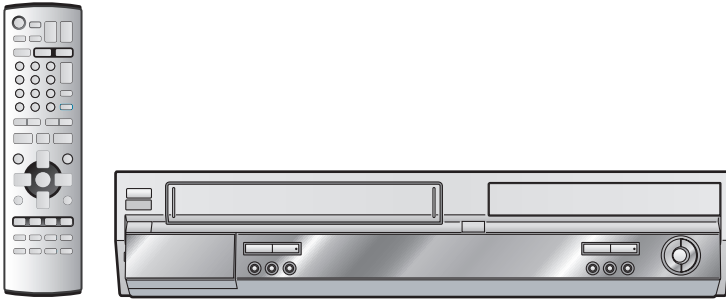


# Panasonic®

Operating Instructions

## DVD Video Recorder

Model No. **DMR-E75V**



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



Web Site: <http://www.panasonic-europe.com>

# Before Use

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## VHS

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#### ■ Specific features of DMR-E75V

##### **2-channel simultaneous recording:**

You can record programmes separately on DVD and VHS. Simply set the desired programmes on each unit.

##### **One Touch Dubbing ( → 62, 64):**

You can easily dub from VHS to DVD or from DVD to VHS.

##### **Automatic creation of thumbnails ( → 62):**

The video dubbed from VHS to DVD is automatically displayed in thumbnail.

##### **The tuning on DVD is automatically applied to the one on VHS ( → 13, 14, 50):**

Tuning on VHS is not required.

When only the video output on VHS is not natural, use the Fine Tuning function on VHS ( → 54).

# Before Use

## Warning and Important Information

### 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 EQUIPMENT TO RAIN, MOISTURE, DRIPPING OR SPLASHING AND ENSURE THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE EQUIPMENT.**

### 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.
- DO NOT OBSTRUCT THE UNIT'S VENTILATION OPENINGS WITH NEWSPAPERS, TABLECLOTHS, CURTAINS, AND SIMILAR ITEMS.
- DO NOT PLACE SOURCES OF NAKED FLAMES, SUCH AS LIGHTED CANDLES, ON THE UNIT.
- DISPOSE OF BATTERIES IN AN ENVIRONMENTALLY FRIENDLY MANNER.

THIS UNIT IS INTENDED FOR USE IN MODERATE CLIMATES.

The socket outlet shall be installed near the equipment and easily accessible or the mains plug or an appliance coupler shall remain readily operable.

## Important

Your attention is drawn to the fact that the recording of pre-recorded tapes or discs or other published or broadcast material may infringe copyright laws.

## For your safety

Do not remove outer cover.

Touching internal parts of the unit is dangerous, and may seriously damage it.

To prevent electric shock, do not remove cover. There are no user serviceable parts inside. Refer all servicing to qualified service personnel.

## Disposal of old equipment

Batteries, packaging and old equipment should not be disposed of as domestic waste, but in accordance with the applicable regulations.



## Condensation Caution

This unit is not fitted with a condensation sensor.

If you bring the unit from a cold place, e.g. a car, into a warm house, dew may form inside the unit.

Do not switch it on for at least 1 hour.

## Cautions before you operate this unit

Avoid:

- Humidity and dust.
- Extreme heat such as direct sunlight.
- Magnets or electromagnetic objects.
- Touching internal parts of the unit.
- Water or some other liquid.
- Lightning. (Disconnect the aerial plug from the unit during lightning storms.)
- Anything heavy on the unit.
- Connecting or handling the equipment with wet hands.
- Using a cell phone near the unit because it may cause noise affecting the picture and sound.

Do:

- Wipe the unit with a clean and dry cloth.
- Install the unit in a horizontal position.
- Keep the unit, TV and other equipment switched off until all connections are finished.

VIDEO Plus+ and PlusCode are registered trademarks of Gemstar Development Corporation. The VIDEO Plus+ system is manufactured under license from Gemstar Development Corporation.

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.

MPEG Layer-3 audio decoding technology licensed from Fraunhofer IIS and Thomson multimedia.

## Notes on these instructions

- Company names, product names and all other names in these instructions are the trademarks or registered trademarks of their respective corporations.
- 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.

## Displays

The displays shown in these instructions are examples. Actual displays depend on discs.

- In certain circumstances, icons will be displayed in gray and will not respond if clicked on. This means that the function represented by the icon is disabled.



## Inside of product

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

# Before Use



## Dear Customer

May we take this opportunity to thank you for purchasing this Panasonic DVD Video Recorder.

We would particularly advise that you carefully study the Operating Instructions before attempting to operate the unit and that you note the listed precautions.

### Caution for AC Mains Lead

**For your safety please read the following text carefully.**

This appliance is supplied with a moulded three-pin mains plug for your safety and convenience. A 5-ampere fuse is fitted in this plug. Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-amperes and it is approved by ASTA or BSI to BS 1362. Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced. If you lose the fuse cover, the plug must not be used until a replacement cover is obtained. A replacement fuse cover can be purchased from your local Panasonic Dealer.

**IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY. THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.**

If a new plug is to be fitted please observe the wiring code as shown below.

If in any doubt, please consult a qualified electrician.

### IMPORTANT


The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral, Brown: Live

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

Under no circumstances should either of these wires be connected to the earth terminal of the three pin plug, marked with the letter E or the Earth Symbol .

### Before use

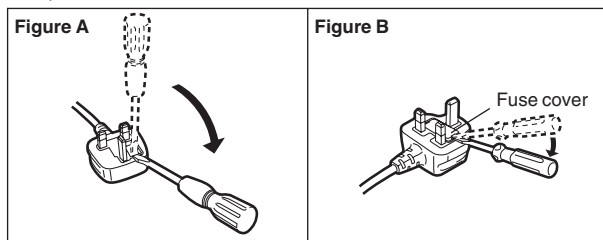
Remove the connector cover.

### How to replace the fuse

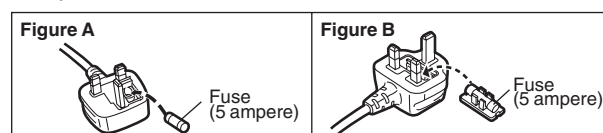
The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below.

Illustrations may differ from actual AC mains plug.

1. Open the fuse cover with a screwdriver.



2. Replace the fuse and close or attach the fuse cover.



## Checking the Accessories

### Sales and Support Information

#### Customer Care Centre

- For UK customers: 08705 357357
- For Republic of Ireland customers: 01 289 8333
- Visit our website for product information
- E-mail: [customer\\_care@panasonic.co.uk](mailto:customer_care@panasonic.co.uk)

#### Direct Sales at Panasonic UK

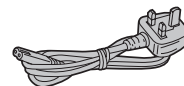
- Order accessory and consumable items for your product with ease and confidence by phoning our Customer Care Centre Monday–Friday 9:00am–5:30pm. (Excluding public holidays)
- Or go on line through our Internet Accessory ordering application at [www.panasonic.co.uk](http://www.panasonic.co.uk).
- Most major credit and debit cards accepted.
- All enquiries transactions and distribution facilities are provided directly by Panasonic UK Ltd.
- It couldn't be simpler!
- Also available through our Internet is direct shopping for a wide range of finished products, take a browse on our website for further details.

### Check that you have the accessories shown



Tick off as you unpack the accessories.

AC Mains lead  
RJA0053-3X



Audio/Video Cable  
K2KA6CA00001



RF lead to connect this unit and TV  
K1TWACC00001



Batteries for the Remote Control  
R6 size



Remote Control  
EUR7721X30

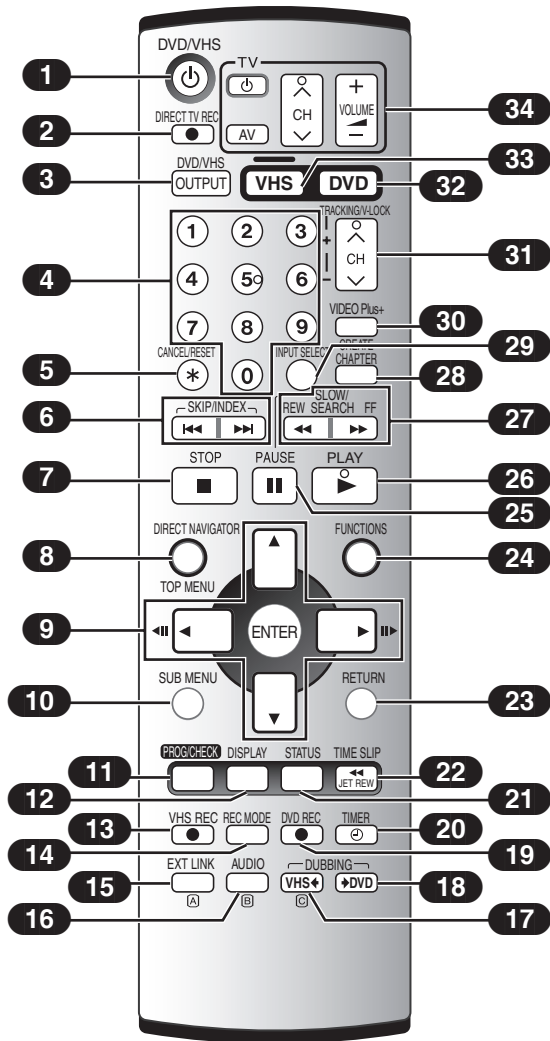


Guarantee Card

Quick Start Guide

# Control reference guide

## Remote control



### ■ [DVD] and [VHS] button

#### [DVD]

- Switch the remote control mode and main unit's common output to DVD. Make sure you press before doing DVD operations. When in DVD mode, the [DVD] button lights each time you press one of the DVD operation buttons.

#### [VHS]

- Switch the remote control mode and main unit's common output to VHS. Make sure you press before doing VHS operations. When in VHS mode, the [VHS] button lights each time you press one of the VHS operation buttons.

- 1 DVD/VHS on/off button (⏻, DVD/VHS) .....→ 13
- 2 Direct TV recording button (●, DIRECT TV REC) .....→ 28
- 3 DVD/VHS output button (OUTPUT, DVD/VHS) .....→ 17
- 4 Numeric buttons (0–9)
- 5 Cancel/Reset and asterisk button (\*, CANCEL/RESET)
- 6 Skip/Index buttons (⏮, ⏭, SKIP/INDEX)
- 7 Stop button (■, STOP)
- 8 Top menu and Direct Navigator button (TOP MENU, DIRECT NAVIGATOR)
- 9 Cursor buttons (▲, ▼, ◀, ▶)/Frame buttons (◀◀, ▶▶)/Enter button (ENTER)
- 10 Sub menu button (SUB MENU) .....→ 35
- 11 Manual programming and check button (PROG/CHECK)
- 12 Display button (DISPLAY) .....→ 44
- 13 VHS recording button (●, VHS REC) .....→ 57, 65

When you press this button in the DVD remote control mode, it is automatically switched to the VHS remote control mode.

- 14 Recording mode button (REC MODE).....→ 27, 57
- 15 External link button (EXT LINK) .....→ 29, 57
- 16 Audio button (AUDIO).....→ 24, 28, 61
- 17 VHS dubbing button (VHS ⚡, DUBBING).....→ 64
- 18 DVD dubbing button (⚡ DVD, DUBBING).....→ 62
- 19 DVD recording button (●, DVD REC) .....→ 27, 63

When you press this button in the VHS remote control mode, it is automatically switched to the DVD remote control mode.

- 20 Timer recording button (⌚, TIMER) .....→ 30, 58
- 21 Status display button (STATUS) .....→ 53, 61
- 22 Time slip button (TIME SLIP) Jet rewind button (◀◀, JET REW) .....→ 23, 26, 55
- 23 Return button (RETURN)
- 24 Functions button (FUNCTIONS) .....→ 53, 60
- 25 Pause button (⏸, PAUSE)
- 26 Play button (▶, PLAY)
- 27 Slow/Search, rewind, forward buttons (◀◀, ▶▶, SLOW/SEARCH, REW, FF)
- 28 Create Chapter button (CREATE CHAPTER) .....→ 23
- 29 Input select button (INPUT SELECT) .....→ 66
- 30 VIDEO Plus+ button (VIDEO Plus+) .....→ 30, 58
- 31 TRACKING/V-LOCK .....→ 56 /Channel up/down buttons (CH, ▲, ▼)
- 32 DVD select button (DVD) .....→ Left
- 33 VHS select button (VHS) .....→ Left
- 34 TV operation buttons
  - TV on/off button (TV, ⏻) .....→ 9
  - TV input mode selector (TV, AV).....→ 9
  - Channel up/down buttons (TV, CH, ▲, ▼).....→ 9
  - Volume up/down buttons (TV, VOLUME, +, -) .....→ 9

# Control reference guide

## Batteries

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

### Do not;

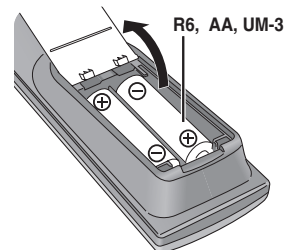
- mix old and new batteries.
- use different types at the same time.
- heat or expose to flame.
- take apart or short circuit.
- attempt to recharge alkaline or manganese batteries.
- use batteries if the covering has been peeled off.

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

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

### Note

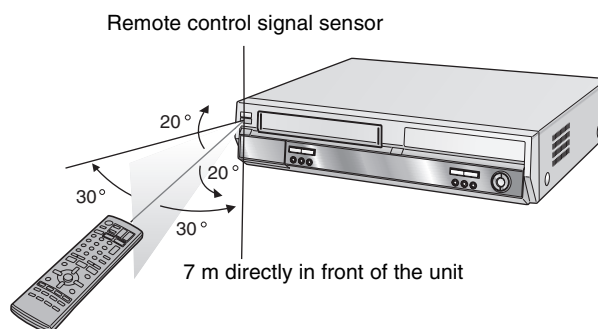
- If you cannot operate the unit or TV using the remote control after changing the batteries, please re-enter the codes (→ 9).



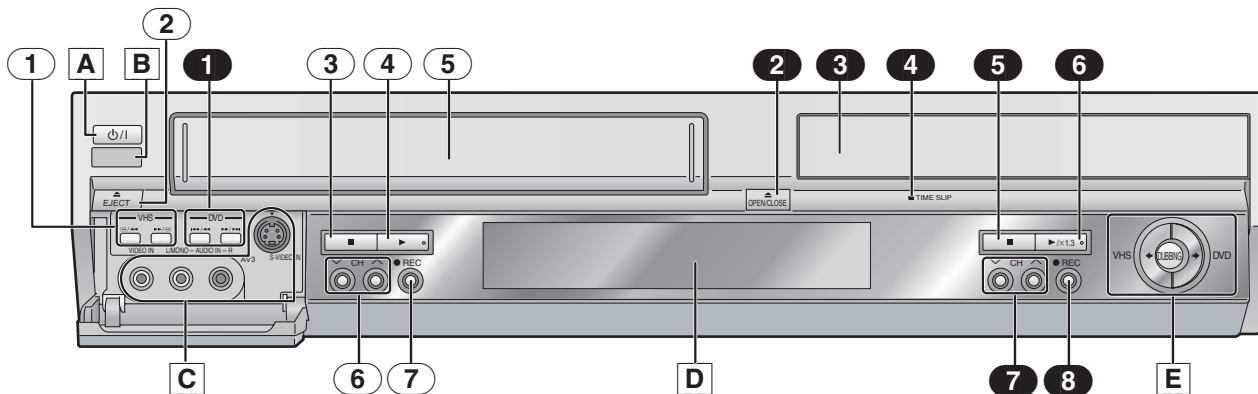
## Use

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

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



## Main unit



### Common to DVD/VHS

- A** DVD/VHS on/off button (⏻/⏮)
- B** Remote control signal sensor ..... → above
- C** AV3 input terminals (AV3) ..... → 18
- D** Display ..... → 8
- E** One Touch Dubbing operation button
  - From VHS to DVD ..... → 62
  - From DVD to VHS ..... → 64

### VHS

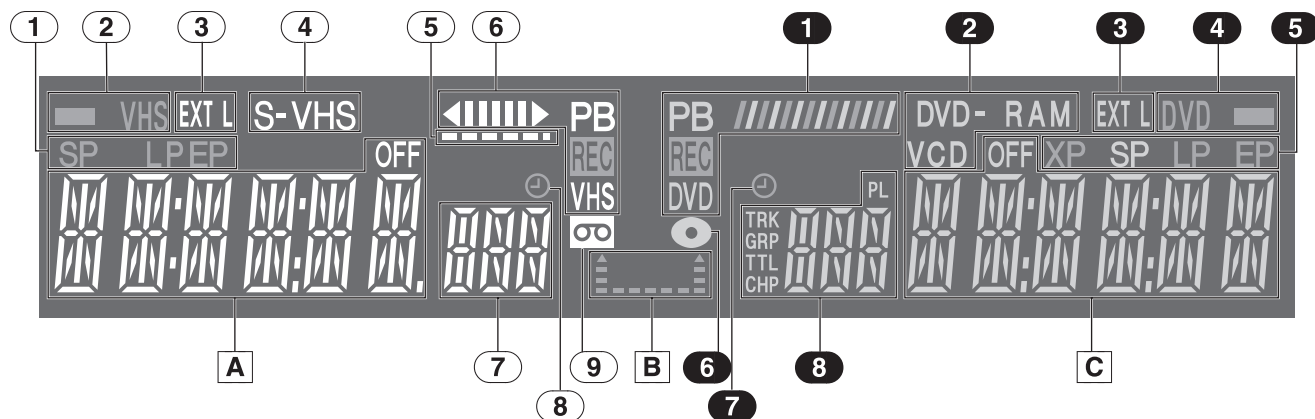
- 1** VHS Search buttons (⏮/⏪, ⏩/⏭) ..... → 55
- 2** Cassette eject button (⏏, EJECT) ..... → 54
- 3** VHS Stop button (■) ..... → 59
- 4** VHS Play button (▶)
- 5** Cassette compartment
- 6** VHS Channel up/down buttons (CH, ▲, ▼)
- 7** VHS Recording button (●, REC) ..... → 57

### DVD

- 1** DVD Skip/Slow/Search buttons (⏮/⏪, ⏩/⏭) .. → 23
- 2** Disc tray open/close button (⏏, OPEN/CLOSE) ..... → 21
- 3** Disc tray ..... → 21
- 4** Time slip indicator (TIME SLIP) ..... → 26
  - While both recording and play are activated, this indicator lights up.
- 5** DVD Stop button (■)
- 6** DVD Play/×1.3 button (▶/×1.3)
- 7** DVD Channel up/down buttons (CH, ▲, ▼)
- 8** DVD Recording button (●, REC) ..... → 27

# Control reference guide

## The unit's display



### Common to DVD/VHS

#### A Main display

- Current time
- VHS recording and play counter
- Miscellaneous messages, etc.

#### B Dubbing direction indicator

#### C Main display

- Current time
- Disc play counter
- Miscellaneous messages, etc.

### VHS

#### 1 Tape speed indicator (→ 57)

- SP: When recording or playing in the Normal mode.
- LP: When playing in the Long play mode.
- EP: When recording or playing in the Extra long play mode.

#### 2 VHS output indicator

#### 3 External link indicator (→ 57)

##### On:

When a linked timer recording with external device is in standby mode, or being performed.

#### 4 S-VHS dubbing indicator (→ 62)

When performing S-VHS dubbing.

#### 5 Remaining tape time indicator

#### 6 Tape operation status

- The operation status of this unit, such as playback fast forward, etc.

#### 7 Channel indicator

#### 8 Timer programme display (⊖) (→ 58)

##### On:

When in timer recording standby mode, or while timer recording is in progress.

##### Flashes:

10 minutes before the start of timer recording if the unit has not been put in timer recording standby mode.

#### 9 Tape indicator

### DVD

#### 1 Disc operation status

#### 2 Disc type

#### 3 External link indicator (→ 29)

##### On:

When a linked timer recording with external device is in standby mode, or being performed.

#### 4 DVD output indicator

#### 5 Recording mode (→ 27)

- XP SP LP EP (all on): FR mode (→ 28)

#### 6 Disc indicator

#### 7 Timer programme display (⊖) (→ 30)

##### On:

When in timer recording standby mode, or while timer recording is in progress.

##### Flashes:

10 minutes before the start of timer recording if the unit has not been put in timer recording standby mode.

#### 8 Channel position indicator

- TRK:** track number
- GRP:** group number
- TTL:** title number
- CHP:** chapter number
- PL:** play list number

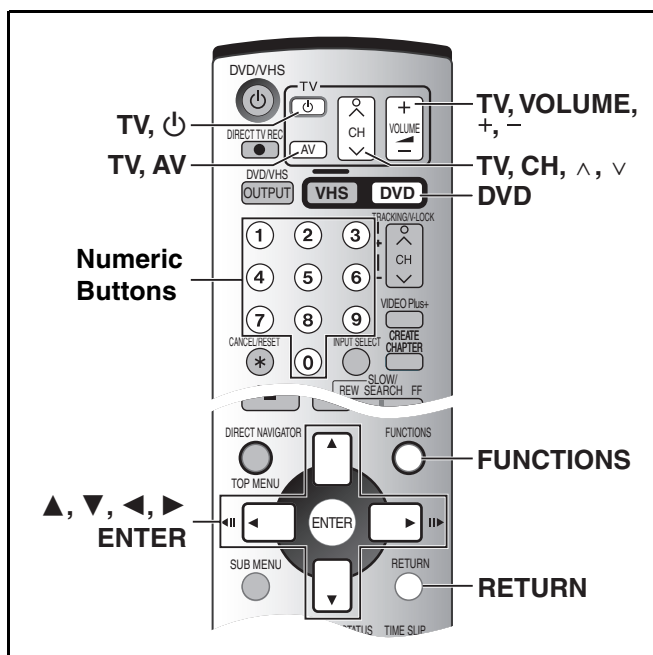
### Note

- A half mirror finish is used for the unit's display so the display may occasionally be difficult to see depending on surrounding lighting conditions.



# Control reference guide

## TV operation



You can control TVs by entering the remote control code.

### Preparation

- Turn on the TV.

- 1 Refer to the chart below for the code for your TV.
- 2 Press and hold [TV, ⏻] and enter the 2-digit code with the numeric buttons.

- e.g.: "01": [0]→[1].

- After entering the code, test the remote control by turning on the TV and changing channels.

### Note

- If there is more than one code, repeat the procedure until you find the code that allows correct operation.
- If your TV brand is not listed or if the code listed here does not allow control of your TV, this remote is not compatible with your TV.

### Operation:

- On and off: [TV, ⏻]
- Video input mode: [TV, AV]
- Channels: [TV, CH, ^, v]
- Volume: [TV, VOLUME, +, -]

### Button

- [TV, ⏻]
- [TV, AV]
- [TV, CH, ^, v]
- [TV, VOLUME, +, -]

### List of TVs Compatible with the unit's Remote Control Manufacture and Code No.

<b>Panasonic</b>	01, 02, 03, 04, 44	<b>GOODMANS</b>	05, 06, 31	<b>NOKIA</b>	25, 26, 27	<b>SANYO</b>	21
<b>AIWA</b>	35	<b>GRUNDIG</b>	09	<b>NORDMENDE</b>	10	<b>SBR</b>	06
<b>AKAI</b>	27, 30	<b>HITACHI</b>	22, 23, 31, 40, 41, 42	<b>ORION</b>	37	<b>SCHNEIDER</b>	05, 06, 29, 30, 31
<b>BLAUPUNKT</b>	09	<b>INNO HIT</b>	34	<b>PHILIPS</b>	05, 06	<b>SELECO</b>	06, 25
<b>BRANDT</b>	10, 15	<b>IRRADIO</b>	30	<b>PHONOLA</b>	31, 33	<b>SHARP</b>	18
<b>BUSH</b>	05, 06	<b>ITT</b>	25	<b>PIONEER</b>	38	<b>SIEMENS</b>	09
<b>CURTIS</b>	31	<b>JVC</b>	17, 39	<b>PYE</b>	05, 06	<b>SINUDYNE</b>	05, 06, 33
<b>DESMET</b>	05, 31, 33	<b>LOEWE</b>	07	<b>RADIOLA</b>	05, 06	<b>SONY</b>	08
<b>DUAL</b>	05, 06	<b>METZ</b>	28, 31	<b>SABA</b>	10	<b>TELEFUNKEN</b>	10, 11, 12, 13, 14
<b>ELEMIS</b>	31	<b>mitsubishi</b>	06, 19, 20	<b>SALORA</b>	26	<b>THOMSON</b>	10, 15
<b>FERGUSON</b>	10	<b>MIVAR</b>	24	<b>SAMSUNG</b>	31, 32, 43	<b>TOSHIBA</b>	16
<b>GOLDSTAR/LG</b>	31	<b>NEC</b>	36	<b>SANSUI</b>	05, 31, 33	<b>WHITE WESTINGHOUSE</b>	05, 06

### Switching to the AV input on your Panasonic TV

- Press [AV] to switch to the AV input. Each press of [AV] switches between "TV reception" and "AV input(s)".

## Remote Setting

If other Panasonic products are placed close together, change the remote control code on the main unit and the remote control (the two must match).

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

### Preparation

- Press [DVD].

- 1 While stopped Press [FUNCTIONS].
- 2 Select "SETUP" with [▲, ▼, ◀, ▶] and press [ENTER].
- 3 Select "Others" with [▲, ▼] and press [◀, ▶].
- 4 Select "Remote Control" with [▲, ▼] and press [ENTER].
- 5 Press [▲, ▼] to select the code (MODE 1, MODE 2 or MODE 3) and press [ENTER].  
The code on the unit has been set.

- 6 While pressing [ENTER], press and hold for about 2 seconds the numeric button ([1], [2], or [3]) corresponding to the code you selected in step 5.  
The code on the remote control has been set.

- 7 Press [RETURN].

When the following display appears when you use a remote control with a different code.



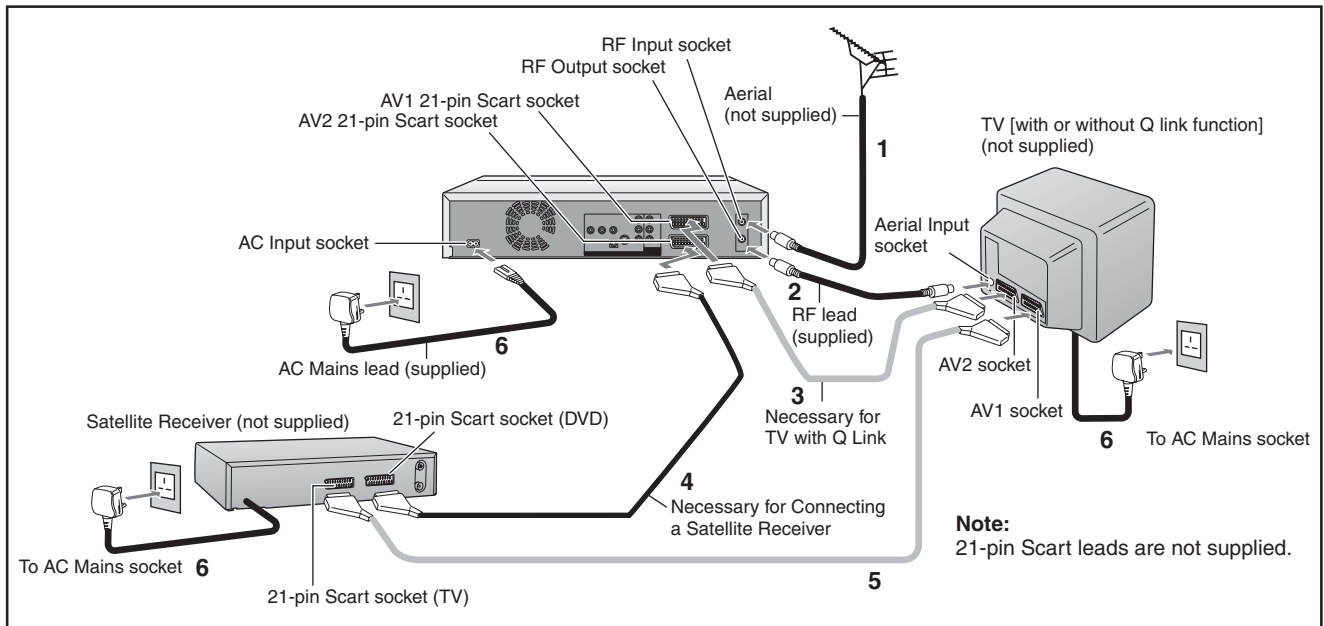
The unit's remote control code

If you are trying to use this unit's remote control, change its code to match the unit's (→ step 6).

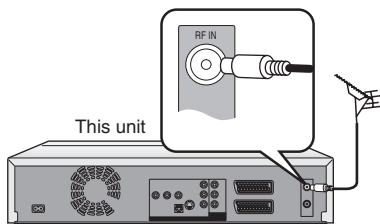
# Connection and Set up

## Connections (with Scart cables)

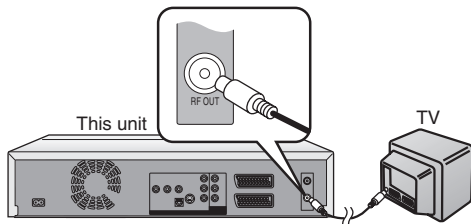
Follow the step-by-step guide below.



**1** Connect the aerial to the RF Input socket of the DVD Video Recorder.

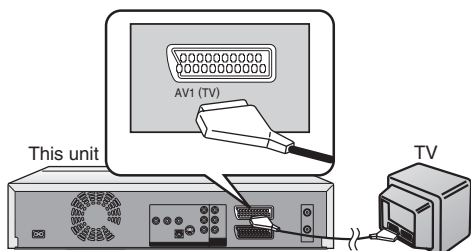


**2** Connect the RF lead from the RF Output socket of the DVD Video Recorder to the TV aerial input socket.



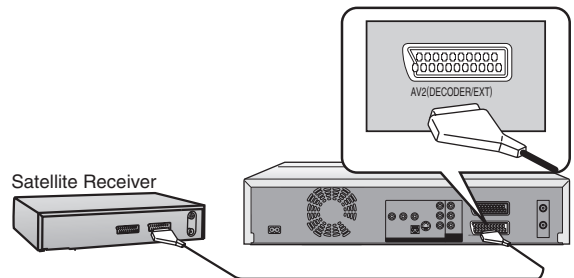
**3** Connect the AV1 21-pin scart socket to TV scart socket (optional).

- This is necessary for Download from TV with Q Link function.
- If you use Panasonic TV with RGB output capability and want to receive RGB signals (→ 16), connect this unit to the AV1 socket on the TV.



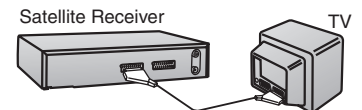
**4** Connect the AV2 21-pin scart socket to the DVD Video Recorder Scart Socket on your Satellite Receiver/Digital Sat receiver.

- If you are not connecting a Satellite Receiver, skip this step.



**5** Connect the TV scart socket of your Satellite Receiver to the AV1 scart socket of your TV (optional).

- If you are not connecting a Satellite Receiver, skip this step.



**6** Plug the TV, DVD Video Recorder and Satellite Receiver into the mains as shown at top of the page.

### Hints

- Q Link offers a range of convenient functions. For example, downloading of the tuning positions of all available TV stations into your unit's memory if you connect the unit to your TV with a fully wired 21-pin Scart cable (not supplied). Features similar to Q Link have different names and may not work the same. [Q Link] is a registered trademark of Panasonic. [DATA LOGIC] is a registered trademark of Metz. [Easy Link] is a registered trademark of Philips. [Megalogic] is a registered trademark of Grundig. [SMARTLINK] is a registered trademark of Sony.

For details, refer to your TV's operating instructions or consult your dealer.

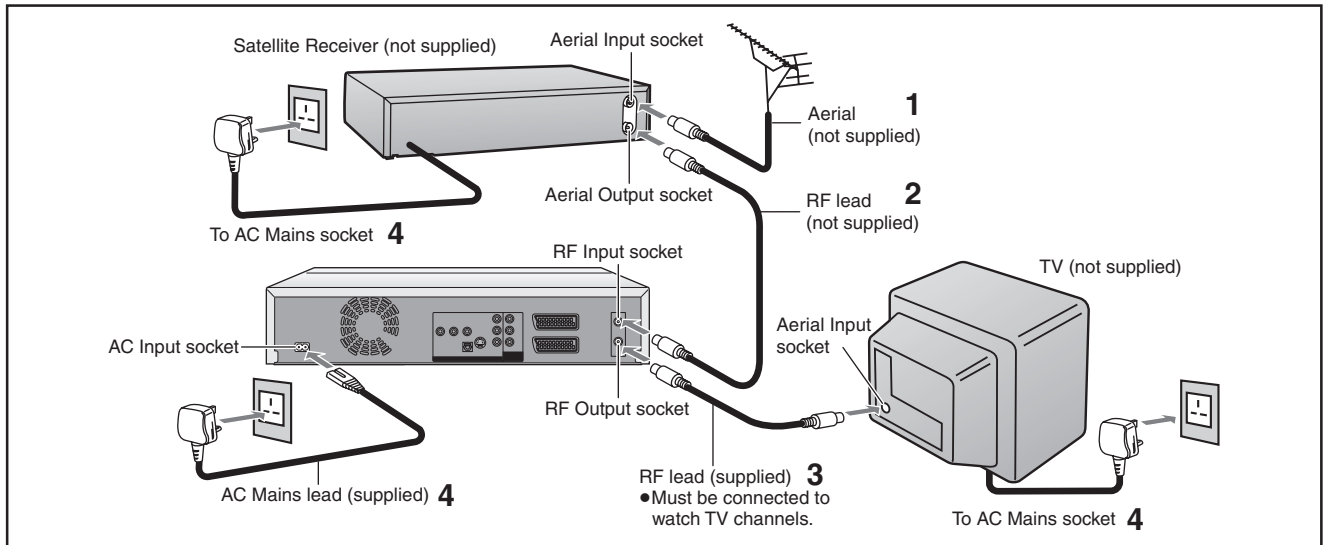
- Unlike in most commercially available 21-pin Scart cables, all 21 pins of one plug on a fully wired 21-pin Scart cable are connected to the matching pins on the other end of the cable.

# Connection and Set up

## Connections (without Scart cables)

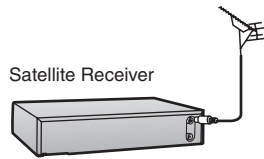
If you do not have any Scart cables and your TV is not Q Link type, you can connect your DVD Video Recorder to a TV and Satellite Receiver using RF leads.

Using this connection method may however be difficult to obtain a clear picture from the Satellite Receiver. For this reason it is not recommended for inexperienced users. (See preferred connection on page 10.)

