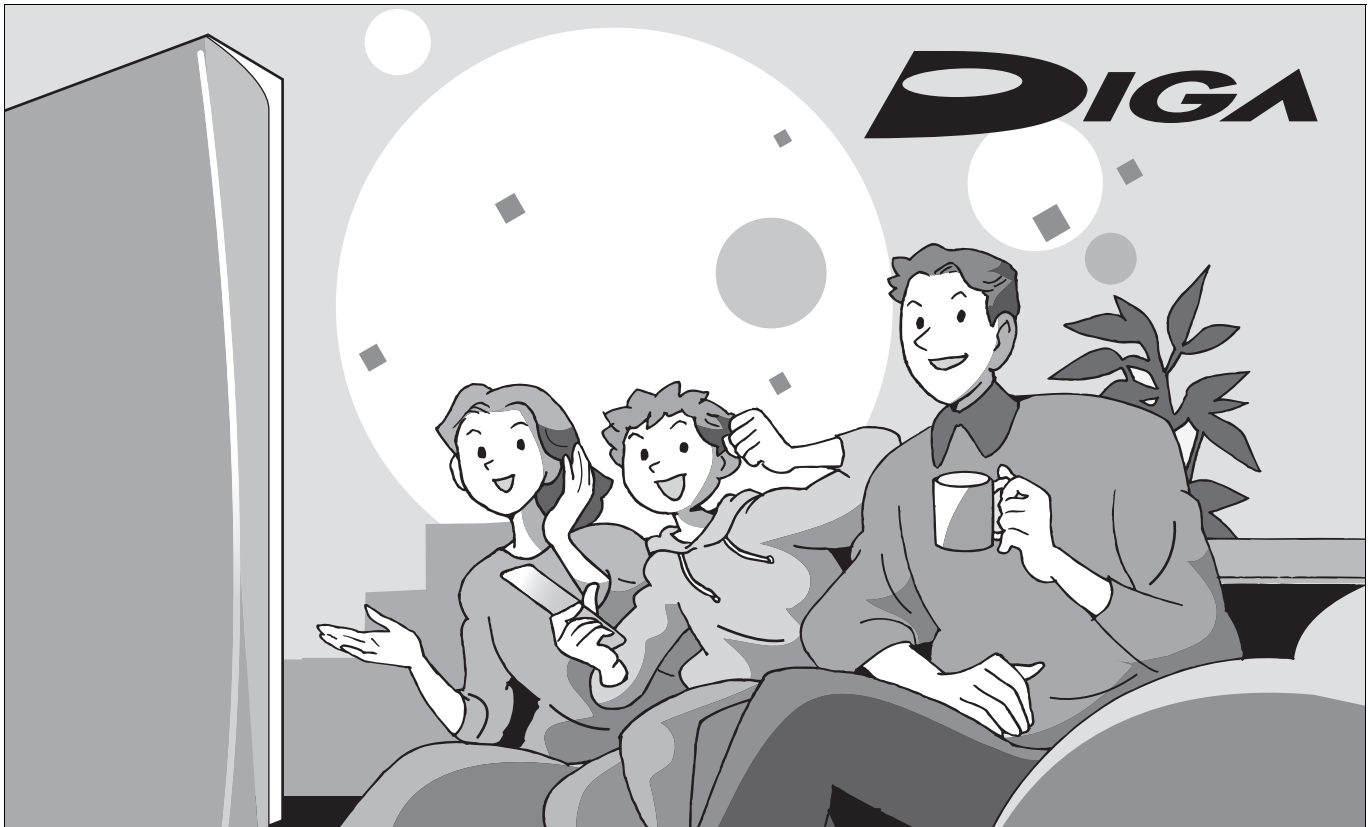
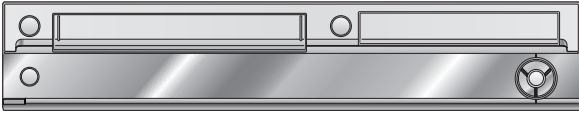


Panasonic®

Operating Instructions

DVD Recorder

Model No. **DMR-EH75V**



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
1-800-211-PANA (7262)

The warranty can be found on page 95.

La guía rápida en español se encuentra en la página 97-103.

Getting started

Recording

Playing back

Editing

Copying

Convenient functions

Reference

Español

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 - 打开时有可见及不可见激光辐射。避免光束照射。
注意 - ここを開くと可視及び不可視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, EVITER L'UNE EXPOSITION AU FAISCEAU.
FORSIGTIG - SYNLIG OG USYNLIG LASERSTRÅLING KLASSE 3B. NÅR LÅGET ER ÅBENT, UNGÅ AT BLIVE UDSAT FOR STRÅLEN.
VARO - AVATTAESSA OLET ALTTIINA LUOKAN 3B NÄKYVÄÄ JA NÄKYMÄTÖNTÄ LASERSÄTELYÄ. VARO ALTISTUMISTA SÄTEELLE.
WARNING - KLASS 3B SYNLIG OG OSYNLIG LASERSTRÅLING NÅR DENNA DEL ÄR ÖPPNAD. UNNGÅ EXPOSERING FÖR STRÅLEN.
VORSICHT - SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG KLASSE 3B. WENN ABDECKUNG GEOFFNET, 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. UNGÅ UDSÆTTELSE FOR STRÅLING.
VARO! - AVATTAESSA OLET ALTTIINA NÄKYVÄÄ JA NÄKYMÄTÖNTÄ LASERSÄTELYÄ. ÄLÄ KATSO SÄTEESEEN.
WARNING - SYNLIG OG OSYNLIG LASERSTRÅLING NÅR DENNA DEL ÄR ÖPPNAD. BETRÄKTA EJ STRÅLEN.
VORSICHT - SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG. WENN ABDECKUNG GEOFFNET, NICHT DEM STRAHL AUSSETZEN.
ADVARSEL - SYNLIG OG USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES. UNNGÅ EKSPONERING FÖR 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.

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.



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.

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.

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

Getting started

IMPORTANT SAFETY INSTRUCTIONS	2
Table of contents	3
•About descriptions in these operating instructions	4
HDD, disc and card information	5
•HDD and discs you can use for recording and play	5
•Discs that cannot be played	6
•Play-only discs [12 cm (5")/8 cm (3")]	7
•Cards you can use on this unit	7
•Regarding DivX discs, MP3 discs and still pictures (JPEG, TIFF)	8
Important notes for recording	9
HDD (Hard disk drive) handling care	10
Unit care	11
Disc and card handling	11
Video cassette information	11
Inserting a disc	12
Inserting a video cassette	12
Inserting/Removing the SD card	12
Accessories	13
The remote control	13
Control reference guide	14
•Remote control	14
•FUNCTIONS window	14
•Main unit	15
•The unit's display	15
STEP 1 Connection	16
•If your television does not have AUDIO/VIDEO terminals, an RF modulator is necessary	19
•If the antenna connector doesn't match	20
•DVD output and DVD/VHS output	20
•To enjoy even higher picture quality	21
•Connecting an amplifier or system component	21
•Connecting with an HDMI (High Definition Multimedia Interface) terminal	22
•Control with HDMI (HDAVI Control)	22
STEP 2 Setting up the TV Guide On Screen® system	23
STEP 3 Downloading	25
STEP 4 Set up to match your television and the unit's remote control	26
•Selecting television type	26
•Television operation	26
•When other Panasonic products respond to this remote control	26

Recording

Note about recording	27
•HDD and discs	27
- FR (Flexible Recording)	27
- When the format confirmation screen is displayed	27
- When remove a recorded disc	27
- Recording modes and approximate recording times	28
•VHS	28
- Recording mode	28
•HDD, discs and VHS	28
- To specify a time to stop recording—One Touch Recording	28
- Watching the TV while recording	28
Recording television programs	29
•Recording television programs	29
•Selecting audio to record	30
•Flexible Recording mode (FR)	30
•Playing while you are recording	31
- Playing from the beginning of the title you are recording—Chasing playback	31
- Playing a title previously recorded while recording—Simultaneous rec and play	31
Scheduled recording	32
- Using the TV Guide On Screen® system to make scheduled recordings	32
- Manually programming scheduled recordings	33
- Using VCR Plus+ system to make scheduled recordings	33
•Check, change or delete a program	34
Utilizing the TV Guide On Screen® system	35
•Using the LISTINGS Service to set scheduled recording and scheduled reminder	36
- To make scheduled recording	36
- To make scheduled reminder	36

- Other Episode Options	36
•Using the SEARCH Service to search TV programs by genre, keyword, etc.	37
- To search TV programs by genre	37
- To search TV programs by new keyword	37
- To search TV programs by saved keyword	37
•Using SETUP Service to change the settings of the TV Guide On Screen® system	38
- Access to the TV Guide On Screen® system setup screen—"Change system settings"	38
- Customizing the channel lineup – "Change channel display"	38
- Change the initial settings—"Change default options"	38
- Display progress in getting TV Guide On Screen data—"Display setup progress"	39
•Using SCHEDULE Service to check, change or delete a program set for scheduled recording or scheduled reminder manually	39
- To change the previously set scheduled recording or scheduled reminder	39
- Other Schedule Options	39
- History Options	39

Playing back

Playing recorded video contents/Playing play-only discs	40
- Selecting recorded programs (titles) to play—Direct Navigator	40
•Operations during play	41
•Simple editing operations during play	42
•Changing audio during play	42
•Status messages	42
Playing DivX discs, MP3 discs and still pictures (JPEG/TIFF)	43
•Selecting file type to play	43
- To select file type	43
•Playing DivX discs	43
- Using the tree screen to find a folder	43
- About DivX VOD content	44
•Playing MP3 discs	44
- Using the tree screen to find a group	44
•Playing still pictures	44
•Useful functions during still picture play	45
Using on-screen menus	46
- Common procedures	46
- Disc menu—Setting the disc content	46
- Play menu—Change the play sequence	46
- Video menu—Change the picture quality	47
- Audio menu—Change the sound effect	47
- Other menu—Change the display position	47
Delete Navigator to delete titles	47
•Deleting titles or pictures during play	47
Playing a video cassette	48
•Operations	48
•Adjusting the playback picture	49
- Manual tracking	49
- Vertical locking adjustment	49
•VHS Index Search System (VISS)	49
•Changing audio	49
•Auto Bilingual Choice Function	49
•S-VHS Quasi Playback (SQPB)	49
•Various on-screen display indications	50

Editing

Editing titles/chapters	51
•Editing titles/chapters and playing chapters	51
•Title operations	52
•Chapter operations	52
Creating, editing and playing playlists	53
•Creating playlists	53
•Editing and playing playlists/chapters	54
•Playlist operations	54
•Chapter operations	54
Editing still pictures	55
•Album and picture operation	55

Copying

Note about copying	56
- Before copying	57
Copying titles or playlists	59
• Copy Navigator	59
• One Touch Copy	60
- HDD → DVD or VHS	60
- VHS → HDD or DVD	61
- DVD → HDD	61
- DVD → VHS	61
• Copying using the copying list—	
Advanced Copy (Create List)	62
- Copy Navigator/Copying list icons and functions	63
• Copying MPEG2 moving pictures from an SD card—	
Copy video (MPEG2)	63
• Copying a video cassette or DVD-Video [finalized DVD-R,	
-R DL, DVD-RW (DVD-Video format), +R, +R DL] —	
Advanced Copy (Time Limit)	64
Copying still pictures	66
• Copying using the copying list	66
• Copying all the still pictures on a card—Copy all Pictures	67
Recording from a video cassette recorder	68
• Manual recording	68
• DV camcorder recording (DV Camcorder Rec.)	69

Convenient functions

HDD, disc and card management	70
• Common procedures	70
• Setting the protection—Disc Protection	70
- Cartridge-protection	70
• Providing a name for a disc—Disc Name	70
• Deleting all titles and playlists—Delete All Titles	71
• Deleting all the contents of a disc or card—Format	71
• Selecting the background style—Top Menu style	72
• Selecting whether to show the Top Menu first—	
Playback will start with:	72
• Enabling discs to be played on other equipment—Finalize	72
• Creating Top Menu—Create DVD Top Menu	72
Entering text	73
Changing the unit's settings	74
• Common procedures	74
• Summary of settings	74
- Changing the speaker setting to suit your speaker	78
Channel/Clock settings when	
TV Guide On Screen® system is not used	79
• Auto channel/clock settings	79
- Adjust Time Zone	79
• Channel captions	80
• VCR Plus+ Channel Setting	80


Reference




Frequently asked questions	81
Messages	83
Troubleshooting guide	85
Specifications	92
Glossary	93
Product Service	94
- Product information	94
Limited Warranty	95
Index	96
Guía de referencia rápida en español	
(Spanish Quick Reference)	97

About descriptions in these operating instructions

- Pages to be referred to are indicated as (→ ○○).
- These operating instructions describe operations mainly using the remote control.
- The contents of the screens used in these instructions may not necessarily match what you will see on your screen.
- The displays shown in these instructions are examples. The actual displays depend on the disc etc.

HDD and discs you can use for recording and play

Disc type	Hard disk drive (HDD) ●80 GB	DVD-RAM ●4.7 GB/9.4 GB, 12 cm (5") ●2.8 GB, 8 cm (3")
Logo	—	
Indicated in these instructions with	HDD	RAM
Recording format	DVD Video Recording format 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	Video Still pictures	Video Still pictures
Re-writable*1	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 (→ 93) compatible discs only]
Recording both Main and SAP for MTS broadcast*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 (→ 9)	DVD-RW ●4.7 GB, 12 cm (5") ●1.4 GB, 8 cm (3")
Logo			
Indicated in these instructions with	-R before finalization DVD-V after finalization	-R DL before finalization DVD-V after finalization	-RW(V) before finalization DVD-V after finalization
Recording format	DVD-Video format 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	Video	Video	Video
Re-writable*1	No	No	Yes
Play on other players*2	Only after finalizing the disc. (→ 72, 93)	Only on DVD-R DL compatible players after finalizing the disc. (→ 72, 93)	Only after finalizing the disc. (→ 72, 93)
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 broadcast*4	No [Only one is recorded. → 76, Multi-channel TV Sound (MTS)]	No [Only one is recorded. → 76, Multi-channel TV Sound (MTS)]	No [Only one is recorded. → 76, 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

(continued on the next page)

HDD and discs you can use for recording and play

(continued)

Disc type	+R*6 ●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 (→ 9)	+RW
Logo	–	–	–
Indicated in these instructions with	+R before finalization	+R DL before finalization	+RW
	DVD-V after finalization	DVD-V after finalization	
Recording format	+VR format ●Digital broadcasts that allow “One time only recording” cannot be recorded.		
Data that can be recorded and played	Video	Video	Video
Re-writable*1	No	No	Yes
Play on other players*2	Only after finalizing the disc. (→ 72, 93)	Only on +R DL compatible players after finalizing the disc. (→ 72, 93)	Yes (It is not possible to finalize the disc.)
Usable high speed recording disc type*3	Up to 16X recording speed discs	Up to 2.4X recording speed discs	Up to 4X recording speed discs*7
What you can do on this unit			
Recording broadcasts that allow one copy	No	No	No
Recording both Main and SAP for MTS broadcast*4	No [Only one is recorded. → 76, Multi-channel TV Sound (MTS)]	No [Only one is recorded. → 76, Multi-channel TV Sound (MTS)]	No [Only one is recorded. → 76, 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

*1 The amount of the recordable disc space doesn't increase even if the program is deleted when you use one time recording disc. (→ 28, Recording modes and approximate recording times)

*2 **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.

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

*4 For further information (→ 9, Important notes for recording)

*5 When “Recording for High-Speed Copying” is set to “Off” (→ 75). (The default setting is “On”.)

*6 +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.

*7 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 “Recording for High-Speed Copying” 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 (→ 75). (The default setting is “On”.)

Finalize

A process that makes playing 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. (→ 72)

Formatting

Formatting is the process of making a disc (such as DVD-RAM, etc.) recordable on recording equipment. (→ 71)

You cannot directly record to a 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 → 28





Discs that cannot be played




- 2.6/5.2 GB DVD-RAM, 12 cm (5")
- 3.95/4.7 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 (→ 72, Finalize)
- 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 with	DVD-V	DVD-A	-RW(VR)
Instructions	High quality movie and music discs	High fidelity music discs <ul style="list-style-type: none"> • Played on this unit in 2 channels 	DVD-RW* recorded on another DVD Recorder <ul style="list-style-type: none"> • You can play programs that allow "One time only recording" if they have been recorded to a CPRM compatible disc. • By formatting (→ 71) 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 with	DivX	CD	DivX, MP3 and JPEG/TIFF	VCD
Instructions	<ul style="list-style-type: none"> • DVD-R* with video recorded in DivX 	Recorded audio and music (including CD-R/RW*)	<ul style="list-style-type: none"> • CD-R* and CD-RW* with video recorded in DivX • CD-R* and CD-RW* with music recorded in MP3 (→ 44) • CD-R* and CD-RW* with still pictures recorded in JPEG and TIFF 	Recorded music and video (including CD-R/RW*)

* 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 (→ 93) 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 with	SD
Data that can be recorded and played	Still pictures Video (MPEG2)
Instructions	<p>You can insert directly into the SD card slot.</p> <p>* A miniSD™ card adaptor included with the miniSD™ card is necessary.</p> <ul style="list-style-type: none"> • You can play and copy still pictures taken on a digital camera, etc. (→ 43, 66). • You can set the DPOF (Digital Print Order Format) for automatic printing on your home printer or at a photo developing store (→ 55, 93). • MPEG2 moving pictures shot with a Panasonic SD Video camera, etc. can be copied to the HDD or DVD-RAM. (→ 63) • 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 spent 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 (→ 71, 93).
- 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	-R CD
File format	DivX <ul style="list-style-type: none"> Files must have the extension ".DIVX", ".divx", ".AVI" or ".avi". 
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 <ul style="list-style-type: none"> Video <ul style="list-style-type: none"> Number of stream: Up to 1 Codec: DIV3, DIV4, DIVX, DV50 Picture size: 32×32 to 720×576 FPS (Frame Per Second): Up to 30 fps Audio <ul style="list-style-type: none"> Number of stream: Up to 8 Format: MP3, MPEG, AC3 Multi channel: AC3 is possible. MPEG multi is 2 ch conversion. GMC (Global Motion Compensation) is not supported.

MP3

Playable discs	CD
File format	MP3 <ul style="list-style-type: none"> Files must have the extension ".mp3" or ".MP3".
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

• 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	HDD RAM SD CD
File format	JPEG, TIFF (non-compressed RGB chunky format) <ul style="list-style-type: none"> Files must have the extension ".jpg", ".JPG", ".tif" or ".TIF".
Number of pixels	between 34×34 and 6144×4096 pixels (Sub sampling is 4:2:2 or 4:2:0)
Number of folders	CD Maximum number of folders recognizable: 99 folders (including the root folder) HDD RAM SD This unit can handle a maximum of 300 folders (including higher folders)
Number of files	CD Maximum number of files recognizable*1: 999 files HDD RAM SD 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.

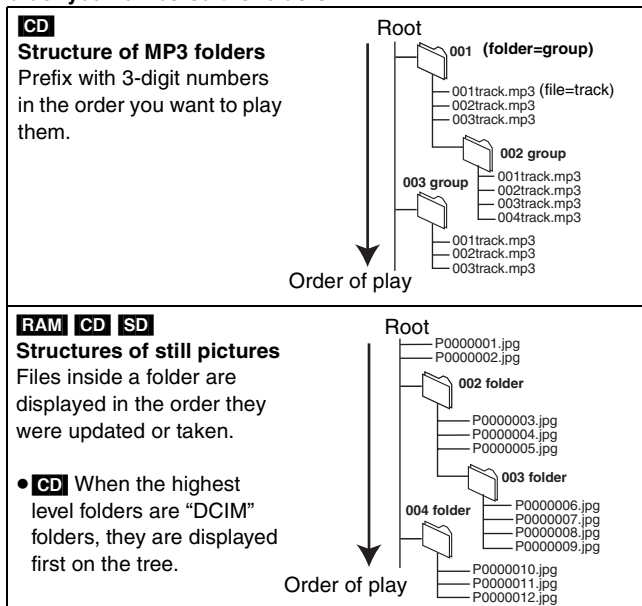
CD

- 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.



Manufactured under license from Dolby Laboratories.
 "Dolby" and the double-D symbol are trademarks of Dolby Laboratories.

"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.

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.

- SD logo is a trademark.
- Portions of this product are protected under copyright law and are provided under license by ARIS/SOLANA/4C.

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.

HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.

Recording of MTS broadcasting	<p>HDD RAM</p> <p>Both Main and SAP audio can be recorded. You can change the audio during playback. (→ 42, Changing audio during play) However in the following cases, select whether to record the Main or SAP audio:</p> <ul style="list-style-type: none"> - Recording or copying sound in LPCM (→ 76, Audio for XP Recording) - "Recording for High-Speed Copying" is set to "On" (The default setting is "On". → 75) <p>Main SAP Hello Hola</p>  <ul style="list-style-type: none"> • If you record from external equipment <ul style="list-style-type: none"> - Select both "Main" and "SAP" on the external equipment. 	<p>-R -R DL -RW(V) +R +R DL +RW</p> <p>Select the Main or SAP audio before recording or copying [→ 76, Multi-channel TV Sound (MTS)]</p> <p>The selected audio only is recorded or copied.</p> <p>Main</p>   <ul style="list-style-type: none"> • If you record from external equipment <ul style="list-style-type: none"> - Select "Main" or "SAP" on the external equipment.
Recording of Widescreen broadcasting	<p>HDD RAM</p> <p>Recorded in 16:9 aspect (Widescreen)*</p> <ul style="list-style-type: none"> * When "Recording for High-Speed Copying" is set to "Off" • When "Recording for High-Speed Copying" is set to "On", 16:9 aspect programs are recorded in 4:3 aspect. (The default setting is "On". → 75) 	<p>-R -R DL -RW(V) +R +R DL +RW</p> <p>Recorded or copied in 4:3 aspect</p> 
Copying titles in high speed mode from the HDD to DVD-R, etc.	<p>Set "Recording for High-Speed Copying" to "On" before recording to the HDD (→ 75). (The default setting is "On".) You can copy titles in high speed mode (→ 57); however, the above settings are necessary before recording to the HDD.</p> <p>Record to the HDD</p>  <p>High speed copy to DVD-R, etc.</p>	
Recording of digital broadcasting	<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 (→ 93) compatible DVD-RAM.</p> <p>HDD RAM CPRM compatible discs only.</p>  <p>-R -RW(V) +R +RW</p> <ul style="list-style-type: none"> • "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. • Even when copying to videotape the title may not be copied correctly because of the copy guard. • You cannot copy a playlist created from "One time only recording" titles. 	
Playing the disc on other DVD players	<p>-R -R DL -RW(V) +R +R DL</p> <p>The disc must be finalized after recording or copying (→ 72). 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>+RW</p> <p>We recommend you create the menu before playing a +RW. (→ 72, Creating Top Menu—Create DVD Top Menu)</p>	
Recording to DVD-R DL and +R DL	<p>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.</p>	

- It is not possible to record to two drives 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).

Unit care

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

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

- Never use alcohol, thinner or benzine to clean the 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.

Disc and card handling

How to hold a disc or card

Do not touch the recorded surface or the terminal surface.

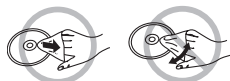


Concerning non-cartridge discs

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, benzine, 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 differences 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.

Video cassette information

Video cassettes

- Break off the video cassette's tab to prevent accidental erasure. Cover the hole with tape when you want to use the video cassette for recording again.
- You can use video cassettes with the VHS and S-VHS marks, but the unit is unable to make full use of the characteristics of S-VHS video cassettes.

Video cassette care

- Poor quality or damaged video cassettes can cause the heads to become dirty and malfunction. Store your video cassettes carefully and discard them when they become dirty or damaged.
- Never use video cassettes on which juice has been spilled or those that are extremely damaged since this will not only cause the heads to become dirty, but will also make the unit malfunction.

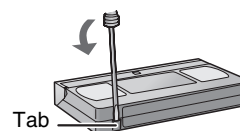
Maintenance

Cleaning the video heads

Dirt on the video heads can cause poor recording and play.



If the picture does not improve, use an optional head-cleaning cassette (part number NV-TCL30PT). If the problem persists, seek advice from a qualified service person.



Inserting a disc

- 1 Press [**▲**, OPEN/CLOSE] on the main unit to open the tray.

- You can insert a cartridge or non-cartridge disc.

- 2 Press [**▲**, OPEN/CLOSE] on the main unit to close the tray.

Note

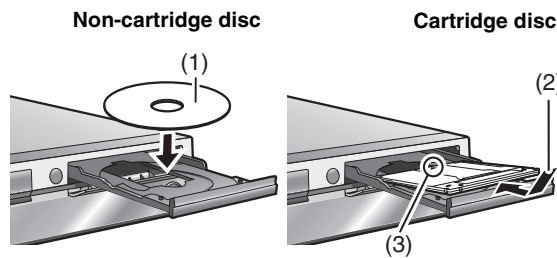
- A double-sided disc should be loaded with the side you want to record/play facing down.
- It is not possible to record or play continuously from one side of a double-sided disc to the other. You will need to eject the disc and turn it over.
- When using 8 cm (3") DVD-RAM or 8 cm (3") DVD-R, remove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

Automatic drive select function

RAM [Only for discs with the write-protect tab on the cartridge set to "PROTECT" (→ 70, Cartridge-protection)] **DVD-V** **DVD-A** **VCD** **CD**

- If the unit is stopped or recording to the HDD or VHS, 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.



- (1) Insert label-up.
- (2) Insert fully so it clicks into place.
- (3) Insert label-up with the arrow facing in.

Inserting a video cassette

The surface on which you can see a roll of tape should face up.

Insert a video cassette.

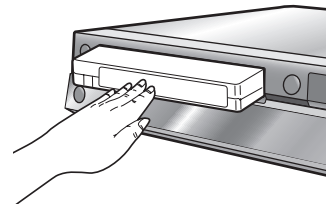
- The unit is automatically turned on.
- Play starts automatically if you insert a video cassette with the tab removed.

For main unit

- Press [**▲**, EJECT] on the main unit.

For remote control

- Press [DRIVE SELECT] to select VHS drive and then press and hold [**■**, STOP] for about 3 or more seconds.



Inserting/Removing the SD card

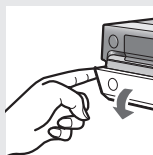
When the card indicator ("SD") on the unit's display is flashing, the card is being read from or written to. Do not turn off the unit or remove the card. Such action may result in malfunction or loss of the card's contents.

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

- You can use SD Memory Cards with capacities from 8 MB to 2 GB (→ 7).

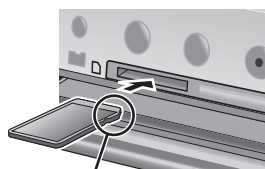
Opening the cover

Press down.



Inserting the card

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



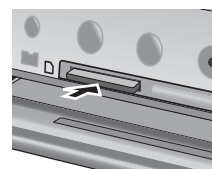
Insert the card label up with the cut-off corner on the right.

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.



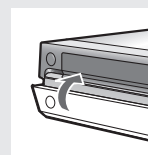
Removing the card

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



Closing the cover

Press up.



Automatic drive select function

- If you insert an SD card while the unit is stopped, the "SD Card Operations" screen is displayed. Select an item and press [ENTER] to switch to the SD drive (→ 44, 66).

If you remove an SD card, the HDD drive is automatically selected.

Keep the small memory cards such as the SD Memory Card out of reach of children. If swallowed, seek medical advice immediately.

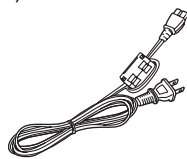
Accessories



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

To order accessories, refer to "Accessory Purchases" on page 95.

- 1 AC power supply cord (VFA0461)



- 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)



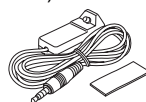
- 1 Audio/Video cable (K2KA6BA00003)



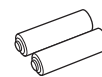
- 1 Remote control (EUR7659Y90)



- 1 IR Blaster (K2ZZ04C00001)



- 2 Batteries for the remote control R6 size



- 1 DVD-RAM disc



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-EH75V
SERIAL NUMBER _____

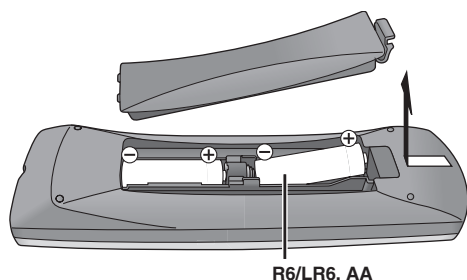
User memo:

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.
- Do not use rechargeable type batteries.



R6/LR6, AA

Do not:

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

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

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

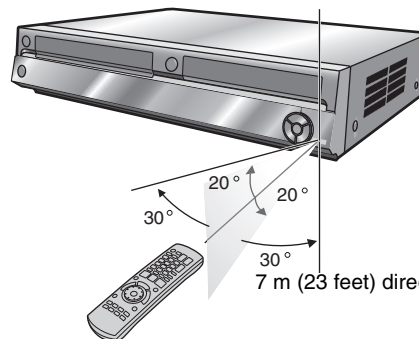
Note

- If you cannot operate the unit or TV using the remote control after changing the batteries, please re-enter the codes (→ 26).

Use

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

Remote control signal sensor

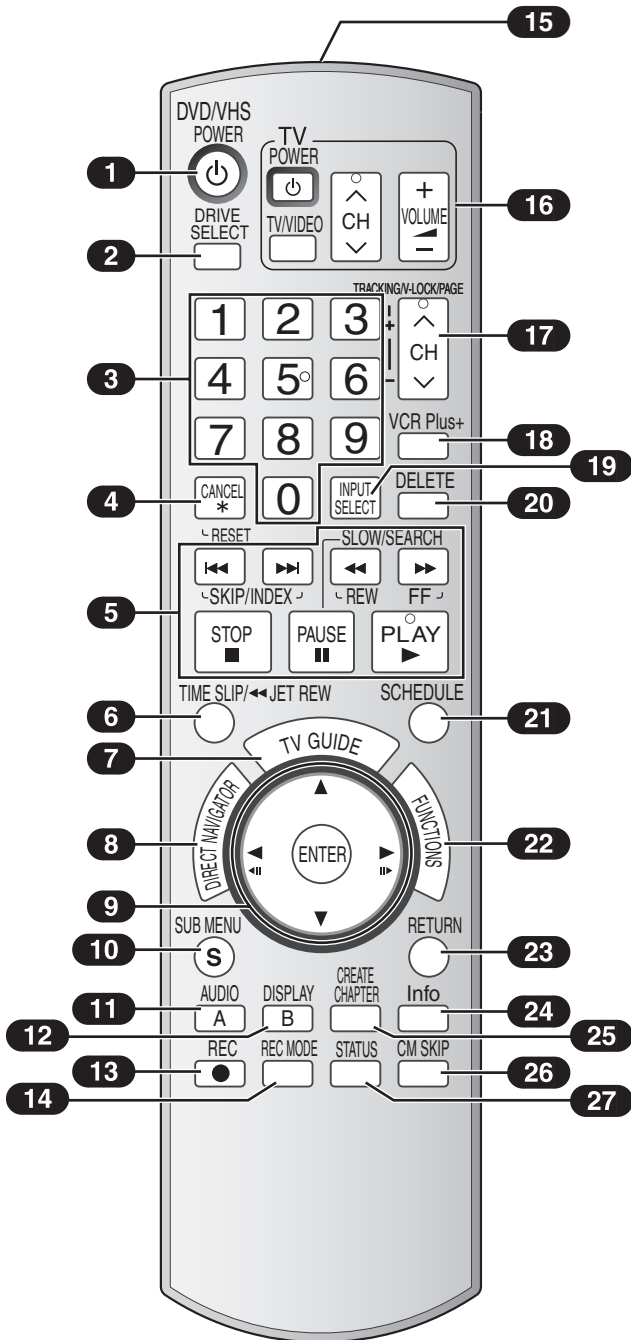


Note

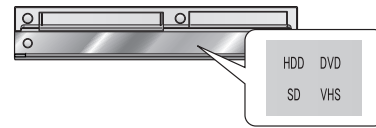
- Keep the transmission window and the unit's sensor free from dust.
- Operation can be affected by strong light sources, such as direct sunlight, inverter fluorescent lamps, and the glass doors on cabinets.

Remote control

Instructions for operations are generally described using the remote control.



■ [DRIVE SELECT] button



Before performing operations, press [DRIVE SELECT] to make sure that the correct drive is selected. The drive indicator of the selected drive lights up on the main unit.

- 1 Turn the unit on → 23
- 2 Select drive (HDD, DVD, SD or VHS) → above
- 3 Select channels and title numbers etc./Enter numbers
- 4 Cancel/Reset the tape counter
- 5 Basic operations for recording and play
- 6 Skip the specified time/ → 42
- 7 Jet rewind button (JET REW)..... → 48
- 8 Show program listings (TV Guide On Screen® system) → 32
- 9 Show Direct Navigator/Top menu → 40, 51
- 10 Selection/Enter, Frame-by-frame → 41
- 11 Show sub menu. → 36, 51
- 12 Select audio/ → 30, 42, 49
- 13 [A] for Direct Navigator → 40
- 14 Show on-screen menu/. → 46
- 15 [B] for Direct Navigator → 44
- 16 Start recording → 29
- 17 Change recording mode. → 29
- 18 Transmit the remote control signal
- 19 Television operations → 26
- 20 Channel select/ → 29
- 21 Change pages in the TV GUIDE system/ → 32
- 22 TRACKING/V-LOCK → 49
- 23 Show VCR Plus+ screen → 33
- 24 Input select (IN1, IN2, IN3 or DV) → 68
- 25 Delete items. → 47
- 26 Show scheduled recording list → 34
- 27 Show FUNCTIONS window → below
- 28 Return to previous screen
- 29 Changing the size of information window/
Displays help information → 35
- 30 Create chapters. → 42
- 31 Skip a minute forward. → 42
- 32 Show status messages → 42, 50

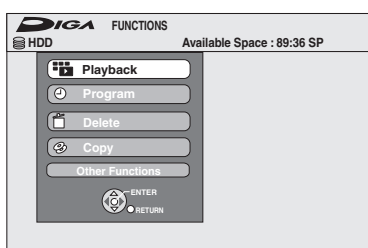
Note

- Buttons such as the [●, REC] button do not protrude as much as other buttons to stop them from being pressed accidentally.
- The word “button” is not used in these operating instructions so “Press the [ENTER] button.” is shown as “Press [ENTER].”
- You can use this remote control to operate your TV if you set the TV manufacturer code (→ 26).

FUNCTIONS window

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. (→ 47, 59)

- 1 While stopped
Press [FUNCTIONS].

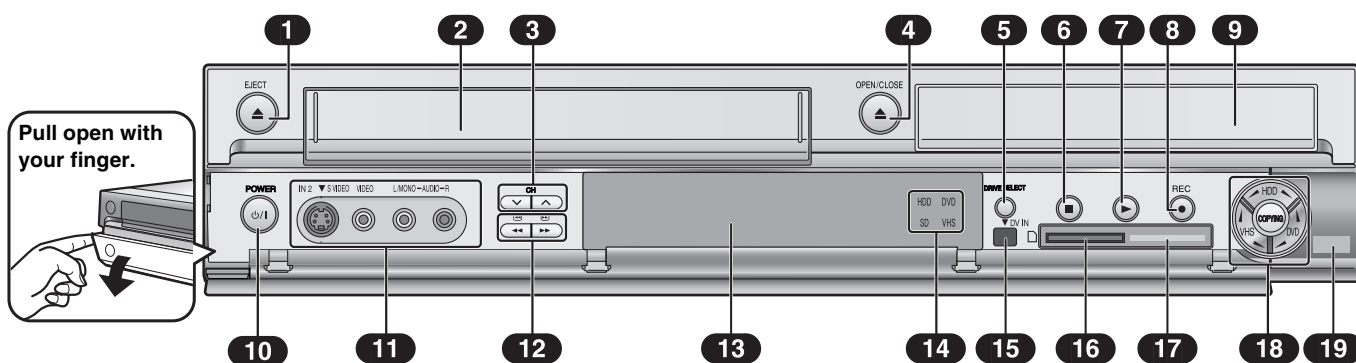


Functions displayed depend on the selected drive or type of disc.

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

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

Main unit



- 1** Cassette eject button (▲, EJECT) → 12
- 2** Cassette compartment
- 3** Channel select (CH, ∇, ▲) → 29
- 4** Open/close disc tray (▲, OPEN/CLOSE)..... → 12
- 5** Select drive → 14
- Drive changes each time you press [DRIVE SELECT].
- 6** Stop (■) → 29, 41
- 7** Start play (▶)..... → 40, 48
- 8** Start recording/Specify the time to stop recording (●, REC) → 28, 29
- 9** Disc tray → 12
- 10** POWER button (⏻/I, POWER) → 23
- 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.
- 11** Connectors for external equipment (IN2) → 68
- 12** DVD-Search, VHS-REW/FF buttons (◀/▶, ◀▶/▶▶)..... → 41, 48

- 13** The unit's display → below
- 14** Drive indicator (HDD/DVD/SD/VHS) → 14
- 15** Connector for a digital video (DV) camcorder (DV IN) → 69
- 16** SD card slot → 12
- 17** Power indicator
- This lights up blue when you turn the unit on. It goes off if you set "FL Display" to "Dim" or "Automatic".
- 18** One Touch Copy operation button → 60
- 19** Remote control signal sensor → 13
- IR Blaster signal sensor → 17

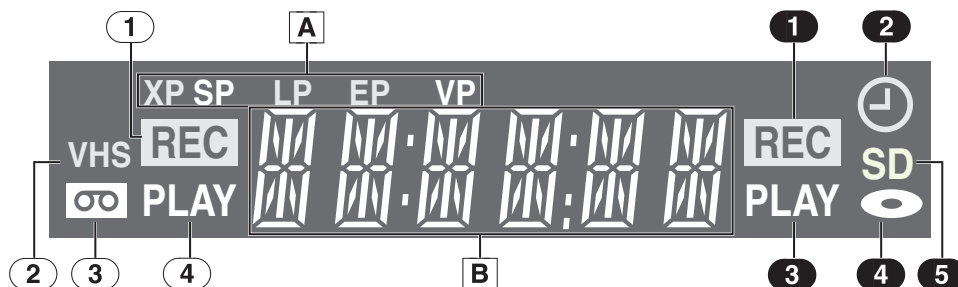
Rear panel terminals (→ 16)

■ Off Timer

The unit automatically switches to standby when it has not been used for about 6 hours.

You can turn this feature off or change the time to 2 hours. (→ 74, "Off Timer")

The unit's display



HDD/DVD/VHS

A Recording mode indicator

HDD/DVD:

XP, SP, LP, EP: (→ 28)

XP SP LP EP (all on): FR mode (→ 30)

VHS:

SP, LP*, EP, VP: (→ 28)

* Playback only

HDD/DVD/SD/VHS

B Main display

- Digital Clock, Counter, etc.

VHS

- 1** Recording indicator
- On: During recording
- Flashes: During pause recording
- 2** VHS indicator
- 3** Tape indicator
- 4** Playing indicator

HDD/DVD/SD

- 1** Recording indicator
- On: During recording
- Flashes: During pause recording
- 2** Scheduled recording indicator (⊖) (→ 32)
- The scheduled recording indicator lights only when the unit's power is off.
- On:
- When a scheduled recording program is registered and recordable disc is inserted.
- Flashes:
- The scheduled recording indicator flashes when the unit cannot start (e.g. there is no disc, etc.) the scheduled recording.
- 3** Playing indicator
- 4** Disc indicator
- 5** SD card indicator

STEP 1 Connection

This section includes diagrams of six common methods of connection (A to F, → 16–18).

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

- 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 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.

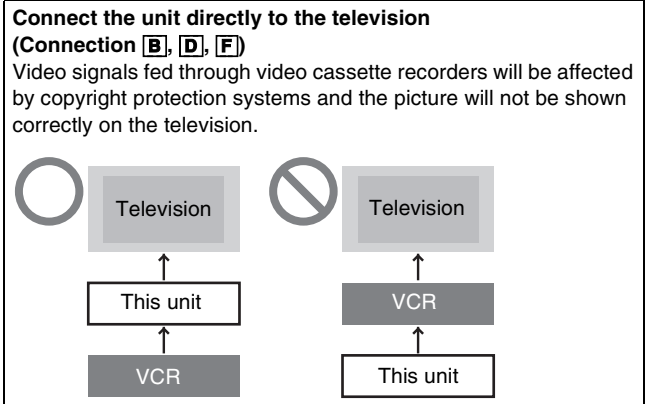
Make sure you connect one of the following terminals on this unit to the television: the AUDIO/VIDEO OUT terminal, the S VIDEO OUT terminal, the COMPONENT VIDEO OUT terminal or HDMI AV OUT terminal.

