

# Panasonic®

## Operating Instructions

### DVD Recorder

Model No. DMR-EH80V

**AVHDD**  
HARD DISK DRIVE



SHOWVIEW™

DIGA



The GUIDE Plus+ System is available in these countries:

Belgium, Germany, France, Netherlands, Austria, Spain, Switzerland, Italy (Status: 30th April 2005).

- \* This service may not be available in some areas of the countries listed above.
- \* The supplied areas may change.

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# Before you start

## Dear customer

Thank you for your trust and your decision to purchase this top-quality device. Panasonic is one of the leading manufacturers of entertainment electronics devices. We are sure that you will be completely satisfied with this device.

**Matsushita Electric Industrial Co., Ltd.**

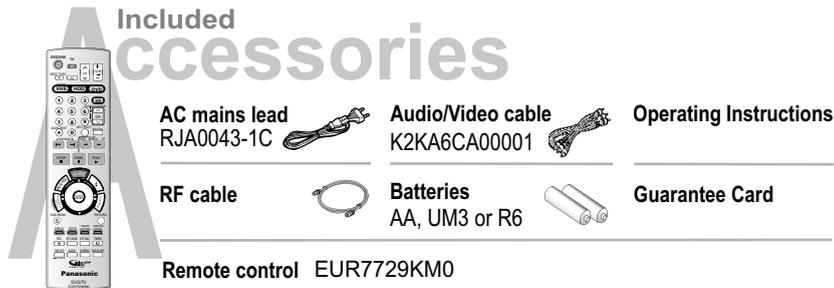
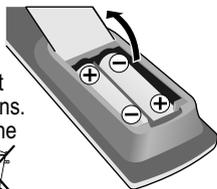
<http://www.panasonic.co.jp/global/>

## Inserting batteries

The batteries last for about a year, depending on how often you use the remote control unit.

- Do not mix old with new batteries, or batteries of different types.
- Only use batteries without any harmful substances (lead, cadmium, mercury).
- Do not use rechargeable type batteries.
- Remove the batteries if the remote control unit will remain unused for longer periods of time.
- Do not heat or short-circuit the batteries. Immediately remove used-up batteries and replace with batteries of type AA, UM3 or R6.
- Be sure to put in the batteries the right way round + and -.

Dispose of **batteries**, packaging material and the unit according to statutory regulations. They must not be thrown into the household refuse.



1. **Read the operating instructions**, the safety precautions, and the information on setting up the unit on pages 4 - 5 thoroughly before you connect, operate or adjust any settings on the unit.
2. **Insert the batteries into the remote control.**
3. **Connect the device to your television.**  
With a 21-pin Scart cable, Audio/Video cable or S Video cable 
4. **The automatic settings start after the unit is switched on.**  
The station settings of all receivable television stations are automatically transferred from the teletext data to the DVD Recorder.   
With Q Link function and 21-pin Scart socket:  
During [Download from TV], the station settings of all receivable television stations are automatically transferred from your television set to the DVD Recorder.   
The GUIDE Plus+ system is set up after the station is set up. 
5. **The basic settings of the unit are complete.**  
You can change the basic settings in the SETUP menu. 

# Safety precautions

Install this device in a horizontal position. Do not place anything heavy on it.



Keep this device away from high temperatures and avoid changes in temperatures.



Keep away from liquids, humidity and dust.



Inside of product

Produktets insida  
(Norsk)

Tuotteen sisällä  
(Fin)

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

Back of product,  
see page 16.

På baksiden  
av produktet  
(Norsk).

Laitteen takaosa  
(Fin).



LUOKAN 1 LASERLAITE  
KLASS 1 LASER APPARAT

The model and serial number of this product can be found on the back of the unit. Please note them and keep for future reference.

**Model No.** ..... **Serial No.** .....

**Voltage:** Only use power sources complying with the specifications for this device.

**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.

**Service:** Never attempt to repair this unit by yourself. If a problem occurs that is not described in these operating instructions, disconnect the power supply and contact your dealer or an authorised after sales service centre.

## 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.

## 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 BY YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

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.

## Sikkerhetsinstrukser (Norsk)

### ADVARSEL:

FOR Å REDUSERE FAREN FOR BRANN, ELEKTRISK STØT ELLER SKADER PÅ PRODUKTET, MÅ DETTE APPARATET IKKE UTSETTES FOR REGN, FUKTIGHET, VANNDRÅPER ELLER VANNSPRUT. DET MÅ HELLER IKKE PLOSSERES GJENSTANDER FYLT MED VANN, SLIK SOM BLOMSTERVASER, OPPÅ APPARATET.

### ADVARSEL!

- APPARATET MÅ IKKE PLOSSERES I EN BOKHYLLE, ET INNEBYGGET KABINETT ELLER ET ANNET LUKKET STED HVOR VENTILASJONSFORHOLDENE ER UTILSTREKKELIGE. SØRG FOR AT GARDINER ELLER LIGNENDE IKKE FORVERRRER VENTILASJONSFORHOLDENE, SÅ RISIKO FOR ELEKTRISK SJOKK ELLER BRANN FORÅRSAKET AV OVERHETING UNNGÅS.
- APPARATETS VENTILASJONSÅPNINGER MÅ IKKE DEKKES TIL MED AVISER, BORDDUKER, GARDINER OG LIGNENDE.
- PLOSSER IKKE ÅPEN ILD, SLIK SOM LEVENDE LYS, OPPÅ APPARATET.
- BRUKTE BATTERIER MÅ KASSERES UTEN FARE FOR MILJØET.

### ADVARSEL!

DETTE PRODUKTET ANVENDER EN LASER. BETJENING AV KONTROLLER, JUSTERINGER ELLER ANDRE INNGREP ENN DE SOM ER BESKREVET I DENNE BRUKSANVISNING, KAN FØRE TIL FARLIG BESTRÅLING. DEKSLER MÅ IKKE ÅPNES, OG FORSØK ALDRI Å REPARERE APPARATET PÅ EGENHÅND. ALT SERVICE OG REPARASJONSARBEID MÅ UTFØRES AV KVALIFISERT PERSONELL.

DETTE APPARATET ER BEREGNET TIL BRUK UNDER MODERATE KLIMAFORHOLD.

Dette apparatet kan under bruk fange opp høyfrekvente forstyrrelser forårsaket av en mobiltelefon som benyttes i nærheten. Hvis slik forstyrrende påvirkning konstateres, bør mobiltelefonen benyttes på større avstand fra dette apparatet.

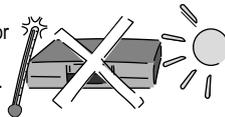
Utstyret bør plasseres i nærheten av AC-stikkkontakten, og støpslet må være lett tilgjengelig hvis det skulle oppstå problemer.

**Norsk:** Apparatet bør stilles opp i nærheten av stikkkontakten på en slik måte at man uhindret får tilgang til nettpluggen hvis det skulle oppstå en feil.

Plasser apparatet horisontalt. Ikke plasser tunge gjenstander på apparatet.



Ikke utsett apparatet for høye temperaturer og temperatursvingninger.



Beskytt apparatet mot væske, fuktighet og støv.



**Finnish:** Laite tulisi sijoittaa verkkopistorasian lähelle siten, että verkkopistokkeeseen päästään häiriötapauksessa varmasti esteettömästi käsiiksi.

Aseta laite vaakasuoraan. Älä aseta raskaita esineitä laitteen päälle.



Suojaa laite korkeitalämpötiloilta ja lämpötilaheilahteluilta.



Suojaa laite nesteiltä, kosteudelta ja pölyltä.



## Turvallisuusohjeita (Finnish)

### VAROITUS:

TULIPALO-, SÄHKÖISKUVAARAN TAI TUOTETTA KOHTAAVAN MUUN VAHINGON VÄHENTÄMISEKSI EI LAITETTA SAA ALTISTAA SATEELLE, KOSTEUELLE, VESIPISAROILLE TAI ROISKEELLE, EIKÄ NESTETTÄ SISÄLTÄVIÄ ESINEITÄ, KUTEN ESIMERKIKSI MALJAKOITA, SAA ASETTAA LAITTEEN PÄÄLLE.

### VAROITUS!

- ÄLÄ ASENNATA LAITTA TÄTÄ LAITETTA KABINETTITYYPPISEEN KIRJAKAAPPIIN TAI MUUHUN SULJETTUUN TILAAN, JOTTA TUULETUS ONNISTUISI. VARMISTA, ETTÄ VERHO TAI MIKÄÄN MUU MATERIAALI EI HUONONNA TUULETUSTA, JOTTA VÄLTETTÄISIIN YLIKUUMEMISESTA JOHTUVA SÄHKÖISKU- TAI TULIPALOVAARA.
- ÄLÄ PEITÄ LAITTEEN TUULETUSAUKKOJA SANOMALEHDELLÄ, PÖYTÄLINALLA, VERHOLLA TAI MUULLA VASTAAVALLA ESINEELLÄ.
- ÄLÄ ASETA PALAVAA KYNTTILÄÄ TAI MUUTA AVOTULEN LÄHDETTÄ LAITTEEN PÄÄLLE.
- HÄVITÄ PARISTOT LUONTOA VAHINGOITAMATTOMALLA TAVALLA.

### VAROITUS!

LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄ KÄYTTÖOHJEESSA MAINITULLA TAVALLA SAATTAA ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1 YLITÄVÄLLE NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.

TÄMÄ LAITE ON TARKOITETTU KÄYTETTÄVÄKSI LEUDOSSA ILMASTOSSA.

Tämä tuotteen toimintaan saattaa tulla häiriöitä lähellä olevasta matkapuhelimesta. Mikäli matkapuhelimesta johtuvia häiriöitä ilmenee, siirrä matkapuhelin mahdollisimman kauas laitteesta jotta häiriöt poistuvat.

Laite tulee asettaa lähelle verkkopistorasiaa ja pistokkeen täytyy olla sellaisessa asennossa, että siihen on helppo tarttua ongelman sattuessa.

# New functions

Your DVD Recorder saves data in the highest quality to a quickly accessible HDD and e.g. to DVD-RAM. Thus, there are many new features available that outperform older storage media.

## **Immediate recording**

The unit finds available storage space on its own without overwriting your old data. To start recording right away, press the record button **• REC**.

## **Quick start**

After switching the unit on, use the Quick Start feature to begin recording to DVD-RAM or HDD after approx. one second.

If the **GUIDE** button is pressed when the unit is turned off, the GUIDE Plus+ System will appear within one second.

## **Recording to HDD (hard disk drive)**

The internal HDD saves up to 355 hours of your recordings when set to [EP 8 Hours]. You can copy (DUBBING) your data at high speeds from HDD (Hard disk drive) to DVD-RAM, DVD-R, DVD-RW (DVD-Video format) or +R.

## **SD Card drive**

You can copy (DUBBING) and save photos directly from the SD Card to the HDD or e.g. to DVD-RAM.

## **Immediate playback**

Start the desired title directly from DIRECT NAVIGATOR.

## **Delayed playback** **HDD RAM**

The title can be played back during recording.

## **Simultaneous recording and playback** **HDD RAM**

Another previously recorded title can be played back during recording.

## **Time Slip** **HDD RAM**

Playback can be started while the unit is still recording. Without stopping the current recording, you can watch the recording from the beginning or from any desired point.

# New functions



## GUIDE Plus+

Your DVD Recorder can display a television programme list for analogue broadcast. You can enjoy various useful features such as displaying the television programme list for up to the next 7 days and perform easy timer recordings by simply selecting the desired programmes from the television programme list.

*You can only receive GUIDE Plus+ data via the antenna input of your DVD Recorder. GUIDE Plus+ data cannot be received via externally connected satellite receivers or digital set-top boxes.*

### GUIDE Plus+ Legal Notice:

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## Receiving the television programme list (Guide Plus+ List)

The television programme list is not displayed immediately after purchasing the unit. You must complete initial setup for the GUIDE Plus+ System.

The settings for the television programme list are also automatically set during this initial setup. After setup is complete, the unit becomes ready to download the data for the television programme list.

The television programme list is transmitted several times a day by the Host Channel (the television station transmitting the television programme list).

This unit receives the television programme list when it is in standby mode. One data transmission takes approximately 2 hours.

The GUIDE Plus+ system only requires one data transmission a day to maintain a television programme list although data is transmitted several times a day. If this unit is in standby mode during a data transmission, the new data is automatically downloaded and the television programme list is updated.

If the system is unable to receive programme data because the unit is being used, your television programme list does not change.

Depending on the time zone established for the unit, it may take approximately one day before you can display the television programme list.

The stations displayed in the television programme list are determined according to geographical areas.

A station that is not registered in your area is not displayed in the television programme list even if a signal can be received.

# Remote control

DVD/VHS



## 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.

Switching this unit into standby mode does not disconnect it from the mains.

## TV



Turn the television set on and off. 12



Select the AV input on the television set.



**CH:** Select the channel on the television set.

**VOLUME:** Volume control of the television set.

## Buttons to switch between VHS, HDD, DVD and SD.



Press the corresponding button to operate the desired element.

The unit is switched on from standby mode.

## Number buttons - direct input e.g.:

**VCD** 5: ① + ⑤ 15: ① + ⑤

**MP3 JPEG** 5: ① + ① + ⑤ 15: ① + ① + ⑤

CANCEL/RESET



Cancel button

INPUT SELECT



Switch button of the AV input between AV1, AV2, AV3 (front), TP (DVD), DC (VHS), DV



## A/V channel



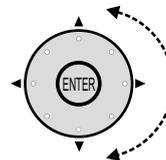
**CH:** Channel select button.

## Navigation



### Using the Smart Wheel

- Press to select the position (left, right, up, down).



The wheel can also be turned to select the parameter.

If the Smart Wheel is pressed while it is being turned, may be activated.

- Press **ENTER** to confirm.



Launch the GUIDE Plus+ system 74



Display the programme information from the GUIDE Plus+ system 77

## Colour buttons

### Navigating the GUIDE Plus+ menu.



Back 24 hours



Forward 24 hours



Programme selection [Prog. Typ]

# Remote control

## HDD/DVD Functions

Basic 

 **SKIP:** Skip chapters, titles or pictures.

 **SLOW/SEARCH:** Search or slow motion playback

 Stops a recording or playback.

 Pauses a recording or playback.

 **Playback:** starts playback  
The unit is switched on from standby mode.

**HDD RAM PLAY/ x1.3:** You can increase the playback speed. Hold **PLAY** during playback.

 38

### Navigation

 **DIRECT NAVIGATOR TITLE VIEW**  
**TOP MENU:** Main menu of DVD-Video.

 68

 **FUNCTIONS** selection menu.

 65

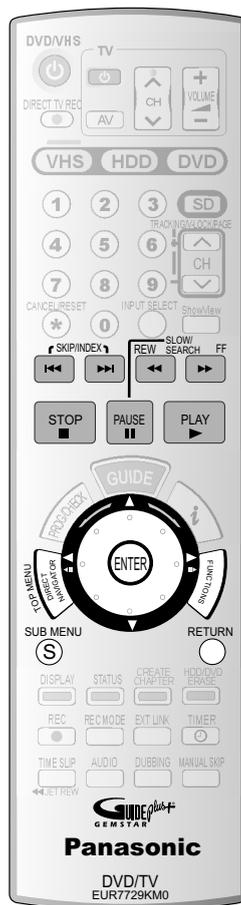
 Direction buttons in the menu navigation.  
Selection of groups ◀▶ or titles.

◀▶ Still picture or time loop playback.

**ENTER:** Select or save a setting.

**SUB MENU**  
 Launch sub menus.

**RETURN**  
 Exit a menu.



## VHS Functions

Basic 

 **INDEX:** Search for the beginning of a recording.

 **REW/FF:** Fast forward or rewind from stop mode.  
Forward or reverse scene search during playback mode.

 Stops recording, replay or forward/reverse action.  
Press and hold more than 3 seconds to remove cassette.

 Pauses a recording or playback.  
Press and hold more than 2 seconds for slow-motion.

 **Playback:** starts playback  
The unit is switched on from standby mode.  
Press and hold more than 3 seconds for repeat playback

### Navigation

 **FUNCTIONS** selection menu

 116

 Direction buttons in the menu navigation.

**ENTER:** Select or save a setting.

**RETURN**  
 Exit a menu.

# Remote control

## HDD/DVD Functions

REC 

 Record	
 TIMER RECORDING menu	
ShowView  ShowView menu	
TIMER  Switch timer on and off.	
EXT LINK  Record with external recording control	
DIRECT TV REC  Direct TV record to DVD or HDD	
REC MODE  Record mode button (XP, SP, LP, EP)	
DUBBING  DUBBING menu	



## VHS Functions

REC 

 Record	
 TIMER RECORDING menu	
ShowView  ShowView menu	
TIMER  Switch timer on and off.	
EXT LINK  Record with external recording control	
DIRECT TV REC  Direct TV record to DVD or HDD	
REC MODE  Record mode button (SP, LP, EP)	
DUBBING  DUBBING menu	

# Remote control

## HDD/DVD Functions Comfort

-  Launch the DISPLAY menu.  112  113

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-  Detail information appears on the screen.  114

---

-  Split the recording into chapters.  38

---

-  Erase a title or a chapter.  69

---

-  **TIME SLIP:** Select the timeframe to be skipped.  39

---

-  Depending on the disc, select the audio channel or the sound track.  38

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-  Jumps forward 30 seconds.  36

### Colour buttons

-  Delete station or selection buttons in the menus.

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-  Add station or selection buttons in the menus.

---

-  Move station or selection buttons in the menus.

---

-  Navigate the GUIDE Plus+ menu.



## VHS Functions Comfort

-  **TRACKING/LOCK +/-**  
Optimisation of the playback picture.  47

---

-  Detail information appears on the screen.  115

---

-  **JET REW:** For fast rewinding to the beginning of the tape.  46

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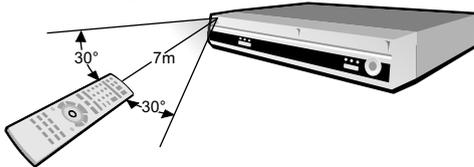
-  Press several times to select sound playback mode.  115

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-  Reset of the tape counter.  115

# Remote control

Remote control signal sensor



Point the remote control at the unit's sensor. Avoid obstacles in the path of the transmission. The maximum range of the remote control is 7 m directly in front of the unit. Keep the transmission window and the unit sensor clean. The procedure can be impaired by direct sunlight or doors of glass cabinets.

## Child lock

You can lock the buttons of the unit and the remote control.

- Press and hold **RETURN** and **ENTER** until **X HOLD** appears in the display. The unit is now locked.
- To unlock the child lock, repeat the procedure until **X HOLD** disappears.

## Operating a television set

Change the remote control code to operate your television set.

- Press and hold the **TV** on and off switch button.
- Enter the two-digit code for your television set. The input must be repeated after batteries are changed.

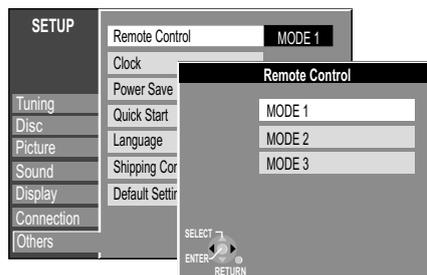
Trademark	Code	Trademark	Code	Trademark	Code	Trademark	Code
Panasonic	01-04,45	GOODMANS	05,06,31	NOKIA	25-27	SANYO	21
AIWA	35	GRUNDIG	09	NORDMENDE	10	SBR	06
AKAI	27,30	HITACHI	22,23,31,40-42	ORION	37	SCHNEIDER	05,06,29-31
BLAUPUNKT	09	INNO HIT	34	PHILIPS	05,06	SELECO	06,25
BRANDT	10,15	IRRADIO	30	PHONOLA	31,33	SHARP	18
BUSH	05,06	ITT	25	PIONEER	38	SIEMENS	09
CURTIS	31	JVC	17,39	PYE	05,06	SINUDYNE	05,06,33
DESMET	05,31,33	LOEWE	07	RADIOLA	05,06	SONY	08
DUAL	05,06	METZ	28,31	SABA	10	TELEFUNKEN	10-14
ELEMIS	31	MITSUBISHI	06,19,20	SALORA	26	THOMSON	10,15,44
FERGUSON	10	MIVAR	24	SAMSUNG	31,32,43	TOSHIBA	16
GOLDSTAR/LG	31	NEC	36	SANSUI	05,31,33	WHITE WESTINGHOUSE	05,06

*Some television models of the brands listed above, (e.g. older Panasonic units), cannot be operated using the remote control.*

## Switching to AV input on your Panasonic television set

- Press **AV**. Each press of the button switches between TV reception and AV input.

# Remote control



If you use another Panasonic unit at the same location, change the mode of the remote control so that you can operate the units independently of each other.



## Setting the remote control

Setting the remote control mode for unit.

- Press **FUNCTIONS** in stop mode.
- Use **▲▼** to select [To Others] and confirm with **ENTER**.
- Use **▲▼** to select SETUP and confirm with **ENTER**.
- Use **▲▼** to select [Others], **▶** to select [Remote Control] and confirm with **ENTER**.
- Use **▲▼** to select the desired mode [MODE 1, 2 or 3] and confirm with **ENTER**.

Select the desired mode on the remote control.

- Press and hold the **ENTER** button for approx. 2 seconds and, at the same time, enter the number that corresponds with the selected mode (1, 2 or 3).
- Press **RETURN** to exit the menu.

## Setting options

**MODE1:** Select this setting for normal use.

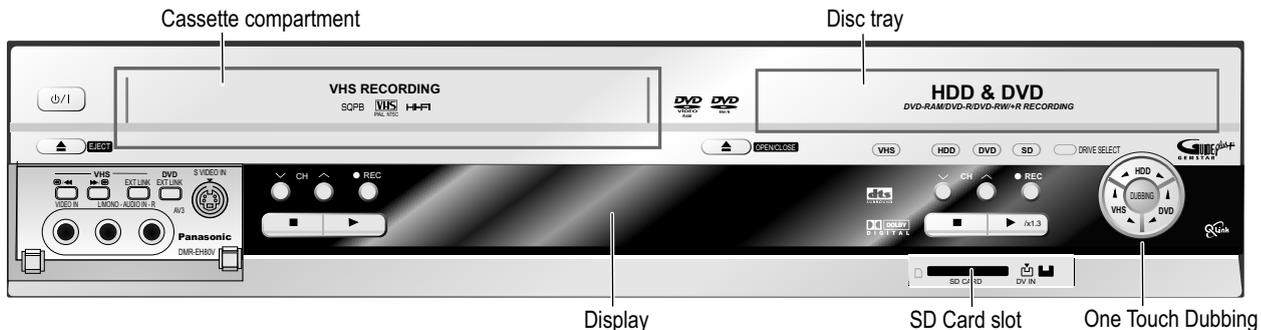
If the mode of the remote control does not correspond with that of the unit, [REMOTE MODE 1 / 2 / 3] will appear on the unit display.

- Press and hold the **ENTER** button for approx. 2 seconds and, at the same time, enter the number that corresponds to the displayed mode (1, 2 or 3).

*If you want to operate two units independently of each other with the same remote control, then change the mode of the remote control.*

*The input must be repeated after batteries are changed.*

# Front panel



Front connections	
	AV3 input terminal
	S VIDEO input (AV3)
	DV IN input

	<b>Standby/on switch</b> 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.		
 	Drive display		Drive selection HDD, DVD, SD
VHS		HDD/DVD	
	Remove cassette		Open and close the disc tray
	Channel select button		Channel select button
	Record		Record
	Stop		Stop
	Playback		Playback / x1.3
Front access			
	Search or fast forward		Recording with external recording control

# Display



**TIMER**-controlled recording.

**Blinking:** There are less than 10 minutes until the start of a programmed **TIMER** recording.

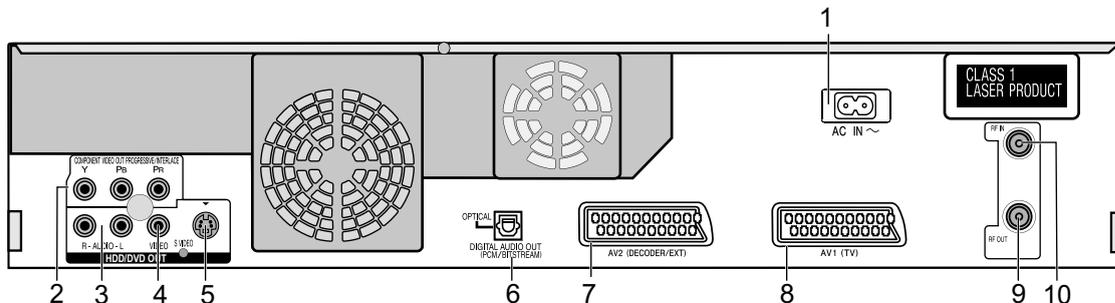
The device is not set to **TIMER** standby mode.

Information displays in VHS mode		Information displays in DVD/HDD mode	
	VHS operating state, e.g. playback, search		Disc is being read.
	Tape Remain indicator	DVD-RAM VCD +RW VR	Disc type e. g.: DVD-RAM, DVD-R, DVD-Video, Video-CD, DVD-RW (VR).
SP, LP, EP	Tape speed SP: normal recording duration LP: double the recording duration EP: triple the recording duration	XP, SP LP, EP	Record mode All on: FR mode (for flexible recordings or <b>TIMER</b> -controlled recordings)
	Channel display A1, A2, A3 DC	TRK GRP TTL PL	Channel display A1, A2, A3 DV TP
S-VHS	S-VHS Dubbing display during a dubbing procedure		TRK Track number GRP Group number TTL Title number PL Number of Playlist

## Other displays

PB	Playback		Current time, recording/playback counter, various messages
REC	Record		
VHS HDD DVD 	Medium display.	SD	SD Card has been inserted.
	Copy direction display	EXTL	External Link display <b>On:</b> A <b>TIMER</b> -controlled recording is being performed by an external device.

# Rear panel



1	AC IN~ = Power supply
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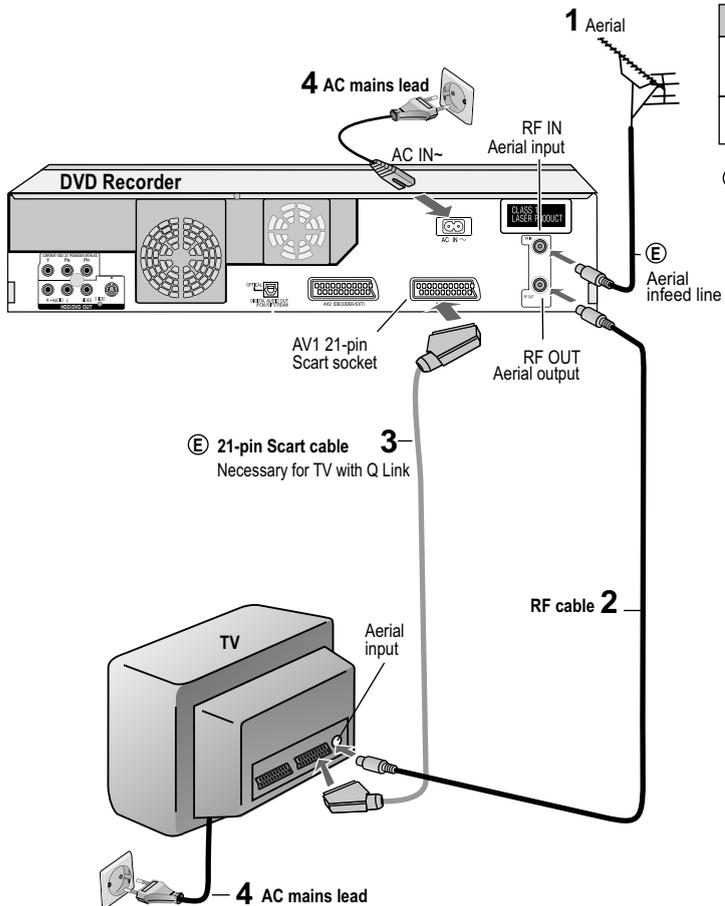
HDD/DVD OUT	
2	COMPONENT VIDEO OUT Y = Luminance signal (luminance) Pb = Chrominance signal (colour difference) Pr = Chrominance signal (colour difference)
3	R-AUDIO-L = Audio output right/left channel
4	VIDEO = Video output
5	S VIDEO = S VIDEO out connector
6	OPTICAL = Digital audio output

VHS/DVD COMMON	
7	AV2 (DECODER/EXT) 21-pin Scart socket = connection of an external unit
8	AV1 (TV) 21-pin Scart socket = TV connection
9	RF IN = Aerial input
10	RF OUT = Aerial output

For a conventional tube television, we recommend using the Scart socket. You will get a high-quality RGB video picture with an RGB-compatible television.

If you want to use a progressive scan-capable LCD/plasma television or LCD projector, connect it to the component video outputs for a high-quality progressive video picture.

