

# Panasonic®

## Operating Instructions

DVD Recorder

Model No. **DMR-EH55**



Getting started

Recording

Playing back

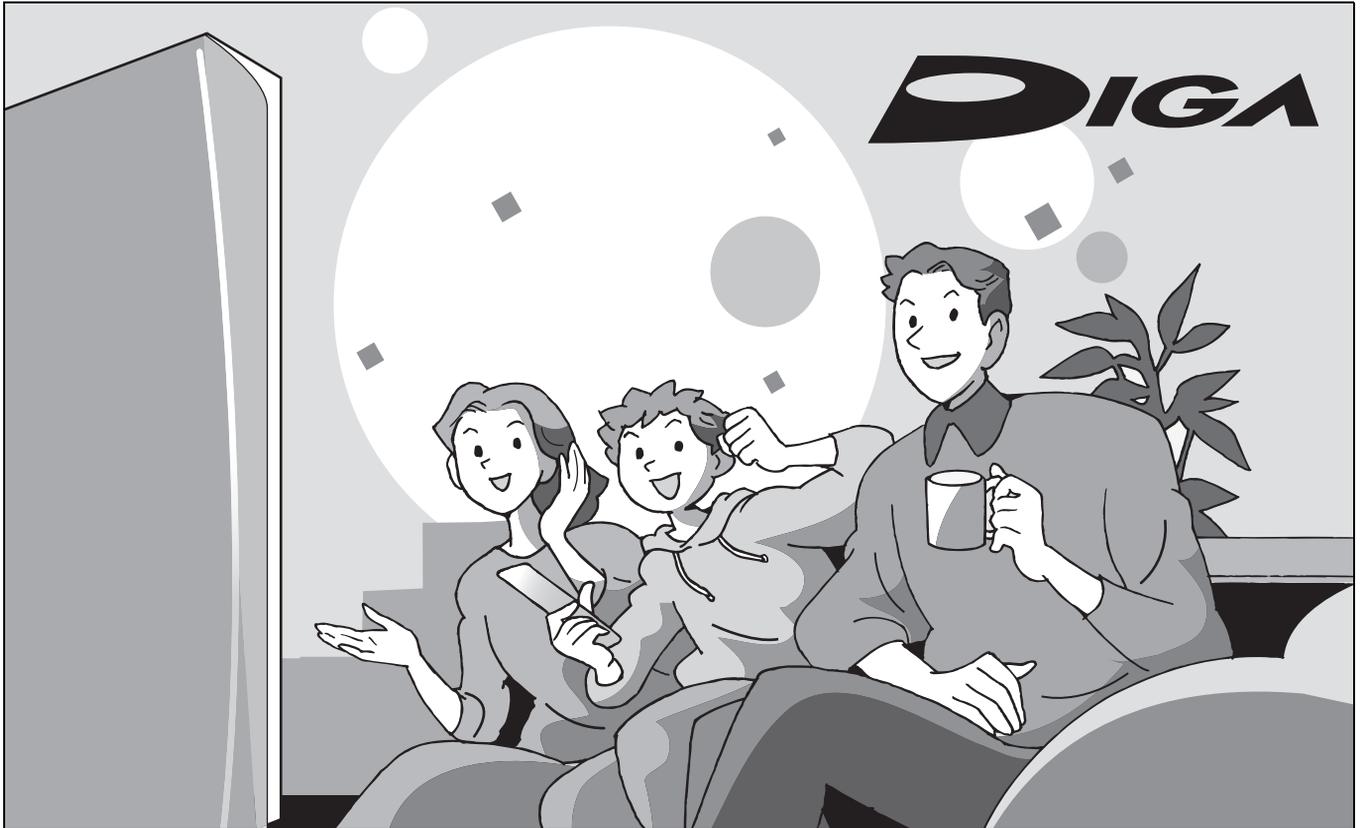
Editing

Copying

Convenient functions

Reference

Español



### Dear customer

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

Before connecting, operating or adjusting this product, please read the instructions completely.

Please keep this manual for future reference.

#### Region number supported by this unit

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

- The region number of this unit is "1".
- The unit will play DVDs marked with labels containing "1" or "ALL".

Example:



#### If you have any questions contact

In the U.S.A.: 1-800-211-PANA(7262)

In Canada: 1-800-561-5505

**For U.S.A. only**

The warranty can be found on page 78.

**For Canada only**

The warranty can be found on page 79.

La referencia rápida en español se puede encontrar en la página 80.



This manual was printed with soy based ink.

## CAUTION!

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

## WARNING:

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

DANGER - VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM. FDA 21 CFR/Class IIIb	
注意	- 打开時有可见及不可见激光辐射。避免光束照射。
注意	- ここを開くと可燃及び不可燃レーザー光が出ます。ビームを見たり、触れたりしないでください。
CAUTION - CLASS 3B VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO THE BEAM. IEC60825-1 +A2/Class 3B	
ATTENTION - RAYONNEMENT LASER VISIBLE ET INVISIBLE. CLASSE 3B. EN CAS D'OUVERTURE, ÉVITER UNE EXPOSITION AU FAISCEAU.	
FORSIGTIG - SYNLIG OG USYNLIG LASERSTRÅLING KLASSE 3B. NÅR LAGET ER ÅBENT, UNDGÅ AT BLIVE UDSAT FOR STRÅLEN.	
VARO - AVATTAESSA OLET ALTTIINA LUOKAN 3B NÄKYVÄÄ JA NÄKYMÄTÖNTÄ LASERSÄTELYÄ. VARO ALTISTUMISTA SÄTEELLE.	
VARNING - KLASS 3B SYNLIG OCH ÖSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. UNDIK EXPONERING FÖR STRÅLEN.	
VORSICHT - SICHTBARE UND UNSICHTBARE LASERSTRÄHLUNG KLASSE 3B. WENN ABDECKUNG GEÖFFNET, NICHT DEM STRAHL AUSSETZEN.	
CAUTION - VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO THE BEAM. (IEC60825-1)	
ATTENTION - RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU.	
ADVARSEL - SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UDSÆTTELSE FOR STRÅLING.	
VARO! - AVATTAESSA OLET ALTTIINA NÄKYVÄÄ JA NÄKYMÄTÖNTÄ LASERSÄTELYLLE. ÄLÄ KATSO SÄTEESEEN.	
VARNING - SYNLIG OCH ÖSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BEHÅRakta EJ STRÅLEN.	
VORSICHT - SICHTBARE UND UNSICHTBARE LASERSTRÄHLUNG. WENN ABDECKUNG GEÖFFNET, NICHT DEM STRAHL AUSSETZEN.	
ADVARSEL - SYNLIG OG USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES. UNNGÅ EKSPONERING FOR STRÅLEN. VQL1J67	

(Inside of product)



## CAUTION

### RISK OF ELECTRIC SHOCK DO NOT OPEN



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

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

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

## CAUTION!

DO NOT INSTALL OR PLACE THIS UNIT IN A BOOKCASE, BUILT-IN CABINET OR IN ANOTHER CONFINED SPACE. ENSURE THE UNIT IS WELL VENTILATED. TO PREVENT RISK OF ELECTRIC SHOCK OR FIRE HAZARD DUE TO OVERHEATING, ENSURE THAT CURTAINS AND ANY OTHER MATERIALS DO NOT OBSTRUCT THE VENTILATION VENTS.

THE FOLLOWING APPLIES ONLY IN THE U.S.A.

### Note to CATV system installer:

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

The socket outlet shall be installed near the equipment and easily accessible. The mains plug of the power supply cord shall remain readily operable. To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from AC receptacle.

THE FOLLOWING APPLIES ONLY IN THE U.S.A.

### FCC Note:

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

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

FCC Caution: To assure continued compliance, follow the attached installation instructions and use only shielded interface cables when connecting to peripheral devices. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Responsible Party:  
Panasonic Corporation of North America  
One Panasonic Way  
Secaucus, NJ 07094  
Telephone No.: 1-800-211-7262

# IMPORTANT SAFETY INSTRUCTIONS

Read these operating instructions carefully before using the unit. Follow the safety instructions on the unit and the applicable safety instructions listed below. Keep these operating instructions handy for future reference.

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



## Getting started

<b>IMPORTANT SAFETY INSTRUCTIONS</b> . . . . .	<b>2</b>
<b>HDD, disc and card information</b> . . . . .	<b>4</b>
<b>Important notes for recording</b> . . . . .	<b>8</b>
<b>HDD (Hard disk drive) handling care</b> . . . . .	<b>9</b>
<b>Disc and card handling</b> . . . . .	<b>10</b>
<b>Unit care</b> . . . . .	<b>10</b>
<b>Inserting/Removing the SD card</b> . . . . .	<b>10</b>
<b>Accessories</b> . . . . .	<b>11</b>
<b>The remote control</b> . . . . .	<b>11</b>
<b>Control reference guide</b> . . . . .	<b>12</b>
<b>STEP 1 Connection</b> . . . . .	<b>14</b>
Connecting with an HDMI (High Definition Multimedia Interface) terminal . . . . .	19
Control with HDMI (HDAVI Control™) . . . . .	19
<b>STEP 2 Setting up the TV Guide On Screen™ system</b> . . . . .	<b>20</b>
<b>STEP 3 Downloading</b> . . . . .	<b>22</b>
<b>STEP 4 Set up to match your television and the unit's remote control</b> . . . . .	<b>23</b>

## Recording

<b>Recording television programs</b> . . . . .	<b>24</b>
Recording television programs . . . . .	24
To specify a time to stop recording —One Touch Recording . . . . .	26
Flexible Recording . . . . .	26
Playing while you are recording . . . . .	27
Selecting audio to record . . . . .	27
<b>Scheduled recording</b> . . . . .	<b>28</b>
Using the TV Guide On Screen™ system to make scheduled recordings . . . . .	28
Manually programming scheduled recordings . . . . .	29
Using VCR Plus+ system to make scheduled recordings . . . . .	29
Check, change or delete a program . . . . .	30
<b>Utilizing the TV Guide On Screen™ system</b> . . . . .	<b>31</b>
Using the LISTINGS Service to set scheduled recording and scheduled reminder . . . . .	32
Using the SEARCH Service to search TV programs by genre, keyword, etc. . . . .	33
Using SETUP Service to change the settings of the TV Guide On Screen™ system . . . . .	34
Using SCHEDULE Service to check, change or delete a program set for scheduled recording or scheduled reminder manually . . . . .	35

## Playing back

<b>Playing recorded video contents/Playing play-only discs</b> . . . . .	<b>36</b>
Operations during play . . . . .	37
Simple editing operations during play . . . . .	38
Changing audio during play . . . . .	38
Status messages . . . . .	38
<b>Playing DivX discs, MP3 discs and still pictures (JPEG/TIFF)</b> . . . . .	<b>39</b>
Selecting file type to play . . . . .	39
Playing DivX discs . . . . .	39
Playing MP3 discs . . . . .	40
Playing still pictures . . . . .	40
Useful functions during still picture play . . . . .	41
<b>Using on-screen menus</b> . . . . .	<b>42</b>
<b>Delete Navigator to delete titles</b> . . . . .	<b>43</b>
Deleting titles or pictures during play . . . . .	43

## Editing

<b>Editing titles/chapters</b> . . . . .	<b>44</b>
Editing titles/chapters and playing chapters . . . . .	44
Title operations . . . . .	45
Chapter operations . . . . .	45
<b>Creating, editing and playing playlists</b> . . . . .	<b>46</b>
Creating playlists . . . . .	46
Editing and playing playlists/chapters . . . . .	47
Playlist operations . . . . .	47
Chapter operations . . . . .	47
<b>Editing still pictures</b> . . . . .	<b>48</b>
Album and picture operation . . . . .	48

## Copying

<b>Copying titles or playlists</b> . . . . .	<b>49</b>
Copy . . . . .	50
Copying using the copying list—Advanced Copy . . . . .	50
Copying a finalized DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R and +R DL . . . . .	52
Copying MPEG2 moving pictures from an SD card . . . . .	52
<b>Copying from a video cassette recorder</b> . . . . .	<b>53</b>
Manual recording . . . . .	53
DV camcorder recording (DV Camcorder Rec.) . . . . .	53
<b>Copying still pictures</b> . . . . .	<b>54</b>
Copying using the copying list . . . . .	54
Copying all the still pictures on a card —Copy all Pictures . . . . .	55

## Convenient functions

<b>HDD, disc and card management</b> . . . . .	<b>56</b>
Common procedures . . . . .	56
Setting the protection—Disc Protection . . . . .	56
Providing a name for a disc—Disc Name . . . . .	56
Deleting all titles and playlists—Delete All Titles . . . . .	57
Deleting all the contents of a disc or card—Format . . . . .	57
Selecting the background style—Top Menu Style . . . . .	58
Selecting whether to show the Top Menu first —Playback will start with: . . . . .	58
Enabling discs to be played on other equipment—Finalize . . . . .	58
Creating Top Menu—Create DVD Top Menu . . . . .	58
<b>Entering text</b> . . . . .	<b>59</b>
<b>Changing the unit's settings</b> . . . . .	<b>60</b>
Common procedures . . . . .	60
Summary of settings . . . . .	60
Changing the speaker setting to suit your speakers . . . . .	63
<b>Channel/Clock settings when TV Guide On Screen™ system is not used</b> . . . . .	<b>64</b>
Auto channel/clock settings . . . . .	64
Channel captions . . . . .	65
VCR Plus+ Channel Setting . . . . .	65

## Reference

<b>Frequently asked questions</b> . . . . .	<b>66</b>
<b>Messages</b> . . . . .	<b>67</b>
<b>Troubleshooting guide</b> . . . . .	<b>69</b>
<b>Specifications</b> . . . . .	<b>75</b>
<b>Glossary</b> . . . . .	<b>76</b>
<b>Product Service</b> . . . . .	<b>77</b>
<b>Limited Warranty (ONLY FOR U.S.A.)</b> . . . . .	<b>78</b>
<b>Limited Warranty (ONLY FOR CANADA)</b> . . . . .	<b>79</b>
<b>Guía de referencia rápida en español</b> . . . . .	<b>80</b>
<b>(Spanish Quick Reference)</b>	
<b>Index</b> . . . . .	<b>Backcover</b>

## HDD and discs you can use for recording and play

Disc type	Hard disk drive (HDD) ●200 GB	DVD-RAM ●4.7 GB/9.4 GB, 12 cm (5") ●2.8 GB, 8 cm (3")
Logo	-	
Indicated in these instructions by	<b>HDD</b>	<b>RAM</b>
Recording format	<b>DVD Video Recording format</b> This is a recording method which allows you to record and edit television broadcasts and so on. ●You can delete unwanted parts of a title, create playlists, etc. ●Digital broadcasts that allow "One time only recording" can be recorded to a CPRM compatible disc.	
Data that can be recorded and played	<b>Video</b> <b>Still pictures</b>	<b>Video</b> <b>Still pictures</b>
Re-writable	Yes	Yes
Play on other players*2	-	Only on DVD-RAM compatible players. (It is not possible to finalize the disc.)
Usable high speed recording disc type*3	-	Up to 5X recording speed discs.
What you can do on this unit		
Recording broadcasts that allow one copy	Yes	Yes [CPRM (⇒ 76) compatible discs only.]
Recording both Main and SAP for MTS broadcasts*4	Yes*5	Yes*5
Recording 16:9 aspect picture*4	Yes*5	Yes*5
Creating and editing playlists	Yes	Yes

Disc type	DVD-R ●4.7 GB, 12 cm (5") ●1.4 GB, 8 cm (3")	DVD-R DL (dual layer on single side) ●You cannot directly record to a DVD-R DL disc on this unit (⇒ 8).	DVD-RW ●4.7 GB, 12 cm (5") ●1.4 GB, 8 cm (3")
Logo			
Indicated in these instructions by	<b>-R</b> before finalization <b>DVD-V</b> after finalization	<b>-R DL</b> before finalization <b>DVD-V</b> after finalization	<b>-RW(V)</b> before finalization <b>DVD-V</b> after finalization
Recording format	<b>DVD-Video format</b> This recording method is the same as commercially available DVD-Video. ●Digital broadcasts that allow "One time only recording" cannot be recorded.		
Data that can be recorded and played	<b>Video</b>	<b>Video</b>	<b>Video</b>
Re-writable*1	No	No	Yes
Play on other players*2	Only after finalizing the disc (⇒ 58, 76).	Only on DVD-R DL compatible players after finalizing the disc (⇒ 58, 76).	Only after finalizing the disc (⇒ 58, 76).
Usable high speed recording disc type*3	Up to 16X recording speed discs.	Up to 4X recording speed discs.	Up to 6X recording speed discs.
What you can do on this unit			
Recording broadcasts that allow one copy	No	No	No
Recording both Main and SAP for MTS broadcasts*4	No [Only one is recorded. ⇒ 62, Multi-channel TV Sound ( MTS )]	No [Only one is recorded. ⇒ 62, Multi-channel TV Sound ( MTS )]	No [Only one is recorded. ⇒ 62, Multi-channel TV Sound ( MTS )]
Recording 16:9 aspect picture*4	No (The picture is recorded in 4:3 aspect.)	No (The picture is recorded in 4:3 aspect.)	No (The picture is recorded in 4:3 aspect.)
Creating and editing playlists	No	No	No

## HDD and discs you can use for recording and play

(continued)

Disc type	+R* <sup>6</sup> ●4.7 GB, 12 cm (5")	+R DL (double layer on single side) ●You cannot directly record to a +R DL disc on this unit (⇒ 8).	+RW
Logo	–	–	–
Indicated in these instructions by	+R before finalization	+R DL before finalization	+RW
	DVD-V after finalization	DVD-V after finalization	
Recording format	<b>+VR (+R/+RW Video Recording) format</b>		
	This is a method for recording moving pictures to +R/+RW discs. You can playback such discs recorded in this method in a similar way as contents recorded in the DVD-Video format. ●Digital broadcasts that allow “One time only recording” cannot be recorded. ●After finalizing the disc or creating the top menu, you can play the disc on DVD players and other equipment.		
Data that can be recorded and played	Video	Video	Video
Re-writable* <sup>1</sup>	No	No	Yes
Play on other players* <sup>2</sup>	Only after finalizing the disc (⇒ 58, 76).	Only on +R DL compatible players after finalizing the disc (⇒ 58, 76).	Yes (It is not possible to finalize the disc.)
Usable high speed recording disc type* <sup>3</sup>	Up to 16X recording speed discs.	Up to 2.4X recording speed discs.	Up to 4X recording speed discs.* <sup>7</sup>

### What you can do on this unit

Recording broadcasts that allow one copy	No	No	No
Recording both Main and SAP for MTS broadcasts* <sup>4</sup>	No [Only one is recorded. ⇒ 62, Multi-channel TV Sound ( MTS )]	No [Only one is recorded. ⇒ 62, Multi-channel TV Sound ( MTS )]	No [Only one is recorded. ⇒ 62, Multi-channel TV Sound ( MTS )]
Recording 16:9 aspect picture* <sup>4</sup>	No (The picture is recorded in 4:3 aspect.)	No (The picture is recorded in 4:3 aspect.)	No (The picture is recorded in 4:3 aspect.)
Creating and editing playlists	No	No	No

\*<sup>1</sup> The amount of the recordable disc space doesn't increase even if the program is deleted when you use one time recording disc. (⇒ 25, Recording modes and approximate recording times)

\*<sup>2</sup> **RAM** Can be played on Panasonic DVD recorders and DVD-RAM compatible DVD players.  
If you play a DVD-R DL or +R DL, use compatible equipment.

\*<sup>3</sup> The high-speed recording discs listed here are compatible with this unit. However, this is not the copy speed.

\*<sup>4</sup> For further information (⇒ 8, Important notes for recording)

\*<sup>5</sup> When “Enable High-Speed Mode” is set to “Off” (⇒ 61). ( The default setting is “On”. )

\*<sup>6</sup> +R discs recorded with this unit and +R discs recorded with another Panasonic DVD recorder may be incompatible. However, discs that are finalized are compatible and can be played.

\*<sup>7</sup> You can play 8X recording speed discs recorded on another equipment.

- We recommend using Panasonic discs and cards. We also recommend using DVD-RAM discs with cartridges to protect them from scratches and dirt.
- You may not be able to record depending on the condition of the discs and you may not be able to play them due to the condition of the recording.
- You cannot record programs that allow “One time only recording” to CPRM compatible DVD-R and DVD-RW on this unit. You can record other programs as DVD-Video format.

### Note

When “Enable High-Speed Mode” is set to “On”, the restrictions on secondary audio recording etc. are also applied to DVD-RAM. Turn this setting “Off” if high speed copy to DVD-R, etc. is not necessary when recording a program (⇒ 61). ( The default setting is “On”. )

### Finalize

A process that makes play of a recorded disc possible on equipment that can play such media. After finalizing, the disc becomes play-only and you can no longer record or edit. (⇒ 58)

### Formatting

Formatting is the process of making a disc (such as DVD-RAM, etc.) recordable on recording equipment. (⇒ 57)

### You cannot directly record to DVD-R DL and +R DL discs on this unit.

Record to the HDD and then copy to the disc.

### When playing DVD-R DL (Dual Layer, single-sided) and +R DL (Double Layer, single-sided)

DVD-R DL (Dual Layer, single-sided) and +R DL (Double Layer, single-sided) discs have two writable layers on one side. If there is not enough space on the first layer to record a program, the remaining portion of the program is recorded on the second layer. When playing a title recorded on both layers, the unit automatically switches between layers and plays the title in the same way as a normal program. However, video and audio may momentarily cut out when the unit is switching layers.

## ■ Recording modes and approximate recording times ⇒ 25

### Discs that cannot be played

- 2.6 and 5.2 GB DVD-RAM, 12 cm (5")
- 3.95 and 4.7 GB DVD-R for Authoring
- DVD-R recorded in DVD Video Recording format
- DVD-R (DVD-Video format), DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL recorded on another unit and not finalized (⇒ 76).
- PAL discs (you can still play the audio on DVD-Audio)
- DVD-Video with a region number other than “1” or “ALL”
- Blu-ray
- DVD-ROM, +R 8 cm (3"), CD-ROM, CDV, CD-G, Photo CD, CVD, SVCD, SACD, MV-Disc, PD, etc.

### Note about using a DualDisc

The digital audio content side of a DualDisc does not meet the technical specifications of the Compact Disc Digital Audio (CD-DA) format so play may not be possible.

## Play-only discs [12 cm (5")/8 cm (3")]

Disc type	DVD-Video	DVD-Audio	DVD-RW (DVD Video Recording format)
Logo			
Indicated in these instructions by	<b>DVD-V</b>	<b>DVD-A</b>	<b>-RW(VR)</b>
Instructions	High quality movie and music discs	High fidelity music discs ● Played on this unit in 2 channels.	DVD-RW recorded on another DVD Recorder ● You can play programs that allow "One time only recording" if they have been recorded to a CPRM compatible disc. ● By formatting (⇒ 57) the disc, you can record to it in DVD-Video format and play it on this unit. ● It may be necessary to finalize the disc on the equipment used for recording.

Disc type	DVD-R	CD	Video CD
Logo			
Indicated in these instructions by	<b>DivX</b>	<b>CD</b>	<b>VCD</b>
Instructions	● DVD-R* with video recorded in DivX	Recorded audio and music (including CD-R/RW*)	Recorded music and video (including CD-R/RW*)
			● CD-R and CD-RW* with video recorded in DivX ● CD-R and CD-RW* with music recorded in MP3 (⇒ 40) ● CD-R and CD-RW* with still pictures recorded in JPEG and TIFF

\*Close the session after recording. Play may be impossible on some discs due to the condition of the recording.

- The producer of the disc can control how discs are played. So you may not always be able to control play as described in these operating instructions. Read the disc's instructions carefully.
- Operation and sound quality of CDs that do not conform to CD-DA specifications (copy control CDs, etc.) cannot be guaranteed.

**Regarding DVD-Audio**

Some manufacturers do not allow down-mixing, therefore some multi-channel DVD-Audio will prevent down-mixing (⇒ 76) of all or part of their contents. Tracks that are prevented from being down-mixed will not play properly on this unit (e.g. audio is played from the front two channels only). Refer to the disc's jacket for more information.

## Cards you can use on this unit

Type	SD Memory Card miniSD™ Card* MultiMediaCard
Indicated in these instructions by	<b>SD</b>
Data that can be recorded and played	Still pictures Video (MPEG2)
Instructions	You can insert directly into the SD card slot. *A miniSD™ card adaptor included with the miniSD™ card is necessary.  ● You can play and copy still pictures taken on a digital camera, etc. (⇒ 40, 54). ● You can set the DPOF (Digital Print Order Format) for automatic printing on your home printer or at a photo developing store (⇒ 48, 76). ● MPEG2 moving pictures shot with a Panasonic SD Video camera, etc. can be copied to the HDD or DVD-RAM. (⇒ 52) ● MPEG2 moving pictures cannot be played directly from the SD card.

Compatible with: FAT12 or FAT16

**Suitable SD Memory Cards**

- You can use SD Memory Cards with the following capacities (from 8 MB to 2 GB).

8 MB,	16 MB,	32 MB,	64 MB,
128 MB,	256 MB,	512 MB,	1 GB,
2 GB (Maximum)			

- Useable memory is slightly less than the card capacity.
- Please confirm the latest information on the following website.  
<http://panasonic.co.jp/pavc/global/cs>  
(This site is in English only.)
- If the SD Memory Card is formatted on other equipment, the time used for recording may become longer. Also if the SD Memory Card is formatted on a PC, you may not be able to use it on this unit.  
In these cases, format the card on this unit (⇒ 57, 76).
- This unit supports SD Memory Cards formatted in FAT12 system and FAT16 system based on SD Memory Card Specifications.
- We recommend using a Panasonic SD card.

## Regarding DivX discs, MP3 discs and still pictures (JPEG/TIFF)

### DivX

Playable discs	<b>R CD</b>
File format	DivX <ul style="list-style-type: none"> <li>Files must have the extension ".DIVX", ".divx", ".AVI" or ".avi".</li> </ul> 
Number of folders	Maximum number of folders recognizable: 300 folders (including the root folder)
Number of files	Maximum number of DivX files recognizable*1 : 200 files
Support version	DivX ver.3.11, 4.x, 5.x Video -Number of stream: Up to 1 -Codec: DIV3, DIV4, DIVX, DV50 -Picture size: 32 x 32 to 720 x 576 -FPS(Frame Per Second): Up to 30 fps Audio -Number of stream: Up to 8 -Format: MP3, MPEG, AC3 -Multi channel: AC3 is possible. MPEG multi is 2 ch conversion. <ul style="list-style-type: none"> <li>GMC (Global Motion Compensation) is not supported.</li> </ul>

### MP3

Playable discs	<b>CD</b>
File format	MP3 <ul style="list-style-type: none"> <li>Files must have the extension ".mp3" or ".MP3".</li> </ul>
Number of folders (groups)	Maximum number of folders (groups) recognizable: 99 folders (groups) (including the root folder)
Number of files (tracks)	Maximum number of files (tracks) recognizable*1 : 999 files (tracks)
Bit rates	32 kbps to 320 kbps
Sampling frequency	16 kHz/22.05 kHz/24 kHz/32 kHz/44.1 kHz/48 kHz
ID3 tags	not compatible

\*1 If there is a large amount of still picture data etc. within a MP3 file, play may not be possible.

### Still pictures (JPEG, TIFF\*2)

Playable discs and cards	<b>HDD RAM SD CD</b>
File format	JPEG, TIFF (non-compressed RGB chunky format) <ul style="list-style-type: none"> <li>Files must have the extension ".jpg", ".JPG", ".tif" or ".TIF".</li> </ul>
Number of pixels	between 34×34 and 6144×4096 pixels (Sub sampling is 4:2:2 or 4:2:0)
Number of folders	<b>CD</b> Maximum number of folders recognizable: 99 folders (including the root folder) <b>HDD RAM SD</b> This unit can handle a maximum of 300 folders (including higher folders)
Number of files	<b>CD</b> Maximum number of files recognizable*1 : 999 files <b>HDD RAM SD</b> This unit can handle a maximum of 3000 files
MOTION JPEG	not compatible

\*1 Total number of recognizable file including MP3, JPEG, DivX and other type of files is 4000.

\*2 Operation may take time to complete when playing TIFF format still pictures, or when there are many files and/or folders, some files may not display or be playable.

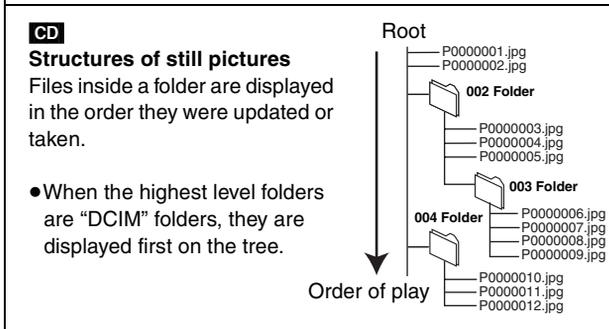
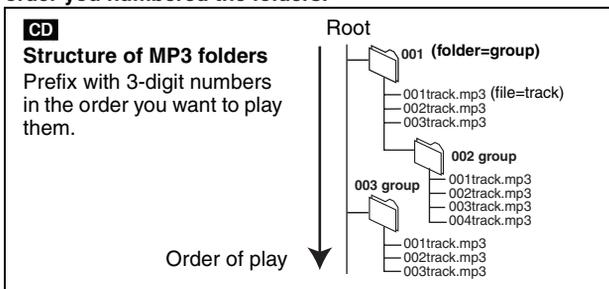
### CD

- Compatible formats: ISO9660 level 1 or 2 (except for extended formats), Joliet
- This unit is compatible with multi-session but reading or play of the disc may take time if there are a lot of sessions.
- Operation may take time to complete when there are many files (tracks) and/or folders (groups) and some files (tracks) may not display or be playable.
- English alphabet and Arabic numerals are displayed correctly. Other characters may not be displayed correctly.
- The display order on this unit may differ from how the order is displayed on a computer.
- Depending on how you create the disc (writing software), files (tracks) and folders (groups) may not play in the order you numbered them.
- This unit is not compatible with packet-write format.
- Depending on the recording conditions, the disc may not play.

### HDD RAM SD

- Compatible formats: DCF\*3 compliant (Content recorded on a digital camera, etc.)
- \*3 Design rule for Camera File system: unified standard established by Japan Electronics and Information Technology Industries Association (JEITA).

**You can play MP3 and still pictures (JPEG/TIFF) on this unit by making folders as shown below. However depending on how you create the disc (writing software), play may not be in the order you numbered the folders.**



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"DTS" and "DTS 2.0 + Digital Out" are trademarks of Digital Theater Systems, Inc.
U.S. patent Nos. 4,631,603, 4,577,216, 4,819,098, and 4,907,093.
This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights. Use of this copyright protection technology must be authorized by Macrovision, and is intended for home and other limited consumer uses only unless otherwise authorized by Macrovision. Reverse engineering or disassembly is prohibited.
Official DivX Certified™ product. Plays DivX®5, DivX®4, DivX®3, and DivX® VOD video content (in compliance with DivX Certified™ technical requirements). DivX, DivX Certified, and associated logos are trademarks of DivXNetworks, Inc. and are used under license.
<ul style="list-style-type: none"> <li>SD logo is a trademark.</li> <li>miniSD™ is a trademark of SD Card Association.</li> <li>Portions of this product are protected under copyright law and are provided under license by ARIS/SOLANA/4C.</li> </ul>
HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.
HDAVI Control™ is a trademark of Matsushita Electric Industrial Co., Ltd.

<p><b>Recording of MTS broadcasting</b></p>	<p><b>HDD RAM</b>  <b>Both Main and SAP audio can be recorded.</b>          You can change the audio during playback. (⇒ 38, Changing audio during play)          However in the following cases, select to record the Main or SAP audio:          –Recording or copying sound in LPCM (⇒ 62, Audio for XP Recording)          –“Enable High-Speed Mode” is set to “On”          ( The default setting is “On”. ⇒ 61)</p> <p><b>Main SAP</b>          Hello Hola</p>  <ul style="list-style-type: none"> <li>• If you record from external equipment              –Select both “Main” and “SAP” on the external equipment.</li> </ul>	<p><b>-R -R DL -RW(V) +R +R DL +RW</b>  <b>Select the Main or SAP audio before recording or copying</b>          [⇒ 62, Multi-channel TV Sound ( MTS )].</p> <p><b>The selected audio only is recorded or copied.</b></p> <p><b>Main</b>          Hello</p>  <ul style="list-style-type: none"> <li>• If you record from external equipment              –Select “Main” or “SAP” on the external equipment.</li> </ul>
<p><b>Recording of Widescreen broadcasting</b></p>	<p><b>HDD RAM</b>  <b>Recorded in 16:9 aspect (Widescreen)*</b>          *When “Enable High-Speed Mode” is set to “Off”</p>  <ul style="list-style-type: none"> <li>• When “Enable High-Speed Mode” is set to “On”,              16:9 aspect programs are recorded in 4:3 aspect.              ( The default setting is “On”. ⇒ 61)</li> </ul>	<p><b>-R -R DL -RW(V) +R +R DL +RW</b>  <b>Recorded or copied in 4:3 aspect</b></p> 
<p><b>Copying titles in high speed mode from the HDD to DVD-R, etc.</b></p>	<p><b>Set “Enable High-Speed Mode” to “On” before recording to the HDD (⇒ 61).</b>          ( The default setting is “On”. )          You can copy titles in high speed mode (⇒ 49); however, the above settings are necessary before recording to the HDD.</p> <p><b>Record to the HDD</b></p>  <p><b>High speed copy to DVD-R, etc.</b></p>	
<p><b>Recording of digital broadcasting</b></p>	<p>It is not possible to record digital broadcasts that allow “One time only recording” onto DVD-R, DVD-RW, +R, +RW or 8 cm (3”) DVD-RAM discs. Use the HDD or CPRM (⇒ 76) compatible DVD-RAM.</p> <p><b>HDD RAM CPRM compatible discs only.</b> <b>-R -RW(V) +R +RW</b></p>  <ul style="list-style-type: none"> <li>• “One time only recording” titles can only be transferred from the HDD to CPRM compatible DVD-RAM (They are deleted from the HDD). They cannot be copied.</li> <li>• Even when copying to videotape the title may not be copied correctly because of the copy guard.</li> <li>• You cannot copy a playlist created from “One time only recording” titles.</li> </ul>	
<p><b>Playing the disc on other DVD players</b></p>	<p><b>-R -R DL -RW(V) +R +R DL</b>  <b>The disc must be finalized after recording or copying (⇒ 58).</b>          It is necessary to finalize DVD-R, etc. on this unit after recording or copying titles to them. You can then play them as a commercially sold DVD-Video. However, the discs become play-only and you can no longer record or copy.*          *You can record and copy again if you format DVD-RW.</p>  <p><b>+RW</b>          We recommend you to create the menu before playing a +RW disc on other equipment. (⇒ 58)</p>	
<p><b>Recording to DVD-R DL and +R DL</b></p>	<p><b>You cannot directly record to DVD-R DL and +R DL discs on this unit.</b>          Record to the HDD and then copy to the disc.</p>	

- It is not possible to record to both HDD (Hard Disk Drive) and DVD drive simultaneously.
- It is not possible to record continuously from one side of a double sided disc to the other. You will need to eject the disc and turn it over.

# HDD (Hard disk drive) handling care

The HDD is a high precision recording instrument and because of its long recording capability and high speed operation it is a very special device that is easily susceptible to damage.

As a basic rule, save important content to a disc as backup.

## ■ The HDD is a device that is not built to withstand vibration/shock or dust

Depending on the setup environment and handling of the HDD some content may become damaged and play and recording may no longer be possible. Especially during operation, do not subject the unit to any vibration, shock, or remove the AC power plug from the household AC outlet. In the event of a power failure during recording or play, the content may be damaged.

## ■ The HDD is a temporary storage device

The HDD is not an everlasting storage device for recorded content. Use the HDD as a temporary storage place for one-off viewing, editing, or saving recorded content to a disc.

## ■ Immediately save (backup) all content as soon as you feel there may be a problem with the HDD

If there is an irregularity within the HDD, repetitive strange sounds or problems with picture (block noise, etc.) may result. Using the HDD in this condition may worsen the problem and in the worst case the HDD may no longer become usable. As soon as you notice this type of problem, copy all content to disc and request service. Recorded content (data) on an HDD that has become unusable is unrecoverable.

- When the HDD has been automatically placed in the SLEEP mode (➡ below), or the unit is turned on or off, there may be an unexpected sound. This does not indicate a problem with this unit.

### ■ Setup precautions

- Do not place in an enclosed area where the rear cooling fan and the cooling vents on the side are covered up.
- Place the unit on a surface that is flat and not subject to vibration or impact.
- Do not place on anything that generates heat like a video cassette recorder, etc.
- Do not place in an area often subject to temperature changes.
- Place in an area where condensation does not occur. Condensation is a phenomenon where moisture forms on a cold surface when there is an extreme change in temperature. Condensation may cause internal damage to the unit.
- Conditions where condensation may occur
  - When there is an extreme change in temperature (moving from a very hot location to a very cold location, or vice versa, or when subjected to an air conditioner or when cooled air directly impacts the unit.) When the HDD (warms during operation) is subjected to cold air, condensation may form on the inside of the HDD and may cause damage to the HDD heads, etc.
  - When there is high humidity or a lot of steam in the room.
  - During the rainy season.



In the above situation, **without turning the unit on**, let the unit adjust to the room temperature and wait 2–3 hours until condensation is gone.

### ■ Cigarette smoke, etc. causes malfunction or breakdown

The unit may breakdown if cigarette smoke or bug spray/vapor, etc. gets inside the unit.

### ■ While operating

- Do not move the unit or subject to vibration or impact. (The HDD may become damaged.)
  - Do not remove the AC power plug from the household AC outlet, or flip the power breaker switch.
- While the unit is on, the HDD is rotating at high speed. Sound or movement due to rotation is normal.

### ■ When moving the unit

- ① Turn the unit off. (Wait until “BYE” disappears from the display.)
- ② Remove the AC power plug from the household AC outlet.
- ③ Move only after the unit has come to a complete stop (approx. 2 minutes) in order to avoid subjecting to vibration and shock. (Even after turning the unit off, the HDD continues operating for a short time.)

## ■ HDD recording time remaining

This unit records using a VBR (Variable bit rate) data compression system to vary recorded data segments to match video data segments which may cause differences in the displayed amount of time and space remaining for recording.

If the remaining amount of time is insufficient, delete any unwanted titles to create enough space before you start recording. (Deleting a playlist will not increase the amount of time.)

## ■ When “SLEEP” appears in the display

The HDD has been automatically placed in the SLEEP mode. (The HDD continues to rotate at high speed while the unit is on. In order to extend the life of the HDD, the HDD will be placed in the SLEEP mode if no operation has been performed for 30 minutes while there is no disc on the disc tray.)

- While in SLEEP mode play or recording may not begin right away because the HDD takes time to be re-activated.
- When not using the unit, we recommend removing the disc in the tray in order to set the HDD to the SLEEP mode.

## ■ Indemnity concerning recorded content

Panasonic does not accept any responsibility for damages directly or indirectly due to any type of problems that result in loss of recording or edited content (data), and does not guarantee any content if recording or editing does not work properly. Likewise, the above also applies in a case where any type of repair is made to the unit (including any other non-HDD related component).

# Disc and card handling

## How to hold a disc or card

Do not touch the recorded surface or the terminal surface.

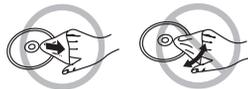


## Concerning non-cartridge discs

Be careful about scratches and dirt.

## If there is dirt or condensation on the disc

Wipe with a damp cloth and then wipe dry.



## Handling precautions

- Do not attach labels or stickers to discs. (This may cause disc warping and un-balanced rotation, rendering it unusable.)
- Write on the label side of the disc only with a soft, oil-based felt pen. Do not use ballpoint pens or other hard writing implements.
- Do not use record cleaning sprays, benzene, thinner, static electricity prevention liquids or any other solvent.
- Do not use scratch-proof protectors or covers.

- Do not expose the terminals of the card to water, garbage or other strange things.
- Do not drop, stack, or impact discs. Do not place objects on them.
- Do not use the following discs:
  - Discs with exposed adhesive from removed stickers or labels (rental discs, etc.).
  - Discs that are badly warped or cracked.
  - Irregularly shaped discs, such as heart shapes.



- Do not place in the following areas:
  - In direct sunlight.
  - In very dusty or humid areas.
  - Near a heater.
  - Locations susceptible to significant difference in temperature (condensation can occur).
  - Where static electricity or electromagnetic waves occur.
- To protect discs from scratches and dirt, return them to their cases or cartridges when you are not using them.

**The manufacturer accepts no responsibility and offers no compensation for loss of recorded or edited material due to a problem with the unit or recordable media, and accepts no responsibility and offers no compensation for any subsequent damage caused by such loss.**

### Examples of causes of such losses are

- A disc recorded and edited with this unit is played in a DVD Recorder or computer disc drive manufactured by another company.
- A disc used as described above and then played again in this unit.
- A disc recorded and edited with a DVD Recorder or computer disc drive manufactured by another company is played in this unit.

## Unit care

The precision parts in this unit are readily affected by the environment, especially temperature, humidity, and dust. Cigarette smoke also can cause malfunction or breakdown.

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

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

Observe the following points to ensure continued listening and viewing pleasure.

Dust and dirt may adhere to the unit's lens over time, making it impossible to record or play discs.

Use the **DVD lens cleaner** (RP-CL720PP) about once every year, depending on frequency of use and the operating environment. Carefully read the lens cleaner's instructions before use.

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

The heat can damage the unit.



### Note

Do not obstruct the rear panel's internal cooling fan.

**Before moving the unit, ensure the disc tray is empty. Failure to do so will risk severely damaging the disc and the unit.**

## Inserting/Removing the SD card

When the card indicator ("SD") on the unit's display is flashing, the card is being read from or written to. Do not turn off the unit or remove the card. Such action may result in malfunction or loss of the card's contents.

• **Inserting foreign objects can cause a malfunction.**

- You can use SD Memory Cards with capacities from 8 MB to 2 GB (⇒ 6).

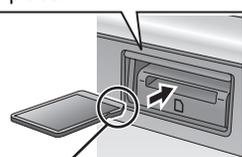
### Opening the cover

Press the protruding part to open the cover.



### Inserting the card

Press on the center of the card until it clicks into place.



Insert the card label up with the cut-off corner on the right.

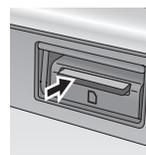
(Do not forget to close the cover. ⇒ right)

If you are using a miniSD™ card, insert it into the miniSD™ card adaptor that comes with the card. Insert and remove this adaptor from the unit.

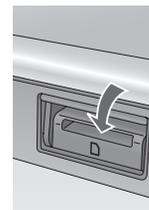


### Removing the card

- 1 Press on the center of the card.
- 2 Pull it straight out.



### Closing the cover



### Automatic drive select function

- If you insert an SD card while the unit is stopped, the "SD Card Operations" screen is displayed. Press [▲, ▼] to select an item and press [ENTER] to switch to the SD drive (⇒ 40, 54).  
If you remove an SD card, the HDD drive is automatically selected.

# Accessories



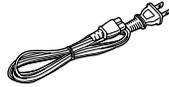
Please check and identify the supplied accessories. Use numbers indicated in parentheses when asking for replacement parts. (Product numbers correct as of March 2006. These may be subject to change.)

**Only for U.S.A.:** To order accessories, refer to "Accessory Purchases" on page 78.

**Only for Canada:** To order accessories, call the dealer from whom you have made your purchase.



**1 Remote control**  
(EUR7659YR0)



**1 AC power supply cord**  
(K2CB2CB00018)

•For use with this unit only. Do not use it with other equipment. Also, do not use cords for other equipment with this unit.



**1 75 Ω coaxial cable**  
(K2KZ2BA00001)



**2 Batteries**  
for remote control



**1 Audio/video cable**  
(K2KA6BA00003)



**1 IR Blaster**  
(K2ZZ04C00001)



**1 DVD-RAM disc**

**(U.S.A. only)**

## Product Registration Card

Please complete and return the included product registration card, or register via the Internet at: <http://www.prodreg.com/panasonic/>

The model number and serial number of this product can be found on either the back or the bottom of the unit. Please note them in the space provided below and keep for future reference.

MODEL NUMBER \_\_\_\_\_ DMR-EH55 \_\_\_\_\_

SERIAL NUMBER \_\_\_\_\_

## User memo:

DATE OF PURCHASE \_\_\_\_\_

DEALER NAME \_\_\_\_\_

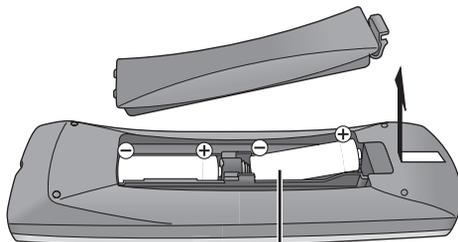
DEALER ADDRESS \_\_\_\_\_

TELEPHONE NUMBER \_\_\_\_\_

# The remote control

## ■ Batteries

- Insert so the poles (+ and -) match those in the remote control.
- When closing the lid, insert it from the - (minus) side.



R6/LR6, AA

- Do not use rechargeable type batteries.
- Do not mix old and new batteries.
- Do not use different types at the same time.
- Do not heat or expose to flame.
- Do not take apart or short circuit.
- Do not attempt to recharge alkaline or manganese batteries.
- Do not use batteries if the covering has been peeled off.

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

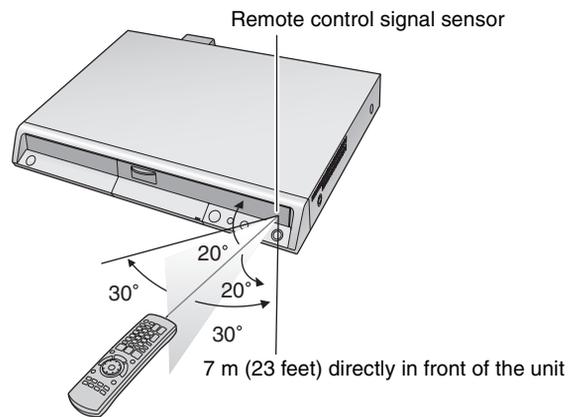
Remove batteries if the remote control is not going to be used for a long period of time. Store in a cool, dark place.

Remote control operations (⇒ 12)

## Note

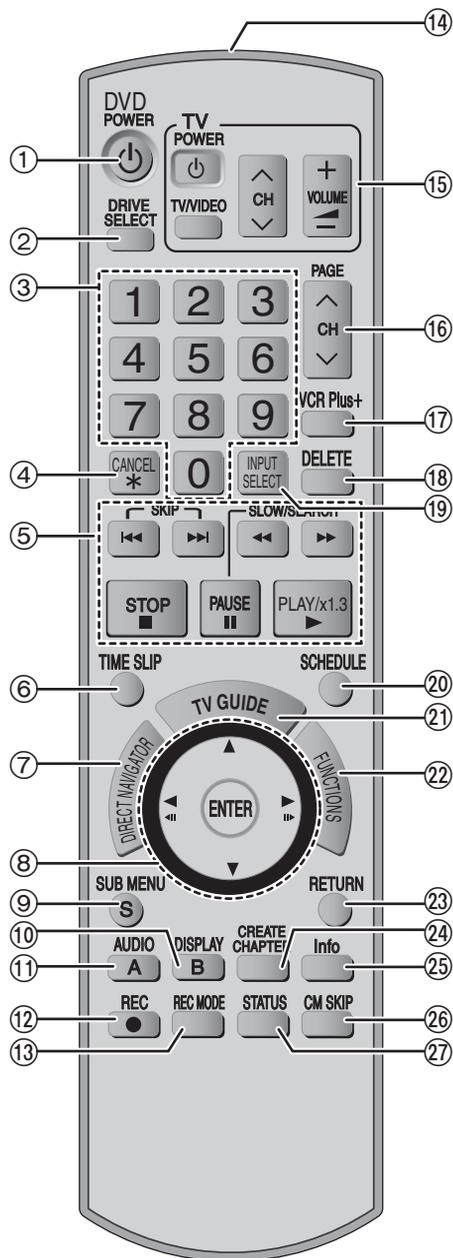
If you cannot operate the unit or television using the remote control after changing the batteries, please re-enter the codes (⇒ 23).

## ■ Use



## Remote control

Instructions for operations are generally described using the remote control.



- ① Turn the unit on (⇒ 20)
- ② Select drive (HDD, DVD or SD) (⇒ 24, 36, 40)
- ③ Select channels and title numbers, etc./Enter numbers
- ④ Cancel
- ⑤ Basic operations for recording and play
- ⑥ Skip the specified time (⇒ 38)
- ⑦ Show Direct Navigator/Top menu (⇒ 36, 37, 39, 44)
- ⑧ Selection/Enter, Frame-by-frame (⇒ below)
- ⑨ Show sub menu (⇒ 31, 44)
- ⑩ Show on-screen menu (⇒ 42)  
"B" button for Direct Navigator (⇒ 40)
- ⑪ Select audio (⇒ 27, 38)  
"A" button for Direct Navigator (⇒ 36)
- ⑫ Start recording (⇒ 24)/Specify the time to stop recording (⇒ 26)
- ⑬ Change recording mode (⇒ 24)
- ⑭ Transmit the remote control signal
- ⑮ Television operations (⇒ 23)
- ⑯ Channel select/Change pages in the TV GUIDE system (⇒ 24, 28)
- ⑰ Show VCR Plus+ screen (⇒ 29)
- ⑱ Delete items (⇒ 43)
- ⑲ Input select (IN1, IN2, IN3 or DV) (⇒ 53)
- ⑳ Show scheduled recording list (⇒ 29)
- ㉑ Show program listings (TV Guide On Screen™ system) (⇒ 28)
- ㉒ Show FUNCTIONS window (⇒ below)
- ㉓ Return to previous screen
- ㉔ Create chapters (⇒ 38)
- ㉕ Changing the size of information window/Displays help information (⇒ 31)
- ㉖ Skip a minute forward (⇒ 38)
- ㉗ Show status messages (⇒ 38)

### ■ Using the cursor

- **Select items on menu screens and set items.**  
Press up, down, left, or right to select an item.  
You can also move frame by frame (backward/forward).  
While paused, press [◀▶] or [▶▶] (left/right).

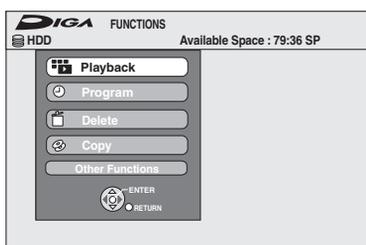


Press [ENTER] to confirm.

### Shared operations when [FUNCTIONS] is pressed.

By using the FUNCTIONS window you may access the main functions quickly and easily. For example, when you want to delete a title with Delete Navigator, or copy a title with Copy Navigator, etc. (⇒ 43, 50)

- 1** While stopped  
Press [FUNCTIONS].

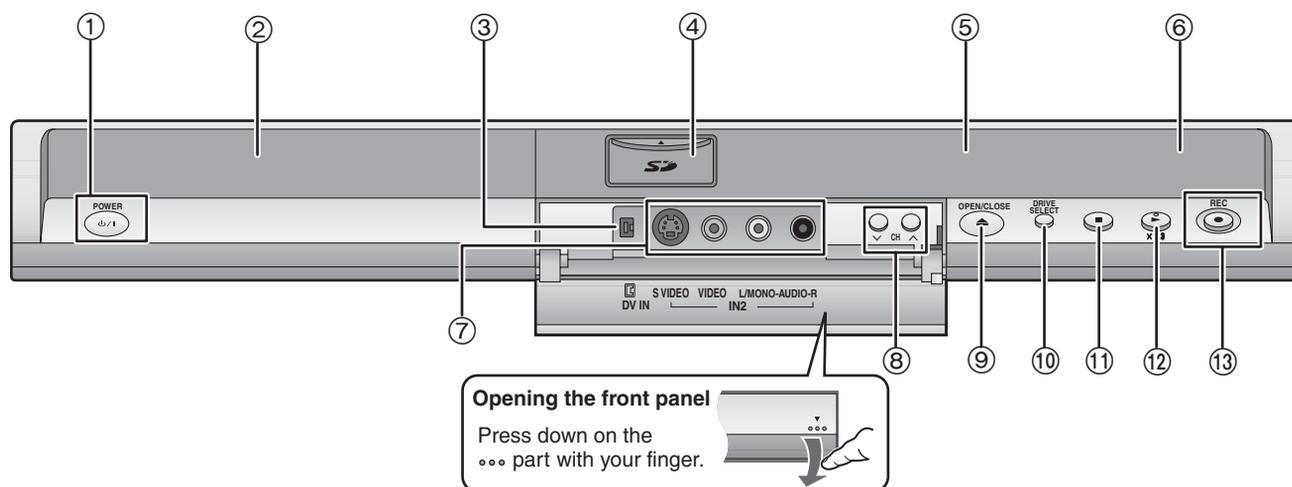


Functions displayed depend on the selected drive or type of disc.

- 2** Press [▲, ▼] to select an item and press [ENTER].

If you select "Other Functions", press [▲, ▼] to select an item and press [ENTER].