- Refer to page 20 if the antenna connector doesn't match.

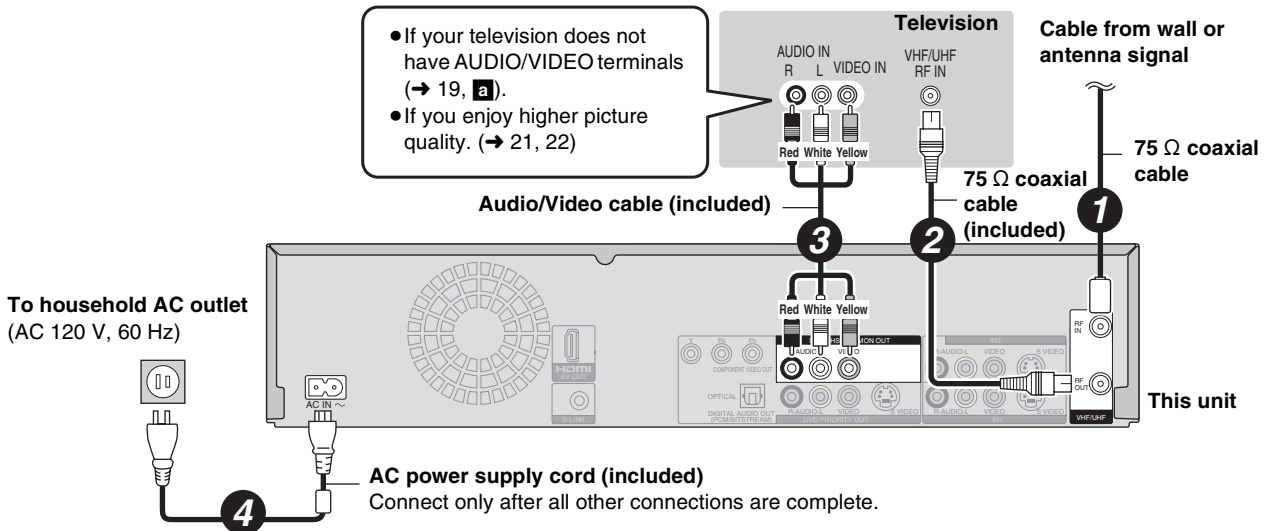
When the unit is not to be used for a long time

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. 16 W).

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

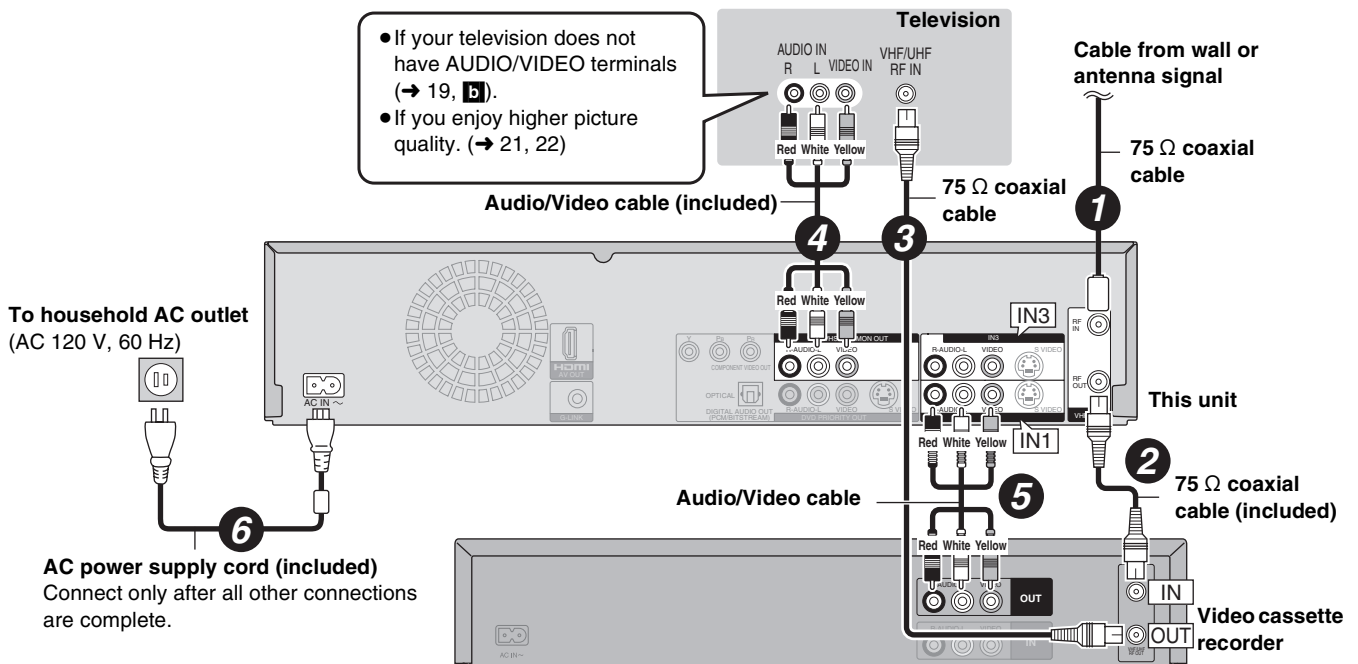


A Connection with a television



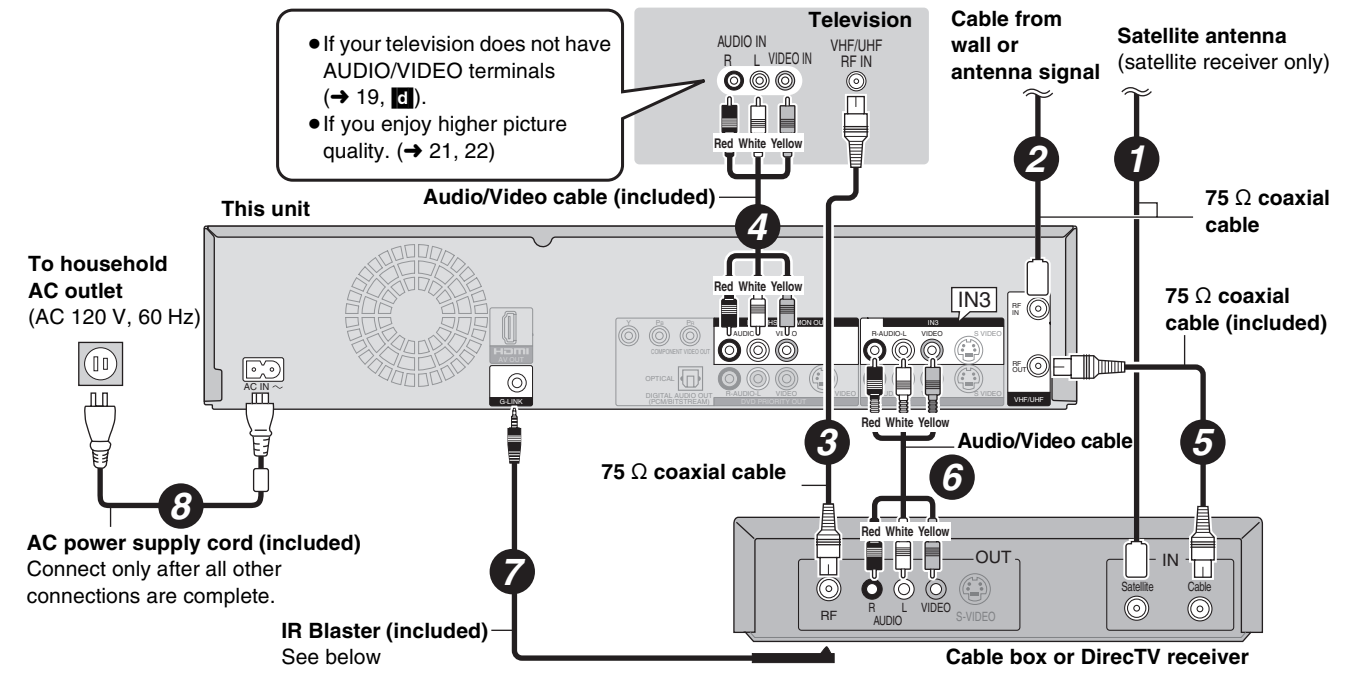
B Connection with a television and video cassette recorder

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

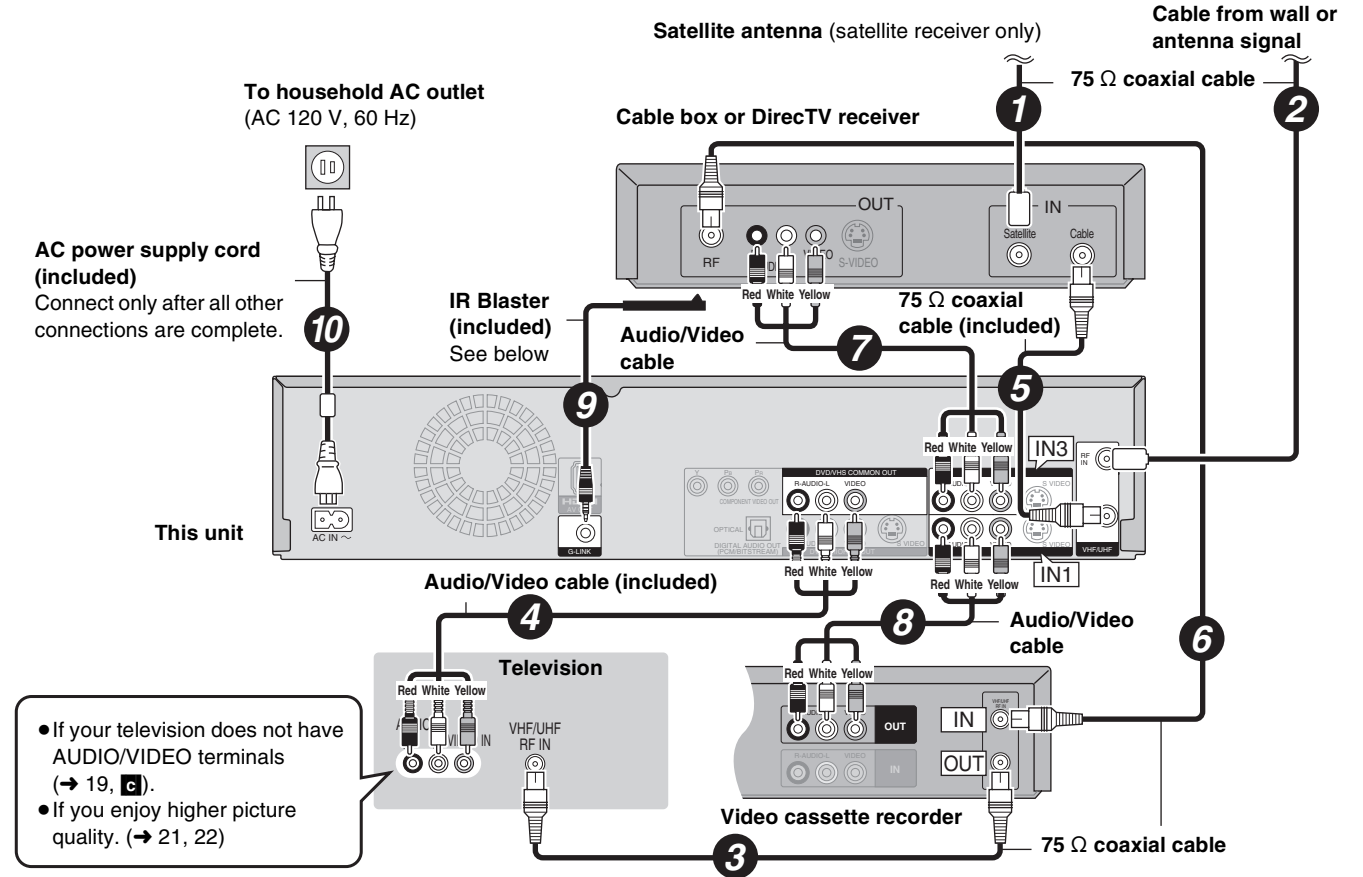


DirecTV/DISH Network service is only available in the United States.

C Connection with a television and cable box or DirecTV receiver



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



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.

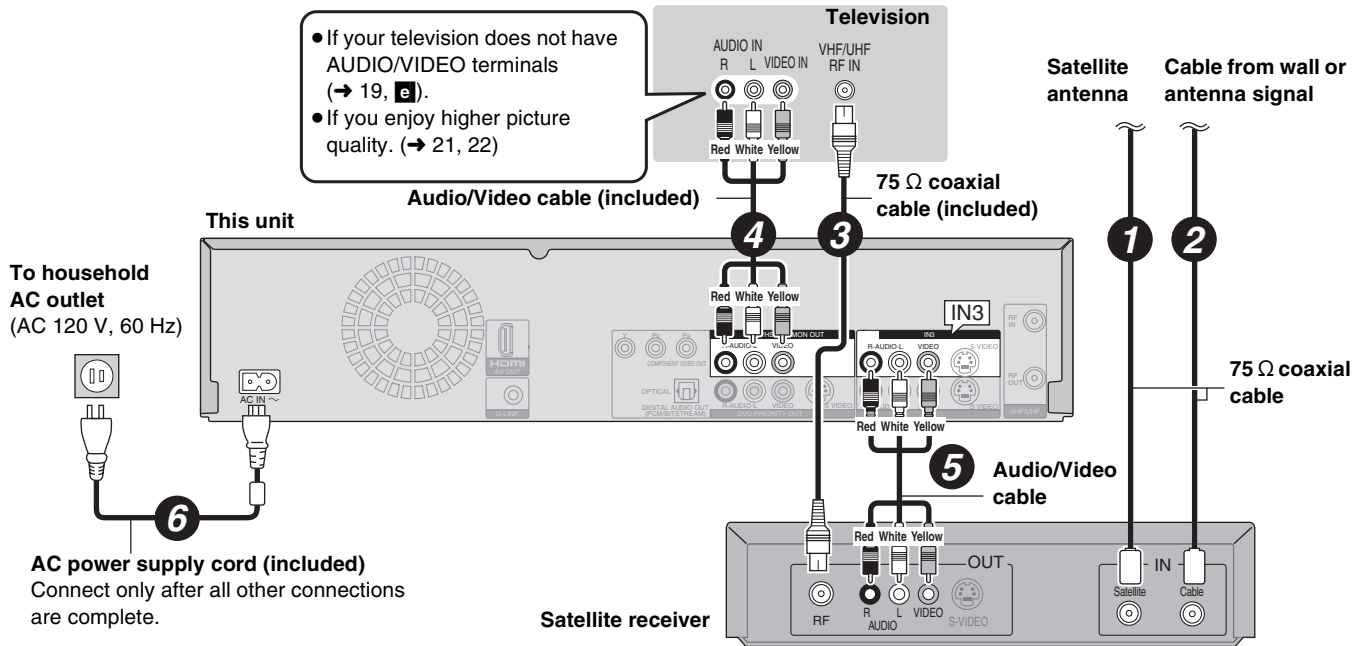
17
RQT8346

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.

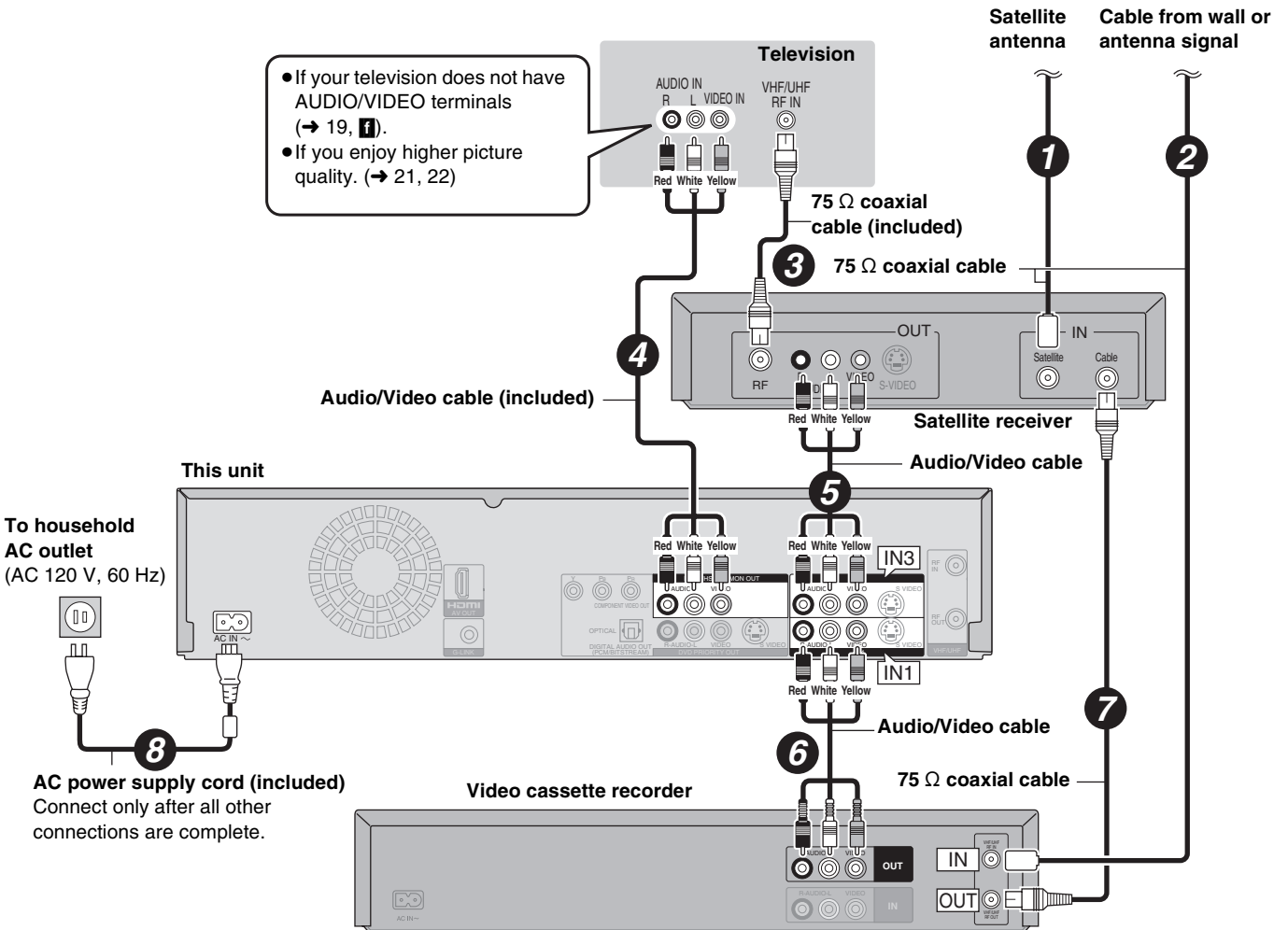
DirecTV/DISH Network service is only available in the United States.

E Connection with a television and satellite receiver other than DirecTV



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

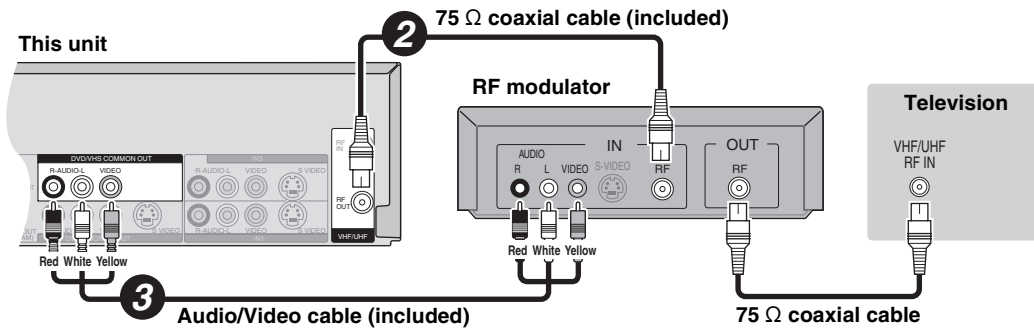
The connection will allow the video cassette recorder to be used for playback and recording when this unit is turned off.



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

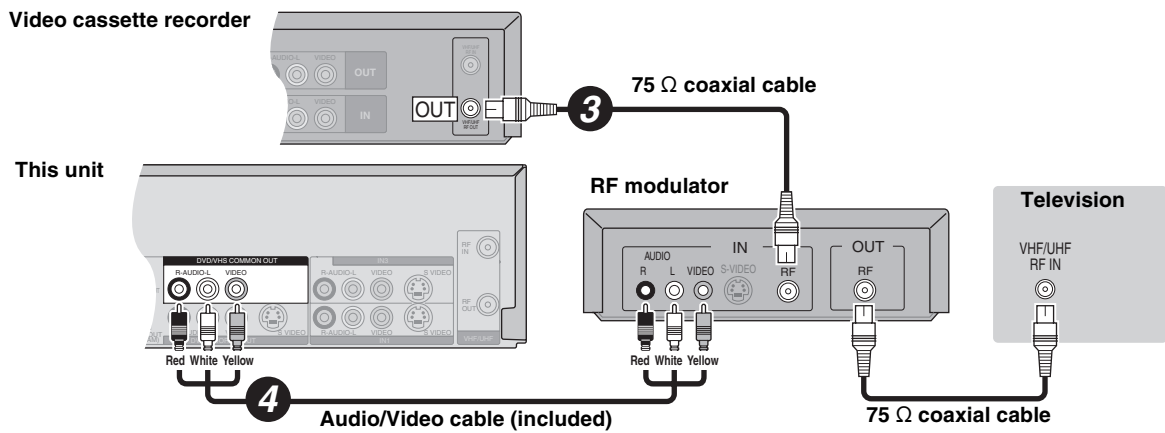
The circled numbers in the illustration refer to connection "A" to "F". Also connect all other cables as well.

a Connection with a television (→ 16, A)



b Connection with a television and video cassette recorder (→ 16, B)

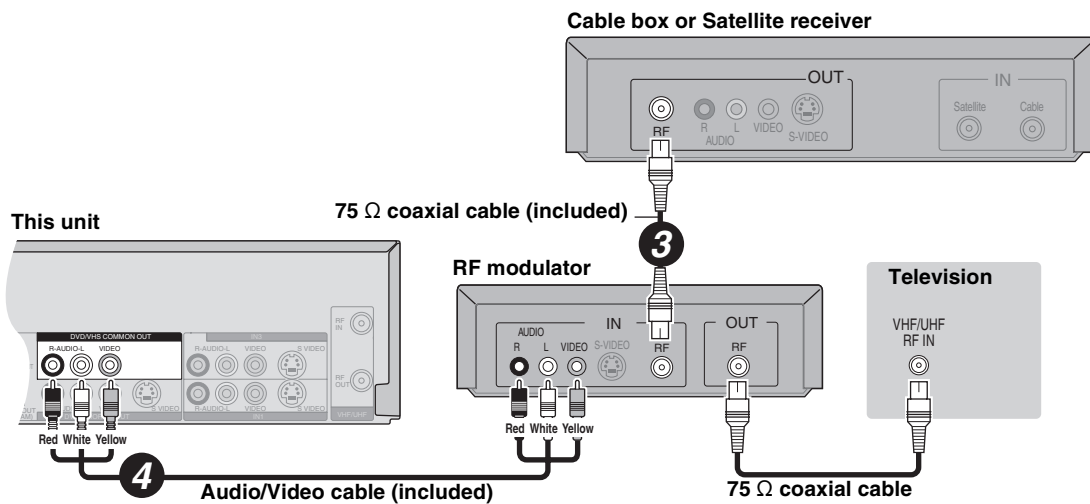
c Connection with a television, video cassette recorder and cable box or DirecTV receiver (→ 17, D)



d Connection with a television and cable box or DirecTV receiver (→ 17, C)

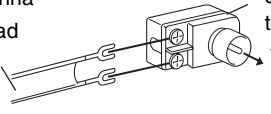
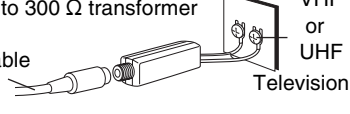
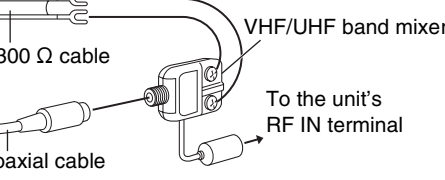
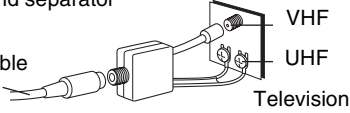
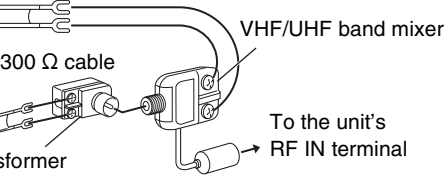
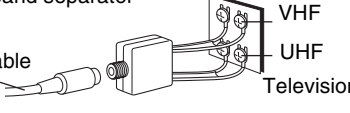
e Connection with a television and satellite receiver other than DirecTV (→ 18, E)

f Connection with a television, video cassette recorder and satellite receiver other than DirecTV (→ 18, F)



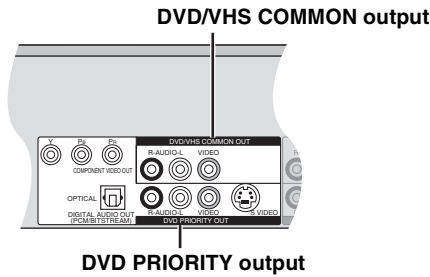
If the antenna connector doesn't match

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.)
A twin lead	from the antenna (Flat) Twin lead 300 Ω cable  300 to 75 Ω transformer To the unit's RF IN terminal	75 to 300 Ω transformer 75 Ω coaxial cable  VHF or UHF Television
A twin lead and a coaxial plug	from the antenna (Flat) Twin lead 300 Ω cable  VHF/UHF band mixer To the unit's RF IN terminal (Round) 75 Ω coaxial cable	VHF/UHF band separator 75 Ω coaxial cable  VHF UHF Television
Two twin leads	from the antenna (Flat) Twin lead 300 Ω cable  VHF/UHF band mixer To the unit's RF IN terminal 300 to 75 Ω transformer	VHF/UHF band separator 75 Ω coaxial cable  VHF UHF Television

DVD output and DVD/VHS output

The unit has DVD/VHS COMMON output terminals and DVD PRIORITY output terminals.



DVD/VHS COMMON OUT

- For DVD/VHS COMMON output terminals, both DVD and VHS signals can be output.

DVD PRIORITY OUT

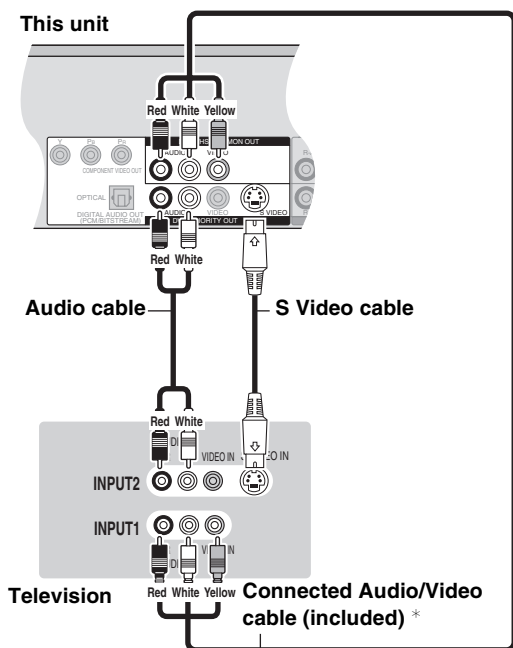
- You can also playback a tape with the DVD PRIORITY output terminal except while recording, or making a scheduled recording, on the DVD.

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.) After completing "Connection with a television" (→ 16), "Connection with a television and cable box or DirecTV receiver" (→ 17) or "Connection with a television and satellite receiver other than DirecTV" (→ 18), connect the S Video cable in illustrated below.

Usually you can watch a picture from INPUT2 terminal. When you want to playback VHS while recording on DVD, change to INPUT1 terminal.



* For how to connect the Audio/Video cable (→ 16, **A**), (→ 17, **C**) or (→ 18, **E**)

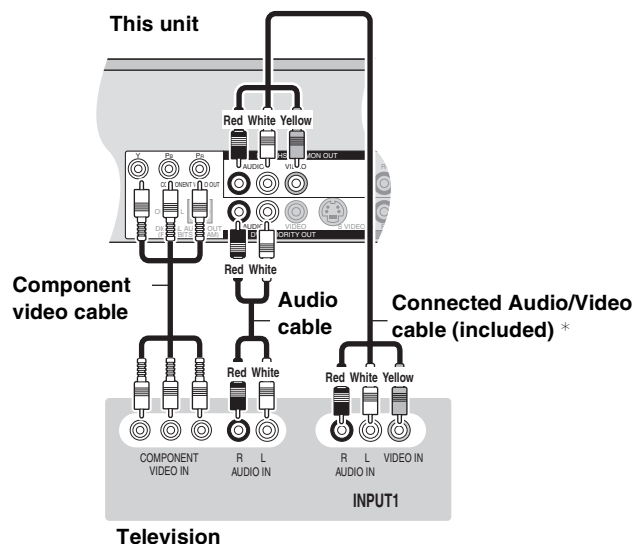
Connecting to the COMPONENT VIDEO IN terminals

These terminals can be used for either interlace or progressive output (→ 94) and provide a purer picture than the S VIDEO OUT terminal.

After completing "Connection with a television" (→ 16), "Connection with a television and cable box or DirecTV receiver" (→ 17) or "Connection with a television and satellite receiver other than DirecTV" (→ 18), connect the COMPONENT VIDEO cable in illustrated below.

Usually you can watch a picture from COMPONENT VIDEO INPUT terminal. When you want to playback VHS while recording on DVD, change to INPUT1 terminal.

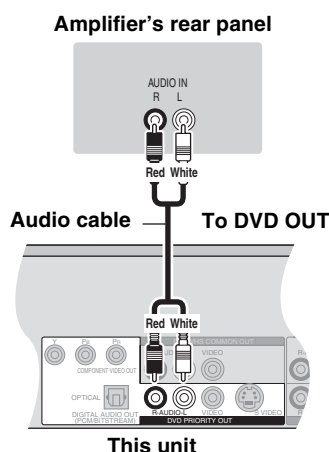
● Connect to terminals of the same color.



* For how to connect the Audio/Video cable (→ 16, **A**), (→ 17, **C**) or (→ 18, **E**)

Connecting an amplifier or system component

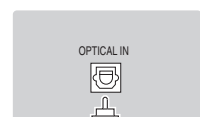
■ Connection to a stereo amplifier



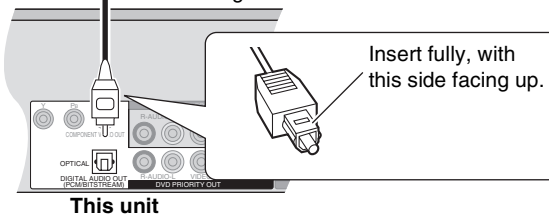
■ Connecting an amplifier with a digital input terminal

- When connecting this unit to a television with an HDMI cable, set "HDMI Audio Output" to "Off" in the Setup menu (→ 77).
- To enjoy multi-channel surround sound DVD-Video, connect an amplifier with a built-in decoder displaying these logo marks using an optical digital audio cable and change the settings in "Digital Audio Output" (→ 76).
- Before purchasing an optical digital audio cable, check the terminal shape of the connected equipment.
- You cannot use DTS Digital Surround decoders not suited to DVD.
- Even if using this connection, output will be only 2 channels when playing DVD-Audio.

Amplifier's rear panel



Optical digital audio cable
Do not bend sharply when connecting.



This unit

DOLBY DIGITAL

DIGITAL dts SURROUND

Connecting with an HDMI (High Definition Multimedia Interface) terminal

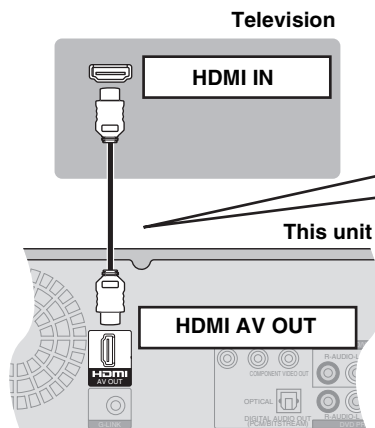
HDMI is the next-generation interface for digital devices. When connected to an HDMI compatible unit, an uncompressed digital audio and video signal is transmitted. You can enjoy high quality, digital video and audio with just one cord. When connecting to an HDMI-compatible HDTV (High Definition Television),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

Set the following:

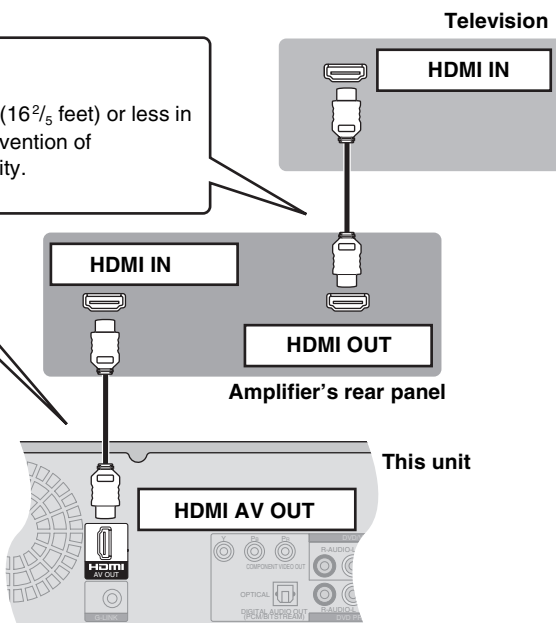
From the Setup menu (→ 77), “HDMI Video Output” and “HDMI Audio Output” to “On”.

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

Connecting to a TV



Connecting to an amplifier



HDMI cable

Please use a cable 5.0 m (16²/₅ feet) or less in length for stability and prevention of deterioration in video quality.

- If connecting to equipment incompatible with CPPM (Content Protection for Pre-recorded Media) (→ 93), copy-protected DVD-Audio cannot be output through the HDMI terminal. Connect the audio cables (red, white) to the corresponding audio input terminals.
- If you are connecting to equipment that is only compatible with 2 channel output, audio with 3 channels or more will be down mixed (→ 93) 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.)

- If the speaker setup cannot be completed on the amplifier, then use the “HDMI Connection Speakers Setting” setting (→ 77).
- If connecting to equipment incompatible with CPPM (Content Protection for Pre-recorded Media) (→ 93), copy-protected DVD-Audio cannot be output through the HDMI terminal. Connect to the amplifier with an optical digital cable or audio cables (red and white).

Control with HDMI (HDAVI Control)

If connecting with a Panasonic television equipped with the HDAVI function, you can use this convenient function to control both the recorder and the television.

After connecting the unit to a television using an HDMI cable, set “Ctrl with HDMI” to “On”. (→ 77)

- Depending on the cable used, this function may not be possible.

For the connection to be completed and activate correctly, turn on all HDAVI Control compatible equipment and select this unit’s input channel on the connected television. 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, schedule recording screen)

Note

- When the unit is recording on the DVD drive, the output does not automatically switch even if when you operate the VHS.

Power on link

The television automatically turns on and the corresponding display appears when the following operations are performed with the television in standby mode.

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

Note

- When the unit is recording on the DVD drive, the television does not automatically turn on even if when you operate the VHS.

Power off link

When the television is turned off, this unit is also automatically turned off. The unit automatically turns off even if the FUNCTIONS screen, the status message or the on-screen menu is displayed, during playback or when the unit is only scheduled recording.

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 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 is not immediately displayed on the screen and it may not be possible to watch the contents from where playback starts. In this case, press [◀◀, SKIP] or [◀◀, SLOW/SEARCH] to go back to where playback started.
- When the DIGITAL AUDIO OUT (Optional) terminal is used for audio output and the unit is connected to the television with a HDMI cable, set “HDMI Audio Output” to “Off” in the setup menu. (→ 77)

Equipment compatible with and equipment scheduled to be compatible with HDAVI Control (as of January 2006).

Plasma TVs: TH-42/50/58PX600, TH-37/42/50PX60, TH-58PX60, TH-42PD60, TH-42/50PX6

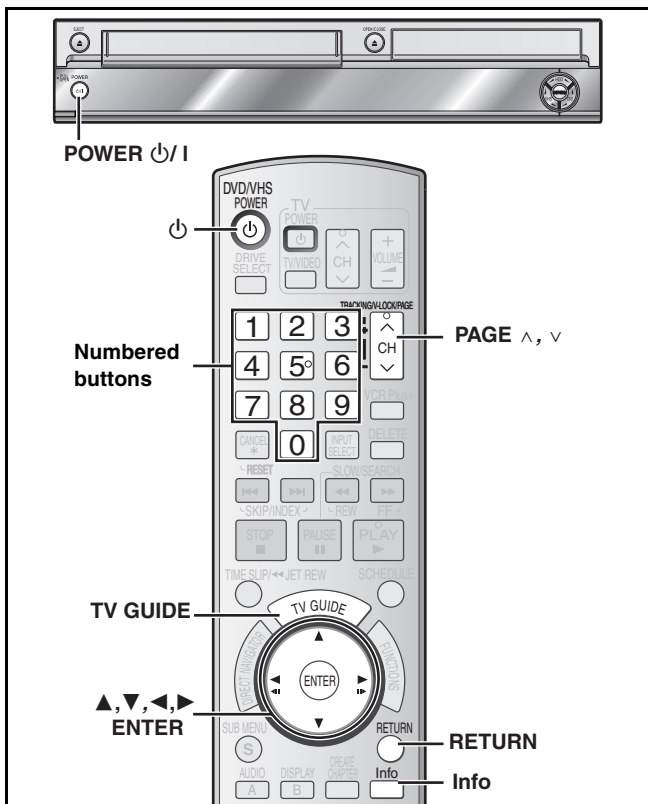
LCD TVs: TC-26/32LX600, TC-23/26/32LX60, TC-26/32LE60

LCD projection TVs: PT-52/56/61LCX66

Receiver: SA-XR57P

- The HDAVI Control function will only work if you can connect this unit with Panasonic equipment equipped with the HDAVI control function. Before purchasing equipment, confirm that it has the HDAVI Control function.

STEP 2 Setting up the TV Guide On Screen® system



After plugging the unit into your household AC outlet and then pressing [⏻, DVD/VHS 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 (→ 32, 35–39). 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

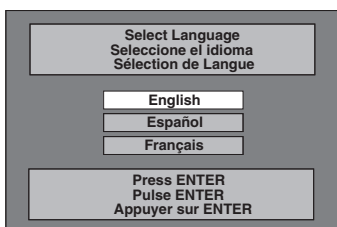
- **The TV Guide On Screen® system must be set up whether it is then used or not. You cannot use the scheduled recording feature unless this setup is completed.**
- **TV Guide On Screen system is supported by selected DISH network and DirecTV receivers, using 480i mode.**
- **DirecTV/DISH Network service is only available in the United States.**
- **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.

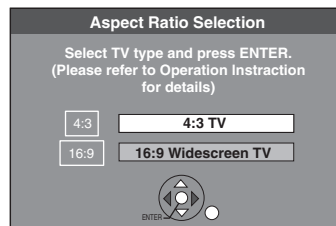
- When using the cable box or DirecTV receiver, check the following.
 - Make sure the IR Blaster is connected and positioned properly (→ 17).
 - Make sure the cable box or DirecTV receiver is turned on.

1 Press [⏻, DVD/VHS POWER].



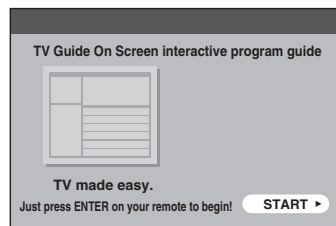
2 Press [▲, ▼] to select the language and then press [ENTER].

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



3 Press [▲, ▼] to select “4:3 TV” or “16:9 Widescreen TV” and then press [ENTER]. TV Guide setup begins.

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



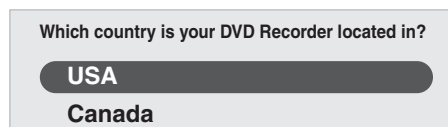
Press [ENTER].