# Connecting with a 21-pin Scart cable



Connecting the TV	Setup
With Q Link function and 21-pin Scart socket	Download from TV 
With a 21-pin Scart cable	Auto-Setup 

Ⓔ = Extra equipment for the connection shown: Aerial infeed line  
21-pin Scart cable

## Follow the steps below.

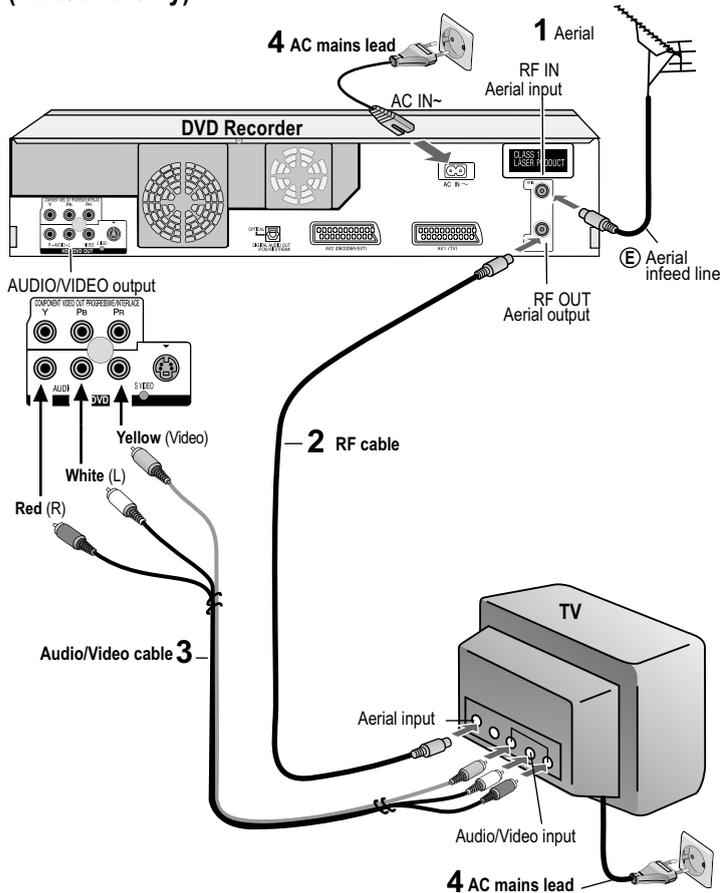
Disconnect the power from all units.

- 1 Connect the aerial to the RF IN (aerial input) of the DVD Recorder.
- 2 Connect the RF OUT (aerial output) of the DVD Recorder to the aerial input of the television set.
- 3 Connect the AV1 socket (21-pin Scart socket) of the DVD Recorder to the Scart input of the television set.
- 4 Plug the DVD Recorder and the television set into the AC mains socket.

*If your television supports Q Link or RGB, connect it to the DVD Recorder with a fully wired 21-pin Scart cable.*

SETUP - Connections - [AV1 Output]

# Connecting with Audio/Video cable (HDD/DVD only)



Connecting the TV	Setup
With an Audio/Video cable	Auto-Setup 

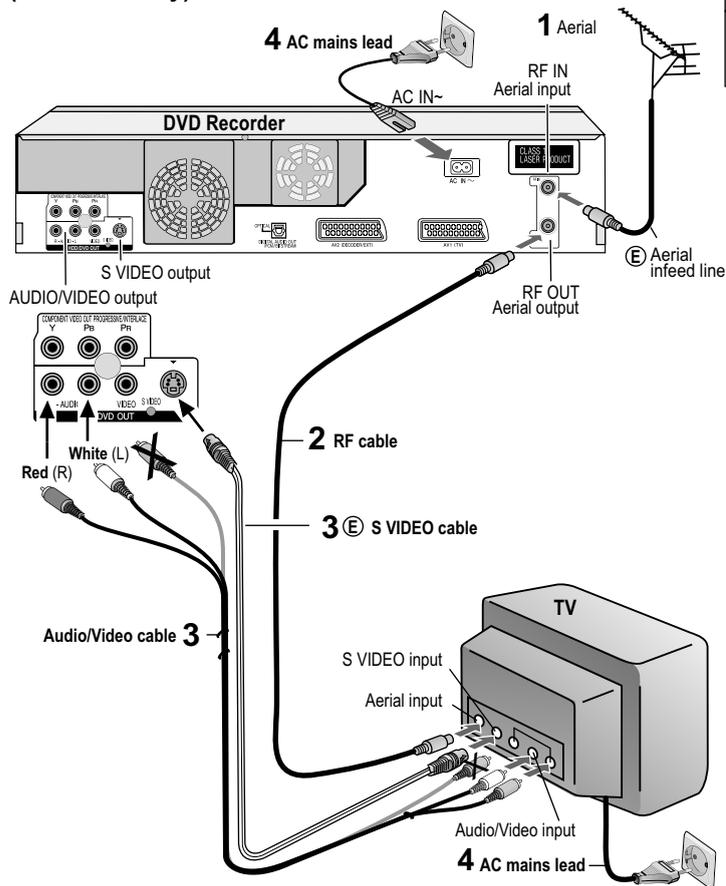
(E) = Extra equipment for the connection shown: Aerial infeed line

## Follow the steps below.

Disconnect the power from all units.

- 1 Connect the aerial to the RF IN (aerial input) of the DVD Recorder.
- 2 Connect the RF OUT (aerial output) of the DVD Recorder to the aerial input of the television set.
- 3 Connect the HDD/DVD OUT (AUDIO L/R, VIDEO) of the DVD Recorder to the input of the television set.
- 4 Plug the DVD Recorder and the television set into the AC mains socket.

# Connecting with S VIDEO cable (HDD/DVD only)



Connecting the TV	Setup
With an S VIDEO cable and an Audio cable	Auto-Setup 

(E) = Extra equipment for the connection shown: S VIDEO cable, Aerial infeed line

## Follow the steps below.

Disconnect the power from all units.

- 1 Connect the aerial to the RF IN (aerial input) of the DVD Recorder.
- 2 Connect the RF OUT (aerial output) of the DVD Recorder to the aerial input of the television set.
- 3 Connect the HDD/DVD OUT (AUDIO L/R, S VIDEO) of the DVD Recorder to the input of the television set.
- 4 Plug the DVD Recorder and the television set into the AC mains socket.

*The S VIDEO connection delivers a clearer picture than the VIDEO OUT connection.*

# Automatic setup



## Download from TV using S-Link (Registered trademark of Panasonic)

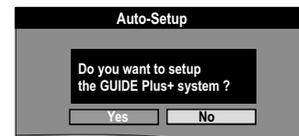
Note that you must first perform a station search.

If you have a Panasonic television, [Download from TV] will be displayed automatically at the beginning of the station transfer.

- Switch your television on and select the AV channel.
- Switch the unit on using the **Standby/on switch**.
- When the Country menu appears, use ◀▶▲▼ to select the appropriate country and confirm with **ENTER**.

*The unit starts the station transfer.*

*The Auto-Setup menu for the GUIDE Plus+ system appears after the station transfer (pages 21-22).*



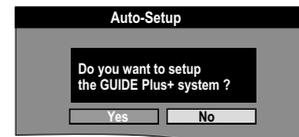
## Auto-Setup

The automatic setup saves all available TV stations. If the station also broadcasts date and time, then the clock is also set automatically.

- Switch on your television and select the AV channel.
- Use the **Standby/on switch** to switch the unit on.
- In the Country menu, use ◀▶▲▼ to select the appropriate country and confirm with **ENTER**.

*Automatic setup starts and takes approx. 5 minutes.*

*The Auto-Setup menu for the GUIDE Plus+ system appears after the Automatic Setup (pages 21-22).*



If you select Schweiz, Suisse or Svizzera, the Power Save menu appears.

If you select Power Save [On], the power consumption of the unit in standby mode will be reduced to a minimum.

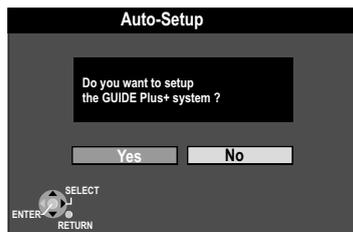
Press the **Standby/on switch**.

*If the clock setting menu appears.*

*Check the television station.*

*Run Auto-Setup again.*

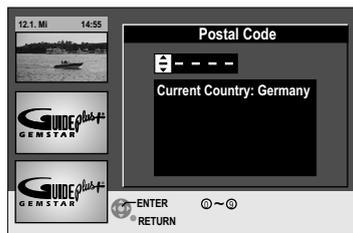




## Auto-Setup of the GUIDE Plus+ system

In order to receive data, the country, date and time of your current location must be set in the basic settings of the unit. When the unit is first set up, the Auto-Setup menu for the GUIDE Plus+ system will appear after the station search or the automatic station configuration (Q Link).

You can not setup the GUIDE Plus+ system if the clock is not set.



To set up the GUIDE Plus+ system, use ◀▶ to select [Yes] and press **ENTER**. If you do not want to setup, select [No]. You can perform the Setup at a later point in time by launching the GUIDE Plus+ system. 79

Enter the Postal Code of your location with ▼▲ or the number buttons on the remote control and press **ENTER**.

Should your Postal Code change, you can update this information at a later point in time in the Setup of the GUIDE Plus+ system.

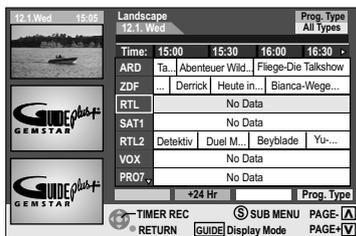
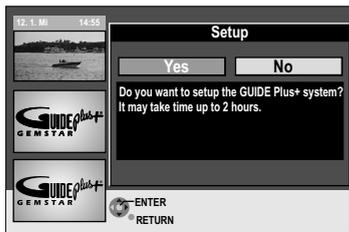
Use ◀▶ to select [Yes] and press **ENTER**. The GUIDE Plus+ data is loaded. This takes approximately 2 hours. If [No Data] appears for a station after the loading procedure, check the settings in the Editor of the GUIDE Plus+ system. 78

Select [No] if you do not want to load the GUIDE Plus+ data.

You can load the GUIDE Plus+ data at a later point in time using the Setup of the GUIDE Plus+ system. 80

*The GUIDE Plus+ data are loaded automatically when you leave your unit in standby mode for 24 hours.* 78

# GUIDE Plus+ setup



## Automatic update of the GUIDE Plus+ data

After the GUIDE Plus+ system has been set up, the data is automatically updated several times each day. To guarantee an update, switch your unit to standby mode and do not take your unit offline. During the update, GUIDE appears in the display of your unit. If you turn on the unit while GUIDE appears, the data update is interrupted. After switching your unit to standby mode, the GUIDE Plus+ data is saved and remains saved if the unit is later taken offline.

If a station changes its programming on short notice, the GUIDE Plus+ programme information can deviate from the actual programme.

## If you didn't receive any data

It is not possible to receive GUIDE Plus+ in all countries (table: List of Host Channels). It takes approx. 1 hour to search for the Host Channel. If no Host Channel was found, a message appears [No Host Channel detected].

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Please check whether the right Host Channel has been allocated. Which channels appear in the GUIDE Plus+ list depends on local reception conditions. Sub-optimum reception quality can result in missing or incomplete GUIDE Plus+ data.

## List of Host Channels (Status: 30th April 2005)

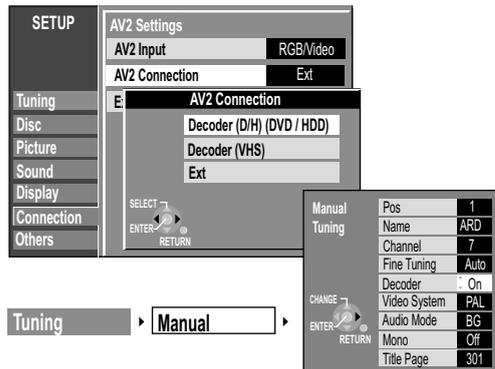
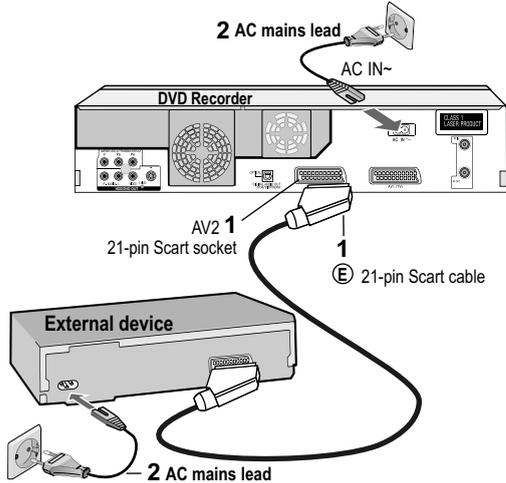
Country	Host Channel	Display of the Host Channel
Germany	Eurosport	EUROS
Austria	Eurosport	EUROS
Switzerland (*)	Eurosport	EUROS
France	Canal+	CANAL
Spain	Tele5	TELE5
Netherlands	Eurosport / Music Factory (TMF)	EUROS / TMF
Belgium (**)	Music Factory(TMf)	TMF
Italy	Sport Italia	SI

(\*) German speaking part      (\*\*) Flemish speaking part

For more information, see  
[www.europe.guideplus.com](http://www.europe.guideplus.com)

# External devices

Ⓔ = Extra equipment for the connections shown



## Connecting a Set Top Box, satellite receiver, decoder

You can connect a Set Top Box to receive digital terrestrial signals (DVB-T), a Satellite receiver (digital / analogue) or a decoder for decrypting programmes.

Disconnect the power from all units.

- 1 Connect the external device with a 21-pin Scart cable to the AV2 connection of the DVD Recorder.
- 2 Connect the DVD Recorder and the external device to the power supply.

## Changing the settings in the SETUP menu when connecting a decoder

107

- Press **FUNCTIONS** in stop mode.
- Use **▼▲** to select [To Others] and confirm with **ENTER**.
- Use **▼▲** to select **SETUP** and confirm with **ENTER**.
- Use **▼▲** to select [Connection], **▶**, **▼▲** to select [AV2 Settings] and confirm with **ENTER**.
- In the next screen, use **▼▲** to select [AV2 Connection] and confirm with **ENTER**.
- Use **▼▲** to select [Decoder (D/H) (DVD / HDD) or (VHS)] and confirm with **ENTER**.
- Press **RETURN** and use **◀** to return to [Connection].
- Use **▼▲** to select [Tuning], **▶**, **▼▲** to select [Manual] and confirm with **ENTER**.
- Use **◀▶▼▲** to select an encrypted station and press **ENTER**.
- In the Manual Tuning sub-menu, use **▼▲** to select [Decoder] and **▶**, **▼▲** to select [On].
- Confirm the setting with **ENTER**.

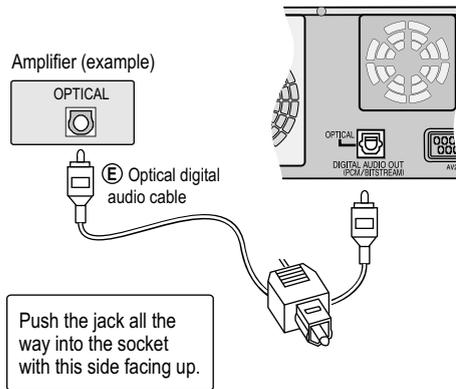
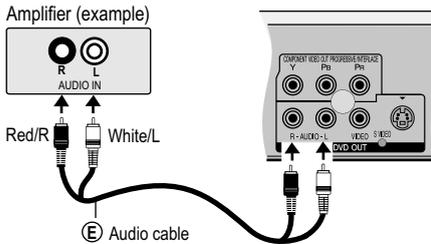
## AV-Link function

To switch between television reception and signal from the DVD recorder.

- DVD recorder signal: Press **0 + ENTER**. DVD appears in the display.
- Television reception: Press the buttons again. TV appears in the display

# External devices

Ⓔ = Extra equipment for the connections shown



## Connecting an analogue amplifier or an analogue system component

Before you connect the cable, make sure that the power to both devices is turned off. After you have connected the cables, switch both devices on.

In order to enjoy stereo or Dolby Pro Logic, connect the appropriate amplifier or an analogue audio component.

- Connect the analogue output (L/R) e.g. to a Dolby Pro Logic amplifier.
- As described, connect the Audio cable according to the colours and markings of the connection sockets (white/L, red/R).

## Connecting a digital amplifier or a digital system component

Before you connect the cable, make sure that the power to both devices is turned off. After you have connected the cables, switch both devices on.

**DVD** If an amplifier equipped with a Dolby Digital, DTS or MPEG decoder is connected, multi-channel surround sound from a DVD-Video disc can be played back.

- Connect an amplifier with a Dolby Digital-, DTS- or MPEG decoder.
- Use an Optical digital audio cable.
- In the Sound SETUP menu, change the [Digital Audio Output] setting according to your connected digital amplifier.

*You cannot use DTS Digital Surround decoders that are not suitable for DVD.*

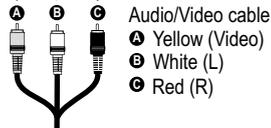
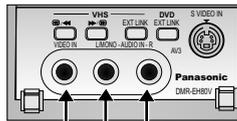
**DD DOLBY** This device can playback stereo **DIGITAL** sound in Dolby Digital (2 channels). Connect an amplifier with built-in Dolby Digital decoder in order to be able to enjoy Surround Sound.

**DIGITAL** Connect this unit to a device with a DTS decoder in order to be able to play DVDs with this symbol.

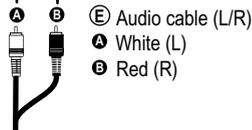
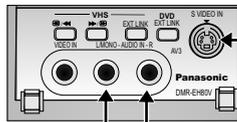
**ds**  
SURROUND

# External devices

Ⓔ = Extra equipment for the connections shown



Audio/Video cable  
A Yellow (Video)  
B White (L)  
C Red (R)



Ⓔ Audio cable (L/R)  
A White (L)  
B Red (R)

Ⓔ S VIDEO -cable

## Connecting to the AV3 input sockets (e.g. Camcorder)

Before you connect the cable, make sure that the power to both devices is turned off. After you have connected the cables, switch both devices on.

If the audio output of the other device is mono, connect it to the L/MONO socket. Both the left and the right channels will be recorded if the connection is made via the L/MONO socket.

Choose one of the two connection possibilities.

Connection with S VIDEO cable and audio cable (L/R) produces the best quality.

## DV-IN connection

Before you connect the DV cable, make sure that the power to both devices is turned off.

- Connect the DV output of the DV unit (e.g. digital camcorder) to the DV input socket of the DVD Recorder.

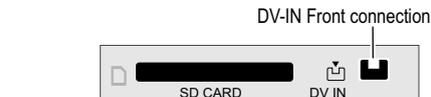
Use the DV cable.

- After you have connected the cables, switch both devices on.

*The DVD Recorder cannot be controlled by the connected DV unit.*

*The DV input of this unit is only intended for DV units. A computer e.g. cannot be connected.*

*Some DV units do not allow for proper input of the picture and sound signal.*



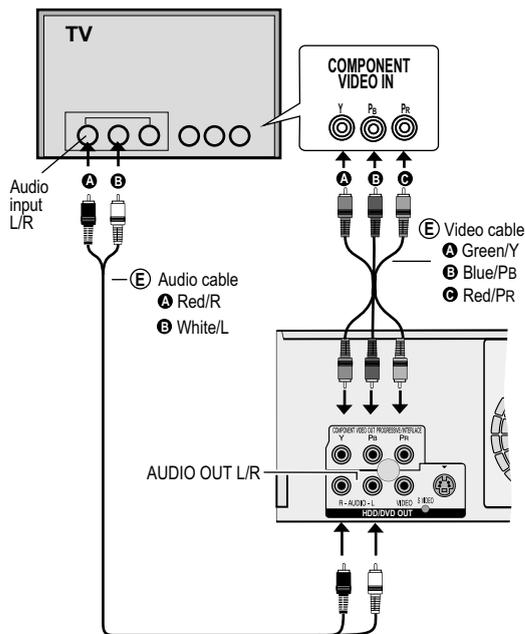
DV unit (example)



Ⓔ = Extra equipment DV cable

# COMPONENT VIDEO OUT

(HDD/DVD only)



(E) = Extra equipment for the connections shown

If the AV1 Output setting in the SETUP menu is set to [RGB (without component)], no output will take place to the COMPONENT VIDEO OUT sockets. Set this option to [Video (with component)].

If the unit is connected to the television via the VIDEO OUT, the S VIDEO OUT or the AV1 socket, output takes place in the interlace format regardless of the settings.

## COMPONENT VIDEO OUT socket

These sockets can be used for interlace or progressive output and deliver a clearer picture than the S VIDEO OUT socket. Connections via these sockets output colour difference signals (Pb/P<sub>R</sub>) and luminance signal (Y) separately. Colours can be reproduced true to colour. The properties of the COMPONENT VIDEO input socket are dependent on the television set or screen. Always connect sockets of the same colour. Connect the Audio cable to the corresponding audio input sockets of the television.

## Connecting a television with COMPONENT VIDEO input sockets

If your television with LCD or plasma screen supports the progressive procedure, connect it to the COMPONENT VIDEO OUT sockets. If you want to enjoy progressive-quality video, set Progressive to [On].

- Press **FUNCTIONS** in stop mode.
- Use **▼▲** to select [To Others] and confirm with **ENTER**.
- Use **▼▲** to select SETUP and confirm with **ENTER**.
- Use **▼▲** to select [Connection], **▶, ▼▲** to select [Progressive] and confirm with **ENTER**.
- Use **▼▲** to select the [On] option and confirm with **ENTER**.

## Progressive television picture

The progressive aspect ratio (height to width) is set to 16:9. DVD-Video with an aspect ratio of 16:9 will be displayed properly. However, video material with an aspect ratio of 4:3 will be displayed stretched to the right and left.

If it is possible to adjust the aspect ratio of your television for progressive images, set the Progressive setting to on.

*In normal televisions, progressive output can lead to flickering, even if the television is progressive-compatible.*

*Make sure that the Progressive setting is set to [Off].*

## Handling discs



Only play round discs.

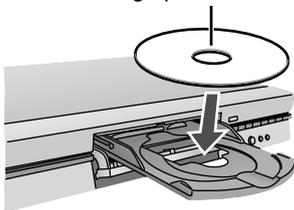
Do not touch the recording surface of the disc.



### Cleaning the DVD-RAM

Clean the disc with a special DVD-RAM cleaner (optional) and read the cleaner instructions thoroughly before use.

Place the disc in the tray with the label facing upwards. With double-sided discs, place the side that you want to play, with the label facing up.



### Handling discs

If the surface of a disc that does not have or was removed from a cartridge is damaged, scratches, dirt, dust or fingerprints can compromise the recording, editing or playback. Such damage can also occur when the disc is inserted back into the cartridge.

### Cleaning DVD-Videos, Video CDs and CDs.

If the disc is dirty, wipe it with a moist and then a dry cloth. Bad scratches and stubborn dirt may not be able to be removed so that recording, editing or playback is still compromised even after cleaning. The disc should then no longer be used.

Do not use benzene, alcohol, water, cleaning sprays, household cleaners or other solvents.

Note: Only the label side of the disc may be written on.

Use a soft oil-based felt pen.

Do not use a ball-point pen or other hard writing instrument.

Do not affix any stickers or labels to the disc. The disc can warp and may become unusable.

When not in use, place the disc in its jewel case or cartridge so that it does not become scratched or dirty.

Do not drop the disc, place them on top of each other and never bang them. Do not place anything on top of the disc.

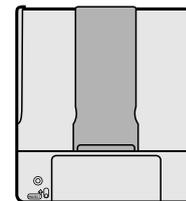
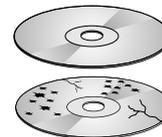
Protect the disc from dirt, dust, heat, humidity, direct sunlight or strong temperature fluctuations (since condensation can form).

### DVD lens cleaner (RP-CL720E)

Compatible models: Only for Panasonic's DVD recorders. Do NOT use this cleaner with any other Panasonic DVD products or with the DVD products of any other companies since doing so may damage the products.

### Regional codes (DVD-Video only)

DVD-Videos with the regional code 2 or ALL can be played with this unit. The code is listed on the backside of the unit. England and Continental Europe: 2.



Cartridge



# Handling your HDD



Your HDD (Hard disk drive) is a highly precise recording unit with a particularly long recording capacity and a high recording speed. Be careful with the unit since it can be easily damaged.

Always save an additional backup copy of important data on a disc!



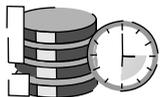
- Your HDD is sensitive to vibrations, jolts and dust. Improper handling or the wrong operating environment can lead to data loss. In some cases, the unit may no longer record or playback correctly. In particular, be sure to operate the HDD in a jolt- and vibration-free environment. Do not unplug the unit during recording or playback. Otherwise, data may be lost.
- Your HDD is a temporary storage medium. It should not be used to permanently save recordings. Use your HDD for one-time viewing, editing and saving recordings to a disc.
- Immediately save all HDD content to another medium (disc) if you detect any problems. Irregularities are manifested in repeated, inexplicable noises and picture distortions. Should you detect problems, refrain from using your HDD. In the worst case, you will destroy the HDD. Please take the unit to customer service.  
Recordings saved to a damaged HDD cannot be recovered.
- An unexpected sound may occur when switching the unit on and off or when the HDD automatically goes into SLEEP mode. This is not a problem. The unit is functioning properly.



## Moisture and condensation

- Do not expose your HDD to extreme fluctuations in temperature (e.g. transport from a warmer to a colder or a colder to a warmer environment or direct exposure to cold air in air-conditioned rooms). Moisture may collect inside the unit and destroy the HDD read and write heads or other parts. Let the unit sit for 2 to 3 hours so that it can adjust to room temperature after a change in location and any potential moisture can dry. Then you can operate the unit.

# Handling your HDD



## Liability for recorded data

Panasonic is in no way liable for direct or indirect problems resulting in the loss of recordings or edited content (data) and does not guarantee the error-free functioning of the recorded or edited content. This also applies to the servicing of the unit (also applies to components that are not connected to the HDD).

## During operation

Do not expose your HDD to jolts and vibrations.

This can damage the HDD.

Do not unplug or turn off the power during operation.

The HDD spins at a very high speed.

Sounds or movements are normal due to the rotational speed.

## If you want to transport the unit

- Switch the unit off. (Wait until "BYE" disappears from the display.)
- Unplug the unit.
- Note that the HDD continues to run for a short period of time after the unit has been switched off. Only transport the unit if the HDD has come to a complete stop (after approx. 2 minutes) to prevent damage from vibrations and jolts.

## Remaining recording time on the HDD

This unit records with a VBR (Variable bit rate) data compression system. This means that the length of the programmed recording is variably adjusted based on the video data to be recorded. Thus, there may be differences in the display of the remaining recording time and the remaining recording length.

If there is not enough storage space for a recording, delete old titles from the HDD to free up storage space for a recording. (The deletion of playlists does not increase the storage space!)

## "HDD SLP (SLEEP)" appears in the display

Your HDD automatically went into SLEEP mode. When the unit is switched on, the HDD spins at a high speed. To extend the lifetime of the HDD, it goes into SLEEP mode if no function is called for more than 30 minutes and there is no disc in the DVD drive.

- Press **HDD** to activate it.
- If the HDD is in SLEEP mode, it needs a short period to power up. Thus, recordings or playbacks do not start right away.
- Please always remove discs from the HDD when you are not using the unit so that the HDD will go into SLEEP mode.

# Disc formats



Playback and recording discs					
---	HDD (Hard disk drive)	200GB rewritable	<b>HDD</b>	TIME SLIP function, CPRM compatible, supports 2 channel sound, 16:9 format, creation of playback lists, deleting individual titles frees up storage space, Temporary storage	Video / pictures
	DVD-RAM	4,7GB / 9,4GB, 12cm 2,8GB, 8cm rewritable	<b>RAM</b>	TIME SLIP function, CPRM compatible, supports 2 channel sound, 16:9 format, creation of playback lists, deleting individual titles frees up storage space	Video / pictures
	DVD-R (DVD-Video format)	4,7GB, 12cm 1,4GB, 8cm writable	unfinalised <b>-R</b> finalised <b>DVD-V</b>		Video
---	+R	4,7GB, 12cm writable	unfinalised <b>+R</b> finalised <b>DVD-V</b>		Video
	DVD-RW (DVD-Video format)	12cm / 8cm rewritable	unfinalised <b>-RWV</b> finalised <b>DVD-V</b>		Video

Playback discs					
	DVD-Video	12cm / 8cm playback only	<b>DVD-V</b>	High-quality video and music discs.	
	DVD-Audio	12cm / 8cm playback only	<b>DVD-A</b>	Music discs in digital quality. Playback in 2-channel sound.	
	DVD-RW (DVD-VR format)	12cm / 8cm playback only	<b>-RWVR</b>	Unfinalised CPRM compatible discs with "one time only recorded" recording. Recorded on another DVD recorder.	
---	+RW	12cm / 8cm playback only	<b>DVD-V</b>	Recorded on another DVD recorder. The disc must be finalised eventually.	
	Audio CD CD-R/RW	12cm / 8cm playback only	<b>CD</b>	Music and audio recordings.	
---		12cm / 8cm playback only		Music in MP3 format, pictures in JPEG and TIFF format. Max. 999 titles / 99 groups.	
	Video CD CD-R/RW	12cm / 8cm playback only	<b>VCD</b>	Music and video recordings. SVCD conforming to IEC62107.	

Due to the disc programme structure set by the manufacturer, not all described functions may be able to be used. Depending on the disc type, the regional code and the recording conditions, it may not always be possible to play the discs listed.

# Disc formats



## RAM Cartridge discs

When the write-protection device is activated, you can neither record nor edit or delete the contents of a disc.



Cartridge write protection

Remove 8cm discs from the cartridge before you use them on the unit.

## Discs recorded with PAL or NTSC signals:

TV type	Disc	Yes/No
Multi-system TV	PAL	Yes
	NTSC	Yes
NTSC-TV	PAL	No
	NTSC	Yes
PAL-TV	PAL	Yes
	NTSC	Yes (PAL60)

## DVD Video Recording format (VR)

This format enables the free editing of recordings. Digital programmes that allow "one time only recording" can be recorded once on a CPRM-compatible DVD-RAM. Playback is only possible on compatible units.

## DVD-Video format (V)

This format corresponds with the commercially available DVD-Video. Recordings made with this unit must be finalised in order to be played back on a DVD player. Digital programmes that allow "one time only recording" can not be recorded. The DVD-Video format can be recorded on DVD-R or DVD-RW.

RAM The disc can only be played back on DVD-RAM-compatible players.

RAM You can use the playback and the DIRECT NAVIGATOR while the unit is in timer-standby mode.

Still images (JPEG/TIFF) recorded on a CD-R/RW as well as CD-DA, Video CD and MP3-format data can be played back. After the recording, the session must be ended or the disc must be finalised.

New or previously used (e.g. in computers) DVD-RAMs or DVD-RWs may need to be formatted before recording with this unit.



DualDiscs may not always play without errors.

