1 minute.

■ Time bar display

Fast-forward or fast-reverse playback automatically displays a time bar.

e.g.



For details, see ➡ page 83.

■ To skip back in pre-determined increments

During playback, press **INSTANT REPLAY**.

Each time you press the button, you can go back by the specified time to resume playback.

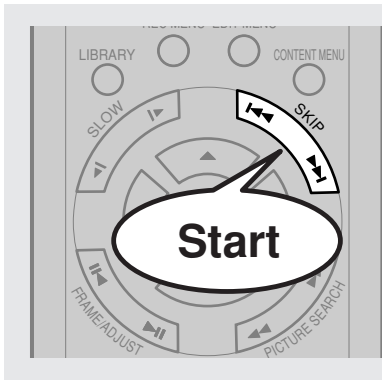
You can select the interval per press of the button. See “Instant replay interval” (➡ page 160).

Notes

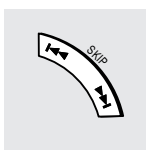
- Some discs may not permit this operation.
- Depending on disc structure, some operations may be limited.
- Depending on playback status, some operations may not work.

Skipping to the next/previous chapter or track

HDD DVD-RAM DVD-RW DVD-R DVD-VIDEO VCD CD



1 Press SKIP (⏮/⏭) repeatedly until the chapter or track number you want appears.



Playback starts from the selected chapter or track.

- ▶▶ : Playback starts from the beginning of the next chapter or track.
- ◀◀ : Playback starts from the beginning of the current chapter or track.
When you press twice, playback starts from the beginning of the previous chapter or track.

Notes

- Some titles may not display chapter numbers.
- When playing the HDD or a DVD-RAM disc, you can access chapters only in the current title if “HDD/RAM title play” (➡ page 160) is set to “Title resume”. To access chapters in other titles, set to “Serial playback”.
- When playing a DVD video disc or a DVD-R/RW disc, you can locate chapters only in the current title if “DVD title stop” (➡ page 156) is set to “On”. To access chapters in other titles, set to “Off”. However, in this instance even though you press the SKIP button (⏮) to go back to the previous title, playback starts not from the last chapter of the title but from the first chapter.

Playing in slow-motion

HDD DVD-RAM DVD-RW DVD-R DVD-VIDEO VCD



1 Press SLOW during playback.



- ▶▶ : Forward slow-motion
- ◀◀ : Reverse slow-motion

Each time you press the SLOW button, the slow-motion speed changes.

Notes

- Slow-motion does not provide smooth playback.
- When playing a VIDEO CD, reverse slow-motion playback is not available.
- The speed level displayed is approximate.

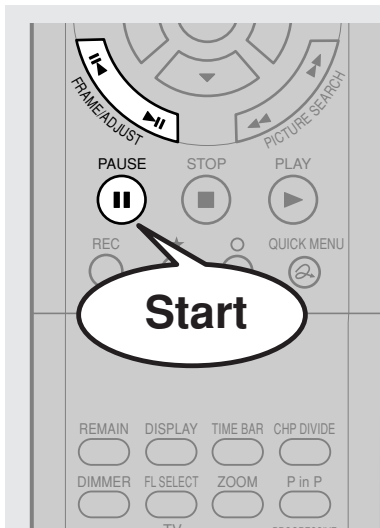
■ To resume normal playback
Press PLAY.

Playback

Playing at various speeds (Continued)

Playing frame by frame

HDD DVD-RAM DVD-RW DVD-R DVD-VIDEO VCD



1 During playback, press PAUSE.



A still picture is displayed.

2 Press FRAME (◀▶/▶▶).



▶▶ : Playback direction
◀▶ : Opposite direction

- To resume normal playback
Press PLAY or PAUSE.

Notes

- Sound is muted during frame by frame playback.
- Frame by frame playback cannot provide smooth playback.
- Picture may advance more than 1 frame at a time.
- Depending on the scene, some frames may not be played.
- When playing a VIDEO CD, reverse frame by frame playback is not available.

Viewing still pictures (Playing a disc that contains still pictures)

DVD-RAM DVD-VIDEO



1 Press PLAY.



The first still picture on a disc is displayed.

Some DVD video discs may allow you to change the pictures using the PLAY, ENTER or SKIP button.

2 Press FRAME (▶▶/◀▶).




▶▶ : Displays the next still picture.
◀▶ : Displays the previous still picture.