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

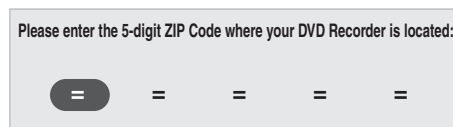
Basic operations of the remote control	
To highlight selection	→ [▲, ▼, ◀, ▶]
To confirm	→ Press [ENTER]
To view help information	→ Press [Info]
To enter numbers	→ Press the numbered buttons

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

4 Set the country (USA/Canada)

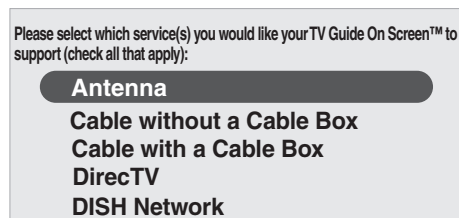


5 Set the ZIP (Postal) code



6 Set the service(s) being used.

- You can select up to 2 services. Press [▲, ▼] to select the service being used and press [ENTER]. If you want to select 2 services, press [▲, ▼] to select one more service and press [ENTER].
- If you selected “Cable with a Cable Box” or “DirecTV”, then also set and select “Antenna”.
- If you cannot choose the service you use, 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”. (→ 25)



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

Refer to the control reference on page 23.

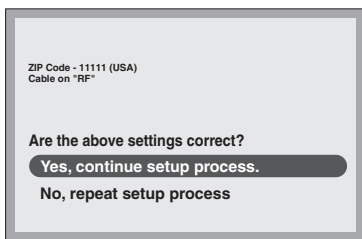
Please perform setup by following all instructions that apply to your current service.
 DirecTV/DISH Network service is only available in the United States.

Service	Set the following
Antenna Cable without a Cable Box	<ul style="list-style-type: none"> You cannot select both "Antenna" and "Cable without a Cable Box". Further setup is not necessary.
Cable with a Cable Box	<ol style="list-style-type: none"> Cable box connection channel ("RF, Channel 2"/ "RF, Channel 3"/ "RF, Channel 4"/ "IN3") <ul style="list-style-type: none"> Select "IN3". (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.) Are you using a digital service package? <ul style="list-style-type: none"> Select "Yes", "No" or "I don't know". Check how the channels are input. <ul style="list-style-type: none"> Select how your current cable box inputs 2, 3, and 4-digit numbered channels. Cable box brand <ul style="list-style-type: none"> Move down with [▼] for more brands. You can also press [PAGE ^] or [PAGE v] to skip several lines. Select "Not Listed" if you cannot find your brand on the list. IR signal code <ul style="list-style-type: none"> Make sure your cable box is set to the channel that appears on screen and then 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 data-bbox="437 846 890 1003" 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;"> <input checked="" type="radio"/> Yes <input type="radio"/> No Test this code again </p> </div> <ul style="list-style-type: none"> 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".
DirecTV	<ol style="list-style-type: none"> Satellite receiver connection channel ("RF, Channel 2"/ "RF, Channel 3"/ "RF, Channel 4"/ "IN3") <ul style="list-style-type: none"> Select "IN3". (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.) Check how the channels are input. <ul style="list-style-type: none"> Select how your current DirecTV receiver inputs 2, 3, and 4-digit numbered channels. Satellite receiver brand <ul style="list-style-type: none"> Move down with [▼] for more brands. You can also press [PAGE ^] or [PAGE v] to skip several lines. IR signal code <ul style="list-style-type: none"> Turn your satellite receiver ON and then press [ENTER]. 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. 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 data-bbox="437 1572 890 1729" 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;"> <input checked="" type="radio"/> Yes <input type="radio"/> No Test this code again </p> </div> <ul style="list-style-type: none"> Look at the display of the DirecTV receiver. If the channel display changes, 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".
DISH Network	<ul style="list-style-type: none"> Satellite receiver connection channel ("RF, Channel 2"/ "RF, Channel 3"/ "RF, Channel 4"/ "IN3") <ul style="list-style-type: none"> Select "IN3". (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.) <p>You cannot use the IR Blaster included with this unit. You cannot set other equipment.</p>

Once setup is finished → 25, Step 7, Confirm the settings.

7 Confirm the settings.

e.g.,

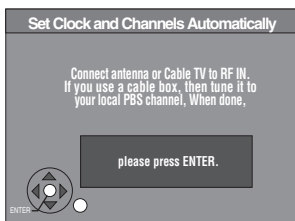


- If the information is correct, select “Yes, continue setup process”.
- If the information is not correct, select “No, repeat setup process” to start the setting again.

8 Press [ENTER].

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

“Set Clock and Channels Automatically” screen



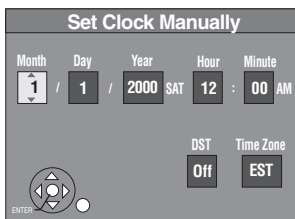
Press [ENTER].

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 then 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” (→ 74), set DST off and reset the clock precisely if you are using this function. This setting is only for when TV Guide On Screen® system is not used. (→ 79)

When you want to change the TV Guide settings after moving, etc., please perform setup steps ① and ② on page 79. (The program listings will be erased.)

After completing steps ① and ②, please perform TV Guide setup again from the beginning.

Refer to the control reference on page 23.

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

1 Press [⏻, DVD/VHS 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,

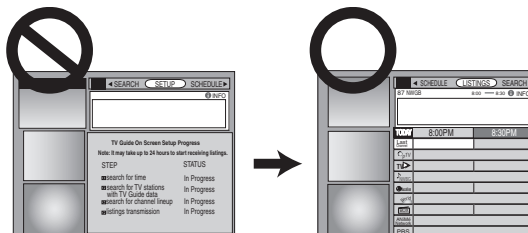
- the output terminal of the cable box or DirecTV receiver is connected to this unit’s RF IN or IN3 terminal (→ 17)
- the IR Blaster is correctly connected and installed (→ 17)
- the cable box or DirecTV receiver is turned on

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.



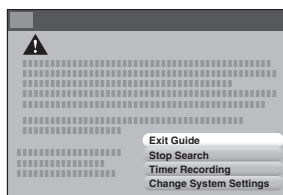
For updating data

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. (→ 74)

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.



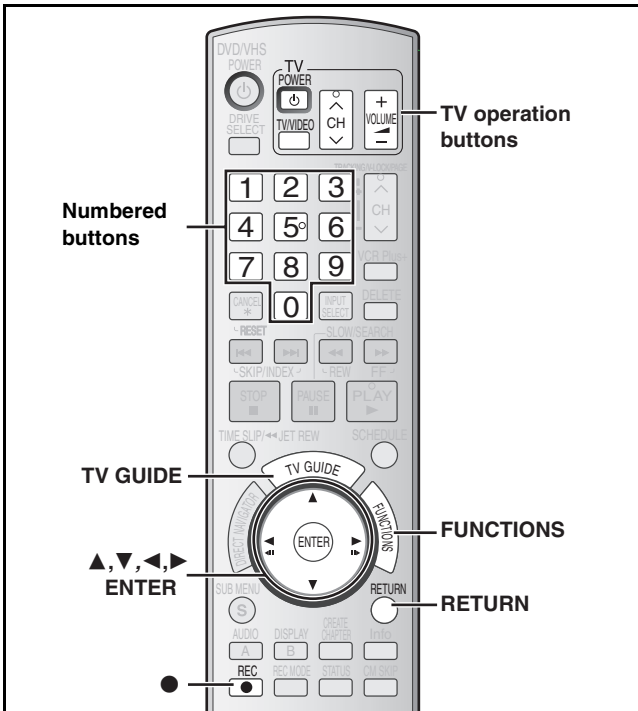
Exit Guide:	Return to the television reception screen.
Stop Search:	Stop downloading the data. (However the unit will automatically stop downloading the data 5 days after it first started.)
Search Again:	Restart the data download when it has stopped
Timer Recording:	Set for scheduled recording manually (→ 33)

Change System Settings: Set the TV Guide settings again.

- In step 6, if you selected “Antenna” or “Cable without a Cable Box” to use simultaneously with another service, then you may need to select either “Antenna” or “Cable without a Cable Box” only (→ 23). You will now be able to watch broadcasts with this unit.

If further assistance is needed, Contact Panasonic’s Customer Call Center at 1-800-211-PANA (7262).

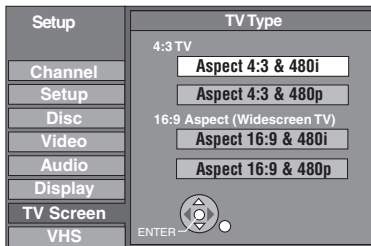
STEP 4 Set up to match your television and the unit's remote control



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 then press [ENTER].
- 3 Press [▲, ▼] to select "Setup" and then press [ENTER].
- 4 Press [▲, ▼] to select "TV Screen" and then press [▶].
- 5 Press [▲, ▼] to select "TV Type" and then 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 then 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
 → 77, "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 [⏻, TV POWER] enter the code with the numbered buttons.

e.g., 0250: [0] → [2] → [5] → [0]

Manufacturer and Code No.

Panasonic	0250/0051	PHILIPS (RC-5)	0054
National		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.

When other Panasonic products respond to this remote control

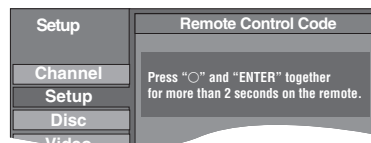
Change the remote control code on the main unit and the remote control (the two must match) if you place other Panasonic products close together.

Use "1", the factory set code, under normal circumstances.

After performing steps 1 to 3 (→ left)

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

- The code on the unit has been set.



- 7 While pressing [ENTER], press and hold the numbered button ([1], [2] or [3]) for more than 2 seconds.

- The code on the remote control has been set.

- 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.

HDD and discs

■ FR (Flexile 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 copying (→ 59, 60, 64) or programming scheduled recordings (→ 36, To make scheduled recording) or Flexible recording (→ 30).

■ 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

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.

Another disc is necessary.

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



However there will be 30 minutes remaining disc space.

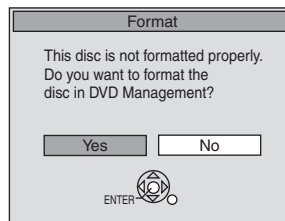


If you select “Flexible Recording” the program will fit one disc perfectly.

■ 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 are deleted.



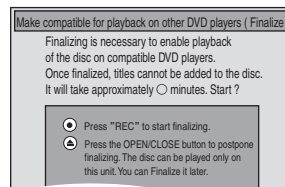
Press [**◀**] to select “Yes” and then press [ENTER].

- Several steps are necessary to format a disc. Refer to “Deleting all the contents of a disc or card—Format” (→ 71)

■ When remove 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.



■ When finalizing 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, play menu select or providing a disc name, select “Top Menu Style”, “Playback will start with:” (→ 72) or “Disc Name” (→ 70) in “DVD Management” before finalizing.

■ When opening the tray without disc finalization

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

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 [**●**, 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

Recording modes and approximate recording times

Depending on the content being recorded, the recording times may become shorter than indicated.

Recording Mode	HDD (80 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)
		Single-sided (4.7 GB)	Double-sided*1 (9.4 GB)			
XP (High picture quality recording mode)	17 h	1 h	2 h	1 h	1 h 45 min	1 h 45 min
SP (Standard recording mode)	34 h	2 h	4 h	2 h	3 h 35 min	3 h 35 min
LP (Long recording mode)	68 h	4 h	8 h	4 h	7 h 10 min	7 h 10 min
EP (Extra long recording mode)*4	142 h (106 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)	Cannot copy
FR (Automatic mode selection)*4	142 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

*1 It is not possible to record or play continuously from one side of a double sided disc to the other.

*2 When "Recording Time in EP Mode" is set to "EP-Extended Play (6H)" in the Setup menu (→ 75).

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

*3 You cannot record directly to these discs with this unit. The table shows the recording time when copying.

*4 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.

VHS

Recording mode

SP: You can record the length shown on the tape.

EP: 3 times the length of SP mode.

VP: 5 times the length of SP mode.

- To have a longer recording capacity, select "EP" or "VP".
- If the image quality is important to you or if you wish to store the tape for a long period, select "SP".
- The unit can play tapes recorded in LP mode on other equipment.

VP mode:

- **A tape recorded in VP mode by the unit cannot be played back by other VCRs. It is recommended to distinguish it from other tapes by writing "VP" on the tape label, etc.**
- It takes more time for automatic tracking to work when playing tapes recorded with VP mode, and it may not work at all with some tapes. Do tracking manually if this is the case (→ 49)

Note

- **Even if the video cassette you use is labeled "S-VHS", it is not possible to record in the S-VHS system with the unit. It records in the normal VHS system.**
- You cannot change channels while recording. You can change channels while in pause mode.
- When recording is paused for 5 or more minutes, the unit returns to stop mode.

To display the approximate remaining tape time

When you insert a tape, "--" appears on the unit's display.

To display the approximate remaining tape time, fast-forward or rewind the tape.

- 1 Select "Select Tape Length" from the "VHS" tab and select the corresponding tape length. (→ 77)
- 2 Press [STATUS] several times.

The unit's display changes as follows each time [STATUS] is pressed.

Input channel → Counter → **Remaining tape time**

- The remaining tape time may not be displayed correctly depending on the tape used.

HDD, discs and VHS

To specify a time to stop recording—One Touch Recording

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

Preparation

- Press [DRIVE SELECT] to select the recording drive (HDD, DVD or VHS).
 - The "HDD", "DVD" or "VHS" indicator lights up on the unit.

During recording

Press [●, REC] to select the recording time.

- You can also press [●, REC] on the main unit.
- You can specify up to 4 hours later.
- The unit display changes as shown below.

Counter (Cancel) → OFF 0:30 → OFF 1:00 → OFF 1:30
 ↑ OFF 4:00 ← OFF 3:00 ← OFF 2:00 ←
- This does not work during scheduled recordings (→ 32) or while using Flexible Recording (→ 30).
- If you change the channel or recording mode while recording is paused, the time specified to stop recording is canceled. (Except **VHS**)

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 [■, STOP].

Watching the TV while recording

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

Preparation

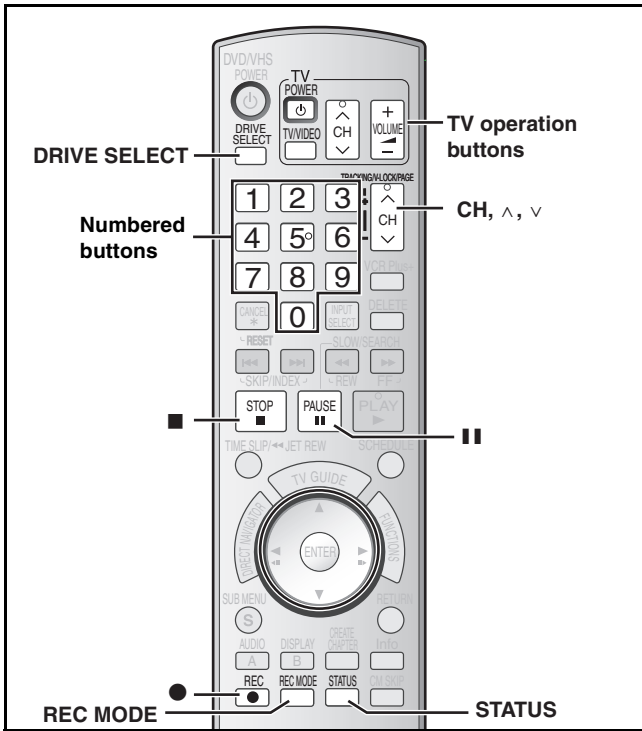
- Press [TV/VIDEO] to change the input mode to TV.

Press TV's [CH, ▲, ▼] to select the desired TV channel.

For your reference

- You can also do this if the unit is making a scheduled recording.
- The recording is unaffected.

Recording television programs



Recording television programs

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

You can record up to:

- **HDD** 500 titles on HDD (When continuously recording for long durations, titles are automatically divided every 8 hours.)
- **RAM -R -RW(V)** 99 titles on a disc
- **+R +RW** 49 titles on a disc

Preparation

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

See also the notes “Important notes for recording” (→ 9) and “Note about recording” (→ 27).

Note

- It is not possible to record to two drives simultaneously.
- **+RW** You can create a Top Menu using “Create DVD Top Menu” (→ 72).
Recording or editing on the disc may delete the menu. In that case, create the menu again.

1 Press [DRIVE SELECT] to select the recording drive (HDD, DVD or VHS).

The “HDD”, “DVD” or “VHS” indicator lights up on the unit.

If you selected the DVD drive
insert a disc. (→12)

If you selected the VHS drive
insert a video cassette with an intact accidental erasure prevention tab. (→12)

2 Press [CH, ^, v] to select the channel.



e.g., HDD

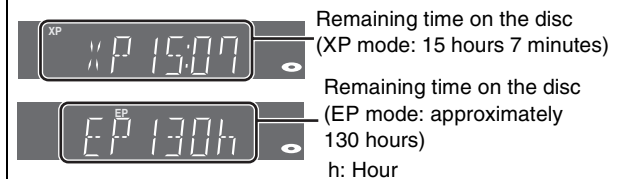
To select with the numbered buttons:

Antenna Mode	CableTV, Satellite Channel
e.g., 5: [0] → [5]	e.g., 5: [0] → [0] → [0] → [5]
15: [1] → [5]	15: [0] → [0] → [1] → [5]
	115: [0] → [1] → [1] → [5]
	1115: [1] → [1] → [1] → [5]

- **VHS** The “DV” channel can be selected however it cannot be recorded.
- Select the audio to record (→ 30).

3 Press [REC MODE] to select the recording mode [HDD/discs (XP, SP, LP, or EP) / VHS (SP, EP or VP)].

HDD/discs



- 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 (→ 76).

VHS



4 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 [||, PAUSE].

Press again to restart recording.

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

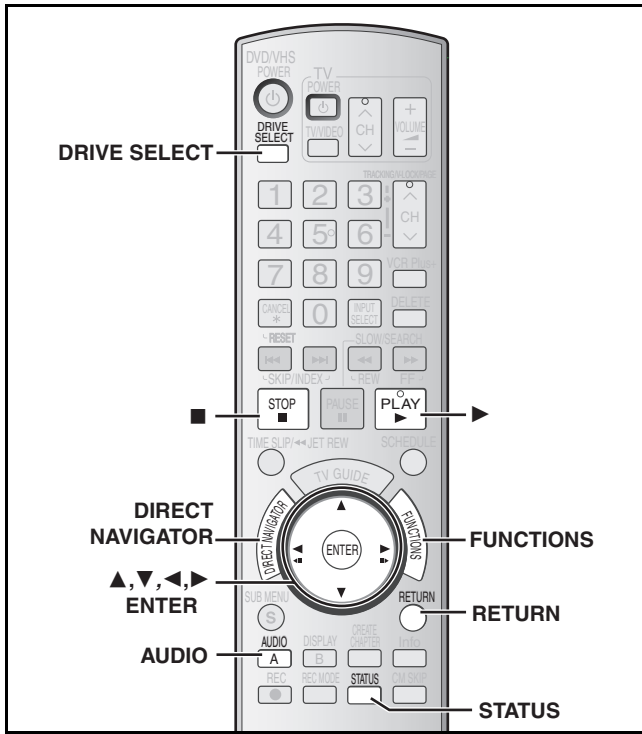
- **HDD RAM -R -RW(V) +R +RW** (Title is not split into separate titles.)

To stop recording

Press [■, STOP].

- 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 (→ 36), 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 (→ 72).

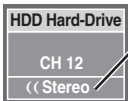


Selecting audio to record

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:** Secondary audio program (SAP)
 - 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, whichever drive is selected.

- While a disc other than DVD-RAM is inserted.
- When "Recording for High-Speed Copying" is set to "On" (→ 75). (The default setting is "On".)
- When the recording mode is XP and "Audio for XP Recording" is set to "LPCM" (→ 76).

-R -RW(V) +R +RW

HDD | RAM (When recording sound in LPCM)

HDD | RAM (When "Recording for High-Speed Copying" is set to "On")

Select the audio [Main or Secondary Audio Program (SAP)] in "Multi-channel TV Sound (MTS)" in the Setup menu. (→76)

Flexible Recording mode (FR)

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

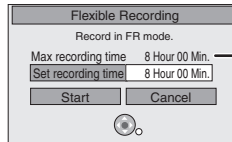
- Select the channel or the external input (IN1, IN2, IN3 or DV) to record.
- Press [DRIVE SELECT] to select the recording drive (HDD or DVD).

1 While stopped

Press **[FUNCTIONS]**.

2 Press [▲, ▼] to select "Other Functions" and then press [ENTER].

3 Press [▲, ▼] to select "Flexible Recording" and then press [ENTER].



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

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

- You can also set the recording time with the numbered buttons.
- Maximum recording time is 8 hours.

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

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

To exit the screen without recording

Press [RETURN].

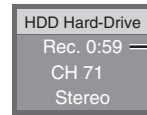
To stop recording partway

Press [■, STOP].

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

While recording or scheduled recording

Press [▶, PLAY].

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

To stop play

Press [■, STOP].

To stop recording

2 seconds after play stops

Press [■, STOP].

To stop scheduled recording

Press [■, STOP] then press [◀, ▶] to select “Stop recording” and then press [ENTER].

■ 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 recording drive (HDD or DVD).

1 While recording or scheduled recording

Press [DIRECT NAVIGATOR].

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

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

To stop play

Press [■, STOP].

To exit the Direct Navigator screen

Press [DIRECT NAVIGATOR].

To stop recording

After play stops

1 Press [DIRECT NAVIGATOR] to exit screen.

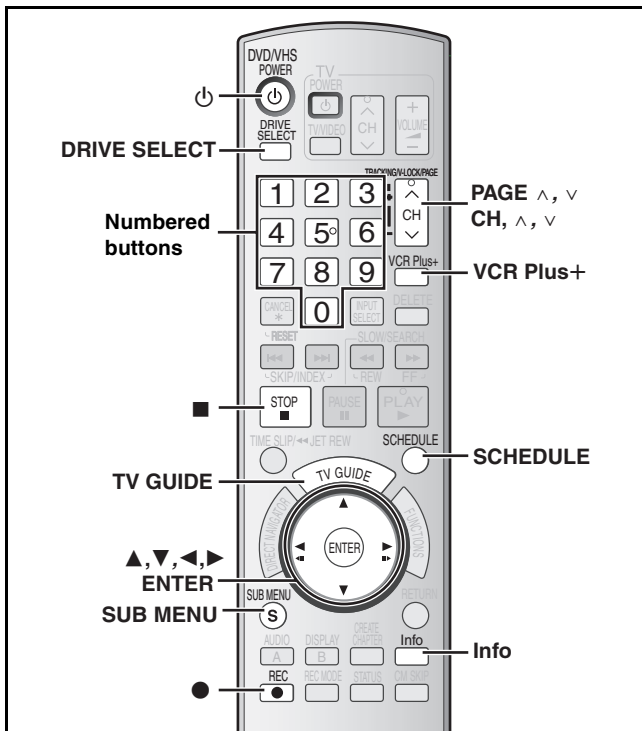
2 If the recording is on other drive

Press [DRIVE SELECT] to select the recording drive (HDD or DVD).

3 Press [■, STOP].

To stop scheduled recording

Press [■, STOP] then press [◀, ▶] to select “Stop recording” and then press [ENTER].



See also the notes "Important notes for recording" (→ 9).

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

- 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 (→ 33).

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.

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 [CH, ^, v] to select the appropriate channel on this unit.
- 2 Press [⏻, DVD/VHS 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/>

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 (→ 12).

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 [⏻, DVD/VHS 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.

Notes on scheduled recording → 34

To check, change or delete a program → 34

To cancel scheduled recording when it has already begun

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

Using the TV Guide On Screen® system to make scheduled recordings

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

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

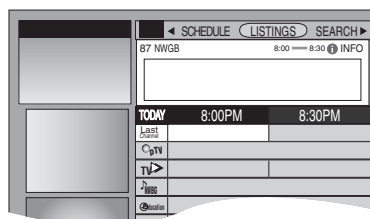
For successful scheduled recordings

The program listings will not display immediately after purchasing this unit. Complete the TV Guide On Screen® system setup and download the program listings (→23).

1 Press [TV GUIDE].

If the program listings is not completely downloaded, the "Display setup progress" screen is displayed. Select "LISTINGS" using [◀, ▶]. (You can use only the portion of TV programs that downloaded).

Further instructions on utilizing the TV Guide On Screen® system → 35



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

- To skip one screen
Press [PAGE ^] 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] (→ 36, To make scheduled recording, step 2).

Repeat steps 2 to 3 to program other recordings.

4 Press [TV GUIDE].

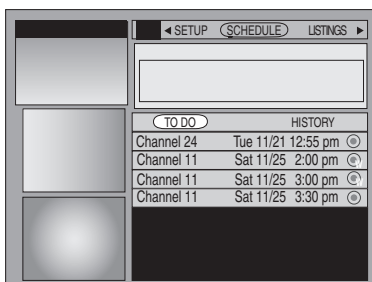
Returns to the television screen.

Manually programming scheduled recordings

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

- 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.

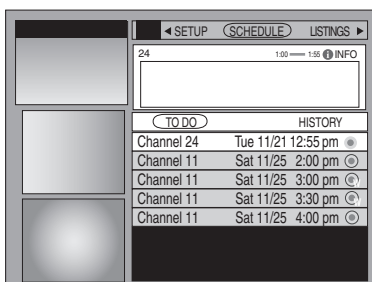
3 Press [▲, ▼] to select “new manual recording” and then press [ENTER].

4 Enter the settings.

Press [▲, ▼] to select the item and then 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” (→ 34, Relief Recording).
quality:	XP /SP/LP/EP/FR
frequency:	once/weekly/daily/off

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



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

6 Press [TV GUIDE].

Returns to the television screen.

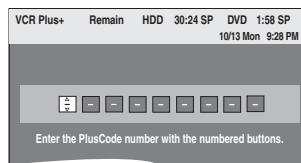
Using VCR Plus+ system to make scheduled recordings

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

Entering PlusCode® numbers is an easy way of scheduling 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+].



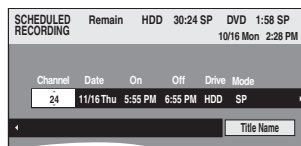
2 Press the numbered buttons to enter the PlusCode number.

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

● To correct the number

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

3 Press [ENTER].



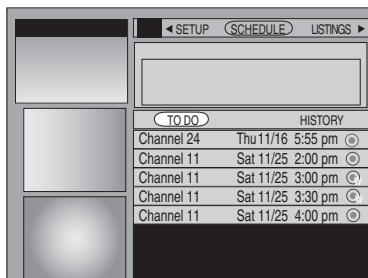
- When “XP” is displayed in the unit’s display, the recording mode automatically changes to “FR” in order to prevent loss of recording when there is not enough space.

You can change to “XP” in the [SCHEDULE] screen (→ 34).

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

Change other settings (→ 34)

4 Press [ENTER].



Repeat steps 1 to 4 to program other recordings.

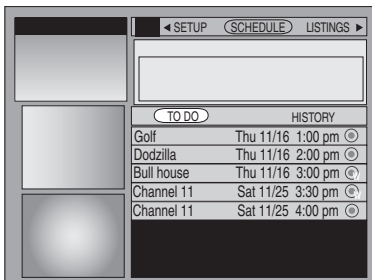
5 Press [TV GUIDE].

Returns to the television screen.

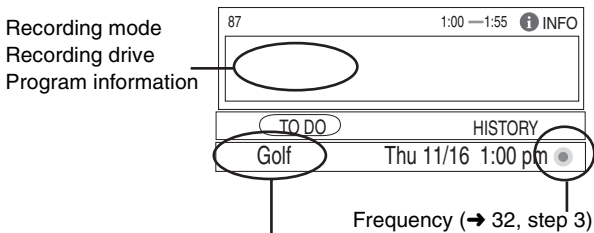
Refer to the control reference on page 32.

Check, change or delete a program

1 Press [SCHEDULE].



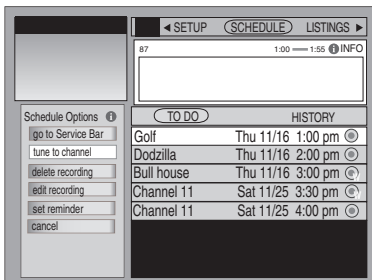
2 Press [▲, ▼] to select the program.



Channel or program name (only set for scheduled recording using TV Guide On Screen® system)

3 Press [SUB MENU].

Schedule Options menu is displayed.



■ To change the recording settings

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

■ To delete the program

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

4 Press [TV GUIDE].

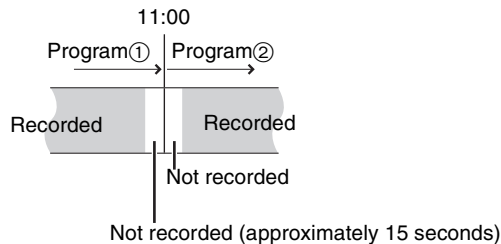
Returns to the television screen.

- The unit is not off. To save power, turn the unit off by pressing [⏻, DVD/VHS 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 (→ 58).
- 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.

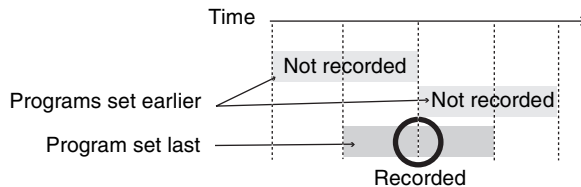
e.g., Program① 10:00–11:00
Program② 11:00–12:00



- If you set DST (Daylight Saving Time) to ON when manually setting the clock (→ 25), scheduled recording may not work when summer switches to winter and vice versa.

■ When there is a duplicate or overlapping program scheduled recording

The program 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. Program scheduled recordings that are not recorded are highlighted in grey in the SCHEDULE screen.



■ Relief Recording

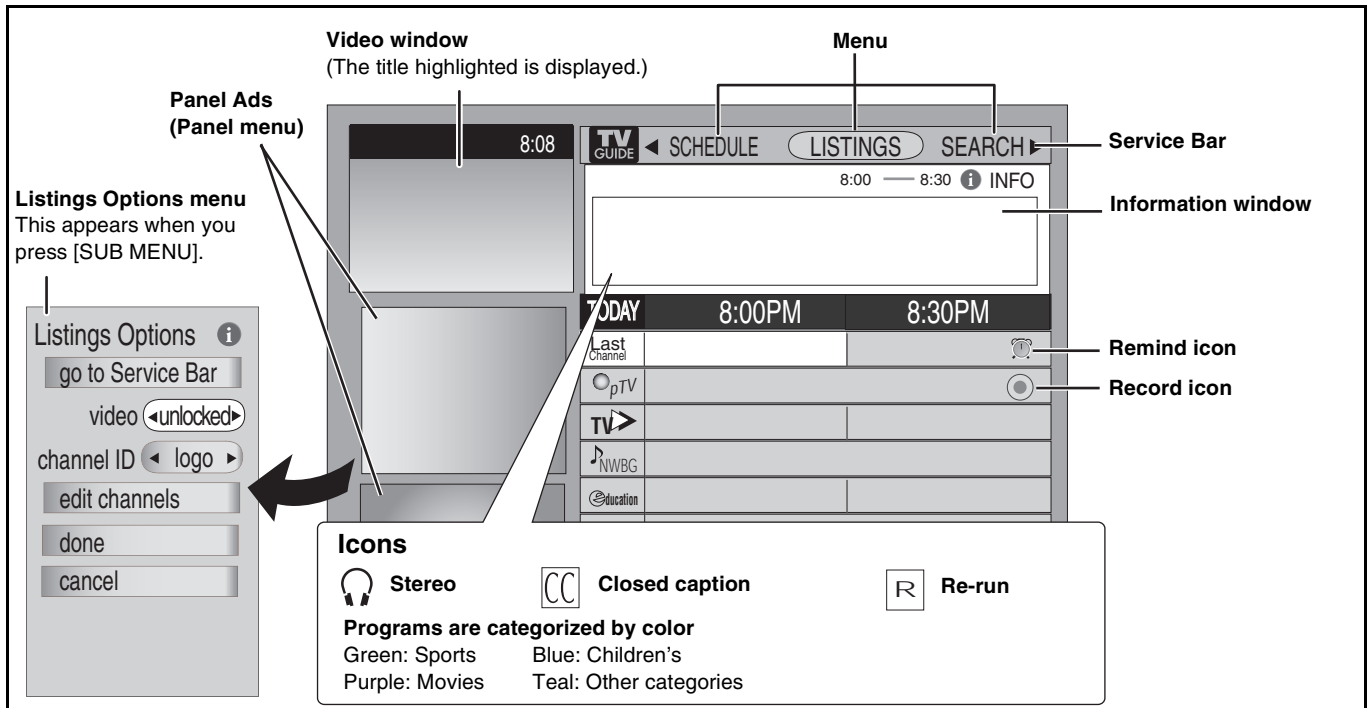
When the recording drive is set to “DVD” for scheduled recording and if the program will not fit onto the disc, the recording drive will be changed to the “HDD” automatically. If there is no disc in the tray or the disc cannot be recorded on or when scheduled recording starts while copying, the recording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

- The Direct Navigator shows which programs were relief-recorded (“▶” is displayed.) (→ 40).
- 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 32.

■ Screen Components

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



- 1 Press [TV GUIDE].
- 2 Press [SUB MENU], 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.



■ Changing how the channel is displayed, etc. When "LISTINGS" is selected

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

video:	The highlighted title is displayed in the Video window. The title in the Video window will not change if you select "locked".
channel ID:	Select how channels are displayed (e.g., logo, number or both)
edit channels:	Change channel line-up (→ 38, Change channel display)

■ To use menus

Press [▼].

The Service bar consists of 4 menus.

LISTINGS:	You can set scheduled recording and scheduled reminder. (→ 36)
SEARCH:	You can search TV programs by genre, keyword, etc. (→ 37)
SETUP:	You can change the settings of the TV Guide On Screen® system. (→ 38)
SCHEDULE:	You can check, change, or delete a program set for scheduled recording or scheduled reminder manually. (→ 39)

Remote control buttons used in all the 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 all the 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 then press [ENTER].

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

■ 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:	highlighted jumps to desired channel's current listings
hours ahead:	highlighted jumps ahead number of hours entered
hours back:	highlighted jumps back number of hours entered
days ahead:	highlighted jumps ahead number of days entered
days back:	highlighted jumps back number of days entered

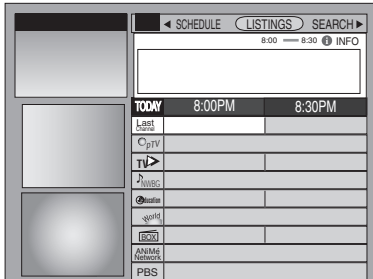
Continued on next page

Refer to the control reference on page 32.

Using the LISTINGS Service to set scheduled recording and scheduled reminder

When “LISTINGS” is selected in step 3 on page 35 LISTINGS screen is displayed.

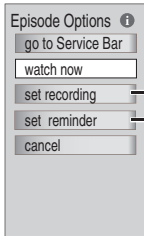
You can set scheduled recording and scheduled reminder. You can also view titles selected from the program listings.



• You can set how the channels are displayed on screen (→ 35, Listings Options)

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

Episode Options menu is displayed.



→ To make scheduled recording (→ below)
 → To make scheduled reminder (→ right)
 • Other Episode Options (→ right)

To make scheduled recording

1 Press [▲, ▼] to select “set recording” and then press [ENTER].

Record Options menu is displayed.

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

Record Options

frequency:	once/regularly/weekly/off
start:	On time/1 to 120 min late/120 to 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” (→ 34, Relief Recording).
quality:	XP/SP/LP/EP/FR
cancel:	• To cancel scheduled recording

3 Press [▲] to select “schedule recording” and then press [ENTER].

Return to the LISTINGS screen.

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

• Notes about scheduled recordings (→ 32)

To make scheduled reminder

You can set for 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.

1 Press [▲, ▼] to select “set reminder” in Episode Options menu and then press [ENTER].

Remind Options menu is displayed.

2 Press [▲, ▼] to select the item and then press [◀, ▶] or the numbered buttons 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 early/late the start time of the program)

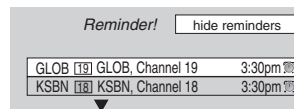
3 Press [▲] to select “schedule reminder” and then press [ENTER].

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 then 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 then 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 then press [◀, ▶], [ENTER] or the numbered buttons to change the setting.

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

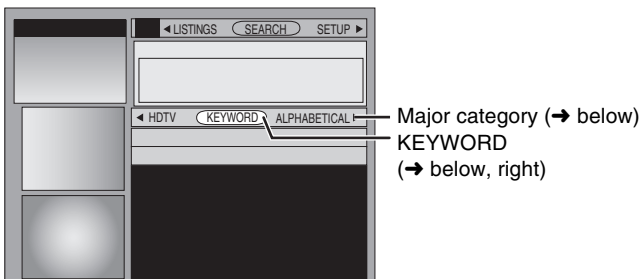
watch now:	Change the television screen to the selected program
tune to channel:	Choose whether the channel changes automatically or not when the selected program starts
set recording:	Set a program for scheduled recording (→ left, To make scheduled recording)
delete recording:	Delete a program set for 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 35 SEARCH screen is displayed.

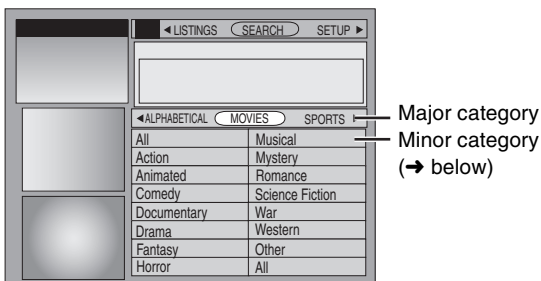
The SEARCH service displays program listings sorted into your preferred categories.

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 then press [ENTER].

Search starts, and the titles that apply are displayed in the list. If there are no titles 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 then press [ENTER]. Each broadcast of the program is then displayed separately.

3 Press [▲, ▼] to select a program and then press [ENTER]. Episode Options menu is displayed. You can now set the scheduled recording or scheduled reminder (→ 36).

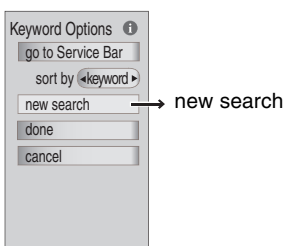
To search TV programs by new keyword

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

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

type: Actor
 category: Movies
 sub: Action
 enter keyword: Bruce Ree

1 Press [←, →] to select "KEYWORD" and then press [SUB MENU].



2 Press [▲, ▼] to select "new search" and then press [ENTER]. Search Options menu is displayed.

3 Press [▲, ▼] to select the item (type, category or sub) and then press [←, →] to select the setting.

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

Search Options

type:	Select a search type (e.g., actor, director)
category:	Select a program category (e.g., action, baseball)
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 then press [ENTER].

KEYWORD input screen is displayed.



SPACE: Creates one open character
 BKSP: Deletes the previous character
 DEL: Deletes the next character
 CLR: Deletes all characters

1 Press [▲, ▼, ←, →] to select a letter and then press [ENTER].

Repeat step 1 as necessary.

2 Press [▲, ▼] to select "DONE" and then press [ENTER] to finish entering.

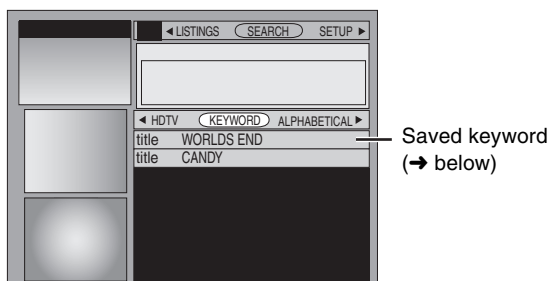
- Search starts, and the titles that apply are displayed in the list.
- If there are no titles that apply, "No match found" is displayed.
 - The newly input keywords are all saved. If you search for a keyword and no match is found the input keyword is saved.

5 Press [▲, ▼] to select a program and then press [ENTER].

Episode Options menu is displayed. You can now set the scheduled recording or scheduled reminder (→ 36).

To search TV programs by saved keyword

1 Press [←, →] to select "KEYWORD".



2 Press [▲, ▼] to select saved keyword and then press [ENTER].

Search starts, and the titles that apply are displayed in the list. If there are no titles that apply, "No match found" is displayed.

3 Press [▲, ▼] to select a program and then press [ENTER] to view a list of episodes.

4 Press [▲, ▼] to select the episode and then press [ENTER]. Episode Options menu is displayed.

You can now set the scheduled recording or scheduled reminder (→ 36).

To change the saved keyword or search parameters

1 Press [←, →] to select "KEYWORD".

2 Press [▲, ▼] to select the saved keyword and then press [SUB MENU].

Search Options menu is displayed.

