

# Recordable DVD Home Theater System

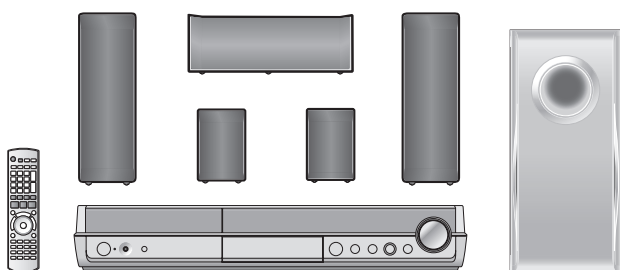
## Operating Instructions

Model No. **SC-RT30**

### **Operations Guide**

Before using this product, perform setup and connections after carefully reading the Setup Guide.

**DIGA**  
HomeTheater



**SHOWVIEW™**

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

# Panasonic®

#### Region number supported by this unit

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

- The region number of this unit is "2".
- The unit will play DVD-Video marked with labels containing "2" or "ALL".

Example:



#### Dear customer

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

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

These operating instructions are applicable to the following system.

System	SC-RT30
Main unit	SA-RT30
Front speakers	SB-FS440
Center speaker	SB-PC640
Surround speakers	SB-FS441
Subwoofer	SB-W440

## CAUTION!

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

## WARNING:

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

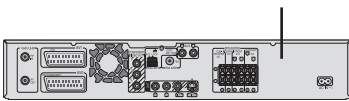
## CAUTION!

- 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.

This product may receive radio interference caused by mobile  
telephones during use. If such interference is apparent, please  
increase separation between the product and the mobile  
telephone.

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



<b>DANGER</b> – VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM. FDA 21 CFR/Class IIIb	
<b>注意</b>	一打开时有可见及不可见激光辐射。避免光束照射。
<b>注意</b>	一ここを開くと可視及び不可視レーザー光が出ます。ビームを見たり、触れたりしないでください。
<b>CAUTION</b> – CLASS 3B VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO THE BEAM. IEC60825-1 +A2/Class 3B	
<b>ATTENTION</b> – RAYONNEMENT LASER VISIBLE ET INVISIBLE. CLASSE 3B. EN CAS D'OUVERTURE, EVITER UNE EXPOSITION AU FAISCEAU.	
<b>FORSIGTIG</b> – SYNLIG OG USYNLIG LASERSTRÅLING KLASSE 3B. NÅR LAGET ER ÅBENT, UNDGÅ AT BLIVE UDSAT FOR STRÅLEN.	
<b>VARO</b> – AVATTAESSA OLET ALTTIINA LUOKAN 3B NÄKYVÄÄ JA NÄKYMÄTÖNTÄ LASERSÄTEILLÄ. VÄRÖ ALITISTUMISTA SÄTEELLE.	
<b>VARNING</b> – KLASS 3B SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. UNDVIK EXPONERING FÖR STRÅLEN.	
<b>VORSICHT</b> – SICHTBARE UND UNSICHTBARE LASERSTRÄHLUNG KLASSE 3B. WENN ABDECKUNG GEOFFNET, NICHT DEM STRAHL AUSSETZEN.	
<b>CAUTION</b> – VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO THE 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 LASERSÄTEILLE. ÄLÄ KATSO SÄTEESEEN.	
<b>VARNING</b> – SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BETRÄKTA EJ STRÅLEN.	
<b>VORSICHT</b> – SICHTBARE UND UNSICHTBARE LASERSTRÄHLUNG. WENN ABDECKUNG GEOFFNET, NICHT DEM STRAHL AUSSETZEN.	
<b>ADVARSEL</b> – SYNLIG OG USYNLIG LASERSTRÅLING NÄR DEKSEL ÅPNEES. UNNGÅ EKSPONERING FÖR STRÅLEN. VQL1J67	

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## Accessories



Please check and identify the supplied accessories.  
(Product numbers correct as of April 2006. These may be subject to change.)

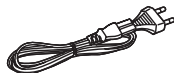
- 1 Remote control (EUR7662YD0)



- 2 Batteries for remote control



- 1 AC mains lead
  - For use with this unit only. Do not use it with other equipment. Also do not use cords for other equipment with this unit.



- 1 Video cable



- 2 RF coaxial cables



- 1 AM loop aerial



- 1 FM indoor aerial



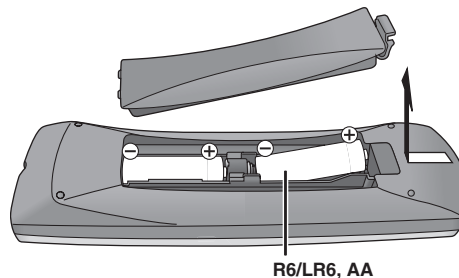
- 2 Sheets of speaker cable stickers



## The remote control information

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

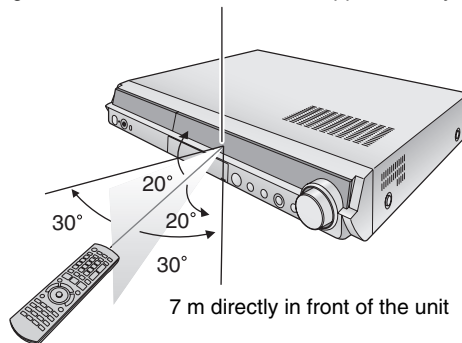
Mishandling of batteries can cause electrolyte leakage which can damage items the fluid contacts and may cause a fire.

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

### Use

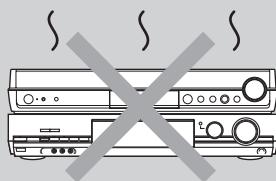
Remote control signal sensor:

Receives signals within a vertical radius of approximately 20 degrees, and a horizontal radius of approximately 60 degrees.



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

The heat can damage the unit.



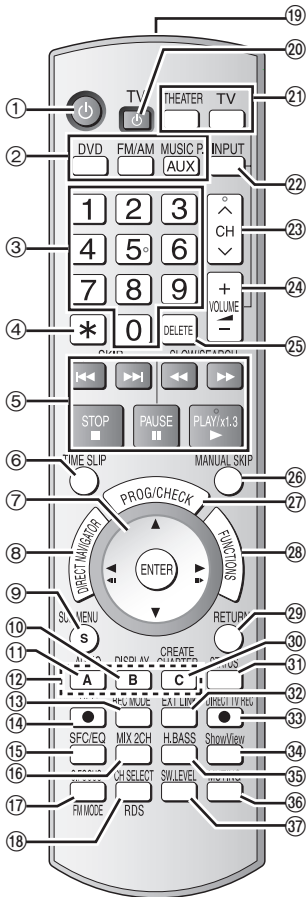
**Before moving the unit, ensure the disc tray is empty. Failure to do so will risk severely damaging the disc and the unit.**

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

**Examples of causes of such losses are**

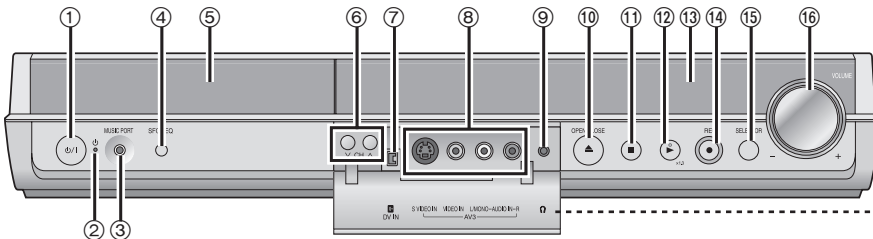
- A disc recorded and edited with this unit is played in a DVD Recorder or computer disc drive manufactured by another company.
- A disc used as described above and then played again in this unit.
- A disc recorded and edited with a DVD Recorder or computer disc drive manufactured by another company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

## Remote control



- ① Turn the unit on
- ② Select the source  
DVD, FM/AM, AUX/F MUSICP
- ③ Select channels and title numbers, etc./Enter numbers
- ④ Cancel
- ⑤ Basic operations for recording and play
- ⑥ Skip the specified time(⇒ 17)
- ⑦ Selection (▲, ▼, ◀, ▶)/Enter, Frame-by-frame (◀◀, ▶▶) (⇒ 17)
- ⑧ Show Direct Navigator/Top menu (⇒ 16, 18, 24)
- ⑨ Show sub menu (⇒ 24)
- ⑩ Show on-screen menu (⇒ 21)
- ⑪ Select audio (⇒ 16)
- ⑫ Manual tuning operation (⇒ 39)
- ⑬ Change recording mode (⇒ 10)
- ⑭ Start recording (⇒ 10)
- ⑮ Change the sound quality (⇒ 34)
- ⑯ Down-mix signals to 2 channels (⇒ 35)
- ⑰ Enhance the sound from the center speaker(⇒ 34)/ Change radio reception mode(⇒ 33)
- ⑱ Select speaker channels (⇒ 35)/RDS (⇒ 33)
- ⑲ Remote control signal output
- ⑳ Turn on the television
- ㉑ **Switches the remote control operation between the unit and the TV.**  
**Press [THEATER] when operating the main unit, or press [TV] when operating the television.**
- ㉒ Input select (AV1, AV2, AV3 or DV)
- ㉓ Channel select (⇒ 10)
- ㉔ Adjust the volume
- ㉕ Delete items (⇒ 23)
- ㉖ Skip 30 seconds forward (⇒ 17)
- ㉗ Show timer recording programme list (⇒ 13)
- ㉘ Show FUNCTIONS window (⇒ 22)
- ㉙ Return to previous screen
- ㉚ Create chapters (⇒ 17)
- ㉛ Show status messages (⇒ 19, 22)
- ㉜ Linked timer recordings with external equipment (⇒ 15)
- ㉝ Direct TV recording (⇒ 43)
- ㉞ Show SHOWVIEW screen (⇒ 12)
- ㉟ Enhance the bass sound (⇒ 34)
- ㊱ Muting (⇒ 35)
- ㊲ Adjust the subwoofer level (⇒ 35)

## Main unit



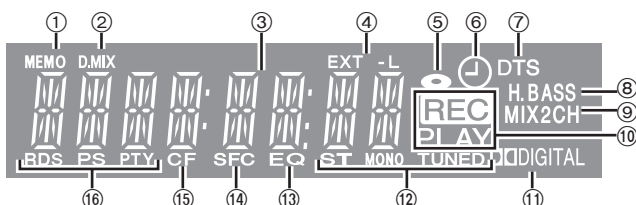
### Opening the front panel

Press down the ... part with your finger.



- ① **Standby/on switch** (⏻/⏻)  
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power. To save power, unplug it from the household mains socket.
- ② **Standby/on indicator** (⏻)  
When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.
- ③ Connector for an external device (⇒ 42)
- ④ Change the sound quality (⇒ 34)
- ⑤ Disc tray (⇒ 10)
- ⑥ Channel select (⇒ 10)
- ⑦ Connector for a digital video (DV) camcorder (⇒ 28)
- ⑧ Connector for external equipment (⇒ 15)
- ⑨ Connector for headphones (⇒ 42)
- ⑩ Open/close disc tray (⇒ 10)
- ⑪ Stop (⇒ 10, 16)
- ⑫ Start play (⇒ 16)
- ⑬ Display (⇒ below)
- ⑭ Start recording (⇒ 10)/Specify the time to stop recording (⇒ 11)
- ⑮ Select the source  
DVD→FM→AM→AUX→F MUSICP→Return to DVD
- ⑯ Turn up/down the volume





## The unit's display



- ① Radio broadcast display (⇒ 33) : Channel preset memory indicator
- ② D.MIX indicator (⇒ 35)
- ③ Main display section
- ④ Linked timer recordings with external equipment indicator (⇒ 15)
- ⑤ Disc indicator  
This indicator lights up when a disc that is supported by this unit is inserted.
- ⑥ Timer recording indicator (⇒ 12)
- ⑦ DTS indicator (⇒ 35)
- ⑧ H.BASS indicator (⇒ 34)
- ⑨ MIX2CH indicator (⇒ 35)
- ⑩ Rec/Play indicator (⇒ 10, 16)
- ⑪ Dolby Digital indicator (⇒ 35)
- ⑫ Radio broadcast display (⇒ 32, 33)  
TUNED : Receiving radio signal/ST : Stereo/MONO : Monaural
- ⑬ Equalizer indicator (⇒ 34)
- ⑭ Sound field control indicator (⇒ 34)
- ⑮ Center Focus indicator (⇒ 34)
- ⑯ Radio broadcast display (⇒ 33) :  
RDS: Receiving RDS (Radio Data System) signal  
PS: Programme station indicator  
PTY: Programme type indicator

# Disc information

## Discs you can use for recording and play

Disc type	DVD-RAM	DVD-R	DVD-R DL <sup>*1</sup> (dual layer on single side)	DVD-RW	+R <sup>*2</sup>	+R DL <sup>*1</sup> (double layer on single side)	+RW
Indication in these instructions	<b>RAM</b>	<b>-R</b> Before finalization <b>DVD-V</b> After finalization	<b>-R DL</b> Before finalization <b>DVD-V</b> After finalization	<b>-RW(V)</b> Before finalization <b>DVD-V</b> After finalization	<b>+R</b> Before finalization <b>DVD-V</b> After finalization	<b>+R DL</b> Before finalization <b>DVD-V</b> After finalization	<b>+RW</b>
Logo					—	—	—
Recording format (→ below)	VR	DVD-Video	DVD-Video	DVD-Video	+VR	+VR	+VR
Re-writable <sup>*3</sup>	✓	×	×	✓	×	×	✓
<b>What you can do on this unit</b>							
Recording broadcasts that allow one copy	✓ <sup>*4</sup>	×	×	×	×	×	×
Recording both M 1 and M 2 of bilingual broadcasts	✓	×	×	×	×	×	×
Recording 16:9 aspect picture	✓	×	×	×	×	×	×
Creating playlists	✓	×	×	×	×	×	×
<b>Compatibility</b>							
Usable high speed recording disc type <sup>*5</sup>	Up to 5x	Up to 16x	Up to 4x	Up to 6x	Up to 16x	Up to 2.4x	Up to 4x <sup>*6</sup>
Play on other players	Only on DVD-RAM compatible players. (It is not possible to finalize the disc.)	✓	✓ <sup>*7</sup>	✓	✓	✓ <sup>*8</sup>	✓ (It is not possible to finalize the disc.)
Only on compatible players after finalizing the disc (⇒ 31)							

✓: Can do, X: Cannot do

- We recommend using Panasonic discs. We also recommend using DVD-RAM discs with cartridges to protect them from scratches and dirt.
- You may not be able to record depending on the condition of the discs and you may not be able to play due to the condition of the recording.
- For the recording time, refer to “Recording modes and approximate recording times” on page 9.
- You cannot record programmes that allow “One time only recording” to CPRM compatible DVD-R and DVD-RW on this unit. You can record other programmes as DVD-Video format.

- \*1 You cannot continue a recording from the first layer to the second layer on dual- or double-layer discs. To record onto the second layer, you must first close the first layer using the “Close First Layer” item in DVD Management (⇒ 31). You will no longer be able to record to the first layer after you do this (⇒ 8).  
When playing a title recorded on both layers, video and audio may momentarily cut out when the unit is switching layers.
- \*2 You may not be able to use +R recorded on this unit in another Panasonic DVD recorder and vice versa. Once the disc is finalized, however, it can be played in the other unit.
- \*3 The amount of the recordable disc space doesn't increase even if the programme is deleted when you use a one time recording disc.
- \*4 CPRM (⇒ 50) compatible discs only.
- \*5 This unit can use the high-speed recording discs shown in the chart, but using them will not shorten the recording time.
- \*6 You can play 8x recording speed discs recorded on another equipment.
- \*7 Play on DVD-R DL compatible equipment.
- \*8 Play on +R DL compatible equipment.

### Regarding recording format

#### VR (DVD Video Recording) format

This is a recording method which allows you to freely record and edit television broadcasts and so on.

- Digital broadcasts that allow “One time only recording” can be recorded to a CPRM compatible disc. You can record to CPRM compatible DVD-RAM on this unit.
- Play is only possible on a compatible DVD player.

#### DVD-Video format

This recording method is the same as commercially available DVD-Video.




- Digital broadcasts that allow “One time only recording” cannot be recorded.
- You can play on compatible equipment such as DVD players after finalizing the disc on this unit.





#### +VR (+R/+RW Video Recording) format

This is method for recording moving pictures to +R/+RW discs. You can play back such discs recorded in this method in a similar way as contents recorded in the DVD-Video format.

- Digital broadcast that allow “One time only recording” cannot be recorded.
- After finalizing the disc or creating the top menu, you can play the disc on DVD players and other equipment.

## Play-only discs

Disc type	DVD-Video	DVD-Audio	DVD-RW (VR format)
Indication in these instructions	<b>DVD-V</b>	<b>DVD-A</b>	<b>-RW(VR)</b>
Logo			
Instructions	High quality movie and music discs	High fidelity music discs	DVD-RW recorded on another DVD Recorder* <sup>1</sup> <ul style="list-style-type: none"> <li>You can play programmes that allow "One time only recording" if they have been recorded to a CPRM compatible disc.</li> <li>By formatting (⇒ 30) the disc, you can record to it in DVD-Video format.</li> <li>It may be necessary to finalize the disc on the equipment used for recording.</li> </ul>

Disc type	Audio CD	Video CD	SVCD* <sup>2</sup>	DVD-R	CD
Indication in these instructions	<b>CD</b>	<b>VCD</b>		MP3   DivX   JPEG	MP3   DivX   JPEG
Logo					—
Instructions	Music and audio recorded (including CD-R/RW* <sup>1</sup> )	Music and video recorded (including CD-R/RW* <sup>1</sup> )		CD-R/RW and DVD-R* <sup>1</sup> with MP3/DivX/Still pictures (JPEG and TIFF)	

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

• Operation and sound quality of CDs that do not conform to CD-DA specifications (copy control CDs, etc.) cannot be guaranteed.

\*<sup>1</sup> Close the session after recording. Play may be impossible on some discs due to the condition of the recording.

\*<sup>2</sup> Conforming to IEC62107.

## 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
- DVD-R recorded in VR format
- DVD-R (DVD-Video format), DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL recorded on another unit and not finalized (⇒ 50).
- DVD-Video with a region number other than "2" or "ALL"
- Blu-ray
- DVD-ROM, +R (8 cm), CD-ROM, CDV, CD-G, Photo CD, CVD, SACD, MV-Disc, PD, "Chaoji VCD" available on the market including CVD, DVCD and SVCD that do not conform to IEC62107, etc.

## Types of disc for the type of connected TV

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

(✓: Possible to view, X: Impossible to view)

TV type	Disc	Yes/No
Multi-system TV	PAL	✓
	NTSC	✓* <sup>3</sup>
NTSC TV	PAL	X
	NTSC	✓* <sup>4</sup>
PAL TV	PAL	✓
	NTSC	✓* <sup>5</sup> (PAL60)

\*<sup>3</sup> If you select "NTSC" in "TV System" (⇒ 37), the picture may be clearer.

\*<sup>4</sup> Select "NTSC" in "TV System" (⇒ 37).

\*<sup>5</sup> If your television is not equipped to handle PAL 525/60 signals the picture will not be shown correctly.



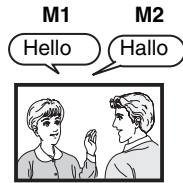
# Important notes for recording

## Recording of bilingual programme

**RAM**

**Both main and secondary audio can be recorded**

You can change the audio during playback.  
(⇒ 16, Changing audio during play)

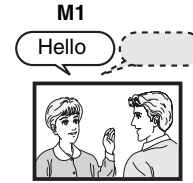


If you record from external equipment  
–Select both “M 1” and “M 2” on the external equipment.

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

**Select the main or secondary audio before recording**

(⇒ 37, Bilingual Audio Selection)  
The selected audio only is recorded.



If you record from external equipment  
–Select “M 1” or “M 2” on the external equipment.

## Recording of Widescreen broadcasting

**RAM**

**Recorded in 16:9 aspect (Widescreen)**



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

**Recorded in 4:3 aspect**



## Recording of digital broadcasting

It is not possible to record digital broadcasts that allow “One time only recording” onto DVD-R, DVD-R DL, DVD-RW, +R, +R DL, +RW or 8 cm DVD-RAM discs. Use a CPRM (⇒ 50) compatible DVD-RAM.

**RAM** (CPRM compatible disc only)



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



✓: Can do, X: Cannot do

- Even when copying to videotape the title may not be copied correctly because of the copy guard.
- You cannot copy a playlist created from “One time only recording” titles.

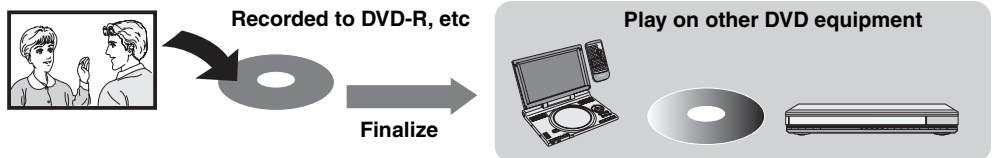
## Playing the disc on other DVD players

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

**The disc must be finalized after recording (⇒ 31).**

It is necessary to finalize DVD-R, etc. on this unit after recording or copying titles to them. You can then play them as a commercially sold DVD-Video. However, the discs become play-only and you can no longer record or copy.\*

※ You can record and copy again if you format DVD-RW.



**+RW**

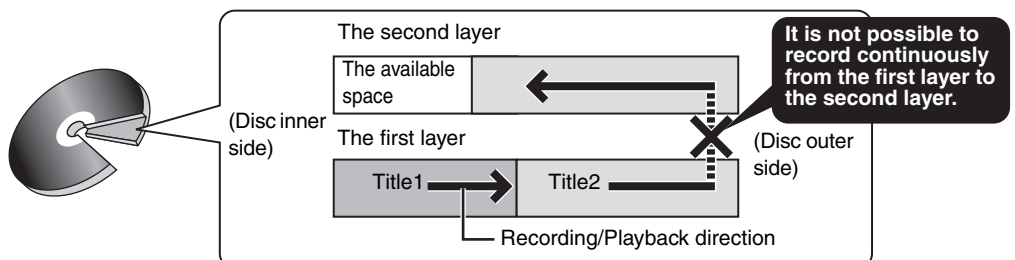
To enable play on other DVD equipment, please use “Create Top Menu” in DVD Management menu (⇒ 31).

## Recording to DVD-R DL and +R DL

**-R DL +R DL**

DVD-R DL and +R DL discs have two layers of recording surface on one side.

**It is not possible to record continuously from the first layer to the second layer.** Recording stops when space on the first layer becomes full. You must close the first layer to start recording on the second layer (⇒ 31, Close First Layer). Closing makes the first layer unavailable for recording (editing is still available). You cannot cancel closing. Make certain before proceeding.



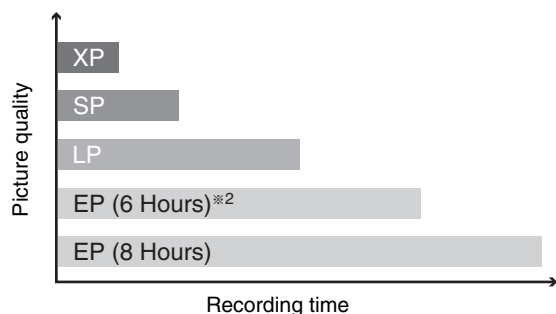


## Recording modes and approximate recording times

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

Recording Mode	DVD-RAM		DVD-R, DVD-RW, +R, +RW 4.7GB
	4.7 GB	9.4 GB (Double-sided*1)	
XP (High picture quality recording)	1 h.	2 h.	1h.
SP (Standard recording)	2 h.	4 h.	2h.
LP (Long recording)	4 h.	8 h.	4h.
EP (Extra long recording)	8 h. (6 h.*2)	16 h. (12 h.*2)	8 h. (6 h.*2)
FR (Flexible Recording)	8 h. maximum	8 h. maximum for one side	8 h. maximum

Recording Mode	DVD-R DL, +R DL*3 8.5 GB	
	First layer (L0)	Second layer (L1)
XP (High picture quality recording)	55 min.	50 min.
SP (Standard recording)	1 h. 50 min.	1 h. 40 min.
LP (Long recording)	3 h. 40 min.	3 h. 20 min.
EP (Extra long recording)	7 h. 25 min. (5 h. 30 min.*2)	6 h. 50 min. (5 h. 15 min.*2)
FR (Flexible Recording)	7 h. 25 min. maximum	6 h. 50 min. maximum



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

\*2 When "Recording time in EP mode" is set to "EP (6 Hours)" in the Setup menu (➡ 36). The sound quality is better when using "EP (6 Hours)" than when using "EP (8Hours)".

\*3 It is not possible to record continuously from the first layer to the second layer.

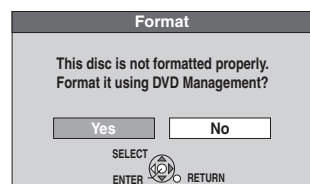
## Disc Insertion/Ejection

Refer to the control reference on page 10.

### When the format confirmation screen is displayed

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

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



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

Several steps are necessary to format a disc. Refer to "Deleting all the contents of a disc -Format Disc" (➡ 30).

### Note

• This unit uses variable bit rate (VBR) recording which varies the amount of data recorded to suit the images, so actual recording times and remaining recording times shown by the unit will be different. (The difference will be especially noticeable with DVD-R DL and +R DL.)

Use a disc with plenty of remaining time to be sure.

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

### FR (Flexible Recording)

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

• You can use FR mode in timer recording (➡ 12, 13, step 3) and Flexible Recording (➡ 11).

### Using FR mode is convenient in these kinds of situations.

- When the amount of free space on the disc makes selecting an appropriate recording mode difficult
- When you want to record a long programme with the best picture quality possible  
e.g., Recording a 90 minutes programme to disc

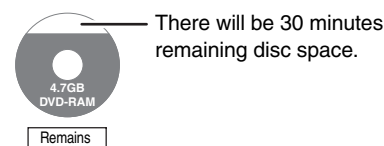
#### If you select XP mode

The programme will not fit one disc.



#### If you select SP mode

The programme will fit one disc.



#### If you select FR mode

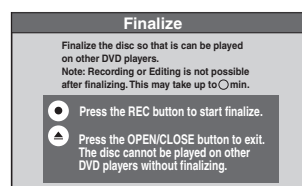
The programme will fit one disc perfectly.



### When removing a recorded disc

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

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



### When finalizing the disc

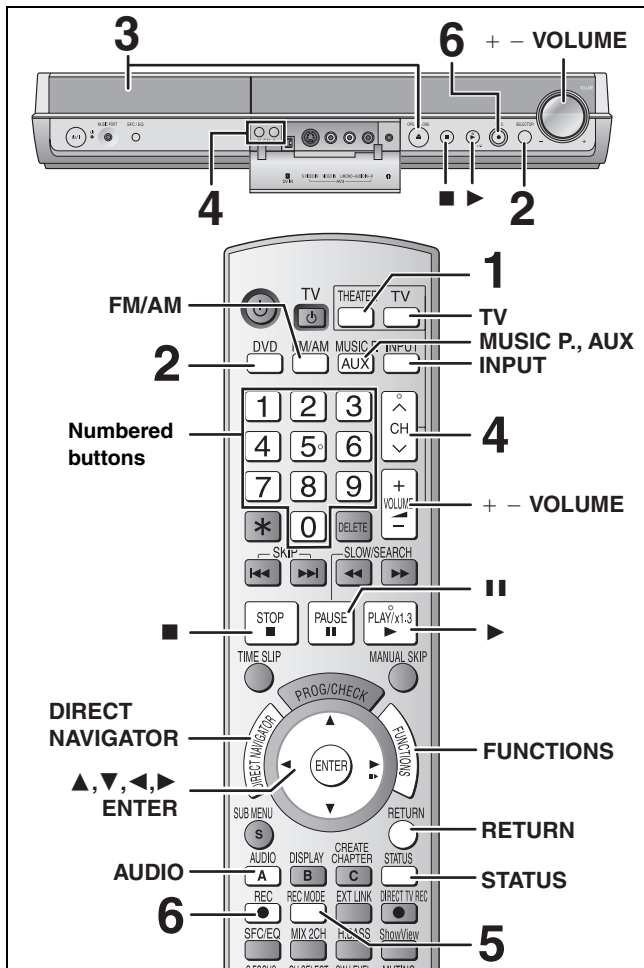
Press [● REC].