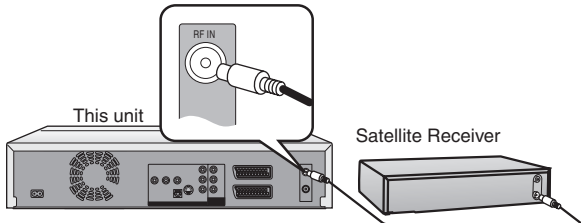


**1 Connect the aerial to the aerial input socket of the Satellite Receiver.**

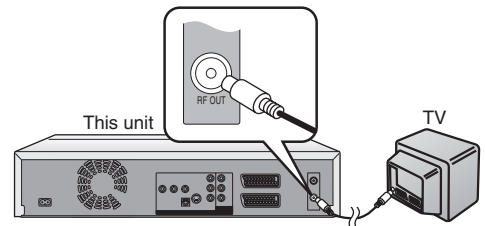
- If you do not have a Satellite Receiver, connect the aerial to the RF Input socket of the DVD Video Recorder and go to step 3.



**2 Connect the aerial from Satellite Receiver to the RF Input socket.**



**3 Connect the RF Output socket to the TV aerial socket.**



**4 Plug the TV, DVD Video Recorder and Satellite Receiver into the mains as shown at top of the page.**

**Notes**

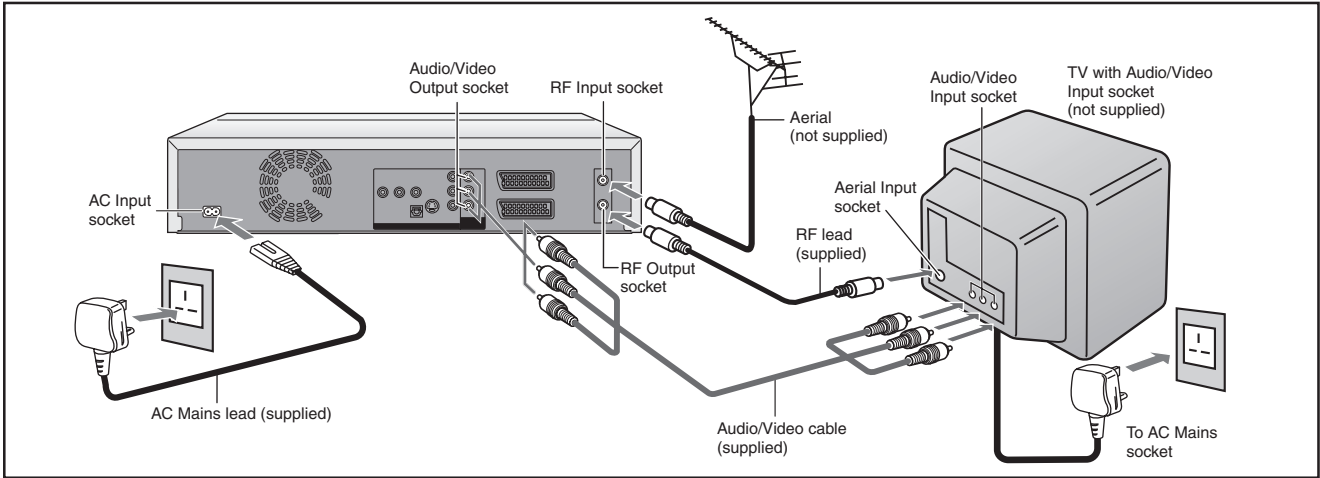
- Ensure that your satellite receiver is switched on before starting Auto Setup.
- If, after Auto Setup is complete, the programme position of the satellite receiver is not to your preference, you can rearrange the programme position and enter name manually (→ 50).

# Connection and Set up

## Connections (with Video cables)

When use Video cables for connection, connect it as follows.

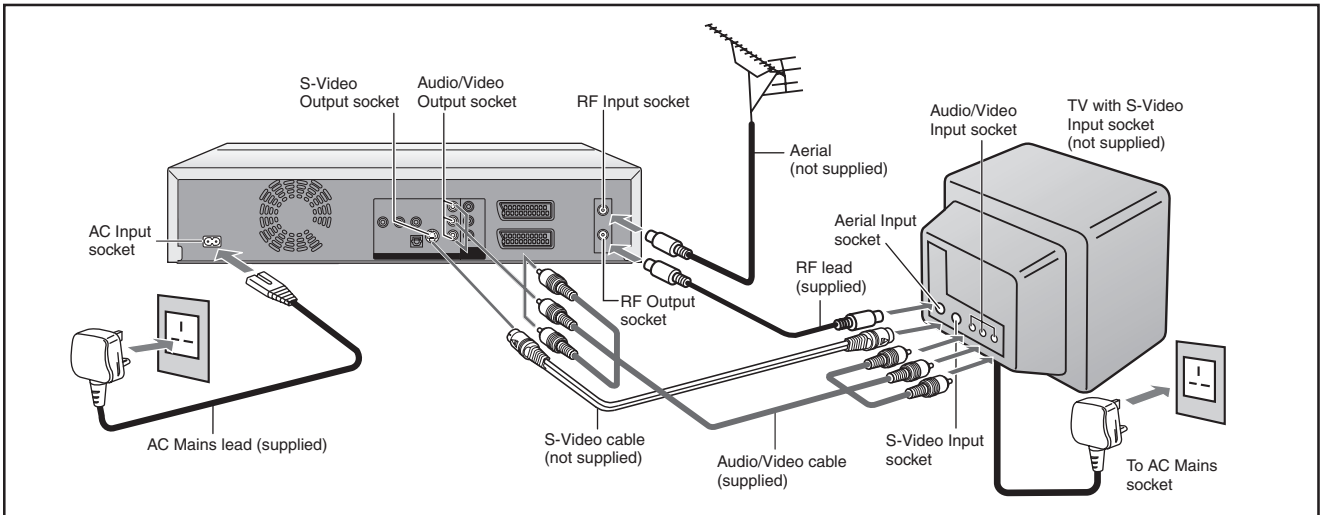
Connect it to the DVD/VHS output on this unit. (About DVD/VHS output → 17)



## Connections (with S-Video cable)

Connections and preparations for a TV with S-Video socket.

The conventional video sockets of DVD Video Recorder output (input) a combination of the luminance signal (Y) and colour signal (C) which are recorded on the disc. The S (SEPARATED Y/C)-Video socket allows separate transmission of signals in order to obtain clearer pictures. The S-Video terminal on this unit is the output terminal for DVD. (→ 17)



## Connecting a television with Component video out terminals

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

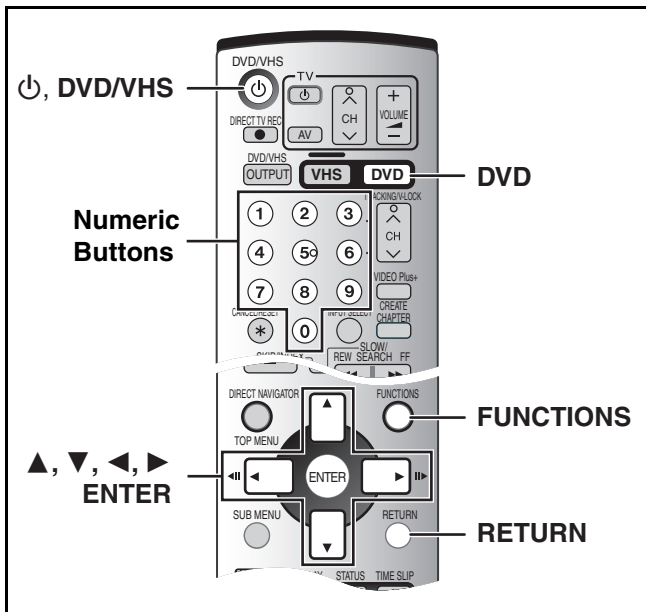
Connect to terminals of the same colour.

Component signal outputs the colour difference signals (PB/PR) and luminance signal (Y) separately in order to achieve high fidelity in reproducing colours. If the television is compatible with progressive output, a high quality picture can be output because this unit's component video output terminal outputs a progressive output signal. However, the S-Video terminal on this unit is the output terminal for DVD.

- More information about progressive output (→ 17)

# Connection and Set up

## Auto Setup (with Q Link Functions)



If you do not have a Q Link TV, ignore this page and go to page 14. The Preset Download function can automatically copy the tuning position of all available TV stations into the DVD Video Recorder's memory when you connect the DVD Video Recorder using a fully-wired 21-pin Scart cable to a TV equipped with the Q Link function.

### Preparation

Perform the following operation steps exactly as described to ensure that the Preset Download function works correctly.

- First of all, make sure that the DVD Video Recorder is switched off.

### To Set Up this DVD Video Recorder with a brand-new Q Link TV

#### 1 Switch the TV on.

The TV automatically starts to tune all available TV stations and to adjust the clock. (This is called Auto Setup function.)

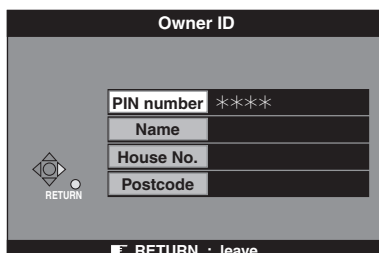
- When the TV has finished its own auto setup, the DVD Video Recorder is automatically switched on, and the downloading of the setup data from the TV to the DVD Video Recorder starts.



Indication during downloading

- #### 2 When Download has finished, the screen for the Owner ID setting menu appears. Press [▶] and the numeric buttons to enter a 4-digit PIN number.

- Make sure that you will remember the PIN number (make a note of it).



Menu for Owner ID setting

- #### 3 Press [ENTER] and [▼]. The cursor moves to "Name".
- #### 4 Press [▶].

- #### 5 Press [▲, ▼, ◀, ▶] to select a letter and then press [ENTER].
- Repeat this to enter the name.
- #### 6 Enter "House No." and "Postcode" in the same way.
- #### 7 Press [RETURN].
- The Owner ID setting disappear.
- If the clock setting menu appears  
Set the clock manually (→ 52).
- To confirm that stations have been tuned correctly (→ 50)
- To restart the downloading of the setup data from TV  
If you accidentally switch on the DVD Video Recorder before the TV, downloading of the setup data from the TV may not be performed correctly. In this case, follow the steps below.
- 1) Wait until the Auto Setup is complete on both the TV and the DVD Video Recorder.
  - 2) Press [DVD].
  - 3) Press [FUNCTIONS] to display the top window on the TV screen and then use [▲, ▼, ◀, ▶] to select "SETUP" and press [ENTER].
  - 4) Use [▲, ▼, ◀, ▶] to select "Tuning" and then "Download from TV".
  - 5) Press [ENTER] and select "Yes". Downloading of the setup data from the TV to the DVD Video Recorder starts.
  - 6) When the programme position and the current time appear in the DVD Video Recorder display, downloading is complete.

### Note

- If you use a Panasonic Q Link TV and perform the operation step 1, starting the downloading of the setup data will automatically display the "Download from TV" indication. However, in case of a TV of another make, the "Download from TV" indication may not appear. In this case, select the AV input on your TV if you want to see the "Download from TV" indication.
- The explanations in this book refer to Panasonic Q Link TV and DVD Video Recorder, however they may also apply to other makes of TV and DVD Video Recorder with similar functions to Q Link. (See page 10 for details.)

### To Set Up this DVD Video Recorder with an existing Q Link TV

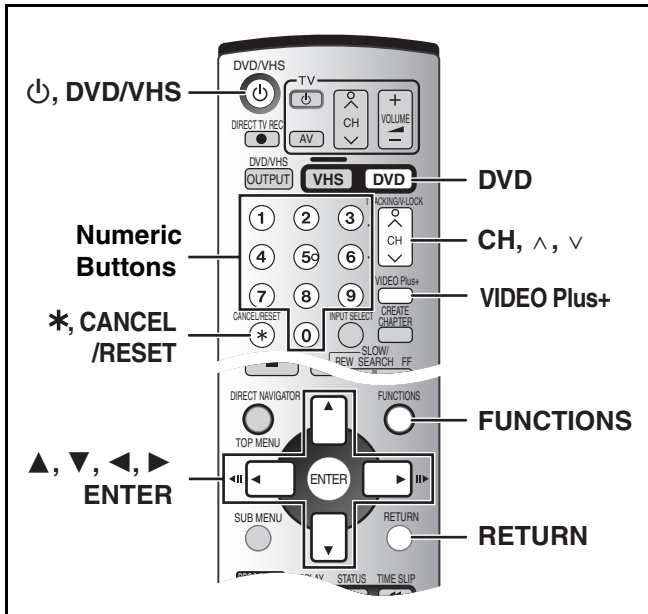
#### 1 Switch the TV on.



- #### 2 Select the AV input on your TV.
- #### 3 Press [⏻, DVD/VHS] to switch the DVD Video Recorder on.
- Downloading of the setup data starts automatically.
- #### 4 To set up the Owner ID, repeat the steps 2–7 above.

- If the clock setting menu appears  
Set the clock manually (→ 52).
- To confirm that stations have been tuned correctly (→ 50)
- To restart Preset Download (→ 51)
- If there is interference or a very poor picture appears on the TV screen, stop the RF output (→ 15 "Removing Interference")

# Connection and Set up



## Auto Setup (without Q Link Functions)

Auto Setup automatically tunes all available stations and sets the DVD Video Recorder's clock to the current date and time.

- 1 Switch the TV on.
- 2 Select the AV input on your TV.
- 3 Press [Power, DVD/VHS] to switch the DVD Video Recorder on.



- Auto Setup starts. This takes about 5 minutes.
- (If connected to your TV using the RF lead only) Select an unused channel pre-set on your TV and tune it to the RF output channel number shown on the DVD Video Recorder display (or until you can clearly see the Auto Setup screen). Store the new video playback channel (refer to the instructions for your TV).

- 4 To set up the Owner ID, repeat the steps 2–7 on the previous page.

### ■ If the clock setting menu appears

Set the clock manually (→ 52).

### ■ To confirm that stations have been tuned correctly (→ 50)

### ■ To restart Auto Setup (→ 51)

You can also use the following method to restart Auto-Setup. When the unit is on and stopped

**Press and hold [CH, ^] and [CH, v] on the DVD main unit for about 5 seconds.**

- All the settings except for the ratings level, ratings password, Owner ID and time settings return to the factory preset. The timer recording programmes are also cancelled.

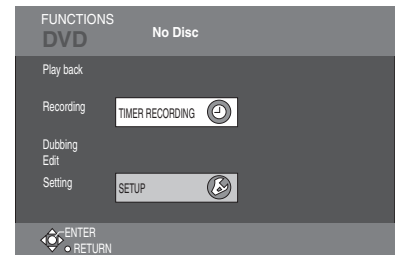
## Selecting TV screen type

Choose the setting to suit your television and preference.

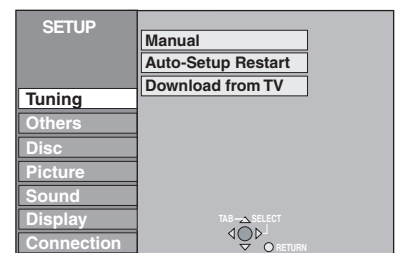
### Preparation

- Press [DVD].

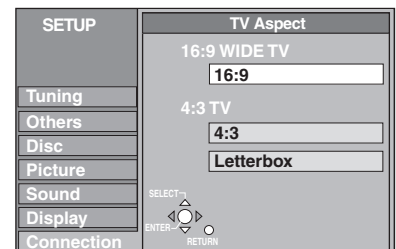
- 1 While stopped Press [FUNCTIONS].



- 2 Press [▲, ▼, ◀, ▶] to select "SETUP" and press [ENTER].



- 3 Press [▲, ▼] to select "Connection" and press [◀, ▶].
- 4 Press [▲, ▼] to select "TV Aspect" and press [ENTER].
- 5 Press [▲, ▼] to select the TV aspect and press [ENTER].



- **16:9:** 16:9 widescreen television (factory setting)
- **4:3:** 4:3 standard aspect television  
The sides of the widescreen picture are cut off so it fills the screen (unless prohibited by the disc) (→ 67, Pan & Scan).
- **Letterbox:** 4:3 standard aspect television  
Widescreen picture is shown in the letterbox style (→ 67, Letterbox).

### ■ To return to the previous screen

Press [RETURN].

### For your reference

Apart from "TV Aspect", other settings also affect how video appears on your TV. Check the following if video doesn't appear correctly on your TV.

- The video setting on the disc. How video appears is often specified by the disc itself.
- The video settings on your TV.

# Connection and Set up

## Removing Interference

TV screen



The picture with interference

In some cases, interference (lines or patterning) or a very poor picture may appear on the TV when the DVD Video Recorder is connected. If this happens, follow the steps below to change the video playback channel (RF output channel) to remove the interference.

### Preparation

- Press [DVD].

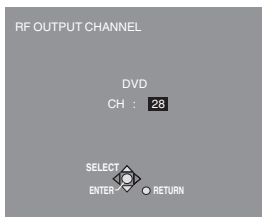
### 1 Press [FUNCTIONS] for more than 5 seconds.

The RF output channel number is displayed on the unit display.

### 2 Press the numeric buttons, [▲, ▼] or [CH, ▲, ▼] to select a channel number, which differs by 2 or 3 from the present channel number.

- (For example, if the original channel number was 28, enter 31.)

<Before Changing>



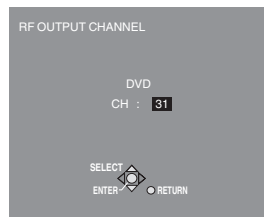
Test pattern indication

Unit display



Indication when the RF output channel is 28 (example)

<After Changing>



Test pattern indication

Unit display

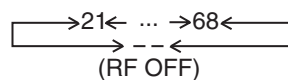


Indication after changing the RF output channel to 31 (example)

- Set the RF output channel of the DVD Video Recorder to [---] (RF OFF) when the DVD Video Recorder is connected to the TV via the 21-pin Scart cable.

Press the numeric (0) button or [CH, ▲, ▼] to display [---].

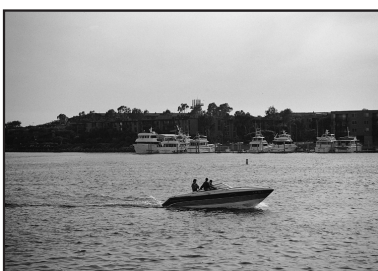
Skip the step 4, if using a 21-pin Scart cable.



### 3 Retune your TV until you receive the Test pattern.

- It may be necessary to repeat steps 1 and 2 above until you can see the Test pattern clearly.

### 4 Press [ENTER] to finish this setting.



The clear picture

## VIDEO Plus+ Codes for Satellite Receivers/Cable TV

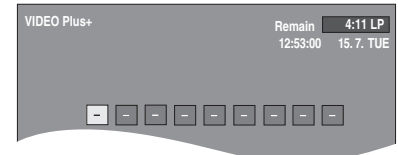
This unit is not designed to control (switch on or change channel) your satellite receiver or Cable TV box, however, it can be taught to recognise VIDEO Plus+ Codes for Satellite stations. The Satellite receiver or Cable TV box must be switched on and the correct station selected. Some receivers have their own timer facility for this purpose. Please refer to your Satellite Receiver/Cable TV box instructions for use of such timer facilities.

For your unit to recognise the VIDEO Plus+ Codes for each satellite station, you must teach your unit which channel or AV input to record from for the first time. Otherwise when setting a VIDEO Plus+ recording, the [---] symbol will appear in the channel position indicating that the unit does not know which channel position to set. Once you have set the channel/AV input once the unit will remember it whenever you use a VIDEO Plus+ Code for the station again.

### Preparation

- Turn on the TV and the unit. Select video playback channel on the TV.
- Press [DVD].

### 1 Press [VIDEO Plus+].



### 2 Enter a VIDEO Plus+ Code from a Satellite TV Guide for a satellite channel, e.g. Sky 1 using the numeric buttons.

- If you make a mistake, use [◀] to go back.

### 3 Press [ENTER]. [---] will appear instead of a channel number/AV input.

### 4 Use [▲, ▼, ◀, ▶] to select the channel or AV input that is to be used for recording from the satellite channel.

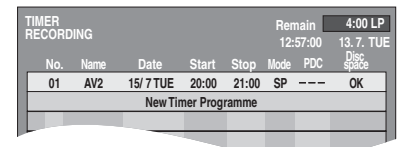
### 5 Press [ENTER] to memorise the setting.

- The unit will now automatically set the programme position or AV input correctly when a VIDEO Plus+ recording is set for this satellite station in the future.



### 6 Use [▲] to select the programme that you have just set.

- Now press [\*], CANCEL/RESET to delete it from the timer recording list. It is no longer needed.

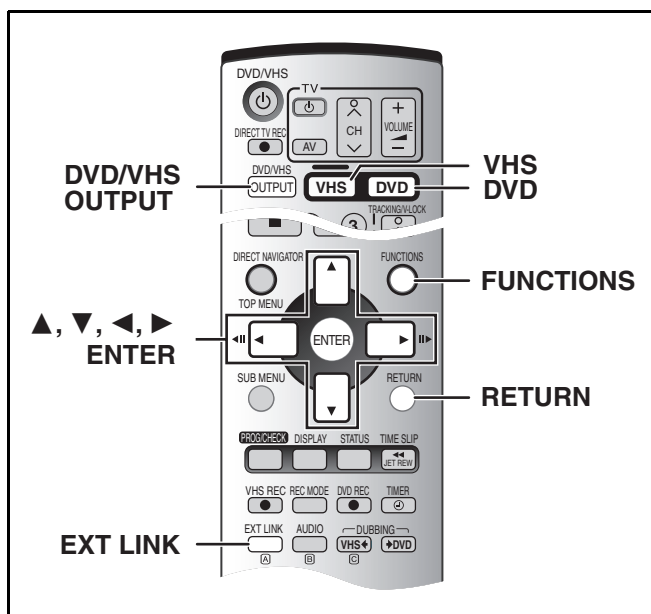


### 7 Repeat steps 1–6 above until you have set and deleted dummy timer recordings for each of the satellite stations that you will make VIDEO Plus+ recordings from.

### 8 Press [RETURN] when you have finished.

# Connection and Set up

## Recording from Set Top Boxes (STB) or other Satellite Receivers (SAT)



### Recording video signal by "Sky personal Planner" and "External Link 1" Functions

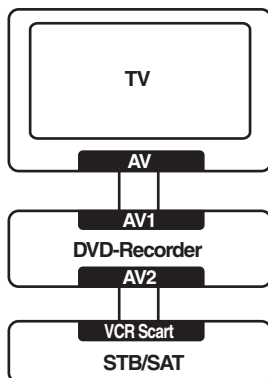
To record programmes from satellite receiver using "Sky Personal Planner" function together with the "External Link 1" function of this DVD Video Recorder:

- 1 Make connections as shown.
- 2 Change the settings in the SETUP menu (→ 49) as follows.

- To display the desired setting items, refer to the page 46.
- "AV1 Output" set to "Video (with component)" or "RGB (without component)" to suit the AV terminal of your TV.
- "AV2 Input" set to "Video".
- "AV2 Connection" set to "Normal".
- "Ext Link" set to "Ext Link 1".

- 3 Set up Personal Planner programmes as required.
- 4 When you want to record a programme on DVD (VHS), press [DVD] ([VHS]) and then press [EXT LINK] button (→ 29, 57).

"External Link 1" function can only be used with the "Sky Personal Planner" function for timer recording of video signal from the "VCR Scart" terminal of the Sky Digital Set Top Box.



### Recording RGB Signals

Most Satellite Receivers are capable of outputting RGB signals (below) for viewing on TV through a Scart terminal (called "TV Scart" on a Sky Digital STB).

In the case of a Sky Digital STB, recording of RGB signals from the "TV Scart" terminals is possible, but the "Personal Planner" function for timer recording cannot be used in conjunction with the "External Link" function of this DVD Video Recorder.

To record programmes by RGB signals:

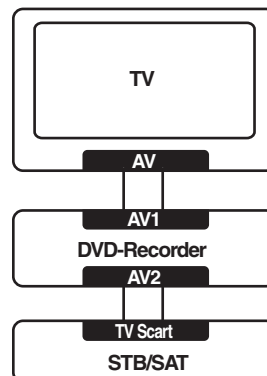
- 1 Make connections as shown.
- 2 Set your Sky Digital STB to output "RGB" signals.
- 3 Change the settings in the SETUP menu (→ 49) as follows.

- To display the desired setting items, refer to the page 46.
- "AV1 Output" set to "Video (with component)" or "RGB (without component)" to suit the AV terminal of your TV.
- "AV2 Input" set to "RGB (Not NTSC)".
- "AV2 Connection" set to "Normal".

- 4 Set up Personal Planner programmes as required.
- 5 Follow the steps for setting up manually programming timer programmings (→ 30, 58).

After setting Personal Planner programmes as required, Sky Digital STB must be left on (not set to standby) to ensure continuous output of RGB signals.

It is not possible to use the "External Link" function of the DVD Video Recorder for timer recording of RGB signals from the Sky Digital STB.



### RGB

This refers to the three primary colours of light, red (R), green (G), and blue (B) and also the method of producing video that uses them. By dividing the video signal into the three colours for transmission, noise is reduced for even higher quality images. If your TV is equipped with RGB input capability, by connecting with a fully wired 21-pin Scart cable you can see video using RGB output on this unit (PAL only) (→ 10).

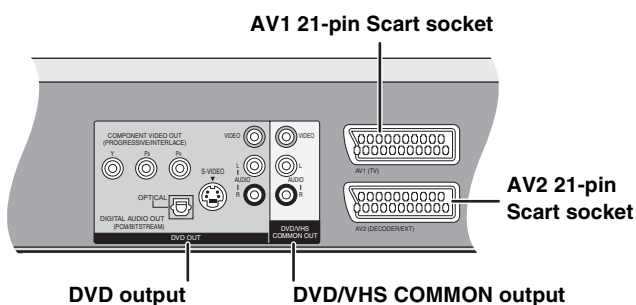
To output in RGB select "RGB (without component)" from "AV1 Output" in the SETUP menu (→ 49).



# Connection and Set up

## DVD output and DVD/VHS output

This unit has DVD/VHS COMMON output terminals which are common to both DVD and VHS, and DVD output terminals which can exclusively be used for DVD.



- For DVD/VHS COMMON output terminals, both DVD and VHS outputs can be switched.
- The DVD output terminals can only output the DVD signal.

- Even if “Automatic” is selected in “DVD / VHS Output” on “Others” Menu (→ 47), the desired output may not be selected depending on the operation. In this case, press [DVD/VHS OUTPUT] on the remote controller to switch manually.
- When the Video is switched from DVD to VHS or vice versa, the audio volume may suddenly increase or decrease. This is because when the audio output of this unit is connected to the TV or other, the audio output of the DVD is generally lower. When you increase the volume level of the TV or the amplifier to play back DVD audio, reduce it when playback is finished.

### Preparation

- Press [DVD].
- 1 While stopped  
Press [FUNCTIONS].
  - 2 Select “SETUP” with [▲, ▼, ◀, ▶] and press [ENTER].
  - 3 Select “Others” with [▲, ▼] and press [◀, ▶].
  - 4 Select “DVD / VHS Output” with [▲, ▼] and press [ENTER].
  - 5 Select “Automatic” or “Manual” with [▲, ▼] and press [ENTER].

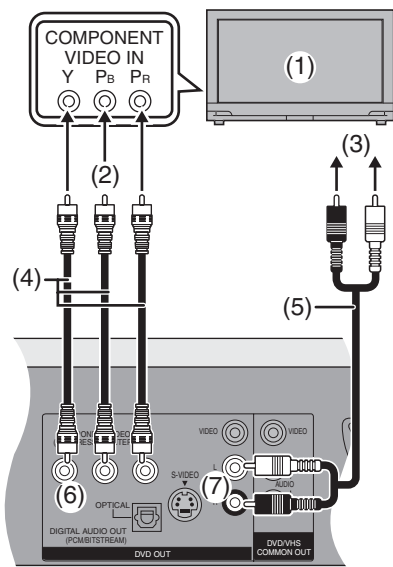
### Note

- The AV1 21-pin Scart socket and the AV2 21-pin Scart socket are common output terminal.

## Connecting a Television with Component video input terminals

You can enjoy progressive video by connecting this unit’s COMPONENT VIDEO OUT terminals to an LCD or plasma TV compatible with progressive video.

- (1) Television with Component video input terminals (not supplied)
- (2) Component video input (Y/Pb/Pr)
- (3) Audio input (L/R)
- (4) Video cable (not supplied)
- (5) Audio cable (not supplied)
- (6) Component video out (Y/Pb/Pr)
- (7) To AUDIO OUT (L/R)



### Preparation

- Press [DVD].

- 1 While stopped  
Press [FUNCTIONS].
- 2 Press [▲, ▼, ◀, ▶] to select “SETUP” and press [ENTER].
- 3 Press [▲, ▼] to select “Connection” and press [◀, ▶].
- 4 Press [▲, ▼] to select “Progressive” and press [ENTER].
- 5 Press [▲, ▼] to select “On” and press [ENTER].  
Output becomes progressive.

### ■ To return to the previous screen

Press [RETURN].

### ■ COMPONENT VIDEO OUT terminal

These terminals can be used for either interlace or progressive output and provide a purer picture than the S-VIDEO OUT terminal. Connection using these terminals outputs the colour difference signals (Pb/Pr) and luminance signal (Y) separately in order to achieve high fidelity in reproducing colours.

- The description of the component video input terminals depends on the television or monitor (e.g.: Y/Pb/Pr, Y/B-Y/R-Y, Y/Cb/Cr).

Connect to terminals of the same colour.

When making this connection, ensure you connect the audio cables to the corresponding audio input terminals on the television.

### ■ Regarding Progressive Television Picture

Progressive image aspect (height to width ratio) is set at a standard 16:9. DVD-Video which has been set at 16:9 will be displayed correctly. However, 4:3 video material will be stretched to the right and left when displayed.

### To view the picture at the right aspect

- For televisions that allow the aspect of progressive images to be adjusted, use the function provided on the television and adjust as necessary.
- For televisions which do not allow the aspect of progressive images to be adjusted, please set “Progressive” to “OFF”. (→ 45)

### Note

- When connected to a regular television (CRT: Cathode ray tube), even if it is progressive compatible, progressive output can cause some flickering. Turn off “Progressive” if this occurs (→ 49).
- Video will not be displayed correctly if connected to an incompatible television.
- There is no output from the COMPONENT VIDEO OUT terminals if “AV1 Output” in the SETUP menu is set to “RGB (without component)”. Set this item to “Video (with component)” (→ 49).
- If the unit is connected to the television through VIDEO OUT, S-VIDEO OUT or AV1 terminal, output will be interlace irrespective of the settings.

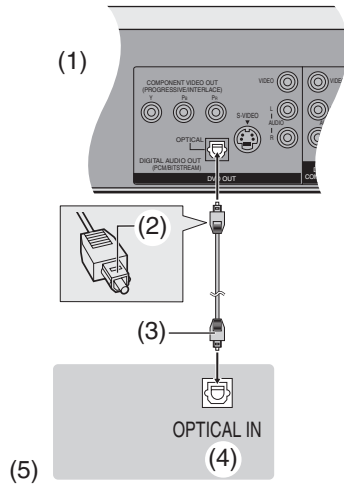
# Connection and Set up

## Connecting amplifier or system component

### ■ Connecting a digital amplifier or system component

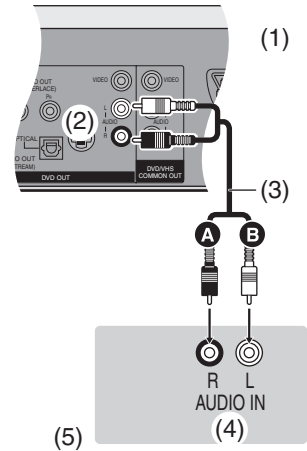
Connect an amplifier with a Dolby Digital, DTS and MPEG decoders. (→ 20)

- Use an optical digital audio cable.
- Change the settings in “Digital Audio Output” (→ 48).
- 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.



### ■ Connecting an analog amplifier or system component

- (1) Rear panel of this unit  
 (2) AUDIO OUT (L/R)  
 (3) Audio cable (not supplied)  
 A Red (R)  
 B White (L)  
 (4) Audio input (L/R)  
 (5) Amplifier's rear panel



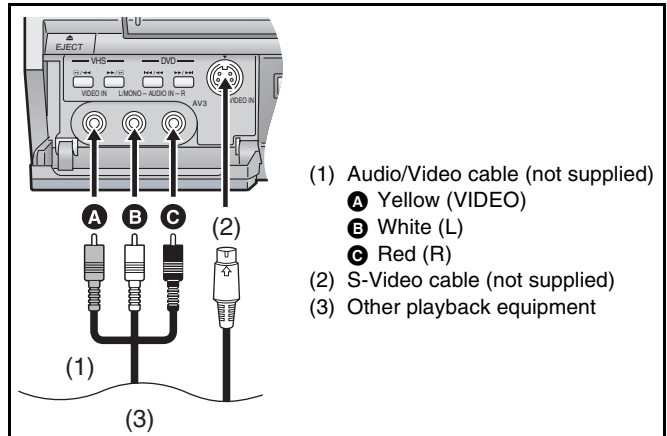
## Connecting an external device

### ■ When connecting to the AV3 input terminals on the front of the unit

Before connecting any cables, first make sure that the power for both units is off. Then after connecting any cable, turn on the both units.

#### Note

- If the audio output of the other equipment is monaural, connect to L/MONO. (Both left and right channels are recorded when connected through L/MONO.)



## Discs you can use

● On DVD-Audio, DVD-Video and Video CD, the producer of the material can control how these discs are played. This means that you may not be able to control play of a disc with some operations described in these operating instructions. Read the disc's information for details. The features you can use with the different types of discs are as follows.

Disc type	Logo	Indication	Possible operations*					Features
			A	B	C	D	E	
<b>DVD-RAM</b> 4.7 GB / 9.4 GB 12 cm, 2.8 GB 8 cm		<b>RAM</b>	✓	✓	✓	✓	✓	This is capable of rewriting and editing. There are 2 types of DVD-RAM, single-sided and double-sided. The capacity of the double-sided disc is 9.4 GB. (→ below)
<b>DVD-R</b> 4.7 GB 12 cm, 1.4 GB 8 cm for General Ver.2.0 4.7 GB 12 cm for General Ver.2.0/4×-SPEED DVD-R Revision 1.0		<b>DVD-R</b> Not finalized	✓	✓	✓**	-	-	This is a recordable disc with high compatibility and storage stability. (You cannot rewrite it.) This unit is capable of recording of DVD-R from 1× speed to 4× speed. (→ below)
		<b>DVD-V</b> Finalized	-	✓	-	-	-	
<b>DVD-Audio</b>		<b>DVD-A</b>	-	✓	-	-	✓	This is a disc for music with high sound quality. ● In this unit, it is played with 2 channels (stereos).
<b>DVD-Video</b>		<b>DVD-V</b>	-	✓	-	-	✓	This is a marketed software with high picture quality which already includes movies or music. ● <b>This unit can play discs with marks (region number) shown on the right.</b>   
<b>Video CD</b>		<b>VCD</b>	-	✓	-	-	✓	This is a marketed software which already includes music or video.
<b>Audio CD</b>		<b>CD</b>	-	✓	-	-	-	This is a marketed software which already includes music or audio.
		No	<b>MP3</b>	-	✓	-	-	-

\* Possible operations (✓: Possible, -: Impossible)

**A** Recording    **B** Playback    **C** Programme erase/Titling    **D** Creating play lists    **E** Selecting audios

\*\* The remaining of the disc will not be increased even if erased.