## RAM CPRM (Content Protection for Recordable Media)

This unit is compatible with the copy-protection system CPRM for writable media. When using a CPRM-compatible disc, a digital programme can be recorded one time. Programmes broadcast with this copy-protection system cannot be recorded on DVD-R or 2.8GB DVD-RAM.

**Discs that cannot be played back:** Some DVD-R; DVD+R; DVD-R DL/DVD+R DL; DVD-RAM (2.6 GB/5.2 GB); DVD-ROM; CD-ROM; CDV; SVCD that do not conform to EIC62107; SACD; MV-Disc; PD; Photo CD; DivX Video Disc, Blu Ray, etc. The playback of non-standard video CDs is not guaranteed.



## Copying from HDD to DVD in high-speed mode **R RW +R**

You can copy titles from the HDD to DVD in high-speed mode. Before the titles are saved to the HDD, please perform the following settings:

- In the SETUP menu, set the setting for Rec for High Speed dubbing to [On].



Please note the following when copying in high-speed mode:

16:9-format programmes are recorded in 4:3 format.

With dual-channel-sound programmes, only the main sound (M1) or the extra sound (M2) can be recorded.

Some television stations broadcast a main sound (M1) and extra sound (M2). The desired sound must be selected before recording dual-channel-sound programmes.

- In the SETUP menu, select Sound for Bilingual Audio Selection [M1] or [M2].



If an external unit is connected, select sound channel (M1) or (M2) on the external unit.

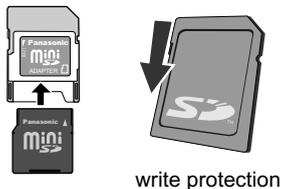
After recording is complete, it takes approx. 30 seconds for the unit to process the information. The first 30 seconds of a recording may be missing if you perform successive **TIMER**-controlled recordings.

In order to playback a DVD-R, DVD-RW (DVD-Video format) or +R recorded using this unit on another unit, the disc may need to be finalised.  
The disc may also not be able to be played back on other units even after finalising.

# SD Memory Card



Memory Cards				
SD Memory Card miniSD™ Card MultiMediaCard	8MB to 1GB (Maximum)		For playing back and copying (DUBBING) pictures that were recorded e.g. with a digital camera. Setting the DPOF feature (page 42).	Pictures



write protection

Use an appropriate adapter for miniSD™ cards.

If the SD Memory Card has been formatted with another device, the recording can take longer than usual. If the SD Memory Card was formatted with a PC, under certain circumstances you may possibly not be able to use it with this unit. In this case, reformat the card with this unit. Caution! All saved data are deleted during formatting.

When the write-protection device is activated, you can neither record nor edit or delete the contents of the SD Card.

This unit supports SD Memory Cards that are formatted with FAT 12 and FAT 16 systems (based on SD Memory Card spec.).

Additional information is available on the Internet at <http://panasonic.co.jp/pavc/global/cs>

## Suitable SD storage cards

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

Do not touch the memory card contacts.



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

## Inserting the storage card

Open the SD slot.

Insert the card until it locks in place.



Insert card with label facing up and corner to the right.

## Removing the storage card

Press the storage card to disengage and remove.

Close the SD slot.



# Playback

## Playback functions

### DVD / HDD

---

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### DVD

---

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### DVD / HDD SD

---

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---

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# Playback



## Preparation

- Switch your television on and select the appropriate AV channel.
- Switch the DVD Recorder on and select the desired drive with **HDD** or **DVD**.  

### Playback

-  • Press **PLAY** .
-  • Press **OPEN/CLOSE**  to open the disc tray.
  - Place the disc in the disc tray.
  - Press **PLAY** .

The disc tray is closed and playback begins.  
*The reading of the disc may take some time!*

 Playback begins with the last recorded title.  
 Playback begins at the beginning of the disc.

### PAUSE during playback

- Press **PAUSE**  during the playback.
- Press **PAUSE**  again to resume playback.

### Resuming playback

- Press **STOP**  during the playback.  
The unit saves the position.  
*The position is deleted if you switch the unit off.*
- Press **PLAY**  to resume playback from the saved position.
- To cancel the function, press **STOP**  several times.

### Cancelling playback

- 
- Press **STOP**  to watch TV via the unit's tuner.
- 
- Press **STOP**  during the playback.
  - Press **STOP**  again to watch TV via the unit's tuner.

## Direct playback

Starting the playback from a selected title, chapter or track.

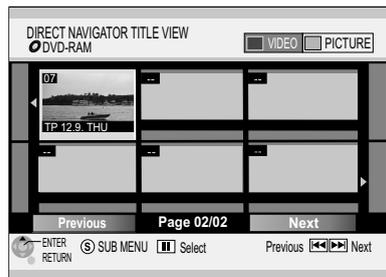
- During playback, use the numeric buttons to select the desired entry.

5:  +       15:  + 

 5:  +  +       15:  +  + 

**DVD-A** While the screensaver is displayed, you can enter a group number.  
*This function is not available for some discs if playback is stopped.*

# Playback



## DIRECT NAVIGATOR:

Navigation 68  
Symbols 67



## Selecting programmes/titles for playback

You can display the menu during playback, recording and in stop mode using the **DIRECT NAVIGATOR** button.

- Press **DIRECT NAVIGATOR**.
- Use **▼▲◀▶** to select the desired title and confirm with **ENTER**.
- Press **RETURN** to exit the menu.

*You can select other pages using **SKIPI◀◀ Previous** or **▶▶ Next**.*

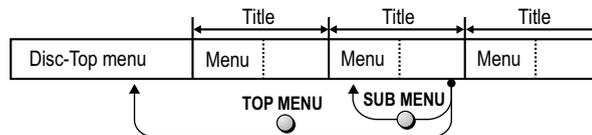
## A menu appears on the television screen

- **VCD** Use the numeric buttons to select an entry.  
e.g.: number 5: **0** + **5** or number 15: **1** + **5**
- **DVD-A DVD-V** Use **▼▲◀▶** or the numeric buttons to select an entry and confirm with **ENTER**.

*If appears on the television screen, this function is not possible by the unit or the disc.*

The operation of the disc menu depends on the inserted disc. If you launch the main menu with **TOP MENU**, another menu may appear than when you press **SUB MENU**.

- Use the numeric buttons or **◀▶▼▲** to select the desired entry and confirm with **ENTER**.



MANUAL SKIP

## **MANUAL SKIP**

- Press **MANUAL SKIP** during playback.  
Playback jumps forward 30 seconds each time this button is pressed.



## Slow-motion playback

Not 

- Press **SLOW/SEARCH** ,  in pause mode.  
Speed can be controlled in 5 stages.
- Press **PLAY**  to resume normal playback.

    *The pause feature is automatically switched on after approx. 5 minutes.*

 *Only for forwards direction.*  *Only motion pictures*

## Fast forward/rewind

- Press **SLOW/SEARCH** ,  during playback.  
As long as the button is pressed, the search speed increases in 5 stages.
- Press **PLAY**  to resume playback.

*You can change the search speed also by turning the Smart Wheel.*

    *Sound is only output at the first fast-forward speed.*

   *In the case of DVD-Audio (except motion picture parts), CD and MP3, sound is output in all speed levels.*



## Skipping chapters, titles or pictures

- Press **SKIP** ,  during playback or pause to skip chapters, titles or pictures.  
Each press increases the number of skips.

## Single-frame playback

Not 

- Press ,  in pause mode.  
Each press of the button shows the next or the previous frame.
- Press **PLAY**  to resume playback.

 *Only for forwards direction.*  *Only motion pictures*

## Quick View (Play/ x1.3)

Increase playback speed without negative effects on sound.

- Press and hold **PLAY**  during playback.
- Press **PLAY**  again to return to normal playback speed.



*Output takes place in PCM with a digital connection.*

*Quick View is cancelled if **SKIP** ,  or **PAUSE**  is pressed or playback of a programme begins that was not recorded with Dolby Digital.*

*Quick View does not function during simultaneous recording and playback in XP or FR mode .*



## Splitting a recording into chapters

- Press **CREATE CHAPTER** during playback.

*During playback press  **SKIP** or **SKIP**  to skip the chapter.*



## Changing the audio channel

- Press **AUDIO**.    

**DVD-A** **DVD-V** You can change the number of the audio channel, e.g. the language setting, by pressing the appropriate button.

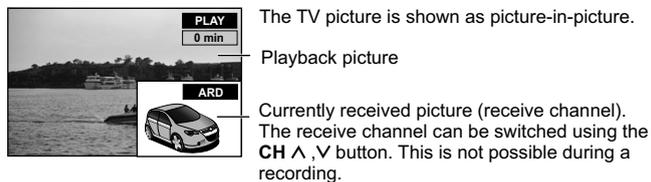


*If you cannot change the sound track, select the [PCM] setting in the SETUP menu for Dolby Digital.*

# Playback

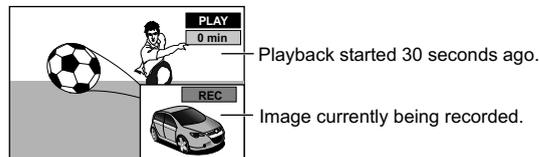


- Press **TIME SLIP**.
- Use **▲▼** to select the time that the playback should jump forward or back.  
If you press the buttons, the time span increases or decreases minute-by-minute.  
If you hold the button, it increases or decreases in 10-minute units.
- Press **ENTER** to confirm the selected time.
- Press **PLAY ►** to hide the picture in picture.



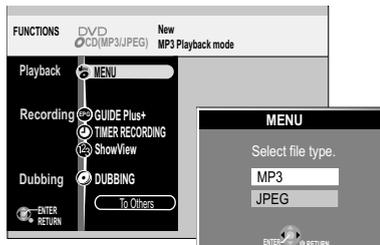
## Delayed playback **HDD RAM**

Playback can be started while the unit is still recording. Without stopping the current recording, you can view the recording from the beginning.



- Press **STOP ■** to end the playback.
- After 2 seconds, press **STOP ■** again to stop the recording.  
Use **⊙ TIMER** to stop a **TIMER**-controlled recording.

# MP3 playback



## CD (MP3/JPEG)

The following information on the file type appears at the beginning: Playback mode is set to MP3. Select "JPEG" from MENU in FUNCTIONS if you play pictures ( JPEG ).

- Confirm the information with **ENTER**.
- Press **FUNCTIONS** and confirm **MENU** with **ENTER**.
- Use **▲▼** to select the desired file type and confirm with **ENTER**.

## CD (MP3)

This unit can play MP3 files that were recorded with a computer on a CD-R/RW. Files are captured as tracks and folders as groups.

"TOTAL" includes all tracks in all groups of the disc.

- Use **DIRECT NAVIGATOR** to launch the MENU screen.
- Use **▲▼** to select the desired Track and confirm with **ENTER**. Playback continues until the last track of the selected group.  
*To select a piece via the numeric buttons, press e.g. for track no. 8: ① ① ⑧ .*
- Use **DIRECT NAVIGATOR** or **RETURN** to exit the MENU screen.

**Use SKIP ◀◀ , ▶▶ to select other tracks/groups or pages.**

*After all tracks in a group have been displayed, the next group is listed.*

## Selecting a group using the tree structure

- After selecting a Track in the file list, press **▶**. The tree structure appears on the screen.
- Use **▲▼** to select the desired Group.
- Use **◀▶** to switch between different levels in the screen of the tree structure.
- Confirm with **ENTER**. The selected Group is displayed in the file list.
- Use **▲▼** to select the desired Track and confirm with **ENTER**.



Shows the track currently being played.

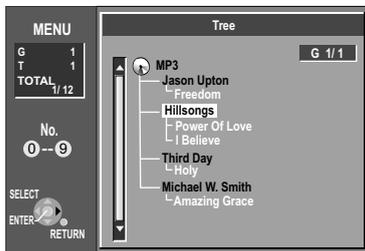
**TOTAL:** Selected track number / Total number of track numbers

**G:** Group number

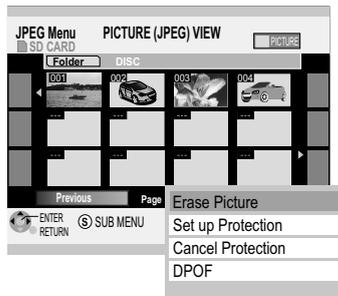
**No.:** Selected group number

**T:** Track number in the group

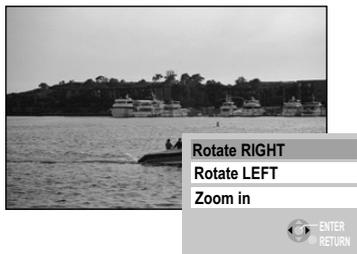
**Group:** Selected group name



# JPEG playback



Several pictures can be selected and edited with **PAUSE** ■■.



The rotating and enlarging of pictures is not saved.

Use **STOP** ■ or **DIRECT NAVIGATOR** to return to PICTURE (JPEG) VIEW.

## Picture playback

- Press **DIRECT NAVIGATOR**.
- **HDD RAM** If TITLE VIEW appears, press the **GREEN** button, to switch to PICTURE. The PICTURE (JPEG) VIEW appears on the screen.
- Use **▼▲◀▶** to select the desired picture and start picture playback using **ENTER**.

To select a picture using the numeric buttons, press e.g. for picture no. 8: **⓪ + ⑧ + ⓪**

## Displaying the picture properties

- Select the desired picture and press **ENTER**.
- Press **STATUS** twice.
- Press **STATUS** again to exit the display.

## Rotating pictures

- Press **SUB MENU** during playback.
- In the sub-menu, use **▲▼** to select the desired setting and confirm with **ENTER**.
- Use **STOP** ■ or **DIRECT NAVIGATOR** to return to PICTURE (JPEG) VIEW.

## Zoom in / Zoom out (only available for still pictures smaller than 640 x 480 pixels)

- Press **SUB MENU** during playback.
- In the sub menu, use to select [Zoom in] and confirm with **ENTER**.
- To switch back to the original size, confirm [Zoom out] with **ENTER** in the sub-menu.

## Editing a picture

Press **SUB MENU** in PICTURE (JPEG) VIEW.

- Select the desired setting **▲▼** in the submenu and confirm with **ENTER**.

Erase Picture	Select <b>◀▶</b> [Erase] to delete the pictures and confirm with <b>ENTER</b> .
Set up Protection Cancel Protection DPOF	
Other View <b>HDD RAM</b>	Return to TITLE VIEW.



# JPEG playback



## Folder

- Press **DIRECT NAVIGATOR**.
- **HDD RAM** If TITLE VIEW appears, press the **GREEN** button to switch to PICTURE.  
The PICTURE (JPEG) VIEW appears on the screen.

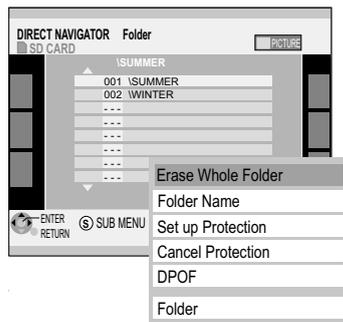
## Select Folder

- Use ▲▼ to select [Folder] in PICTURE (JPEG) VIEW.  
Confirm [Folder] with **ENTER**.
- In order to display the content of the folder, use ▲▼ to select the desired folder and confirm with **ENTER**.
- Press **SUB MENU** to edit the selected folder.
- In the submenu, use ▲▼ to select the desired setting and confirm with **ENTER**.

Use **PAUSE** to select and edit several folders.

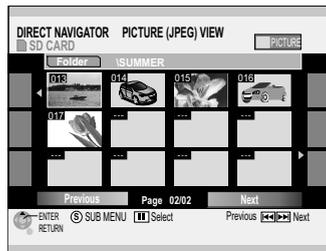
## Editing folders **HDD RAM SD**

<b>Erase Whole Folder</b>	The selected folder and its contents are permanently deleted. (Even data that is not displayed with this unit). • Select ◀▶ [Erase] and confirm with <b>ENTER</b> .
<b>Folder Name</b>	Change the name of the selected folder. Names created with this unit may not be able to be displayed by other units.
<b>Set up Protection Cancel Protection</b>	By protecting the folder, the folder and the pictures within the folder cannot be deleted. Protection is displayed by . • Select ◀▶ [Yes] and confirm with <b>ENTER</b> .
<b>DPOF <b>SD</b></b> 	The number of desired picture copies in the selected folder is determined. • Use ◀▶ or the numeric buttons to select the number and confirm with <b>ENTER</b> . The pictures are marked in PICTURE (JPEG) VIEW. The number 0 resets the setting. Settings previously made with other units are reset.
<b>Folder <b>SD</b></b>	You can directly select and open a Folder. Folders that were not created with this unit may not be able to be opened under certain circumstances.



The print settings (DPOF) made with this unit may not be able to be viewed on other units.  
If the folder or the files are not compatible with the DCF standard or there is not enough space on the card, the setting cannot be performed.

# JPEG playback



## Paging in the DIRECT NAVIGATOR

- Use **▼▲◀▶** to select [Previous] or [Next] and confirm with **ENTER** or press **SKIP** **◀◀▶▶**.

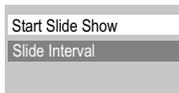
## Selecting several objects

- Use **▼▲◀▶** to select the desired title and press **PAUSE** **■** to add it to the selection or deselect it.

## Slide Show

The pictures in the selected folder are automatically played back one after the other. The display duration for each picture is determined with the [Slide Interval] setting.

- Use **▲▼** to select [Folder] in PICTURE (JPEG) VIEW and press **SUB MENU**.
- Use **▲▼** to select the desired option in the submenu and confirm with **ENTER**.



## Slide Interval

- Press **SUB MENU**.
- Use **▲▼** to select [Slide Interval] and confirm with **ENTER**.
- Use **◀▶** to select the display duration of the individual pictures in the Slide Show.
- Confirm with **ENTER**.

## Start Slide Show

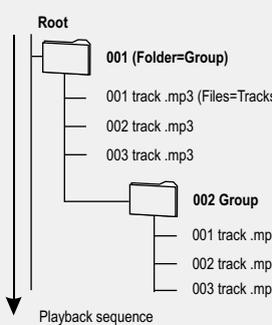
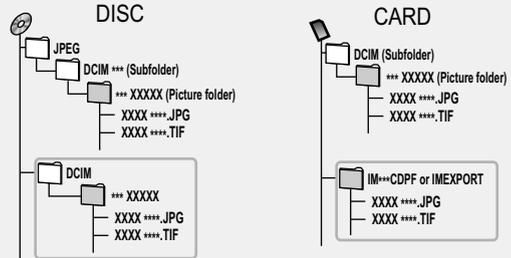
- Press **SUB MENU** again and confirm [Start Slide Show] with **ENTER**.  
The pictures in the folder are displayed in the selected interval. The Slide Show stops after the last picture. Use **STOP** **■** or **DIRECT NAVIGATOR** to return to PICTURE (JPEG) VIEW.

# JPEG/MP3 format



The unit can process up to a maximum of 999 files and 99 folders (including higher folders). If TIFF-format pictures are to be played back or if there are a lot of files and/or folders, the procedure can take quite some time. Some files may not be able to be displayed or played back. MOTION JPEG is not supported.

## Folder structure

MP3 <span style="float: right;">CD</span>	JPEG <span style="float: right;">HDD RAM CD SD</span>
 <p><b>MP3 format</b> The discs must correspond with the formats ISO9660 Level 1 or 2 and Joliet. <b>Compatible compression rate:</b> between 32 kbps and 320 kbps <b>Compatible scan rate:</b> 44.1 kHz and 48 kHz</p> <p><b>JPEG format</b> <b>File format:</b> JPEG, TIFF (uncompressed RGB chunky format) <b>Number of pixels:</b> 34x34 through 6144x4096 (sub scanning 4:2:2 or 4:2:0)</p> <p><i>The files must have the extension ".mp3" or ".MP3". Give the folders and file names three-digit prefix numbers during recording to set the desired playback sequence. Latin letters and Arabic numerals will be displayed correctly. Other characters may not display properly.</i></p>	 <p>This unit can display the following.  *** : Numbers / XXX : Letters</p> <p><i>Folders can be created on another unit. However, these folders cannot be selected as the target for a copy procedure. A folder in which all numbers are "0" (e.g. DCIM000) cannot be displayed. If a folder or file name was entered using another unit, the name may not be displayed properly and the data may not be able to be played back or edited.</i></p>

## Before playback

If you have connected the unit with an audio/video cable, an S VIDEO cable or via COMPONENT OUT, you must set the TP channel. The TP channel enables the VHS playback in high quality, e.g. via COMPONENT OUT or as RGB to AV1.

- Press **HDD/DVD** and **CH**  $\wedge$  ,  $\vee$  several times to select the TP channel.

## Using video cassettes

If the video cassette is not being used, remove it from the unit and store it in a sleeve.

Avoid recording on the same tape section several times in order to prevent the cassette from wearing out prematurely.

Carefully insert the cassette into the DVD Recorder to avoid damage.

Do not expose the video cassette to high humidity, temperature or dust particles.

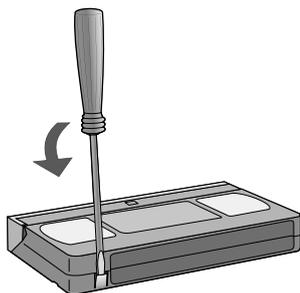
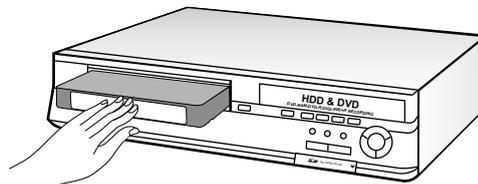
Do not use defective cassettes and do not try to repair them.

Do not open the housing of the cassette.

Do not open the protective flap on the front side of the cassette and do not touch the tape.

Use high-quality, brand-name tapes, for example from Panasonic.

During the playback of cassettes that were recorded on a different VHS recorder, you may experience a lower picture quality.



## Write protection of cassettes

To protect against the accidental erasing of cassettes, break out the write protection tab. If you want to record on a protected cassette, cover the hole with a piece of tape.

## Cleaning the video heads

Use a cleaning tape to clean the video heads.

# Playback



Switch the unit on and insert a recorded video cassette.



## Playback

- Press **PLAY** ► to start the playback.

*From standby mode, you also start playback using **PLAY** ►.  
The tape automatically rewinds when the end is reached.  
This function is not available during a **TIMER**-controlled recording.  
Playback automatically starts when you insert a video cassette  
whose write-protection tab was removed.*

---



## Ending playback

- Press **STOP** ■ to end playback.
- 



## PAUSE during playback

- Press **PAUSE** ■■ .
- Press **PAUSE** ■■ again to resume playback.

## Slow-motion playback during playback

- Press **PAUSE** ■■ for more than 2 seconds.
  - Press **PLAY** ► to resume playback.
- Slow-motion playback automatically stops after 10 minutes.*

## Still picture during playback

- Press **PAUSE** ■■ .
  - Press **PLAY** ► to resume playback.
- Still picture automatically stops after 5 minutes.*



## Image search forwards ►► or backwards ◀◀

- During playback, press ►► or ◀◀.
- The search speed increases by pressing the button twice (JET SEARCH).
- If you press and hold the button, the image search lasts as long as the button is depressed.
- Press **PLAY** ► to resume playback.

*The image search forwards/backwards automatically stops after 10 minutes.*

## Fast forwarding ►► or rewinding ◀◀

- In stop mode, press ►► or ◀◀.
  - Press **STOP** ■ to end the forward/rewind function.
- 

TIME SLIP



## JET REW

For fast rewinding to the beginning of the cassette.  
Approx. 43 second with an E180 cassette.

*Depending on the video cassette or the operating conditions, the rewind speed varies and may not be possible. The counter is reset to "0:00.00" when the tape is rewound to the beginning.*

---

## Repeat playback

The DVD Recorder repeats the recordings of a cassette until the end of the recording.

- Press **PLAY** ► for more than 5 seconds during playback or in stop mode. [RP] appears in the DVD Recorder's display.
- Press **PLAY** ► to restart normal playback.
- Press **STOP** ■ to end the playback.

# Playback



## VHS index search system (VISS)

This unit records special index signals with each recording. The index search function uses these signals. Thus, you can quickly find the beginning of a desired recording. You can search for up to 20 index signals.

- Press **INDEX** during normal playback or in stop mode.  
▶▶▶ tape forwards / ◀◀◀ tape rewinds.  
The unit automatically begins playback when the index signal is found.  
The number of jumps increases with each press of the button.
- Press **STOP** ■ to end the search.

*If the index signals are too close together, this function may not work. Thus, the recordings should be at least 5 minutes long.*

---

## VHS playback with high picture quality

You can play video cassettes in a high picture quality via the TP channel (copy input channel) in progressive or RGB mode. The television must be RGB- or progressive-capable.

- Press **DVD/HDD** and use **CH** ^, v to select the TP channel.
- Press **VHS** and then **PLAY** ▶. Playback begins.

---

## S-VHS Quasi Playback (SQPB)

It is possible to playback cassettes that were recorded on an S-VHS unit. The picture quality is similar to a VHS recording. Depending on the video tape used, slight image distortions can occur. An S-VHS recording is not possible with this unit.

## Setting the track position manually

The unit automatically sets the track position. If a cassette was recorded on another unit, it may be necessary to set the track position manually if you experience distortions.

## The picture is noisy or unclear during playback.

- During normal or slow-motion playback, press **TRACKING/V-LOCK** + / -, until the noise disappears.  
If the still picture is noisy, first switch the unit to slow-motion and then set the track position.

*Some video cassettes do not allow the track position to be controlled.*

*This is not a functional problem.*



## Control the track position automatically

- Press **TRACKING/V-LOCK** + and - simultaneously to go back to automatic tracking.

*With some televisions, the picture can be displaced up or down during some special playback functions.*

*These are not functional problems.*

# Recording

## Recording functions

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# Recording



## Recording information

It is not possible to simultaneously record to the HDD (Hard disk drive) and a DVD. Continuous recording or playback of both sides of double-sided disc is not possible.

Digital sound signals cannot be recorded.

Digital programmes that are restricted to one-time recording cannot be recorded on DVD-R, DVD-RW, +R or 8cm DVD-RAM discs. Record them onto the HDD or a CPRM-compatible DVD-RAM.

## Automatic title transfer

For recordings programmed from the GUIDE Plus+ system, the name of the selected programme is automatically used for the recording.

If the station transmits teletext information and the [Title Page] is set properly, the programme and station names are recorded automatically.

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*Launching the titles with this unit can take approx. 10 minutes and may fail in some cases.*

Maximum titles				
HDD	RAM -R -RWV	+R	SD	
500	99	49	It is not possible to record to storage cards.	

The recording is saved to free space. If there is no more space left on the target drive, you must delete recordings or use a new disc.

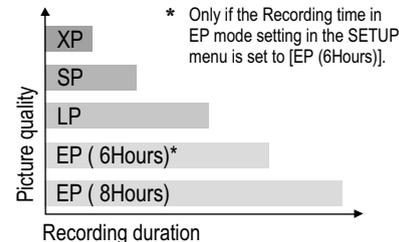


If you want to play a disc recorded using this unit on another playback unit, you first have to finalise the disc.

111

## Recording modes and approximate recording times in hours

	HDD (200GB)	DVD-RAM		DVD-R -RW +R (4,7GB)
		Single-sided (4,7GB)	Double-sided (9,4GB)	
XP (High Quality)	44	1	2	1
SP (Normal)	89	2	4	2
LP (Long Play)	177	4	8	4
EP (6 Hours)	266	6	12	6
EP (8 Hours)	355	8	16	8



## Other functions available during playback

**HDD REC** ● 

 PLAY

 PLAY

 REC or  PLAY

**DVD REC** ● 

 PLAY

 PLAY **RAM**

 REC or  PLAY

## Recording information

**RAM** If you have activated the write-protection, cancel it.

 109

**RAM -RWV** If you use an unformatted DVD-RAM or DVD-RW you must format it before the first recording.

 110

You can only change the channel or the record mode in pause mode. The material is then recorded as a separate title.

**HDD** Long recordings are divided into 8-hour segments.

**R -RWV +R** Once the recording is complete, the unit needs about 30 seconds to record administration data.

**RAM** When recording on DVD-RAM in [EP mode (8 Hours)], playback may not be possible on DVD-RAM-compatible DVD players. In this case, select [EP mode (6 Hours)]. [EP (6Hours)] provides better sound quality than [EP (8Hours)].

 101

Almost all videos and DVD-Videos available in stores are copy protected. The content of such media cannot be copied with this unit.

## Selecting an audio channel to be recorded in two-channel sound

- In the Sound SETUP menu, select the Bilingual Audio Selection [M1] or [M2] setting.

**HDD RAM** Using AUDIO, you can change the received audio channel during the recording. It has no effect on the recorded audio channel.

**R -RWV +R** When recording dual-channel or multi-audio TV programmes on DVD-R, DVD-RW or +R, only one audio channel can be recorded.

## Programmed recording

The TV programme list for the GUIDE Plus+ system is downloaded at night between 02:50 and 05:10. If you want to record during this time, set the [Auto Download Priority] in the Setup menu of the GUIDE Plus+ system to [Timer Prog.].

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## Recording television programmes

- Use **CH**  $\wedge$ ,  $\vee$  or the number buttons to select the TV channel or use **INPUT SELECT** to select the AV channel for externally connected devices.
- Press **REC MODE** to select the recording mode.
- Press **● REC** to start the recording.
- Press **STOP ■** to stop the recording.  
*Up until the recording is stopped, it counts as 1 title.*  
*Once the recording is complete, the unit needs about 30 seconds to record administration data.*

## Pause during recording

- Press **PAUSE ■■** to pause the recording.
- Press **PAUSE ■■** or **● REC** again to resume recording.  
*The title is not divided.*

DIRECT TV REC

## Direct TV recording

If your television is equipped with Q Link functionality, you can directly record the programme that you are watching on TV. The programme position shown on the unit automatically switches to the appropriate TV programme.

 DVD / HDD / VHS

- Press **DIRECT TV REC** for 3 seconds. The recording begins.
- Press **STOP ■** to end the recording.