• You cannot stop this process once you have started it.

• If you want to provide the disc with a name or set play menu select, select "Disc Name" (➡ 30) or "Auto-Play Select" (➡ 31) in "DVD Management" before finalizing.

### When opening the tray without disc finalization

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



## RAM -R -R DL -RW(V)

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

## +R +R DL +RW

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

See also the notes "Important notes for recording" (⇒ 8).

### Note

- **RAM** 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.
- **+RW** You can create Top Menu using "Create Top Menu" (⇒ 31). Recording or editing on the disc may delete the menu. In that case, create the menu again.

### Preparation

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

**1 Press [THEATER] to switch the remote control to operate this unit.**

**2 Press [DVD] to select the DVD drive.**

The main unit: Press [SELECTOR] to select the DVD drive.

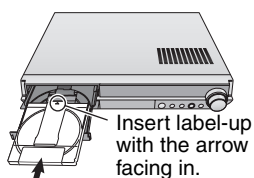
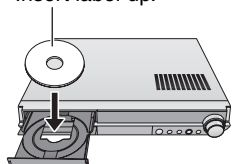


**3 Press [▲ OPEN/CLOSE] on the main unit to open the tray and insert a disc.**

- Press the button again to close the tray.
- When using 8 cm DVD-RAM, or 8 cm DVD-R, remove the disc from the cartridge.

Insert label-up.

### ■ Cartridge disc



Insert fully so it clicks into place.

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



To select with the numbered buttons:

e.g., 5: [0] ⇒ [5]

15: [1] ⇒ [5]

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



Remaining time on the disc

**6 Press [● REC] to start recording.**



The elapsed time is shown on the display.

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

- You can adjust the volume using [+ - VOLUME]. Adjusting the volume will not affect the recorded audio.
- You cannot change the channel or recording mode during recording. You can change the channel or recording mode while paused; however, the recording will then be as a separate title.
- You can record while the unit is in standby for timer recording, but once the time for the timer recording to begin is reached, any recording taking place will stop and the timer recording will begin.
- **RAM** You can change the audio being received by pressing [AUDIO] during recording. (This does not affect the actual recording of audio.)

### ■ To pause recording

Press [II].

Press again to restart recording.

You can also press [● REC] to restart.

(Recorded title is not split into separate titles.)

### ■ To stop recording

Press [■].

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

### • -R -R DL -RW(V) +R +R DL +RW

It takes about 30 seconds for the unit to complete recording management information after recording finishes.

### ■ 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 (⇒ 39).

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

### Quick Start (⇒ 38)

#### 1 Sec. Quick Start for Recording on DVD-RAM

Recording on DVD-RAM starts about 1 second after first pressing [⏻/⏪] on the main unit or [⏻] to turn on the unit and then sequentially pressing [● REC] (Quick start Mode).

It is set to "On" at the time of purchase.

### Note

Startup takes more time when:

- You play a disc or start recording to discs other than DVD-RAM.
- The clock has not been set.

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

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

During recording

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

• The unit's display changes as shown below.  
OFF 0:30 → OFF 1:00 → OFF 1:30 → OFF 2:00  
← Counter (cancel) ← OFF 4:00 ← OFF 3:00 ↵

- This does not work during timer recordings (⇒ 12) or while using Flexible Recording (⇒ below).
- If you change the channel or recording mode while recording is paused, the time specified to stop recording is cancelled.
- The unit turns off automatically after the time to stop recording is reached.

**To cancel**

Press [● REC] on the main unit several times until the counter appears.

- The time to stop recording is cancelled; however, recording continues.

**To stop recording partway**

Press [■].

## Flexible Recording

(Recording that fits the remaining disc space)

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

The unit sets the best possible picture quality that fits the recording within the remaining disc space. The recording mode becomes FR mode. Refer to "FR (Flexible Recording)" (⇒ 9).

**Preparation**

- Press [THEATER] to switch the remote control to operate this unit.
- Press [DVD] to select the DVD drive.
- Press [∧ ∨ CH] to select the channel or press [INPUT] to select the external input (AV1, AV2, AV3 or DV) to record.

- 1 While stopped**  
Press [FUNCTIONS].
- 2 Press [▲, ▼] to select "To Others" and press [ENTER].**
- 3 Press [▲, ▼] to select "Flexible Rec" and press [ENTER].**



**Maximum recording time**

This is the maximum recording time in EP (8 Hours) mode.

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

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

- 5 When you want to start recording**  
Press [▲, ▼, ▶, ◀] to select "Start" and press [ENTER].

Recording starts.

**To exit the screen without recording**

Press [RETURN].

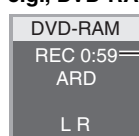
**To stop recording partway**

Press [■].

**To show the remaining time**

Press [STATUS].

e.g., DVD-RAM



Remaining time of recording

**Note**

When performing EXT LINK recording (⇒ 15), the flexible recording function does not work.

## Playing while you are recording

RAM

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

Press [▶] (PLAY) during recording.

There is no sound output while searching forward or backward.

**To stop play**

Press [■].

**To stop recording**

- ① Press [■] to stop playing.
- ② Press [■] (after 2 seconds).

**To stop timer recording**

- ① Press [■] to stop playing.
- ② Press [■] (after 2 seconds).
- ③ Press [◀, ▶] to select "Stop Recording" and press [ENTER].

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

- 1 Press [DIRECT NAVIGATOR] during recording.**
- 2 Press [▲, ▼, ▶, ◀] to select a title and press [ENTER].**

**To stop play**

Press [■].

**To exit the Direct Navigator screen**

Press [DIRECT NAVIGATOR].

**To stop recording**

- ① Press [■] to stop playing.
- ② Press [DIRECT NAVIGATOR] to exit screen.
- ③ Press [■].

**To stop timer recording**

- ① Press [■] to stop playing.
- ② Press [DIRECT NAVIGATOR] to exit screen.
- ③ Press [■].
- ④ Press [◀, ▶] to select "Stop Recording" and press [ENTER].

## Using another source while recording

You can watch and listen to other content during recording. Pictures being recorded are unaffected.

### ■ Television (Setup Guide ⇒ 7)

During recording

- 1 Press [TV] to switch the remote control to operate the television.
- 2 (Point the remote control at the television)

Press [INPUT] and press [∧ ∨ CH] to select the channel.

If your television is connected to this unit's AUX terminal (⇒ 42), you can enjoy television broadcast with this unit's speakers.

- 3 Press [AUX] to select "AUX".
- 4 Adjust the volume on this unit.

### ■ Radio (⇒ 32)

During recording

- 1 Press [THEATER] to switch the remote control to operate this unit.
- 2 Press [FM/AM] to select "FM" or "AM".
- 3 Press the numbered buttons or [∧ ∨ CH] to select the radio channel.
- 4 Adjust the volume on this unit.

### ■ Music port (⇒ 42)

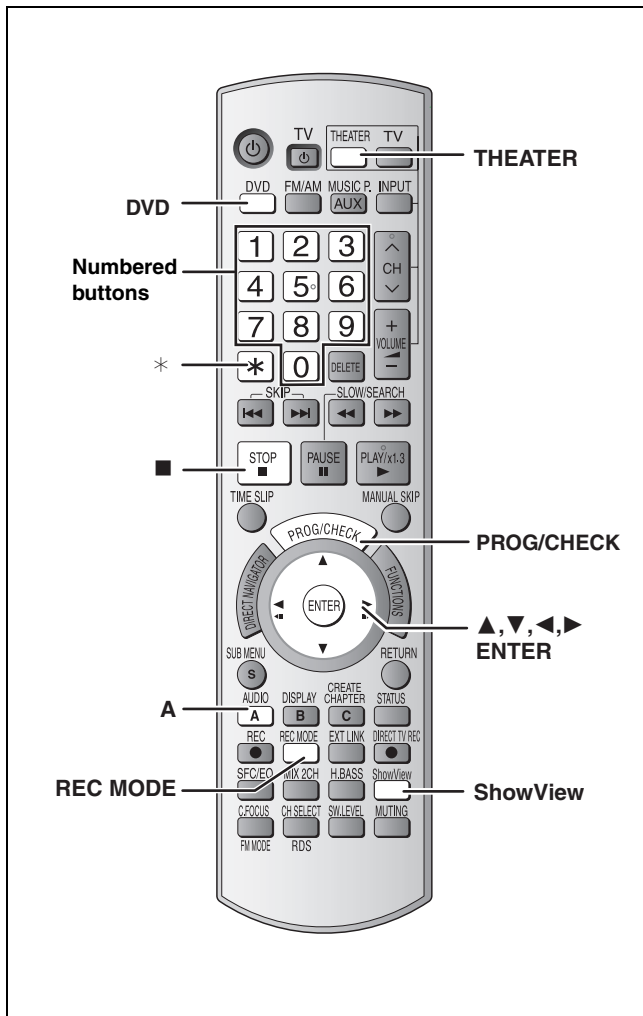
During recording

- 1 Press [THEATER] to switch the remote control to operate this unit.
- 2 Press [MUSIC P.] to select "F MUSICP".
- 3 Adjust the external device volume to a normal listening level, and then adjust the volume of the main unit with [+ - VOLUME].

**Note**

When you want to operate the DVD drive again

- 1 Press [THEATER] to switch the remote control to operate this unit.
- 2 Press [DVD] to select the DVD drive.



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

See also the notes "Important notes for recording" (⇒ 8).

### Preparation

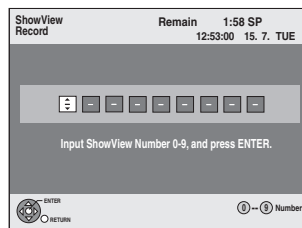
- Turn on the television and select the appropriate video input to suit the connections to this unit.
- Press [THEATER] to switch the remote control to operate this unit.
- Press [DVD] to select the DVD drive.
- Check the time on the unit is correct.
- Insert a disc (⇒ 10).

## Using SHOWVIEW number to make timer recordings

Entering SHOWVIEW numbers is an easy way of timer recording. You can find these numbers in TV listings in newspapers or magazines.

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

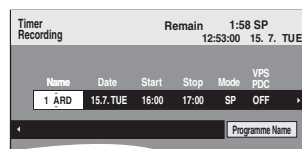
### 1 Press [ShowView].



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

- To correct the number  
Press [◀] to move back to correct a digit.

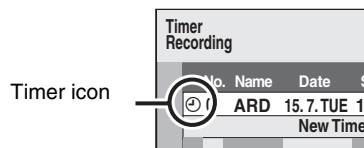
### 3 Press [ENTER].



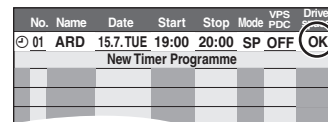
- Confirm the programme and make corrections if necessary using [▲, ▼, ◀, ▶] (⇒ 13, Manually programming timer recordings, step 3).
- When "—" appears in the "Name" column, you cannot set timer recording. Press [▲, ▼] to select desired programme position. After you have entered the information of a TV station, it is kept in the unit's memory.
- You can also press [REC MODE] to change the recording mode.
- VPS/PDC (⇒ 14)  
To activate the VPS/PDC function, press [▲, ▼] to select "ON".  
ON ↔ OFF  
If the broadcasting station is not transmitting VPS/PDC signals, "—" appears.
- To enter programme name  
Press [◀, ▶] to select "Programme Name" and press [ENTER] (⇒ 29).

### 4 Press [ENTER].

The settings are stored and the programme goes to timer recording standby. The timer icon is displayed in left column.



"Ⓢ" lights on the unit's display to indicate timer recording standby has been activated.



When "!" appears, make sure the disc has a sufficient space.

Repeat steps 1–4 to programme other recordings.

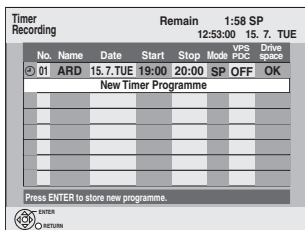
- To cancel recording when recording has already begun (⇒ 13)
- Notes on timer recording (⇒ 13)

To exit the timer recording list  
Press [PROG/CHECK].

## Manually programming timer recordings

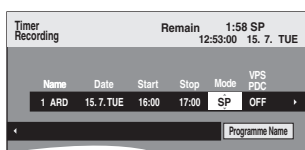
You can enter up to 16 programmes up to a month in advance. (Each daily or weekly programme is counted as one programme.)

### 1 Press [PROG/CHECK].



### 2 Press [▲, ▼] to select “New Timer Programme” and press [ENTER].

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



- Press and hold [▲, ▼] to alter the Start (Start time) and Stop (Finish time) in 30-minute increments.
- You can also set Name (Programme position/TV Station Name), Date, Start (Start time), and Stop (Finish time) with the numbered buttons.
- You can also press [REC MODE] to change the recording mode.

#### • Date

→ Date: Current date up to one month later minus one day

↓ ↑  
Daily timer: SUN-SAT → MON-SAT → MON-FRI

↓ ↑  
Weekly timer: SUN → ---- → SAT

#### • VPS/PDC (⇒ 14)

To activate the VPS/PDC function, press [▲, ▼] to select “ON”.

ON ↔ OFF

If the broadcasting station is not transmitting VPS/PDC signals, “---” appears.

When the input channel (“AV1”, “AV2” or “AV3”) is selected, “---” appears.

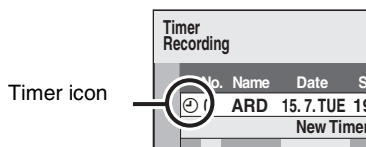
#### • To enter programme name

Press [◀, ▶] to select “Programme Name” and press [ENTER]. (⇒ 29)

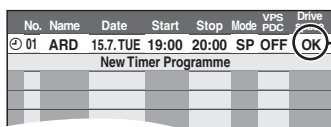
### 4 Press [ENTER].

The settings are stored and the programme goes to timer recording standby.

The timer icon is displayed in left column.



“⌚” lights on the unit’s display to indicate timer recording standby has been activated.



When “!” appears, make sure the disc has a sufficient space.

Repeat steps 2–4 to programme other recordings.

## To cancel recording when recording has already begun

### 1 While the unit is on

Press [■].

The confirmation screen appears.

### 2 Press [◀, ▶] to select “Stop Recording” and press [ENTER].

Recording stops and the timer recording is cancelled. (Daily and weekly timers remain and timer recording will start as programmed.)

## To release the programme from recording standby

### 1 Press [PROG/CHECK].

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

The timer icon “⌚” (⇒ left) disappears.

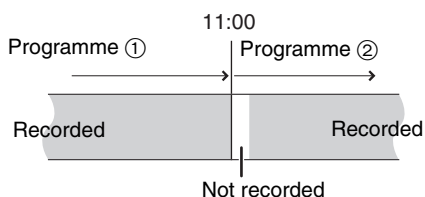
#### • To put the programme on recording standby again

Perform step 2 again before the programme start time to put the programme on recording standby. Timer recording will work only if the timer icon is displayed.

## Notes on timer recording

- “⌚” flashes on the unit’s display for about 5 seconds when the unit cannot go to timer recording standby. (e.g., a recordable disc is not in the disc tray.)
- Timer recordings begin when the set time is reached even when recording or when playing.
- If the unit is turned on when timer recording begins, it remains turned on after recording finishes. It does not turn off automatically. You can turn the unit off during timer recording.
- If the unit is not put in the timer recording standby mode at the last 10 minutes before the programmed timer recording starting time, the “⌚” flashes on the unit’s display. In this case, insert a recordable disc to put the unit in the timer recording standby mode.
- If you are making consecutive recordings that will start one after the other, the beginning of the later programme cannot be recorded.

e.g., Programme ① 10:00–11:00  
Programme ② 11:00–12:00



- If the actual broadcasting times of timer recordings overlap [regardless of whether they are VPS/PDC (⇒ 14) controlled], the recording that starts first always has priority, and the recording of the later programme will start only after the first timer recording has finished.
- [ShowView] and [PROG/CHECK] will function even when the unit is in standby mode.
- You cannot eject a disc while the unit is in timer recording standby mode.

## To exit the timer recording list

Press [PROG/CHECK].



Refer to the control reference on page 12.

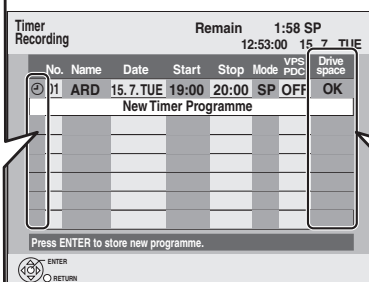
## Check, change or delete a programme

Even when the unit is in standby mode, you can display the timer recording list by pressing [PROG/CHECK].

Press [PROG/CHECK].

**Icons**

- ☉ Timer recording standby is activated.
- This programme is currently recording.
- Ⓜ The times overlap those in another programme. Recording of the programme with the later start time starts when the earlier programme finishes recording. You stopped a weekly or daily timer recording. The icon disappears the next time the timer programme starts recording.
- ⊖ The disc was full so the programme failed to record.
- Ⓜ The material was copy-protected so it was not recorded.
- ⓧ The programme did not complete recording because the disc is dirty or some other reason.



**Message displayed in the "Drive space" line**

- OK:** Displayed if the recording can fit in the remaining space.
- (Date):** For recordings made daily or weekly, the display will show until when recordings can be made (up to a maximum of one month from the present time) based on the time remaining on the disc.
- ! :** It may not be possible to record because:
  - the disc is write-protected.
  - there is no more space left.
  - the number of possible titles has reached its maximum.

### ■ To change a programme

Press [▲, ▼] to select the programme and press [ENTER]. (⇒ 13, Manually programming timer recordings, step 3)

### ■ To delete a programme

Press [▲, ▼] to select the programme and press [\*].

### ■ To exit the timer recording list

Press [PROG/CHECK].

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

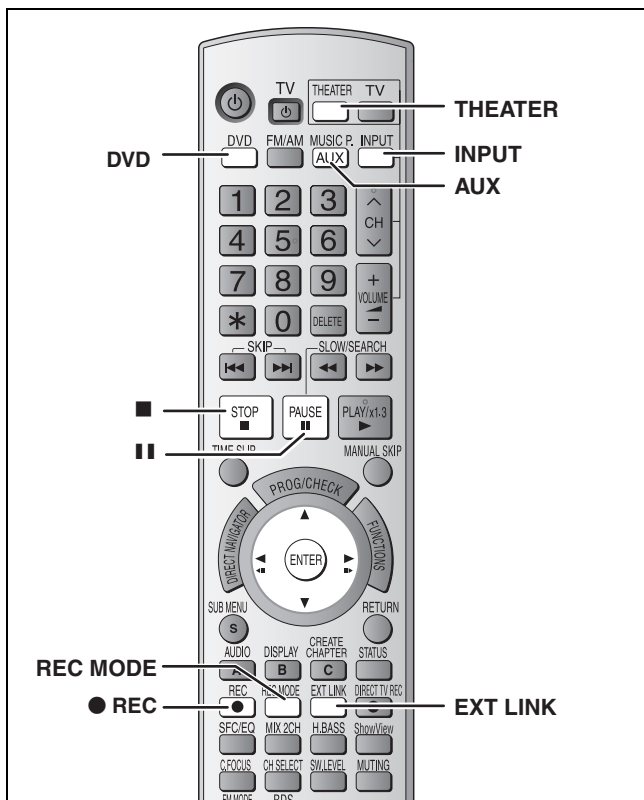
## VPS/PDC function

VPS (Video Programme System) or PDC (Programme Delivery Control) is a very convenient system which records exactly from beginning to end of the TV programmes set in timer recording, even if the actual broadcasting time differs from the scheduled time due to delayed start or extension of the programme duration. Also, if a programme is interrupted, for example, some special news is inserted, the recording will be paused automatically and resumed when the programme continues.

<p><b>When VPS/PDC recording</b></p>	<ul style="list-style-type: none"> <li>● Use VPS/PDC time for recording the TV programmes.</li> <li>● Set "VPS/PDC" to "OFF" when recording time is not VPS/PDC time.</li> <li>● VPS/PDC recording is not performed when VPS/PDC time is incorrect, even if only by one minute. To find out VPS/PDC time, consult Teletext, a newspaper or magazine, or other source.                     <ul style="list-style-type: none"> <li>– If a programme listed in a newspaper or magazine has two SHOWVIEW numbers, use the SHOWVIEW number for VPS/PDC if you wish to proceed with VPS/PDC recording using SHOWVIEW programming.</li> <li>– The default settings for "VPS/PDC" is "OFF".</li> </ul> </li> </ul>
<p><b>When the VPS/PDC signal drops out because the broadcast signal is weak. When a TV station does not transmit a regular VPS/PDC signal.</b></p>	<p>Timer recording will be performed in the normal mode (without VPS/PDC) even if it was programmed for VPS/PDC. In this case, even if the timer recording is performed, whatever has been programmed will not be cancelled at that particular time but at 4 a.m. two days later.</p>
<p><b>If the start times of scheduled programmes listed in the newspaper or magazine change at a later date.</b></p>	<p>Set "VPS/PDC" to "OFF" when programming a programme whose start time has been subsequently changed.</p>

**Note**

- The beginnings of recordings may not be recorded correctly in some cases.
- Depending on the signals sent from the TV stations, the VPS/PDC system may not work properly even when "VPS/PDC" has been set to "ON".
- Please check with the broadcasters in your area for details.
- VPS/PDC does not activate while this unit is on. The system stays inactive under the condition even its setting is "ON". In such cases, recording starts and finishes at times you set initially.



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

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

### Preparation

- Press [THEATER] to switch the remote control to operate this unit.
- Insert a disc (⇒ 10).

## Making timer recordings on the television

(e.g., of digital broadcasts)

To make a timer recording with your television, connect to a television with a Q Link function (⇒ 43) that you can use for setting timer recordings using a fully wired 21-pin Scart cable (Setup Guide ⇒ 3, 4).

- 1 Make timer programming on the TV.
- 2 Press [DVD] to select the DVD drive.
- 3 Turn off the unit.

The start and end of recording is controlled by the TV.

### To stop recording

Press [■].

#### Note

- When this unit is in EXT LINK standby (“EXT-L” is shown on the unit’s display), recording from TV does not start.
- Programmes are recorded as one title on this unit when the end time of the earlier timer recording and the start time of the later timer recording are close to each other.

**RAM** To divide the titles, go to “Divide Title” (⇒ 25).

## Recording from digital/satellite receiver or decoder

### Preparation

- Connect a digital/satellite receiver or decoder to this unit’s input terminals (Setup Guide ⇒ 4).
- When the output signal from the external equipment is NTSC, change the “TV System” to “NTSC” in the Setup menu (⇒ 37).
- Press [DVD] to select the DVD drive.

- 1 While stopped  
Press [INPUT] to select the input channel for the equipment you have connected.  
e.g., If you have connected to AV2 input terminals, select “AV2”.
- 2 Press [REC MODE] to select the recording mode.
- 3 Select the channel on the other equipment.
- 4 Press [● REC].  
Recording starts.

### To skip unwanted parts

Press [II] to pause recording. (Press again to restart recording.)

### To stop recording

Press [■].

## Linked timer recordings with external equipment (digital/satellite receiver) — EXT LINK

To record programmes from digital/satellite receiver using timer programming

### Preparation

- Make sure you connect the AV2 input terminal of this unit to “AV OUT” of a digital/satellite receiver with a 21-pin scart cable (Setup Guide ⇒ 4).
- Set “AV2 Input” and “Ext Link” to match the connected equipment in the Setup menu (⇒ 37).

- 1 Make timer programming on the external equipment.
- 2 Press [DVD] or [AUX] to select the DVD drive or “AUX”.
- 3 Press [EXT LINK].

The unit turns off and “EXT-L” lights on the unit’s display to indicate timer recording standby has been activated.

### To cancel the external control

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

- In order to prevent accidental operation, press [EXT LINK] to cancel the setting after recording is finished.

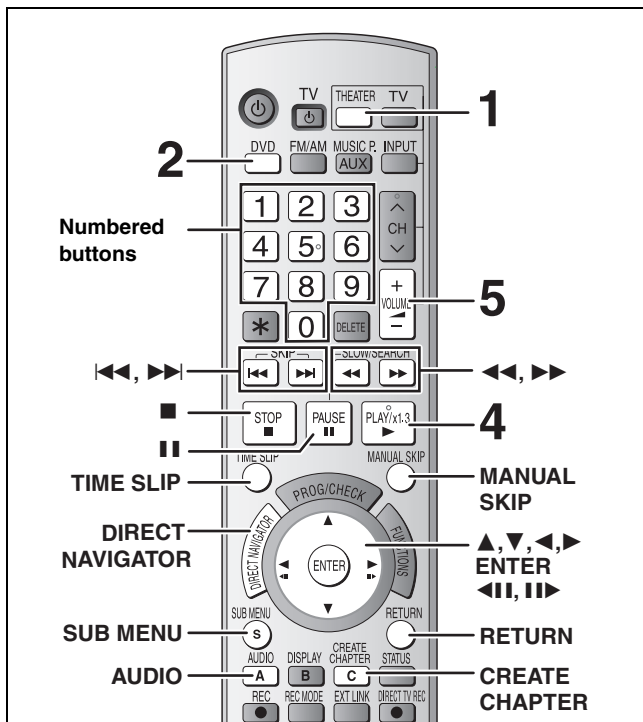
#### Note

- [EXT LINK] will function even when the unit is in standby mode, if the DVD drive is selected.
- In the following situations, [EXT LINK] will not function:  
– “FM”, “AM”, or “F MUSICP” is selected as the source.  
– A source other than DVD drive is selected while the unit is in standby mode.
- 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.
- When “AV2 Connection” is set to “Decoder”, EXT LINK is not available (⇒ 37).
- Programmes are recorded as one title on this unit when the end time of the earlier timer recording and the start time of the later timer recording are close to each other.

**RAM** To divide the titles, go to “Divide Title” (⇒ 25).

- While the unit is in EXT LINK standby mode or recording, video picture is from the AV2 input terminal irrespective of “AV1 Output” setting (⇒ 37).
- While the unit is in EXT LINK standby mode or recording, only the following operations can be performed.  
– Programming timer recording (Press [ShowView] or [PROG/CHECK]).  
– Playing the title **RAM** (Press [▶] (PLAY) or [DIRECT NAVIGATOR]).
- You cannot eject a disc while the unit is in EXT LINK standby mode.





**■ If the recorded title is stretched vertically**  
 If recorded to a DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL or +RW disc, 16:9 aspect images will record as 4:3 images.  
 • You may be able to adjust it by changing the display mode on your television, please refer to the television's operating instructions.

### Preparation

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

- 1 Press [THEATER] to switch the remote control to operate this unit.
- 2 Press [DVD] to select the DVD drive.