Locating by entering the number

Locating by entering the number of a desired section

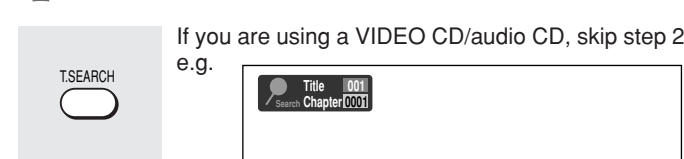
Normally titles, chapters, and tracks are numbered. By entering these numbers, you can access a desired section.




Open the lid.

- 1 Press T.SEARCH.**

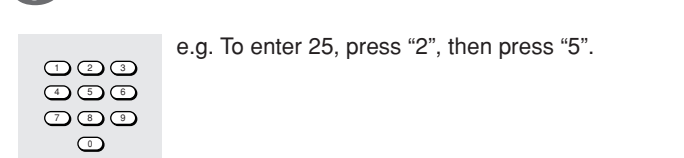
If you are using a VIDEO CD/audio CD, skip step 2.
e.g.


- 2 Press ▲ / ▼ to select a section (title or chapter) you want to locate.**

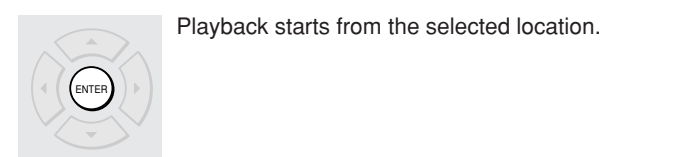
e.g. When you want to locate a chapter.


- 3 Press the number buttons to enter a number of the section.**

e.g. To enter 25, press "2", then press "5".


- 4 Press ENTER.**

Playback starts from the selected location.



Notes


- Pressing the CLEAR button resets the numbers. To clear the display, press the T.SEARCH button several times (depending on the disc).
- This method of locating a title is available only on a disc that contains title numbers.
- If a title is erased, the numbers of the following titles decrease respectively.
- When you record a new title (Original) on the HDD or a DVD-RAM disc, it is added prior to current titles (Playlist), and each following title (Playlist) reference number will advance by a factor of 1.

- Introduction
- Recording
- Playback**
- Editing
- Library
- Function setup
- Others

Playback


Locating by entering the number (Continued)

Locating a specific point by entering its elapsed time (Time Search)



1 Press T.SEARCH.

You may have to press repeatedly, depending on the disc. Press the button until the following display appears.

e.g. 

2 Press the number buttons and ◀/▶ to enter the desired time location on the disc.

e.g. To enter 1 hour, 25 minutes, and 30 seconds

"0" → "1" → "▶" → "2" → "5" → "▶" → "3" → "0"

hour minute second

3 Press ENTER.

Playback starts from the selected location.

Open the lid.

Notes

- Some discs may not respond to this process.
- Some scenes may not be accessed precisely as you specified.
- This method for accessing specific locations is available only within the current title of the HDD or a DVD-RAM/R/RW/DVD video disc or within a current track of a VIDEO CD/audio CD.
- Pressing the CLEAR button resets the numbers.

Watching a TV broadcast in the sub window (P in P Playback)

During playback, you can watch a TV broadcast in the sub window. (P in P : Picture in Picture)

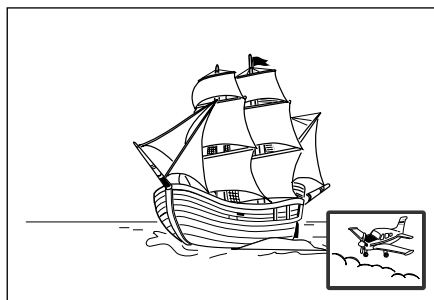


1 During playback, press P in P.

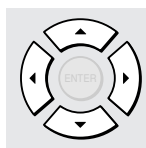


A sub window (programme on the air or on the recording) appears.

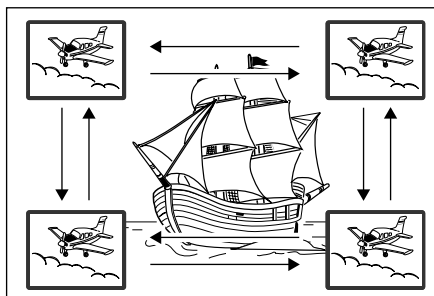
e.g.



2 Press ▲ / ▼ / ◀ / ▶ to select the position of the sub window.



You can shift the sub window in following 4 directions.