Visit Panasonic's homepage for more information about DVDs. <http://www.panasonic-europe.com/> (For Continental Europe)

## More about Discs

### DVD-RAM

- This unit is compatible with the Content Protection for Recordable Media (CPRM) system so you can record broadcasts that allow once copy, such as some CATV broadcasts, onto 4.7 GB/9.4 GB DVD-RAM (these are CPRM compatible). It is not possible to record onto DVD-R or 2.8 GB DVD-RAM.
- This unit cannot record to discs containing both PAL and NTSC signals. Play of discs recorded with both PAL and NTSC on another unit is not guaranteed.
- DVD-RAMs recorded on this unit cannot be played on incompatible players.
- We recommend using Panasonic's DVD-RAM, which is confirmed the compatibility with this unit.
- The aspect ratio of the recorded images will be the same as that of the originals.

### RAM (Cartridge discs)

#### ■ Protection of cartridge disc

You can protect the contents of your discs.

- With the write-protect tab in the protect position, you cannot record to, edit, or erase from the disc.



### DVD-R

- You can play DVD-R on compatible DVD players by finalizing it on this unit.
- The aspect ratio of the recorded images will be 4:3.
- DVD-R can be recorded only either of audio type (M1 or M2). Select the desirable audio type in "Bilingual Audio Selection" (→ 48).
- Some broadcasts carry signals that allow you to copy once, but you cannot record them with DVD-R. Use DVD-RAM to record these kinds of broadcast.
- Before finalizing, erasing programmes will not increase the disc's available time.
- After finalizing, these DVD-R can no longer be recorded on or edited.
- This unit may not be able to play back DVD-Rs other than Panasonic's product depending on the recording condition. We recommend using Panasonic's DVD-R, which is confirmed the compatibility with this unit.
- DVD-R recorded by this unit cannot be recorded by other Panasonic's DVD recorders in some cases.



### CD-R, CD-RW

- This unit can play finalized CD-R/CD-RW (audio recording disc) recorded under CD-DA (digital audio), Video CD or MP3 format. Some CD-R or CD-RW may not be played due to the condition of the recording.

## Discs that cannot be played

- 2.6 and 5.2 GB DVD-RAM, 12 cm
- 3.95 and 4.7 GB DVD-R for Authoring
- Unfinalized DVD-R recorded on other equipment
- DVD-Video with a region number other than the number for this unit or "ALL"
- DVD-ROM      • DVD-RW      • +R      • +RW
- CD-ROM      • CDV      • CD-G      • Photo CD
- CVD      • SVCD      • SACD      • MV-Disc
- PD      • Divx Video Disc, etc.

## Audio format logos

	<p><b>Dolby Digital (→ 48)</b> This unit can play Dolby Digital in stereo (2 channels). Connect an amplifier with a built-in Dolby Digital decoder to enjoy surround sound. This is a method of coding digital signals developed by Dolby Laboratories. Not only stereo (2 channel) audio, these signals can also be 5.1-channel audio. A large amount of audio information can be recorded on one disc by this method.</p>
	<p><b>DTS Digital Surround (→ 48)</b> Connect this unit to equipment that has a DTS decoder to enjoy DVDs with this mark. This surround system is used in many movie theatres around the world. The separation between channels is good and the compression ratio is low, so realistic sound effects are possible. DTS sound tracks are produced with the assumption that all channels will be used.</p>

## Which Disc Types is Playable on What TV

When you use the discs recorded either PAL or NTSC, refer to this table.

TV type	Disc	Playable*1
Multi-system TV	PAL	✓
	NTSC	✓*2
NTSC TV	PAL	—
	NTSC	✓*3
PAL TV	PAL	✓
	NTSC	✓*4(PAL60)

\*1 Playable (✓: Possible, —: Impossible)

\*2 If you select "NTSC" in "TV System" (→ 49), the picture may be clearer.

\*3 Select "NTSC" in "TV System" (→ 49)

\*4 If your TV is not equipped to handle PAL 525/60 signals the picture will not be appear correctly.

## Discs and accessories

### • DVD-RAM

You can also record signals which allow you to copy once, onto these discs.

9.4 GB, double-sided, type 4 cartridge:  
LM-AD240E

4.7 GB, single-sided, type 2 cartridge:  
LM-AB120E

4.7 GB, single-sided, non-cartridge:  
LM-AF120E

### • DVD-R

4.7 GB, single-sided, non-cartridge:  
LM-RF120LE

### • DVD-RAM/PD Disc cleaner:

LF-K200DCA1

### • DVD-RAM/PD Lens cleaner:

LF-K123LCA1

## Maintenance

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

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

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

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

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

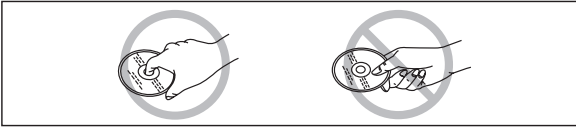
Use the recommended **DVD-RAM/PD Lens cleaner (LF-K123LCA1)** about once every year, depending on frequency of use and the operating environment.

Read the lens cleaner's instructions carefully before use.

## Disc handling

### How to hold a disc

Do not touch the recorded surface.



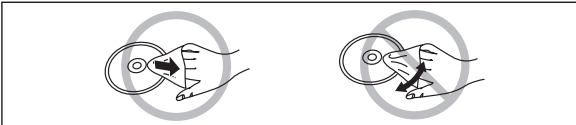
### If there is dirt or condensation on the disc

#### RAM DVD-R

- Clean with an optional DVD-RAM/PD Disc cleaner (LF-K200DCA1, where available).
- Do not use cleaners for CDs or cloths.

#### DVD-A DVD-V VCD CD

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.)
- Do not write on the label side with a ball-point pen or other writing instrument.
- Do not use record cleaning sprays, benzene, thinner, static electricity prevention liquids or any other solvent.
- Do not use scratch-proof protectors or covers.
- Do not use the following discs:
  - Disc with exposed adhesive from removed stickers or labels (rented discs etc.).
  - Discs that are badly warped or cracked.
  - Irregularly shaped disc, such as heart shapes.



- Do not place in the following areas:
  - In direct sunlight
  - In very dusty or humid areas
  - Near a heater

## Inserting discs

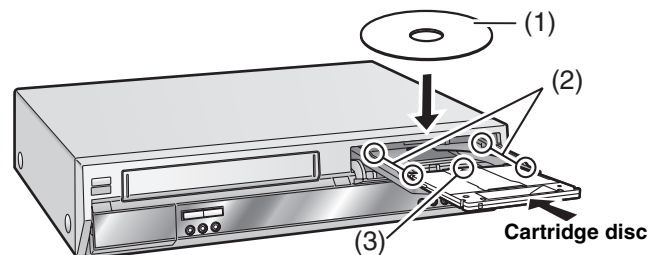
### 1 Press [▲, OPEN/CLOSE] on the main unit to open the tray.

You can insert a cartridge or non-cartridge disc.

#### Note

- Load double-sided discs so the label for the side you want to record/play is facing up.
- 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.
- When using 8 cm DVD-RAM, remove the disc from the cartridge and insert it, making sure you align it with the groove.

#### Non-cartridge disc

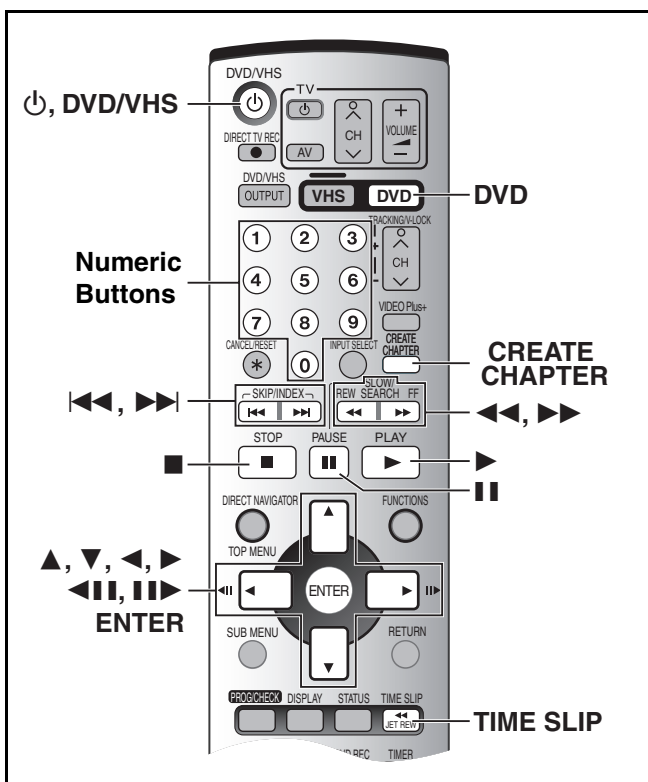


- (1) Insert label-up.
- (2) Insert inside the tray's guides.
- (3) Insert label-up with the arrow facing in.

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

- If you insert a DVD-RAM with the write-protect tab set to "PROTECT" (→ 19), play starts automatically.

## Playing discs



### Preparation

- Press [DVD].

RAM DVD-R DVD-A DVD-V VCD CD MP3

### 1 Press [⏻, DVD/VHS] to turn the unit on.

### 2 Insert a disc. (→ 21)

### 3 Press [▶, PLAY].

The disc tray closes and play begins.

(The unit takes some time to read the disc before play starts.)

- Playback starts from the most recently recorded title.

RAM DVD-R

- Playback starts from the beginning of the disc.

DVD-A DVD-V VCD CD MP3

### ■ To stop play

Press [■, STOP]. (→ right, “Resume Function”)

- A screen similar to the right may appear when you stop play. Press [■, STOP] again and you can use this unit’s tuner to watch TV. DVD-A DVD-V VCD CD MP3



### ■ To pause play

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

### ■ When a menu screen appears on the TV

DVD-A DVD-V VCD

VCD

Press the numeric buttons to select an item.

e.g.: “5”: [0]→[5]

“15”: [1]→[5]

DVD-A DVD-V

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

- You can also use the numeric buttons to select an item.

### Other buttons used to operate menus

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

### Note

- If “⊙” appears on the TV, the operation is prohibited by the unit or disc.

## Quick View (Play ×1.3)

RAM (Only with Dolby Digital)

You can increase the speed of play without disrupting the soundtrack.



### During Play

Press and hold [▶, PLAY].

### ■ To return to normal speed

Press [▶, PLAY].

### Note

- Output is in PCM when using a digital connection (→ 18).
- This is cancelled when you perform skip, pause, or when play reaches a point where a programme recorded in sound other than Dolby Digital starts.
- This does not work if the setting is “Off” in “PLAY ×1.3 & Audio during Search” (→ 48).
- This does not work when recording is in XP or FR mode during simultaneous recording and play (→ 26). RAM

## Starting play from where you stopped it (Resume Function)

RAM DVD-R DVD-A DVD-V VCD CD MP3

### 1 During play

Press

[■, STOP].

- The unit memorises the position.



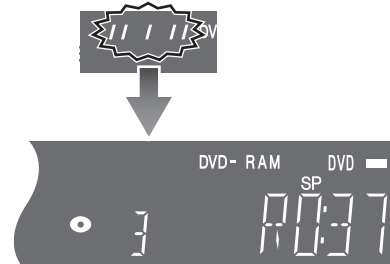
### 2 Press

[▶, PLAY].

- Play starts from where you stopped it.

### ■ To cancel the resume function

Press [■, STOP] several times while the unit remembers the position. (The position is also cleared when you turn the unit off.)



## Fast forward and rewind—SEARCH

RAM DVD-R DVD-A DVD-V VCD CD MP3

During play

Press [**◀◀**, SLOW/SEARCH] or [**▶▶**, SLOW/SEARCH].



- Press and hold [**◀◀**/**◀◀**] or [**▶▶**/**▶▶**] on the DVD main unit.
- There are 5 search speeds. Each press increases the search speed.
- Press [**▶**, PLAY] to restart playback.
- Sound is output only in the first level of fast forward. In the case of DVD-A (except parts of moving picture), CD and MP3, it is output in all levels.
- You can turn this sound off if you want (→ 48, “Sound”—“PLAY X1.3 & Audio during Search”).

## Slow-motion play

RAM DVD-R DVD-A (Motion picture parts only) DVD-V VCD

While paused

Press [**◀◀**, SLOW/SEARCH] or [**▶▶**, SLOW/SEARCH].

- Press and hold [**◀◀**/**◀◀**] or [**▶▶**/**▶▶**] on the DVD main unit.
- It pauses automatically when the slow motion play is continued for about 5 minutes.
- The speed increases up to 5 steps.
- Press [**▶**, PLAY] to restart playback.
- Forward direction only. **VCD**

## Frame-by-frame viewing

RAM DVD-R DVD-A (Motion picture parts only) DVD-V VCD

While paused

Press [**◀**], [**▶**], [**◀**] or [**▶**].

- Each press shows the next or previous frame.
- Press [**▶**, PLAY] to restart playback.
- Forward direction only. **VCD**

## Skipping

RAM DVD-R DVD-A DVD-V VCD CD MP3

During play or while paused

Press [**◀◀**, SKIP] or [**▶▶**, SKIP].

- On the DVD main unit, press [**◀◀**/**◀◀**] or [**▶▶**/**▶▶**].
- Each press increases the number of skips.

## Direct Play

RAM DVD-R DVD-A DVD-V VCD CD MP3

Starting play from a selected title, chapter or track.

During play

Press the numeric buttons to select the item.

e.g.: “5”: [0]→[5] **MP3** “5”: [0]→[0]→[5]  
 “15”: [1]→[5] “15”: [0]→[1]→[5]

**DVD-A**

A group number can be specified while the screen saver is displayed.

- e.g.: “5”: [5]
- This works only when stopped (screen saver is displayed) with some discs.

### Playing bonus groups

Some discs contain bonus groups. If a password screen appears after selecting a group, enter the password with the numeric buttons and press [ENTER]. Refer also to the disc’s jacket.



## Displaying the TV image as a picture-in-picture/ Selecting an amount of time to skip— Time Slip

RAM DVD-R

Skips the specified time.

Displays the TV image being received as a picture-in-picture.

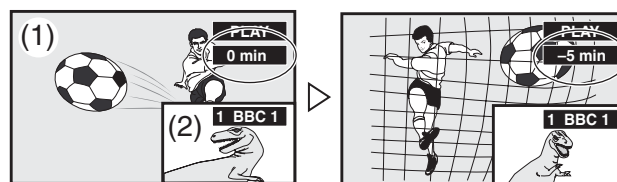
### 1 During play

Press [TIME SLIP]. (Press again to cancel.)

- You will hear the playback audio.
- The grey background does not appear on the receiving screen even if you select “On” from the “Grey Background” in the SETUP menu (→ 49).

### 2 Press [**▲**, **▼**] to enter the time and press [ENTER].

- Play skips the time you entered.
- Press to alter in 1-minute units. Press and hold to alter in 10-minute units.



(1) Play images  
(2) Current receiving images

- You will hear the playback audio.
- You can change the receiving channel.
- You cannot change the channel being received while recording.

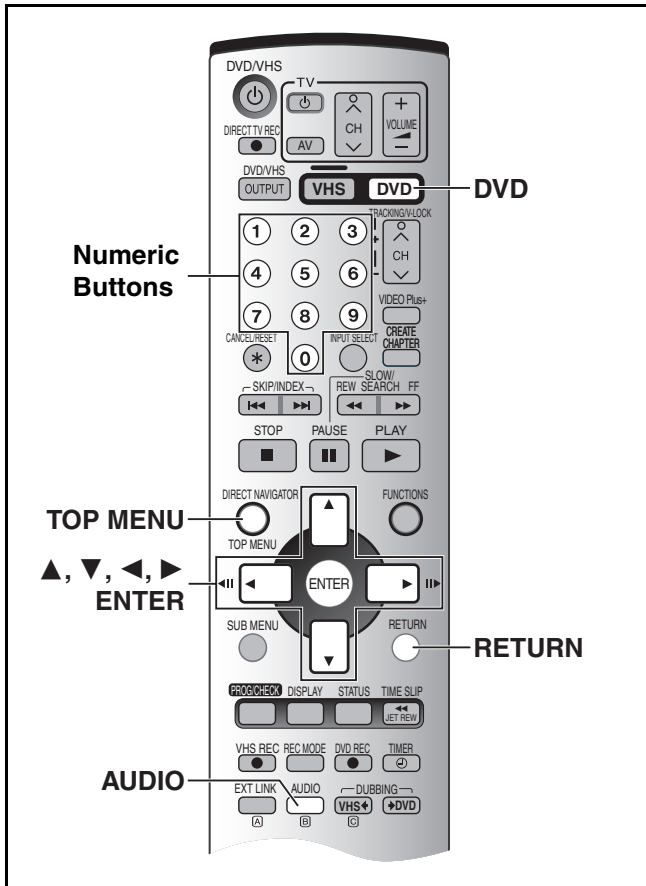
## Divide a title into chapters

RAM

### 1 During play

Press [CREATE CHAPTER].

- Press [**◀◀**, SKIP] or [**▶▶**, SKIP] to skip to the start of a chapter.
- You cannot divide when recording and playing at the same time.

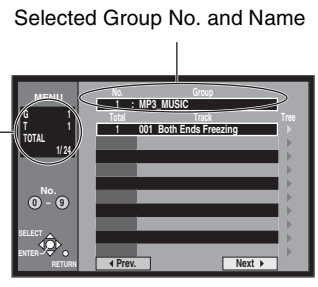


## Using menus to play MP3 discs

**MP3**  
This unit can play MP3 files recorded on CD-R/RW with a computer. Files are treated as tracks and folders are treated as groups. "Total" means total number of all MP3 files (all tracks in all groups) recorded in the disc.

- 1 During stop or play Press [TOP MENU].**
  - The file list appears.

**G:**  
The Group Number  
**T:**  
Track Number in the Group  
**TOTAL:**  
Selected Track Number/  
Total Track Number



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

Play continues to the last track in the last group.

- “□” indicates the track currently playing.
- You can also select the track with the numeric buttons, directly.
  - e.g.: The track “006.mp3” of Group “002” of the illustration on the right,  
“6”: [0] → [0] → [6]
  - The track “010.mp3” of Group “003” of the illustration on the right,  
“10”: [0] → [1] → [0]

**■ To show other pages**

Select “◀ Prev.” or “Next ▶” with [▲, ▼, ◀, ▶] and press [ENTER].

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

**■ To exit the file list**

Press [TOP MENU] or [RETURN].

**Preparation**  
● Press [DVD].

## Changing audio during play

Press [AUDIO] to select the audio type.

**RAM VCD** (→ 53)  
LR→L→R  
↑

e.g.: **RAM**  
“L R” is selected

**DVD-A DVD-V** (→ 44)  
You can change the audio channel number by pressing the button. This allows you to change items like the soundtrack language.

e.g.: **DVD-V** English is the selected language.

- Note**
- If you cannot change the audio type when you have used only an optical digital cable for connection, set “Dolby Digital” to “PCM” (→ 48). Alternatively, you may connect to an amplifier with an Audio/Video cable and change the input on the amplifier to suit the connection.
  - You cannot change the audio type when a DVD-R is in the disc tray.
  - You cannot change the audio while you use “TP” channel. (→ 63)



## ■ Using the tree screen to find a group

- 1 While the file list is displayed  
Press [▶] to display the tree screen.



### Selected Group Number/Total Group Number

- If the group has no track, “- -” is displayed as group number.

- The folder which has no MP3 files is indicated in black. You cannot select groups including no MP3 files.

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

- The file list for the group appears.

### For your reference

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

### ■ To return to the file list

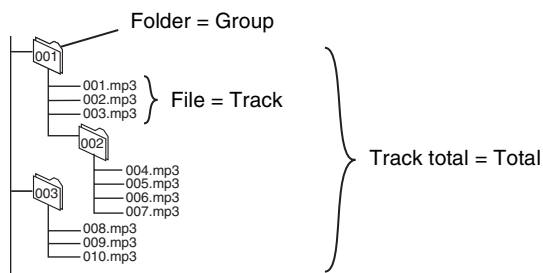
Press [RETURN].

### ■ Tips for making MP3 discs

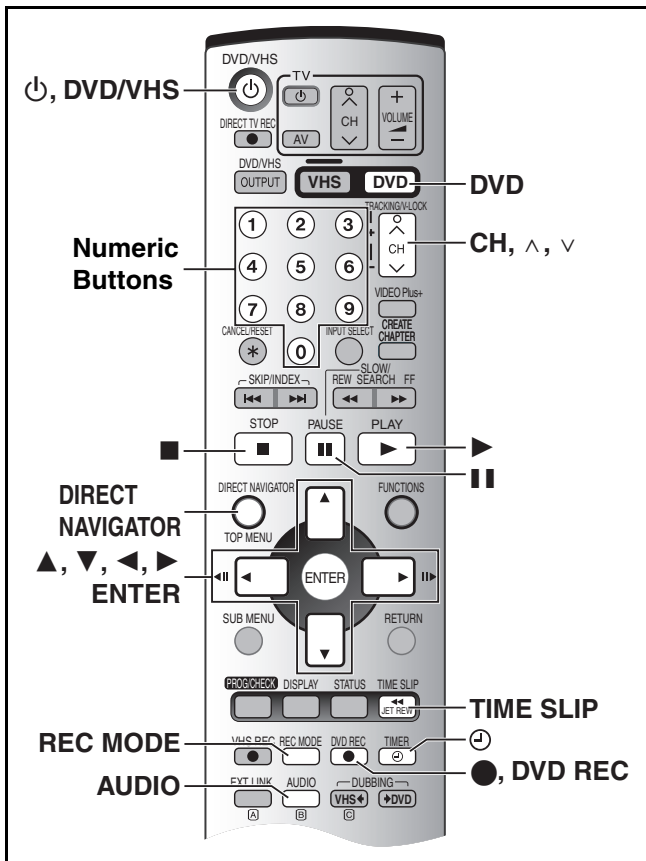
- Discs must conform to ISO9660 level 1 or 2 (except for extended formats).
- Compatible compression rate: from 32 kbps to 320 kbps
- Compatible sampling rate: 16 kHz, 22.05 kHz, 24 kHz, 32 kHz, 44.1 kHz, 48 kHz
- Maximum number of tracks and groups recognizable: 999 tracks and 99 groups
- This unit is compatible with multi-session.
- This unit is not compatible with ID3 tags or packet writing.
- Depending on recording, some items may not be playable.
- Reading or play of the disc may take time if there are a lot of still pictures or sessions.
- The display order may differ from how the order is displayed on a computer.

### ■ Naming folders and files

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



- MP3 files must have the extension “.MP3” or “.mp3”.
- English alphabets and Arabic numerals are indicated properly. Other characters may not be indicated properly.



### Preparation

- Press [DVD].

## Playing while you are recording

### RAM

#### Hint

- Sound is not output while fast-forwarding.

### Chasing play

### RAM

You can start play from the beginning of a programme while continuing to record it.

#### While recording or timer recording

Press [▶, PLAY].

Time slip indicator lights.

#### For your reference

- Play cannot be started until at least 2 seconds after recording starts.

### Simultaneous recording and play

You can start play of the programme you are recording or play a programme previously recorded.

#### While recording or timer recording

1 Press [DIRECT NAVIGATOR].

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

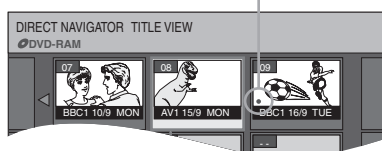
- Time slip indicator on the main unit lights.

- Currently recording

e.g.:

You want to watch the movie you recorded yesterday (title 08) while recording sport (title 09).

Title 08 is played back while title 09 is being recorded.



Selecting title 08

### To exit the Title View

Press [DIRECT NAVIGATOR].

#### For your reference

- During simultaneous recording and play, you cannot edit or erase with the Direct Navigator or play lists.
- If you start play while the unit is on standby for timer recording, recording starts when the time you set is reached.

### TIME SLIP

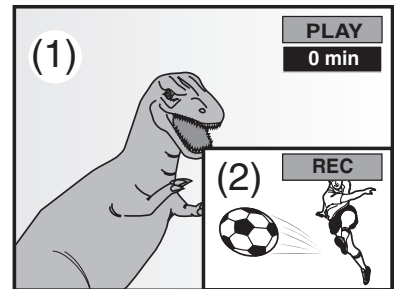
You can play the programme being recorded to check that it is being recorded correctly. You can also check parts that were recorded previously.

#### While recording or timer recording

1 Press [TIME SLIP].

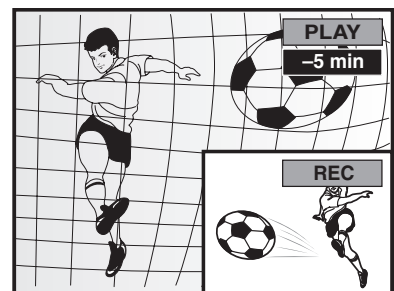
Time slip indicator lights. Play starts from 30 seconds previous. The current recording images appear as a picture-in-picture and you will hear the playback audio.

- (1) Play images (30 seconds before)
- (2) Current recording



2 Press [▲, ▼] to enter the time.

- Press [▲, ▼] to alter in 1-minute units. Press and hold [▲, ▼] to alter in 10-minute units.



### To show the play images in full

Press [TIME SLIP].

- Press [TIME SLIP] to return to the picture-in-picture screen.

#### For your reference

- The image on the small screen may be distorted or flicker depending on the scene. However, this does not affect the image recorded.

### To stop play and recording

1 Press [■, STOP]. Play stops.

(Wait 2 or more seconds)

2 Press [■, STOP]. Recording stops.

- You cannot stop recording with [■, STOP] during timer recording. To stop timer recording, press [⏸, TIMER].

## Recording TV programmes

### RAM DVD-R

- You can record up to 99 titles on a disc.
- DVD-RAM/DVD-R has limitations on recording (→ 19).
- Recording will take place on open space on the disc. Data will not be overwritten.
- If there is no space left on the recording drive, you will need to erase unwanted titles (→ 35) or use a new disc.
- When recording bilingual TV broadcast onto DVD-R, only one of either "M1" or "M2" audio can be recorded. Select at "Bilingual Audio Selection" (→ 48).
- **RAM** You can change the audio being received by pressing [AUDIO] during recording. (Does not affect the recording of audio.)

### Preparation

- Release protection (disc → 32, cartridge → 19). **RAM**
- Press [DVD].

#### 1 Press [⏻, DVD/VHS] to turn the unit on.

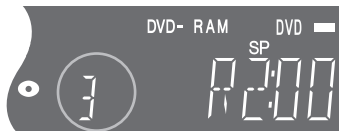
#### 2 Insert a disc. (→ 21)

- When using a DVD-RAM for the first time with this unit, format it to ensure accurate recording (→ 33, "Format Disc").

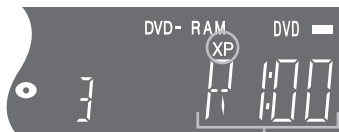
#### 3 Press [CH, ▲, ▼] to select the channel.

To select with the numeric buttons:

e.g., "5": [0]→[5]  
"15": [1]→[5]



#### 4 Press [REC MODE] to select the recording mode.



Remaining time on the disc

#### 5 Press [●, DVD REC] to start recording.



- You cannot change the channel or recording mode during recording. You can change them while recording is paused, but the material is recorded as a separate programme.

### ■ To pause recording

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

- The title cannot be divided.

### ■ To stop recording

Press [■, STOP].

- Recorded as 1 title until the position where stopped.
- DVD-R takes about 30 seconds for the unit to complete recording management information after recording finishes.

### ■ To specify a time to stop recording

While recording

Press [●, REC] on the DVD main unit to select the recording time.

### Unit's Display

Each time you press the button:

Counter (cancel) → 30 (min.) → 60 (min.) → 90 (min.)  
← 240 (min.) ← 180 (min.) ← 120 (min.) ←

### For your reference

- This does not work during timer recordings (→ 30) or Flexible Recording (→ 28).
- Recording stops and the set time is cleared if you press [■, STOP].
- The set time is cleared if you change the recording mode or channel while recording is paused.
- The unit is not turned off automatically when you set the time to stop recording by the procedure above and then the recording is stopped.

### If a station also broadcasts Teletext information

The unit automatically records the programme's and station's name if the station's title page is correctly set (→ 50).

### Note

- The unit may take some time in retrieving titles (up to 30 minutes) and may fail in some cases.

## Playing/Recording the VHS while recording

You can watch play or record tapes while recording. The recording will not be affected.

- VHS playback (→ 55)
- VHS recording (→ 57)

- When a tuner channel is recorded on DVD, you can record the other channel on VHS.

## ■ Recording modes and approximate recording times in hours

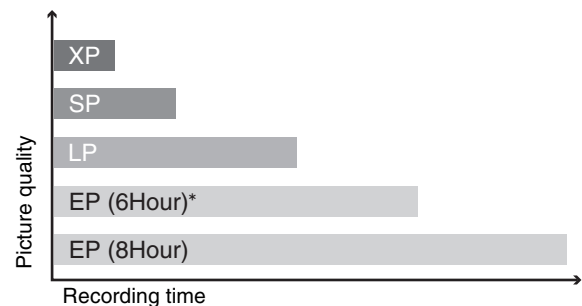
Depending on the content being recorded, the recording times may become shorter than indicated.

(Unit: hour)

	DVD-RAM		DVD-R (4.7 GB)
	Single-sided (4.7 GB)	Double-sided (9.4 GB)	
XP (High quality)	1	2	1
SP (Normal)	2	4	2
LP (Long play)	4	8	4
EP (Extra long play)	8 (6*)	16 (12*)	8 (6*)

\* When "Recording time in EP mode" has been set to "EP (6Hour)" in the SETUP menu. (→ 47)

The sound quality is lower compared to other recording modes when using "EP (8Hour)".



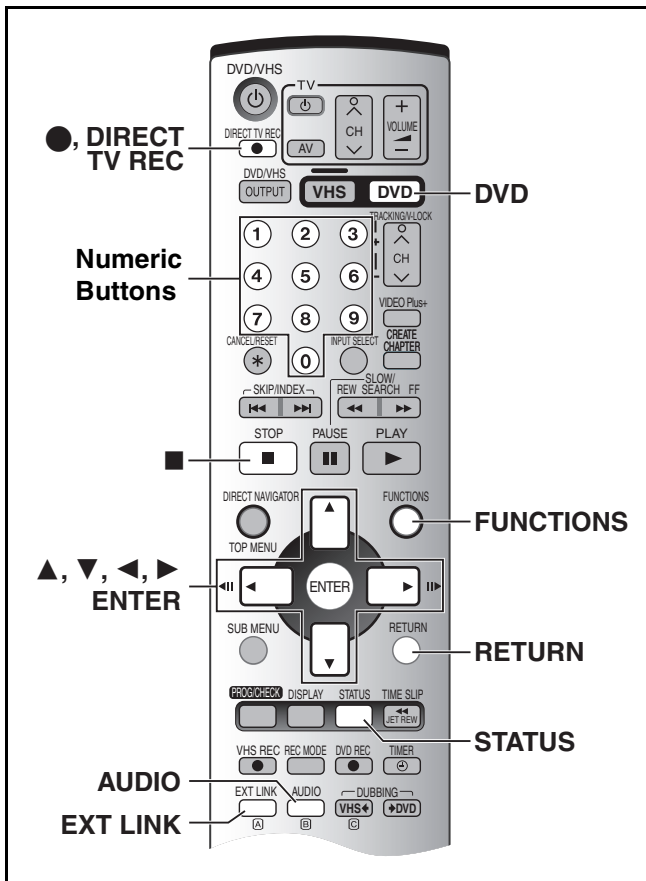
### Note

- When recording to DVD-RAM using EP (8Hour) mode, play may not be possible on DVD players that are compatible with DVD-RAM. In this case use EP (6Hour) mode.

### FR (Flexible Recording):

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

- You can use this function in dubbing or timer recording.
- All of recording mode indicators on the unit's display are lit during FR.



### Preparation

- Press [DVD].

## Selecting audio to record

**RAM**

Press [AUDIO].

**DVD-R**

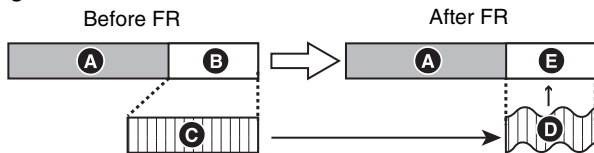
Select the audio (M1 or M2) in “Bilingual Audio Selection” in the SETUP menu (→ 48).

## Flexible Recording mode (FR)

**RAM** **DVD-R**

The unit calculates a recording rate that enables the recording to fit in the time you set (within the remaining time on the disc) with the best picture quality.

e.g.: disc is DVD-RAM

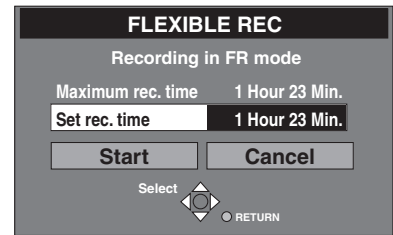


- Ⓐ Recorded
- Ⓑ Remained (45 min.)
  - Recordable for 45 minutes in SP mode
- Ⓒ Programme to be recorded  
(The programme is 60-minute long.)
- Ⓓ The recording rate automatically switches between SP and LP according to the remaining time.
- Ⓔ The programme exactly fits into the remaining.

- 1 While stopped  
Press [FUNCTIONS]. (→ 53)
- 2 Select “FLEXIBLE REC” with [▲, ▼, ◀, ▶] and press [ENTER].

- 3 Press [▲, ▼, ◀, ▶] to set the recording time.

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



- 4 Select “Start” with [▲, ▼, ◀, ▶] and press [ENTER].

- Recording starts.

### For your reference

- It is not possible to change channel or recording mode while Flexible Recording is paused.

### ■ To exit the FLEXIBLE REC window without recording

Press [RETURN].

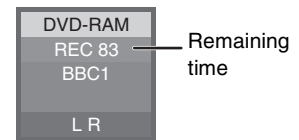
### ■ To stop recording partway

Press [■, STOP].

### ■ To show the time remaining until recording finishes

Press [STATUS] several times.

- It is displayed in the unit of minute.



### Note

- When performing EXT LINK recording (→ 29), the flexible recording function does not work.

## Direct TV Recording

**RAM** **DVD-R**

This function allows you to immediately start recording the same programme that you are viewing on the TV.

The programme position selected on the unit automatically changes to that of the TV programme that you are viewing on the TV.

Conditions for the Direct TV Recording function:

- Your TV must be equipped with the [Q Link] function.
- The unit must be connected to the TV via a fully-wired 21-pin Scart cable.

- 1 Insert a disc. (→ 21)

- 2 Press [●, DIRECT TV REC].

- Recording of the TV programme that you are viewing on the TV starts.

- 3 Press [■, STOP] to stop recording.

### Note

- When you stop recording, the unit automatically switches back to the previously selected programme position.

## Linked timer recordings with external equipment (EXT LINK)

### RAM DVD-R

If an external equipment (for example a satellite receiver) with a timer function is connected to the AV2 terminal of this unit by a 21-pin Scart cable (→ 10, 16), it is possible to control the recording of the unit with the equipment.