Repeat steps 3 to 5 (→ above, To search TV programs by new keyword)

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

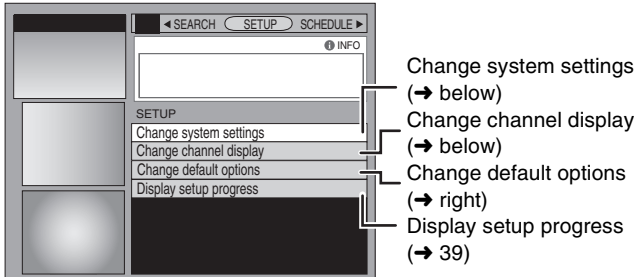
edit search:	Change the saved keyword setting
delete search:	Delete the saved keyword

Refer to the control reference on page 32.

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

When "SETUP" is selected in step 3 on page 35 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.

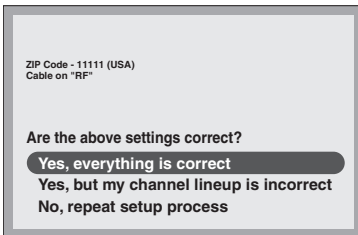


Access to the TV Guide On Screen® system setup screen—"Change system settings"

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 then press [ENTER].

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



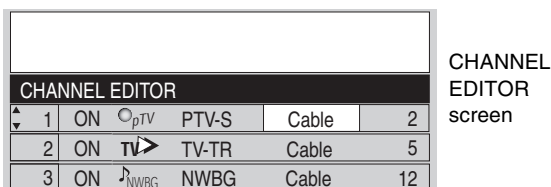
2 Press [▲, ▼] to select the message and then press [ENTER].

- "Yes, everything is correct"
 - The information that was set will remain intact.
 - Press [▲, ▼, ◀, ▶] to select "Next" and then press [ENTER] to exit the screen.
- "Yes, but my channel lineup is incorrect"
 - ① Press [▲, ▼, ◀, ▶] to select one of the following channel lineups and then press [ENTER].
 - ② Press [▲, ▼, ◀, ▶] to select "Next" and then press [ENTER].
 - Then follow the operation instructions given on screen.
- "No, repeat setup process"
 - The TV Guide On Screen® system setup screen is displayed.
 - Follow the on-screen prompts to redo the setup (→ 23, step 4).

Customizing the channel lineup—"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.

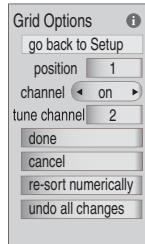
1 Press [▲, ▼] to select "Change channel display" and then press [ENTER].



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

Grid Options menu is displayed.

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



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

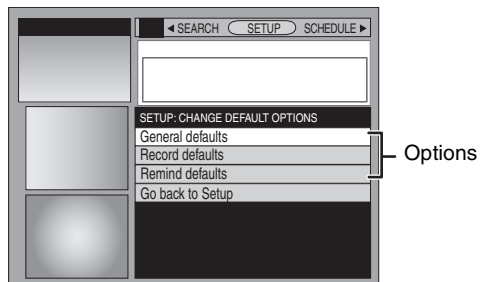
Grid Options

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 a 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., Antenna 1, Antenna 2, etc.)
tune channel:	Correct the tune channel number using the remote
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 then press [ENTER].



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

Items for each option are displayed (→ 39).

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

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

General defaults

box size:	Change the size of the Information box
box position:	Change the position of the Information box
video:	The highlighted title is displayed in the Video window. The title in the Video window will be not change 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

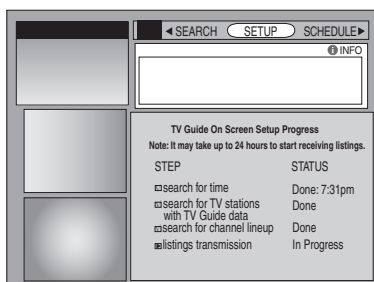
Remind defaults

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 then press [ENTER].



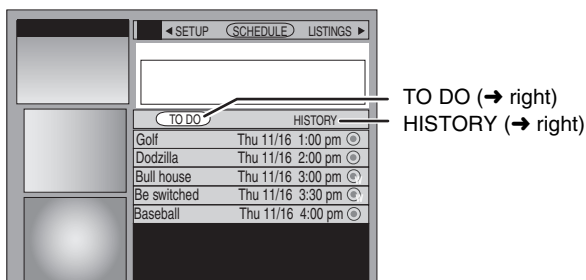
Press [ENTER] to close the screen.

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 35 SCHEDULE screen is displayed.

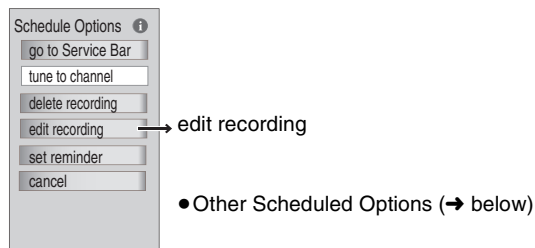
The SCHEDULE service displays programs registered for recording and scheduled reminders on the list. You can sort the list, delete programs, change the frequency/recording drive or modify the start/end times of programs selected.

- You can manually set the scheduled recording (→ 33) and scheduled reminder if the program listings has not been downloaded.



To change the previously set scheduled recording or scheduled reminder

- Press [◀, ▶] to select "TO DO" and then press [▲, ▼] to select the title and then press [SUB MENU]. Scheduled Options menu is displayed.



- Press [▲, ▼] to select "edit recording" or "edit reminder" and then press [ENTER]. Record Options (→ 36) or Remind Options (→ 36) is displayed.
- Press [▲, ▼] to select the item and then press [◀, ▶], [ENTER] or the numbered buttons to change the setting.
- Press [▲] to select "schedule recording" or "schedule reminder" and then press [ENTER]. Items that can be set up differ depending on the situation.

Other Schedule Options

sort by:	Sort recorded programs by date or title
watch now:	Change the television screen to the selected program
tune to channel:	Choose whether the channel changes automatically when the selected program starts
new manual recording:	Set a program for manual recording (→ 33)
set recording:	Set a program for scheduled recording (→ 36, 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 (→ 36, To make scheduled reminder)
delete reminder:	Delete a scheduled reminder

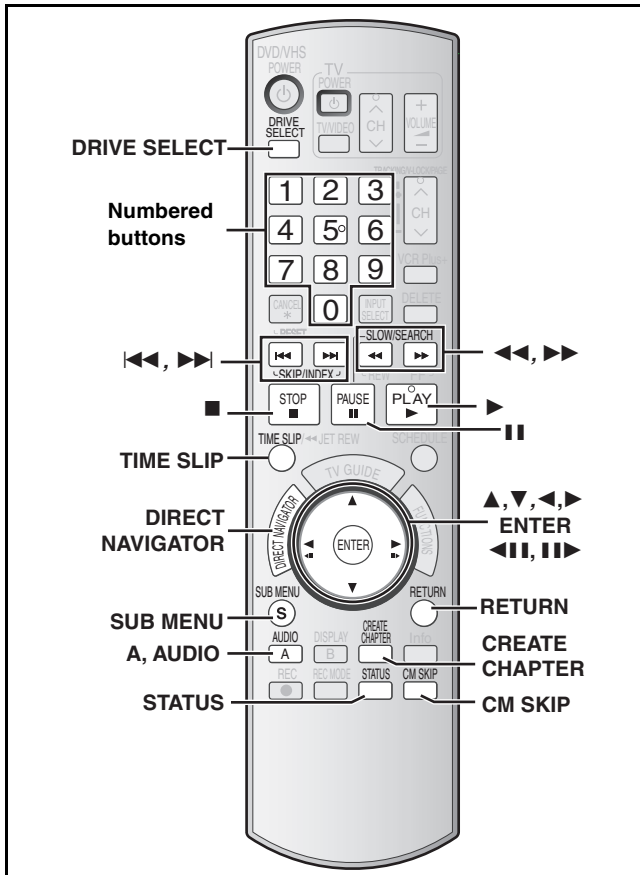
History Options

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

- Press [◀, ▶] to select "HISTORY" and then press [SUB MENU]. History Options menu is displayed.
- Press [▲, ▼] to select the item and then 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 title
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 record as 4:3 images if recorded under the following conditions:
 - If recorded to the HDD or DVD-RAM with “Recording for High-Speed Copying” set to “On” in the Setup menu (Factory default setting is “On” → 75).
 - If recorded 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 playback drive (HDD or DVD).

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).

If you selected the DVD drive insert a disc. (→ 12)

2 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

DivX menu screen appears (→ 43)

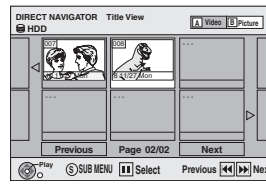
- When using cartridge discs with the write-protect tab in the protect position (→ 70), play automatically starts when inserted in the unit.

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

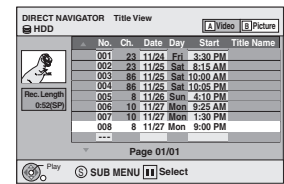
HDD RAM -R -R DL -RW(V) +R +R DL +RW -RW(VR)

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 then press [ENTER].

- The display appearance used last is saved even after the unit is turned off.

2 **HDD RAM**

Press [A] 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 then press [ENTER].
 - 3 Press [▲, ▼] to select the item and then 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.)

- 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 then 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 then press [ENTER]. (Thumbnail Display only)

- You can also press [◀◀, SKIP] or [▶▶, SKIP] 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 (→ 34, Relief Recording)
- 📁 Title with “One time only recording” restriction (→ 93, CPRM)

■ When a menu screen appears on the television

DVD-V DVD-A

Press [▲, ▼, ◀, ▶] to select the item and then 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 [■, STOP] when you have finished playback to protect the unit's motor, your television screen and so on.

Operations during play

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



Continued on next page

Refer to the control reference on page 40.

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 then 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 in 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

(→ 51, Title/Chapter)

HDD RAM

Press [CREATE CHAPTER].

Chapters are divided at the point pressed.

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

Changing audio during play

Press [AUDIO].

HDD RAM -RW(VR) VCD and DivX

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 (→ 46, Soundtrack).



e.g., English is selected.

Note

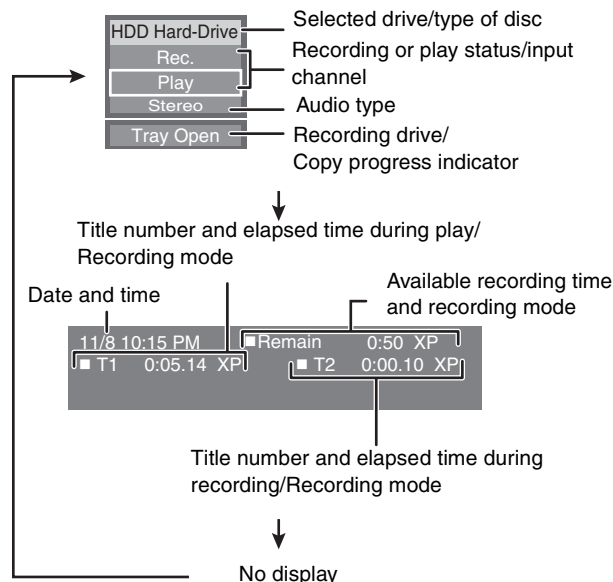
You cannot change the audio type in the following cases.

- 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" (→ 76).
- When "Recording for High-Speed Copying" is set to "On" (→ 75). (The default setting is "On".)

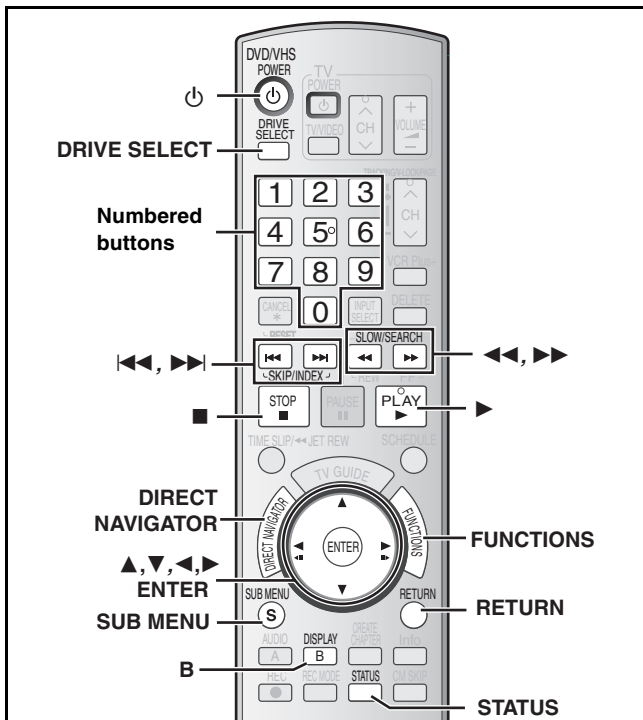
Status messages

Press [STATUS].

The display changes each time you press the button.



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

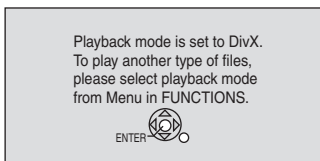


Selecting file type to play

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).

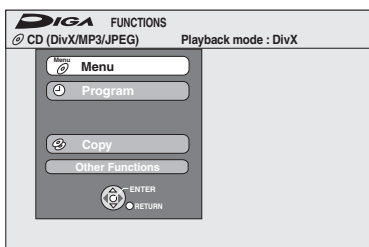
e.g.,



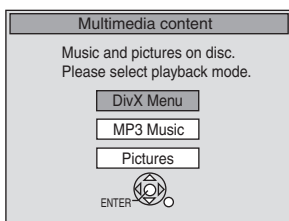
- When playing the file displayed on the screen Press [ENTER].
- When you want to play files other than the one displayed on the screen Follow the steps below.

To select file type

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



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



- 4 Press [▲, ▼] to select playback mode and then 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 44.

If "Pictures" is selected:

Go to "Playing still pictures" step 3 or 4 on page 45.

Playing DivX discs

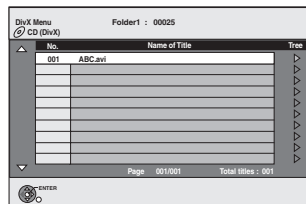
CD

- 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 to 4 in "To select file type" on the left column selecting "DivX Menu" in step 4 to change the playback mode.

- 2 Press [▲, ▼] to select the title and then 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 [■, STOP].

To show other pages

Press [◀◀, SKIP] or [▶▶, SKIP].

To exit the screen

Press [DIRECT NAVIGATOR].

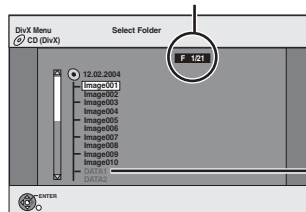
Note

- Picture sizes set at the recording time may prevent the unit from showing pictures in the adequate 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.



You cannot select folders that contain no compatible files.

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

The file list for the folder appears.

To return to the previous screen

Press [RETURN].

Refer to the control reference on page 43.

About DivX VOD content

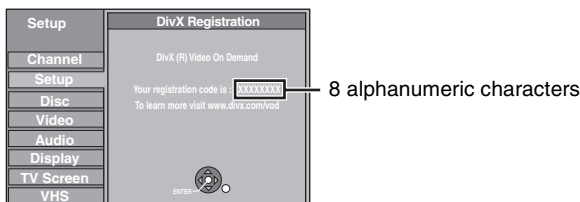
DivX Video-on-Demand (VOD) content is encrypted for copyright protection. In order to play DivX VOD content on this unit, you first need to register the unit.

Follow the on line instructions for purchasing DivX VOD content to enter the unit's registration code and register the unit.

Visit www.divx.com/vod for more information.

Display the unit's registration code.

(→ 74, "DivX Registration" in "Setup" tab)



- We recommend that you make a note of this code for future reference.
- 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/VHS POWER].
 - you press [■, STOP].
 - you press [◀◀, SKIP], [▶▶, SLOW/SEARCH] or [▶▶, SLOW/SEARCH] 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.

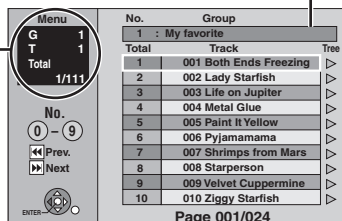
Preparation

Press [DRIVE SELECT] to select the DVD drive.

1 Press [DIRECT NAVIGATOR].

Selected group

G: Group No.
T: Track No. in the group
Total: Track No./Total tracks in all groups



- Files are treated as tracks and folders are treated as groups.
- When the DivX or JPEG Menu is displayed, perform steps 1 to 4 in "To select file type" on page 43 selecting "MP3 Music" in step 4 to change to the playback mode.

2 Press [▲, ▼] to select the track and then 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 [■, STOP].

To show other pages

Press [◀◀, SKIP] or [▶▶, SKIP].

To exit the screen

Press [DIRECT NAVIGATOR].

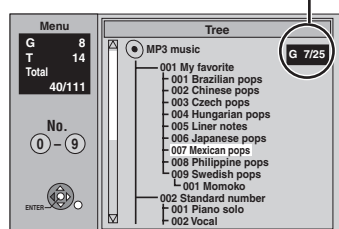
Using the tree screen to find a group

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 then press [ENTER].

The file list for the group appears.

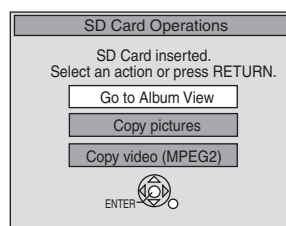
To return to the previous screen

Press [RETURN].

Playing still pictures

HDD RAM SD CD

- You can use SD Memory Cards with capacities from 8 MB to 2 GB (→ 7).
- You can playback still pictures recorded on to a CD-R/CD-RW on a computer.
- You cannot playback still pictures while recording or copying.
- Inserting, Removing the SD card (→ 12)
 While stopped, put the card in the slot, and the menu (→ below) is automatically displayed. Press [▲, ▼] to select "Go to Album View" and press [ENTER]. Then you can continue from step 2 below.



- Selecting file type to play (→ 43)

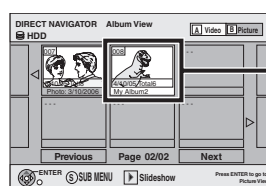
1 Press [DRIVE SELECT] to select the drive (HDD, DVD or SD).

The indicator lights up on the unit.



2 Press [DIRECT NAVIGATOR].

HDD RAM SD



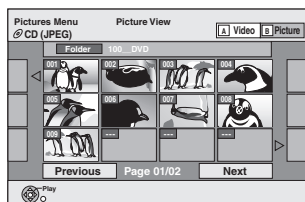
Album View screen

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

- Depending on the digital camera, 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 [B] to switch to the "Picture" view screen.

CD



Picture View screen

(Go to step 4)

Direct Navigator screen icons

- Picture protected.
- Picture in which the number of prints is set (DPOF) (→ 55, 93).

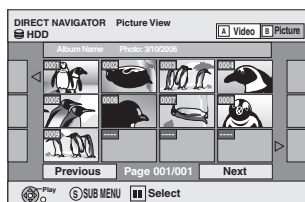
To show other pages

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

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

To select the still pictures in another folder → below

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



e.g., HDD

You can also select album with the numbered buttons.

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

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

You can also select still pictures with the numbered buttons.

- e.g.,
- 5: [0] → [0] → [0] → [0] → [5]
 - 15: [0] → [0] → [0] → [1] → [5]
 - 115: [0] → [0] → [1] → [1] → [5]
 - 1115: [1] → [1] → [1] → [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 Pictures View screen

Press [RETURN].

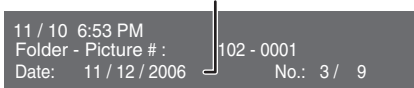
To exit the screen

Press [DIRECT NAVIGATOR].

■ To show the picture properties

Press [STATUS] twice.

Shooting date



To exit the picture properties screen

Press [STATUS].

■ To select the still pictures in another folder

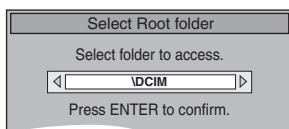
(→ 93, Structure of folders displayed by this unit)

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 then press [ENTER].
- 3** Press [◀, ▶] to select the higher folder and then press [ENTER].



Useful functions during still picture play

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

HDD RAM SD

While the Album View screen is displayed

- 1** Press [▲, ▼, ◀, ▶] to select the album and then 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 then press [SUB MENU].
- 2** Press [▲, ▼] to select "Start Slideshow" and then press [ENTER].

Start Slideshow Slideshow settings

HDD RAM SD CD

While the Picture View screen is displayed

- 1** Press [▲] to select the "Folder" and then press [SUB MENU].
- 2** Press [▲, ▼] to select "Start Slideshow" and then press [ENTER].

• **To change the display interval**

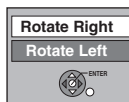
- 1** Press [▲, ▼] to select "Slideshow settings" in step 2 and then press [ENTER].
- 2** Press [▲, ▼] to select "Display Interval" and press [◀, ▶] to select the desired interval (0 to 30 seconds) and then press [ENTER].

• **Repeat play**

- 1** Press [▲, ▼] to select "Slideshow settings" in step 2 and then press [ENTER].
- 2** Press [▲, ▼] to select "Repeat play" and then press [◀, ▶] to select "On" or "Off" and then press [ENTER].

During play

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



Rotate

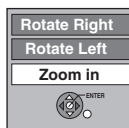
HDD RAM SD CD

• 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.

During play

- 1** Press [SUB MENU].
- 2** Press [▲, ▼] to select "Zoom in" and then press [ENTER].



Zoom in Zoom out

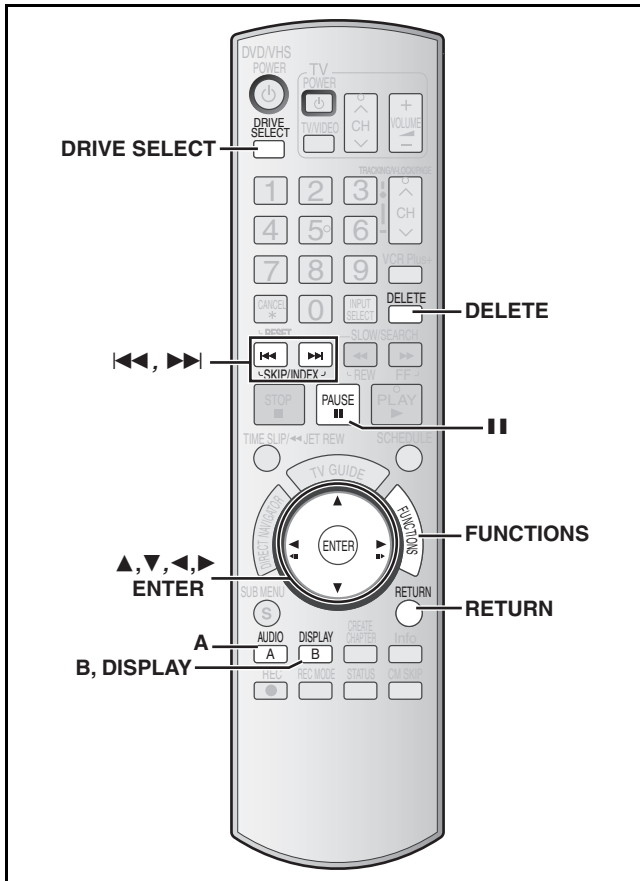
HDD RAM SD CD

- To return the picture to its original size, press [▲, ▼] to select "Zoom out" in step 2 and then 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.

CD

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





Common procedures

1 Press [DISPLAY].

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

Menu Item Setting

- 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 then press [▶].

3 Press [▲, ▼] to select the item and then 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) -RW(VR)

The disc's audio attributes appear.

DVD-V DVD-A

Select the audio and language (→ below, 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 (→ below, 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

Select 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**

→ 42, 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 → 94) **VCD**

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

* You may have to use the menus (→ 41) 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/DD 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	VIE: 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**
 - 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* (→ 94)

- 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".]

When the tray is opened the setting will return to "Auto1".

Select the method of conversion for progressive output to suit the type of material being played (→ 93, 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" (→ 77).

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.

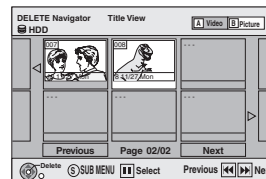
Preparation

- Press [DRIVE SELECT] to select the drive (HDD, DVD or SD).
- **RAM** **SD** Release protection (→ 70)

1 While stopped

Press [FUNCTIONS].

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



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

Press [B] to select "Picture".

Press [A] to select "Video".

3 Deleting a title:

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

Deleting an album:

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

Deleting still pictures:

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

② Press [▲, ▼, ◀, ▶] to select the still pictures to delete and then press [ENTER].

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

- Refer to sub menu operations for the "Title View" (→ 51, step 5).
- Refer to sub menu operations for the "Picture View" or "Album View" (→ 55, step 4).

To show other pages

Press [◀◀, SKIP] or [▶▶, SKIP] to show other pages.

Multiple editing

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

4 Press [◀] to select "Delete" and then 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 During play

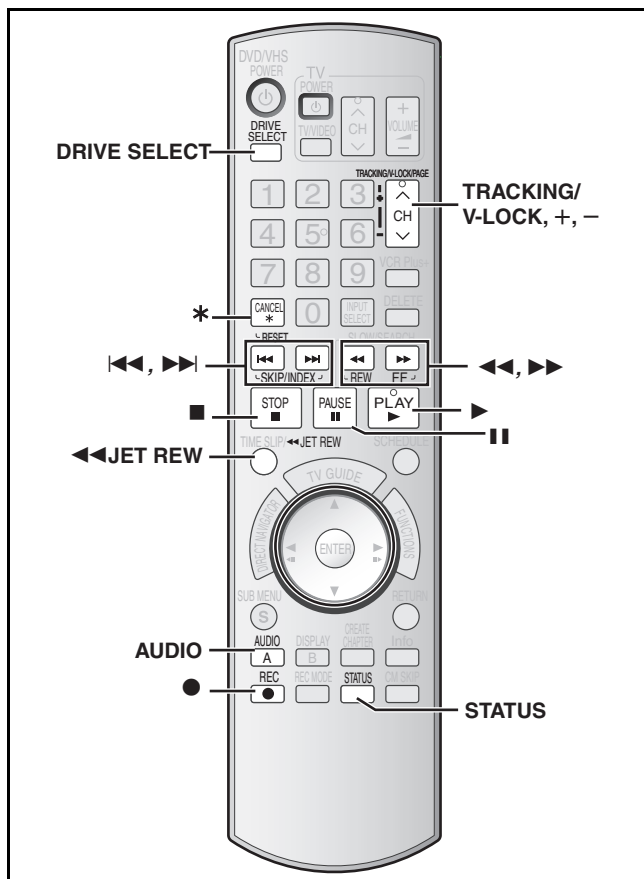
Press [DELETE].

You cannot delete a picture during a slideshow.

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

The title or the picture is deleted.

Playing a video cassette



VHS

Preparation

- Select the unit viewing channel (e.g. the AV input) on the TV.
- Turn on this unit.

1 Press [DRIVE SELECT] to select the VHS drive.

2 Insert a recorded video cassette. (→12)

3 Press [▶, PLAY].

- Play starts automatically if you insert a video cassette with the tab removed.

Note

- When the tape reaches its end, the unit automatically rewinds it to the beginning. This function does not work during scheduled recording, fast-forwarding and specified stop recording.
- Jet Search, cue, review or slow playback will be automatically canceled after 10 minutes and for pause it will be canceled after 5 minutes.
- When viewing a still picture or during slow playback, the picture that appears in VP mode may be distorted.
- When playing back a tape which was recorded on another VCR, it may be necessary to adjust the tracking (→49). In some cases the picture quality may still be inferior. This is due to format constraints.

Operations

Stop	Press [■, STOP].
Pause	Press [, PAUSE]. Press [, PAUSE] again or [▶, PLAY] to restart play.
Fast-forward/Rewind	While stopped Press [◀◀] (backward)/[▶▶] (forward).
Cue/Review	During play Tap or keep pressing [◀◀] (backward)/[▶▶] (forward). ● If you keep pressing these buttons, normal playback restarts by releasing them. ● Tap [▶, PLAY] to restart normal playback.
Jet Search	During play Tap [◀◀] (backward)/[▶▶] (forward) twice. You can increase Cue/Review search speed. ● Press [▶, PLAY] to restart normal playback. ● You can select search speed to view the recorded picture. (→ 77) ● The picture recorded in EP or VP mode may be distorted if it is played at approx. 35 times speed. A vertical scroll may occur. It is not a malfunction but if it happens, change to approx. 27 times speed. ● The picture may not be in color or may be distorted depending on the TV.
Slow	During play Press and hold [, PAUSE] for about 2 seconds or more. ● Press [▶, PLAY] to restart normal playback.
Jet Rewind	To perform a Higher Speed Rewind Press [◀◀JET REW]. ● Depending on the tape or an operating condition, the rewind speed may change somewhat. ● The tape counter is reset to "0:00.00" when the tape is rewound to the beginning. ● Depending on the tape, this function may not work.
Repeat Playback	During play or while stopped Keep pressing [▶, PLAY] for about 5 or more seconds. ● The "R ▶" indication appears on the TV screen. ● At the end of the program, the tape rewinds to the beginning and plays it again (it only works if there is at least 5 seconds blank space at the end of the program). This repeats until you make another operation. ● Press [▶, PLAY] to restart normal playback.



Adjusting the playback picture

Manual tracking

The unit usually makes tracking adjustments, but you may need to do it manually if noise appears on a tape recorded on other equipment.

During play

Press [TRACKING/V-LOCK, +] or [TRACKING/V-LOCK, -].

Repeat until the noise disappears.

Vertical locking adjustment

Adjust the vertical synchronization to stop the picture from jiggling while paused.

This works only while VHS is paused during recording on the DVD.

While paused

Press [TRACKING/V-LOCK, +] or [TRACKING/V-LOCK, -].

Repeat until the jiggling stops.

To return to auto tracking

Press both [TRACKING/V-LOCK, +] and [TRACKING/V-LOCK, -] simultaneously.

To remove the noise from a paused picture

Start slow play, then adjust the tracking.

Note

- This function may not work with some TV models and tapes.
- You can also adjust the tracking and vertical synchronization with [CH, ^, v] on the main unit.

VHS Index Search System (VISS)

The unit automatically records special index signals on the tape every time a recording is started. The index search function makes use of these index signals to let you find the beginning of a desired program quickly and easily.

Index signals are recorded in the following cases.

- When a recording is started by pressing [●, REC].

Preparation

- Insert a recorded video cassette. (→ 12)

While stopped or during normal play

Press [◀◀] or [▶▶].

- Each press increases the number of skips.



To cancel the index search

Press [■, STOP].

Note

- Up to 20 index signals can be searched for in both directions.
- If you press either one of the buttons too much, you can control the number of skips by pressing the opposite button.
- The figure on the display decreases by 1 each time an index signal is located.
- This feature may not work correctly if the index signals are too close together. Make recordings of at least 5 minutes.

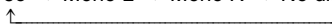
Changing audio

While playing tapes

Press [AUDIO].

The audio changes as follows:

Stereo → Mono L → Mono R → No display (Normal audio track)



Auto Bilingual Choice Function

When a stereo broadcast or SAP broadcast is recorded and played back on the unit, stereo sound will be automatically selected in the case of a stereo broadcast and SAP sound will be automatically selected in the case of a dual-sound broadcast (Mono and SAP or Stereo and SAP).

- This function may not work properly if the program is played back from a mid point. In a case like this, press [AUDIO] and select the right sound.
- The function will not work with a cassette which has been recorded using external equipment.

S-VHS Quasi Playback (SQPB)

It is also possible to play back tapes recorded in the S-VHS system.

- Some picture noise may occur depending on the type of tape used.
- It is not possible to fully obtain the high resolution that S-VHS is capable of.
- It is not possible to record in the S-VHS system with the unit.

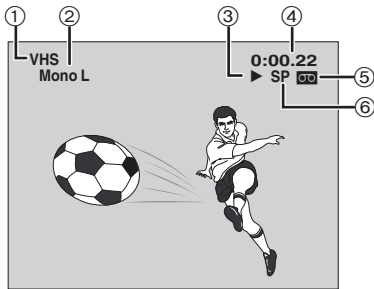
Refer to the control reference on page 48.

Various on-screen display indications

On-screen display below appears during play on VHS.

To see these displays, set "Status Messages" to "Automatic". (→ 76)

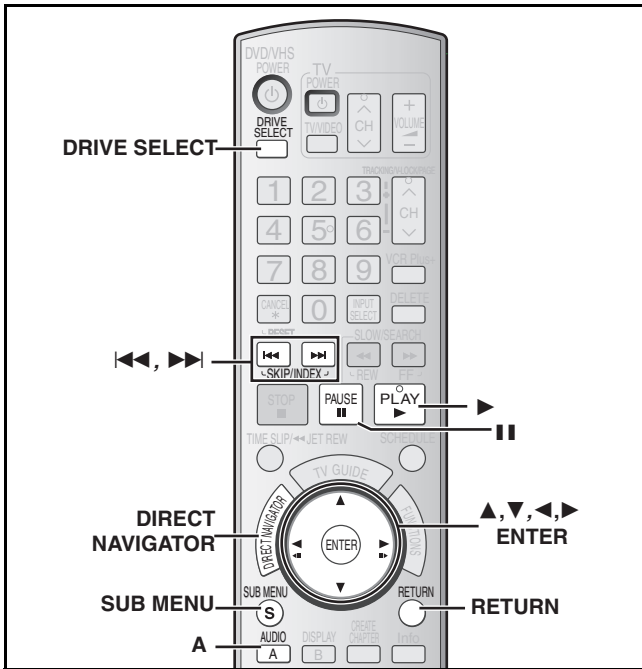
Press [STATUS].



①	Current drive
②	Audio indicators The Left (Mono L) and Right (Mono R) indicators show which sound mode is selected as follows: Stereo: Stereo indicators appear. Mono L: The Mono L indicator appears. Mono R: The Mono R indicator appears. Normal: Neither the L nor R indicator appears.
③	Operation status display
④	Shows the tape counter and remaining tape time Pressing [STATUS] once makes the on-screen display appear. After that, press the button repeatedly to change the display as follows: No display → Tape counter → Remaining tape time ↑ <ul style="list-style-type: none"> ● Press [*, RESET] to reset the tape counter (elapsed time) to "0:00.00". The tape counter is automatically reset to "0:00.00" when inserting a video cassette. ● The remaining time is approximate. It will be incorrect if you set the wrong tape time in "Select Tape Length" in the "VHS" menu and if the tape is of poor quality. (→ 77)
⑤	Cassette-in indicator Shows whether you have inserted a video cassette.
⑥	Recording mode indicator (→ 15, 28)

Note

- The on-screen display may be distorted depending on the playback tape or the input signal.
- Status messages appear while stopped or recording. (→ 42)



HDD RAM -R -R DL -RW(V) +R -RW(VR) +R DL +RW
 (You cannot edit finalized discs.)

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

Start End

HDD RAM You can divide a title into multiple chapters. Each division point inserted creates an individual chapter. (→ 42, 52)

HDD RAM You can change the order of chapters and create a playlist (→ 53).

- **-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 these discs decreases each time you edit their contents. We recommend that you edit on the HDD and then copy to disc.

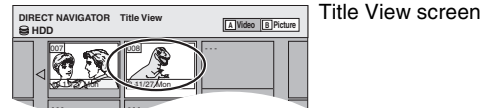
Editing titles/chapters and playing chapters

You can modify (remove unnecessary parts, divide, etc.) recorded programs.

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 drive (HDD or DVD) containing the recorded title to be edited.
- **RAM** Release protection (→ 70).

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



To show other pages

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

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

Multiple editing

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

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

- If you select "Edit Title", press [▲, ▼] to select the operation and then press [ENTER] (→ 52).

Refer to "Title operations" (→ 52).

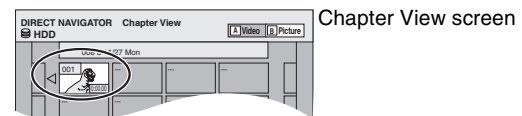
Switching the Direct Navigator appearance → 40

Playing still pictures (JPEG/TIFF) → 44, step 2

- Depending on the situation, some items may turn gray and cannot be selected.

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 then press [ENTER].

Refer to "Chapter operations" (→ 52).

- You can go back to the Title View.

To return to the previous screen

Press [RETURN].

To exit the screen

Press [DIRECT NAVIGATOR].

Refer to the control reference on page 51.

Title operations

After performing steps 1 to 5 (→ 51)

<p>Delete Title*</p> <p>HDD RAM -R -R DL -RW(V) +R +R DL +RW</p>	<p>Press [◀, ▶] to select “Delete” and then press [ENTER].</p> <ul style="list-style-type: none"> • Once deleted, the recorded contents are lost and cannot be restored. Make certain before proceeding. • -R -R DL +R +R DL The available recording space does not increase when you delete titles. • -RW(V) +RW Available recording space increases only when the last recorded title is deleted. It does not increase if other titles are deleted. 	
<p>Properties</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"> • Press [ENTER] to exit the screen. 	
<p>Title Name</p> <p>HDD RAM -R -R DL -RW(V) +R +R DL +RW</p>	<p>You can give names to recorded titles.</p> <p>→ 73, Entering text</p>	
<p>Set Protection*</p> <p>Cancel Protection*</p> <p>HDD RAM +R +R DL +RW</p>	<p>If set, this will protect the title from accidental erasure.</p> <p>Press [◀, ▶] to select “Yes” and then press [ENTER].</p> <p>The lock symbol appears when the title is protected.</p> <ul style="list-style-type: none"> • When the title is protected, some items cannot be accessed. Release the protection to access the inaccessible items. 	
<p>Shorten Title</p> <p>HDD RAM</p> <p>(→ below, “For quicker editing”)</p>	<p>You can remove unnecessary parts of the recording such as commercials.</p> <ol style="list-style-type: none"> 1 Press [ENTER] at the start point and end point of the section you want to delete. 2 Press [▲, ▼] to select “Exit” and then press [ENTER]. <ul style="list-style-type: none"> • Select “Next” and then press [ENTER] to delete other sections. 3 Press [◀, ▶] to select “Delete” and then press [ENTER]. 	
<p>Change Thumbnail</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"> 1 Press [▶, PLAY] to start play. 2 Press [ENTER] when the image you want to use as a thumbnail is shown. <p>To change the thumbnail</p> Restart play and then press [▲, ▼] to select “Change”, then press [ENTER] at the point you want to change. 3 Press [▲, ▼] to select “Exit” and then press [ENTER]. 	
<p>Divide Title</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"> 1 Press [ENTER] at the point you want to divide the title. 2 Press [▲, ▼] to select “Exit” and then press [ENTER]. 3 Press [◀, ▶] to select “Divide” and then press [ENTER]. <p>To confirm the division point</p> Press [▲, ▼] to select “Preview” and then press [ENTER]. (The unit plays 10 seconds before and after the division point.) <p>To change the division point</p> Restart play and then press [▲, ▼] to select “Divide”, then press [ENTER] at the point where you want to divide the title. <p>Note</p> <ul style="list-style-type: none"> • The divided titles retain the name and CPRM property (→ 93) of the original title. • Video and audio just before and after the dividing point may momentarily cut out. 	

* Multiple editing is possible.

Chapter operations

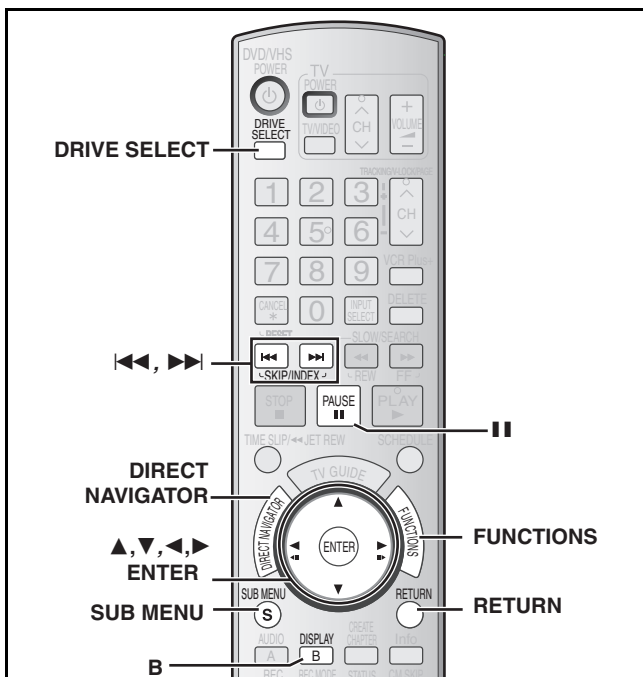
After performing steps 1 to 7 (→ 51)

<p>Delete Chapter*</p> <p>HDD RAM</p>	<p>Press [◀, ▶] to select “Delete” and then press [ENTER].</p> <p>Once deleted, the recorded contents are lost and cannot be restored. Make certain before proceeding.</p> <ul style="list-style-type: none"> • To delete only the chapter division point, use “Combine Chapters”. (→ below) The recorded contents are not deleted. 	
<p>Create Chapter</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"> 1 Press [ENTER] at the point you want to divide. <ul style="list-style-type: none"> • Repeat this step to divide at other points. 2 Press [▲, ▼] to select “Exit” and then press [ENTER]. 	
<p>Combine Chapters</p> <p>HDD RAM</p>	<p>Press [◀, ▶] to select “Combine” and then press [ENTER].</p> <ul style="list-style-type: none"> • The selected chapter and following chapter are combined. 	