## Main unit



- ① **POWER button (POWER  $\odot/\text{I}$ )** (⇒ 20)  
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.
- ② Disc tray (⇒ below)
- ③ Connector for a digital video (DV) camcorder (⇒ 53)
- ④ SD card slot (⇒ 10)
- ⑤ Display (⇒ below)
- ⑥ Remote control signal sensor
- ⑦ Connectors for external equipment (⇒ 53)

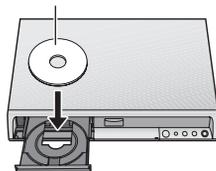
- ⑧ Channel select (⇒ 24)
- ⑨ Open/close disc tray (⇒ 24, 36)
- ⑩ Select drive (⇒ 24, 36, 40)  
Drive changes each time you press [DRIVE SELECT].
- ⑪ Stop (⇒ 24, 37)
- ⑫ Start play (⇒ 36)
- ⑬ Start recording (⇒ 24)  
Specify the time to stop recording (⇒ 26)

Rear panel terminals (⇒ 14–19)

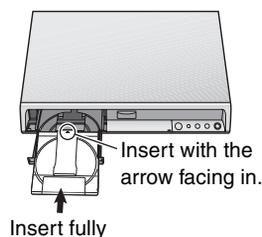
## How to insert a disc

## ■ Non-cartridge disc

Insert label-up.



## ■ Cartridge disc



Press  $\blacktriangle$  [OPEN/CLOSE] on the main unit to open the tray and insert a disc. (Press the button again to close the tray.)

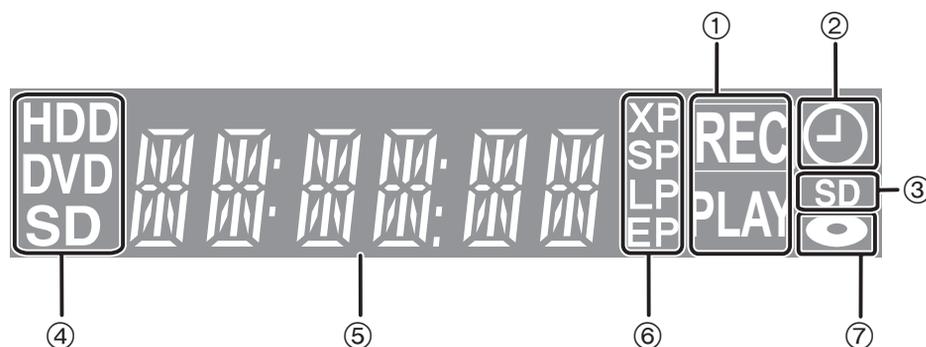
- When using 8 cm (3") DVD-RAM or 8 cm (3") DVD-R, remove the disc from the cartridge.
- It is not possible to record or play continuously from one side of a double sided disc to the other. You will need to eject the disc and turn it over.

## Automatic drive select function

**RAM** [Only for discs with the write-protect tab on the cartridge set to "PROTECT" (⇒ 56, Cartridge-protection)] **DVD-V DVD-A VCD CD**

- If the unit is stopped or recording to the HDD, it automatically switches to the DVD drive when a disc is inserted.
- If you eject a disc and close the disc tray, the HDD drive is automatically selected.

## The unit's display



- ①
- | Recording | Playback | Recording/Playback |
|-----------|----------|--------------------|
|           |          |                    |

- ② Scheduled recording indicator
- ③ Lights when an SD card is inserted in the SD card slot.
- ④ Lights when the HDD, DVD or SD drive is selected.
- ⑤ Main display section
- ⑥ Recording mode
- ⑦ Lights up when a disc that is supported by this unit is inserted.

# STEP 1 Connection

This section includes diagrams of six common methods of connection (A–F, pages 14–16). Please connect using the one that best suits you.

● Visit Panasonic's homepage for more information about connection methods. (This is in English only.)

[http://www.panasonic.com/consumer\\_electronics/dvd\\_recorder/dvd\\_connection.asp](http://www.panasonic.com/consumer_electronics/dvd_recorder/dvd_connection.asp)

● Before connection, turn off all equipment and read the appropriate operating instructions.

**When using a cable service or satellite service.**

- You need to subscribe to a cable TV or satellite service to enjoy viewing their programming.
- Consult your service provider regarding an appropriate cable box or satellite receiver.

## RF OUT terminal

The picture and sound signal from this unit does not go through the RF OUT terminal to the television.

Make sure you connect one of the following terminals on this unit to the television: the AUDIO/VIDEO OUT terminal, the S VIDEO OUT terminal, the COMPONENT VIDEO OUT terminal or HDMI AV OUT terminal.

● Refer to page 18 if the antenna connectors don't match.

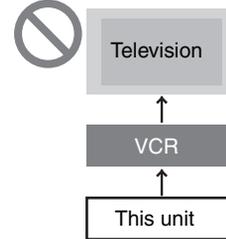
## When the unit is not to be used for a long time

To save power, unplug it from the household AC outlet. This unit consumes a small amount of power, even when it is turned off (approx. 13.5 W).

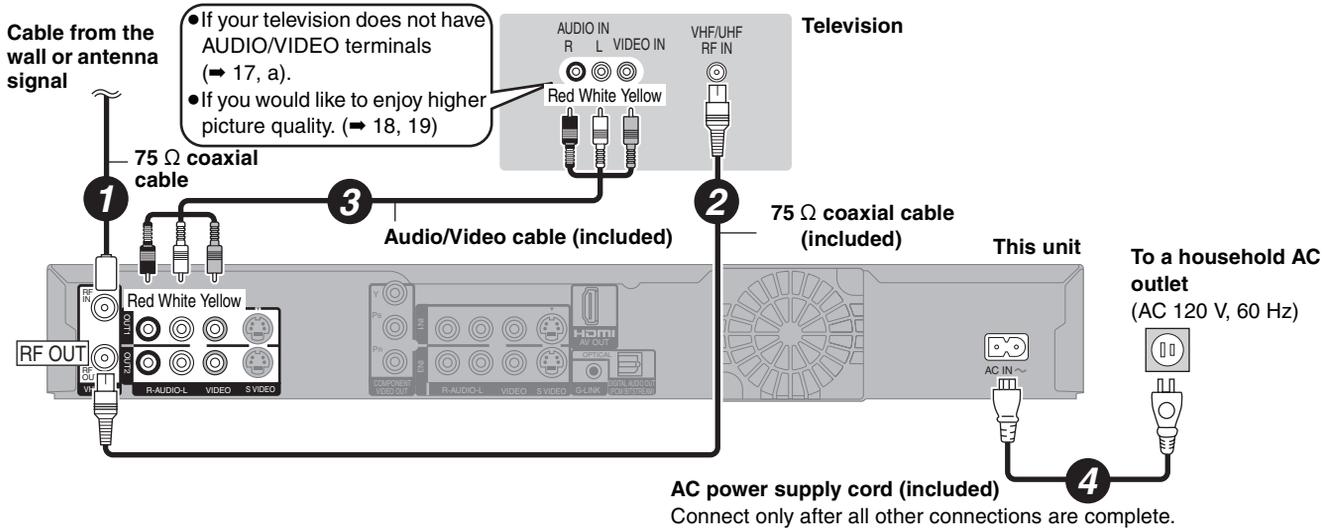
Note that the program listings are not downloaded while the unit is unplugged.

## Connect the unit directly to the television (Connection B, D, F)

If you connect the unit through an AV selector or video cassette recorder to the television, video signals will be affected by copyright protection systems and the picture may not be shown correctly.

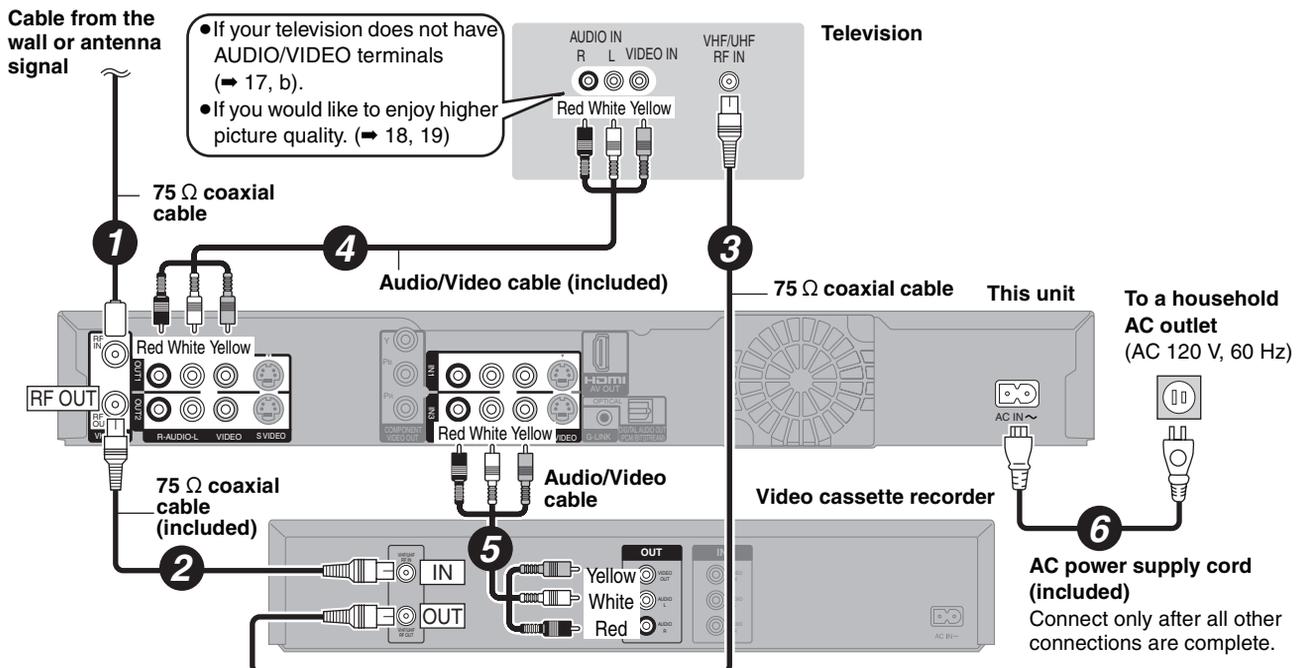


## A Connection with a television



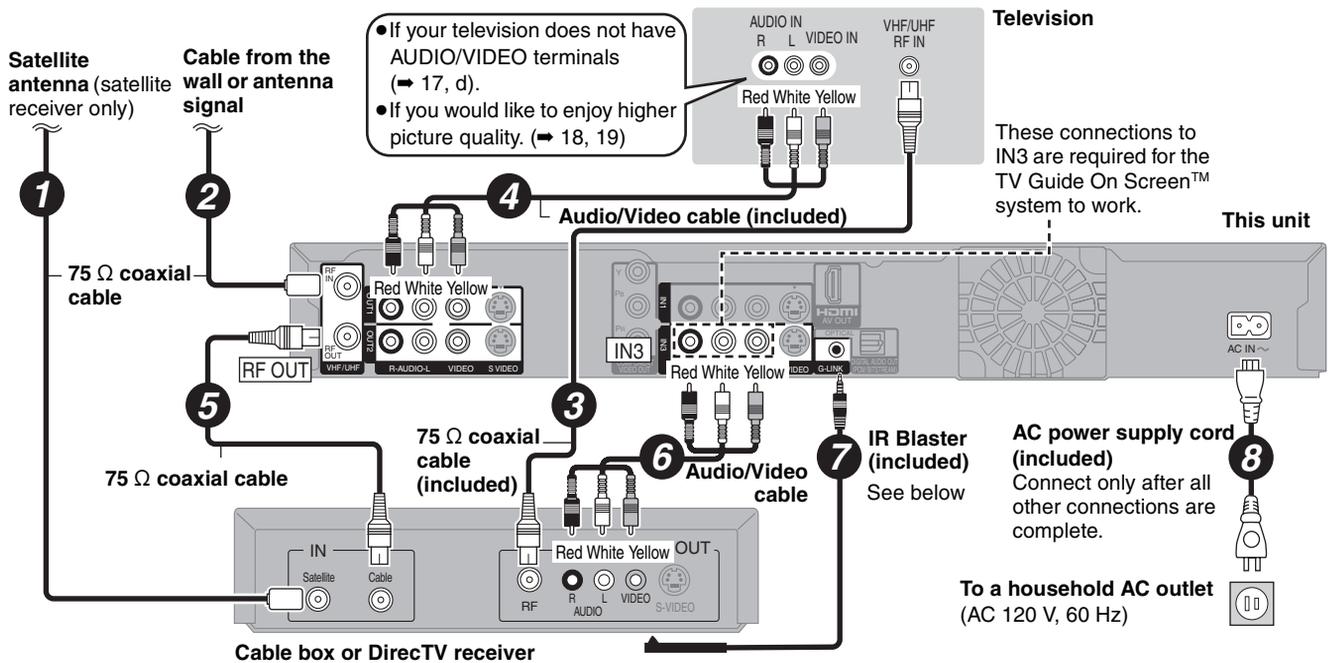
## B Connection with a television and a video cassette recorder

The connection will allow the video cassette recorder to be used for playback and recording when this unit is turned off.



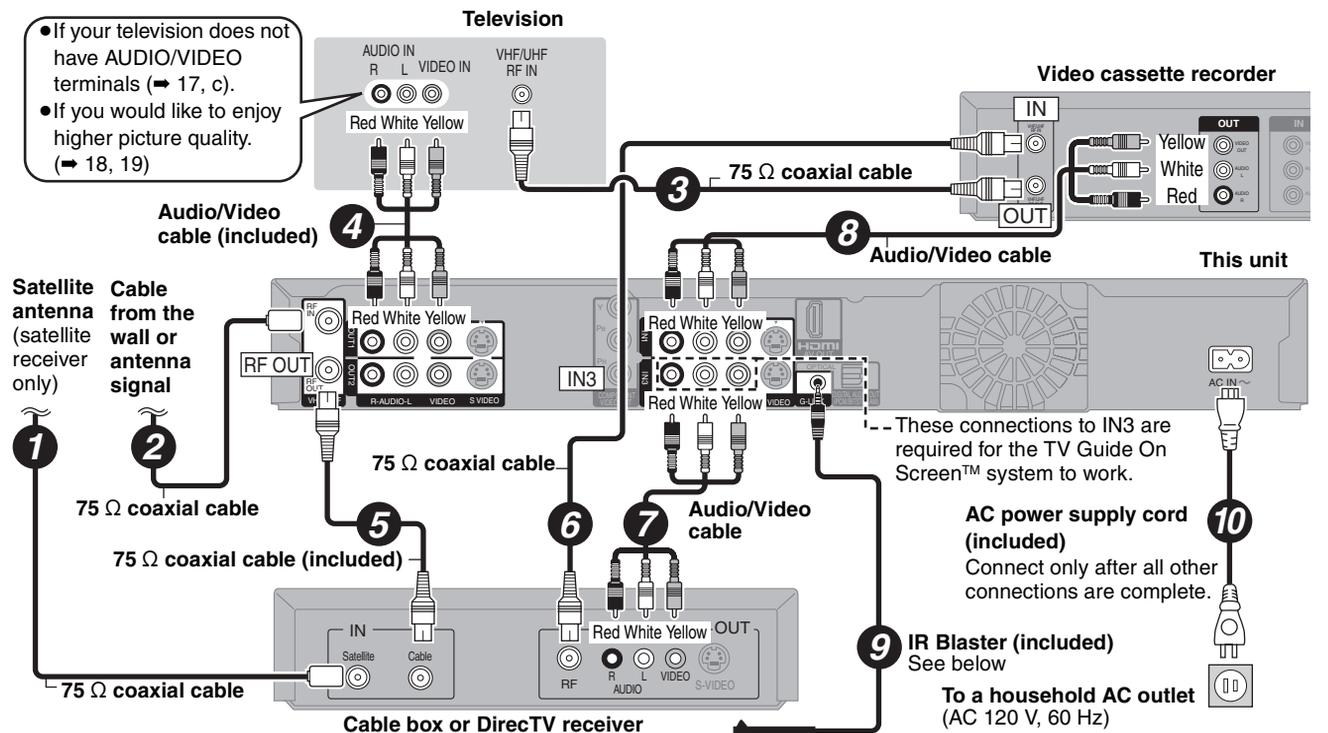
DirecTV/DISH Network service is only available in the United States and is not available or supported in Canada.

**C Connection with a television and a cable box or DirecTV receiver**



**D Connection with a television, a video cassette recorder and a cable box or DirecTV receiver**

The connection will allow the video cassette recorder to be used for playback and recording when this unit is turned off.



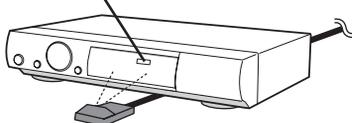
**Why should I connect the IR Blaster?**

The IR Blaster is necessary for operating a cable box or DirecTV receiver with this unit's remote control. Additionally, if the IR Blaster is not correctly connected or set up, you cannot make scheduled recordings or download program listings.

**Setting the IR Blaster**

Place the IR Blaster in front of the signal sensor of the cable box or DirecTV receiver.

Read the cable box or DirecTV receiver operating instructions regarding positioning of the signal sensor.

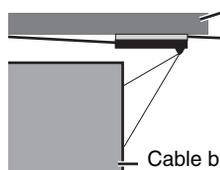


If necessary, use the double sided adhesive tape (included) to secure the IR Blaster to a flat surface.

e.g. Television stand surface

If you peel off the adhesive tape, the surface may become damaged.

Once you have confirmed the cable box or DirecTV receiver is operating correctly, secure it by attaching the adhesive tape.

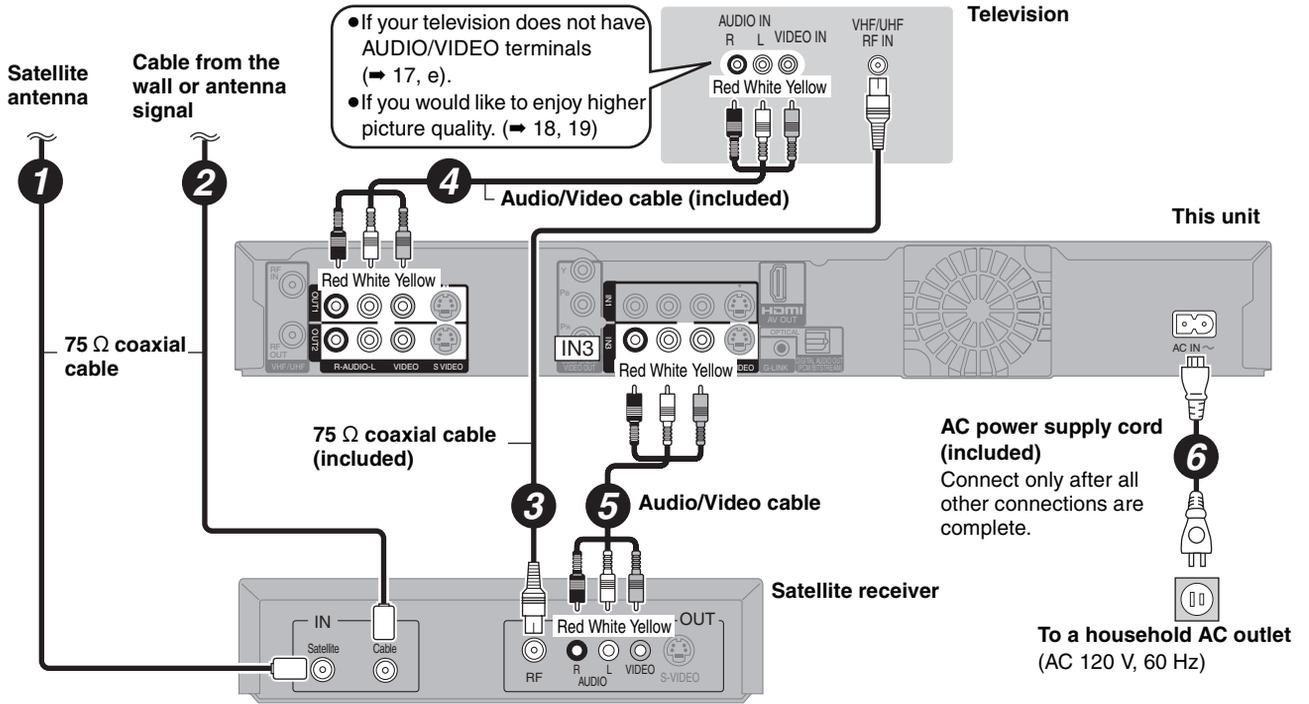


Cable box or DirecTV receiver

# STEP 1 Connection

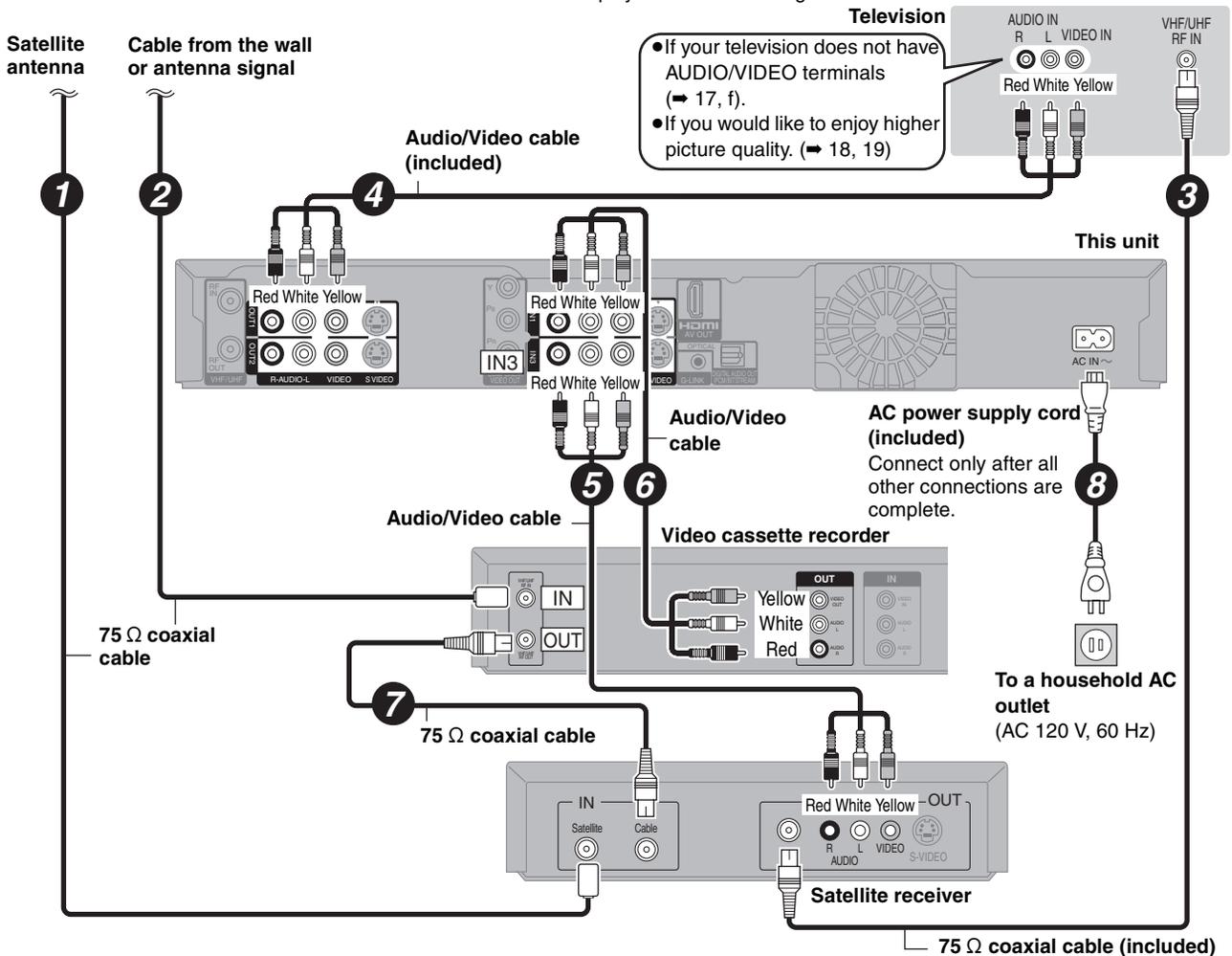
Program listings for satellite services other than DirecTV cannot be received. Without this information, program-based recordings cannot be made. However, recordings can still be set manually. You can use the DISH Network TV Guide to make scheduled recordings on this unit. DirecTV/DISH Network service is only available in the United States and is not available or supported in Canada.

## E Connection with a television and satellite receiver other than DirecTV



## F Connection with a television, a video cassette recorder and satellite receiver other than DirecTV

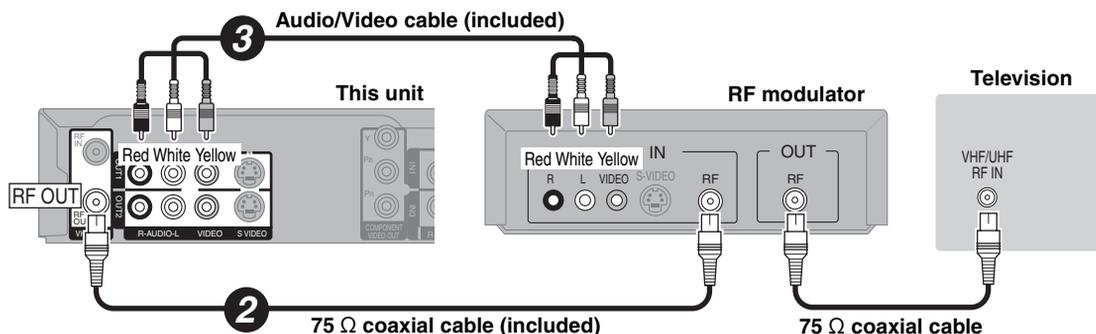
The connection will allow the video cassette recorder to be used for playback and recording when this unit is turned off.



## If your television does not have AUDIO/VIDEO terminals, an RF modulator is necessary

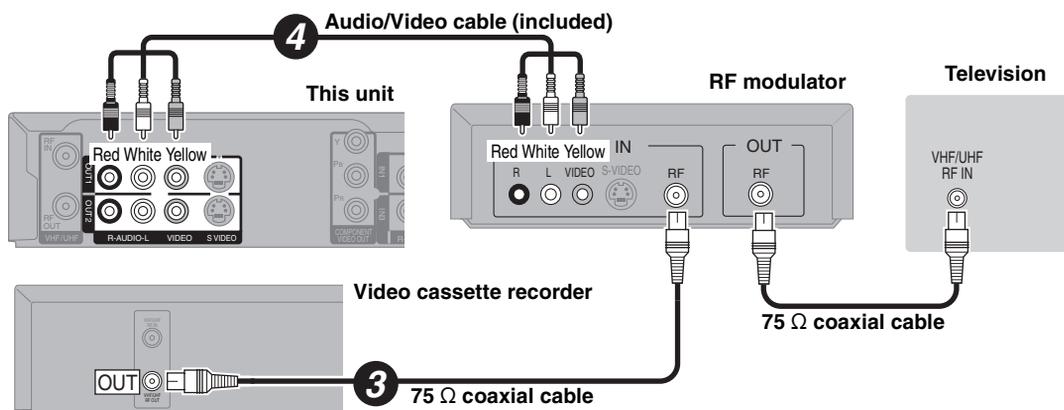
The circled numbers in the illustration refer to connections "A"–"F". Also connect all other cables as well.

### a Connection with a television (⇒ 14, A)



### b Connection with a television and a video cassette recorder (⇒ 14, B)

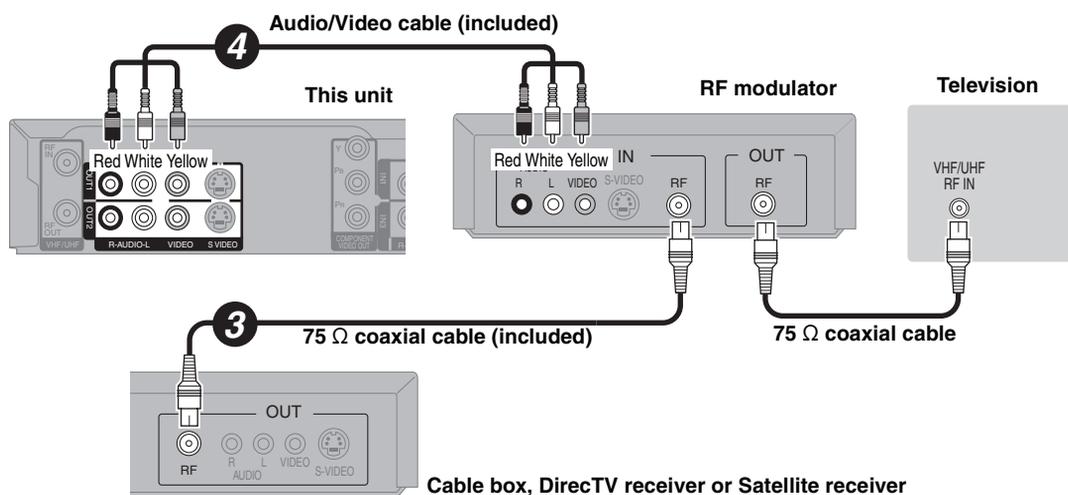
### c Connection with a television, a video cassette recorder and a cable box or DirecTV receiver (⇒ 15, D)



### d Connection with a television and a cable box or DirecTV receiver (⇒ 15, C)

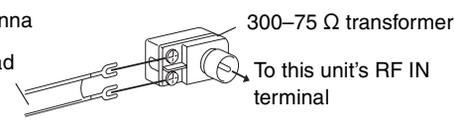
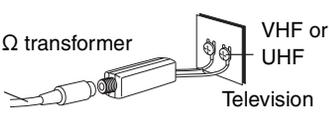
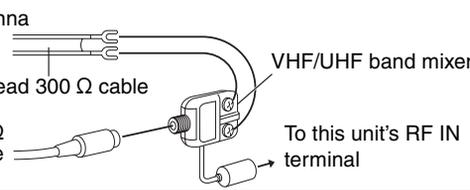
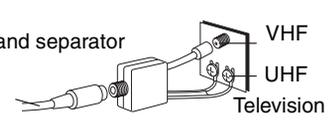
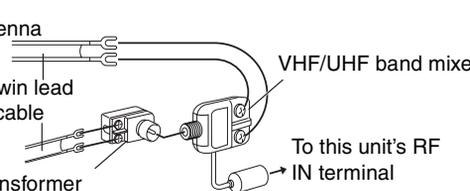
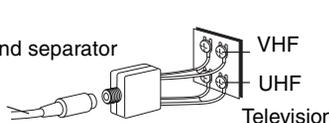
### e Connection with a television and satellite receiver other than DirecTV (⇒ 16, E)

### f Connection with a television, a video cassette recorder and satellite receiver other than DirecTV (⇒ 16, F)



## If the antenna connectors don't match

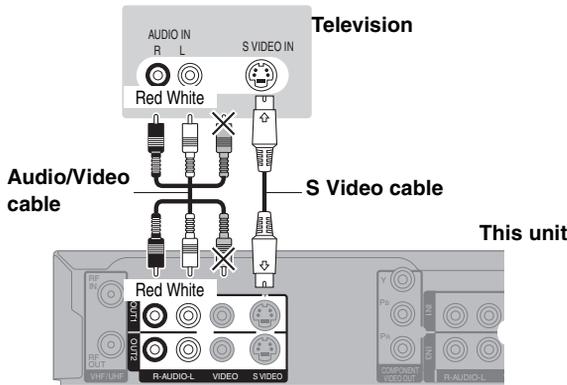
Use one of the following connections to suit the antenna lead to the unit's RF IN terminal, and the 75 Ω coaxial cable to the antenna terminals on the equipment (television etc.). Refer to other equipment's operating instructions.

Type	This unit	Other equipment (television etc.)
<b>A twin lead</b>	from the antenna (Flat) Twin lead 300 Ω cable  300–75 Ω transformer To this unit's RF IN terminal	75–300 Ω transformer 75 Ω coaxial cable  Television VHF or UHF
<b>A twin lead and a coaxial plug</b>	from the antenna (Flat) Twin lead 300 Ω cable (Round) 75 Ω coaxial cable  VHF/UHF band mixer To this unit's RF IN terminal	VHF/UHF band separator 75 Ω coaxial cable  Television VHF UHF
<b>Two twin leads</b>	from the antenna (Flat) Twin lead 300 Ω cable  VHF/UHF band mixer To this unit's RF IN terminal 300–75 Ω transformer	VHF/UHF band separator 75 Ω coaxial cable  Television VHF UHF

## To enjoy even higher picture quality

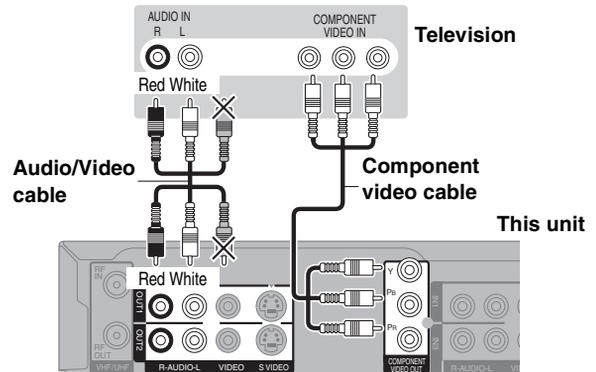
### Connecting to the S VIDEO IN terminal

The S VIDEO OUT terminal achieves a more vivid picture than the VIDEO OUT terminal. (Actual results depend on the television.)



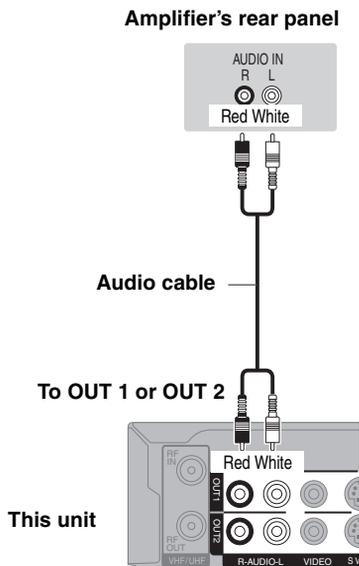
### Connecting to the COMPONENT VIDEO IN terminals

These terminals can be used for either interlace or progressive output (➔ 77) and provide a purer picture than the S VIDEO OUT terminal. Connect to terminals of the same color.



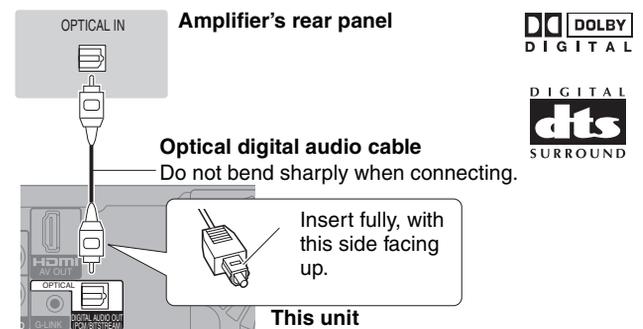
## Connecting an amplifier or system component

### ■ Connection to a stereo amplifier



### ■ Connecting an amplifier with a digital input terminal

- To enjoy multi-channel surround sound DVD-Video, connect an amplifier with a built-in decoder displaying the logo marks below using an optical digital audio cable and change the settings in "Digital Audio Output" (➔ 62).
- When this unit is connected to an amplifier with an optical digital audio cable and connected to a television with an HDMI cable, you can enjoy the highest quality of audio from the disc by setting "HDMI Audio Output" to "Off" in the Setup menu (➔ 63). In this case audio is only output from the amplifier not the television.
- Before purchasing an optical digital audio cable, check the terminal shape of the equipment to be connected.
- You cannot use DTS Digital Surround decoders not suited to DVD.
- Even if using this connection method, output will be in only 2 channels when playing DVD-Audio.



## Connecting with an HDMI (High Definition Multimedia Interface) terminal

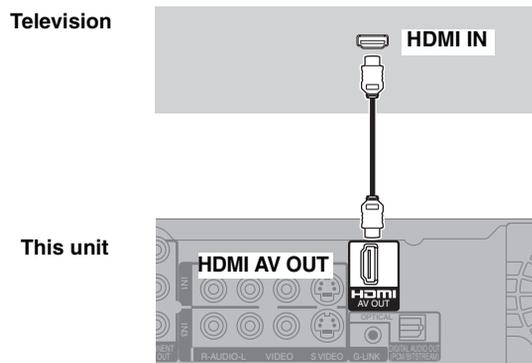
HDMI is the next-generation interface for digital devices. When connected to an HDMI compatible unit, an uncompressed digital audio and video signal is transmitted. You can enjoy high quality, digital video and audio with just one cord. When connecting to an HDMI-compatible HDTV (High Definition Television), the output can be switched to 1125i (1080i) or 750p (720p) HD video.

### Set the following:

From the Setup menu (➔ 63), set “HDMI Video Output” and “HDMI Audio Output” to “On”.

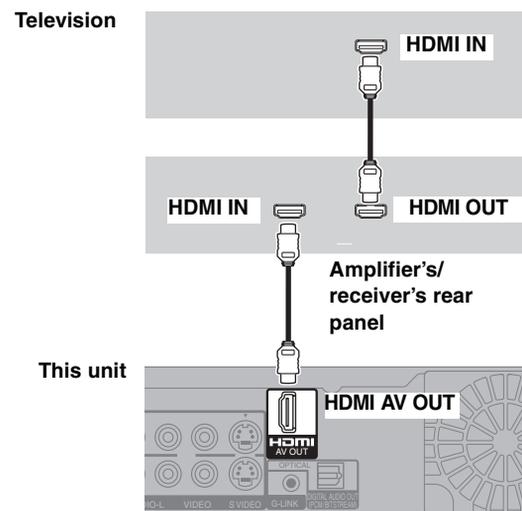
- Please use HDMI cables that have the HDMI logo (as shown on the cover).

### Connecting to an HDMI compatible television



- If connecting to a television incompatible with CPPM (Content Protection for Prerecorded Media, ➔ 76), copy-protected DVD-Audio cannot be output through the HDMI terminal. Connect the audio cables (red and white) to the corresponding audio input terminals.
- If you are connecting to a television that is only compatible with 2 channel output, audio with 3 channels or more will be down-mixed (➔ 76) and output as 2 channels. (Some discs cannot be down mixed.)
- For units compatible with HDCP (High-Bandwidth Digital Content Protection) copyright protection that are equipped with a digital DVI input terminal (PC monitors, etc.):  
Depending on the unit, images may not display properly or at all when connecting with a DVI/HDMI switching cable. (Audio cannot be output.)

### Connecting to an HDMI compatible television and amplifier/receiver



- If the speaker setup cannot be completed on the amplifier/receiver, then use the “HDMI Connection Speakers Setting” (➔ 63).
- If connecting to an amplifier/receiver incompatible with CPPM (Content Protection for Prerecorded Media, ➔ 76), copy-protected DVD-Audio cannot be output through the HDMI terminal. Connect to the amplifier/receiver with an optical digital cable or audio cables (red and white).

## Control with HDMI (HDAVI Control™)

### What is HDAVI Control?

HDAVI Control is a convenient function that offers linked operations of this unit, and a Panasonic television (VIERA) or receiver under HDAVI Control. You can use this function by connecting the equipment with the HDMI cable. See the operating instructions for connected equipment for operational details.

After connecting the unit to a television using an HDMI cable, set “Ctrl with HDMI” to “On”. (➔ 63)

- It is recommended that you use Panasonic’s HDMI cable.

Recommended part number: RP-CDHG15 (1.5 m/4.9 ft.), RP-CDHG30 (3.0 m/9.8 ft.), RP-CDHG50 (5.0 m/16.4 ft.), etc.

- Non-HDMI-compliant cables cannot be utilized.

- Set the HDAVI Control operations on the connected equipment (e.g., television).

Turn on all HDAVI Control compatible equipment, turn the television off and on, and then select this unit’s input channel on the connected television so that the HDAVI Control function works properly. Also when the connection or settings are changed, repeat this procedure.

### Automatic input switching

When the following operations are performed the television will automatically switch the input channel and displays the corresponding action.

- When play starts on the unit
- When an action that uses the display screen is performed (e.g., Direct Navigator screen, scheduled recording screen)

### Power on link

When the television is off and the following operations are performed, the television will automatically turn on and displays the corresponding action.

(Picture or sound may not be available for the first few seconds.)

- When play starts on the unit
- When an action that uses the display screen is performed (e.g., Direct Navigator screen, scheduled recording screen)

### Power off link

All connected equipment compatible with HDAVI Control including this unit automatically turns off when you switch the television off.

- The unit automatically turns off even when the FUNCTIONS screen, any of the status messages, or any of the on-screen menus is displayed on the television. The unit automatically turns off while in playback or when scheduled to record. (In the latter case, scheduled recordings remain effective after the unit turns off).
- Only this unit turns off when you press [⏻ DVD POWER] for shutting it down. Other connected equipment compatible with HDAVI Control stay on.

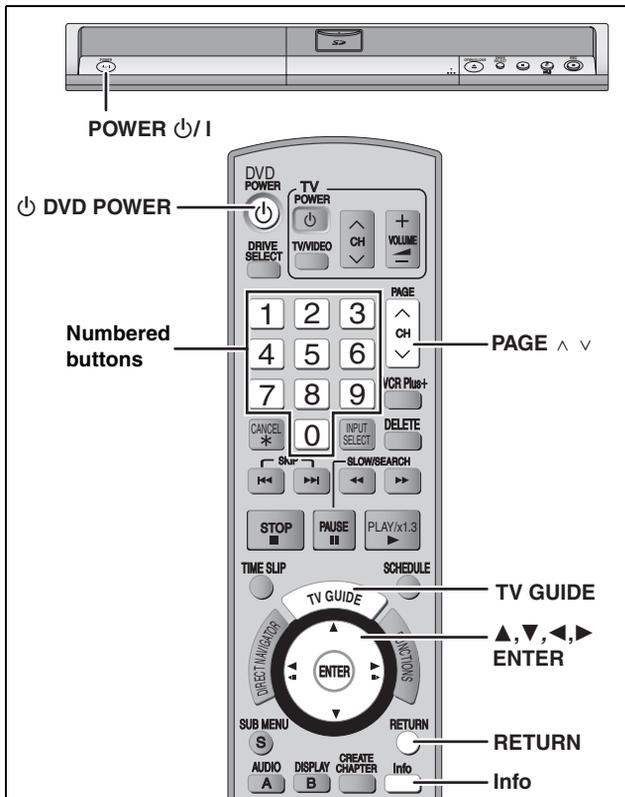
#### Note

- Even if the television is turned off, the unit will not turn off at the same time in the following conditions:
  - When you pressed [● REC] and the unit is still recording
  - When copying
  - When finalizing

#### For your reference

- When [▶] (PLAY) is pressed on this unit for “Automatic input switching” or “Power on link”, the playback image is not immediately displayed on the screen and it may not be possible to watch the contents from where playback started.  
In this case, press [◀◀] or [◀◀] to go back to where playback started.
- When the DIGITAL AUDIO OUT (OPTICAL) terminal is used for audio output and the unit is connected to the television with an HDMI cable, set “HDMI Audio Output” to “Off” in the setup menu. (➔ 63)

# STEP 2 Setting up the TV Guide On Screen™ system



After plugging the unit into your household AC outlet and pressing [ $\odot$  DVD POWER] to turn the unit on for the first time, the unit starts language, TV aspect type and TV Guide On Screen™ system setup.

## TV Guide On Screen™ system

This unit features the TV Guide On Screen™ system that provides an 8-day grid of TV programs available in your area. Use the TV Guide On Screen™ system to choose TV programs and simplify the recording of your favorite TV shows (➔ 28, 31–35). Best of all this service is free!

- The first few days of listings usually appear within 24 hours after a successful Setup. It may take up to six days for the full eight days of program listings to appear.
- In order to cool the circuits used when downloading the program listings, the cooling fan may sometimes operate when the unit is turned off. This is not a malfunction.

### IMPORTANT

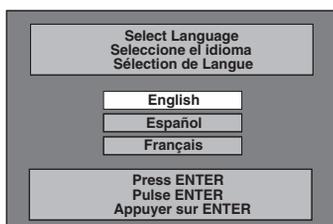
- The TV Guide On Screen™ system must be set up whether it is then used or not. You cannot use the scheduled recording feature unless this setup is completed.
- TV Guide On Screen™ system is supported by selected DISH network and DirecTV receivers, using 480i mode.
- DirecTV/DISH Network service is only available in the United States and is not available or supported in Canada.
- If you are using a satellite service other than DirecTV, you cannot receive the program listings on this unit. Without this information, program-based recordings cannot be made. However, recordings can still be set manually.

### Preparation

Turn on the television and select the appropriate video input to suit the connections to this unit.

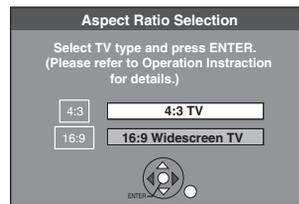
- When using the cable box or DirecTV receiver, check the following.
  - Make sure the IR Blaster is connected and positioned properly (➔ 15).
  - Make sure the cable box or DirecTV receiver is turned on.

## 1 Press [ $\odot$ DVD POWER].



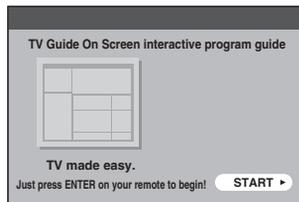
## 2 Press [ $\blacktriangle$ , $\blacktriangledown$ ] to select the language and press [ENTER].

- If you make a mistake, press [RETURN] to return to an earlier screen.



## 3 Press [ $\blacktriangle$ , $\blacktriangledown$ ] to select “4:3 TV” or “16:9 Widescreen TV” and press [ENTER]. TV Guide setup begins.

- Only English is displayed in the TV Guide On Screen™ system. Other languages cannot be displayed.



Press [ENTER].

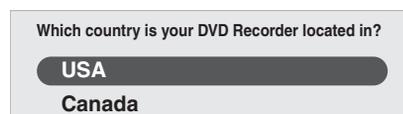
Following the on-screen messages, input the operating environment for your television.

### Basic operations of the remote control

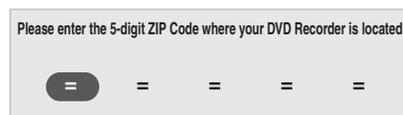
To highlight selection	➔	[ $\blacktriangle$ , $\blacktriangledown$ , $\blacktriangleleft$ , $\blacktriangleright$ ]
To confirm	➔	Press [ENTER]
To view help information	➔	Press [Info]
To enter numbers	➔	Press the numbered buttons

- Select “Next” and press [ENTER] to go to the next screen.
- Select “Back” and press [ENTER] to return to the previous screen.

## 4 Set the country (USA/Canada)

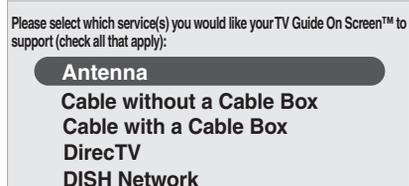


## 5 Set the ZIP (Postal) code



## 6 Set the service(s) being used.

- You can select up to 2 services. Press [ $\blacktriangle$ ,  $\blacktriangledown$ ] to select the service being used and press [ENTER]. If you want to select 2 services, press [ $\blacktriangle$ ,  $\blacktriangledown$ ] to select one more service and press [ENTER].
- If you selected “Cable with a Cable Box” or “DirecTV”, then also select “Antenna”.
- If the service you use is not listed on the screen below, then select “Antenna”, and continue. Then, after exiting the “Set Clock and Channels Automatically” screen in step 8, press [ENTER], continue and press [RETURN]. After this step, perform “Set Clock Manually”. (➔ 60)



To learn more about the setup contents of various services, see the list on the next page.

Please perform setup by following all instructions that apply to your current service. DirecTV/DISH Network service is only available in the United States and is not available or supported in Canada.

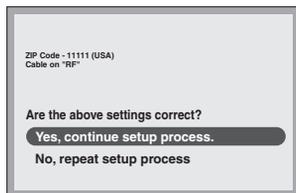
Service	Set the following
Antenna	<ul style="list-style-type: none"> <li>You cannot select both "Antenna" and "Cable without a Cable Box".</li> <li>Further setup is not necessary.</li> </ul>
Cable without a Cable Box	
Cable with a Cable Box	<ol style="list-style-type: none"> <li><b>Cable box connection channel</b> ("RF, Channel 2"/ "RF, Channel 3"/ "RF, Channel 4"/ "IN3")                      –"IN3" is the usual selection.                      (If you are connecting the cable box to this unit's RF terminal, select "RF, Channel 2", "RF, Channel 3" or "RF, Channel 4", according to the cable box setting.)</li> <li><b>Are you using a digital service package?</b>                      Select "Yes", "No" or "I don't know".</li> <li><b>Check how the channels are input.</b>                      Select how your current cable box inputs 2, 3, and 4-digit numbered channels.</li> <li><b>Cable box brand</b>                      –Move down with [▼] for more brands.                      –You can also press [PAGE ▲] or [PAGE ▼] to skip several lines.</li> <li><b>IR signal code</b>                      –Make sure your cable box is set to the channel that appears on screen and press [ENTER].                      The unit begins trying various IR codes to see which one communicates properly with your cable box. It's quite common for this phase of the setup to be repeated numerous times.                     <div style="border: 1px solid gray; padding: 5px; margin: 10px 0;"> <p style="text-align: center;">Is your cable box now tuned to channel 09?</p> <p style="text-align: center;">Yes</p> <p style="text-align: center;">No</p> <p style="text-align: center;">Test this code again</p> </div>                     –If the cable box has changed to channel 09, select "Yes".                      –If the cable box is still set to the same channel, select "No". Repeat this step until the cable box changes to channel 09.                      –If you want to try the code again for some reason, e.g., you accidentally moved the IR Blaster, select "Test this code again".</li> </ol>
DirecTV	<ol style="list-style-type: none"> <li><b>Satellite receiver connection channel</b> ("RF, Channel 2"/ "RF, Channel 3"/ "RF, Channel 4"/ "IN3")                      –"IN3" is the usual selection.                      (If you are connecting the satellite receiver to this unit's RF terminal, select "RF, Channel 2", "RF, Channel 3" or "RF, Channel 4", according to the satellite receiver setting.)</li> <li><b>Check how the channels are input.</b>                      Select how your current DirecTV receiver inputs 2, 3, and 4-digit numbered channels.</li> <li><b>Satellite receiver brand</b>                      –Move down with [▼] for more brands.                      –You can also press [PAGE ▲] or [PAGE ▼] to skip several lines.</li> <li><b>IR signal code</b>                      –Turn your satellite receiver ON and press [ENTER].  <b>If you are watching DirecTV in 4:3 aspect with the side panel, set the side panel to "Off" on the DirecTV receiver in order to correctly receive the program listings.</b>                      The unit begins trying various IR codes to see which one communicates properly with your satellite receiver. It's quite common for this phase of the setup to be repeated numerous times.                     <div style="border: 1px solid gray; padding: 5px; margin: 10px 0;"> <p style="text-align: center;">Did your satellite receiver change channels ?</p> <p style="text-align: center;">Yes</p> <p style="text-align: center;">No</p> <p style="text-align: center;">Test this code again</p> </div>                     Look at the display of the DirecTV receiver.                      –If the channel display has changed, then select "Yes".                      –If the satellite receiver is still set to the same channel, select "No". Repeat this step until the satellite receiver changes the channel.                      –If you want to try the code again for some reason, e.g., you accidentally moved the IR Blaster, select "Test this code again".</li> </ol>
DISH Network	<ul style="list-style-type: none"> <li><b>Satellite receiver connection channel</b> ("RF, Channel 2"/ "RF, Channel 3"/ "RF, Channel 4"/ "IN3")                      –"IN3" is the usual selection.                      (If you are connecting the satellite receiver to this unit's RF terminal, select "RF, Channel 2", "RF, Channel 3" or "RF, Channel 4", according to the satellite receiver setting.)</li> </ul> <p>You cannot use the IR Blaster included with this unit.                      You cannot set other equipment.</p>

Once setup is finished ➔ 22, Step 7, Confirm the settings.

Refer to the control reference on page 20.

### 7 Confirm the settings.

e.g.,



- If the information is correct, select "Yes, continue setup process".
- If the information is not correct, select "No, repeat setup process" to start the setting again.

### 8 Press [ENTER].

Depending on the equipment that you connected, one of the following screens appears.

#### "Set Clock and Channels Automatically" screen



#### Press [ENTER].

The unit starts setting channels automatically. This takes a few minutes. The unit then proceeds with setting the clock automatically. The time is displayed when finished. A television reception screen or a blue background screen is displayed.

If there is an error while setting the channels and/or clock automatically, the "Set Clock Manually" screen (➔ below) is automatically displayed.

#### "Set Clock Manually" screen



#### 1 Press [◀, ▶] to select the item you want to change and press [▲, ▼] to change the setting.

- DST (Daylight Saving Time): On or Off  
If you select "On", the clock is advanced one hour starting at 2 a.m. on the first Sunday in April and ending at 2 a.m. on the last Sunday in October.
- Time Zone shows the time difference from Greenwich Mean Time (GMT).  
EST (Eastern Standard Time) = GMT - 5  
CST (Central Standard Time) = GMT - 6  
MST (Mountain Standard Time) = GMT - 7  
PST (Pacific Standard Time) = GMT - 8  
AST (Alaska Standard Time) = GMT - 9  
HST (Hawaii Standard Time) = GMT - 10

#### 2 Press [ENTER].

A television reception screen or a blue background screen is displayed. The clock starts.