#### Preparation

- Change the “Ext Link” in the SETUP menu to match the connected equipment (→ 49).
- Timer programming has to be done on the external equipment and switch to the timer recording standby mode. Refer to the equipment’s operating instructions.

#### 1 Press [EXT LINK].

The unit turns off and switches to the recording standby mode.

- “EXT L” lights on the unit’s display.

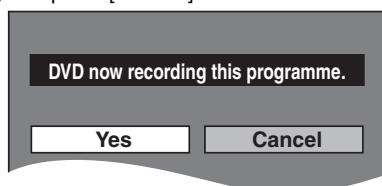
**The timer recording standby mode is activated on DVD (“EXT L” lights on the DVD unit’s display). However, the unit may not be turned off automatically.**

- You can play a DVD-RAM on DVD, play or record any media on VHS even if the timer recording standby mode is activated on DVD.
  - Recording begins when a signal is received from the connected equipment.
  - As long as a video picture is being transmitted by the external equipment, the unit will record it.

#### 2 Turn the unit off when you do not play or record any media on VHS.

- If the timer recording is started with keeping the unit turned on, the unit is not turned off automatically even after the timer recording is completed.

When the following message appears on the television screen, press [◀, ▶] to select “Yes” (continue recording the current programme) or “Cancel” (cancel recording) and press [ENTER].



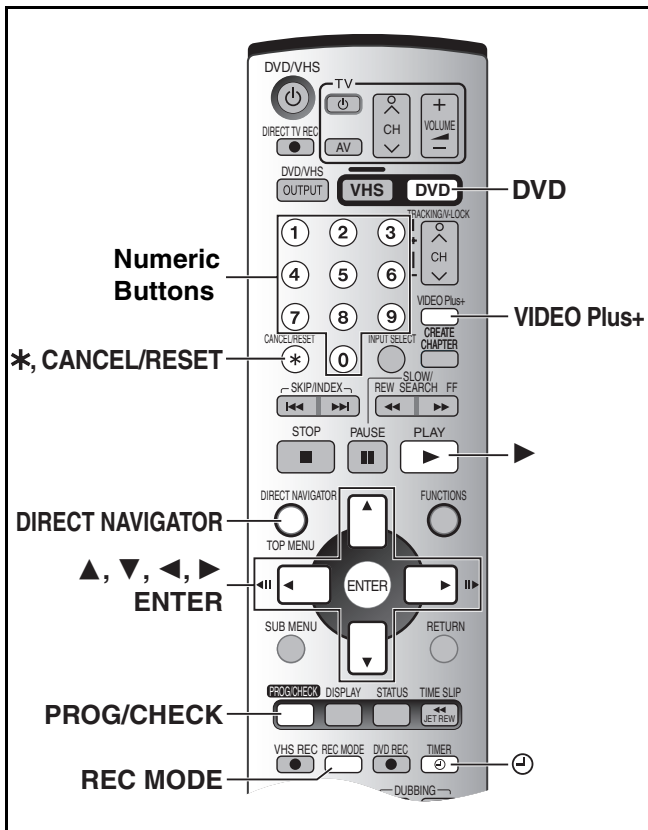
#### To cancel the external control

Press [EXT LINK] to stop recording or to cancel linked timer recording standby.

- You can also press and hold [■, STOP] on the DVD main unit for more than 3 seconds to stop recording.
- In order to prevent accidental operation, press [EXT LINK] to cancel the setting after recording is finished.

#### For your reference

- The video being recorded automatically appears on the television when connected to this unit’s AV1 terminal with the 21-pin Scart cable.
- This function does not work with some equipment. Refer to the equipment’s operating instructions.
- The beginnings of recordings may not be recorded correctly in some cases.
- When “Ext Link” is set to “Ext Link 2”, this function does not work if the input signal is NTSC system. (→ 49)



## RAM DVD-R

You can enter up to 16 programmes up to a month in advance.

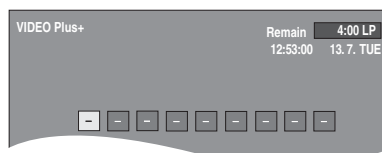
### Preparation

- Release protection (disc → 32, cartridge → 19). **RAM**
- Insert a disc (→ 21) and confirm there is sufficient empty space for recording on it (→ 53).
- Press [DVD].

## Using VIDEO Plus+

Entering VIDEO Plus+ code is an easy way of timer recording. You can find these codes in the newspapers and magazines.

### 1 Press [VIDEO Plus+].



### 2 Press the numeric buttons to enter the VIDEO Plus+ code.

- Press [◀], to move back to correct digit.

### 3 Press [ENTER].

Confirm the programme and correct it if necessary using [▲, ▼, ◀, ▶]. (→ right step 3.)

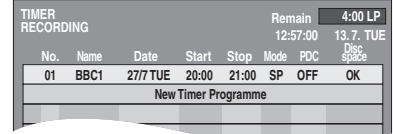


If “—” appears under “Name”, press [▲, ▼] to select a desired programme position.

- You can also press [REC MODE] to change the recording mode.
- After you have entered the information of a TV station, it is kept in the unit’s memory.
- **To enter the title of the programme**  
Press [◀, ▶] to select “Programme Name” and press [ENTER] (→ 34).

### 4 If the programme is correct Press [ENTER].

- To continue programming repeat steps 1–4.



### 5 Press [⊖, TIMER].

- “⊖” lights on the unit’s display.

The timer recording standby mode is activated on DVD

(“⊖” lights on the DVD unit’s display). However, the unit may not be turned off automatically.

- You can play a DVD-RAM on DVD, play or record any media on VHS even if the timer recording standby mode is activated on DVD.

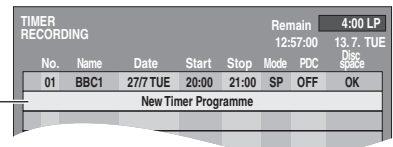
### 6 Turn the unit off when you do not play on DVD (DVD-RAM) or, play or record any media on VHS.

- If the timer recording is started with keeping the unit turned on, the unit is not turned off automatically even after the timer recording is completed.

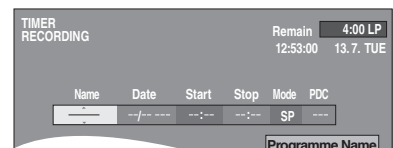
## Manual programming

### 1 Press [PROG/CHECK].

Highlighted line is ready for programming.

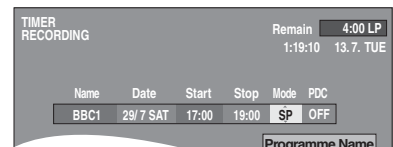


### 2 Press [ENTER].



### 3 Press [▶] to move and change the items with [▲, ▼].

- You may use the numeric buttons to enter “Name”, “Date”, “Start” and “Stop”.
- You can also press [REC MODE] to change the recording mode.



- **Name** (Programme Position/TV Station Name)

#### • Date

You can also make a daily or weekly programme.

#### • Start (start time)/Stop (finish time)

The time increases or decreases in 30-minute increments if you hold the button.

#### • Mode (Recording mode)

XP↔SP↔LP↔EP↔FR↔XP... (→ 27)

#### • PDC

ON↔OFF (---) (→ 31).

#### • Programme Name (Enter title)

### 4 Press [◀, ▶] to select “Programme Name” and press [ENTER] (→ 34).

Press [ENTER] when you have finished making changes.

- To continue programming:

Select “New Timer Programme” and repeat steps 2, 3, and 4.

### 5 Press [⊖, TIMER].

- “⊖” lights on the unit’s display.

The timer recording standby mode is activated on DVD (“⊖” lights on the DVD unit’s display). However, the unit may not be turned off automatically.

- You can play a DVD-RAM on DVD, play or record any media on VHS even if the timer recording standby mode is activated on DVD.

## 6 Turn the unit off when you do not play on DVD (DVD-RAM) or, play or record any media on VHS.

- If the timer recording is started with keeping the unit turned on, the unit is not turned off automatically even after the timer recording is completed.

### ■ To release the unit from recording standby

Press [⊖, TIMER].

The unit turns on and “⊖” goes out.

- Be sure to press [⊖, TIMER] before the programme start time to put the unit on recording standby. Timer recording will work only if “⊖” is displayed.

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

Press [⊖, TIMER].

- You can also press and hold [■] on the DVD main unit for more than 3 seconds to stop recording.

### ■ PDC Function (→ 68)

If a TV programme starts earlier or later from original schedule, recording start and stop can synchronize with the actual broadcasting.

Conditions for correct operation of the PDC function:

- The TV station must broadcast PDC signals.
- The programme starting time must be set correctly to the starting time listed in the newspaper/magazine.

To activate the PDC Function:

In step 3 in the PDC item, press [▲, ▼] to select “ON”.

#### Note

- “⊖” flashes for about 5 seconds when the unit cannot go to timer recording standby (non-recordable disc or protected disc, etc.). Check the disc carefully.
- If the unit is not put in the timer recording standby mode at the latest 10 minutes before the programmed timer recording starting time, the “⊖” flashes on the unit display. In this case, press [⊖, TIMER] to put the unit in the timer recording standby mode.
- When recording more than one programme in a row, for DVD-RAM the first few seconds, and for DVD-R about the first 30 seconds of all programmes from the second one onwards will not be recorded.
- Even if the unit is in timer recording standby, play starts when you press [▶, PLAY] or [DIRECT NAVIGATOR]. Timer recording works even during play. **RAM**

## Check, change or delete programmes

### 1 Press [PROG/CHECK].

#### Icon explanations (A)

- : Now recording
- ⊖: The programme is overlapped.
- ⊕: The disc was full. (no enough space)
- ⊘: The TV programme is not allowed to record by copy-guard.
- ⊙: Uncompleted recording (Dirty disc or some other reason disc.)

No.	Name	Date	Start	Stop	Mode	PDC	Disc
01	BBC1	TUE	20:00	21:00	SP	OFF	OK
02	BBC2	MON-FRI	20:30	22:00	LP	OFF	OK
03	ITV	15/7 FRI	19:00	21:30	FR	ON	OK
04	BBC1	24/7 SAT	17:00	19:00	LP	ON	OK
05	BBC2	25/7 SUN	20:00	22:30	SP	ON	OK

Remain 4:00 LP  
19:30:00 13.7. TUE

#### Disc space (B)

OK: Recordable

→ (Date): The last day of daily or weekly recording.

!: It may not be possible to record because:

- the disc is write-protected
- there is not enough space left
- the number of possible titles has reached its maximum.

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

- You may also select programme by inputting a 2-digit number using the numeric buttons.  
e.g.: “5”: [0]→[5]  
“15”: [1]→[5]
- Press [◀, ▶] to move to the page preceding or following the one on display.

### 3 Press [✖, CANCEL/RESET] to delete, or press [ENTER] to change.

- You cannot change or delete programmes that are currently recording.
- The timer recording setting screen appears.
- To continue deleting programmes steps 2–3.

### 4 If you pressed [ENTER] in step 3, Press [▲, ▼, ◀, ▶] to change and press [ENTER].

- To continue changing programmes steps 2–3.

### 5 Press [⊖, TIMER].

- “⊖” lights on the unit’s display.

The timer recording standby mode is activated on DVD

(“⊖” lights on the DVD unit’s display). However, the unit may not be turned off automatically.

- You can play a DVD-RAM on DVD, play or record any media on VHS even if the timer recording standby mode is activated on DVD.

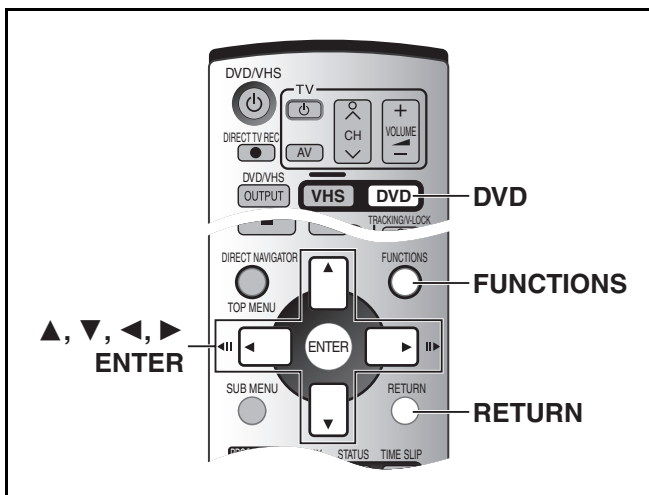
## 6 Turn the unit off when you do not play on DVD (DVD-RAM) or, play or record any media on VHS.

- If the timer recording is started with keeping the unit turned on, the unit is not turned off automatically even after the timer recording is completed.

#### For your reference

- Programmes that failed to record are displayed grey. They are automatically deleted from the timer recording list at 4 a.m. two days later.

## DISC MANAGEMENT



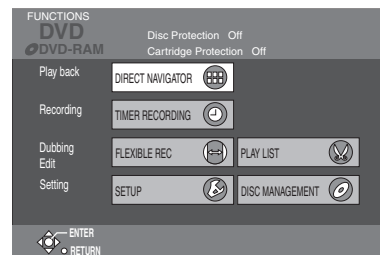
RAM DVD-R

### Preparation

- Release protection (disc → below, cartridge → 19). RAM
- Press [DVD].

- 1 While stopped  
Press [FUNCTIONS]. (→ 53)

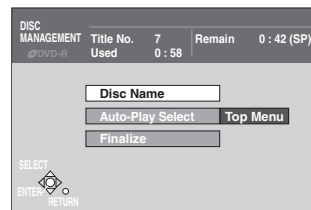
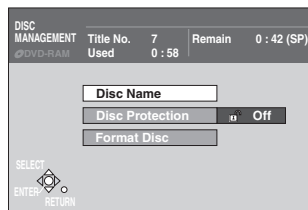
e.g., DVD-RAM



- 2 Select "DISC MANAGEMENT" with [▲, ▼, ◀, ▶] and press [ENTER].

e.g., DVD-RAM

e.g., DVD-R



- 3 Press [▲, ▼] to select a desired item and press [ENTER].

After this operation, skip to the item and follow.

■ To stop partway  
Press [RETURN].

## ▶ Disc Name

RAM DVD-R

The disc name is displayed in the FUNCTIONS window.

- 4 Enter the name. (→ 34)



### Note

- You cannot give DVD-R names once they have been finalized.

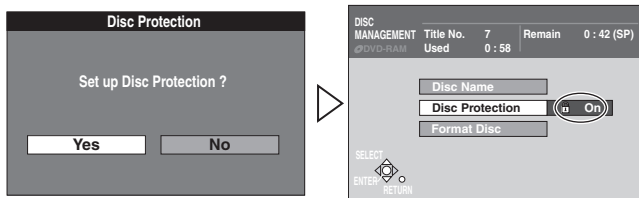
## ▶ Disc Protection

RAM

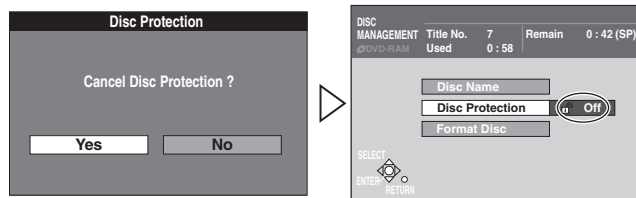
This allows you to protect discs from accidental erasure.  
This allows you to release disc protection.

- 4 Select "Yes" with [◀] and press [ENTER].

- To protect



- To release protection





## ▶ Format Disc

### RAM

Some DVD-RAM are unformatted. You must format these discs before using them in this unit. Formatting also allows you to erase the entire contents of a disc.

**4 Select “Yes” with [◀] and press [ENTER].**

**5 Select “Start” with [◀] and press [ENTER].**

- Formatting starts.
- A message appears when formatting is finished.

**6 Press [ENTER].**

All recordings are irretrievably erased when a disc is formatted.

### To stop formatting

Press [RETURN].

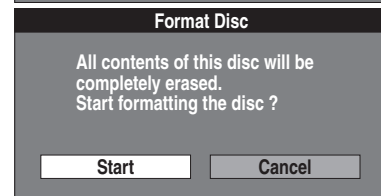
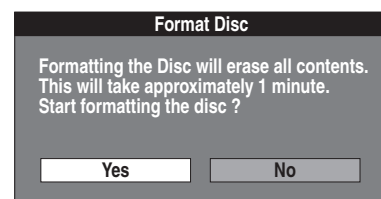
- You can cancel formatting if it takes more than 2 minutes. The disc must be reformatted if you do this.
- **Do not disconnect the AC mains lead while the message “Formatting the disc” is on the TV. This can render the disc unusable.**
- Formatting normally takes a few minutes, however it may take up to a maximum of 70 minutes.
- All data on the disc is erased when it is formatted, including recordings made with this unit. Data written to the disc by a computer is also erased.

### For your reference

- DVD-R and CD-R/RW cannot be formatted.

### RAM

- The disc cannot be formatted if the write protect tab (→ 19) is switched to “PROTECT”. Release the protection to continue.
- The message “Unable to format” appears when trying to format discs this unit cannot use.



## ▶ Auto-Play Select

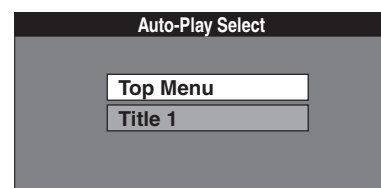
### DVD-R

- **Be sure to follow the procedure below before finalizing.**

After finalizing, the screen that will be displayed for the beginning on DVD-Video equipment can be selected.

**4 Press [▲, ▼] to select a desired item and press [ENTER].**

- When “Title 1” is selected, the “Top Menu” screen is not displayed, and it plays from the beginning of the disk.



## ▶ Finalize

### DVD-R

You can play DVD-R on compatible DVD players by finalizing them on this unit, effectively making them into DVD-Video that complies with DVD-Video format. The menu you create with this unit can also be used on the player.

**4 Select “Yes” with [◀] and press [ENTER].**

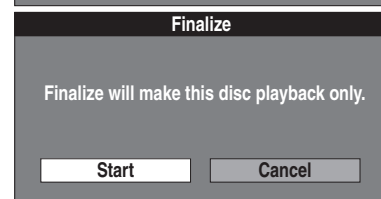
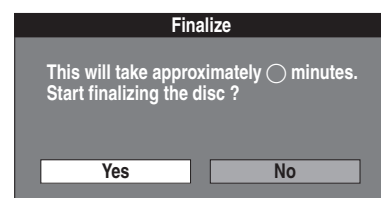
**5 Select “Start” with [◀] and press [ENTER].**

- Finalizing starts.
- A message appears when finalizing is finished.

**6 Press [ENTER].**

### Note

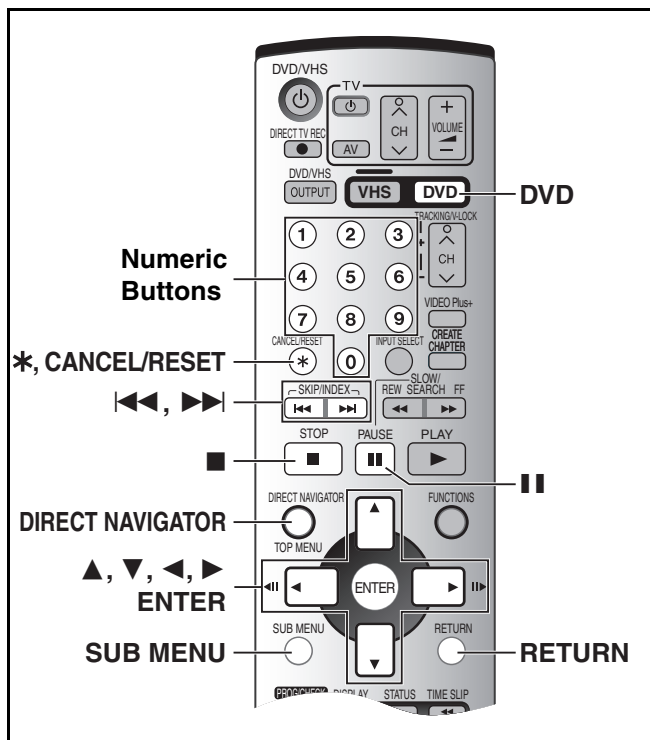
- **Do not turn the unit off or disconnect the AC mains lead while the message “Finalizing the Disc” is on the TV.** This can render the disc unusable.
- You can only finalize DVD-R that were recorded on this unit.
- You cannot record on DVD-R that have been finalized.
- Finalizing takes up to about 15 minutes.
- After finalizing
  - There is a pause of several seconds between titles.
  - Titles are divided into about 5-minute chapters.
- You cannot finalize DVD-R recorded on other manufacturer’s equipment.



	Before finalizing	After finalizing	
Disc display on this unit	DVD-R	DVD-V	
Recording/Editing/Entering name	✓	—	(✓: Possible, —: Impossible)
Play on other players	—	✓	

DVD-R finalized on this unit may not be playable on other players due to the condition of the recording.

- Visit Panasonic’s home page for more information about DVDs.  
<http://www.panasonic-europe.com/> (For Continental Europe)



## Preparation

- Insert a disc that has been recorded on.
- Release protection.
  - Disc (→ 32), name (→ 36), cartridge (→ 19) **RAM**
- Press [DVD].

## Entering text

### RAM DVD-R

You can:

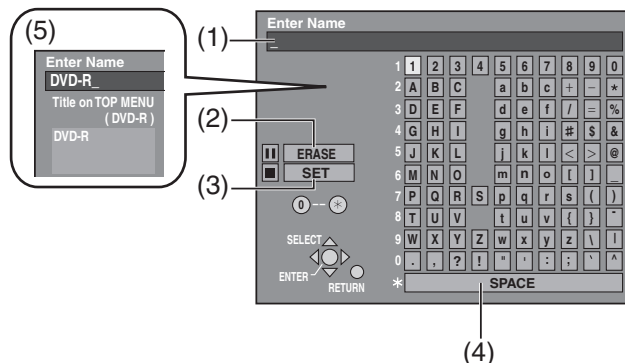
- Title discs with the DISC MANAGEMENT in the FUNCTIONS window (→ 32).
- Title programmes with the Direct Navigator (→ 36).
- Title play lists with the play list screen (→ 41).
- Title programmes while setting timer recording (→ 30).

You can enter up to:

- 64 characters (DVD-RAM)
  - A maximum of 44 characters is possible when inputting a name from the timer recording menu.
- 40 characters for a disc name (DVD-R)
- 44 characters for a programme name (DVD-R)

- 1 After the entering screen appears Press [**▲**, **▼**, **◀**, **▶**] to select the character you want to enter and press [ENTER].

- You can enter the following characters.



- (1) This window shows the text you have entered. (Name field)
- (2) ERASE [**■**, PAUSE]
- (3) SET (when you have finished entering text) [**■**, STOP]
- (4) SPACE
- (5) The name displayed on the menu screen after finalizing of the DVD-R appears. **DVD-R** (→ 36)

### To enter other characters

Repeat step 1.

- 2 Press [**■**, STOP].

The name is entered and the screen disappears.

- You can also finish entering the name by selecting “SET” with [**▲**, **▼**, **◀**, **▶**] and pressing [ENTER].

### Regarding entering characters

- To erase characters

Press [**■**, PAUSE]. (You can also erase characters by select “ERASE” with [**▲**, **▼**, **◀**, **▶**] and pressing [ENTER].)

- To enter a space

You may enter a space by pressing [**\***, CANCEL/RESET] and then press [ENTER].

### Using the numeric 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].

- You may enter a space by pressing [**\***, CANCEL/RESET] and then [ENTER].



### To correct a character

- 1 Press [**▲**, **▼**, **◀**, **▶**] to select the character you want to correct in the name field.

- 2 Press [**■**, PAUSE]. (You can also erase characters by using [**▲**, **▼**, **◀**, **▶**] to select “ERASE” and pressing [ENTER].)

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

### Note

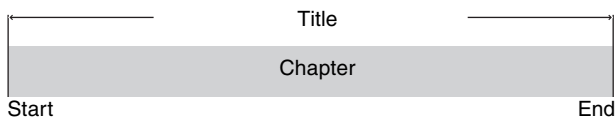
- If you enter a long name, it is partially shown in the programme list (→ 36) and play list screen (→ 40).

## Using the Direct Navigator

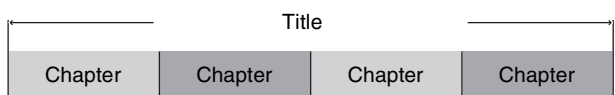
RAM DVD-R

### Title/Chapter

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



You can divide a title into multiple chapters. **RAM**  
(→ 38, → 43, "Create Chapter")



You can change the order of chapters and create a play list. **RAM**

- Titles are divided into about 5-minute chapters after finalizing. (→ 33) **DVD-R**

- The Maximum number of item on a disc:
  - Titles: 99
  - Chapters: Approximately 1000  
(Depends on disc contents.)

### Note

- Once a title is erased or shortened, it cannot be restored to its original state. Make certain before proceeding.
- You cannot edit during recording.

## ■ Selecting recorded programmes (titles) to play

### Preparation

- Insert a disc that has been recorded on.
- Press [DVD].

### 1 Press [DIRECT NAVIGATOR].

#### Icon explanation

#### Write-protected:

- Title protected

#### Copy-protected:

- Copy-protected so it was not recorded.

#### NTSC: / PAL:

- Title recorded using a different encoding system from that of the TV system currently selected on the unit.

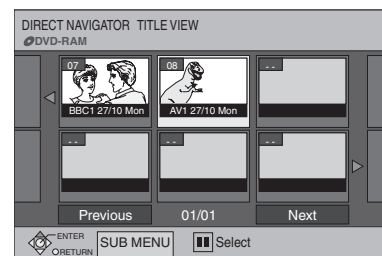
#### Unable to play:

- Displayed if you cannot play the title.

#### Currently recording:

### 2 Press [, , , ] to select the title you want to watch and press [ENTER].

- You can also select titles by entering a 2-digit number with the numeric buttons.  
e.g.: "5": [0]→[5]  
"15": [1]→[5]
- If you enter a number larger than the total number of titles, the last title is selected.



### To show other pages

Press [, , , ] to select "Previous" or "Next" and press [ENTER].

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

### For your reference

- The Direct Navigator works while stopped, playing or recording.
- Names are only displayed if you have given the title a name.

### ■ To exit the screen

Press [RETURN].

## ■ Direct Navigator

### For your reference

- Release protection (disc → 32, cartridge → 19). **RAM**
- When the programme is protected (→ 36), you can only access "Properties" and "Cancel Protection". Release the protection to access other items. **RAM**

### 1 Press [DIRECT NAVIGATOR].

### 2 Press [, , , ] to select a desired title.

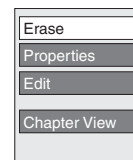
- "To show other pages", → above

### Multiple editing

Select with [, , , ] and press [, PAUSE]. (Repeat)  
A check mark appears. Press [, PAUSE] again to cancel.

### 3 Press [SUB MENU].

### 4 Press [, ] to select a desired item and press [ENTER].



### ■ To stop partway

Press [RETURN].

## ▶ Erase

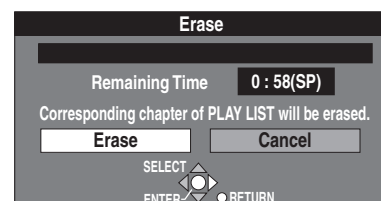
**RAM DVD-R** (Multiple editing is possible. → above)

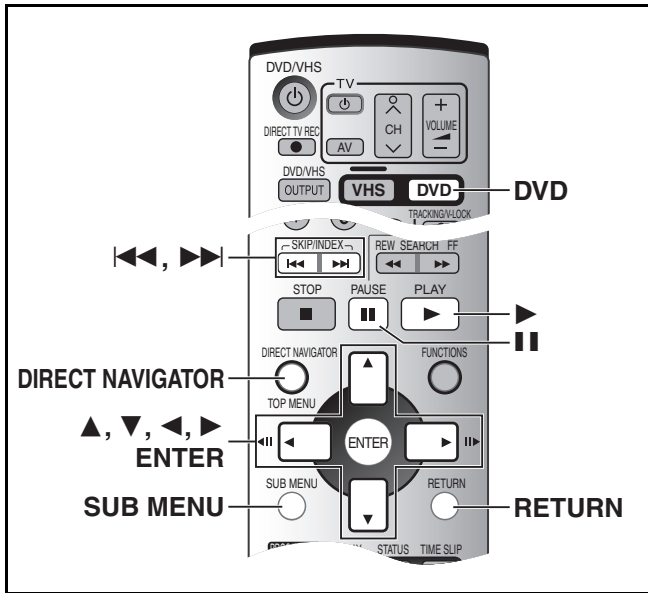
The title is irretrievably erased when you use this procedure and cannot be retrieved. Check the title carefully before erasing to ensure it isn't one you want to keep.

### 5 Select "Erase" with [] and press [ENTER].

### For your reference

- The disc's available recording time may not increase after erasing short titles.
- The available recording time on DVD-R does not increase when you erase titles.

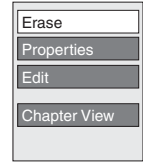




### Preparation

- Insert a disc that has been recorded on.
- Press [DVD].

- 1 Press [DIRECT NAVIGATOR].
- 2 Press [▲, ▼, ◀, ▶] to select a desired title.
  - “To show other pages”, → below
  - “Multiple editing”, → below
- 3 Press [SUB MENU].
- 4 Press [▲, ▼] to select a desired item and press [ENTER].



- To stop partway  
Press [RETURN].

### To show other pages

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

### Multiple editing

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

## ▶ Properties

RAM DVD-R

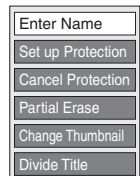
Play list information (e.g., time and date) is shown.



## ▶ Edit

Edit Sub menu displayed.

- 5 Press [▲, ▼] to select a desired item and press [ENTER].



### ▶▶ Enter Name

RAM DVD-R

- 6 Enter or edit the name. (→ 34)

For your reference

- The full name is shown in the “Properties” screen, but if you enter a long name, only part of it is shown in the title list.

### ▶▶ Set up Protection

RAM (Multiple editing is possible. → above)

You can prevent accidental erasure of titles by write-protecting them.

- 6 Select “Yes” with [◀] and press [ENTER].



The padlock mark appears.

For your reference

Titles will be erased even if they are protected if you format the disc with DISC MANAGEMENT (→ 33).

### ▶▶ Cancel Protection

RAM (Multiple editing is possible. → above)

- 6 Select “Yes” with [◀] and press [ENTER].



The padlock mark disappears.

## ▶▶ Partial Erase

### RAM

The specified parts of the title are erased irretrievably when you use this procedure.

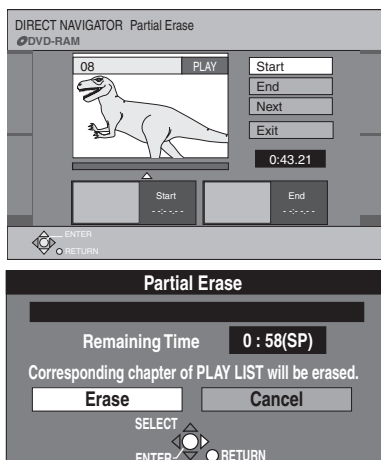
Check the title carefully before erasing.

- 6 Press [ENTER] at the start point and end point of the section you want to erase.

(→ right, "For quicker editing")

- 7 Select "Exit" with [▲, ▼] and press [ENTER].

- 8 Select "Erase" with [◀] and press [ENTER].



### ■ To erase another part of the same title

After storing the point in "Start" and "End", select "Next" in step 7 and perform step 8, then repeat steps 6–8.

### For your reference

- Use search and slow-motion to find the points.
- You may not be able to specify start and end points within 3 seconds of each other.
- You cannot specify start and end points if the picture recorded is stilled.
- The unit pauses when the title reached to the end during this procedure.
- The disc's available recording time may not increase after erasing short parts of titles.

### For quicker editing

- Use search (→ 23), Time Slip (→ 23) or slow-motion (→ 23) to find the desired point.
- Press [◀◀, SKIP] or [▶▶, SKIP] to skip to the start or end of a title.

## ▶▶ Change Thumbnail

### RAM DVD-R

You can specify an image to be shown as a thumbnail picture in the Title View.

- 6 Press [▶, PLAY] to play.
- 7 Press [ENTER] at the point you want to display.
- 8 Select "Exit" with [▲, ▼] and press [ENTER].

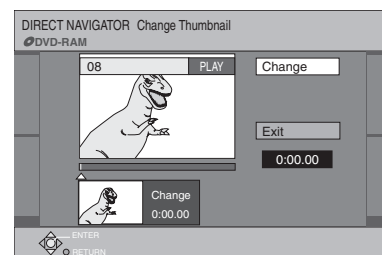
- A scene of display is changed at the point.

### ■ To change another point of the same title

After changing the point, select "Change" in step 7 and repeat steps 6–8.

### For your reference

- You cannot select the top and end of the title.
- Use search and slow-motion to find the points.



## ▶▶ Divide Title

### RAM

You can divide a selected title into two.

You must make sure of dividing a title because it cannot be recovered after the procedure.

- 6 Press [ENTER] at the point you want to divide the title. (→ above, "For quicker editing")

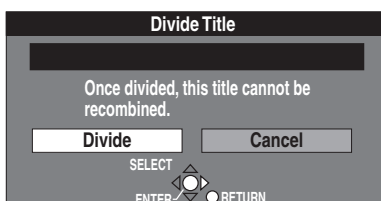
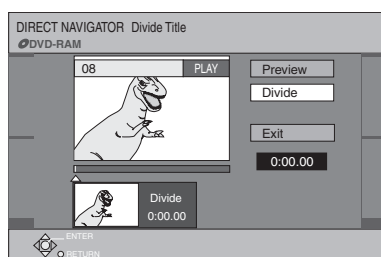
- To change the point to divide:

- Select "Divide" with [▲, ▼] and press [▶, PLAY], and then repeat step 6–8. (If you will rewind to the beginning of the title, press [◀◀, SKIP].)

- 7 Select "Exit" with [▲, ▼] and press [ENTER].

- 8 Select "Divide" with [◀] and press [ENTER].

- The title is divided at the point.



### ■ To check the division point

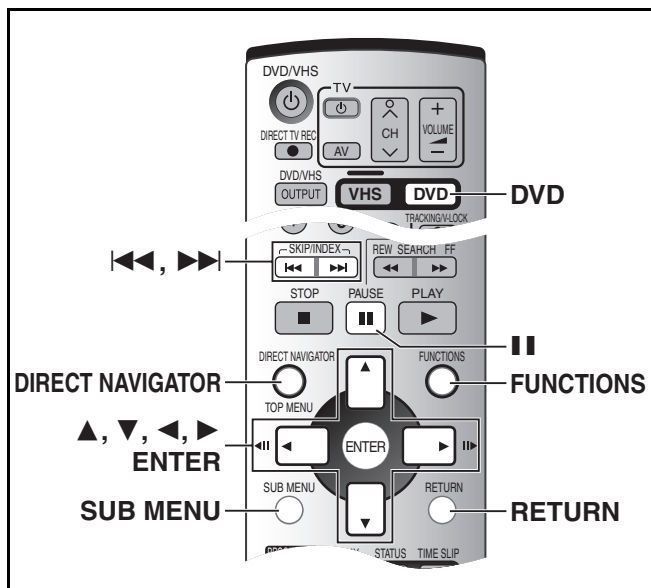
By selecting "Preview" in step 6 and pressing [ENTER], play will begin from 10 seconds prior to the division point to 10 seconds after the division point. You can make sure that the division point is appropriate.