↑ / ↓ / ← / → is the moving range.

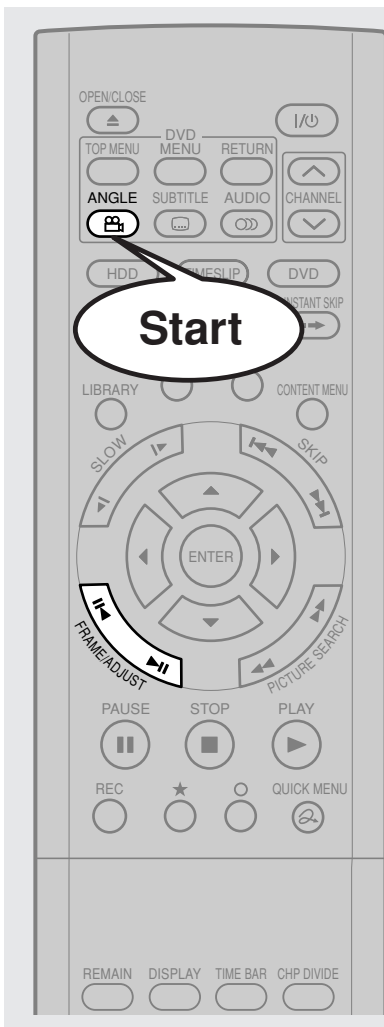
To turn off the sub window, press the P in P button.

Notes

- You can change the channel of the sub window by pressing the CHANNEL \vee / \wedge button.
- The P in P function is available only during playback.
- You cannot swap the playback picture with the picture within the sub window, or change the audio settings.
- Press the P in P button during "Chase Play" or "Pause TV", the actual broadcast appears on the sub window in real time.
- If this function is stopped after shifting the sub window, before you press the P in P button again, the sub window will appear in the last position you set. However, if you turn off the power, the sub window re-appears in the lower right (default) position.

Selecting the camera angle

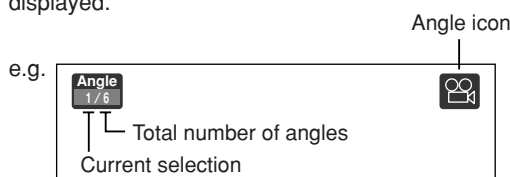
If the scene was recorded with multiple angles, you can easily change the camera angle of the scene you are watching.



1 Press ANGLE while playing a scene recorded with multiple angles.



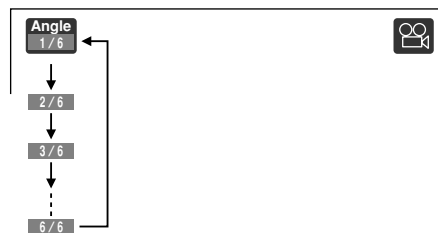
While playing a scene recorded with multiple angles, the angle icon appears on the TV screen and on the front panel. Press the ANGLE button while the angle icon is displayed.



2 Press ADJUST while the angle number is displayed on the TV screen.



You can also select the camera angle by pressing the ANGLE button several times.



- The angle icon disappears after about 3 seconds if no further selections are made.

Notes

- You can also change the camera angle during still playback. The camera angle changes to the new setting when you resume normal playback.
- If you pause a picture immediately after changing a camera angle, the resumed playback picture may not display the new camera angle.
- Depending on the disc, the camera angle may not change even though the angle number changes.

■ To turn off the angle icon

Set "On screen display" in the setup menu to "Off" (➡ page 159).

Most of the on-screen display including the angle icon will not appear.

While the angle icon is flashing on the front panel display, you can change the camera angle.

Selecting Subtitles

You can display subtitles on the TV screen and select a subtitle language from those included on the disc.

1 Press SUBTITLE during playback.

The current subtitle setting appears.

e.g.

Subtitle	1 --
Status	Off

 Setting number and language

The language code appears instead of the language name. Refer to the list of languages and their abbreviations. (➔ page 171)

Press "Subtitle Status" then press ADJUST

to select a subtitle language.

Skipped subtitle on is already displayed.

press

- Some DVD video discs will allow you to change subtitle languages and turn subtitles on or off only via the disc menu.
- Depend on the disc, subtitles may not appear immediately after you set the subtitle function to on.