#### Regarding DST (Daylight Saving Time)

Legal revision is expected to change the DST period in 2007. When you use the unit with DST on, the change may cause the unit's clock to go behind the actual time. Check the DST setting in "Set Clock Manually" in the "Setup menu" (➔ 60), set DST off and reset the clock correctly if you are using this function. If the TV Guide On Screen™ data is correctly received, then you do not need to make any changes to the DST settings.

When you want to change the TV Guide settings after moving, etc., please perform setup steps ① and ② on page 64. (The program listings will be erased.) After completing steps ① and ②, please perform TV Guide setup again from the beginning.

If you are using a satellite service other than DirecTV, you cannot receive the program listings on this unit.

### 1 Press [⏻ DVD POWER]. (The unit turns off, then wait 24 hours.)

"BYE" appears briefly. This shows the unit is in standby mode. The unit is now ready to download the program listings.

No damage will occur if the unit is used sooner, but the channel line-up and program listings may not have been fully downloaded.

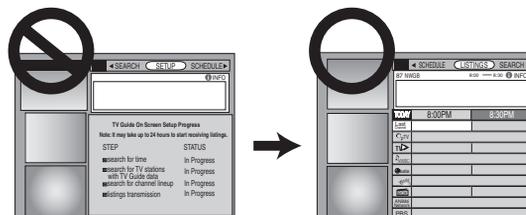
Check the following again, so the downloading will not fail.

**If you connect a cable box or a DirecTV receiver,**

- the output terminal of the cable box or DirecTV receiver is connected to this unit's IN3 terminal (➔ 15) or RF IN terminal
- the IR Blaster is correctly connected and installed (➔ 15)
- the cable box or DirecTV receiver is turned on

### 2 Press [TV GUIDE].

- If you find "TV Guide On Screen Setup Progress" displayed on the television, the unit has not yet downloaded the TV Guide On Screen™ data.
- If you press [TV GUIDE] without completing setup, the start setup screen will appear. If you want to complete TV Guide setup select "Start setup".
- This unit may download more than one channel line-up. Follow the on-screen instructions and select one of these.



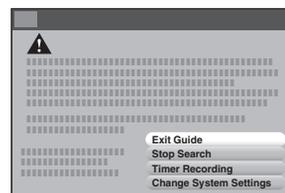
#### For updating data

Leave the unit in standby mode when you are not using it. The unit will download the necessary data to maintain the program listings while it is in standby mode.

#### Note

Some Setup menus no longer need to be set after this unit downloads the program listings. These menus turn grey and become un-selectable. (➔ 60)

If you press [TV GUIDE] and the following screen appears, then the unit has not been able to obtain data for 3 days or more.



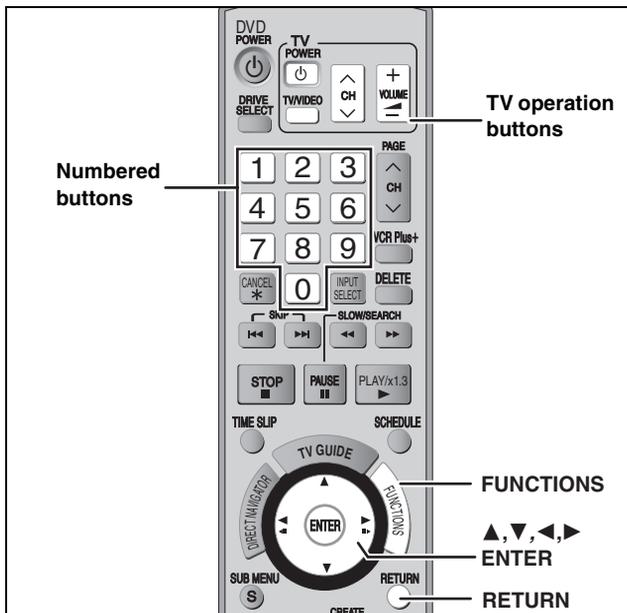
Exit Guide:	Return to the television reception screen.
Stop Search:	Stop downloading the data. (However the unit will automatically stop downloading the data 5 days after it first started.)
Search Again:	Restart the data download when it has stopped.
Timer Recording:	Set for scheduled recording manually (➔ 29).
Change System Settings:	Set the TV Guide settings again. •In step 6 (➔ 20), if you selected "Antenna" or "Cable without a Cable Box" in addition to another service, then you may need to select either "Antenna" or "Cable without a Cable Box" by itself. You will now be able to watch broadcasts with this unit.

If further assistance is needed,

**In the U.S.A.:** Contact Panasonic's Customer Call Center at **1-800-211-PANA (7262).**

**In Canada:** Call **1-800-561-5505.**

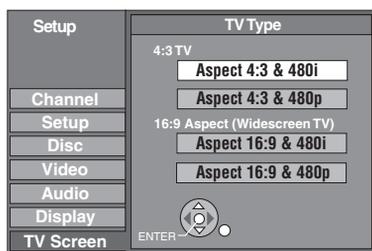
# STEP 4 Set up to match your television and the unit's remote control



## Selecting television type

This setting allows you to select the type of television connected.

- 1** While stopped  
Press [FUNCTIONS].
- 2** Press [▲, ▼] to select “Other Functions” and press [ENTER].
- 3** Press [▲, ▼] to select “Setup” and press [ENTER].
- 4** Press [▲, ▼] to select “TV Screen” and press [▶].
- 5** Press [▲, ▼] to select “TV Type” and press [ENTER].



- Aspect 4:3/Aspect 16:9:



4:3 standard aspect television    16:9 widescreen television

- 480p/480i:
  - Select “480p” if the television is compatible with progressive output.
  - Select “480i” if the television is not compatible with progressive output or you are unsure about television compatibility.

- 6** Press [▲, ▼] to select the item and press [ENTER].

### When connected to a 4:3 standard aspect television

To change how a DVD-Video or DVD-RAM widescreen picture is shown on a 4:3 standard aspect television

- ➔ 63, “4:3 TV Settings for DVD-Video” or “4:3 TV Settings for DVD-RAM”

## Television operation

You can operate the TV through the unit's remote control.

Point the remote control at the television

**While pressing [POWER TV] enter the code with the numbered buttons.**

e.g., 0250: [0] ➔ [2] ➔ [5] ➔ [0]

Manufacturer and Code No.

Panasonic		PHILIPS (RC-5)	0054
National	0250/0051	RCA	0047
QUASAR		SAMSUNG	0060/0587/ 0702
FISHER	0154	SANYO	0154
GE	0047	SHARP	0165/0093
GOLDSTAR	0178/ 0457/0317	SONY	0000
HITACHI	0145	SYLVANIA	0054
JVC	0053	THOMSON	0047
LG	0178/ 0457/0317	TOSHIBA	0156
MAGNAVOX	0054	ZENITH	0017
mitsubishi	0150		

**Test by turning on the television and changing channels.**

- Repeat the procedure until you find the code that allows correct operation.
- If your television brand is not listed or if the code listed for your television does not allow control of your television, this remote control is not compatible with your television.
- If your television brand has more than one code listed, select the one that allows correct operation.

## When other Panasonic products respond to this remote control

Change the remote control code on the main unit and the remote control (the two must match) if you place other Panasonic products close together.

Use “1”, the factory set code, under normal circumstances.

After performing steps 1–3 (➔ left)

- 4** Press [▲, ▼] to select “Setup” and press [▶].
- 5** Press [▲, ▼] to select “Remote Control Code” and press [ENTER].
- 6** Press [▲, ▼] to select the code (1, 2, or 3) and press [ENTER].



- 7** To change the code on the remote control  
**While pressing [ENTER], press and hold the numbered button ([1], [2] or [3]) for more than 2 seconds.**
- 8** Press [ENTER].

- When the following indicator appears on the unit's display and you are unable to operate the unit

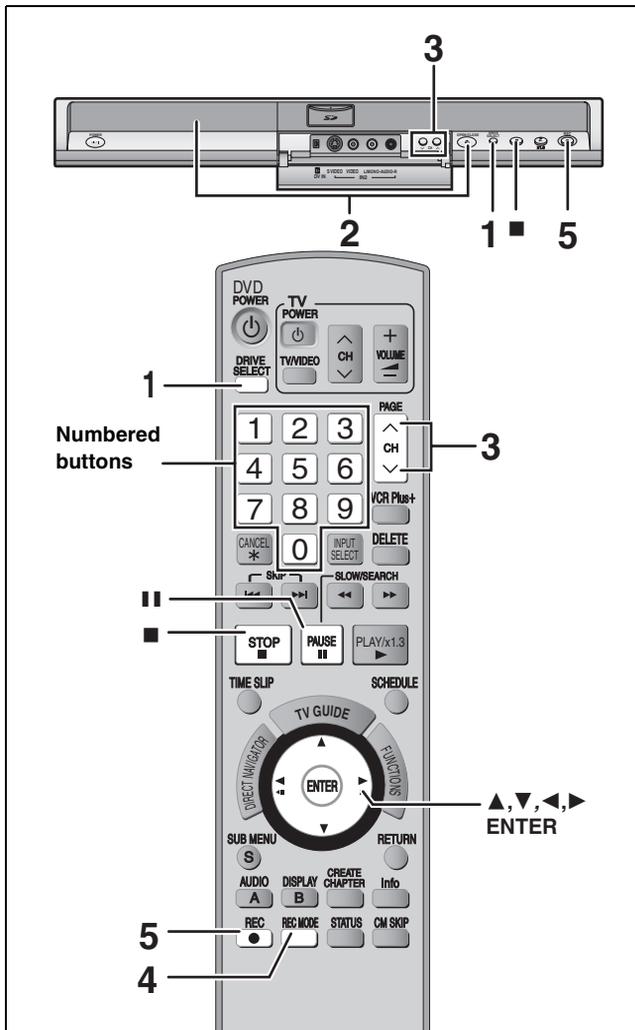


The unit's remote control code

Press and hold [ENTER] and the indicated number button at the same time for more than 2 seconds.

**To return to the previous screen**  
Press [RETURN].

**To exit the screen**  
Press [RETURN] several times.



See also “Important notes for recording” (⇒ 8).

Depending on the type of disc used for recording or the type of broadcast, there may be restrictions on the title you are trying to record.

### Note

- It is not possible to record to both HDD (Hard Disk Drive) and DVD drive simultaneously.
- **+RW** You can create a Top Menu using “Create DVD Top Menu” (⇒ 58). Recording or editing on the disc may delete the menu. In that case, create the menu again.

## Recording television programs

### HDD

- You can record up to 500 titles on HDD. (When continuously recording for long durations, titles are automatically divided every 8 hours.)

### RAM -R -RW(V)

- You can record up to 99 titles on one disc.

### +R +RW

- You can record up to 49 titles on one disc.

### -R DL +R DL

- You cannot directly record to DVD-R DL, and +R DL discs with this unit. You must first record to the HDD, and then copy from the HDD to disc.

### SD

- It is not possible to record onto a card.

### Preparation

- Turn on the television and select the appropriate video input to suit the connections to this unit.
- Turn on this unit.

## 1 Press [DRIVE SELECT] to select the HDD or DVD recording drive.

The HDD or DVD indicator lights up on the unit.

## 2 If you selected the DVD drive

Press [**▲ OPEN/CLOSE**] on the main unit to open the tray and insert a disc.

- How to insert a disc (⇒ 13).

## 3 Press [**▲ ▼ CH**] to select the channel.



To select with the numbered buttons:

### Antenna Channel

- e.g., 5: [0] ⇒ [5]
- 15: [1] ⇒ [5]

### CableTV, Satellite Channel

- e.g., 5: [0] ⇒ [0] ⇒ [0] ⇒ [5]
- 15: [0] ⇒ [0] ⇒ [1] ⇒ [5]
- 115: [0] ⇒ [1] ⇒ [1] ⇒ [5]
- 1115: [1] ⇒ [1] ⇒ [1] ⇒ [5]

- Select the audio to record (⇒ 27).

## 4 Press [REC MODE] to select the recording mode (XP, SP, LP, or EP).



Remaining time on the disc (XP mode: 36 hours 41 minutes)



Remaining time on the disc (EP mode: approximately 355 hours)

- When there is over 100 hours available, the remaining recording time is displayed in hourly units.
- When XP mode is selected, you can also record sound using LPCM (⇒ 62).

## 5 Press [**● REC**] to start recording.



Recording will take place on open space on the HDD or on disc. Data will not be overwritten.

- You cannot change the channel or recording mode during recording. You can change the channel or recording mode while paused; however, the recording will then be as a separate title.

- You can record while the unit is in standby for scheduled recording, but once the time for the scheduled recording to begin is reached, any recording taking place will stop and the scheduled recording will begin.

### ■ To pause recording

Press [**||**].

Press again to restart recording.

You can also press [**● REC**] to restart.

(Title is not split into separate titles.)

### ■ To stop recording

Press [**■**].

- From the start to the end of the recording is called one title.

- **-R -RW(V) +R +RW** It takes about 30 seconds for the unit to complete recording management information after recording finishes.

- If the program is listed in the program listings (⇒ 32), its name is automatically made the title name after recording. (The recorded title must be more than 3 minutes.)

**In order to play DVD-R, DVD-RW (DVD-Video format) and +R (recorded with this unit) on other DVD players, it is necessary to finalize them (⇒ 58).**

## Recording modes and approximate recording times

Depending on the content being recorded, the recording times may become shorter than indicated. (The times provided on this chart are an estimate.)

Recording Mode	HDD (200 GB)	DVD-RAM		DVD-R DVD-RW, +R +RW (4.7 GB)	DVD-R DL <sup>※3</sup> (8.5 GB)	+R DL <sup>※3</sup> (8.5 GB)
		Single-sided (4.7 GB)	Double-sided <sup>※1</sup> (9.4 GB)			
XP (High picture quality recording mode)	44 h	1 h	2 h	1 h	1 h 45 min	1 h 45 min
SP (Standard recording mode)	89 h	2 h	4 h	2 h	3 h 35 min	3 h 35 min
LP (Long recording mode)	177 h	4 h	8 h	4 h	7 h 10 min	7 h 10 min
EP (Extra long recording mode) <sup>※4</sup>	355 h (266 h <sup>※2</sup> )	8 h (6 h <sup>※2</sup> )	16 h (12 h <sup>※2</sup> )	8 h (6 h <sup>※2</sup> )	14 h 20 min (10 h 45 min <sup>※2</sup> )	Cannot copy
FR (Flexible Recording mode) <sup>※4</sup>	355 h maximum	8 h maximum	8 h maximum for one side	8 h maximum	14 h 20 min	Approximately 9 h with video quality equivalent to LP mode.

<sup>※1</sup> It is not possible to record or play continuously from one side of a double sided disc to the other.

<sup>※2</sup> When "Recording Time in EP Mode" is set to "EP (6H)" in the Setup menu (⇒ 61).

The sound quality is better when using "EP (6H)" than when using "EP (8H)".

<sup>※3</sup> You cannot directly record to these discs with this unit. The table shows the recording time when copying.

<sup>※4</sup> When recording to the HDD in FR mode (recordings 5 hours or longer) or EP mode, you cannot perform high-speed copy to +R, +R DL or +RW discs.

● **RAM** When recording to DVD-RAM using EP (8H) mode, play may not be possible on DVD players that are compatible with DVD-RAM. Use EP (6H) mode if playback may be on other equipment.

### FR (Flexible Recording)

The unit automatically selects a recording rate between XP and EP (8H) that will enable the recordings to fit in the remaining disc space with the best possible recording quality.

- You can set FR (Flexible Recording) mode when using Flexible recording (⇒ 26), programming scheduled recordings (⇒ 29, Manually programming scheduled recordings) or copying (⇒ 51, step 5).

### Using "Flexible Recording" is convenient in these kinds of situations.

**RAM -R -RW(V) +R +RW**

- When the amount of free space on the disc makes selecting an appropriate recording mode difficult
- When you want to record a long program with the best picture quality possible

**HDD**

- When you want to record a title to HDD so that it can then be copied to fit one 4.7 GB disc perfectly.  
You do not need to edit the recorded title, or change the recording mode when copying, to fit the disc space.

e.g., Recording a 90 minutes program to disc

If you select XP mode, the program will not fit one disc.



A second disc is necessary for 30 minutes of the program.

If you select SP mode, the program will fit one disc.



However there will be 30 minutes remaining disc space.

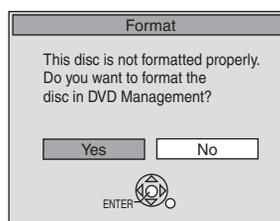
If you select "Flexible Recording" the program will fit one disc perfectly.



### When the format confirmation screen is displayed

**RAM -RW(V) +R +R DL +RW**

When you insert a new disc or a disc recorded on a computer or other equipment, a format confirmation screen is displayed. Format the disc to use it. However, all the recorded contents will be deleted.



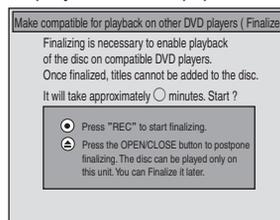
Press [◀, ▶] to select "Yes" and press [ENTER].

- Several steps are necessary to format a disc. Refer to "Deleting all the contents of a disc or card—Format" (⇒ 57)

### When removing a recorded disc

**-R -R DL -RW(V) +R +R DL**

When you press [▲ OPEN/CLOSE] on the main unit while stopped: The following screen appears when you have not processed the disc for play on other equipment.



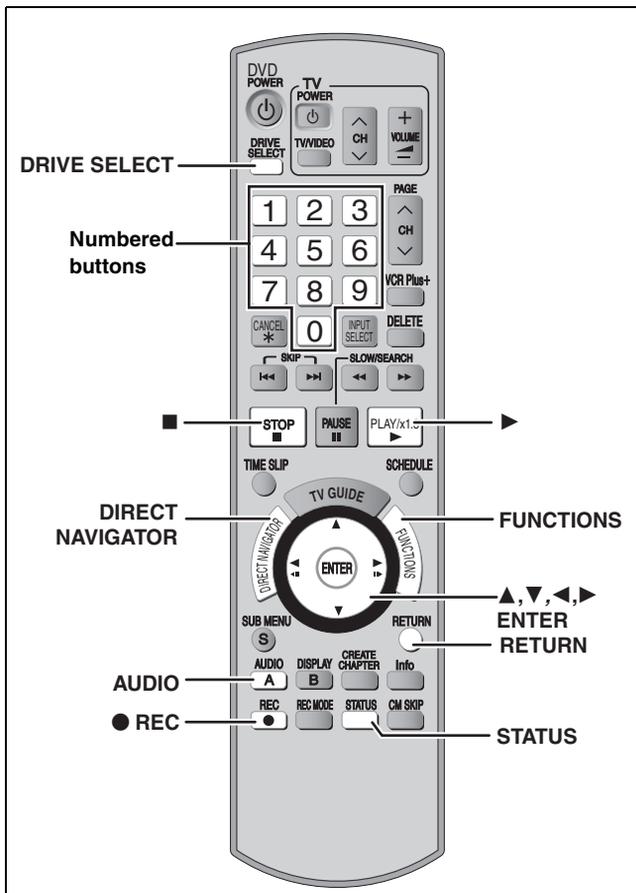
### To finalize the disc

Press [● REC] on the main unit.

- You cannot stop this process once you have started it.
- If you want to set the background, view the menu select screen or provide a disc name, select "Top Menu Style", "Playback will start with:" (⇒ 58) or "Disc Name" (⇒ 56) in "DVD Management" before finalizing.

### To open the tray without disc finalization

Press [▲ OPEN/CLOSE] on the main unit.



**Off Timer**

The unit switches to standby after about 6 hours in the stop mode. You can turn this feature off or change the time to 2 hours (⇒ 60, "Off Timer").

**1 Sec. Quick Start for Recording & EPG Display**

(When connecting to a TV using the Video or S-Video terminal) From the power on state, recording starts about 1 second\* after the [● REC] is pressed. If [TV GUIDE] is pressed while the unit is off, the Electronic Program Guide (EPG) starts being displayed in less than 1 second, with the full EPG being displayed in about 1.5 seconds.

\*Only when recording to the HDD or DVD-RAM

**To specify a time to stop recording— One Touch Recording**

**HDD RAM -R -RW(V) +R +RW**

**During recording**

Press [● REC] to select the recording time.

- You can specify up to 4 hours later.
- The unit display changes as shown below.  
OFF 0:30 → OFF 1:00 → OFF 1:30 → OFF 2:00  
↑ Counter (cancel) ← OFF 4:00 ← OFF 3:00 ↓

- This does not work during scheduled recordings (⇒ 28) or while using Flexible Recording (⇒ right).
- If you change the channel or recording mode while recording is paused, the time specified to stop recording is canceled.

**To cancel**

- Press [● REC] several times until the counter appears.
- The time to stop recording is canceled; however, recording continues.

**To stop recording partway**

Press [■].

**Flexible Recording**

(Recording that fits the remaining disc space)

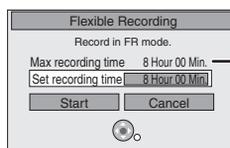
**HDD RAM -R -RW(V) +R +RW**

The unit sets the best possible picture quality that fits the recording within the remaining disc space. The recording mode becomes FR mode.

**Preparation**

- Select the channel or the external input (IN1, IN2, IN3 or DV) to record.
- Press [DRIVE SELECT] to select the HDD or DVD recording drive.

- 1 While stopped**  
Press [FUNCTIONS].
- 2 Press [▲, ▼] to select "Other Functions" press [ENTER].**
- 3 Press [▲, ▼] to select "Flexible Recording" and press [ENTER].**



**Maximum recording time**  
This is the maximum recording time in FR mode.

- 4 Press [◀, ▶] to select "Hour" and "Min." and press [▲, ▼] to set the recording time.**

- You can also set the recording time with the numbered buttons.
- You cannot record for more than 8 hours.

- 5 When you want to start recording**

Press [▲, ▼, ◀, ▶] to select "Start" and press [ENTER].

- Recording starts.
- All the recording modes from XP to EP appear in the display.



**To exit the screen without recording**

Press [RETURN].

**To stop recording partway**

Press [■].

**To show the remaining time**

Press [STATUS].

e.g., HDD



Remaining time

## Playing while you are recording

**HDD** **RAM**

Playing from the beginning of the title you are recording—Chasing playback

### Press [▶] (PLAY) during recording.

- There is no sound output while searching forward or backward.

#### To stop play

Press [■].

#### To stop recording

2 seconds after play stops

Press [■].

#### To stop scheduled recording

- 1 Press [■] to stop playing.
- 2 2 seconds after play stops  
Press [■], then press [◀, ▶] to select “Stop recording” and press [ENTER].

(Scheduled recording ⇒ 28)

Playing a title previously recorded while recording—  
Simultaneous rec and play

- You can also change the drive and play while recording. Press [DRIVE SELECT] to select the HDD or DVD recording drive.

## 1 Press [DIRECT NAVIGATOR] during recording.

## 2 Press [▲, ▼, ◀, ▶] to select a title and press [ENTER].

- There is no sound output while searching forward or backward.

#### To stop play

Press [■].

#### To exit the Direct Navigator screen

Press [DIRECT NAVIGATOR].

#### To stop recording

After play stops

- 1 Press [DIRECT NAVIGATOR] to exit screen.
- 2 If the recording is on the other drive  
Press [DRIVE SELECT] to select the HDD or DVD recording drive.
- 3 Press [■].

#### To stop scheduled recording

- 1 Press [■] to stop playing.
- 2 Press [DIRECT NAVIGATOR] to exit screen.
- 3 If the recording is on the other drive  
Press [DRIVE SELECT] to select the HDD or DVD recording drive.
- 4 Press [■], then press [◀, ▶] to select “Stop recording” and press [ENTER].

(Scheduled recording ⇒ 28)

## Selecting audio to record

**HDD** **RAM**

### Press [AUDIO].

**Stereo:** Main audio (stereo)

- If the broadcast is “Mono+SAP”, audio will be monaural even if you select Stereo mode.

**SAP**

**Audio:**

- If recorded in SAP mode, main audio is also recorded.

**Mono:** Main audio (monaural)

- Select “Mono” if reception is poor during a stereo broadcast.

e.g., “Stereo” is selected

“(” appears when the unit is receiving the audio type you selected.



- If you change the sound setting while recording, the recorded sound will also change.

#### Note

You cannot change the audio type in the following cases while the unit is stopped, regardless of which drive is selected.

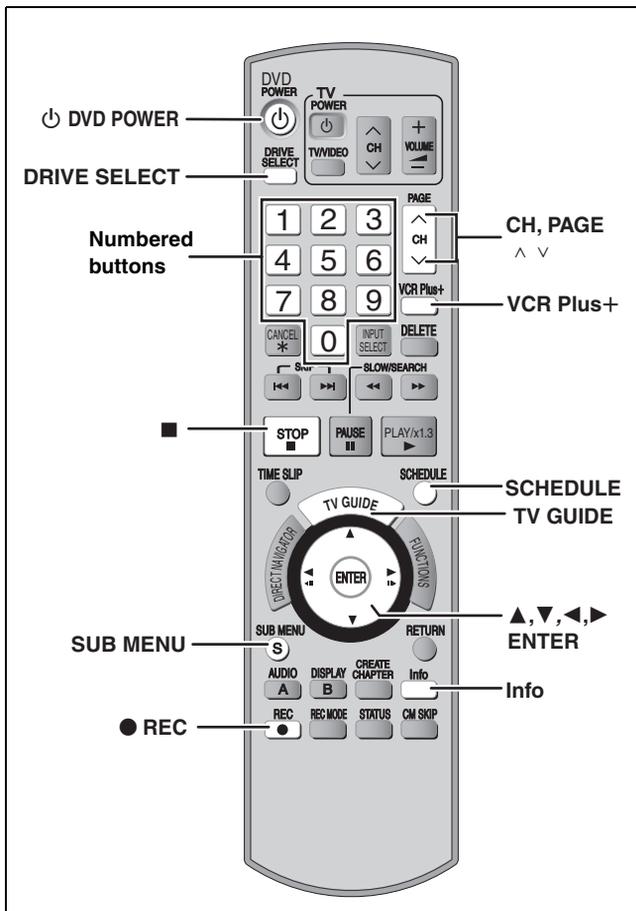
- While a disc other than DVD-RAM is inserted.
- When “Enable High-Speed Mode” is set to “On” (⇒ 61). (The default setting is “On”.)
- When the recording mode is XP and “Audio for XP Recording” is set to “LPCM” (⇒ 62).

**-R -RW(V) +R +RW**

**HDD** **RAM** (When recording sound in LPCM)

**HDD** **RAM** (When “Enable High-Speed Mode” is set to “On”)

Select the audio (Main or SAP) in “Multi-channel TV Sound ( MTS )” in the Setup menu (⇒ 62).



See also “Important notes for recording” (⇒ 8).

Depending on the type of disc used for recording or the type of broadcast, there may be restrictions on the title you are trying to record.

### Program listings for satellite services other than DirecTV cannot be received.

- Customers using the DISH Network service can set scheduled recordings on the DISH Network receiver (⇒ below).
- If you are using another satellite service, you can use manual recording to record.

DirecTV/DISH Network service is only available in the United states and is not available or supported in Canada.

### Using the DISH Network service

Program scheduled recordings using the DISH Network receiver. At this time, set the unit to the channel that receives broadcasts from the DISH Network receiver.

- 1 Press [ $\wedge$  v CH] to select the appropriate channel on this unit.
- 2 Press [ $\text{⏻}$  DVD POWER] to turn this unit off.

- Visit Gemstar’s homepage for more information about scheduled recordings for DISH Network.  
URL: <http://www.tvgos.com/support/echostar/>

### HDD RAM -R -RW(V) +R +RW

#### Preparation

- Turn on the television and select the appropriate video input to suit the connections to this unit.
- If recording to DVD, insert a disc that you can use for recording (⇒ 13).

#### If you are performing a scheduled recording with the TV Guide On Screen™ system

- You can enter up to 8 days in advance.
- The program name becomes the name of the recorded title if the program is listed on the program listings.
- There may be some channels that are not displayed in the program listings even if they are receivable. In this case set them manually (⇒ 29).

## Using the TV Guide On Screen™ system to make scheduled recordings

You can perform scheduled recording easily by just marking the desired program(s) in the program listings.

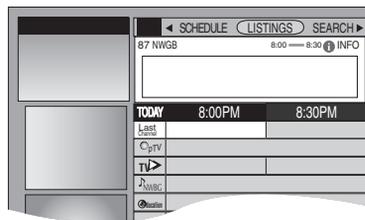
### For successful scheduled recordings

The program listings will not display immediately after purchasing this unit. Complete the TV Guide On Screen™ system setup and download the program listings (⇒ 20).

## 1 Press [TV GUIDE].

If the program listings are not completely downloaded, the “Display setup progress” screen is displayed. Select “LISTINGS” using [ $\leftarrow$ ,  $\rightarrow$ ]. (You can use only the portion of TV programs that downloaded).

Further instructions on utilizing the TV Guide On Screen™ system ⇒ 31



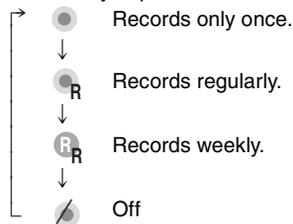
## 2 Press [ $\uparrow$ , $\downarrow$ , $\leftarrow$ , $\rightarrow$ ] to select the program.

- To skip one screen  
Press [PAGE  $\wedge$ ] or [PAGE v].

## 3 Press [● REC].

“●” appears in the list to indicate that the program is set for scheduled recording.

- Press [● REC] to change the frequency.  
Each time you press the button:



- As long as the setting is not changed, the program is recorded to the HDD in the recording mode selected by the unit.
- To change the setting  
Press [SUB MENU] and press [ $\uparrow$ ,  $\downarrow$ ] to select “edit recording” and press [ENTER]. (⇒ 32, To make scheduled recording, step 2).

Repeat steps 2–3 to program other recordings.

## 4 Press [TV GUIDE].

Returns to the television screen.

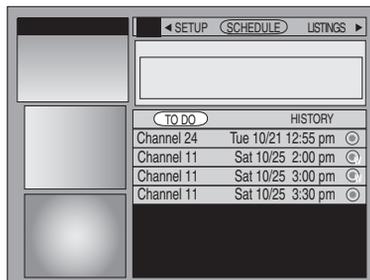
### When programming is finished and [TV GUIDE] is pressed

- The unit goes to scheduled recording standby (“⊙” lights on the unit’s display); however, it may not turn off automatically. To save power, turn the unit off by pressing [ $\text{⏻}$  DVD POWER].
- Scheduled recordings are activated regardless of whether the unit is turned on/off.
- When using the cable box or the satellite receiver, make sure the cable box or the satellite receiver is turned on.

## Manually programming scheduled recordings

You can manually set the date, channel, start and end times and so on for programs you want to record.

### 1 Press [SCHEDULE].



### 2 Press [SUB MENU].

Schedule Options menu is displayed.

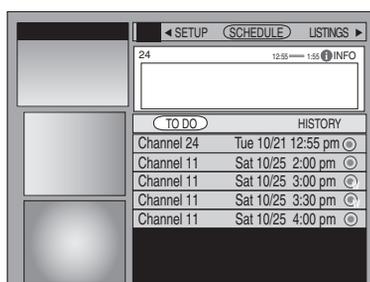
### 3 Press [▲, ▼] to select “new manual recording” and press [ENTER].

### 4 Enter the settings.

Press [▲, ▼] to select the item and press [◀, ▶] or the numbered buttons to change the setting.

date:	Month/Day/Year
start:	• You can set up to 8 hours.
end:	• Press [◀, ▶] to select “am” or “pm”.
channel:	e.g., 5ch: [0] ⇒ [0] ⇒ [5]
input:	RF/IN1/IN2/IN3
recorder:	HDD/DVD/use default • When the recording drive is “DVD” and there is not enough remaining space, recording automatically switches to the “HDD” (⇒ 30, Relief Recording).
quality:	XP/SP/LP/EP/FR
frequency:	once/weekly/daily/off

### 5 Press [▲] to select “schedule recording” and press [ENTER].



Press [▲, ▼] to select “TO DO” and repeat steps 2–5 to program other recordings.

### 6 Press [TV GUIDE].

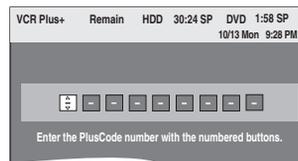
Returns to the television screen.

## Using VCR Plus+ system to make scheduled recordings

Entering PlusCode® numbers is an easy way of making a scheduled recording. You can find them in TV listings in newspapers and magazines.

- VCR Plus+ system works only if you connect antenna or “cable-ready”.

### 1 Press [VCR Plus+].



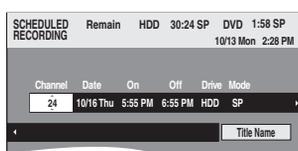
### 2 Press the numbered buttons to enter the PlusCode number.

- You can also use the [▲, ▼, ◀, ▶] buttons.

- To correct the number

Press [◀] to move back to correct a digit.

### 3 Press [ENTER].



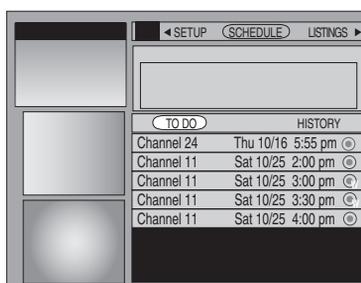
- When “XP” is displayed on the unit’s display, the recording mode automatically changes to “FR” in order to prevent loss of recording when there is not enough space.

You can change to “XP” in the SCHEDULE screen (⇒ 30).

- You can only change the channel settings here. Select using [▲, ▼].

Change other settings (⇒ 30).

### 4 Press [ENTER].



Repeat steps 1–4 to program other recordings.

### 5 Press [TV GUIDE].

Returns to the television screen.

#### ■ Notes on scheduled recording ⇒ 30

#### ■ To check, change or delete a program ⇒ 30

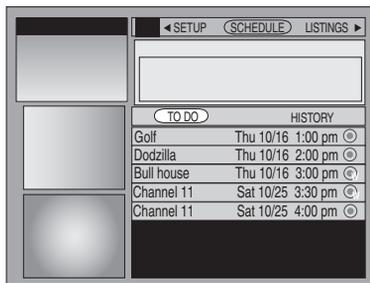
#### ■ To cancel scheduled recording when it has already begun

- 1 Press [DRIVE SELECT] to select the recording drive.
- 2 Press [■], then press [◀, ▶] to select “Stop recording” and press [ENTER].

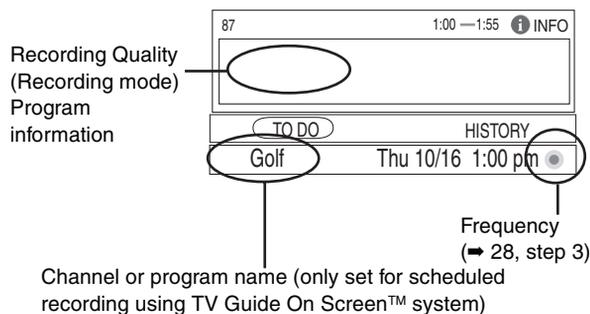
Refer to the control reference on page 28.

## Check, change or delete a program

### 1 Press [SCHEDULE].

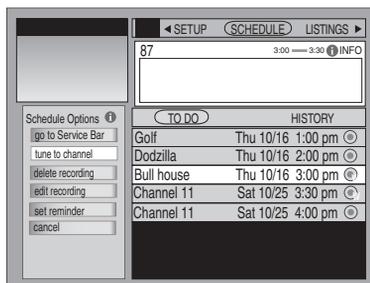


### 2 Press [▲, ▼] to select the program.



### 3 Press [SUB MENU].

Schedule Options menu is displayed.



#### ■ To change the recording settings

- Press [▲, ▼] to select “edit recording” and press [ENTER].
- Press [▲, ▼] to select the item and press [◀, ▶] or the numbered buttons to change the setting as necessary.
- Press [▲] to select “schedule recording” and press [ENTER].

#### ■ To delete the program

- Press [▲, ▼] to select “delete recording” and press [ENTER].  
Confirmation screen is displayed.
- Press [▲, ▼] to select “yes” and press [ENTER].

### 4 Press [TV GUIDE].

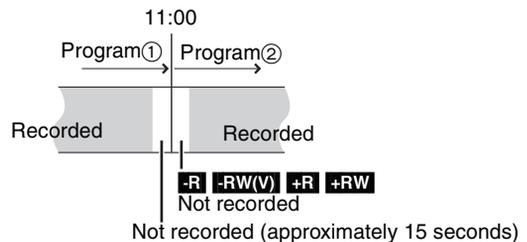
Returns to the television screen.

- The unit is not off. To save power, turn the unit off by pressing [⏻ DVD POWER].

## Notes on scheduled recording

- “Ⓞ” flashes when the unit cannot go to scheduled recording standby.
- Scheduled recordings begin when the set time is reached even when recording or when playing.
- Scheduled recordings do not begin while copying in normal speed mode (→ 49).
- If the unit is turned on when scheduled recording begins, it remains turned on after recording finishes. It does not turn off automatically. You can turn the unit off during scheduled recording.
- If you are making consecutive recordings that will start one after the other, the very end of the title cannot be recorded.

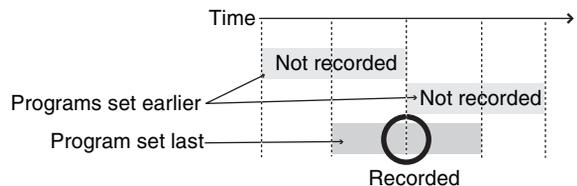
e.g., Program① 10:00–11:00  
Program② 11:00–12:00



- If you set DST (Daylight Saving Time) to On when manually setting the clock (→ 22), scheduled recording may not work when summer switches to winter and vice versa.

#### ■ When there is a duplicate or overlapping scheduled recording

The scheduled recording that was set last is recorded. None of the program that was set earlier is recorded even if there is only partial overlapping. Scheduled recordings that are not recorded are highlighted in grey in the SCHEDULE screen.



#### ■ Relief Recording

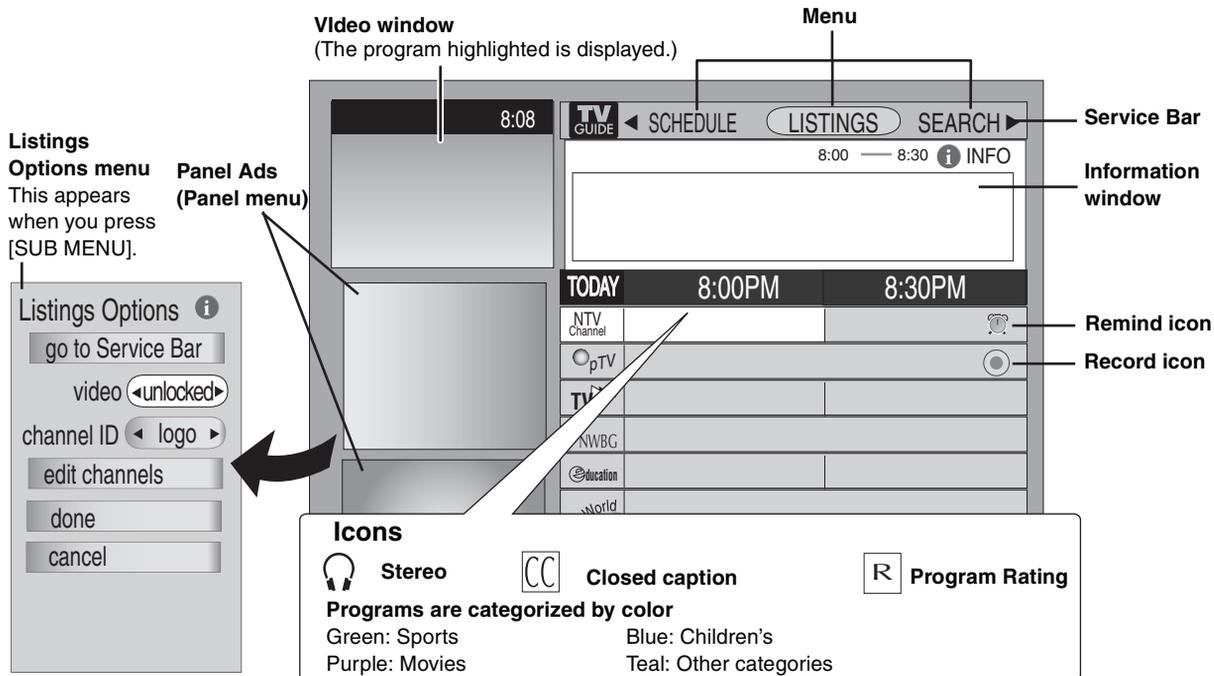
When the recording drive is set to “DVD” for scheduled recording and if the program will not fit onto the disc, the recording drive will be changed to the “HDD” automatically. If there is no disc in the tray or the disc cannot be recorded on or when scheduled recording starts while copying, the recording drive will be changed to the HDD.

- The Direct Navigator shows which programs were relief-recorded (“↔” is displayed.) (→ 36).
- If the time remaining on the HDD is insufficient, as much of the program as possible will be recorded onto the HDD.

Refer to the control reference on page 28.

## ■ Screen Components

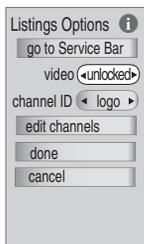
(The screen displayed when [TV GUIDE] is pressed)



### 1 Press [TV GUIDE].

### 2 Press [SUB MENU] and press [▲, ▼] to select “go to Service Bar” and then press [ENTER].

• You can also press [▲] only to go to the Service Bar.



### 3 Press [◀, ▶] to select a menu on the Service Bar.

#### ■ To use menus

Press [▼].

The Service bar consists of 4 menus.

<b>LISTINGS:</b> (→ 32)	You can set scheduled recording and scheduled reminder.
<b>SEARCH:</b> (→ 33)	You can search TV programs by genre, keyword, etc.
<b>SETUP:</b> (→ 34)	You can change the settings of the TV Guide On Screen™ system.
<b>SCHEDULE:</b> (→ 35)	You can check, change, or delete a program set for scheduled recording or scheduled reminder manually.

#### Remote control buttons used in these menus

[▲, ▼, ▶, ▶]	Select/Enter
[ENTER]	
[PAGE ▲][PAGE ▼]	Skip one screen
[SUB MENU]	To show Panel menu
[Info]	Change the size of information window Displays help information for operation

#### Panel menu items common to these menus

(appear when [SUB MENU] is pressed)

go to Service Bar:	Return to the Service bar
done:	Finish setting
cancel:	Cancel an entry on the menu

#### ■ To watch the TV program on the selected channel

When “LISTINGS” is selected

Press [▲, ▼, ▶, ▶] to select the TV program and press [ENTER].

While recording, you cannot change from the channel being recorded.

#### ■ Changing how the channel is displayed, etc.

When “LISTINGS” is selected

- 1 Press [SUB MENU].  
Listings Options menu is displayed (→ left).
- 2 Press [▲, ▼] to select the item and press [◀, ▶] or [ENTER] to change the setting.

video:	The highlighted program is displayed in the Video window if you select “unlocked”. The program in the Video window will not be changed if you select “locked”.
channel ID:	Select how channels are displayed (e.g., logo, number or both)
edit channels:	Customizing channel line-up (→ 34, Change channel display)

#### ■ To shortcut to a desired item

When “LISTINGS” is selected

- 1 Press the numbered buttons to select the number you want to shortcut to. (e.g., channel 26, 6 hours ahead)
- 2 Press [▲, ▼] to select the item and then press [ENTER] to shortcut.

go to channel:	The highlighted item jumps to the current listings for the desired channel
hours ahead:	The highlighted item jumps ahead the number of hours entered
hours back:	The highlighted item jumps back the number of hours entered
days ahead:	The highlighted item jumps ahead the number of days entered
days back:	The highlighted item jumps back the number of days entered

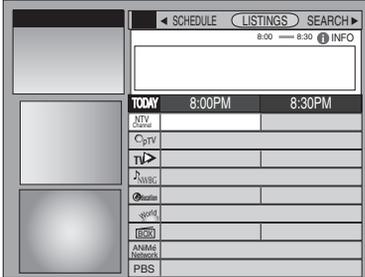
Continued on next page

Refer to the control reference on page 28.

## Using the LISTINGS Service to set scheduled recording and scheduled reminder

When “LISTINGS” is selected in step 3 on page 31 LISTINGS screen is displayed.

You can set scheduled recording and scheduled reminder. You can also view titles selected from the program listings.



● You can set how the channels are displayed on screen (⇒ 31, right column).

Press [▲, ▼, ◀, ▶] to select the TV program and press [SUB MENU].

Episode Options menu is displayed.



● Other Episode Options (⇒ right)

### To make scheduled recording

- Press [▲, ▼] to select “set recording” and press [ENTER]. Record Options menu is displayed.
- Press [▲, ▼] to select the item and press [◀, ▶] to change the setting.

#### Record Options

frequency:	once/regularly/weekly/off
start:	On time/1~120 min late/120~1 min early
end:	
recorder:	HDD/DVD/use default
	● When the recording drive is “DVD” and there is not enough remaining space, recording automatically switches to the “HDD” (⇒ 30, Relief Recording).
quality:	XP/SP/LP/EP/FR

- Press [▲, ▼] to select “schedule recording” and press [ENTER].

Return to the LISTINGS screen.

“●” appears in the list to indicate that the program is set for scheduled recording.

● Notes on scheduled recording (⇒ 30)

### To make scheduled reminder

You can set the channel to change automatically when a program set for scheduled reminder starts. This will prevent you from missing a program you want to watch while you are watching another program.

- Press [▲, ▼] to select “set reminder” and press [ENTER]. Remind Options menu is displayed.
- Press [▲, ▼] to select the item and press [◀, ▶] to change the setting.

#### Remind Options

frequency:	once/regularly/weekly/off
auto tune:	Choose whether the channel changes automatically or not when a scheduled reminder starts
when:	Set the start time for a scheduled reminder. (e.g., On time or up to 15 minutes before/after the start time of the program)

- Press [▲, ▼] to select “schedule reminder” and press [ENTER].

Return to the LISTINGS screen.

“●” appears in the list to indicate that the program is set for scheduled reminder.

### When the notification message appears on the television screen

If you set the reminder, a program notification message (⇒ below) is displayed on the television screen at the time the reminder is set for.

Select whether to continue watching the current channel or change the channel to the program you want to watch.



#### To change the channel to the program you watch

Press [▲, ▼] to select the channel and press [ENTER].

● If you turn “auto tune” on in step 2 above, press [ENTER] only to change the channel automatically.

#### To cancel the notification message and continue watching the current channel

Press [▲, ▼] to select “hide reminders” and press [ENTER].

#### Note

You cannot set a scheduled recording and a scheduled reminder for the same time on different channels.

### Other Episode Options

You can configure the individual settings of the program listings.

When Episode Options menu is displayed (⇒ left)

Press [▲, ▼] to select the item and press [ENTER] to change the setting.

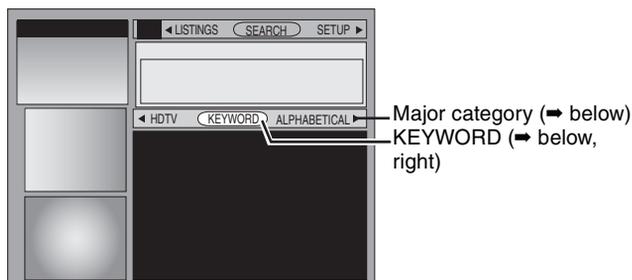
Items that can be set up differ depending on the situation.

watch now:	Change the television screen to the selected program
tune to channel:	Choose whether the channel changes automatically or not when the selected program starts
set recording:	Set a program for scheduled recording (⇒ left, To make scheduled recording)
delete recording:	Delete a program set for scheduled recording
edit recording:	Change the previously set recording settings (⇒ left, Record Options)
set reminder:	Set a scheduled reminder (⇒ above, To make scheduled reminder)
delete reminder:	Delete a scheduled reminder
edit reminder:	Change the previously set scheduled reminder settings (⇒ above, Remind Options)

## Using the SEARCH Service to search TV programs by genre, keyword, etc.

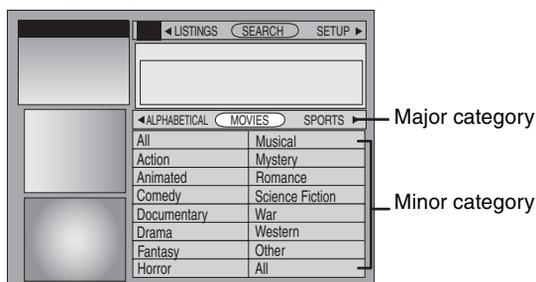
When “SEARCH” is selected in step 3 on page 31 SEARCH screen is displayed.

The SEARCH service displays program listings sorted into your preferred categories. There are various categories, such as movies, sports, children’s, educational, news, variety, series, HDTV, keyword and alphabetically. Each category will contain individual minor categories.



### To search TV programs by genre

- 1 Press [◀, ▶] to select the major category.

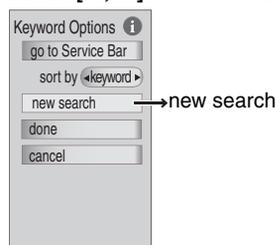


- 2 Press [▲, ▼, ◀, ▶] to select the minor category and press [ENTER].  
Search starts, and the programs that apply are displayed in the list.
  - If there are no programs that apply, “No match found” is displayed.
  - When sorting alphabetically, programs with the same name (such as reruns or subsequent broadcasts of the same program) are displayed together in one column. In this case, press [▲, ▼] to select a program name and press [ENTER]. Each broadcast of the program is then displayed separately.
- 3 Press [▲, ▼] to select a program and press [ENTER].  
Episode Options menu (⇒ 32, left column) is displayed. You can now set the scheduled recording or scheduled reminder (⇒ 32).

### To search TV programs by new keyword

You can also perform a more detailed search when you enter a new keyword.

- 1 Press [◀, ▶] to select “KEYWORD” and press [SUB MENU].



- 2 Press [▲, ▼] to select “new search” and press [ENTER].  
Search Options menu (⇒ right) is displayed.
- 3 Press [▲, ▼] to select the item (type, category or sub) and press [◀, ▶] to select the setting.  
Items that can be set up differ depending on the situation.

For example, set as shown below when you want to search for action movies that feature Green.

**type:** actor  
**category:** movies  
**sub:** action  
**enter keyword:** GREEN

#### Note

Depending on the TV Guide On Screen™ text data, a keyword search may not be able to find applicable results.

#### Search Options

type:	Select a search type (e.g., actor, director)
category:	Select a program category (e.g., movies, sports)
sub:	Select a program sub category (e.g., action, baseball)
enter keyword:	Enter a keyword (⇒ below, KEYWORD input screen)

- 4 Press [▲, ▼] to select “enter keyword” in Search Options menu and press [ENTER].

KEYWORD input screen is displayed.



SPACE: Creates one open character  
BKSP: Deletes the character on the left  
DEL: Deletes the character on the right  
CLR: Deletes all characters

- ① Press [▲, ▼, ◀, ▶] to select a letter and press [ENTER].  
Repeat step ① as necessary.
- ② Press [▲, ▼] to select “DONE” and press [ENTER] to finish entering.

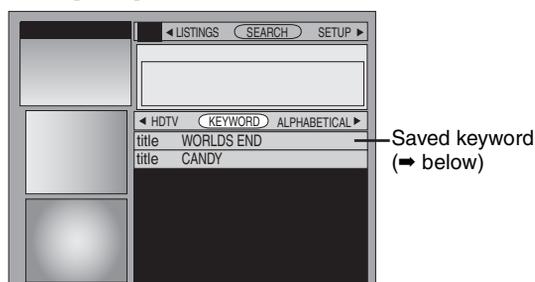
Search starts, and the programs that apply are displayed in the list.
 

- If there are no programs that apply, “No match found” is displayed.
- The newly input keywords are all saved. If you search for a keyword and no match is found the input keyword is saved.

- 5 Press [▲, ▼] to select a program and press [ENTER].  
Episode Options menu (⇒ 32, left column) is displayed. You can now set the scheduled recording or scheduled reminder (⇒ 32).

### To search TV programs by saved keyword

- 1 Press [◀, ▶] to select “KEYWORD”.



- 2 Press [▲, ▼] to select a saved keyword and press [ENTER].  
Search starts, and the programs that apply are displayed in the list.
  - If there are no programs that apply, “No match found” is displayed.
- 3 Press [▲, ▼] to select a program and press [ENTER] to view a list of episodes.
- 4 Press [▲, ▼] to select the episode and press [ENTER].  
Episode Options menu (⇒ 32, left column) is displayed. You can now set the scheduled recording or scheduled reminder (⇒ 32).

#### ■ To change the saved keyword or search parameters

- 1 Press [◀, ▶] to select “KEYWORD”.
- 2 Press [▲, ▼] to select the saved keyword and press [SUB MENU].  
Search Options menu is displayed. Items that can be set up differ depending on the situation.

edit search:	Change the saved keyword setting
delete search:	Delete the saved keyword

- 3 Press [▲, ▼] to select “edit search” and press [ENTER].