 *The unit automatically switches to the last selected drive (HDD or DVD) and records the title via the TP channel. You cannot record on VHS Cassette with this function. The recording is not started if there is no space available on the automatically selected drive.*

# Recording



## Setting a time for the end of the recording **HDD RAM** **R** **R(WV)** **R**

- During record, press ● **REC** on the unit.  
The unit display changes with each press of the button:

Counter → 30 → 60 → 90 → 120 → 180 → 240 → Counter

*This is not possible with FLEXIBLE REC or **TIMER**-controlled recordings.*

*The unit does not switch off after the recording ends.*

*If you press **STOP** ■, the recording will be stopped and the time setting deleted.*

*If the channel or the recording mode (XP-EP) is changed in recording pause mode, the time is deleted.*

## Playback during recording **HDD RAM**

During recording, you can start playback from the beginning of the programme.

- Press **PLAY** ► during the recording or **TIMER**-controlled recording.

*The playback can only begin if at least 2 seconds have passed since the start of the recording.*



Current recording

## Simultaneous recording and playback **HDD RAM**

- Press **DIRECT NAVIGATOR** during the recording or **TIMER**-controlled recording.
- Use ◀▶▲ to select a title and confirm with **ENTER**.
- Press **DIRECT NAVIGATOR** again without selecting a title to exit the title view.

*If you start the playback while the unit is in standby mode for a **TIMER**-controlled recording, the recording will begin at the programmed time.*

Navigation in **DIRECT NAVIGATOR** **68**

# Recording



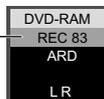
## FLEXIBLE REC (FR)

**RAM** **±R** **±RW** **±R** The unit calculates the best possible recording quality between XP and EP. It is adjusted to fit the space available on the disc. This function is not possible during an EXT LINK recording.

**HDD** Titles recorded to the HDD (Hard disk drive) in FR mode are recorded such that they can later be exactly copied to a 4.7GB disc. The title has not be edited for copying to disc or the recording mode (XP-EP) does not need to be changed.

- In stop mode, press **FUNCTIONS**.
  - Use **▲▼** to select [To Others] and press **ENTER**.
  - Use **▲▼** to select **FLEXIBLE REC** and press **ENTER**.
  - Use **▲▼◀▶** or the numeric buttons to select the required recording time.
  - Use **▲▼◀▶** to select [Start] and confirm with **ENTER**. The recording begins.
- 
- Press **RETURN** to exit the **FLEXIBLE REC** window.
  - Press **STOP ■** to cancel the recording before the end has been reached.  
*Neither the channel nor the recording mode can be changed in PAUSE mode.*

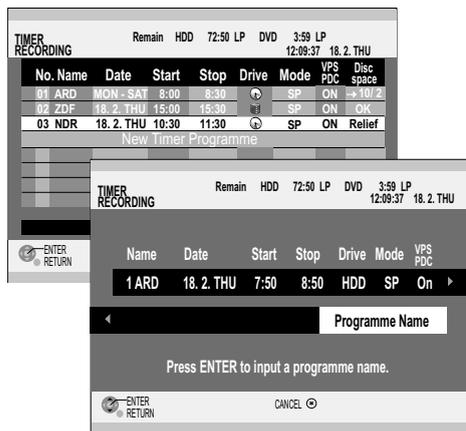
The available time in minutes.



## Displaying the available recording time

- Press **STATUS** several times.

# TIMER-controlled recordings



## Manual programming

- Press **PROG/CHECK**. The **TIMER RECORDING** screen appears.
- Confirm the highlighted line with **ENTER**.
- Use **▲▼** to select the name of the TV station.  
*If [ - ] is displayed under Name, use **▲▼** to select the desired programme position.*
- Use **◀▶** to select the option. Use **▼▲** to change the option.  
[Name], [Date], [Start], [Stop], [Drive], [Mode], [VPS/PDC], [RENEW] 55
- Name, Date, Start and Stop can also be entered using the numeric buttons.
- If you want to enter the programme name, use **◀▶** to select [Programme Name] 66 and confirm with **ENTER**.
- Once you have made all changes, save the programme with **ENTER**.
- To continue programming, select [New Timer Programme].
- Press **TIMER** to switch the unit to timer standby mode.  
The **TIMER** symbol lights up in the unit display.
- To cancel or pause the recording, press **TIMER** again.

**HDD RAM** If you record several programmes in a row, the first few seconds of the following programmes are not recorded on the HDD or disc,  
**R** **-RWV** **+R** approx. 30 seconds.

## Storage space on the disc

- OK:** There is enough storage space available on the disc for the recording. If VPS/PDC is switched on during the recording, then the entire programme will probably not be recorded.
- ➔ **(Date):** For recordings that are made daily or weekly, the display indicates whether there is enough storage space on the disc.
- !: Is displayed if the disc is not in the unit, is write-protected or does not have enough storage space.
- Relief:** Backup recording

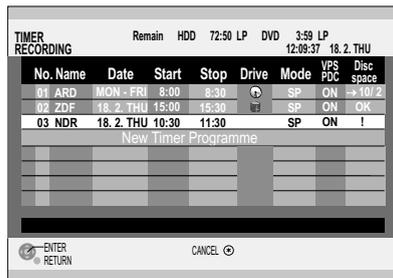
## Backup recording

If there is not enough storage space available on the inserted disc at the start of the **TIMER**-programmed recordings to DVD, the unit automatically saves the recording to HDD (not with VPS/PDC programmed programmes that are overrun).  
If a **TIMER**-programmed recording to DVD starts while the **DUBBING** function is active, the unit automatically saves the recording to HDD.

## VPS/PDC function

If the television station sends VPS/PDC signals, the beginning and end of a recording are synchronised with the current air time. The programme start time must be set correctly to the start time given in the magazine.

# TIMER-controlled recordings



Symbols in the  
TIMER RECORDING menu



## Checking, changing or deleting TIMER RECORDINGS

- Press **PROG/CHECK**.
- Use **▲▼** to select the TIMER RECORDING.

### Checking or changing

Check the settings or correct them if necessary using **ENTER** and **▲▼◀▶**. Confirm your changes with **ENTER**.

Programmes that are currently being recorded cannot be changed.

### Deleting

Delete a programme with \* **CANCEL/RESET**.

Programmes that are currently being recorded cannot be deleted.

*If you selected VPS/PDC [On], **TIMER**-controlled recordings are deleted from the list after two days.*

Make sure that the unit is switched to timer standby mode.  
The ⊕ symbol lights up in the unit display.

## Options in the TIMER RECORDING menu

**Name:** Programme position/name of the TV station

**Date:** You can also programme titles to be recorded on a daily or weekly basis.

**Start:** Start time / **Stop:** Stop time

If you press and hold the **▲▼** buttons, the time increases/decreases in 30-minute increments.

**Drive:** Selection of the recording medium.

If you selected DVD as the recording medium and there is not enough space on the inserted DVD, the recording automatically switches to HDD.

**Mode:** Recording mode (XP, SP, LP, EP, FR)

If you selected VPS/PDC [ON], recording mode FR is not possible.

**VPS/PDC:** [On] or [OFF]

**HDD RENEW:** [On] or [OFF]

For timer recordings that are repeated daily or weekly, the previous title is overwritten. Weekly or daily must first be selected under Date.

**Programme Name:** You can enter the title of the programme.



# TIMER-controlled recordings



Please take notice of the recording information.

49:50

**HDD RAM** **LR** **-RWM** **±R** You can programme up to 32 programmes per month in advance.

ShowView

## Programming recordings with ShowView

By entering a ShowView number, the **TIMER**-controlled recording is easy to set. The appropriate codes can be found in newspapers and TV guides.

- Press **ShowView**.
- Enter the ShowView number using the number buttons. Use **◀** to delete a number.
- Confirm the ShowView number with **ENTER**. The **TIMER RECORDING** menu is displayed.

If [ - ] is displayed under Name, use **▲▼** to select the desired programme position.

- Use **▲▼** to select the desired drive (HDD, DVD).
- Use **◀▶** to select the option. Use **▼▲** to change the option. [Name], [Date], [Start], [Stop], [Drive], [Mode], [VPS/PDC], [RENEW] Name, Date, Start and Stop can also be entered using the numeric buttons.

55

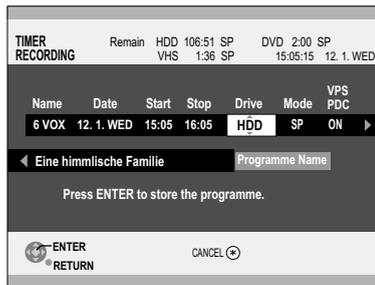
- If you want to enter the programme name, use **◀▶** to select [Programme Name] and confirm with **ENTER**.
- Once you have performed all changes, save the programme with **ENTER**.

66

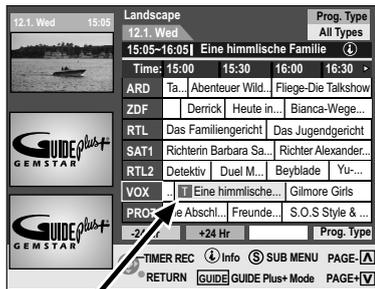
- Press **⊕** **TIMER** to switch the unit to timer standby mode. The **⊕** symbol lights up in the unit display.
- To cancel or pause the recording, press **⊕** **TIMER** again.

**ShowView** is a trademark of Gemstar Development Corporation. The ShowView system is manufactured under licence from Gemstar Development Corporation.

# TIMER-controlled recordings



**VHS** Mode [Auto]: Automatic SP/LP switching. 60



**T** This programme is programmed in the TIMER RECORDING menu.

## TIMER RECORDING in the GUIDE Plus+ system

You can select a programme that you want to record in the GUIDE Plus+ programme list (even if [No Data] is displayed) and transfer it directly to the TIMER RECORDING menu.

- Select the desired programme using **▼▲◀▶** in the GUIDE Plus+ programme list. Press **ENTER**. The TIMER RECORDING menu appears on your screen with the data on the selected programme.
- Use **▼▲** to select the recording medium (HDD, DVD or VHS).  
*If you selected DVD as the recording medium and there is no longer enough space on the inserted DVD, the recording automatically switches to HDD.*
- Use **▶◀** to select the option. Use **▼▲** to change the option.  
[Name], [Date], [Start], [Stop], [Drive], [Mode], [VPS/PDC], [RENEW] 55
- If you want to change the programme name, use **▶◀** to select [Programme Name] and confirm with **ENTER**. 66

Then you are returned to the GUIDE Plus+ programme list.

**VHS** For video-recorder recordings, it is important that you switch to the VHS side of the unit before activating the **TIMER**.

- Press **TIMER** to switch the unit to TIMER-standby mode. The **TIMER** symbol appears in your unit's display. The GUIDE Plus+ programme list can be called again by pressing the **GUIDE** button.  
*No television picture appears in the preview screen in the GUIDE Plus+ programme list. Programmes programmed in the TIMER RECORDING menu are provided with the symbol in the GUIDE Plus+ programme list.*
- To cancel a TIMER programming, press **PROG/CHECK**.
- Select the desired entry with **▼▲** and press **CANCEL**.

**HDD RAM** If you record several programmes in a row, the first few seconds of the following programme are not recorded on the HDD or disc, **R-RWV** approx. 30 seconds.

# Recording



## Recording time for E-240 cassettes

**SP** - Normal mode: approx. 4 hours

**LP** - Long-Play-mode: approx. 8 hours

**EP** - Extra-Long-Play-mode: approx. 12 hours

*If you value a high-quality picture, select SP.*

## Functions available during recording

VHS REC ●

REC and PLAY

REC or PLAY \*

PLAY

\* only if HDD is stopped.

## Recording television programmes

- Insert a video cassette with an intact write-protection tab.
- Use **CH**  $\wedge$ ,  $\vee$  to select the channel.
- Press **REC MODE** to select the tape speed.  
With each press of the button, the display switches from: SP  $\rightarrow$  LP  $\rightarrow$  EP  $\rightarrow$  SP.
- Press ● **REC** to start the recording.
- Press **STOP** ■ to stop the recording.
- Press **PAUSE** ■■ to pause the recording.

*If the recording is paused for more than 5 minutes, the unit switches to stop mode. If you press ● **REC** again, the recording will start again.*

*Even with an S-VHS video cassette, you cannot perform recordings in the S-VHS system with this unit. The recording takes place in the normal VHS system.*

## Displaying the approximate time remaining on the cassette

- Press **FUNCTIONS**.
- Select the desired tape length in the VHS FUNCTIONS menu.
- Press **STATUS** several times until the time remaining on the tape appears in the unit display. With each press of the button, the display changes as follows: Current time  $\rightarrow$  Operating state and tape counter  $\rightarrow$  Time remaining  $\rightarrow$  Current time  
*Depending on the video cassette used, the time remaining on the video cassette may not be displayed correctly.*



## Setting a time for the end of the recording

- During the recording, press ● **REC** on the unit. With each press of the button, the display of the unit changes: Counter  $\rightarrow$  30  $\rightarrow$  60  $\rightarrow$  90  $\rightarrow$  120  $\rightarrow$  180  $\rightarrow$  240  $\rightarrow$  Counter
- If you press **STOP** ■, the recording will be stopped and the time setting will be deleted.  
*This is not possible for **TIMER**-controlled recordings or for recordings via an external device. If the tape speed is changed during the recording, a brief image distortion will appear at that spot.*

# TIMER-controlled recordings



Timer recording						1 / 3
Name	Date	Start	Stop	<input type="checkbox"/> VPS <input type="checkbox"/> PDC		
1 ARD	19.11.	10:30	11:30	SP ON		
-----	-----	-----	-----	-----		
-----	-----	-----	-----	-----		
-----	-----	-----	-----	-----		
-----	-----	-----	-----	-----		
↔ : select				[ENTER] : access		
[CANCEL] : delete				[RETURN] : return		

Timer recording						1 / 3
Name	Date	Start	Stop	<input type="checkbox"/> VPS <input type="checkbox"/> PDC		
1 ARD	19.11.	10:30	11:30	SP ON		
2 ZDF	-----	-----	-----	SP ON		
-----	-----	-----	-----	-----		
-----	-----	-----	-----	-----		
-----	-----	-----	-----	-----		
↔ : select				[ENTER] : store		
[CANCEL] : delete				[RETURN] : return		



## Manual programming

- Press **PROG/CHECK**. The Timer recording screen appears.
- Confirm the highlighted line with **ENTER**.
- Use **▲▼** to select the name of the TV station.  
*If [- - -] is displayed under Name, use **▲▼** to select the desired programme position.*
- Use **▶** to switch to the next field and change the entry with **▲▼**.  
Name, Date, Start and Stop can also be entered using the number buttons.  
**Name:** Programme position/name of the TV station  
**Date:** You can also programme titles to be recorded on a daily or weekly basis.  
**Start:** Start time / **Stop:** Stop time  
*Press and hold the **▲▼** buttons to increase/decrease the time in 30-minute increments.*  
: Recording mode (A, SP, LP, EP)  
**VPS/PDC:** [ON] or [OFF]

- Once you have made all changes, save the programme with **ENTER**.
- Press **⏸ TIMER** to switch the unit to timer standby mode.  
The **⏸** symbol lights up in the unit display.
- To cancel or pause the recording, press **⏸ TIMER** again.  
The **⏸** symbol turns off.

## Checking, changing or deleting programmes

- Press **PROG/CHECK**.
- Use **▲▼** to select the programme to record.

### Checking or changing

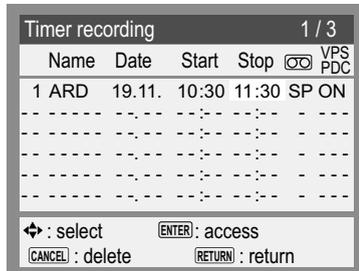
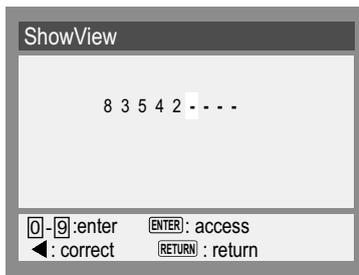
Check the settings or correct them if necessary using **ENTER** and **▲▼◀▶**. Confirm your changes with **ENTER**.  
Programmes that are currently being recorded cannot be changed.

### Deleting

Delete a programme with **\* CANCEL/RESET**.  
Programmes that are currently being recorded cannot be deleted.

*Make sure that the unit is switched to timer standby mode.  
The **⏸** symbol lights up in the unit display.*

# TIMER-controlled recordings



ShowView



## Programming recordings with ShowView.

- Insert a video cassette with intact write-protection tab.
- Press **ShowView**.
- Enter the ShowView number using the number buttons.  
Use **left arrow** to delete a number.
- Confirm the ShowView number with **ENTER**.

In the Timer recording screen, check the start and end time and the VPS/PDC signal.

*If [- - -] is displayed under Name, use **right arrow** to select the desired programme position.*

- Use **left arrow**, **right arrow** to select the recording mode [A, SP, LP, EP].
- Save the programme using **ENTER**.
- Press **TIMER** to switch the unit to timer standby mode.  
The **timer icon** lights up in the unit display.

### Automatic SP/LP switching

**A:** *If the remaining tape time is not sufficient to start a programmed recording, then the SP/LP function switches to the LP tape speed. This ensures that the entire programme is recorded. If the remaining time on the tape is also not enough in LP mode, then the programme cannot be recorded in full. An automatic switching to EP mode is not possible.*

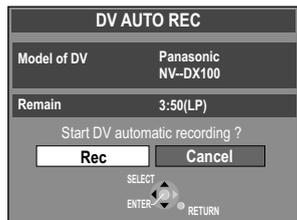
### VPS/PDC function

*If the television station sends VPS/PDC signals, the beginning and end of a recording are synchronised with the current air time.*

*The programme start time must be set correctly to the start time given in the magazine.*

*When recording in the NTSC system, the function may not work.*

# Recording via DV input



This unit cannot be controlled from a connected DV unit.

The DV input of this unit is only intended for DV units. (A computer etc. cannot be connected.) The name of the DV unit may not be displayed correctly.

Some DV units do not allow proper input of the picture and sound signal.

The date and time information of the track in the DV unit is not recorded.

Simultaneous recording and playback is not possible.

## Recording via DV input HDD/RAM

The programmes (e.g. via a digital video unit) are recorded as one title. A new chapter is created at each break in the picture and a playlist is automatically created. Switch off this unit and the DV unit (e.g. digital camcorder) before you connect it to the DV socket.



- Select Audio Mode for DV Input before dubbing.
- Pause the DV unit at the desired start position.
- Press **REC MODE** to select recording mode.
- Press **FUNCTIONS**.
- Use **▲▼** to select [To Others] and confirm with **ENTER**.
- Use **▲▼** to select [DV AUTO REC] and confirm with **ENTER**.
- Confirm [REC] with **ENTER**. Recording begins.
- To end the recording early, press **STOP ■**.
- Close the following message with **ENTER** or **RETURN**.
- If the recording ends automatically, confirm the message with **ENTER**.

## Manual recording via DV input

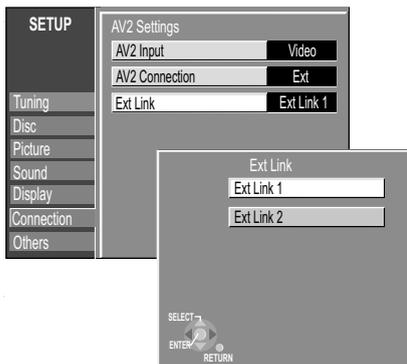
- Start the playback on your external DV unit.
- Press Pause at the desired start position.



- Use **INPUT SELECT** to select the DV channel.
- If you want to record to VHS, switch the unit to VHS and use **INPUT SELECT** to select the DC channel. (The DV signal is transferred via HDD/DVD.)
- Use **REC MODE** to select the recording mode.
- Press **● REC** to start the recording and start the playback on the external DV unit.
- Use **STOP ■** to end the recording.

**⏏** **⏏** **⏏** *The recording cannot be stopped with **PAUSE ■**.*

# TIMER-controlled recordings via external devices



## Ext Link 1:

For digital receivers that send a special recording control signal, e.g. the F.U.N. receiver (TU-DSF41).

## Ext Link 2:

External recording control for satellites or digital receivers (video signal).

If the television is connected to the AV1 connection via the 21-pin Scart cable, the picture to be recorded appears on the screen.

The beginning of the recording may not be recorded correctly in certain cases.

The Ext Link 2 setting cannot be used if the input signal is in NTSC format.

## Before TIMER recordings via external devices

You control the recording function via an external device (e.g. receiver) using **EXT LINK**. Connect the external device with a 21-pin Scart cable to the AV2 socket. Adjust the Ext Link function for the connected device.

Switch the remote control to **HDD** or **DVD**.

- Press **FUNCTIONS**, use **▼▲** to select [To Others] and press **ENTER**.
- Use **▼▲** to select **SETUP** and press **ENTER**.
- Use **▼▲** to select **Connection**, **▶**, **▼▲** to select **AV2 Settings** and press **ENTER**.
- Use **▼▲** to select **Ext Link** and confirm with **ENTER**.
- Use **▼▲** to select [Ext Link 1] or [Ext Link 2] and confirm with **ENTER**.

*If you selected the AV2 Connection [Decoder (D/H) (DVD / HDD) or (VHS)] setting, the Ext Link feature is not available.*

## TIMER recordings via external devices (EXT LINK)

The programming of the recording must take place on the external device. The recording begins when a corresponding signal is received from the connected device. As long as a video picture is transmitted by the external device, the selected element records it. Stop the transmission at the external device in order to stop the recording.

 **DVD / HDD**

- Press **EXT LINK**.

Standby mode for **TIMER**-controlled recordings is activated on the selected drive. **EXT L** lights up on the display.

*During standby mode, you can play HDD/DVD (Playback is only possible from the unit selected for recording) or VHS cassettes or record to VHS.*

 **VHS**

Switch the remote control to **VHS**.

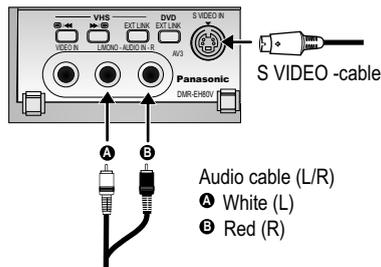
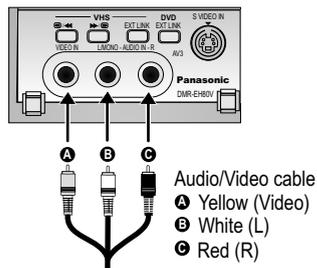
- Press **EXT LINK**. The VHS element switches to record standby mode. **EXT L** lights up on the display.

*During standby mode, you can play or record HDD/DVD.*

## Switching off control via the external device

- Press **EXT LINK** to end the recording or to switch off the standby mode for the **TIMER**-controlled recording. The **EXT L** display turns off.

# Recording from an external device, e.g. a camera



Choose one of the two connection possibilities.  
 Connection with S VIDEO cable and audio cable (L/R) produces the best quality.

Connect the external device to the AV3 input sockets on the front side of the unit.

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## Recording to VHS

Insert a video cassette with intact write-protection tab.

VHS

- Press **REC MODE** to select the recording mode.
- In stop mode, use **INPUT SELECT** to select the input channel AV3.
- Press **PLAY ►**. At the point where you want to begin recording, press **PAUSE ■■**.
- Press **● REC**.
- Start the playback on the external device.
- Press **PAUSE ■■** to start recording.
- Use **STOP ■** to stop recording.

## Recording to HDD/DVD

HDD RAM **-R** **-RWV** **+R**

**RAM** If you activated the write-protection, deactivate it.

DVD / HDD

- Press **REC MODE** to select the recording mode.
- In stop mode, use **INPUT SELECT** to select the input channel AV3.
- Start the playback on the external device.
- Press **● REC** at the point where you want to begin recording.
- Use **STOP ■** to stop recording.

Press **PAUSE ■■** to pause recording. Press the button to resume recording.

## Recording of bilingual programmes

**HDD RAM** If [M1] and [M2] are selected on the connected device, you can choose the audio mode during playback.

**-R -RWV +R** Select [M1] or [M2] on the connected device. You cannot select the audio mode during playback.

If the output signal of the external device is an NTSC signal, set the TV system in the SETUP menu to [NTSC].

This unit cannot record signals from PCs.

# Manually copying

## DC channel (copy input channel)

If you select the DC channel, the VHS element can receive and record video/audio signals from HDD or DVD.



- To select the DC channel press **CH**  $\wedge$  ,  $\vee$  or **INPUT SELECT** several times.

## TP channel (copy input channel)

If you select the TP channel, the HDD/DVD element can receive video/audio signals from VHS and copy to HDD or DVD.



- To select the TP channel press **CH**  $\wedge$  ,  $\vee$  or **INPUT SELECT** several times.

*You cannot select the DC channel and the TP channel at the same time.*

## Manually copying from VHS to HDD or DVD



- Start the playback.
- Press **PAUSE**  $\blacksquare$  where you want to start recording.
- Use **REC MODE** to select the recording mode.
- Use **INPUT SELECT** to select the TP channel.
- Press  $\bullet$  **REC** to start recording.
- Use **STOP**  $\blacksquare$  to stop recording.

## Manually copying from HDD or DVD to VHS



- Start the desired title.
- Press **PAUSE**  $\blacksquare$  where you want to start recording.
- Use **REC MODE** to select the recording mode.
- Use **INPUT SELECT** to select the DC channel.
- Press **PLAY**  $\blacktriangleright$ . Press **PAUSE**  $\blacksquare$  where you want to start the recording.
- Press  $\bullet$  **REC**.
- Then press **PAUSE**  $\blacksquare$  to start recording.
- Use **STOP**  $\blacksquare$  to stop recording.

*You can not execute the copying procedure while the HDD/DVD or VHS unit is in standby mode for the **TIMER**-controlled recordings. Cancel the standby mode.*

*When copying from HDD/DVD to VHS, the index signal for each title is recorded automatically.*

*When copying from VHS to HDD/DVD, the title is automatically created for each index signal.*

Copying from SD Card



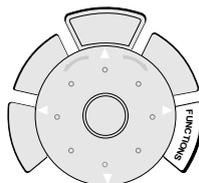
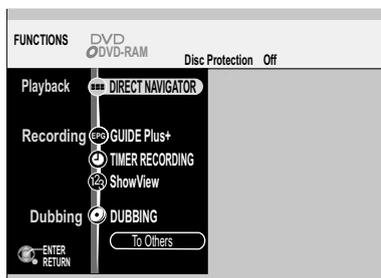
Please take notice of the recording information.



# FUNCTIONS selection menu



The illustrations show DVD-RAM menus.  
The menu entries can be different depending on the disc or medium



You can access the main functions via the FUNCTIONS selection menu.

- Press **FUNCTIONS** in stop mode.
- Use **▼▲** to select a menu and confirm with **ENTER**.
- To view the second screen page, use **▼▲** to select [To Others] and confirm with **ENTER**.
- To return to the first page, use **▼▲** to select [Return] and confirm with **ENTER**.
- Press **FUNCTIONS** to exit the selection menu.

	<b>DIRECT NAVIGATOR</b>	Edit titles and chapters, protect recordings.	<b>68 - 72</b>
	<b>GUIDE Plus+</b>	Electronic programme guide	<b>73 - 80</b>
	<b>TIMER RECORDING</b>	Programme recordings	<b>54 - 55</b>
	<b>ShowView</b>	Programme recordings with ShowView.	<b>56</b>
	<b>DUBBING</b>	Copy e.g. from HDD to DVD.	<b>81 - 90</b>
	<b>PLAYLISTS</b>	Create and edit playlists.	<b>91 - 95</b>
	<b>FLEXIBLE REC</b>	Automatic selection of the recording mode.	<b>53</b>
	<b>DV AUTO REC</b>	Record via a digital video unit.	<b>61</b>
	<b>SETUP</b>	Change the unit's default settings.	<b>97 - 108</b>
	<b>DISC MANAGEMENT</b>	Format and finalize discs, write protection.	<b>109 - 111</b>
	<b>COPY ALL PICTURES</b>	Copy all pictures from an SD Card.	<b>96</b>
	<b>CARD MANAGEMENT</b>	Format the SD Card.	<b>110</b>

# FUNCTIONS selection menu



## Entering text **HDD RAM R RWV +R SD**

You can give discs or programmes titles in various menus:

In DIRECT NAVIGATOR, in PLAYLISTS, in DISC MANAGEMENT and when setting the **TIMER**-controlled recording.



## Entering a Disc Name or Title via the Menu

- Use **▲▼◀▶** to select the desired character and confirm with **ENTER**.
- Use **▲, ▶** to select [Other Characters] and confirm with **ENTER**. The special characters are displayed.
- Use **▲, ▶** to return to [Standard Characters]. Confirm with **ENTER**.
- Use **PAUSE ■** to delete a letter.
- If you want to save the name/title in the List Names, press **SKIP ▶▶**.
- Use **◀** to select [Add] in the next screen and confirm with **ENTER**.
- If you press **STOP ■**, the name/title is saved.

*In the box under the Title on TOP MENU, you can double-check how the title will later appear when called from TOP MENU. If necessary, enter spaces, hyphens or dashes as desired.*

## Entering a Title via the Number Buttons, For Example: the Letter "R"

- Press [7] to go to the 7th line.
- Press [7] twice to select "R" and confirm with **ENTER**.

## Erasing a Disc Name or Title from List Names

- Use **◀◀ SKIP** to open List Names.
- Use **▼▲▶** to select the title or name and press **SUB MENU**.
- Confirm [Erase Name] with **ENTER**.
- Use **◀** to select [Erase] in the next screen and confirm with **ENTER**.

## Selecting a Disc Name or Title from List Names

- Use **◀◀ SKIP** to open List Names.
- Use **▼▲▶** to select the disc name or title confirm with **ENTER**.