Introduction

Recording

Playback

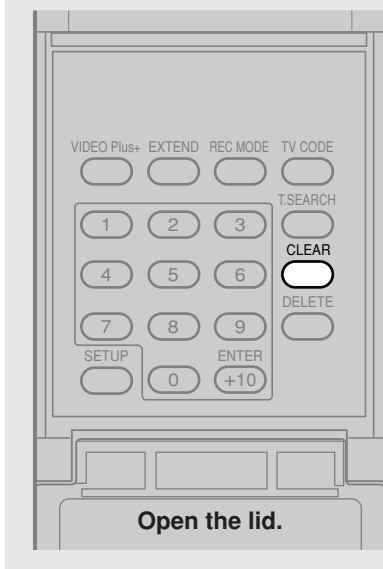
Editing

Library

Function setup

Zooming a picture

You can magnify areas within a picture.

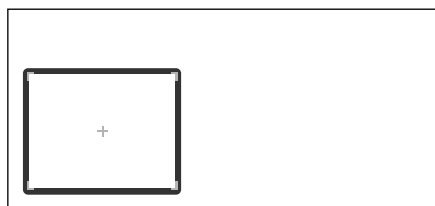


1 Press ZOOM.

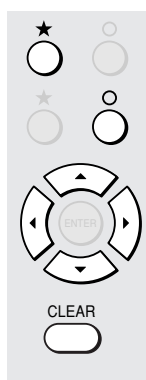


A zoom scope appears.

e.g.



2 Select a zoom point and magnification level.



- ★ : Raises the magnification level.
- : Lowers the magnification level.
- ▲/▼/◀/▶ : Moves the zoom point. (only after the image has been magnified)
- CLEAR : Returns the zoom point to the center of the picture.

Notes

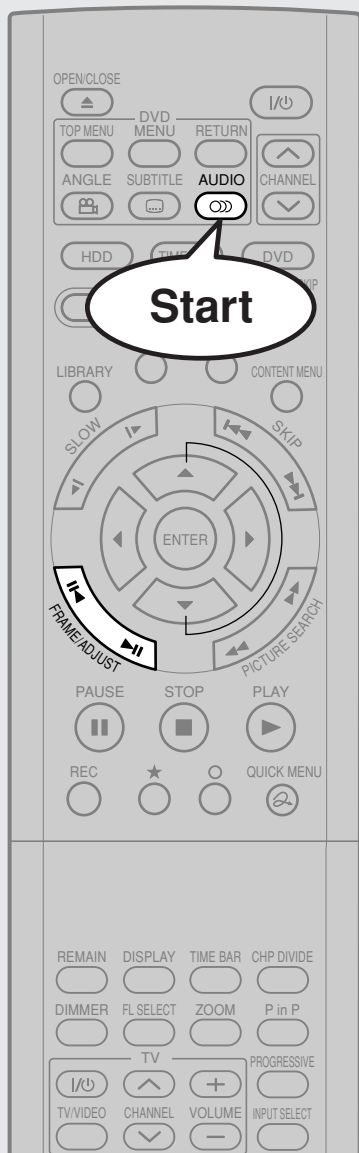
- Some discs may not respond to zoom feature.
- During some scenes, the buttons may not work as described.
- The zoom feature is canceled when the disc menu is operated.
- The magnification level varies depending on the picture size you select (➡ page 42, in "INSTALLATION GUIDE").
- The zoom feature is not available while displaying a GUI.
- The zoom feature is canceled when you stop playback or start playback.

■ To cancel the zoom

Press ZOOM.

Selecting the sound

You can select a preferred language and a sound format.



1 Press AUDIO during playback or while receiving a broadcast.



The current audio setting appears.

The language code appears instead of the language name. Refer to the list of languages and their abbreviations. (➡ page 171)

2 Press ADJUST while the audio setting is displayed on the TV screen.



Variation of channels depends on the disc or the type of TV broadcast.

- **HDD** **DVD-RAM**, TV channel signals

Stereo sound

- "Stereo" (left channel and right channel)
- "Stereo L" (left channel)
- "Stereo R" (right channel)
- (→ Back to "Stereo")

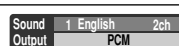
Dual Mono sound (NICAM)

- "Dual L" → "Dual R" → "Dual LR" (→ Back to "Dual L")

- **DVD-RW** **DVD-R** **DVD-VIDEO**

Language name / sound recording system / No. of channels

e.g.



- **VCD**

"Stereo" → "Stereo L" → "Stereo R" (→ Back to "Stereo")

The display turns off if you do not operate for more than 3 seconds.