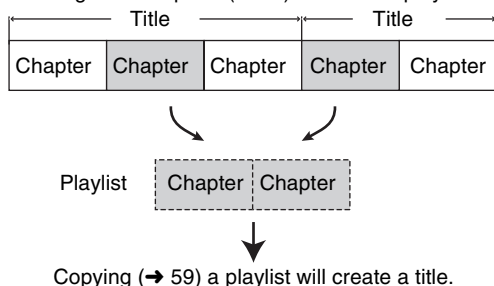
* Multiple editing is possible.

For quicker editing

- Use search, slow-motion (→ 41) or Time Slip (→ 42) to find the desired point.
- To skip to the start or end of a title, press [◀◀, SKIP] (start) or [▶▶, SKIP] (end).



You can arrange the chapters (→ 51) to create a playlist.



• 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

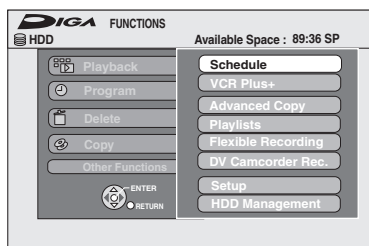
Preparation

- Turn on the television and select the appropriate video input to suit the connection to this unit.
- Turn the unit on.
- Insert a disc with the title to edit (→ 12)
- Press [DRIVE SELECT] to select the drive (HDD or DVD) containing the recorded title to be edited.
- **RAM** Release disc or cartridge protection (→ 70).
- You cannot create or edit a playlist while recording or while copying.

1 While stopped

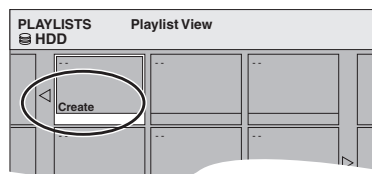
Press [FUNCTIONS].

2 Press [▲, ▼] to select "Other Functions" and then press [ENTER].



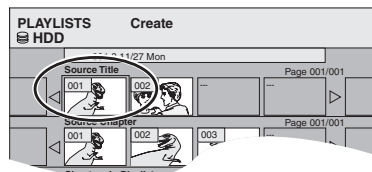
3 Press [▲, ▼] to select "Playlists" and then press [ENTER].

4 Press [▲, ▼, ◀, ▶] to select "Create" and then press [ENTER].



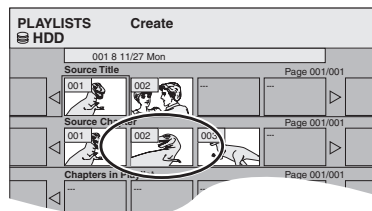
5 Press [◀, ▶] to select the source title and then press [▼].

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



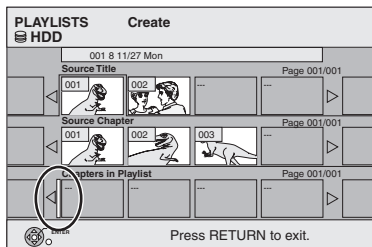
6 Press [◀, ▶] to select the chapter you want to add to a playlist and then press [ENTER].

- Press [▲] to cancel.



- You can also create a new chapter from the source title. Press [SUB MENU] to select "Create Chapter" and then press [ENTER] (→ 52, Create Chapter).

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



- Press [▲] to select other source titles.
- Repeat steps 6 to 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.

Continued on next page

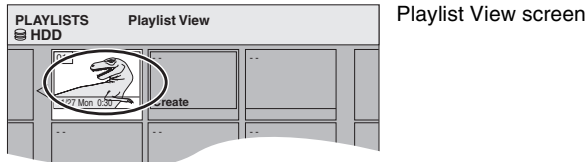
Refer to the control reference on page 53.

Editing and playing playlists/chapters

HDD **RAM**

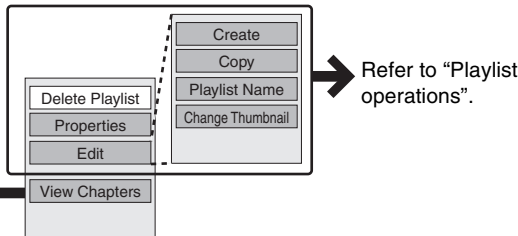
-RW(VR) (Play only)

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



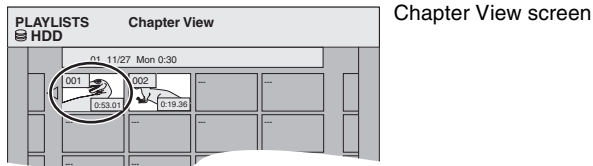
Playlist View screen

- To show other pages/Multiple editing (→ 51)
- 5 Press [SUB MENU], then press [▲, ▼] to select the operation and then press [ENTER].
 - If you select “Edit”, press [▲, ▼] to select the operation and then press [ENTER].



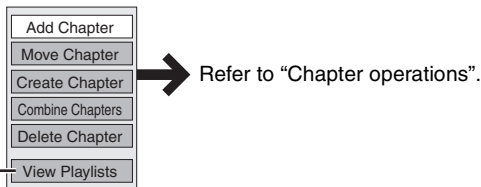
If you select “View Chapters”

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



Chapter View screen

- To show other pages/Multiple editing (→ 51)
- 7 Press [SUB MENU], then press [▲, ▼] to select the operation and then 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 to 5 (→ left)

<p>Delete Playlist*</p> <p>HDD RAM</p>	<p>Press [◀, ▶] to select “Delete” and then press [ENTER]. Once deleted, the playlists are lost and cannot be restored. Make certain before proceeding.</p>
<p>Properties</p> <p>HDD RAM</p> <p>-RW(VR)</p>	<p>Playlist information (e.g., length and date) is shown. • Press [ENTER] to exit the screen.</p>
<p>Create</p> <p>HDD RAM</p>	<p>→ 53, Creating playlists, Step 5 to 8</p>
<p>Copy*</p> <p>HDD RAM</p>	<p>Press [◀, ▶] to select “Copy” and then press [ENTER]. • The copied playlist becomes the newest one in the playlist view screen.</p>
<p>Playlist Name</p> <p>HDD RAM</p>	<p>→ 73, Entering text</p>
<p>Change Thumbnail</p> <p>HDD RAM</p>	<p>→ 52, Change Thumbnail</p>

* Multiple editing is possible.

Chapter operations

HDD **RAM**

After performing steps 1 to 7 (→ left)

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

<p>Add Chapter</p>	<p>→ 53, Creating playlists, Step 5 to 8</p>
<p>Move Chapter</p>	<p>Press [▲, ▼, ◀, ▶] to select the position to insert the chapter and then press [ENTER].</p>
<p>Create Chapter</p>	<p>→ 52, Create Chapter</p>
<p>Combine Chapters</p>	<p>→ 52, Combine Chapters</p>
<p>Delete Chapter*</p>	<p>→ 52, Delete Chapter The playlist itself is deleted if you erase all the chapters in it.</p>

* Multiple editing is possible.

Editing still pictures

Refer to the control reference on page 53.

HDD RAM SD

- You can edit pictures and albums.
- You can use SD Memory Cards with capacities from 8 MB to 2 GB (→ 7).
- You cannot edit still pictures recorded on CD-R/CD-RW.

Preparation

- Press [DRIVE SELECT] to select the drive (HDD, DVD or SD).
- RAM SD** Release protection (→ 70, Setting the protection—Disc Protection).

1 Press [DIRECT NAVIGATOR].

2 **HDD RAM**

Press [B] to select “Picture”.

3 Editing an album:

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

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

To show other pages

Press [▲, ▼, ◀, ▶] to select “Previous” or “Next” and then press [ENTER].
 • You can also press [◀◀, SKIP] or [▶▶, SKIP] to show other pages.

Multiple editing

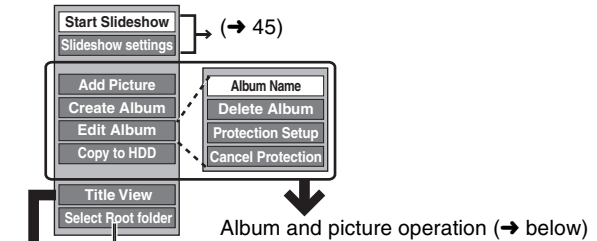
Select with [▲, ▼, ◀, ▶] and then press [■, PAUSE]. (Repeat)
 A check mark appears. Press [■, PAUSE] again to cancel.

- To switch to another higher folder (→ 45)

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

- To edit the album

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

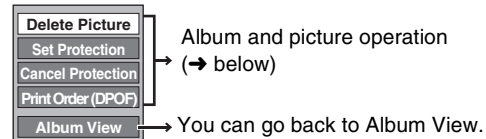


- This is only displayed when there are other higher folders that can be viewed.
- To switch to another higher folder → 67

Editing titles/chapters and playing chapters → 51, step 2

- To edit still picture

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



To return to the previous screen

Press [RETURN].

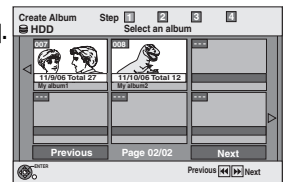
To exit the screen

Press [DIRECT NAVIGATOR].

Album and picture operation

After performing steps 1 to 4

<p>Delete Picture* Delete Album* HDD RAM SD</p>	<p>Press [◀, ▶] to select “Delete” and then press [ENTER]. • Once deleted, the recorded contents are lost and cannot be restored. Make certain before proceeding. • When deleting a 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.)</p>
<p>Album Name HDD RAM SD</p>	<p>You can give names to albums. → 73, Entering text • Album names input using this unit may not be displayed on other equipment.</p>
<p>Protection Setup* Set Protection Cancel Protection* HDD RAM SD</p>	<p>If set, this will protect the still picture or album from accidental deletion. Press [◀, ▶] to select “Yes” and then press [ENTER]. The lock symbol appears when the still picture or album is protected. • Even if the protection setting is used by this unit to protect album, the album may be deleted by another unit.</p>
<p>Print Order (DPOF)* SD</p>	<p>You can select individual pictures for printing and specify the number of prints to be made. Press [◀, ▶] to select number of print (0 to 9) and then press [ENTER]. The DPOF mark appears (→ right). To cancel the print setting • Set the number of prints to “0”. • Print settings (DPOF) made using this unit may not be viewable on other equipment. • When this is set by this unit, any settings established by other units will be released. • Settings cannot be made for files not in accordance with DCF standards or if there is no remaining space on the card.</p>
<p>Add Picture Create Album HDD RAM SD</p>	<p>① Press [◀, ▶] to select “Start” or “Yes” and then press [ENTER]. ② Select the album that contains the still picture you want to add and then press [ENTER]. RAM SD To switch to another higher folder → 67 ③ Press [▲, ▼] to select the item and then press [ENTER]. • If “Select pictures to copy” is selected Select the still picture you want to add and then press [ENTER]. • If “Copy all pictures” is selected All the still pictures in the album will be copied. ④ Press [◀, ▶] to select “Yes” or “No” and then press [ENTER]. • If you want to continue copying, select “Yes” and go to step ②. ⑤ Only for “Create Album” Press [◀, ▶] to select the item and then press [ENTER]. • If “Yes” is selected You can give names to albums. (→ 73, Entering text) • 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 [--/--/--].)</p>
<p>Copy to DVD-RAM Copy to HDD HDD RAM</p>	<p>Press [◀, ▶] to select “Start Copying” and then press [ENTER]. 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.

Note about copying

See also the notes “Important notes for recording” (→ 9).

You can select from a variety of methods to copy on the unit.

You cannot copy titles which have been treated to prevent copying.

Direction		Type of copy you want	Suitable methods	Is copying in High speed mode?	Finalize*1		
From	To						
HDD	RAM -R -R DL -RW(V) +R +R DL +RW	•When you want to copy a title or a playlist	One Touch Copy → 60	Yes	selectable		
		•When you want to copy multiple titles in combination	Copy Navigator → 59	Yes	automatically set		
			Advanced copy (Create List) → 62	Yes	selectable		
		•When you want to copy multiple playlists in combination •When you want to copy in a selected recording mode.		Advanced copy (Create List) → 62	Yes	selectable	
	VHS	•When you want to copy a title or a playlist	One Touch Copy → 60	No	—		
		•When you want to copy multiple titles or playlists in combination	Advanced copy (Create List) → 62	No	—		
VHS	HDD	•When you want to copy from the selected start point to the end of the tape	One Touch Copy → 61	No	—		
		•When you want to copy from the selected start point to the end of the tape •When you want to copy only for the specified time •When you want to copy to fit in the 4.7 GB disc	Advanced Copy (Time Limit) → 64	No	—		
			RAM -R -RW(V) +R +RW	•When you want to copy from the selected start point to the end of the tape	One Touch Copy → 61	No	selectable
				•When you want to copy from the selected start point to the end of the tape •When you want to copy only for the specified time •When you want to copy to fit in the remaining capacity of the disc	Advanced Copy (Time Limit) → 64	No	selectable
	HDD	•When you want to copy the whole of the disc	One Touch Copy → 61	Yes*2	—		
		•When you want to copy multiple titles or playlists in combination	Advanced copy (Create List) → 62	Yes*2	—		
VHS	•When you want to copy the whole of the disc •When you want to copy from the beginning of the selected title or playlist to the end of the disc	One Touch Copy → 61	No	—			
	•When you want to copy multiple titles or playlists in combination	Advanced copy (Create List) → 62	No	—			
-R -R DL -RW(V) +R +R DL	HDD	•Cannot copy	—	—	—		
	VHS	•When you want to copy the whole of the disc •When you want to copy from the beginning of the selected title to the end of the disc	One Touch Copy → 61	No	—		
DVD-V (Finalized -R -R DL -RW(V) +R +R DL) or DVD-V on sale that are not copy-protected, etc.	HDD	•When you want to copy the whole of the disc •When you want to copy only for the specified time	Advanced Copy (Time Limit) → 64	No	—		
	VHS	•When you want to copy the whole of the disc •When you want to copy only for the specified time	Advanced Copy (Time Limit) → 64	No	—		
SD	HDD	•When you want to copy MPEG2 moving pictures	Copy video (MPEG2) → 63	Yes	—		
	RAM						

*1 -R -R DL -RW(V) +R +R DL You cannot select “Top Menu Style” or “Playback will start with:”.

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

*2 +RW → HDD: Normal speed only

■ Copying still pictures HDD RAM SD

- When you want to copy multiple still pictures in combination (→ 66)
- When you want to copy all still pictures from an SD card to the HDD or DVD-RAM (→ 67)

■ Before copying

When copying a title with main and secondary (SAP) audio

- Select the audio type for recording MTS broadcasts from “Multi-channel TV Sound (MTS)” (→ 76) when:
 - Copying to a DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL and +RW.
 - When “Audio for XP Recording” is set to “LPCM” (→ 76) and you are copying in XP mode.

Copying 16:9 aspect titles

The titles are copied in 4:3 aspect if you copy to a DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL or +RW.

■ 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 (6 H)		2 min	30X	52 s	69X	2 min 30 s	24X	2 min 30 s	24X						
EP (8 H)		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

- 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.

-R -R DL -RW(V) +R +R DL +RW To high speed copy titles (or playlists created from those titles), set “Recording for High-Speed Copying” to “On” before recording to the HDD. (The default setting is “On” → 75).

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

- | | |
|---|---|
| <ul style="list-style-type: none"> • When arranging multiple titles for copying, if any titles recorded with “Recording for High-Speed Copying” to “Off”, then you cannot preformed with high-speed copy. • Playlists created from titles using a variety of recording modes or multiple titles using FR recording mode | <ul style="list-style-type: none"> • 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) |
|---|---|

If high-speed copying to a high-speed recording compatible disc (**RAM** 5X, **-R +R** 8X or faster):

If you think that the operation sound is too loud, set “Rapidity of High-Speed copying” to “Silent mode” in the Setup menu (→ 75). However, the time required for copying will become longer.

Regarding copying to DVD-R DL (single-sided, Dual Layer) and +R DL (single-sided, Double Layer)

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, 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 (→ 93) compatible DVD-RAM, however, the title is deleted from the HDD.

- Titles or playlists cannot be copied from DVD-RAM to the HDD.
- You cannot use “One Touch Copy”. Use the “Copy Navigator” (→ 59) or “Advanced copy (Create List)” (→ 62).
- Titles will not be copied if they are protected (→ 52).
- 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.

Regarding copying from VHS

• It is not possible to copy a copied “One time only recording” title.

- If you want to copy to the HDD and then to **-R -R DL -RW(V) +R +R DL +RW** in high speed mode, set “Recording for High-Speed Copying” to “On” before recording to the HDD.
- If a part of a tape recorded in VP mode is copied to the HDD or a disc, noise may appear on that part.

Regarding copying to VHS

- When copying “One time only recording” titles to VHS, the copy guard signal is also copied.
 - Even when copying to tape the title may not be copied correctly because of the copy guard.

Note

• 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.

- Copy-protected disc/video tapes cannot be copied. Most disc/video tapes are copy-protected to prevent illegal copying so they cannot be copied.
- Copying is automatically stopped when playback of the source stops or the remaining capacity of the disc is filled. (A message appears on the TV screen and then disappears a few seconds later.)

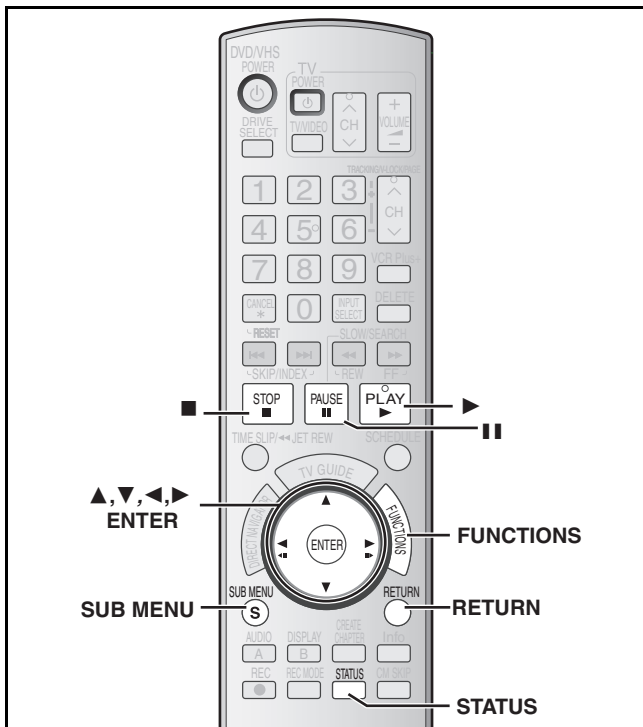
■ Depending on the copy type, copy direction and copy speed, the following restriction are applied to the settings and operations while copying.

Copy speed	Copy Navigator		One Touch Copy			
	High speed mode	Normal speed mode	High speed mode	Normal speed mode		
Copy direction	HDD → DVD		HDD → DVD DVD → HDD	HDD → DVD DVD → HDD	HDD → VHS DVD → VHS	VHS → HDD VHS → DVD
Are title points maintained?	Yes	Yes	Yes	Yes	Yes*1	Yes*1
Are chapters maintained? *2	Yes	No	Yes	No	No	No
Are thumbnails maintained?	Yes	No*4	Yes*5	No	No	No
Playing HDD while copying	No	No	Yes*6	No	No	Yes*6
Recording HDD while copying	No	No	Yes*6	No	No	No

Copy speed	Advanced Copy (Create List)			Advanced Copy (Time Limit)	
	High speed mode	Normal speed mode		Normal speed mode	
Copy direction	HDD → DVD DVD → HDD	HDD → DVD DVD → HDD	HDD → VHS DVD → VHS	DVD → HDD DVD → VHS	VHS → HDD VHS → DVD
Are title points maintained?	Yes	Yes	Yes*1	No	Yes*1
Are chapters maintained? *2	Yes	No	No	No	Yes*3
Are thumbnails maintained?	Yes*5	No*4	No	No	No
Playing HDD while copying	Yes*6	No	No	No	Yes*6
Recording HDD while copying	Yes*6	No	No	No	No

- *1 In copying from HDD or DVD to VHS, the index signal is automatically recorded for each title. You can search desired titles with [◀◀] or [▶▶]. (→ 49)
In copying from VHS to HDD or DVD, the title is divided by index signal detected and then recorded. You can search desired titles with Direct Navigator's Title View (→ 40) after transfer copy.
 - Titles recorded within 15 minutes (25 minutes in VP mode) of each other may not be divided properly.
 - The recording time may become longer than the original title depending on the number of index signals.
 - When copying index signals it may look as if you are rewinding a tape on the screen.
 - When the index signal is recording, may appear that tape rewind.
 - If you want to copy without dividing the contents into titles, set "Time Limit" to "On" before copying (→ 64). (**HDD** **RAM** The contents are not divided into titles, but chapters are created.)

- *2 **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.
- *3 **HDD** **RAM** Only when "Time Limit" is set to "On". (In this case, titles are not divided.)
- *4 Thumbnails may return to the default position.
- *5 When copying playlists to, the thumbnails may not reflect changes made to them.
- *6 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 and edit, etc. while copying. (You can only perform chasing play when copy from VHS to the HDD.)
 - You cannot play a playlist while copying titles with "One time only recording" restriction. (→ 9, Recording of digital broadcasting)
 - Still pictures cannot be played.



Copy Navigator

DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R and +R DL are automatically finalized. 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.

- You cannot select "Top Menu Style" or "Playback will start with:". If you want to set play menu select or the background color, select "Top Menu Style" or "Playback will start with:" in "DVD Management" before copying.

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

(You cannot copy to finalized discs.)

Preparation

- Insert a disc that you can use for recording (→ 5–7, 12).
- Confirm that there is enough remaining disc space.
- When the confirmation screen is displayed (→ 27, When the format confirmation screen is displayed).

Copying speed mode and recording mode

The copy speed set by the Copy Navigator is as follows:

HDD → **RAM** : High speed

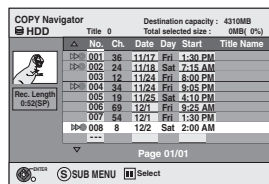
HDD → **-R** **-R DL** **-RW(V)** **+R** **+R DL** **+RW** : → below

"Recording for High-Speed Copying (→ 75)"	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 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. Copy data size: 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 copy destination, etc.

- While stopped Press [FUNCTIONS].
- Press [▲, ▼] to select "Copy" and then press [ENTER].



- Press [▲, ▼] to select the title you want to copy and then press [ENTER].

- To select a multiple number of items together, press [II, PAUSE] to add the check mark and then press [ENTER] (→ 62, Multiple editing).
- To show other pages (→ 62)

- 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 then press [ENTER]. Copying starts.

To return to the previous screen

Press [RETURN].

To stop copying

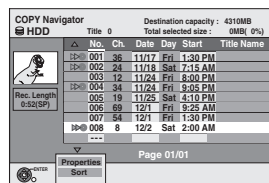
Press and hold [RETURN] for 3 seconds.

- However, you cannot stop finalizing after it has started.

Copy Navigator icons and functions → 63

To check the properties of a title and sort Title View

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



- Press [▲, ▼] to select "Properties" or "Sort" and then press [ENTER].

Properties:

The name, recording date, channel etc. of the selected title are shown.

Sort:

Press [▲, ▼] to select the item and then 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.

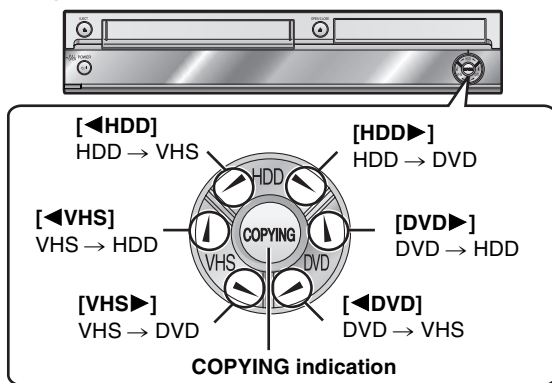
Note

- 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 (→ 75).
- 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 (→ 62).

Refer to the control reference on page 59.

One Touch Copy

Copy direction



Preparation

Copy to:

- DVD: insert a disc that you can use for recording (→ 5–7, 12).
- VHS: insert a video cassette with an accidental erasure prevention tab (→ 11, 12).
- Confirm that there is enough remaining disc or tape space.
- Select the recording mode.
 - HDD/DVD ↔ VHS

Copy from:

- DVD: insert the disc containing the program to be copied.
- VHS: insert the video cassette containing the program to be copied.

Copying speed mode and recording mode

The copy speed during One Touch Copy is set as follows:

- HDD → RAM** : High speed
- RAM -RW(VR) → HDD** : High speed
- +RW → HDD** : Normal speed only
- HDD → -R -R DL -RW(V) +R +R DL +RW** : → below

"Recording for High-Speed Copying (→ 75)"	Speed mode
When source titles were recorded with "On" selected	High speed
When source titles were recorded with "Off" selected	Normal speed (same as source title) •Playlists as copied in FR recording mode

+R +R DL +RW The source title recorded in FR mode (recordings 5 hours or longer) or EP mode will be 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.

- HDD → VHS** : Normal speed only
- RAM -R -R DL -RW(V) +R +R DL +RW → VHS** : Normal speed only (select recording mode in VHS drive before copying)

You can select the copy direction from the copy source and copy destinations below with this method:

HDD → RAM -R -R DL -RW(V) +R +R DL +RW VHS

The title or playlist being played will automatically be copied. Copying will start from the beginning of the title or playlist being played, regardless of the current position.

- 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.

VHS → HDD RAM -R -RW(V) +R +RW

Copying automatically starts from the current position on the video cassette.

RAM -RW(VR) +RW → HDD

All the titles or playlists recorded on a disc are copied automatically to the HDD.

- You cannot copy the playlist which is longer than 8 hours. (When you copy multiple playlists, the playlist which is longer than 8 hours is omitted.)

RAM -R -R DL -RW(V) -RW(VR) +R +R DL +RW → VHS

All the titles recorded on the disc, the beginning of the selected title to the end of the disc or the start to the end of the selected playlist is automatically copied to the video cassette.

Note

- When copying is not started or not executed, the "COPYING" indicator blinks for about 7 seconds. Check if the unit is properly prepared.

HDD → DVD or VHS

- The HDD status messages are not shown while copying. (→ 76)
- Audio output is stereo (L R) during HDD playback.

1 Play the desired title or playlist to copy. (→ 40, 54)

- You can also copy even after pressing [||, PAUSE] to pause playback.

2 Press and hold [<HDD] or [HDD>] on the main unit for about 3 seconds or more (until "START" on the unit's display terminates flashing).

- The "COPYING" indicator on the main unit lights.
- Check if copy starts properly.

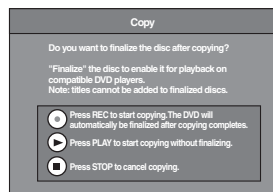


Current copy status (38% has been copied)*

* Remaining copy time appears when copying by normal speed.

When the finalize confirmation screen appears

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



- If you press [●, REC] on the main unit, the disc will automatically be finalized after copying completes.
 - 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.
- If you press [▶, PLAY] on the main unit, you can start copying without finalizing.
- If you press [■] on the main unit, you can cancel to copy.

Recording and playing in HDD while copying (Only when high-speed copying without finalizing.)

Press [ENTER] to cancel the screen display, and then operate play or record.

- To confirm the current progress Press [STATUS].
- During copy, you cannot chasing play, edit and etc.

To stop copying partway

When High-speed copying

Press and hold [RETURN] for about 3 seconds or more.

When Normal Speed copying

Press [■, STOP] or press and hold [RETURN] for about 3 seconds or more.

- However, you cannot stop finalizing after it has started.
- Even if "Copy and finalize" is selected in the confirmation screen, the disc will not be finalized if you stop copying partway.

VHS → HDD or DVD

- The VHS status messages are not shown while copying. (→ 76)

While both VHS and HDD or DVD are stopped
Press and hold [◀VHS] or [VHS▶] on the main unit for about 3 seconds or more (until “START” on the unit’s display terminates flashing).

- The “COPYING” indicator on the main unit lights.
- Check if copy starts properly.



When the finalize screen appears (→ 60)

When copy without finalize

When copying starts, the selected drive automatically changes to HDD. Therefore, the current state of the HDD drive appears on the unit’s display.

(When the HDD is stopped, the display on the right appears. The elapsed DVD recording time is not displayed.)



To stop copying partway

Press [■, STOP] or press and hold [RETURN] for about 3 seconds or more.

- However, you cannot stop finalizing after it has started.
- Even if “Copy and finalize” is selected in the confirmation screen, the disc will not be finalized if you stop copying partway.

DVD → HDD

- The DVD status messages are not shown while copying. (→ 76)
- Audio output is stereo (L R) during DVD playback.

1

When you want to copy titles

Go to step 2

- All the titles recorded on a disc are copied automatically during play or while stopped.

When you want to copy playlists

Press [▶, PLAY] to play back the desired playlist (→ 54).

- All the playlists recorded on a disc are copied automatically regardless of the current position.
- You can copy while playback is paused by pressing [||, PAUSE].

2 Press and hold [DVD▶] on the main unit for about 3 seconds or more (until “START” on the unit’s display terminates flashing).

- The “COPYING” indicator on the main unit lights.
- Check if copy starts properly.



Current copy status (38% has been copied)*

Recording and playing in HDD while copying (Only when high-speed copying)

Press [ENTER] to cancel the screen display, and then operate play or record.

- **To confirm the current progress**
Press [STATUS].
- During copy, you cannot chasing play, edit and etc.

To stop copying partway

When High-speed copying

Press and hold [RETURN] for about 3 seconds or more.

When Normal Speed copying

Press [■, STOP] or press and hold [RETURN] for about 3 seconds or more.

DVD → VHS

- The DVD status messages are not shown while copying. (→ 76)
- Audio output is stereo (L R) during DVD playback.

1

When you copy a whole disc

Make sure that the DVD is stopped.

- Press [STATUS] to check that the resume play function is not active on the DVD drive. If the DVD counter appears on the unit’s display, press [■, STOP] to clear the resume play position. (→ 41)
- When the resume play function is active, the copy will start from the memorized position to the end of the disc.

When you copy a title from the beginning of the selected title to the end of the disc

When you copy a playlist from the beginning of the selected playlist to the last playlist

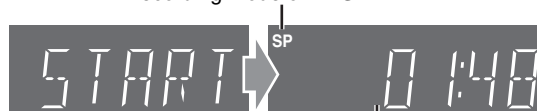
Press [▶, PLAY] to play back the desired title (→ 40) or playlist (→ 54).

- You can copy (a title or playlist) while playback is paused by pressing [||, PAUSE].
- You cannot copy the playlist which is longer than 8 hours. (When you copy multiple playlists, the playlist which is longer than 8 hours is omitted.)

2 Press and hold [◀DVD] on the main unit for about 3 seconds or more (until “START” on the unit’s display terminates flashing).

- The “COPYING” indicator on the main unit lights.
- Check if copy starts properly.

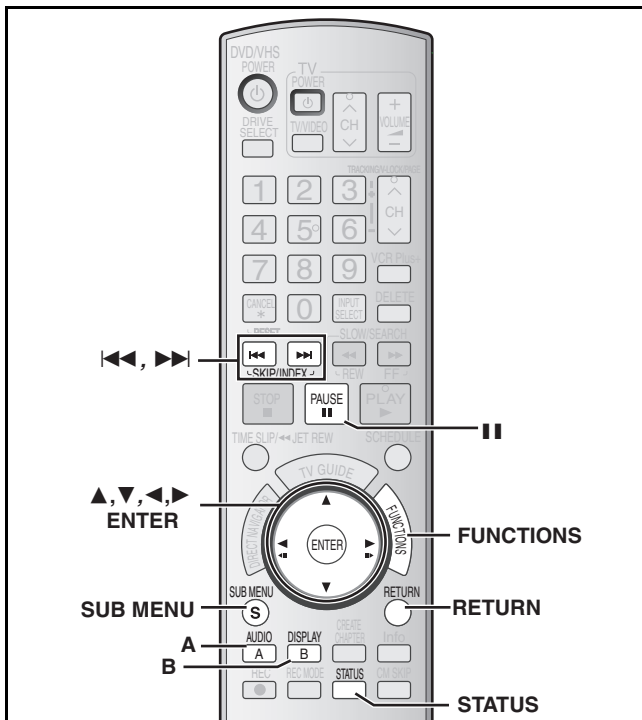
Recording mode of VHS



Remaining time on the tape (1 hour 48 minutes)

To stop copying partway

Press [■, STOP] or press and hold [RETURN] for about 3 seconds or more.



Copying using the copying list— Advanced Copy (Create List)

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

You can arrange titles and playlists as desired for copy.
 (You cannot copy to finalized discs.)

Copy to:

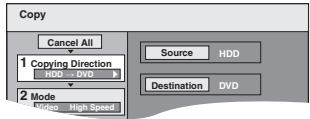
- DVD: insert a disc that you can use for recording (→ 5–7, 12).
- VHS: insert a video cassette with an accidental erasure prevention tab (→ 11, 12).
- Confirm that there is enough remaining disc or tape space.

Copy from:

- DVD: insert the disc containing the program to be copied.

See also notes “Before copying” (→ 57)

- 1 While stopped Press [FUNCTIONS].
- 2 Press [▲, ▼] to select “Other Functions” and then press [ENTER].
- 3 Press [▲, ▼] to select “Advanced Copy” and then 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 then press [▶].
- ② Press [▲, ▼] to select “Source” and then press [ENTER].
- ③ Press [▲, ▼] to select the drive and then press [ENTER].
- ④ Press [▲, ▼] to select “Destination” and then press [ENTER].
- ⑤ Press [▲, ▼] to select the drive and then press [ENTER].
- ⑥ Press [◀] to confirm.

5 Set the recording mode.

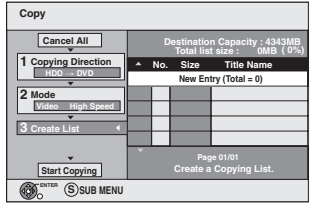
- If you are not going to change the recording mode, press [▼] (→ step 6).
- ① Press [▲, ▼] to select “Mode” and then press [▶].
- ② Press [▲, ▼] to select “Content Type” and then press [ENTER].
- ③ Press [▲, ▼] to select “Video” and then press [ENTER].

- ④ Press [▲, ▼] to select “Recording Mode” and then press [ENTER].
- ⑤ Press [▲, ▼] to select the mode and then press [ENTER].
- ⑥ Press [◀] to confirm.

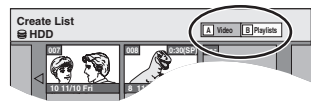
6 Register titles and playlists for copy.

- If you are going to copy a registered list without making any changes to it (→ step 7).

- ① Press [▲, ▼] to select “Create List” and then press [▶].



- ② Press [▲, ▼] to select “New Entry” and then press [ENTER].
- ③ Press [A] to select “Video” or press [B] to select “Playlists”.



- ④ Press [▲, ▼, ◀, ▶] to select the titles or playlists and then press [ENTER].

- When copying to a disc using high speed mode
-R -R DL -RW(V) :
 items indicated with “▶▶▶” or “▶▶▶!” can be registered.
- +R +R DL +RW** :
 only item indicated with “▶▶▶” can be registered.

- To select a multiple number of items together, press [III, PAUSE] to add the check mark and then press [ENTER] (→ below, Multiple editing).
- To show other pages (→ below)
- To edit the copying list (→ 63)

You can register a multiple number of titles and playlists on the copying list by repeating steps ② to ④.

- You cannot start copying when the value of the “Total list size” (→ 63) exceeds 100 %. (Destination capacity is not sufficient.)

- ⑤ Press [◀] to confirm.

7 Press [▲, ▼] to select “Start Copying” and then 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 “Rapidity of High-Speed copying” in the Setup menu (→ 75).

8 Press [◀, ▶] to select “Yes” and then 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 then press [ENTER].
- You can also press [◀◀◀, SKIP] or [▶▶▶, SKIP] to show other pages.

Multiple editing

- Select with [▲, ▼, ◀, ▶] and then press [III, PAUSE]. (Repeat Press [ENTER] to register to the list.)
- A check mark appears. Press [III, PAUSE] 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 (→ 72)
+RW Create DVD Top Menu (→ 72)

■ To stop copying

Press and hold [RETURN] for 3 seconds.

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 (→ 9, Recording of digital broadcasting)

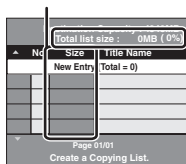


Titles deleted from the HDD by “One time only recording” restriction after copying. (→ 9, Recording of digital broadcasting)



Title or playlist contains still picture(s)
 ● Still picture(s) cannot be copied.

Data size of each registered item



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 (→ 62)

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

Clear All:

Clear all items registered on the copying list.
 Press [◀, ▶] to select “Yes” and then press [ENTER].

Add:



Add new items to the copying list.

Press [▲, ▼, ◀, ▶] to select the playlists or titles to be added and then press [ENTER].

Remove:

Remove the selected items.

Press [◀, ▶] to select “Yes” and then press [ENTER].

You can also remove multiple items (→ 62, Multiple editing).

Move:

Move selected items or change the order of items on the copying list.

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

To cancel all registered copying setting and lists

After performing steps 1 to 3 (→ 62)

1 Press [▲, ▼] to select “Cancel All” and then press [ENTER].

2 Press [◀, ▶] to select “Yes” and then press [ENTER].

- The settings and lists may be canceled in the following situations.
 - When a title, still picture, etc. has been recorded or erased at the copy source
 - When steps have been taken, for instance, to turn off the unit, open the tray, change the copy direction, etc.

Copying MPEG2 moving pictures from an SD card—Copy video (MPEG2)

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.

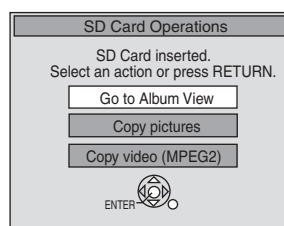
- You cannot playback or record while copying MPEG2.



* Conventionally recorded programs

The display below automatically appears when you insert a card into the SD card slot while stopped.

Press [▲, ▼] to select “Copy video(MPEG2)” and then press [ENTER]. Then go to step 6 on page 62.



How to copy

Refer to “Copying using the copying list—Advanced Copy (Create List)” (→ 62)

Please set the items in step 4 and 5 as shown below.

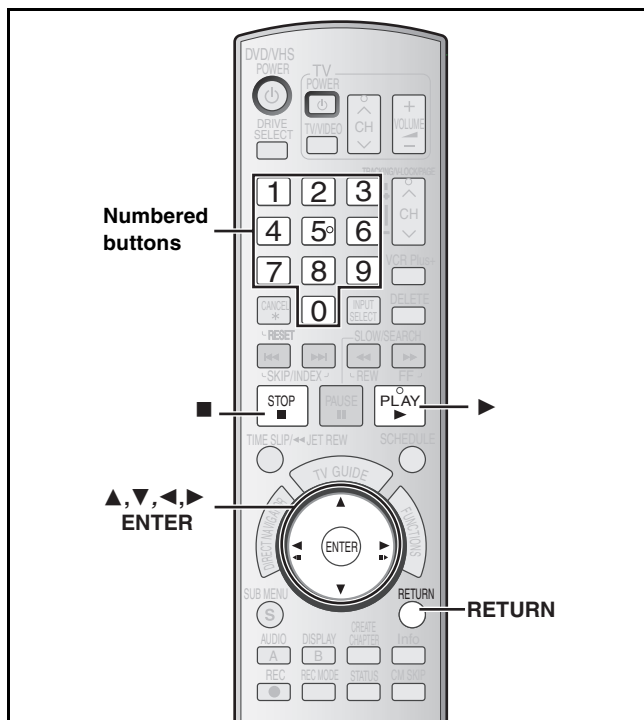
Copying Direction:

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.



Copying a video cassette or DVD-Video [finalized DVD-R, -R DL, DVD-RW (DVD-Video format), +R, +R DL]—Advanced Copy (Time Limit)

You can select the copy direction from the copy source and copy destinations below with this method:

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

Copying automatically starts from the current position on the video cassette.

- You can copy from the start to the end of a video cassette when the recording mode is set to FR and the “Time Limit” is set to “Off”.

DVD-V (Finalized **-R** **-R DL** **-RW(V)** **+R** **+R DL**) → **HDD** **VHS**

Copy the contents of the disc that are currently being played. 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 or VHS according to the set time.