The main unit: Press [SELECTOR] to select the DVD drive.



- 3 Insert a disc (⇒ 10).
- 4 Press [▶] (PLAY).

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

Play starts from the most recently recorded title.

**DVD-V DVD-A CD VCD** and MP3  
 Play starts from the beginning of the disc.



DivX  
 DivX Menu screen appears (⇒ 18)

- 5 Adjust the volume with [+ - VOLUME].

■ When a menu screen appears on the television

**DVD-V DVD-A**

Press [▲, ▼, ◀, ▶] to select the item and press [ENTER].  
 Some items can also be selected using the numbered buttons.

**VCD**

Press the numbered buttons to select the item.

e.g., 5: [0] ⇒ [5] 15: [1] ⇒ [5]

• To return to the menu screen

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

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

**VCD** Press [RETURN].

• The playing method may differ from the one described above depending on disc types. Read the disc's instructions carefully.

To change the sound quality (⇒ 34)

### Note

- It is not possible to play continuously from one side of a double sided disc to the other. You will need to eject the disc and turn it over.
- Depending on the disc, it may take time for the menu screen, pictures, sound, etc. to start.
- Discs continue to rotate while menus are displayed. Press [■] when you have finished playback to protect the unit's motor, your television screen and so on.

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

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

Simply select the recorded programmes (titles) you want to play from the menu.

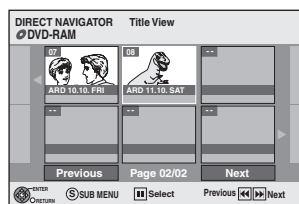
- 1 Press [THEATER] to switch the remote control to operate this unit.

- 2 Press [DVD] to select the DVD drive.

The main unit: Press [SELECTOR] to select the DVD drive.

- 3 Insert a disc (⇒ 10).

- 4 Press [DIRECT NAVIGATOR].



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

You can also select titles with the numbered buttons.

e.g., 5: [0] ⇒ [5] 15: [1] ⇒ [5]

To show other pages

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

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

- 6 Adjust the volume with [+ - VOLUME].

To exit the screen

Press [DIRECT NAVIGATOR].

To change the sound quality (⇒ 34)

Direct Navigator screen icons

- Currently recording.
- 🔒 Title protected.
- 📄 Title that was not recorded due to recording protection (Digital broadcasts etc.)
- ✗ Title cannot be played because data is damaged.
- 📁 Title with "One time only recording" restriction
- Ⓜ (NTSC) Title recorded using a different encoding system from that of the TV system currently selected on the unit.
- Ⓟ (PAL)

### Note

• **RAM -R -R DL -RW(V) +R +R DL +RW** The unit stops playing a disc when timer recording starts.

• **RAM** Press [▶] (PLAY) when you wish to start playing the disc while recording (⇒ 11, Chasing playback).

## Changing audio during play

Press [AUDIO].

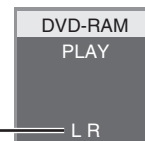
**RAM -RW(VR) VCD** and DivX

LR→L→R

↑

e.g.,

"L R" is selected



**DVD-V DVD-A**

You can change the audio channel number each time you press the button. This allows you to change things like the soundtrack language.




e.g., **DVD-V** English is selected language (⇒ 21, Soundtrack).

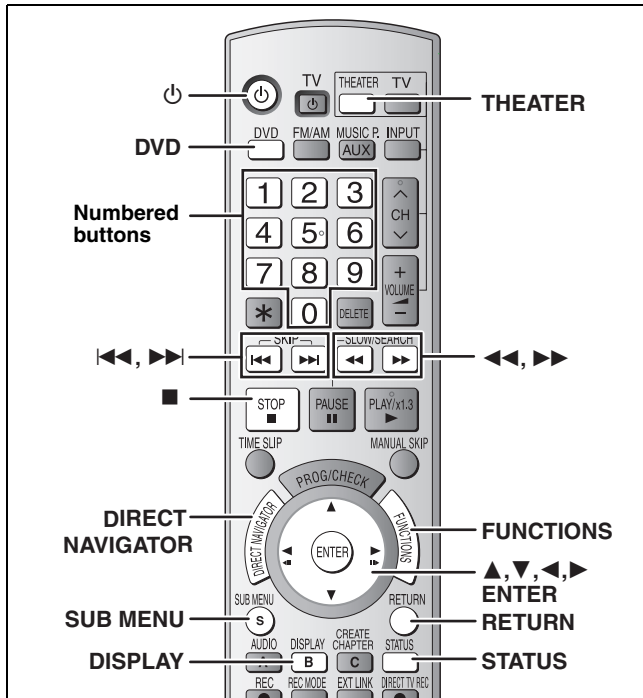
### Note

• You cannot change the audio type when a DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL or +RW disc is in the disc tray while DVD drive is selected.

## Operations during play

Stop	<p><b>Press [■].</b> The stopped position is memorized. <b>Resume play function</b> Press [▶] (PLAY) to restart from this position. The stopped position is cleared when:</p> <ul style="list-style-type: none"> <li>– you press [■] several times.</li> <li>– you open the tray.</li> <li>– <b>DVD-A</b> <b>CD</b> <b>VCD</b> and MP3/DivX you turn the unit off.</li> </ul>
Pause	<p><b>Press [⏸].</b> Press again or press [▶] (PLAY) to restart play.</p>
Search	<p><b>Press [◀◀] or [▶▶].</b></p> <ul style="list-style-type: none"> <li>• The speed increases up to 5 steps. (<b>+R</b> <b>+R DL</b> <b>+RW</b> up to 3 steps)</li> <li>• Press [▶] (PLAY) to restart play.</li> <li>• Audio is heard during first level search forward.                             <ul style="list-style-type: none"> <li>– <b>DVD-A</b> (excluding motion picture parts) <b>CD</b> and MP3 : Audio is heard during all levels of search.</li> <li>– DivX : Audio is not heard during all levels of search.</li> </ul> </li> <li>• Depending on the disc, Searching may not be possible.</li> </ul>
Skip	<p><b>During play or while paused, press [◀◀] or [▶▶].</b> The unit will skip titles, chapters, or tracks according to the number of times the button is pressed and play will begin.</p> <ul style="list-style-type: none"> <li>• DivX : Backward direction [◀◀] only.</li> </ul>
Starting from a selected title (excluding DivX)	<p><b>Press the numbered buttons.</b> Play starts from the selected title, chapter or track.</p> <p>MP3/JPEG e.g., 5: [0] ⇒ [0] ⇒ [0] ⇒ [5]                      115: [0] ⇒ [1] ⇒ [1] ⇒ [5] 15: [0] ⇒ [0] ⇒ [1] ⇒ [5]</p> <p><b>DVD-A</b> Selecting groups While stopped (screen saver is displayed on the television ⇒ right) e.g., 5: [5]</p> <p>Other discs (You can select a track with DVD-Audio.) e.g., 5: [0] ⇒ [5] 15: [1] ⇒ [5]</p>  <ul style="list-style-type: none"> <li>• This works only when stopped (screen saver is displayed on the television ⇒ above) with some discs.</li> <li>• <b>VCD</b> (with playback control) If you press the numbered buttons while stopped (the above screen saver is displayed on the television) you can cancel PBC. (Elapsed play time appears on the unit's display.)</li> </ul>
Quick View <b>RAM</b>	<p><b>Press and hold [▶] (PLAY/×1.3).</b> Play speed is quicker than normal.</p> <ul style="list-style-type: none"> <li>• Press again to return to normal speed.</li> </ul>
Slow-motion* <b>RAM</b> <b>-R</b> <b>-R DL</b> <b>-RW(V)</b> <b>+R</b> <b>+R DL</b> <b>+RW</b> <b>DVD-V</b> <b>DVD-A</b> (Motion picture parts only) <b>-RW(VR)</b> <b>VCD</b>	<p><b>While paused, press [◀◀] or [▶▶].</b> The speed increases up to 5 steps.</p> <ul style="list-style-type: none"> <li>• Press [▶] (PLAY) to restart play.</li> <li>• <b>VCD</b> Forward direction [▶▶] only.</li> <li>• The unit will pause if slow-motion play is continued for approximately 5 minutes (excluding <b>DVD-V</b> <b>DVD-A</b> <b>VCD</b>).</li> </ul>
Frame-by-frame* <b>RAM</b> <b>-R</b> <b>-R DL</b> <b>-RW(V)</b> <b>+R</b> <b>+R DL</b> <b>+RW</b> <b>DVD-V</b> <b>DVD-A</b> (Motion picture parts only) <b>-RW(VR)</b> <b>VCD</b>	<p><b>While paused, press [◀◀] or [▶▶].</b></p> <ul style="list-style-type: none"> <li>• Each press shows the next frame.</li> <li>• Press and hold to change in succession forward or backward.</li> <li>• Press [▶] (PLAY) to restart play.</li> <li>• <b>VCD</b> Forward direction [▶▶] only.</li> </ul>
Skipping the specified time (Time Slip)* <b>RAM</b> <b>-R</b> <b>-R DL</b> <b>-RW(V)</b> <b>+R</b> <b>+R DL</b> <b>+RW</b> <b>-RW(VR)</b>	<p><b>1 Press [TIME SLIP].</b> <b>2 Press [▲, ▼] to select the time and press [ENTER].</b> Play skips the specified time.</p> <ul style="list-style-type: none"> <li>• Each time you press [▲, ▼], the time increases [▲] or decreases [▼] by 1 minute intervals. (Press and hold for 10-minute intervals.)</li> </ul>
Manual Skip* <b>RAM</b> <b>-R</b> <b>-R DL</b> <b>-RW(V)</b> <b>+R</b> <b>+R DL</b> <b>+RW</b> <b>-RW(VR)</b>	<p><b>Press [MANUAL SKIP].</b> Play restarts approximately 30 seconds later.</p>
Create Chapter <b>RAM</b> (⇒ 24, Title/Chapter)	<p><b>Press [CREATE CHAPTER].</b> Chapters are divided at the point pressed.</p> <ul style="list-style-type: none"> <li>• Press [◀◀, ▶▶] to skip to the start of a chapter.</li> <li>• You cannot create chapters when unit is in EXT LINK standby.</li> </ul>

\*Excluding MP3/DivX/JPEG



You can play CD-R/CD-RW and DVD-R discs which contain MP3 files, DivX video contents or still pictures that have been recorded on a computer.

### Preparation

- Press [THEATER] to switch the remote control to operate this unit.
- Press [DVD] to select the DVD drive.

## Selecting file type to play

The screen shown below is displayed when you insert a disc containing varying combinations of MP3 files, DivX video contents and still pictures (JPEG/TIFF).

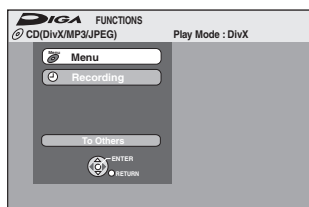
e.g.,



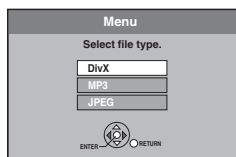
- When playing the file displayed on the screen Press [ENTER].
- When playing other file displayed on the screen Press [ENTER] and follow the steps below.

### To select file type

#### 1 Press [FUNCTIONS].



#### 2 Press [▲, ▼] to select "Menu" and press [ENTER].



#### 3 Press [▲, ▼] to select file type and press [ENTER].

→ right, step 2

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

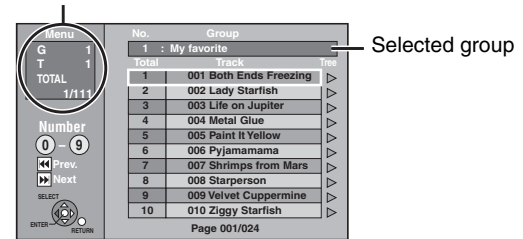
### 1 Press [DIRECT NAVIGATOR].

#### ■MP3

G: Group No.

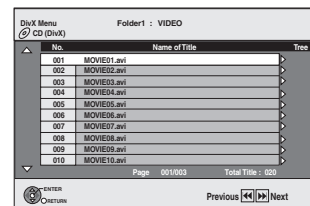
T: Track No. in the group

TOTAL: Track No./Total tracks in all groups



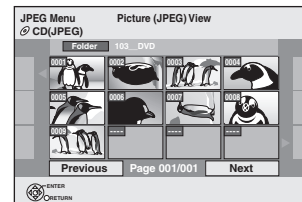
- Files are treated as tracks and folders are treated as groups.
- "▶" indicates the track currently playing.

#### ■DivX



- Files are treated as titles.

#### ■Still picture (JPEG/TIFF)



#### To switch to other menu

Press [RETURN] and perform steps 1-3 in "To select file type" on the left column selecting file type in step 3.

### 2 Press [▲, ▼, ◀, ▶] to select the file (track or title) and press [ENTER].

Play starts on the selected file (track or title).

- You can also select the file (track or title) with the numbered buttons

MP3, Still picture e.g., 5: [0] → [0] → [0] → [5]  
 15: [0] → [0] → [1] → [5]  
 DivX e.g., 5: [0] → [0] → [5]  
 15: [0] → [1] → [5]

#### To show other pages

Press [◀◀] (Previous) or [▶▶] (Next).

#### To stop playing

Press [■].

- (JPEG) The unit remembers the still picture where you stopped play. This is cleared when you turn the unit off or remove the disc.

#### To display the previous or next still picture during play (JPEG)

Press [◀, ▶].

#### To return to the previous screen

Press [RETURN].

#### To exit the screen

Press [DIRECT NAVIGATOR].

#### Note (DivX)

- Picture sizes set at the recording time may prevent the unit from showing pictures in the adequate aspect. You may be able to adjust the aspect through the TV.
- Successive play is not possible.

### About DivX subtitles text display

You can display subtitles text recorded onto the DivX video disc on this unit. This function has no relation to the subtitles specified in DivX standard specifications and has no clear standard. Depending on the methods used to create the file, the following functions may not work.

#### ■ Displaying subtitles text

- 1 **During play, press [DISPLAY].**
    - DivX video files that do not display "Text" do not contain subtitles text. Subtitles text cannot be displayed.
  - 2 Press [▲, ▼] to select "Disc" and press [▶].
  - 3 Press [▲, ▼] to select "Subtitle" and press [▶].
  - 4 Press [▲, ▼] to select "On".
- If the subtitles text are not displayed correctly, try changing the language settings (➡ below).

#### ■ Subtitles text language settings

After playing back a DivX video file containing subtitles text

- 1 **While stopped**  
Press [FUNCTIONS].
- 2 Press [▲, ▼] to select "To Others" and press [ENTER].
- 3 Press [▲, ▼] to select "Setup" and press [ENTER].
- 4 Press [▲, ▼] to select "Disc" and press [▶].
- 5 Press [▲, ▼] to select "Settings for Playback" and press [ENTER].
- 6 Press [▲, ▼] to select "DivX Subtitle Text" and press [ENTER].
- 7 Press [▲, ▼] to select "Latin 1", "Latin 2", or "Cyrillic" then press [ENTER].
  - The initial setting is "Latin 2".

#### To exit the screen

Press [RETURN] several times.

#### ■ Types of subtitles text file that can be displayed

Subtitles text that satisfy the following conditions can be displayed on this unit.

- File format: MicroDVD, SubRip, or TMLPlayer
- File extension: ".SRT", ".srt", ".SUB", ".sub", ".TXT", or ".txt"
- The DivX video file and subtitles text file are inside the same folder, and the file names are the same except for the file extensions.
- If there are more than one subtitles text files inside the same folder, they are displayed in the following order of priority: ".srt", ".sub", ".txt".

#### ■ Limitations of this unit

- In the following situations, the subtitles cannot be displayed as recorded. Furthermore, depending on the methods used to create the file or the state of the recording, only parts of the subtitles may be displayed, or the subtitles may not be displayed at all.
  - When special text or characters are included in the subtitles text.
  - When the file size is larger than 256 KB.
  - When characters with styling specified are included in the subtitle data. Codes that specify the character style within files are displayed as subtitle characters.
  - When data with a different format exists within the subtitle data.
- If the file name of the DivX video file is not displayed correctly on the menu screen (the file name is displayed as "\_"), the subtitles text may not be displayed correctly.
- Depending on the disc, the subtitles text cannot be displayed when search and other such operations are being performed.

### To select other folder (group)

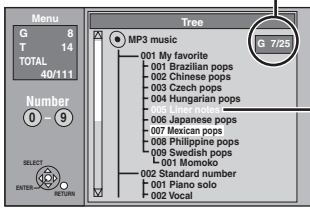
#### MP3, DivX

- 1 **While the file list is displayed**

Press [▶].

#### ■ MP3

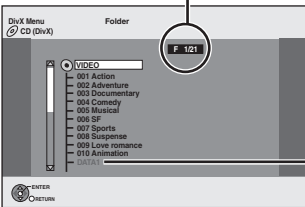
G: Selected group No. /Total group No.  
If the group has no track, "- -" is displayed as group number.



Groups that contain no compatible files.

#### ■ DivX

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



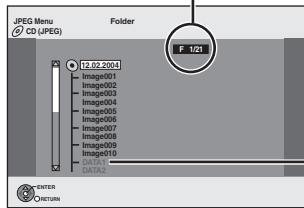
Folders that contain no compatible files.

- 2 Press [▲, ▼] to select a folder (group) and press [ENTER].  
The file list for the folder (group) appears.

#### Still picture

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

F: Selected folder No./Total folder No.



Folders that contain no compatible files.

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

**To exit the screen**  
Press [DIRECT NAVIGATOR].

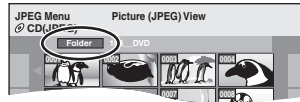
### Useful functions during still picture play

#### Start Slide Show/Slide Interval

You can display still pictures one by one with constant interval.

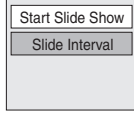
**While the JPEG Menu is displayed**

- 1 Press [▲, ▼, ◀, ▶] to select "Folder" and press [SUB MENU].



- 2 Press [▲, ▼] to select "Start Slide Show" and press [ENTER].

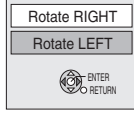
- **To change the slide interval**
  - ① In step 2 above, press [▲, ▼] to select "Slide Interval" and press [ENTER].
  - ② Press [◀, ▶] to select the slide interval and press [ENTER].
  - You can select a slide interval between 0-30 sec.



#### Rotate

**While playing**

- 1 Press [SUB MENU].
- 2 Press [▲, ▼] to select "Rotate RIGHT" or "Rotate LEFT" and press [ENTER].



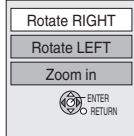
**To return the rotated picture to its original position**  
Press [▲, ▼] to select the opposite rotation in step 2 and press [ENTER].

• Rotation information will not be stored.

#### Zoom in/Zoom out

**While playing**

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



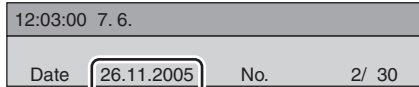
**To return the picture to its original size**  
Press [▲, ▼] to select "Zoom out" in step 2 and press [ENTER].

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

#### Properties

**While playing**

Press [STATUS] twice.



Shooting date

**To exit the picture properties screen**  
Press [STATUS] again.

Refer to the control reference on page 18.

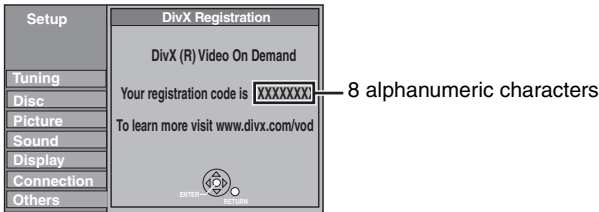
## Regarding DivX VOD content

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

Follow the on line instructions for purchasing DivX VOD content to enter the unit's registration code and register the unit. For more information about DivX VOD, visit [www.divx.com/vod](http://www.divx.com/vod).

### Display the unit's registration code.

(➔ 38, "DivX Registration" in "Others" tab)



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

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

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

When playing this content

- The number of remaining plays is reduced by one if
  - you press [⏮].
  - you press [■] (STOP).
  - you press [⏪] (SKIP) or [⏩] (SEARCH) etc. and arrive at another content or the start of the content being played.
- Resume play function (➔ 17) does not work.

## Regarding MP3, DivX and still pictures

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

### MP3

Playable discs	DVD-R, CD-R/RW
File format	MP3 • Files must have the extension ".mp3" or ".MP3".
Maximum number of folders (groups)	300 (including the root folder)
Maximum number of files (tracks)	3000*1
Bit rates	32 kbps to 320 kbps
Sampling frequency	16 kHz/22.05 kHz/24 kHz/32 kHz/44.1 kHz/48 kHz
ID3 tags	Not compatible

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

### DivX

Playable discs	DVD-R, CD-R/RW
File format	DivX • Files must have the extension ".DIVX", ".divx", ".AVI" or ".avi".
Maximum number of folders	300 (including the root folder)
Maximum number of files	200*1
Support version	DivX ver.3.11, 4.x, 5.x Video –Number of stream: Up to 1 –Codec: DIV3, DIV4, DIVX, DV50 –Picture size: 32 x 32 to 720 x 576 –FPS(Frame Per Second): Up to 30 fps Audio –Number of stream: Up to 8 –Format: MP3, Dolby Digital, MPEG –Multi channel: Dolby Digital is possible. MPEG multi is 2ch conversion. • GMC (Global Motion Compensation) is not supported.

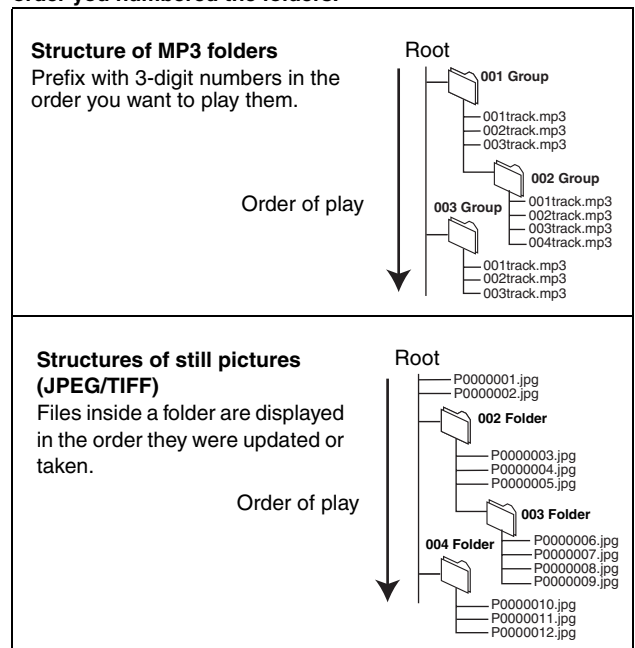
### Still pictures (JPEG, TIFF\*2)

Playable discs	DVD-R, CD-R/RW
File format	JPEG, TIFF (non-compressed RGB chunky format) • Files must have the extension ".jpg", ".JPG", ".tif" or ".TIF".
Number of pixels	34 x 34 to 6144 x 4096 (Sub sampling is 4:2:2 or 4:2:0)
Maximum number of folders	300 (including the root folder)
Maximum number of files	3000*1
MOTION JPEG	Not compatible

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

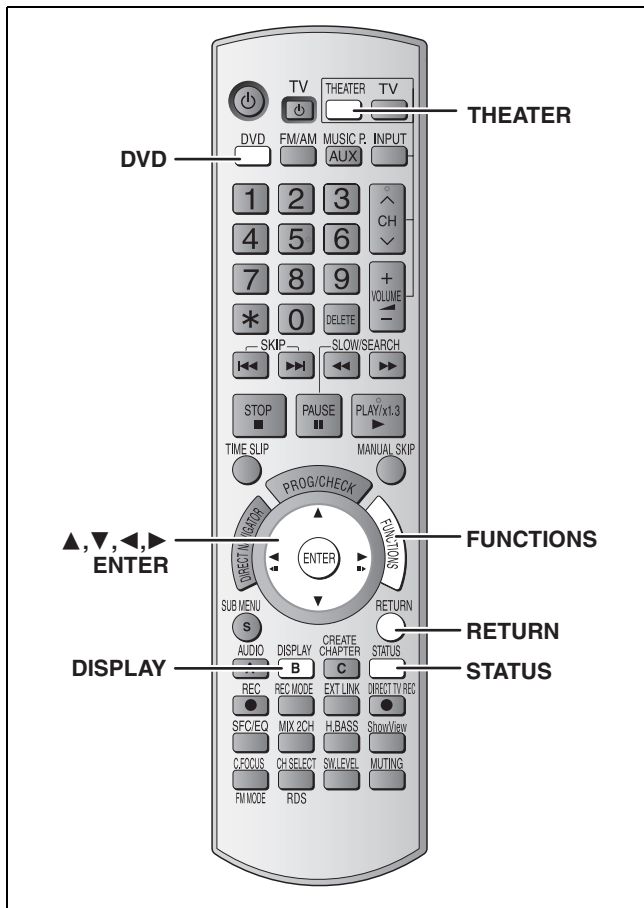
\*2 Operation may take time to complete when playing TIFF format still pictures.

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



- When the highest level folders are "DCIM" folders, they are displayed first on the tree.





## Using on-screen menus

### Common procedures

**Preparation**  
 • Press [THEATER] to switch the remote control to operate this unit.  
 • Press [DVD] to select the DVD drive.

### 1 Press [DISPLAY].

Disc	Soundtrack	1	DD Digital	2/0 ch
Play	Subtitle		Off	
Picture	Audio channel		L R	
Sound				
Other				
<b>Menu</b>	<b>Item</b>	<b>Setting</b>		

- Depending on the condition of the unit (playing, stopped, etc.) and disc contents, there are some items that you cannot select or change.
- 2 Press [▲, ▼] to select the menu and press [▶].
  - 3 Press [▲, ▼] to select the item and press [▶].
  - 4 Press [▲, ▼] to select the setting.  
 • Some items can be changed by pressing [ENTER].

**To clear the on-screen menus**  
 Press [DISPLAY].

### Disc menu—Setting the disc content

**Soundtrack\*** DVD-V DVD-A  
 Select the audio and language (⇒ below, Audio attribute, Language).  
**RAM -R -R DL -RW(V) +R +R DL +RW -RW(VR)**  
 The disc's audio attributes appear.  
**VCD** (SVCD) and DivX  
 Select the soundtrack number.

**Subtitle\*** DVD-V DVD-A  
 Turn the subtitle on/off and select the language (⇒ below, Language).  
**RAM -R -R DL -RW(V) +R +R DL +RW -RW(VR)** (Only discs that contain subtitle on/off information)  
 • Subtitle on/off information cannot be recorded using this unit.  
**VCD** (SVCD) and DivX  
 Turn the subtitle on/off and select the subtitle number.

**Audio channel** RAM -RW(VR) VCD and DivX  
 (⇒ 16, Changing audio during play)

**Source Select (DivX)**  
 When you select "Automatic" the constructing method of the DivX contents is automatically distinguished and output. If the picture is distorted, select "Progressive" or "Interlace" depending on which constructing method was used when the contents were recorded to disc.  
 • Automatic  
 • Progressive  
 • Interlace

**Angle\*** DVD-V DVD-A  
 Change the number to select an angle.

**STILL-P (Still picture)** DVD-A  
 Selects the play method for still pictures.  
**Slide Show:** Plays according to the default order on the disc.  
**Page:** Select the still picture number and play.  
 • RANDOM: Plays in random order.  
 • Return: Returns to the default still picture on the disc.