If you press the ▲ / ▼ buttons to select "Output," you can select the audio output setting (➡ page 158) by using the ADJUST button.

Playback

Selecting the sound (Continued)

Recorded sounds

According to your setting of "NICAM" on the setup menu screen, (▶ page 158), the sound is recorded onto different channels of the disc below. Set "NICAM" to "On" or "Off" appropriately.

Setting on the setup screen		Type of receiving broadcast	Contents of recorded sound		Type of record
DVD Compatible Mode	NICAM		Lch	Rch	
Off	Off	Mono + NICAM L, R	Mono	Mono	Stereo
		Mono + NICAM M1, M2	Mono	Mono	Stereo
		Mono + NICAM M1	Mono	Mono	Stereo
		Mono	Mono	Mono	Stereo
	On	Mono + NICAM L, R	L	R	Stereo
		Mono + NICAM M1, M2	M1	M2	Dual Mono*
		Mono + NICAM M1	M1	M1	Stereo
		Mono	Mono	Mono	Stereo
On (Mode I)	Off	Mono + NICAM L, R	Mono	Mono	Stereo
		Mono + NICAM M1, M2	Mono	Mono	Stereo
		Mono + NICAM M1	Mono	Mono	Stereo
		Mono	Mono	Mono	Stereo
	On	Mono + NICAM L, R	L	R	Stereo
		Mono + NICAM M1, M2	M1	M1	Stereo
		Mono + NICAM M1	M1	M1	Stereo
		Mono	Mono	Mono	Stereo
On (Mode II)	Off	Mono + NICAM L, R	Mono	Mono	Stereo
		Mono + NICAM M1, M2	Mono	Mono	Stereo
		Mono + NICAM M1	Mono	Mono	Stereo
		Mono	Mono	Mono	Stereo
	On	Mono + NICAM L, R	L	R	Stereo
		Mono + NICAM M1, M2	M2	M2	Stereo
		Mono + NICAM M1	M1	M1	Stereo
		Mono	Mono	Mono	Stereo

* This will be "Stereo" when a recording is made with "L-PCM" selected.

Notes

- Some discs allow you to change audio selections only via the disc menu. If this is the case, press the MENU button and choose the appropriate language from the selections on the disc menu.
- When you turn on the recorder or replace a disc, the recorder returns to the initial default setting. (➡ page 154)
Depending on the disc, the sound that is specified the disc is played back.
- Immediately after you have switched sounds, there may be a temporary discrepancy between the display and actual sound.
- The BITSTREAM/PCM jack may not output NICAM Mode I/II sound you select. In this instance, set “Audio out select” to “PCM”.
(➡ page 158)
- You cannot change NICAM sound if recorded with “DVD compatible mode” (➡ page 162) set to “On”. Even when “DVD compatible mode” (➡ page 162) is set to “Off,” the recorder regards it as “On (Mode I)” when recording to a DVD-R/RW disc.

■ Output sound conversion table

Disc	Sound format	Audio setting (➡ page 158) and output in the default setting display					
		Bitstream		Analog 2ch		PCM	
		BITSTREAM/ PCM jack	Analog (L/R) jacks	BITSTREAM/ PCM jack	Analog (L/R) jacks	BITSTREAM/ PCM jack	Analog (L/R) jacks
DVD-video disc*	Dolby Digital	Bitstream	48 kHz/20 bit	Bitstream	48 kHz/20 bit	48 kHz/16 bit	48 kHz/20 bit
	Linear PCM	48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit
		48 kHz/20 bit	48 kHz/16 bit	48 kHz/20 bit	48 kHz/20 bit	48 kHz/16 bit	48 kHz/20 bit
		48 kHz/24 bit	48 kHz/16 bit	48 kHz/24 bit	48 kHz/24 bit	48 kHz/16 bit	48 kHz/24 bit
		96 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit	—	96 kHz/16 bit	48 kHz/16 bit
		96 kHz/20 bit	48 kHz/16 bit	48 kHz/20 bit	—	96 kHz/20 bit	48 kHz/20 bit
	96 kHz/24 bit	48 kHz/16 bit	48 kHz/24 bit	—	96 kHz/24 bit	48 kHz/24 bit	
DTS	Bitstream	—	Bitstream	—	—	—	
MPEG2	Bitstream	48 kHz/16 bit	Bitstream	48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit	
VIDEO CD	MPEG1	44.1 kHz/16 bit	44.1 kHz/16 bit	44.1 kHz/16 bit	44.1 kHz/16 bit	44.1 kHz/16 bit	44.1 kHz/16 bit
Audio CD	Linear PCM 44.1 kHz/16 bit	44.1 kHz/16 bit	44.1 kHz/16 bit	44.1 kHz/16 bit	44.1 kHz/16 bit	44.1 kHz/16 bit	44.1 kHz/16 bit
	DTS	Bitstream	(Noise)	Bitstream	(Noise)	Bitstream	(Noise)
HDD	Dolby Digital	Bitstream	48 kHz/20 bit	Bitstream	48 kHz/20 bit	48 kHz/16 bit	48 kHz/20 bit
	Linear PCM 48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit
DVD-RAM/R/RW	Dolby Digital	Bitstream	48 kHz/20 bit	Bitstream	48 kHz/20 bit	48 kHz/16 bit	48 kHz/20 bit
	Linear PCM 48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit
CD-R/RW	MPEG2	Bitstream	48 kHz/16 bit	Bitstream	48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit
	MP3/WMA	44.1 kHz or 32 kHz or 48 kHz / 16 bit					