HDD 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 sale 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

Copy to:

- DVD: insert a disc that you can use for recording (→ 5–7, 12).
- VHS: insert a video cassette that you can use for recording and search for the position to start recording. (→ 11, 12).
- Confirm that there is enough remaining disc or tape space.

Copy from:

- DVD: insert the disc containing the program to be copied.
- VHS: insert the video cassette containing the program to be copied and search for the position to start copying.

After performing steps 1 to 5 (→ 62, Copying using the copying list—Advanced Copy (Create List))

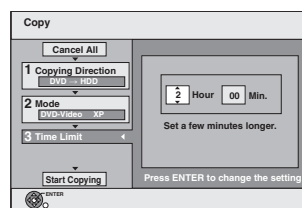
- “Content Type” is automatically set to “DVD-Video” or “VHS-Video” in step 5-②
- You cannot select items that cannot be set in “Recording Mode” in step 5-④.

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 then press [**▶**].
 - ② Press [**▲**, **▼**] to select “Time Limit” and then press [ENTER].
- Setting the unit to copy all the content on the disc
 - ③ Press [**▲**, **▼**] to select “Off” and then press [ENTER].
 - ④ Press [**◀**] to confirm.
Copy will continue until there is not enough available recording space on the HDD or tape.
 - Setting the copying time
 - ③ Press [**▲**, **▼**] to select “On” and then press [ENTER].
 - ④ Press [**▲**, **▼**] to select “Set time” and then press [ENTER].



- ⑤ Press [**◀**, **▶**] to select “Hour” and “Min.” and then press [**▲**, **▼**] to set the recording time.
 - ⑥ Press [ENTER].
 - ⑦ Press [**◀**] to confirm.
- Copying to the HDD or VHS 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.
 - When copying a finalized disc, set a few minutes longer than the source title to include the operation time before play begins and the copy time.
 - When the recording mode is set to FR, there are some differences depending on whether “Time Limit” is set to “On” or “Off”. (Only when recording to video cassettes) (→ 65, About FR recording mode)
 - When the recording mode is not set to FR and the “Time Limit” is set to “Off”, copying will continue until the copy destination is full.

7 Press [**▲**, **▼**] to select “Start Copying” and then press [ENTER].

8 Press [◀, ▶] to select “Yes” and then press [ENTER] to start copying.

VHS → HDD RAM -R -RW(V) +R +RW

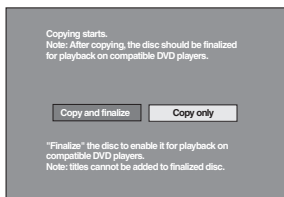
When the confirmation screen appears

(VHS → -R -RW(V) +R only)

Press [◀, ▶] to select “Copy and finalize” or “Copy only” and press [ENTER].

- 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 stop copying partway

Press and hold [RETURN] for about 3 seconds or more.

- However, you cannot stop finalizing after it has started.
- Even if “Copy and finalize” is selected in the confirmation screen, the disc will not be finalized if you stop copying partway.

DVD-V → HDD VHS

- Disc play automatically begins from title 1 when “First Title” is selected from the “Playback will start with.” menu when finalizing the disc (→ 72).

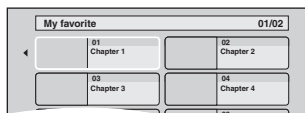
- The screen saver on the right is recorded at the beginning.

- The content is recorded as 1 title from the start of copy to the end.



When the top menu is displayed

Press [▲, ▼, ◀, ▶] to select the title you want to start copying, and then 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.)

Note

- 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. (→ 62, Copying using the copying list—Advanced Copy (Create List))

■ To stop copying partway

Press [■, STOP] or press and hold [RETURN] for about 3 seconds or more.

- If stopped partway, copying will be up to that point.
- Copying is automatically stopped when the tape reaches the end or the remaining capacity of the disc is filled. (A message appears on the TV screen and then disappears a few seconds later.)

■ About FR recording mode

(VHS → HDD RAM -R -RW(V) +R +RW only)

When the recording mode is set to FR and “Time Limit” is set to “Off”:

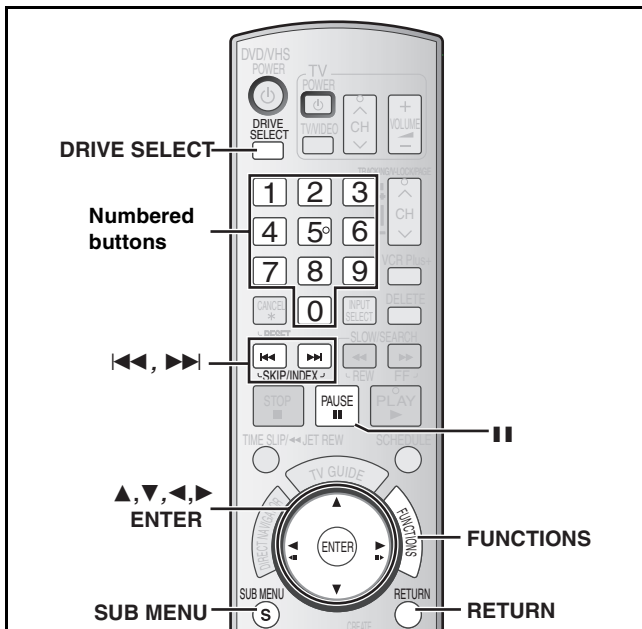
- All the recorded contents on the video cassette are copied (blank spaces are not copied).
- When copying to the HDD, the best picture quality possible is selected to fit a 4.7 GB disc perfectly.
- It may take some time before copying starts as the video cassette is fast-forward to the end and then rewound to the beginning. If there is not enough free space on the disc, the copy is canceled.
- A new title is created each time the VISS index signal is detected.

When the recording mode is FR and “Time Limit” is set to “On”:

- The contents on the video cassette from the copy start point is copied for the set time limit (blank parts with no recording are copied).
- When copying to the HDD, the best picture quality possible is selected to fit a 4.7 GB disc perfectly.
- Titles are not created. (HDD RAM chapters will be created)

To return to the previous screen

Press [RETURN].



HDD | RAM | SD

• You can use SD Memory Cards with capacities from 8 MB to 2 GB (→ 7).

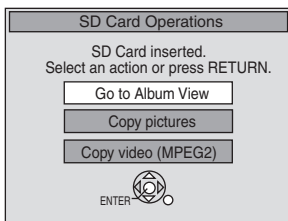
• Still pictures recorded on CD-R or CD-RW cannot be copied.

SD

While stopped, put the card in the SD slot, and the menu (→ below) is automatically displayed.

Press [▲, ▼] to select “Copy pictures” and then press [ENTER].

Then go to step 4 on page 67, “Copying all the still pictures on a card—Copy all Pictures”.



Press [RETURN] to exit the screen.

Copying using the copying list

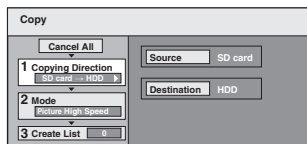
• You cannot copy still pictures recorded on CD.

1 While stopped

Press [FUNCTIONS].

2 Press [▲, ▼] to select “Other Functions” and then press [ENTER].

3 Press [▲, ▼] to select “Advanced Copy” and then 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 then press [▶].

② Press [▲, ▼] to select “Source” and then press [ENTER].

③ Press [▲, ▼] to select the drive and then press [ENTER].

④ Press [▲, ▼] to select “Destination” and then press [ENTER].

⑤ Press [▲, ▼] to select the drive and then 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 then press [▶].

② Press [▲, ▼] to select “Content Type” and then press [ENTER].

③ Press [▲, ▼] to select “Picture” and then press [ENTER].

“Recording Mode” is automatically set to “High Speed”.

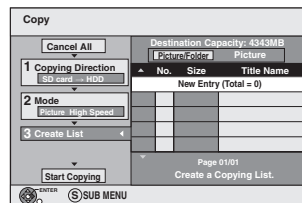
④ Press [◀] to confirm.

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 then press [▶].

② Press [▲, ▼] to select “New Entry” and then press [ENTER].

③ Press [▲, ▼, ◀, ▶] to select a still picture and then press [ENTER].

• To select a multiple number of items together, press [III, PAUSE] to add the check mark and then press [ENTER] (→ 67, Multiple editing)

• To show other pages (→ 67)

• To select the still pictures in another folder (→ 67)

• To edit the copying list (→ 67)

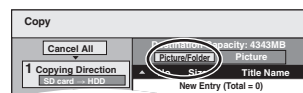
You can register a multiple number of still pictures on the copying list by repeating steps ② to ③.

④ Press [◀] to confirm.

To register on a folder by folder basis

① Press [▲, ▼] to select “Create List” and then press [▶].

② Press [▲, ▼] to select “Picture/Folder” and then press [ENTER].



③ Press [▲, ▼] to select “Folder” and then press [ENTER].

④ Press [▲, ▼] to select “New Entry” and then press [ENTER].

⑤ Press [▲, ▼] to select the folder and then press [ENTER].

• To select a multiple number of items together, press [III, PAUSE] to add the check mark and then press [ENTER] (→ 67, Multiple editing).

• To show other pages (→ 67)

• To switch to another higher folder (→ 67)

• To edit the copying list (→ 67)

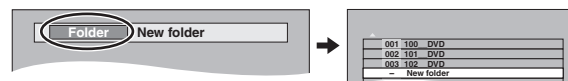
You can register a multiple number of folders on the copying list by repeating steps ④ to ⑤.

⑥ Press [◀] to confirm.

7 Press [▲, ▼] to select “Start Copying” and then press [ENTER].

• For individual still pictures only

When specifying another folder as the copying destination, select “Folder”.



8 Press [◀, ▶] to select “Yes” and then 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 then press [ENTER].

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

Multiple editing

Select with [▲, ▼, ◀, ▶] and then press [■, PAUSE]. (Repeat) Press [ENTER] to register to the list.

- A check mark appears. Press [■, PAUSE] again to cancel.

To edit the copying list

Select the item in step 5–③ (for a still picture) or 5–⑤ (for a folder) (→ 66)

1 Press [SUB MENU].

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

**Clear All:**

Clear all items registered on the copying list.

Press [◀, ▶] to select “Yes” and then press [ENTER].

Add:

Add new items to the copying list.

Press [▲, ▼, ◀, ▶] to select the still picture or folder to be added and then press [ENTER].

Remove:

Remove the selected items.

Press [◀, ▶] to select “Yes” and then press [ENTER].

You can also delete multiple items (→ above, Multiple editing).

To cancel all registered copying settings and lists

After performing steps 1 to 3 (→ 66)

1 Press [▲, ▼] to select “Cancel All” and then press [ENTER].

2 Press [◀, ▶] to select “Yes” and then 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

(→ 93, Structure of folders displayed by this unit)

1 Press [▲, ▼, ◀, ▶] to select “Folder” and then press [ENTER].

If you want to switch to another higher folder (→ below)

2 Press [▲, ▼] to select the folder and then 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]

- The 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)

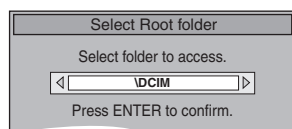
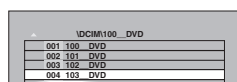
While the screen on the right appears

① Press [SUB MENU] and then press [ENTER].

② Press [◀, ▶] to select the higher folder and then press [ENTER].

You cannot register a folder with a different higher folder to the same list.

③ Press [▲, ▼] to select the desired folder and then press [ENTER].

**Copying all the still pictures on a card—
Copy all Pictures**

SD → HDD RAM

Preparation

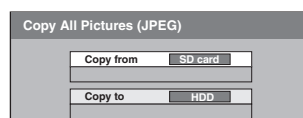
Press [DRIVE SELECT] to select the SD drive.

1 While stopped

Press [FUNCTIONS].

2 Press [▲, ▼] to select “Other Functions” and then press [ENTER].

3 Press [▲, ▼] to select “Copy all Pictures” and then press [ENTER].



4 Press [▲, ▼] to select “Copy to” and then press [◀, ▶] to select the drive.

5 Press [▲, ▼, ◀, ▶] to select “Copy” and then press [ENTER].

To stop copying

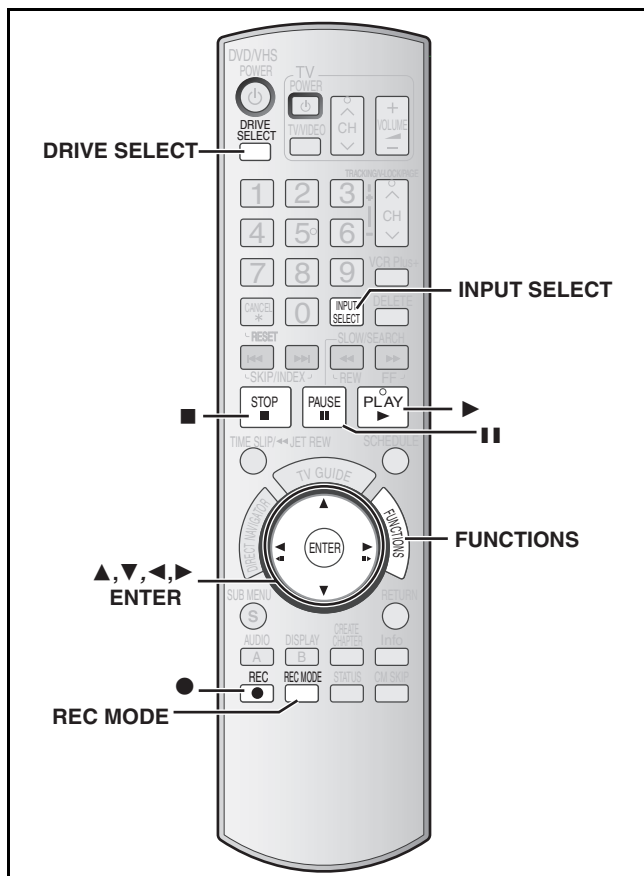
Press and hold [RETURN] for 3 seconds.

To return to the previous screen

Press [RETURN].

Note

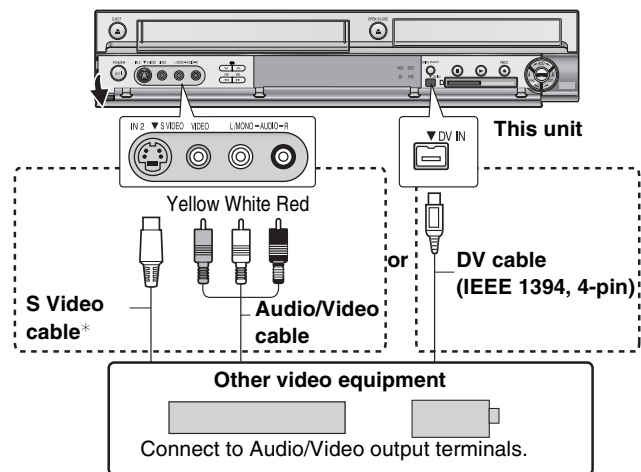
- When copying the still pictures on an album by folder basis (→ 66) or card by card basis (→ above, Copy all Pictures), files other than the still picture files inside the folder will also be copied. (This does not apply to the lower folders contained inside the folders.)
- If still pictures are already 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 (→ 8), 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 (→ 55, 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.



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 (→ 76).

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:

- If copying to the **HDD RAM**:
Set "Recording for High-Speed Copying" to "Off" and you can copy in 16:9 aspect titles.
- If copying to **-R -RW(V) +R +RW**:
Regardless of the "Recording for High-Speed Copying" 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 VHS

Preparation

- Connect a video cassette recorder to this unit's input terminals.
- Press [DRIVE SELECT] to select the recording drive (HDD, DVD or VHS).
- Press [REC MODE] to select the recording mode.

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".

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

2 Start play on the other equipment.

3 When you want to start recording

Press [●, REC].

Recording starts.

VHS

2 Press [▶, PLAY].

- Start playing the video cassette and find the recording start point.

3 Press [⏸, PAUSE], then press [●, REC].

- Put the unit in recording standby mode.

4 Start play on the external device.

5 Press [⏸, PAUSE] at the point where you want to start recording.

To skip unwanted parts

Press [⏸, PAUSE] to pause recording. (Press again to restart recording.)

To stop recording

Press [■, STOP].

Almost all videos and DVD software on sale have been treated to prevent illegal copying. Any software that has been so treated cannot be recorded using this unit.

- Using Flexible Recording (→ 30), you can save the content of a video cassette (approx. 1 to 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.)

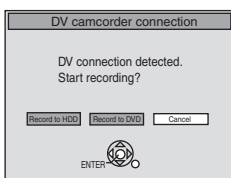
HDD **RAM** **-R** **-RW(V)** **+R** **+RW**

When the "DV Camcorder Rec." function is used, programs are recorded as a title. At the same time chapters are created at each break in the images and the playlist 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 (→ 68).
- ② Turn on the main unit and then 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 then press [ENTER].
- 3 Press [▲, ▼] to select "DV Camcorder Rec." and then press [ENTER].
- 4 Press [◀, ▶] to select "Record" and then press [ENTER].
Recording starts.

When recording finishes

The confirmation screen appears. Press [ENTER] to finish DV camcorder recording.

To stop recording

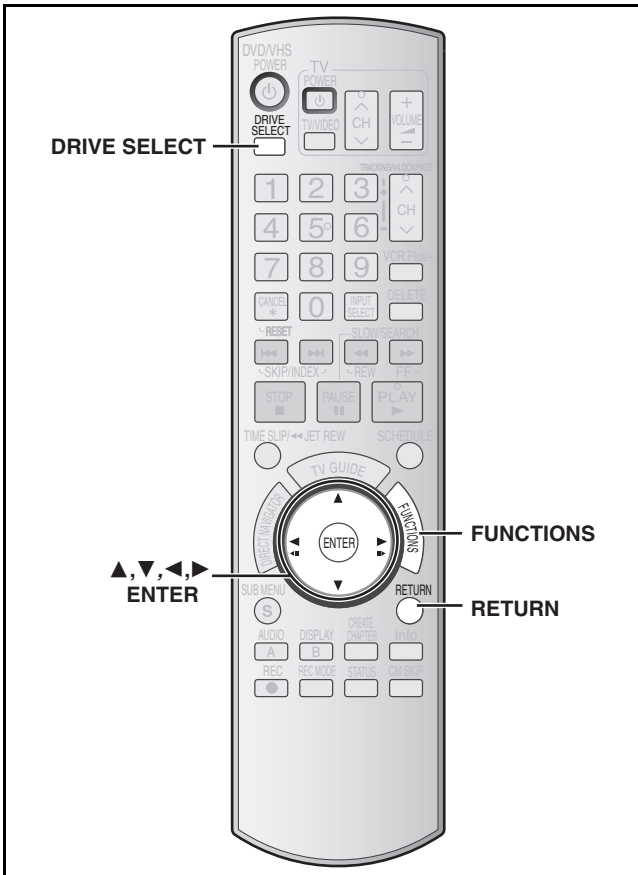
Press [■, STOP].

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 (→ 68, Manual recording).

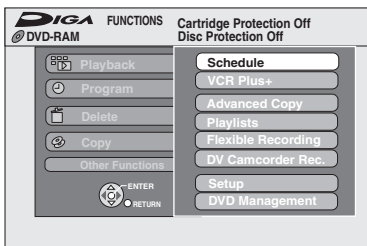


HDD RAM -R -R DL -RW(V) +R +R DL +RW -RW(VR) SD

• You can use SD Memory Cards with capacities from 8 MB to 2 GB (→ 7).

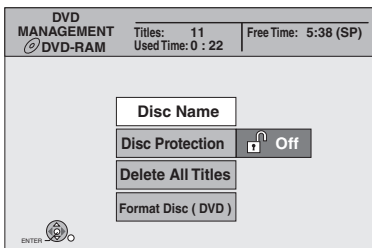
Common procedures

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



- 3 Press [▲, ▼] to select “HDD Management”, “DVD Management” or “Card Management” and then 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

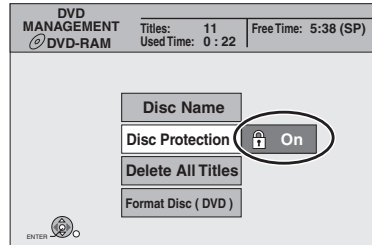
RAM

Preparation

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

After performing steps 1 to 3 (→ left)

- 4 Press [▲, ▼] to select “Disc Protection” and then press [ENTER].
- 5 Press [◀, ▶] to select “Yes” and then 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 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 to 3 (→ left)

- 4 Press [▲, ▼] to select “Disc Name” and then press [ENTER].

→ 73, Entering text

- The disc name is displayed in the DVD MANAGEMENT window.
- **-R -R DL -RW(V) +R +R DL** With a finalized discs 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 drive (HDD or DVD).
- Release protection (→ 70).

After performing steps 1 to 3 (→ 70)

- 4 Press [**▲**, **▼**] to select “Delete All Titles” and then press [ENTER].
- 5 Press [**◀**, **▶**] to select “Yes” and then press [ENTER].
- 6 Press [**◀**, **▶**] to select “Start” and then 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 drive (HDD, DVD or SD).
- Release protection (→ 70).

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 to 3 (→ 70)

- 4 Press [**▲**, **▼**] to select “Format Hard Drive”, “Format Disc (DVD)” or “Format memory card” and then press [ENTER].
 - 5 Press [**◀**, **▶**] to select “Yes” and then press [ENTER].
 - 6 Press [**◀**, **▶**] to select “Start” and then press [ENTER].
A message appears when formatting is finished.
- 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.
- 7 Press [ENTER].

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 70.

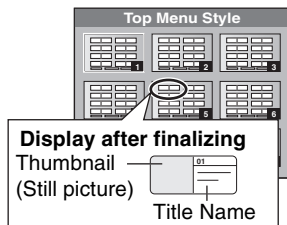
Selecting the background style—Top Menu style

-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 to 3 (→ 70)

- 4 Press [**▲**, **▼**] to select “Top Menu Style” and then press [ENTER].
- 5 Press [**▲**, **▼**, **◀**, **▶**] to select the background and then press [ENTER].



- You can change thumbnails displayed in the top menu. (→ 52, 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 to show the top menu after finalizing.

After performing steps 1 to 3 (→ 70)

- 4 Press [**▲**, **▼**] to select “Playback will start with:” and then press [ENTER].
- 5 Press [**▲**, **▼**] to select “DVD’s Top Menu” or “First Title on DVD” and then 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 to 3 (→ 70)

- 4 Press [**▲**, **▼**] to select “Finalize” and then press [ENTER].
- 5 Press [**◀**, **▶**] to select “Yes” and then press [ENTER].
- 6 Press [**◀**, **▶**] to select “Start” and then 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 (→ 71) 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

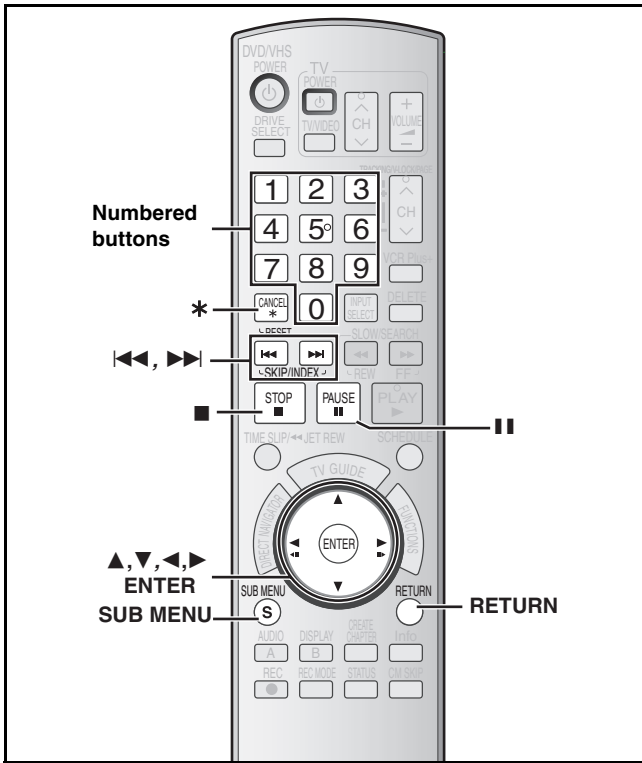
+RW

+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.

After performing steps 1 to 3 (→ 70)

- 4 Press [**▲**, **▼**] to select “Create DVD Top Menu” and then press [ENTER].
- 5 Press [**◀**, **▶**] to select “Yes” and then press [ENTER].
- 6 Press [**◀**, **▶**] to select “Start” and then press [ENTER].
Creating DVD Top Menu starts. You cannot cancel creating. Creating DVD Top Menu can take a few minutes.
- 7 Press [ENTER].

- Recording or editing on the disc may delete the menu. In that case, create the menu again.
- You cannot use the title menu for playing on this unit.



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:

HDD RAM	Characters
Title	64
Playlist	64
Album of still pictures	36
Disc (RAM)	64

-R -R DL -RW(V) +R +R DL +RW	Characters
Title	44
Disc	40

SD	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 51.

Playlist

Select "Playlist Name" in step 5 on page 54.

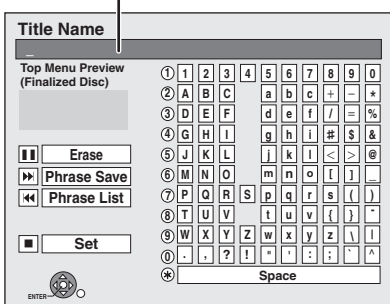
Disc

Select "Disc Name" in step 4 of "Providing a name for a disc—Disc Name" on page 70.

Folder of still pictures

Select "Album Name" in step 4 on page 55, "Editing still pictures".

Name field: shows the text you have entered



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

Repeat this step to enter other characters.

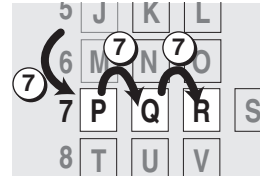
● **To erase a character**

Press [▲, ▼, ◀, ▶] to select the character in the name field and then press [■, PAUSE]. (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 then press [ENTER].

● **Save/recall phrases (→ below)**

3 Press [■, STOP] (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 (step 1 to 2)

- 1 Press [▲, ▼, ◀, ▶] to select "Phrase Save" and then press [ENTER].
 - You can also press [▶▶], SKIP] to select "Phrase Save".
- 2 Press [◀, ▶] to select "Save" and then press [ENTER].
 - Press [RETURN] to cancel.

■ To recall a saved phrase

- 1 Press [▲, ▼, ◀, ▶] to select "Phrase List" and then press [ENTER].
 - You can also press [◀◀], SKIP] to select "Phrase List".
- 2 Press [▲, ▼, ◀, ▶] to select the phrase to be recalled and then press [ENTER].

■ To erase saved phrases

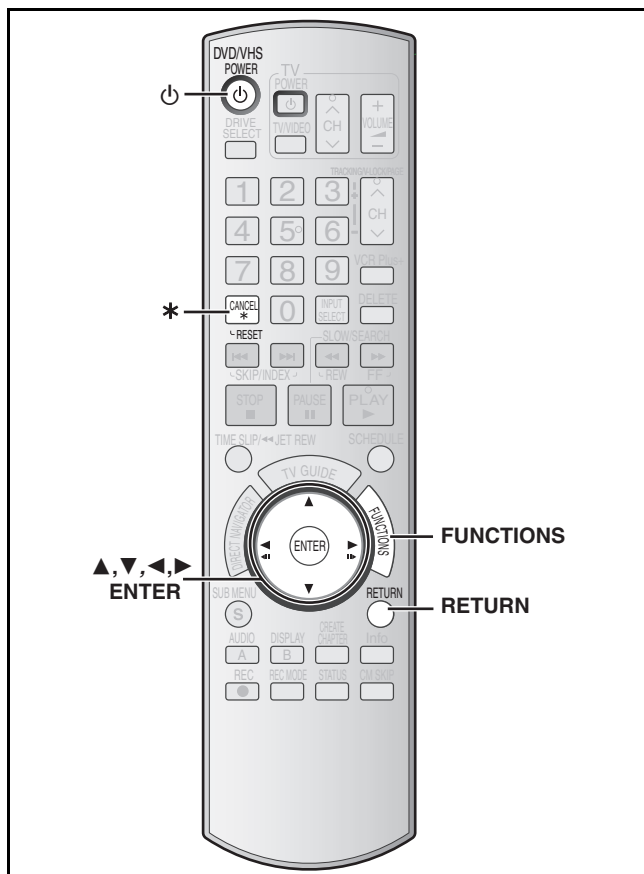
- 1 Press [▲, ▼, ◀, ▶] to select "Phrase List" and then press [ENTER].
 - You can also press [◀◀], SKIP] to select "Phrase List".
- 2 Press [▲, ▼, ◀, ▶] to select the phrase to be erased.
- 3 Press [SUB MENU] to show "Erase Phrase" and then press [ENTER].
- 4 Press [◀, ▶] to select "Erase" and then press [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 (→ 72). When entering a title name, the name that will appear in the TOP MENU can be previewed in "Top Menu Preview (Finalized Disc)" window.

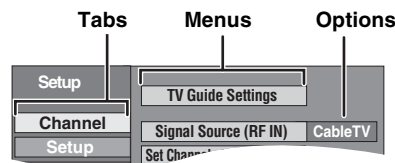


Changing the unit's settings



Common procedures

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



- 4 Press [▲, ▼] to select the tab and then press [▶].
- 5 Press [▲, ▼] to select the menu and then press [ENTER].
- 6 Press [▲, ▼] to select the option and then 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.



Summary of settings

The settings remain intact even if you switch the unit to standby.

Tabs	Menus	Options (Underlined items are the factory presets.)
Channel	TV Guide Settings Set the TV Guide On Screen® system.	
	Signal Source (RF IN)*3 Select to suit the type of antenna you are using.	• Antenna • <u>CableTV</u>
	Set Channels Automatically*1 *2 (→ 79)	—
	Preset Channel Captions*2 *3(→ 80)	—
	Manual Channel Captions*2 *3 (→ 80)	—
	VCR Plus+ Ch. Setting*2 *3 *4	—
Setup	Off Timer Select how long the unit remains on when it is not being used.	• 2 Hours • <u>6 Hours</u> • Off
	Remote Control Code (→ 26)	• <u>Set Code 1</u> • Set Code 2 • Set Code 3
	Clock Settings Press [ENTER] to show the following settings.	
	Set Clock Automatically*1 *2 (→ 79)	
	Set Clock Manually*1 (→ 25)	
	Adjust Time Zone*1 *5 (→ 79)	• -1 • <u>0</u> • +1
DivX Registration Displays the unit's registration code. You need this registration code to purchase and play DivX Video-on-Demand (VOD) content.	—	
Restore Default Settings 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 gray 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 gray and become un-selectable after TV Guide Setup is completed.
- *4 This menu turns gray and become un-selectable if you connect a DISH Network.
- *5 You can set these menus only after “Set Channels Automatically” is completed.

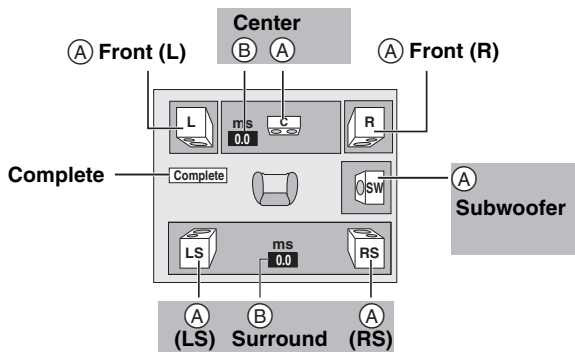
Tabs	Menus	Options (Underlined items are the factory presets.)
Disc	<p>Settings for Playback Press [ENTER] to show the following settings.</p> <hr/> <p>Ratings Set a ratings level to limit DVD-Video play. Follow the on-screen instructions. Enter a 4-digit password with the numbered buttons when the password screen is shown. ● Do not forget your password.</p> <hr/> <p>Play DVD-Audio in Video Mode Select "Video Mode (Video On)" to play DVD-Video content on some DVD-Audio.</p> <hr/> <p>Audio Language Choose the language for audio, subtitle and disc menus. DVD-V ● Some discs start in a certain language despite any changes you make here.</p> <hr/> <p>Subtitle Language ● Enter a code (→ 94) with the numbered buttons when you select "Other ****".</p> <hr/> <p>Menu Language 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 (→ 41).</p>	<ul style="list-style-type: none"> ● <u>8 No Limit</u>: All DVD-Video can be played. ● <u>1 to 7</u>: Prohibits play of DVD-Video with corresponding ratings recorded on them. ● <u>0 Lock All</u>: Prohibits play of all DVD-Video. <hr/> <ul style="list-style-type: none"> ● <u>Unlock Recorder</u> ● <u>Change Level</u> ● <u>Change Password</u> ● <u>Temporary Unlock</u> <hr/> <ul style="list-style-type: none"> ● <u>Video Mode (Video On)</u>: The setting returns to "Audio Mode (Video Off)" when you change the disc or turn the unit off. ● <u>Audio Mode (Video Off)</u> <hr/> <ul style="list-style-type: none"> ● <u>English</u> ● <u>French</u> ● <u>Spanish</u> ● <u>Original</u>: The original language of each disc will be selected. ● <u>Other ****</u> <hr/> <ul style="list-style-type: none"> ● <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. <hr/> <ul style="list-style-type: none"> ● <u>English</u> ● <u>French</u> ● <u>Spanish</u> ● <u>Other ****</u> ● <u>English</u> ● <u>French</u> ● <u>Spanish</u> ● <u>Other ****</u>
	<p>Settings for Recording Press [ENTER] to show the following settings.</p> <hr/> <p>Recording Time in EP Mode Select the maximum number of hours for recording in EP mode (→ 28, Recording modes and approximate recording times).</p> <hr/> <p>Recording for High-Speed Copying 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 the aspect ratio and secondary audio of the recorded titles are restricted. There are no restrictions when "Off" is selected, but you can no longer high-speed copy to DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL and +RW.</p> <hr/> <p>Rapidity of High-Speed copying Select the speed of high-speed copying (When using high-speed copy compatible DVD-RAM 5X, DVD-R, +R 8X or +RW 4X discs).</p>	<ul style="list-style-type: none"> ● <u>EP-Extended Play (6H)</u>: You can record for 6 hours on an unused 4.7 GB disc. ● <u>EP-Extended Play (8H)</u>: You can record for 8 hours on an unused 4.7 GB disc. <p>The sound quality is better when using "EP-Extended Play (6H)" than when using "EP-Extended Play (8H)".</p> <hr/> <ul style="list-style-type: none"> ● <u>On</u>: You can high-speed copy to DVD-R, etc. Press [◀, ▶] to select "Yes". ● The following restrictions are applied to recorded titles. <ul style="list-style-type: none"> - Pictures are saved in 4:3. - Select the type of audio in advance from "Multi-channel TV Sound (MTS)" (→ 76). - 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.). ● <u>Off</u> <hr/> <ul style="list-style-type: none"> ● <u>Top speed mode</u> ● <u>Silent mode</u> When copying, the operation sound will become quieter. However, the time required for copying will become longer.
Video	<p>Still Mode (paused video) Select the type of picture shown when you pause play (→ 93, Frames and fields).</p> <hr/> <p>Seamless Play Select the play mode between playlist chapter segments and partially deleted titles.</p>	<ul style="list-style-type: none"> ● <u>Automatic</u> ● <u>Field</u>: Select if jittering occurs when "Automatic" is selected. (The picture is coarser.) ● <u>Frame</u>: Select if small text or fine patterns cannot be seen clearly when "Automatic" is selected. (The picture is clearer and finer.) <hr/> <ul style="list-style-type: none"> ● <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. ● <u>Off</u>: The points where chapters in playlists change are played accurately, but the picture may freeze for a moment.
	<p>Black Level Control Select normal, lighter or darker for adjusting the black level control to the desired setting for picture enhancement.</p> <hr/> <p>Input Level Adjusts the black level of the input signal.</p> <hr/> <p>Output Level (Composite/SVideo) Adjusts the black level of the output signal from the VIDEO OUT and S VIDEO OUT terminal.</p> <hr/> <p>Output Level (Component) Adjusts the black level of the output signal from the COMPONENT VIDEO OUT (Y/PB/PR) terminals.</p>	<ul style="list-style-type: none"> ● <u>Lighter</u> ● <u>Darker</u> ● <u>Lighter</u> ● <u>Darker</u> ● <u>Lighter</u> ● <u>Normal</u> ● <u>Darker</u>

Tabs	Menus	Options (Underlined items are the factory presets.)
Audio	Dynamic Range Compression <u>DVD-V</u> (Dolby Digital only) Change the dynamic range for late night viewing.	<ul style="list-style-type: none"> ● On ● <u>Off</u>
	Multi-channel TV Sound (MTS) Select whether to record the main or secondary (SAP) audio type when: <ul style="list-style-type: none"> ● Recording to a DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL and +RW. ● When "Recording for High-Speed Copying" is set to "On". ● Recording or copying sound in LPCM. (→ below, Audio for XP Recording). 	<ul style="list-style-type: none"> ● <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 other equipment.
	Digital Audio Output Change the settings when you have connected equipment through this unit's DIGITAL AUDIO OUT terminal (→ 21). <ul style="list-style-type: none"> ● Press [ENTER] to show the following settings. 	
	PCM Down Conversion Select how to output audio with a sampling frequency of 96 kHz or 88.2 kHz. <ul style="list-style-type: none"> ● 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. 	<ul style="list-style-type: none"> ● <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.)
	Dolby Digital 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. 	<ul style="list-style-type: none"> ● <u>Bitstream</u>: When connecting to equipment displaying the Dolby Digital logo. ● <u>PCM</u>: When connecting to equipment not displaying the Dolby Digital logo.
DTS 	<ul style="list-style-type: none"> ● <u>Bitstream</u>: When connecting to equipment displaying the DTS logo. ● <u>PCM</u>: When connecting to equipment not displaying the DTS logo. 	
Audio for XP Recording Choose the audio type when recording or copying with XP mode.	<ul style="list-style-type: none"> ● <u>Dolby Digital</u> (→ 93) ● <u>LPCM</u> (→ 93) <ul style="list-style-type: none"> - 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). 	
Select Audio Channel for DV Input You can select the kind of audio when recording from the unit's DV terminal (→ 68).	<ul style="list-style-type: none"> ● <u>Stereo 1</u>: Records audio (L1, R1). ● <u>Stereo 2</u>: Records added audio such as narration (L2, R2) subsequent to original recording. ● <u>Mix</u>: Records both Stereo 1 and Stereo 2. <p>-R -RW(V) +R +RW</p> When recording a MTS broadcast, select the type of audio in advance from "Multi-channel TV Sound (MTS)" (→ above).	
Display	Status Messages Choose whether to show status messages automatically.	<ul style="list-style-type: none"> ● <u>Automatic</u> ● Off
	On-screen Language Choose the language for these menus and on-screen messages.	<ul style="list-style-type: none"> ● <u>English</u> ● Español ● Français <ul style="list-style-type: none"> - Only English is displayed in the TV Guide On Screen® system regardless of the settings. Other languages cannot be displayed.
	Blue Background Select "Off" if you do not want to have the unit show the blue background when reception is weak.	<ul style="list-style-type: none"> ● <u>On</u> ● Off
	FL Display Changes the brightness of the unit's display. <ul style="list-style-type: none"> ● The power indicator goes off when you set "FL Display" to "Dim" or Automatic". 	<ul style="list-style-type: none"> ● <u>Bright</u> ● Dim <ul style="list-style-type: none"> ● 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.