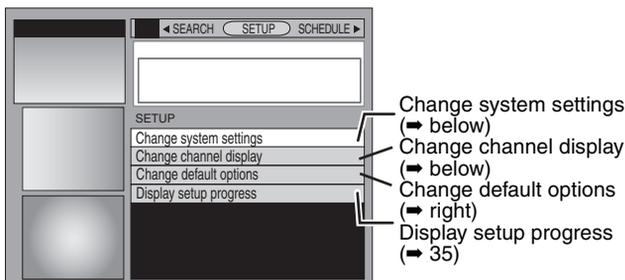
Repeat steps 3–5 (⇒ left, To search TV programs by new keyword).

Refer to the control reference on page 28.

## Using SETUP Service to change the settings of the TV Guide On Screen™ system

When "SETUP" is selected in step 3 on page 31 SETUP screen is displayed.

The SETUP service allows you to redo the channel settings, customize the channel line-up and set the TV Guide On Screen™ system's start-up pattern.

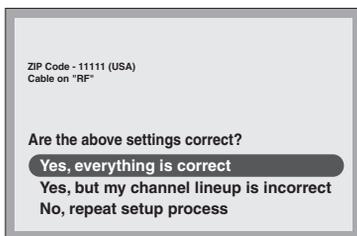


### Access to the TV Guide On Screen™ system setup screen—"Change system settings"

You can verify any information entered during setup, or completely redo the setup, for the TV Guide On Screen™ system.

1 Press [▲, ▼] to select "Change system settings" and press [ENTER].

The information that was set is displayed, and you are asked to confirm whether it is correct.



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

• "Yes, everything is correct"

–The information that was set will remain intact.

Press [▲, ▼, ◀, ▶] to select "Next" and press [ENTER] to exit the screen.

• "Yes, but my channel lineup is incorrect"

① Press [▲, ▼, ◀, ▶] to select "Next" and press [ENTER].

② Press [▲, ▼, ◀, ▶] to select one of the channel lineups and press [ENTER].

Then follow the operation instructions given on screen.

• "No, repeat setup process"

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

–The TV Guide On Screen™ system setup screen is displayed. Follow the on-screen prompts to redo the setup (⇨ 20, step 4).

### Customizing the channel line-up—"Change channel display"

You can customize the channel line-up. You can easily change channel line-up should the cable company occasionally revise their channel assignments.

1 Press [▲, ▼] to select "Change channel display" and press [ENTER].

CHANNEL EDITOR				
1	ON	PTV	PTV-S	2
2	ON	TV	TV-TR	5
3	ON	NWBG	NWBG	12

CHANNEL EDITOR screen

#### ■ To change the channel position

- 1 Press [▲, ▼] to select the channel.
- 2 Press [◀] to select the far left column.
- 3 Press [▲, ▼] to change the position.

2 Press [▲, ▼] to select the channel to customize and press [ENTER].

Grid Options menu is displayed.

Items that can be set up differ depending on the situation.



Press [SUB MENU] to return to the previous screen.

3 Press [▲, ▼] to select the item and press [◀, ▶], [ENTER] or the numbered buttons to change the setting.

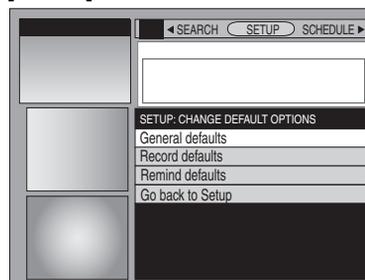
#### Grid Options

position:	Change the position where the channel appears in the LISTINGS screen (and CHANNEL EDITOR)
channel:	on: Channel is always displayed in LISTINGS and SEARCH screen off: Channel is never displayed in LISTINGS and SEARCH screen auto-hide: Display a channel only when program information is available
service:	Change the service for the channel if there is more than one service available (e.g., cable, over-the-air, antenna, DirecTV, etc.)
input:	Change the input for the channel if there is more than one input (e.g., RF, IN3, etc.)
tune channel:	Correct the tune channel number using the numbered buttons
re-sort numerically:	Change the channel order in the LISTINGS screen (and CHANNEL EDITOR) to numeric
undo all changes:	Reset all channel editor options (and LISTINGS screen) to their original settings

### Change the initial settings—"Change default options"

You can change the size of the Information box etc., scheduled recording, and scheduled reminder default settings.

1 Press [▲, ▼] to select "Change default options" and press [ENTER].



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

Items for each option are displayed (⇨ 35).

3 Press [▲, ▼] to select the item and press [◀, ▶] to change the setting.

4 Press [▲, ▼] to select "done" and press [ENTER].

Continued on next page

**General defaults**

box size:	Change the size of the Information box
box position:	Change the position of the Information box
video:	The highlighted program is displayed in the Video window if you select “unlocked”. The program in the Video window will not be changed if you select “locked”.
channel ID:	Change how channels are displayed (e.g., logo, number or both)
auto guide:	Choose whether the TV GUIDE screen is displayed automatically or not when you turn on this unit.

**Record defaults**

start:	Change the start time for scheduled recording
end:	Change the end time for scheduled recording
recorder:	Select the recording drive
quality:	Select the recording mode

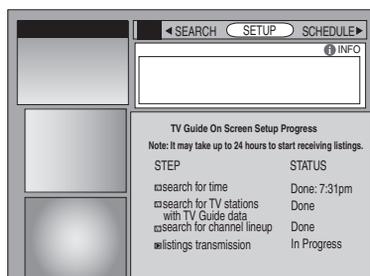
**Remind defaults**

auto tune:	Choose whether the channel changes automatically or not when a scheduled reminder starts
when:	Set the start time for a scheduled reminder. (e.g., On time or up to 15 minutes before/after the start time of the program)

### Display progress in getting TV Guide On Screen™ data—“Display setup progress”

Check progress in obtaining TV Guide On Screen™ data. If there is a check placed beside “channel lineup data”, you can make scheduled recordings and scheduled reminder from the program listings grid.

Press [▲, ▼] to select “Display setup progress” and press [ENTER].



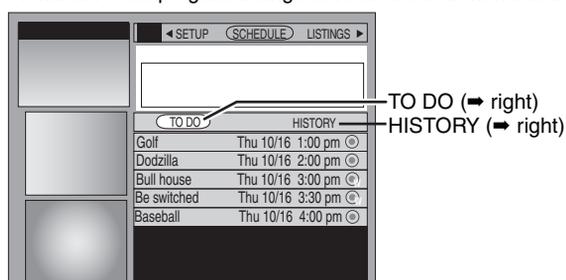
Press [ENTER] to close the screen.

### Using SCHEDULE Service to check, change or delete a program set for scheduled recording or scheduled reminder manually

When “SCHEDULE” is selected in step 3 on page 31 SCHEDULE screen is displayed.

The SCHEDULE service displays programs registered for recording and scheduled reminders on the list. You can sort the list, delete programs, change the frequency/recording drive or modify the start/end times of programs selected.

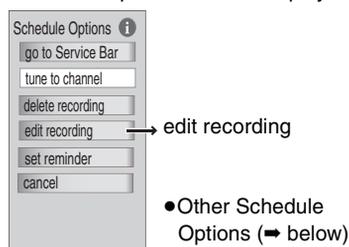
● You can manually set the scheduled recording (⇒ 29) and scheduled reminder if the program listings have not been downloaded.



### To change the previously set scheduled recording or scheduled reminder

- 1 Press [◀, ▶] to select “TO DO” and press [▲, ▼] to select the program and press [SUB MENU].

Schedule Options menu is displayed.



- 2 Press [▲, ▼] to select “edit recording” or “edit reminder” and press [ENTER].

Record Options (⇒ 29, step4, ⇒ 32) or Remind Options (⇒ 32) is displayed.

- 3 Press [▲, ▼] to select the item and press [◀, ▶] or the numbered buttons to change the setting.

- 4 Press [▲] to select “schedule recording” or “schedule reminder” and press [ENTER].

Items that can be set up differ depending on the situation.

### Other Schedule Options

sort by:	Sort the items by date, title or event
watch now:	Change the television screen to the selected program
tune to channel:	Choose whether the channel changes automatically or not when the selected program starts
new manual recording:	Set a program for manual recording (⇒ 29)
set recording:	Set a program for scheduled recording (⇒ 32, To make scheduled recording)
delete recording:	Delete a program set for scheduled recording
new manual reminder:	Set a manual reminder
set reminder:	Set a scheduled reminder (⇒ 32, To make scheduled reminder)
delete reminder:	Delete a scheduled reminder

### History Options

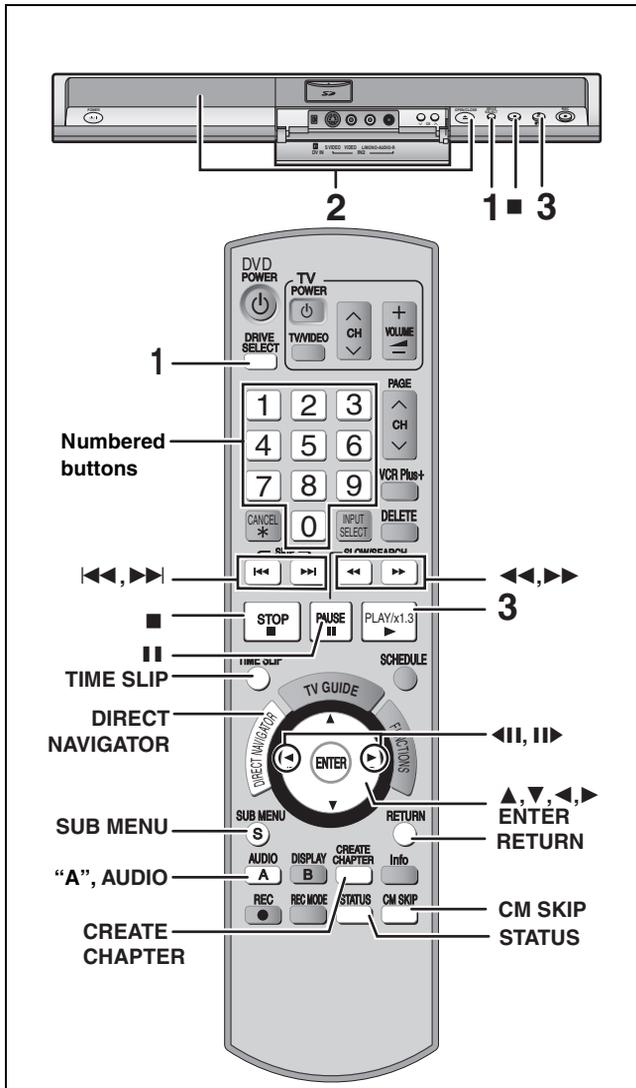
You can view the scheduled recordings history. Information about scheduled recordings that were not performed is displayed in the INFO screen.

- 1 Press [◀, ▶] to select “HISTORY” and press [SUB MENU].  
History Options menu is displayed.
- 2 Press [▲, ▼] to select the item and press [◀, ▶] or [ENTER] to change the setting.

Items that can be set up differ depending on the situation.

### History Options

view as:	Display recorded programs in groups or lists
sort by:	Sort recorded programs by date or title
delete episode history:	Delete recording history of the selected program
delete all history:	Delete history of all recordings listed in the History screen (including recordings about to begin or in progress)



### ■ If the video is stretched vertically

- 16:9 aspect images will be recorded as 4:3 images if recorded under the following conditions:
    - If recorded to the HDD or DVD-RAM with “Enable High-Speed Mode” set to “On” in the Setup menu (The default setting is “On” ⇒ 61).
    - If recorded or copied to a DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL or +RW disc.
- You may be able to adjust it by changing the display mode on your television. Please refer to the television’s operating instructions.

### Preparation

- Turn on the television and select the appropriate video input to suit the connections to this unit.
- Turn on this unit.

## 1 Press [DRIVE SELECT] to select the HDD or DVD drive.

The HDD or DVD indicator lights up on the unit.  
 • It is possible to watch playback from one drive while recording on another (editing is not possible).

## 2 If you selected the DVD drive

Press [**▲ OPEN/CLOSE**] on the main unit to open the tray and insert a disc.

- How to insert a disc (⇒ 13).

## 3 Press [▶] (PLAY).

**HDD RAM -R -R DL -RW(V) +R +R DL +RW -RW(VR)**

Play starts from the most recently recorded title.

**DVD-V DVD-A CD VCD** and MP3

Play starts from the beginning of the disc.

**DivX** (⇒ 7)

DivX menu screen appears (⇒ 39).

- When using cartridge discs with the write-protect tab in the protect position (⇒ 56), play automatically starts when inserted in the unit.

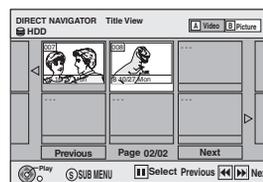


### Selecting recorded programs (titles) to play—Direct Navigator

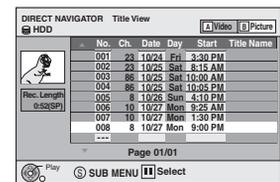
**HDD RAM -R -R DL -RW(V) +R +R DL +RW -RW(VR)**

#### 1 Press [DIRECT NAVIGATOR].

##### • Thumbnail Mode



##### • Table Mode



#### Switching the Direct Navigator appearance

- 1 Press [SUB MENU] while Thumbnail Mode is displayed.
  - 2 Press [**▲, ▼**] to select “Table Mode” and press [ENTER].
- The display appearance used last is saved even after the unit is turned off.

#### 2 **HDD RAM**

Press the “**A**” button to select “Video”.



#### **HDD** To sort Title View for easy searching (Table Mode only)

This function is convenient when searching for one title to playback from many titles.

- 1 Press [SUB MENU].
- 2 Press [**▲, ▼**] to select “Sort” and press [ENTER].
- 3 Press [**▲, ▼**] to select the item and press [ENTER].

If you select an item other than “No.”

- The Direct Navigator screen will reappear after playback of the selected title has finished. (You cannot play titles continuously.)
- Skip and Time Slip will only function with the title currently being playback.
- If you exit the Direct Navigator screen, or switch to the “Picture” Direct Navigator screen, the sorted Title View will be canceled.

#### 3 Press [**▲, ▼, ◀, ▶**] to select the title and press [ENTER].

You can also select titles with the numbered buttons.

**HDD RAM -R -R DL -RW(V) +R +R DL +RW -RW(VR)**

e.g., 5: [0] ⇒ [0] ⇒ [5]      5: [0] ⇒ [5]  
 15: [0] ⇒ [1] ⇒ [5]      15: [1] ⇒ [5]  
 115: [1] ⇒ [1] ⇒ [5]

#### To show other pages

Press [**▲, ▼, ◀, ▶**] to select “Previous” or “Next” and press [ENTER]. (Thumbnail Mode only)

- You can also press [**◀◀, ▶▶**] to show other pages.

#### To exit the screen

Press [DIRECT NAVIGATOR].

#### Direct Navigator screen icons

- 🔒 Title protected.
- 🚫 Title that was not recorded due to recording protection (Digital broadcasts, etc.)
- ✗ Title cannot be played [When copying a title to the HDD, or when data is damaged, etc.]
- Currently recording.
- ↶ Titles that have been rerouted to the HDD (⇒ 30, Relief Recording)
- 📦 Title with “One time only recording” restriction (⇒ 76, CPRM)

## ■ When a menu screen appears on the television

**DVD-V DVD-A**

Press [**▲**, **▼**, **◀**, **▶**] to select the item and press [ENTER].

Some items can also be selected using the numbered buttons.

**VCD**

Press the numbered buttons to select the item.

e.g., 5: [0] ⇒ [5] 15: [1] ⇒ [5]

### ● To return to the menu screen

**DVD-V** Press [DIRECT NAVIGATOR] or [SUB MENU].

**DVD-A** Press [DIRECT NAVIGATOR].

**VCD** Press [RETURN].

● Depending on the type of disc, playback methods will differ. Read the disc's instructions carefully.

### Note

● It is not possible to play continuously from one side of a double sided disc to the other. You will need to eject the disc and turn it over.

● Depending on the disc, it may take time for the menu screen, pictures, sound, etc. to start.

● Discs continue to rotate while menus are displayed. Press [■] when you have finished playback to protect the unit's motor, your television screen and so on.

## Operations during play

<p>Stop</p>	<p><b>Press [■].</b> The stopped position is memorized. <b>Resume play function</b> Press [▶] (PLAY) to restart from this position. <b>Stopped position</b></p> <ul style="list-style-type: none"> <li>● If [■] is pressed several times the position is cleared.</li> <li>● The position is cleared if the tray is opened (excluding <b>HDD</b>).</li> <li>● <b>DVD-A CD VCD</b> and <b>MP3/DivX</b>: The position is cleared if the unit is turned off.</li> </ul>
<p>Pause</p>	<p><b>Press [⏸].</b> Press [⏸] again or [▶] (PLAY) to restart play.</p>
<p>Search</p>	<p><b>Press [◀◀] or [▶▶].</b> The speed increases up to 5 steps. (<b>+R +R DL +RW</b> up to 3 steps).</p> <ul style="list-style-type: none"> <li>● Press [▶] (PLAY) to restart play.</li> <li>● Audio is heard during first level of forward search.</li> <li>● <b>DVD-A</b> (excluding moving picture parts) <b>CD</b> and <b>MP3</b>: Audio is heard during all levels of search.</li> <li>● <b>DivX</b>: Audio is not heard during all levels of search.</li> <li>● Depending on the type of the disc, search may not be possible.</li> </ul>
<p>Skip</p>	<p><b>During play or while paused, press [◀◀] or [▶▶].</b> Skip to the title, chapter or track you want to play.</p> <ul style="list-style-type: none"> <li>● Each press increases the number of skips.</li> <li>● <b>DivX</b>: Backward direction [◀◀] only.</li> </ul>
<p>Starting from a selected item</p>	<p><b>Press the numbered buttons.</b> Play starts from the selected title, chapter or track.</p> <ul style="list-style-type: none"> <li>● <b>HDD MP3</b> and <b>JPEG/TIFF</b> e.g., 5: [0] ⇒ [0] ⇒ [5] 15: [0] ⇒ [1] ⇒ [5]</li> <li>● <b>DVD-A</b> Selecting groups While stopped (screen saver is displayed on the television ⇒ right) e.g., 5: [5]</li> <li>● Other discs (You can select a track with DVD-Audio.) e.g., 5: [0] ⇒ [5] 15: [1] ⇒ [5]</li> <li>● This works only when stopped (screen saver is displayed on the television ⇒ above) with some discs.</li> <li>● <b>VCD</b> (with playback control) If you press the numbered buttons while stopped (the above screen saver is displayed on the television) you can cancel PBC. (Elapsed play time appears on the unit's display.)</li> </ul>
<p>Quick View <b>HDD RAM</b></p>	<p><b>Press and hold [▶] (PLAY/× 1.3).</b> Play speed is quicker than normal.</p> <ul style="list-style-type: none"> <li>● Press again to return to normal speed.</li> </ul>
<p>Slow-motion <b>HDD RAM -R -R DL -RW(V) +R +R DL +RW DVD-V DVD-A (Motion picture parts only) -RW(VR) VCD</b></p>	<p><b>While paused, press [◀◀] or [▶▶].</b> The speed increases up to 5 steps.</p> <ul style="list-style-type: none"> <li>● Press [▶] (PLAY) to restart play.</li> <li>● <b>VCD</b> Forward direction [▶▶] only.</li> <li>● The unit will pause if slow-motion play is continued for approximately 5 minutes (excluding <b>DVD-V DVD-A VCD</b>).</li> </ul>
<p>Frame-by-frame <b>HDD RAM -R -R DL -RW(V) +R +R DL +RW DVD-V DVD-A (Motion picture parts only) -RW(VR) VCD</b></p>	<p><b>While paused, press [◀] (◀◀) or [▶] (▶▶).</b> Each press shows the next frame.</p> <ul style="list-style-type: none"> <li>● Press and hold to change in succession forward or backward.</li> <li>● Press [▶] (PLAY) to restart play.</li> <li>● <b>VCD</b> Forward direction [▶] (▶▶) only.</li> </ul>



Refer to the control reference on page 36.

### Skipping the specified time (Time Slip)

**HDD RAM -R -R DL -RW(V) +R**  
**+R DL +RW -RW(VR)**

- 1 Press [TIME SLIP].
- 2 Press [▲, ▼] to select the time and press [ENTER].

Play skips the specified time.

- Each time you press [▲, ▼], the time increases [▲] or decreases [▼] by 1 minute intervals. (Press and hold for 10-minute intervals.)



This automatically disappears after approximately 5 seconds. To show the screen again press [TIME SLIP] again.

### CM Skip

**HDD RAM -R -R DL -RW(V) +R**  
**+R DL +RW -RW(VR)**

### Press [CM SKIP].

Each time you press, play restarts approximately a minute later.

## Simple editing operations during play

### Create chapters

(⇒ 44, Title/Chapter)

**HDD RAM**

### Press [CREATE CHAPTER].

Chapters are divided at the point pressed.

- Press [◀◀, ▶▶] to skip to the start of a chapter.

## Changing audio during play

### Press [AUDIO].

**HDD RAM -RW(VR) VCD** and DivX (⇒ 7)

Stereo → Mono L → Mono R

e.g., "Stereo" is selected



- When playing an SAP broadcast recorded on the HDD, DVD-RAM, DVD-RW (DVD Video Recording format): Main Audio ↔ SAP Audio

### DVD-V DVD-A

You can change the audio channel number each time you press the button. This allows you to change things like the soundtrack language (⇒ 42, Soundtrack).



e.g., English is selected.

### Note

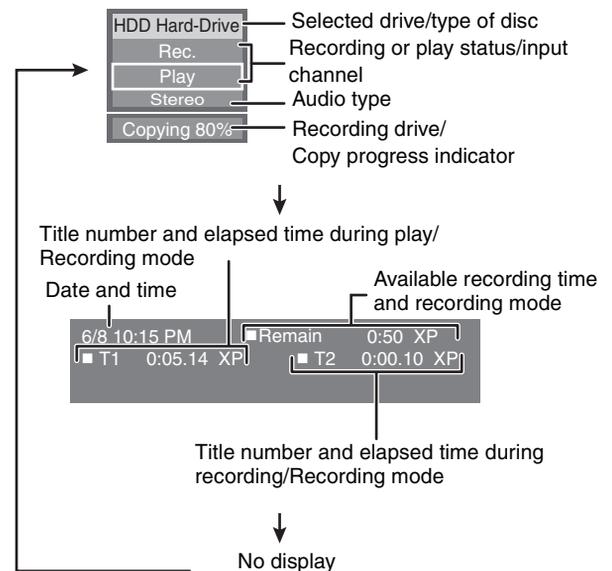
You cannot change the audio type in the following cases.

- When a DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL or +RW disc is in the disc tray while DVD drive is selected.
- When the recording mode is XP and "Audio for XP Recording" is set to "LPCM" (⇒ 62).
- When "Enable High-Speed Mode" is set to "On" (⇒ 61). (The default setting is "On".)

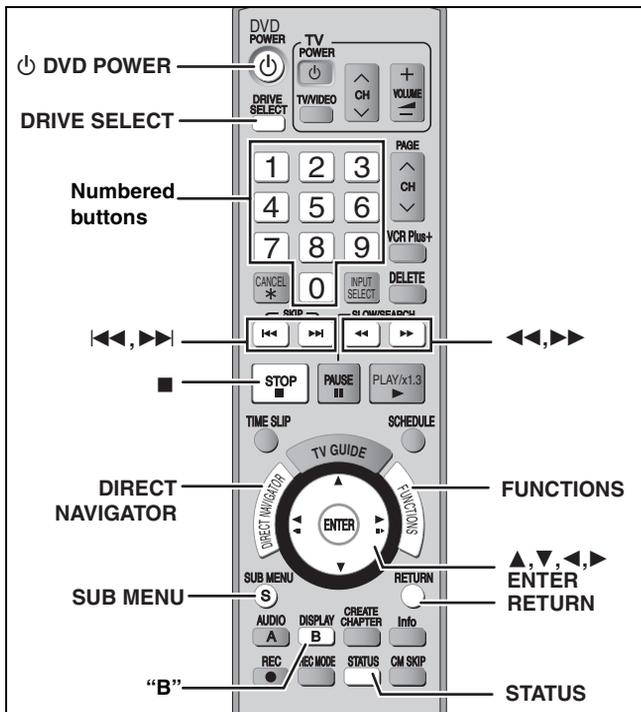
## Status messages

### Press [STATUS].

The display changes each time you press the button.



# Playing DivX discs, MP3 discs and still pictures (JPEG/TIFF)

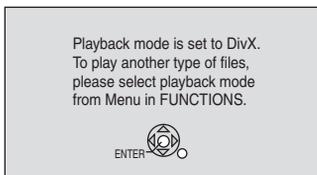


## Selecting file type to play

### CD

You can play CD-R/CD-RW which contain MP3 files, DivX video contents or still pictures that have been recorded on a computer. The screen shown below is displayed when you insert a disc containing DivX video contents, MP3 files and still pictures (JPEG/TIFF).

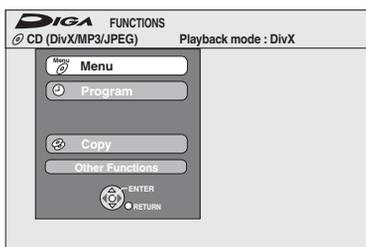
e.g.,



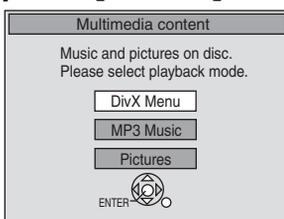
- When playing the file displayed on the screen Press **[ENTER]**.
- When you want to play files other than the one displayed on the screen Follow the steps below.

### To select file type

- 1 Press **[RETURN]**.
- 2 Press **[FUNCTIONS]**.



- 3 Press **[▲, ▼]** to select "Menu" and press **[ENTER]**.



- 4 Press **[▲, ▼]** to select playback mode and press **[ENTER]**.

If "DivX Menu" is selected: Go to "Playing DivX discs" step 2 in the below column.

If "MP3 Music" is selected: Go to "Playing MP3 discs" step 2 on page 40.

If "Pictures" is selected: Go to "Playing still pictures" step 4 on page 41.

## Playing DivX discs

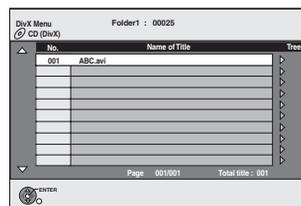
### -R CD

- You can play DVD-R and CD-R/CD-RW discs which contain DivX video contents that have been recorded on a computer.

#### Preparation

Press **[DRIVE SELECT]** to select the DVD drive.

- 1 Press **[DIRECT NAVIGATOR]**.



- Files are treated as titles.
- When the MP3 or JPEG Menu is displayed, perform steps 1–4 in "To select file type" on the left column and select "DivX Menu" in step 4 to change the playback mode.

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

Play starts on the selected title.

- You can also select the title with the numbered buttons.

e.g., 5: [0] → [0] → [5]  
15: [0] → [1] → [5]

#### To stop playing

Press **[■]**.

#### To show other pages

Press **[◀, ▶]**.

#### To exit the screen

Press **[DIRECT NAVIGATOR]**.

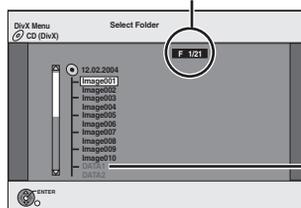
#### Note

- Picture sizes set at the recording time may prevent the unit from showing pictures in the appropriate aspect. You may be able to adjust the aspect through the TV.
- Successive play is not available.
- Playback is not possible if recording is performed on the HDD drive.

### Using the tree screen to find a folder

- 1 While the file list is displayed Press **[▶]** while a title is highlighted to display the tree screen.

F: Selected folder no./Total folder no. including DivX title.



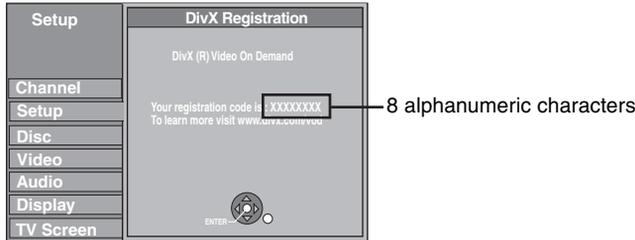
Refer to the control reference on page 39.

**About DivX VOD content**

DivX Video-on-Demand (VOD) content is encrypted for copyright protection. In order to play DivX VOD content on this unit, you first need to register the unit. Follow the on line instructions for purchasing DivX VOD content to enter the unit's registration code and register the unit. For more information about DivX VOD, visit www.divx.com/vod

**Display the unit's registration code.**

(⇒ 60, "DivX Registration" in "Setup" tab)



- After playing DivX VOD content for the first time, another registration code is then displayed in "DivX Registration". Do not use this registration code to purchase DivX VOD content. If you use this code to purchase DivX VOD content, and then play the content on this unit, you will no longer be able to play any content that you purchased using the previous code.
- If you purchase DivX VOD content using a registration code different from this unit's code, you will not be able to play this content. ("Authorization Error" is displayed.)

**Regarding DivX content that can only be played a set number of times**

Some DivX VOD content can only be played a set number of times. When you play this content, the remaining number of plays is displayed. You cannot play this content when the number of remaining plays is zero. ("Rental Expired" is displayed.)

When playing this content

- The number of remaining plays is reduced by one if
  - you press [⏻ DVD POWER].
  - you press [■].
  - you press [⏮] or [⏪, ⏩] etc. and arrive at another content or the start of the content being played.
  - scheduled recording starts on the HDD.
  - you press [DRIVE SELECT] to change the drive.
- Resume functions do not work.

**Playing MP3 discs**

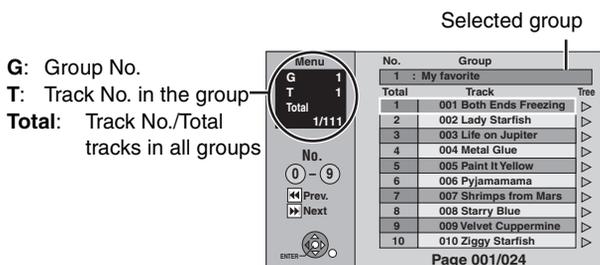
**CD**

- You can play CD-R/CD-RW discs which contain MP3 files that have been recorded on a computer.
- You may not be able to playback MP3 which contain still pictures.

**Preparation**

Press [DRIVE SELECT] to select the DVD drive.

**1 Press [DIRECT NAVIGATOR].**



- Files are treated as tracks and folders are treated as groups.
- When the DivX or JPEG Menu is displayed, perform steps 1-4 in "To select file type" on page 39 selecting "MP3 Music" in step 4 to change to the playback mode.

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

Play starts on the selected track.  
 • "▶" indicates the track currently playing.

- You can also select the track with the numbered buttons.  
 e.g., 5: [0] ⇒ [0] ⇒ [5]  
 15: [0] ⇒ [1] ⇒ [5]

**To stop playing**

Press [■].

**To show other pages**

Press [⏮, ⏩].

**To exit the screen**

Press [DIRECT NAVIGATOR].

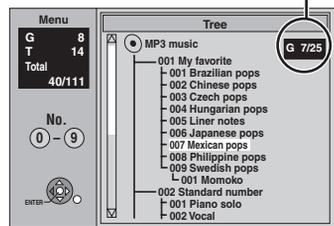
**Using the tree screen to find a group**

**1 While the file list is displayed**

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

**Selected group No. /Total groups**

If the group has no track, "—" is displayed as group number.



- You cannot select groups that contain no compatible files.

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

The file list for the group appears.

**To return to the previous screen**

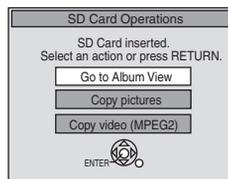
Press [RETURN].

**Playing still pictures**

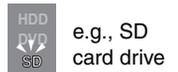
**HDD RAM SD CD**

- You can use SD Memory Cards with capacities from 8 MB to 2 GB (⇒ 6).
- You can play still pictures recorded onto a CD-R/CD-RW on a computer.
- You cannot playback still pictures while recording or copying.
- Inserting, Removing the SD card (⇒ 10)

While stopped, put the card in the slot and the menu (⇒ below) is automatically displayed. Press [▲, ▼] to select "Go to Album View" and then press [ENTER] to display the Album View screen shown in step 2.



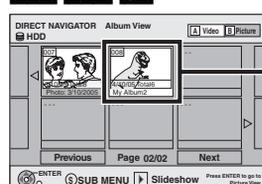
**1 Press [DRIVE SELECT] to select the HDD, DVD or SD drive.**



The indicator lights up on the unit.

**2 Press [DIRECT NAVIGATOR].**

**HDD RAM SD**



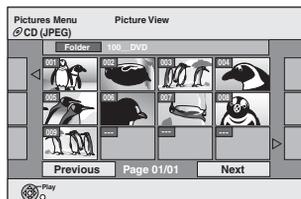
Album View screen

Recording date of the first picture in the album/number of pictures/album name.

- Depending on the digital camera or the editing software on the PC etc., the information about the recording date may not be displayed. In this case, the date will appear as [--.--.--].

**HDD RAM** If "Video" title view is displayed, press the "B" button to switch to the "Picture" view screen.

CD



Picture View screen

**(Go to step 4)**

When the DivX or MP3 Menu is displayed, perform steps 1–4 in “To select file type” on page 39 and select “Pictures” in step 4 to change the playback mode.

Direct Navigator screen icons

- Picture protected.
- Picture in which the number of prints is set (DPOF) (⇒ 48, 76).

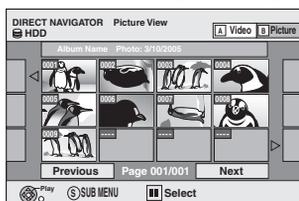
**To show other pages**

Press [▲, ▼, ◀, ▶] to select “Previous” or “Next” and press [ENTER].

• You can also press [◀◀, ▶▶] to show other pages.

**To select the still pictures in another folder ⇒ below**

**3 Press [▲, ▼, ◀, ▶] to select the album and press [ENTER].**



e.g., HDD

You can also select album with the numbered buttons.  
e.g.,

- 5: [0] ⇒ [0] ⇒ [5]                      115: [1] ⇒ [1] ⇒ [5]
- 15: [0] ⇒ [0] ⇒ [1] ⇒ [5]

**4 Press [▲, ▼, ◀, ▶] to select the still picture and press [ENTER].**

You can also select still pictures with the numbered buttons.

- e.g., **HDD RAM SD**
- 5: [0] ⇒ [0] ⇒ [0] ⇒ [5]                      115: [0] ⇒ [1] ⇒ [1] ⇒ [5]
  - 15: [0] ⇒ [0] ⇒ [1] ⇒ [5]                      115: [1] ⇒ [1] ⇒ [1] ⇒ [5]

- e.g., **CD**
- 5: [0] ⇒ [0] ⇒ [5]                              115: [1] ⇒ [1] ⇒ [5]
  - 15: [0] ⇒ [1] ⇒ [5]

- Press [◀, ▶] to display the previous or next still picture.
- Useful functions during still picture play (⇒ right).

**To return to the Album View or Picture View screen**

Press [RETURN].

**To exit the screen**

Press [DIRECT NAVIGATOR].

**■ To select the still pictures in another folder**

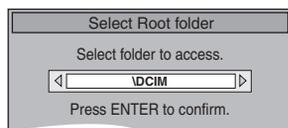
(⇒ 76, Structure of folders displayed by this unit)

**RAM SD**

**To switch to another higher folder**

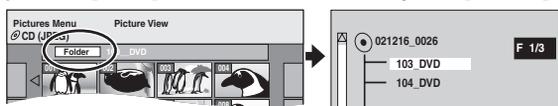
(Only if there is a multiple number of higher folders recognizable)

- ① While the Album View is displayed Press [SUB MENU].
- ② Press [▲, ▼] to select “Select Root folder” and press [ENTER].
- ③ Press [◀, ▶] to select the higher folder and press [ENTER].



**CD**

- ① While the Picture View screen is displayed Press [▲, ▼, ◀, ▶] to select “Folder” and press [ENTER].
- ② Press [▲, ▼] to select the folder and press [ENTER].



**Useful functions during still picture play**

**Start Slideshow Slideshow settings**

**HDD RAM SD CD**

You can display still pictures one by one at a constant interval.

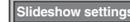
**HDD RAM SD**

While the Album View screen is displayed Press [▲, ▼, ◀, ▶] to select the album and press

[▶] (PLAY).

**You can also start slideshow with the following steps.**

- While the Album View screen is displayed
- 1 Press [▲, ▼, ◀, ▶] to select the desired album and press [SUB MENU].
  - 2 Press [▲, ▼] to select “Start Slideshow” and press [ENTER].



**CD**

While the Picture View screen is displayed

- 1 Press [▲, ▼, ◀, ▶] to select the “Folder” and press [SUB MENU].
- 2 Press [▲, ▼] to select “Start Slideshow” and press [ENTER].

**•To change the display interval**

- ① Press [▲, ▼] to select “Slideshow settings” in step 2 and press [ENTER].
- ② Press [▲, ▼] to select “Display Interval” and press [◀, ▶] to select the desired interval (0–30 seconds) and press [ENTER].

**•Repeat Play**

- ① Press [▲, ▼] to select “Slideshow settings” in step 2 and press [ENTER].
- ② Press [▲, ▼] to select “Repeat Play” and press [◀, ▶] to select “On” or “Off” and press [ENTER].

**Rotate**

**HDD RAM SD CD**

While playing

- 1 Press [SUB MENU].
- 2 Press [▲, ▼] to select “Rotate Right” or “Rotate Left” and press [ENTER].



• Rotation information will not be stored.

- **CD** Still pictures
- When disc or album is protected
- When played on other equipment
- When copying pictures

• If you remove the SD card while the Picture View screen is displayed, picture rotation information may not be properly stored. Make sure that you do not remove the SD card until the screen has closed.

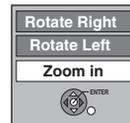
**Zoom in**

**Zoom out**

**HDD RAM SD CD**

While playing

- 1 Press [SUB MENU].
- 2 Press [▲, ▼] to select “Zoom in” and press [ENTER].



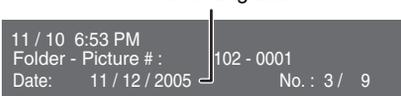
• To return the picture to its original size, press [▲, ▼] to select “Zoom out” in step 2 and press [ENTER].

- When zooming in, the picture may be cut off.
- The enlargement information will not be stored.
- The “Zoom in/Zoom out” function is only available for still pictures smaller than 640×480 pixels.

**■ To show the picture properties**

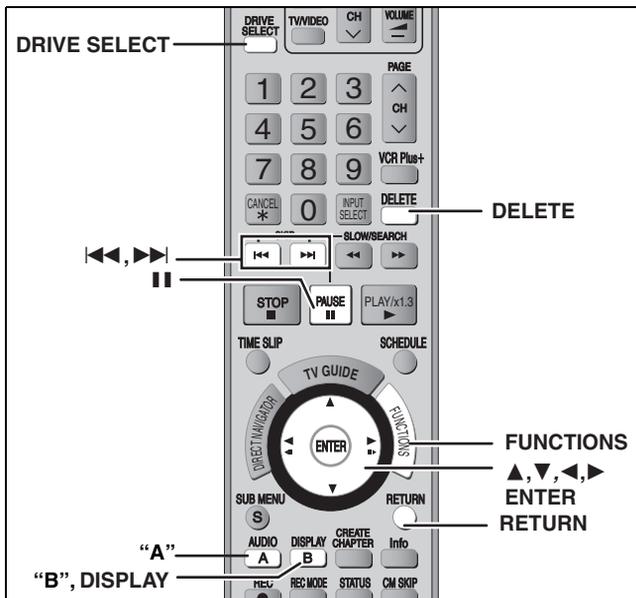
Press [STATUS] twice.

Shooting date



To exit the picture properties screen

Press [STATUS].



## Common procedures

### 1 Press [DISPLAY].

Menu	Item	Setting
Disc	Soundtrack	1 Digital 2/0ch
Play	Subtitle	Off
Video	Audio channel	Stereo
Audio		
Other		

- Depending on the condition of the unit (playing, stopped, etc.) and disc contents, there are some items that you cannot select or change.

### 2 Press [▲, ▼] to select the menu and press [▶].

### 3 Press [▲, ▼] to select the item and press [▶].

### 4 Press [▲, ▼] to select the setting.

- Some items can be changed by pressing [ENTER].

#### To clear the on-screen menus

Press [DISPLAY].

## Disc menu—Setting the disc content

### Soundtrack\*

**HDD RAM -R -R DL -RW(V) +R +R DL +RW -RW(VR)**

The disc's audio attributes appear.

**DVD-V DVD-A**

Select the audio and language (⇒ right, Audio attribute, Language).

#### DivX

Select the soundtrack number.

- Soundtrack numbers are displayed even when there is only one audio type.

### Subtitle\*

**DVD-V DVD-A**

Turn the subtitle on/off and select the language (⇒ right, Language).

**HDD RAM -R -R DL -RW(V) +R +R DL +RW -RW(VR)** (Only discs that contain subtitle on/off information)

Turn the subtitle on/off.

- Subtitle on/off information cannot be recorded using this unit.
- If the subtitles overlap closed captions recorded on discs, turn the subtitles off.

#### DivX

Turn the subtitle on/off and select the subtitle number.

- Subtitle numbers are displayed even if there are not multiple subtitles.

Audio channel **HDD RAM -RW(VR) VCD** and DivX

- ⇒ 38, Changing audio during play

Angle\* **DVD-V DVD-A**

Change the number to select an angle.

Still-P (Still picture) **DVD-A**

Selects the play method for still pictures.

**Slide Show:** Plays according to the default order on the disc.

**Page:** Select the still picture number and play.

- Random: Plays in random order.
- Return: Returns to the default still picture on the disc.

Source Select (DivX)

- Automatic: The constructing method of the DivX contents is automatically distinguished and output.
- Interlace: Select when the disc contents were recorded using interlace.
- Progressive: Select when the disc contents were recorded using progressive.

PBC (Playback control ⇒ 77) **VCD**

Indicates whether menu play (playback control) is on or off.

\* You may have to use the menus (⇒ 37) on the disc to make changes.

- The display changes according to the disc content. You cannot change when there is no recording.

### Audio attribute

LPCM/PPCM/□□Digital/DTS/MPEG:	Signal type
k (kHz):	Sampling frequency
b (bit):	Number of bits
ch (channel):	Number of channels

### Language

ENG: English	DAN: Danish	THA: Thai
FRA: French	POR: Portuguese	POL: Polish
DEU: German	RUS: Russian	CES: Czech
ITA: Italian	JPN: Japanese	SLK: Slovak
ESP: Spanish	CHI: Chinese	HUN: Hungarian
NLD: Dutch	KOR: Korean	FIN: Finnish
SVE: Swedish	MAL: Malay	*: Others
NOR: Norwegian	VI: Vietnamese	

## Play menu—Change the play sequence

This function works only when the elapsed play time is displayed. Select the item for repeat play. Depending on the disc, the items that can be selected will differ.

### Repeat play

- All **CD VCD**
- Chapter **HDD RAM -R -R DL -RW(V) +R +R DL +RW DVD-V -RW(VR)**
- Group **DVD-A** and MP3
- Playlists **HDD RAM -RW(VR)**
- Title **HDD RAM -R -R DL -RW(V) +R +R DL +RW DVD-V -RW(VR)**
- Track **DVD-A CD VCD** and MP3

Select "Off" to cancel.

## Video menu—Change the picture quality

Picture **HDD RAM -R -R DL -RW(V) +R +R DL +RW DVD-V DVD-A -RW(VR) VCD**

To select the picture quality mode during play.

- Normal: Default setting
- Soft: Soft picture with fewer video artifacts
- Fine: Details are sharper
- Cinema: Mellows movies, enhances detail in dark scenes.

**DNR**

**HDD RAM -R -R DL -RW(V) +R +R DL +RW**  
**DVD-V DVD-A -RW(VR) VCD and DivX**

Reduces mosaic-like distortion and picture degradation.  
 On ↔ Off

**Progressive\*** (⇒ 77)

Select "On" to enable progressive output.  
 ● Select "Off" if the picture is stretched horizontally.  
 ● When progressive output is on, closed captions cannot be displayed.

**Transfer\*** [When "Progressive" (⇒ above) is set to "On".]

Select the method of conversion for progressive output to suit the type of material being played (⇒ 76, Film and video).

- **Auto1 (normal):** Automatically detects the film and video content, and appropriately converts it.
- **Auto2:** In addition to "Auto1", automatically detects film contents with different frame rates and appropriately converts it.
- **Video:** Select when using "Auto1" and "Auto2", and the content is distorted.

**Line-in NR** (Only when IN1, IN2 or IN3 is selected)

Reduces video tape noise while copying.  
 Depending on the video tape, jittering may occur.

- **Automatic:** Noise reduction only works on picture input from a video tape.
- **On:** Noise reduction works for any video input.
- **Off:** Noise reduction is off. Select when you want to record input as is.

\* Only when you have selected "480p" in "TV Type" (⇒ 23).

**Audio menu—Change the sound effect**

**V. Surround Sound** **HDD RAM -R -R DL -RW(V)**  
**+R +R DL +RW DVD-V DVD-A -RW(VR)**

(Dolby Digital with 2 channels or more only)

- Emphasis
- Natural
- Off

Enjoy a surround-like effect if you are using two front speakers only.

- Turn V. Surround Sound off if it causes distortion. (Check the surround function on the connected equipment.)
- V. Surround Sound does not work for SAP recordings.

**Dialog Enhancer** **HDD RAM -RW(V) +R +RW**  
**DVD-V DVD-A -RW(VR) and DivX**

(Dolby Digital with 3 channels or more only, including a center channel)

The volume of the center channel is raised to make dialog easier to hear.  
 On ↔ Off

**Other menu—Change the display position****Position**

1 (Standard)—5: The higher the setting the lower the on-screen menu moves.

**HDD RAM -R -R DL -RW(V) +R +R DL +RW SD**

(You cannot delete items on finalized discs.)

- A title or a picture cannot be restored once it is deleted. Make certain before proceeding.
- You cannot delete while recording or copying.
- **HDD RAM SD** If you delete a recorded title (or a still picture), the space deleted becomes available for recording.
- **-RW(V) +RW** Disc space increases only when the last recorded title is deleted.
- **-R -R DL +R +R DL** Available space does not increase after deletion.

**Preparation**

- Press [DRIVE SELECT] to select the HDD, DVD or SD drive.
- **RAM SD** Release protection (⇒ 56).

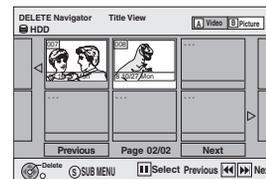
**1**

While stopped

Press [FUNCTIONS].

**2**

Press [▲, ▼] to select "Delete" and press [ENTER].



**HDD RAM** To switch to the other view

Press the "B" button to select "Picture".  
 Press the "A" button to select "Video".

**3**

Deleting a title:

Press [▲, ▼, ◀, ▶] to select the title to be deleted and press [ENTER].

Deleting an album:

Press [▲, ▼, ◀, ▶] to select the album to be deleted and press [DELETE].

Deleting a still picture:

**1** Press [▲, ▼, ◀, ▶] to select the album which contains the still pictures to be deleted and press [ENTER].

**2** Press [▲, ▼, ◀, ▶] to select the still pictures to be deleted and press [ENTER].

You can confirm the titles or still pictures etc. that you have selected using the sub menu.

- Refer to sub menu operations for the "Title View" (⇒ 44, step 5).
- Refer to sub menu operations for the "Picture View" or "Album View" (⇒ 48, step 4).

**To show other pages**

Press [◀, ▶] to show other pages.

**Multiple editing**

Select with [▲, ▼, ◀, ▶] and press [II]. (Repeat.)  
 A check mark appears. Press [II] again to cancel.

**4**

Press [◀] to select "Delete" and press [ENTER].

The title, album or the picture is deleted.

**To return to the previous screen**

Press [RETURN].

**To exit the screen**

Press [RETURN] several times.

**Deleting titles or pictures during play****1**

While playing

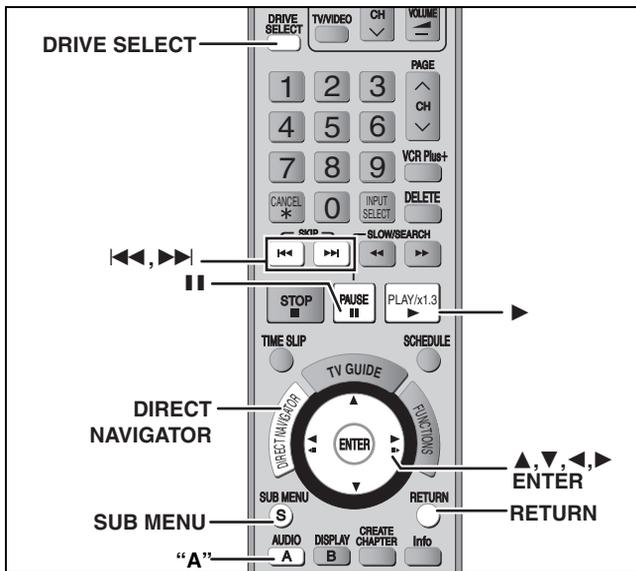
Press [DELETE].

You cannot delete a picture during a slideshow.

**2**

Press [◀, ▶] to select "Delete" and press [ENTER].

The title or the still picture is deleted.

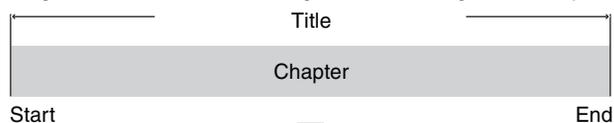


**HDD RAM -R -R DL -RW(V) +R +R DL +RW -RW(VR)**

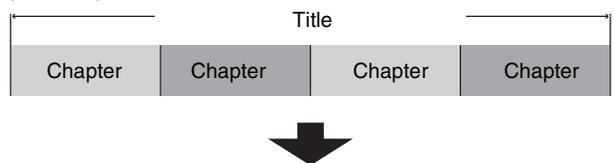
(You cannot edit finalized discs.)

## Title/Chapter

Programs are recorded as a single title consisting of one chapter.



**HDD RAM** You can divide a title into multiple chapters. Each section between the division points becomes a chapter. (⇒ 38, 45)



**HDD RAM** You can change the order of chapters and create a playlist (⇒ 46).

- **-R -RW(V) +R** Titles are divided into about 5-minute (**+R** 8-minute) chapters after finalizing (⇒ 58).
- **-R DL +R DL** Even if you finalize the disc, chapters are not automatically divided. However, if you copied titles in high speed the chapters are copied from the source title.

• The maximum number of items on a disc

**HDD**  
 –Titles: 500  
 –Chapters: Approximately 1000 per title  
 (Depends on the state of recording.)

**RAM -R -R DL -RW(V) +R +R DL +RW**  
 –Titles: 99 (**+R +R DL +RW** 49 titles)  
 –Chapters: Approximately 1000  
 (**+R +R DL +RW** Approximately 250)  
 (Depends on the state of recording.)

## Note

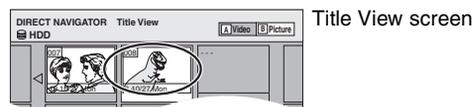
- Once deleted, divided or shortened, recorded content cannot be restored to its original state. Make certain before proceeding.
- You cannot edit during recording or copying, etc.
- Restricted recording information remains even after editing (e.g. dividing a title, etc).
- **+R +R DL** Management information is recorded in unused sections when you edit discs. The available space on these discs decreases each time you edit their contents. We recommend that you edit on the HDD and then copy to disc.

## Editing titles/chapters and playing chapters

### Preparation

- Turn on the television and select the appropriate video input to suit the connection to this unit.
- Turn the unit on.
- Press [DRIVE SELECT] to select the HDD or DVD drive containing the recorded title to be edited.
- **RAM** Release protection (⇒ 56).

- 1 During play or while stopped Press [DIRECT NAVIGATOR].
- 2 **HDD RAM** Press the “A” button to select “Video”.
- 3 Press [▲, ▼, ◀, ▶] to select the title.



### To show other pages

Press [▲, ▼, ◀, ▶] to select “Previous” or “Next” and press [ENTER].

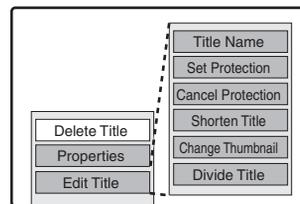
• You can also press [◀◀, ▶▶] to show other pages.

### Multiple editing

Select with [▲, ▼, ◀, ▶] and press [■]. (Repeat.) A check mark appears. Press [■] again to cancel.

- 4 Press [SUB MENU].
- 5 Press [▲, ▼] to select the operation and press [ENTER].

• If you select “Edit Title”, press [▲, ▼] to select the operation and press [ENTER] (⇒ 45).



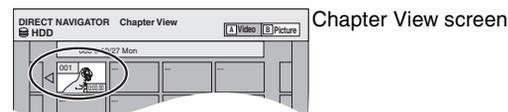
Refer to “Title operations” (⇒ 45).