# FUNCTIONS selection menu



TIMER RECORDING      Remain HDD 72:50 LP DVD 3:59 LP  
12:09:37 18.2.THU

No.	Name	Date	Start	Stop	Drive	Mode	VPS PDC	Disc space
01	ARD	MON-FRI	8:00	8:30	SP	ON	→ 10 / 2	
02	ZDF	18.2.THU	15:00	15:30	REF	SP ON OK		
03	NDR	18.2.THU	10:30	11:30	SP	ON	!	

New timer Programme

ENTER RETURN      CANCEL

DIRECT NAVIGATOR TITLE VIEW  
DVD-RAM      VIDEO      PICTURE

No.	Name	Date	Day	Time	Name of title
01	ARD	12.9.	THU	9:18	
02	NTV	7.9.	FRI	11:20	
03	ZDF	12.9.	THU	20:15	
04	ARD	11.9.	WED	13:00	
05	ARD	11.9.	WED	20:00	
06	ARD	10.9.	TUE	9:15	

Rec time 0:01(SP)

Page 01/01

ENTER RETURN      SUB MENU      Select

## Editing several elements

- Use **▼▲◀▶** to select the desired title and press **PAUSE** **||**. A **■** appears. Repeat this process to select other titles.
- Press **PAUSE** **||** again to cancel.

## Symbols

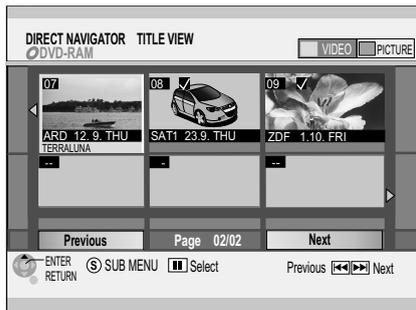


- The title is currently being recorded.
- Ⓜ The title overlaps other recordings.
- Ⓢ HDD/DVD was full or the maximum number of titles or scenes was reached, so that the title could not be recorded.
- ✕ The programme cannot be played back due to damaged data or cannot be recorded for another reason.
- 🔒 The title is write-protected.
- 🔒 The television programme was copy-protected so that the title could not be recorded.
- ↔ The title was redirected from DVD to HDD.
- 📁 Title with restriction for one-time copying.
- 📁 The title is being recorded to HDD.
- 📁 The title is being recorded to DVD.
- 🔄 The title is being refreshed automatically.
- ☑ The title is selected.
- ▶📁 Titles and playlists that can be copied in High Speed mode to a DVD-R etc.
- ↔📁 The title is provided for one-time copying and will be deleted after it is copied.
- 🖼️ Titles or playlists with pictures (pictures cannot be copied).

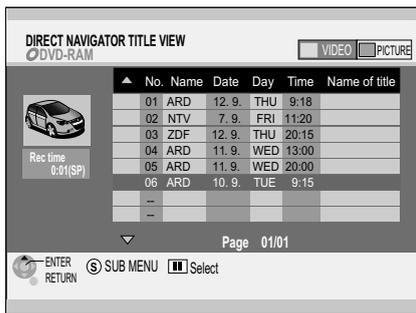
**N** (NTSC)      **P** (PAL)

The title or the playlist was recorded with a TV system other than that currently set in the unit. Titles and playlists with these markings cannot be played back. Switch your TV system to play back these titles/playlists.

# FUNCTIONS selection menu



- RED button: Select video view
- GREEN button: Select picture view



## DIRECT NAVIGATOR

In DIRECT NAVIGATOR, you can archive, edit or start recordings after selecting a title.

### Direct access:

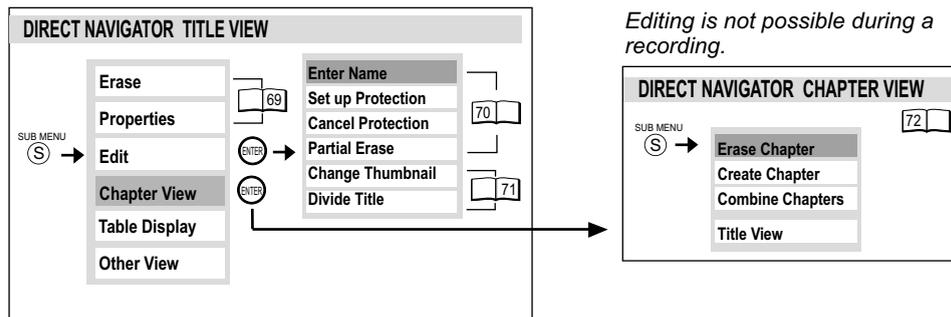
- Press **DIRECT NAVIGATOR** on your remote control.  
The DIRECT NAVIGATOR menu is displayed.

### Access via the FUNCTIONS menu:

- Press **FUNCTIONS** in stop mode.
- Confirm DIRECT NAVIGATOR with **ENTER**.
- Use **▼▲◀▶** [Previous] or [Next] to select other pages and press **ENTER**.
- Select the desired title and start playback with **ENTER**.

### Editing titles and chapters with the SUB MENU

- You can access further sub-menus with **SUB MENU**.

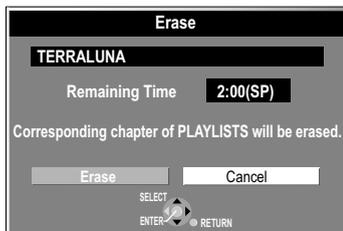
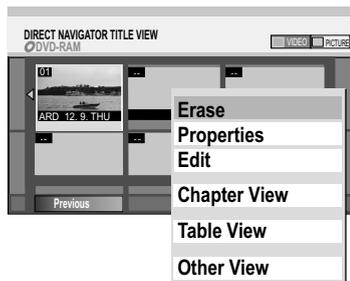


*Editing is not possible during a recording.*

### Changing the display in DIRECT NAVIGATOR

- Press **SUB MENU**.
- Use **▼▲** to select Other View or Table Display and press **ENTER**.  
*The last display used is still saved when the unit is switched off.*

# FUNCTIONS selection menu



## DIRECT NAVIGATOR

### Edit Title

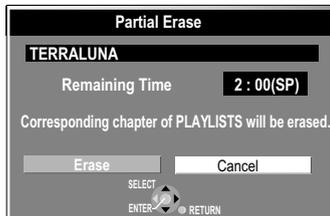
- Press **SUB MENU** in DIRECT NAVIGATOR.
- Use **▼▲** to select the desired option and confirm with **ENTER**.

<p><b>Erase</b> HDD RAM -R +RW/+R</p> <p>HDD/DVD ERASE <input type="checkbox"/></p>	<p>When you perform this procedure, the title is deleted and cannot be recovered.</p> <ul style="list-style-type: none"> <li>• Confirm [Erase] with <b>ENTER</b>.</li> <li>• Use <b>◀</b> to select [Erase] and confirm with <b>ENTER</b>.</li> </ul> <p><i>The available recording time may remain the same after erasing short titles. The recording time on DVD-R/+R remains the same.</i></p> <p><i>To edit several elements, use <b>▼▲◀▶</b> to select the desired title and press <b>PAUSE ■■</b>.</i></p>
<p><b>Properties</b> HDD RAM -R +RW/+R</p>	<p>Information on the playback list, e.g. time and date, is displayed.</p> <ul style="list-style-type: none"> <li>• Use <b>▼▲</b> to select [Properties] and confirm with <b>ENTER</b>.</li> </ul>
<p><b>Edit</b></p>	<p style="text-align: right;"><input type="text" value="70"/></p>
<p><b>Chapter View</b></p>	<p style="text-align: right;"><input type="text" value="72"/></p>
<p><b>Sort</b> HDD</p>	<p><b>Sorting in TITLE VIEW (only Table Display)</b> The titles can be sorted according to the following options: No., Name, Date, Day, Start Time, Name of title</p> <ul style="list-style-type: none"> <li>• Use <b>▼▲</b> to select the desired option and confirm with <b>ENTER</b>.</li> </ul> <p>The set search option is underlined in TITLE VIEW.</p>
<p><b>Thumbnail View</b> <b>Table Display</b></p>	<p>Switching the TITLE VIEW <i>The last view used is still saved when the unit is switched off.</i></p>
<p><b>Other View</b></p>	<p>Displaying VIDEO or PICTURE VIDEO: Display of video data (display also with <b>GREEN</b> button). PICTURE: Display of picture data (display also with <b>RED</b> button).</p>

# FUNCTIONS selection menu



Erase	
Properties	
<b>Edit</b>	<b>Enter Name</b>
Chapter View	Set up Protection
Table View	Cancel Protection
Other View	Partial Erase
	Change Thumbnail
	Divide Title



## DIRECT NAVIGATOR

### Edit Title

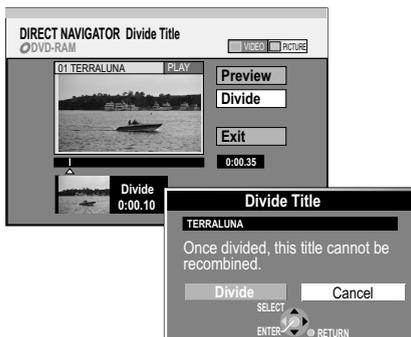
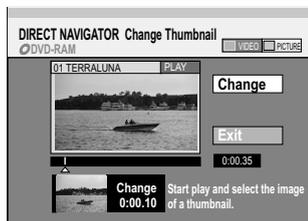
- Press **SUB MENU** in DIRECT NAVIGATOR.
- Use **▼▲** to select [Edit] and confirm with **ENTER**.
- Use **▼▲** to select the desired option and confirm with **ENTER**.

<p><b>Enter Name</b></p> <p>HDD RAM <b>ER</b> <b>ERWV</b> <b>HR</b></p>	<p>The complete name is displayed in the sub menu [Properties].</p> <ul style="list-style-type: none"> <li>• Confirm [Enter Name] with <b>ENTER</b>.</li> <li>• Change or enter the title of the programme.</li> </ul>
<p><b>Set up Protection</b></p> <p><b>Cancel Protection</b></p> <p>HDD RAM</p>	<p>If movies are protected, they cannot be deleted. Protection is indicated by  .</p> <ul style="list-style-type: none"> <li>• Use <b>◀</b> to select [Yes] and confirm with <b>ENTER</b>.</li> </ul> <p><i>To edit several elements, use <b>▼▲◀▶</b> to select the desired title and press <b>PAUSE</b> .</i></p>
<p><b>Partial Erase</b></p> <p>HDD RAM</p> <p><i>Before you start erasing, make sure that you really want to erase the recordings.</i></p>	<ul style="list-style-type: none"> <li>• At the desired start point, confirm [Start] with <b>ENTER</b>.</li> <li>• At the desired end point, confirm [End] with <b>ENTER</b>.</li> <li>• Confirm [Next] with <b>ENTER</b>.</li> <li>• In the following screen, use <b>◀</b> to select [Erase] and confirm with <b>ENTER</b>. After the erase procedure, you can select the next start and end point.</li> <li>• Confirm [Next] again with <b>ENTER</b>.</li> <li>• Use <b>▼▲</b> to select [Erase] and press <b>ENTER</b>.</li> <li>• To exit the menu, use <b>▼▲</b> to select [Exit] and press <b>ENTER</b>.</li> </ul> <p><i>Use <b>PAUSE</b>  and <b>SKIPI</b>  ,  to jump to the beginning or end of a title. You can search for begin and end points with <b>SLOW/SEARCH</b>  ,  or <b>TIME SLIP</b>.</i></p> <p><i>You may not be able to detect begin and end points if they are less than 3 seconds apart or if the recorded picture was a still image.</i></p> <p><i>The unit switches to pause, when the end of the track is reached.</i></p> <p><i>The available recording time on the disc may remain the same after the erase process.</i></p>

# FUNCTIONS selection menu



Erase	
Properties	
<b>Edit</b>	<b>Enter Name</b>
Chapter View	Set up Protection
Table View	Cancel Protection
Other View	Partial Erase
	Change Thumbnail
	Divide Title



## DIRECT NAVIGATOR

### Edit Title

- Press **SUB MENU** in DIRECT NAVIGATOR.
- Use **▼▲** to select [Edit] and confirm with **ENTER**.
- Use **▼▲** to select the desired option and confirm with **ENTER**.

### Change Thumbnail

HDD RAM R RW RW R

You can select an image to be displayed as a preview in the title view.

- Press **PLAY** ► to start the playback.
- Press **ENTER** at the image that you want to display.
- Confirm [Exit] with **ENTER**. The displayed preview is exchanged for this image.

Use **PAUSE** ■ and **SKIPI** ◀◀, ▶▶ to jump to the beginning or end of a title. You can search for particular points with **SLOW/SEARCH** ◀◀, ▶▶ or **TIME SLIP**.

### Divide Title

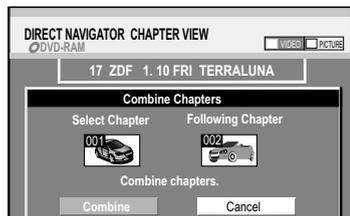
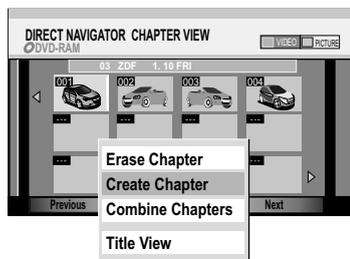
HDD RAM

You can divide a selected title. A divided title cannot be recombined again.

- Use **▼▲** to select [Divide Title] and confirm with **ENTER**.
- With **SLOW/SEARCH** ◀◀, ▶▶ and **PAUSE** ■, find the spot where you want to divide the title and confirm [Divide] with **ENTER**.
- Confirm [Preview] with **ENTER**. The playback will take place 10 seconds before to 10 seconds after the dividing point.
- Use **▼▲** to select [Exit] if you want skip the preview.
- Confirm [Exit] with **ENTER**.
- In the Divide Title screen, use ◀ to select [Divide] and confirm with **ENTER**.

*This function cannot be used if the resulting sections are extremely short or if the total number of the title is more than 99 (DVD-RAM). A short section of the recording right before the dividing point can be lost. The divided titles have the same name as the original title.*

# FUNCTIONS selection menu



## DIRECT NAVIGATOR



### Playing back chapters

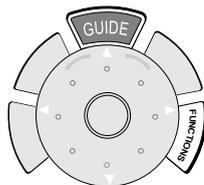
- Press **SUB MENU** in DIRECT NAVIGATOR.
- Use **▼▲** to select Chapter View and confirm with **ENTER**.
- Use **▼▲◀▶** [Previous] or [Next] to select additional pages and press **ENTER**.
- Select the desired chapter and start playback with **ENTER**.

### Editing chapters

- Use **▼▲◀▶** to select the desired chapter in the CHAPTER VIEW menu.
- Press **SUB MENU**.
- Use **▼▲** to select the desired option and confirm with **ENTER**.

<p><b>Erase Chapter</b> <b>HDD RAM</b></p> <p>HDD/DVD ERASE</p>	<p>If you execute this procedure, the chapter will be deleted and cannot be restored.</p> <ul style="list-style-type: none"> <li>• Use <b>◀</b> to select [Erase] and confirm with <b>ENTER</b>.</li> </ul> <p><i>To edit several elements, use <b>▼▲◀▶</b> to select the desired title and press <b>PAUSE</b> ■■.</i></p>
<p><b>Create Chapter</b> <b>HDD RAM</b></p>	<p>Subdivide the titles into chapters. Determine the points where a new chapter should begin. The chapters can be selected later during playback with <b>SKIP</b> <b>◀◀</b>, <b>▶▶</b>.</p> <ul style="list-style-type: none"> <li>• Press <b>ENTER</b> where you want to create the chapter.</li> <li>• Repeat this step to create more chapters.</li> <li>• Use <b>▼</b> to select [Exit] and confirm with <b>ENTER</b>.</li> </ul> <p><i>A short section of the recording right before the dividing point may be lost.</i></p>
<p><b>Combine Chapters</b> <b>HDD RAM</b></p>	<p>The selected chapter will be combined with the following chapter.</p> <ul style="list-style-type: none"> <li>• Use <b>◀</b> to select [Combine] and confirm with <b>ENTER</b>.</li> </ul>
<p><b>Title View</b> <b>HDD RAM</b></p>	<p>Return to TITLE VIEW.</p>

# FUNCTIONS selection menu



## EPG GUIDE Plus+

### GUIDE Plus+ system



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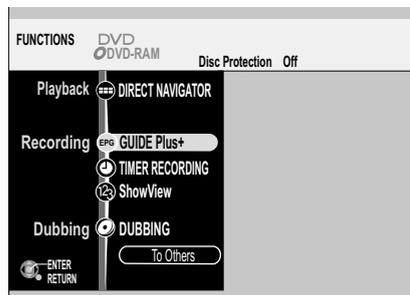


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# FUNCTIONS selection menu



## EPG GUIDE Plus+



### Launching and operating the GUIDE Plus+ system

Two convenient GUIDE Plus+ lists (Landscape view and Portrait view) in which you can select the desired station and display programme information are available in the GUIDE Plus+ system.

#### Direct access:

- Press **GUIDE** on your remote control.  
The GUIDE Plus+ list is displayed.

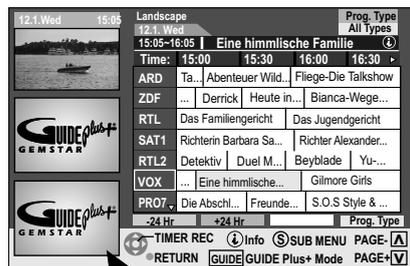


#### Access via the FUNCTIONS menu:

- Press **FUNCTIONS** on your remote control.
- Use **▼▲** to select the GUIDE Plus+ menu and press **ENTER**.  
The GUIDE Plus+ list is displayed.



*Additional information is available for some programmes.  
These programmes have the symbol .*



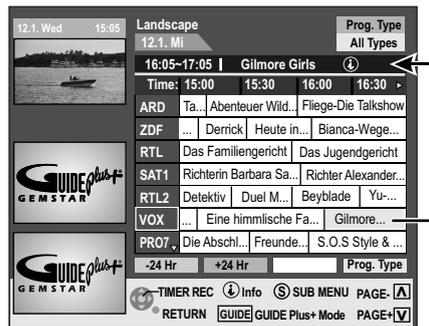
The GUIDE Plus+ Information Panels

### The GUIDE Plus+ information panels

The content of the GUIDE Plus+ information panels can change. The GUIDE Plus+ programme provider is responsible for the content of the information panels.

- Use **◀** to select the panels .
- Use **▼▲** to scroll the pages.
- Use **▶** to leave the panels.

# FUNCTIONS selection menu



## EPG GUIDE Plus+



### Landscape view in the GUIDE Plus+ system

The approximate programme start times are shown in the time bar in 30-minute increments. As soon as you select a programme, the complete programme name and time appear in the line above the time bar.

- Use **▼▲◀▶** to navigate within the GUIDE Plus+ list.  
Only current and future programmes are shown.
- You can also turn the smart wheel on your remote control to select an item.  
Turning right: Move the cursor downwards.  
Turning left: Move the cursor upwards.
- Use **PAGE ^ CH v** to browse through the GUIDE Plus+ list.  
Jump ahead 24 hours:
  - Press the **GREEN** button to jump ahead by one day.Jump back 24 hours:
  - Press the **RED** button. You can only jump back to the current date.

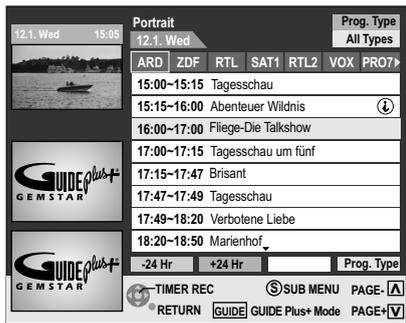


### Changing stations in landscape view

- To change stations, press **◀** until the station list appears.
- To view the current programme in the preview screen, use **▼▲** to select a station and press the **RED** button.
- To see the full-screen view of the current programme, use **▼▲** to select a station and press **ENTER**.
- Press **GUIDE** to return to the GUIDE Plus+ list.



# FUNCTIONS selection menu



To switch between Landscape view and Portrait view, press **GUIDE**.



## EPG GUIDE Plus+



### Portrait view in the GUIDE Plus+ system

- Use **▼▲◀▶** to navigate within the GUIDE Plus+ list. Only current and future programmes are shown.
- You can also turn the smart wheel on your remote control to select an item. Turning right: Move the cursor downwards. Turning left: Move the cursor upwards.
- Use **PAGE ^ CH v** to browse through the GUIDE Plus+ list.
  - Jump ahead 24 hours:
  - Press the **GREEN** button to jump ahead by one day.
  - Jump back 24 hours:
  - Press the **RED** button. You can only jump back to the current date.



### Changing stations in portrait view

- To change stations, press **▲** until the station list appears.
- To view the current programme in the preview screen, use **◀▶** to select a station and press the **RED** button.
- To see the full-screen view of the current programme, use **◀▶** to select a station and press **ENTER**.
- Press **GUIDE** to return to the GUIDE Plus+ list.



*The unit saves the last selected view.*

*This view is called when the GUIDE Plus+ system is launched again.*

# FUNCTIONS selection menu



12. 1. Wed 15:05

12. 1. Wed  
7th Heaven  
VOX, Series  
15:05-16:05, 60Min

Annie wants to rent out the appartement above the garage to Robbie. Lucy and Matt would like to move in there as well. Robbie decides to give it to Matt but still pay the rent for it.  
The garage appartement hasn't even been finished yet.

TIMER REC ⓘ Return ⓘ SUB MENU  
RETURN to list

Landscape

12. 1. Wed 15:05

12. 1. Wed 15:05-16:05 | 7th Heaven

Time:	Prog. Type
15:00	All
ARD Ta.   Abenteu...	Movies
ZDF ...   Derrick	Sport
RTL Das Familien	Children
SAT1 Richterin Barb	Other
RTL2 Detektiv   D	
VOX ...   7th Heave	
PRO7, Die Abschl...   Freunde...   S.O.S Style & ...	

Portrait

12. 1. Wed 15:05

Action

Prog. Type
Movies

Station	Time	Programme	Info
ARD	20:00-21:30	The Fast and the Furious ⓘ	
ZDF	21:30-23:00	Ronin ⓘ	
RTL	23:00-01:15	Noch 60 Sekunden ⓘ	
SAT1	19:15-21:00	Der Sturm ⓘ	
RTL2	21:00-22:30	Speed 2 ⓘ	
VOX	22:30-23:00	Mission Impossible ⓘ	
PRO7	23:00-01:30	Volcano ⓘ	

## EPG GUIDE Plus+



### Programme information in the GUIDE Plus+ system

Additional information (name of programme, programme duration, broadcast time, short description) is available for some programmes.

These programmes have the symbol ⓘ. You can display this information.

- Select the programme with the ⓘ symbol using ▼▲◀▶.
- Press ⓘ. The programme information appears.
- Use ▼▲ to page through the displayed information.
- To perform a TIMER programming from the information menu, press **ENTER** (TIMER RECORDING in the GUIDE Plus+ system).
- To hide the information, press ⓘ again.

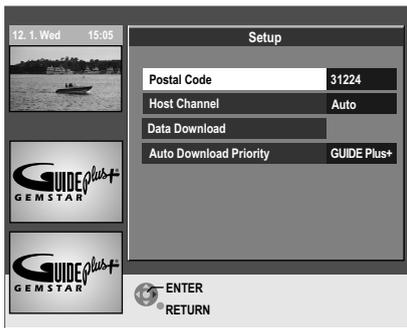
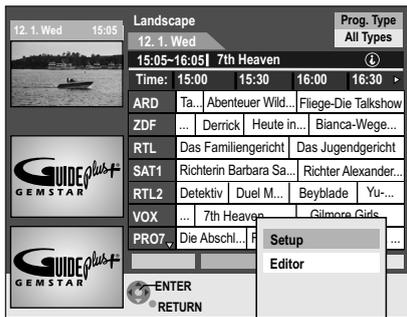


### Selecting the programme from the desired category in the GUIDE Plus+ system

The Programme Type function lets you display a GUIDE Plus+ list sorted by main category (e.g. Movies, Sport). Each main category will contain individual sub categories. The GUIDE Plus+ list for the selected main category only appears in the Portrait view.

- Press the **BLUE** button to display the list of main categories.
- Use ▼▲ to select the desired main category.  
The sub menu for the selected main category appears.  
Example: Select the main category Movies using ▼▲.  
The sub category with several movie categories appears (e.g. All, Action, Animation, Comedy, Drama, Romance, Sci Fi, Thriller, Adventure).
- Use ◀ to go to the sub category menu.
- Make your selection (e.g. Action) using ▼▲ and press **ENTER**.  
A list appears with all programmes of the selected main category and the selected sub category.
- Use ▼▲ to go through the GUIDE Plus+ list.
- Use ◀▶ to change the station.  
The GUIDE Plus+ list appears for the selected categories for this station.
- To exit the list, press **RETURN**.

# FUNCTIONS selection menu



## EPG GUIDE Plus+



### Setup of the GUIDE Plus+ system

You can change the basic settings for your GUIDE Plus+ list in the SUB MENU of the GUIDE Plus+ list.

- Press **GUIDE** to launch the GUIDE Plus+ list.
- Press **SUB MENU**. The sub menu is displayed.



### Setup

- Use **▼▲** to select [Setup] and press **ENTER**. The Setup menu of the GUIDE Plus+ system appears with the corresponding settings.
- Use **▼▲** to select the desired menu item and press **ENTER**.

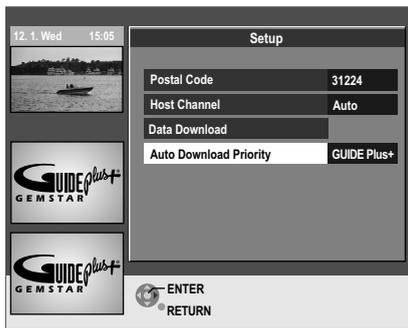
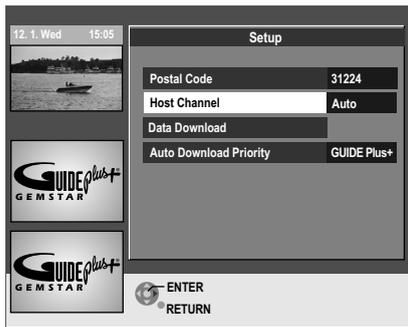
### Postal Code

The entry of the Postal Code is required to receive regional data.

Entry of the wrong Postal Code can lead to the receipt of wrong or no data.

- To change the Postal Code, use **◀▶** to select [Yes] and press **ENTER**.
- Use **▼▲◀▶** or the number buttons to enter your Postal Code and press **ENTER**.  
*Existing information can be lost by changing the Postal Code.*

# FUNCTIONS selection menu



## EPG GUIDE Plus+



### Changing the basic settings for your GUIDE Plus+ system

#### Host Channel

The GUIDE Plus+ System information is transferred via the Host Channel. Wrong entries lead to incorrect data. The [Auto] setting is recommended. A Host Channel is then set by the system automatically.

- To change the Host Channel manually, use **▼▲** to select the desired station and press **ENTER**.
- Use **◀▶** to select [Yes] and press **ENTER**.

The setting of the Host Channel can take some time.

*Existing information can be lost by changing the Host Channel.*

#### Data Download

- To update the information, use **◀▶** to select [Yes] and press **ENTER**.  
The update can take approximately 2 hours.

#### Auto Download Priority

The GUIDE Plus+ data update takes place several times each day.

In the timeframe shown in the menu, recordings programmed with the **TIMER RECORDING** menu can be incomplete; otherwise, recordings programmed with the **TIMER RECORDING** menu always have priority.

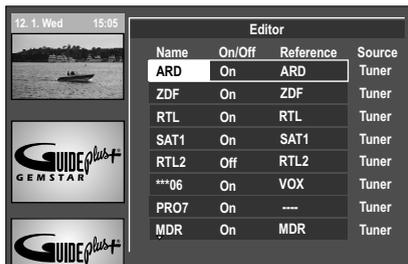
[GUIDE Plus+]: In the timeframe shown in the menu, the GUIDE Plus+

Data transfer has priority over the recordings programmed with the **TIMER RECORDING** menu. Recordings programmed with the **TIMER RECORDING** menu are not started or are interrupted for the data update.

[Timer Prog.]: If recordings are programmed with the **TIMER RECORDING** menu, no GUIDE Plus+ data update takes place.

- Use **◀▶** to select your priority and press **ENTER**.

# FUNCTIONS selection menu



## EPG GUIDE Plus+

### Changing the basic settings for your GUIDE Plus+ system

- Press **GUIDE** to launch the GUIDE Plus+ list.
- Press **SUB MENU**. The sub menu is displayed.



### Editor

- Use **▼▲** to select Editor und press **ENTER**. The Editor menu appears.

### On/Off

You can hide stations that you do not want to appear in the GUIDE Plus+ list. Only stations set to [On] in the Editor are displayed in the GUIDE Plus+ list.

- Use **▼▲** to select the desired station name. Use **PAGE ^ CH v** to browse through the station list.
- Use **▶** and **▼▲** to change the [On/Off] settings and press **ENTER**.



### Reference

If [No Data] appears in the GUIDE Plus+ list for a station, this station is either not supported by the GUIDE Plus+ data or a GUIDE Plus+ Reference could not be clearly assigned ([----] appears in the Reference field of this station in the Editor menu). In this case, set the appropriate Reference manually.

You can also manually assign the appropriate Reference if a station name was not recognised (e.g. \*\*\*06).

*The station names in the Reference list can deviate from the station list.*

- Use **▼▲** to select the desired station name. Use **PAGE ^ CH v** to browse through the station list.
- Use **▶** and **▼▲** to change the [Reference] setting of the appropriate station and press **ENTER**.



*Changes in the station list in the Setup menu of your unit will cause all Editor settings to return to the initial condition.*



# FUNCTIONS selection menu



## DUBBING

### Dubbing overview

82

### Information on high-speed copying

83

---

### Dubbing with the dubbing list

84

Titles and playlists can be dubbed to the disc in the desired order.

Editing the playlist

Deleting all saved dubbing settings and lists

86

---

### Dubbing information

87

Recording and playback during dubbing

---

### Timer-controlled Dubbing

88

A finalized DVD-R, DVD-RW (DVD-Video format), +R etc. can be dubbed to the HDD and edited again. While the disc is playing, the material is dubbed to the HDD (Hard disk drive) according to the set time.