* “DVD video disc” above does not include DVD-R/RW discs recorded on this recorder.

- Do not select a connection or setting indicated as “Noise” in the above list.

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■ Viewing a specified photo (single view)

Full screen still view.
2 ways are available:

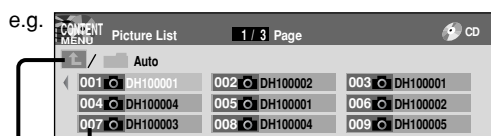
● On the “CONTENT MENU Picture List”

1) Press CONTENT MENU.

The “CONTENT MENU Picture List” appears.

Depending on the disc, the recorder creates either temporary folder, “Auto” or “All”.

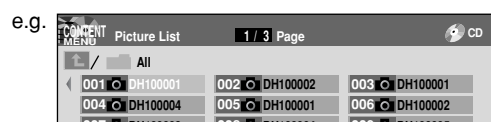
“Auto”: For CD of which compatibility confirmed by TOSHIBA. Only playable files are listed.



File number

If you select this icon and press the ENTER button, upper folders appear.

“All”: For CD other than above. All files are listed.



• Some CDs may not comply with the above.

2) Press ▲ / ▼ / ◀ / ▶ to select a folder or photo.

Pressing the PICTURE SEARCH (◀▶) button turns the pages.

If you press the ★ button, the list changes to thumbnail view (“CONTENT MENU Pictures”).



Pressing the ANGLE button rotates the picture. The rotation of pictures is kept until the CD is ejected.

To return to the previous list, press the ★ button again.

3) Press ENTER.

If you select a folder at step 2), repeat steps 2) and 3) until your favorite file appears.

The selected photo appears in full screen.

Notes

- The “CONTENT MENU Picture List” cannot show all the files in a disc, but only ones regarded as objects of regular play of the disc.
- The larger the file size is, the longer the thumbnail takes time to appear.
- Letters of a file/folder name overflowing the given space are not displayed.

● Direct input of a photo number

1) During playback or stop, press T.SEARCH.

An input window appears.



2) Input a photo number using the number buttons or ADJUST.

3) Press ENTER.

The selected photo appears in full screen.

■ To change the playback order

1) During playback (slide show) or stop, press QUICK MENU.

2) Press ▲ / ▼ to select an item, then press ENTER.

To shift the cursor, press the ▲ / ▼ buttons.

Reverse : To reverse the order.

Repeat : To repeat the current folder.

3) Press ENTER.

Playback in the selected mode starts.

JPEG files compatibility

Discs whose compatibility with this recorder has been confirmed by TOSHIBA are as follows.

CANON QuickCD
FUJICOLOR CD
Kodak Picture CD
NORITSU QSS CD

JPEG disc compatibility with this recorder is limited as follows:

- Playable discs:
 - CD-ROM, CD-R
 - CD-RW is not recommendable.
- CD physical format:
 - Mode 1, Mode 2 XA Form 1
- File system:
 - ISO9660 Level 1, 2 or Joliet
- File name:
 - A file name should be in alphabet and numerals only, and must incorporate “JPG” extension.
 - e.g. “*****.JPG”
- Total number of folders:
 - Less than 256
- Total number of files:
 - Less than 1000

Some files may not display their own entire image depending on the size.