View Chapters → Switching the Direct Navigator appearance ⇒ 36  
 Table Mode → Playing still pictures ⇒ 41, step 3  
 Album View

• Items that cannot be selected turn grey.

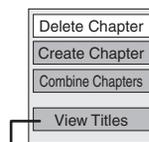
If you select “View Chapters”

- 6 Press [▲, ▼, ◀, ▶] to select the chapter. To start play ⇒ Press [ENTER]. To edit ⇒ Step 7.



• To show other pages/Multiple editing (⇒ above)

- 7 Press [SUB MENU], then [▲, ▼] to select the operation and press [ENTER].



Refer to “Chapter operations” (⇒ 45).

• You can go back to the Title View.

To return to the previous screen

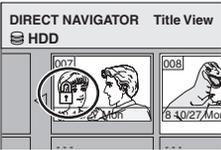
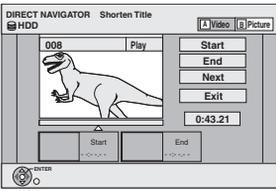
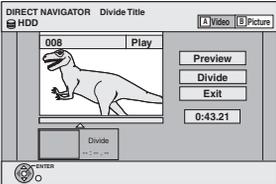
Press [RETURN].

To exit the screen

Press [DIRECT NAVIGATOR].

## Title operations

After performing steps 1–5 (⇒ 44)

<p><b>Delete Title*</b></p> <p>HDD RAM -R -R DL -RW(V) +R +R DL +RW</p>	<p><b>Press [◀, ▶] to select “Delete” and press [ENTER].</b></p> <ul style="list-style-type: none"> <li>Once deleted, the recorded contents are lost and cannot be restored. Make certain before proceeding.</li> <li>-R -R DL +R +R DL The available recording space does not increase when you delete titles.</li> <li>-RW(V) +RW Available recording space increases only when the last recorded title is deleted. It does not increase if other titles are deleted.</li> </ul>
<p><b>Properties</b></p> <p>HDD RAM -R -R DL -RW(V) +R +R DL +RW -RW(VR)</p>	<p>Information (e.g., time and date) is shown.</p> <ul style="list-style-type: none"> <li>Press [ENTER] to exit the screen.</li> </ul> 
<p><b>Title Name</b></p> <p>HDD RAM -R -R DL -RW(V) +R +R DL +RW</p>	<p>You can give names to recorded titles.</p> <p>⇒ 59, Entering text</p>
<p><b>Set Protection*</b></p> <p><b>Cancel Protection*</b></p> <p>HDD RAM +R +R DL +RW</p>	<p>If set, this will protect the title from accidental erasure.</p> <p><b>Press [◀, ▶] to select “Yes” and press [ENTER].</b></p> <p>The lock symbol appears when the title is protected.</p> <ul style="list-style-type: none"> <li>When the title is protected, some items cannot be accessed. Release the protection to access the inaccessible items.</li> </ul> 
<p><b>Shorten Title</b></p> <p>HDD RAM</p> <p>(⇒ below, “For quicker editing”)</p>	<p>You can remove unnecessary parts of the recording.</p> <ol style="list-style-type: none"> <li>Press [ENTER] at the start point and end point of the section you want to delete.</li> <li>Press [▲, ▼] to select “Exit” and press [ENTER]. <ul style="list-style-type: none"> <li>Select “Next” and press [ENTER] to delete other sections.</li> </ul> </li> <li>Press [◀, ▶] to select “Delete” and press [ENTER].</li> </ol> 
<p><b>Change Thumbnail</b></p> <p>HDD RAM -R -R DL -RW(V) +R +R DL +RW</p> <p>(⇒ below, “For quicker editing”)</p>	<p>You can change the image to be shown as the thumbnail picture in the Title View.</p> <ol style="list-style-type: none"> <li>Press [▶] (PLAY) to start play.</li> <li>Press [ENTER] when the image you want to use as a thumbnail is shown. <ul style="list-style-type: none"> <li>To change the thumbnail Restart play and press [▲, ▼] to select “Change”, then press [ENTER] at the point you want to change.</li> </ul> </li> <li>Press [▲, ▼] to select “Exit” and press [ENTER].</li> </ol> 
<p><b>Divide Title</b></p> <p>HDD RAM</p> <p>(⇒ below, “For quicker editing”)</p>	<p>You can divide a title into two.</p> <ol style="list-style-type: none"> <li>Press [ENTER] at the point you want to divide the title.</li> <li>Press [▲, ▼] to select “Exit” and press [ENTER].</li> <li>Press [◀, ▶] to select “Divide” and press [ENTER]. <ul style="list-style-type: none"> <li>To confirm the division point Press [▲, ▼] to select “Preview” and press [ENTER]. (The unit plays 10 seconds before and after the division point.)</li> <li>To change the division point Restart play and press [▲, ▼] to select “Divide”, then press [ENTER] at the point where you want to divide the title.</li> </ul> </li> </ol> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>The divided titles retain the name and CPRM property (⇒ 76) of the original title.</li> <li>Video and audio just before and after the dividing point may momentarily be cut out.</li> </ul> 

\* Multiple editing is possible.

## Chapter operations

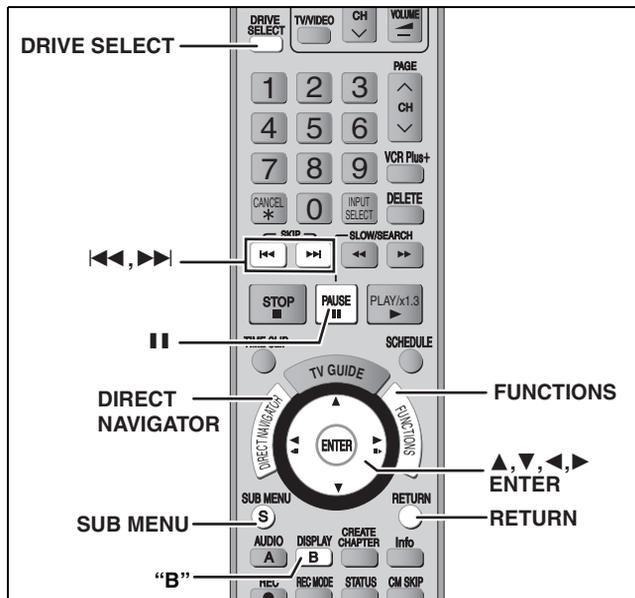
After performing steps 1–7 (⇒ 44)

<p><b>Delete Chapter*</b></p> <p>HDD RAM</p>	<p><b>Press [◀, ▶] to select “Delete” and press [ENTER].</b></p> <p>Once deleted, the recorded contents are lost and cannot be restored. Make certain before proceeding.</p> <ul style="list-style-type: none"> <li>To delete only the chapter division point, use “Combine Chapters” (⇒ below). The recorded contents are not deleted.</li> </ul>
<p><b>Create Chapter</b></p> <p>HDD RAM</p> <p>(⇒ below, “For quicker editing”)</p>	<p>Select the point where you want to start a new chapter while viewing the title.</p> <ol style="list-style-type: none"> <li>Press [ENTER] at the point you want to divide. <ul style="list-style-type: none"> <li>Repeat this step to divide at other points.</li> </ul> </li> <li>Press [▲, ▼] to select “Exit” and press [ENTER].</li> </ol> 
<p><b>Combine Chapters</b></p> <p>HDD RAM</p>	<p><b>Press [◀, ▶] to select “Combine” and press [ENTER].</b></p> <ul style="list-style-type: none"> <li>The selected chapter and following chapter are combined.</li> </ul>

\* Multiple editing is possible.

### For quicker editing

- Use search, slow-motion (⇒ 37) or Time Slip (⇒ 38) to find the desired point.
- To find the desired point correctly, use Slow-motion (⇒ 37) and Frame-by-frame (⇒ 37).
- To skip to the start or end of a title, press [◀◀] (start) or [▶▶] (end).



You can arrange the chapters (⇒ 44) to create a playlist.

Title		Title		
Chapter	Chapter	Chapter	Chapter	Chapter

↓

Playlist	Chapter	Chapter
----------	---------	---------

↓

Copying (⇒ 49) a playlist will create a title.

- Editing playlists doesn't modify the recorded data. Playlists are not recorded separately so this doesn't use much capacity.

## HDD RAM

- The maximum number of items on a disc
  - Playlists: 99
  - Chapters in playlists: Approximately 1000 (Depends on the state of recording.)
- If you exceed the maximum numbers of items for a disc, all the items entered will not be recorded.

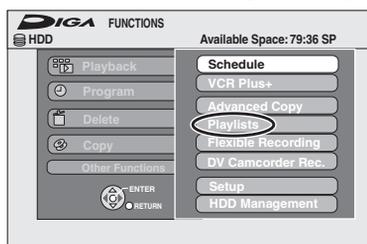
## Creating playlists

### HDD RAM

#### Preparation

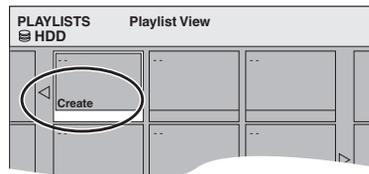
- Turn on the television and select the appropriate video input to suit the connection to this unit.
- Turn the unit on.
- Press [DRIVE SELECT] to select the HDD or DVD drive containing the recorded title to be edited.
- RAM** Release disc or cartridge protection (⇒ 56).
- You cannot create or edit a playlist while recording or while copying.

- 1** While stopped Press [FUNCTIONS].
- 2** Press [▲, ▼] to select “Other Functions” and press [ENTER].



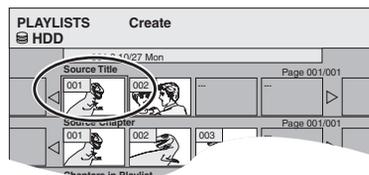
- 3** Press [▲, ▼] to select “Playlists” and press [ENTER].

- 4** Press [▲, ▼, ◀, ▶] to select “Create” and press [ENTER].



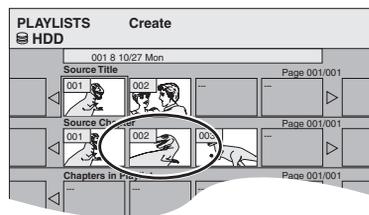
- 5** Press [◀, ▶] to select the source title and press [▼].

- Press [ENTER] to select all the chapters in the title, then skip to step 7.



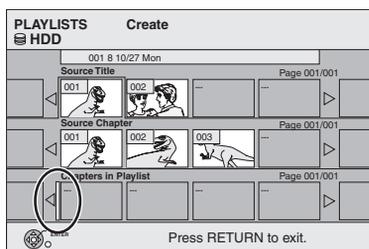
- 6** Press [◀, ▶] to select the chapter you want to add to a playlist and press [ENTER].

Press [▲] to cancel.



- You can also create a new chapter from the source title. Press [SUB MENU] to select “Create Chapter” and press [ENTER] (⇒ 45. Create Chapter).

- 7** Press [◀, ▶] to select the position to insert the chapter and press [ENTER].



- Press [▲] to select other source titles.
- Repeat steps 6–7 to add other chapters.

- 8** Press [RETURN].

All the selected scenes become the playlist.

To return to the previous screen Press [RETURN].

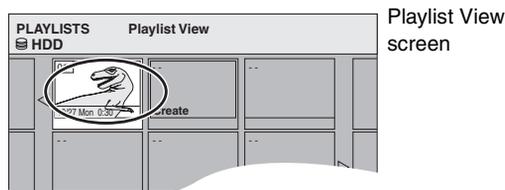
To exit the screen Press [RETURN] several times.

## Editing and playing playlists/chapters

**HDD RAM**

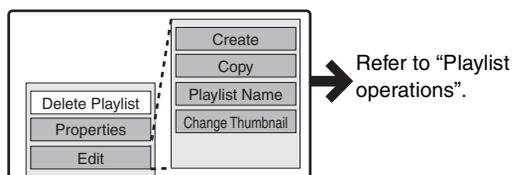
**-RW(VR)** (Play only)

- 1** While stopped  
Press [FUNCTIONS].
- 2** Press [▲, ▼] to select “Other Functions” and press [ENTER].
- 3** Press [▲, ▼] to select “Playlists” and press [ENTER].
- 4** Press [▲, ▼, ◀, ▶] to select the playlist.  
To start play → Press [ENTER].  
To edit → Step 5.



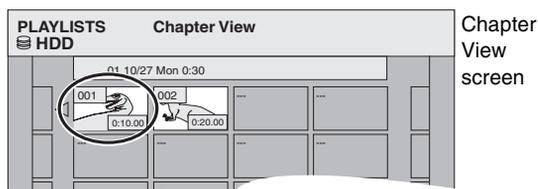
•To show other pages/Multiple editing (⇒ 44)

- 5** Press [SUB MENU], then press [▲, ▼] to select the operation and press [ENTER].  
•If you select “Edit”, press [▲, ▼] to select the operation and press [ENTER].



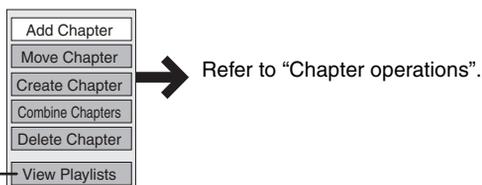
If you select “View Chapters”

- 6** Press [▲, ▼, ◀, ▶] to select the chapter.  
To start play → Press [ENTER].  
To edit → Step 7.



•To show other pages/Multiple editing (⇒ 44)

- 7** Press [SUB MENU], then press [▲, ▼] to select the operation and press [ENTER].



•You can go back to the Playlist View.

**To return to the previous screen**

Press [RETURN].

**To exit the screen**

Press [RETURN] several times.

## Playlist operations

After performing steps 1–5 (⇒ left)

<p><b>Delete Playlist*</b></p> <p><b>HDD RAM</b></p>	<p>Press [◀, ▶] to select “Delete” and press [ENTER]. Once deleted, the playlists are lost and cannot be restored. Make certain before proceeding.</p>
<p><b>Properties</b></p> <p><b>HDD RAM -RW(VR)</b></p>	<p>Playlist information (e.g., length and date) is shown. •Press [ENTER] to exit the screen.</p>
<p><b>Create</b></p> <p><b>HDD RAM</b></p>	<p>⇒ 46, Creating playlists, Step 5–8</p>
<p><b>Copy*</b></p> <p><b>HDD RAM</b></p>	<p>Press [◀, ▶] to select “Copy” and press [ENTER]. •The copied playlist becomes the newest one in the playlist view screen.</p>
<p><b>Playlist Name</b></p> <p><b>HDD RAM</b></p>	<p>⇒ 59, Entering text</p>
<p><b>Change Thumbnail</b></p> <p><b>HDD RAM</b></p>	<p>⇒ 45, Change Thumbnail</p>

\*Multiple editing is possible.

## Chapter operations

**HDD RAM**

After performing steps 1–7 (⇒ left)

•Editing chapters in a playlist does not modify the source titles and source chapters.

<p><b>Add Chapter</b></p>	<p>⇒ 46, Creating playlists, Step 5–7</p>
<p><b>Move Chapter</b></p>	<p>Press [▲, ▼, ◀, ▶] to select the position to insert the chapter and press [ENTER].</p>
<p><b>Create Chapter</b></p>	<p>⇒ 45, Create Chapter</p>
<p><b>Combine Chapters</b></p>	<p>⇒ 45, Combine Chapters</p>
<p><b>Delete Chapter*</b></p>	<p>⇒ 45, Delete Chapter The playlist itself is deleted if you delete all the chapters in it.</p>

\*Multiple editing is possible.

# Editing still pictures

Refer to the control reference on page 46.

**HDD RAM SD**

- You can edit pictures and albums.
- You can use SD Memory Cards with capacities from 8 MB to 2 GB (⇒ 6).
- You cannot edit still pictures recorded on CD-R/CD-RW.

## Preparation

- Press [DRIVE SELECT] to select the HDD, DVD or SD drive.
- **RAM SD** Release protection (⇒ 56, Setting the protection—Disc Protection).

## 1 Press [DIRECT NAVIGATOR].

**2 HDD RAM**

Press the “B” button to select “Picture”.

## 3 Editing an album:

Press [▲, ▼, ◀, ▶] to select the album to be edited and press [SUB MENU].

- When you want to create an album using “Create Album”, press [SUB MENU] without selecting album.

### Editing a still picture:

1 Press [▲, ▼, ◀, ▶] to select the album which contains the still picture to edit and press [ENTER].

2 Press [▲, ▼, ◀, ▶] to select the still pictures to edit and press [SUB MENU].

#### To show other pages

Press [▲, ▼, ◀, ▶] to select “Previous” or “Next” and press [ENTER].

- You can also press [◀◀, ▶▶] to show other pages.

#### Multiple editing

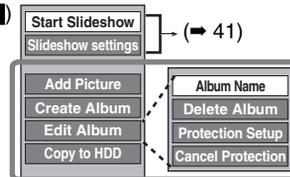
Select with [▲, ▼, ◀, ▶] and press [■]. (Repeat.) A check mark appears. Press [■] again to cancel.

- To switch to another higher folder (⇒ 41)

## 4 Press [▲, ▼] to select the operation and press [ENTER].

- To edit the album

(e.g., **RAM**)



Album and picture operation (⇒ below)

- This is only displayed when there are other higher folders that can be viewed.
- To switch to another higher folder ⇒ 41

Editing titles/chapters and playing chapters ⇒ 44, step 2

- To edit still picture

(e.g., **SD**)



Album and picture operation (⇒ below)

You can go back to Album View.

### To return to the previous screen

Press [RETURN].

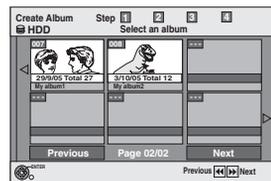
### To exit the screen

Press [DIRECT NAVIGATOR]

## Album and picture operation

### After performing steps 1–4

<b>Delete Picture*</b> <b>Delete Album*</b> <b>HDD RAM SD</b>	<p>Press [◀, ▶] to select “Delete” and press [ENTER].</p> <ul style="list-style-type: none"> <li>• Once deleted, the recorded contents are lost and cannot be restored. Make certain before proceeding.</li> <li>• When deleting an album, files other than the still picture files inside the album will also be deleted. (This does not apply to albums under the album concerned.)</li> </ul>
<b>Album Name</b> <b>HDD RAM SD</b>	<p>You can give names to albums.            ⇒ 59, Entering text</p> <ul style="list-style-type: none"> <li>• Album names input using this unit may not be displayed on other equipment.</li> </ul>
<b>Protection Setup*</b> <b>Set Protection*</b> <b>Cancel Protection*</b> <b>HDD RAM SD</b>	<p>If set, this will protect the still picture or album from accidental deletion.</p> <p>Press [◀, ▶] to select “Yes” and press [ENTER].</p> <p>The lock symbol appears when the still picture or album is protected.</p> <ul style="list-style-type: none"> <li>• Even if the protection setting is used by this unit to protect an album, the album may still be deleted by another unit.</li> </ul>
<b>Print Order (DPOF)*</b> <b>SD</b>	<p>You can select individual pictures for printing and specify the number of prints to be made.</p> <p>Press [◀, ▶] to select number of print (0 to 9) and press [ENTER].</p> <p>The DPOF mark appears (⇒ right).</p> <p><b>To cancel the print setting</b>            Set the number of prints to “0”.</p> <ul style="list-style-type: none"> <li>• Print settings (DPOF) made using this unit may not be viewable on other equipment.</li> <li>• When this is set by this unit, any settings established by other units will be released.</li> <li>• Settings cannot be made for files not in accordance with DCF standards or if there is no remaining space on the card.</li> </ul>
<b>Add Picture</b> <b>Create Album</b> <b>HDD RAM SD</b>	<ol style="list-style-type: none"> <li>1 Press [◀, ▶] to select “Start” or “Yes” and press [ENTER].</li> <li>2 Press [▲, ▼, ◀, ▶] to select the album that contains the still picture you want to add and press [ENTER].  <b>RAM SD</b> To switch to another higher folder ⇒ 41</li> <li>3 Press [▲, ▼] to select the item and press [ENTER].               <ul style="list-style-type: none"> <li>• If “Select pictures to copy” is selected                    Select the still picture you want to add and press [ENTER].</li> <li>• If “Copy all pictures” is selected                    All the still pictures in the album will be copied.</li> </ul> </li> <li>4 Press [◀, ▶] to select “Yes” or “No” and press [ENTER].               <ul style="list-style-type: none"> <li>• If you want to continue copying, select “Yes” and go to step ②.</li> </ul> </li> <li>5 Only for “Create Album”                Press [◀, ▶] to select the item and press [ENTER].               <ul style="list-style-type: none"> <li>• If “Yes” is selected                    You can give names to albums. (⇒ 59, Entering Text)</li> <li>• If “No” is selected                    The recording date of the first picture in the album becomes the album name. (If there is no recording date information, the date will appear as [---.---.---].)</li> </ul> </li> </ol>
<b>Copy to DVD-RAM</b> <b>Copy to HDD</b> <b>HDD RAM</b>	<p>Press [◀] to select “Start copying” and press [ENTER].</p> <p>You cannot copy if multiple albums are selected.</p>



\* Multiple editing is possible.

#### Note

- Scheduled recordings do not start when performing “Add Picture”, “Create Album”, “Copy to DVD-RAM” or “Copy to HDD”.
- You cannot perform “Add Picture” or “Create Album” to a higher folder.

		Copy (⇒ 50)		Copying using the copying list (⇒ 50)	
<b>Features</b>		Easy copying from HDD to DVD with no difficult settings.		You can set the unit to copy titles or playlists the way you want.	
<b>Copy direction</b>	HDD → DVD	Yes		Yes	
	DVD → HDD	No		Yes <b>RAM -RW(VR) +RW</b> <b>DVD-V</b> (Only from a finalized disc)	
<b>High speed mode copy*1</b>		Yes		Yes <b>DVD-V</b> You cannot perform high speed copy with finalized discs. <b>+RW</b> You cannot perform high speed copy from +RW to HDD.	
<b>Changing recording mode</b>		No		Yes*2	
<b>Finalize*3</b>		<b>-R -R DL -RW(V) +R +R DL</b> Automatically finalized		<b>-R -R DL -RW(V) +R +R DL</b> Can be selected	
		<b>High speed mode</b>	<b>Normal speed mode</b>	<b>High speed mode</b>	<b>Normal speed mode</b>
<b>Copying MPEG2 moving pictures from an SD card (⇒ 52)</b>		No	No	Yes <b>HDD RAM</b> only	No
<b>Copying playlists*4</b>		No	No	Yes	Yes
<b>Are chapters maintained?</b>		Yes	No*5	Yes	No*5
<b>Are thumbnails maintained?</b>		Yes	No*6	Yes*7	No*6
<b>Recording and Playing while Copying</b>		No	No	Yes*8	No

\*1 **+R +R DL +RW(V) +R +R DL +RW** To high speed copy titles (or playlists created from those titles), set “Enable High-Speed Mode” to “On” before recording to the HDD. (The default setting is “On” ⇒ 61).

However in the following cases, copying to the disc using the high speed mode does not work.

- When arranging multiple titles for copying, if any titles are recorded with “Enable High-Speed Mode” to “Off”, then you cannot perform with high-speed copy.
- Playlists created from titles using a variety of recording modes or multiple titles using FR recording mode
- Playlists mixed with a variety of audio types (Dolby Digital and LPCM, etc.)
- Titles that contain many deleted segments
- MPEG2 moving picture titles copied to the HDD from an SD card

• **+R +R DL +RW** Titles recorded in FR mode (recordings 5 hours or longer) and EP mode. (“▶▶▶” is displayed).

\*2 If you select a recording mode with better picture quality than the original, the picture quality does not improve. (However it does prevent against degradation of picture quality.)

**+R DL** You cannot select EP mode when you copy to +R DL disc.

\*3 You cannot select “Top Menu Style” or “Playback will start with:”.

If you want to set play menu or the background color, select “Top Menu Style” or “Playback will start with:” in “DVD Management” before copying.

\*4 You cannot copy playlists with a play time more than 8 hours.

When you copy a playlist, it will become a title in the destination drive.

\*5 **RAM -R DL +R DL +RW**: One title becomes one chapter.

**-R -RW(V) +R**: Chapters are created automatically (**-R -RW(V)** about 5-minutes **+R** about 8-minutes) when finalizing after copying the disc.

\*6 Thumbnails may return to the default position.

\*7 When copying playlists, the thumbnails may not reflect changes made to them.

\*8 Possible only with titles on the HDD (However it is not possible when copying with automatic finalization or when copying MPEG2 moving pictures from an SD card.)

–You cannot perform chasing play or edit, etc. while copying.

–You cannot play a playlist while copying titles with “One time only recording” restriction (⇒ 8, Recording of digital broadcasting).

–Still pictures cannot be played.

## ■ Approximate copying times (Max. speed)

(excludes time required to write data management information)

HDD		5X Speed DVD-RAM		16X Speed DVD-R		4X Speed DVD-R DL (Dual Layer)		4X Speed*1 DVD-RW		8X Speed*2 +R		2.4X Speed +R DL (Double Layer)		4X Speed +RW	
Rec mode	Rec time	Required time	Speed	Required time	Speed	Required time	Speed	Required time	Speed	Required time	Speed	Required time	Speed	Required time	Speed
XP	1 h	12 min	5x	6 min	10x	15 min	4x	15 min	4x	8 min 35 s	7x	25 min	2.4x	15 min	4x
SP		6 min	10x	2 min 25 s	25x	7 min 30 s	8x	7 min 30 s	8x	4 min 10 s	14x	12 min 30 s	4.8x	7 min 30 s	8x
LP		3 min	20x	1 min 15 s	48x	3 min 45 s	16x	3 min 45 s	16x	2 min 25 s	25x	6 min 15 s	7.2x	3 min 45 s	16x
EP (6H)		2 min	30x	52 s	69x	2 min 30 s	24x	2 min 30 s	24x						
EP (8H)		1 min 30 s	40x	42 s	86x	1 min 53 s	32x	1 min 53 s	32x						

• The above rated value indicates the fastest time and speed required for copying one-hour title from HDD to each disc in the above list supporting high speed copying.

\*1 On this unit, the copying performance with a 6X Speed DVD-RW will be the same as the performance with a 4X Speed DVD-RW.

\*2 On this unit, the copying performance with a 16X Speed +R will be the same as the performance with a 8X Speed +R.

### Note

• When recording or playing while copying, the unit may not perform the maximum recording speed.

• Depending on the condition of the disc, copying speed of this unit may vary.

### Regarding copying to DVD-R DL (Dual Layer, single-sided) and +R DL (Double Layer, single-sided)

When not using high speed copy, titles are temporarily copied to the HDD at normal speed and then copied at high speed to DVD-R DL and +R DL.

The titles that were temporarily copied to the HDD are then deleted.

You cannot copy to DVD-R DL and +R DL in the following cases.

–When there is not enough free space on the HDD. (When copying to a new blank DVD-R DL and +R DL, if you fill a new disc when copying to it, the equivalent of up to 4 hours of free space in SP mode is needed on the HDD.)

–When the number of titles recorded to the HDD and the number of titles to be copied to the DVD-R DL and +R DL is greater than 500 in total.

When playing a title recorded on both layers, video and audio may momentarily cut out when the unit is switching layers.

### Regarding copying of digital broadcasts that allow “One time only recording”

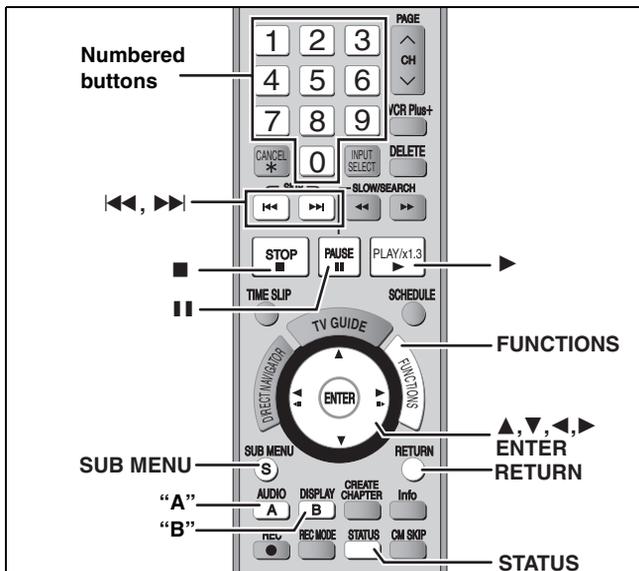
You can copy a recorded title to a CPRM (⇒ 76) compatible DVD-RAM, however, the title is deleted from the HDD.

• Titles or playlists cannot be copied from DVD-RAM to the HDD.

• Titles will not be copied if they are protected (⇒ 45).

• You cannot copy playlists created from “One time only recording” titles.

• Titles with recording limitations and playlists cannot be registered on the same copying list.



See also "Important notes for recording" (⇒ 8).

**Preparation**

- Insert a disc that you can use for copying (⇒ 4-6).
- Confirm that there is enough remaining disc space.

**Copy**

DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R and +R DL are automatically finalized (⇒ 76). After finalizing, the discs become play-only and you can also play them on other DVD equipment. However, you can no longer record or edit.

HDD → RAM -R -R DL -RW(V) +R +R DL +RW  
(You cannot copy to finalized discs.)

**Copying speed mode and recording mode**

The copy speed set by the COPY Navigator is as follows:

HDD → RAM : High speed

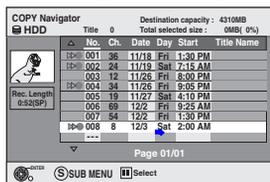
HDD → -R -R DL -RW(V) +R +R DL +RW : ⇒ below

"Enable High-Speed Mode" (⇒ 61)	Speed mode
When source titles were recorded with "On" selected	High speed
When source titles were recorded with "Off" selected	Normal speed (FR recording mode)
When there are source titles recorded with "On" selected and source titles recorded with "Off" selected	

+R +R DL +RW The source title recorded in FR mode (recordings 5 hours or longer) or EP mode will be copied at normal speed (FR recording mode).

If there is not enough remaining space on the destination disc to copy in the above mode, the copying mode will change to FR.

- 1 While stopped  
Press [FUNCTIONS].
- 2 Press [▲, ▼] to select "Copy" and press [ENTER].



- 3 Press [▲, ▼] to select the title you want to copy and press [ENTER].
  - To select a multiple number of items together, press [II] to add the check mark and press [ENTER] (⇒ 51, Multiple editing).
  - To show other pages (⇒ 51)
- 4 After you start copying DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R and +R DL discs, they become play-only and you can no longer record or edit.

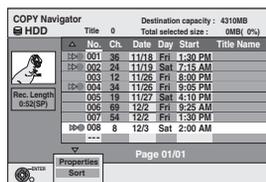
Press [◀, ▶] to select "Start copying" and press [ENTER].

Copying starts.

To return to the previous screen

Press [RETURN].

- To stop copying ⇒ 51
  - COPY Navigator icons and functions ⇒ 51
  - To check the properties of a title and sort COPY Navigator
- 1 Press [▲, ▼] to select the title and press [SUB MENU].



- 2 Press [▲, ▼] to select "Properties" or "Sort" and press [ENTER].

**Properties:**

The name, recording date, channel etc. of the selected title are shown.

**Sort:**

Press [▲, ▼] to select the item and press [ENTER].

This changes the way that titles are displayed. You can select to display titles by No., recording date, day, channel, recording start time and title name. (You cannot select a title if it has a check mark.) If you close the COPY Navigator screen, the display order is canceled.

**Note**

- When copying titles in high speed mode to 5X high speed recording compatible DVD-RAM or 8X high speed recording compatible DVD-R or +R, the sound of the disc rotating becomes louder than normal.
  - If you want copy to perform more quietly, select "Silent mode" in "Rapidity of High-Speed copying" in the Setup menu (⇒ 61).
- If you register multiple titles, they are copied in order from the title at the top of the screen and not in the order you registered them. To change the order that titles are copied, create a copying list and then copy the contents of the list (⇒ below).

**Copying using the copying list—Advanced Copy**

HDD ↔ RAM +RW

-RW(VR) → HDD

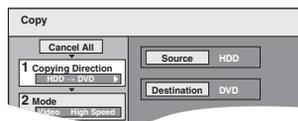
HDD → -R -R DL -RW(V) +R +R DL

SD → HDD RAM

You can arrange titles and playlists as desired for copy to disc. (You cannot copy to finalized discs.)

See also "Important notes for recording" (⇒ 8).

- 1 While stopped  
Press [FUNCTIONS].
- 2 Press [▲, ▼] to select "Other Functions" and press [ENTER].
- 3 Press [▲, ▼] to select "Advanced Copy" and press [ENTER].



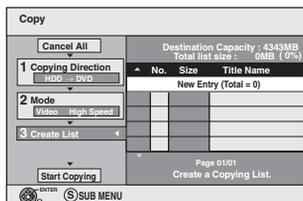
- If you are not going to change the registered list press [▼] several times (⇒ 51, step 7).
- 4 Set the copy direction.
    - If you are not going to change the copying direction, press [▼] (⇒ 51, step 5).
    - ① Press [▲, ▼] to select "Copying Direction" and press [▶].
    - ② Press [▲, ▼] to select "Source" and press [ENTER].
    - ③ Press [▲, ▼] to select the drive and press [ENTER].
    - ④ Press [▲, ▼] to select "Destination" and press [ENTER].
    - ⑤ Press [▲, ▼] to select the drive and press [ENTER].
    - ⑥ Press [◀] to confirm.

## 5 Set the recording mode.

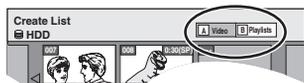
- If you are not going to change the recording mode, press [▼] (⇒ step 6).
- ① Press [▲, ▼] to select “Mode” and press [▶].
- ② Press [▲, ▼] to select “Content Type” and press [ENTER].
- ③ Press [▲, ▼] to select “Video” and press [ENTER].
- ④ Press [▲, ▼] to select “Recording Mode” and press [ENTER].
- ⑤ Press [▲, ▼] to select the mode and press [ENTER].
- ⑥ Press [◀] to confirm.

## 6 Register titles and playlists for copy.

- If you are going to copy a registered list without making any changes to it (⇒ step 7).
- ① Press [▲, ▼] to select “Create List” and press [▶].



- ② Press [▲, ▼] to select “New Entry” and press [ENTER].
- ③ Press the “A” button to select “Video” or press the “B” button to select “Playlists”.



- ④ Press [▲, ▼, ◀, ▶] to select the titles or playlists and press [ENTER].

- When copying to a disc using high speed mode
  - -R -R DL -RW(V) :  
only items indicated with “▶▶▶” or “▶▶▶!” can be registered.
  - +R +R DL +RW :  
only items indicated with “▶▶▶” can be registered.
- To select a multiple number of items together, press [■] to add the check mark and press [ENTER] (⇒ below, Multiple editing).
- To show other pages (⇒ below)
- To edit the copying list (⇒ right)

You can register a multiple number of titles and playlists on the copying list by repeating steps ②–④.

- You cannot start copying when the value of the “Total list size” (⇒ right) exceeds 100 %. (“Destination capacity” is not sufficient.)

- ⑤ Press [◀] to confirm.

## 7 Press [▲, ▼] to select “Start Copying” and press [ENTER].

- When copying titles in high speed mode to 5X high speed recording compatible DVD-RAM or 8X high speed recording compatible DVD-R or +R, the sound of the disc rotating becomes louder than normal.
- If you want copy to perform more quietly, select “Silent mode” in “Rapidly of High-Speed copying” in the Setup menu (⇒ 61).

## 8 Press [◀, ▶] to select “Yes” and press [ENTER] to start copying.

- HDD → -R -R DL -RW(V) +R +R DL only
- Press [◀, ▶] to select “Copy and finalize” or “Copy only” and press [ENTER] to start copying.

- If “Copy and finalize” is selected, the disc will be finalized after copying.  
The disc becomes play only and can be played on other DVD equipment, however you can no longer record or edit.

### To show other pages

- Press [▲, ▼, ◀, ▶] to select “Previous” or “Next” and press [ENTER].
- You can also press [◀◀, ▶▶] to show other pages.

### Multiple editing

- Select with [▲, ▼, ◀, ▶] and press [■]. (Repeat.) Press [ENTER] to register to the list.
- A check mark appears. Press [■] again to cancel.
- When you switch between the “Video” and “Playlists” tab, the check mark is canceled.

### To play the disc on other DVD players:

- R -R DL -RW(V) +R +R DL Finalize the disc (⇒ 58)
- +RW Create DVD Top Menu (⇒ 58)

## ■ To stop copying

- Press and hold [RETURN] for 3 seconds.
- However, you cannot stop finalize after it has started.

## When High-speed copying

All titles that have completely copied at the point canceled are copied.

## When Normal Speed copying

Copies until the point canceled. However titles with “One time only recording” restriction, only titles that have completely copied at the point canceled are copied to the disc. Titles that are canceled before the copy is complete are not copied and remain on the HDD.

- -R DL +R DL If copy is canceled during the step while copying to the HDD, then nothing will be copied. However, if copy is canceled during the step while copying to disc from the HDD, then only titles completely copied at the point canceled are copied.

Even if the title was not copied to the DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL or +RW, the amount of remaining writable disc space becomes less.

## ■ To return to the previous screen

Press [RETURN].

## ■ Recording and playing while copying

You can record and play using the HDD while high-speed copying. (Only when high-speed copying without finalizing.)

- Still pictures cannot be played.  
Press [ENTER] to cancel the screen display.
- To confirm the current progress  
Press [STATUS].

### Note

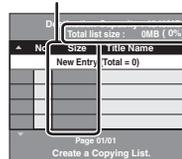
- Scheduled recordings executed while copying are recorded to the HDD regardless of the recording drive settings. (Only when high-speed copying without finalizing.)

## COPY Navigator/Copying list icons and functions

### COPY Navigator/Copying list icons

- ▶▶▶ Titles and playlists that can be copied in high speed mode to DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL or +RW.
- ▶▶▶! Titles and playlists that can be copied in high speed mode to DVD-R, DVD-R DL, DVD-RW (DVD-Video format). (However, titles and playlists cannot be copied in high speed mode to +R, +R DL or +RW).
- ☒ Title with “One time only recording” restriction (⇒ 8, Recording of digital broadcasting)
- ↶ Titles deleted from the HDD by “One time only recording” restriction after copying. (⇒ 8, Recording of digital broadcasting)
- ! Title or playlists contains still picture(s)
  - Still picture(s) cannot be copied.

### Data size of each registered item



### Total selected size

#### Total list size:

- Data size recorded to the copy destination
- When copying at normal speed, the total data size will change according to the recording mode.
- The total data size shown may be larger than the sum of the data sizes for each registered item, because of data management information being written to the copying destination, etc.

## ■ To edit the copying list

Select the item in step 6–④ (⇒ left column)

- 1 Press [SUB MENU].
  - 2 Press [▲, ▼] to select the operation and press [ENTER].
- Clear All:** Clear all items registered on the copying list. Press [◀, ▶] to select “Yes” and press [ENTER].

**Add:** Add new items to the copying list.

Press [▲, ▼, ◀, ▶] to select the playlists or titles to be added and press [ENTER].

**Remove:** Remove the selected items.

Press [◀, ▶] to select “Yes” and press [ENTER].

You can also remove multiple items (⇒ left, Multiple editing).

**Move:** Move selected items or change the order of items on the copying list.

Press [▲, ▼] to select the destination and press [ENTER].

## To cancel all registered copying setting and lists

After performing steps 1–3 (⇒ 50, right column)

- 1 Press [▲, ▼] to select “Cancel All” and press [ENTER].
- 2 Press [◀, ▶] to select “Yes” and press [ENTER].

- The settings and lists may be canceled in the following situations.
  - When a title, still picture, etc. has been recorded or deleted at the copy source
  - When steps have been taken, for instance, to turn off the unit, open the tray, change the copy direction, etc.



Refer to the control reference on page 50.

## Copying a finalized DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R and +R DL

DVD-V → HDD

You can copy the content of finalized DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R and +R DL etc. to the HDD and re-edit. While playing a disc, the content being played is copied to the HDD according to the set time.

If you perform search, frame-by-frame or pause while copying, that portion of title is not recorded.

- Operations and on screen displays during copy are also recorded.
- Almost all DVD-Video on the market have been treated to prevent illegal copying, and cannot be copied.
- The following cannot be copied: DVD-Audio, Video CD, Audio CD and so on.

### Preparation

- Insert the finalized disc (⇒ 13).

After performing steps 1–5 (“Content Type” is automatically set to “DVD-Video”) (⇒ 50, Copying using the copying list—Advanced Copy)

## 6 Set “Time Limit”.

- If you are not going to change the setting (⇒ step 7).

### ■ Setting the unit to copy according to the set time

- 1 Press [▲, ▼] to select “Time Limit” and press [▶].
- 2 Press [▲, ▼] to select “Time Limit” and press [ENTER].

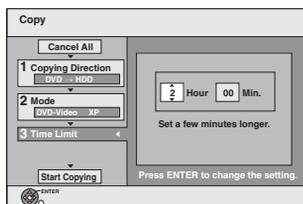
- Setting the unit to copy all the content on the disc

- 3 Press [▲, ▼] to select “Off” and press [ENTER].
- 4 Press [◀] to confirm.

Copy will continue until there is not enough available recording space on the HDD.

- Setting the copying time

- 3 Press [▲, ▼] to select “On” and press [ENTER].
- 4 Press [▲, ▼] to select “Set time” and press [ENTER].



- 5 Press [◀, ▶] to select “Hour” and “Min.” and press [▲, ▼] to set the recording time.
- 6 Press [ENTER].
- 7 Press [◀] to confirm.

Copying to the HDD continues for the set time even after the content being played finishes.

- Set a few minutes longer than the source title, in order to include the operation time before play begins.
- You can also set the recording time with the numbered buttons.

## 7 Press [▲, ▼] to select “Start Copying” and press [ENTER].

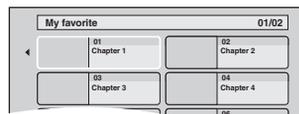
Press [◀, ▶] to select “Yes” and press [ENTER] to start copying.

The disc top menu is displayed.

- Disc play automatically begins from title 1 when “First Title on DVD” is selected from the “Playback will start with:” menu when finalizing the disc (⇒ 58).

## 8 When the top menu is displayed

Press [▲, ▼, ◀, ▶] to select the title you want to start copying, and press [ENTER].



While playing in order, all the titles after the selected title are recorded until the set time. (After the last title on the disc has finished playing the top menu is recorded until the set time is reached.)

### To return to the previous screen

Press [RETURN].

### To stop copying

Press [■].

You can also press and hold [RETURN] for 3 seconds to stop copying.

- If stopped partway, copying will be up to that point.

### Note

- The screen saver on the right is recorded at the beginning.
- The content is recorded as 1 title from the start of copy to the end.
- If play does not begin automatically or if the top menu does not display automatically, press [▶] (PLAY) to start.
- Even if you copy a high quality video/audio DVD, the original picture and audio quality cannot be exactly replicated.
- If you want to copy a title from a finalized DVD-RW (DVD Video Recording format), create a copy list and then copy (⇒ 50, Copying using the copying list—Advanced Copy).



## Copying MPEG2 moving pictures from an SD card

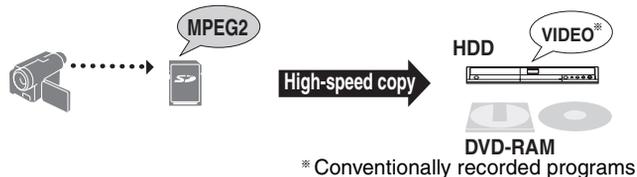
Motion pictures encoded in the MPEG2 format, which have been taken by a Panasonic SD Video Camera, digital video camera etc, can be recorded on HDD or DVD-RAM.

(All the recordings on the same date become a title.)

- You cannot playback MPEG2 moving pictures on an SD card with this unit.

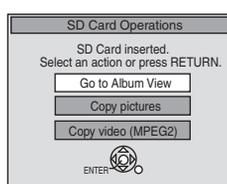
You must copy the files to the HDD or a DVD-RAM.

- You cannot playback or record while copying MPEG2.



The display below automatically appears when you insert a card into the SD card slot while stopped.

Press [▲, ▼] to select “Copy video (MPEG2)” and press [ENTER]. Then go to step 7 on page 51.



### How to copy

Refer to “Copying using the copying list—Advanced Copy” (⇒ 50)

Please set the items in step 4 and 5 as shown below.

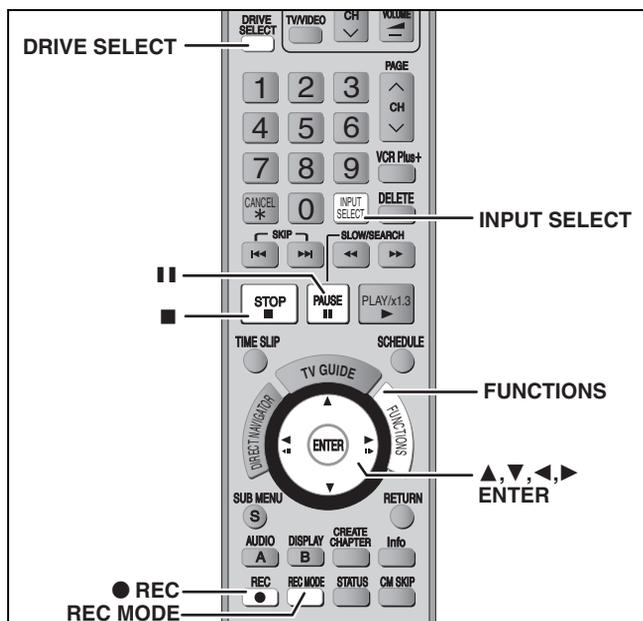
### Copying Direction

Source: SD card

### Mode

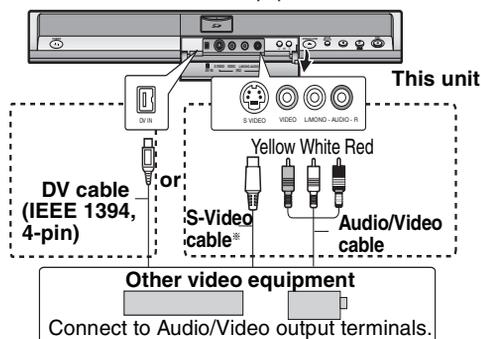
Content Type: Video

- MPEG2 moving pictures on an SD card are automatically registered on the copy list.
- If there are no MPEG2 moving pictures on an SD card, “Copy video (MPEG2)” is not displayed.



e.g.: Connecting other video equipment to the IN2 or DV input terminals  
You can also connect to the IN1 or IN3 input terminals on the rear.

- Turn off the unit and other video equipment before connecting.



If the audio output of the other equipment is monaural  
Connect to L/MONO on the IN2 input terminals at the front.

- \* The S-VIDEO terminal achieves a more vivid picture than the VIDEO terminal.

**When recording from the unit's DV terminal**  
Select the type of audio recording from "Select Audio Channel for DV Input" in the Setup menu (➔ 62).  
When recording from DV equipment (e.g., digital video camcorder), you can record audio/video recordings from DV tape only.

**When copying 16:9 aspect titles:**

- **HDD RAM** If copying to HDD or DVD-RAM:  
Set "Enable High-Speed Mode" to "Off" and you can copy in 16:9 aspect titles.
- **-R -RW(V) +R +RW** If copying to DVD-R, DVD-RW (DVD-Video format), +R or +RW:  
Regardless of the "Enable High-Speed Mode" settings, the video will record in 4:3 aspect titles\*.

- \* You can change the screen size by adjusting the screen mode on the television.

### Note

If it becomes time for a scheduled recording to start while copying, the recording will start and the copying will stop.

## Manual recording

**HDD RAM -R -RW(V) +R +RW**

### Preparation

- Connect a video cassette recorder to this unit's input terminals.
- Press [DRIVE SELECT] to select the HDD or DVD recording drive.
- Press [REC MODE] to select the recording mode.
- To reduce noise in input from a video cassette recorder, set "Line-in NR" to "On" in the on-screen menu (➔ 43).

### Note

When recording using this unit's input terminals, only the sound received at the time of recording will be recorded. As long as the secondary audio that is recorded on the video cassette is not output on the unit in play, it is not recorded.

- 1 While stopped

Press [INPUT SELECT] to select the input channel for the equipment you have connected.

e.g., If you have connected to IN2 input terminals, select "IN2".

- 2 Start play on the other equipment.

- 3 When you want to start recording

Press [● REC].

Recording starts.

### To skip unwanted parts

Press [II] to pause recording. (Press again to restart recording.)

### To stop recording

Press [■].

Almost all videos and DVD software on the market have been treated to prevent illegal copying. Any software that has been so treated cannot be recorded using this unit.

- Using Flexible Recording (➔ 26), you can save the content of a video cassette (approx. 1–8 hours) to a 4.7 GB disc with the best possible quality of recording without wasting disc space.

## DV camcorder recording (DV Camcorder Rec.)

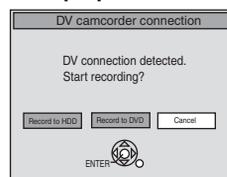
**HDD RAM -R -RW(V) +R +RW**

**HDD RAM** When the "DV Camcorder Rec." function is used, programs are recorded as a title while at the same time chapters are created at each break in the images and the playlists is created automatically.

### Preparation

- 1 Turn off the main unit and DV equipment, then connect the DV equipment with the unit's DV input terminal (➔ left).
- 2 Turn on the main unit and press [REC MODE] to select the recording mode.
- 3 Turn on the DV equipment and pause play on the DV equipment at the point you want recording to start.

After preparation is completed, the following screen appears



Press [◀, ▶] to select "Record to HDD" or "Record to DVD" as the copy destination and press [ENTER].  
You can now continue to step 4, below.

- When the screen is not displayed, press [DRIVE SELECT] to select HDD or DVD and then continue from step 1.

- 1 While stopped  
Press [FUNCTIONS].
- 2 Press [▲, ▼] to select "Other Functions" and press [ENTER].
- 3 Press [▲, ▼] to select "DV Camcorder Rec." and press [ENTER].
- 4 Press [◀, ▶] to select "Record" and press [ENTER].  
Recording starts.

### When recording finishes

The confirmation screen appears. Press [ENTER] to finish DV camcorder recording.

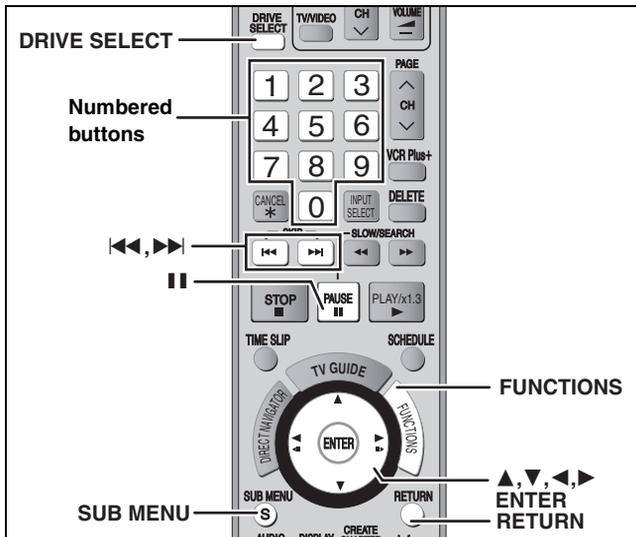
### To stop recording

Press [■].

### Notes on DV camcorder recording

- Only one piece of DV equipment (e.g., digital video camcorder) can be connected to the unit via the DV input terminal.
- If you use video camcorders from other manufacturer's these are not guaranteed to work.
- It is not possible to operate the unit from the connected DV equipment.
- The DV input on this unit is for use with DV equipment only. (It cannot be connected to a computer, etc.)
- The DV equipment name may not be shown correctly.
- Depending on the DV equipment, the images or audio may not be input properly.
- The date and time information on the tape in the DV equipment will not be recorded.
- You cannot record and play simultaneously.

If the DV camcorder recording function does not work properly, check the connections and DV equipment settings, and turn the unit off and back on.  
If that does not work, follow the instructions for manual recording (➔ left).



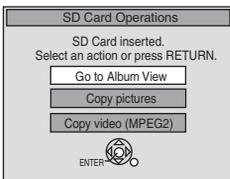
## HDD RAM SD

- You can use SD Memory Cards with capacities from 8 MB to 2 GB (⇒ 6).
- Still pictures recorded on CD-R or CD-RW cannot be copied.

## SD

While stopped, put the card in the SD slot, and the menu (⇒ below) is automatically displayed.

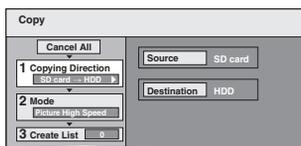
Press [▲, ▼] to select “Copy pictures” and press [ENTER]. Then go to step 4 on page 55, “Copying all the still pictures on a card—Copy all Pictures”.



Press [RETURN] to exit the screen.

## Copying using the copying list

- 1 While stopped  
Press [FUNCTIONS].
- 2 Press [▲, ▼] to select “Other Functions” and press [ENTER].
- 3 Press [▲, ▼] to select “Advanced Copy” and press [ENTER].



- If you are not going to change the registered list press [▼] several times (⇒ step 7).