---

### One Touch Dubbing

90

Preparing for Dubbing

Starting Dubbing

Almost all videos and DVD-Videos available for purchase are copy-protected. The content of such media cannot be copied with this unit.

# FUNCTIONS selection menu



## DUBBING

Different media formats with different dubbing methods can be copied with this unit.

### Dubbing overview

#### Dubbing with the dubbing list [84-86]

Cancel All

Destination Capacity: 4080MB  
Size: 1306MB ( 32%)

1 Dubbing Direction	No.	Size	Name of item
HDD → DVD	01	0:12 SP ( 2%)	TERRALUNA
2 Dubbing Mode	02	0:11 SP (10%)	CARS
VIDEO SP	03	0:12 SP ( 8%)	Sharks
3 Create List	04	0:12 SP (12%)	Animal World

New item (Total = 4)

Page 01/01  
Create dubbing list.

Start Dubbing

HDD ↔ RAM  
HDD ← -RW(VR)  
HDD → -R +R -RW(V)  
HDD RAM -RW(VR) → VHS  
HDD RAM SD ↔ HDD RAM SD only pictures

Titles and playlists can be compiled and dubbed in a dubbing list.  
Only pictures can be dubbed with the SD Card.

#### Timer-controlled Dubbing [88-89]

Cancel All

Time Setting On

1 Dubbing Direction  
VHS → DVD

2 Dubbing Mode  
VHS-Video SP

3 Dubbing Time

Dubbing Time 2:00

Destination Capacity: 2:14

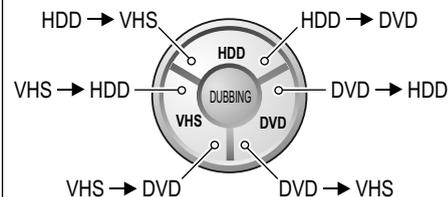
Press ENTER to change settings.

Start Dubbing

DVD-V → HDD VHS  
VHS → HDD RAM -R -RW(V) +R  
S-VHS → HDD RAM +R -RW(V) +R

The entire cassette/disc can be dubbed or the duration of the dubbing can be determined.  
The titles are transferred without chapters.

#### One Touch Dubbing [90]



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

A title can be dubbed with just one push of the button without other settings being required. You can copy directly between VHS, HDD and DVD.

# FUNCTIONS selection menu



## DUBBING

### Information on high-speed copying

**Copy direction** **HDD** **RAM** **-R** **-RW(V)** **+R** Information on dubbing with the dubbing list.

<b>HDD</b> ⇄ <b>RAM</b>	In high-speed mode, it is possible to copy from HDD to RAM and vice versa.
<b>HDD</b> ⇒ <b>RAM</b>	In normal-speed mode, it is only possible to copy from HDD to RAM.
<b>HDD</b> ⇐ <b>-RW(V)</b>	In high-speed mode, it is possible to copy from DVD-RW(VR) to HDD.
<b>HDD</b> ⇒ <b>-R +R</b> <b>-RW(V)</b>	In high-speed mode and in normal-speed mode, it is possible to copy from HDD to DVD-R/+R and DVD-RW(V). <i>Before recording to the HDD (Hard disk drive), set the Rec for High Speed dubbing setting in the Disc SETUP menu to [On].</i>
<b>HDD</b> ⇐ <b>DVD-V</b>	In normal-speed mode, it is possible to copy from DVD-V (finalized discs or non-copy-protected DVD-Video) to HDD.

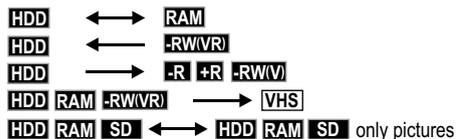
### Approximate dubbing duration

For a title recorded to the HDD (Hard disk drive) with a recording time of 1 hour, the dubbing duration in high-speed mode is between 1 and 15 minutes depending on the recording mode and the high-speed compatible disc.

Recording mode	5x High Speed compatible <b>RAM</b>	8x High Speed compatible <b>-R</b>	4x High Speed compatible <b>-RW(V)</b>	8x High Speed compatible <b>+R</b>
XP	approx. 12 min.	approx. 8.7 min.	approx. 15 min.	approx. 8.7 min.
SP	approx. 6 min.	approx. 3.8 min.	approx. 7.5 min.	approx. 3.8 min.
LP	approx. 3 min.	approx. 1.9 min.	approx. 3.8 min.	approx. 1.9 min.
EP(6Hours)	approx. 2 min.	approx. 1.3 min.	approx. 2.5 min.	approx. 1.3 min.
EP(8Hours)	approx. 1.5 min.	approx. 56 sec.	approx. 1.9 min.	approx. 56 sec.

- Playlists cannot be copied in high-speed mode if
- The playlists are made up of different recording modes or the FR recording mode.
  - The playlists contain different audio modes.
  - The titles contain many deleted segments.

# FUNCTIONS selection menu



## DUBBING

### Dubbing with the dubbing list

Titles and playlists can be compiled and dubbed in the desired order.

- Press **FUNCTIONS**.
- Select DUBBING and confirm with **ENTER**.
- Use **▼▲** and **▶** to select the desired option.

### Cancel All

All saved dubbing settings and lists will be erased.

- In the DUBBING screen, use **▲▼** to select [Cancel All] and confirm with **ENTER**.
- Use **◀▶** to select [Yes] and confirm with **ENTER**.

*The dubbing settings may also be erased if*

- titles, pictures, etc. were recorded or erased from the dubbing source,
- the unit was switched off or the disc tray was opened,
- the dubbing direction was changed, etc.

### Dubbing Direction

- Use **▼▲** to select the [Source] or [Destination] and confirm with **ENTER**.
- Use **▼▲** to select the desired drive and confirm with **ENTER**.  
The source and destination drives cannot be the same.
- Use **◀** to return to [Dubbing Direction].

### Dubbing Mode

- Use **▼▲** to select [Format] or [Recording Mode] and confirm with **ENTER**.  
Format: Select whether you want to transfer video or pictures.  
Recording Mode: Select the recording quality or the copy speed (High Speed, XP-EP, FR).
- Use **▼▲** to select the desired setting and confirm with **ENTER**.
- Use **◀** to return to [Dubbing Mode].

### Create List

You can create a copy list from the existing titles and PLAYLISTS.

### Start Dubbing

### DVD drive speed

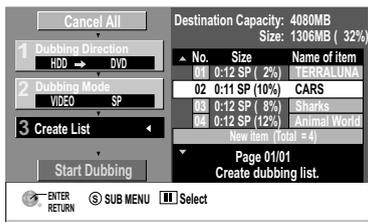
49 | 58

85

85

85

# FUNCTIONS selection menu



## DUBBING

### Create List

You can create a copy list from the existing titles and PLAYLISTS.

- Confirm [New item] with **ENTER**.
- In the Create List screen, use **▼▲◀▶** to select the desired title and confirm with **ENTER**. The title is transferred to the copy list.
- Use **◀** to return to [Create List].

*In order to edit several elements, use **▼▲◀▶** to select the desired title and press **PAUSE** **||** appears.*

*In the case of high-speed recordings to DVD-R, DVD-RW (DVD-Video format) or +R, only those programmes marked with **▶⊕** can be selected.*

*Dubbing cannot begin if the Size value is more than 100% of the storage place on the destination drive.*

### Editing the dubbing list

86

### Start Dubbing

- Use **▼▲** to select [Start Dubbing] and confirm with **ENTER**.
- When the screen appears, use **▲◀▶** to select the speed of the DVD.
- Use **◀** to select [Yes] and confirm with **ENTER**.
- Press **RETURN** for 3 seconds to stop DUBBING early.

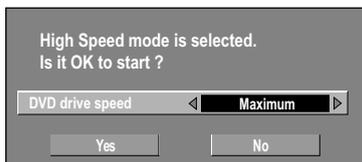
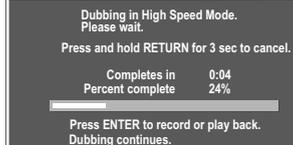
During the dubbing procedure, you can continue to record to or playback from the HDD (Hard disk drive) (only High Speed Mode).

- Confirm the screen with **ENTER**.  
The dubbing procedure is executed in the background.
- Press **STATUS** to display information on the procedure.

### DVD drive speed **RAM** **R** **R**

- When dubbing to a 5x high-speed-compatible DVD-RAM, 8x high-speed-compatible DVD-R or +R in high-speed mode, use **▲◀▶** to select the speed of the DVD.
- Use **◀▶** to select [Maximum] or [Normal (Silent)] and confirm [Yes] with **▼◀**.

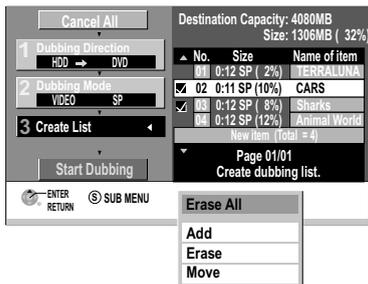
*With [Normal (Silent)], the sounds made by this unit are quieter than at [Maximum]; however, the time required for dubbing almost doubles.*



# FUNCTIONS selection menu



## DUBBING



### Editing the dubbing list

- In the DUBBING screen, use **▼▲** to select [Create List] and **▶** to select [New item].
- Use **▼▲** to select the desired title and press **SUB MENU**.
- Select the desired option **▼▲** and confirm with **ENTER**.

**Erase All:** All items registered in the dubbing list will be erased.

- Use **◀▶** to select [Yes] and confirm with **ENTER**.

**Add:** Add new items to the dubbing list.

- Use **▼▲◀▶** to select the desired playlist or title and confirm with **ENTER**.

**Erase:** Erase the selected items.

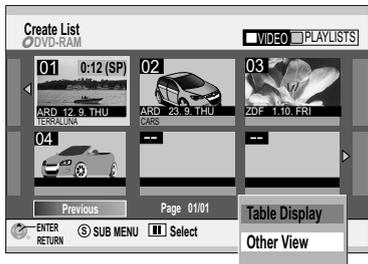
- Use **◀▶** to select [Yes] and confirm with **ENTER**.

**Move:** The selected items are moved in the dubbing list and the order is changed.

- Use **▲▼** to select the desired item and confirm with **ENTER**.

*In order to edit several elements, use **▼▲◀▶** to select the desired title and press **PAUSE ■■**.*

**■** appears.



Changing the view:

You can select between different views in the Create List screen (Table Display, Thumbnail Display and Other View).

- In the Create List screen, select **SUB MENU**.
- Use **▼▲** to select the desired view and confirm with **ENTER**.

VIDEO/PICTURE and PLAYLISTS view:

- Press **SUB MENU** in the Create List screen.
- Use **▼▲** to select [Other View] and confirm with **ENTER**.
- Confirm the following message with **ENTER**.

You can also change the view with the **GREEN PLAYLISTS** button and the **RED VIDEO/PICTURE** button.

# FUNCTIONS selection menu



## DUBBING

### Dubbing information

#### Recording and playback during dubbing

During dubbing in high-speed mode, you can record to the HDD (Hard disk drive) or play back from it.

- Press **ENTER** to switch off the screen display.
- Use **STATUS** to display information on the dubbing procedure.

Time-lapsed playback, editing, etc. are not possible during dubbing.

Regardless of the selected recording drive, the timer recording is always saved to HDD during dubbing.

A playlist cannot be played back if titles were restricted for one-time copying only.

If the dubbing of a title in high-speed mode stops in the middle, the affected title will not be recorded. Even if the title was not dubbed to the DVD-R, DVD-RW or +R, the remaining capacity of the disc is decreased.

   If a title is to be copied from the HDD (Hard disk drive) in high-speed mode, you must set [Rec for High Speed dubbing] to [On] in the SETUP menu before recording to the HDD (Hard disk drive). 

When recording a dual-channel sound programme, only the main or only the additional sound can be recorded.

In the SETUP menu, use [Bilingual Audio Selection] to select option [M1] or [M2]. 

If you want to record from an external unit, select option [M1] or [M2] on the external unit. 16:9-format programmes (widescreen) are recorded in 4:3 format.

The disc can then only be played back on other players if they were finalized after dubbing.

# FUNCTIONS selection menu



## DUBBING

- DVD-V → HDD VHS
- VHS → HDD RAM -R -RW(V) +R
- S-VHS → HDD RAM -R -RW(V) +R



### Timer-controlled Dubbing

The entire disc/cassette can be dubbed or the duration of the dubbing can be determined. The titles are transferred without chapters.

*The procedures and screen displays are also recorded during the dubbing.*

*Video cassettes and DVD-Video discs available for purchase are usually copy-protected and cannot be dubbed.*

*DVD-Audio, Video CDs, Audio CDs cannot be dubbed.*

*The original picture and sound quality may not be retained during dubbing, even if the source is a high-quality DVD-Video.*

*S-VHS dubbing settings*

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- Press **FUNCTIONS**.
- Use **▼▲** to select DUBBING and confirm with **ENTER**.
- Use **▼▲** and **▶** to select the desired option.

**Cancel All:** All created settings and copy lists will be erased!

- Use **◀** to select [Yes] and confirm with **ENTER**.

### Dubbing Direction

- Use **▶** to select [Source] and confirm with **ENTER**.
- Use **▼▲** to select DVD or VHS and confirm with **ENTER**.
- Use **◀** to return to [Dubbing Direction] and use **▼** to select [Dubbing Mode].

### Dubbing Mode

89

### Dubbing Time

89

### Start Dubbing

89

# FUNCTIONS selection menu

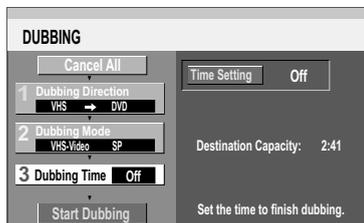


## DUBBING

### Dubbing Mode

- Use **▶** to select [Recording Mode] and confirm with **ENTER**.
- Use **▼▲** to select the desired recording mode [XP, SP, LP, EP, FR] and confirm with **ENTER**. The format is automatically identified.
- Use **◀** to return to [Dubbing Mode] and use **▼** to select [Dubbing Time].

*For VHS the recording modes XP and FR are not possible.*



### Dubbing Time

- Use **▶** to select [Time Setting] and confirm with **ENTER**.
- Use **▼▲** to select [On] or [Off] and confirm with **ENTER**.

#### [Off]:

When the copy time is switched off, the entire disc/cassette is dubbed, provided that there is sufficient space on the destination drive.

#### Recording Mode FR and Time Setting [Off]:

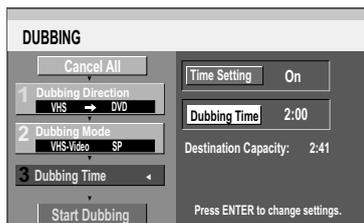
DUBBING starts after the cassette is rewind. Titles for each index signal are automatically created for each index signal.

#### [On]:

DUBBING starts at the desired start position.

No titles are created.

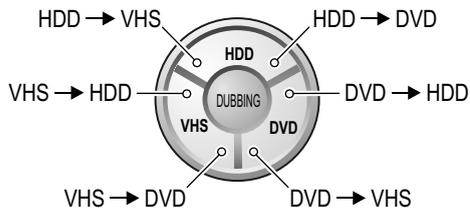
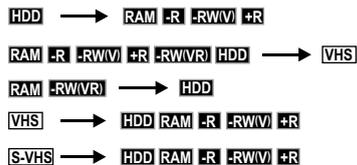
- Use **▼▲◀▶** or the numeric buttons to change the time setting and confirm with **ENTER**.



### Start Dubbing

- Use **◀** to return to [Dubbing Time] and use **▼** to select [Start Dubbing].
- Press **ENTER** to start the copy procedure.
- Use **◀** to select [Yes] and confirm with **ENTER**.  
DUBBING ends with the selected time setting.
- Press **RETURN** for 3 seconds to stop DUBBING early.

# DUBBING / Copying



When copying from HDD/DVD to VHS, the recording begins at the beginning of the title. No other functions are possible during the copy procedure from HDD/DVD to VHS.

## One Touch Dubbing

You can copy directly between VHS, HDD and DVD.

**HDD** **DVD** The title that is currently running can be dubbed with just one push of the button without other settings being required.

One Touch Dubbing from HDD to DVD/VHS copies the title/playlist which is currently being played or is stopped in resume mode. 35

If no title/playlist is selected, copying is not possible.

One Touch Dubbing from DVD to HDD copies all the titles/playlists from the DVD.

One Touch Dubbing from DVD to VHS copies all the titles/playlists from the DVD if no title has been selected. If a title/playlist is currently being played or has been stopped in resume mode, the selected title and then all following titles/playlists are copied right to the last recording on the DVD.

## DUBBING preparation

Insert a video cassette or a disc.

- Use **REC MODE** to select the recording mode on the target drive.
- Select the desired start positions for VHS.

For HDD or DVD, the title/playlist that is currently playing or that was played last will be copied in full.

- Press **FUNCTIONS**, confirm DIRECT NAVIGATOR with **ENTER**, or use **▼▲** to select [To Others] → **ENTER** → **PLAYLISTS** → **ENTER**.
- Use **▼▲▶** to select the desired title and confirm with **ENTER**.
- Press **STOP ■**, to activate the title for the DUBBING.
- Press **RETURN** to leave the menu.

**HDD RAM -RWVR** When copying from HDD/DVD to VHS or VHS to HDD/DVD, use **AUDIO** to select the desired audio channel for dual-channel sound.

## Starting DUBBING

- Switch HDD, DVD and VHS to stop mode.
- Press **HDD-**, **VHS-** or **DVD- DUBBING** for the desired copy direction. START blinks on the display of the unit.
- Hold **HDD-**, **VHS-** or **DVD- DUBBING** for approx. 3 seconds. START disappears and the copy procedure starts.
- To cancel the copy procedure, press **RETURN** for 3 seconds or **STOP ■**.

# FUNCTIONS selection menu



To Others

## PLAYLISTS

**HDD RAM** You can create and then edit a playlist from your favourite chapters of your recording.

**RAM** Insert a recorded disc. If write protection is activated, deactivate it.

### Creating a Playlist

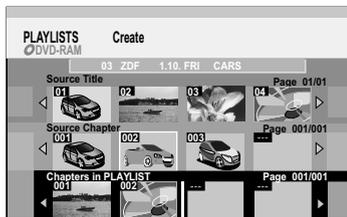
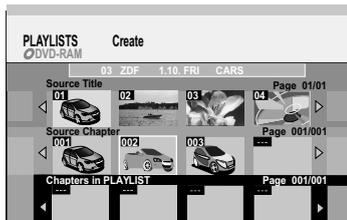
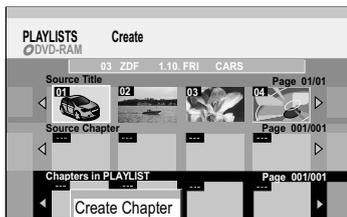
- Press **FUNCTIONS** in stop mode.
- Use **▼▲** to select [To Others] and confirm with **ENTER**.
- Confirm **PLAYLISTS** with **ENTER**.
- In **PLAYLIST VIEW**, use **▼▲◀▶** to select the free [Create] field and confirm with **ENTER**.

### Create Source Chap.

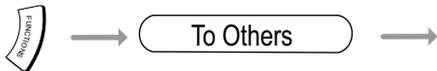
- In the [Create] menu, use **◀▶** to select the Source Title and press **SUB MENU**.
- Confirm [Create Chapter] with **ENTER**.
- In the [Create Source Chap.] Menu, use **ENTER** to select the chapter sections.  
*To place an exact chapter marking, use **PAUSE |||** to stop the playback. Use **SLOW/SEARCH ◀▶**, **SKIP ◀▶▶**, **TIME SLIP** or **◀▶** to select the position.*
- Use **▼** to select [Exit] and confirm with **ENTER**.

### Adding Chapters to PLAYLISTS

- In the [Create] menu, use **◀▶** to select a Source Title and use **▼** to go to [Source Chapter].
- Use **◀▶** to select the Source Chapter that you want to add to the playlist and confirm with **ENTER**.
- Use **◀▶** to select the position where the chapter should be inserted into the **PLAYLISTS** and confirm with **ENTER**.  
To add another chapter, repeat the steps. Use **▲** to select additional Source Titles.
- Use **RETURN** to go back to **PLAYLIST VIEW**.  
*If you confirm a selected source title with **ENTER**, the entire title is saved into the **PLAYLISTS**.*



# FUNCTIONS selection menu



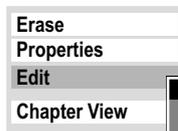
## PLAYLISTS

### Select / Edit Playlists

- Press **FUNCTIONS**.
- Use **▼▲** to select [To Others] and confirm with **ENTER**.
- Confirm **PLAYLISTS** with **ENTER**.
- Use **▼▲◀▶** to select a playlist.
- You can play the playlist with **ENTER**.



- With **SUB MENU**, the sub-menu for editing the playlist appears.



### Erase

- Confirm [Erase] with **ENTER**.
- In the next screen, use **◀** to select [Erase].  
An erased playlist cannot be restored.
- Confirm [Erase] with **ENTER**

*To edit several elements, use **▼▲◀▶** to select the desired title and press **PAUSE** ■.*



### Properties

- Use **▼▲** to select [Properties] and confirm with **ENTER**.  
Information on the playlist, e.g. chapter and date, is displayed.

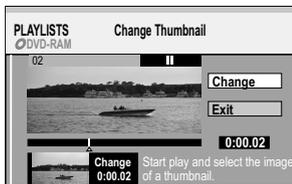
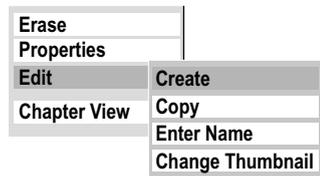
### Edit

93

### Chapter View

94

# FUNCTIONS selection menu



## Edit Playlists

- Press **FUNCTIONS**.
- Use **▼▲** to select [To Others] and confirm with **ENTER**.
- Confirm **PLAYLISTS** with **ENTER**.
- Use **▼▲◀▶** to select a playlist.
- Press **SUB MENU**
- Use **▼▲** to select [Edit] and confirm with **ENTER**.
- In the sub-menu, select the desired option.

## Create

- Confirm [Create] with **ENTER**.  
Please read Creating a Playlist.



## Copy

- Use **▼▲** to select [Copy] and confirm with **ENTER**.
- In the following screen, use **◀** to select [Copy] and confirm with **ENTER**.  
*To edit several elements, use **▼▲◀▶** to select the desired title and press **PAUSE** ■■.*

## Enter Name

If you enter a long name, it is only partially displayed.



## Change Thumbnail

You can select an image to be displayed as the preview in TITLE VIEW. The image will be displayed as the preview for approx. 1 second after the beginning of the title.

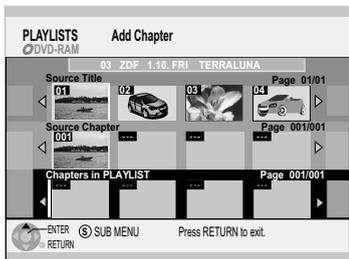
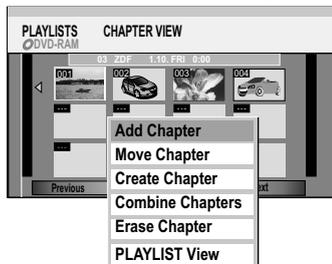
- Use **▼▲** to select [Change Thumbnail] and confirm with **ENTER**.
- In the Change Thumbnail menu, press **PLAY ▶** to start the playback.
- Press **ENTER** at the selected spot.
- Confirm [Exit] with **ENTER**.  
The displayed preview is exchanged for this image.

# FUNCTIONS selection menu



To Others

## PLAYLISTS



### Edit Chapters

- Press **FUNCTIONS**.
- Use **▼▲** to select [To Others] and confirm with **ENTER**.
- Confirm **PLAYLISTS** with **ENTER**.
- In **PLAYLIST VIEW**, use **▼▲◀▶** to select a playlist.
- Press **SUB MENU**.
- Use **▼▲** to select [Chapter View] and confirm with **ENTER**.
  
- In **CHAPTER VIEW**, use **▼▲◀▶** to select the desired chapter and press **SUB MENU**.
  
- In the sub-menu, use **▼▲** to select the desired option and confirm with **ENTER**.

### Add Chapter

You can create a new chapter from the Source Title.

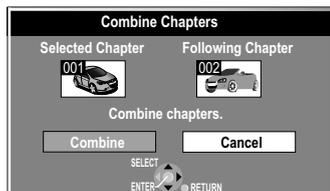
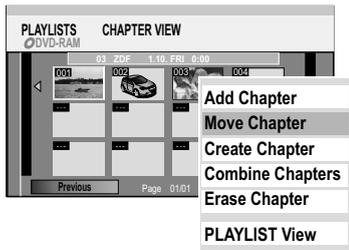
- In the [Add Chapter] menu, use **▼▲◀▶** to select a Source Title and press **▼**.
- Use **◀▶** to select a Source Chapter and confirm with **ENTER**. Use **▲** to cancel the process.
- Use **◀▶** to select the position where the chapter is to be inserted and confirm with **ENTER**.
- To add another chapter, repeat the steps. Use **▲** to select other Source Titles.
- Use **RETURN** to go back to **CHAPTER VIEW**.

# FUNCTIONS selection menu



→ To Others →

PLAYLISTS



## Edit Chapters

- In CHAPTER VIEW, use **▼▲◀▶** to select the desired chapter and press **SUB MENU**.
- In the sub-menu, use **▼▲** to select the desired option and confirm with **ENTER**.

## Move Chapter

- Use **▼▲◀▶** to select the position where the chapter is to be moved, and confirm with **ENTER**.

## Create Chapter

- Press **ENTER** at the position where you want to create the chapter. Repeat this step to create a chapter at another spot.
- Use **▼** to select [Exit] and confirm with **ENTER**.  
*A short section of the recording right before the dividing point can be lost.*

*For quick editing*

Use **PAUSE ■■** and **SKIPI◀◀, ▶▶** to jump to the start or end of a title.  
Find the start and end points with **SLOW/SEARCH ◀◀, ▶▶** or **TIME SLIP**.

## Combine Chapters

- In the next screen, use **◀** to select [Combine] and confirm with **ENTER**. The selected chapter is combined with the next chapter.

## Erase Chapter

- In the next screen, use **◀** to select [Erase] and confirm with **ENTER**. The original title is not erased by erasing the chapter.  
*To edit several elements, use **▼▲◀▶** to select the desired title and press **PAUSE ■■**.*

**PLAYLIST View:** Return to PLAYLIST VIEW.

# FUNCTIONS selection menu



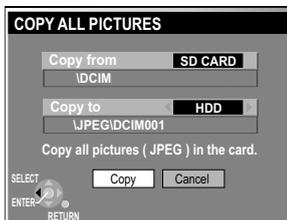
To Others



 COPY ALL PICTURES



**SD** → **HDD** **RAM**



## Copying all pictures from an SD Card

You can copy all content from an SD Card to HDD or DVD using the COPY ALL PICTURES function.

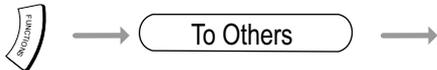
- To select the SD drive, press **SD**.
- Press **FUNCTIONS**.
- Use **▼▲** to select [To Others] and confirm with **ENTER**.
- Confirm COPY ALL PICTURES with **ENTER**.
- In COPY ALL PICTURES, use **▼** and **▶** to select the folder that you want to view.
- Use **▼** and **▶** to select HDD or DVD and confirm with **ENTER**.
- Use **▼** and **◀** to select [ Copy] and confirm with **ENTER**.
- Press **RETURN** for 3 second to stop the COPY ALL PICTURES procedure early.
- To continue copying, press **RETURN**.
- To exit the screen, press **ENTER**.

*The copied folders are placed behind the already existing folders.*

*The DPOF print setting is not dubbed during copying.*

*The order in which the pictures are registered in the copy list may not match that of the copy destination.*

# FUNCTIONS selection menu



## SETUP

- Press **FUNCTIONS** in stop mode.
- Use ▲▼ to select [To Others] and confirm with **ENTER**.
- Use ▲▼ to select SETUP and confirm with **ENTER**.
- Use ▲▼ to select the desired sub menu and use ► to switch to setting.
- Use ▲▼ to select the desired setting and confirm with **ENTER**.
- Use ▲▼ to select the desired option and confirm with **ENTER**.

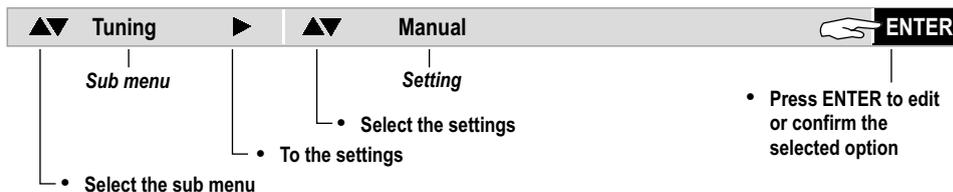
*Follow the menu navigation. The unit saves your settings.*

- Use ◀ to return to the sub menu and use **RETURN** to exit the menu.
- Use **FUNCTIONS** to return to the FUNCTIONS menu.

Sub-menu	Setting	Option
SETUP	Remote Control	MODE 1
	Clock	
	Power Save	Off
Tuning	Quick Start	On
Disc	Language	English
Picture	Shipping Condition	
Sound	Default Settings	
Display		
Connection		
Others		

TAB → SELECT  
 ● RETURN

## Menu navigation in the SETUP menu



# FUNCTIONS selection menu



→ To Others →

**SETUP**

**Manual Tuning**

Pos	Name	Ch	Pos	Name	Ch
1	ARD	7	11	----	---
2	ZDF	4	12	----	---
3	N3	2	13	----	---
4	RTL	12	14	----	---
5	SAT1	11	15	----	---
6	VOX				
7	PRO7				
8	----				
9	----				
10	----				

**Manual Tuning**

Pos	1
Name	ARD
Channel	2
Fine Tuning	Auto
Decoder	Off
Video System	Auto
Audio Mode	BG
Mono	Off
Title Page	301

▲▼ Tuning ▶    ▲▼ Manual ENTER

## Entering a new television station

- Use ◀▶▲▼ to select an empty station position and confirm with **ENTER**.
- Enter the channel using ▲▼ or Ⓞ - Ⓞ.
- The channel tuning starts. Wait until the desired station is set and confirm the settings with **ENTER**.