Some discs may not permit this operation. Especially, the following conditions of included files will increase the disc’s disability.


1. Pixels over 5000 x 5000 in height and/or width
2. File format except Exif

Playing MP3/WMA files

You can play MP3/WMA files that have been recorded on a CD-R or CD-ROM on this recorder.

■ Preparations

- Make sure that a disc you want to play is compatible with this recorder. See ➡ page 81.
- Set "Priority contents" (➡ page 160) to "Audio".



1 Press DVD.

DVD

2 Load a CD that contains MP3/WMA files.

OPEN/CLOSE

Playback starts from the first track of a current folder.
If playback does not start, press the PLAY button.

Notes

- WMA tracks copy-protected cannot be played.
- The DIGITAL AUDIO OUT BITSTREAM/PCM jack outputs MP3/WMA sounds in the linear PCM format regardless of the current "Audio out select" (➡ page 158) selection.
- You cannot change the playback speed of MP3/WMA playback.

■ To stop playback

Press STOP.

If you press the PLAY button after pressing the STOP button, playback will start from the beginning of the track.

■ To pause playback

Press PAUSE.

To resume, press the PAUSE button again or press the PLAY button.

■ To skip tracks

During playback, press SKIP repeatedly.

▶▶ : To skip forward.

◀◀ : To skip backward.

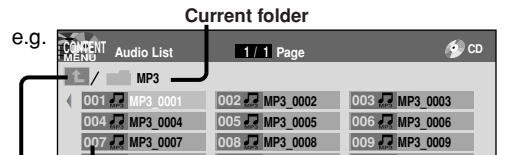
■ Selecting a track in the disc

2 ways are available:

On the "CONTENT MENU Audio List"

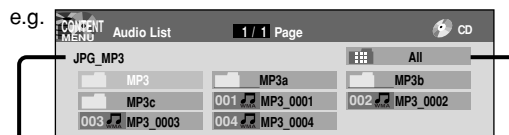
1) Press the CONTENT MENU button.

The "CONTENT MENU Audio List" appears.



File number

If you select this icon and press the ENTER button, upper folders appear.



Disc name

The recorder creates temporary folder "All", which contains all playable files.

- 2) Press ▲ / ▼ / ◀ / ▶ to select a track or folder.
Pressing the PICTURE SEARCH (◀◀ / ▶▶) button turns the pages.
- 3) Press ENTER.
If you select a folder at step 2), repeat steps 2) and 3) until your favorite file appears.

Notes

- The "CONTENT MENU Auto List" cannot show all the tracks in a disc, but only ones regarded as objects of proper play of the disc.
- Letters of a file/folder name overflowing the given space are not displayed.

Direct input of a track number

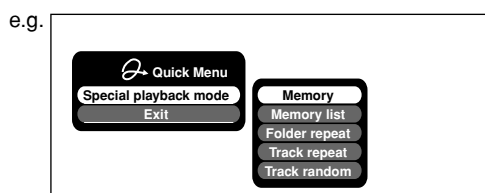
- 1) During playback or stop, press T.SEARCH.
An input window appears.



- 2) Input a track number using the number buttons or the ADJUST button.
- 3) Press ENTER.

■ To change the playback order

- 1) During playback or stop, press QUICK MENU.
- 2) Press ▲ / ▼ to select "Special playback mode", then press ENTER.



- 3) Press ▲ / ▼ to select an item, then press ENTER.

Memory list : To play favorite tracks only in a favorite order.

Input a track number by using the number buttons or the ADJUST button.

To shift the cursor, press the ▲ / ▼ buttons.

Folder repeat : To repeat the current folder.

Track repeat : To repeat the current file.

Track random : To play files in the current folder in a random order.

Notes

- To cancel these modes, stop the playback or select the cancel command from the Quick Menu.