## 4 Set the copy direction.

- If you are not going to change the copying direction, press [▼] (⇒ step 5).
- 1 Press [▲, ▼] to select “Copying Direction” and press [▶].
  - 2 Press [▲, ▼] to select “Source” and press [ENTER].
  - 3 Press [▲, ▼] to select the drive and press [ENTER].
  - 4 Press [▲, ▼] to select “Destination” and press [ENTER].
  - 5 Press [▲, ▼] to select the drive and press [ENTER].  
The same drive as the copy source can be selected.
  - 6 Press [◀] to confirm.

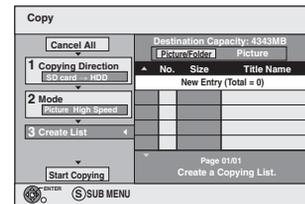
## 5 Set the recording mode.

- If you are not going to change the recording mode, press [▼] (⇒ step 6).
- 1 Press [▲, ▼] to select “Mode” and press [▶].
  - 2 Press [▲, ▼] to select “Content Type” and press [ENTER].

- 3 Press [▲, ▼] to select “Picture” and press [ENTER].  
“Recording Mode” is automatically set to “High Speed”.
- 4 Press [◀] to confirm.

## 6 Register still pictures for copy.

- If you are going to copy a registered list without making any changes to it (⇒ step 7).
- You can register still pictures or still picture folders.
- Still pictures and folders cannot be registered on the same list.



### ■ To register individual still pictures

- 1 Press [▲, ▼] to select “Create List” and press [▶].
- 2 Press [▲, ▼] to select “New Entry” and press [ENTER].
- 3 Press [▲, ▼, ◀, ▶] to select a still picture and press [ENTER].  
• To select a multiple number of items together, press [■] to add the check mark and press [ENTER] (⇒ 55, Multiple editing)  
• To show other pages (⇒ 55)  
• To select the still pictures in another folder (⇒ 55)  
• To edit the copying list (⇒ 55)

You can register a multiple number of still pictures on the copying list by repeating steps ②–③.

- 4 Press [◀] to confirm.

### ■ To register on a folder by folder basis

- 1 Press [▲, ▼] to select “Create List” and press [▶].
- 2 Press [▲, ▼] to select “Picture/Folder” and press [ENTER].



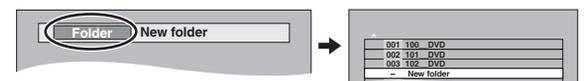
- 3 Press [▲, ▼] to select “Folder” and press [ENTER].
- 4 Press [▲, ▼] to select “New Entry” and press [ENTER].
- 5 Press [▲, ▼] to select the folder and press [ENTER].  
• To select a multiple number of items together, press [■] to add the check mark and press [ENTER] (⇒ 55, Multiple editing).  
• To show other pages (⇒ 55)  
• To switch to another higher folder (⇒ 55)  
• To edit the copying list (⇒ 55)

You can register a multiple number of folders on the copying list by repeating steps ④–⑤.

- 6 Press [◀] to confirm.

## 7 Press [▲, ▼] to select “Start Copying” and press [ENTER].

- For individual still pictures only  
When specifying another folder as the copying destination, select “Folder”.



## 8 Press [◀, ▶] to select “Yes” and press [ENTER] to start copying.

### To stop copying

Press and hold [RETURN] for 3 seconds.

### To return to the previous screen

Press [RETURN].

**To show other pages**

Press [▲, ▼, ◀, ▶] to select “Previous” or “Next” and press [ENTER].

- You can also press [◀◀, ▶▶] to show other pages.

**Multiple editing**

Select with [▲, ▼, ◀, ▶] and press [III]. (Repeat.)  
Press [ENTER] to register to the list.

- A check mark appears. Press [III] again to cancel.

**To edit the copying list**

Select the item in step 6-③ (for a still picture) or 6-⑤ (for a folder) (⇒ 54, right column)

- 1 Press [SUB MENU].
- 2 Press [▲, ▼] to select the operation and press [ENTER].

**Clear All:**

Clear all items registered on the copying list.  
Press [◀, ▶] to select “Yes” and press [ENTER].

**Add:**

Add new items to the copying list.  
Press [▲, ▼, ◀, ▶] to select the still picture or folder to be added and press [ENTER].

**Remove:**

Remove the selected items.  
Press [◀, ▶] to select “Yes” and press [ENTER].  
You can also delete multiple items (⇒ above, Multiple editing).

**To cancel all registered copying settings and lists**

- After performing steps 1-3 (⇒ 54, left column)
- 1 Press [▲, ▼] to select “Cancel All” and press [ENTER].
  - 2 Press [◀, ▶] to select “Yes” and press [ENTER].
- The settings and lists may be canceled in the following situations.
    - When a title or still picture has been recorded or deleted at the copy source
    - When steps have been taken, for instance, to turn off the unit, remove the card, open the tray, change the copying direction, etc.

**To select another folder**

(⇒ 76, Structure of folders displayed by this unit)

- ① Press [▲, ▼, ◀, ▶] to select “Folder” and press [ENTER].  
If you want to switch to another higher folder (⇒ below)
- ② Press [▲, ▼] to select the folder and press [ENTER].



You can also select folders with the numbered buttons.

e.g., 5: [0] ⇒ [0] ⇒ [5]  
15: [0] ⇒ [1] ⇒ [5]  
115: [1] ⇒ [1] ⇒ [5]

- Still pictures of different folders cannot be registered on the same list.

**To switch to another higher folder**

- Only when selecting the source folder  
(If there is a multiple number of higher folders recognizable on this unit)

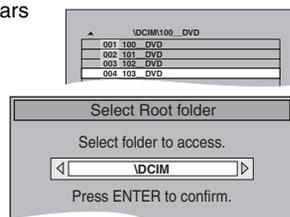
While the screen on the right appears

- 1 Press [SUB MENU] and press [ENTER].

- 2 Press [◀, ▶] to select the higher folder and press [ENTER].

You cannot register a folder with a different higher folder to the same list.

- 3 Press [▲, ▼] to select the desired folder and press [ENTER].

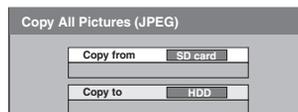
**Copying all the still pictures on a card—  
Copy all Pictures**

SD → HDD or RAM

**Preparation**

Press [DRIVE SELECT] to select the SD drive.

- 1 While stopped  
Press [FUNCTIONS].
- 2 Press [▲, ▼] to select “Other Functions” and press [ENTER].
- 3 Press [▲, ▼] to select “Copy all Pictures” and press [ENTER].



- 4 Press [▲, ▼] to select “Copy to” and press [◀, ▶] to select the drive.
- 5 Press [▲, ▼, ◀, ▶] to select “Copy” and press [ENTER].

**To stop copying**

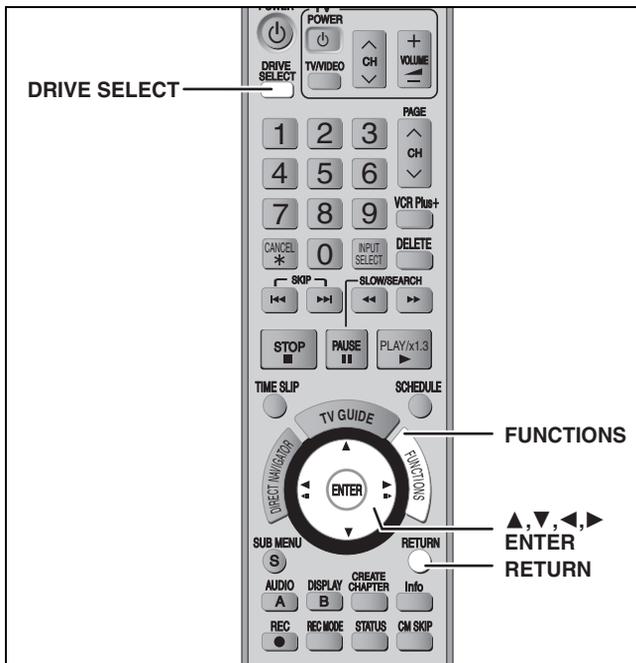
Press and hold [RETURN] for 3 seconds.

**To return to the previous screen**

Press [RETURN].

**Note**

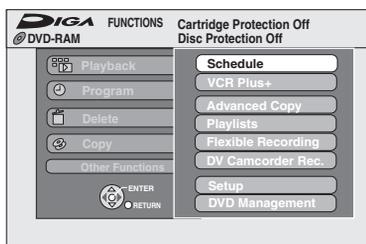
- When copying the still pictures on a folder by folder basis (⇒ 54) or card by card basis (⇒ above, Copy all Pictures), files other than the still picture files inside the folder will also be copied. (This does not apply to the lower folders contained inside the folders.)
- If still pictures are already contained inside the copying destination folder, the new still pictures are recorded following the existing still pictures.
- If the space on the destination drive runs out or the number of files/folders to be copied exceeds the maximum (⇒ 7), copying will stop partway through.
- When a name has not been input for the copy source folder, it is possible that this folder's name will not be the same on the copy destination. It is recommended that you input a folder name before copying (⇒ 48, Album Name).
- You cannot copy the information about the print number setting (DPOF) or the picture rotation.
- The sequence in which the still pictures are registered on the copy list may not be the same at the copying destination.



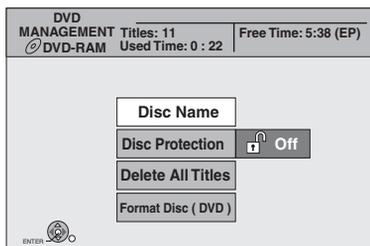
- HDD RAM -R -R DL -RW(V) +R +R DL +RW -RW(VR) SD**
- You can use SD Memory Cards with capacities from 8 MB to 2 GB (→ 6).

## Common procedures

- 1 While stopped  
Press [FUNCTIONS].
- 2 Press [▲, ▼] to select “Other Functions” and press [ENTER].
- 3 Press [▲, ▼] to select “HDD Management”, “DVD Management” or “Card Management” and press [ENTER].



e.g., **RAM**



**To return to the previous screen**  
Press [RETURN].

**To exit the screen**

Press [RETURN] several times.

## Setting the protection—Disc Protection

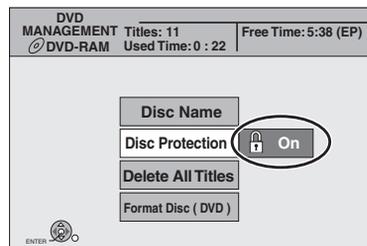
### RAM

#### Preparation

- Press [DRIVE SELECT] to select the DVD drive.

After performing steps 1–3 (→ left)

- 4 Press [▲, ▼] to select “Disc Protection” and press [ENTER].
- 5 Press [◀, ▶] to select “Yes” and press [ENTER].



The lock symbol appears closed when the disc is write-protected.

### Cartridge-protection

#### For a DVD-RAM with a cartridge

- With the write-protect tab in the protect position, play automatically starts when inserted in the unit.



### SD

Switch the write-protect switch to the “LOCK” position.



## Providing a name for a disc—Disc Name

### RAM -R -R DL -RW(V) +R +R DL +RW

(You cannot provide a name for finalized discs.)

You can provide a name for each disc.

#### Preparation

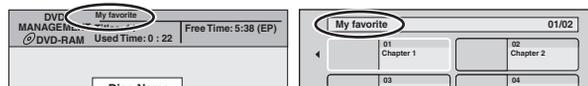
- Press [DRIVE SELECT] to select the DVD drive.
- **RAM** Release protection (→ above).

After performing steps 1–3 (→ left)

- 4 Press [▲, ▼] to select “Disc Name” and press [ENTER].

→ 59, Entering text

- The disc name is displayed in the DVD MANAGEMENT window.
- **-R -R DL -RW(V) +R +R DL** With a finalized disc the name is displayed on the Top Menu.
- **+RW** The disc name is displayed only if you play the disc on other equipment.



## Deleting all titles and playlists—Delete All Titles

**HDD** **RAM**

### Preparation

- Press [DRIVE SELECT] to select the HDD or DVD drive.
- Release protection (⇒ 56).

After performing steps 1–3 (⇒ 56)

- 4 Press [**▲**, **▼**] to select “Delete All Titles” and press [ENTER].
- 5 Press [**◀**, **▶**] to select “Yes” and press [ENTER].
- 6 Press [**◀**, **▶**] to select “Start” and press [ENTER].  
A message appears when finished.
- 7 Press [ENTER].

### Note

- Once deleted, the recorded contents are lost and cannot be restored. Make certain before proceeding.
- Deleting all video titles will result in all playlists also being deleted.
- Still picture data (JPEG, TIFF) or computer data cannot be deleted.
- Delete does not work if one or more titles are protected.



## Deleting all the contents of a disc or card—Format

**HDD** **RAM** **-RW(V)** **+RW** **-RW(VR)** **SD**

**+R** **+R DL** (New disc only)

### Preparation

- Press [DRIVE SELECT] to select the HDD, DVD or SD drive.
- Release protection (⇒ 56).

### Note

Formatting deletes all contents (including computer data), and they cannot be restored. Check carefully before proceeding. The contents are deleted when you format a disc or card even if you have set protection.

After performing steps 1–3 (⇒ 56)

- 4 Press [**▲**, **▼**] to select “Format Hard Drive”, “Format Disc ( DVD )” or “Format memory card” and press [ENTER].
- 5 Press [**◀**, **▶**] to select “Yes” and press [ENTER].
- 6 Press [**◀**, **▶**] to select “Start” and press [ENTER].  
A message appears when formatting is finished.
- 7 Press [ENTER].

### Note

- Formatting normally takes a few minutes; however, it may take up to a maximum of 70 minutes (**RAM**).
- Do not disconnect the AC power supply cord while formatting. This can render the disc or the card unusable.

### Note

- When a disc or card has been formatted using this unit, it may not be possible to use it on any other equipment.
- **-R -R DL CD** Formatting cannot be performed on the disc.
- You can format DVD-RW only as DVD-Video format on this unit.

### To stop formatting **RAM**

Press [RETURN].

- You can cancel formatting if it takes more than 2 minutes. The disc must be reformatted if you do this.

Refer to the control reference on page 56.

#### Preparation

Press [DRIVE SELECT] to select the DVD drive.

## Selecting the background style—Top Menu Style

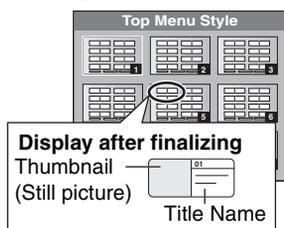
**-R -R DL -RW(V) +R +R DL +RW**

You can select the background that will be displayed as the DVD-Video top menu after finalizing.

After performing steps 1–3 (⇒ 56)

**4** Press [**▲**, **▼**] to select “Top Menu Style” and press [ENTER].

**5** Press [**▲**, **▼**, **◀**, **▶**] to select the background and press [ENTER].



- You can change thumbnails displayed in the top menu. (⇒ 45, Change Thumbnail)

## Selecting whether to show the Top Menu first—Playback will start with:

**-R -R DL -RW(V) +R +R DL +RW**

You can select whether or not to show the top menu after finalizing.

After performing steps 1–3 (⇒ 56)

**4** Press [**▲**, **▼**] to select “Playback will start with:” and press [ENTER].

**5** Press [**▲**, **▼**] to select “DVD’s Top Menu” or “First Title on DVD” and press [ENTER].

DVD’s Top Menu: The top menu appears first.

First Title on DVD: The disc content is played without displaying the top menu.

## Enabling discs to be played on other equipment—Finalize

**-R -R DL -RW(V) +R +R DL**

Make selections from “Top Menu Style” and “Playback will start with:” above before finalizing the disc.

After performing steps 1–3 (⇒ 56)

**4** Press [**▲**, **▼**] to select “Finalize” and press [ENTER].

**5** Press [**◀**, **▶**] to select “Yes” and press [ENTER].

**6** Press [**◀**, **▶**] to select “Start” and press [ENTER].

A message appears when finalizing is finished.

#### Note

- You cannot cancel finalizing.
- Finalizing takes up to 15 minutes. (Finalizing may take up to 60 minutes with DVD-R DL and +R DL.)
- Do not disconnect the AC power supply cord while finalizing. This will render the disc unusable.

**7** Press [ENTER].

#### Note

When finalizing a high-speed recording compatible disc, it may take longer than displayed on the confirmation screen (approximately four times).

#### After finalizing

- **-R -R DL +R +R DL** The disc becomes play-only and you can no longer record or edit.
- **-RW(V)** You can record and edit the disc after formatting (⇒ 57) although it becomes play-only after finalizing.
- When copying in high-speed, chapters will be replicated.
- **-R -RW(V) +R** Titles are divided into about 5-minute (**+R** 8-minute)\* chapters, if
  - the titles were directly recorded to the disc.
  - the titles were copied using any mode other than the high-speed mode.
- \* This time varies greatly depending on the condition and mode of recording.
- There is a pause of several seconds between titles and chapters during play.

#### Note

Chapters on a finalized disc do not appear as thumbnails in the disc’s top menu.

	Before finalizing	After finalizing
Recording/Editing/Entering name	Yes	No
Play on other players	No	Yes

- You cannot finalize discs recorded on other manufacturer’s equipment.
- If you finalize discs recorded on Panasonic equipment other than this unit, the background selected as “Top Menu Style” may not be displayed.
- Discs finalized on this unit may not be playable on other players due to the condition of the recording.
- Visit Panasonic’s homepage for more information about DVDs. <http://www.panasonic.com>

## Creating Top Menu—Create DVD Top Menu

**+RW**

+RW discs contain no Top Menu data. Top Menu is a convenient function. We recommend you create the menu before playing a +RW disc on other equipment.

You cannot use the Top menu for playing on this unit.

After performing steps 1–3 (⇒ 56)

**4** Press [**▲**, **▼**] to select “Create DVD Top Menu” and press [ENTER].

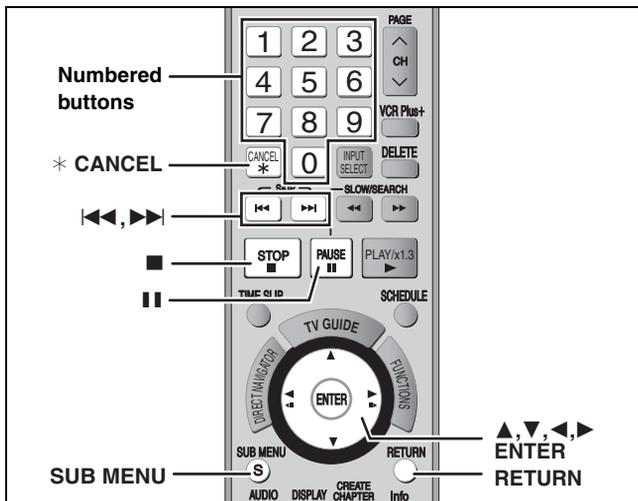
**5** Press [**◀**, **▶**] to select “Yes” and press [ENTER].

**6** Press [**◀**, **▶**] to select “Start” and press [ENTER].

Creating DVD Top Menu starts. You cannot cancel creating. Creating DVD Top Menu can take a few minutes.

**7** Press [ENTER].

- You can record or edit discs after creating the Top Menu. But the created menu is deleted when you record or edit disc. In such cases, create the Top Menu again by using “Create DVD Top Menu”.



**HDD RAM -R -R DL -RW(V) +R +R DL +RW SD**

You can give names to recorded titles, etc.

The maximum number of characters:

<b>HDD RAM</b>	Characters
Title	64
Playlist	64
Album of still pictures	36
Disc ( <b>RAM</b> )	64

<b>-R -R DL -RW(V)</b>	Characters
Title	44
Disc	40

<b>SD</b>	Characters
Album of still pictures	36

**Note**

If a name is long, parts of it may not be shown in some screens.

## 1 Show Enter Name screen.

**Title**

Select "Title Name" in step 5 on page 44.

**Playlist**

Select "Playlist Name" in step 5 on page 47.

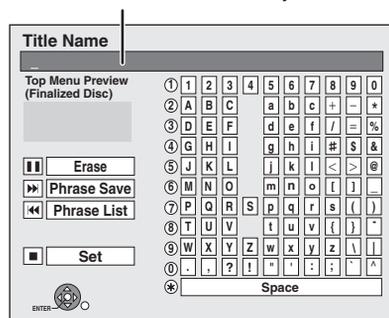
**Disc**

Select "Disc Name" in step 4 of "Providing a name for a disc—Disc Name" on page 56.

**Folder of still pictures**

Select "Album Name" in step 4 on page 48, "To edit the album".

**Name field:** shows the text you have entered



## 2 Press [▲, ▼, ◀, ▶] to select a character and press [ENTER].

Repeat this step to enter other characters.

• **To erase a character**

Press [▲, ▼, ◀, ▶] to select the character in the name field and press [■]. (The selected characters are erased.)

• **Using the numbered buttons to enter characters**

e.g., entering the letter "R"

- 1 Press [7] to move to the 7th row.
- 2 Press [7] twice to highlight "R".
- 3 Press [ENTER].



• **To enter a space**

Press [\* CANCEL] and press [ENTER].

• **Save/recall phrases (⇒ below)**

## 3 Press [■] (Set).

"Now writing." appears then the screen returns to the Title view screen and so on.

**To end partway**

Press [RETURN].

Text is not saved.

■ **To save phrases**

You can save frequently used phrases and recall them later.

Maximum number of saved phrases: 20

Maximum number of characters per phrase: 20

After entering the phrase (step1-2)

- 1 Press [▲, ▼, ◀, ▶] to select "Phrase Save" and press [ENTER].
  - You can also press [▶▶] to select "Phrase Save".
- 2 Press [◀, ▶] to select "Save" and press [ENTER].
  - Press [RETURN] to cancel.

■ **To recall a saved phrase**

- 1 Press [▲, ▼, ◀, ▶] to select "Phrase List" and press [ENTER].
  - You can also press [◀◀] to select "Phrase List".
- 2 Press [▲, ▼, ◀, ▶] to select the phrase to be recalled and press [ENTER].

■ **To erase saved phrases**

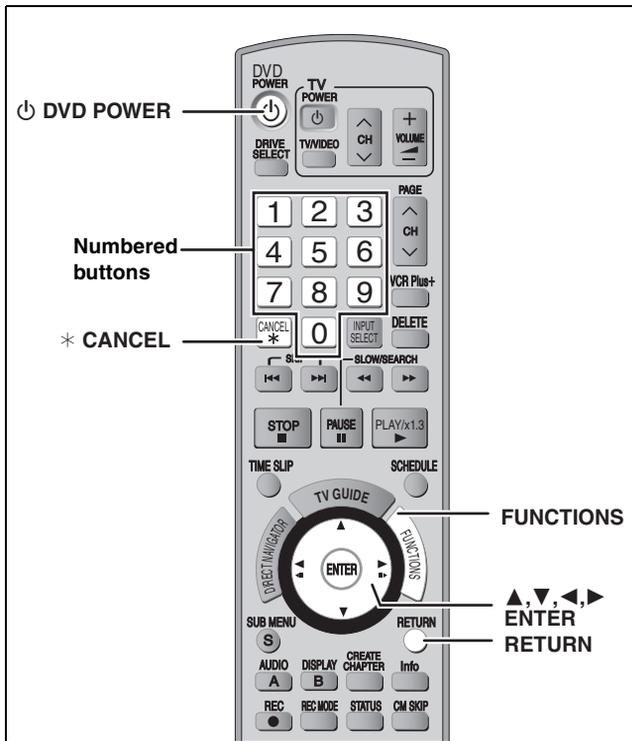
- 1 Press [▲, ▼, ◀, ▶] to select "Phrase List" and press [ENTER].
  - You can also press [◀◀] to select "Phrase List".
- 2 Press [▲, ▼, ◀, ▶] to select the phrase to be erased.
- 3 Press [SUB MENU] to show "Erase Phrase" and press [ENTER].
- 4 Press [◀, ▶] to select "Erase" and press [ENTER].
- 5 Press [RETURN].

**For your reference**

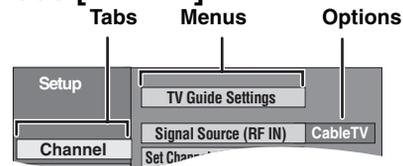
If you enter a long name, only part of it is shown in the TOP MENU after finalization (⇒ 58). When entering a title name, the name that will appear in the TOP MENU can be previewed in "Top Menu Preview (Finalized Disc)" window.



# Changing the unit's settings



- Press [**▲**, **▼**] to select “Other Functions” and press [**ENTER**].
- Press [**▲**, **▼**] to select “Setup” and press [**ENTER**].



- Press [**▲**, **▼**] to select the tab and press [**▶**].
- Press [**▲**, **▼**] to select the menu and press [**ENTER**].
- Press [**▲**, **▼**] to select the option and press [**ENTER**].

To return to the previous screen  
Press [**RETURN**].

To exit the screen  
Press [**RETURN**] several times.

### Note

There may be differences in operation methods. If this happens, follow the on-screen instructions for the operation.

## Common procedures

- While stopped  
Press [**FUNCTIONS**].

## Summary of settings

The settings remain intact even if you switch the unit to standby.

Tabs	Menus	Options (Underlined items are the factory presets.)
<b>Channel</b>	<b>TV Guide Settings</b> Set the TV Guide On Screen™ system.	
	<b>Signal Source (RF IN)*3</b> Select to suit the type of antenna you are using.	●Antenna    ● <u>CableTV</u>
	<b>Set Channels Automatically*1 *2 (⇒ 64)</b>	—
	<b>Preset Channel Captions*2 *3 (⇒ 65)</b>	—
	<b>Manual Channel Captions*2 *3 (⇒ 65)</b>	—
	<b>VCR Plus+ Ch. Setting*2 *4 (⇒ 65)</b>	—
<b>Setup</b>	<b>Off Timer</b> Select how long the unit remains on when it is not being used.	●2 Hours    ● <u>6 Hours</u> ●Off
	<b>Remote Control Code (⇒ 23)</b>	● <u>Set Code 1</u> ●Set Code 2    ●Set Code 3
	<b>Clock Settings*1</b> Press [ <b>ENTER</b> ] to show the following settings.	
	<b>Set Clock Automatically*1 *2 (⇒ 64)</b>	
	<b>Set Clock Manually*1 (⇒ 22)</b>	
	<b>Adjust Time Zone*1 *5 (⇒ 64)</b>	●-1    ● <u>0</u> ●+1
	<b>DivX Registration</b> Displays the unit's registration code. You need this registration code to purchase and play DivX Video-on-Demand (VOD) content.	—
	<b>Restore Default Settings</b> This returns all values in the Setup menus, except for the clock, channel settings, ratings level, and on-screen language, to the default settings.	●Yes    ● <u>No</u>

\*1 You need to set these menus only when you do not use TV Guide On Screen™ system. These menus turn grey and become un-selectable after this unit downloads the program listings.

\*2 You can set these menus only if you connect an antenna or cable without a cable box.

\*3 These menus turn grey and become un-selectable after TV Guide Setup is completed.

\*4 This menu turns grey and becomes un-selectable if you connect to DISH Network.

\*5 You can set the menu only after “Set Channels Automatically” is completed.

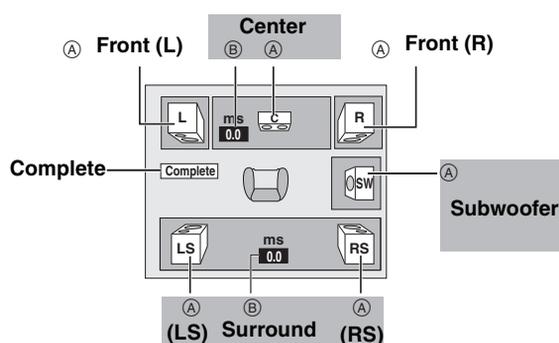
Tabs	Menus	Options (Underlined items are the factory presets.)
<b>Disc</b>	<b>Settings for Playback</b> Press [ENTER] to show the following settings.	
	<b>Ratings</b> Set a ratings level to limit DVD-Video play.  Follow the on-screen instructions. Enter a 4-digit password with the numbered buttons when the password screen is shown. ●Do not forget your password.	<ul style="list-style-type: none"> <li>● <u>8 No Limit</u>: All DVD-Video can be played.</li> <li>● 1 to 7: Prohibits play of DVD-Video with corresponding ratings recorded on them.</li> <li>● 0 Lock All: Prohibits play of all DVD-Video.</li> </ul>
	<b>Play DVD-Audio in Video Mode</b> Select "Video Mode (Video On)" to play DVD-Video content on some DVD-Audio.	<ul style="list-style-type: none"> <li>● <u>Video Mode (Video On)</u>: The setting returns to "Audio Mode (Video Off)" when you change the disc or turn the unit off.</li> <li>● <u>Audio Mode (Video Off)</u></li> </ul>
	<b>Audio Language</b> Choose the language for audio, subtitle and disc menus. <b>DVD-V</b> ●Some discs start in a certain language despite any changes you make here.	<ul style="list-style-type: none"> <li>● <u>English</u>      ● French      ● Spanish</li> <li>● <u>Original</u>: The original language of each disc will be selected.</li> <li>● <u>Other ****</u></li> </ul>
	<b>Subtitle Language</b> ●Enter a code (⇒ 77) with the numbered buttons when you select "Other ****".	<ul style="list-style-type: none"> <li>● <u>Automatic</u>: If the language selected for "Audio Language" is not available, subtitles of that language will automatically appear if available on that disc.</li> <li>● <u>English</u>      ● French      ● Spanish      ● <u>Other ****</u></li> </ul>
	<b>Menu Language</b> When the selected language is not available on the disc, the default language is played. There are discs where you can only switch the language from the menu screen (⇒ 37).	<ul style="list-style-type: none"> <li>● <u>English</u>      ● French      ● Spanish      ● <u>Other ****</u></li> </ul>
	<b>Settings for Recording</b> Press [ENTER] to show the following settings.	
	<b>Recording Time in EP Mode</b> Select the maximum number of hours for recording in EP mode (⇒ 25, Recording modes and approximate recording times).	<ul style="list-style-type: none"> <li>● <u>EP-Extended Play (6H)</u>: You can record for 6 hours on an unused 4.7 GB disc.</li> <li>● <u>EP-Extended Play (8H)</u>: You can record for 8 hours on an unused 4.7 GB disc.</li> </ul> <p>The sound quality is better when using "EP-Extended Play (6H)" than when using "EP-Extended Play (8H)".</p>
	<b>Enable High-Speed Mode</b> You can copy recorded titles from the HDD to DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL and +RW using high speed mode. However, screen size, etc. is restricted (⇒ right). We recommend turning the setting "Off" if high speed copy to DVD-R, etc. is not necessary when recording a program.	<ul style="list-style-type: none"> <li>● <u>On</u>: You can high-speed copy to DVD-R, etc. Press [◀, ▶] to select "Yes".</li> <li>● The following restrictions are applied to recorded titles. <ul style="list-style-type: none"> <li>– Pictures are saved in 4:3.</li> <li>– Select the type of audio in advance from "Multi-channel TV Sound ( MTS )" (⇒ 62).</li> <li>– You are no longer able to switch the audio when watching a program on an input channel on the TV connected to this unit (e.g., video 1, etc).</li> </ul> </li> <li>● <u>Off</u></li> </ul>
	<b>Rapidity of High-Speed copying</b> Select the speed of high-speed copying (When using high-speed copy compatible DVD-RAM 5X, DVD-R, +R 8X or +RW 4X discs).	<ul style="list-style-type: none"> <li>● <u>Top speed mode</u></li> <li>● <u>Silent mode</u> When copying, the operation sound will become quieter. However, the time required for copying will become longer.</li> </ul>
<b>Video</b>	<b>Still Mode ( paused video )</b> Select the type of picture shown when you pause play (⇒ 76, Frames and fields).	<ul style="list-style-type: none"> <li>● <u>Automatic</u></li> <li>● <u>Field</u>: Select if jittering occurs when "Automatic" is selected. (The picture is coarser.)</li> <li>● <u>Frame</u>: Select if small text or fine patterns cannot be seen clearly when "Automatic" is selected. (The picture is clearer and finer.)</li> </ul>
	<b>Seamless Play</b> Select the play mode between playlist chapter segments and partially deleted titles.	<ul style="list-style-type: none"> <li>● <u>On</u>: The chapters in playlists are played seamlessly. This does not work when there are several audio types included on the playlist and when using Quick View. Additionally, the positioning of chapter segments may change slightly.</li> <li>● <u>Off</u>: The points where chapters in playlists change are played accurately, but the picture may freeze for a moment.</li> </ul>
	<b>Black Level Control</b> Select normal, lighter or darker for adjusting the black level control to the desired setting for picture enhancement.	
	<b>Input Level</b> Adjusts the black level of the input signal.	<ul style="list-style-type: none"> <li>● <u>Lighter</u>      ● <u>Darker</u></li> </ul>
	<b>Output Level (Composite/SVideo)</b> Adjusts the black level of the output signal from the VIDEO OUT and S VIDEO OUT terminal.	<ul style="list-style-type: none"> <li>● <u>Lighter</u>      ● <u>Darker</u></li> </ul>
	<b>Output Level (Component)</b> Adjusts the black level of the output signal from the COMPONENT VIDEO OUT (Y/P <sub>s</sub> /P <sub>b</sub> ) terminals.	<ul style="list-style-type: none"> <li>● <u>Lighter</u>      ● <u>Normal</u>      ● <u>Darker</u></li> </ul>

Tabs	Menus	Options (Underlined items are the factory presets.)
Audio	<b>Dynamic Range Compression <u>DVD-V</u></b> (Dolby Digital only) Change the dynamic range for late night viewing.	●On      ● <u>Off</u>
	<b>Multi-channel TV Sound ( MTS )</b> Select whether to record the main or secondary (SAP) audio type when: –Recording or copying to a DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL and +RW. –When “Enable High-Speed Mode” is set to “On”. –Recording or copying sound in LPCM. (⇒ below, Audio for XP Recording).	● <u>Main</u> ●Secondary Audio Program (SAP) You cannot select the audio on this unit when recording from an external source, such as when copying from a video cassette recorder (except from DV equipment connected to this unit's DV input terminal). Select on the video cassette recorder, cable box or satellite receiver.
	<b>Digital Audio Output</b> Change the settings when you have connected equipment through this unit's DIGITAL AUDIO OUT terminal (⇒ 18). ●Press [ENTER] to show the following settings.	
	<b>PCM Down Conversion</b> Select how to output audio with a sampling frequency of 96 kHz or 88.2 kHz. ●Signals are converted to 48 kHz or 44.1 kHz despite the settings across if the signals have a sampling frequency of over 96 kHz or 88.2 kHz, or the disc has copy protection.	● <u>On</u> : Signals are converted to 48 kHz or 44.1 kHz. (Choose when the connected equipment cannot process signals with sampling frequency of 96 kHz or 88.2 kHz.) ● <u>Off</u> : Signals are output as 96 kHz or 88.2 kHz. (Choose when the connected equipment can process signals with sampling frequency of 96 kHz or 88.2 kHz.)
	<b>Dolby Digital</b>  Select how to output the signal. If “Bitstream” is selected, the connected equipment decodes the signal. If “PCM” is selected, this unit decodes the signal and output it as 2 channel. <b>DTS</b>  <b>Note</b> Not making the proper settings may result in noise, or some trouble for digital recording.	● <u>Bitstream</u> : When connecting to equipment displaying the Dolby Digital logo. ●PCM: When connecting to equipment not displaying the Dolby Digital logo. ● <u>Bitstream</u> : When connecting to equipment displaying the DTS logo. ●PCM: When connecting to equipment not displaying the DTS logo.
<b>Audio for XP Recording</b> Choose the audio type when recording or copying with XP mode.	● <u>Dolby Digital</u> (⇒ 76) ● <u>LPCM</u> (⇒ 76) –The picture quality of LPCM recordings may be lower than that of normal XP mode recordings. –The audio recording becomes Dolby Digital even if you selected LPCM when using a recording mode other than XP. –When recording a MTS broadcast, select the type of audio in advance from “Multi-channel TV Sound ( MTS )” (⇒ above).	
<b>Select Audio Channel for DV Input</b> You can select the kind of audio when recording from the unit's DV terminal (⇒ 53).	● <u>Stereo 1</u> : Records audio (L1, R1). ●Stereo 2: Records added audio such as narration (L2, R2) subsequent to original recording. ●Mix: Records both Stereo 1 and Stereo 2. <b>-R -RW(V) +R +RW</b> When recording a MTS broadcast, select the type of audio in advance from “Multi-channel TV Sound ( MTS )” (⇒ above).	
Display	<b>Status Messages</b> Choose whether to show status messages automatically.	● <u>Automatic</u> ●Off
	<b>On-screen Language</b> Choose the language for these menus and on-screen messages.	● <u>English</u> ●Español      ●Français –Only English is displayed in the TV Guide On Screen™ system regardless of the settings. Other languages cannot be displayed.
	<b>Blue Background</b> Select “Off” if you do not want to have the unit show the blue background when reception is weak.	● <u>On</u> ●Off
	<b>FL Display</b> Changes the brightness of the unit's display.	● <u>Bright</u> ●Dim ●Automatic: The display turns dark during play, and reappears momentarily if a button is pressed. When the unit is turned off all displays disappear. While using this mode the standby power consumption can be reduced.
<b>TV Screen</b>	<b>TV Type (⇒ 23)</b> Set to match the type of television connected.	4:3 TV ● <u>Aspect 4:3 &amp; 480i</u> ●Aspect 4:3 & 480p 16:9 Aspect ( Widescreen TV ) ●Aspect 16:9 & 480i      ●Aspect 16:9 & 480p

TV Screen	Functions of HDMI	Options (Underlined items are the factory presets.)
	Press [ENTER] to show the following settings.	
	<b>HDMI Video Output</b>	<ul style="list-style-type: none"> <li>●On:</li> <li>●Off: When video is output from COMPONENT VIDEO OUT terminal.</li> </ul>
	<b>HDMI Resolution</b> You can only select items compatible with the connected equipment. This setting normally does not need to be changed. However if you are concerned about output picture quality, it may be improved by changing the setting. Still pictures play at a resolution equivalent to 480p regardless of the settings.	<ul style="list-style-type: none"> <li>●<u>Auto</u>: Automatically selects the output resolution best suited to the connected television (1080i, 720p or 480p).</li> <li>●480p</li> <li>●720p</li> <li>●1080i</li> </ul>
	<b>HDMI Output Display Aspect</b> Settings used when 4:3 aspect video is output on the television as 16:9 aspect. (Only effective when 720p or 1080i is selected in "HDMI Resolution")	<ul style="list-style-type: none"> <li>●Full: Video output is enlarged to match the 16:9 screen size.</li> <li>●<u>Normal</u>: Video is output as 4:3 aspect. Side panels (black bars on the left and right) will appear on the screen.</li> </ul>
	<b>HDMI RGB Output Range</b> Effective when connected to a device that only supports RGB output.	<ul style="list-style-type: none"> <li>●<u>Standard</u>:</li> <li>●Enhanced: When the black and white images are not distinct.</li> </ul>
	<b>HDMI Audio Output</b>	<ul style="list-style-type: none"> <li>●On:</li> <li>●Off: When the TV is connected to this unit with an HDMI cable, and you are connected to an amplifier that does not support HDMI with an optical digital audio cable.</li> </ul>
	<b>HDMI Connection Speakers Setting</b> You can set the unit to output the best possible sound for your speakers.	<ul style="list-style-type: none"> <li>●<u>Auto</u>: When using the speaker settings of the connected equipment.</li> <li>●Multi Channel: When using three or more speakers with equipment that cannot set the speaker settings.</li> <li>●2 Channel: When using two speakers.</li> </ul>
	<b>Multi Channel Setting (→ below)</b> Displayed when "Multi Channel" is selected in "HDMI Connection Speakers Setting"	You can adjust the settings for speaker size, presence and audio-delay.
	<b>Ctrl with HDMI</b>	<ul style="list-style-type: none"> <li>●On: When "On" is selected, you can operate other "Ctrl with HDMI" compatible devices.</li> <li>●Off:</li> </ul>
	<b>4:3 TV Settings for DVD-Video</b> Select how a DVD-Video widescreen picture is shown on a 4:3 standard aspect television.	<ul style="list-style-type: none"> <li>●<u>Pan and Scan (Stretch to fit)</u>: Video recorded for a widescreen is played as Pan &amp; Scan (unless prohibited by the producer of the disc).</li> <li>●Letterbox (Shrink to fit): Video recorded for a widescreen is played in the letterbox style.</li> </ul>
	<b>4:3 TV Settings for DVD-RAM</b> Select how a DVD-RAM widescreen picture is shown on a 4:3 standard aspect television.	<ul style="list-style-type: none"> <li>●4:3 Aspect: Titles played as recorded.</li> <li>●<u>Pan and Scan (Stretch to fit)</u>: Video recorded for a widescreen is played as Pan &amp; Scan.</li> <li>●<u>Letterbox (Shrink to fit)</u>: Video recorded for a widescreen is played in the letterbox style.</li> </ul>

## Changing the speaker setting to suit your speakers

When connecting with an HDMI cable to an amplifier, use the following settings on this unit if you cannot set the speaker delay effect on the amplifier.



If the subwoofer is set to "No", the front speakers will automatically be set to "Large". (In this case, we recommend connecting a speaker that can reproduce bass below 100 Hz.)

### Delay time (B)

(Effective when playing multi-channel audio)

If either distance C or E is less than D, find the difference in the relevant table and change to the recommended setting.

- 1 Press [▲, ▼, ◀, ▶] to select the delay time box (B) and press [ENTER].
- 2 Press [▲, ▼] to select the setting and press [ENTER].

### Speaker presence and size (A)

- 1 Press [▲, ▼, ◀, ▶] to select the speaker icon (A) and press [ENTER].
- 2 Press [▲, ▼] to select the setting and press [ENTER].

Icon examples:

Surround speaker (LS)



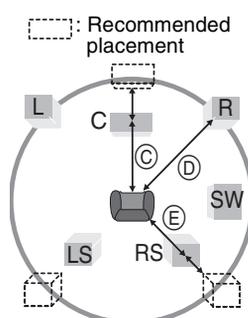
- Large**: Select when the speaker supports low-frequency (under 100 Hz) reproduction.
- Small**: Select when the speaker does not support low-frequency reproduction.

### C Center speaker

Difference	Setting
Approx. 34 cm (1 1/10 feet)	1.0 ms
Approx. 68 cm (2 1/5 feet)	2.0 ms
Approx. 102 cm (3 3/10 feet)	3.0 ms
Approx. 136 cm (4 2/5 feet)	4.0 ms
Approx. 170 cm (5 1/2 feet)	5.0 ms

### E Surround speakers

Difference	Setting
Approx. 170 cm (5 1/2 feet)	5.0 ms
Approx. 340 cm (11 feet)	10.0 ms
Approx. 510 cm (16 1/2 feet)	15.0 ms



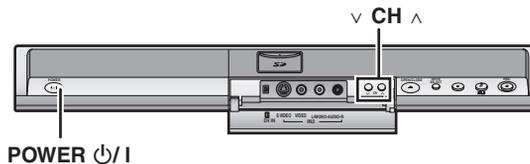
Refer to the control reference on page 60.

## Preparation:

If the program listings have already been downloaded, return the unit to the factory preset condition using the steps indicated below.

When the unit is on and stopped

- ① Press and hold [▼ CH] and [▲ CH] on the main unit for about five seconds.  
The unit turns off.
- ② Press [POWER ⏻/⏻] to turn the unit on.
- ③ After the language and TV aspect is set up, press [RETURN] and exit the TV Guide On Screen™ system setup screen.



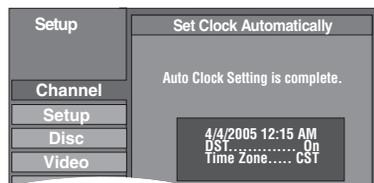
## Note

You can record only manually after you set the unit with “Set Channels Automatically”.

## Auto channel/clock settings

- 1** While stopped  
Press [FUNCTIONS].
- 2** Press [▲, ▼] to select “Other Functions” and press [ENTER].
- 3** Press [▲, ▼] to select “Setup” and press [ENTER].
- 4** Press [▲, ▼] to select “Channel” and press [▶].
- 5** Press [▲, ▼] to select “Set Channels Automatically” and press [ENTER].
- 6** Press [ENTER].

Auto Channel Setting starts. This takes a few minutes. The unit then proceeds with Auto Clock Setting. The time is displayed when finished.



- DST, Daylight Saving Time, shows the summertime setting. Regarding DST (Daylight Saving Time) → 22
- TIME ZONE shows the time difference from Greenwich Mean Time (GMT).  
EST (Eastern Standard Time) = GMT -5  
CST (Central Standard Time) = GMT -6  
MST (Mountain Standard Time) = GMT -7  
PST (Pacific Standard Time) = GMT -8  
AST (Alaska Standard Time) = GMT -9  
HST (Hawaii Standard Time) = GMT -10  
For other areas: xx hr
- If the Auto Clock Setting does not start automatically, select “Clock Settings” from the “Setup” tab and then select “Set Clock Automatically”.
- If the time was not set correctly, use “Set Clock Manually” (→ 22) or adjust time zone.

- 7** Press [ENTER].

•The unit configures channels according to the Signal Source (RF IN) settings as follows.

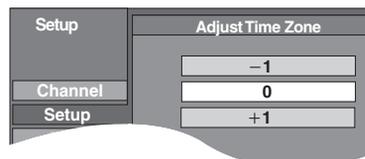
Signal Source (RF IN)	Band	Channel
Antenna	VHF	2-13
	UHF	14-69
	VHF	2-13
CableTV	CATV LOW BAND	95-99
	CATV MID/SUPER BAND	14-36
	CATV HYPER BAND	37-65
	ULTRA BAND	66-94
	SPECIAL CATV CHANNEL	100-125
		1

## Adjust Time Zone

Adjust the time zone (-1 or +1) if it was not set correctly with auto clock setting.

You cannot change this setting if you set the clock manually.

- 1** While stopped  
Press [FUNCTIONS].
- 2** Press [▲, ▼] to select “Other Functions” and press [ENTER].
- 3** Press [▲, ▼] to select “Setup” and press [ENTER].
- 4** Press [▲, ▼] to select “Setup” and press [▶].
- 5** Press [▲, ▼] to select “Clock Settings” and press [ENTER].
- 6** Press [▲, ▼] to select “Adjust Time Zone” and press [ENTER].



- 7** Press [▲, ▼] to select “-1” or “+1” and press [ENTER].

To return to the previous screen

Press [RETURN].

To exit the screen

Press [RETURN] several times.

To cancel partway while Auto Channel/Clock Setting is taking place

Press [RETURN].

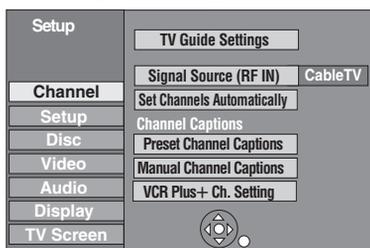
To set so the TV Guide On Screen™ system is not displayed automatically when you turn the unit on

When the power is turned on and the Start setup screen is displayed, press [▲, ▼] to select “Don't remind me again” and press [ENTER].

## Channel captions

You can use the preset captions, or manually enter new ones yourself.  
The captions you enter are displayed when the channel is displayed and in the Direct Navigator screen.

- 1** While stopped  
Press [FUNCTIONS].
- 2** Press [▲, ▼] to select “Other Functions” and press [ENTER].
- 3** Press [▲, ▼] to select “Setup” and press [ENTER].

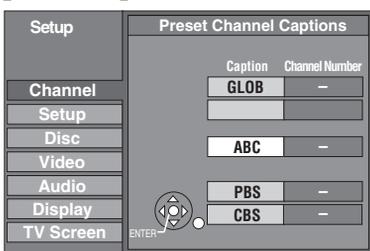


- 4** Press [▲, ▼] to select “Channel” and press [▶].

### Preset Channel Captions

After performing steps 1–4 (⇒ above)

- 5** Press [▲, ▼] to select “Preset Channel Captions” and press [ENTER].



- 6** Press [▲, ▼] to select the caption and press [▶].

You can choose from the following captions.  
ABC, PBS, CBS, CNN, FOX, ESPN, NBC, HBO, A&E, AMC, FAM, MAX, MTV, SHOW, TBS, USA, TNT, CBC, UPN, CTV, WB, TSN, DSC, GLOB

- When selecting the caption, press and hold [▲, ▼] to scroll up and down the screen.

- 7** Press [▲, ▼] to select the channel corresponding to the caption and press [◀].
- Channels are only displayed if they contain a station and if captions have not been added manually.
- To delete the channel number, press [\* CANCEL].

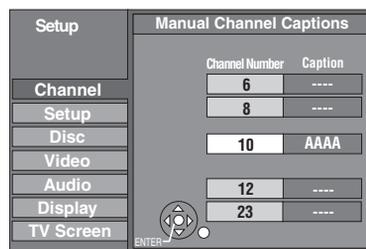
Repeat steps 6 and 7 to enter other channels.

- 8** Press [ENTER].

### Manual Channel Captions

After performing steps 1–4 (⇒ left)

- 5** Press [▲, ▼] to select “Manual Channel Captions” and press [ENTER].
- 6** Press [▲, ▼] to select the channel and press [▶].
- Channels are only displayed if they contain a station and if preset captions have not been added.
- 7** Press [▲, ▼] to select the first character and press [▶].
- You can choose from the following characters:  
A–Z, 0–9, -, &, !, /, (space)
- To delete the caption, press [\* CANCEL].
- Repeat this step to enter the other characters.



- 8** Press [◀, ▶] to return to the “Channel Number” column.

Repeat steps 6–8 to enter other channels.

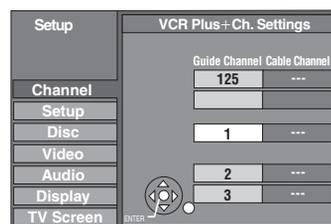
- 9** Press [ENTER].

## VCR Plus+ Channel Setting

Set these guide channels so you can use the VCR Plus+ programming number for scheduled recording. Before setting up, refer to a TV magazine for lists containing information on channels, station names, and guide channels.

After performing steps 1–4 (⇒ left)

- 5** Press [▲, ▼] to select “VCR Plus+ Ch. Setting” and press [ENTER].



- 6** Press [▲, ▼] to select the guide channel you want to set and press [▶].

When selecting the guide channel, press and hold [▲, ▼] to scroll the screen up and down.

- 7** Press [▲, ▼] to select the channel corresponding to the guide channel and press [◀].

To delete a number, press [\* CANCEL].

Repeat steps 6 and 7 to enter other channels.

- 8** Press [ENTER].

**To return to the previous screen**

Press [RETURN].

**To exit the screen**

Press [RETURN] several times.

# Frequently asked questions

Refer to the following items if you have any doubts about unit operations.