**PBC (Playback control ⇒ 50)** VCD  
 Indicates whether menu play (playback control) is on or off. (unchangeable)

\* With some discs, you may only be able to make changes using the menus (⇒ 16) on the disc.  
 • The display changes according to the disc content. You cannot change when there is no recording.

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

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

### Play menu—Change the play sequence

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

**Repeat Play**

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

Select "Off" to cancel.

Refer to the control reference on page 21.

**Picture menu—Change the picture quality**

**Playback NR**

Reduces noise and picture degradation.  
On ←→ Off

**Progressive\* (↔ 50)**

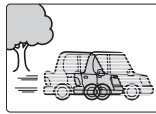
Select "On" to enable progressive output.  
Select "Off" if the picture is stretched horizontally.

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

Select the method of conversion for progressive output to suit the type of title being played (↔ 50, Film and video).

**When the output signal is PAL**

- **Auto:** Automatically detects the film and video content, and appropriately converts it.
- **Video:** Select when using "Auto", and the content is distorted.
- **Film:** Select this if the edges of the film content appear jagged or rough when "Auto" is selected. However, if the video content is distorted as shown in the illustration to the right, then select "Auto".



- When the tray is opened, the setting will return to "Auto".

**When the output signal is NTSC**

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

**AV-in NR (Only when AV1, AV2 or AV3 is selected)**

Reduces video tape noise while copying.

- **Automatic:** Noise reduction only works on picture input from a video tape.
- **On:** Noise reduction works for input video.
- **Off:** Noise reduction is off. You can record the input signal as it is.

\* Only when you have set "Progressive" to "On" in the Setup menu (Setup Guide ↔ 7).

**Sound menu—Change the sound effect**

**Dialog Enhancer**

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

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

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

**Other menu—Change the display position**

**Position**

1-5: The higher the setting the lower the on-screen menu moves.

**FUNCTIONS window**

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

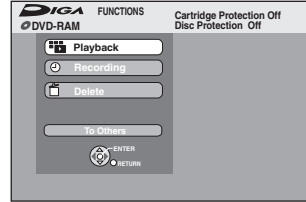
**Preparation**

- Press [THEATER] to switch the remote control to operate this unit.
- Press [DVD] to select the DVD drive.

**1 While stopped**

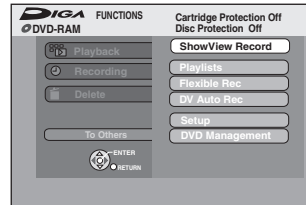
**Press [FUNCTIONS].**

Functions displayed depend on the type of disc.



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

- If you select "To Others" and press [ENTER], the following screen appears. Press [▲, ▼] to select an item and press [ENTER].



- If you press [RETURN], you can return to the previous screen.

**To exit the FUNCTIONS window**

Press [FUNCTIONS].

**Status message**

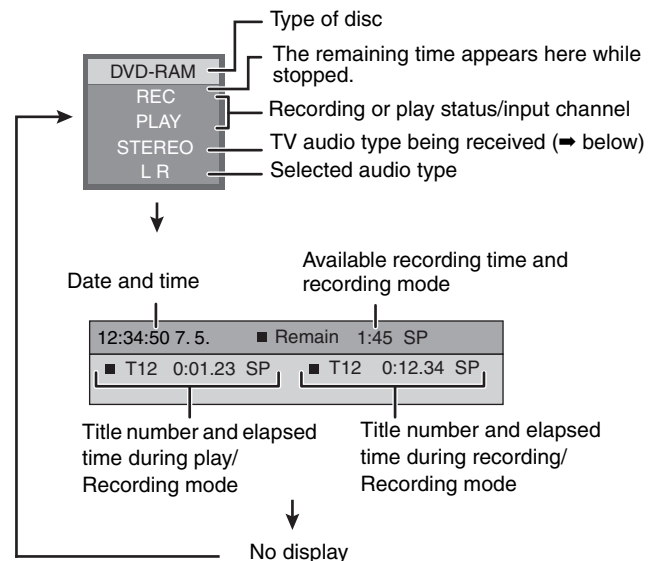
Status messages appear on the television during operation to show the condition of the unit.

**Preparation**

- Press [THEATER] to switch the remote control to operate this unit.
- Press [DVD] to select the DVD drive.

**Press [STATUS].**

The display changes each time you press the button.



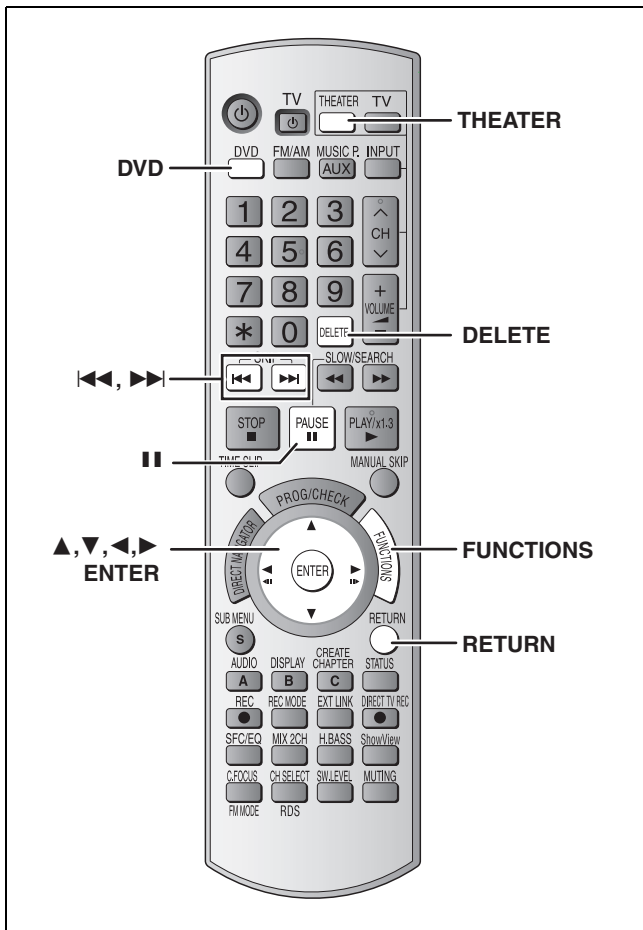
**● TV audio type**

**STEREO:** Stereo broadcast

**M 1/M 2:** Bilingual dual-sound broadcast

**M 1:** Monaural broadcast





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

- A title cannot be restored once it is deleted. Make certain before proceeding.
- You cannot delete while recording.

**RAM**

When a recorded title is deleted the available disc space will increase by the amount deleted.

The available disc space increases if any of these is deleted.

Title 1	Title 2	.....	The last recorded title	The available space
---------	---------	-------	-------------------------	---------------------

**-RW(V) +RW**

Disc space increases only when the last recorded title is deleted.

The available disc space does not increase if these are deleted.

When deleted, available disc space increases.

Title 1	Title 2	.....	The last recorded title	The available space
---------	---------	-------	-------------------------	---------------------

**-R -R DL +R +R DL**

Available space does not increase even after deletion.

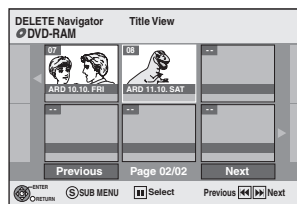
## Using DELETE Navigator to delete titles

### Preparation

- Turn on the television and select the appropriate video input to suit the connections to this unit.
- Turn the unit on.
- Press [THEATER] to switch the remote control to operate this unit.
- Press [DVD] to select the DVD drive.
- Insert the disc (→ 10).
- **RAM** Release protection (→ 30).

**1** While stopped  
Press [FUNCTIONS].

**2** Press [▲, ▼] to select “Delete” and press [ENTER].



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

**To show other pages**

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

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

**Multiple deleting**

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

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

**4** Press [◀, ▶] to select “Delete” and press [ENTER].

**To return to the previous screen**

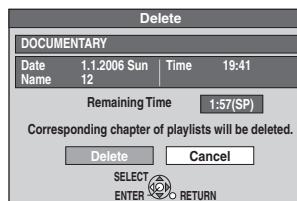
Press [RETURN].

**To exit the screen**

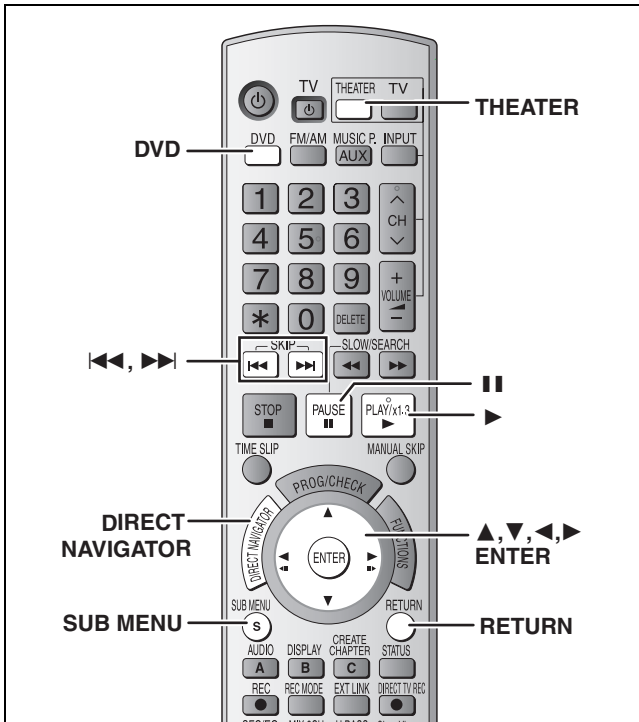
Press [RETURN] several times.

## Deleting titles during play

**1** During playback of the title you want to delete  
Press [DELETE].



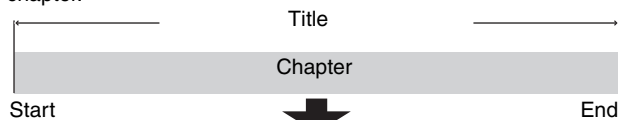
**2** Press [◀, ▶] to select “Delete” and press [ENTER].



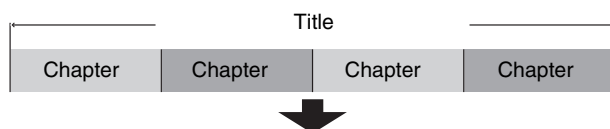
**RAM** -R -R DL -RW(V) +R +R DL +RW -RW(VR)

## Title/Chapter

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



**RAM** You can divide a title into multiple chapters. Each section between the division points becomes a chapter. (⇒ 17, 25, Create Chapter)



**RAM** You can change the order of chapters and create a playlist (⇒ 26).

• -R -R DL -RW(V) +R +R DL Titles are divided into about 5-minute (+R +R DL 8-minute) chapters after finalizing (⇒ 31).

• The maximum number of items on a disc:

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

-Titles: 99 (+R +R DL +RW 49 titles)

-Chapters: Approx. 1000 (+R +R DL +RW Approx. 250)  
(Depends on the state of recording.)

## Note

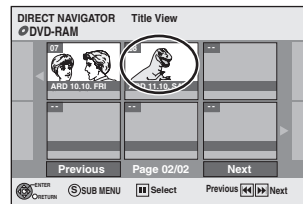
- Once deleted or partially deleted, title/chapters cannot be restored to their original state. Make certain before proceeding.
- You cannot edit during recording.
- +RW You can create a Top Menu using "Create Top Menu" (⇒ 31). Recording or editing on the disc may delete the menu. In that case, create the menu again.
- +R +R DL Management information is recorded in unused sections when you edit discs. The available space on these discs decreases each time you edit their contents.

## Preparation

- Turn on the television and select the appropriate video input to suit the connection to this unit.
- Turn the unit on.
- Press [THEATER] to switch the remote control to operate this unit.
- Press [DVD] to select the DVD drive.
- Insert a disc (⇒ 10).
- **RAM** Release disc or cartridge protection (⇒ 30).

## Editing titles/chapters and playing chapters

- 1 During play or while stopped  
Press [DIRECT NAVIGATOR].
- 2 Press [▲, ▼, ◀, ▶] to select the title.



### To show other pages

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

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

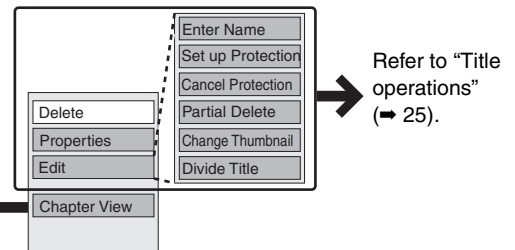
### Multiple editing

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

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

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

• If you select "Edit", press [▲, ▼] to select the operation and press [ENTER]. (⇒ 25)

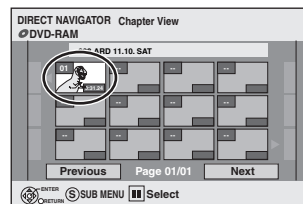


If you select "Chapter View" (⇒ Step 4)

- 4 Press [▲, ▼, ◀, ▶] to select the chapter.

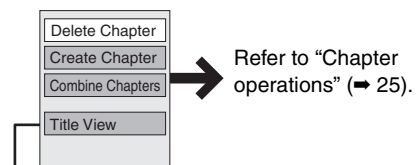
To start play ⇒ Press [ENTER].

To edit ⇒ Step 5.



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

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



• You can go back to Title View.

### To return to the previous screen


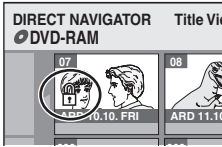
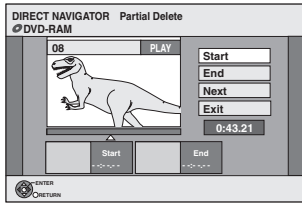
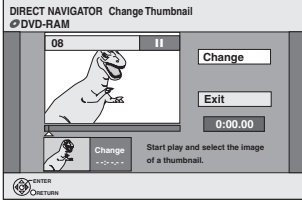
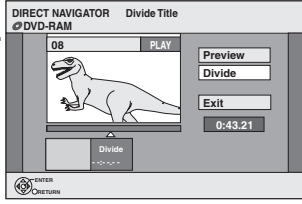
Press [RETURN].

### To exit the screen

Press [DIRECT NAVIGATOR]

## Title operations

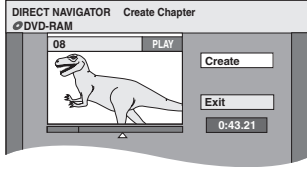
After performing steps 1–3 (⇒ 24)

<p><b>Delete*</b></p> <p>RAM -R -R DL -RW(V) +R +R DL +RW</p>	<p><b>Press [◀, ▶] to select “Delete” and press [ENTER].</b></p> <ul style="list-style-type: none"> <li>•Once deleted, the recorded contents are lost and cannot be restored. Make certain before proceeding.</li> <li>•-R -R DL +R +R DL The available recording time on a disc does not increase when you delete titles.</li> <li>•-RW(V) +RW Available recording space on a disc increases only when the last recorded title is deleted. It does not increase if other titles are deleted.</li> </ul>
<p><b>Properties</b></p> <p>RAM -R -R DL -RW(V) +R +R DL +RW -RW(VR)</p>	<p>Information (e.g., time and date) is shown.</p> <ul style="list-style-type: none"> <li>•Press [ENTER] to exit the screen.</li> </ul> 
<p><b>Enter Name</b></p> <p>RAM -R -R DL -RW(V) +R +R DL +RW</p>	<p>You can give names to recorded titles. (⇒ 29, Entering text)</p>
<p><b>Set up Protection*</b></p> <p><b>Cancel Protection*</b></p> <p>RAM +R +R DL +RW</p>	<p>If set, this will protect the title from accidental deletion.</p> <p><b>Press [◀, ▶] to select “Yes” and press [ENTER].</b></p> <p>The lock symbol appears when the title is protected.</p> <ul style="list-style-type: none"> <li>•When the title is protected, some items cannot be accessed. Release the protection to access the inaccessible items.</li> </ul> 
<p><b>Partial Delete</b></p> <p>RAM (⇒ below, “For your reference”)</p>	<p>You can remove unnecessary part of the recording.</p> <ol style="list-style-type: none"> <li>1 Press [ENTER] at the start point and end point of the section you want to delete.</li> <li>2 Press [▲, ▼] to select “Exit” and press [ENTER]. <ul style="list-style-type: none"> <li>•Select “Next” and press [ENTER] to delete other sections.</li> </ul> </li> <li>3 Press [◀, ▶] to select “Delete” and press [ENTER].</li> </ol> 
<p><b>Change Thumbnail</b></p> <p>RAM -R -R DL -RW(V) +R +R DL +RW (⇒ below, “For your reference”)</p>	<p>You can change the image to be shown as the thumbnail picture in the Title View.</p> <ol style="list-style-type: none"> <li>1 Press [▶] (PLAY) to start play.</li> <li>2 Press [ENTER] when the image you want to use as a thumbnail is shown. <ul style="list-style-type: none"> <li>To change the thumbnail Restart play and press [▲, ▼] to select “Change”, then press [ENTER] at the point you want to use as the thumbnail.</li> </ul> </li> <li>3 Press [▲, ▼] to select “Exit” and press [ENTER].</li> </ol> 
<p><b>Divide Title</b></p> <p>RAM (⇒ below, “For your reference”)</p>	<p>You can divide a title into two.</p> <ol style="list-style-type: none"> <li>1 Press [ENTER] at the point you want to divide the title.</li> <li>2 Press [▲, ▼] to select “Exit” and press [ENTER].</li> <li>3 Press [◀, ▶] to select “Divide” and press [ENTER].</li> </ol> <p><b>To confirm the division point</b> Press [▲, ▼] to select “Preview” and press [ENTER]. (The unit plays 10 seconds before and after the division point.)</p> <p><b>To change the division point</b> Restart play and press [▲, ▼] to select “Divide”, then press [ENTER] at the point you want to divide.</p> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>•The divided titles retain the title name and CPRM property (⇒ 50) of the original title.</li> <li>•Video and audio just before and after the dividing point may momentarily be cut out. Carry out the title division after checking it with “Preview” (⇒ above).</li> </ul> 

\* Multiple editing is possible.

## Chapter operations

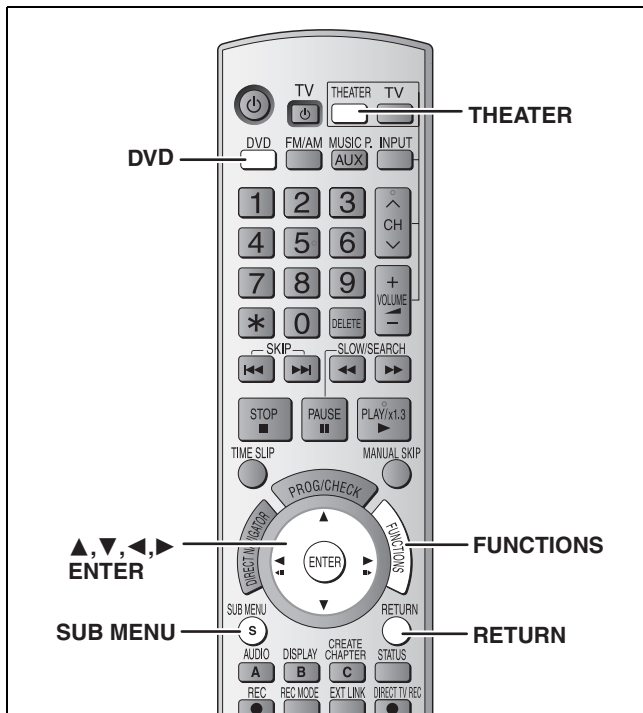
After performing steps 1–5 (⇒ 24)

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

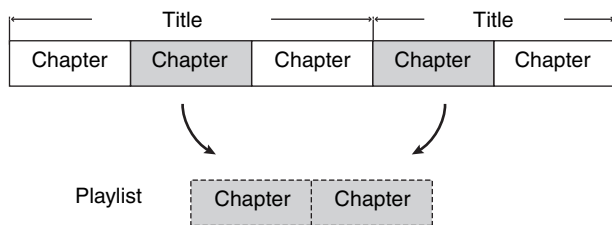
\* Multiple editing is possible.

### For your reference

- Use search or Time Slip (⇒ 17), to find the desired point.
- To skip to the start or end of a title, press [◀◀] (start) or [▶▶] (end).



You can arrange the chapters (⇒ 24) to create a playlist.



- Editing playlists doesn't modify the recorded data. Playlists are not recorded separately so this doesn't use much capacity.
- You cannot create or edit playlists while recording.

## RAM

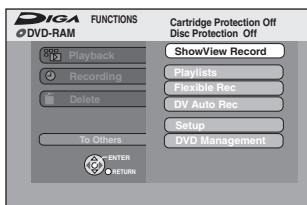
- The maximum number of items on a disc:
  - Playlists: 99
  - Chapters in playlists: Approx. 1000 (Depends on the state of recording.)
- If you exceed the maximum numbers of items for a disc, all the items entered will not be recorded.

## Preparation

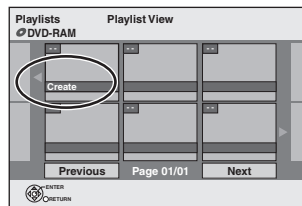
- Turn on the television and select the appropriate video input to suit the connection to this unit.
- Turn the unit on.
- Press [THEATER] to switch the remote control to operate this unit.
- Press [DVD] to select the DVD drive.
- Insert a disc (⇒ 10).
- **RAM** Release disc or cartridge protection (⇒ 30).

## Creating playlists

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

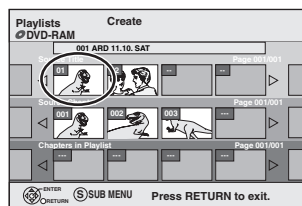


- 3 Press [▲, ▼] to select “Playlists” and press [ENTER].**
- 4 Press [▲, ▼, ◀, ▶] to select “Create” and press [ENTER].**



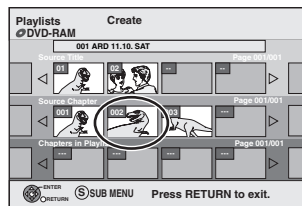
- 5 Press [◀, ▶] to select the source title and press [▼].**

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

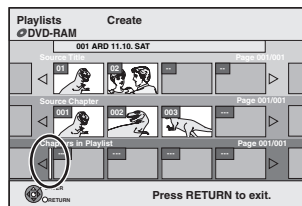


- 6 Press [◀, ▶] to select the chapter you want to add to a playlist and press [ENTER].**

- Press [▲] to cancel.



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



- Press [▲] to select other source titles.
- Repeat steps 5–7 to add other chapters.

- 8 Press [RETURN].**

All the selected scenes become the playlist.

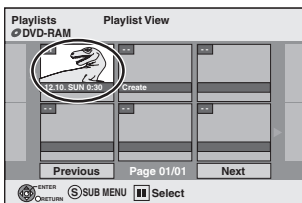
**To return to the previous screen**  
Press [RETURN].

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

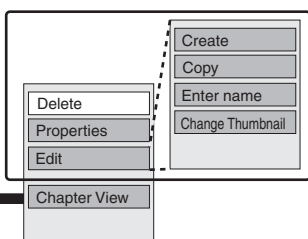
## Editing and playing playlists/chapters

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

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

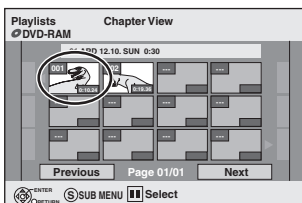


- To show other pages/Multiple editing (→ 24)
- 5 Press [SUB MENU], then press [▲, ▼] to select the operation and press [ENTER].  
    - If you select “Edit”, press [▲, ▼] to select the operation and press [ENTER].

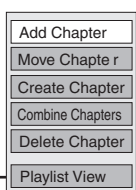


If you select “Chapter View” (→ Step 6)

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



- To show other pages/Multiple editing (→ 24)
- 7 Press [SUB MENU], then press [▲, ▼] to select the operation and press [ENTER].



•You can go back to Playlist View.

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

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

## Playlist operations

After performing steps 1–5 (→ left)

<b>Delete*</b> <b>RAM</b>	Press [◀, ▶] to select “Delete” and press [ENTER]. Once deleted, the playlists are lost and cannot be restored. Make certain before proceeding.
<b>Properties</b> <b>RAM -RW(VR)</b>	Playlist information (e.g., time and date) is shown. •Press [ENTER] to exit the screen.
<b>Create</b> <b>RAM</b>	→ 26, Creating playlists, Steps 5–8
<b>Copy*</b> <b>RAM</b>	Press [◀, ▶] to select “Copy” and press [ENTER]. •The copied playlist becomes the newest one in the playlist view screen.
<b>Enter Name</b> <b>RAM</b>	→ 29, Entering text
<b>Change Thumbnail</b> <b>RAM</b>	→ 25, Change Thumbnail

\* Multiple editing is possible.

## Chapter operations

**RAM**

After performing steps 1–7 (→ left)

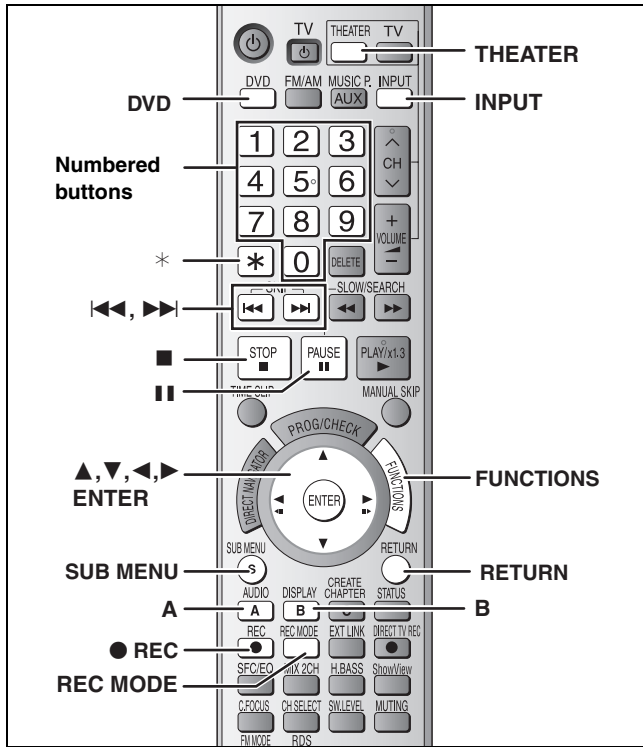
•Editing chapters in a playlist does not modify the source titles and source chapters.

<b>Add Chapter</b>	→ 26, Creating playlists, steps 5–8
<b>Move Chapter</b>	Press [▲, ▼, ◀, ▶] to select the position to insert the chapter and press [ENTER].
<b>Create Chapter</b>	→ 25, Create Chapter
<b>Combine Chapters</b>	→ 25, Combine Chapters
<b>Delete Chapter*</b>	→ 25, Delete Chapter The playlist itself is deleted if you delete all the chapters in it.

\* Multiple editing is possible.