### Note

- A little portion of the recording directly preceding the division point may be lost.

### For your reference

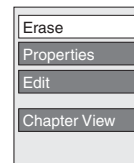
- The divided titles retain the name of the original title. They also remain CPRM property (→ 19) of the original.
- Use search and slow-motion to find the points.
- It is not possible to carry out "Divide Title" in the following cases:
  - When the resulting part(s) are extremely short.
  - When the total number of titles is more than 99 (DVD-RAM).



## Preparation

- Insert a disc that has been recorded on.
- Press [DVD].

- 1 Press [DIRECT NAVIGATOR].
- 2 Press [▲, ▼, ◀, ▶] to select a desired title.
  - “To show other pages”, → below
  - “Multiple editing”, → below
- 3 Press [SUB MENU].
- 4 Press [▲, ▼] to select a desired item and press [ENTER].



## ■ To stop partway

Press [RETURN].

## To show other pages

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

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

## Multiple editing

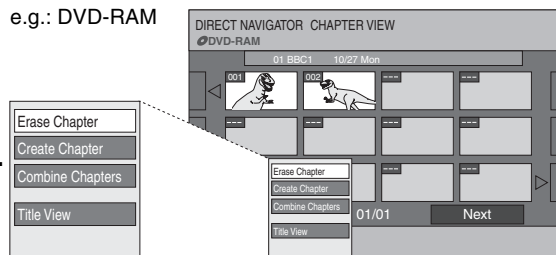
Select with [▲, ▼, ◀, ▶] and press [■, PAUSE]. (Repeat) A check mark appears. Press [■, PAUSE] again to cancel.

## ▶ Chapter View

Edit Sub menu displayed.

- 5 Press [▲, ▼, ◀, ▶] to select a desired chapter.
  - To start play → Press [ENTER].
  - To edit → Follow the steps below.
- 6 Press [SUB MENU].
- 7 Press [▲, ▼] to select a desired item and press [ENTER].

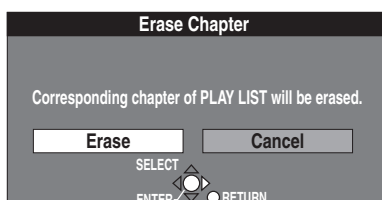
e.g.: DVD-RAM



## ▶▶ Erase Chapter

**RAM** (Multiple editing is possible. → above)

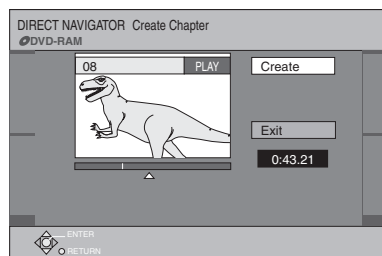
- 8 Select “Erase” with [◀] and press [ENTER].



## ▶▶ Create Chapter

**RAM**

- 8 Press [ENTER] at the point you want to create the chapter. (→ right, “For quicker editing”)
  - Repeat this step to create the chapter at other points.



- 9 Select “Exit” with [▼] and press [ENTER].

## Note

- A little portion of the recording directly preceding the division point may be lost.

## For your reference

- The created titles retain the name of the original title. They also remain CPRM property (→ 19) of the original.
- Use search and slow-motion to find the points.
- It is not possible to carry out “Create” in the following cases:
  - When the resulting part(s) are extremely short.

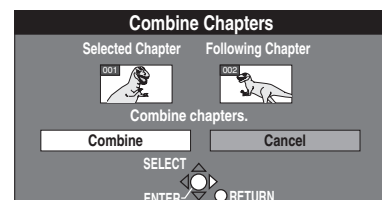
## For quicker editing

- Use search (→ 23), Time Slip (→ 23) or slow-motion (→ 23) to find the desired point.
- Press [◀◀, SKIP] or [▶▶, SKIP] to skip to the start or end of a title.

## ▶▶ Combine Chapters

**RAM**

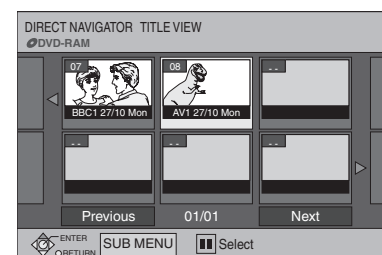
- 8 Select “Combine” with [◀] and press [ENTER].
  - The selected chapter and next chapter are combined.



## ▶▶ Title View

**RAM DVD-R**

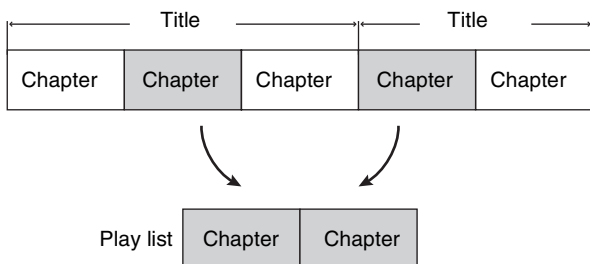
Go back to Title View.



## Using play list

### RAM

You can create a play list by gathering your favourite chapters (→ 35) from your recordings. You can also edit the created play lists.



- Editing play lists doesn't modify the recorded data.
- Play lists are not recorded separately so this doesn't use much capacity.

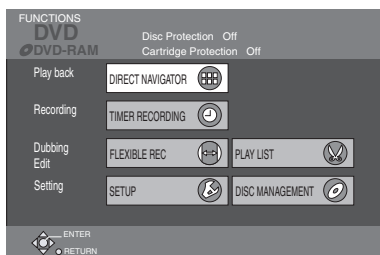
- The Maximum number of item on a disc:
  - Play lists: 99
  - Chapters in play list: Approximately 1000  
(Depends on disc contents.)

### Preparation

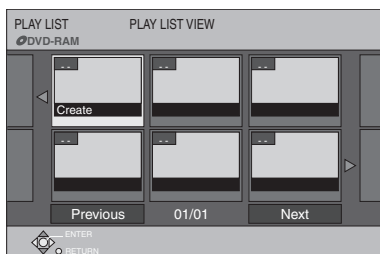
- Release protection (disc → 32, cartridge → 19).
- Press [DVD].

## ■ Creating play lists

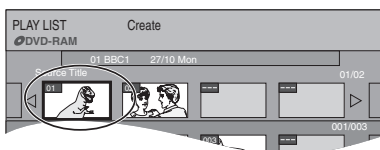
- 1 While stopped  
Press [FUNCTIONS].



- 2 Select "PLAY LIST" with [▲, ▼, ◀, ▶] and press [ENTER].

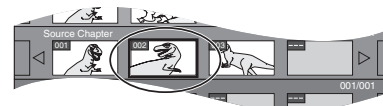


- 3 Select "Create" with [▲, ▼, ◀, ▶] and press [ENTER].
- 4 Press [◀, ▶] to select the source title and press [▼].
  - When you want to select all the chapters in the title, press [◀, ▶] to select the source title and press [ENTER], then skip to step 6.
  - Repeat steps 4–6 to add other title or chapters.



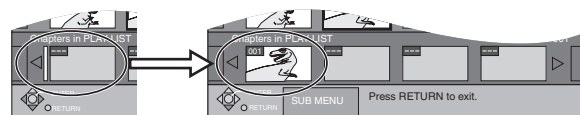
- 5 Press [◀, ▶] to select the chapter you want to add to a play list and press [ENTER].

- Press [▲] to cancel.



- You can also create a new chapter from the source title. Press [SUB MENU] to select "Create Chapter" and press [ENTER] (→ 38, "Create Chapter").

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



- Repeat steps 5–6 to add other chapters.
- Press [▲] to select other source titles.

- 7 Press [RETURN].

### ■ To stop partway through

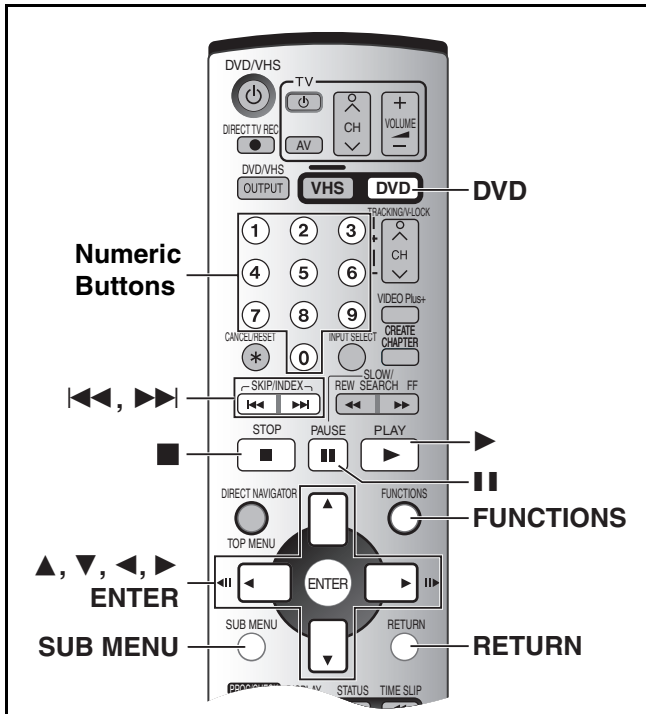
Press [RETURN].

### ■ To clear the play list screen

Press [RETURN].

### For your reference

- One disc can have a maximum of 99 play lists and approximately 1000 chapters. These numbers may be reduced under some conditions.
- You may not be able to specify start and end points if the material is still pictures recorded on other equipment.



### Preparation

- Create play lists first (→ 39).
- Press [DVD].

## ■ Playing play lists

- 1 While stopped  
Press [FUNCTIONS].
- 2 Select "PLAY LIST" with [▲, ▼, ◀, ▶] and press [ENTER].
- 3 Press [▲, ▼, ◀, ▶] to select the play list and press [ENTER].
  - You can also select a playlist from the chapter view by entering a 2-digit number with the numeric buttons.  
e.g.: "5": [0]→[5]  
"15": [1]→[5]
  - If you enter a number larger than the total number of play lists, "Create" is selected.

### To show other pages

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

### ■ To stop play list play

Press [■, STOP]. (The play list appears.)

## ■ Using play list to edit play lists/chapters

### RAM

#### Preparation

- Create play lists first (→ 39).
- Release protection (disc → 32, cartridge → 19).
- Press [DVD].

#### For your reference

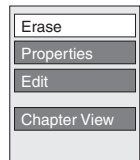
- You can fast-forward, rewind, pause, and slow-motion while playing scenes just as you can during normal play.

- 1 Press [FUNCTIONS].
- 2 Select "PLAY LIST" with [▲, ▼, ◀, ▶] and press [ENTER].
  - Scenes are not displayed if you have not yet created a play list with the disc.
- 3 Press [▲, ▼, ◀, ▶] to select the play list.
  - "To show other pages", → above

### Multiple editing

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

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



### ■ To clear the play list screen

Press [RETURN].

### ■ To stop partway

Press [RETURN].

## ▶ Erase

(Multiple editing is possible. → above)

- 5 Select "Erase" with [◀] and press [ENTER].

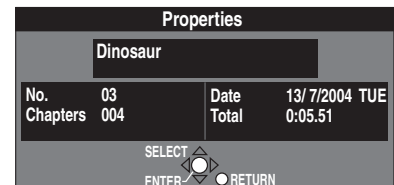
The play list is erased.

- Once a play list has been erased, it is irretrievable. Check carefully before proceeding.
- Even if you erase the play list, the original title is not erased.



## ▶ Properties

Play list information (e.g., time and date) is shown.

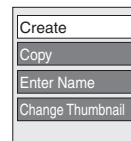




## ▶ Edit

Edit Sub menu displayed.

**5** Press [▲, ▼] to select a desired item and press [ENTER].



### ▶▶ Create

Refer to “Creating play lists”. (→ 39)

### ▶▶ Copy

(Multiple editing is possible. → 40)

**6** Select “Copy” with [◀] and press [ENTER].



### ▶▶ Enter Name

Refer to “Entering text”. (→ 34)

#### For your reference

- The full name is shown in the Properties screen, but if you enter a long name, only part of it is shown in the play list screen.

### ▶▶ Change Thumbnail

You can specify an image to be shown as a thumbnail picture in the Title View.

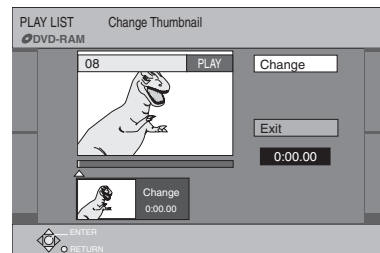
- The default thumbnail is the picture approximately 1 second from the beginning.

**6** Press [▶], [PLAY] to play.

**7** Press [ENTER] at the point you want to display. (→ below, “For quicker editing”)

**8** Select “Exit” with [▲, ▼] and press [ENTER].

- A scene of display is changed at the point.



#### ■ To change another point of the same title

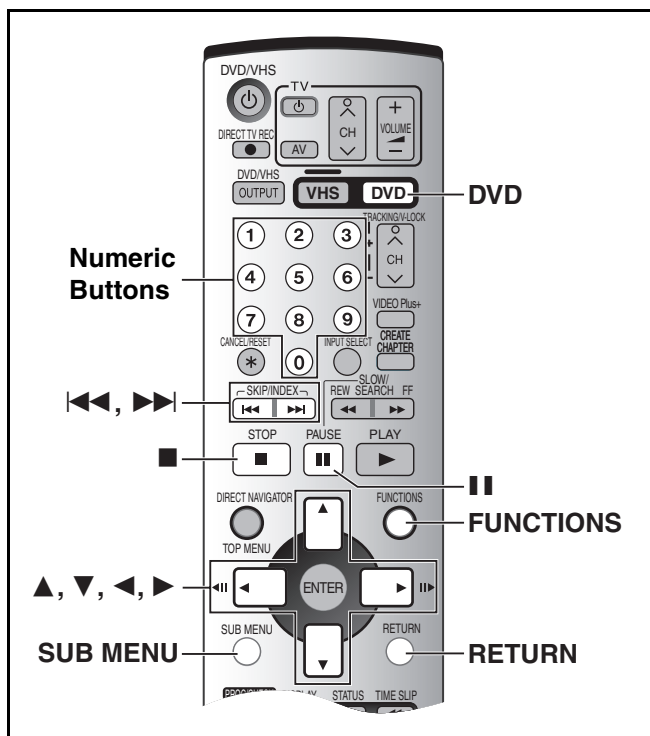
After changing the point, select “Change” in step 7 and repeat steps 6–8.

#### For your reference

- You cannot select the top and end of the title.
- Use search and slow-motion to find the points.

#### For quicker editing

- Use search (→ 23), Time Slip (→ 23) or slow-motion (→ 23) to find the desired point.
- Press [◀◀], [SKIP] or [▶▶], [SKIP] to skip to the start or end of a title.



## Preparation

- Create play lists first (→ 39).
- Release protection (disc → 32, cartridge → 19).
- Press [DVD].

## For your reference

- You can fast-forward, rewind, pause, and slow-motion while playing scenes just as you can during normal play.

### 1 Press [FUNCTIONS].

### 2 Select "PLAY LIST" with [▲, ▼, ◀, ▶] and press [ENTER].

- Chapters are not displayed if you have not yet created a play list with the disc.

### 3 Press [▲, ▼, ◀, ▶] to select the play list.

- "To show other pages", → below
- "Multiple editing", → below

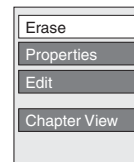
### 4 Press [SUB MENU], then [▲, ▼] to select the operation and press [ENTER].

#### ■ To clear the play list screen

Press [RETURN].

#### ■ To stop partway

Press [RETURN].



## To show other pages

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

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

## Multiple editing

Select with [▲, ▼, ◀, ▶] and press [■, PAUSE]. (Repeat)

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

## ▶ Chapter View

### 5 Press [▲, ▼, ◀, ▶] to select a desired chapter.

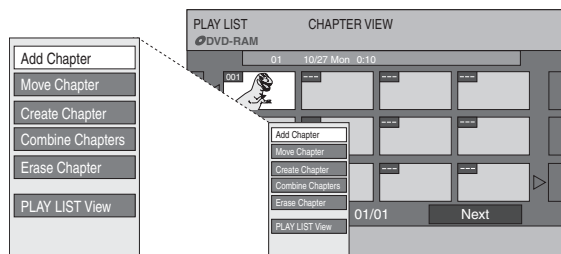
- You can also select a playlist from the chapter view by entering a 3-digit number with the numeric buttons.

e.g.: "5": [0]→[0]→[5]

"15": [0]→[1]→[5]

- If you enter a number larger than the total number of chapters, the last chapter is selected.
- To edit → Follow the steps next page.
- Editing chapters in a play list does not modify the source titles and source chapters.

### 6 Press [SUB MENU]



### 7 Press [▲, ▼] to select a desired item and press [ENTER].

#### ■ To play a chapter

Press [ENTER] after step 5.

#### ■ To stop scene play

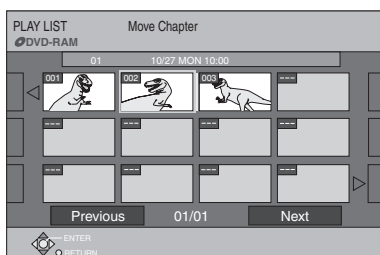
Press [■, STOP]. (The chapter view appears.)

## ▶▶ Add Chapter

Refer to “Creating play lists”, step 4–7. (→ 39)

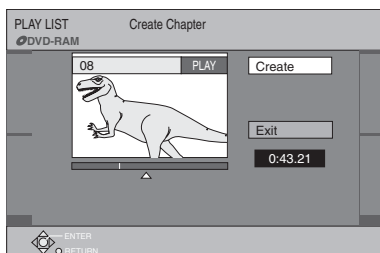
## ▶▶ Move Chapter

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



## ▶▶ Create Chapter

- 8** Press [ENTER] at the point you want to create the chapter. (→ right, “For quicker editing”)
- Repeat this step to create the chapter at other points.



- 9** Select “Exit” with [▼] and press [ENTER].

### Note

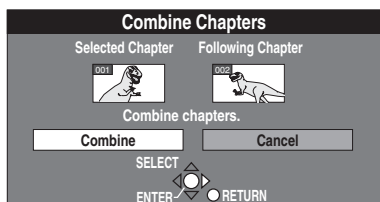
- A little portion of the recording directly preceding the division point may be lost.

### For your reference

- The created titles retain the name of the original title. They also remain CPRM property (→ 19) of the original.
- Use search and slow-motion to find the points.
- It is not possible to carry out “Create” in the following cases:
  - When the resulting part(s) are extremely short.

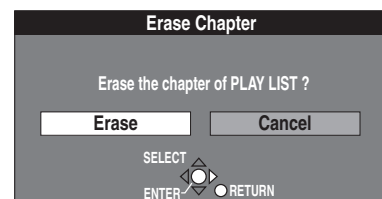
## ▶▶ Combine Chapters

- 8** Select “Combine” with [◀] and press [ENTER].
- The selected chapter and next chapter are combined.



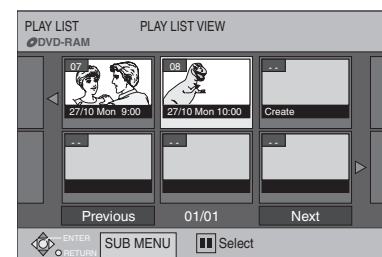
## ▶▶ Erase Chapter

- Multiple editing is possible. (→ 42)
- 8** Select “Erase” with [◀] and press [ENTER].
- Even if you erase the chapter, the original title is not erased.



## ▶▶ PLAY LIST View

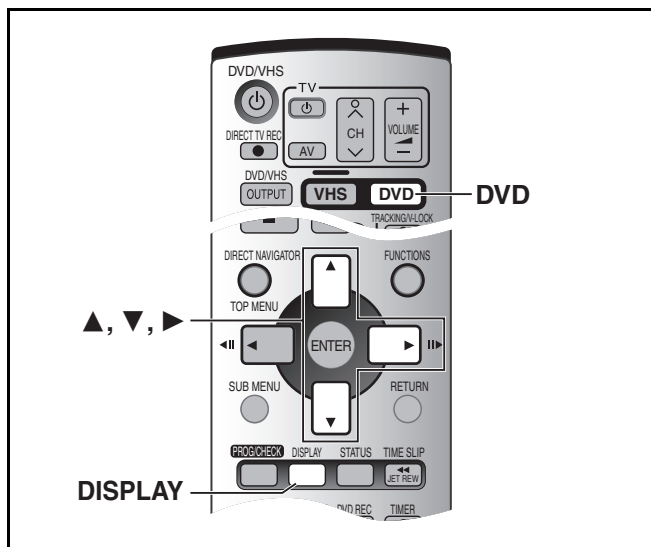
Go back to Play List View.



### For quicker editing

- Use search (→ 23), Time Slip (→ 23) or slow-motion (→ 23) to find the desired point.
- Press [◀◀, SKIP] or [▶▶, SKIP] to skip to the start or end of a title.

## Using DISPLAY menus



RAM DVD-R DVD-A DVD-V VCD CD MP3

DISPLAY menus contain information about the disc or unit. These menus allow you to perform following operations:

- You can change the subtitle and the angle when using DVD-Video.
- You can enjoy the repeat play.
- You can change the setting of picture and sound when playing back on the DVD.

### ▶ Disc menu

RAM DVD-R DVD-A DVD-V VCD

Disc	Soundtrack	1	DD Digital 2/0ch
Play	Subtitle	OFF	
Picture	Audio channel	L R	
Sound			

#### Soundtrack

**Soundtrack language** DVD-A DVD-V  
(See [A] Soundtrack/Subtitle language)  
Change the number to select a soundtrack.

**Audio attribute** RAM DVD-R DVD-A DVD-V  
(See [B] Audio attributes)

#### Subtitle

**Subtitle language** DVD-A DVD-V  
(See [A] Soundtrack/Subtitle language)  
Change the number to select a subtitle language.

**Subtitles ON/OFF** RAM DVD-R DVD-A DVD-V  
Turn the subtitles ON or OFF.

#### Angle DVD-A DVD-V

Change the number to select an angle.

#### STILL-P DVD-A

##### Page

##### Still picture number

- When "Return" is displayed, select it and press [ENTER] to return to the default page.
- When "Random" is displayed, select it and press [ENTER], the picture changes randomly each time you press [ENTER].

**Slide show** (Display only)

#### Audio channel RAM VCD

Select the audio channel. (→ 24)

#### PBC VCD

Playback control ON/OFF

Indicates whether menu play (playback control) is ON or OFF.

## ■ Common procedures

### Preparation

- Press [DVD].

### 1 Press [DISPLAY].

Disc	Soundtrack	1	DD Digital 2/0ch
Play	Subtitle	OFF	
Picture	Audio channel	L R	
Sound			

Menu                      Item                      Setting

### 2 Select the menu with [▲, ▼] and press [▶].

### 3 Select the item with [▲, ▼] and press [▶].

### 4 Select the setting with [▲, ▼].

- Some options require different operations. Follow the on-screen instructions and the instructions described later.

### ■ When you are finished

Press [DISPLAY].

### For your reference

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

### [A] Soundtrack/Subtitle language

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

### [B] Audio attributes

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

### For your reference

- When playing back recordings of bilingual broadcasts, "1 + 1 ch" will be displayed.
- You can only select subtitles, soundtracks, and angles if they are recorded on the disc.
- Some discs allow changes to soundtracks, subtitles, and angles only by the disc's menus.
- If the subtitles overlap closed captions recorded on discs, turn the subtitles off.

## ▶ Play menu

RAM DVD-R DVD-A DVD-V VCD CD MP3



### Repeat play

This function works only when the elapsed play time is displayed.

RAM DVD-R DVD-V

Title ↔ Chapter ↔ OFF

VCD CD

Track ↔ All ↔ OFF

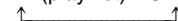
DVD-A MP3

Track ↔ Group ↔ OFF

While playing a play list

RAM

PL (play list) ↔ OFF



### If the Video CD has playback control

(→ 67)

1 While stopped (the screen saver is on the TV), press the numeric buttons to select a track. (→ 23)

2 Do the above operation.



### Note

- Repeat play may not work as desired with some discs.
- You cannot use repeat play to an entire DVD-Audio, DVD-Video, MP3 discs or all the play lists on a DVD-RAM.
- While playing back, you can set the repeat play. When stopped, the repeat play operation is cancelled.

## ▶ Picture menu

RAM DVD-R DVD-A DVD-V VCD



### Playback NR

Reduces noise and picture degradation.

ON ↔ OFF

### \* Progressive

Select "ON" to enables progressive output.

- Select "OFF" if the picture is stretched horizontally.
- When progressive output is on, closed captions cannot be displayed.

ON ↔ OFF

### \* Transfer (When "Progressive" is set to "ON".)

Select the method of conversion for progressive output to suit the type of material being played (→ 67, Film and video).

When the output signal is PAL

**Auto:** Detects 25 frame-per-second film content and appropriately converts it.

**Video:** Select when using Auto, and the video content is distorted.

When the output signal is NTSC

**Auto1 (normal):**

Detects 24 frame-per-second film content and appropriately converts it.

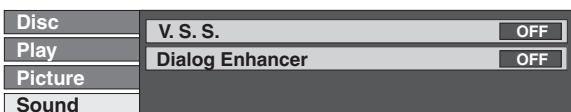
**Auto2:** Compatible with 30 frame-per-second film content in addition to 24 frame-per-second film content.

**Video:** Select when using Auto1 and Auto2, and the video content is distorted.

\* Only when you have set "Progressive" to "On" in the SETUP menu.

## ▶ Sound menu

RAM DVD-R DVD-A DVD-V



### V.S.S.

RAM DVD-R DVD-V

(Only for Dolby Digital with 2 or more channels)

Enjoy a surround-like effect if you are using 2 front speakers only. The effect is broadened and sound seems to come from virtual speakers on either side if the disc has surround signals recorded on it.

Natural ↔ Emphasis ↔ OFF ↔ Natural...

### Dialog Enhancer

DVD-A DVD-V

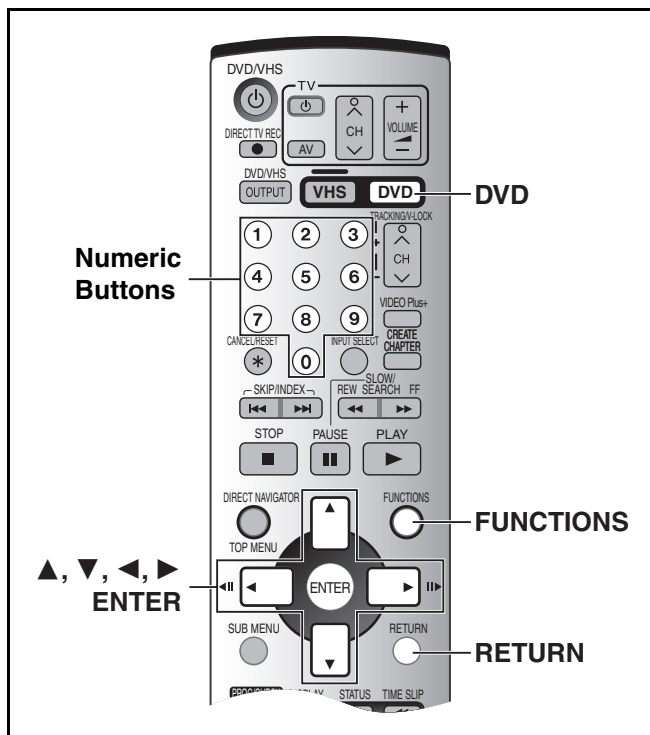
(Dolby Digital, 3-channel or over only, including a centre channel)

The volume of the centre channel is raised to make dialogue easier to hear.

ON ↔ OFF

### Note

- Turn V.S.S. off if it caused distortion.
- V.S.S. does not work for bilingual recordings.



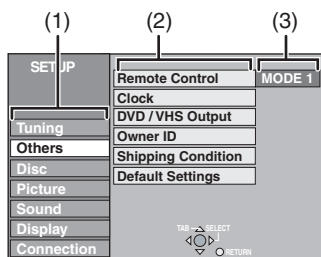
## Changing the unit's settings

- Preparation**
- Insert a disc that has been recorded on.
  - Press [DVD].

### Common procedures

Use the following procedure to change the settings if necessary.

- 1 While stopped**  
Press [FUNCTIONS]. (→ 53)
- 2 Select "SETUP" with [▲, ▼, ◀, ▶] and press [ENTER].**



- (1) Menu
- (2) Items
- (3) Options

- 3 Press [▲, ▼] to select the menu's tab and press [◀] or [▶].**
- 4 Press [▲, ▼] to select the item to be changed and press [ENTER].**
- 5 Press [▲, ▼] to select an option and press [ENTER].**
  - Some options require different operations. Follow the displayed instructions.

### To return to the previous screen

Press [RETURN]. Even if you have changed an option, the change is cancelled unless you press [ENTER].

### When you are finished

Press [RETURN] several times.

### For your reference

- The unit retains these settings.

## Entering a password (Ratings)

You can limit play of DVDs unsuitable for some audiences, children, for example. Play and changes to the settings are not possible unless you enter a password. (→ 47)

### Preparation

- Press [DVD].

### When setting ratings

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

- 1** Input a 4-digit password with the numeric buttons.
  - If you enter a wrong number, press [◀] to erase it before you press [ENTER].
  - **Do not forget your password.**

- 2** Press [ENTER].

- 3** Press [ENTER].

The password is entered and the unit is locked.

Now, when you insert a DVD-Video that exceeds the ratings limit you set, a message appears on the TV.

Follow the on-screen instructions.

### When changing ratings

The password screen is shown when you select "Ratings".

- 1** Input a 4-digit password with the numeric buttons and press [ENTER].

**Unlock Recorder:** To unlock the unit and return the rating to 8

**Change Password:** To change your password

**Change Level:** To change the rating level

**Temporary Unlock:** To temporarily unlock the unit (the unit locks again if you switch it to standby or open the disc tray)

- 2** Select the item with [▲, ▼] and press [ENTER].

Actual screens depend on the operation. Follow the on-screen instructions.

## Summary of settings

This description shows the settings for this unit. For details on menu operation (→ 46).

• **Underlined items are the factory presets.**

- DVD/VHS is effective settings in both DVD and VHS.
- DVD is effective settings in DVD only.

### ■ Tuning DVD/VHS

Manual (→ 50)

Auto-Setup Restart (→ 51)

Download from TV (→ 51)

### ■ Others DVD/VHS

Remote Control (→ 9)

[MODE 1] [MODE 2] [MODE 3]

### Clock

Auto Clock Setting (→ 52)

Manual Clock Setting (→ 52)

### DVD / VHS Output (→ 17)

Select how to switch the output from the DVD/VHS common output terminal on the back of this unit.

[Automatic] [Manual]

<b>Automatic</b>	Select this when you want to switch the output automatically according to the operation or action of this unit. <ul style="list-style-type: none"> <li>• You can also switch the output by pressing [DVD/VHS OUTPUT].</li> </ul>
<b>Manual</b>	Select this when you want to switch the output between DVD and VHS manually. <ul style="list-style-type: none"> <li>• The output is switched alternately by pressing [DVD/VHS OUTPUT].</li> </ul>

### Owner ID (→ 13)

[PIN number] [Name] [House No.] [Postcode]

### Shipping Condition

All the settings except for the ratings level including the password, Owner ID and time settings return to the factory preset. The timer recording programmes are also cancelled.

[Yes] [No]

### Default Settings

All the settings other than the programmed channels, time settings, disc language settings, rating level including the password, Owner ID and remote control code return to the factory presets.

[Yes] [No]

### ■ Disc DVD DVD-V

Choose the language for audio, subtitle and disc menus.

- Some discs are designed to start in a certain language despite any changes made here.
- If a language which is not recorded is selected, or if languages are already fixed in the disc, the language set as the default in the disc will be played instead.

### Language DVD-V

Choose the language for audio, subtitle and disc menus.

Press [ENTER] to display the menu.

#### Soundtrack

[English] [French] [German] [Italian] [Spanish] [Original]  
[Other \*\*\*\*]

#### Subtitle

[Automatic] [English] [French] [German] [Italian]  
[Spanish] [Other \*\*\*\*]

#### Menus

[English] [French] [German] [Italian] [Spanish]  
[Other \*\*\*\*]

### Original

The original language of each disc will be selected.

### Other \*\*\*\*

This is the language code setting.

Input a code number with the numeric buttons.

(→ 49, "Language code list".)

### Automatic

If the language selected for "Soundtrack" is not available, subtitles of that language will automatically appear if available on that disc.

### Ratings (→ 46)

Follow the on-screen instructions. Enter a 4-digit password with the numeric buttons when the password screen is shown.

#### • Do not forget your password.

##### Setting ratings (When level 8 is selected)

[8 No Limit]: All DVD-Video can be played.

[1] to [7]: Prohibits play of DVD-Video with corresponding ratings recorded on them.

[0 Lock All]: Prohibits play of all DVD-Video.

##### Changing ratings (When level 0–7 is selected)

[Unlock Recorder] [Change Password]

[Change Level] [Temporary Unlock]

### Recording time in EP mode

Select the maximum number of hours for recording in EP mode (→ 27, "Recording modes and approximate recording times in hours").

[EP (6Hour)] [EP (8Hour)]

<b>EP (6Hour)</b>	You can record for 6 hours on an unused 4.7 GB disc.
<b>EP (8Hour)</b>	You can record for 8 hours on an unused 4.7 GB disc.

- The sound quality is lowered compared to other recording modes when using "EP (8Hour)".

### DVD-Audio Video mode Playback

Select "On" to play DVD-Video content on some DVD-Audio.

[On] [Off]

<b>On</b>	The setting returns to "Off" when you change the disc or turn the unit off.
-----------	---

• Underlined items are the factory presets.

## Picture

### Comb Filter

Select the picture sharpness when recording.

The setting is fixed with "On" if you set "TV System" to "NTSC".

[On] [Off]

<b>On</b>	Pictures become clear and vivid. Normally, use this setting. <b>RAM</b>
<b>Off</b>	Select it when recording noisy pictures.

### Hybrid VBR Resolution (→ 67, "VBR")

Records the video on DVD-RAM in high quality.

[Automatic] [Fixed]

<b>Automatic</b>	The resolution is automated to provide efficient recording with less block noise.
<b>Fixed</b>	The resolution is fixed to ensure there is no loss of source picture resolution while recording.

### Still Mode

Select the type of picture shown when you pause play.

(→ 67, "Frame and field")

[Automatic] [Field] [Frame]

<b>Field</b>	Select if jittering occurs when "Automatic" is selected.
<b>Frame</b>	Select if small text or fine patterns cannot be seen clearly when "Automatic" is selected.

### VHS to DVD Dubbing NR

Reduces video tape noise while dubbing.

[Automatic] [Off]

<b>Automatic</b>	Noise reduction only works on input picture from a video tape.
<b>Off</b>	Noise reduction is off.