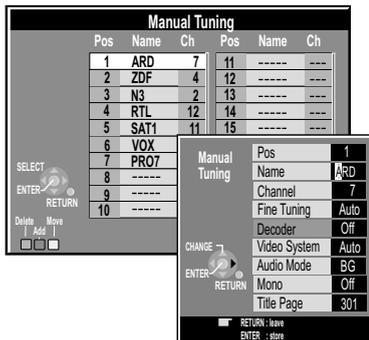
*Image interference may be minimised with Fine Tuning.*

Options available for tuning the channels. Not every model supports all of the functions.		
<b>Pos</b>		Station position.
<b>Name</b>		Station name setting.
<b>Channel</b>		Channel setting.
<b>Fine Tuning</b>	Auto / Man.	Fine tuning of disturbed picture
<b>Decoder</b>	On / Off	For reception of encrypted channels. <span style="float: right;">23</span>
<b>Video System</b>	Auto / PAL / SECAM	TV system setup.
<b>Audio Mode</b>	BG / I	Audio system setup
<b>Mono</b>	On / Off	Switch stereo to mono.
<b>Title Page</b>		The station title is obtained from the TV guide.

# FUNCTIONS selection menu



→ To Others →



## SETUP



### Changing the name of the television station

- Use ▼▲◀▶ to select the name of the television station and confirm with **ENTER**.
- Use ▼▲ to select [Name] and use ▶ to select the name field.  
The cursor jumps to the first letter **A**RD.
- Change the letter using ▲▼.
- Use ▶ to select the next letter **A**RD.
- Press **ENTER**. The new name is saved in the station table.

### Deleting television stations

- Use ▼▲◀▶ to select the station that you want to delete.
- Press **RED** button to delete the station.  
The settings of the programme position are deleted.

### Inserting an empty programme position

(If the station table was not created using Q Link or similar funtions)

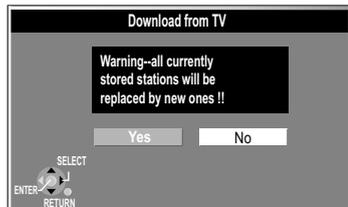
- Use ▼▲◀▶ to select the programme position in front of which an empty programme position is to be inserted.
- Press **GREEN** button. An empty programme position is inserted.

### Moving television stations

(If the station table was not created using Q Link or similar funtions)

- Use ▼▲◀▶ to select the station that you want to move.
- Press **YELLOW** button.
- Use ▼▲ to select a new position and confirm with **ENTER**.

# FUNCTIONS selection menu



## Auto-Setup Restart

- Use ◀ to select [Yes] and confirm with **ENTER**.  
The station search begins.
- To cancel the process, use ▶ to select [No] and confirm with **ENTER** or press **RETURN**.
- To stop the station search early, press **RETURN**.



## Download from TV (with Q Link or similar functions)

- Use ◀ to select [Yes] and confirm with **ENTER**.  
The data transfer begins.
- To cancel the process, use ▶ to select [No] and confirm with **ENTER** or press **RETURN**.
- To stop the data transfer early, press **RETURN**.

## List of language codes

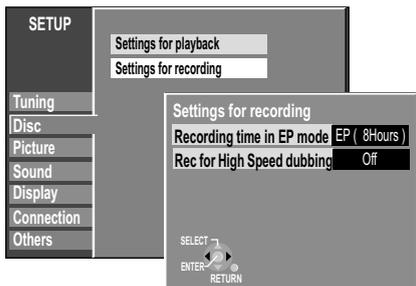
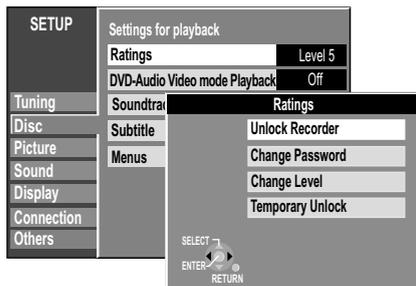
Abkhazian	6566	Bihari	6672	Esperanto	6979	Hindi	7273	Latin	7665	Oriya	7982	Sindhi	8368	Tigrinya	8473
Afar	6565	Breton	6682	Estonia	6984	Hungarian	7285	Latvian	7686	Pashto	8083	Singhalese	8373	Tonga	8479
Afrikaans	6570	Bulgarian	6671	Faroese	7079	Icelandic	7383	Lingala	7678	Persian	7065	Slovak	8375	Turkish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

# FUNCTIONS selection menu



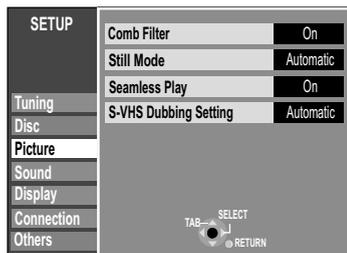
To Others

SETUP



▲▼ Disc		▲▼ Settings		ENTER	▼▲ Options	ENTER
<b>Ratings</b>		You can restrict the playback of DVD-Video by entering a password.		<b>Changing the Security Level</b>		
8 Allows all titles.		1-7 Stops playback of DVD-Video with registered security levels.		[Unlock Recorder] Return to level 8		
0 Locks all titles.				[Change Password] Change the password		
				[Change Level] Change the unlock level		
				[Temporary Unlock] You can temporarily unlock a disc for playback. The unit is locked again when you switch to standby or open the disc tray.		
<b>DVD-Audio Video mode Playback</b>		[On] [Off]				
		On: You want to play the DVD-Video content of a DVD-Audio. If you change discs or turn the unit off, the setting is reset to [Off].				
<b>Soundtrack</b>		[DVD-V]		Select the language for Soundtrack, Subtitle and Menus. Under [Other], enter the language code for a different language.		
<b>Subtitle</b>						
<b>Menus</b>						
<b>Recording time in EP mode</b>		[EP ( 6Hours )] [EP ( 8Hours )]		Select the maximum number of hours for recording in EP mode.		
				EP ( 6Hours ): Recording time on a 4.7GB disc.		
				EP ( 8Hours ): Recording time on a 4.7GB disc. The sound quality is lower.		
<b>Rec for High Speed dubbing</b>		[On] [Off]		On: Enables dubbing from HDD to a DVD-R, DVD-RW (DVD-Video format) or +R in high-speed mode. Titles are saved in 4:3 format.		
				Select the audio type to be copied under [Bilingual Audio Selection].		

# FUNCTIONS selection menu



▲▼ Picture	▶	▲▼ Settings	▶ ENTER	▼▲ Options	▶ ENTER
<b>Comb Filter</b>		<b>[ON] [Off]</b> <b>On:</b> The picture becomes clear and contour-rich. This setting is always set to [On] if you have selected [TV System - NTSC]. <b>Off:</b> If the picture to be recorded is grainy.			
<b>Still Mode</b>		<b>[Automatic] [Field] [Frame]</b> Select the display of the still image. <b>Field:</b> Select this function, if the picture is disturbed with the [Automatic] setting. <b>Frame:</b> Select this function if small text or line structures are not displayed clearly with the [Automatic] setting. <i>Frames are still images that together form a moving picture. A full frame is made up of 2 half frames. The picture can appear noisy but the overall quality is good. A half frame only contains half of the information of a full frame and has a poorer picture quality.</i>			
<b>Seamless Play</b>		<b>[On] [Off]</b> Seamless playback of the chapters in the PLAYLIST. <b>On:</b> The chapters of the playlist are played back seamlessly. This is only possible if the playlist contains the same audio types. This function is not possible with Quick View. The position of the chapter segments may change slightly. <b>Off:</b> The chapter delineation points in the playlist will be retained exactly, but the picture can freeze for a short period of time.			
<b>S-VHS Dubbing Setting</b>		<b>[Automatic] [SQPB]</b> If you are dubbing a video tape to DVD that was recorded in S-VHS or in S-VHS ET format, select [Automatic] or [SQPB]. <b>Automatic:</b> Plays and dubs the tape in S-VHS quality. You can dub the tape with its original resolution. <b>SQPB:</b> Plays and dubs the tape in VHS quality. You cannot attain the original resolution from S-VHS.			

# FUNCTIONS selection menu



→ To Others →

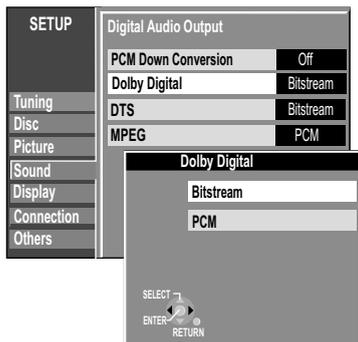
**SETUP**

<b>SETUP</b>	Dynamic Range Compression	Off
	Bilingual Audio Selection	M1
	Digital Audio Output	
Tuning	Audio Mode for XP Recording	Dolby Digital
Disc	Audio Mode for DV Input	Stereo 1
Picture		
<b>Sound</b>		
Display		
Connection		
Others		

SELECT  
TAB ← J → RETURN

▲▼ Sound ▶	▶▲ Settings	ENTER	▼▲ Options	ENTER
<b>Dynamic Range Compression</b> <i>(only Dolby Digital)</i>	<b>[ON] [Off]</b> <b>On:</b> The level of quiet sections is increased and the level of loud sections is decreased. The sound is still clearly audible when the volume is decreased.			
<b>Bilingual Audio Selection</b> <b>[L R] [RW] [R]</b>	<b>[M 1] [M 2]</b> If you want to record programmes on discs that were broadcast in dual channel tone, you can choose between the original language [M 1] or another available language [M 2]. If you are copying from an external source or a tape position to discs, select the sound track on the other unit.			
<b>Digital Audio Output</b>				104
<b>Audio Mode for XP Recording</b>	<b>[Dolby Digital] [LPCM]</b> Selection of the audio type when dubbing in XP mode. The picture quality of LPCM recordings may be worse than with normal recordings in XP mode.			
<b>Audio Mode for DV Input</b>	<b>[Stereo 1] [Stereo 2] [Mix]</b> Selection of the audio type when dubbing from DV input. <b>Stereo 1:</b> Original sound <b>Stereo 2:</b> Redubbing <b>Mix:</b> Original sound + redubbing			

# FUNCTIONS selection menu



▲▼ Sound ▶ ▲▼ Digital Audio Output ENTER ▼▲ Options ENTER

Digital Audio Output	PCM Down Conversion	Dolby Digital	DTS	MPEG
	Select the appropriate setting if an external unit is connected to the DIGITAL AUDIO OUT of the DVD Recorder.			

PCM Down Conversion	<p><b>[ON] [Off]</b></p> <p>Select the audio output mode at a scanning frequency of 96 kHz or 88.2 kHz. Despite this setting, signals are converted to 48 kHz or 44.1 kHz if they have a scanning frequency of more than 96 kHz or 88.2 kHz or a disc is copy-protected.</p> <p><b>ON:</b> The connected unit cannot process signals with a scan frequency of 96 kHz or 88.2 kHz. Signals are converted to 48 kHz or 44.1 kHz.</p> <p><b>Off:</b> The connected unit can process signals with a scan frequency of 96 kHz or 88.2 kHz. Signals are output as 96 kHz or 88.2 kHz.</p>
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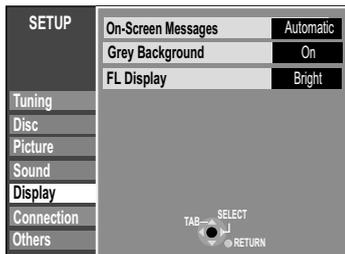
<p><b>Dolby Digital</b></p> <p><b>DTS</b></p> <p><b>MPEG</b></p>	<p><b>[Bitstream] [PCM]</b></p> <p><b>Bitstream:</b> The connected unit can decode the corresponding signal.</p> <p><b>PCM:</b> If the connected unit cannot decode the corresponding signal, the setting must be switched to [PCM]. Otherwise, strong noise can cause damage to hearing or loudspeakers.</p> <p>Perform settings based on your audio system.</p>
--	---

# FUNCTIONS selection menu



→ To Others

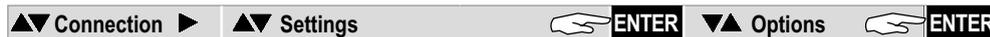
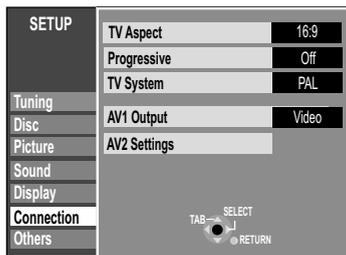
→ **SETUP**



▲▼ Display ▶ ▲▼ Settings ENTER ▼▲ Options ENTER

<b>On-Screen Messages</b>	<p>[Automatic] [Off]  <b>Automatic:</b> The screen messages are displayed on the screen.</p>
<b>Grey Background</b>	<p>[ON] [Off]  <b>On:</b> The grey background is displayed when there is no television reception.</p>
<b>FL Display</b>	<p>[Bright] [Dim] [Automatic]  Changes the brightness of the unit display.  <b>Automatic:</b> The unit display becomes dark during playback. In standby mode, all displays are hidden. If you selected [Power Save-On], the brightness of the display cannot be changed. <span style="float: right;">108</span></p>

# FUNCTIONS selection menu



<b>TV Aspect</b>	<p>[16:9] [4:3] [Letterbox]</p> <p>Select the TV picture format of your television set.  <i>Letterbox: Black strips appear at the top and bottom of your screen.</i></p>
<b>Progressive</b>	<p>[ON] [Off] Only COMPONENT VIDEO OUT.</p> <p><b>On:</b> In COMPONENT VIDEO OUT mode, the signal is displayed in full picture quality.</p>
<b>TV System</b>	<p>[PAL] [NTSC]</p> <p><b>PAL:</b> You connect the unit to a PAL or multi-system television set. Programmes that were recorded with NTSC are played back as PAL60.  <b>NTSC:</b> You connect the unit to an NTSC television set. Programmes that were recorded with NTSC are played back as NTSC.</p>
<b>AV1 Output</b>	<p>[Video ( with component )] [RGB ( without component )]</p> <p>Switch to RGB for an improved picture quality.          If RGB is set, no signal is available at COMPONENT VIDEO OUT.          RGB is not available for VHS playback.</p>
<b>AV2 Settings</b>	107

# FUNCTIONS selection menu



→ To Others →

**SETUP**

▼▲ Connection ▶

<b>SETUP</b>	TV Aspect	16:9
	Progressive	Off
	TV System	PAL
Tuning	AV1 Output	Video
Disc	AV2 Settings	
Picture		
Sound		
Display		
Connection		
Others		

TAB SELECT  
↓  
RETURN

<b>SETUP</b>	AV2 Settings	
	AV2 Input	RGB/Video
	AV2 Connection	Decoder (VHS)
Tuning	Ext	AV2 Input
Disc		RGB / Video
Picture		RGB
Sound		Video
Display		S Video
Connection		
Others		

SELECT  
ENTER  
RETURN

▲▼ AV2 Settings ENTER ▼▲ Settings ENTER ▼▲ Options ENTER

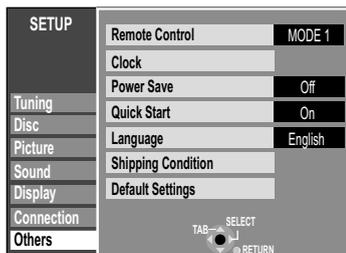
<b>AV2 Settings</b> 	<b>AV2 Input</b>	Perform the settings in the following sub-menus for the connected device.
	<b>AV2 Connection</b>	
	<b>Ext Link</b>	
<b>AV2 Input</b>	<b>[RGB / Video] [RGB] [Video] [S Video]</b> <b>RGB / Video:</b> Is detected automatically. <b>RGB, Video, S Video:</b> Input is switched to the selected signal.	
<b>AV2 Connection</b>	<b>[Decoder (D/H) (DVD / HDD)] [Decoder (VHS)] [EXT]</b> <b>Decoder (D/H)(DVD / HDD):</b> Upon connection of a decoder for recording on DVD or HDD. <b>Decoder (VHS):</b> Upon connection of a decoder for recording on VHS. <b>Ext:</b> A satellite receiver is connected.	
<b>Ext Link</b>	<b>[Ext Link 1] [Ext Link 2]</b> <b>Ext Link 1:</b> For digital receivers that send a special recording control signal, e.g. the F.U.N. receiver (TU-DSF41). <b>Ext Link 2:</b> External recording control for satellites or digital receivers (video signal).	

# FUNCTIONS selection menu



To Others

SETUP



## Starting automatic setting on the unit

The unit must be switched on and must be in stop mode.



- Press and hold **^ CH** and **v CH** on the unit until the Country menu appears.

*All settings except for password, time and security level will be reset to the factory default settings.*

*The timer recording programmes will also be erased.*

Others	Settings	ENTER	Options	ENTER
<b>Remote Control</b>	[MODE 1] [MODE 2] [MODE 3] Change the code of the remote control so that you can also use another Panasonic DVD unit at the same time.			13
<b>Clock</b>	If the date and time are not transmitted by the television station, they must be set manually. Mind that a wrong date or time will influence the programmed recording of TV programmes (don't forget to change summer time and winter time). <b>Manually setting the clock</b> <ul style="list-style-type: none"> <li>• Select Clock and confirm with <b>ENTER</b>.</li> <li>• Use <b>▲</b> to switch automatic mode to [Off] and confirm with <b>ENTER</b>.</li> <li>• Use <b>▲▼</b> and <b>▶</b> to change Time and Date.</li> <li>• Confirm the change with <b>ENTER</b>.</li> </ul>		<b>Automatically setting the clock</b> <ul style="list-style-type: none"> <li>• Select Clock and confirm with <b>ENTER</b>.</li> <li>• Use <b>▲</b> to switch automatic mode to [On] and confirm with <b>ENTER</b>.</li> </ul> The automatic setting of the clock begins.	
<b>Power Save</b>	[ON] [Off] <b>On:</b> Power save function in standby mode. The brightness of the display field cannot be changed in power save mode. The quick start setting is set to [Off]. If you want to use an external unit via Scart connector AV2, the DVD Recorder must be switched back out of standby mode. <b>Off:</b> The brightness of the display field can be changed.			
<b>Quick Start</b>	[ON] [Off] <b>On:</b> The device is ready for use from standby mode after approx. 2 seconds. Standby mode uses more power and Power Save is set to [Off].			
<b>Language</b>	Select the desired language for the menus and the On-Screen Messages.			
<b>Shipping Condition</b>	All settings except for the security levels with associated password and the time settings are reset to their factory settings.			
<b>Default Settings</b>	All settings except for the programmed channels, time, country, language and disc-language settings, the security levels including password and the remote-control code are reset to the factory settings.			

# FUNCTIONS selection menu



## DISC MANAGEMENT



- Press **FUNCTIONS** in stop mode.
- Use **▼▲** to select [To Others] and confirm with **ENTER**.
- Use **▼▲** to select DISC MANAGEMENT and confirm with **ENTER**.
- Use **▼▲** to select the desired menu and confirm with **ENTER**.
- Use **FUNCTIONS** to return to the FUNCTIONS menu.



### Disc Name **RAM** **±R** **-RW(V)** **±R**



- Enter the name. The name is displayed in the FUNCTIONS window.  
You cannot give a name to a DVD-R / +R / -RW(V) after it has been finalised.

### Disc Protection **RAM**

This procedure allows you to activate or deactivate write protection.

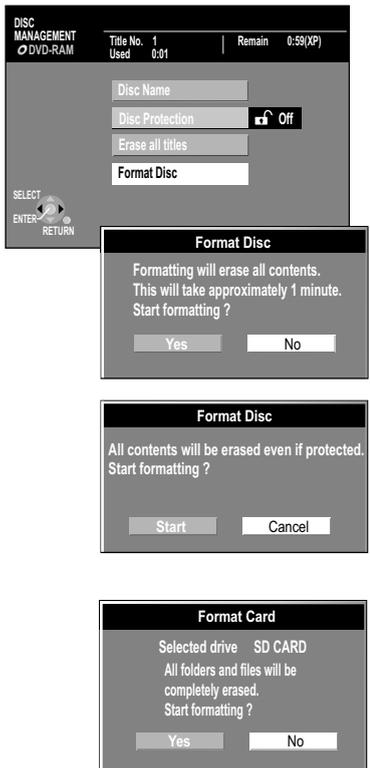
- Use **◀** to select [Yes] and confirm with **ENTER**.  
Write Protection On: The padlock is closed.
- To deactivate write protection, use **◀** to select [Yes] and confirm with **ENTER**.  
Write Protection Off: The padlock is open.



### Erase all titles **HDD** **RAM**

- Confirm [Erase all titles] with **ENTER**.
- In the following screen, use **◀** to select [Yes] and confirm with **ENTER**.  
In the confirmation message, use **◀** to select [Start] and confirm with **ENTER**.  
*All titles and PLAYLISTS will be erased and cannot be restored.*  
*Protected discs or titles cannot be erased.*

# FUNCTIONS selection menu



**RAM SD** If write protection is activated, deactivate it.

- Press **FUNCTIONS** in stop mode.
- Use **▼▲** to select [To Others] and confirm with **ENTER**.
- Use **▼▲** to select DISC MANAGEMENT or CARD MANAGEMENT and confirm with **ENTER**.
- Use **▼▲** to select the desired menu and confirm with **ENTER**.
- Use **FUNCTIONS** to return to the FUNCTIONS menu.

## Format Disc **HDD RAM -RWV -RWVR**

Some discs are not formatted. Before you can use them in this unit, they must be formatted. The formatting erases all data on the disc.

- Use **◀** to select [Yes] and confirm with **ENTER**.
- Use **◀** to select [Start] and confirm with **ENTER**.  
The formatting process begins. After it is complete, a message is displayed.
- Press **ENTER**.
- Press **RETURN** to stop the formatting process.

## Format SD Card **SD**

The formatting erases all data on the SD Card.

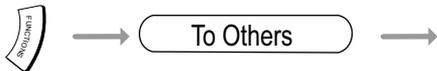
- Use **◀** to select [Yes] and confirm with **ENTER**.
- In the confirmation message, use **◀** to select [Start] and confirm with **ENTER**.  
The formatting process begins. After it is complete, a message is displayed.
- Press **ENTER**.
- Press **RETURN** to stop the formatting process.

**RAM** If the formatting process takes more than 2 minutes, an error may have occurred. The formatting can be cancelled and restarted.

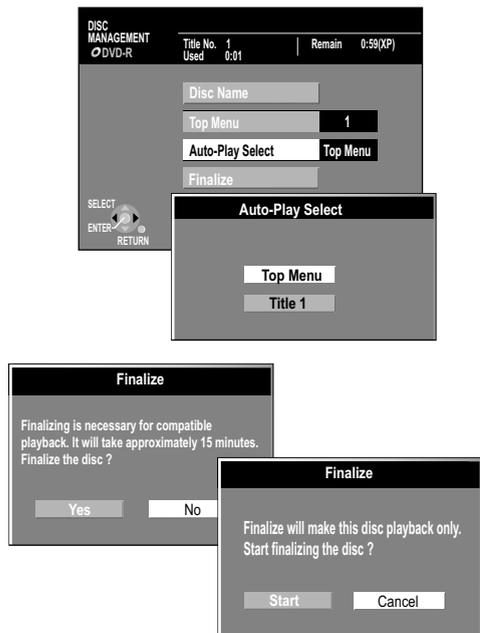
Do not unplug the unit while the disc is being formatted.

During formatting, all data is erased, including recordings created with this unit. DVD-R/DVD+R and CD-R/RW cannot be formatted.

# FUNCTIONS selection menu



## DISC MANAGEMENT



- Press **FUNCTIONS**.
- Use **▼▲** to select [To Others] and confirm with **ENTER**.
- Use **▼▲** to select DISC MANAGEMENT and confirm with **ENTER**.
- Use **▼▲** to select the desired menu and confirm with **ENTER**.
- Use **FUNCTIONS** to return to the FUNCTIONS menu.

### Top Menu **[R] [-RWV] [R]**

Before finalizing the disc, you can select one of 9 different colour schemes for the disc menu.

- Use **▼▲** to select the corresponding menu from 1-9 and confirm with **ENTER**.

### Auto-Play Select **[R] [-RWV] [R]**

Before finalization, you must select the start menu to be shown at the beginning of the DVD-V.

- Use **▼▲** to select [Top Menu] or [Title 1] and confirm with **ENTER**.  
*If [Top Menu] is selected, the disc menu appears first.*  
*If [Title 1] is selected, the playback begins at the beginning of the disc.*

### Finalize **[R] [-RWV] [R]**

Finalizing turns DVD-Rs into DVD-Videos in DVD-Video format. They can be replayed on all DVD players which play the DVD-Video format.

- Use **◀** to select [Yes] and confirm with **ENTER**.
- Use **◀** to select [Start] and confirm with **ENTER**.  
 The finalization process begins and takes approx. 15 minutes.  
 When this process is finished, a confirmation message appears.
- Press **ENTER**.

*Do not unplug the unit while the disc is being finalized. You can only finalize discs that were recorded on this unit. You can no longer record to already finalized discs. A finalized DVD-RW can be recorded again after reformatting.*

	Before finalization	After finalization
Disc display on this device	DVD-R / -RW / +R	DVD-V
Record/edit/enter names	Possible	—
Play on other playback units	—	Possible

# DISPLAY menus



DISPLAY menus contain information about the disc or the unit.

With DVD-Video you can use the repeat function, change subtitles and angles, with DVD playback, you can change the picture and sound setting.

Depending on the status of the unit (playback, stop), there are some entries that cannot be selected or changed. Subtitles, soundtrack and recording angle can only be selected if they were recorded on the disc. With some discs, these can only be changed via the disc menus.

When playing recordings of bilingual programmes, "1+1 ch" is displayed.

- Press **DISPLAY** to launch the menu
- Press **DISPLAY** again to exit the menu.

DISPLAY

▼▲ Disc

▶

▼▲ Option

▶

▼▲ Setting

<b>Disc</b>	Soundtrack 2 DEU <input type="checkbox"/> Digital 2/0ch
Play	Subtitle <input type="checkbox"/> Off
Picture	Audio channel --
Sound	
Other	

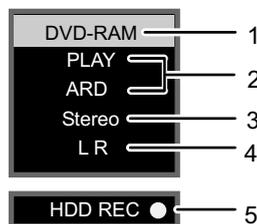
**Soundtrack/Subtitle Language**

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

<b>Soundtrack</b>	<p><b>Soundtrack lang.</b> Change the language by changing the soundtrack. DVD-A   DVD-V</p> <p><b>Sound properties</b> LPCM/PPCm/Dolby Digital, DTS and MPEG signal type RAM -R -RW(V) ±R -RW(VR) k (kHz): scan frequency, b (bit): number of bits ch (channel): number of channels</p>
<b>Subtitle</b>	<p><b>Subtitle language</b> Change the subtitle language. DVD-A   DVD-V</p> <p><b>Subtitles [On] [Off]</b> Switch subtitles on or off. RAM -R -RW(V) ±R -RW(VR)</p>
<b>Angle</b>	DVD-A   DVD-V Select another recording angle.
<b>STILL-P</b>	<p><b>Still picture number</b> Return to standard page: Select [Return] and press <b>ENTER</b>. DVD-A</p> <p><b>Slide Show</b> Display only</p>
<b>Audio channel</b>	RAM -RW(VR) Select the audio channel L+R / L / R
<b>PBC</b>	VCD PBC displays whether the menu playback control is switched on or off.



# STATUS displays



STATUS

## Displaying the information

- Press **STATUS**.
- Press **STATUS** again. The display changes each time that the button is pressed.
- To exit the display, press **STATUS**.

- 1: Current medium
- 2: Current recording and playback state, input channel

REC	Record		Pause playback
PAUSE	Pause recording	▶▶	Fast forward (5 speeds)
PLAY	Playback	◀◀	Rewind (5 speeds)
PLAYx1.3	Quick View (Playback x1.3)	▶▶ ◀◀	Slow motion Slow-motion rewind (5 speeds)

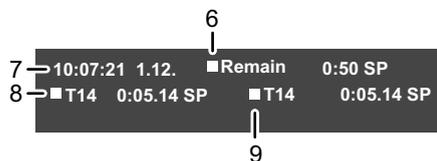
- 3: Sound type: Stereo: A stereo broadcast is currently being received  
M1/M2: A 2 channel broadcast is currently being received  
M1: A single-channel NICAM broadcast is currently being received.
- 4: Sound mode: LR,L,R: Soundtrack was changed with the **AUDIO** button.
- 5: Recording drive / Dubbing display

- 6: Available recording time and recording mode: e.g. 0:50 SP shows 50 minutes in SP mode.

- 7: Current date and time

- 8: Title number: Also shows the recording mode and the current playback time of the title.

- 9: Title number: Also shows the recording mode and the current recording time of the title.



*The status information changes depending on the function, e.g. PLAY, REC or REC PLAY.*

# STATUS displays



When using the unit, information on the settings of the unit and the operating procedure appear on the television screen.

STATUS



## Displaying the information

- Press **STATUS**.  
Each time the button is pressed, the display switches from: time - tape counter - tape remaining - time. During the index search, [01] through [20] is displayed, during JET Rewind [JET REW].

### VHS

These displays do not appear in PAUSE mode or during slow-motion playback.