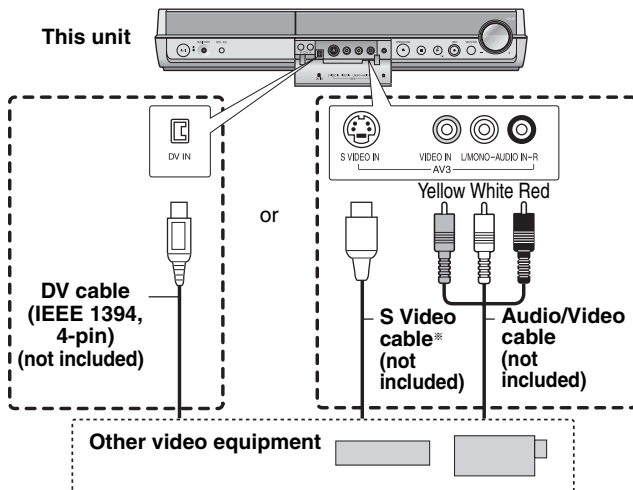
# Copying from a video cassette recorder



e.g., Connecting other video equipment to the AV3 or DV IN terminals

You can also connect to the AV2 input terminals on the rear.

- Turn off the unit and other video equipment before connecting.



If the audio output of the other equipment is monaural

Connect to L/MONO on the AV3 input terminals at the front.

\* The S VIDEO terminal achieves a more vivid picture than the VIDEO terminal.

See also the notes "Important notes for recording" (⇒ 8).

## Preparation

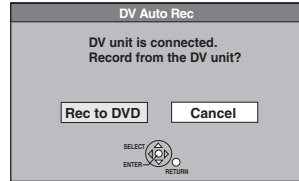
- Turn on the unit and connected equipment.
- Press [THEATER] to switch the remote control to operate this unit.
- Press [DVD] to select the DVD drive.
- Insert a disc (⇒ 10).
- Press [REC MODE] to select the recording mode.
- When the output signal from the external equipment is NTSC, change "TV System" to "NTSC" in the Setup menu (⇒ 40). This unit cannot record to discs containing both PAL and NTSC signals.
- To reduce noise in input from a video cassette recorder, set "AV-in NR" to "On" (⇒ 22).
- **When recording from the unit's DV IN terminal**  
Select the type of audio recording from "Audio Mode for DV Input" in the Setup menu (⇒ 37).  
When recording from DV equipment (e.g., digital video camcorder), you can record audio/video recordings from DV tape only.

## DV automatic recording (DV Auto Rec)

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

RAM Programmes are recorded as a title while at the same time chapters are created at each break in the images and the playlist is created automatically.

When "DV Auto Rec" screen is displayed.



Press [◀, ▶] to select "Rec to DVD" and press [ENTER].  
You can proceed to step 4.

- 1 While stopped  
Press [FUNCTIONS].
- 2 Press [▲, ▼] to select "To Others" and press [ENTER].
- 3 Press [▲, ▼] to select "DV Auto Rec" and press [ENTER].
- 4 Press [◀, ▶] to select "Rec" and press [ENTER].  
Recording starts.

## When recording finishes

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

## To stop recording

Press [■]. The confirmation screen appears. Press [ENTER].

## Note

- Only one piece of DV equipment (e.g., digital video camcorder) can be connected to the unit via the DV IN terminal.
- It is not possible to operate the unit from the connected DV equipment.
- The DV IN terminal on this unit is for use with DV equipment only. (It cannot be connected to a computer, etc.)
- The DV equipment name may not be shown correctly.
- Depending on the DV equipment, the images or audio may not be input properly.
- The date and time information on the tape of the DV equipment will not be recorded.
- You cannot record and play simultaneously.

If the DV automatic recording function does not work properly, check the connections and DV equipment settings, and turn the unit off and back on.  
If that does not work, follow the instructions for manual recording (⇒ below).

## Manual recording

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

- 1 While stopped  
Press [INPUT] to select the input channel for the equipment you have connected.  
e.g., If you have connected to AV3 input terminals, select "AV3".
- 2 Start play on the other equipment.
- 3 When you want to start recording  
Press [● REC].  
Recording starts.

- Using Flexible Recording (⇒ 11), you can record the content of a video cassette (approx. 1–8 hours) to a 4.7 GB disc with the best possible quality of recording without wasting disc space.

## To skip unwanted parts

Press [■] to pause recording. (Press again to restart recording.)

## To stop recording

Press [■].

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

Refer to the control reference on page 28.

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

You can give names to recorded titles, etc.

The maximum number of characters:

RAM	Characters
Title	64 (44*)
Playlist	64
Disc	64

\* Title name for timer recording

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

If a name is long, parts of it may not be shown in some screens.

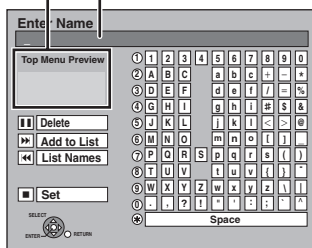
## 1 Show Enter Name screen.

Title (timer recording)	(⇒ 12, 13 Step 3)
Title	(⇒ 24, Step 3)
Playlist	(⇒ 27, Step 5)
Disc	(⇒ 30, Providing a name for a disc)

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

If you enter a long name, only part of it is shown in the Top Menu after finalization (⇒ 31). When entering a title name, the name that will appear in the Top Menu can be previewed in "Top Menu Preview" window.

**Name field:** shows the text you have entered



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

Repeat this step to enter other characters.

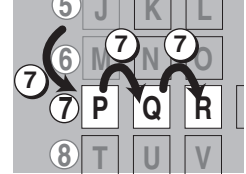
### • To delete a character

Press [▲, ▼, ◀, ▶] to select the character in the name field and press [II].

### • Using the numbered buttons to enter characters

e.g., entering the letter "R"

- 1 Press [7] to move to the 7th row.
- 2 Press [7] twice to highlight "R".
- 3 Press [ENTER].



### • To enter a space

Press [\*] and press [ENTER].

### • To add/recall names (⇒ below)

## 3 Press [■] (Set).

Returns to the previously display screen.

### To end partway

Press [RETURN].

Text is not saved.

### ■ To add a name

You can add frequently used names and recall them later.

Maximum number of added names: 20

Maximum number of characters per name: 20

After entering the name (⇒ left, steps 1–2).

1 Press [▶▶] while the name to be added is shown in the name field.

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

### To cancel adding word

Press [RETURN].

### ■ To recall an added name

1 Press [◀◀].

2 Press [▲, ▼, ◀, ▶] to select the name to be recalled and press [ENTER].

### ■ To delete an added name

1 Press [◀◀].

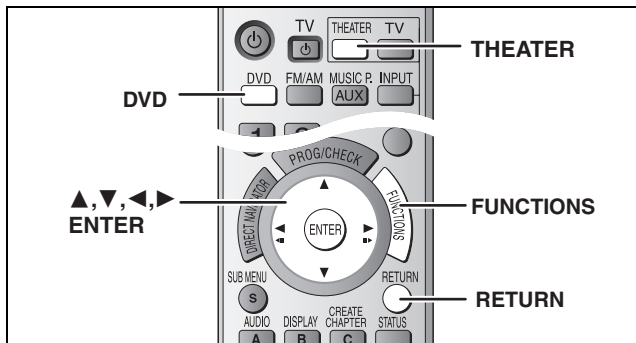
2 Press [▲, ▼, ◀, ▶] to select the name to be deleted and press [SUB MENU].

3 Press [ENTER].

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

5 Press [RETURN].





## Common procedures

### Preparation

- Press [THEATER] to switch the remote control to operate this unit.
- Press [DVD] to select the DVD drive.
- Insert a disc (⇒ 10).
- **RAM** Release protection (⇒ below).

- 1 While stopped  
Press [FUNCTIONS].
- 2 Press [▲, ▼] to select “To Others” and press [ENTER].
- 3 Press [▲, ▼] to select, “DVD Management” and press [ENTER].  
Select which step 4 to perform depending on what you want to do next.

### To return to the previous screen

Press [RETURN].

### To exit the screen

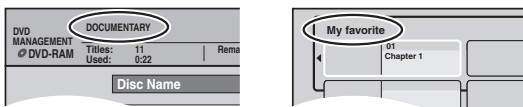
Press [RETURN] several times.

## Providing a name for a disc

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

After performing steps 1–3 (⇒ above)

- 4 Press [▲, ▼] to select “Disc Name” and press [ENTER].  
⇒ 29, Entering text
  - The disc name is displayed in the DVD Management window.
  - **-R -R DL -RW(V) +R +R DL** With a finalized disc, the name is displayed on the Top Menu.
  - **+RW** The disc name is displayed only if you play the disc on other equipment.

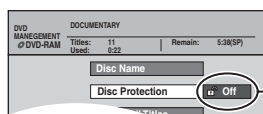


## Setting the protection

**RAM**

After performing steps 1–3 (⇒ above)

- 4 Press [▲, ▼] to select “Disc Protection” and press [ENTER].
- 5 Press [◀, ▶] to select “Yes” and press [ENTER].



The lock symbol appears closed when the disc is write-protected.

## Cartridge-protection

**RAM** (with a cartridge)

With the write-protect tab in the protect position, play automatically starts when inserted in the unit.



## Deleting all titles and playlists —Delete all titles

**RAM**

After performing steps 1–3 (⇒ left)

- 4 Press [▲, ▼] to select “Delete all titles” and press [ENTER].
- 5 Press [◀, ▶] to select “Yes” and press [ENTER].
- 6 Press [◀, ▶] to select “Start” and press [ENTER].  
A message appears when finished.
- 7 Press [ENTER].

**Note**

- Once deleted, the recorded contents are lost and cannot be restored. Make certain before proceeding.
- Deleting all video titles will result in all playlists also being deleted.
- Delete does not work if one or more titles are protected.

## Deleting all the contents of a disc —Format Disc

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

+R +R DL (New disc only)

**Note**

Formatting deletes all contents (including computer data), and they cannot be restored. Check carefully before proceeding. The contents are deleted when you format it even if you have set protection.

After performing steps 1–3 (⇒ left)

- 4 Press [▲, ▼] to select, “Format Disc” and press [ENTER].
- 5 Press [◀, ▶] to select “Yes” and press [ENTER].
- 6 Press [◀, ▶] to select “Start” and press [ENTER].  
A message appears when formatting is finished.
- 7 Press [ENTER].

**Note**

- **-R -R DL CD** Formatting cannot be performed on the disc.
- **-RW(V) -RW(VR)** You can format only as DVD-Video format on this unit.
- When a disc has been formatted using this unit, it may not be possible to use it on any other equipment.

### To stop formatting **RAM**

Press [RETURN].

- You can cancel formatting if it takes more than 2 minutes. The disc must be reformatted if you do this.

## Selecting whether to show the Top Menu first—Auto-Play Select

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

You can select whether to show the top menu after finalizing. Make selections before finalizing the disc.

After performing steps 1–3 (⇒ 30)

**4 Press [▲, ▼] to select “Auto-Play Select” and press [ENTER].**

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

Top Menu: The top menu appears first.

Title 1: The disc content is played without displaying the top menu.

## Enabling discs to be played on other equipment—Finalize

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

Finalize the disc so you can play it on other DVD equipment. The equipment must be able to play finalized discs. To check compatibility with other equipment, refer to page 6. Make selections from “Auto-Play Select” (⇒ above) before finalizing the disc.

After performing steps 1–3 (⇒ 30)

**4 Press [▲, ▼] to select “Finalize” and press [ENTER].**

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

**6 Press [◀, ▶] to select “Start” and press [ENTER].**

- Finalizing starts. You cannot cancel finalizing.
- Finalizing can take a few minutes, up to a maximum of 15 minutes, depending on the remaining space on the disc. (**-R DL +R DL** up to 60 minutes.)

### Note

Do not disconnect the AC mains lead while finalizing. This will render the disc unusable.

**7 Press [ENTER].**

### After finalizing

- **-R -R DL +R +R DL** The disc becomes play-only and you can no longer record or edit.
- **-RW(V)** You can record and edit the disc after formatting (⇒ 30) although it becomes play-only after finalizing.
- Titles are divided into about 5-minute (**+R +R DL** 8-minute) chapters after finalizing. This time varies greatly depending on the condition and mode of recording.
- There is a pause of several seconds between titles and chapters during play.

- You cannot finalize discs recorded on other manufacturer's equipment.
- Discs finalized on this unit may not be playable on other players due to the condition of the recording.
- When finalizing a high-speed recording compatible disc, it may take longer than displayed on the confirmation screen (approximately four times).

## Creating Top Menu—Create Top Menu

**+RW**

+RW discs contain no Top Menu data. Top Menu is a convenient function. We recommend you to create the menu before playing a +RW disc on other equipment. Make selections from “Auto-Play Select” (⇒ left) before creating top menu.

You cannot use Top Menu for playing on this unit.

After performing steps 1–3 (⇒ 30)

**4 Press [▲, ▼] to select “Create Top Menu” and press [ENTER].**

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

**6 Press [◀, ▶] to select “Start” and press [ENTER].**

Creating Top Menu starts. You cannot cancel creating. Creating Top Menu can take a few minutes.

**7 Press [ENTER].**

Recording or editing on the disc may delete the menu. In that case, create the menu again.

## Enabling the second layer on DL (dual layer on single side) discs to be recordable—Close First Layer

**-R DL +R DL**

DVD-R DL and +R DL discs have two layers of recording surface on one side. This unit does not offer seamless recording on two layers. Recording stops when space on the first layer become full. You must close the first layer to start recording on the second layer. Closing makes the first layer unavailable for recording (editing is still available). You cannot cancel closing. Make certain before proceeding.

After performing steps 1–3 (⇒ 30)

**4 Press [▲, ▼] to select “Close First Layer” and press [ENTER].**

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

**6 Press [◀, ▶] to select “Start” and press [ENTER].**

Closing the layer starts. You cannot cancel closing. Closing the layer can take several minutes, up to a maximum of 30 minutes, depending on the remaining space on the first layer.

### Note

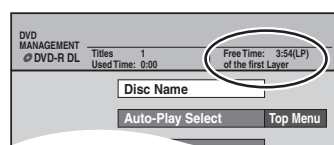
Do not disconnect the AC mains lead while closing the layer. This will render the disc unusable.

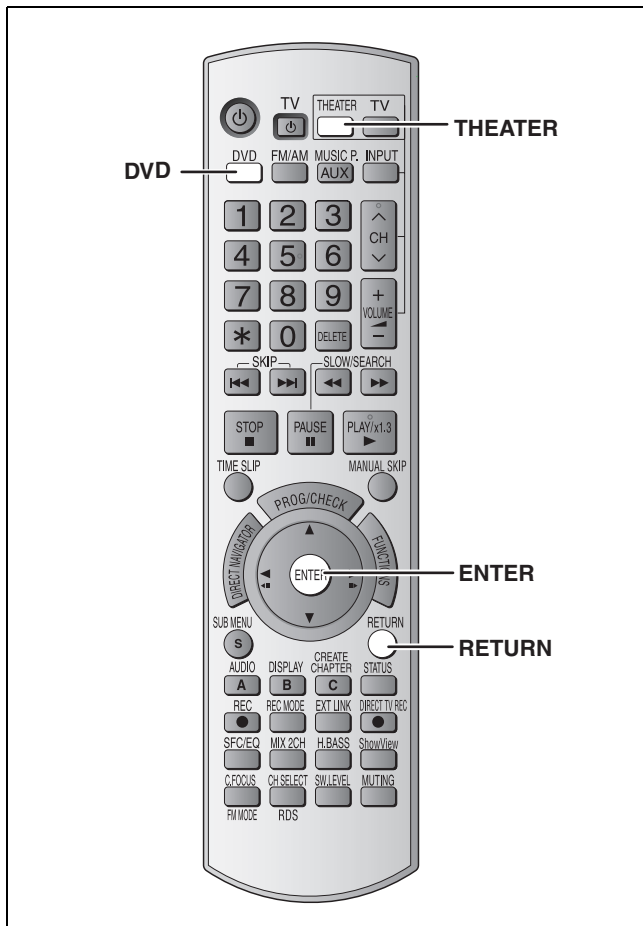
**7 Press [ENTER].**

- You cannot close the first layer when it has no recording.
- By closing the layer, you can record or edit discs that have been recorded on the second layer by other equipment.

### ■ To confirm the layer you can record

You can confirm the remaining recording time on the layer you can record.





The Child Lock deactivates all buttons on the unit and remote control. Use it to prevent other people from operating the unit.

### Preparation

- Press [THEATER] to switch the remote control to operate this unit.
- Press [DVD] to select the DVD drive.

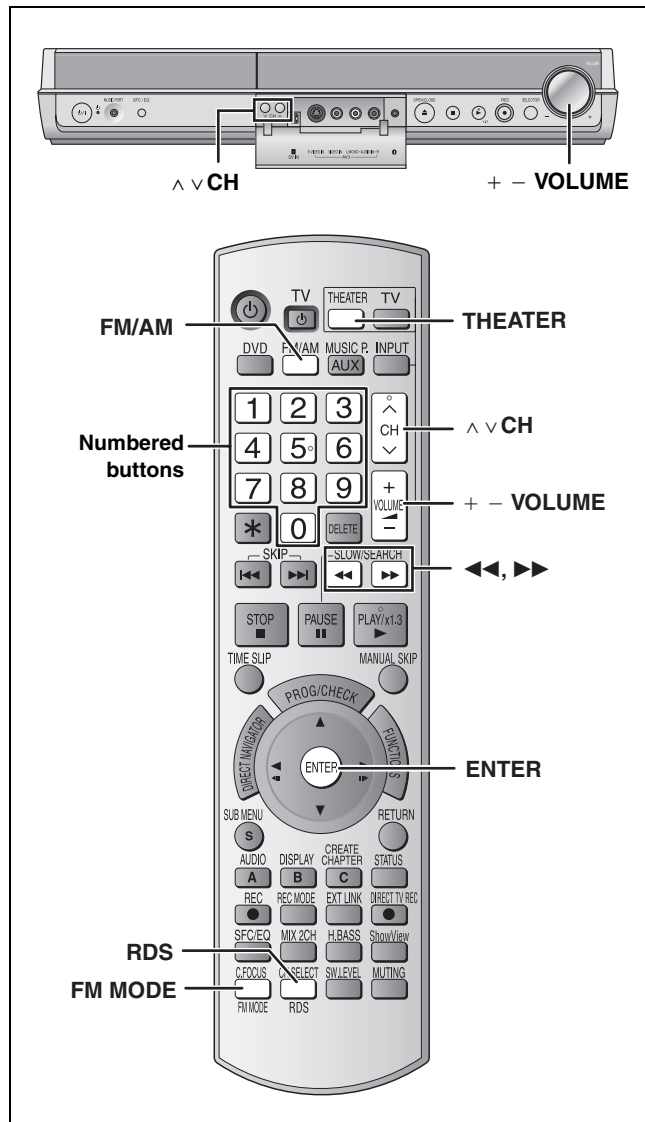
**Press and hold [ENTER] and [RETURN] simultaneously until “X HOLD” appears on the unit’s display.**



If you press a button while the Child Lock is on, “X HOLD” appears on the unit’s display and operation is impossible.

### To cancel the Child Lock

Press and hold [ENTER] and [RETURN] simultaneously until “X HOLD” disappears.



### Preparation

- Turn off TV while using radio since noise may occur.
- Press [THEATER] to switch the remote control to operate this unit.

## Manual tuning

- 1 Press [FM/AM] to select the “FM” or “AM”.
- 2 Press [◀◀] or [▶▶] to select the frequency of the required station.

TUNED: Displayed when a radio station is tuned.

ST: Displayed when a stereo FM broadcast is being received.



Press and hold [◀◀] or [▶▶] until the frequency starts scrolling to start automatic tuning. Tuning stops when a station is found.

- 3 Adjust the volume with [+ - VOLUME].

**■ If noise is excessive**

**Press [FM MODE].**

Each time you press the button:

FM: Changes between stereo and forced monaural.

“ST” (stereo) or “MONO” (monaural) lights up in the display.

AM: BP1 → BP2 → BP3 → BP4 (BP=Beat Proof)

Select between BP1 and BP4 that receives good reception.

The FM mode is cancelled when you change the frequency.

**Preset tuning**

Preset channels to make selection simple.

Up to 30 stations can each be set in the FM and AM bands.

**Automatic presetting**

**1 Press [FM/AM] to select the “FM” or “AM”.**

**2 Press [◀◀] or [▶▶] to tune to the frequency where you want to begin presetting.**

Set the channel reception to FM 87.50 MHz or AM 522 kHz if you want automatic presetting to start from the lowest frequency.

**3 Press and hold [ENTER].**

Release the button when “AUTO FM” or “AUTO AM” is lit on the display.

The tuner presets the stations it can receive into the channels in ascending order.

- “SET OK” is displayed when the stations are set. The last station to be set is then played.

- The unit of display is MHz for FM radio and kHz for AM radio when the selector is in FM/AM mode.

- “ERROR” is displayed Presetting was unsuccessful. Preset manually.

**Manual presetting**

**1 Tune to the station (⇒ 32).**

**2 Press [ENTER].**

**3 While “MEMO” is flashing on the display**

**Press the numbered buttons or [^ v CH] to select a channel and press [ENTER].**

e.g., “2”: [0] → [2]  
“12”: [1] → [2]



The station occupying a channel is erased if another station is preset in that channel.

**Selecting channels**

**1 Press [FM/AM] to select the “FM” or “AM”.**

**2 Press the numbered buttons or [^ v CH] to select the channel.**

e.g., “2”: [0] → [2]  
“12”: [1] → [2]



**Note**

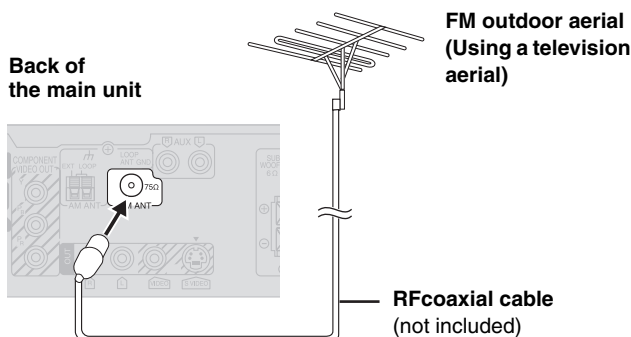
If there is nearby electrical interference during auto tuning the frequency may come to a halt without locating a channel. Turn off the power of the nearby electrical equipment.

**■ Use FM outdoor aerial if radio reception is poor.**

- Disconnect the FM indoor aerial.
- The aerial should be installed by a competent technician.

**Note**

- Disconnect the outdoor aerial when the unit is not in use.
- Do not use the outdoor aerial during an electrical storm.



**RDS broadcasting**

The unit can display the text transmitted by the radio data system (RDS) available in some areas.

If the station you are listening to is transmitting RDS signals, “RDS” will light up on the display.

**Press [RDS].**

Each time you press the button:

PS → PTY → Frequency display

When “PS” or “PTY” is selected, one of these icons will appear on the lower portion of the display on the unit.

PTY displays			
NEWS	VARIED	FINANCE	COUNTRY
AFFAIRS	POP M	CHILDREN	NATIONAL
INFO	ROCK M	SOCIAL A	OLDIES
SPORT	M.O.R. M*	RELIGION	FOLK M
EDUCATE	LIGHT M	PHONE IN	DOCUMENT
DRAMA	CLASSICS	TRAVEL	TEST
CULTURE	OTHER M	LEISURE	ALARM
SCIENCE	WEATHER	JAZZ	

\* “M.O.R. M”=Middle of the road music

**Note**

RDS displays may not be available if reception is poor.

Refer to control reference on page 35.

The factory settings for the “H. Bass” (⇒ below) and Subwoofer levels (⇒ 35) are optimized for 5.1 channel movie playback. If the bass seems too heavy during 2-channel disc playback, etc. change the settings.

## Changing the sound quality

### Sound Field Control (SFC)

Available with:  
●2-channel sound

Using the built-in sound quality settings, you can create a 5.1 channel effect while using 2-channel audio. This does not work with multi-channel audio.

**Press [SFC/EQ] several times to select the desired setting.**

Each time you press the button:

**FLAT** → **MOVIE** → **SPORTS** → **MUSIC**  
↑ Equalizer (EQ) setting (⇒ below) ↓

**FLAT:** Cancel (no effect is added).

**MOVIE:** Use this mode when playing movie software.

**SPORTS:** Simulates sound to make you feel like you are at sports event.

**MUSIC:** Adds surround effects to stereo source.

- We don't recommend this setting when listening to AM radio broadcasts.
- This is ineffective with monaural audio.
- To check the current setting, press [SFC/EQ].



### Equalizer (EQ)

Available with:  
●Multi-channel sound  
●2-channel or monaural sound

Using the built-in sound quality settings, you can change the tone of the front 2 channels.

**Press [SFC/EQ] several times to select the desired setting.**

Each time you press the button:

**FLAT** → Sound Field Control (SFC) setting\* (⇒ above)  
↑ **MANUAL** ← **SOFT** ← **CLEAR** ← **HEAVY** ↓

\*Not displayed during multi-channel audio playback.

**FLAT:** Cancel (no effect is added).

**HEAVY:** Adds punch to rock.

**CLEAR:** Clarifies higher sounds.

**SOFT:** For background music.

**MANUAL:** Adjust the bass and treble with manual equalizer.

BASS: Press [◀]→[▲ ▼] -6 to +6 (in 2 units)

TREBLE: Press [▶]→[▲ ▼] -6 to +6 (in 2 units)

- To check the current setting, press [SFC/EQ].
- The set level for “BASS” and “TREBLE” remains intact. (Even after the unit is turned off.)



### Center Focus

Available with:  
●Multi-channel sound  
(Discs where the dialogue is recorded in the center channel)

You can make the sound of the center speaker seem like it is coming from within the television.

**Press [C.FOCUS].**

Each time you press the button:

CENTER FOCUS ON ↔ CENTER FOCUS OFF



### Enhancing the bass sound—H.Bass

Available with:  
●Multi-channel sound  
●2-channel or monaural sound

You can enhance low-frequency sound so that heavy bass sound can be heard clearly, even if the acoustics of your room are not optimal.

**Press [H.BASS].**

Each time you press the button:

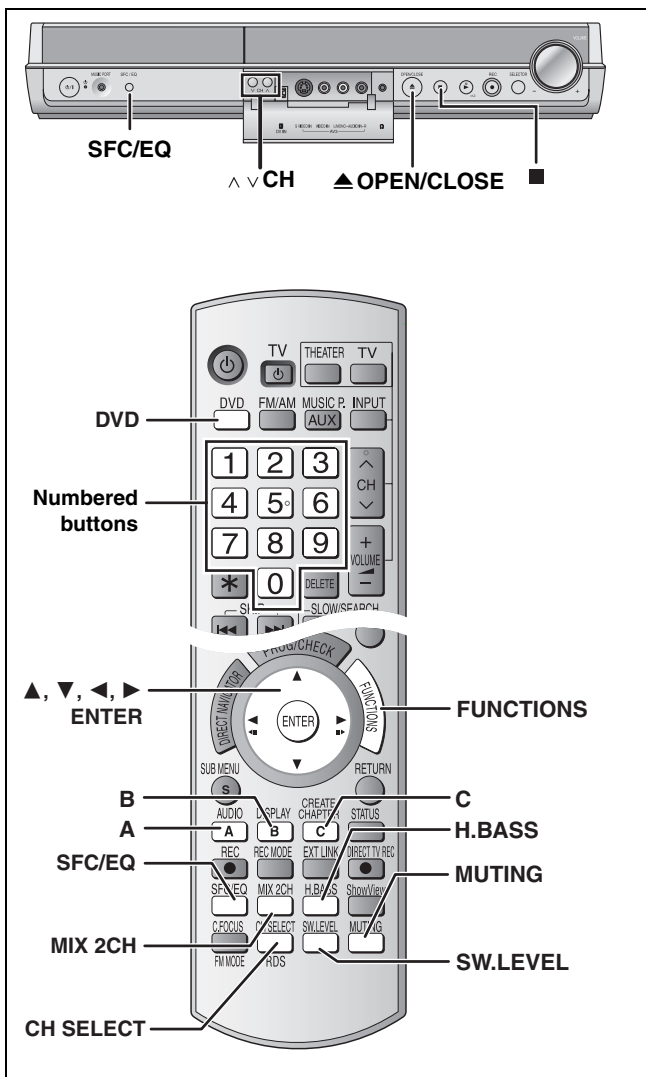
H.BASS ON (factory preset) ↔ H.BASS OFF

- The setting you make is retained.