### S-VHS Dubbing Setting

Select the mode from Automatic mode and SQPB mode when dubbing from a tape recorded in S-VHS format or S-VHS ET format to the DVD.

[Automatic] [SQPB]

<b>Automatic</b>	Plays and dubs the tape with the same system as S-VHS VCR. The spectrum of the luminance signal (Y) is set wide and the tape can be dubbed with its original high resolution. The S-VHS dubbing indicator is lit during dubbing. • This mode is selected as factory preset. Usually, use this mode.
<b>SQPB</b>	Plays and dubs the tape with the same system as VHS VCR. The spectrum of the Y signal is narrower than that in the Automatic mode and you cannot achieve the original resolution of S-VHS. The S-VHS dubbing indicator is not lit during dubbing.

• When Automatic mode is selected, you may not achieve enough image quality depending on the source tape. In this case, select SQPB mode.

## Sound

### PLAY ×1.3 & Audio during Search (→ 22)

Choose whether to operate the Quick View (Play ×1.3) or not and whether to have sound during search.

[On] [Off]

• You may hear sound regardless of this setting with some discs.

### Dynamic Range Compression (Dolby Digital only)

Change the dynamic range for late night viewing.

[On] [Off]

### Bilingual Audio Selection **DVD-R**

Select whether to record the main or secondary audio type when recording to DVD-R.

You cannot select this when recording from an external source or TP position onto DVD-R. Select the audio on the other equipment.

[M1] [M2]

### Digital Audio Output

Change the settings when you have connected equipment through this unit's DIGITAL AUDIO OUT terminal (→ 18).

Press [ENTER] to display the menu.

#### PCM Down Conversion

Select how to output audio with a sampling frequency of 96 kHz or 88.2 kHz.

• Signals are converted to 48 kHz or 44.1 kHz despite the this settings if the signals have a sampling frequency of over 96 kHz or 88.2 kHz, or the disc has copy protection.

[On] [Off]

<b>On</b>	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.)
<b>Off</b>	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\*

Choose whether to output Dolby Digital bitstream signals for decoding on other equipment or to convert them to PCM signals for 2-channel output.

[Bitstream] [PCM]

<b>Bitstream</b>	When you have connected a unit with a built-in Dolby Digital decoder.
<b>PCM</b>	When you have connected a unit that doesn't have a built-in Dolby Digital decoder.

#### DTS\*

Choose whether to output DTS bitstream signals for decoding on other equipment or to not.

[Bitstream] [PCM]

<b>Bitstream</b>	When you have connected a unit with a built-in DTS decoder.
<b>PCM</b>	When you have connected a unit that doesn't have a built-in DTS decoder.

#### MPEG\*

Choose whether to output MPEG bitstream signals for decoding on other equipment or to convert them to PCM signals for 2-channel output.

[Bitstream] [PCM]

<b>Bitstream</b>	When you have connected a unit with a built-in MPEG decoder.
<b>PCM</b>	When you have connected a unit that doesn't have a built-in MPEG decoder.

\* Set "Dolby Digital" to "PCM", "DTS" to "PCM" and "MPEG" to "PCM" if the other equipment doesn't have decoders. Incorrect settings can cause noise to be output which can be harmful to your ears and speakers, and audio will not be recorded properly to digital recording equipment.



# Various Settings



• Underlined items are the factory presets.

## ■ Display

### On-Screen Messages

Choose whether to show on-screen messages automatically.

[Automatic] [Off]

### Grey Background

Select whether to show the grey background, normally shown when TV reception is poor.

[On] [Off]

### FL Display

Changes the brightness of the unit's display.

[Bright] [Dim]

## ■ Connection

### TV Aspect (→ 14)

Choose the setting to suit your TV and preference.

[16:9] [4:3] [Letterbox]

### Progressive (→ 17)

[On] [Off]

<b>On</b>	Select when connecting to an LCD or plasma television with component video input terminals.
<b>Off</b>	Select when connecting to a regular television (CRT: Cathode ray tube) even if it is progressive compatible.

## TV System

[PAL] [NTSC]

<b>PAL</b>	Select when connecting to a PAL or Multi-system TV. Programmes recorded using NTSC are played as PAL60. Select to record TV programmes and PAL input from other equipment.
<b>NTSC</b>	Select when connecting to a NTSC TV. Programmes recorded using NTSC are played as NTSC. Select to dub NTSC tape to disc or vice versa. Select to record NTSC input from other equipment. Even if "NTSC" is set, this unit cannot record NTSC signals from tuner to DVD disc and VHS tape.

- To change the TV system (PAL/NTSC) setting:  
While stopped, keep pressing [■, STOP] on the DVD main unit and [▲ OPEN/CLOSE] on the main unit for 5 or more seconds.
- If the playback picture on the TV screen from a Video CD isn't shown correctly:
  - When connecting to Multi-system TV, select "NTSC". (After viewing the disc, return the setting to "PAL".)
  - When connecting to PAL TV, the lower part of the picture cannot be displayed correctly during the fast forward and rewind.

## AV1 Output

Selects the output from the AV1 terminal.

Select "RGB (without component)" for RGB output. (RGB → 16)

- When you selected "RGB (without component)", if the VHS is played back, it will be automatically set to "Video (with component)".

Select "Video (with component)" for component output.

[Video (with component)] [RGB (without component)]

## AV2 Settings

Set to match the connected equipment.

Press [ENTER] to show the following settings.

### AV2 Input

Set to "RGB (Not NTSC)" when receiving or recording RGB output video from external equipment.

[Video] [S-Video] [RGB (Not NTSC)]

### AV2 Connection

[Decoder (DVD)] [Decoder (VHS)] [Normal]

<b>Decoder (DVD)</b>	When a decoder is connected and used on the DVD main unit.
<b>Decoder (VHS)</b>	When a decoder is connected and used on the VHS main unit.
<b>Normal</b>	When a satellite receiver is connected.

- A decoder cannot be use simultaneously on the DVD and VHS.

### Ext Link

[Ext Link 1] [Ext Link 2]

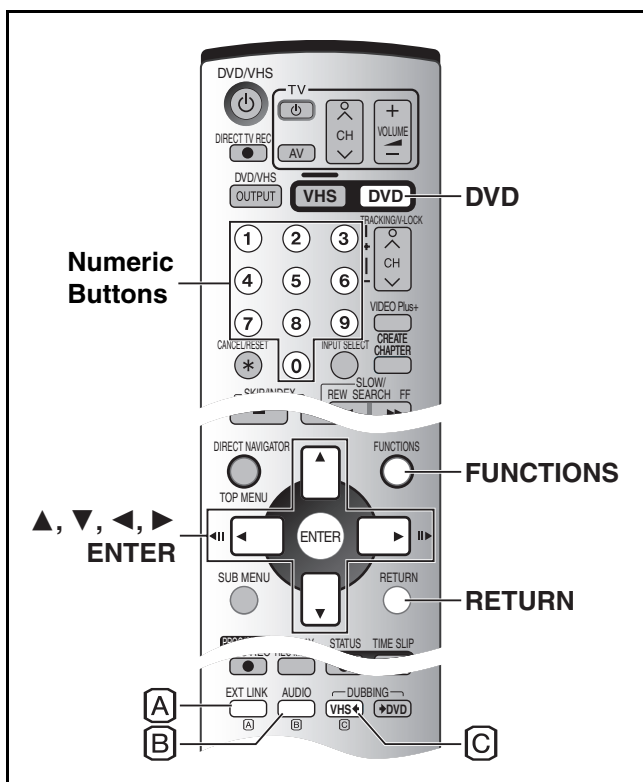
<b>Ext Link 1</b>	When a digital receiver which transmits a special control signal recordings via the 21-pin Scart cable is connected.
<b>Ext Link 2</b>	When an external equipment with a timer function is connected.

- This setting cannot be made when the "TV System" is set to "NTSC".

## Language code list

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	Twi: 8487
Aymara: 6588	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	

## Channel Settings

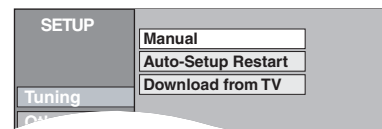


• “Channel Settings” will be reflected also in the VHS.

### Preparation

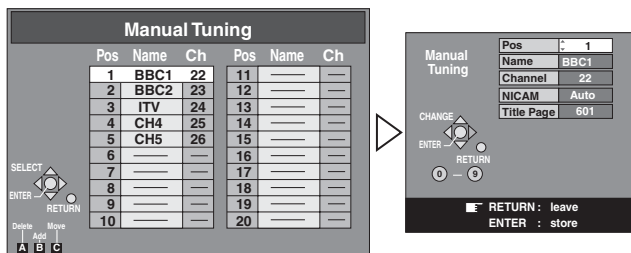
- Press [DVD].

- 1 While stopped  
Press [FUNCTIONS].
- 2 Press [▲, ▼, ◀, ▶] to select “SETUP” and press [ENTER].
- 3 Press [▲, ▼] to select “Tuning” and press [▶].



### ▶ Selecting the manual tuning

- 4 Select “Manual” with [▲, ▼] and press [ENTER].
- 5 Press [▲, ▼, ◀, ▶] to select the desired TV station and press [ENTER].
  - The TUNING BOX screen appears.



### ■ Handling the TUNING BOX screen

Press [▲, ▼, ◀, ▶] to select the desired field and press [ENTER].

#### Pos:

To change the order in which the TV stations are assigned to the programme positions.

Press [▲, ▼] or numeric buttons to select the number of the desired programme position and press [ENTER].

#### Name:

To enter or change the name of a TV station.

Press [▲, ▼, ◀, ▶] to enter station name and press [ENTER].

- If the station name needs a blank space, select the blank between [Z] and [\*].

#### Channel:

To enter newly available TV stations or change the channel number of an already tuned TV station.

Press [▲, ▼] or the numeric buttons to enter the channel number of the desired TV station.

- Wait a few moments until the desired TV station has been tuned.
- After the desired TV station is tuned, press [ENTER].

#### NICAM:

To select the type of sound to be recorded.

Select “Auto” with [▲, ▼].

- Select “Off” if the stereo sound is distorted due to inferior reception conditions, or if you want to record the normal (mono) sound during a stereo, bilingual or NICAM broadcast.

#### Title Page:

To select the title extraction from TV guide of broadcaster.

Press [▲, ▼] to select the number between 100 and 899.

- In case of a TV station with Teletext information, the title of the TV programme is entered automatically, provided the “Title page” is correctly set.
- In case of a TV station with Teletext information, the name of the TV station is recorded automatically.
- In case of a TV station with Teletext information, it may take over 30 minutes to get the title or may fail to get (→ 34, 36).

- 6 Press [RETURN].

## ▶ Adding, deleting, and moving channels

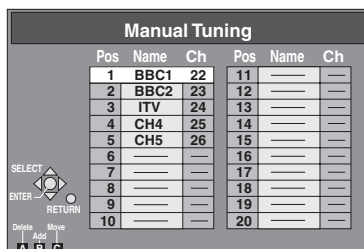
- 4 Select “Manual” with [▲, ▼] and press [ENTER].
- 5 Press [▲, ▼, ◀, ▶] to select the desired TV station and press the [A], [B], [C] buttons to select “Delete”, “Add”, “Move”.

To delete a programme position “Delete”:  
Press [A].

To insert a blank programme position “Add”:  
Press [B].

To move a TV station to another programme position “Move”:  
Press [C], and then Press

[▲, ▼] to select the new programme position to which you want to assign the TV station. Press [ENTER].



Manual Tuning					
Pos	Name	Ch	Pos	Name	Ch
1	BBC1	22	11	---	---
2	BBC2	23	12	---	---
3	ITV	24	13	---	---
4	CH4	25	14	---	---
5	CH5	26	15	---	---
6	---	---	16	---	---
7	---	---	17	---	---
8	---	---	18	---	---
9	---	---	19	---	---
10	---	---	20	---	---

Navigation controls: SELECT (diamond), ENTER (circle), RETURN (square), Delete (A), Add (B), Move (C)

- 6 Press [RETURN].

### Note

- If downloading of the setup data has been performed, only the instruction indication “Delete” appears.

### Hint

- If you have performed Manual Tuning to enter TV stations, the “---” indication may appear under [Pos/Name] on the display when programming a VIDEO Plus+ timer recording.

## ▶ Auto-Setup Restart, Download from TV

You can use the SETUP menus to start Auto Channel setting.

- 4 Select “Auto-Setup Restart” or “Download from TV” with [▲, ▼] and press [ENTER].
  - The confirmation screen appears.

- 5 Select “Yes” with [◀] and press [ENTER].

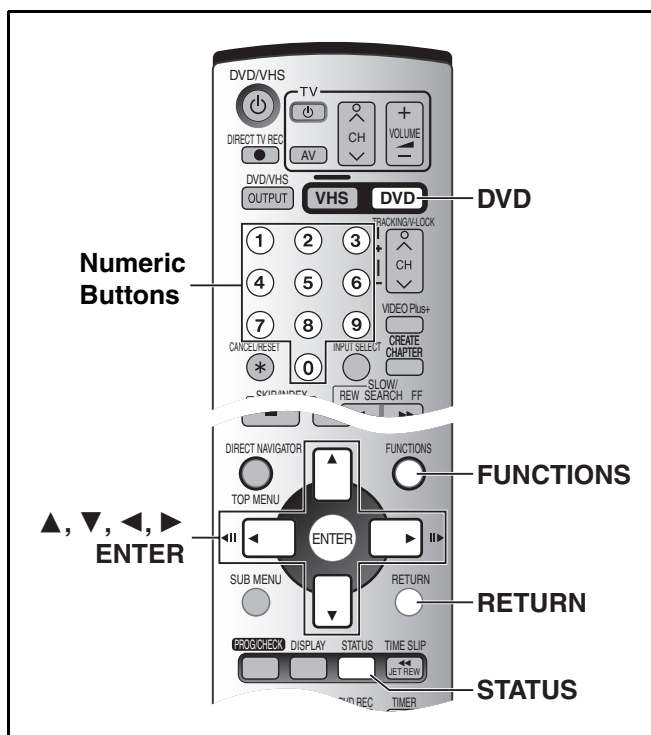
### ▶ Auto-Setup Restart

- Auto Setup restarts.

### ▶ Download from TV (Q Link → 68)

- Download starts.

## Clock Settings



Usually, the unit's Preset Download or Auto-Setup function (→ 13, 14) automatically adjusts the clock to correct time. Under some reception conditions, however, the unit cannot set the clock automatically.

In this case, follow the operation steps below to manually set the clock.

- In the case of a power failure, the clock setting remains in memory for approximately 60 minutes.
- “Clock Settings” will be reflected also in the VHS.

### Preparation

- Press [DVD].

- 1 While stopped**  
Press [FUNCTIONS].
- 2** Press [▲, ▼, ◀, ▶] to select “SETUP” and press [ENTER].
- 3** Press [▲, ▼] to select the “Others” and press [◀, ▶].
- 4** Press [▲, ▼] to select “Clock” and press [ENTER].

### ▶ Auto Clock Setting

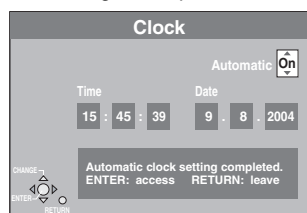
If a TV station transmits a time setting signal, and when “Automatic” in the Clock setting menu is set to “On”, the automatic time correction function checks the time and if necessary it is adjusted several times every day.

- 5** Press [▲, ▼] to select “On” of “Automatic” and press [ENTER].

- Auto clock setting starts.

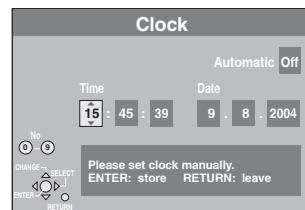
The following screen appears when setting is complete.

- **To stop partway**  
Press [RETURN].



### ▶ Manual Clock Setting

- 5** Press [▲, ▼] to select “Off” of “Automatic” and press [ENTER].



- 6** Press [◀, ▶] to select the item you want to change.

The items change as follows:

Hour ↔ Minute ↔ Second ↔ Day ↔ Month ↔ Year

- 7** Press [▲, ▼] to change the setting.  
• You can also use the numeric buttons for setting.

- 8** Press [ENTER] when you have finished the settings.  
• The clock starts.

### ■ To return to the previous screen

Press [RETURN].

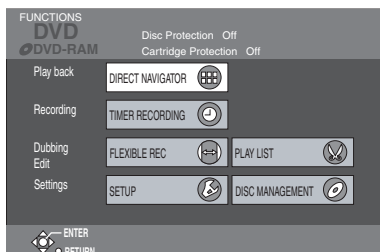
## FUNCTIONS window

By using the FUNCTIONS window you may access the main functions quickly and easily.

### Preparation

- Press [DVD].

- 1 While stopped  
Press [FUNCTIONS].



- Functions displayed depend on the type of disc.

- 2 Press [ $\blacktriangle$ ,  $\blacktriangledown$ ,  $\blacktriangleleft$ ,  $\blacktriangleright$ ] to select an item and press [ENTER].

### To exit the FUNCTIONS window

Press [FUNCTIONS].

## Status displays

### Preparation

- Press [DVD].

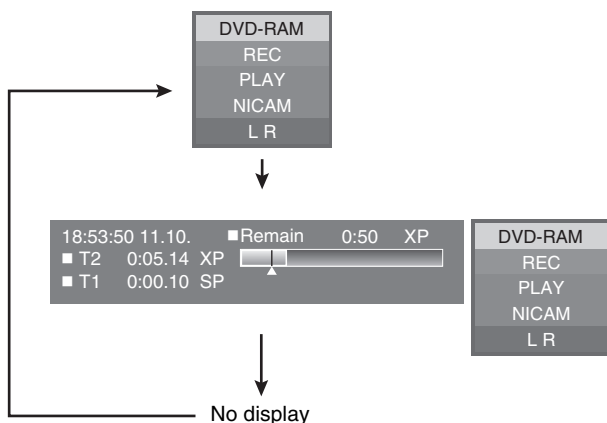
### Changing the information displayed

Displays appear on the TV when operating the unit to show you what operation was performed and what condition the unit is in.

Press [STATUS] to change the information displayed.

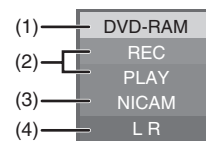
The display changes each time you press the button.

For example, DVD-RAM



## Display examples

- (1) Current media
- (2) Current recording or play status/input channel
  - Shows the current state of the unit and the input channel.
  - REC: Recording
  - PAUSE: Recording paused
  - PLAY: Playing
  - PLAY  $\times 1.3$ : Quick Viewing (Play  $\times 1.3$ )
  - II: Playing Paused
  - $\blacktriangleright\blacktriangleright$ : Fast forwarding (5 speeds)
  - $\blacktriangleleft\blacktriangleleft$ : Rewinding (5 speeds)
  - I|I: Slow-motion (5 speeds)
  - $\blacktriangleleft$ : Reverse slow-motion (5 speeds)



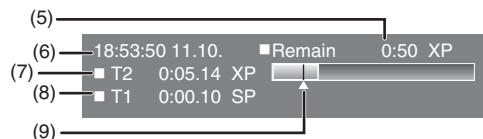
- (3) TV audio type

Shows the selected audio type.

- During reception  
Automatic indication of the type of sound system which the programme being watched (NICAM/MONO) is broadcast.

- (4) Select audio type ( $\rightarrow$  24, 28)

- During play  
LR, L, R: a stereo programme is recorded.



- (5) Available recording time and recording mode

(e.g.: "0:50 XP" indicates 50 minutes in XP mode)

- (6) The current date and time

- (7) Recording time

- Shows recording time, recording mode and a rough guide to how much space has been used for recording on the disc.

- (8) Elapsed play time

- (9) Play position

### For your reference

- These displays may not be shown if "On-Screen Messages" in the "Display" menu is set to "Off" ( $\rightarrow$  49). If set to "Automatic", displays (1), (2), (3), and (4) appear for 5 seconds and then disappear.

## Inserting video cassette

Facing up the surface from which you can see a roll of tape,  
**Insert a video cassette**

- This unit automatically is turned on.

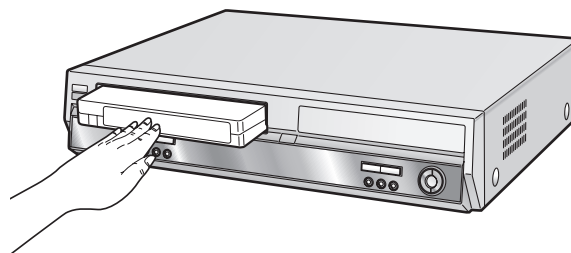
### ■ To eject a video cassette

**For main unit.**

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

**For remote control.**

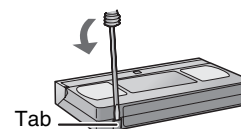
- Press [VHS] and then press and hold [**■**, STOP] for about 3 or more seconds.



## Video cassette information

### ■ Video cassettes

- Break out the video cassette's tab to prevent accidental erasure. Cover the hole with a double layer of adhesive 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 this 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 when they become dirty or damaged.
- Never use video cassettes on which juice has been split 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.



Use an optional head-cleaning cassette (part number NV-TCL30PT). If the problem persists, seek advice from a qualified service person.

## Setting Up

The tuning on DVD is automatically applied to the one on VHS. Therefore, tuning on VHS is not required.

When only the video output on VHS does not look natural, use the Fine Tuning function on VHS as below.

### ■ Fine Tuning

You can finely tune the reception on VHS regardless of the reception on DVD.

#### Preparation

- Press [VHS].

- 1 Press [ENTER] for five seconds or more.**

- Tuning screen appears.

Tuning			
Pos	Name	Pos	Name
1	BBC1	6	-----
2	BBC2	7	-----
3	ITV	8	-----
4	CH4	9	-----
5	CH5	10	-----

◀▶ : select    [ENTER] : access  
 [RETURN] : return

- 2 Press [**▲**, **▼**, **◀**, **▶**] to select the desired channel name, and then press [ENTER].**

- Fine Tuning screen appears.

Pos	:	1
Name	:	BBC1
Channel	:	22
Fine tuning	:	AUTO
Decoder	:	ON
Video system	:	PAL
Audio mode	:	I
NICAM	:	AUTO

◀▶ : select    [ENTER] : auto  
 [RETURN] : return

- 3 Press [**◀**, **▶**] to obtain the best tuning condition.**

- Press [ENTER] to select "AUTO".

- 4 Press [RETURN] to start the new condition.**

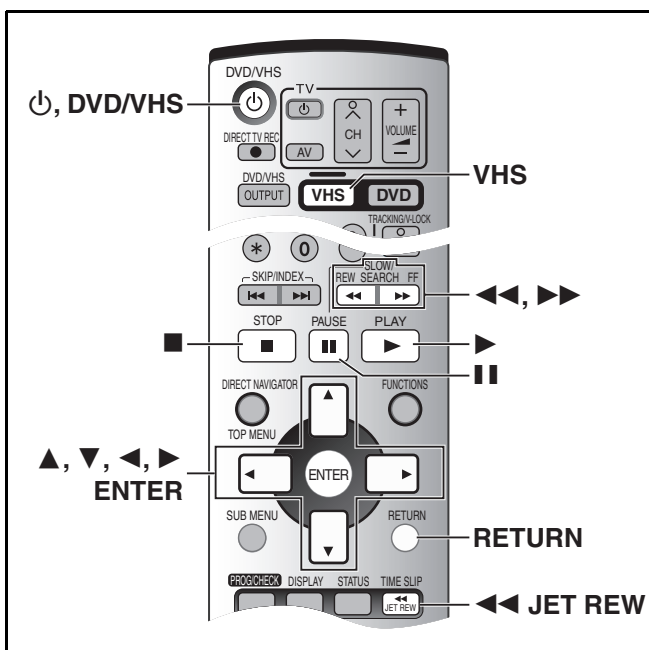
- To continue Fine Tuning:  
Repeat steps 2, 3, and 4.

- 5 Press [RETURN] to exit the tuning display.**

#### Note

- When you wish to set the item other than Fine Tuning, set it on DVD. (→ 47)
- When you set or change the Tuning menu in Setup menu on DVD, the settings on the Fine Tuning is restored to the default.

## Playing a video cassette



### Preparation

- Press [VHS].

1 Press [Power, DVD/VHS] to turn the unit on.

2 Insert a recorded video cassette. (→ 54)

3 Press [VHS].

4 Press [▶, PLAY].

- Play starts automatically if you insert a video cassette that has had its tab removed.

### ■ To stop play

Press [■, STOP].

### ■ To still playback

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

### Note

- When the unit is off with the VHS mode, an inserted video cassette can be played back by pressing [▶, PLAY].
- When the tape reaches its end, this unit automatically rewinds it to the beginning. During timer recording and fast-forwarding, this function does not work.
- When playing back a tape which was recorded on another VHS, it may be necessary to adjust tracking (→ 56). In some cases the picture quality may still be inferior. This is due to format constraints.

## Fast-forward / Rewind

### While stopped

Press [◀◀] (backward)/[▶▶] (forward).

- Press [◀◀/▶▶] or [▶▶/◀◀] on the VHS main unit.

- Press [■, STOP] to stop fast-forward / Rewind.

## Cue / Review Playback

### During play

Tap the [◀◀] (backward)/[▶▶] (forward).

- Tap [◀◀/▶▶] or [▶▶/◀◀] on the VHS main unit.

- Press [▶, PLAY] to restart playback.

- Press and hold down the [◀◀] (backward)/[▶▶] (forward). Cue or review playback continues for as long as you keep the button pressed.

## Jet Search

### During play

Tap [◀◀] (backward)/[▶▶] (forward) twice. You can increase Cue/Review search speed.

- Tap [◀◀/▶▶] or [▶▶/◀◀] twice on the VHS main unit.

- Press [▶, PLAY] to restart playback.

## Still playback

### During play

Press [⏸, PAUSE].

- Press [▶, PLAY] to restart playback.

## Slow-motion play

### During play

Press and hold [⏸, PAUSE] for 2 seconds or more.

- Press [▶, PLAY] to restart playback.

## Jet Rewind

### To obtain a Higher Speed Rewind

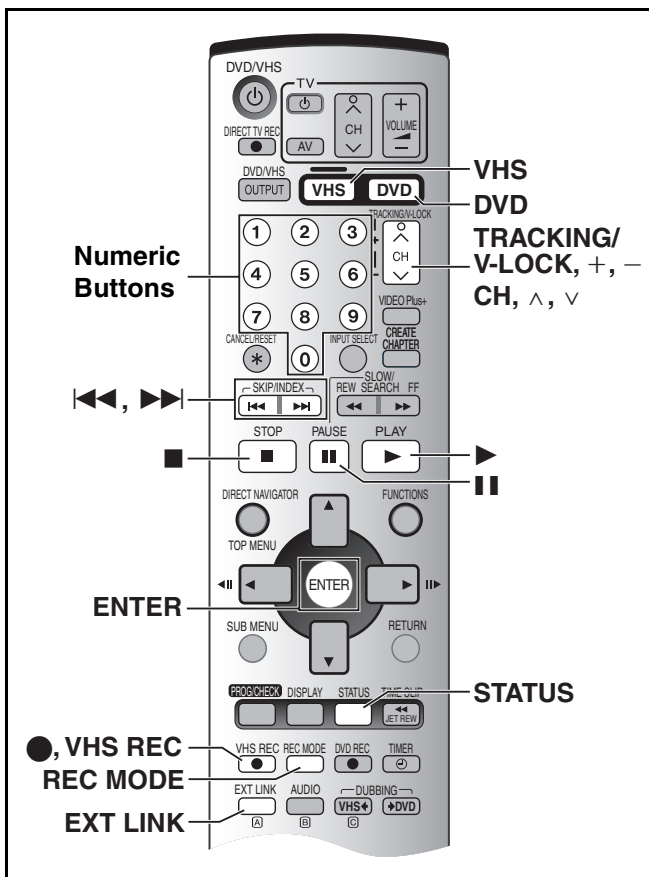
Press [JET REW ◀◀].

The "◀◀ JET REW" indication appears on the TV screen.

- Depending on a 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 a tape, this function may not work.

### Note

- Jet Search, Cue, review or slow-motion play will be automatically cancelled after 10 minutes, and still playback after 5 minute.
- During playback function other than normal playback, horizontal noise bars may appear in the picture, the colour of the picture may be unstable, or the picture may be otherwise distorted.



### Preparation

- Press [VHS].
- Insert a recorded video cassette.

## 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 this unit.

## To Play back a Recorded Part Repeatedly

During play or while stopped  
Keep pressing [▶, PLAY] for 5 or more seconds.

- The "RP" indication appears on the display.

### ■ To cancel the Recorded Part Repeatedly

Press [■, STOP].



## VHS Index Search System (VISS)

This 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 programme quickly and easily.

While stopped or during normal play

Press [◀◀] or [▶▶].

- The unit automatically starts playback after the index signal is found.
- Each press increases the number of skip.



### ■ To cancel the Index Search or to stop playback

Press [■, STOP].

### Note

- Up to 20 index signals can be searched for in both directions.

- When you press either one of the button 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 marks are too close together. Make recordings of at least 5 minutes.

## Adjusting the playback picture

### ■ Manual tracking

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

**During normal or slow playback,**  
Press [TRACKING/V-LOCK, +, -] until the bars noise disappear.

- If the noise bars appear during still playback, switch the VHS over to the slow playback mode and then adjust the tracking.

### ■ To return to auto tracking

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

### ■ Vertical locking adjustment

If the still picture shakes, perform the following operation.

**During still playback,**  
Keep [TRACKING/V-LOCK, +, -] pressed until the picture stops shaking.

### ■ To return to auto tracking

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

### ■ To remove the noise from a paused picture

Start slow play, then adjust the tracking.

### Note:

- This may not work with some TV models and tapes.

## To Play back a tape in high picture quality

You can play back a tape in Progressive video or RGB video with TP channel.

### Preparation

Connect this unit and the TV and then set the output.

- RGB Output → 16, 49
- Progressive → 17, 49

### 1 Press [DVD].

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

- About TP channel → 63

### 3 Press [VHS] and then press [▶, PLAY].

- The tape starts playing back in high picture quality.

### Note

- Check if the setting on "TV Aspect" is suited to the size of your TV. ("SETUP"-"Connection"-"TV Aspect", → 49)
- The TV must be RGB-compliant or Progressive-compliant.



## Recording TV programmes

- 1 Insert a video cassette with an intact erasure prevention tab.** (→ 54)
- 2 Press [CH, ^, v] to select the TV station.**
  - If you keep pressing one of these buttons, the channels changes quickly.
  - You can also select the channels with the numeric buttons.  
e.g., "5": [0]→[5]  
"15": [1]→[5]
- 3 Press [REC MODE] to select the tape speed.**  
Each time you press the button:  
SP→LP→EP→SP
- 4 Press [●, VHS REC] to start recording.**

### ■ To stop recording

Press [■, STOP].

### ■ To pause Recording

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

### Tape speed

SP: When recording or playing in the Normal mode.

LP: When playing in the Long play mode.

EP: When recording or playing in the Extra long play mode.

- To have a longer recording duration, select "LP" or "EP".
- If the image quality is important to you or if you wish to store the tape for a long period, select "SP".

### Note

- **Even if the video cassette you use is labeled "S-VHS", it is not possible to record in the S-VHS system with this unit. It records in normal VHS system.**
- When the recording is paused for more than 5 minutes, the unit returns to the stop mode.

### ■ To Display the Approximate Remaining Tape Time

Select "Tape length" from the on screen display and select the corresponding tape length. (→ 60)

Press [STATUS] repeatedly until the remaining tape time appears on the unit display and on-screen display.

- The display changes as follows each time [STATUS] is pressed.  
Current time→Operation status and Tape counter  
→Remaining tape time→Current time...
- The remaining tape time may not be displayed correctly depending on the tape used.

### ■ To specify a time to stop recording

#### While recording

Press [●, REC] on the VHS main unit to select the recording time.

#### Unit's Display

Each time you press the button:

Counter (cancel) → 30 (min.) → 60 (min.) → 90 (min.)

↑ 240 (min.) ← 180 (min.) ← 120 (min.) ←

#### For your reference

- This does not work during timer recordings or External Recording.
- Recording stops and the set time is cleared if you press [■, STOP].
- The unit is not turned off automatically when you set the time to stop recording by the procedure above and then the recording is stopped.

## Playing/Recording the DVD while recording

You can watch play or record discs while recording. The recording will not be affected.

- DVD playback (→ 22)
- DVD recording (→ 27)

## Linked timer recordings with external equipment (EXT LINK)

If an external equipment (for example a satellite receiver) with a timer function is connected to the AV2 terminal of this unit by a 21-pin Scart cable (→ 10, 16), it is possible to control the recording of the unit with the equipment.

### Preparation

- Change the "Ext Link" in the SETUP menu to match the connected equipment (→ 49).
- Timer programming has to be done on the external equipment and switch to the timer recording standby mode. Refer to the equipment's operating instructions.

### 1 Press [EXT LINK].

The unit turns off and switches to the recording standby mode.

- "EXT L" lights on the unit's display.

**The timer recording standby mode is activated on VHS ("EXT L" lights on the VHS unit's display). However, the unit may not be turned off automatically.**

- Recording begins when a signal is received from the connected equipment.
- As long as a video picture is being transmitted by the external equipment, the unit will record it.

### 2 Turn the unit off when you do not play or record any media on DVD.

- If the timer recording is started with keeping the unit turned on, the unit is not turned off automatically even after the timer recording is completed.

**When the following message appears on the television screen,**

- Press [ENTER] to hide this message.
- Press [EXT LINK] to stop recording.

EXT LINK recording in progress

[ENTER]: yes [EXT LINK]: cancel

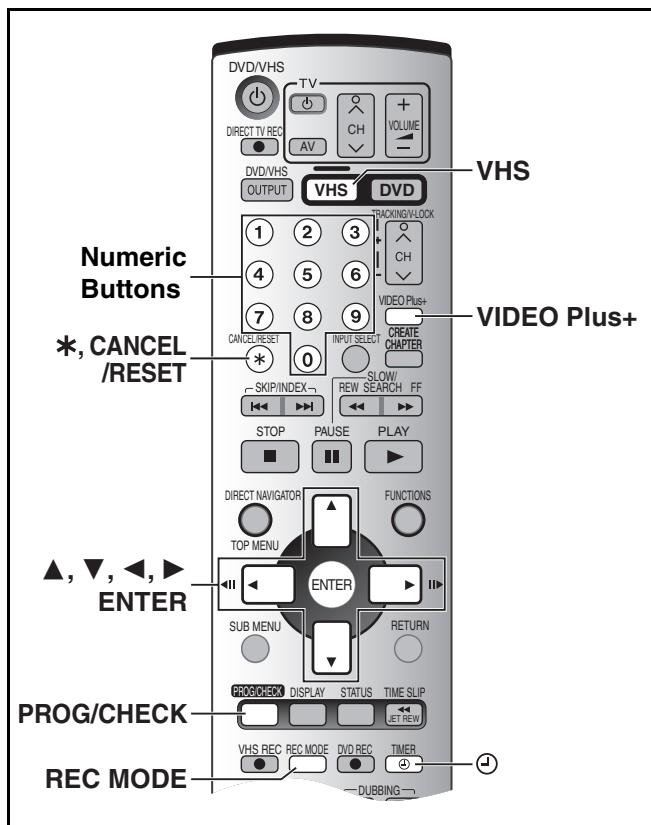
### To cancel the external control

Press [EXT LINK] to stop recording or to cancel linked timer recording standby.