Tabs	Menus	Options (Underlined items are the factory presets.)
TV Screen	TV Type (→ 26) Set to match the type of television connected.	4:3 TV ● <u>Aspect 4:3 & 480i</u> ● Aspect 4:3 & 480p 16:9 Aspect (Widescreen TV) ● Aspect 16:9 & 480i ● Aspect 16:9 & 480p
	Functions of HDMI Press [ENTER] to show the following settings.	
	HDMI Video Output	● <u>On</u> : ● Off: When video output from COMPONENT VIDEO OUT terminal.
	HDMI Resolution 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.	● <u>Auto</u> : Automatically selects the output resolution best suited to the connected television (1080i, 720p or 480p). ● 480p ● 720p ● 1080i
	HDMI Output Display Aspect Settings used when 4:3 aspect video is output on the television as 16:9 aspect. (Only effective when 720p or 1080i is selected as the output resolution)	● <u>Full</u> : Video output is enlarged to match the screen size. ● <u>Normal</u> : Video is output as 4:3 aspect. Side panels (black bars on the left and right) will appear on the screen.
	HDMI RGB Output Range Effective when connected to a device that only supports RGB output.	● <u>Standard</u> : ● Enhanced: When the black and white images are not distinct.
	HDMI Audio Output	● <u>On</u> : ● Off: Audio is output from an amplifier when using the DIGITAL AUDIO OUTPUT terminal.
	HDMI Connection Speakers Setting You can set the unit to output the best possible sound for your speakers.	● <u>Auto</u> : When using the speaker settings of the connected equipment ● Multi Channel: When using three or more speakers with equipment that cannot set the speaker settings ● 2 Channel: When using two speakers
	Multi Channel Setting (→ 78) Displayed when "Multi-channel" is selected in "HDMI Connection Speakers Setting"	You can adjust the settings for speaker size, presence and audio-delay.
	Ctrl with HDMI	● <u>On</u> : When "On" is selected, you can operate other "Ctrl with HDMI" compatible devices using the "Ctrl with HDMI". ● Off:
4:3 TV Settings for DVD-Video Select how a DVD-Video widescreen picture is shown on a 4:3 standard aspect television.	● <u>Pan and Scan (Stretch to fit)</u> : Video recorded for a widescreen is played as Pan & Scan (unless prohibited by the producer of the disc). ● Letterbox (Shrink to fit): Video recorded for a widescreen is played in the letterbox style.	
4:3 TV Settings for DVD-RAM Select how a DVD-RAM widescreen picture is shown on a 4:3 standard aspect television.	● 4:3 Aspect: Titles played as recorded. ● Pan and Scan (Stretch to fit): Video recorded for a widescreen is played as Pan & Scan. ● <u>Letterbox (Shrink to fit)</u> : Video recorded for a widescreen is played in the letterbox style.	
VHS	Select Tape Length Set the length of tape you are using so the unit can show the correct remaining time.	● <u>T120</u> : T30, T60, T90 and T120 tapes ● T160: T140 and T160 tapes ● T180: T180 tapes
	Jet Search Set the speed for Jet Search when playing EP and VP tapes. ● It is possible to view the picture recorded in EP or VP mode at approx. 27 or 35 times speed.	● X27 ● <u>X35</u> - Select [X27] if the picture is poor at [X35].

Changing the speaker setting to suit your speaker

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.



Speaker presence and size (A)

1 Press [▲, ▼, ◀, ▶] to select the speaker icon (A) and then press [ENTER].

2 Press [▲, ▼] to select the setting and then 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.

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.)

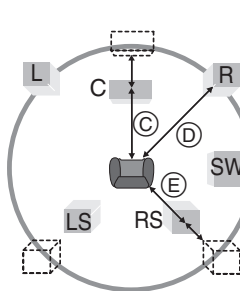
Delay time (B)

(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 speaker icon (B) and then press [ENTER].

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



(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

Channel/Clock settings when TV Guide On Screen® system is not used

Refer to the control reference on page 74.

Preparation:

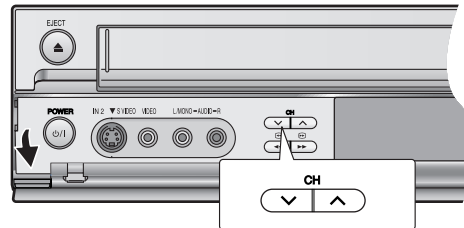
If the program listings has already been downloaded, return the unit to the factory preset condition using the steps indicated below.

When the unit is on and stopped

- ① Press and hold [CH, v] and [CH, ^] on the main unit for about 5 seconds.
The unit turns off.
- ② Press [⏻, DVD/VHS POWER] to turn the unit on.
- ③ After the language and TV aspect is setup, press [RETURN] and exit the TV Guide On Screen® system setup screen.

Note

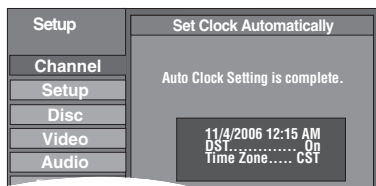
You can set scheduled recording only manually after you set the unit with "Set Channels Automatically".



Auto channel/clock settings

- 1 While stopped
Press [FUNCTIONS].
- 2 Press [▲, ▼] to select "Other Functions" and then press [ENTER].
- 3 Press [▲, ▼] to select "Setup" and then press [ENTER].
- 4 Press [▲, ▼] to select "Channel" and then press [▶].
- 5 Press [▲, ▼] to select "Set Channels Automatically" and then 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.
- 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 manual clock setting (→ 25) or adjust time zone.

- 7 Press [ENTER].

- Regarding DST (Daylight Saving Time) → 25

- The unit configures channels according to the Signal Source (RF IN) settings as follows.

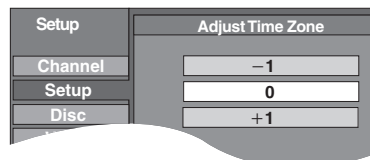
Signal Source (RF IN)	Band	Channel
Antenna	VHF	2 to 13
	UHF	14 to 69
CableTV	VHF	2 to 13
	CATV LOW BAND	95 to 99
	CATV MID/SUPER BAND	14 to 36
	CATV HYPER BAND	37 to 65
	ULTRA BAND	66 to 94 100 to 125
	SPECIAL CATV CHANNEL	1

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 then press [ENTER].
- 3 Press [▲, ▼] to select "Setup" and then press [ENTER].
- 4 Press [▲, ▼] to select "Setup" and then press [▶].
- 5 Press [▲, ▼] to select "Clock Settings" and then press [ENTER].
- 6 Press [▲, ▼] to select "Adjust Time Zone" and then press [ENTER].



- Regarding DST (Daylight Saving Time) → 25

- 7 Press [▲, ▼] to select "-1" or "+1" and then 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

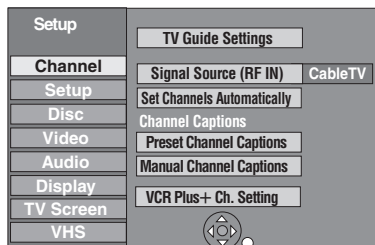
When the power is turned on and the Start setup screen is displayed, press [▲, ▼] to select "Don't remind me again" and press [ENTER].

Refer to the control reference on page 74.

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

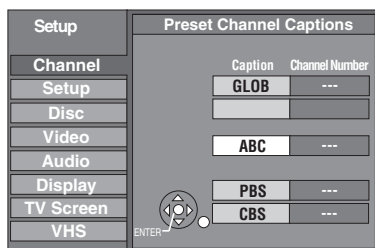


- 4 Press [▲, ▼] to select “Channel” and then press [▶].

▶ Preset Channel Captions

After performing steps 1 to 4 (→ above)

- 5 Press [▲, ▼] to select “Preset Channel Captions” and then press [ENTER].



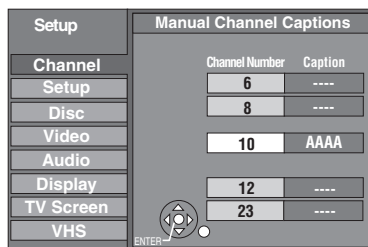
- 6 Press [▲, ▼] to select the caption and then press [▶].
You can choose from the following captions.
ABC, PBS, CBS, CNN, FOX, ESPN, NBC, HBO, A&E, AMC, FAM, MAX, MTV, SHOW, TBS, USA, TNT, CBC, UPN, CTV, WB, TSN, DSC, GLOB
 - When selecting the caption, press and hold [▲, ▼] to scroll up and down the screen.
- 7 Press [▲, ▼] to select the channel corresponding to the caption and then 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 to 4 (→ left)

- 5 Press [▲, ▼] to select “Manual Channel Captions” and then press [ENTER].
- 6 Press [▲, ▼] to select the channel and then 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 then 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.



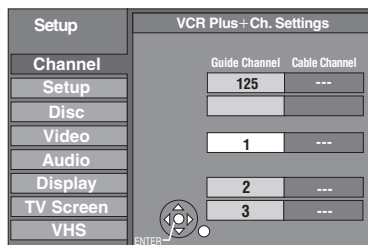
- 8 Press [◀, ▶] to return to the “Channel Number” column.
Repeat steps 6 to 8 to enter other channels.
- 9 Press [ENTER].

VCR Plus+ Channel Setting

Set these guide channels so you can use the VCR Plus+ programming number for timer recording. Before setting up, refer to a TV magazine for lists containing information channels, station names, and guide channels.

After performing steps 1 to 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
What equipment is necessary to play multi channel surround sound?	<ul style="list-style-type: none"> You cannot playback multi-channel sound on this unit without other equipment. You must connect this unit with a HDMI cable or an optical digital cable to an amplifier with a built-in (Dolby Digital or DTS) decoder. An amplifier supporting CPPM and the HDMI standard version 1.1 must be connected to this unit to play multi-channel audio on a DVD-Audio. 	21, 22 —
Are the headphones and speakers directly connected to the unit?	<ul style="list-style-type: none"> You cannot directly connect them to the unit. Connect through the amplifier, etc. 	21
Is my television progressive output compatible?	<ul style="list-style-type: none"> All Panasonic televisions that have 480p input terminals are compatible. Consult the manufacturer if you have another brand of television. 	—
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"> The quality of the output picture becomes finer in the following order. <ul style="list-style-type: none"> VIDEO IN terminal, S VIDEO IN terminal, COMPONENT VIDEO IN terminals and HDMI IN terminal. However it will take longer to startup when this unit is connected with the HDMI IN terminal. 	—

Disc		
Can I play DVD-R, DVD-R DL, DVDRW (DVD-Video format), +R, +R DL and +RW recorded with this unit with other equipment?	<ul style="list-style-type: none"> 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 enable play on other players, please use "Create DVD Top Menu" in the DVD Management. If you play a DVD-R DL or +R DL are compatible equipment. 	72 —
Can I play DVD-Video, DVD-Audio and Video CDs bought in another country?	<ul style="list-style-type: none"> You can play them if the video standard is NTSC. 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. 	— Cover
Can a DVD-Video that does not have a region number be played?	<ul style="list-style-type: none"> 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. 	—
Please tell me about disc compatibility with this unit.	<ul style="list-style-type: none"> 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 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. This unit also records and plays high-speed recording compatible DVD-R, DVD-R DL, DVD-RW, +R, +R DL and +RW discs. 	5-7 —
Please tell me about CD-R and CD-RW compatibility with this unit.	<ul style="list-style-type: none"> 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. You cannot write to a CD-R or CD-RW with this unit. 	8 —


Recording		
Can I record from a commercially purchased video cassette or DVD?	<ul style="list-style-type: none"> Most commercially sold video cassettes and DVD are copy protected; therefore, recording is usually not possible. 	—
Can I record digital audio signals using this unit?	<ul style="list-style-type: none"> 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.) 	—
Can a digital audio signal from this unit be recorded to other equipment?	<ul style="list-style-type: none"> You can record if using the PCM signal. When recording DVD, change the "Digital Audio Output" settings to the following from the Setup menu. <ul style="list-style-type: none"> PCM Down Conversion On Dolby Digital PCM DTS PCM However, only <ul style="list-style-type: none"> 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. You cannot record MP3 signals. 	76 —
Can I switch to SAP during recording?	<ul style="list-style-type: none"> With HDD and DVD-RAM, you can, and the audio recorded also changes. Just press [AUDIO]. 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. 	30 76
Can I high-speed copy to a disc?	<ul style="list-style-type: none"> Yes, you can. Depending on the disc type, the maximum speed varies. Refer to the table (Approximate copying times). 	57

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"> • Yes. The TV Guide On Screen® system works with both analog and digital cable boxes. • If you are using a satellite service other than DirecTV, you cannot use the TV Guide On Screen® system. 	— —
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"> • 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. 	38, 74
Please tell me about the downloading of program listings data.	<ul style="list-style-type: none"> • Channel line-up data is transmitted continuously, 24 hours a day 7 days a week. • 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. 	— —
Why doesn't my favorite program have more information in the information window or expanded information window?	<ul style="list-style-type: none"> • 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. 	38
Can I record one channel while watching another?	<p>If you connect an antenna or cable ready</p> <ul style="list-style-type: none"> • Yes. Change the television's input mode to “TV”. <p>If you connect a cable box or a satellite receiver</p> <ul style="list-style-type: none"> • No. The user cannot watch one program and record another. 	— —
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"> • 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. 	34
I do not want to use TV Guide On Screen® system.	<ul style="list-style-type: none"> • 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”. 	79

Messages

Messages including the following passages are displayed on screen.


On the television

		Page
Authorization Error This unit is not authorized to play this titles.	<ul style="list-style-type: none"> 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. 	—
Cannot finish recording completely.	<ul style="list-style-type: none"> The program was copy-protected. The HDD or disc may be full. The maximum number of times you can record the program is exceeded. 	— — —
Cannot play.	<ul style="list-style-type: none"> You inserted an incompatible disc (Discs recorded in PAL video, etc.). 	—
Cannot record on the disc.	<ul style="list-style-type: none"> The disc may be dirty or scratched. 	11
Unable to format.		
Cannot display on this unit.	<ul style="list-style-type: none"> You tried to play a non-compatible image. Turn the unit off and re-insert the card. 	8 12
Cannot record. Disc is full.	<ul style="list-style-type: none"> HDD RAM SD Create space by deleting any unnecessary titles. [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 disc space on DVD-RW (DVD-Video format) or +RW increases only when the last recorded title is deleted.] Use a new disc. 	47, 52, 71
Cannot record. The number of titles has exceeded the maximum limit.		—
No disc	<ul style="list-style-type: none"> The disc may be upside down. 	—
No folders.	<ul style="list-style-type: none"> There is no compatible folder in this unit. 	93
No SD Card No valid SD card.	<ul style="list-style-type: none"> 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. The card inserted is not compatible or the card format does not match. 	12 7
There is not enough free space on the copying destination.	<ul style="list-style-type: none"> Create space by deleting any unnecessary items. Delete one or more items registered on the copy list to ensure that the "Total list size" is not exceeded. 	47, 52, 55, 71 63, 67
Please change the disc.	<ul style="list-style-type: none"> There may be a problem with the disc. Press [▲, OPEN/CLOSE] on the main unit to remove it and check it for scratches or dirt. (The unit turns off automatically after you open the tray.) 	11
This is a non-recordable disc.	<ul style="list-style-type: none"> The unit cannot record on the disc you inserted. Insert a DVD-RAM or unfinalized DVD-R, DVD-RW (DVD-Video format) or +R. You cannot directly 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. You inserted an unformatted DVD-RAM, DVD-RW +R, +R DL or +RW. 	5-7 —
This disc is not formatted properly.		71
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.	<ul style="list-style-type: none"> -R DL +R DL 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. 	—
Rental Expired.	<ul style="list-style-type: none"> The DivX VOD content has zero remaining plays. You cannot play it. 	—
	<ul style="list-style-type: none"> The operation is prohibited by the unit or disc. 	—
No VHS cassette.	<ul style="list-style-type: none"> A video cassette is not inserted when recording programs. Insert a video cassette with an accidental erasure prevention tab. 	11, 12
Please check write protect tab on the VHS cassette.	<ul style="list-style-type: none"> A video cassette without the accidental erasure prevention tab is inserted when recording programs. Use a video cassette with an accidental erasure prevention tab. 	12
Now recording on DVD or Hard Drive. To watch the VHS playback, connect a TV to DVD/VHS COMMON OUT terminal at the back of the unit, and select the appropriate input on the TV.	<ul style="list-style-type: none"> The VHS plays back while recording on DVD or HDD. You can watch the VHS playback by connect to the DVD/VHS COMMON terminals. 	20

Continued on next page

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.

HARD ERR*	<ul style="list-style-type: none"> ● If there is no change after turning the unit on and off, consult the dealer where the unit was purchased. 	—
No AUDIO*	<ul style="list-style-type: none"> ● 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) to a HDMI compatible AUDIO IN terminal. 	—
No READ	<ul style="list-style-type: none"> ● The disc is dirty or badly scratched. The unit cannot record, play, or edit. ● You have used a DVD lens cleaner and it has finished. Press [▲, OPEN/CLOSE] on the main unit to eject the disc. 	11 11
PLEASE WAIT*	<ul style="list-style-type: none"> ● Displayed when the unit is started. This is not a malfunction. ● The unit is carrying out its recovery process. You cannot operate the unit while "PLEASE WAIT" is displayed. 	— —
SET □ (“□” stands for a number.)	<ul style="list-style-type: none"> ● The remote control and main unit are using different codes. Change the code on the remote control.  <p>Press and hold [ENTER] and the indicated number button at the same time for more than 2 seconds.</p>	26
SLEEP	<ul style="list-style-type: none"> ● In order to extend HDD life, the HDD is in SLEEP mode. 	10
SP 15:50 EP 120 h “SP”, “EP” and the numbers are examples.	<ul style="list-style-type: none"> ● Available space on the HDD or disc. The example “SP 15:50” is displayed when less than 100 hours are available and the example “EP 120h” is displayed when over 100 hours are available. “SP” and “EP” are recording modes, “15:50” means “15 hours 50 minutes” and “120h” means “120 hours”. 	29
UNFORMAT*	<ul style="list-style-type: none"> ● 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. 	—
UNSUPPORT*	<ul style="list-style-type: none"> ● You have inserted a disc the unit cannot play or record on. 	5-7
F74	<ul style="list-style-type: none"> ● The HDMI connection could not be authenticated due to a transfer malfunction. 	—
F75	<ul style="list-style-type: none"> ● The HDMI connection could not be authenticated due to an internal data malfunction. 	—
U59	<ul style="list-style-type: none"> ● 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. 	—
U61	<ul style="list-style-type: none"> ● (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. 	—
U71	<ul style="list-style-type: none"> ● The connected equipment is not HDMI compatible. 	—
U72 U73	<ul style="list-style-type: none"> ● The HDMI connection acts unusually. <ul style="list-style-type: none"> - The connected equipment is not HDMI compatible. - The HDMI cable is too long. Please use a cable 5.0 meters or less. - The HDMI cable is damaged. 	—
U88	<ul style="list-style-type: none"> ● (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. 	85
U99	<ul style="list-style-type: none"> ● The unit fails to operate properly. Press [POWER ⏻/⏻] on the main unit to switch the unit to standby. Now press [POWER ⏻/⏻] on the main unit again to turn the unit on. 	—
H□□ or F□□ (“□” stands for a number.)	<ul style="list-style-type: none"> ● There is something unusual. (The service number displayed after “H” or “F” depends on the unit's condition.) ● Check the unit using the troubleshooting guide. If the service number does not disappear, do the following. <ol style="list-style-type: none"> 1 Disconnect the plug from the AC outlet, wait a few seconds, then reconnect it. 2 Press [POWER ⏻/⏻] 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. 	— 85-91

* 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 95.

The following do not indicate a problem with this unit:

<ul style="list-style-type: none"> ● 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. 	<ul style="list-style-type: none"> ● 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 (→ 10), 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
To return the channel settings and clock to the factory preset (No setting)	● Press and hold [CH, ▲] and [CH, ▼] on the main unit for about 5 seconds. (Current channel line-up and program listings are cleared.)	—
To return all the settings other than the main ones to the factory preset	● 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.	74
To reset the ratings level settings	● While the disc tray is open, press [DRIVE SELECT] to select the DVD drive then press and hold [●, REC] and [▶] on the main unit at the same time for 5 or more seconds.	—
To restore the unit if it freezes due to one of the safety devices being activated	● Press and hold [POWER ⏻/⏻] on the main unit for 10 seconds. (The settings remain.)	—

Power

No power.	● Insert the AC power supply cord securely into a known active AC outlet.	16–18
The unit switches to standby mode.	<ul style="list-style-type: none"> ● 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. 	74 —

Displays

The display is dim.	● Change "FL Display" in the Setup menu.	76
"12:00A" is flashing on the unit's display.	<ul style="list-style-type: none"> ● After setting the TV Guide On Screen® system, wait until the clock is downloaded. (The flashing "12:00A" will change to the current time.) ● If the unit's display does not change to the current time even after waiting, we recommend that you set the clock using "Set Clock Manually". ● If you do not want to use the TV Guide On Screen® system, set the clock with "Set Clock Automatically". 	— 25 79
Compared to the actual recorded time, the elapsed time displayed is less.	● 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.	—
The time recorded on the disc and the available time shown do not add up.	● Times shown may disagree with actual times.	—
The play time shown for MP3 does not agree with the actual time.	<ul style="list-style-type: none"> ● 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. 	— — — —
"U61" or "U88" is displayed and the disc cannot be ejected.	<ul style="list-style-type: none"> ● The unit is carrying out the recovery process. Do the following to eject the disc. <ol style="list-style-type: none"> 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. 	—

Continued on next page


TV screen and video

<p>The images from this unit do not appear on the television.</p>	<ul style="list-style-type: none"> ● 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. 	<p>16–21</p>
<p>Picture is distorted.</p>	<ul style="list-style-type: none"> ● 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 [▶] on the main unit at the same time for more than 5 seconds to cancel this setting. The setting will change to interlace. 	<p>— —</p>
<p></p>	<ul style="list-style-type: none"> ● 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. 	<p>77</p>
<p></p>	<ul style="list-style-type: none"> ● To output video from a device connected with an HDMI cable, set "HDMI Video Output" to "On" 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. 	<p>77 —</p>
<p>Television reception worsens after connecting the unit.</p>	<ul style="list-style-type: none"> ● 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. 	<p>—</p>
<p>Status messages do not appear.</p>	<ul style="list-style-type: none"> ● Select "Automatic" in "Status Messages" in the Setup menu. 	<p>76</p>
<p>The blue background does not appear.</p>	<ul style="list-style-type: none"> ● Select "On" in "Blue Background" in the Setup menu. 	<p>76</p>
<p>The 4:3 aspect ratio picture expands left and right.</p>	<ul style="list-style-type: none"> ● Use the television to change the aspect. Refer to your television's operating instructions. ● 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 & 480i" in the Setup menu. 	<p>— 47, 77</p>
<p>Screen size is wrong.</p>	<ul style="list-style-type: none"> ● 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. ● If you connect an HDMI cable, set "HDMI Output Display Aspect" to "Normal" in the Setup menu. 	<p>77 77</p>
<p>The recorded title is stretched vertically.</p>	<ul style="list-style-type: none"> ● 16:9 aspect programs are recorded in 4:3 aspect in the following cases. <ul style="list-style-type: none"> - If you recorded to the HDD or a DVD-RAM and "Recording for High-Speed Copying" was set to "On" in the Setup menu. (The factory preset is "On") - If you recorded to a DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL or +RW. <p>It may be possible to adjust the display mode on the TV. Refer to your television's operating instructions.</p>	<p>75 —</p>
<p>There is a lot of after-image when playing video.</p>	<ul style="list-style-type: none"> ● Turn "DNR" off if it is on. 	<p>47</p>
<p>When playing DVD-Video using progressive output, one part of the picture momentarily appears to be doubled up.</p>	<ul style="list-style-type: none"> ● 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. ● When you use the HDMI AV OUT terminal for video output, follow the steps below for setting. <ol style="list-style-type: none"> 1 Connect this unit to the TV with any cable except the HDMI cable 2 Set "HDMI Video Output" to "Off" in the Setup menu 	<p>47 — 77</p>
<p>There is no apparent change in picture quality when adjusted with the Video menu in the on-screen menus.</p>	<ul style="list-style-type: none"> ● The effect is less perceivable with some types of video. 	<p>—</p>
<p>The channels keep changing.</p>	<ul style="list-style-type: none"> ● 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. 	<p>—</p>

Sound

<p>No sound. Low volume. Distorted sound. Cannot hear the desired audio type.</p>	<ul style="list-style-type: none"> ● Check the connections and the “Digital Audio Output” settings. Check the input mode on the amplifier if you have connected one. ● Press [AUDIO] to select the audio. ● Turn off V. Surround Sound in the following cases. <ul style="list-style-type: none"> - When using discs that do not have surround sound effects such as Karaoke discs. - When playing MTS broadcast programs. ● DVD-A 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 a HDMI cable to an amplifier supporting CPPM and the HDMI standard version 1.1. Refer to the disc jacket for more information. ● Audio may not be output due to how files were created. (DivX) ● Audio may not be heard when more than 4 devices are connected with HDMI cables. Reduce the number of connected devices. ● The sound effects will not work when the bitstream signal is output from the HDMI AV OUT terminal or the OPTICAL DIGITAL AUDIO OUT terminal. ● To output audio from a device connected with an HDMI cable, set “HDMI Audio Output” to “On” in the Setup menu. ● 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. ● Depending on the connected equipment, the sound may be distorted if this unit is connected with an HDMI cable. ● When recording with “Recording for High-Speed Copying” set to “On”, only the “Main” or “SAP” audio can be recorded. If you copy discs other than DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL or +RW set this to “Off” in the Setup menu. 	<p>16–21, 76</p> <p>30, 42 47</p> <p>—</p> <p>—</p> <p>—</p> <p>77</p> <p>77</p> <p>—</p> <p>75</p>
<p>Cannot switch audio.</p>	<ul style="list-style-type: none"> ● You cannot switch the audio in the following cases. <ul style="list-style-type: none"> - 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”. - When “Recording for High-Speed Copying” is set to “On”. (The default setting is “On”.) ● 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. ● There are discs for which audio cannot be changed because of how the disc was created. 	<p>—</p> <p>76</p> <p>75</p> <p>21, 22, 76</p> <p>—</p>

Operation

<p>Cannot operate the television. The remote control doesn't work.</p>	<ul style="list-style-type: none"> ● Change the manufacturer code. Some televisions cannot be operated even if you change the code. ● The remote control and main unit are using different codes. Change the code on the remote control. <div style="text-align: center; margin: 10px 0;">  <p>Press and hold [ENTER] and the indicated number button at the same time for more than 2 seconds.</p> </div> <ul style="list-style-type: none"> ● The batteries are depleted. Replace them with new ones. ● You are not pointing the remote control at the main unit's remote control signal sensor during operation. ● Colored glass may obstruct the signal reception/transmission. ● Don't place the signal sensor in direct sunlight or in areas that may be subject to sunlight exposure. ● It may be necessary to set the code on the remote control again after changing the batteries. ● It may be necessary to set the manufacturer code again after changing the batteries. 	<p>26</p> <p>26</p> <p>13</p> <p>—</p> <p>—</p> <p>26</p> <p>26</p>
<p>The unit is on but cannot be operated.</p>	<ul style="list-style-type: none"> ● Recording drive or playback drive has not been selected properly. ● Some operations may be prohibited by the disc. ● The unit is hot (“U59” appears on the display). Wait for “U59” to disappear. ● One of the unit's safety devices may have been activated. Reset the unit as follows: <ol style="list-style-type: none"> 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. Alternatively, disconnect the AC power supply cord, wait one minute, then reconnect it. 2 Press [POWER ⏻/⏻] on the main unit to switch it on. If the unit still cannot be operated, consult the dealer. 	<p>14, 29, 40</p> <p>—</p> <p>—</p> <p>—</p>
<p>HDD activation is slow.</p>	<ul style="list-style-type: none"> ● The HDD is in SLEEP mode. (“SLEEP” appears in the unit's display.) 	<p>10</p>
<p>Cannot eject disc.</p>	<ul style="list-style-type: none"> ● The unit is recording. ● 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. 	<p>—</p> <p>—</p>
<p>Startup is slow. When the unit is turned on, audio and video output takes a long time.</p>	<ul style="list-style-type: none"> ● Startup takes time in the following situations. <ul style="list-style-type: none"> - A disc other than a DVD-RAM is inserted. - The clock is not set. - Immediately after a power failure or the AC power supply cord is connected. - When the unit is connected with an HDMI cable. 	<p>—</p>
<p>Takes time to read DVD-RAM.</p>	<ul style="list-style-type: none"> ● 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. 	<p>—</p>

Continued on next page

Recording/Scheduled recording/Copying

<p>Cannot record. Cannot copy.</p>	<ul style="list-style-type: none"> ● You haven't inserted a disc or the disc you inserted cannot be recorded on. Insert a disc the unit can record onto. ● The disc is unformatted. Format the disc using DVD Management. RAM -RW(V) +RW +R +R DL ● The write-protect tab on the cartridge is set to PROTECT, or the disc is protected with DVD Management. ● Some programs have limitations on the number of times they can be recorded. (CPRM) ● 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. ● You cannot record directly 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. ● -R DL +R DL In the following situations, you cannot copy. Delete unnecessary titles from the HDD and then copy. <ul style="list-style-type: none"> - 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). - If the total number of titles recorded on the HDD or titles to be copied exceed 500: ● You cannot record and copy on finalized discs. However you can record and copy again if you format DVD-RW and +RW disc. ● 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. ● 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. ● 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. 	<p>5-7 71 70 93 47, 52, 71 — 47, 51 — — — —</p>
<p>Cannot record from external equipment.</p>	<ul style="list-style-type: none"> ● Check that the connection is correct. ● Select the input channel ("IN1", "IN2", "IN3" or "DV") for the equipment you have connected . 	<p>16-18, 68 —</p>
<p>Scheduled recording does not work properly. VCR Plus+ system does not work properly.</p>	<ul style="list-style-type: none"> ● The scheduled program is incorrect or different scheduled program times overlap. Correct the program. ● The scheduled program may be deleted if there is an interruption to the power. ● VCR Plus+ system works properly only if you connect antenna or cable ready. ● If you connect a DISH Network, VCR Plus+ system does not work properly. 	<p>34 — — —</p>
<p>Scheduled recording does not stop even when [■, STOP] is pressed.</p>	<ol style="list-style-type: none"> 1 Press [DRIVE SELECT] to select the recording drive. 2 Press [■, STOP] then press [◀, ▶] to select "Stop recording" and then press [ENTER]. Recording stops. 	<p>—</p>
<p>The scheduled program remains even after recording finishes.</p>	<ul style="list-style-type: none"> ● The scheduled program remains unless set to "Once". 	<p>32, 33</p>
<p>A part or whole of a recorded title has been lost.</p>	<ul style="list-style-type: none"> ● 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 (HDD RAM -RW(V) +RW) or use a new disc. We cannot offer any guarantee regarding lost titles or discs. 	<p>71</p>
<p>The program name and the recorded title do not match.</p>	<ul style="list-style-type: none"> ● There was a program change after scheduled recording was set but the recorded title still has the old program name. 	<p>—</p>
<p>Cannot copy to a DVD-R, etc. disc using the high-speed mode.</p>	<ul style="list-style-type: none"> ● If "Recording for High-Speed Copying" set to "Off" in the Setup menu before recording to the HDD, then high-speed copy cannot be performed (The default setting is "On"). ● +R +R DL +RW If recorded in FR mode (recordings 5 hours or longer) or EP mode, you cannot perform high-speed copy. ● +R +R DL +RW Titles recorded with other Panasonic DVD recorders "Recording for High-Speed Copying" set to "On", and then copied to the HDD on this unit may not copy to +R, +R DL or +RW discs with high-speed copy. 	<p>75 — 75</p>
<p>When copying, it takes a long time even when high-speed mode is selected.</p>	<ul style="list-style-type: none"> ● 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. ● It takes longer than normal to copy many titles. ● 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. 	<p>— — —</p>
<p>An unusually loud sound is coming from the rotating DVD-R, etc.</p>	<ul style="list-style-type: none"> ● 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. 	<p>—</p>
<p>The DV camcorder recording function does not work.</p>	<ul style="list-style-type: none"> ● If images cannot be recorded or if the recording is aborted, check the connections and DV equipment settings. ● You cannot start recording until the images from the DV equipment appear on the television. ● Recording may not be performed as desired if the time codes on the tape in the DV equipment are not successive. ● Depending on the equipment, the DV camcorder recording may not operate properly. ● You can only record audio/video images on a DV tape. 	<p>69 — — —</p>
<p>There is no picture on the television during scheduled recording.</p>	<ul style="list-style-type: none"> ● 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. 	<p>—</p>

TV Guide On Screen® system

		Page		
Although initial setup for the TV Guide On Screen® system was completed hours ago, program listings does not display when [TV GUIDE] is pressed.	<ul style="list-style-type: none"> ● Leave the unit turned off for at least 24 hours. ● 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. ● Check the connection and set up the TV Guide On Screen® system again. <ul style="list-style-type: none"> If you connect a cable box and/or a DirecTV receiver <ul style="list-style-type: none"> - the output terminal of the cable box and/or the DirecTV receiver is connected to this unit’s RF IN or IN3 terminal - the IR Blaster is correctly connected and installed - the cable box and/or the DirecTV receiver is turned on If you do not connect a cable box and a DirecTV receiver <ul style="list-style-type: none"> - the antenna cable is connected to this unit’s RF IN terminal ● The program listings was temporarily unavailable in your area (Wait another 24 hours or Redo setup). ● The program listings is 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”. ● Consult your service provider if you are using a cable box or a satellite receiver. ● 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. ● The TV Guide On Screen® system is only supported by selected DirecTV receivers, using 480i mode. ● 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. 	<p>—</p> <p>38</p> <p>38</p> <p>17, 18</p> <p>17</p> <p>—</p> <p>16, 17</p> <p>—</p> <p>79</p> <p>—</p> <p>—</p> <p>—</p> <p>—</p>		
	“Cable code -INCOMPLETE-” appears in the TV Guide On Screen® system setup.	<ul style="list-style-type: none"> ● The unit cannot find the correct IR code for the cable box. Consult your service provider. 	—	
	Some or all of the channels display “No Listing”.	<ul style="list-style-type: none"> ● 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. ● 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. ● 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. ● 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/VHS POWER] to set the unit in standby mode when not in use. ● During the data download the station from which data is downloaded had an unscheduled power outage. ● If using an over-the-air antenna, marginally poor reception can cause some of the data to be missed. ● 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. 	<p>—</p> <p>—</p> <p>—</p> <p>—</p> <p>—</p> <p>—</p> <p>—</p>	
		Cannot receive some channels displayed on the program listings.	<ul style="list-style-type: none"> ● 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. 	—
		Some over-the-air or cable channels are not listed on the program listings and even on the CHANNEL EDITOR screen.	<ul style="list-style-type: none"> ● 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. ● Data for local programming which is not provided to TV Guide’s data distribution network would also not be available. 	<p>—</p> <p>—</p>
			The program highlighted doesn’t match up with the video window on the TV screen.	<ul style="list-style-type: none"> ● 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. ● The Video window is locked to remain on the channel you were previously watching. ● The station in question may have made recent program schedule changes and the TV Guide On Screen® system has not yet been updated.
		The unit doesn’t change channels or it changes to the wrong channel.	<ul style="list-style-type: none"> ● The cable company has not yet informed industry sources of their channel line-up changes. Use the CHANNEL EDITOR feature to make adjustments. 	—
			Some channels are listed on the wrong number.	<ul style="list-style-type: none"> ● The cable company has not yet informed industry sources of their channel line-up changes. Use the CHANNEL EDITOR feature to make adjustments.

Continued on next page

TV Guide On Screen® system (Continued)

		Page
Two stations are received on certain channels; morning and evening programs differ.	<ul style="list-style-type: none"> 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. 	—
Cable box/satellite receiver doesn't change channels with TV Guide On Screen® system.	<ul style="list-style-type: none"> 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. 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. The cable box/satellite receiver has no remote capability and is incompatible. Consult your service provider. The user has an "after market" brand cable box/other than DirecTV receiver, which may be incompatible. Consult your service provider. 	38 17, 38
Cannot record a program. The screen remains snowy or blue.	<p>If you do not connect a cable box and a satellite receiver</p> <ul style="list-style-type: none"> The unit hooked up incorrectly. Please reconnect it, or contact the cable company for proper wiring procedure. 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. <p>If you connect a cable box and/or a satellite receiver</p> <ul style="list-style-type: none"> 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. 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). 	16–18 38 38
The SCHEDULE screen only shows the channel number of the program instead of the program name.	<ul style="list-style-type: none"> 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. If you set a scheduled recording manually, which does not display the program name. 	— —

Play

Play fails to start even when [▶, PLAY] is pressed. Play starts but then stops immediately.	<ul style="list-style-type: none"> Insert the disc correctly with the label facing up. The disc is dirty. You tried to play a blank disc or disc unplayable on this unit. 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. 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. You cannot play discs during DV camcorder recording. If playing DivX VOD content, refer to the homepage where you purchased it. (DivX) 	12 11 5–7 — 75 — 44
Audio and video momentarily pause.	<ul style="list-style-type: none"> 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. When playing a title recorded on both layers of a DVD-R DL or +R DL, video and audio may momentarily cut out when the unit is switching layers. 	— — — —
DVD-Video is not played.	<ul style="list-style-type: none"> You have set a ratings level to limit DVD-Video play. Change this setting. 	75
Alternative soundtrack and subtitles cannot be selected.	<ul style="list-style-type: none"> 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. 	— 41
No subtitles.	<ul style="list-style-type: none"> When progressive output is on, closed captions cannot be displayed. Subtitles are not recorded on the disc. Turn the subtitles on. Set "Subtitle" on the on-screen menu to "On". 	— — 46
Angle cannot be changed.	<ul style="list-style-type: none"> Angles can only be changed during scenes where different angles are recorded. 	—
You have forgotten your ratings password. You want to cancel the ratings level.	<ul style="list-style-type: none"> 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 [▶] 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.	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> Memorized positions are canceled when <ul style="list-style-type: none"> press [■, STOP] several times. open the disc tray (except HDD). DVD-A CD VCD SD turn off the power. a recording or scheduled recording was executed. 	—
It takes time before play starts.	<ul style="list-style-type: none"> It will take a little time for DivX videos to start playing. (DivX) 	—
Picture stops.	<ul style="list-style-type: none"> Picture may stop if the DivX files are greater than 2 GB. (DivX) 	—

Edit		Page
Cannot edit.	<ul style="list-style-type: none"> ● 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. 	10
Cannot format.	<ul style="list-style-type: none"> ● The disc is dirty. Wipe with a damp cloth and then wipe dry. ● [R] [R DL] [CD] You tried formatting a disc that you may not be able to use in this unit. 	11 5-7
Cannot create chapters.	<ul style="list-style-type: none"> ● 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.	<ul style="list-style-type: none"> ● 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.	<ul style="list-style-type: none"> ● When the chapter is too short to delete, use “Combine Chapters” to make the chapter longer. 	52
The available recording time doesn't increase even after deleting recordings on the disc.	<ul style="list-style-type: none"> ● 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.	<ul style="list-style-type: none"> ● 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.	<ul style="list-style-type: none"> ● This screen cannot be displayed during recording or copy. 	—
Cannot edit or format a card.	<ul style="list-style-type: none"> ● 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.) 	70
The contents of the card cannot be read.	<ul style="list-style-type: none"> ● 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. ● The card contains a folder structure and/or file extensions that are not compatible with this unit. ● Turn off and then turn on the unit again. ● You can use SD Memory Cards with capacities from 8 MB to 2 GB on this unit. 	7, 71, 93 93
Copying, deleting and setting protection takes a long time.	<ul style="list-style-type: none"> ● When there are a lot of folders and files, it may sometimes take a few hours. ● When repeating copying or deleting, it may sometimes take a long time. Format the disc or card. 	— 71
Scheduled recording began in the middle of editing a still picture.	<ul style="list-style-type: none"> ● If it comes to the time scheduled for recording, the recording may start even though you are editing. 	—

VHS pictures

OSD messages do not appear.	<ul style="list-style-type: none"> ● Go to “Display” and select “Automatic” in “Status Messages”. ● Press [STATUS] to show the on-screen messages constantly. 	76 50
The blue background appears during play.	<ul style="list-style-type: none"> ● You are playing a blank or poor quality part of the tape. ● You can damage the unit if you play dirty or damaged tapes and this can cause the blue background to appear. Consult your dealer. 	— —
Picture is distorted.	<ul style="list-style-type: none"> ● When the unit starts making a scheduled recording on the DVD during VHS playback, some picture distortion may occur. This does not indicate a problem with the unit. 	—
Cannot see the picture.	<ul style="list-style-type: none"> ● When the TV is connected to the DVD PRIORITY output terminal on this unit, you cannot watch pictures played back on VHS while recording, or making a scheduled recording, on the DVD. Connect to the DVD/VHS COMMON output terminals to be able to watch pictures played back on VHS. 	20

VHS Sound

Cannot hear the desired audio type.	<ul style="list-style-type: none"> ● Press [AUDIO] to select the audio. 	49
There is noise when playing a video tape.	<ul style="list-style-type: none"> ● Adjust the tracking. ● The tape is old or damaged. 	49 —

VHS Play

Cannot play.	<ul style="list-style-type: none"> ● Tapes recorded under a TV system other than NTSC (PAL, SECAM, etc.) cannot be played. 	—
The playback screen flickers.	<ul style="list-style-type: none"> ● The video head is dirty. ● The tape is too old or damaged. 	— —

VHS Recording

Cannot record TV program.	<ul style="list-style-type: none"> ● The desired channel is not selected. Select the desired TV program. 	29
Cannot record.	<ul style="list-style-type: none"> ● The erasure prevention tab has been removed. Cover the hole with adhesive tape. ● Insert a video cassette. 	11 12

Specifications

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. 1.1/2X-SPEED DVD-RW Revision 1.0 Ver. 1.2/4X-SPEED DVD-RW Revision 2.0
+R:	Ver. 1.0 Ver. 1.1 Ver. 1.2 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: 80 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. 142 hours with 80 GB HDD (EP 8H mode)
XP: Approx. 17 hours SP: Approx. 34 hours
LP: Approx. 68 hours EP: Approx. 106 hours or 142 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 1 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

Video system

Recording system:	MPEG2 (Hybrid VBR)
(for DVD)	
Input:	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
Output:	LINE (pin jack) ×2, 1.0 Vp-p; 75 Ω
(for DVD PRIORITY 1)	S connector ×1 Y:1.0 Vp-p; 75 Ω C: 0.286 Vp-p; 75 Ω
Component video output:	
(for DVD PRIORITY)	Y, P _B , P _R ×1 Y: 1.0 Vp-p; 75 Ω (480i/480p) P _B : 0.7 Vp-p; 75 Ω P _R : 0.7 Vp-p; 75 Ω

Audio system

Recording system:	Dolby Digital (2ch), Linear PCM (XP mode 2 ch)
(for DVD)	
Analog input:	LINE (pin jack) ×3 Reference input: 309 mVrms FS: 2 Vrms (1 kHz, 0 dB) Input impedance: 22 kΩ
Analog output:	LINE (pin jack) ×2
(for DVD PRIORITY 1)	Reference output: 309 mVrms FS: 2 Vrms (1 kHz, 0 dB) Output impedance: 1 kΩ (Load impedance: 10 kΩ)
Number of channels:	Recording: 2 channels
(for DVD)	Playback: 2 channels
Number of track:	Hi-Fi: 2 track
(for VHS)	Normal: 1 track
Digital output:	Digital audio optical output connector ×1
(for DVD PRIORITY 1)	(PCM, Dolby Digital, DTS)
HDMI output:	(19 pin type A) ×1 HDMI Ver.1.2a (EDID Ver.1.3)

SD card slot

Still picture:	SD Memory Card Slot: 1 pc
(JPEG, TIFF)	
Compatible media:	SD Memory Card*, MultiMediaCard * Includes miniSD™ cards (A miniSD™ adaptor needs to be inserted.)
Format:	FAT12, FAT16
Image file format:	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
Number of pixels:	between 34 × 34 and 6144 × 4096 pixels
Thawing time:	Approx. 3 sec (6 M pixels, JPEG)
SD video (MPEG2)	
Compatible media:	SD Memory Card*, MultiMediaCard * Includes miniSD™ cards (A miniSD™ adaptor needs to be inserted.)
Codec:	MPEG2 (SD-Video Entertainment Video Profile)
File format:	SD-Video format confirming
	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.