#### Note

- When headphones are in use (⇒ 42), only “Equalizer (EQ)” can be set. [If headphones are plugged in while the sound effect settings other than “Equalizer (EQ)” are set to on, the settings are forcibly cancelled.]
- You may experience a reduction in sound quality when these sound effects are used with some sources. If this occurs, turn the sound effects off.



## Dolby Digital and DTS

- Dolby Digital and DTS are digital encoding systems used on DVD to carry surround sound. Both were originally developed for use in cinemas.
- This unit automatically recognizes and decodes these systems.

Software encoded with Dolby Digital can be identified with this mark.



Software encoded with DTS can be identified with this mark.



### Play a Dolby Digital or DTS source.

The Dolby Digital or DTS indicator lights.



### To down-mix Dolby Digital or DTS (multiple-channel) signals to 2 channels

Press [MIX 2CH].

- To cancel  
Press [MIX 2CH] again.



### When "D.MIX" flashes on the display

#### DVD-A

The DVD-Audio contains multiple-channel signals that cannot be down-mixed.



## Muting the sound

### Press [MUTING].

"MUTING" flashes on the unit's display.



#### To cancel

- Press [MUTING] again or reduce the volume to minimum "VOL 0", then raise it to the required level.
- Muting is cancelled when you switch the unit to standby.

### To listen to sound from this unit through your television's speakers

Connect the television and the AV1 terminal on the main unit using a 21-pin Scart cable.

### Press and hold [MUTING] until "A1 MUTE OFF" appears on the unit's display.

The audio is output from both the speakers and the television. To mute sound from this unit's speakers (➡above)

- To cancel, press and hold [MUTING] and select "A1 MUTE ON".

## Adjusting the subwoofer level

### Press [SW.LEVEL].



Each time you press the button:

SUB WOOFER 1 → SUB WOOFER 2 → SUB WOOFER 3  
 ↑ SUB WOOFER 4 (factory preset) ↓

- The setting you make is retained.
- This cannot be set when headphones are connected.

## Speaker level adjustments

Adjust the level of the speakers so they are the same apparent level as the front speakers where you would normally be sitting and listening.

#### Preparation

- Press [DVD] to select the DVD drive.
- Turn off the other sound effects.

### When stopped or playing discs with 2 channel or monaural audio

You can adjust the balance of the front speakers.

- You can also adjust the L/R Surround speakers while "Sound Field Control (SFC)" is set to on. Please perform the following "When playing Multi-channel discs" operations.

#### 1 Press [CH SELECT].



#### 2 Press [◀, ▶] to adjust the "L", "R" balance.

### When playing Multi-channel discs

#### 1 Press [CH SELECT].



#### 2 While the screen above is being displayed

#### Press [CH SELECT] to select the speaker.

L, R → Cch → RSch → LSch → SWch

SW: Subwoofer

- You can only adjust SW if there is output from the subwoofer channel.

#### 3 Press [▲] (to increase) or [▼] (to decrease).

L, R: Press [◀, ▶] to adjust the "L", "R" balance.

C, RS, LS: -6 dB to +6 dB

SW: -6 dB to +6 dB



# Changing the unit's settings

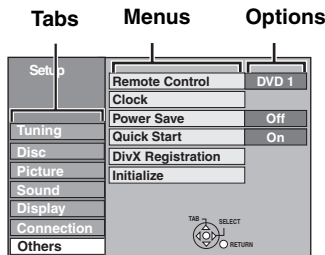
Refer to the control reference on page 35.

## Common procedures

### Preparation

- Press [THEATER] to switch the remote control to operate this unit.
- Press [DVD] to select the DVD drive.

- 1 While stopped  
Press [FUNCTIONS].
- 2 Press [▲, ▼] to select "To Others"  
and press [ENTER].
- 3 Press [▲, ▼] to select "Setup" and  
press [ENTER].



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

To return to the previous screen  
Press [RETURN].

To exit the screen  
Press [RETURN] several times.

### Note

There may be differences in operation methods. If this happens,  
follow the on-screen instructions for the operation.

## Summary of settings

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

Tabs	Menus	Options (Underlined items are the factory presets.)
<b>Tuning</b>	Manual (⇒ 39) Auto-Setup Restart (⇒ 40) Download from TV (⇒ 40)	
<b>Disc</b>	<b>Settings for Playback</b> • Press [ENTER] to show the following settings.	
	<b>Ratings</b> Set a ratings level to limit DVD-Video play.  Follow the on-screen instructions. Enter a 4-digit password with the numbered buttons when the password screen is shown. • Do not forget your password.	• <u>8 No Limit</u> : 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.
	<b>DVD-Audio Video mode Playback</b> Select "On" to play DVD-Video content on some DVD-Audio.	• <u>Unlock Recorder</u> • Change Password • <u>Change Level</u> • Temporary Unlock
	<b>Soundtrack</b> • Some discs start in a certain language despite any changes you make here. <b>DVD-V</b> • In case of English/German/Spanish/Polish/Russian/Czech/Hungarian languages, "Soundtrack"/"Menus" will appear in the language of the country to which the channel settings have been set, and "Subtitle" will be set "Automatic." • Enter a code (⇒ 41) with the numbered buttons when you select "Other ****". When the selected language is not available on the disc, the default language is played. There are discs where you can only switch the language from the menu screen (⇒ 16).	• <u>On</u> : The setting returns to "Off" when you change the disc or turn the unit off. • <u>Off</u> • <u>English</u> • German                      • Spanish                      • Polish • Russian                      • Czech                        • Hungarian • <u>Original</u> : The original language of each disc will be selected. • <u>Other ****</u> • <u>Automatic</u> : If the language selected for "Soundtrack" is not available, subtitles of that language will automatically appear if available on that disc. • English                      • German                      • Spanish                      • Polish • Russian                      • Czech                        • Hungarian                      • Other ****
	<b>Subtitle</b> <b>DVD-V</b>	
	<b>Menus</b> <b>DVD-V</b>	• <u>English</u> • German                      • Spanish                      • Polish • Russian                      • Czech                        • Hungarian                      • Other ****
	<b>DivX Subtitle Text (⇒ 19)</b> (After playing back a DivX video file containing subtitles text.)	• Latin 1                      • <u>Latin 2</u> • Cyrillic
	<b>Settings for Recording</b> • Press [ENTER] to show the following settings.	
	<b>Recording time in EP mode</b> Select the maximum number of hours for recording in EP mode (⇒ 9, Recording modes and approximate recording times).	• <u>EP (6 Hours)</u> : You can record for 6 hours on an unused 4.7 GB disc. • <u>EP (8 Hours)</u> : You can record for 8 hours on an unused 4.7 GB disc.



Tabs	Menus	Options (Underlined items are the factory presets.)
Picture	<b>Comb Filter</b> Select the picture sharpness when recording. The setting is fixed with "On" if you set "TV System" to "NTSC" (⇒ below).	<ul style="list-style-type: none"> <li>● <u>On</u>: Pictures become clear and vivid. Normally, use this setting.</li> <li>● Off: Select it when recording noisy pictures.</li> </ul>
	<b>Still Mode</b> Select the type of picture shown when you pause play (⇒ 50, Frames and fields).	<ul style="list-style-type: none"> <li>● <u>Automatic</u></li> <li>● Field: Select if jittering occurs when "Automatic" is selected. (The picture is coarser.)</li> <li>● Frame: Select if small text or fine patterns cannot be seen clearly when "Automatic" is selected. (The picture is clearer and finer.)</li> </ul>
Sound	<b>Dynamic Range Compression</b> <u>DVD-V</u> (Dolby Digital only) Change the dynamic range for late night viewing.	<ul style="list-style-type: none"> <li>● On</li> <li>● Off</li> </ul>
	<b>Bilingual Audio Selection</b> <u>-R -R DL -RW(V) +R +R DL +RW</u> Select whether to record the main or secondary audio type when recording to a disc.	<ul style="list-style-type: none"> <li>● <u>M 1</u></li> <li>● M 2</li> </ul> <p>You cannot select this when recording from an external source (except from DV equipment connected to this unit's DV IN terminal). Select the audio on the other equipment.</p>
	<b>Audio Mode for DV Input</b> You can select the kind of audio when recording from the unit's DV IN terminal (⇒ 28).	<ul style="list-style-type: none"> <li>● <u>Stereo 1</u>: Records audio (L1, R1).</li> <li>● Stereo 2: Records added audio such as narration (L2, R2) subsequent to original recording.</li> <li>● Mix: Records both Stereo 1 and Stereo 2.</li> </ul> <p><u>-R -R DL -RW(V) +R +R DL +RW</u> When recording bilingual broadcast, select the type of audio in advance from "Bilingual Audio Selection" (⇒ above).</p>
	<b>Speaker (⇒ 38)</b> Adjust the speaker level or set the delay time for your center and surround speakers.	<p><b>Delay time</b></p> <ul style="list-style-type: none"> <li>● Center: <u>0.0</u>/1.0/2.0/3.0/4.0/5.0 ms</li> <li>● Surround (L/R): 0.0/<u>5.0</u>/10.0/15.0 ms</li> </ul> <p><b>Speaker level</b></p> <ul style="list-style-type: none"> <li>● Center: -6 dB to +6 dB (Factory preset : 0dB)</li> <li>● Surround (L/R): -6 dB to +6 dB (Factory preset : 0dB)</li> </ul>
Display	<b>Language</b> Choose the language for these menus and on-screen messages.	<ul style="list-style-type: none"> <li>● <u>English</u></li> <li>● Deutsch</li> <li>● Español</li> <li>● Polski</li> <li>● Русский</li> <li>● Česky</li> <li>● Magyar</li> </ul>
	<b>On-Screen Messages</b> Choose whether to show status messages automatically.	<ul style="list-style-type: none"> <li>● <u>Automatic</u></li> <li>● Off</li> </ul>
	<b>Grey Background</b> Select "Off" if you do not want to have the unit show the grey background when tuner reception is weak.	<ul style="list-style-type: none"> <li>● <u>On</u></li> <li>● Off</li> </ul>
	<b>FL Display</b> Changes the brightness of the unit's display. This setting is fixed with "Automatic" if you set "Power Save" (⇒ 38) to "On".	<ul style="list-style-type: none"> <li>● <u>Bright</u></li> <li>● Dim</li> <li>● Automatic: The display turns dark during play and disappears when the unit is turned off. It reappears momentarily if a button is pressed. While using this mode, the standby power consumption can be reduced.</li> </ul>
Connection	<b>TV Aspect</b> (Setup Guide ⇒ 6)	<ul style="list-style-type: none"> <li>● 16:9</li> <li>● <u>4:3</u></li> <li>● Letterbox</li> </ul>
	<b>Progressive</b> (Setup Guide ⇒ 7) This setting is fixed with "Off" if you set "AV1 Output" to "RGB 1 (without component)" or "RGB 2 (without component)".	<ul style="list-style-type: none"> <li>● On</li> <li>● <u>Off</u></li> </ul>
	<b>TV System</b> (⇒ 40)	<ul style="list-style-type: none"> <li>● <u>PAL</u></li> <li>● NTSC</li> </ul>
	<b>AV1 Output</b> Selects the output from the AV1 terminal. Select "RGB 1 (without component)" or "RGB 2 (without component)" for RGB output. Select "Video (with component)" or "S Video (with component)" for component output (progressive output). Set according to the signal and terminal of the connected TV. When a decoder is connected, do not set to "RGB 1 (without component)".	<ul style="list-style-type: none"> <li>● <u>Video (with component)</u>: Select when a TV is connected that can receive a composite signal.</li> <li>● S Video (with component): Select when a TV is connected that can receive an S Video signal.</li> <li>● RGB 1 (without component): Select when you have connected a TV that can receive RGB signals. Select this mode so the TV automatically switches to display the picture from the unit when you turn the unit on.</li> <li>● RGB 2 (without component): Select when you have connected a TV that can receive RGB signals. If you would like to switch to display the picture from the unit only when playback or viewing menus, select this mode.</li> </ul>
	<b>AV2 Settings</b> Set to match the connected equipment. ● Press [ENTER] to show the following settings.	
	<b>AV2 Input</b> This setting is according to the output signal of the connected equipment.	<ul style="list-style-type: none"> <li>● <u>Video</u></li> <li>● S Video</li> </ul>
	<b>AV2 Connection</b> This setting is fixed with "Ext" if you set "TV System" to "NTSC" (⇒ above).	<ul style="list-style-type: none"> <li>● Decoder: When a decoder is connected to decode scrambled signal (e.g., C+ decoder).</li> <li>● <u>Ext</u>: When the VCR or a digital/satellite receiver is connected.</li> </ul>
<b>Ext Link</b> This setting cannot be made when the "TV System" is set to "NTSC" (⇒ above).	<ul style="list-style-type: none"> <li>● <u>Ext Link 1</u>: When a digital receiver which transmits a special control signal recordings via the 21-pin Scart cable is connected. Start and stop timings of recording are controlled by the control signal.</li> <li>● <u>Ext Link 2</u>: When external equipment with a timer function is connected. When it turns on, recording starts. When it turns off, recording stops.</li> </ul>	

Refer to the control reference on page 35.

Tabs	Menus	Options (Underlined items are the factory presets.)
Others	Remote Control (Setup Guide ➔ 8)	● <u>DVD 1</u> ● DVD 2 ● DVD 3
	<b>Clock (➔ 41)</b>	
	<b>Power Save</b> ● Refer to the following when "Power Save" is set to "On". – "FL Display" is automatically set to "Automatic" (➔ 37). – The "Quick Start" function does not work. (It is automatically turned to "Off".) – When the unit is off, Pay TV programmes cannot be watched on the TV because the signal from the connected decoder is not looped through. To watch them, turn on the unit.	● On: Power consumption is minimized when the unit is turned to standby (➔ 51). ● Off
	<b>Quick Start</b> The Quick Start feature enables this unit to be ready to start recording as quick as approx. 1 second* after turning it on. You can start recording soon after deciding you want to record something. *Only when recording to DVD-RAM. ● If this is set to "On", "Power Save" is automatically turned to "Off".	● On ● Off: Standby power consumption is less than when this is set to "On".
	<b>DivX Registration</b> Displays the unit's registration code.	You need this registration code to purchase and play DivX Video-on-Demand (VOD) content (➔ 20, Regarding DivX VOD content).
	<b>Initialize</b> ● Press [ENTER] to show the following settings.	
	<b>Shipping Condition</b> All the settings except for the ratings level, ratings password and time settings return to the factory preset. The timer recording programmes are also cancelled.	● Yes ● <u>No</u>
	<b>Default Settings</b> All the settings except for the programmed channels, time settings, country settings, language settings, disc language settings, ratings level, ratings password and remote control code, return to the factory presets.	● Yes ● <u>No</u>

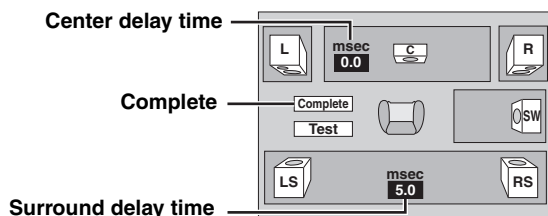
## Speaker Setting

This setting is only reflected when playing multi-channel audio. There is no effect with two-channel audio.

### Changing the delay time

(Center and surround speakers only)

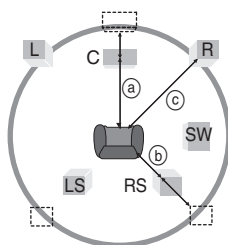
For optimum listening with 5.1-channel sound, all the speakers, except for the subwoofer, should be the same distance from the seating position. If you have to place the center or surround speakers closer to the seating position, adjust the delay time to make up for the difference.



If either distance (a) or (b) is less than (c), find the difference in the relevant table and change to the recommended setting.

□: Recommended placement

- Press [▲, ▼] to select the delay time box and press [ENTER].
- Press [▲, ▼] to adjust the delay time and press [ENTER].
- Press [▲, ▼, ◀] to select "Complete" and press [ENTER].



#### Ⓐ Center speaker

Difference	Setting
Less than 0 cm	0.0 ms*
Approx. 30 cm	1.0 ms
Approx. 60 cm	2.0 ms
Approx. 90 cm	3.0 ms
Approx. 120 cm	4.0 ms
Approx. 150 cm	5.0 ms

#### Ⓑ Surround speaker

Difference	Setting
Less than 0 cm	0.0 ms
Approx. 150 cm	5.0 ms*
Approx. 300 cm	10.0 ms
Approx. 450 cm	15.0 ms

\* Factory preset

**To return to the previous screen**

Press [RETURN].

**To exit the screen**

Press [RETURN] several times.

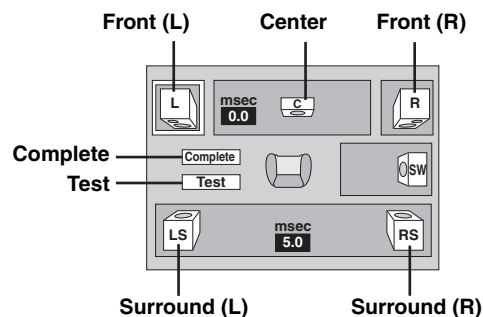
### Adjusting the speaker levels

(Center and surround speakers only)

Adjust each speaker level to the same level to get appropriate surround effects.

- This cannot be set when headphones are connected.

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



A Test signal is output from each speaker in a clockwise motion. Signals are also output from the front speakers, but they cannot be adjusted. Use this when adjusting other speakers for comparison. When the test signal is being output, press [▲, ▼] to lengthen the time of the test signal.

- Press [▲, ▼] to select the desired level for each speaker while test signal is being output.

- Center: -6 dB to +6 dB
- Surround (L/R): -6 dB to +6 dB

**To stop test signal**

Press [RETURN].

**To return to the previous screen**

Press [RETURN].

**To exit the screen**

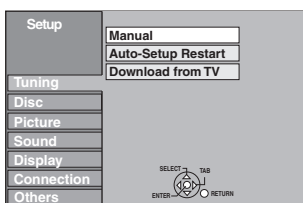
Press [RETURN] several times.

# Resetting channel setting

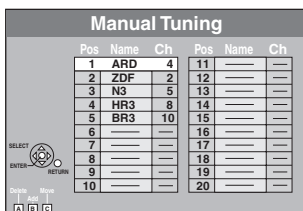
Refer to the control reference on page 35.

You can add or delete channels, or change programme positions.

- 1 While stopped  
Press [FUNCTIONS].
- 2 Press [▲, ▼] to select “To Others” and press [ENTER].
- 3 Press [▲, ▼] to select “Setup” and press [ENTER].
- 4 Press [▲, ▼] to select “Tuning” and press [▶].



- 5 Press [▲, ▼] to select “Manual” and press [ENTER].



• If the Country setting menu appears on the television



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

### To delete a programme position

Press [▲, ▼, ◀, ▶] to select a programme position and press [A].

### To add a blank programme position

Press [▲, ▼, ◀, ▶] to select a programme position and press [B].

### To move a TV station to another programme position

- ① Press [▲, ▼, ◀, ▶] to select a programme position and press [C].
- ② Press [▲, ▼, ◀, ▶] to select the new programme position to which you want to assign the TV station and press [ENTER].

### Note

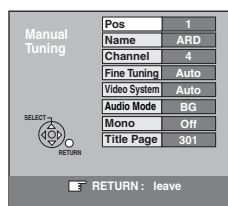
When the unit connected to a Q Link-compatible TV with a fully wired 21-pin Scart cable sets itself automatically (Setup Guide ➔ 3, 4), only deletion of the programme position can be performed.

## To change detailed station settings

After performing steps 1–5

- 6 Press [▲, ▼, ◀, ▶] to select a programme position and press [ENTER].

e.g.,



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

<b>Pos</b>	<b>To change the programme position in which the TV stations are assigned</b> Press [▲, ▼] or numbered buttons to select the number of the desired programme position and press [ENTER].
<b>Name</b>	<b>To enter or change the name of a TV station</b> Press [▲, ▼, ◀, ▶] to enter station name and press [ENTER]. If the station name needs a blank space, select the blank between “Z” and “*”.
<b>Channel</b>	<b>To enter newly available TV stations or change the channel number of an already tuned TV station</b> Press [▲, ▼] or the numbered 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].
<b>Fine Tuning</b>	<b>To obtain the best tuning condition</b> Press [▲, ▼] to adjust the best tuning condition and press [ENTER]. • Press [▶] to return to “Auto”.
<b>Video System</b>	<b>To select the video system type</b> Press [▲, ▼] to select “PAL” or “SECAM” if the picture lacks colour, and press [ENTER]. Auto: This unit automatically distinguishes PAL and SECAM signals. PAL: For receiving PAL signals. SECAM: For receiving SECAM signals.
<b>Audio Mode</b>	<b>To select the audio reception type</b> If sound quality is poor, press [▲, ▼] to select “BG”, “DK” or “I” and press [ENTER]. BG: PAL BGH/SECAM BG DK: PAL-DK/SECAM-DKK1 I: PAL-I
<b>Mono</b>	<b>To select the type of sound to be recorded</b> Press [▲, ▼] to select “On” 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, and press [ENTER].
<b>Title Page</b>	<b>To enter the Teletext title page for a channel</b> Entering title page number allows the unit to automatically record programme and station names. Press [▲, ▼] or numbered buttons to enter the number and press [ENTER]. • To find the correct title page for the station, refer to its Teletext TV guide. • The unit’s clock must be set correctly.

You can make the following two settings by selecting the external input channel (AV1, AV2, AV3) in step 6.

- Video System (Auto/PAL/SECAM)  
In order to record properly, make the appropriate settings to match the connected equipment.
- Title Page (Auto/Off)

**Automatic setting**

You can restart auto channel setting if the channel reception setting (Setup Guide ➔ 6) fails for some reason.

After performing steps 1-4 (➔ 39)

**5 Press [▲, ▼] to select “Auto-Setup Restart” or “Download from TV” and press [ENTER].**

The confirmation screen appears.  
Select “Download from TV” when you connect the unit to a Q Link-compatible TV with a fully wired 21-pin Scart cable. (Programme positions are downloaded from the TV and copied through this convenient function.)

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

• If the country setting menu appears on the television Press [▲, ▼, ▶, ◀] to select the country and press [ENTER].

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

**Press and hold [v CH] and [CH ^] on the main unit until the Country setting screen appears.**

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

**To return to the previous screen**

Press [RETURN].

**To exit the screen**

Press [RETURN] several times.

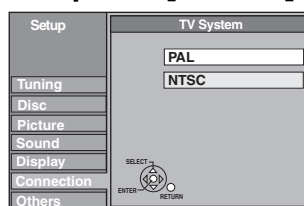
**List of TV Reception Channels**

SYSTEM		VHF	UHF	CATV
BG	CCIR Standard (BGH)	CH E2-E12	CH E21-E69	CH S01-S05, M1-M10, U1-U10, S21-S41
DK	East Europe (DKK1)	CH R1-R12	CH 21-69	CH 44 MHz-470 MHz
I	South Africa (PAL-I)	CH 4-13	CH 21-68	-

Refer to the control reference on page 35.

Change this setting if you connect an NTSC television or to record NTSC video from another source.

- 1 While stopped Press [FUNCTIONS].**
- 2 Press [▲, ▼] to select “To Others” and press [ENTER].**
- 3 Press [▲, ▼] to select “Setup” and press [ENTER].**
- 4 Press [▲, ▼] to select “Connection” and press [▶].**
- 5 Press [▲, ▼] to select “TV System” and press [ENTER].**
- 6 Press [▲, ▼] to select the TV system and press [ENTER].**



- **PAL** (factory preset)
    - Select when connecting to a PAL or Multi-system television. Programmes recorded using NTSC are played as PAL 60.
    - Select to record television programmes and PAL input from other equipment.
  - **NTSC**
    - Select when connecting to a NTSC television. Television programmes cannot be recorded properly.
    - Select to record NTSC input from other equipment.
- The confirmation screen appears.

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

**To return to the previous screen**

Press [RETURN].

**To exit the screen**

Press [RETURN] several times.

**■ To change the setting all at once (PAL↔NTSC)**

While stopped, press and hold [■] and [▲ OPEN/CLOSE] on the main unit at the same time for about 5 seconds.

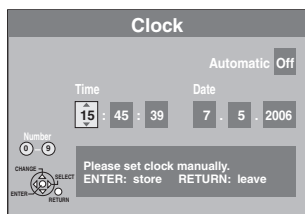
# Set the clock manually

Refer to the control reference on page 35.

- Usually, the unit's channel reception setting function (Setup Guide ➔ 6) 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.

- 1 While stopped**  
Press [FUNCTIONS].
- 2 Press [▲, ▼] to select "To Others" and press [ENTER].**
- 3 Press [▲, ▼] to select "Setup" and press [ENTER].**
- 4 Press [▲, ▼] to select "Others" and press [▶].**
- 5 Press [▲, ▼] to select "Clock" and press [ENTER].**  
When "Россия" (Russia) is selected in the Country setting menu, the "Automatic" field does not appear on Clock setting menu. Beginning from Step 7, set the clock manually.
- 6 Press [▲, ▼] to select "Off" of "Automatic" and press [ENTER].**



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

The items change as follows:

Hour ↔ Minute ↔ Second ↔ Day ↔ Month ↔ Year

- 8 Press [▲, ▼] to change the setting.**

You can also use the numbered buttons for setting.

- 9 Press [ENTER] when you have finished the settings.**

The clock starts.

**To return to the previous screen**

Press [RETURN].

**To exit the screen**

Press [RETURN] several times.

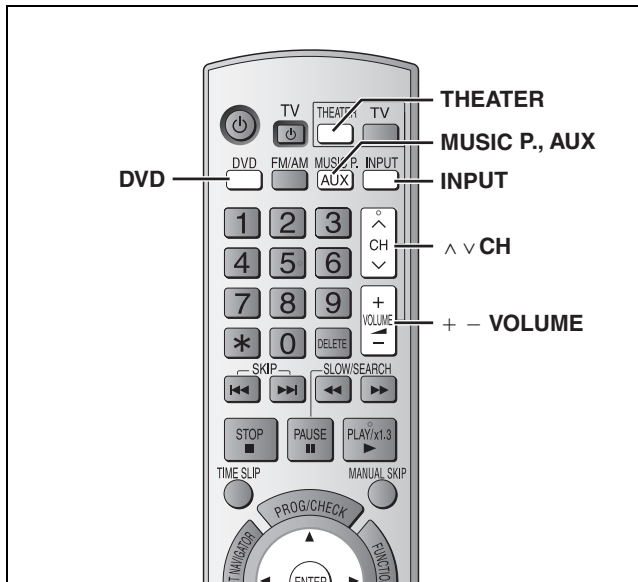
### Note

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.

## Language code list

Enter the code with the numbered buttons.