- You can also press and hold [■, STOP] on the VHS main unit for more than 3 seconds to stop recording.
- In order to prevent accidental operation, press [EXT LINK] to cancel the setting after recording is finished.

### For your reference

- The video being recorded automatically appears on the television when connected to this unit's AV1 terminal with the 21-pin Scart cable.
- This function does not work with some equipment. Refer to the equipment's operating instructions.
- The beginnings of recordings may not be recorded correctly in some cases.
- When "Ext Link" is set to "Ext Link 2", this function does not work if the input signal is NTSC system.



You can enter up to 16 programmes up to a month in advance.

### Preparation

- Check that the clock is set to the correct time. If it has not been set, refer to page 52.
- Insert a video cassette with an intact erasure prevention tab. (→ 54)
- Press [VHS].

## Using VIDEO Plus+

Entering VIDEO Plus+ code is an easy way of timer recording. You can find these codes in the newspapers and magazines.

### 1 Press [VIDEO Plus+].



### 2 Press the numeric buttons to enter the VIDEO Plus+ code.

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

### 3 Press [ENTER].

Confirm the programme and correct it if necessary using [▲, ▼, ◀, ▶]. (→ right step 3.)

Timer recording						1/3
Name	Date	Start	Stop	SP	PDC	
----	27/7	20:00	21:00	SP	---	
----	/-/	:-	:-	:-	:-	
----	/-/	:-	:-	:-	:-	

If “-” appears under “Name”, press [▲, ▼] to select a desired programme position.

- You can also press [REC MODE] to change the recording mode.
- After you have entered the information of a TV station, it is kept in the unit’s memory.

### 4 If the programme is correct

Press [ENTER].

- To continue programming, repeat steps 1–4.

Timer recording						1/3
Name	Date	Start	Stop	SP	PDC	
1 BBC1	27/7	20:00	21:00	SP	OFF	
----	/-/	:-	:-	:-	:-	
----	/-/	:-	:-	:-	:-	

### 5 Press [⏻, TIMER].

- “⏻” lights on the unit’s display.

The timer recording standby mode is activated on VHS

(“⏻” lights on the VHS unit’s display). However, the unit may not be turned off automatically.

### 6 Turn the unit off when you do not play or record on DVD.

- If the timer recording is started with keeping the unit turned on, the unit is not turned off automatically even after the timer recording is completed.

## Manual programming

### 1 Press [PROG/CHECK].

- Or select the [Timer recording] in the VHS FUNCTIONS. (→ 60)

Highlighted line is ready for programming.

Timer recording						1/3
Name	Date	Start	Stop	SP	PDC	
1 BBC1	27/7	20:00	21:00	SP	OFF	
----	/-/	:-	:-	:-	:-	
----	/-/	:-	:-	:-	:-	

### 2 Press [ENTER].

Timer recording						1/3
Name	Date	Start	Stop	SP	PDC	
1 BBC1	27/7	20:00	21:00	SP	OFF	
----	/-/	:-	:-	:-	EP	
----	/-/	:-	:-	:-	:-	

### 3 Press [▶] to move and change the items with [▲, ▼].

- You may use the numeric buttons to enter “Name”, “Date”, “Start”, “Stop”.
- You can also press [REC MODE] to change the recording mode.

- **Name** (Programme Position/TV Station Name)

- **Date**

You can also make a daily or weekly programme.

- **Start** (start time)/**Stop** (finish time)

The time increases or decreases in 30-minute increments if you hold the button.

- **SP** (Tape speed) (→ 57)

SP ↔ LP ↔ EP ↔ A\* ↔ SP...

\* Tape Speed Auto Change Function (→ 59)

- **PDC**

ON ↔ OFF (---) (→ 59).

### 4 Press [ENTER] when you have finished making changes.

- To continue programming: Repeat steps 2–4.

### 5 Press [⏻, TIMER].

- “⏻” lights on the unit’s display.

The timer recording standby mode is activated on VHS

(“⏻” lights on the VHS unit’s display). However, the unit may not be turned off automatically.

## 6 Turn the unit off when you do not play or record on DVD.

- If the timer recording is started with keeping the unit turned on, the unit is not turned off automatically even after the timer recording is completed.

### ■ To release the unit from recording standby

Press [⏻, TIMER].

The unit turns on and “⏻” goes out.

- Be sure to press [⏻, TIMER] before the programme start time to put the unit on recording standby. Timer recording will work only if “⏻” is displayed.

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

Press [⏻, TIMER].

- You can also press and hold [■] on the VHS main unit for more than 3 seconds to stop recording.

### ■ PDC Function (→ 68)

If a TV programme starts earlier or later from original schedule, recording start and stop can synchronize with the actual broadcasting.

Conditions for correct operation of the PDC function:

- The TV station must broadcast PDC signals.
- The programme starting time must be set correctly to the starting time listed in the newspaper/magazine.

To activate the PDC Function:

In step 3 in the PDC item, press [▲, ▼] to select “ON”.

#### Note

- “⏻” flashes for about 5 seconds when the unit cannot go to timer recording standby (e.g., video cassette with no prevention tab or no video cassette in the cassette compartment).

## Tape Speed Auto Change Function

During a timer recording performed in SP mode, this function automatically changes the tape speed if the unit determines that the remaining tape is insufficient to record the entire programme. If the remaining tape time is still not sufficient even in LP mode, the programme cannot be recorded to the end.

- This function cannot change the recording speed to the EP mode for PAL system.
- This function may not work correctly when you record programmes in NTSC system.
- The tape length must be set correctly. (→ 60)
- Some tapes may not work correctly.
- If the tape speed changes during a timer recording, some brief picture distortion occurs at the point.

## Check, change or delete programmes

### 1 Press [PROG/CHECK].

Timer recording						1/3
Name	Date	Start	Stop	☑ PDC		
1 BBC1	27/ 7	20:00	21:00	SP OFF		
-----	-----	-----	-----	-----	-----	
-----	-----	-----	-----	-----	-----	

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

### 3 Press [✖, CANCEL/RESET] to delete, or press [ENTER] to change.

- You cannot change or delete programmes that are currently recording.
- The timer recording setting screen appears.
- To continue deleting programmes steps 2–3.

### 4 If you pressed [ENTER] in step 3, Press [▲, ▼, ◀, ▶] to change and press [ENTER].

- To continue changing programmes steps 2–4.

### 5 Press [⏻, TIMER].

- “⏻” lights on the unit’s display.

The timer recording standby mode is activated on VHS

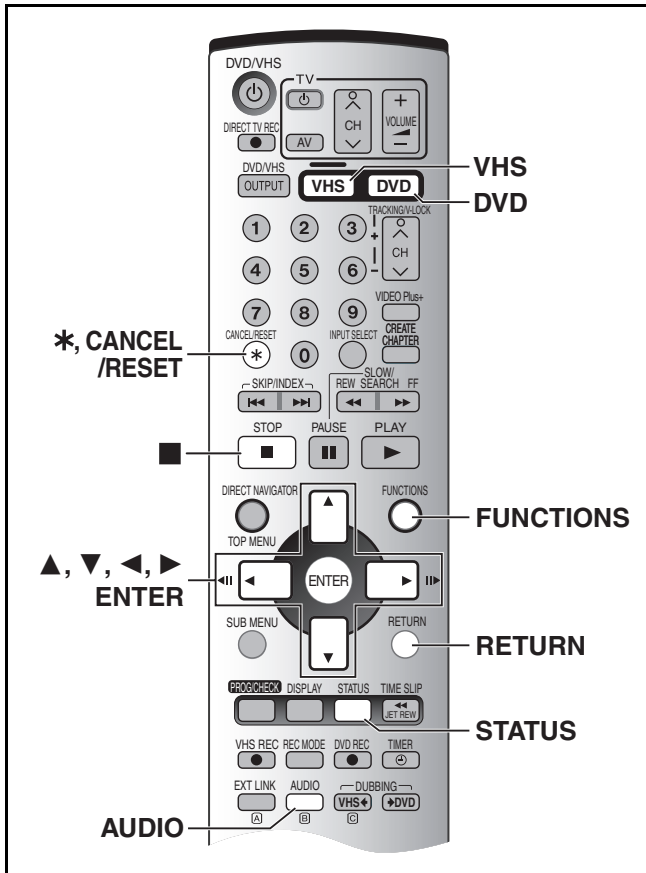
(“⏻” lights on the VHS unit’s display). However, the unit may not be turned off automatically.

### 6 Turn the unit off when you do not play or record on DVD.

- If the timer recording is started with keeping the unit turned on, the unit is not turned off automatically even after the timer recording is completed.

#### For your reference

- Programmes that failed to record are not deleted, but deleted from the list at 4 a.m. the day after tomorrow automatically.



## Summary of settings

This description shows the initial settings for this unit. For details on menu operation (→ left).

• Underlined items are the factory presets.

### VHS FUNCTIONS

**Timer recording** (→ 58)

**QUICK ERASE** (→ 61)

You can delete a cassette contents all at once.

**Tape length**

Set the length of tape you are using so the unit can show the correct remaining time.

[AUTO] (◀E-240) [E-195] [E-260] [E-300]

[AUTO (◀E-240)]: The VHS automatically distinguishes E30, -60, -90, -120, -180 and -240 tapes.

[E-195]: For E195 tape

[E-260]: For E260 tape

[E-300]: For E300 tape

### SQPB

To play back tapes recorded in the S-VHS format (SQPB; S-VHS Quasi Playback)

[AUTO] [ON] [OFF]

[AUTO]: This unit automatically detects the format in which the recording was made and selects the same format for playback. However, picture distortion may appear. Therefore, set to [ON] or [OFF].

[ON]: Use this setting when playing back a cassette tape recorded in the S-VHS format.

[OFF]: Use this setting when playing back a cassette tape recorded in the VHS format only.

### OSD (→ 61)

For automatic display on the TV screen of the TV station information, type of sound system of the programme being watched and the sound playback mode.

[4:3] [WIDE] [OFF]

[4:3]: Indications can be displayed on the TV screen.

[WIDE]: Indications can be displayed on the TV screen when using wide type of TV screen and selecting the wide screen mode on the TV setting.

[OFF]: No indications appears.

### Preparation

- Press [VHS].

## Changing the unit's settings

You can change the settings on VHS only with the following procedure.

For the settings on DVD, press [DVD], [FUNCTIONS], and then select "SETUP". (→ 46)

### Common procedures

- 1 While stopped  
Press [FUNCTIONS].

- 2 Press [▲, ▼] to select a desired item.

- 3 Press [ENTER] or [◀, ▶] to change the setting.

VHS FUNCTIONS	
Timer recording	
QUICK ERASE	
Tape length	: AUTO (◀E - 240)
SQPB	: AUTO
OSD	: 4 : 3
▲ : select [ENTER] : access	
[RETURN] : return	

### To exit the VHS FUNCTIONS screen

Press [RETURN]

## QUICK ERASE

You can delete a cassette contents all at once.

### Preparation

- Press [VHS].
- Insert a recorded video cassette.

- 1 Insert a cassette that you want to delete the cassette contents.
- 2 While stopped, Press [FUNCTIONS] to display the VHS FUNCTIONS on the screen.
- 3 Press [▲, ▼] to select the “QUICK ERASE”, and then press the [ENTER].

VHS FUNCTIONS	
Timer recording	
QUICK ERASE	
Tape length	: AUTO ( ◀ E - 240)
SQPB	: AUTO
OSD	: 4 : 3
▲ : select [ENTER] : access	
▼ : select [RETURN] : return	

- 4 Press [ENTER] for 5 seconds or more to start the QUICK ERASE function.

- QUICK ERASE function takes approximately 30 minutes. (with E-180 cassette)

[ENTER] : press for 5 seconds

[STOP] : cancel

### ■ To stop partway

Press [STOP].

The tape is rewound to the beginning, and it is fast-forwarded with the quick erase function.

When the tape reaches the end, the VHS automatically rewinds it to the beginning.

### Note

- When a video cassette with a broken off erasure prevention tab is inserted, this function is not activated.

## Changing audio

### Press [AUDIO] to select the audio type.

The audio changes as follows:

L R (Stereo) → L → - R → - - (Normal audio track) →

L R (Stereo)

### Note

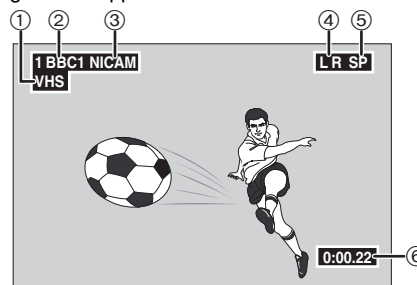
- You cannot change the audio while you use “DC” channel (→ 65).

## Various indications in on-screen display

To see these displays, set the “OSD” item in the “VHS FUNCTIONS” to “4:3” or “WIDE” (→ 60).

### Press [STATUS].

The following screen appears.

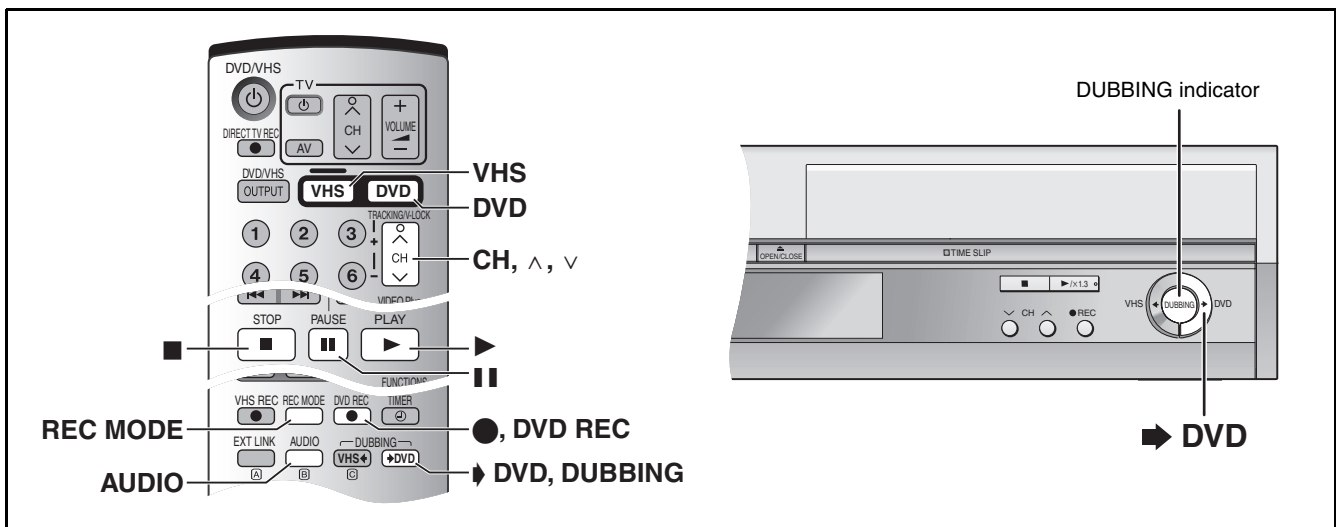


①	<b>VHS Indication</b>
②	<b>Input channel</b>
③	<b>Audio type</b> Show the selected audio type
④	<b>L and R indicators</b> The Left (L) and Right (R) indicators show which sound mode is selected as follows: L R (Stereo): Both the L and R indicators appear. L -: The L indicator appears. - R: The R indicator appears. - -: (Normal): Neither the L nor R indicator appears.
⑤	<b>Tape speed or rec mode</b>
⑥	<b>Tape running display</b> Pressing [STATUS] once makes the on-screen display appears. After that, press the button repeatedly to change the display as follows: Current time → Operation status and Tape counter → Remaining tape time → Current time during Index search: “01” to “20” is displayed. during Jet Rewind: “◀◀ JET REW” is displayed. • Press [* , CANCEL/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 the “Tape length” item in the “VHS FUNCTIONS” menu and if the tape is of poor quality.

### Note

- These displays do not appear during special playback.
- The on-screen display may be distorted depending on the playback tape or the input signal.

## Dubbing from VHS



### ■ One Touch Dubbing (VHS → DVD)

#### RAM DVD-R

With one stroke of the button, programs are automatically dubbed onto the disc\* from the stopping location on the tape.

\* The available disc for dubbing from the tape are DVD-RAM and non-finalized DVD-R.

#### Preparation

##### VHS (Recording source)

- Press [VHS].
- Insert the video cassette containing the program to be copied (→ 54).
- Playing back video cassette.
- Press [AUDIO] to select the audio you wish to record.
- Stop the tape at the position where you wish to start recording.

##### DVD (Recording target)

- Press [DVD].
- Release protection (disc → 32, cartridge → 19). **RAM**
- Insert a disc and confirm there is sufficient empty space for recording on it. (→ 21, 53)
- Select the recording mode.

##### Settings ("TV System" → 49)

- When dubbing an NTSC tape to a DVD
  - Set "TV System" on "Connection" in "SETUP" to "NTSC".
- When dubbing a PAL tape to a DVD
  - Set "TV System" on "Connection" in "SETUP" to "PAL".

#### 1 While both DVD/VHS is stop, Press and hold [▶ DVD, DUBBING] for 3 seconds or more.

- Check if dubbing starts properly.
- On the main unit, press [▶ DVD].

- The "DUBBING" indicator on the main unit lights.
- Dubbing is automatically completed when the tape reaches to the end or the disc becomes full.



- When dubbing is completed, a message indicating the end of dubbing appears on the TV screen and then disappears a few seconds later.

#### ■ To stop dubbing halfway through

Press [■, STOP].

#### ■ When dubbing is started, the following operations also start automatically

- "OSD" on VHS FUNCTIONS → "OFF" (→ 60)
- Recording channel indication on DVD → "TP" (→ 63)
- Output to TV → DVD output
- The audio mode of the target DVD is fixed to "LR".

#### ■ Only the following operations are allowed while dubbing

- Stopping dubbing by pressing [■, STOP].
- Switching the audio mode of VHS by pressing [AUDIO]. The audio which you are hearing is recorded.

#### ■ Dubbing VHS tape with high picture quality

Select "Automatic" on "S-VHS Dubbing Setting" in "SETUP" on DVD. (→ 48)

- When performing S-VHS dubbing, "S-VHS" lights on the unit's display. (→ 48)
- Component signal is used for dubbing.
- "Automatic" is selected as default. Use the unit as it is.

#### ■ Dividing a program to be dubbed (Automatic creation of thumbnails)

In One Touch Dubbing from VHS to DVD, the programme is divided into titles by index signal (→ 56) detected and then recorded. You can search desired titles with Direct Navigator's Title View (→ 35) after dubbing to DVD.

- The recording time may become longer than the original title depending on the number of index signals.

#### Note

- You cannot operate for dubbing while timer recording standby on both DVD and VHS. Cancel the timer recording standby.
- When "DVD / VHS Output" is set to "Manual" (→ 47), or when VHS output is selected in starting dubbing, the output is switched to DVD automatically at the time when dubbing is started.
  - When the dubbing is already started, you cannot switch the output manually.
- When the dubbing is not started or not executed, the "DUBBING" indicator blinks for about 7 seconds. Check if the unit is properly prepared.
- When a Copy-guarded tape is inserted, the message appears on the display and the recording stops on the spot.
- When menu screen appeared on the TV, One Touch Dubbing cannot start. One Touch Dubbing can perform start, after return from menu screen.

## ■ Manual Dubbing (VHS → DVD)

### RAM DVD-R

You can specify the position to start dubbing the program recorded on the tape to the disc.

- The available discs for dubbing from the tape are DVD-RAM and non-finalized DVD-R.
- Copy-guarded video tapes cannot be dubbed. Most of commercially sold/purchased video tapes are copy-guarded to prevent illegal reproduction and they cannot be recorded with the following procedure.

### Preparation

#### VHS (Recording source)

- Insert the video cassette containing the program to be copied (→ 54).

#### DVD (Recording target)

- Release protection (disc → 32, cartridge → 19). **RAM**
- Insert a disc and confirm there is sufficient empty space for recording on it. (→ 21, 53)

#### Settings (“TV System” → 49)

- When dubbing an NTSC tape to a DVD
  - Set “TV System” on “Connection” in “SETUP” to “NTSC”.
- When dubbing a PAL tape to a DVD
  - Set “TV System” on “Connection” in “SETUP” to “PAL”.

- 1 Press [VHS] and press [▶, PLAY].**
- 2 Press [AUDIO] Select the audio to be played (the audio to be recorded) beforehand.**
- 3 Press [II, PAUSE] at the start point of the recording.**
- 4 Press [DVD].**
- 5 Select “TP” channel with [CH, ^, v].**
  - The picture of the VHS is displayed on the TV.
  - When the “DC” channel is selected on VHS, you cannot select the “TP” channel.
- 6 Press [REC MODE] to select the recording mode.**
- 7 Press [●, DVD REC].**
  - Disc recording and VHS play start at the same time.

### To pause or stop Manual Dubbing

You cannot stop or pause on DVD and VHS at the same time

#### ■ To pause or stop recording

Press [DVD] and press [II, PAUSE] or [■, STOP].

#### ■ To pause or stop play

Press [VHS] and press [II, PAUSE] or [■, STOP].

### ■ About TP channel

(TP: Dubbing input channel)

When you select TP channel, DVD can receive the video/audio signal from VHS. This enables you to dub the video played back on VHS to DVD.

- Press [DVD] and press [CH, ^, v] several times to select TP channel.
- You can play back a tape in high picture quality (e.g. Progressive, RGB Output) with TP channel. (→ 56)
- When the TP channel is selected, the audio mode of DVD is fixed to “LR”.
- Contrary to TP channel, DC channel is the channel for VHS to receive the video/audio signal from DVD. (→ 65)
- When the “DC” channel is selected on VHS, you cannot select the “TP” channel.

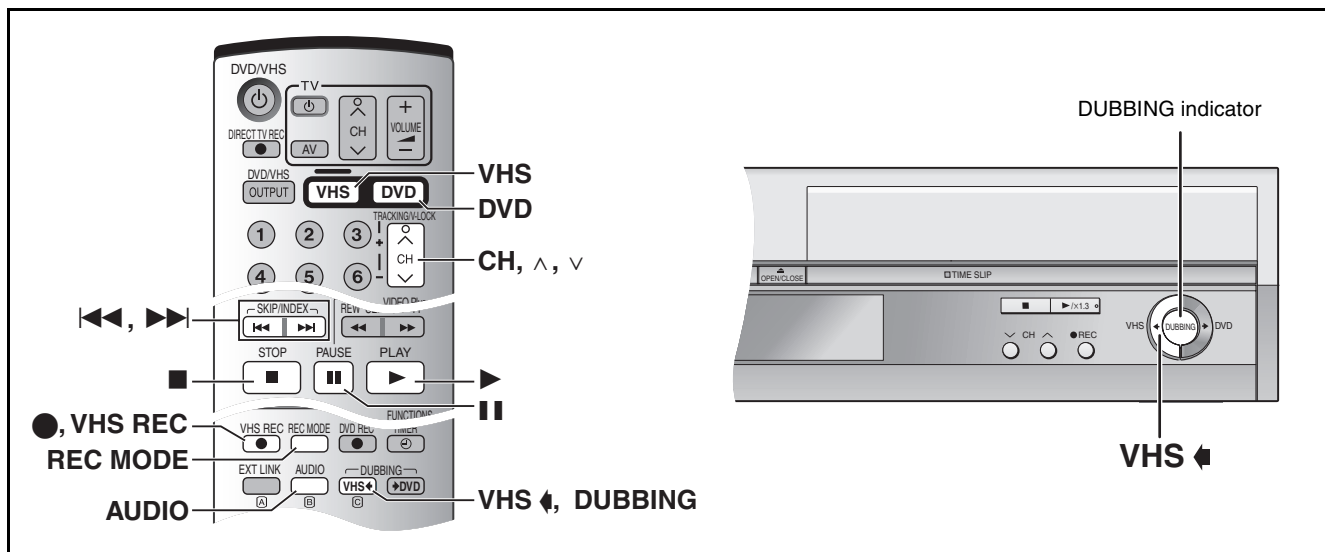
### ■ When dubbing is started, the following operations also start automatically

- “OSD” on VHS FUNCTIONS → “OFF” (→ 60)

### Note

- When “DVD / VHS Output” is set to “Manual” (→ 47), or when VHS output is selected in starting dubbing, the output is switched to DVD automatically at the time when dubbing is started.
- When a Copy-guarded tape is inserted, the message appears on the display and the recording stops on the spot.
- Switching the audio mode of VHS by pressing [AUDIO]. The audio which you are hearing is recorded.

## Dubbing from DVD



### One Touch Dubbing (DVD → VHS)

With one stroke of the button, all of contents in the disc\* are automatically dubbed onto the tape.

\* The available disc for dubbing onto the tape are DVD-RAM and non-finalized DVD-R. If you want to dubbing from DVD-Video or finalized DVD-R, perform Manual Dubbing. (→ 65)

#### Preparation

##### DVD (Recording source)

- Press [DVD].
- Insert the disc containing the program to be copied (→ 21).
- Playing back DVD.
- Press [AUDIO] to select the audio you wish to record.
- Stop the DVD (→ right).

##### VHS (Recording target)

- Press [VHS].
- Insert a video cassette with an intact erasure prevention tab. (→ 54)
- Confirm that the remaining tape time is sufficient for recording. (→ 61)
- Select the recording mode.

##### Settings ("TV System" → 49)

- When dubbing an NTSC disc to a tape
  - Set "TV System" on "Connection" in "SETUP" to "NTSC".
- When dubbing a PAL disc to a tape
  - Set "TV System" on "Connection" in "SETUP" to "PAL".

#### 1 While both DVD/VHS is stop, Press and hold [VHS <math>\leftarrow</math>, DUBBING] for 3 seconds or more.

- Check if dubbing starts properly.
  - On the main unit, press [VHS <math>\leftarrow</math>].
- 
- The "DUBBING" indicator on the main unit lights.
  - Dubbing is automatically completed when playback of the disc is finished or the tape reaches to the end.



- When dubbing is completed, a message indicating the end of dubbing appears on the TV screen and then disappears a few seconds later.

#### To stop dubbing halfway through

Press [■, STOP].

#### When starting the One Touch Dubbing from desired title

During playing back DVD, press [■, STOP] on the desired title (Resume Function → 22), and then press [VHS <math>\leftarrow</math>, DUBBING], it will start dubbing from the beginning of desired title.

- When starting dubbing from the beginning of DVD, cancel the Resume Function (→ 22) and then press [VHS <math>\leftarrow</math>, DUBBING].

#### When dubbing is started, the following operations also start automatically:

- "On-Screen Messages" on Display → "Off" (→ 49)
- Recording channel indication on VHS → "DC" (→ 65)
- Output to TV → VHS output
- The audio mode of the target tape is fixed to "LR".

#### Only the following operations are allowed while dubbing

- Stopping dubbing by pressing [■, STOP].
- Switching the audio mode of DVD by pressing [AUDIO]. The audio which you are hearing is recorded.

#### About Recording VISS (→ 56)

In One-Touch Dubbing from DVD to VHS, the index signal is automatically recorded for each titles. You can search desired titles with [◀◀] or [▶▶].

#### Note

- You cannot operate for dubbing while timer recording standby on both DVD and VHS. Cancel the timer recording standby.
- When "DVD / VHS Output" is set to "Manual" (→ 47), or when DVD output is selected in starting dubbing, the output is switched to VHS automatically at the time when dubbing is started.
  - When the dubbing is already started, you cannot switch the output manually.
- When the dubbing is not started or not executed, the "DUBBING" indicator blinks for about 7 seconds. Check if the unit is properly prepared.
- When menu screen appeared on the TV, one touch dubbing cannot start. One Touch Dubbing can perform start, after return from menu screen.



## ■ Manual Dubbing (DVD → VHS)

You can specify the position to start dubbing the program recorded on the disc to the tape.

- The available discs for dubbing source are discs without copy guard. Most of DVD-Videos are copy-guarded to prevent illegal reproduction and they cannot be recorded with the following procedure.

### Preparation

#### DVD (Recording source)

- Insert the disc containing the program to be copied (→ 21).

#### VHS (Recording target)

- Insert a video cassette with an intact erasure prevention tab. (→ 54)
- Confirm that the remaining tape time is sufficient for recording. (→ 61)

#### Settings (“TV System” → 49)

- When dubbing an NTSC disc to a tape
  - Set “TV System” on “Connection” in “SETUP” to “NTSC”.
- When dubbing a PAL disc to a tape
  - Set “TV System” on “Connection” in “SETUP” to “PAL”.

- 1 Press [DVD] and press [▶, PLAY].**
- 2 Press [AUDIO] to Select the audio to be played (the audio to be recorded) beforehand. **RAM****
  - When the DVD-R is inserted, you cannot select the audio.
- 3 Press [II, PAUSE] at the start point of the recording.**
- 4 Press [VHS].**
- 5 Select “DC” channel with [CH, ^, v].**
  - The picture of the DVD is displayed on the TV.
  - When the “TP” channel is selected on DVD, you cannot select the “DC” channel.
- 6 Press [▶, PLAY].**

Start playing the video cassette and find the recording start point.
- 7 Press [II, PAUSE] at the start point of the recording, then press [●, VHS REC] to pause.**

Put the unit in the recording standby mode.
- 8 Press [REC MODE] to select the recording mode.**
- 9 Press [II, PAUSE].**
  - VHS recording and disc play start at the same time.

### To pause or stop Manual Dubbing

You cannot stop or pause on DVD and VHS at the same time

#### ■ To pause or stop recording

Press [VHS] and press [II, PAUSE] or [■, STOP].

#### ■ To pause or stop play

Press [DVD] and press [II, PAUSE] or [■, STOP].

### ■ When dubbing is started, the following operations also start automatically:

- “On-Screen Messages” on Display → “Off” (→ 49)

### Note

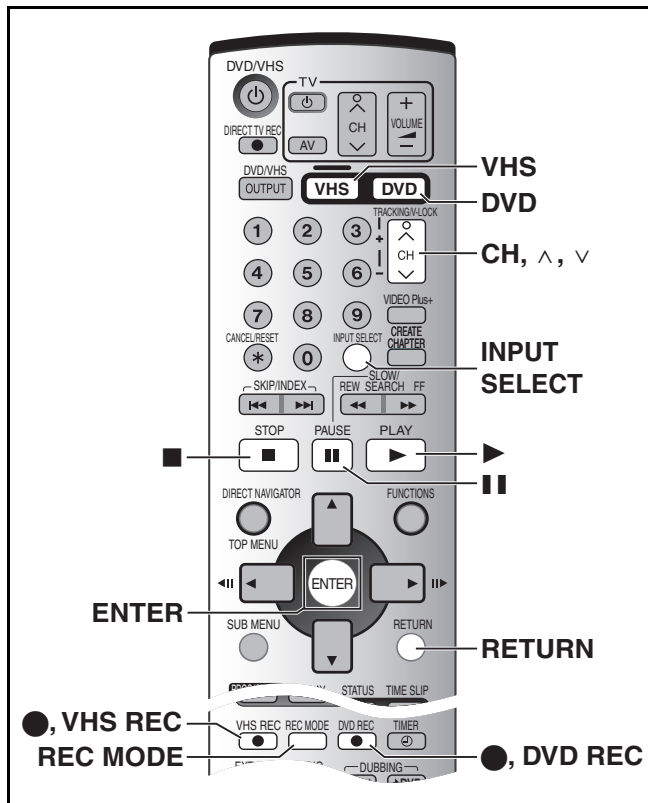
- When “DVD / VHS Output” is set to “Manual” (→ 47), or when DVD output is selected in starting dubbing, the output is switched to VHS automatically at the time when dubbing is started.
- Switching the audio mode of DVD by pressing [AUDIO]. The audio which you are hearing is recorded.

### ■ About DC channel

(DC: Dubbing input channel)

When you select DC channel, VHS can receive the video/audio signal from DVD. This enables you to dub the video played back on DVD to VHS.

- Press [VHS] and press [CH, ^, v] several times to select DC channel.
- When the DC channel is selected, the audio mode of VHS is fixed to “LR”.
- Contrary to DC channel, TP channel is the channel for DVD to receive the video/audio signal from VHS. (→ 63)
- When the “TP” channel is selected on DVD, you cannot select the “DC” channel.



## Recording from an external device

**When connecting to the AV3 input terminals on the front of the unit. (→ 18)**

Before connecting any cables, first make sure that the power for both units is off. Then after connecting any cable, turn on the both units.

### Note

- If the audio output of the other equipment is monaural, connect to L/MONO. (Both left and right channels are recorded when connected through L/MONO.)

### Preparation

**DVD** **RAM** **DVD-R**

- Release protection (disc → 32, cartridge → 19). **RAM**
- Press [DVD].

### VHS

- Confirm a video cassette with an intact erasure prevention tab. (→ 54)
- Press [VHS].

**1 Press [REC MODE] to select the recording mode. (DVD → 27, VHS → 57)**

• **DVD** **RAM** **DVD-R**

- It is also possible to perform the Flexible Recording (FR). (→ 28)

**2 While stopped**

**Press [CH, ^, v] or [INPUT SELECT] to select the input channel.**

- Select AV3.

## ▶ DVD

- 3 Start play on the other equipment.**
- 4 Press [●, DVD REC] at the point you want to start recording.**

## ▶ VHS

- 3 Press [▶, PLAY].**  
Start playing the video cassette and find the recording start point.
- 4 Press [⏸, PAUSE], then press [●, VHS REC].**  
Put the unit in the recording standby mode.
- 5 Start play on the other equipment.**
- 6 Press [⏸, PAUSE].**  
• VHS recording and disc play start at the same time.

### ■ To skip unwanted parts

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

### ■ To stop recording

Press [■, STOP].

### Note

- Stop play on the other equipment as well.
- This unit does not support recording the signal from a personal computer.
- When recording bilingual programmes
  - When "M1" and "M2" is selected on the connected equipment, you can choose the audio mode in playback. **RAM**
  - Select either M1 or M2 on the connected equipment. (You cannot select the audio mode in playback.) **DVD-R**
- When the output signal from the external equipment is NTSC, change the "TV System" to "NTSC" in the SETUP menu (→ 49).

### For your reference

- Almost all videos and DVD software on sale have been treated to prevent illegal copying. These software cannot be recorded.

## Child Lock

The child lock deactivates all buttons on the unit and remote control. Use it to prevent other people from operating the unit.

### To activate the child lock

Hold down [ENTER] and [RETURN] simultaneously until "X HOLD" appears on the display.

- If you press a button while the child lock is on, "X HOLD" appears on the display and operation is disabled.

### To cancel the child lock

Hold down [ENTER] and [RETURN] simultaneously until "X HOLD" disappears.

## Glossary

### Bitstream

This is the compressed form of digital signals. A decoder decodes these signals into 5.1 surround and multi-channel signals.

### CPRM (Content Protection for Recordable Media)

CPRM is the copy right protection technology that is used to protect broadcasts that are allowed to be recorded only once (e.g. some CATV broadcasts).