Set up		Page
Do I need to connect Audio/video cables from this unit to the TV?	<ul style="list-style-type: none"> <li>To enjoy vision and sounds from this unit to the TV, always use AV cables for connection. If your television does not have AUDIO/VIDEO terminals, an RF modulator is necessary. Consult your local dealer for more information.</li> </ul>	14–18
What equipment is necessary to play multi channel surround sound?	<ul style="list-style-type: none"> <li>You cannot playback multi-channel sound on this unit without other equipment. You must connect this unit with an HDMI cable or an optical digital cable to an amplifier with a built-in (Dolby Digital or DTS) decoder.</li> <li>An amplifier supporting CPPM and the HDMI standard (ver. 1.1 or later) must be connected to this unit to play multi-channel audio on a DVD-Audio.</li> </ul>	18, 19 —
Are the headphones and speakers directly connected to the unit?	<ul style="list-style-type: none"> <li>You cannot directly connect them to the unit. Connect through the amplifier, etc.</li> </ul>	18
Is my television progressive output compatible?	<ul style="list-style-type: none"> <li>All Panasonic televisions that have 480p input terminals are compatible. Consult the manufacturer if you have another brand of television.</li> </ul>	—
The television has S VIDEO IN terminal, COMPONENT VIDEO IN terminals and HDMI IN terminal. Which should I connect with?	<ul style="list-style-type: none"> <li>The output of picture quality becomes finer in the following order: –VIDEO IN terminal; S VIDEO IN terminal; COMPONENT VIDEO IN terminals; HDMI IN terminal. However, it will take longer for the picture output to startup when this unit is connected with the HDMI IN terminal.</li> </ul>	—

Disc		
Can I play DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL and +RW recorded with this unit with other equipment?	<ul style="list-style-type: none"> <li>You can play on compatible equipment such as DVD players after finalizing the disc on this unit. It is not necessary to finalize +RW. However, depending on the condition of the recording, the quality of the disc and capabilities of the DVD player, play may not be possible. To easily use discs on other players, please use “Create DVD Top Menu” in the DVD Management.</li> <li>If you play a DVD-R DL, +R DL or +RW use compatible equipment.</li> </ul>	58 —
Can I play DVD-Video, DVD-Audio and Video CDs bought in another country?	<ul style="list-style-type: none"> <li>You can play them if the video standard is NTSC.</li> <li>However, you cannot play DVD-Video if their region number does not include “1” or “ALL”. Refer to the disc’s jacket for more information.</li> </ul>	— Cover
Can a DVD-Video that does not have a region number be played?	<ul style="list-style-type: none"> <li>The DVD-Video region number indicates the disc conforms to a standard. You cannot play discs that do not have a region number. You also cannot play discs that do not conform to a standard.</li> </ul>	—
Please tell me about disc compatibility with this unit.	<ul style="list-style-type: none"> <li>This unit records and plays DVD-R, DVD-RW (DVD-Video format), +R, +RW and plays DVD-RW (DVD Video Recording format). You cannot directly record to DVD-R DL, and +R DL discs with this unit, you must first record to the HDD. And then copy from the HDD to disc.</li> <li>This unit also records and plays high speed recording compatible DVD-R, DVD-R DL, DVD-RW, +R, +R DL, +RW discs.</li> </ul>	4–6 —
Please tell me about CD-R and CD-RW compatibility with this unit.	<ul style="list-style-type: none"> <li>This unit plays CD-R/CD-RW discs which have been recorded in one of the following standards: CD-DA, Video CD, MP3, DivX and still pictures (JPEG/TIFF). Close the session after recording.</li> <li>You cannot write to a CD-R or CD-RW with this unit.</li> </ul>	7 —

Recording		
Can I record from a commercially purchased video cassette or DVD?	<ul style="list-style-type: none"> <li>Most commercially sold video cassettes and DVD are copy protected; therefore, recording is usually not possible.</li> </ul>	—
Can I record digital audio signals using this unit?	<ul style="list-style-type: none"> <li>You cannot record digital signals. The digital audio terminals on this unit are for output only. (The audio recorded from a digital video camcorder using the DV camcorder recording function, for example, is recorded digitally.)</li> </ul>	—
Can a digital audio signal from this unit be recorded to other equipment?	<ul style="list-style-type: none"> <li>You can record if using the PCM signal. When recording DVD, change the “Digital Audio Output” settings to the following from the Setup menu. –PCM Down Conversion    On –Dolby Digital            PCM –DTS                         PCM However, only –As long as digital recording from the disc is permitted. –As long as the recording equipment is compatible with a sampling frequency of 48 kHz.</li> <li>You cannot record MP3 signals.</li> </ul>	62 —
Can I switch to SAP during recording?	<ul style="list-style-type: none"> <li>With HDD and DVD-RAM, you can, and the audio recorded also changes. Just press [AUDIO].</li> <li>With DVD-R, DVD-RW (DVD-Video format), +R, +RW you cannot. Change before recording with “Multi-channel TV Sound ( MTS )” in the Setup menu.</li> </ul>	27 62
Can I high-speed copy to a disc?	<ul style="list-style-type: none"> <li>Yes, you can. Depending on the disc type, the maximum speed varies. Refer to the table (Approximate copying times).</li> </ul>	49

TV Guide On Screen™ system		Page
Does the TV Guide On Screen™ system work with analog and digital cable boxes/satellite receivers?	<ul style="list-style-type: none"> <li>● Yes. The TV Guide On Screen™ system works with both analog and digital cable boxes.</li> <li>● If you are using a satellite service other than DirecTV, you cannot use the TV Guide On Screen™ system.</li> </ul>	—
I have relocated, changed my television reception system or cable box etc. How should I redo the TV Guide On Screen™ system setup?	<ul style="list-style-type: none"> <li>● Select “Change system settings” in “SETUP” in the menu of the TV Guide On Screen™ system. If you select “No, repeat setup process”, you can then access the TV Guide On Screen™ system setup screen. You can also access the setup screen from “TV Guide Settings” in the Setup menu.</li> </ul>	34, 60
Please tell me about the downloading of program listings data.	<ul style="list-style-type: none"> <li>● Channel line-up data is transmitted continuously, 24 hours a day—7 days a week.</li> <li>● Program listings information that contains details about each program is usually transmitted four times a day, and the cycles last approximately 3 hours. The TV Guide On Screen™ system only requires one transmission a day to maintain up-to-date program listings. Because the unit must be turned off in order to receive new information, multiple transmissions are conveniently scheduled early to mid-morning and during the early afternoon hours.</li> </ul>	—
Why doesn't my favorite program have more information in the information window or expanded information window?	<ul style="list-style-type: none"> <li>● The hardware that makes TV Guide On Screen™ system possible is a computer chip that has limited storage space. Factors used in determining which programs display detailed program information are the number of channels turned “ON” in the CHANNEL EDITOR screen and the availability of the descriptions. Setting channels that cannot be received to “OFF” in the CHANNEL EDITOR screen may increase the amount of information displayed.</li> </ul>	34
Can I record one channel while watching another?	<p>If you connect with an antenna or “cable-ready”.</p> <ul style="list-style-type: none"> <li>● Yes. Change the television's input mode to “TV”.</li> </ul> <p>If you connect with a cable box or a satellite receiver</p> <ul style="list-style-type: none"> <li>● No. The user cannot watch one program and record another.</li> </ul>	—
If I have a power failure, will I need to reset the scheduled recording of programs I have already set?	<ul style="list-style-type: none"> <li>● In most cases the scheduled recording of programs will be saved. However, if an extended power failure occurs, it is strongly recommended that you verify the scheduled recording of programs that you had previously set. Press [SCHEDULE] to display the SCHEDULE screen.</li> </ul>	30
I do not want to use TV Guide On Screen™ system.	<ul style="list-style-type: none"> <li>● Set the unit with “Set Channels Automatically” in the Setup menu. Note that you can set scheduled recording only manually after you set the unit with “Set Channels Automatically”.</li> </ul>	64

## Messages

Messages including the following passages are displayed on screen.

On the television	Page	
<b>Authorization Error.</b> This title is not authorized to play.	<ul style="list-style-type: none"> <li>● You are trying to play the DivX VOD content that was purchased with a different registration code. You cannot play the content on this unit.</li> </ul>	—
<b>Cannot finish recording completely.</b>	<ul style="list-style-type: none"> <li>● The program was copy-protected.</li> <li>● The HDD or disc may be full.</li> <li>● The maximum number of times you can record the program is exceeded.</li> </ul>	—
<b>Cannot play.</b>	<ul style="list-style-type: none"> <li>● You inserted an incompatible disc (Discs recorded in PAL video, etc.).</li> </ul>	—
<b>Cannot record on the disc.</b>	<ul style="list-style-type: none"> <li>● The disc may be dirty or scratched.</li> </ul>	10
<b>Unable to format.</b>		
<b>Cannot display on this unit.</b>	<ul style="list-style-type: none"> <li>● You tried to play a non-compatible image.</li> <li>● Turn the unit off and re-insert the card.</li> </ul>	7 10
<b>Copyrighted material. Audio will not be output from HDMI.</b>	<ul style="list-style-type: none"> <li>● Should you connect equipment that does not support CPPM the audio from the CPPM copy protected DVD-Audio cannot be output from HDMI AV OUT terminal. Connect the audio cable of the Audio/Video cable (Red, White) or optical digital cable to the corresponding terminals.</li> </ul>	14–16 18
<b>Cannot record. Disc is full.</b>	<ul style="list-style-type: none"> <li>● <b>HDD RAM SD</b> Create space by deleting any unnecessary titles.</li> </ul>	43, 45, 57
<b>Cannot record. The number of titles has exceeded the maximum limit.</b>	<p>[Even if you delete recorded content from the DVD-R, DVD-R DL, +R, +R DL there is no increase in disc space. Available disc space on DVD-RW (DVD-Video format) or +RW increases only when the last recorded title is deleted.]</p> <ul style="list-style-type: none"> <li>● Use a new disc.</li> </ul>	—
<b>No disc</b>	<ul style="list-style-type: none"> <li>● The disc may be upside down.</li> </ul>	—
<b>No folders.</b>	<ul style="list-style-type: none"> <li>● There is no compatible folder in this unit.</li> </ul>	76
<b>No SD Card</b> <b>No valid SD card.</b>	<ul style="list-style-type: none"> <li>● The card is not inserted. If this message is displayed with a compatible card already inserted, turn off the unit, remove and then re-insert the card.</li> <li>● The card inserted is not compatible or the card format does not match.</li> </ul>	10 6
<b>There is not enough free space on the copying destination.</b>	<ul style="list-style-type: none"> <li>● Create space by deleting any unnecessary items.</li> <li>● Delete one or more items registered on the copy list to ensure that the “Destination Capacity” is not exceeded.</li> </ul>	43, 45, 48, 57 51, 55

Continued on next page

**On the television (Continued)**

		Page
<b>This is a non-recordable disc.</b>	<ul style="list-style-type: none"> <li>●The unit cannot record on the disc you inserted. Insert a DVD-RAM, +RW or unformatted DVD-R, DVD-RW (DVD-Video format) or +R.</li> <li>●You cannot directly record to DVD-R DL, and +R DL discs with this unit. You must first record to the HDD, and then copy from the HDD to disc.</li> <li>●You inserted an unformatted DVD-RAM, DVD-RW, +R, +R DL or +RW.</li> </ul>	4–6
<b>This disc is not formatted properly.</b>		—
<b>Insufficient Hard Drive space. Four hours (SP) of free hard drive space is needed in order to start copying to DVD-R/+R DL (D.Layer) disc. Too many titles on the Hard Drive. To allow titles to be copied to a DVD-R/+R DL (D.Layer) disc, please delete unnecessary titles.</b>	<ul style="list-style-type: none"> <li>●<b>-R DL +R DL</b> It is not possible to copy when there is not enough free space on the HDD or when the total number of the recorded titles on the HDD and the titles to be copied are greater than 500. Delete unwanted titles from the HDD.</li> </ul>	49
<b>Rental Expired.</b>	<ul style="list-style-type: none"> <li>●The DivX VOD content has zero remaining plays. You cannot play it. (DivX)</li> </ul>	—
	<ul style="list-style-type: none"> <li>●The operation is prohibited by the unit or disc.</li> </ul>	—

**On the unit's display**

The following messages or service numbers appear on the unit's display when something unusual is detected during startup and use.

<b>HARD ERR*</b>	<ul style="list-style-type: none"> <li>●If there is no change after turning the unit on and off, consult the dealer where the unit was purchased.</li> </ul>	—
<b>No AUDIO*</b>	<ul style="list-style-type: none"> <li>●When connecting to CPPM incompatible equipment with an HDMI cable, CPPM copy protected DVD-Audio cannot output audio through the HDMI AV OUT terminal. Connect the audio cable of the Audio/Video cable (Red, White) or optical digital cable to the corresponding terminals.</li> </ul>	14–16 18
<b>No READ</b>	<ul style="list-style-type: none"> <li>●The disc is dirty or badly scratched. The unit cannot record, play, or edit.</li> <li>●You have used a DVD lens cleaner and it has finished. Press [ OPEN/CLOSE] on the main unit to eject the disc.</li> </ul>	10 10
<b>PLEASE WAIT*</b>	<ul style="list-style-type: none"> <li>●Displayed when the unit is started. This is not a malfunction.</li> <li>●The unit is carrying out its recovery process. You cannot operate the unit while “PLEASE WAIT” is displayed.</li> </ul>	— —
<b>SET □</b> (“□” stands for a number.)	<ul style="list-style-type: none"> <li>●The remote control and main unit are using different codes. Change the code on the remote control.</li> </ul> <div style="text-align: center;">  <p>Press and hold [ENTER] and the indicated number button at the same time for more than 2 seconds.</p> </div>	23
<b>SLEEP</b>	<ul style="list-style-type: none"> <li>●In order to extend HDD life, the HDD is in SLEEP mode.</li> </ul>	9
<b>SP 35:50</b> <b>LP 151h</b> “SP”, “LP” and the numbers are examples.	<ul style="list-style-type: none"> <li>●Available space on the HDD or disc. The example “SP 35:50” is displayed when less than 100 hours are available and the example “LP 151h” is displayed when over 100 hours are available. “SP” and “LP” are recording modes, “35:50” means “35 hours 50 minutes” and “151h” means “151 hours”.</li> </ul>	24
<b>UNFORMAT*</b>	<ul style="list-style-type: none"> <li>●You inserted an unformatted DVD-RAM, DVD-RW, +RW, an unused +R, +R DL or DVD-RW (DVD-Video format) that has been recorded on other equipment. Format the disc to use it. However all the recorded contents on a disc are deleted.</li> </ul>	—
<b>UNSUPPORT*</b>	<ul style="list-style-type: none"> <li>●You have inserted a disc the unit cannot play or record on.</li> </ul>	4–6
<b>F74</b>	<ul style="list-style-type: none"> <li>●The HDMI connection could not be authenticated due to a transfer malfunction. Consult your local dealer for more information.</li> </ul>	—
<b>F75</b>	<ul style="list-style-type: none"> <li>●The HDMI connection could not be authenticated due to an internal data malfunction. Consult your local dealer for more information.</li> </ul>	—
<b>U59</b>	<ul style="list-style-type: none"> <li>●The unit is hot. The unit switches to standby for safety reasons. Wait for about 30 minutes until the message disappears. Select a position with good ventilation when installing the unit. Do not block the cooling fan on the rear of the unit.</li> </ul>	—
<b>U61</b>	<ul style="list-style-type: none"> <li>●(When a disc is not inserted) Displays when a malfunction has occurred during recording, playback or copy. This is displayed when the unit is in the recovery process to return to normal operation; it is not broken. Once the display clears you can use the unit again.</li> </ul>	—
<b>U71</b>	<ul style="list-style-type: none"> <li>●The connected equipment is not HDMI compatible.</li> </ul>	—
<b>U72</b> <b>U73</b>	<ul style="list-style-type: none"> <li>●The HDMI connection acts unusually. –The connected equipment is not HDMI compatible. –Please use HDMI cables that have the HDMI logo (as shown on the cover). –The HDMI cable is damaged.</li> </ul>	—
<b>U88</b>	<ul style="list-style-type: none"> <li>●(When a disc is inserted) Displays when there was something unusual detected with the disc while playback or copy. This is displayed when the unit is in the recovery process to return to normal operation; it is not broken. Once the display clears you can use the unit again.</li> </ul>	69
<b>U99</b>	<ul style="list-style-type: none"> <li>●The unit fails to operate properly. Press [POWER /I] on the main unit to switch the unit to standby. Now press [POWER /I] on the main unit again to turn the unit on.</li> </ul>	—
<b>H□□ or F□□</b>	<ul style="list-style-type: none"> <li>●There is something unusual. (The service number displayed after H and F depends on the unit's condition.)</li> <li>●Check the unit using the troubleshooting guide. If the service number does not disappear, do the following. 1. Disconnect the plug from the AC outlet, wait a few seconds, then reconnect it. 2. Press [POWER /I] to turn the power on. (The unit may be fixed.) If the service number does not disappear despite doing the above, request service from the dealer. Inform the dealer of the service number when requesting service.</li> </ul>	— 69–74

\* The messages are alternately displayed.

# Troubleshooting guide

Before requesting service, make the following checks. If you are in doubt about some of the check points, or if the solutions indicated in the chart do not solve the problem, refer to the “Customer Services Directory” on page 78 if you reside in the U.S.A., or refer to the “Product information” on page 77 if you reside in Canada.

## The following do not indicate a problem with this unit:

- Regular disc rotating sounds.
- Poor reception due to atmospheric conditions.
- Image disturbance during search.
- Interruptions in reception due to periodic satellite broadcasting breaks.
- A sound is heard when the HDD goes into SLEEP mode, or operations are slow to respond in SLEEP mode.
- Operations do not work due to a poor-quality disc. (Try again using a Panasonic disc.)
- **The unit freezes due to one of its safety devices being activated. (Press and hold [POWER ⏻/⏻] on the main unit for 10 seconds.)**
- When the HDD has been automatically placed in the SLEEP mode (→ 9), or the unit is turned on or off, there may be an unexpected sound. This does not indicate a problem with this unit.

## To reset this unit

		Page
<b>To return the channel settings and clock to the factory preset (No setting)</b>	● Press and hold [CH ▲] and [▼ CH] on the main unit for about 5 seconds. (Current channel line-up and program listings are cleared.)	—
<b>To return all the settings other than the main ones to the factory preset</b>	● Select “Yes” in “Restore Default Settings” in the Setup menu. This returns all values in the Setup menus, except for the clock, channel settings, ratings level, and on-screen language, to the default settings.	60
<b>To reset the ratings level settings</b>	● While the disc tray is open, press [DRIVE SELECT] to select the DVD drive then press and hold [● REC] and [▶] (PLAY/×1.3) on the main unit at the same time for 5 or more seconds.	—
<b>To restore the unit if it freezes due to one of the safety devices being activated</b>	● Press and hold [POWER ⏻/⏻] on the main unit for 10 seconds. (The settings remain.)	—

## Power

<b>No power.</b>	● Insert the AC power supply cord securely into a known active AC outlet.	14–16
<b>The unit switches to standby mode.</b>	● This is a power saving feature. It can be changed if desired using “Off Timer” in the Setup menu. ● One of the unit’s safety devices is activated. Press [POWER ⏻/⏻] on the main unit to turn the unit on.	60 —

## Displays

<b>The display is dim.</b>	● Change “FL Display” in the Setup menu.	62
<b>“12:00A” is flashing on the unit’s display.</b>	● Set the clock. If you do not want to use the TV Guide On Screen™ system, set the clock with “Set Clock Automatically”.	64
<b>Compared to the actual recorded time, the elapsed time displayed is less.</b>	● The displayed recording/play time is converted from the number of frames at 29.97 frames (equal to 0.999 seconds) to one second. There will be a slight difference between the time displayed and the actual elapsed time (e.g., actual one-hour elapsed time may display as approximately 59 minutes 56 seconds). This does not affect the recording.	—
<b>The time recorded on the disc and the available time shown do not add up.</b>	● Times shown may disagree with actual times.	—
<b>The play time shown for MP3 does not agree with the actual time.</b>	● Even if you delete recorded content from the DVD-R, DVD-R DL, +R or +R DL there is no increase in disc space. ● Available recording space on DVD-RW (DVD-Video format) or +RW increases only when the last recorded title is deleted. It does not increase if other titles are deleted. ● More disc space than the actual recording time is used after recording or editing the DVD-R, DVD-R DL, +R or +R DL 200 times or more. ● While searching, the elapsed time may not display correctly.	— — — —
<b>“U61” or “U88” is displayed and the disc cannot be ejected.</b>	● The unit is carrying out the recovery process. Do the following to eject the disc. 1 Press [POWER ⏻/⏻] on the main unit to switch the unit to standby. If the unit doesn’t switch to standby, press and hold [POWER ⏻/⏻] on the main unit for about 10 seconds. The unit is forcibly switched to standby. 2 While the unit is off, press and hold [■] and [CH ▲] on the main unit at the same time for about 5 seconds. Remove the disc.	—

## TV screen and video

<b>The images from this unit do not appear on the television.</b>	● Make sure that the television is connected to the VIDEO OUT terminal, S VIDEO OUT terminal, COMPONENT VIDEO OUT terminals or HDMI AV OUT terminal on this unit.	14–19
<b>Picture is distorted.</b>	● Make sure that the television’s input setting (e.g., VIDEO 1) is correct. ● Progressive output is set to on but the connected television is not progressive compatible. Press and hold [■] and [▶] (PLAY/×1.3) on the main unit at the same time for more than 5 seconds to cancel this setting. The setting will change to interlace. ● To output video from a device connected with an HDMI cable, set “HDMI Video Output” to “On” in the Setup menu. ● When connecting with a component video cable to a television that is incompatible with progressive video, check if there is also an HDMI cable connected to an amplifier, etc. If so, turn the power off to the device connected with an HDMI cable, and set the “HDMI Video Output” to “Off” in the Setup menu. ● Picture may not be seen when more than 4 devices are connected with HDMI cables. Reduce the number of connected devices.	— — 63 63 —

Continued on next page

TV screen and video (Continued)		Page
Television reception worsens after connecting the unit.	<ul style="list-style-type: none"> <li>This can occur because the signals are being divided between the unit and other equipment. It can be solved by using a signal booster, available from audio-visual suppliers. If it is not solved by using a signal booster, consult the dealer.</li> </ul>	—
Status messages do not appear.	<ul style="list-style-type: none"> <li>Select “Automatic” in “Status Messages” in the Setup menu.</li> </ul>	62
The blue background does not appear.	<ul style="list-style-type: none"> <li>Select “On” in “Blue Background” in the Setup menu.</li> </ul>	62
The 4:3 aspect ratio picture expands left and right.	<ul style="list-style-type: none"> <li>Use the television to change the aspect. Refer to your television’s operating instructions.</li> <li>If connecting with a component video cable, set “Progressive” to “Off” in the Video menu. If this doesn’t help or you cannot set it to “Off”, then set the “TV Type” to “4:3 TV Aspect 4:3 &amp;480i” in the Setup menu.</li> </ul>	— 43, 62
Screen size is wrong.	<ul style="list-style-type: none"> <li>Check the settings for “TV Type”, “4:3 TV Settings for DVD-Video” or “4:3 TV Settings for DVD-RAM” in the Setup menu.</li> <li>If you connect an HDMI cable, set “HDMI Output Display Aspect” to “Normal” in the Setup menu.</li> </ul>	62, 63 63
The recorded title is stretched vertically.	<ul style="list-style-type: none"> <li>16:9 aspect programs are recorded in 4:3 aspect in the following cases.                             <ul style="list-style-type: none"> <li>If you recorded to the HDD or a DVD-RAM and “Enable High-Speed Mode” was set to “On” in the Setup menu. (The factory preset is “On”)</li> <li>If you recorded or copied to a DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL or +RW.</li> </ul> </li> <li>It may be possible to adjust the display mode on the TV. Refer to your television’s operating instructions.</li> </ul>	61 —
There is a lot of after-image when playing video.	<ul style="list-style-type: none"> <li>Turn “DNR” off if it is on.</li> </ul>	43
When playing DVD-Video using progressive output, one part of the picture momentarily appears to be doubled up.	<ul style="list-style-type: none"> <li>Set “Progressive” in the Video menu to “Off”. This problem is caused by the editing method or material used on DVD-Video, but should be corrected if you use interlace output.</li> <li>When you use the HDMI AV OUT terminal for video output, follow the steps below for setting.                             <ol style="list-style-type: none"> <li>1 Connect this unit to the TV with any cable except the HDMI cable</li> <li>2 Set “HDMI Video Output” to “Off” in the Setup menu</li> </ol> </li> </ul>	43 — 63
There is no apparent change in picture quality when adjusted with the Video menu in the on-screen menus.	<ul style="list-style-type: none"> <li>The effect is less perceivable with some types of video.</li> </ul>	—
The channels keep changing.	<ul style="list-style-type: none"> <li>When the unit is turned off, it uses the IR Blaster to scan the cable box or the DirecTV receiver channels and acquire the program listings data. To watch a cable box or a DirecTV receiver program (even if not recording) turn the unit back on.</li> </ul>	—

Sound

No sound. Low volume. Distorted sound. Cannot hear the desired audio type.	<ul style="list-style-type: none"> <li>Check the connections and the “Digital Audio Output” settings. Check the input mode on the amplifier if you have connected one.</li> <li>Press [AUDIO] to select the audio.</li> <li>Turn off V. Surround Sound in the following cases.                             <ul style="list-style-type: none"> <li>–When using discs that do not have surround sound effects such as Karaoke discs.</li> <li>–When playing MTS broadcast programs.</li> </ul> </li> <li><b>DVD-A</b> The disc may have a restriction on the method of audio output. This unit cannot playback multi-channel discs that prevent down-mixing unless the unit is connected with an HDMI cable to an amplifier supporting CPPM and the HDMI standard (ver. 1.1 or later). Refer to the disc jacket for more information.</li> <li>Audio may not be output due to how files were created. (DivX)</li> <li>Audio may not be heard when more than 4 devices are connected with HDMI cables. Reduce the number of connected devices.</li> <li>The sound effects will not work when the bitstream signal is output from the HDMI AV OUT terminal or the DIGITAL AUDIO OUT terminal.</li> <li>To output audio from a device connected with an HDMI cable, set “HDMI Audio Output” to “On” in the Setup menu.</li> <li>If the sound is distorted when the unit is connected to an amplifier with the HDMI cable, adjust the settings in “HDMI Connection Speakers Setting” in the Setup menu to match the connection.</li> <li>Depending on the connected equipment, the sound may be distorted if this unit is connected with an HDMI cable.</li> <li>If recording to the HDD or a DVD-RAM when “Enable High-Speed Mode” is set to “On”, you can only record either the main or secondary audio of a MTS broadcast. If you do not intend to copy the title to a DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL or +RW set “Enable High-Speed Mode” in the Setup menu to “Off”.</li> </ul>	14–19, 62 27, 38 43 — — — — 63 63 — 61
Cannot switch audio.	<ul style="list-style-type: none"> <li>You cannot switch the audio in the following cases.                             <ul style="list-style-type: none"> <li>–When a DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL or +RW disc is in the disc tray while DVD drive is selected.</li> <li>–When the recording mode is XP and “Audio for XP Recording” is set to “LPCM”.</li> <li>–When “Enable High-Speed Mode” is set to “On”. (The default setting is “On”.)</li> </ul> </li> <li>When connecting an amplifier using an optical digital cable or an HDMI cable, you cannot switch the audio if “Dolby Digital” is set to “Bitstream”. Set “Dolby Digital” to “PCM” or connect using audio cables.</li> <li>There are discs for which audio cannot be changed because of how the disc was created.</li> </ul>	— 62 61 62, 18, 19 —

Operation		Page
Cannot operate the television. The remote control doesn't work.	<ul style="list-style-type: none"> <li>Change the manufacturer code. Some televisions cannot be operated even if you change the code.</li> <li>The remote control and main unit are using different codes. Change the code on the remote control.</li> </ul>	23
	 <p>Press and hold [ENTER] and the indicated number button at the same time for more than 2 seconds.</p>	23
	<ul style="list-style-type: none"> <li>The batteries are depleted. Replace them with new ones.</li> </ul>	11
	<ul style="list-style-type: none"> <li>You are not pointing the remote control at the main unit's remote control signal sensor during operation.</li> <li>Colored glass may obstruct the signal reception/transmission.</li> <li>Don't place the signal sensor in direct sunlight or in areas that may be subject to sunlight exposure.</li> </ul>	—
	<ul style="list-style-type: none"> <li>It may be necessary to set the code on the remote control again after changing the batteries.</li> <li>It may be necessary to set the manufacturer code again after changing the batteries.</li> </ul>	23 23
The unit is on but cannot be operated.	<ul style="list-style-type: none"> <li>Recording drive or playback drive has not been selected properly.</li> <li>Some operations may be prohibited by the disc.</li> <li>The unit is hot ("U59" appears on the display). Wait for "U59" to disappear.</li> <li>One of the unit's safety devices may have been activated.</li> </ul> <p>Reset the unit as follows:</p> <ol style="list-style-type: none"> <li>Press [POWER ⏻/⏪] on the main unit to switch the unit to standby. If the unit doesn't switch to standby, press and hold [POWER ⏻/⏪] on the main unit for about 10 seconds. The unit is forcibly switched to standby. Alternatively, disconnect the AC power supply cord, wait one minute, then reconnect it.</li> <li>Press [POWER ⏻/⏪] on the main unit to switch it on. If the unit still cannot be operated, consult the dealer.</li> </ol>	24, 36 — — —
HDD activation is slow.	<ul style="list-style-type: none"> <li>The HDD is in SLEEP mode. ("SLEEP" appears in the unit's display.)</li> </ul>	9
Cannot eject disc.	<ul style="list-style-type: none"> <li>The unit is recording.</li> <li>The unit may have a problem. While the unit is off, press and hold [■] and [CH ^] on the main unit at the same time for about 5 seconds. Remove the disc and consult the dealer.</li> </ul>	— —
Startup is slow. When the unit is turned on, audio and video output takes a long time.	<ul style="list-style-type: none"> <li>Startup takes time in the following situations. <ul style="list-style-type: none"> <li>A disc other than a DVD-RAM is inserted.</li> <li>The clock is not set.</li> <li>Immediately after a power failure or the AC power supply cord is connected.</li> <li>When the unit is connected with an HDMI cable.</li> </ul> </li> </ul>	—
Takes time to read DVD-RAM.	<ul style="list-style-type: none"> <li>It may take time to read a disc if it is being used for the first time in this unit or it has not been used for a long time.</li> </ul>	—

#### Recording/Scheduled recording/Copying

Cannot record. Cannot copy.	<ul style="list-style-type: none"> <li>You haven't inserted a disc or the disc you inserted cannot be recorded on. Insert a disc the unit can record onto.</li> </ul>	4-6
	<ul style="list-style-type: none"> <li>The disc is unformatted. Format the disc using DVD Management. <b>RAM -RW(V) +R +R DL</b></li> </ul>	57
	<ul style="list-style-type: none"> <li><b>RAM</b> The write-protect tab on the cartridge is set to PROTECT, or the disc is protected with DVD Management.</li> </ul>	56
	<ul style="list-style-type: none"> <li>Some programs have limitations on the number of times they can be recorded. (CPRM)</li> </ul>	76
	<ul style="list-style-type: none"> <li>You cannot record when there is not enough space or when the number of titles has reached its limit. Delete unwanted titles or use a new disc.</li> </ul>	45, 57
	<ul style="list-style-type: none"> <li>You cannot directly record to DVD-R DL and +R DL discs with this unit. You must first record to the HDD, and then copy from the HDD to disc.</li> </ul>	—
	<ul style="list-style-type: none"> <li><b>-R DL +R DL</b> In the following situations, you cannot copy. Delete unnecessary titles from the HDD and then copy. <ul style="list-style-type: none"> <li>If there is not enough space available on the HDD (If you will copy titles from the HDD to a blank disc and fill the entire disc, HDD disc space equivalent to 4 hours of SP mode recording is necessary).</li> <li>If the total number of titles recorded on the HDD or titles to be copied exceed 500:</li> </ul> </li> </ul>	43, 44
	<ul style="list-style-type: none"> <li>You cannot record and copy on finalized discs. However you can record and copy again if you format DVD-RW disc.</li> </ul>	—
	<ul style="list-style-type: none"> <li>Due to peculiarities of DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL and +RW you may be unable to record onto them if you either insert and remove the disc or switch the unit on and off while a disc is loaded, a total of fifty times.</li> </ul>	—
	<ul style="list-style-type: none"> <li>A DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL and +RW recorded on this unit may not be recordable on other Panasonic DVD Recorders.</li> <li>If you connect a DISH Network, scheduled recording using the TV Guide On Screen™ or VCR Plus+ system does not work. However, if DISH Network is selected in TV Guide Setup, then you can set scheduled recordings with the DISH Network receiver.</li> </ul>	28
Cannot record from external equipment.	<ul style="list-style-type: none"> <li>Check that the connection is correct.</li> <li>Select the input channel ("IN1", "IN2", "IN3" or "DV") for the equipment you have connected .</li> </ul>	14-19, 53 —
Scheduled recording does not work properly.	<ul style="list-style-type: none"> <li>The scheduled program is incorrect or different scheduled program times overlap. Correct the program.</li> <li>The scheduled program may be deleted if there is an interruption to the power.</li> </ul>	30 —
VCR Plus+ system does not work properly.	<ul style="list-style-type: none"> <li>VCR Plus+ system works properly only if you connect antenna or "cable-ready".</li> <li>If you connect a DISH Network, VCR Plus+ system does not work properly.</li> </ul>	— —
Scheduled recording does not stop even when [■] is pressed.	<ol style="list-style-type: none"> <li>Press [DRIVE SELECT] to select the recording drive.</li> <li>Press [■], then press [◀, ▶] to select "Stop recording" and press [ENTER]. Recording stops.</li> </ol>	—

Continued on next page

Recording/Scheduled recording/Copying (Continued)

		Page
The scheduled program remains even after recording finishes.	<ul style="list-style-type: none"> <li>The scheduled program remains unless set to "once".</li> </ul>	28, 29, 32
A part or whole of a recorded title has been lost.	<ul style="list-style-type: none"> <li>If there is a power failure or the plug is disconnected from the household AC outlet while recording or editing, the title may be lost or the HDD/disc may become unusable. You will have to format the disc (<b>HDD</b> <b>RAM</b> <b>-RW(V)</b> <b>+RW</b>) or use a new disc. We cannot offer any guarantee regarding lost titles or discs.</li> </ul>	57
The program name and the recorded title do not match.	<ul style="list-style-type: none"> <li>There was a program change after scheduled recording was set but the recorded title still has the old program name.</li> </ul>	—
Cannot copy to a DVD-R, etc. disc using the high-speed mode.	<ul style="list-style-type: none"> <li>If "Enable High-Speed Mode" is set to "Off" in the Setup menu before recording to the HDD, then high-speed copy cannot be performed. (The default setting is "On").</li> <li><b>+R</b> <b>+R DL</b> <b>+RW</b> If recorded in FR mode (recordings 5 hours or longer) or EP mode, you cannot perform high-speed copy.</li> <li><b>+R</b> <b>+R DL</b> <b>+RW</b> Titles recorded in high-speed mode with other Panasonic DVD recorders, and then copied to the HDD on this unit may not copy to +R, +R DL or +RW discs with high-speed copy.</li> </ul>	61 — —
When copying, it takes a long time even when high-speed mode is selected.	<ul style="list-style-type: none"> <li>Use a disc that is compatible with high-speed recording. Even if the disc is high speed recording compatible, the maximum speed may not be possible due to the condition of the disc.</li> <li>It takes longer than normal to copy many titles.</li> <li>You cannot high-speed copy to DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL and +RW, titles longer than 6 hours when using other Panasonic DVD Recorders that are not compatible with EP (8 hour) mode recording.</li> </ul>	— — —
An unusually loud sound is coming from the rotating DVD-R, etc.	<ul style="list-style-type: none"> <li>When recording or high-speed copying to a DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL and +RW the sound of the disc rotating may be louder than normal; however, this is not a problem.</li> </ul>	—
The DV camcorder recording function does not work.	<ul style="list-style-type: none"> <li>If images cannot be recorded or if the recording is aborted, check the connections and DV equipment settings.</li> <li>You cannot start recording until the images from the DV equipment appear on the television.</li> <li>Recording may not be performed as desired if the time codes on the tape in the DV equipment are not successive.</li> <li>Depending on the equipment, the DV camcorder recording may not operate properly.</li> <li>You can only record audio/video images on a DV tape.</li> </ul>	53 — — — —
There is no picture on the television during scheduled recording.	<ul style="list-style-type: none"> <li>Scheduled recordings are activated regardless of whether the unit is turned on/off. Turn on the power to confirm the contents of the scheduled recording.</li> </ul>	—

TV Guide On Screen™ system

Although initial setup for the TV Guide On Screen™ system was completed hours ago, program listings do not display when [TV GUIDE] is pressed.	<ul style="list-style-type: none"> <li>Leave the unit turned off for at least 24 hours.</li> </ul>	—
	<ul style="list-style-type: none"> <li>Initial setup was done incorrectly. (e.g. The user entered the wrong country, ZIP/postal code or cable box information.) Select "Change system settings" menu and verify the data entered during initial setup. If the settings are wrong, set up the TV Guide On Screen™ system again.</li> </ul>	34
	<ul style="list-style-type: none"> <li>Check the connection and set up the TV Guide On Screen™ system again.                             <ul style="list-style-type: none"> <li>If you connect a cable box and/or a DirecTV receiver                                     <ul style="list-style-type: none"> <li>the output terminal of the cable box and/or the DirecTV receiver is connected to this unit's IN3 terminal</li> <li>the IR Blaster is correctly connected and installed</li> <li>the cable box and/or the DirecTV receiver is turned on</li> </ul> </li> <li>If you do not connect a cable box and a DirecTV receiver                                     <ul style="list-style-type: none"> <li>the antenna cable is connected to this unit's RF IN terminal</li> </ul> </li> </ul> </li> </ul>	34 15, 16
	<ul style="list-style-type: none"> <li>The program listings were temporarily unavailable in your area (Wait another 24 hours or Redo setup).</li> </ul>	15 —
	<ul style="list-style-type: none"> <li>The program listings are not available in your area. Set the unit using "Set Channels Automatically". Note that you can only manually set scheduled recording after you set the unit using "Set Channels Automatically".</li> </ul>	14 —
	<ul style="list-style-type: none"> <li>Consult your service provider if you are using a cable box or a satellite receiver.</li> </ul>	64 —
	<ul style="list-style-type: none"> <li>The TV Guide On Screen™ system may not be able to receive the program listings data if reception is poor. This may be improved by using a booster. Consult your dealer.</li> </ul>	—
	<ul style="list-style-type: none"> <li>The TV Guide On Screen™ system can be used when 480i mode is selected on the DirecTV receiver.</li> </ul>	—
	<ul style="list-style-type: none"> <li>If you are watching DirecTV in 4:3 aspect with the side panel, set the side panel to "Off" on the DirecTV receiver in order to correctly receive program listings.</li> </ul>	—
	"Cable code -INCOMPLETE-" appears in the TV Guide On Screen™ system setup.	<ul style="list-style-type: none"> <li>The unit cannot find the correct IR code for the cable box. Consult your service provider.</li> </ul>

TV Guide On Screen™ system (Continued)

		Page
<p><b>Some or all of the channels display “No Listing”.</b></p>	<ul style="list-style-type: none"> <li>● For a newly installed unit, the TV Guide On Screen™ system may not have been given enough time to download the initial data. This procedure can only occur when the unit is in standby mode for a period of 24 hours. (During this time, do not turn on the unit as the download will be interrupted.) Once the procedure takes place the phrase “No Listing” will be replaced with program information.</li> <li>● The channel(s) in question was (were) recently turned “ON” (in the CHANNEL EDITOR screen); however, TV Guide On Screen™ system has yet to receive channel data for this channel. Leave the unit in standby mode.</li> <li>● Immediately after beginning use there are several days of blank listings. You can display the program listings for up to the next 8 days without any blank listings by downloading program listings continuously over several days.</li> <li>● The unit was left turned on for an extended period of time and the TV Guide On Screen™ system was unable to receive program listings data. Press [⏻ DVD POWER] to set the unit in standby mode when not in use.</li> <li>● During the data download the station from which data is downloaded had an unscheduled power outage.</li> <li>● If using an over-the-air antenna, marginally poor reception can cause some of the data to be missed.</li> <li>● If using a cable box and/or a satellite receiver, it was accidentally turned off. In installations using a cable box and/or a satellite receiver, the box must be left on continuously.</li> </ul>	—
		—
		—
		—
		—
		—
		—
<p><b>Cannot receive some channels displayed on the program listings.</b></p>	<ul style="list-style-type: none"> <li>● Cable TV subscribers receive channel data for all available channels your cable TV provider offers. In order to view all the channels, you'd also have to subscribe to all the channels. If you are connected to an over-the-air antenna the channel data you receive often represents a viewing area larger than you would typically be able to receive. Your location, the type of TV antenna you are using and your distance from each station's transmitting antenna will all determine which channels are viewable from your location. Once you've determined which channels can be received, all others can be removed from the program listings. Set these channels to “OFF” in the CHANNEL EDITOR screen.</li> </ul>	<b>34</b>
<p><b>Some over-the-air or cable channels are not listed on the program listings and even on the CHANNEL EDITOR screen.</b></p>	<ul style="list-style-type: none"> <li>● Presently, the TV Guide On Screen™ system does not list all channels in any given broadcast area. As a result, channels are selected primarily on a “majority rules” basis. Channels with the highest potential viewership are given top priority.</li> <li>● Data for local programming which is not provided to TV Guide's data distribution network would also not be available.</li> </ul>	—
		—
<p><b>The program highlighted doesn't match up with the video window on the TV screen.</b></p>	<ul style="list-style-type: none"> <li>● The data entered during the initial setup was incorrect (e.g., The user entered the wrong ZIP/postal code or selected the incorrect channel line-up). Select “Change system settings” menu and verify the data entered during initial setup. If the settings are wrong, set up the TV Guide On Screen™ system again.</li> </ul>	<b>34</b>
<p><b>The unit doesn't change channels or it changes to the wrong channel.</b></p>	<ul style="list-style-type: none"> <li>● The Video window is locked to remain on the channel you were previously watching.</li> </ul>	<b>31</b>
	<ul style="list-style-type: none"> <li>● The station in question may have made recent program schedule changes and the TV Guide On Screen™ system has not yet been updated.</li> <li>● The cable company has not yet informed industry sources of their channel line-up changes. Use the CHANNEL EDITOR feature to make adjustments.</li> </ul>	<b>34</b>
<p><b>Some channels are listed on the wrong number.</b></p>		
<p><b>Two stations are received on certain channels; morning and evening programs differ.</b></p>	<ul style="list-style-type: none"> <li>● Such situations occur more frequently on cable TV. “Split” channels occur when the cable provider may not have an adequate number of open channels and chooses to switch the channel line to better suit the subscribers' viewing habits. When a “Split” channel occurs, program data for only one channel is usually provided.</li> </ul>	—
<p><b>Cable box/satellite receiver doesn't change channels with TV Guide On Screen™ system.</b></p>	<ul style="list-style-type: none"> <li>● The incorrect cable box/satellite receiver brand code was selected during the initial setup. Select “Change system settings” menu and verify the data entered during initial setup. If the setting is wrong, set up the TV Guide On Screen™ system again.</li> </ul>	<b>34</b>
	<ul style="list-style-type: none"> <li>● The user has incorrectly connected or positioned the IR Blaster. Please reconnect or reposition it. Select “Change system settings” menu and verify the data entered during initial setup.</li> </ul>	<b>15, 34</b>
	<ul style="list-style-type: none"> <li>● The cable box/satellite receiver has no remote capability and is incompatible. Consult your service provider.</li> </ul>	—
	<ul style="list-style-type: none"> <li>● The user has a type of “after market” brand cable box or a satellite receiver other than DirecTV, and it may be incompatible. Consult your service provider.</li> </ul>	—
<p><b>Cannot record a program. The screen remains snowy or blue.</b></p>	<p>If you do not connect a cable box and a satellite receiver</p> <ul style="list-style-type: none"> <li>● The unit was hooked up incorrectly. Please reconnect it.</li> <li>● The user selected the incorrect channel-lineup. Select “Change system settings” menu and verify the data entered during initial setup. If the setting is wrong, set up the TV Guide On Screen™ system again.</li> </ul>	<b>14–18</b> <b>34</b>
	<p>If you connect a cable box and/or a satellite receiver</p> <ul style="list-style-type: none"> <li>● The unit was hooked up incorrectly. Please reconnect it, or contact the cable company for proper wiring procedure.</li> </ul>	<b>15–18</b>
	<ul style="list-style-type: none"> <li>● The unit is not set to the correct output channel. Select “Change system settings” menu and verify the data entered during initial setup. If the setting is wrong, redo the setup correctly choosing 03, 04 or the output channel set by your cable system.</li> </ul>	<b>34</b>
	<ul style="list-style-type: none"> <li>● The cable box or the satellite receiver was left OFF. The user should always leave the cable box or the satellite receiver turned on and the unit turned off (when not in use).</li> </ul>	—
		—
<p><b>The SCHEDULE screen only shows the channel number of the program instead of the program name.</b></p>	<ul style="list-style-type: none"> <li>● The time slot and channel for the scheduled program may not have yet received program listings information. Once updated information is received the program name will appear in the SCHEDULE screen.</li> </ul>	—
	<ul style="list-style-type: none"> <li>● If you manually set a scheduled recording the TV program name is not displayed.</li> </ul>	—

Continued on next page

Play

		Page
Play fails to start even when [▶] (PLAY) is pressed. Play starts but then stops immediately.	●Insert the disc correctly with the label facing up.	13
	●The disc is dirty.	10
	●You tried to play a blank disc or disc unplayable on this unit.	4-6
	●You tried to play a +RW that needs to be finalized on the equipment used for recording.	—
	●You may be able to copy a “One time only recording” title that was recorded to DVD-RAM using a different Panasonic DVD Recorder to this unit’s HDD, but play is not possible due to copyright protection.	—
Audio and video momentarily pause.	●When recording to DVD-RAM using EP (8H) mode, play may not be possible on DVD players that are compatible with DVD-RAM. In this case use EP (6H) mode.	61
	●You cannot play discs during DV camcorder recording.	—
	●If playing DivX VOD content, refer to the homepage where you purchased it. (DivX)	40
DVD-Video is not played.	●This occurs between playlist chapters.	—
	●This occurs between chapters and with partially deleted titles on +RW, finalized DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R and +R DL that have been copied using the high speed mode.	—
	●This occurs as scenes change during Quick View.	—
Alternative soundtrack and subtitles cannot be selected.	●-R DL +R DL When playing a title recorded on both layers, the unit automatically switches between layers and plays the title in the same way as a normal program. However, video and audio may momentarily cut out when the unit is switching layers.	—
	●You have set a ratings level to limit DVD-Video play. Change this setting.	37
No subtitles.	●The languages are not recorded on the disc.	—
	●You may not be able to use the on-screen menus to change the soundtrack and subtitles on some discs. Use the disc’s menus to make changes.	37
	●When progressive output is on, closed captions cannot be displayed.	—
Angle cannot be changed.	●Subtitles are not recorded on the disc.	—
	●Turn the subtitles on. Set “Subtitle” on the on-screen menu to “On”.	42
You have forgotten your ratings password. You want to cancel the ratings level.	●Angles can only be changed during scenes where different angles are recorded.	—
	●The ratings level returns to the factory preset. While the disc tray is open, press [DRIVE SELECT] to select DVD drive then press and hold [● REC] and [▶] (PLAY) on the main unit at the same time for 5 or more seconds (“INIT” will appear on the unit’s display).	—
Quick View does not work.	●This does not work when audio is other than Dolby Digital.	—
	●This does not work when recording is in XP or FR mode.	—
The resume play function does not work.	●Memorized positions are canceled when	—
	–press [■] several times.	—
	–open the disc tray (excluding HDD).	—
	–DVD-A CD VCD SD MP3/DivX: turn off the power.	—
It takes time before play starts.	–a recording or scheduled recording was executed.	—
	●It will take a little time for DivX videos to start playing. (DivX)	—
Picture stops.	●Picture may stop if the DivX files are greater than 2 GB. (DivX)	—

Edit

Cannot edit.	●If there is not enough disc space on the HDD, you cannot edit on the HDD. Delete some unnecessary titles to create some disc space.	43
Cannot format.	●The disc is dirty. Wipe with a damp cloth and then wipe dry.	10
	●-R -R DL CD You tried formatting a disc that you may not be able to use in this unit.	4-6
Cannot create chapters.	●The unit writes the chapter division information to the disc when you turn it off or remove the disc. The information is not written if there is an interruption to the power before this.	—
Cannot mark the start point or the end point during “Shorten Title” operation.	●These operations are not possible with still pictures.	—
	●You cannot set points if they are too close to each other. You cannot set an end point before a start point.	—
Cannot delete chapters.	●When the chapter is too short to delete, use “Combine Chapters” to make the chapter longer.	45
The available recording time doesn’t increase even after deleting recordings on the disc.	●Available recording space on the DVD-R, DVD-R DL, +R and +R DL does not increase even after deleting previously recorded titles.	—
	●Available recording space on a DVD-RW (DVD-Video format) or +RW increases only when the last recorded title is deleted. It does not increase if other titles are deleted.	—
Cannot create a playlist.	●You cannot select all the chapters at once in a title if the title also includes still pictures. Select them individually.	—

Still pictures

Cannot display Direct Navigator screen.	●This screen cannot be displayed during recording or copy.	—
Cannot edit or format a card.	●Release the card’s protection setting. (With some cards, the “Write Protection Off” message sometimes appears on the screen even when protection has been set.)	56
The contents of the card cannot be read.	●The card format is not compatible with the unit. (The contents on the card may be damaged.) Format using FAT12 or FAT16 with other equipment or format the card with this unit.	6, 7, 57,
	●The card contains a folder structure and/or file extensions that are not compatible with this unit.	76
	●Turn off and then turn on the unit again.	76
Copying, deleting and setting protection takes a long time.	●You can use SD Memory Cards with capacities from 8 MB to 2 GB on this unit.	—
	●When there are a lot of folders and files, it may sometimes take a few hours.	6
Scheduled recording began in the middle of editing a still picture.	●When repeating copying or deleting, it may sometimes take a long time. Format the disc or card.	—
	●If it comes to the time scheduled for recording, the recording may start even though you are editing.	57

## Recordable discs:

DVD-RAM:	Ver. 2.0 Ver. 2.1/3X–SPEED DVD-RAM Revision 1.0 Ver. 2.2/5X–SPEED DVD-RAM Revision 2.0
DVD-R:	for General Ver. 2.0 for General Ver. 2.0/4X–SPEED DVD-R Revision 1.0 for General Ver. 2.x/8X–SPEED DVD-R Revision 3.0 for General Ver. 2.x/16X–SPEED DVD-R Revision 6.0 for DL Ver. 3.0 for DL Ver. 3.x/4X–SPEED DVD-R for DL Revision 1.0
DVD-RW:	Ver. 1.1 Ver. 1.x/2X–SPEED DVD-RW Revision 1.0 Ver. 1.x/4X–SPEED DVD-RW Revision 2.0 Ver. 1.x/6X–SPEED DVD-RW Revision 3.0
+R:	Ver. 1.0 Ver. 1.1 Ver. 1.2 Ver. 1.3 for DL Ver. 1.0
+RW:	Ver. 1.1 Ver. 1.2/4X–SPEED

## Recording system:

DVD-RAM:	DVD Video Recording format
DVD-R:	DVD-Video format
DVD-R DL (Dual Layer):	DVD-Video format
DVD-RW:	DVD-Video format
+R:	
+R DL (Double Layer):	
+RW:	

**Internal HDD Capacity:** 200 GB

## Recording time:

- Maximum 8 hours (using 4.7 GB disc)
 

XP: Approx. 1 hour	SP: Approx. 2 hours
LP: Approx. 4 hours	EP: Approx. 6 hours or 8 hours
- Maximum approx. 355 hours with 200 GB HDD (EP 8H mode)
 

XP: Approx. 44 hours	SP: Approx. 89 hours
LP: Approx. 177 hours	EP: Approx. 266 hours or 355 hours

## Playable discs:

DVD-RAM:	DVD Video Recording format
DVD-R:	DVD-Video format, DivX
DVD-R DL (Dual Layer):	DVD-Video format
DVD-RW:	DVD-Video format, DVD Video Recording format
+R, +R DL (Double Layer), +RW	
DVD-Video, DVD-Audio, CD-Audio (CD-DA), Video CD	
CD-R/CD-RW (CD-DA, Video CD, MP3, JPEG, DivX)	

## Optical pick-up:

System with 1 lens, 2 integration units  
(662 nm wavelength for DVDs, 780 nm wavelength for CDs)

## LASER Specification

Class I LASER Product	
Wave Length:	780 nm (CDs) 662 nm (DVDs)
Laser Power:	No hazardous radiation is emitted with the safety protection

## Television system

TV system:	NTSC system, 525 lines, 60 fields
Antenna reception input:	TV Channel: 2 ch–69 ch CATV Channel: 1 ch–125 ch
RF converter output:	Not provided

## Video system

<b>Recording system:</b>	MPEG2 (Hybrid VBR)
<b>Input:</b>	LINE (pin jack) ×3, 1.0 Vp-p; 75 Ω S connector ×3 Y:1.0 Vp-p; 75 Ω C: 0.286 Vp-p; 75 Ω
<b>Output:</b>	LINE (pin jack) ×2, 1.0 Vp-p; 75 Ω S connector ×2 Y:1.0 Vp-p; 75 Ω C: 0.286 Vp-p; 75 Ω
<b>Component video output:</b>	Y, Pb, Pr ×1 (480i/480p) Y: 1.0 Vp-p; 75 Ω Pb: 0.7 Vp-p; 75 Ω Pr: 0.7 Vp-p; 75 Ω

## Audio system

<b>Recording system:</b>	Dolby Digital (2ch), Linear PCM (XP mode 2ch)
<b>Analog Input:</b>	LINE (pin jack) ×3 Reference input: 309 mVrms FS: 2 Vrms (1 kHz, 0 dB) Input impedance: 47 kΩ
<b>Analog Output:</b>	LINE (pin jack) ×2 Reference output: 309 mVrms FS: 2 Vrms (1 kHz, 0 dB) Output impedance: 1 kΩ (Load impedance: 10 kΩ)
<b>Number of channels:</b>	Recording: 2 channels Playback: 2 channels
<b>Digital Output:</b>	Digital audio optical output connector ×1 (PCM, Dolby Digital, DTS)
<b>HDMI Output:</b>	(19 pin type A) ×1 HDMI Ver.1.2a (EDID Ver.1.3)
<b>SD Card Slot:</b>	1 pc
<b>Still Picture (JPEG, TIFF)</b>	SD Memory Card Slot
<b>Compatible media</b>	SD Memory Card*, MultiMediaCard * Includes miniSD™ cards. (A miniSD™ adaptor needs to be inserted.)
<b>Format</b>	FAT 12, FAT 16
<b>Image file format:</b>	JPEG conforming to DCF (Design rule for Camera File system) TIFF (Uncompressed RGB chunky), DPOF Compatible Sub sampling; 4:2:2 or 4:2:0
<b>Number of pixels:</b>	between 34 × 34 and 6144 × 4096 pixels
<b>Thawing time:</b>	Approx. 3 sec (6M pixels, JPEG)
<b>SD Video (MPEG2)</b>	
<b>Compatible media</b>	SD Memory Card*, MultiMediaCard * Includes miniSD™ cards. (A miniSD™ adaptor needs to be inserted.)
<b>Codec</b>	MPEG2 (SD-Video Entertainment Video Profile)
<b>File Format</b>	SD-Video format conforming * Video Recording conversion and transfer is possible from card to HDD or DVD-RAM disc. After Video Recording conversion and transfer to HDD or DVD-RAM disc, the playback is possible.