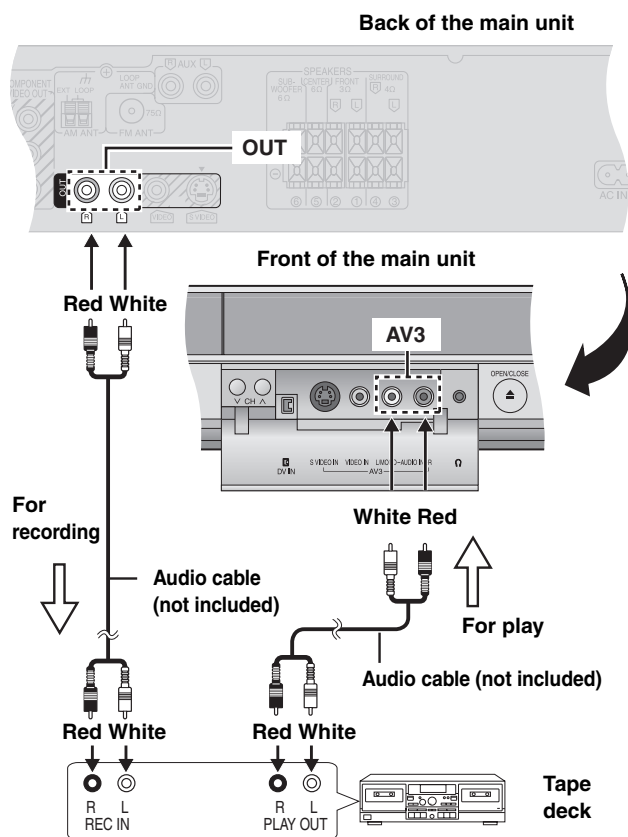
Abkhazian: 6566	Catalan: 6765	Gujarati: 7185	Lingala: 7678	Rhaeto-Romance: 8277	Tamil: 8465
Afar: 6565	Chinese: 9072	Hausa: 7265	Lithuanian: 7684	Romanian: 8279	Tatar: 8484
Afrikaans: 6570	Corsican: 6779	Hebrew: 7387	Macedonian: 7775	Russian: 8285	Telugu: 8469
Albanian: 8381	Croatian: 7282	Hindi: 7273	Malagasy: 7771	Samoan: 8377	Thai: 8472
Ameharic: 6577	Czech: 6783	Hungarian: 7285	Malay: 7783	Sanskrit: 8365	Tibetan: 6679
Arabic: 6582	Danish: 6865	Icelandic: 7383	Malayalam: 7776	Scots Gaelic: 7168	Tigrinya: 8473
Armenian: 7289	Dutch: 7876	Indonesian: 7378	Maltese: 7784	Serbian: 8382	Tonga: 8479
Assamese: 6583	English: 6978	Interlingua: 7365	Maori: 7773	Serbo-Croatian: 8372	Turkish: 8482
Aymara: 6589	Esperanto: 6979	Irish: 7165	Marathi: 7782	Shona: 8378	Turkmen: 8475
Azerbaijani: 6590	Estonian: 6984	Italian: 7384	Moldavian: 7779	Sindhi: 8368	Twi: 8487
Bashkir: 6665	Faroese: 7079	Japanese: 7465	Mongolian: 7778	Singhalese: 8373	Ukrainian: 8575
Basque: 6985	Fiji: 7074	Javanese: 7487	Nauru: 7865	Slovak: 8375	Urdu: 8582
Bengali; Bangla: 6678	Finnish: 7073	Kannada: 7578	Nepali: 7869	Slovenian: 8376	Uzbek: 8590
Bhutani: 6890	French: 7082	Kashmiri: 7583	Norwegian: 7879	Somali: 8379	Vietnamese: 8673
Bihari: 6672	Frisian: 7089	Kazakh: 7575	Oriya: 7982	Spanish: 6983	Volapük: 8679
Breton: 6682	Galician: 7176	Kirghiz: 7589	Pashto, Pushto: 8083	Sundanese: 8385	Welsh: 6789
Bulgarian: 6671	Georgian: 7565	Korean: 7579	Persian: 7065	Swahili: 8387	Wolof: 8779
Burmese: 7789	German: 6869	Kurdish: 7585	Polish: 8076	Swedish: 8386	Xhosa: 8872
Byelorussian: 6669	Greek: 6976	Laotian: 7679	Portuguese: 8084	Tagalog: 8476	Yiddish: 7473
Cambodian: 7577	Greenlandic: 7576	Latin: 7665	Punjabi: 8065	Tajik: 8471	Yoruba: 8979
	Guarani: 7178	Latvian, Lettish: 7686	Quechua: 8185	Zulu: 9085	



### Preparation

Press [THEATER] to switch the remote control to operate this unit.

## Connecting other audio equipment



Audio output from this unit becomes 2-channel only. Multi-channel audio is down-mixed (⇒ 50).

### Recording audio from discs or television broadcasts to a tape deck

- Discs: Press [DVD] to select the DVD drive as the source.  
Television broadcasts: Press [ $\wedge$   $\vee$  CH] to select the channel.
- Start recording and play.

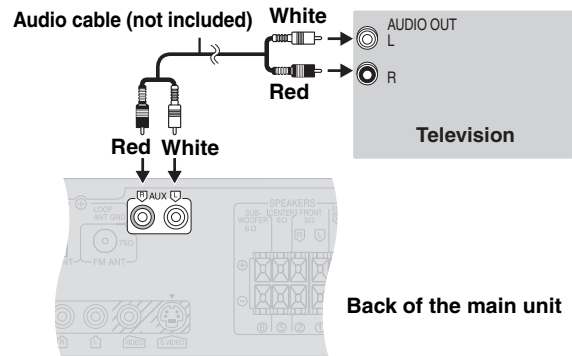
Refer to the manual of the other unit for details.

FM/AM broadcasts and audio from the AUX terminal or "MUSIC PORT terminal" are not output through the AUDIO OUT terminals.

### To playback audio from a tape deck, etc., through this unit's speakers

- Press [DVD] to select the DVD drive as the source.
- Press [INPUT] to select "AV3".
- Start play.

## Enjoying TV broadcast with this unit's speakers

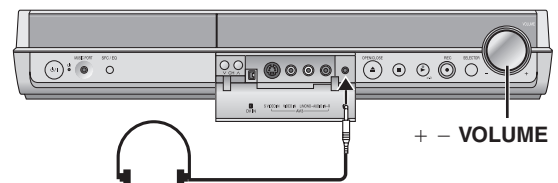


- Press [AUX] to select "AUX" as the source.
- Turn on the television and select the channel.
- Adjust the volume on this unit.
  - Set TV volume minimum.

## Using headphones

- Reduce the volume and connect the headphones (not included).

Headphone plug type:  $\varnothing$ 3.5 mm stereo mini plug



- Adjust headphone volume with [ $\pm$  VOLUME].

Audio output becomes 2-channel only. Multi-channel audio is down-mixed (⇒ 50).

### Note

- When headphones are connected, only "Equalizer (EQ)" can be used to change the sound quality (⇒ 34).
- Avoid listening for prolonged periods of time to prevent hearing damage.

## Using the Music Port

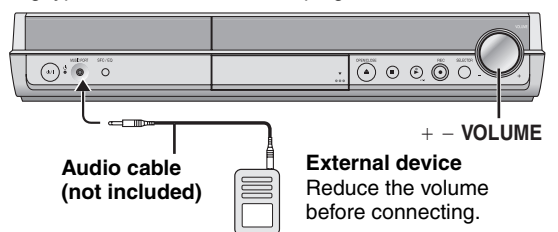
The Music Port allows you to connect and enjoy music from an external device (e.g. MP3 player) through your home theater system.

### Preparation

To avoid distorted sound, make sure that any equalizer function of your external device is turned off.

- Reduce the volume and connect the external device (not included).

Plug type:  $\varnothing$ 3.5 mm stereo mini plug



- Press [MUSIC P.] to select "F MUSICP".  
F MUSICP  $\longleftrightarrow$  AUX

- Adjust the external device volume to a normal listening level, and then adjust the volume of the main unit with [ $\pm$  VOLUME].

### Note

If the audio is distorted, turn the volume down on the connected external device.



# Linked operations with the TV (Q Link)

## What is Q Link?

Q Link enables you to connect this unit to a Q Link equipped Panasonic TV and perform various linked functions.


The following systems from other manufacturers have similar function to Q Link from Panasonic.

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

- Q Link (registered trademark of Panasonic)
- Easy Link (registered trademark of Philips)
- SMARTLINK (registered trademark of Sony)
- DATA LOGIC (registered trademark of Metz)
- Megalogic (registered trademark of Grundig)

## Preparation

- Connect this unit to your TV with a fully wired 21-pin Scart cable (Setup Guide ➔ 3, 4).

<b>TV/DVD Auto On</b>	<p>When you press the following buttons, linked operations with the TV activate and corresponding screens appear.</p> <p><b>When this unit is on:</b>            Press <b>[▶] (PLAY)</b>  <b>[DIRECT NAVIGATOR]</b>  <b>[ShowView]</b>  <b>[PROG/CHECK]</b>  <b>[FUNCTIONS]</b></p> <p><b>When this unit is off (standby mode):</b>            Press <b>[▶] (PLAY)</b>  <b>[DIRECT NAVIGATOR]</b>  <b>[ShowView]</b>  <b>[PROG/CHECK]</b></p> <p>• <b>DVD-V DVD-A CD VCD</b> and MP3            The TV is automatically turned on and corresponding screen appear when you insert the discs.</p>
<b>DVD Auto Standby</b>	<p>When you turn the TV off, the unit is turned off as well. However, this function works in the stop mode [while screen saver (➔ right) is displayed on the television, this does not work].</p> <p>This function does not work during the following operations: Channel reception setting, Auto Clock Setting, Child Lock and Manual Tuning.</p> <div style="text-align: right;">  </div>
<b>Direct TV Recording</b>	<p>You can at once record the same programme that you are watching on the TV.</p> <ul style="list-style-type: none"> <li>• This function allows you to immediately start recording the programme that you are viewing on the TV without having to change the channels on this unit.</li> </ul> <p><b>1 Press [DVD] or [AUX] to select the DVD drive or "AUX".</b>  <b>2 Insert the disc (➔ 10).</b>  <b>3 Press and hold [● DIRECT TV REC] for 1 second.</b></p> <p>Recording starts.</p> <p><b>To stop recording</b>            Press [■].</p> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>• [● DIRECT TV REC] will function even when the unit is in standby mode, if the DVD drive is selected.</li> <li>• In the following situations, [● DIRECT TV REC] will not function:               <ul style="list-style-type: none"> <li>– "FM", "AM", or "F MUSICP" is selected as the source.</li> <li>– A source other than DVD drive is selected while the unit is in standby mode.</li> </ul> </li> </ul>
<b>Download from the TV</b>	<p>As you set TV stations, 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.</p>

Using other useful functions / Linked operations with the TV (Q Link) / Safety precautions

## Safety precautions

### Placement

Set the unit up on an even surface away from direct sunlight, high temperatures, high humidity, and excessive vibration. These conditions can damage the cabinet and other components, thereby shortening the unit's service life.

Do not place heavy items on the unit.

### Voltage

Do not use high voltage power sources. This can overload the unit and cause a fire.

Do not use a DC power source. Check the source carefully when setting the unit up on a ship or other place where DC is used.

### AC mains lead protection

Ensure the AC mains lead is connected correctly and not damaged. Poor connection and lead damage can cause fire or electric shock. Do not pull, bend, or place heavy items on the lead.

Grasp the plug firmly when unplugging the lead. Pulling the AC mains lead can cause electric shock.

Do not handle the plug with wet hands. This can cause electric shock.

### Foreign matter

Do not let metal objects fall inside the unit. This can cause electric shock or malfunction.

Do not let liquids get into the unit. This can cause electric shock or malfunction. If this occurs, immediately disconnect the unit from the power supply and contact your dealer.

Do not spray insecticides onto or into the unit. They contain flammable gases which can ignite if sprayed into the unit.


### Service

Do not attempt to repair this unit by yourself. If sound is interrupted, indicators fail to light, smoke appears, or any other problem that is not covered in these instructions occurs, disconnect the AC mains lead and contact your dealer or an authorized service center. Electric shock or damage to the unit can occur if the unit is repaired, disassembled or reconstructed by unqualified persons.

Extend operating life by disconnecting the unit from the power source if it is not to be used for a long time.


## On the television

Page

<b>Authorization Error.</b>	<ul style="list-style-type: none"> <li>You are trying to play the DivX VOD content that was purchased with a different registration code. You cannot play the content on this unit.</li> </ul>	<b>20</b>
<b>Cannot finish recording completely.</b>	<ul style="list-style-type: none"> <li>The programme was copy-protected.</li> <li>The disc may be full.</li> <li>The maximum number of times you can record the programme is exceeded.</li> </ul>	— — <b>10</b>
<b>Cannot record on the disc.</b>	<ul style="list-style-type: none"> <li>The disc may be dirty or scratched.</li> </ul>	<b>49</b>
<b>Unable to format.</b>		
<b>Please check the disc.</b>		
<b>Cannot record. Disc is full.</b>	<ul style="list-style-type: none"> <li>Create space by deleting any unnecessary titles. <b>RAM -RW(V) +RW</b> [Even if you delete recorded content from DVD-R, DVD-R DL, +R or +R DL, there is no increase in disc space. Available space on DVD-RW (DVD-Video format) and +RW increases only when the last recorded title is deleted.]</li> <li>Use a new disc.</li> </ul>	<b>23, 25, 30</b>
<b>Cannot record. Maximum number of titles exceeded.</b>		
<b>No disc</b>	<ul style="list-style-type: none"> <li>The disc may be upside down.</li> </ul>	—
<b>This is a non-recordable disc.</b>	<ul style="list-style-type: none"> <li>The unit cannot record on the disc you inserted. Insert a DVD-RAM or unfinalized DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL or +RW.</li> <li>You inserted an unformatted DVD-RAM, DVD-RW, +R, +R DL or +RW. Format the disc with this unit.</li> </ul>	<b>6–7</b>
<b>This disc is not formatted properly.</b>		<b>30</b>
<b>Rental Expired.</b>	<ul style="list-style-type: none"> <li>The DivX VOD content has zero remaining plays. You cannot play it.</li> </ul>	<b>20</b>
	<ul style="list-style-type: none"> <li>The operation is prohibited by the unit or disc.</li> </ul>	—

## On the unit's display

The following messages or service numbers appear on the unit's display when something unusual is detected during startup and use.

<b>DVD</b> □ (“□” stands for a number.)	<ul style="list-style-type: none"> <li>The remote control and main unit are using different codes. Change the code on the remote control. Press and hold [ENTER] and the indicated number button at the same time for more than 2 seconds.</li> </ul> 	<b>Back cover (Setup Guide)</b>
<b>HARD ERR</b> (“HARD” and “ERR” are alternately displayed.)	<ul style="list-style-type: none"> <li>If there is no change after turning the unit on and off, consult the dealer where the unit was purchased.</li> </ul>	—
<b>NoREAD</b>	<ul style="list-style-type: none"> <li>The disc is dirty or badly scratched. The unit cannot record, play, or edit.</li> <li>This message may appear when the DVD lens cleaner has finished cleaning. Press [▲ OPEN/CLOSE] on the main unit to eject the disc.</li> </ul>	<b>49</b> <b>10</b>
<b>NoWRIT</b>	<ul style="list-style-type: none"> <li>Recording may be unavailable due to a disc problem. Use a new disc.</li> <li>The unit's “TV System” setting differs from the TV system used by the disc. Change the “TV System” in the Setup menu.</li> </ul>	— <b>40</b>
<b>NoERAS</b>	<ul style="list-style-type: none"> <li>Deleting an item may be unavailable due to a disc problem. Use a new disc.</li> </ul>	—
<b>PLEASE WAIT</b> (“PLEASE” and “WAIT” are alternately displayed.)	<ul style="list-style-type: none"> <li>Displayed when the unit is started. This is not a malfunction.</li> <li>The unit is carrying out its recovery process. You cannot operate the unit while “PLEASE WAIT” is displayed.</li> </ul>	— —
<b>PROG FULL</b> (“PROG” and “FULL” are alternately displayed.)	<ul style="list-style-type: none"> <li>There are already 16 timer programmes. Delete unnecessary timer programmes.</li> </ul>	<b>14</b>
<b>UNSUPPORT</b> (“UNSUP” and “PORT” are alternately displayed.)	<ul style="list-style-type: none"> <li>You have inserted a disc the unit cannot play or record on.</li> </ul>	<b>6–7</b>
<b>UNFORMAT</b> (“UNFOR” and “MAT” are alternately displayed.)	<ul style="list-style-type: none"> <li>You have inserted a new DVD-RW/+R/+R DL/+RW or a DVD-RAM/DVD-RW (DVD-Video format) recorded on other equipment.</li> </ul>	<b>30</b>
<b>U59</b>	<ul style="list-style-type: none"> <li>The unit is hot. The unit switches to standby for safety reasons. Wait for about 30 minutes until the message disappears. Select a position with good ventilation when installing the unit. Do not block the ventilation holes on the top or rear of the unit.</li> </ul>	—
<b>U61</b>	<ul style="list-style-type: none"> <li>The unit detected an error while recording or playing with no disc in the disc tray. The unit is carrying out its recovery process. This process restores the unit to normal operation. The unit is not broken. Wait until the message disappears.</li> </ul>	—
<b>U88</b>	<ul style="list-style-type: none"> <li>The unit detected an error while recording or playing with a disc in the disc tray. The unit is carrying out its recovery process. This process restores the unit to normal operation. The unit is not broken. Wait until the message disappears.</li> </ul>	<b>46</b>
<b>U99</b>	<ul style="list-style-type: none"> <li>The unit fails to operate properly. Press [⏻/I] on the main unit to switch the unit to standby. Now press [⏻/I] on the main unit again to turn the unit on.</li> </ul>	—
<b>X HOLD</b>	<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>	<b>32</b>
<b>AF F61</b>	<ul style="list-style-type: none"> <li>Check and correct the speaker cord connections. If this does not fix the problem, there is a power supply problem. Consult the dealer.</li> </ul>	<b>2</b> (Setup Guide)

# Frequently asked questions

Set up		Page
The television has a Scart terminal and component video input terminal. Which terminal should I connect with?	<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 or a multi system television using PAL mode that is compatible with progressive scan, we cannot recommend progressive output as some flickering can occur.</li> </ul>	3–5 (Setup Guide)
Is my television progressive output compatible?	<ul style="list-style-type: none"> <li>All Panasonic televisions 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		
Can DVD-R, DVD-R DL, DVD-RW (DVD-Video Format), +R, +R DL and +RW recorded on this unit be played on other equipment?	<ul style="list-style-type: none"> <li>You can play on compatible equipment such as DVD players after finalizing the disc on this unit. It is not necessary to finalize +RW. However depending on the condition of the recording, the quality of the disc and capabilities of the DVD player, play may not be possible.</li> </ul>	31
Can I play DVD-Video, DVD-Audio and Video CDs bought in another country?	<ul style="list-style-type: none"> <li>You cannot play DVD-Video if their region number does not include “2” or “ALL”. Refer to the disc’s jacket for more information.</li> </ul>	Cover
Can a DVD-Video that does not have a region number be played?	<ul style="list-style-type: none"> <li>The DVD-Video region number indicates the disc conforms to a standard. You cannot play discs that do not have a region number.</li> </ul>	—
Please tell me about DVD-R, DVD-R DL, DVD-RW, +R, +R DL and +RW compatibility with this unit.	<ul style="list-style-type: none"> <li>This unit records and plays DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL and +RW, and plays DVD-RW (VR format).</li> <li>This unit also records and plays high speed recording compatible discs.</li> <li>After recording but before finalizing +R, +R DL discs                             <ul style="list-style-type: none"> <li>–You may not be able to play and record discs on this unit after recording them on other Panasonic products or other manufacturer’s equipment.</li> <li>–You may not be able to play and record discs on other equipment after recording them on this unit.</li> </ul> </li> <li>After finalizing the disc, you will be able to play it on any DVD-Video compatible player.</li> </ul>	6–7 — —
Please tell me about CD-R and CD-RW compatibility with this unit.	<ul style="list-style-type: none"> <li>This unit plays CD-R/CD-RW discs (audio recording discs) which have been recorded under one of the following standards: CD-DA, Video CD, SVCD (conforming to IEC62107), MP3, DivX and still pictures (JPEG/TIFF). Close the session after recording.</li> <li>You cannot write to a CD-R or CD-RW with this unit.</li> </ul>	7, 20 —
Recording		
Can I record from a commercially purchased video cassette or DVD?	<ul style="list-style-type: none"> <li>Most commercially sold video cassettes and DVD are copy protected; therefore, recording is usually not possible.</li> </ul>	—
Can I switch to bilingual broadcast during recording?	<ul style="list-style-type: none"> <li>With DVD-RAM, you can. Just press [AUDIO]. This does not affect the actual recording of the audio.</li> <li>With DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL or +RW, you cannot.</li> </ul>	— —

## Troubleshooting guide

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

The following do not indicate a problem with this unit:

<ul style="list-style-type: none"> <li>Regular disc rotating sounds.</li> <li>Poor reception due to atmospheric conditions.</li> <li>Image disturbance during search.</li> <li>Interruptions in reception due to periodic satellite broadcasting breaks.</li> </ul>	<ul style="list-style-type: none"> <li>Operations do not work due to a poor-quality disc. (Try again using a Panasonic disc.)</li> <li>The unit freezes due to one of its safety devices being activated. (Press and hold [⏻/⏹] on the main unit for 10 seconds.)</li> </ul>
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Power		Page
<b>No power.</b> The unit does not turn on pressing [⏻].	<ul style="list-style-type: none"> <li>Insert the AC mains lead securely into a known active AC mains socket.</li> <li>Linked timer recordings with external equipment is in recording standby (“EXT-L” on the unit’s display blinks when [⏻] is pressed). Press [EXT LINK] to cancel the recording standby.</li> </ul>	5 (Setup Guide) 15
<b>The unit switches to the standby mode.</b>	<ul style="list-style-type: none"> <li>One of the unit’s safety devices is activated. Press [⏻/⏹] on the main unit to turn the unit on.</li> </ul>	—

TV screen and video		
<b>Television reception worsens after connecting the unit.</b>	<ul style="list-style-type: none"> <li>This can occur because the signals are being divided between the unit and other equipment. It can be solved by using a signal booster, available from audio-visual suppliers. If it is not solved by using a signal booster, consult the dealer.</li> </ul>	—
<b>Status messages do not appear.</b>	<ul style="list-style-type: none"> <li>Select “Automatic” in “On-Screen Messages” in the Setup menu.</li> </ul>	37
<b>The grey background does not appear.</b>	<ul style="list-style-type: none"> <li>Select “On” in “Grey Background” in the Setup menu.</li> </ul>	37
<b>Picture does not appear during timer recording.</b>	<ul style="list-style-type: none"> <li>Timer recordings work regardless whether the unit is on or off. To confirm the timer recording is going to work properly, turn the unit on.</li> </ul>	—

TV screen and video (Continued)

		Page
The 4:3 aspect ratio picture expands left and right. Screen size is wrong.	●Use the television to change the aspect. If your television does not have that function, set "Progressive" in the Picture menu to "Off".	22
	●Check the settings for "TV Aspect" in the Setup menu.	37
There is a lot of after-image when playing video.	●Set "Playback NR" in the Picture menu to "Off".	22
When playing DVD-Video using progressive output, one part of the picture momentarily appears to be doubled up.	●Set "Progressive" in the Picture menu to "Off". This problem is caused by the editing method or material used on DVD-Video, but should be corrected if you use interlace output.	22
There is no apparent change in picture quality when adjusted with the Picture menu in the on-screen menus.	●The effect is less perceivable with some types of video.	—
The images from this unit do not appear on the television.	●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.	3–5 (Setup Guide)
	●Make sure that the television's input setting (e.g., AV 1) is correct.	—
Picture is distorted.	●Progressive output is set to on but the connected television is not progressive compatible. Press and hold [■] and [▶ × 1.3] on the main unit at the same time for about 5 seconds. The setting will change to interlace.	—
	●The unit's "TV System" setting differs from the TV system used by the disc now playing. While stopped, press and hold [■] and [▲ OPEN/CLOSE] on the main unit for 5 or more seconds. The system switches from PAL to NTSC or vice versa.	40

Displays

The display is dim.	●Change "FL Display" in the Setup menu.	37
"0:00" is flashing on the unit's display.	●Set the clock.	41
The clock is not correct.	●Under adverse reception conditions, etc., the automatic time correction function may not work. In this case, "Automatic" is automatically turned to "Off". If re-setting the Auto Clock Setting does not work, set the time manually.	41
The time recorded on the disc and the available time shown do not add up. The play time shown for MP3 does not agree with the actual time.	●Times shown may disagree with actual times.	—
	●Even if you delete recorded content from the DVD-R, DVD-R DL, +R or +R DL, there is no increase in disc space.	—
	●Available recording space on DVD-RW (DVD-Video format) or +RW increases only when the last recorded title is deleted. It does not increase if other titles are deleted.	—
	●More disc space than the actual recording time is used after recording or editing the DVD-R, DVD-R DL, +R or +R DL 200 times or more. (For the second layer on DVD-R DL and +R DL, this happens after about 60 times.)	—
"U88" is displayed and the disc cannot be ejected.	●While searching, the elapsed time may not display correctly.	—
	●The unit is carrying out the recovery process. Do the following to eject the disc. 1 Press [⏻/I] on the main unit to switch the unit 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. 2 While the unit is off, press and hold [■] and [CH ^] on the main unit at the same time for about 5 seconds. Remove the disc.	—


Radio

Noise is heard. Sound is distorted. "TUNED" is flashing or doesn't light. "ST" is flashing or doesn't light during FM broadcasts.	●This is being caused by weak signal reception. When listening to FM radio, try the following operations. –Adjust the position of the FM antenna. –Use an FM outdoor antenna.	—
	–Press [FM MODE] to set to "MONO". When listening to AM radio, try the following operations. –Adjust the position of the AM antenna.	33
	–Press [FM MODE] to select between "BP1" and "BP4" that receives good reception.	33
A beat sound is heard.	●Turn the television off or separate it from the unit.	—
A low hum is heard during AM broadcasts.	●Separate the aerial from other cables and cords.	—
The radio cannot be tuned in.	●Turn off nearby televisions, video cassette recorders, satellite receivers and computers.	—
All programmed radio presets are erased. Returns to the original setting even after making changes to the sound effect settings.	●Radio and sound effect settings are stored to memory after pressing [⏻]. Do not remove the AC mains lead until "BYE" disappears from the unit's display.	—