### Down-mixing

This is the process of remixing the multi-channel audio found on some discs into two channels for stereo output. 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.

### 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 dialogue clearly.

### Film and video

DVD-Videos are recorded using either film or video. Usually, film is recorded at 24 frames per second, the rate movies are filmed at, while video is recorded at 30 frames per second.

### Finalize

This process allows DVD-R to be played on compatible equipment.

### Formatting

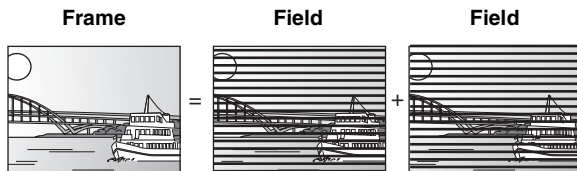
Formatting is the process of making media such as DVD-RAM recordable on recording equipment.

You can format DVD-RAM on this unit.

Formatting irrevocably erases all recordings on the disc.

### Frame and field

Frames are the still pictures that go together to make a moving picture. A frame consists of 2 fields.



- A frame still consists of 2 alternating fields, so the picture may appear blurred, but overall quality is high.
- A field still is not blurred, but it has only half the information of a frame still so picture quality is lower.

### Interlace and progressive output

The PAL video signal standard has 625 (or 576) interlaced (i) scan lines, whereas progressive scanning, called 625p (or 576p), uses twice the number of scan lines. For the NTSC standard, these are called 525i (or 480i) and 525p (or 480p) respectively.

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.

Panasonic television with 625 (576)/50i · 50p, 525 (480)/60i · 60p input terminals are progressive compatible.

### Linear PCM (LPCM)

These are uncompressed digital signals. CDs are recorded with 44.1 kHz/16 bit PCM, while DVDs use PCM between 48 kHz/16 bit and 96 kHz/24 bit, allowing playback with greater quality sound.

The linear PCM signals output from the DIGITAL AUDIO OUT, OPTICAL terminal are stereo (2 channels).

LPCM sound is available when recording in XP mode.

### 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.

### Pan & Scan/Letterbox

In general, DVD-Video are produced with the intention to be viewed on a widescreen TV with an aspect ratio of 16:9.

This means you can view most of material with the intended aspect ratio on a widescreen TV.

Material with this ratio will not fit onto a standard TV with an aspect ratio of 4:3. 2 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 screen so the picture appears in an aspect ratio of 16:9.



### Playback control (PBC)

This is a method of playing Video CDs. You can select parts to play by using menus recorded on the disc.

### Protection

You can prevent accidental erasure by setting writing protection or erasure protection.

### Sampling frequency

The sampling frequency is the number of times per second an analog signal is measured and converted to a digital signal. In general, the larger the number the greater accuracy of original sound reproduction.

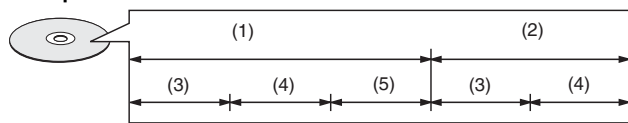
### VBR (Variable bitrate)

This is a method of video recording that adjusts the bit rate according to video signal.

## Title/Chapter (DVD-Video)

DVD-Video are divided into large sections (titles) and smaller sections (chapters). The numbers allocated to these sections are called title numbers and chapter numbers.

### Example

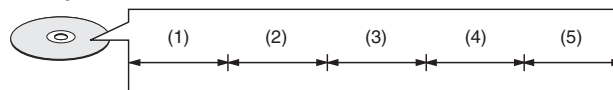


- (1) Title 1
- (2) Title 2
- (3) Chapter 1
- (4) Chapter 2
- (5) Chapter 3

## Track

This is the smallest division on CD, and Video CD.

### Example



- (1) Track 1
- (2) Track 2
- (3) Track 3
- (4) Track 4
- (5) Track 5

## Q Link

This function works only if the unit is connected via a fully-wired 21-pin Scart cable to a TV featuring the Q Link or similar function.

Q Link offers the following functions:

- 1) Download from the TV\*  
When you connect the unit to a TV, the station list data is automatically copied from the TV to the unit, and the TV stations are assigned to the programme positions on the unit in the same order as on the TV.
- 2) Direct TV Recording  
By simply pressing [●, DIRECT TV REC], you can at once record the same programme that you are watching.
- 3) TV/DVD Video Recorder Auto Power On\*  
Even if the TV and the unit are off (standby mode), pressing [▶, PLAY], [TOP MENU, DIRECT NAVIGATOR], [VIDEO Plus+]

or [PROG/CHECK] automatically turns on both the TV and the unit.

If the TV is off and the unit is on, when you press the [FUNCTION] or the [▶, PLAY], or insert the disc (except DVD-RAM and DVD-R), the TV automatically is turned on.

- 4) DVD Video Recorder Auto Power Off\*  
When you turn the TV off, the unit is also turned off. However, this function works in the stop mode.  
This function does not work during the following operations: Preset Download, Auto Setup, Auto Clock Setting and Manual Tuning.  
This function does also not work when an audio CD is in the disc tray.
- \* The operations marked with asterisk are only available if the unit is connected to a TV featuring the Q Link function.

## PDC (Programme Delivery Control)

Programme Delivery Control adjusts the start and stop time of a timer recording automatically to ensure the recording starts and finishes in line with the programme broadcast. This is useful when a programme over-runs the published times.

The station must be transmitting PDC and the exact time must be set for PDC to work.

The unit detects whether a station is transmitting PDC only during the tuning process.

If PDC is introduced or discontinued by a station you will need to re-tune the unit before it becomes aware of this.

PDC transmissions are not currently nation-wide so please check with your local broadcaster for more information.

The beginnings of recordings may not be recorded correctly in some cases.

## Frequently asked questions

### Set up

### Page

<b>What equipment is necessary to play multi channel surround sound?</b>	<ul style="list-style-type: none"> <li>•DVD-Video: You can play DVD-Video multi channel surround by digitally connecting an amplifier equipped with a Dolby Digital, DTS or MPEG decoder.</li> <li>•DVD-Audio: This unit plays DVD-Audio in 2 channels. You cannot play multi channel surround sound.</li> </ul>	–
<b>Are the headphones and speakers directly connected to the unit?</b>	<ul style="list-style-type: none"> <li>•You cannot directly connect to the unit. Connect through the amplifier etc.</li> </ul>	–
<b>The television has a Scart terminal and component video input terminal. Which terminal should I connect with?</b>	<ul style="list-style-type: none"> <li>•If you have a regular television (CRT: Cathode Ray Tube) we recommend using the Scart terminal. You can enjoy high-quality RGB video from this unit by connecting to an RGB compatible television.</li> <li>•If you have an LCD/plasma television or LCD projector compatible with progressive scan, connect through the component video terminals for high-quality progressive video.</li> <li>•If you have a CRT television that is compatible with progressive scan, we cannot recommend progressive output as some flickering can occur.</li> </ul>	10, 17
<b>Is my TV progressive output compatible?</b>	<ul style="list-style-type: none"> <li>•All Panasonic television that have 625 (576)/50i · 50p, 525 (480)/60i · 60p input terminals are compatible. Consult the manufacturer if you have another brand of television.</li> </ul>	–

### Disc

### Page

<b>Can I play DVD-Video, DVD-Audio and Video CDs bought in another country?</b>	<ul style="list-style-type: none"> <li>•You cannot play DVD-Video if their region number does not include “2” or “ALL”.</li> </ul>	19
<b>Can a DVD-Video that does not have a region number be played?</b>	<ul style="list-style-type: none"> <li>•The DVD-Video region number indicates the disc conforms to a standard. You cannot play discs that do not have a region number.</li> </ul>	–
<b>Please tell me about DVD-R and DVD-RW compatibility with this unit.</b>	<ul style="list-style-type: none"> <li>•This unit records and plays DVD-R. However, you cannot record onto DVD-R discs that are finalized.</li> <li>•This unit also records and plays 1×–4× recording speed DVD-R discs.</li> <li>•This unit does not record or play DVD-RW.</li> </ul>	19, 20
<b>Please tell me about CD-R and CD-RW compatibility with this unit.</b>	<ul style="list-style-type: none"> <li>•You can play CD-R and CD-RW on this unit that are created using a compatible format.</li> <li>•You cannot write to a CD-R or CD-RW with this unit.</li> </ul>	19, 20

### Recording

### Page


<b>Can I record from a commercially purchased video cassette or DVD?</b>	<ul style="list-style-type: none"> <li>•Most commercially sold video cassettes and DVD are copy protected; therefore, recording is usually not possible.</li> </ul>	–
<b>Can a DVD-R recorded on this unit be played on other equipment?</b>	<ul style="list-style-type: none"> <li>•You can play on DVD-R compatible players after finalizing the disc on this unit, however, due to the condition of the recording, play may not be possible.</li> </ul>	33
<b>How many times can I write to a DVD-RAM disc?</b>	<ul style="list-style-type: none"> <li>•You can write to the disc approximately 100,000 times depending upon the conditions of use.</li> </ul>	–
<b>Can I record digital audio signals using this unit?</b>	<ul style="list-style-type: none"> <li>•You cannot record digital signals. The digital audio terminals on this unit are for output only.</li> </ul>	–
<b>Can a digital audio signal from this unit be recorded to other equipment?</b>	<ul style="list-style-type: none"> <li>•You can record if using the PCM signal. When recording DVD, change the “Digital Audio Output” settings to the following in the SETUP menu. –PCM Down Conversion: On –Dolby Digital/DTS/MPEG: PCM However, only as long as digital recording from the disc is permitted and the recording equipment is compatible with a sampling frequency of 48 kHz.</li> <li>•You cannot record MP3 signals.</li> </ul>	48
<b>Can I switch to bilingual broadcast during recording?</b>	<ul style="list-style-type: none"> <li>•With DVD-RAM/cassette tape, you can. Just press [AUDIO].</li> <li>•With DVD-R, you cannot. Change before recording with the “Bilingual Audio Selection” in the SETUP menu.</li> </ul>	28, 61 48


## Error messages

### Common

Operation		Page
X HOLD	<ul style="list-style-type: none"> <li>The Child Lock function is activated. Press and hold [ENTER] and [RETURN] simultaneously until "X HOLD" disappears.</li> </ul>	66

### DVD

On the TV		Page
Cannot finish recording completely.	<ul style="list-style-type: none"> <li>The programme was copy-guarded.</li> <li>The disc may be full.</li> </ul>	–
Cannot record on the disc. Please check the disc. Unable to format.	<ul style="list-style-type: none"> <li>The disc may be dirty or scratched.</li> </ul>	21
Cannot record. Disc is full.	<ul style="list-style-type: none"> <li>Create space by erasing any unnecessary titles. <b>RAM</b></li> </ul>	33, 35
Cannot record. Maximum number of titles recorded.	<ul style="list-style-type: none"> <li>Use a new disc. <b>RAM DVD-R</b></li> </ul>	–
Error has occurred. Please press ENTER. Timer Recording standby or Ext Link standby will be canceled.	<ul style="list-style-type: none"> <li>Press [ENTER] to start recovery process. You cannot operate the unit while it is recovering ("SLF CHECK" appears on the unit's display).</li> </ul>	–
No Disc	<ul style="list-style-type: none"> <li>The disc is upside down.</li> </ul>	21
Please change the disc.	<ul style="list-style-type: none"> <li>There may be a problem with the disc. Press [<b>▲</b> 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.)</li> </ul>	21
This is a non-recordable disc. Cannot record.	<ul style="list-style-type: none"> <li>The unit cannot record on the disc you inserted. Insert a DVD-RAM or unfinalized DVD-R.</li> </ul>	19
This disc is not properly formatted. Formatting is necessary using DISC MANAGEMENT.	<ul style="list-style-type: none"> <li>You inserted an unformatted DVD-RAM. Format the disc with this unit.</li> </ul>	33
	<ul style="list-style-type: none"> <li>The operation is prohibited by the unit or disc.</li> </ul>	–

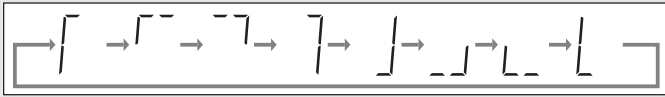
On the unit's display		Page
HARD ERR	<ul style="list-style-type: none"> <li>If there is no change after turning the unit on and off, consult the dealer where the unit was purchased.</li> </ul>	–
NO READ	<ul style="list-style-type: none"> <li>The disc is dirty or badly scratched. The unit cannot record, play, or edit.</li> <li>You have used a DVD-RAM/PD lens cleaner and it has finished. Press [<b>▲</b> OPEN/CLOSE] on the main unit to eject the disc.</li> </ul>	21 –
PROG FULL	<ul style="list-style-type: none"> <li>There are already 16 timer programmes. Erase unnecessary timer programmes.</li> </ul>	31, 59
REMOTE MODE □ (“□” stands for a number.)	<ul style="list-style-type: none"> <li>The remote control and main unit are using different codes. Change the code on the remote control.</li> </ul>  <p>Press and hold [ENTER] and the indicated number button at the same time for more than 2 seconds.</p>	9
SLF CHECK	<ul style="list-style-type: none"> <li>The unit is starting up. Wait until the message disappears.</li> </ul>	–
U59	<ul style="list-style-type: none"> <li>The unit is hot. The unit switches to standby for safety reasons. Wait for about 30 minutes until the message disappears. Select a position with good ventilation when installing the unit. Do not block the cooling fan on the rear of the unit.</li> </ul>	–
U99	<ul style="list-style-type: none"> <li>The unit fails to operate properly. Press [<b>⏻</b>/I] on the main unit to switch the unit to standby. Now press [<b>⏻</b>/I] again to turn the unit on.</li> </ul>	–
UNSUPPORT	<ul style="list-style-type: none"> <li>You have inserted a disc the unit cannot play or record on.</li> </ul>	19


## Troubleshooting guide

Before requesting service, check the below items. If you have doubt about the check points, or if the remedies indicated in the chart do not solve the problem, consult your dealer.

### Common

Power		Page
No power	<ul style="list-style-type: none"> <li>Insert the AC mains lead securely into a known active AC outlet.</li> </ul>	–
The unit switches to the standby mode.	<ul style="list-style-type: none"> <li>One of the unit's safety devices may have activated. Press [⏻/I] on the main unit to turn the unit on.</li> </ul>	–

Displays		Page
The display is dim.	<ul style="list-style-type: none"> <li>Change "FL Display" in the SETUP menu.</li> </ul>	49
"0:00" is flashing on the unit's display.	<ul style="list-style-type: none"> <li>Set the clock.</li> </ul>	52
The time recorded on the disc and the available time shown do not add up.	<ul style="list-style-type: none"> <li>Times shown may disagree with actual times.</li> <li>More disc space than the actual recording time is used after recording or editing the DVD-R 200 times or more.</li> </ul>	–
The play time shown for MP3 does not agree with the actual time.	<ul style="list-style-type: none"> <li>While searching, the elapsed time may not display correctly.</li> <li>Even if you erase recorded content from the DVD-R, there is no increase in disc space.</li> </ul>	–
The tape counter isn't changing.	<ul style="list-style-type: none"> <li>The tape counter does not change while playing unrecorded parts.</li> </ul> 	–
	<ul style="list-style-type: none"> <li>The display also appears like this if the tape is dirty or damaged. Consult your dealer if this is the case.</li> </ul>	–

Operation		Page
Cannot operate the DVD.	<ul style="list-style-type: none"> <li>Press [DVD] when operating DVD.</li> </ul>	6
Cannot operate the VHS.	<ul style="list-style-type: none"> <li>Press [VHS] when operating VHS.</li> </ul>	6
Cannot operate the television. The remote control doesn't work.	<ul style="list-style-type: none"> <li>Change manufacturer code. Some televisions cannot be operated even if you change the code.</li> <li>The remote control and main unit are using different codes. Change the code on the remote control.</li> </ul>  <p>Press and hold [ENTER] and the indicated number button at the same time for more than 2 seconds.</p>	9
	<ul style="list-style-type: none"> <li>The batteries are depleted. Replace them with new ones.</li> <li>Coloured glass may obstruct the signal reception/transmission.</li> <li>Don't place the signal sensor in direct sunlight or in areas that may be subject to sunlight exposure.</li> <li>The child lock function is activated.</li> </ul>	7
		–
		–
		66
The unit is on but cannot be operated.	<ul style="list-style-type: none"> <li>Some operations may be prohibited by the disc.</li> <li>The unit is hot ("U59" appears on the display). Wait until "U59" disappears.</li> <li>One of the unit's safety devices may have activated. Reset the unit as follows:                     <ol style="list-style-type: none"> <li>Press [⏻/I] on the main unit to switch to standby. If the unit doesn't switch to standby, press and hold [⏻/I] on the main unit for about 10 seconds. The unit is forcibly switched to standby. Alternatively, disconnect the AC mains lead, wait 1 minute, then reconnect it.</li> <li>Press [⏻/I] to turn the unit on.</li> </ol> </li> <li>The child lock function is activated.</li> </ul>	–
		70
		–
		66
Cannot eject a disc.	<ul style="list-style-type: none"> <li>Press [⏻/I] to turn the unit off. Hold down [■, STOP] and [CH, ^] on the DVD main unit simultaneously for about 5 seconds.</li> <li>The child lock function is activated.</li> </ul>	–
		66
Cannot tune channels.	<ul style="list-style-type: none"> <li>Check the connections.</li> </ul>	10–12
Cannot download channel presets.	<ul style="list-style-type: none"> <li>You must connect to a television equipped with the Q Link function with a fully wired 21-pin Scart cable to download channel presets.</li> </ul>	10

Picture		Page
TV reception worsens after connecting the unit.	<ul style="list-style-type: none"> <li>This can occur because the signals are being divided between the unit and the TV. It can be solved by using a signal booster, available from audio-visual suppliers.</li> </ul>	–
The images from this unit do not appear on the TV.	<ul style="list-style-type: none"> <li>Make sure that the television is connected to the AV1 terminal, VIDEO OUT terminal, S-VIDEO OUT terminal or COMPONENT VIDEO OUT terminals on this unit.</li> </ul>	10–12, 17
Picture is distorted.	<ul style="list-style-type: none"> <li>Make sure that the television's input setting (e.g., AV 1) is correct.</li> <li>The television isn't compatible with progressive signals. Press and hold [■, STOP] on the DVD main unit and [▶ DVD] (Dubbing button) on the main unit at the same time for about 5 seconds. The setting will change to interlace.</li> </ul>	–
The TV screen is distorted when switching the DVD/VHS output.	<ul style="list-style-type: none"> <li>The colour of the screen may turn to monochrome or the screen may be distorted depending on the TV used when you switch the DVD/VHS output. However, this is not a malfunction.</li> </ul>	–

Recording, Timer recording, Dubbing, External input		Page
Timer recording does not work properly.	<ul style="list-style-type: none"> <li>The timer programme is incorrect or different timer programme times overlap. Correct the programme.</li> </ul>	31, 59
VIDEO Plus+ system does not work properly.	<ul style="list-style-type: none"> <li>The unit is not on timer recording standby. ("⊖" on the unit's display is not on.) Press [⊖ TIMER].</li> <li>The clock is not correct. Set the clock.</li> </ul>	30, 58 52
Timer recording does not stop even when [■, STOP] is pressed.	<ul style="list-style-type: none"> <li>While using timer recording, press [⊖ TIMER]. ("⊖" disappears.)</li> <li>When using the linked timer recording of DVD (VHS) with external equipment, press [DVD] ([VHS]) and then [EXT LINK]. ("EXT L" disappears.)</li> </ul>	31, 59 29, 57
The timer programme remains even after recording finishes.	<ul style="list-style-type: none"> <li>The programme remains if you select weekly or daily setting.</li> </ul>	30, 58
Cannot dub a cassette tape to a disc.	<ul style="list-style-type: none"> <li>"TP" channel is not selected when recording from a video tape to a disc.</li> <li>Some video tapes on the market (including rental videos) are copy-guarded to prevent illegal reproductions. Copy-guarded video tapes cannot be properly recorded.</li> </ul>	63 –
Cannot dub a disc to a cassette tape.	<ul style="list-style-type: none"> <li>"DC" channel is not selected when recording from a disc to a video tape.</li> <li>Most of DVDs on the market (including rental DVDs) are copy-guarded to prevent illegal reproductions. Copy-guarded DVDs cannot be properly recorded.</li> </ul>	65 –
The sound level after dubbing is not equal on DVD and on VHS.	<ul style="list-style-type: none"> <li>The sound level on DVD and VHS may not match depending on the disc. When the sound level in particular part of the sound source is soft or loud, the sound may be recorded loudly or softly on a video tape.</li> </ul>	–
Strip-shaped black noise is recorded.	<ul style="list-style-type: none"> <li>The device in playback is interfered by the TV because the device is too close to the TV. Move the device away from the TV.</li> </ul>	–
Cannot record video or sound from the external unit.	<ul style="list-style-type: none"> <li>The external unit is not correctly connected.</li> <li>The proper external input channel (AV2 and AV3) is not selected.</li> </ul>	18, 66

Disc/tape make sounds as they rotate. This does not mean a malfunction.



# Helpful Hints



## DVD

DVD Picture		Page
Status messages do not appear.	<ul style="list-style-type: none"> <li>Go to "Display" in the SETUP menus and select "Automatic" in "On-Screen Messages". Press [STATUS] to show the on-screen messages constantly.</li> </ul>	49, 53
The grey background does not appear.	<ul style="list-style-type: none"> <li>Go to "Display" in the SETUP menus and select "On" for "Grey Background".</li> </ul>	49
The 4:3 aspect ratio picture expands left and right.	<ul style="list-style-type: none"> <li>Use the TV to change the aspect. If your TV does not have that function, set "Progressive" in the "Picture" menu to "OFF".</li> </ul>	45
Screen size is wrong.	<ul style="list-style-type: none"> <li>Check the settings for "TV Aspect" in the "Connection" menu.</li> </ul>	49
There is a lot of after-image when playing video.	<ul style="list-style-type: none"> <li>Set "Playback NR" in the Picture menu to "OFF".</li> </ul>	45
There is no apparent change in picture quality when adjusted with the Picture menu in the on-screen menus.	<ul style="list-style-type: none"> <li>The effect is less perceivable with some types of video.</li> </ul>	–

DVD Sound		Page
No sound. Low volume. Distorted sound. Cannot hear the desired audio type.	<ul style="list-style-type: none"> <li>Check the connections and settings. Check the input mode on the amplifier if you have connected one.</li> <li>Press [AUDIO] to select the audio.</li> <li>Turn V.S.S. OFF.                             <ul style="list-style-type: none"> <li>When using discs that do not have surround sound effects such as Karaoke discs.</li> <li>When playing bilingual broadcast programmes.</li> </ul> </li> </ul>	10, 11, 18, 48, 24, 28, 61, 45
Cannot switch audio.	<ul style="list-style-type: none"> <li>You cannot change the audio type when a DVD-R is in the disc tray.</li> <li>You have used digital connection. Set "Dolby Digital" to "PCM" or connect to other equipment using audio cables (analog connection).</li> <li>There are discs which audio cannot be changed because of how the disc was created.</li> <li>You cannot change the audio type when you select the TP channel.</li> </ul>	–, 18, 48, –, 63

DVD Play		Page
Play fails to start even when [▶] is pressed.	<ul style="list-style-type: none"> <li>Insert the disc correctly with the label facing up.</li> <li>You tried to play a blank DVD-RAM/DVD-R, or discs unplayable on this unit.</li> </ul>	21, 19
Play starts but then stops immediately.	<ul style="list-style-type: none"> <li>When recording to DVD-RAM using EP (8Hour) mode, play may not be possible on DVD players that are compatible with DVD-RAM. In this case use EP (6Hour) mode.</li> </ul>	47
DVD-Video is not played.	<ul style="list-style-type: none"> <li>Some DVD-Video cannot be played when you change the ratings level.</li> </ul>	47
Alternative soundtrack and subtitles cannot be selected.	<ul style="list-style-type: none"> <li>The languages are not recorded on the disc.</li> <li>You may have to use the disc's menus to select languages.</li> </ul>	–, –
No subtitles.	<ul style="list-style-type: none"> <li>Subtitles are not recorded on the disc.</li> <li>Turn the Subtitles "ON".</li> </ul>	–, 44
Angle cannot be changed.	<ul style="list-style-type: none"> <li>Angles can only be changed during scenes where different angles are recorded.</li> </ul>	–
You have forgotten your ratings password.	<ul style="list-style-type: none"> <li>While the disc tray is open, keep pressing [◀◀/▶▶] and [▶▶/▶▶] on the DVD main unit at the same time for 5 or more seconds.</li> </ul>	–
Quick View does not work.	<ul style="list-style-type: none"> <li>This does not work if the setting is "Off" in "PLAY × 1.3 &amp; Audio during Search".</li> <li>This does not work when audio is other than Dolby Digital.</li> <li>This does not work when recording is in XP or FR mode.</li> </ul>	48, 22, 22
The resume play function does not work.	<ul style="list-style-type: none"> <li>This function only works when the indicator on the right appears in the unit display.</li> <li>Memorized positions are cancelled when the unit is turned off or when the tray is opened. The memorized position on the play list is also cancelled when the play list and title are edited.</li> </ul>	22, –
The Video CD picture does not display properly.	<ul style="list-style-type: none"> <li>When connecting to Multi-system TV, select "NTSC" in "TV System" in the SETUP menu.</li> <li>When connecting to PAL TV, the lower part of the picture cannot be displayed correctly during search.</li> </ul>	49, –
Time Slip does not work.	<ul style="list-style-type: none"> <li>Time Slip does not work when the unit's "TV System" settings are different from the title recorded on the disc.</li> </ul>	49



## DVD Recording, timer recording

		Page
<b>Cannot record.</b>	• You haven't inserted a disc or the inserted disc is not compatible. Insert a disc the unit can record onto.	19
	• The disc is unformatted. Format the disc. <b>RAM</b>	33
	• The write protect tab on the cartridge is set to "PROTECT" or the disc is protected with "DISC MANAGEMENT".	19, 32
	• Some programmes have limitations on the number of times they can be recorded (CPRM).	19, 67
	• The disc is full or nearly full. Erase unneeded titles or use another disc.	35
	• You cannot record on finalized DVD-R discs.	19
	• If you repeat inserting of discs or turning this unit on and off 50 times or more, the recording or editing of DVD-R may be disabled.	-
	• The material you are trying to record is copy-guarded.	-
	• A DVD-R recorded on this unit may not be recordable on other Panasonic DVD recorders.	-
	<b>A part or whole of a recorded programme has been lost.</b>	• If the power breaks down or the plug is disconnected from the household AC outlet while recording or editing, the programme may be lost or the disc may become unusable. → We cannot offer any guarantee regarding lost programmes or discs. You will have to format the DVD-RAM or use a new disc.

## DVD Edit

		Page
<b>Cannot format.</b>	• The disc is dirty. Use a special cleaner and wipe clean.	21
	• You tried formatting a disc that is not compatible with this unit.	19
<b>Cannot mark chapter points. Cannot mark the start point or the end point during "Partial Erase" operation.</b>	• The unit writes the chapter 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.	-
	• These operations are not possible with still pictures.	37
	• You cannot set points if they are too close to each other. You cannot set an end point before a start point.	37
<b>Cannot erase chapters.</b>	• When the chapter is too short to erase, use "Combine Chapters" to make the chapter longer.	38
<b>The available recording time doesn't increase even after erasing recordings on the disc.</b>	• Available recording space on the DVD-R does not increase even after erasing previously recorded titles.	-
<b>Cannot create a play list.</b>	• You cannot select all the chapters at once in a title if the title also includes still pictures. Select them individually.	-

## ■ VHS

### VHS Display

		Page
<b>Video output on VHS does not look natural.</b>	• Use the Fine Tuning function on VHS.	54

### VHS Picture

		Page
<b>OSD messages do not appear.</b>	• Go to VHS FUNCTIONS and select "4:3" or "WIDE" in "OSD". Press [STATUS] to show the on-screen messages constantly.	60, 61

### VHS Sound

		Page
<b>Cannot hear the desired audio type.</b>	• Press [AUDIO] to select the audio.	61
<b>There is noise when playing a video tape.</b>	• Adjust the tracking.	56
	• The tape is old or damaged.	-

### VHS Play

		Page
<b>Playback does not work properly.</b>	• The video head is dirty.	-
	• The tape is too old or damaged.	-
	• Check the SQPB setting.	60

# Specifications



## Specifications

**Power Supply:** AC 220 V–240 V, 50 Hz  
**Power Consumption:** 39 W

**Dimensions:** Approx. 430 mm (W) × 89 mm (H) × 352 mm (D)  
**Mass:** Approx. 5.9 kg  
**Operating Temperature:** 5°C–40°C  
**Operating Humidity:** 35%–80% RH (no condensation)

DVD		VHS	
<b>Recording format:</b>	DVD-RAM: DVD Video Recording format DVD-R: DVD-Video format Video MPEG2 (Hybrid VBR) Audio: Dolby Digital 2CH	<b>Recording format:</b>	VHS Video Cassette System Standard with FM audio (PAL, NTSC *) * NTSC recording from external source or DVD disc, not from TV tuner.
<b>Recording disc:</b>	DVD-RAM: 12 cm 4.7 GB, 12 cm 9.4 GB, 8 cm 2.8 GB  DVD-R: 12 cm 4.7 GB, 8 cm 1.4 GB (for General Ver.2.0) 12 cm 4.7 GB (for General Ver.2.0/4x-SPEED DVD-R Revision 1.0)	<b>Recording mode/ recording time (with E-240 cassette):</b>	
<b>Recording mode/ recording time (with 4.7 GB disc):</b>	XP: approx. 10 Mbps/ approx. 60 min SP: approx. 5 Mbps/ approx. 120 min LP: approx. 3 Mbps/ approx. 240 min EP: approx. 1.7/1.2 Mbps/ approx. 360/480 min	<b>PAL:</b>	SP: 23.39 mm/s 240 min LP: 11.7 mm/s 480 min EP: 7.8 mm/s 720 min
<b>Playable discs:</b>	DVD-RAM: 12 cm 4.7 GB, 12 cm 9.4 GB, 8 cm 2.8 GB  DVD-R: 12 cm 4.7 GB, 8 cm 1.4 GB (for General Ver.2.0) 12 cm 4.7 GB (for General Ver.2.0/4x-SPEED DVD-R Revision 1.0)  DVD-Video, DVD-Audio, Video CD, CD-Audio (CD-DA), CD-R/RW (MP3, CD-DA, Video CD formatted discs)	<b>NTSC:</b>	SP: 33.35 mm/s 168 min EP: 11.12 mm/s 505 min
<b>Region code:</b>	2	<b>Others:</b>	FF/REW: approx. 60 s, JET REW: approx. 43 s (with E-180 cassette)
<b>Video interface</b>		<b>Video interface</b>	
<b>TV System</b>	625/50: PAL 525/60: NTSC	<b>TV System</b>	625/50: PAL 525/60: NTSC
<b>Input <sup>*1</sup></b>		<b>Input <sup>*1</sup></b>	
<b>AV1 SCART:</b>	Video: 1 Vp-p	<b>AV1 SCART:</b>	Video: 1 Vp-p
<b>AV2 SCART:</b>	Video: 1 Vp-p S-Video: Y: 1 Vp-p, C: 0.3 Vp-p (PAL burst) RGB: 0.7 Vp-p (only 625/50)	<b>AV2 SCART:</b>	Video: 1 Vp-p S-Video: Y: 1 Vp-p, C: 0.3 Vp-p (PAL burst)
<b>AV3 Pin jack:</b>	Video: 1 Vp-p	<b>AV3 Pin jack:</b>	Video: 1 Vp-p
<b>S-Video:</b>	Y: 1 Vp-p, C: 0.3 Vp-p (PAL burst)	<b>S-Video:</b>	Y: 1 Vp-p, C: 0.3 Vp-p (PAL burst)
<b>Output <sup>*2</sup></b>		<b>Output <sup>*2</sup></b>	
<b>AV1 SCART:</b>	Video: 1 Vp-p RGB: 0.7 Vp-p (only 625/50)	<b>AV1 SCART:</b>	Video: 1 Vp-p
<b>AV2 SCART:</b>	Video: 1 Vp-p	<b>AV2 SCART:</b>	Video: 1 Vp-p
<b>DVD/VHS COMMON</b>		<b>DVD/VHS COMMON</b>	
<b>Pin jack:</b>	Video: 1 Vp-p	<b>Pin jack:</b>	Video: 1 Vp-p
<b>DVD Pin jack:</b>	Video: 1 Vp-p		
<b>S-Video:</b>	Y: 1 Vp-p, C: 0.3 Vp-p (PAL burst)		
<b>Component Video (Pin jack):</b>	Y: 1 Vp-p, PB: 0.7 Vp-p, PR: 0.7 Vp-p		

<sup>\*1</sup> Input impedance of each input terminal is 75 ohm.

<sup>\*2</sup> Output impedance of each output terminal is 75 ohm.

# Specifications



DVD	VHS
<b>Audio interface</b> <b>Input <sup>+3</sup></b> <b>AV1 SCART:</b> Standard: 0.5 Vrms, Full scale: 2 Vrms at 1 kHz <b>AV2 SCART:</b> Standard: 0.5 Vrms, Full scale: 2 Vrms at 1 kHz <b>AV3 Pin jack:</b> Standard: 0.5 Vrms, Full scale: 2 Vrms at 1 kHz  <b>Output <sup>+4</sup></b> <b>AV1 SCART:</b> Standard: 0.5 Vrms, Full scale: 2 Vrms at 1 kHz <b>AV2 SCART:</b> Standard: 0.5 Vrms, Full scale: 2 Vrms at 1 kHz <b>DVD/VHS COMMON</b> <b>Pin jack:</b> Standard: 0.5 Vrms, Full scale: 2 Vrms at 1 kHz <b>DVD Pin jack:</b> Standard: 0.5 Vrms, Full scale: 2 Vrms at 1 kHz <b>Digital Audio (Optical terminal):</b> PCM, Dolby Digital, DTS, MPEG	<b>Audio interface</b> <b>Input <sup>+3</sup></b> <b>AV1 SCART:</b> -6 dBV <b>AV2 SCART:</b> -6 dBV <b>AV3 Pin jack:</b> -6 dBV  <b>Output <sup>+4</sup></b> <b>AV1 SCART:</b> -6 dBV <b>AV2 SCART:</b> -6 dBV <b>DVD/VHS COMMON</b> <b>Pin jack:</b> -6 dBV

<sup>+3</sup> Input impedance of each input terminal is more than 10 kohm.

<sup>+4</sup> Output impedance of each output terminal is less than 1 kohm.

<b>Tuner:</b>	Two built-in tuners (one for DVD and another for VCR)
<b>Tuner system:</b>	PAL-I
<b>Channel coverage:</b>	UHF: CH 21-68
<b>RF converter:</b>	UHF: CH 21-68

<b>LASER Specification</b>	
<b>Class 1 LASER Product (Pickup)</b>	
<b>Wave Length:</b>	795 nm, 658 nm
<b>Laser Power:</b>	No hazardous radiation is emitted with the safety protection

## Note

Mass and dimensions shown are approximate.  
 Specifications are subject to change without notice.

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