VHS

Recording format:	VHS Video Cassette System Standard with FM audio
Heads:	4 Helical Scan Heads for Video 2 Helical Scan Heads for FM audio 1 Fixed Heads for Normal audio
Tape speed/	SP: 33.35 mm/s, 120 min (with T-120 cassette)
Recording time:	EP: 11.12 mm/s, 360 min (with T-120 cassette)
FF/REW time:	FF/REW: Approx. 60 s (with T-120 cassette) Jet RW: Approx 43 s (with T-120 cassette)

SD card slot:	1 pc
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. 34 W
Dimensions:	Approx. 430 mm (W)×84 mm (H)×352 mm (D) [Approx.16 ¹⁵ / ₁₆ " (W)×3 ⁹ / ₁₆ " (H)×13 ⁷ / ₈ " (D)]
Mass:	Approx. 6.8 kg (14.96 lbs)

Power consumption in standby mode:	approx. 16 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

DivX is a popular media technology created by DivX, Inc. DivX media files contain highly compressed video with high visual quality that maintains a relatively small file size.

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 Ver. 1.1 standards 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), SD card (SD) and video cassette (VHS). 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 the 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 the 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.

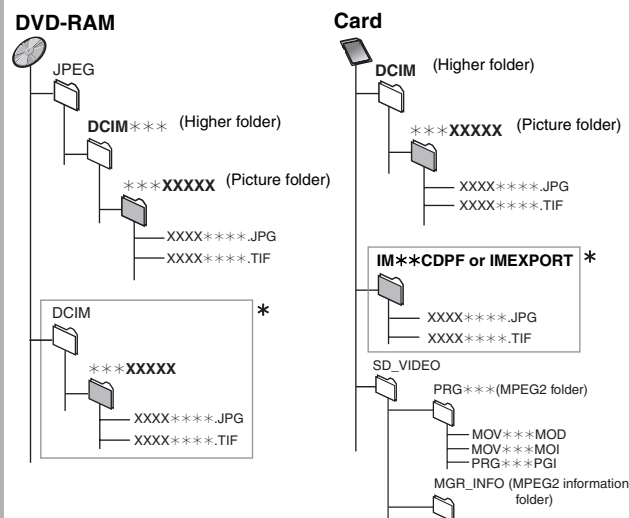
Folder

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.

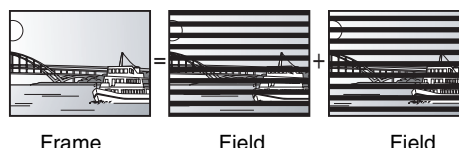
Formatting

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.



- 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 (720p, 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 to 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, 1080 alternating scan lines pass every 1/60th of a second to create an interlace image. Because 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, 720 scan lines pass at the same time every 1/60th 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	Chinese: 9072	Hausa: 7265	Lithuanian: 7684	Romanian: 8279	Telugu: 8469		
Afar: 6565	Corsican: 6779	Hebrew: 7387	Macedonian: 7775	Russian: 8285	Thai: 8472		
Afrikaans: 6570	Croatian: 7282	Hindi: 7273	Malagasy: 7771	Samoan: 8377	Tibetan: 6679		
Albanian: 8381	Czech: 6783	Hungarian: 7285	Malay: 7783	Sanskrit: 8365	Tigrinya: 8473		
Ameharic: 6577	Danish: 6865	Icelandic: 7383	Malayalam: 7776	Scots Gaelic: 7168	Tonga: 8479		
Arabic: 6582	Dutch: 7876	Indonesian: 7378	Maltese: 7784	Serbian: 8382	Turkish: 8482		
Armenian: 7289	English: 6978	Interlingua: 7365	Maori: 7773	Serbo-Croatian: 8372	Turkmen: 8475		
Assamese: 6583	Esperanto: 6979	Irish: 7165	Marathi: 7782	Shona: 8378	Tw: 8487		
Aymara: 6589	Estonian: 6984	Italian: 7384	Moldavian: 7779	Sindhi: 8368	Ukrainian: 8575		
Azerbaijani: 6590	Faroese: 7079	Japanese: 7465	Mongolian: 7778	Singhalese: 8373	Urdu: 8582		
Bashkir: 6665	Fiji: 7074	Javanese: 7487	Nauru: 7865	Slovak: 8375	Uzbek: 8590		
Basque: 6985	Finnish: 7073	Kannada: 7578	Nepali: 7869	Slovenian: 8376	Vietnamese: 8673		
Bengali, Bangla: 6678	French: 7082	Kashmiri: 7583	Norwegian: 7879	Somali: 8379	Volapük: 8679		
Bhutani: 6890	Frisian: 7089	Kazakh: 7575	Oriya: 7982	Spanish: 6983	Welsh: 6789		
Bihari: 6672	Galician: 7176	Kirghiz: 7589	Pashto, Pushto: 8083	Sundanese: 8385	Wolof: 8779		
Breton: 6682	Georgian: 7565	Korean: 7579	Persian: 7065	Swahili: 8387	Xhosa: 8872		
Bulgarian: 6671	German: 6869	Kurdish: 7585	Polish: 8076	Swedish: 8386	Yiddish: 7473		
Burmese: 7789	Greek: 6976	Laotian: 7679	Portuguese: 8084	Tagalog: 8476	Yoruba: 8979		
Byelorussian: 6669	Greenlandic: 7576	Latin: 7665	Punjabi: 8065	Tajik: 8471	Zulu: 9085		
Cambodian: 7577	Guarani: 7178	Latvian, Lettish: 7686	Quechua: 8185	Tamil: 8465			
Catalan: 6765	Gujarati: 7185	Lingala: 7678	Rhaeto-Romance: 8277	Tatar: 8484			

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: Refer to "Customer Services Directory" on page 95.

Limited Warranty

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

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

- Advanced Copy** 62
 - Create List 62
 - Time Limit 64
- Angle** 46
- Audio** 46
 - Attribute 46
 - Language 46
 - Playback 42
 - Receiving, recording 30
 - VHS 49
- Auto Bilingual Choice** 49
- Change Thumbnail** 52
- Channel** 38
 - Adjusting, hiding 38
 - Audio 46
 - Auto channel settings 79
 - Caption 80
 - CHANNEL EDITER 38
 - VCR Plus+ Ch. Setting 80
- Chapter** 42, 51
- Chasing playback** 31
- Cleaning** 11
 - Disc 11
 - Main unit 11
- Clock setting** 25, 79
- CM Skip** 42
- Connection** 21–22
 - Amplifier, system component 21–22
 - Antenna 16–18, 20
 - Cable box 17
 - DV input terminal 68
 - HDMI 22
 - IN2 input terminals 68
 - IR Blaster 17
 - Satellite receiver 17–18
 - Television 16–22
 - Video cassette recorder 16–18, 68
- Copy** 63
 - SD card (MPEG2) 63
 - Still picture 66
 - Title/playlist 59–62
- Copy (playlist)** 54
- Copy Navigator** 59
- CPRM** 93
- Create Chapter** 42, 52
- Create playlists** 53
- Delete** 55
 - Album 55
 - All titles 71
 - Chapter 52, 54
 - Playlist 54
 - Still picture 55
 - Title 52
- Delete Navigator** 47
- Dialog Enhancer** 47
- Direct Navigator** 40, 44, 51, 55
- Divide Title** 52
- DivX** 8, 43, 93
- DNR** 47
- DPOF** 55, 93
- DV camcorder recording** 69
- DVD-RAM, DVD-R, DVD-R DL, DVD-RW, +R, +R DL, +RW** 5–7
- Enabling discs to be played on other equipment—Finalize** 72
- Finalize** 72, 93
- Flexible Recording** 30
- Format** 71, 93
- FR (Flexible Recording Mode)** 27
- FUNCTIONS window** 14
- HDMI** 22, 77, 93
- Jet Rewind** 48
- JPEG** 8, 43, 93
- Language** 46
 - Audio 46
 - Code list 94
 - On-screen 76
 - Soundtrack 46
 - Subtitle 46
- LPCM** 76, 93
- Menu** 44
 - MP3 44
 - On-screen 46
 - Setup 74
- Mode** 28
 - Recording 28
 - Still Mode 75
- MP3** 8, 44
- Name** 55
 - Album 55
 - Disc 70
 - Entering text 73
 - Playlist 54
 - Title 52
- Noise reduction (NR)** 47
 - DNR 47
 - Line-in NR 47
- One Touch Copy** 60–61
- On-screen** 76
 - Language 76
 - Menus 46
 - On-screen display 50
 - Status messages 42
- PCM Down Conversion** 76
- Picture** 47
- Playlist** 53
- Progressive** 47, 94
- Properties** 54
 - Playlist 54
 - Still picture 45
 - Title 52
- Protection** 55
 - Album 55
 - Card 70
 - Cartridge 70
 - Disc 70
 - Still picture 55
 - Title 52
- Quick Start** 27
- Quick View** 41
- Ratings level** 75
- Recording** 69
 - DV automatic recording 69
 - Flexible Recording 30
 - Mode 28
 - Relief 34
 - Scheduled 32–34
- Recording for** 75
 - High-Speed Copying 75
 - Relief Recording 34
- Remaining tape time** 50
- Remote control code** 26
- Repeat play** 46
- Repeat Playback** 48
- Restore Default Settings** 74
- Resume play function** 41
- Satellite receiver** 17–18
- Scheduled recording** 32–34, 36
- Scheduled reminder** 36
- SD card** 7, 12, 93
- Setup menu** 74
- Shorten Title** 52
- Signal Source (RF IN)** 74
- Simultaneous rec and play** 31
- Soundtrack** 46
- SQPB** 49
- Status messages** 42
- Still pictures** 66
 - Copying 66
 - Edit 55
 - Play 44
- Subtitle** 46
- TIFF** 8, 43, 94
- Time Slip** 42
- Tracking** 49
- Transfer** 47
- TV Guide On Screen®** 23, 32, 35
- TV Type** 26
- V. Surround Sound** 47
- VCR Plus+** 33
- VCR Plus+ Ch. Setting** 80
- VISS** 49
- VP mode** 28

• 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

• 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.

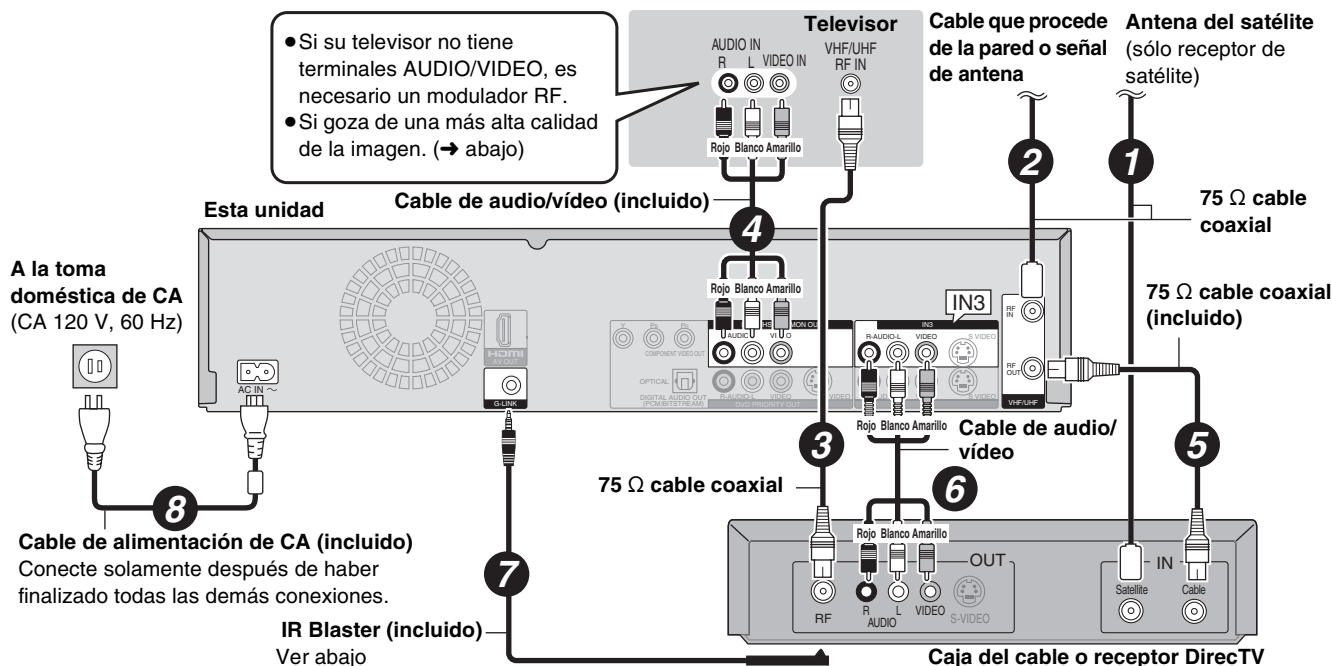
Asegúrese de que esté conectado a su televisor uno de los siguientes terminales en esta unidad: el terminal AUDIO/VIDEO OUT, el terminal S VIDEO OUT, el terminal COMPONENT VIDEO OUT o el terminal HDMI AV OUT.

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 (**16 W aproximadamente**).

Repárese 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.

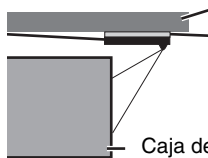
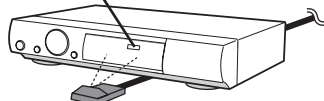
Lea las instrucciones de funcionamiento de la caja del cable o del receptor DirecTV por lo que respecta a la colocación del sensor de la señal.

Si es necesario, utilice la cinta adhesiva de doble cara (incluida) para sujetar el IR Blaster a una superficie llana.

por ejemplo la superficie del soporte del televisor

Si despegla la cinta adhesiva, la superficie podría dañarse.

Una vez que haya confirmado que la caja del cable o del receptor DirecTV está funcionando correctamente, sujételo uniéndolo con la cinta adhesiva.



Caja del cable o del receptor DirecTV

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 video y audio sin comprimir. Sólo con un cable puede gozar del video 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 video HD 1080i o 720p.

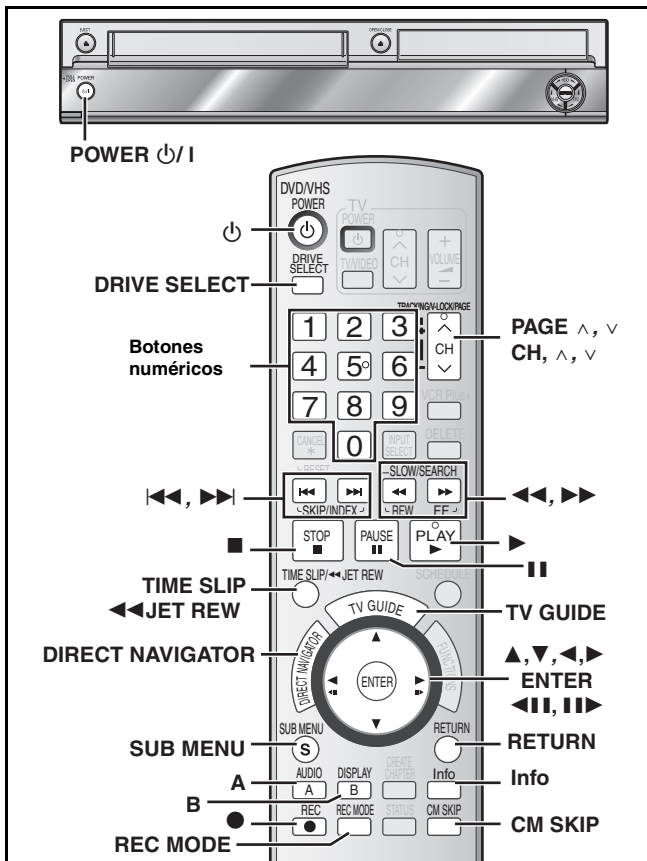
Ajuste lo siguiente:

Desde el menú CONFIGURACIÓN, "Salida de video 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 [POWER], esta 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 (→ 97).
 - Asegúrese de que esté encendida la caja del cable o el receptor DirecTV.

- 1 Pulse [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 (EE.UU./Canadá) (USA/Canada)**
- 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 "Off" 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 [POWER]. (La unidad se apaga, luego espere 24 horas.)

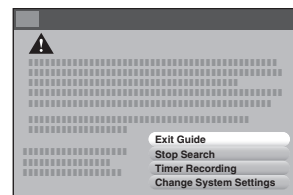
10 Pulse [TV GUIDE].

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.



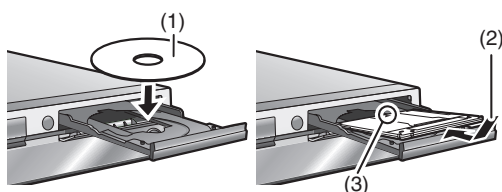
Salir de la guía:	Volver a la pantalla de recepción televisiva.
Parar la búsqueda:	Parar la descarga de los datos.
Buscar de nuevo:	Reiniciar la descarga de los datos cuando se ha parado
Grabación temporizada:	Ajuste manualmente para la grabación programada
Cambiar los ajustes del sistema:	Restablezca los ajustes de la guía TV.

Inserción de un disco

- 1 Pulse [**▲**, OPEN/CLOSE] en la unidad principal para abrir la bandeja.
 - Puede insertar un disco con o sin cartucho.
- 2 Pulse [**▲**, OPEN/CLOSE] en la unidad principal para cerrar la bandeja.

Disco sin cartucho

Disco con cartucho



- (1) Insértelo con la cara impresa hacia arriba.
- (2) Inserte completamente hasta que haga un ruido seco.
- (3) Insértelo etiqueta arriba con la flecha hacia adentro.

Nota

- Tiene que cargar un disco de doble cara con la cara que quiere grabar/reproducir mirando hacia abajo.
- No es posible grabar o reproducir continuamente desde una cara a la otra en un disco de dos caras. Tendrá que expulsar el disco y darle la vuelta.
- Cuando utilice un DVD-RAM de 8 cm (3") o un DVD-R de 8 cm (3"), quite el disco del cartucho.

Función automática de selección de la unidad

RAM (Sólo para discos con la lengüeta de protección contra la escritura en el cartucho puesta en "PROTECT") **DVD-V** **DVD-A**

VCD **CD**

- Si la unidad está grabando en la HDD o VHS o bien se para, cuando está insertado un disco ella cambiará automáticamente a la unidad DVD.
- Si expulsa un disco o cierra su bandeja, se selecciona automáticamente la unidad HDD.

Inserción de un videocasete

La superficie en la que puede ver el rollo de la cinta tiene que mirar hacia arriba.

Inserte un videocasete

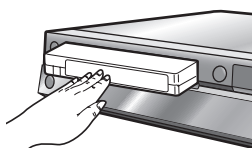
- La unidad se enciende automáticamente.
- La reproducción inicia automáticamente por si inserta un videocasete que tenga quitada su lengüeta.

Para la unidad principal

- Pulse [**▲**, EJECT] en la unidad principal.

Para el mando a distancia

- Pulse [DRIVE SELECT] para seleccionar la unidad VHS, luego pulse y mantenga pulsado [**■**, STOP] durante 3 o más segundos.



Introducción/Extracción de la tarjeta SD

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.

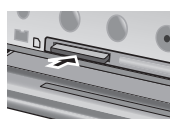
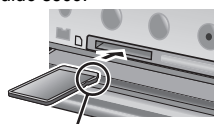
- Puede utilizar tarjetas de memoria SD con capacidades de 8 MB a 2 GB.

Inserción de la tarjeta

Presione en el centro de la tarjeta hasta que quede colocada haciendo un ruido seco.

Extracción de la tarjeta

- (1) Presione el centro de la tarjeta.
- (2) Tire de ella recta.



Introduzca la tarjeta con la etiqueta hacia arriba y la esquina recortada hacia la derecha.

Función automática de selección de la unidad

- Si inserta una tarjeta SD mientras que la unidad está parada, se visualiza la pantalla "Operaciones de la tarjeta SD.". Seleccione un elemento y pulse [ENTER] para cambiar la unidad SD (→ 102). Si quita una tarjeta SD, se selecciona automáticamente la unidad HDD.

Guarde las pequeñas tarjetas de memoria como es la tarjeta SD fuera del alcance de los niños. En el caso de que se la traguen, consulte de inmediato a un médico.

Nota acerca de la grabación

■ Modos de grabación y tiempos aproximados de grabación para la HDD y los discos

Dependiendo del contenido que está siendo grabado, los tiempos de grabación pueden ser inferiores a los indicados.

Modo de grabación	HDD (80 GB)	DVD-RAM	
		Un solo lado (4,7 GB)	Dos lados*1 (9,4 GB)
XP (Modo de grabación de alta calidad de la imagen)	17 h	1 h	2 h
SP (Modo de grabación estándar)	34 h	2 h	4 h
LP (Modo de grabación de larga duración)	68 h	4 h	8 h
EP (Modo de grabación de duración extralarga)*4	142 h (106 h*2)	8 h (6 h*2)	16 h (12 h*2)

Modo de grabación	DVD-R/ DVD-RW/ +R/+RW (4,7 GB)	DVD-R DL*3 (8,5 GB)	+R DL*3 (8,5 GB)
XP (Modo de grabación de alta calidad de la imagen)	1 h	1 h 45 min	1 h 45 min
SP (Modo de grabación estándar)	2 h	3 h 35 min	3 h 35 min
LP (Modo de grabación de larga duración)	4 h	7 h 10 min	7 h 10 min
EP (Modo de grabación de duración extralarga)*4	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" se ha puesto en "EP-Repr.ón ampliada (6H)" en el menú CONFIGURACIÓN. La calidad del sonido es mejor cuando se utiliza "EP-Repr.ón ampliada (6H)" que cuando se utiliza "EP-Repr.ón ampliada (8H)".
- *3 No puede grabar directamente a estos discos con esta unidad. La tabla muestra el tiempo de grabación cuando copia.
- *4 Cuando graba a la HDD en el modo FR (5 horas de grabación o más largas) o EP, no puede ejecutar copia rápida a discos +R, +R DL o +RW.
- **RAM** Cuando grabe en un DVD-RAM utilizando el modo EP (8H), puede que no sea posible reproducir ese disco en reproductores DVD compatibles con DVD-RAM. Utilice el modo EP (6H) si la reproducción se va a hacer en otro equipo.

■ Modos de grabación para VHS

SP: Puede grabar la longitud indicada en la cinta.

EP: 3 veces la longitud del modo SP.

VP: 5 veces la longitud del modo SP.

- Para lograr una más larga capacidad de grabación, seleccione "EP" o "VP".
- Si la calidad de la imagen es importante para usted o bien si desea almacenar la cinta durante un largo período, seleccione "SP".
- La unidad puede reproducir en otro equipo cintas grabadas en el modo LP.

Modo VP:

- Una cinta grabada por la unidad en el modo VP no puede reproducirse por otras videograbadoras. Se recomienda que se la destaque de otras cintas escribiendo "VP" en la respectiva etiqueta, etc.
- Lleva más tiempo para que funcione la localización automática cuando reproduce cintas grabadas con el modo VP, y no puede funcionar en absoluto con algunas cintas. Si fuese el caso, haga la localización manualmente.

Nota

- Aunque el videocasete que usa está marcado con "S-VHS", no será posible grabar en el sistema S-VHS con la unidad ya que ésta graba con el sistema VHS normal.
- No puede cambiar los canales mientras que graba. Puede cambiar los canales mientras está en modo pausa.
- Cuando la grabación sigue estando en pausa durante 5 o más minutos, la unidad vuelve a pararse.

Consulte la referencia de los controles en la page 98.

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

Puede grabar hasta:

- **HDD** 500 títulos en la HDD. (Cuando la grabación continúa durante mucho tiempo, los títulos se dividen cada 8 horas.)
- **RAM -R -RW(V)** 99 títulos en un disco
- **+R +RW** 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.
- No es posible grabar en dos unidades al mismo tiempo.

1 Pulse [DRIVE SELECT] para seleccionar la unidad de grabación (HDD, DVD o VHS).

El indicador "HDD", "DVD" o "VHS" se enciende en la unidad.

- Si ha seleccionado la unidad DVD **inserte un disco. (→ 99)**
- Si ha seleccionado la unidad VHS **inserte un videocasete que tenga la lengüeta de protección contra el borrado accidental intacta. (→ 99)**

2 Pulse [CH, ▲, ▼] para seleccionar el canal.

Para seleccionar con los botones numéricos:

Modo antena	CableTV, Canal del satélite
Ej., 5: [0] → [5]	Ej., 5: [0] → [0] → [0] → [5]
15: [1] → [5]	15: [0] → [0] → [1] → [5]
	115: [0] → [1] → [1] → [5]
	1115: [1] → [1] → [1] → [5]

- **VHS** El canal "DV" puede ser seleccionado pero no puede ser grabado.
- Seleccione el audio para grabar.

3 Pulse [REC MODE] para seleccionar el modo de grabación [HDD/discos (XP, SP, LP o EP) / VHS (SP, EP o VP)].

4 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 [||, PAUSE].

Pulse de nuevo para reiniciar la grabación.

- **HDD RAM -R -RW(V) +R +RW** (El título no se divide en títulos distintos.)

■ Para detener la grabación

Pulse [■, STOP].

- La sección desde que empieza hasta que termina la grabación es un título.

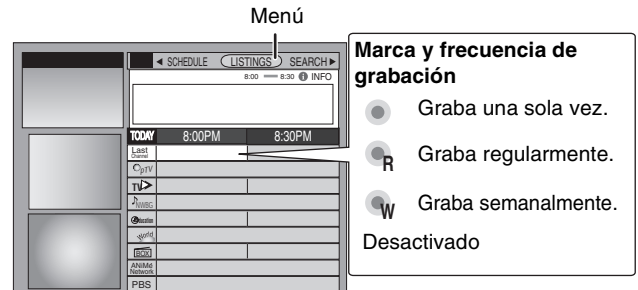
Uso del sistema TV Guide On Screen® para hacer grabaciones programadas

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

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/VHS POWER].

Para cancelar la grabación programada cuando ésta ya ha empezado

- 1 Pulse [DRIVE SELECT] para seleccionar la unidad de grabación.
- 2 Pulse [■, STOP] 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 Mientras va haciendo una grabación o una grabación programada Pulse [▶, PLAY].
Grabación y reproducción simultáneas	Mientras va grabando puede reproducir un título grabado anteriormente. 1 Mientras va haciendo una grabación o una grabación programada Pulse [DIRECT NAVIGATOR]. 2 Pulse [▲, ▼, ◀, ▶] para seleccionar un título y luego pulse [ENTER]. Para salir de la pantalla DIRECT NAVIGATOR Pulse [DIRECT NAVIGATOR].

Para salir de la pantalla Direct Navigator

Pulse [DIRECT NAVIGATOR].

Para detener la reproducción

Pulse [■, STOP].

Para detener la grabación

2 segundos después de parar la reproducción

Pulse [■, STOP].

Para detener la grabación programada

Pulse [■, STOP] luego pulse [◀, ▶] para seleccionar "Parar grabación" y por fin pulse [ENTER].

Consulte la referencia de los controles en la page 98.

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 de reproducción (HDD o DVD).

El indicador "HDD" o "DVD" se enciende en la unidad.

- Es posible ver la reproducción de una unidad mientras que graba en la otra (no se puede editar).

Si seleccionó la unidad DVD
inserte un disco. (→ 99)

2 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.

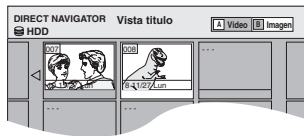
■ Selección de programas grabados (títulos) para reproducir —Direct Navigator

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

1 Pulse [DIRECT NAVIGATOR].

2 **HDD RAM**

Pulse [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 -R DL -RW(V) +R +R DL +RW -RW(VR)

ej., 5: [0] → [0] → [5] 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	Pulse [■, STOP]. La posición de detención se memoriza. Función de reanudación de la reproducción Pulse [▶, PLAY] para reiniciar la reproducción desde esta posición.
Pausa	Pulse [, PAUSE]. Pulse de nuevo [, PAUSE] o [▶, PLAY] para reiniciar la reproducción.

Búsqueda	Pulse [◀◀, SLOW/SEARCH] o [▶▶, SLOW/SEARCH]. La velocidad aumenta hasta 5 pasos. (+R +R DL +RW) hasta 3 pasos) • Pulse [▶, PLAY] para reiniciar la reproducción.
Salto	Durante la reproducción o la pausa, pulse [◀◀, SKIP] o [▶▶, SKIP]. Salte al título, capítulo o pista que quiera reproducir. • Cada pulsación aumenta el número de saltos.
Inicio desde un elemento seleccionado	Pulse los botones numéricos. La reproducción empieza desde el título, capítulo o pista seleccionado. • HDD, MP3 y JPEG/TIFF Ej., 5: [0] → [0] → [5] 15: [0] → [1] → [5] • DVD-A Selección de grupo Durante la parada (el salva pantallas se visualiza en el televisor → derecha) 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 → arriba)
Quick View*1	Mantenga pulsado [▶, PLAY]. La velocidad de reproducción es superior a la normal. • Pulse de nuevo para volver a la velocidad normal.
Cámara lenta*2	Durante la pausa, pulse [◀◀, SLOW/SEARCH] o [▶▶, SLOW/SEARCH]. La velocidad aumenta hasta 5 pasos. • Pulse [▶, PLAY] para reiniciar la reproducción. • VCD Dirección de avance [▶▶, SLOW/SEARCH] solamente. • La unidad hará una pausa si la reproducción a cámara lenta continúa durante unos 5 minutos (excepto DVD-V DVD-A VCD).
De cuadro en cuadro*2	Durante la pausa, pulse [◀] ([◀◀]) o [▶] ([▶▶]). Cada pulsación muestra el cuadro siguiente. • Mantenga pulsado para cambiar en orden avance o retroceso. • Pulse [▶, PLAY] para reiniciar la reproducción. • VCD Dirección de avance [▶] ([▶▶]) solamente.
Salto del tiempo especificado (Time Slip)*3	1 Pulse [TIME SLIP]. 2 Pulse [▲, ▼] para seleccionar el tiempo y luego pulse [ENTER]. 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	Pulse [CM SKIP]. 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)**



Consulte la referencia de los controles en la page 98.

Reproducción de imágenes fijas

HDD RAM SD CD

- Puede reproducir imágenes fijas grabadas en un CD-R/CD-RW en un ordenador.
- No puede reproducir imágenes fijas mientras graba o copia.
- Introducción y extracción de la tarjeta SD (→ 99)
Mientras está parada, inserte la tarjeta en su ranura y automáticamente se visualiza el menú (→ abajo). Pulse [▲, ▼] para seleccionar "Ir a vista álbum" y pulse [ENTER]. Luego, puede continuar desde el paso 2 abajo.



- 1 Pulse [DRIVE SELECT] para seleccionar la unidad (HDD, DVD o SD).

ej., Unidad de tarjeta SD



El indicador se enciende en la unidad.

- 2 Pulse [DIRECT NAVIGATOR].

HDD RAM SD



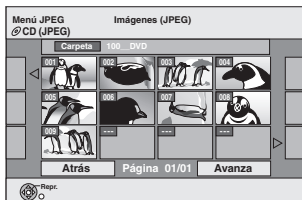
Pantalla de vista álbum

Grabar la fecha de la primera imagen en el álbum/número del nombre imágenes/álbum.

- Según sea la cámara digital, el software de edición en el ordenador etc., la información relativa a la fecha podría no visualizarse. En este caso, ella se visualiza así [--/--/--].

HDD RAM Si se visualiza la vista del título "Vídeo", pulse [B] para pasar a la pantalla de vista "Imagen".

CD Vaya al paso 4



Pantalla de vista imagen

Iconos de la pantalla Direct Navigator

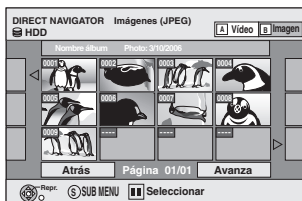
- Imagen protegida.
- Imagen en la que está puesto el número de impresiones (DPOF).

Para mostrar otras páginas

Pulse [▲, ▼, ◀, ▶] para seleccionar "Atrás" o "Avanza" y luego pulse [ENTER].

- También puede pulsar [◀◀, SKIP] o [▶▶, SKIP] para mostrar otras páginas.

- 3 Pulse [▲, ▼, ◀, ▶] para seleccionar el álbum y luego pulse [ENTER].



Ej., HDD

También puede seleccionar el álbum con los botones numéricos.

- ej.,
- 5: [0] → [0] → [5] 115: [1] → [1] → [5]
15: [0] → [1] → [5]

- Pulse [◀, ▶] para visualizar el álbum anterior o siguiente.

- 4 Pulse [▲, ▼, ◀, ▶] para seleccionar la imagen fija y luego pulse [ENTER].

También puede seleccionar imágenes fijas con los botones numéricos.

- ej.,
- 5: [0] → [0] → [0] → [5] 115: [0] → [1] → [1] → [5]
15: [0] → [0] → [1] → [5] 1115: [1] → [1] → [1] → [5]

- Pulse [◀, ▶] para visualizar la imagen fija anterior o siguiente.

Para volver a la pantalla de vista álbum o a la de vista imagen Pulse [RETURN].

Para salir de la pantalla

Pulse [DIRECT NAVIGATOR].

Reproducción de un videocasete

VHS

Preparación

- En el televisor seleccione la unidad que ve el canal (por ejemplo la entrada AV).
- Encienda esta unidad.

- 1 Pulse [DRIVE SELECT] para seleccionar la unidad VHS.

- 2 Inserte un videocasete grabado (→ 99).


- 3 Pulse [▶, PLAY].

- La reproducción inicia automáticamente por si inserta un videocasete que tenga quitada su lengüeta.

Nota

- Cuando la cinta llegue a su fin, la unidad se rebobina automáticamente hasta su comienzo. Esta función no obra durante la grabación programada, el avance rápido y la grabación con parada establecida.
- La búsqueda Jet, la localización progresiva, la revisión o la reproducción lenta se cancelarán automáticamente después de 10 minutos y para la pausa éstas se cancelarán después de 5 minutos.
- Cuando ve una imagen fija o durante la reproducción lenta, la imagen que aparece en el modo VP podría salir distorsionada.
- Cuando reproduce una cinta que se grabó por otra videogradora, podría ser necesario ajustar la localización. En algunos casos la calidad de la imagen podría todavía resultar inferior. Esto se debe a limitaciones de formato.

■ Operaciones

Parada	Pulse [■, STOP].
Pausa	Pulse [, PAUSE]. Pulse de nuevo [, PAUSE] o [▶, PLAY] para reiniciar la reproducción.
Avance rápido/ Rebobinado	Durante la parada Pulse [◀◀] (atrás)/[▶▶] (avance).
Localización progresiva/ Revisión	Durante la reproducción Teclee o mantenga pulsado [◀◀] (atrás)/[▶▶] (avance). <ul style="list-style-type: none"> • Si mantiene pulsado estos botones, al soltarlos la normal reproducción reinicia. • Teclee [▶, PLAY] para reiniciar la normal reproducción.
Búsqueda Jet	Durante la reproducción Teclee dos veces [◀◀] (atrás)/[▶▶] (avance). Puede aumentar la velocidad de búsqueda en la localización progresiva/Revisión. <ul style="list-style-type: none"> • Pulse [▶, PLAY] para reiniciar la normal reproducción. • Puede elegir la velocidad de búsqueda para ver la imagen grabada. • La imagen grabada en el modo EP o VP podría salir distorsionada por si se reproduce a una velocidad aproximada de 35 veces. Podría ocurrir un desplazamiento vertical. Esto no es un funcionamiento defectuoso pero si tiene lugar, cambie a una velocidad aproximada de 27 veces. • Según sea el televisor, la imagen podría salir sin color o salir distorsionada.
Lento	Durante la reproducción Pulse y mantenga pulsado [, PAUSE] durante 2 segundos o más. <ul style="list-style-type: none"> • Pulse [▶, PLAY] para reiniciar la normal reproducción.
Rebobinado Jet	Para ejecutar un rebobinado a velocidad más rápida Pulse [◀◀JET REW].  <ul style="list-style-type: none"> • Según la cinta o la condición de funcionamiento, la velocidad del rebobinado podría algo variar. • El contador de la cinta se repone a "00:00.00" cuando ella se rebobine hasta el comienzo. • Según la cinta, esta función podría no obrar.
Reproducción repetida	Durante la reproducción o la parada Mantenga pulsado [▶, PLAY] durante 5 segundos o más. <ul style="list-style-type: none"> • En la pantalla del televisor aparece la indicación "R ▶". • Al fin del programa, la cinta se rebobina hasta el comienzo y se reproduce de nuevo (esto sólo funciona por si hay un espacio vacío de al menos 5 segundos al fin del programa). Esto se repite hasta que haga otra operación. • Pulse [▶, PLAY] para reiniciar la normal reproducción.

In the United States, TV Guide, G-LINK, VCR Plus+ and PlusCode are registered marks of Gemstar-TV Guide International, Inc. and/or one of its affiliates.


The TV Guide On Screen and VCR Plus+ systems are manufactured under license from Gemstar-TV Guide International, Inc. and/or one of its affiliates.

The TV Guide On Screen system is protected by one or more of the following issued United States patents 5,307,173; 5,335,079; 4,908,713; 4,751,578; 4,706,121; 6,498,895, 6,418,556, 6,331,877; 6,239,794; 6,154,203; 5,940,073; 4,908,713; 4,751,578; 4,706,121.

Gemstar-TV Guide International Inc. and/or its related affiliates are not in any way liable for the accuracy or availability of the program schedule information or other data in the TV Guide On Screen system and cannot guarantee service availability in your area. In no event shall Gemstar-TV Guide International, Inc. and/or its related affiliates be liable for any damages in connection with the accuracy or availability of the program schedule information or other data in the TV Guide On Screen system.

-If you see this symbol-

Information on Disposal in other Countries outside the European Union

 This symbol is only valid in the European Union. If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

**Panasonic Consumer Electronics Company, Division of
Panasonic Corporation of North America**
One Panasonic Way, Secaucus,
New Jersey 07094
<http://www.panasonic.com>

Panasonic Puerto Rico, Inc.
Ave. 65 de Infantería, Km. 9.5
San Gabriel Industrial Park, Carolina,
Puerto Rico 00985