Sound

		page
<b>No sound.</b> <b>Low volume.</b> <b>Distorted sound.</b> <b>Cannot hear the desired audio type.</b>	<ul style="list-style-type: none"> <li>• Check the connections and settings.</li> </ul>	2-5 (Setup Guide)
	<ul style="list-style-type: none"> <li>• Press [AUDIO] to select the audio.</li> </ul>	16
	<ul style="list-style-type: none"> <li>• Some multi-channel DVD-Audio will prevent down-mixing of all or part of their contents if this is the manufacturer's intention. This unit cannot down-mix these types of discs. (When the disc is automatically down-mixed, audio will not be output correctly when using headphones, etc. Audio is output only with the front two channels, etc.)</li> </ul>	—
	<ul style="list-style-type: none"> <li>• Turn the volume up.</li> </ul>	—
	<ul style="list-style-type: none"> <li>• Turn muting off.</li> </ul>	35
	<ul style="list-style-type: none"> <li>• Switch off the unit, determine and correct the cause, then switch the unit on. Causes include:                             <ul style="list-style-type: none"> <li>– Shorting (bare wires touching) of positive and negative speaker wires.</li> <li>– Using speakers with an impedance lower than that rated for this unit.</li> <li>– Straining of the speakers through excessive volume or power.</li> <li>– Using the unit in a hot environment without proper ventilation.</li> </ul> </li> </ul>	—
	<ul style="list-style-type: none"> <li>• The factory settings for the “H. Bass” and Subwoofer levels are optimized for 5.1 channel movie playback. If the bass seems too heavy during 2-channel disc playback, etc. change the settings.</li> </ul>	34, 35
	<ul style="list-style-type: none"> <li>• When using headphones, you cannot set anything other than “Equalizer (EQ)”.</li> </ul>	—
	<ul style="list-style-type: none"> <li>• If the audio is distorted when “F MUSICP” is selected, turn the volume down on the connected external device.</li> </ul>	—
	<ul style="list-style-type: none"> <li>• When audio playback is output through multi-channel, “Sound Field Control (SFC)” cannot be set.</li> <li>• Audio may not be output due to how DivX files were created.</li> </ul>	—
<b>Cannot switch audio.</b>	<ul style="list-style-type: none"> <li>• You cannot change the audio type when playing DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL or +RW. When any these disc types is in use, the audio of broadcast programme cannot be changed.</li> <li>• There are discs which audio cannot be changed because of how the disc was created.</li> </ul>	—
<b>Humming heard during play.</b>	<ul style="list-style-type: none"> <li>• An AC mains lead or fluorescent light is near the main unit. Keep other appliances and leads away from the main unit.</li> </ul>	—

Operation

<b>Cannot operate the television.</b>	<ul style="list-style-type: none"> <li>• Press [TV] to switch the remote control to operate the television.</li> <li>• Change manufacturer code. Some televisions cannot be operated even if you change the code.</li> </ul>	— 7 (Setup Guide)
<b>The remote control doesn't work.</b>	<ul style="list-style-type: none"> <li>• Press [THEATER] to switch the remote control to operate this unit.</li> <li>• The remote control and main unit are using different codes. Change the code on the remote control. Press and hold [ENTER] and the indicated number button at the same time for more than 2 seconds.</li> <li>• The batteries are depleted. Replace them with new ones.</li> <li>• You are not pointing the remote control at the main unit's remote control signal sensor during operation.</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>• It may be necessary to set the code on the remote control again after changing the batteries.</li> <li>• It may be necessary to set the manufacturer code again after changing the batteries.</li> </ul>  <ul style="list-style-type: none"> <li>• The child lock function is activated.</li> </ul>	— Back cover (Setup Guide) 4 4 — — Back cover (Setup Guide) 7 (Setup Guide) 32
<b>The unit is on but cannot be operated.</b>	<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 for “U59” to disappear.</li> <li>• One of the unit's safety devices may have been activated. Reset the unit as follows:                             <ol style="list-style-type: none"> <li>1 Press [⏻/I] on the main unit to switch the unit 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 one minute, then reconnect it.</li> <li>2 Press [⏻/I] on the main unit to switch it on. If the unit still cannot be operated, consult the dealer.</li> </ol> </li> <li>• Condensation has formed. Wait 1 to 2 hours for it to evaporate.</li> </ul>	— — —
<b>Cannot eject disc.</b>	<ul style="list-style-type: none"> <li>• Linked timer recordings with external equipment is in recording standby (“EXT-L” on the unit's display blinks when [⏻] is pressed). Press [EXT LINK] to cancel the recording standby.</li> <li>• The unit is recording.</li> <li>• The unit may have a problem. While the unit is off, press and hold [■] and [CH ^] on the main unit at the same time for about 5 seconds. Remove the disc and consult the dealer.</li> <li>• If the Child Lock function is activated, above operation does not work. Cancel the Child Lock function.</li> </ul>	15 — — 32
<b>Cannot tune channels.</b> <b>Cannot download the tuning positions.</b>	<ul style="list-style-type: none"> <li>• Check the connections.</li> <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>	3, 4 (Setup Guide) —
<b>Startup is slow.</b>	<ul style="list-style-type: none"> <li>• Make sure that “Quick Start” is set to “On”. Even if “Quick Start” is set to “On”, startup is slow if the clock is not set, there was a power failure or the AC plug has just been connected.</li> </ul>	38
<b>When the unit is turned on, audio and video output takes a long time.</b>	<ul style="list-style-type: none"> <li>• 20 to 30 seconds after turning on the unit, you can play a disc or start recording to discs other than DVD-RAM.</li> <li>• Startup takes time for a few minutes after 5:15 am due to system maintenance of this unit.</li> </ul>	— —
<b>Takes time to read DVD-RAM.</b>	<ul style="list-style-type: none"> <li>• It may take time to read a disc if it is being used for the first time in this unit or it has not been used for a long time.</li> </ul>	—
<b>During disc operation the unit does not respond.</b>	<ul style="list-style-type: none"> <li>• The selector has been set to “FM”, “AM”, “AUX” or “F MUSICP”. Press [DVD] to select “DVD” as the source.</li> </ul>	—

Recording, timer recording and copying

		Page
Cannot record.	• You haven't inserted a disc or the disc you inserted cannot be recorded on. Insert a disc the unit can record onto.	6-7
	• The disc is unformatted. Format the disc. <b>RAM -RW(V) +R +R DL +RW</b>	30
	• The write-protect tab on the cartridge is set to PROTECT, or the disc is protected with DVD Management.	30
	• Some programmes have limitations on the number of times they can be recorded. (CPRM)	50
	• You cannot record when there is not enough space or when the number of titles has reached its limit. Delete unwanted titles or use a new disc.	23, 25, 30
	• You cannot record on finalized DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL or DVD-RW (VR format) discs.	—
	• Due to peculiarities of DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL or +RW, you may be unable to record onto them if you either insert and remove the disc or switch the unit on and off while a disc is loaded, a total of fifty times.	—
	• DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL or +RW recorded on this unit may not be recordable on other Panasonic DVD recorders.	—
	• Audio from FM/AM broadcasts cannot be recorded.	—
	• In the following situations, [EXT LINK] or [● DIRECT TV REC] will not function: –“FM”, “AM”, or “F MUSICP” is selected as the source. –A source other than DVD drive is selected while the unit is in standby mode.	15, 43
Cannot record from external equipment.	• Check that the connection is correct.	3, 4 (Setup Guide)
	• Select the input channel (“AV2”, “AV3” or “DV”) for the equipment you have connected.	15
Timer recording does not work properly.	• The timer programme is incorrect or different timer programme times overlap. Correct the programme.	14
SHOWVIEW programming does not work properly.	• The unit or the timer programme is not on timer recording standby. (“⊖” on the unit's display or the timer icon in the timer recording list is not on.) Put the unit and the timer programme on timer recording standby. • Set the clock.	12, 13  41
Timer recording does not stop even when [■] is pressed.	• When this unit is on, press [DVD] to select the DVD drive, then press [■]. A dialogue appears, so press [◀, ▶] to select “Stop Recording” and press [ENTER].	13
	• When using the linked timer recording with external equipment, press [EXT LINK]. (“EXT-L” disappears.)	15
The timer programme remains even after recording finishes.	• The timer programme remains if set to daily or weekly.	13
A part or whole of a recorded title has been lost.	• If there is a power failure or the plug is disconnected from the household mains socket while recording or editing, the title may be lost or the disc may become unusable. You will have to format the disc ( <b>RAM -RW(V) +RW</b> ) or use a new disc. Please take care as we cannot offer any guarantee regarding lost programmes or discs.	— 30
	• If images cannot be recorded or if the recording is aborted, check the connections and DV equipment settings.	28
The DV automatic recording function does not work.	• You cannot start recording until the images from the DV equipment appear on the television.	—
	• Recording may not be performed as desired if the time codes on the tape in the DV equipment are not successive.	—
	• Depending on the equipment, the DV automatic recording may not operate properly.	—
	• You can only record audio/video images on a DV tape.	—

Play

Play fails to start even when [▶] (PLAY) is pressed. Play starts but then stops immediately.	• Insert the disc correctly with the label facing up.	10
	• The disc is dirty.	49
	• You tried to play a blank disc or disc unplayable on this unit.	6-7
	• You tried to play a +RW that needs to be finalized on the equipment used for recording.	—
	• When recording to DVD-RAM using “EP (8 Hours)” mode, play may not be possible on DVD players that are compatible with DVD-RAM. In this case use “EP (6 Hours)” mode.	36
	• You cannot play discs during DV automatic recording. • If playing DivX VOD content, refer to the homepage where you purchased it.	— 20
Audio and video momentarily pause.	• This occurs between playlist chapters.	—
	• This occurs as scenes change during Quick View.	—
DVD-Video is not played.	• You have set a ratings level to limit DVD-Video play. Change this setting.	36
Alternative soundtrack and subtitles cannot be selected.	• The languages are not recorded on the disc.	—
	• You may have to use the disc's menus to select languages.	16
No subtitles.	• Subtitles are not recorded on the disc. • Set “Subtitle” on the on-screen menu to “On”.	— 21
Angle cannot be changed.	• Angles can only be changed during scenes where different angles are recorded.	—
You have forgotten your ratings password. You want to cancel the ratings level.	• While the disc tray is open, press [DVD] to select the DVD drive, then press and hold [● REC] and [▶ × 1.3] on the main unit at the same time for 5 or more seconds (“INIT” will appear on the unit's display). The ratings level returns to “8”.	—
Quick View does not work.	• This does not work when audio is other than Dolby Digital. • This does not work when recording is in XP or FR mode.	— —
The resume play function does not work.	• The stopped position is cleared when: – you press [■] several times. – you open the tray. – <b>DVD-A CD VCD</b> and MP3/DivX you turn the unit off.	—
The Video CD picture does not display properly.	• When connecting to Multi-system TV, select “NTSC” in “TV System” in the Setup menu.	37
	• When connecting to PAL TV, the lower part of the picture cannot be displayed correctly during search.	—
Time Slip does not work.	• Time Slip does not work when the unit's “TV System” settings are different from the title recorded on the disc.	37



Play (Continued)

		Page
When playing PAL disc, picture distorted.	•Set "Transfer" in Picture menu to "Auto".	22
When playing DivX disc, picture distorted.	•Change "Source Select" in Disc menu.	21
It takes time before play starts.	•This is normal on DivX video.	—
Picture stops.	•Picture may stop if the DivX files are greater than 2 GB.	—

Edit

Cannot format.	<ul style="list-style-type: none"> <li>•The disc is dirty. Wipe with a damp cloth and then wipe dry.</li> <li>•You tried formatting a disc that is not compatible with this unit.</li> </ul>	below 6-7
Cannot create chapters.	<ul style="list-style-type: none"> <li>•The unit writes the chapter division information to the disc when you turn it off or remove the disc. The information is not written if there is an interruption to the power before this.</li> </ul>	—
Cannot mark the start point or the end point during "Partial Delete" operation.	<ul style="list-style-type: none"> <li>•These operations are not possible with still pictures.</li> <li>•You cannot set points if they are too close to each other. You cannot set an end point before a start point.</li> </ul>	—
Cannot delete chapters.	<ul style="list-style-type: none"> <li>•When the chapter is too short to delete, use "Combine Chapters" to make the chapter longer.</li> </ul>	25
The available recording space doesn't increase even after deleting recordings on the disc.	<ul style="list-style-type: none"> <li>•Available recording space on DVD-R, DVD-R DL, +R or +R DL does not increase even after deleting previously recorded titles.</li> <li>•Available recording space on DVD-RW (DVD-Video format) or +RW increases only when the last recorded title is deleted. It does not increase if other titles are deleted.</li> </ul>	—
Cannot create a playlist.	<ul style="list-style-type: none"> <li>•You cannot select all the chapters at once in a title if the title also includes still pictures. Select them individually.</li> </ul>	—

To reset this unit

To return all the settings other than the main ones to the factory preset.	<ul style="list-style-type: none"> <li>•Select "Yes" in "Shipping Condition" in the Setup menu. All the settings except for the ratings level, ratings password and time settings return to the factory preset. The timer recording programmes are also cancelled.</li> </ul>	38
	<ul style="list-style-type: none"> <li>•Select "Yes" in "Default Settings" in the Setup menu. All the settings other than the programmed channels, time settings, country settings, language settings, disc language settings, ratings level, ratings password, remote control code, return to the factory presets.</li> <li>•Press and hold [v CH] and [CH ^] on the main unit until the Country setting screen appears. All the settings except for the ratings level, ratings password and time settings return to the factory preset. The timer recording programmes are also cancelled.</li> </ul>	38
To reset the ratings level settings.	<ul style="list-style-type: none"> <li>•While the disc tray is open, press [DVD] to select the DVD drive, then press and hold [● REC] and [▶ ×1.3] on the main unit at the same time for 5 or more seconds.</li> </ul>	—
To restore the unit if it freezes due to one of the safety devices being activated.	<ul style="list-style-type: none"> <li>•Press and hold [⏻/ ] on the main unit for 10 seconds. (The settings remain.)</li> </ul>	—

## Disc handling

### How to hold a disc

Do not touch the recorded surface.

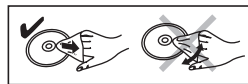


### Concerning non-cartridge discs

Be careful about scratches and dirt.

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

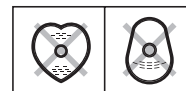
Wipe with a damp cloth and then wipe dry.



### Handling precautions

- Do not attach labels or stickers to discs. (This may cause disc warping and un-balanced rotation, rendering it unusable.)
- Write on the label side of the disc only with a soft, oil-based felt pen. Do not use ballpoint pens or other hard writing implements. (This may cause disc warping and un-balanced rotation, rendering it unusable.)

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



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

## Unit care

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

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

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

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

Dust and dirt may adhere to the unit's lens over time, making it impossible to record or play discs. Use the **DVD lens cleaner** (RP-CL720E) about once every year, depending on frequency of use and the operating environment. Carefully read the lens cleaner's instructions before use.

## Component video output

Component signal outputs the colour difference signals (P<sub>B</sub>/P<sub>R</sub>) 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.

## CPRM (Content Protection for Recordable Media)

CPRM is technology used to protect broadcasts that are allowed to be recorded only once. Such broadcasts can be recorded only with CPRM compatible recorders and discs.

## DivX

A video compression format developed by DivXNetworks, Inc. that compresses video files without any considerable loss of video quality.

## Dolby Digital

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

## Down-mixing

This is the process of remixing the multi-channel audio found on some discs into two-channel output.

Some multi-channel DVD-Audio will prevent down-mixing of all or part of their contents if this is the manufacturer's intention.

This unit cannot down-mix these types of discs. (When the disc is automatically down-mixed, audio will not be output correctly when using headphones, etc. Audio is output only with the front two channels, etc.)

## DTS (Digital Theater Systems)

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

## Dynamic range

Dynamic range is the difference between the lowest level of sound that can be heard above the noise of the equipment and the highest level of sound before distortion occurs. Dynamic range compression means reducing the gap between the loudest and softest sounds. This means you can listen at low volumes but still hear dialogue clearly.

## Film and video

DVD-Videos are recorded using either film or video. This unit can determine which type has been used, then uses the most suitable method of progressive output.

### Film:

Recorded at 25 frames per second (PAL discs) or 24 frames per second (NTSC discs). (NTSC discs recorded at 30 frames per second as well.) Generally appropriate for motion picture films.

### Video:

Recorded at 25 frames/50 fields per second (PAL discs) or 30 frames/60 fields per second (NTSC discs). Generally appropriate for TV drama programmes or animation.

## Finalize

A process that makes play of a recorded CD-R, CD-RW, DVD-R, etc. possible on equipment that can play such media. You can finalize DVD-R, DVD-R DL, DVD-RW (DVD-Video format), +R or +R DL on this unit.

After finalizing, the disc becomes play-only and you can no longer record or edit. However, finalized DVD-RW can be formatted to become recordable.

## Formatting

Formatting is the process of making media such as DVD-RAM recordable on recording equipment.

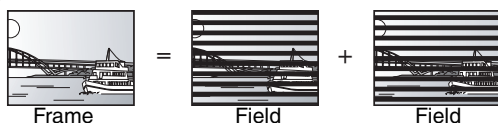
You can format DVD-RAM, DVD-RW (only as DVD-Video format), +R, +R DL or +RW on this unit.

When you use a new DVD-RW, +R, +R DL or +RW, it must be formatted.

Formatting deletes irrevocably all contents.

## Frames and fields

Frames refer to the single images that constitute the video you see on your television. Each frame consists of two fields.



- A frame still shows two fields, so there may be some blurring, but picture quality is generally better.
- A field still shows less picture information so it may be rougher, but there is no blurring.

## JPEG (Joint Photographic Experts Group)

This is a system used for compressing/decoding colour still pictures. If you select JPEG as the storage system on digital cameras etc., the data will be compressed to 1/10–1/100 of its original size. The feature of JPEG is less deterioration in picture quality considering the degree of compression.

## MP3 (MPEG Audio Layer 3)

An audio compression method that compresses audio to approximately one tenth of its size without any considerable loss of audio quality. You can play MP3 you have recorded onto DVD-R, CD-R and CD-RW.

## Pan&Scan/Letterbox

In general, DVD-Video are produced with the intention that they be viewed on a widescreen television (16:9 aspect ratio), so images often don't fit regular (4:3 aspect ratio) televisions. Two styles of picture, "Pan & Scan" and "Letterbox", deal with this problem.

**Pan & Scan:** The sides are cut off so the picture fills the screen.



**Letterbox:** Black bands appear at the top and bottom of the picture so the picture itself appears in an aspect ratio of 16:9.



## Playback control (PBC)

If a Video CD has playback control, you can select scenes and information with menus.

(This unit is compatible with version 2.0 and 1.1.)

## Progressive/Interlace

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 televisions with 625 (576)/50i · 50p, 525 (480)/60i · 60p input terminals are progressive compatible.

## Protection

You can prevent accidental deletion by setting writing protection or deletion protection.

## 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.

## Sampling frequency

Sampling is the process of converting the heights of sound wave (analog signal) samples taken at set periods into digits (digital encoding). Sampling frequency is the number of samples taken per second, so larger numbers mean more faithful reproduction of the original sound.

## Thumbnail

This refers to a miniature representation of a picture used to display multiple pictures in the form of a list.

## TIFF (Tag Image File Format)

This is a system used for compressing/decoding colour still pictures. A common format for storing high quality images on digital cameras and other devices.

## ■ AMPLIFIER SECTION

**RMS Output Power:** Dolbly Digital Mode  
**Front:** 110 W per channel (3 Ω), 1 kHz, 10 %, THD  
**Center:** 225 W (6 Ω), 1 kHz, 10 %, THD  
**Surround:** 90 W per channel (4 Ω), 1 kHz, 10 %, THD  
**Subwoofer:** 225 W (6 Ω), 100 Hz, 10 %, THD  
**Total RMS Dolbly Digital Mode Power:** 850 W

**DIN output power:** Dolbly Digital Mode  
**Front:** 80 W per channel (3 Ω), 1 kHz, 1 %, THD  
**Center:** 75 W (6 Ω), 1 kHz, 1 %, THD  
**Surround:** 65 W per channel (4 Ω), 1 kHz, 1 %, THD  
**Subwoofer:** 75 W (6 Ω), 100 Hz, 1 %, THD  
**Total DIN Dolbly Digital Mode Power:** 440 W

**Input sensitivity/input impedance**  
**MUSIC PORT** 100 mV/4.7 kΩ

## ■ FM TUNER SECTION

**Frequency range:** 87.50–108 MHz (50 kHz step)  
**Antenna terminals:** 75 Ω unbalanced

## ■ AM TUNER SECTION

**Frequency range:** 522–1629 kHz (9 kHz step)

## ■ RECORDER SECTION

**Recording system** DVD-RAM : DVD Video Recording format  
 DVD-R : DVD-Video format  
 DVD-R DL (Dual Layer) : DVD-Video format  
 DVD-RW : DVD-Video format  
 +R  
 +R DL (Double Layer)  
 +RW

### Recordable discs

**DVD-RAM:** Ver. 2.0  
 Ver. 2.1/3X-SPEED DVD-RAM Revision 1.0  
 Ver.2.2/5X-SPEED DVD-RAM Revision 2.0

**DVD-R:** for General Ver. 2.0  
 for General Ver.2.x/8X-SPEED DVD-R Revision 3.0  
 for General Ver.2.x/16X-SPEED DVD-R Revision 6.0  
 for DL Ver.3.0

**DVD-RW:** for DL Ver.3.x/4X-SPEED DVD-R for DL Revision 1.0  
 Ver. 1.1  
 Ver. 1.x/2X-SPEED DVD-RW Revision 1.0  
 Ver. 1.x/4X-SPEED DVD-RW Revision 2.0  
 Ver. 1.x/6X-SPEED DVD-RW Revision 3.0

**+R:** Ver. 1.0  
 Ver. 1.1  
 Ver. 1.2  
 Ver. 1.3  
 for DL Ver.1.0

**+RW:** Ver. 1.1  
 Ver. 1.2/4X-SPEED

**Recording time** Maximum 8 hours (using 4.7 GB disc)  
 XP: Approx. 1 hour, SP: Approx. 2 hours  
 LP: Approx. 4 hours, EP: Approx. 6 hours/8 hours

### Playable discs

DVD-RAM : DVD Video Recording format  
 DVD-R : DVD-Video format, MP3, JPEG, DivX  
 DVD-R DL (Dual Layer) : DVD-Video format  
 DVD-RW : DVD-Video format, DVD Video Recording format  
 +R, +R DL (Double Layer), +RW  
 DVD-Video, DVD-Audio, CD-Audio (CD-DA), Video CD,  
 CD-R/CD-RW (CD-DA, Video CD, SVCD, MP3, JPEG, DivX formatted discs)  
 SVCD

**Optical pick-up** System with 1 lens, 2 integration units  
 (662 nm wavelength for DVDs, 780 nm wavelength for CDs)

### LASER specification

Class 1 LASER Product  
 Wave length: 780 nm (CDs), 662 nm (DVDs)  
 Laser power:  
 No hazardous radiation is emitted with the safety protection

### Audio

Recording system: Dolbly Digital 2ch  
 Audio in: AV1/AV2 (21 pin), AV3 (pin jack)  
 Input level: Standard: 0.5 Vrms, Full scale: 2.0 Vrms at 1 kHz  
 Input impedance: More than 10 kΩ  
 Audio out: AV1/AV2 (21 pin), Audio Out (pin jack)  
 Output level: Standard: 0.5 Vrms, Full scale: 2.0 Vrms at 1 kHz  
 Output impedance: Less than 1 kΩ

### Video

Video system:  
 SECAM (only input)/PAL colour signal, 625 lines, 50 fields  
 NTSC colour signal, 525 lines, 60 fields  
 Recording system: MPEG2 (Hybrid VBR)  
 Video in (SECAM/PAL/NTSC):  
 AV1/AV2 (21 pin), AV3 (pin jack) 1 Vp-p 75 Ω, termination  
 S-Video in (SECAM/PAL/NTSC):  
 AV2 (21 pin), AV3 (S terminal) 1 Vp-p 75 Ω, termination  
 Video out (PAL/NTSC):  
 AV1/AV2 (21 pin), Video Out (pin jack) 1 Vp-p 75 Ω, termination  
 S-Video out (PAL/NTSC):  
 AV1 (21 pin), S-Video Out (S terminal) 1 Vp-p 75 Ω, termination  
 RGB out (PAL/NTSC): AV1 (21 pin) 0.7 Vp-p (PAL) 75 Ω, termination  
 Component video output (NTSC 480p/480i, PAL 576p/576i)  
 Y: 1.0 Vp-p 75 Ω, termination  
 Pb: 0.7 Vp-p 75 Ω, termination  
 Pr: 0.7 Vp-p 75 Ω, termination

### Television system

Tuner system	Channel coverage	VHF	UHF	CATV
PAL-DK SECAM-DKK1	OIRT	R1–R12	21–69	44MHz–470MHz
PAL-BGH SECAM-BG	CCIR	E2–E12	E21–E69	S01–S05, M1–M10, U1–U10, S21–S41
PAL-I	South Africa	4–13	21–68	–

RF converter output: Not provided

**DV input** IEEE 1394 Standard, 4 pin : 1 pc

## ■ SPEAKER SECTION

● **Front speaker** **[SB-FS440]**  
**Type:** 1 way, 1 speaker system, Bass-ref.  
**Full range:** 6.5 cm CONE type  
**Impedance/Input power (IEC):** 3 Ω/110 W (Max)\*  
**Output sound pressure:** 80 dB/W (1 m)  
**Frequency range:** 102 Hz–25 kHz (–16 dB), 113 Hz–22 kHz (–10 dB)  
**Dimensions (W×H×D):** 92 mm×273 mm×95.4 mm  
**Mass:** Approx. 0.84 kg

● **Center speaker** **[SB-PC640]**  
**Type:** 1 way, 2 speaker system, Bass-ref.  
**Full range:** 6.5 cm CONE type ×2  
**Impedance/Input power (IEC):** 6 Ω/250 W (Max)\*  
**Output sound pressure:** 84 dB/W (1 m)  
**Frequency range:** 105 Hz–25 kHz (–16 dB), 125 Hz–22 kHz (–10 dB)  
**Dimensions (W×H×D):** 270 mm×92 mm×95.4 mm  
**Mass:** Approx. 1.3 kg

● **Surround speakers** **[SB-FS441]**  
**Type:** 1 way, 1 speaker system, Bass-ref.  
**Full range:** 6.5 cm CONE type  
**Impedance/Input power (IEC):** 4 Ω/90 W (Max)\*  
**Output sound pressure:** 80 dB/W (1 m)  
**Frequency range:** 96 Hz–25 kHz (–16 dB), 120 Hz–22 kHz (–10 dB)  
**Dimensions (W×H×D):** 92 mm×135 mm×95.4 mm  
**Mass:** Approx. 0.75 kg

● **Subwoofer** **[SB-W440]**  
**Type:** 1 way, 1 speaker system, Bass-ref.  
**Woofers:** 16 cm CONE type  
**Impedance/Input power (IEC):** 6 Ω/250 W (Max)  
**Output sound pressure:** 80 dB/W (1 m)  
**Frequency range:** 32 Hz–220 Hz (–16 dB), 38 Hz–180 Hz (–10 dB)  
**Dimensions (W×H×D):** 183 mm×396 mm×267 mm  
**Mass:** Approx. 4 kg

## ■ GENERAL

**Region code:** # 2  
**Operating temperature:** 5 to 40 °C  
**Operating humidity range:** 10 to 80 % RH (no condensation)  
**Power supply:** AC 230 to 240 V, 50 Hz  
**Power consumption:** 126 W  
**Dimensions (W×H×D):** Approx. 430 mm×75 mm×385 mm  
**Mass:** Approx. 5.2 kg  
 (Dimensions and Mass do not include the speakers.)

**Power consumption in standby mode:**  
**Approx. 2 W (Power Save mode)**

### Note

- Specifications are subject to change without notice.  
 Mass and dimensions are approximate.
- Total harmonic distortion is measured by a digital spectrum analyzer.

※ Ratings with the low cut filter equipped amplifier.

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+R, +R DL, +RW	6–8				

• Outlined typeface numbers (e.g., 6) represent page numbers in the Setup Guide.

## -If you see this symbol-

### Information on Disposal for Users of Waste Electrical & Electronic Equipment (private households)



This symbol on the products and/or accompanying documents means that used electrical and electronic products should not be mixed with general household waste.

For proper treatment, recovery and recycling, please take these products to designated collection points, where they will be accepted on a free of charge basis. Alternatively, in some countries you may be able to return your products to your local retailer upon the purchase of an equivalent new product.

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