Playable files

MP3/WMA disc compatibility with this recorder is limited as follows:

- Playable discs:
 - CD-ROM, CD-R
 - CD-RW is not recommendable.
- Sampling Frequency / Bitrate:
 - WMA: 32 kHz / 48 kbps (CBR), VBR
44.1 kHz / 48-192 kbps (CBR), VBR
48 kHz / 128-192 kbps (CBR), VBR
 - MP3: 8 kHz, 11.025 kHz, 12kHz, 16 kHz,
22.05 kHz, 24 kHz / 8-160 kbps (CBR), VBR
32 kHz, 44.1 kHz, 48 kHz / 32-320 kbps (CBR), VBR
- CD physical format:
 - Mode 1, Mode 2 XA Form 1
- File system:
 - ISO9660 Level 1, 2 or Joliet
- File name:
 - A file name should be in alphabet and numerals only, and must incorporate "MP3" or "WMA" extension.
 - e.g. "*****.MP3", "*****.WMA"
- Total number of folders:
 - Less than 256
- Total number of files:
 - Less than 1000
- WMA codec version:
 - V7, V8, V9

* This recorder supports ID3v2 (ID3 Tag Version 2) of MP3, to display text data such as names of title and artist. Some characters may be displayed properly.

This recorder requires discs/recordings to meet certain technical standards in order to achieve optimal playback quality. Pre-recorded DVDs are automatically set to these standards. There are many different types of recordable disc formats (including CD-R containing MP3/WMA files). Given the fact that technology in this area is still maturing, Toshiba cannot guarantee that all genre of recordable discs will produce optimal playback quality. The technical criteria set out in this owner's manual are meant as a guide only.

Customers should also note that permission is required in order to download MP3/WMA files and music from the internet. Toshiba has no right to grant such permission. Permission should always be sought from the copyright owner.

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Checking the current status and settings

You can confirm operational status and setting details.

Operational status and setting details

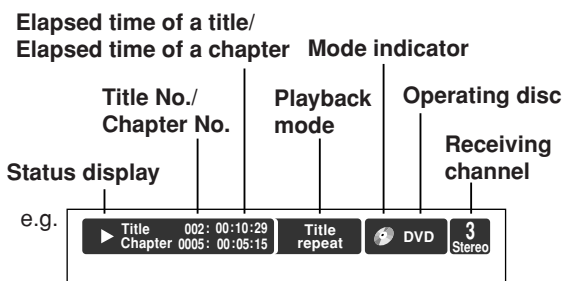


1 Press DISPLAY.



The following on-screen display appears. (The actual display varies depending on the disc.)

e.g. while playing a DVD-RAM disc

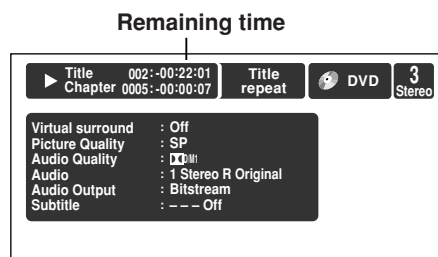


2 Press DISPLAY again.



An expanded display appears. (Actual display varies depending on the disc.)

e.g.




3 Press DISPLAY again to turn the display off.



Using the time bar

The time bar shows the current progress in playback or recording.



1 During playback or recording, press TIME BAR.

The time bar appears. (The actual display varies depending on the disc.)

e.g. Playback

Locator (Shows the current location.)

Chapter division

Elapsed time

Total playing time of a current title (In the case of a VIDEO CD or audio CD, it shows the total playing time of the disc.)

e.g. Recording

Locator (Shows the current location.)

Elapsed time

Elapsed recording time (per 30 minutes) (Recording end time if it comes within 30 minutes.)

Note

- Time display is an approximation.

- **Changing the location of the time bar**
While the time bar is displayed, press ▲ / ▼.
The time bar shifts up and down.

- **Turning off the time bar**
Press TIME BAR.

Introduction

Recording

Playback

Editing

Library

Function setup

Others

Functions in the Quick Menu

Besides these examples, various other ones are introduced on respective pages for your convenience. See ➔ page 24 on how to operate the Quick Menu.

■ To play repeatedly (Repeat playback)





Playback

Functions in the Quick Menu (Continued)

■ To display the current bit rate

HDD DVD-RAM DVD-RW DVD-R DVD-VIDEO VCD

- 1) During playback, press QUICK MENU.
- 2) Press ▲ / ▼ to select “Bit rate”, then press ENTER.

Bit rate

Note

- To turn off the bit rate display, select this item again.

■ To check information on a title

HDD DVD-RAM DVD-RW DVD-R

- 1) During playback, press QUICK MENU.
- 2) Press ▲ / ▼ to select “Title information”, then press ENTER.

Title information

■ To exit the Quick Menu

HDD DVD-RAM DVD-RW DVD-R DVD-VIDEO VCD CD

Press QUICK MENU again.

or

Press ▲ / ▼ to select “Exit”, then press ENTER.

Exit