**DV input:** IEEE 1394 Standard, 4 Pin: 1 pc  
**G-LINK Terminal:** only use the included IR Blaster

**Regional Code:** # 1

**Clock unit:** Quartz-controlled 12-hour digital display

**Operating temperature range:** 5 °C to 40 °C (41 °F to 104 °F)

**Operating humidity range:** 10 % to 80 % RH (no condensation)

**Power supply:** AC 120 V, 60 Hz

**Power consumption:** Approx. 33 W

**Dimensions (W×H×D):** Approx. 430 mm×58 mm×329 mm  
(Approx. 16<sup>15</sup>/<sub>16</sub>"×2<sup>5</sup>/<sub>16</sub>"×13")

**Mass:** Approx. 4.2 kg (9.24 lbs)

**Power consumption in standby mode: approx. 13.5 W**

## Note

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

- Useable capacity will be less (SD Memory Card).

## Bitstream

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

## CPPM (Content Protection for Pre-recorded Media)

A copy protection system used for DVD-Audio files. This unit supports CPPM.

## CPRM (Content Protection for Recordable Media)

CPRM is technology used to protect broadcasts that are allowed to be recorded only once. Such broadcasts can be recorded only with CPRM compatible recorders and discs.

## Decoder

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

## DivX

A video compression format developed by DivXNetworks, Inc. that compresses video files without any considerable loss of video quality.

## Dolby Digital

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

When recording on this unit Dolby Digital (2 channel) is the default audio.

## Down-mixing

This is the process of remixing the multi-channel audio found on some discs into two channels. It is useful when you want to listen to the 5.1-channel audio recorded on DVDs through your television's speakers. Some discs prohibit down-mixing and this unit can then only output the front two channels.

**DVD-A** Tracks that do not allow down-mixing will not play correctly on this unit except when connecting with an HDMI cable to an amplifier that meets HDMI standards (ver. 1.1 or later) and is CPPM compatible.

## DPOF (Digital Print Order Format)

DPOF is the standard printing format for still picture data taken by a digital camera, etc. It is used for automatic printing at a photo developing store or on your home printer.

## Drive

In the instance of this unit, this refers to the hard disk (HDD), disc (DVD) and SD card (SD). These perform the reading and writing of data.

## DTS (Digital Theater Systems)

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

## Dynamic range

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

Dynamic range compression means reducing the gap between the loudest and softest sounds. This means you can listen at low volumes but still hear dialog clearly.

## EPG (Electronic Program Guide)

This is a system used to display program listings on televisions, computers and cellular phones. Data is transmitted using the internet or television waves. This unit is compatible with the method using television waves. You can use program listings for functions such as scheduled recording.

## Film and video

DVD-Video are recorded using either film or video. This unit can determine which type has been used, then uses the most suitable method of progressive output.

Film: Recorded at 24 frames per second. (Recorded at 30 frames per second as well). Generally appropriate for motion picture films.  
Video: Recorded at 30 frames/60 fields per second. Generally appropriate for TV drama programs or animation.

## Finalize

A process that makes play of a recorded CD-R, CD-RW, DVD-R, etc. possible on equipment that can play such media. You can finalize DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R and +R DL on this unit.

After finalizing, the disc becomes play-only and you can no longer record or edit. However, finalized DVD-RW can be formatted to become recordable.

## Folder

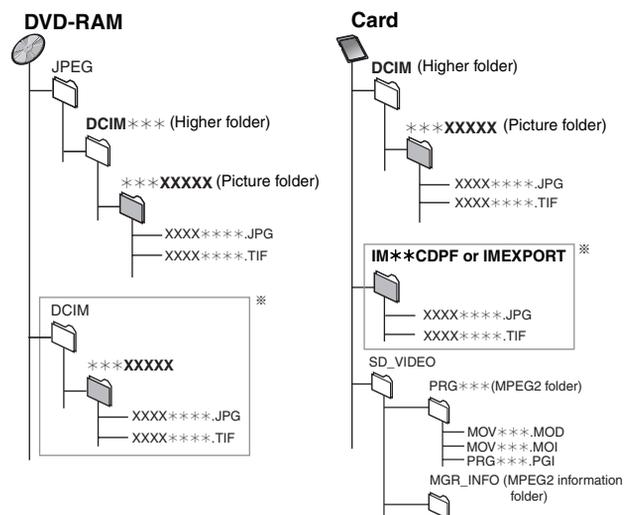
This is a place on the hard disk or memory card where groups of data are stored together. In the case of this unit, it refers to the place where still pictures (JPEG, TIFF) and MPEG2 are stored.

## Structure of folders displayed by this unit

The following  can be displayed on this unit.

\*\*\*: Numbers

XXX: Letters



\* Folders can be created on other equipment. However, these folders cannot be selected as a copying destination.

- The folder cannot be displayed if the numbers are all "0" (e.g., DCIM000 etc).
- If a folder name or file name has been input using other equipment, the name may not be displayed properly or you may not be able to play or edit the data.

## Formatting

Formatting is the process of making media such as DVD-RAM recordable on recording equipment.

You can format DVD-RAM, DVD-RW (only as DVD-Video format), +RW, SD memory card and the HDD or unused +R and +R DL on this unit. Formatting irrevocably deletes all contents.

## Frames and fields

Frames refer to the single images that constitute the video you see on your television. Each frame consists of two fields.



Frame

Field

Field

- A frame still shows two fields, so there may be some blurring, but picture quality is generally better.
- A field still shows less picture information so it may be rougher, but there is no blurring.

## HDD (Hard disk drive)

This is a mass data storage device used in computers, etc. A disk with a surface that has been treated with magnetic fluid is spun and a magnetic head is brought in close proximity to facilitate the reading and writing of large amounts of data at high speed.

## HDMI (High-Definition Multimedia Interface)

HDMI is a next-generation digital interface for consumer electronic products. Unlike conventional connections, it transmits uncompressed digital video and audio signals on a single cable. This unit supports high-definition video output [750p (720p), 1125i (1080i)] from HDMI AV OUT terminals. To enjoy high-definition video a high definition compatible television is required.

## JPEG (Joint Photographic Experts Group)

This is a system used for compressing/decoding color still pictures. If you select JPEG as the storage system on digital cameras, etc., the data will be compressed to 1/10–1/100 of its original size. The benefit of JPEG is less deterioration in picture quality considering the degree of compression.

## LPCM (Linear PCM)

These are uncompressed digital signals, similar to those found on CDs. LPCM sound is available when recording in XP mode.

## MPEG2 (Moving Picture Experts Group)

A standard for efficiently compressing and expanding color video. MPEG2 is a compression standard used for DVD and satellite based digital broadcasting. This unit records programs using MPEG2. MPEG2 moving picture files shot with a Panasonic SD multi-camera, etc. can be copied to the HDD or a DVD-RAM disc.

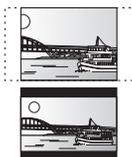
**MP3 (MPEG Audio Layer 3)**

An audio compression method that compresses audio to approximately one tenth of its size without any considerable loss of audio quality. You can play MP3 you have recorded onto CD-R and CD-RW.

**Pan&Scan/Letterbox**

In general, DVD-Video are produced with the intention that they be viewed on a widescreen television (16:9 aspect ratio), so images often don't fit regular (4:3 aspect ratio) televisions. Two styles of picture, "Pan & Scan" and "Letterbox", deal with this problem.

**Pan&Scan:** The sides are cut off so the picture fills the screen.



**Letterbox:** Black bands appear at the top and bottom of the picture so the picture itself appears in an aspect ratio of 16:9.

**Playback control (PBC)**

If a Video CD has playback control, you can select scenes and information with menus.

(This unit is compatible with version 2.0 and 1.1.)

**Progressive/Interlace**

NTSC, the video signal standard, has 480 interlaced (i) scan lines, whereas progressive scanning uses twice the number of scan lines. This is called 480p.

Using progressive output, you can enjoy the high-resolution video recorded on media such as DVD-Video.

Your television must be compatible to enjoy progressive video.

**Protection**

You can prevent accidental erasure by setting writing protection or deletion protection.

**Sampling frequency**

Sampling is the process of converting the heights of sound wave (analog signal) samples taken at set periods into digits (digital encoding). Sampling frequency is the number of samples taken per second, so larger numbers mean more faithful reproduction of the original sound.

**Thumbnail**

This refers to a miniature representation of a picture used to display multiple pictures in the form of a list.

**TIFF (Tag Image File Format)**

This is a system used for compressing/decoding color still pictures, a common format for storing high quality images on digital cameras and other devices.

**1080i**

In one high definition image, 1125 (1080) alternating scan lines pass every 1/60<sup>th</sup> of a second to create an interlace image. Because 1125i (1080i) more than doubles current television broadcasts of 480i, the detail is much clearer and creates a more realistic and rich image.

**720p**

In one high definition image, 750 (720) scan lines pass at the same time every 1/60<sup>th</sup> of a second to create a progressive image. Since progressive video does not alternate scan lines like interlace, there is a minimal amount of screen flicker.

**Language code list** Enter the code with the numbered buttons.

Abkhazian: 6566	Catalan: 6765	Gujarati: 7185	Lingala: 7678	Rhaeto-Romance: 8277	Tamil: 8465
Afar: 6565	Chinese: 9072	Hausa: 7265	Lithuanian: 7684	Romanian: 8279	Tatar: 8484
Afrikaans: 6570	Corsican: 6779	Hebrew: 7387	Macedonian: 7775	Russian: 8285	Telugu: 8469
Albanian: 8381	Croatian: 7282	Hindi: 7273	Malagasy: 7771	Samoan: 8377	Thai: 8472
Ameharic: 6577	Czech: 6783	Hungarian: 7285	Malay: 7783	Sanskrit: 8365	Tibetan: 6679
Arabic: 6582	Danish: 6865	Icelandic: 7383	Malayalam: 7776	Scots Gaelic: 7168	Tigrinya: 8473
Armenian: 7289	Dutch: 7876	Indonesian: 7378	Maltese: 7784	Serbian: 8382	Tonga: 8479
Assamese: 6583	English: 6978	Interlingua: 7365	Maori: 7773	Serbo-Croatian: 8372	Turkish: 8482
Aymara: 6589	Esperanto: 6979	Irish: 7165	Marathi: 7782	Shona: 8378	Turkmen: 8475
Azerbaijani: 6590	Estonian: 6984	Italian: 7384	Moldavian: 7779	Sindhi: 8368	Twi: 8487
Bashkir: 6665	Faroese: 7079	Japanese: 7465	Mongolian: 7778	Singhalese: 8373	Ukrainian: 8575
Basque: 6985	Fiji: 7074	Javanese: 7487	Nauru: 7865	Slovak: 8375	Urdu: 8582
Bengali, Bangla: 6678	Finnish: 7073	Kannada: 7578	Nepali: 7869	Slovenian: 8376	Uzbek: 8590
Bhutani: 6890	French: 7082	Kashmiri: 7583	Norwegian: 7879	Somali: 8379	Vietnamese: 8673
Bihari: 6672	Frisian: 7089	Kazakh: 7575	Oriya: 7982	Spanish: 6983	Volapük: 8679
Breton: 6682	Galician: 7176	Kirghiz: 7589	Pashto, Pushto: 8083	Sundanese: 8385	Welsh: 6789
Bulgarian: 6671	Georgian: 7565	Korean: 7579	Persian: 7065	Swahili: 8387	Wolof: 8779
Burmese: 7789	German: 6869	Kurdish: 7585	Polish: 8076	Swedish: 8386	Xhosa: 8872
Byelorussian: 6669	Greek: 6976	Laotian: 7679	Portuguese: 8084	Tagalog: 8476	Yiddish: 7473
Cambodian: 7577	Greenlandic: 7576	Latin: 7665	Punjabi: 8065	Tajik: 8471	Yoruba: 8979
	Guarani: 7178	Latvian, Lettish: 7686	Quechua: 8185		Zulu: 9085

**Product Service**

- 1. Damage requiring service**—The unit should be serviced by qualified service personnel if:
  - (a) The AC power supply cord or AC adaptor has been damaged; or
  - (b) Objects or liquids have gotten into the unit; or
  - (c) The unit has been exposed to rain; or
  - (d) The unit does not operate normally or exhibits a marked change in performance; or
  - (e) The unit has been dropped or the cabinet damaged.
- 2. Servicing**—Do not attempt to service the unit beyond that described in these operating instructions. Refer all other servicing to authorized servicing personnel.
- 3. Replacement parts**—When parts need replacing ensure the servicer uses parts specified by the manufacturer or parts that have the same characteristics as the original parts. Unauthorized substitutes may result in fire, electric shock, or other hazards.
- 4. Safety check**—After repairs or service, ask the servicer to perform safety checks to confirm that the unit is in proper working condition.

**Product information**

For product information or assistance with product operation:

In the U.S.A., refer to "Customer Services Directory" on page 78.

In Canada, contact the Panasonic Canada Inc. Customer Care Centre at 1-800-561-5505, or visit the website ([www.panasonic.ca](http://www.panasonic.ca)), or an authorized Servicentre closest to you.

# Limited Warranty (ONLY FOR U.S.A.)

Panasonic Consumer Electronics Company,  
Division of Panasonic Corporation of North America  
One Panasonic Way Secaucus, New Jersey 07094

Panasonic Puerto Rico, Inc.  
Ave. 65 de Infantería, Km. 9.5  
San Gabriel Industrial Park, Carolina, Puerto Rico 00985

## Panasonic DVD Recorder Limited Warranty

### Limited Warranty Coverage

If your product does not work properly because of a defect in materials or workmanship, Panasonic Consumer Electronics Company or Panasonic Puerto Rico, Inc. (collectively referred to as "the warrantor") will, for the length of the period indicated on the chart below, which starts with the date of original purchase ("warranty period"), at its option either (a) repair your product with new or refurbished parts, or (b) replace it with a new or a refurbished product. The decision to repair or replace will be made by the warrantor.

Product or Part Name	Parts	Labor
DVD Recorder	One (1) Year	One (1) Year
Rechargeable Batteries, DVD-RAM Disc (in exchange for defective item)	Ten (10) Days	Not Applicable

During the "Labor" warranty period there will be no charge for labor. During the "Parts" warranty period, there will be no charge for parts. You must carry-in or mail-in your product during the warranty period. If non-rechargeable batteries are included, they are not warranted. This warranty only applies to products purchased and serviced in the United States or Puerto Rico. This warranty is extended only to the original purchaser of a new product which was not sold "as is". A purchase receipt or other proof of the original purchase date is required for warranty service.

### Carry-In or Mail-In Service

For Carry-In or Mail-In Service in the United States call 1-800-211-PANA (7262) or visit Panasonic Web Site: <http://www.panasonic.com>  
For assistance in Puerto Rico call Panasonic Puerto Rico, Inc. (787)-750-4300 or fax (787)-768-2910.

### Limited Warranty Limits And Exclusions

This warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by the warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, misadjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, or commercial use (such as in a hotel, office, restaurant, or other business), rental use of the product, service by anyone other than a Factory Servicenter or other Authorized Servicer, or damage that is attributable to acts of God.

**THERE ARE NO EXPRESS WARRANTIES EXCEPT AS LISTED UNDER "LIMITED WARRANTY COVERAGE". THE WARRANTOR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY.** (As examples, this excludes damages for lost time, travel to and from the servicer, loss of media or images, data or other recorded content. The items listed are not exclusive, but are for illustration only.) **ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTY OF MERCHANTABILITY, ARE LIMITED TO THE PERIOD OF THE LIMITED WARRANTY.**

Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the exclusions may not apply to you.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state. If a problem with this product develops during or after the warranty period, you may contact your dealer or Servicenter. If the problem is not handled to your satisfaction, then write to the warrantor's Consumer Affairs Department at the addresses listed for the warrantor.

**PARTS AND SERVICE WHICH ARE NOT COVERED BY THIS LIMITED WARRANTY ARE YOUR RESPONSIBILITY.**

## Customer Services Directory

Obtain Product Information and Operating Assistance; locate your nearest Dealer or Servicenter; purchase Parts and Accessories; or make Customer Service and Literature requests by visiting our Web Site at:

<http://www.panasonic.com/consumersupport>

or, contact us via the web at:

<http://www.panasonic.com/contactinfo>

You may also contact us directly at:

1-800-211-PANA (7262),

Monday-Friday 9 am-9 pm; Saturday-Sunday 10 am-7 pm, EST.

For hearing or speech impaired TTY users, TTY : 1-877-833-8855

## Accessory Purchases

Purchase Parts, Accessories and Instruction Books online for all Panasonic Products by visiting our Web Site at:

<http://www.pasc.panasonic.com>

or, send your request by E-mail to:

[npcparts@us.panasonic.com](mailto:npcparts@us.panasonic.com)

You may also contact us directly at:

1-800-332-5368 (Phone) 1-800-237-9080 (Fax Only) (Monday – Friday 9 am to 8 pm, EST.)

Panasonic Services Company

20421 84th Avenue South, Kent, WA 98032

(We Accept Visa, MasterCard, Discover Card, American Express, and Personal Checks)

For hearing or speech impaired TTY users, TTY : 1-866-605-1277

## Service in Puerto Rico

Panasonic Puerto Rico, Inc.

Ave. 65 de Infantería, Km. 9.5, San Gabriel Industrial Park, Carolina, Puerto Rico 00985

Phone (787)750-4300, Fax (787)768-2910

F1104

Panasonic Canada Inc.

## PANASONIC PRODUCT—LIMITED WARRANTY

Panasonic Canada Inc. warrants this product to be free from defects in material and workmanship and agrees to remedy any such defect for a period as stated below from the date of original purchase.

<b>Technics Audio Product</b>	<b>One (1) year, parts and labour</b>
<b>Panasonic Portable/Clock Radio (without Tape, CD, MD)</b>	<b>One (1) year, parts and labour</b>
<b>Panasonic Audio/SD Audio Product</b>	<b>One (1) year, parts and labour</b>
<b>Panasonic DVD Product</b>	<b>One (1) year, parts and labour</b>
<b>Accessories including rechargeable batteries</b>	<b>Ninety (90) days</b>

### LIMITATIONS AND EXCLUSIONS

This warranty does not apply to products purchased outside Canada or to any product which has been improperly installed, subjected to usage for which the product was not designed, misused or abused, damaged during shipping, or which has been altered or repaired in any way that affects the reliability or detracts from the performance, nor does it cover any product which is used commercially. Dry cell batteries are also excluded from coverage under this warranty.

This warranty is extended to the original end user purchaser only. A purchase receipt or other proof of date of original purchase is required before warranty service is performed.

**THIS EXPRESS, LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

**IN NO EVENT WILL PANASONIC CANADA INC. BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES.**

In certain instances, some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, or the exclusion of implied warranties, so the above limitations and exclusions may not be applicable.

### WARRANTY SERVICE

**FOR PRODUCT OPERATION ASSISTANCE**, please contact:

Our Customer Care Centre: Telephone #:	(905) 624-5505
1-800 #:	1-800-561-5505
Fax #:	(905) 238-2360
Email link:	"Contact Us" on <a href="http://www.panasonic.ca">www.panasonic.ca</a>

**FOR PRODUCT REPAIRS**, please locate your nearest Authorized Servicentre at [www.panasonic.ca](http://www.panasonic.ca) :

Link : "Servicentres™ locator" under "Customer support"

### **IF YOU SHIP THE PRODUCT TO A SERVICENTRE**

Carefully pack and send prepaid, adequately insured and preferably in the original carton.  
Include details of the defect claimed, and proof of date of original purchase.

# Instalación básica

• Para más información sobre los métodos de conexión, vea la página de inicio de Panasonic. (Sólo está en inglés.)

[http://www.panasonic.com/consumer\\_electronics/dvd\\_recorder/dvd\\_connection.asp](http://www.panasonic.com/consumer_electronics/dvd_recorder/dvd_connection.asp)

• Antes de hacer la conexión, apague todos los equipos y lea los manuales de instrucciones apropiados.

## Cuando usa un servicio de cable o un servicio de satélite.

- Es menester que se abone a un servicio televisivo de cable o de satélite para que pueda ver sus programas.
- Consulte a su proveedor del servicio por lo que respecta a la apropiada caja del cable o receptor de satélite.

### Terminal RF OUT

La señal de imagen y sonido desde esta unidad a su televisor no pasa a través del terminal RF OUT.

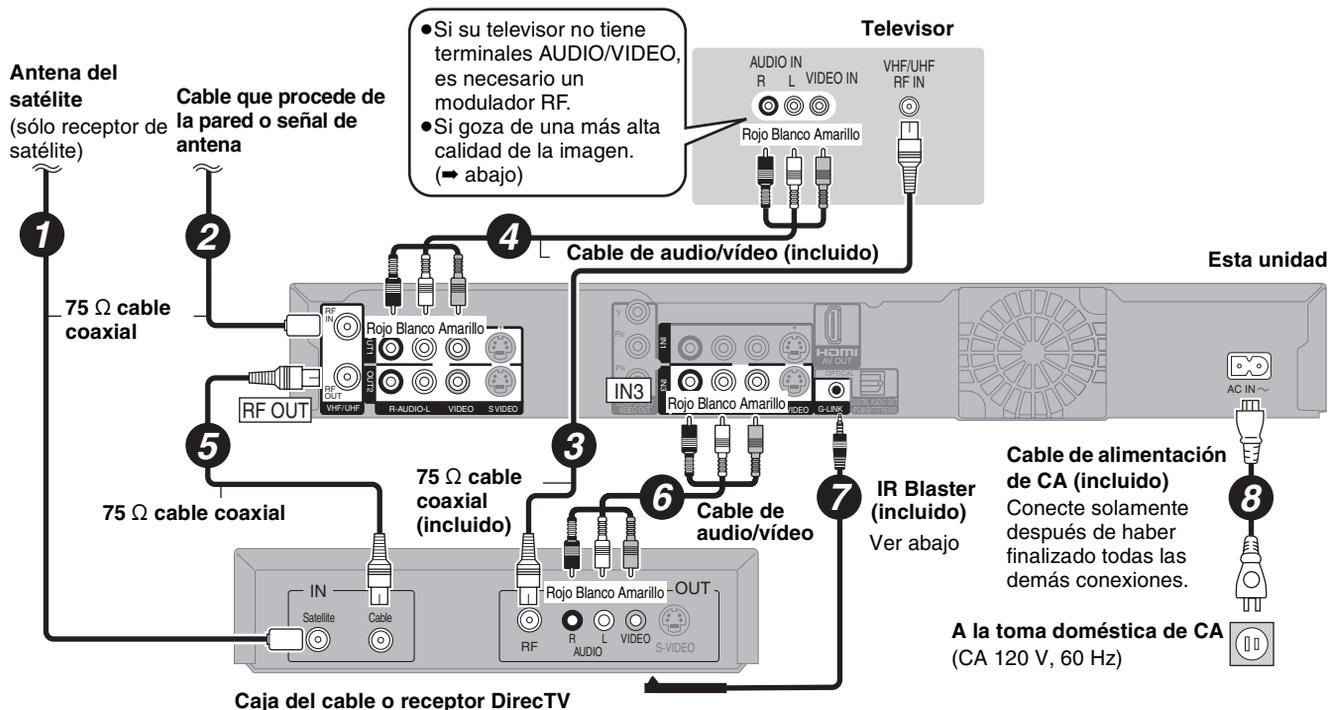
Asegúrese de que esté conectado a su televisor uno de los siguientes terminales en esta unidad: el terminal AUDIO/VIDEO OUT, el terminal S VIDEO OUT, el terminal COMPONENT VIDEO OUT o el terminal HDMI AV OUT.

### Cuando la unidad no vaya a utilizarse durante mucho tiempo

Para ahorrar energía, desenchufe la unidad de la toma de CA. Esta unidad consume una pequeña cantidad de energía aunque se encuentre apagada (**13,5 W aproximadamente**).

Repáre en que los listados de programas no se descargan mientras que la unidad está desenchufada.

## Conexión a un televisor y caja del cable o receptor DirecTV



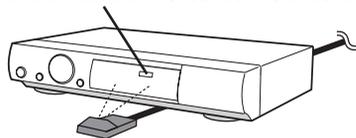
### ¿Por qué tengo que conectar el IR Blaster?

El IR Blaster es necesario para que funcione una caja del cable o un receptor DirecTV con el mando a distancia de esta unidad. Además, si el IR Blaster no está correctamente conectado o configurado, no puede hacer grabaciones programadas ni descargar listados de programas.

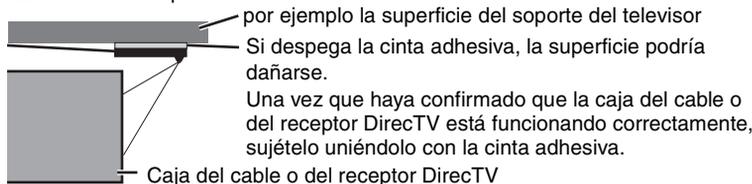
### Ajustar el IR Blaster

Coloque el IR Blaster delante del sensor de la señal de la caja del cable o del receptor DirecTV.

Lea las instrucciones de funcionamiento de la caja del cable o del receptor DirecTV por lo que respecta a la colocación del sensor de la señal.



Si es necesario, utilice la cinta adhesiva de doble cara (incluida) para sujetar el IR Blaster a una superficie llana.



## Para gozar de una calidad de la imagen aún más alta

### Terminal S VIDEO OUT

Los terminales S VIDEO OUT logran una imagen más viva que la del terminal VIDEO OUT. (El resultado real depende del televisor.)

### Terminales COMPONENT VIDEO OUT

Estos terminales pueden usarse para el entrelazado o la salida progresiva y proporcionan una imagen más clara que la del terminal S VIDEO OUT.

Conecte a los terminales del mismo color.

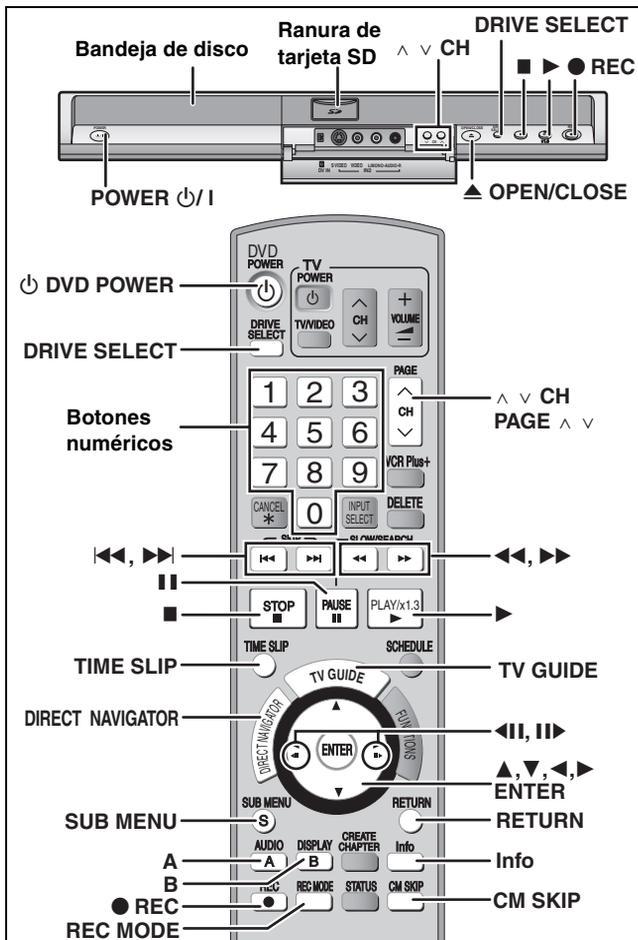
### Terminal HDMI AV OUT

HDMI es la interfaz de nueva generación para dispositivos digitales. Cuando conectada a una unidad compatible con la HDMI, se transmite una señal digital de vídeo y audio sin comprimir. Sólo con un cable puede gozar del vídeo y el audio digital de alta calidad. Cuando conecta un HDTV (televisor de alta definición) compatible con la HDMI, la salida puede ser conmutada al vídeo HD 1125i (1080i) o 750p (720p).

#### Ajuste lo siguiente:

Desde el menú CONFIGURACIÓN, "Salida de vídeo HDMI": "Activado" (predeterminado en la fábrica)

Desde el menú CONFIGURACIÓN, "Salida de audio HDMI": "Activado" (predeterminado en la fábrica)



## Configuración del sistema TV Guide On Screen™

Después de enchufar la unidad en la toma doméstica de CA y luego de pulsar [DVD POWER] para encenderla por la primera vez, ésta inicia su lenguaje, proporciona el tipo de aspecto TV y configura el sistema TV Guide On Screen™.

**Si usa un servicio de satélite diferente de DirecTV, no puede recibir los listados de programas en esta unidad.**

### Preparación

- Encienda el televisor y seleccione la entrada de vídeo apropiada a las conexiones de esta unidad.
- Cuando usa la caja del cable o un receptor DirecTV, compruebe lo siguiente.
  - Asegúrese de que esté conectado y colocado correctamente el IR Blaster (⇒ 80).
  - Asegúrese de que esté encendida la caja del cable o el receptor DirecTV.

- 1 Pulse [DVD POWER].
- 2 Pulse [▲, ▼] para seleccionar el idioma y luego pulse [ENTER]. Si hace un error, pulse [RETURN] para volver a la pantalla anterior.
- 3 Pulse [▲, ▼] para seleccionar “TV de 4:3” o “TV ancho de 16:9” y luego pulse [ENTER]. Va a tener comienzo la configuración de la guía TV. Pulse [ENTER]. En el sistema TV Guide On Screen™ sólo se visualiza el inglés. Los demás idiomas no se visualizan. Siguiendo los mensajes en la pantalla, inserte el ambiente operativo para su televisor.

### Funcionamiento básico del mando a distancia

Para seleccionar un elemento	→	[▲, ▼, ◀, ▶]
Para confirmar	→	Pulse [ENTER]
Para ver la información de ayuda	→	Pulse [Info]
Para insertar los números	→	Pulse los botones numéricos

- Seleccione “Next” y luego pulse [ENTER] para pasar a la pantalla siguiente.
  - Seleccione “Back” y luego pulse [ENTER] para volver a la pantalla anterior.
- 4 Ajuste el país (USA/Canada) (EE.UU./Canadá)
  - 5 Ajuste el código ZIP (Postal)
  - 6 Ajuste el/los servicio/s a ser usado/s. Puede seleccionar hasta 2 servicios.

**Cuando selecciona “Antenna” o “Cable without a Cable Box”,**

- No puede seleccionar conjuntamente “Antenna” y “Cable without a Cable Box”.
- No se precisa configuración adicional.

**Cuando selecciona “Cable with a Cable Box”, ajuste lo siguiente:**

- 1 Canal de conexión de la caja del cable (“RF, Channel 2”/ “RF, Channel 3”/ “RF, Channel 4”/ “IN3”)
- 2 ¿Está usando un paquete de servicios digital? Seleccione “Yes”, “No” o “I don’t know”.
- 3 Compruebe cómo se han insertado los canales. Seleccione cómo su caja del cable actual inserta los canales de 2, 3 y 4 cifras.
- 4 La marca de la caja del cable
- 5 El código de la señal IR  
Asegúrese de que caja del cable esté ajustada para el canal que aparece en la pantalla y luego pulse [ENTER].  
– Si la caja del cable ha sido cambiada al canal 09, seleccione “Yes”.  
– Si todavía la caja del cable está ajustada al mismo canal, seleccione “No”.

**Cuando selecciona “DirecTV”, ajuste lo siguiente:**

- 1 Canal de conexión del receptor de satélite (“RF, Channel 2”/ “RF, Channel 3”/ “RF, Channel 4”/ “IN3”)
- 2 Compruebe cómo se han insertado los canales. Seleccione cómo su caja del cable corriente inserta los canales de 2, 3 y 4 cifras.
- 3 La marca de su receptor de satélite
- 4 El código de la señal IR  
Encienda su receptor de satélite y luego pulse [ENTER].

**Si está viendo DirecTV en un aspecto de 4:3 con el panel lateral, ajuste este panel a “Desactivado” en el receptor DirecTV con el objeto de recibir correctamente los datos TV Guide On Screen™.**

- Si cambia la visualización del canal, entonces seleccione “Yes”.
- Si todavía el receptor de satélite está ajustado al mismo canal, seleccione “No”.

**Cuando selecciona “DISH Network”, ajuste lo siguiente:**

- Canal de conexión del receptor de satélite
- 7 Confirme los ajustes.  
– Si la información es correcta, seleccione “Yes, continue setup process”.
  - Si la información no es correcta, seleccione “No, repeat setup process” para iniciar de nuevo el ajuste.

### 8 Pulse [ENTER].

Según el equipo que conecta va a aparecer una de las siguientes imágenes.

**Pantalla “Ajuste automático del canal/reloj”**

- Pulse [ENTER].

**Pantalla “Ajuste manual del reloj”**

- 1 Pulse [◀, ▶] para seleccionar el elemento que quiere cambiar y luego pulse [▲, ▼] para cambiar el ajuste.
- 2 Pulse [ENTER].

Se visualiza o una pantalla de recepción televisiva o una pantalla con el fondo azul. Inicia el reloj.

### 9 Pulse [DVD POWER]. (La unidad se apaga, luego espere 24 horas.)

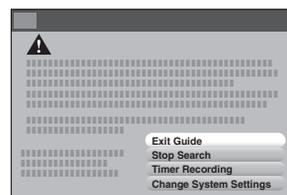
### 10 Pulse [TV GUIDE].

Si encuentra “TV Guide On Screen Setup Progress” visualizado en el televisor, la unidad no ha descargado todavía los datos TV Guide On Screen™.

**Para actualizar los datos**

Deje la unidad en el modo de espera cuando no la usa. Ella descargará los datos necesarios para conservar los listados de programas mientras que está en el modo de espera.

**Si pulsa [TV GUIDE] y aparece la pantalla a la derecha, entonces la unidad no podrá lograr los datos durante 3 días o más.**



Exit Guide:	Volver a la pantalla de recepción televisiva.
Stop Search:	Parar la descarga de los datos.
Search Again:	Reiniciar la descarga de los datos cuando se ha parado.
Timer Recording:	Ajuste manualmente para la grabación programada.
Change System Settings:	Restablezca los ajustes de la guía TV.

Consulte la referencia de los controles en la page 81.

- **HDD** Puede grabar hasta 500 títulos en la HDD.
- **RAM -R -RW(V)** Puede grabar hasta 99 títulos en un disco.
- **+R +RW** Puede grabar hasta 49 títulos en un disco.

## Preparación

- Encienda el televisor y seleccione la entrada de vídeo apropiada a las conexiones de esta unidad.
- Encienda esta unidad.

**1 Pulse [DRIVE SELECT] para seleccionar la unidad HDD o DVD.**

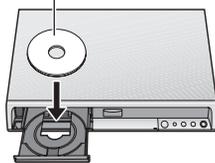
**2 Si ha seleccionado la unidad DVD**

**Pulse [▲ OPEN/CLOSE] en la unidad principal para abrir la bandeja e insertar un disco.**

- Para cerrar la bandeja pulse de nuevo el botón.

### ■ Disco sin cartucho

Insértelo con la cara impresa hacia arriba.



### ■ Disco con cartucho

Insértelo etiqueta arriba con la flecha hacia adentro.



Insértelo a tope

**3 Pulse [▲ ▼ CH] para seleccionar el canal.**

Para seleccionar con los botones numéricos:

#### Modo antena

Ej., 5: [0] → [5]  
15: [1] → [5]

#### CableTV, Canal del satélite

Ej., 5: [0] → [0] → [0] → [5]  
15: [0] → [0] → [1] → [5]  
115: [0] → [1] → [1] → [5]  
1115: [1] → [1] → [1] → [5]

**4 Pulse [REC MODE] para seleccionar el modo de grabación. (XP, SP, LP o EP)**

**5 Pulse [● REC] para empezar a grabar.**

La grabación se hará en el espacio vacío de la HDD o del disco. Los datos no se escribirán encima de otros.

- Durante la grabación no se puede cambiar el canal ni el modo de grabación. Durante la pausa puede cambiar el canal o el modo de grabación; pero la grabación tendrá entonces un título distinto.

**Para especificar un tiempo para detener la grabación durante la grabación**

**Pulse [● REC] para seleccionar el tiempo de grabación.**

**Para hacer una pausa en la grabación**

**Pulse [II].**

Pulse de nuevo para reiniciar la grabación. (El título no se divide en títulos distintos.)

**Para detener la grabación**

**Pulse [■].**

La sección desde que empieza hasta que termina la grabación es un título.

## Modos de grabación y tiempos de grabación aproximados

Dependiendo del contenido que está siendo grabado, los tiempos de grabación pueden ser inferiores a los indicados. (Los tiempos proporcionados en este diagrama son una estimación).

Modo de grabación	HDD (200 GB)	DVD-RAM		DVD-R DVD-RW, +R +RW (4,7 GB)	DVD-R DL *3 (8,5 GB)	+R DL *3 (8,5 GB)
		Un solo lado (4,7 GB)	Dos lados*1 (9,4 GB)			
XP (Modo de grabación de alta calidad de imagen)	44 h	1 h	2 h	1 h	1 h 45 min	1 h 45 min
SP (Modo de grabación estándar)	89 h	2 h	4 h	2 h	3 h 35 min	3 h 35 min
LP (Modo de grabación larga)	177 h	4 h	8 h	4 h	7 h 10 min	7 h 10 min
EP (Modo de grabación extra larga)*4	355 h (266 h*2)	8 h (6 h*2)	16 h (12 h*2)	8 h (6 h*2)	14 h 20 min (10 h 45 min*2)	No se puede copiar

\*1 No es posible grabar o reproducir continuamente desde una cara a la otra en un disco de dos caras.

\*2 Cuando "Tiempo de grab. en el modo EP" está ajustado en "EP (6H)" en el menú CONFIGURACIÓN.

La calidad del sonido es mejor cuando se utiliza "EP (6H)" que cuando se utiliza "EP (8H)".

\*3 No puede grabar directamente en estos discos con esta unidad. La tabla muestra el tiempo de grabación cuando copia.

\*4 Al grabar a la HDD en el modo FR (grabaciones de 5 horas o más) o en el modo EP, no puede realizar copias a alta velocidad en los discos +R, +R DL o +RW.

## Uso del sistema TV Guide On Screen™ para hacer grabaciones programadas

Puede realizar fácilmente una grabación programada sólo marcando el/los programa/s deseado/s en los listados de programas.

- Puede insertar con hasta 8 días de antemano.
- El nombre del programa se convierte en el nombre del título grabado por si el programa se encuentra detallado en los listados de programas.

**1 Pulse [TV GUIDE].**



**2 Pulse [▲, ▼, ◀, ▶] para seleccionar el programa.**

- Para saltar una pantalla Pulse [PAGE ▲] o [PAGE ▼].

**3 Pulse [● REC].**

"●" aparece en la lista para indicar que el programa está ajustado para la grabación programada.

Pulse [● REC] para cambiar la frecuencia. (→ arriba, Marca y frecuencia de grabación)

Repita los pasos de 2 a 3 para programar otras grabaciones.

**4 Pulse [TV GUIDE].**

Vuelve a la pantalla del televisor.

- La unidad pasa a la espera de la grabación programada ("⊙" se enciende en el visualizador de la unidad); sin embargo, él no se apaga automáticamente. Para ahorrar corriente, la unidad se apaga pulsando [⏻ DVD POWER].

**Para cancelar la grabación programada cuando ésta ya ha empezado**

- 1 Pulse [DRIVE SELECT] para seleccionar la unidad de grabación.
- 2 Pulse [■] luego pulse [◀, ▶] para seleccionar "Parar grabación" y por fin pulse [ENTER].

## Reproducción mientras usted está grabando

HDD	RAM
Reproducción de persecución	Puede reproducir desde el comienzo del título que está grabando. <b>Pulse [▶] (PLAY) durante la grabación.</b>
Grabación y reproducción simultáneas	Mientras va grabando puede reproducir un título grabado anteriormente. <b>1 Pulse [DIRECT NAVIGATOR] durante la grabación.</b> <b>2 Pulse [▲, ▼, ◀, ▶] para seleccionar un título y luego pulse [ENTER].</b> ● Para salir de la pantalla DIRECT NAVIGATOR Pulse [DIRECT NAVIGATOR].

**Para detener la reproducción**

**Pulse [■].**

**Para detener la grabación**

**(2 segundos después de parar la reproducción) Pulse [■].**

Consulte la referencia de los controles en la page 81.

## Reproducción de vídeo grabado/ Reproducción de discos de sola reproducción

### Preparación

- Encienda el televisor y seleccione la entrada de vídeo apropiada a las conexiones de esta unidad.
- Encienda esta unidad.

**1 Pulse [DRIVE SELECT] para seleccionar la unidad HDD o DVD.**

**2 Si seleccionó la unidad DVD**

**Pulse [▲ OPEN/CLOSE] en la unidad principal para abrir la bandeja e insertar un disco.**

Para cerrar la bandeja pulse de nuevo el botón.

**3 Pulse [▶] (PLAY).**

**HDD RAM +R -R DL -RW(V) +R +R DL +RW -RW(VR)**

La reproducción empieza desde el título grabado más recientemente.

**DVD-V DVD-A CD VCD** y MP3

La reproducción empieza desde el comienzo del disco.

### ■ Selección de programas grabados (títulos) para reproducir-DIRECT NAVIGATOR

**HDD RAM +R DL -RW(V) +R**

**+R DL +RW -RW(VR)**

**① Pulse [DIRECT NAVIGATOR].**

**② HDD RAM**

Pulse el botón "A" para seleccionar "Vídeo".

**③ Pulse [▲, ▼, ◀, ▶] para seleccionar el título y luego pulse [ENTER].**

También puede seleccionar títulos con los botones numéricos.

**HDD RAM +R DL -RW(V) +R +R DL +RW -RW(VR)**

Ej., 5: [0] ⇒ [0] ⇒ [5] Ej., 5: [0] ⇒ [5]

15: [0] ⇒ [1] ⇒ [5] 15: [1] ⇒ [5]

115: [1] ⇒ [1] ⇒ [5]



### Para salir de la pantalla

Pulse [DIRECT NAVIGATOR].

### ■ Cuando aparece una pantalla de menú en el televisor

**DVD-V DVD-A**

Pulse [▲, ▼, ◀, ▶] para seleccionar el elemento y luego pulse [ENTER].

Algunos elementos también se pueden seleccionar con los botones numéricos.

**VCD**

**Pulse los botones numéricos para seleccionar el elemento.**

Ej., 5: [0] ⇒ [5] 15: [1] ⇒ [5]

● Para volver a la pantalla de menú

**DVD-V** Pulse [DIRECT NAVIGATOR] o [SUB MENU].

**DVD-A** Pulse [DIRECT NAVIGATOR].

**VCD** Pulse [RETURN].

## Operaciones durante la reproducción

Parada	<b>Pulse [■].</b> La posición de detención se memoriza. <b>Función de reanudación de la reproducción</b> Pulse [▶] (PLAY) para reiniciar la reproducción desde esta posición.
Pausa	<b>Pulse [⏸].</b> Pulse de nuevo [⏸] o [▶] (PLAY) para reiniciar la reproducción.
Búsqueda	<b>Pulse [◀◀] o [▶▶].</b> ● La velocidad aumenta hasta 5 pasos. ● (+R +R DL +RW hasta 3 pasos) ● Pulse [▶] (PLAY) para reiniciar la reproducción.
Salto	<b>Durante la reproducción o la pausa, pulse [◀◀] o [▶▶].</b> Salte al título, capítulo o pista que quiera reproducir. ● Cada pulsación aumenta el número de saltos.
Inicio desde un elemento seleccionado	<b>Pulse los botones numéricos.</b> La reproducción empieza desde el título, capítulo o pista seleccionado. ● <b>HDD</b> MP3 y JPEG/TIFF Ej., 5: [0] ⇒ [0] ⇒ [5] 15: [0] ⇒ [1] ⇒ [5] ● <b>DVD-A</b> Selección de grupo Durante la parada (el salva pantallas se visualiza en el televisor) Ej., 5: [5] ● Otros discos (Puede seleccionar la pista con DVD-Audio.) Ej., 5: [0] ⇒ [5] 15: [1] ⇒ [5] ● Esto sólo funciona durante la parada con algunos discos (el salvapantallas se visualiza en el televisor).

Quick View*1	<b>Mantenga pulsado [▶] (PLAY/× 1.3).</b> La velocidad de reproducción es superior a la normal. ● Pulse de nuevo para volver a la velocidad normal.
Cámara lenta*2	<b>Durante la pausa, pulse [◀◀] o [▶▶].</b> La velocidad aumenta hasta 5 pasos. ● Pulse [▶] (PLAY) para reiniciar la reproducción. ● <b>VCD</b> Dirección de avance [▶▶] solamente.
De cuadro en cuadro*2	<b>Durante la pausa, pulse [◀] (◀◀) o [▶] (▶▶).</b> Cada pulsación muestra el cuadro siguiente. ● Mantenga pulsado para cambiar en orden avance o retroceso. ● Pulse [▶] (PLAY) para reiniciar la reproducción. ● <b>VCD</b> Dirección de avance [▶] (▶▶) solamente.
Salto del tiempo especificado (Time Slip)*3	<b>1 Pulse [TIME SLIP].</b> <b>2 Pulse [▲, ▼] para seleccionar el tiempo y luego pulse [ENTER].</b> La reproducción salta el tiempo especificado. ● Cada vez que pulsa [▲, ▼], el tiempo aumenta [▲] o disminuye [▼] en intervalos de 1 minuto. (Mantenga pulsado para cambiar a intervalos de 10-minutos.)
Salto CM*3	<b>Pulse [CM SKIP].</b> Cada vez que lo pulsa, la reproducción empieza aproximadamente 1 minuto después.

\*1 **HDD RAM**

\*2 **HDD RAM +R -R DL -RW(V) +R +R DL +RW DVD-V DVD-A** (Partes de imagen móvil solamente) **-RW(VR) VCD**

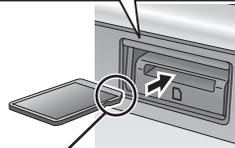
\*3 **HDD RAM +R -R DL -RW(V) +R +R DL +RW -RW(VR)**

## Reproducción de imágenes fijas

Cuando parpadee el indicador de tarjeta ("SD") en el visualizador de la unidad, la tarjeta estará siendo leída o se estará escribiendo en ella. No apague la unidad ni saque la tarjeta. Esto puede causar un fallo en el funcionamiento o hacer que se pierda el contenido de la tarjeta.

### Inserción de la tarjeta

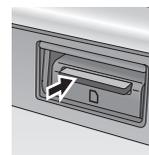
Presione en el centro de la tarjeta hasta que quede colocada haciendo un ruido seco.



Introduzca la tarjeta con la etiqueta hacia arriba y la esquina recortada hacia la derecha.

### Extracción de la tarjeta

- 1 Presione el centro de la tarjeta.
- 2 Tire de ella recta.



Mientras está parada, inserte la tarjeta en su ranura y automáticamente se visualiza el menú (⇒ abajo). Pulse [▲, ▼] para seleccionar "Ir a vista álbum", luego pulse [ENTER] para visualizar la pantalla de Vista álbum mostrada en el paso 2.



**HDD RAM SD**

**CD** [con imágenes fijas (JPEG/TIFF)]

**1 Pulse [DRIVE SELECT] para seleccionar la unidad HDD, DVD o SD.**

**2 Pulse [DIRECT NAVIGATOR].**

(**HDD RAM** Pulse el botón "B" para seleccionar "Imagen")

(**CD** Vaya al paso 4)

**Para mostrar otras páginas**

Pulse [▲, ▼, ◀, ▶] para seleccionar "Atrás" o "Avanza" y luego pulse [ENTER].

● También puede pulsar [◀◀, ▶▶] para mostrar otras páginas.

**3 Pulse [▲, ▼, ◀, ▶] para seleccionar el álbum y luego pulse [ENTER].**

**4 Pulse [▲, ▼, ◀, ▶] para seleccionar la imagen fija y luego pulse [ENTER].**

● Pulse [◀, ▶] para visualizar la imagen fija anterior o siguiente.

**Para volver a la pantalla de Vista de álbum o Imágenes (JPEG)**  
Pulse [RETURN].

**Para salir de la pantalla**

Pulse [DIRECT NAVIGATOR].

<b>Angle</b> .....	42	<b>DPOF</b> .....	48, 76	<b>Protection</b>	
<b>Audio</b>		<b>DV camcorder recording</b> .....	53	Album .....	48
Attribute .....	42	<b>DVD-RAM, DVD-R, DVD-R DL, DVD-RW, +R, +R DL, +RW</b> .....	4-6	Card .....	56
Language .....	61	<b>Enabling discs to be played on other equipment—Finalize</b> .....	58	Cartridge .....	56
Playback .....	38	<b>Finalize</b> .....	58, 76	Disc .....	56
Receiving, recording .....	27	<b>Flexible Recording</b> .....	26	Still picture .....	48
<b>Change Thumbnail</b> .....	45	<b>Format</b> .....	57, 76	Title .....	45
<b>Channel</b>		<b>FR (Flexible Recording Mode)</b> .....	25	<b>Quick Start</b> .....	26
Adjusting, hiding .....	34	<b>FUNCTIONS window</b> .....	12	<b>Quick View</b> .....	37
Audio .....	42	<b>HDMI</b> .....	19, 63, 76	<b>Ratings level</b> .....	61
Auto Channel Setting .....	64	<b>JPEG</b> .....	40, 76	<b>Recording</b>	
Captions .....	65	<b>Language</b>		DV camcorder recording .....	53
CHANNEL EDITOR .....	34	Audio .....	42	Flexible Recording .....	26
VCR Plus+ Channel Setting .....	65	Code list .....	77	Mode .....	25
<b>Chapter</b> .....	38, 44	On-screen .....	62	Relief .....	30
<b>Chasing playback</b> .....	27	Soundtrack .....	42	Scheduled .....	28-30, 32
<b>Cleaning</b>		Subtitle .....	42	<b>Recording for High-Speed Copying</b> .....	61
Disc .....	10	<b>LPCM</b> .....	62, 76	<b>Relief Recording</b> .....	30
Lens .....	10	<b>Menu</b>		<b>Reminder</b>	
Main unit .....	10	MP3 .....	40	Scheduled .....	32
<b>Clock setting</b> .....	22, 64	On-screen .....	42	<b>Remote control code</b> .....	23
<b>CM Skip</b> .....	38	Setup .....	60	<b>Repeat play</b> .....	42
<b>Connection</b>		<b>Mode</b>		<b>Restore Default Settings</b> .....	60
Amplifier, system component ..	18, 19	Recording .....	25	<b>Resume play function</b> .....	37
Antenna .....	14-16, 18	Still Mode .....	61	<b>Satellite receiver</b> .....	15, 16
Cable box .....	15	<b>MP3</b> .....	7, 40	<b>Scheduled recording</b> .....	28-30, 32
DV input terminal .....	53	<b>Name</b>		<b>SD card</b> .....	6, 10, 76
HDMI .....	19	Album .....	48	<b>Setup menu</b> .....	60
IN2 input terminals .....	53	Disc .....	56	<b>Shorten Title</b> .....	45
IR Blaster .....	15	Entering text .....	59	<b>Signal Source (RF IN)</b> .....	60
Satellite receiver .....	15, 16	Playlist .....	47	<b>Simultaneous rec and play</b> .....	27
Television .....	14-19	Title .....	45	<b>Soundtrack</b> .....	42
Video cassette recorder .....	14-16, 53	<b>Noise reduction (NR)</b>		<b>Status messages</b> .....	38
<b>Copy</b>		DNR .....	43	<b>Still pictures</b>	
SD card (MPEG2 moving picture) ..	52	Line-in NR .....	43	Copying .....	54
Still picture .....	54	<b>Off Timer</b> .....	26	Edit .....	48
Title/playlist .....	49	<b>On-screen</b>		Play .....	40
<b>Copy (playlist)</b> .....	47	Language .....	62	<b>Subtitle</b> .....	42
<b>CPRM</b> .....	76	Menus .....	42	<b>TIFF</b> .....	7, 77
<b>Create Chapter</b> .....	38, 45	Status messages .....	38	<b>Time Slip</b> .....	38
<b>Create playlists</b> .....	46	<b>PCM Down Conversion</b> .....	62	<b>Transfer</b> .....	43
<b>Delete</b>		<b>Picture</b> .....	40	<b>TV Guide On Screen™</b> .....	20, 28, 31
Album .....	48	<b>Playlist</b> .....	46	<b>TV Type</b> .....	23
All titles .....	57	<b>Progressive</b> .....	43, 77	<b>VCR Plus+</b> .....	29
Chapter .....	45, 47	<b>Properties</b>		<b>VCR Plus+ Channel Setting</b> .....	60, 65
Playlist .....	47	Playlist .....	47	<b>V. Surround Sound</b> .....	43
Still picture .....	48	Still picture .....	41		
Title .....	45	Title .....	45		
<b>Delete Navigator</b> .....	43				
<b>Dialog Enhancer</b> .....	43				
<b>Direct Navigator</b> .....	36, 40, 44, 48				
<b>Divide Title</b> .....	45				
<b>DivX</b> .....	7, 39, 76				
<b>DNR</b> .....	43				

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