<b>REMAIN: 0:24</b>	<b>Tape remaining</b>	The remaining time on the tape depends on the correct setting of the tape length
<b>11:25:02</b>	<b>Time</b>	
<b>□ 0:32.51</b>	<b>Tape counter</b>	Use * <b>CANCEL/RESET</b> to set the counter to 0:00.00. The tape counter is automatically set to 0:00.00 when a video cassette is inserted.
<b>▷ 0:21.29</b>	<b>Playback</b>	
<b>● 0:32.51</b>	<b>Recording</b>	
<b>◀◀ 0:32.51</b>	<b>Rewind</b>	Fast rewind
<b>▶▶ 1:15.01</b>	<b>Forward</b>	Fast forward

AUDIO

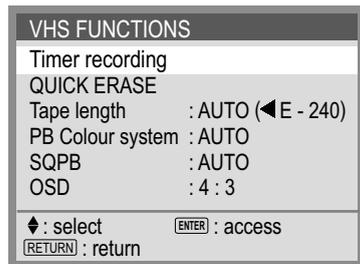


## Changing the soundtrack

- Press **AUDIO** to change the soundtrack. Each time the button is pressed, the display switches from: **L R** (stereo), **L -, - R, --** (normal soundtrack), **L R** (stereo)

<b>L R SP</b>	<b>Soundtrack</b>	If you use the DC channel, you cannot change the soundtrack.
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# VHS FUNCTIONS



## Changing the settings

- Press **FUNCTIONS** in stop mode.
- Use ▲▼ to select the desired entry.
- Use ◀▶ to change the setting.
- Press **RETURN** to exit the menu.

## Settings in the VHS FUNCTIONS Menu

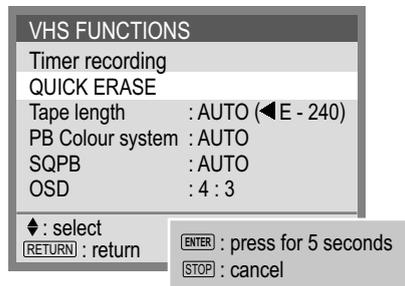
Timer recording	Timer-controlled recording
QUICK ERASE	Erase all recordings on a played tape.
Tape length	Setting the tape length of the used cassette. <b>AUTO</b> (◀ E - 240), E - 195, E - 260, E - 300
PB Colour system	<b>AUTO</b> : Automatically detects PAL or MESECAM. <b>PAL</b> : When the PAL system is used. <b>MESECAM</b> : When the MESECAM system is used.
SQPB	<b>AUTO</b> : The unit automatically detects the recording type. <b>ON</b> : Playback of an S-VHS cassette in Quasi-S-VHS format. <b>OFF</b> : For playback of recordings in VHS format.
OSD	<b>4:3</b> : Information appears on the edge of the screen (in 16:9 format, the messages are not visible). <b>WIDE</b> : Information appears on the edge of the screen (in 4:3 format, the messages appear in the middle). <b>OFF</b> : No information is displayed



## QUICK ERASE

In order to be able to record on a used cassette tape without any quality problems, erase the recordings on the cassette using the QUICK ERASE function.

- Insert the cassette containing the content that you want to erase.
- Press **FUNCTIONS** in stop mode.
- Use ▲▼ to select QUICK ERASE and confirm with **ENTER**.
- Press **ENTER** for 5 seconds to start the QUICK ERASE function.  
The erase procedure takes about 30 minutes for an E-180 cassette. Once the end of the cassette has been reached, the unit automatically rewinds the tape.
- Press **STOP** ■ to cancel the procedure.



## Before requesting service

<p><b>RESET</b></p> <p><b>Restoring the default factory settings while retaining your main settings.</b></p>	<ul style="list-style-type: none"> <li>▶ In the SETUP menu for Shipping Condition, select the option [Yes]. All settings except for password, time and security level will be reset to the factory default settings. The timer recording programmes will also be deleted.</li> <li>▶ In the SETUP menu for Default Settings, select the option [Yes]. All settings except for the programmed channels and the settings for time, country, language, security-level, password and remote-control code will be reset to the factory default settings.</li> <li>▶ Press and hold <b>CH</b> <math>\wedge</math> and <b>CH</b> <math>\vee</math> on the unit until the Country menu appears. All settings except for password, time and security level will be reset to the factory default settings. The time recording programmes are also erased.</li> </ul>
<p><b>Resetting the security-level settings</b></p>	<ul style="list-style-type: none"> <li>▶ Press <b>DVD</b>. With the disc tray open, press and hold <b>Rec</b> and <b>Play/1.3</b> on the unit for at least 5 seconds.</li> </ul>
<p><b>Resetting the unit if the unit is frozen because one of the security settings was activated.</b></p>	<ul style="list-style-type: none"> <li>▶ Press and hold [⏻] on the unit for 10 seconds. (The settings are retained.)</li> </ul>
<p><b>HDD</b></p> <p><b>The following symptoms do not indicate a malfunction:</b></p>	<ul style="list-style-type: none"> <li>▶ Normal disc rotation sounds.</li> <li>▶ Weak reception due to atmospheric conditions.</li> <li>▶ Picture interference while searching.</li> <li>▶ Sounds when switching the HDD (Hard disk drive) to SLEEP mode; delayed reaction to commands in SLEEP mode.</li> <li>▶ Unit does not function with a low-quality disc.</li> <li>▶ The unit stopped running because one of the security settings was activated. (Press and hold <math>\odot</math> /   on the unit for 10 seconds.)</li> <li>▶ When the HDD (Hard disk drive) automatically switches to SLEEP mode, and when the unit is switched on and off, a brief sound signal can be heard.</li> </ul>

## Before requesting service

<b>HDD</b> Access to the HDD (Hard disk drive) is slow.	▶ The HDD (Hard disk drive) is in SLEEP mode. ("HDD SLP" appears in the display of the unit.)
<b>The disc cannot be ejected.</b>	▶ The unit is currently recording. ▶ The unit is out of order. With the unit switched off, press and hold <b>STOP</b> and <b>CH ^</b> and <b>CH v</b> at the same time for approx. 5 seconds. Remove the disc and contact your dealer. ▶ The procedure cannot be executed if the child-safety feature is activated. Switch off the child-safety feature. 
<b>A recorded title is partially or completely lost.</b>	▶ If power goes out during recording or editing or if the unit is unplugged from the power supply, the title can be lost or the HDD (Hard disk drive)/disc may become unusable. You must then reformat the disc (HDD, RAM, -RW(V)) or use a new disc. No compensation is provided for lost recordings or unusable discs.
<b>It is not possible to dub to a DVD-R etc. in high-speed mode.</b>	▶ When recording to the HDD (Hard disk drive), set [Rec for High Speed dubbing] in the SETUP menu to [On]. 
<b>Dubbing even takes a relatively long time in high-speed mode.</b>	▶ Use a high-speed-compatible disc. Depending on the condition of the disc, even high-speed-compatible discs may not allow recording at maximum speed. ▶ Dubbing takes longer if there are a lot of titles. ▶ If you are using another Panasonic DVD Recorder that is not compatible with the recording mode [EP (8Hours)], you cannot dub titles over 6 hours long to a DVD-R, DVD-RW (DVD-Video format) and +R at high speed.
<b>Unusually loud sounds coming from the rotating DVD-R etc.</b>	▶ When recording or high-speed dubbing to a DVD-R, DVD-RW (DVD-Video format) and +R, the rotation sound is louder than normal. This is not a malfunction.

## Before requesting service

<b>FUNCTION</b> No function possible.	▶ Check the power supply connection.
<b>The unit is switched on but cannot be used.</b>  <b>The error code «H□□», «U□□» or «F□□» appears:</b>	▶ There is a malfunction. The numbers following the letter «H» indicate the condition of the unit. <ul style="list-style-type: none"> <li>• Switch the unit to standby <math>\text{⏻}</math>. If the unit does not switch to standby mode, press and hold <math>\text{⏻}</math> for approx. 10 seconds or unplug it from the power supply for approx. one minute and reconnect the cable.</li> <li>• Press <math>\text{⏻}</math> to switch the unit on.</li> </ul> If the malfunction is not eliminated after this, contact customer service and provide the code that is displayed.
<b>The unit automatically switches to standby mode.</b>	▶ One of the unit's security devices may have been activated. Press $\text{⏻}$ to switch the unit on.
<b>PICTURE</b> No picture.	▶ Check the connection to the television set, e.g. AV1.  16
<b>Television reception worsens when the unit is connected.</b>	▶ Check the antenna connection. You may need to use a signal amplifier.
<b>The picture is not set correctly.</b>	▶ Check the [TV Aspect] setting in the Connection SETUP menu.  106
<b>The picture flickers.</b>	▶ Adjust the picture. Read the operating instructions for the television.
<b>No on-screen messages.</b>	▶ Change the [On-Screen Messages] setting in the Display SETUP menu.  105
<b>SOUND</b> No sound/ Volume set to quiet/ Distorted sound.	▶ Check the connections.  17-19 ▶ If you have connected an amplifier, check its input mode. ▶ Switch off the V.S.S. function if it causes problems.  113
<b>It is not possible to hear the desired sound type.</b>	▶ Press <b>AUDIO</b> to select the desired sound type.  38 ▶ Change the appropriate setting in the Sound SETUP menu.  104
<b>The sound cannot be set for stereo or NICAM broadcasts.</b>	▶ Connect external devices with audio cables even if you use a digital connection. ▶ You cannot change the sound type when using DVD-R/-RW(V)+R.  24

## Before requesting service

<b>DISPLAY</b> The display lighting is weak.	▶ Change the [FL Display] in the Display SETUP menu.  105
"0:00" blinks on the unit display.	▶ No time. Set the time in the Others, [Clock] SETUP menu.  108
<b>REMOTE CONTROL</b> No functions	▶ If the unit is in timer standby mode (Ⓢ on the unit) end this with <b>TIMER</b> . ▶ A wrong remote control code was selected.  13 ▶ Check the batteries. Point the remote control at sensor on the unit.  12 ▶ The child lock feature has been activated.
The television cannot be operated.	▶ A wrong remote control code was selected.  12
<b>PLAYBACK</b> Playback does not start.	▶ The disc is dirty or badly scratched. ▶ You inserted a disc that is not suitable for playback.  27-31 ▶ You inserted a blank disc.
DVD-Video will not play.	▶ Some DVD-Videos cannot be played if the security level has been changed.  101
No reaction when the button is pressed.	▶ Ⓢ appears on the screen. The procedure is stopped by the unit or the disc. ▶ The child lock feature has been activated.
A title or chapter is not played back after being selected.	▶ Some titles and chapter of DVD-Video are not played back if the Ratings have changed.  101
Alternative soundtracks and subtitles cannot be selected.	▶ The languages were not recorded on the disc. ▶ You may need to use the disc menu to select the languages.
The soundtrack/subtitle language does not match the language selected in the SETUP menu.	▶ The language is not recorded on the disc.  101
No subtitles.	▶ The subtitles are not recorded on the disc or are not switched on.  101
The perspective cannot be changed.	▶ The angle perspective can only be changed for scenes that were recorded in different angles.  112
You forgot your classification password.	• With the unit disc tray open, press and hold <b>REC</b> and <b>PLAY/ x1.3</b> simultaneously for at least 5 seconds.

## Before requesting service

<p><b>RECORDING</b> Cannot record</p>	<ul style="list-style-type: none"> <li>▶ Check whether the inserted disc is suitable for recording.</li> <li>▶ The disc is not formatted. Format the disc (RAM/DVD-RW).</li> <li>▶ The write-protection device on the Cartridge is set to "PROTECT". Deactivate the write protection.</li> <li>▶ If you activated the write protection, deactivate it in the DISC MANAGEMENT menu.</li> <li>▶ The material that you want to record is copy-protected.</li> </ul> <p style="text-align: right;">  30   110   109         </p>
<p>Some or all recorded programmes were lost.</p>	<ul style="list-style-type: none"> <li>▶ If the power goes out during recording or editing or the power plug is disconnected from the power socket, the programme can be lost or the disc can be damaged.</li> </ul>
<p>TIMER-controlled recording is not working.</p>	<ul style="list-style-type: none"> <li>▶ The <b>TIMER</b> programming is incorrect or different <b>TIMER</b>-programmes are overlapping each other. Correct the programming.</li> <li>▶ The unit is in standby mode for <b>TIMER</b>-controlled recording. Press  <b>TIMER</b>.</li> <li>▶ Check the clock setting.</li> </ul> <p style="text-align: right;"> 54-57</p>
<p>The <b>TIMER</b>-controlled recording cannot be cancelled.</p>	<ul style="list-style-type: none"> <li>▶ Press  <b>TIMER</b> during the <b>TIMER</b>-controlled recording.</li> <li>▶ In the case of a <b>TIMER</b>-controlled recording via an external device, press DVD or VHS and then <b>EXT LINK</b>. <b>EXT L</b> disappears.</li> </ul> <p style="text-align: right;"> 62</p>
<p>Video cassette cannot be copied to disc.</p>	<ul style="list-style-type: none"> <li>▶ When recording video cassettes to disc, the TP channel was not selected.</li> <li>▶ Video cassette is copy-protected.</li> </ul> <p style="text-align: right;"> 64</p>
<p>Copying from disc to video cassette does not work.</p>	<ul style="list-style-type: none"> <li>▶ When recording from disc to video cassette, the DC channel was not selected.</li> <li>▶ DVD is copy-protected.</li> </ul> <p style="text-align: right;"> 64</p>
<p><b>EXTERNAL INPUT</b> Video or audio from external device is not recorded.</p>	<ul style="list-style-type: none"> <li>▶ The external device is not connected correctly.</li> <li>▶ The correct external input channel AV2, AV3 or DV was not selected.</li> </ul> <p style="text-align: right;"> 23-24</p>
<p><b>Fine-Tuning VHS</b> The fine tuning of the video output via VHS can be performed regardless of the reception on DVD.</p>	<ul style="list-style-type: none"> <li>• Press and hold <b>ENTER</b> for 5 seconds. Tuning appears.</li> <li>• Use   to select the desired station name and press <b>ENTER</b>.</li> <li>• Use  to perform the fine tuning. Confirm [AUTO] with <b>ENTER</b>.</li> <li>• Press <b>RETURN</b> to save the setting.</li> </ul>

# GUIDE Plus+ system: Questions and answers

<b>SETUP</b>	
<b>Why does my GUIDE Plus+ system not receive any data ?</b>	Check whether GUIDE Plus+ system setup was performed in full. / The GUIDE Plus+ system data is updated several times each day. When the device is first connected, the GUIDE Plus+ system is not yet ready to receive data. / The device takes approx. 1 hour (on average 30 minutes) to find the Host Channel. After this, it takes up to 24 hours to load all of the data. / Switch your DVD recorder to Standby mode to save the data. / Check whether the clock is properly set. / If signal quality is bad (ghost images or limited reception), the GUIDE Plus+ system may not be able to receive any data. This problem may be solved with a reception amplifier.
<b>Why is the GUIDE Plus+ system only available after ca. 2 hours ?</b>	The data rate, at which GUIDE Plus+ is sent, is limited. Depending on the country, signal quality and number of channels received, the time until the GUIDE Plus+ system is ready can vary.
<b>Why is "No Data" displayed for some or all stations ?</b>	These stations may not have been able to be identified automatically. => For these stations, select the [On] in the SUB MENU under Editor and assign the correct reference station manually. / Some stations are not supported by the GUIDE Plus+ system.
<b>Why is the GUIDE Plus+ information not displayed properly ?</b>	The reference station is not assigned correctly in the SUB MENU Editor. Select the correct reference station. / There was a programme change. Check the current program, e.g. on the Web site for the GUIDE Plus+ system provider or station provider.
<b>How do I add or hide a station in the GUIDE Plus+ system ?</b>	For these stations, select [On] / [Off] manually in the SUB MENU under Editor. / You can only view stations that are supported by the GUIDE Plus+ system.
<b>What happens when the GUIDE Plus+ data transfer is interrupted ?</b>	The GUIDE Plus+ system shows the data that was received up to the interruption. The programme information may be incomplete.
<b>The Host Channel in France is Canal Plus. Do I have to sign a contract with Canal Plus in order to be able to use the GUIDE Plus+ system ?</b>	No, you can use the GUIDE Plus+ system without a contract.
<b>DATA</b>	
<b>Why was my GUIDE Plus+ data not updated ?</b>	The unit must be in Standby mode in order to update the data. If the unit is in EXT Link mode (EXT L lights up in the display), then the data update may also not work. / Make sure that the time is set correctly. / Check whether [Timer Prog.] is set under Auto Download Priority and change the setting in [GUIDE Plus+].
<b>How often is the GUIDE Plus+ data updated and when ?</b>	The update frequency depends on the specific station (several times per day). / The data is updated automatically when the unit is in Standby mode. / Select [GUIDE Plus+] under Auto Download Priority. With this setting, an update will take place automatically between 2:50 and 5:10.

# GUIDE Plus+ system: Questions and answers

<b>DOWNLOAD</b>	
How does my unit behave during data transfer ?	During data transfer, "GUIDE" appears on your unit's display and the unit's fan switches on.
<b>RECORDING</b>	
Is it possible to programme a recording, with a start and end time that are different from the GUIDE Plus+ system ?	You can manually change the start and end time of TIMER programmes in the TIMER RECORDING menu.
Does the GUIDE Plus+ system support VPS/PDC ?	The GUIDE Plus+ system works independently of VPS/PDC. However, you can programme TIMER recordings with VPS / PDC in the TIMER RECORDING menu.
Why was the programme programmed with GUIDE Plus+ not recorded ?	The unit is not in TIMER standby (TIMER symbol "Ⓞ" lights up in the unit's display). / Make sure that [GUIDE Plus+] is selected under Auto Download Priority and change the setting to [Timer Prog.].
How can I record a programme if "No Data" is displayed in the GUIDE Plus+ system ?	Programme the Timer recording manually or via ShowView.
How can I cancel a TIMER programming ?	The "T" symbol appears in the GUIDE Plus+ when a TIMER recording is programmed with the GUIDE Plus+ system. To cancel a TIMER RECORDING programming, press <b>PROG/CHECK</b> . Select the desired entry and press <b>CANCEL</b> .
<b>GENERAL</b>	
Can I receive GUIDE Plus+ system data via a connected satellite receiver or a Set Top Box ?	No, only via the built-in tuner. To perform timer recordings with satellite receivers or Set Top Boxes, please use the External Link feature or your unit's manual timer programming.
What happens when I unplug my unit from the power outlet ?	The GUIDE Plus+ system data will not be updated. / If the unit is disconnected from the power supply for a longer period of time, then the GUIDE Plus+ data is lost. / Make sure that the time is set again appropriately.
What happens if my postal code changes, e.g. if I move ?	Change the postal code in the GUIDE Plus+ Setup menu. If necessary, perform a full Auto-Setup. Saved GUIDE Plus+ data may be lost.
How can I reset my unit to its original default state ?	Select [Shipping Condition] in the Setup menu. Attention: All settings and data are lost if you reset the unit to its default state.

# Glossary

## **Bitstream**

Digital multi-channel audio data (e.g. 5.1-channel) before decoding to the individual channels.

## **Decoder (e.g. DTS / Dolby Digital)**

A decoder converts the coded audio signals of the DVDs back to the original signals. This procedure is called decoding.

## **Dolby Digital**

A coding procedure for digital signals that was developed by Dolby Laboratories. It may involve (2-channel) stereo sound signal or multi-channel sound. The procedure enables the saving of large amount of audio data on a disc.

Dolby Digital (2 channels) is the basic setting when recording with this unit.

## **DPOF (Digital Print Order Format)**

DPOF is the standard format for printing pictures recorded with a digital camera etc. It enables automatic printing in a photo shop or on your own printer.

## **DTS (Digital Theater Systems)**

This surround system is used in many cinemas. Since it has clean channel separation, extremely realistic sound effects can be achieved.

## **Dynamic volume**

The dynamic volume is the difference between the lowest level that is still distinguishable over the sounds made by the unit itself and the highest level, at which no distortion occurs. A dynamic compressor reduces the difference between the lowest and the highest levels of the source. Dialogue can be heard better at a low volume with such compression.

## **Electronic Programme Guide (EPG)(GUIDE Plus+)**

An EPG can display a TV programme list on a television,

computer or mobile phone. The data is transferred over the Internet or over television channels. This unit can receive EPG data via the television channels. You can also program timer recordings using the TV programme list.

## **Erase protection**

You can prevent accidental erasing by activating write or erase protection.

## **Film and video**

DVD-Videos are either recorded in film or video mode. This unit identified the mode on its own and selects the best progressive output method.

With PAL

Films are made up of 25 frames per second. Videos are made up of 50 so-called split frames per second (whereby two split frames form on full frame).

With NTSC

Films are made up of 24 or 30 frames per second and cinema movies generally 24 frames per second. Videos are made up of 60 so-called split frames per second (whereby two split frame form one full frame).

## **Finalization**

A CD-R, CD-RW, DVD-R etc. can only be played back on a unit designed for these storage media after finalization. A DVD-R, DVD-RW (DVD-Video format) and +R can be finalized with this unit. After finalization, the disc is a "playback only" disc and can no longer be written to or edited. However, if you reformat a finalized DVD-RW, you can use it for recording again.

## **Formatting**

Formatting prepares media such as writeable DVD-RAMs for recording. With this unit, you can format the HDD (Hard disk drive), a DVD-RAM, a DVD-RW (only in DVD-Video format) and an SD Memory Card. All data is irretrievably deleted during formatting.

## **HDD (Hard disk drive)**

A mass storage device used in computers etc. The drive has a magnetic layer and rotates at a high speed. A magnetic head right above the drive enables fast writing and reading of large amounts of data.

## **LPCM (Linear PCM)**

These are uncompressed digital signals, similar to those on CDs. LPCM sound can be used during recording in XP mode.

## **Playback control (PBC)**

You can select scenes and information with menus in the case of a video CD that has playback control. (This unit is compatible with Versions 2.0 and 1.1.)

## **Scan frequency**

When converting (encoding) to a digital signal, the (analogue) sound signal is scanned at certain time intervals. The number of scans per second is called the scan frequency. The higher the scan frequency, the better the original sound is reproduced.

## **Sound mixing**

This is the remixing of the multi-channel sound that exists on some discs to two channels for stereo output. Sound mixing makes sense e.g. if you want to playback the 5.1-channel sound of a DVD over your television speakers. However, some discs do not allow mixing. In this case, only the two front channels are output.

## Further Information

This DVD Recorder is a precision unit. Handle it carefully and do not expose it to vibrations during recording. Otherwise there may be breaks or noises in the recordings.

### Dolby Digital

Method of encoding digital signals. The signals are very much compressed in the process to enable recordings of large volumes of data. Manufactured under license from Dolby Laboratories. Dolby, Pro Logic and the double-D symbol are trademarks of Dolby Laboratories.

The manufacturer accepts no responsibility and offers no compensation for loss of recorded or edited material nor for consequential damages attributed to a defect in the unit or the disc.

**MP3 or MPEG 1 Audio Layer 3** is a file compression format used for digital audio files. It provides files of an extremely small size and may cause a consequential loss of quality. MPEG Layer-3 audio decoding technology licensed from Fraunhofer IIS and Thomson multimedia.

This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights. Use of this copyright protection technology must be authorized by Macrovision, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision. Reverse engineering or disassembly is prohibited.

### DTS (Digital Theater Systems)

Sound system used in cinemas or movie theaters all over the world. DTS and DTS 2.0 + Digital Surround" are trademarks of Digital Theater Systems, Inc.

- 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.

Disposing of this product correctly will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling. Please contact your local authority for further details of your nearest designated collection point.

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

### For business users in the European Union

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

### Information on disposal in other countries outside the European Union

This symbol is only valid in the European Union.

If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

# Specifications

<b>Power supply:</b> AC 220V-240 V, 50 Hz		<b>Dimensions:</b> approx. 430 mm (W) x 89 mm (H) x 380 mm (D)	
<b>Power consumption:</b> 46 W (approx. 5 W in power save)		<b>Weight:</b> approx. 7 kg	
		<b>Operating temperature:</b> 5°C - 40°C	
		<b>Operating humidity:</b> 35% - 80% RH (no condensation)	
<b>DVD/HDD</b>		<b>VHS</b>	
<b>Recording format</b>	DVD-RAM: DVD Video Recording format DVD-R: DVD-Video format DVD-RW: DVD-Video format Video: MPEG2 (Hybrid-VBR) Audio: Dolby Digital 2 channels Linear PCM (XP mode only, 2ch)	<b>Recording format</b>	VHS video cassette system standard with FM audio (PAL, NTSC) NTSC recording from an external source or from DVD, not from built-in tuner.
<b>LASER specification</b>	LASER product of class 1 Wavelength: 662 nm for DVD, 795 nm for CD	<b>Video / audio heads</b>	4 rotating video heads, 2 Hi-Fi heads 1 fixed head for normal audio
Laser performance:	Class 3B / Class 3A (optical scan unit). No hazardous radiation is emitted with the safety protection		
<b>Norsk:</b>	Bølgelengde: 662 nm (DVD), 795 nm (CD) Laserstyrke: Ingen farlig stråling sendes ut		
<b>Recording discs</b>	DVD-RAM: Ver.2.0, Ver.2.1 /3x Rev.1.0, Ver.2.2 /5x Rev.2.0		
<b>Playable discs</b>	DVD-R: Gen.Ver.2.0, Ver.2.0 /4x Rev.1.0, Ver.2.x /8x Rev.3.0 DVD-RW: Ver.1.1, Ver.1.1 /2x Rev.1.0, Ver.1.2 /4x Rev.2.0 DVD+R: Ver.1.0, Ver.1.1, Ver.1.2		
<b>Playback only discs</b>	DVD-RAM, DVD-R, DVD-RW, +R, +RW, DVD-Video, DVD-Audio, CD-Audio (CD-DA), Video-CD, CD-R/CD-RW (CD-DA, Video-CD, MP3, JPEG formatted discs), SVCD (conforming to IEC62107)		
<b>Recording mode</b>	(DVD 4,7GB Disc): XP: approx. 10 MBit/s/ approx. 1 hour SP: approx. 5 MBit/s/ approx. 2 hours LP: approx. 2.5 MBit/s/ approx. 4 hours EP: approx. 1.7/1.2 MBit/s/approx. 6 hours/8 hours	<b>Recording mode</b>	PAL/MESECAM : SP: 23.39 mm/s 240 min. LP: 11.7 mm/s 480 min. EP: 7.8 mm/s 720 min.
<b>Recording time</b>	(HDD 200GB): XP: approx. 10 MBit/s/ approx. 44h SP: approx. 5 MBit/s/ approx. 89h LP: approx. 2.5 MBit/s/ approx. 177h EP: approx. 1.7/1.2 MBit/s/ approx. 266/355h	<b>Recording time</b>	NTSC: SP: 33.35 mm/s 168 min. EP: 11.12 mm/s 505 min. (with E-240 cassettes) Forward/rewind: approx. 60 sec., Fast rewind: approx. 43 sec. (with E-180 cass.)
<b>Build-in HDD capacity:</b>	200GB		
<b>Other</b>	Regional code: 2		

# Specifications

	<b>DVD/HDD</b>		<b>VHS</b>
<b>Video interface</b> <b>TV system</b> PAL: 625/50 / SECAM (input only) NTSC: 525/60 <b>Input</b> The input impedance of each input socket is 75 Ohm. <b>AV1 SCART</b> Video: 1 Vp-p <b>AV2 SCART</b> Video: 1 Vp-p, Y: 1 Vp-p C: 0.3 Vp-p (PAL-Burst), RGB: 0.7Vp-p (625/50) <b>AV3 Socket</b> Video: 1 Vp-p <b>S Video</b> Y: 1 Vp-p, C:0.3 Vp-p (PAL-Burst) <b>Output</b> The output impedance of each output socket is 75 Ohm. <b>AV1 SCART</b> Video: 1 Vp-p; RGB: 0.7Vp-p (625/50) <b>AV2 SCART</b> Video: 1 Vp-p <b>DVD Socket</b> Video: 1 Vp-p <b>S Video</b> Y: 1 Vp-p, C: 0.3 Vp-p (PAL-Burst) <b>Component Video (Socket)</b> Y: 1 Vp-p, PB: 0.7 Vp-p, PR: 0.7 Vp-p (Component output: Progressive / Interlace)	<b>Video interface</b> <b>TV system</b> 625/50:PAL/SECAM 525/60:NTSC <b>Input</b> The input impedance of each input socket is 75 Ohm.  <b>AV1 SCART</b> Video: 1 Vp-p <b>AV2 SCART</b> Video: 1 Vp-p, Y: 1 Vp-p C:0.3 Vp-p (PAL-Burst) <b>AV3 Socket</b> Video: 1 Vp-p <b>S Video</b> Y: 1 Vp-p, C:0.3 Vp-p (PAL-Burst) <b>Output</b> The output impedance of each output socket is 75 Ohm.  <b>AV1 SCART</b> Video: 1 Vp-p <b>AV2 SCART</b> Video: 1 Vp-p		
<b>Audio interface</b> <b>Input</b> The input impedance of each input socket is more than 10 kOhm. <b>AV1 SCART</b> Standard: 0.5 Vrms, Full conduction: 2 Vrms at 1 kHz <b>AV2 SCART</b> Standard: 0.5 Vrms, Full conduction: 2 Vrms at 1 kHz <b>AV3 Socket</b> Standard: 0.5 Vrms, Full conduction: 2 Vrms at 1 kHz <b>Output</b> The output impedance of each output socket is less than 1 kOhm. <b>AV1 SCART</b> Standard: 0.5 Vrms, Full conduction: 2 Vrms at 1 kHz <b>AV2 SCART</b> Standard: 0.5 Vrms, Full conduction: 2 Vrms at 1 kHz <b>DVD Socket</b> Standard: 0.5 Vrms, Full conduction: 2 Vrms at 1 kHz <b>Digital Audio</b> Optical connection (PCM, Dolby Digital, DTS, MPEG)	<b>Audio interface</b> <b>Input</b> The input impedance of each input socket is more than 10 kOhm. -6 dBV -6 dBV -6 dBV <b>Output</b> The output impedance of each output socket is less than 1 kOhm. -6 dBV -6 dBV		
<b>SD Card slot:</b> Still picture (JPEG, TIFF), 1 SDMemory Card Slot, Compatible Media: SD Memory Card, MultiMediaCard, Format: FAT12, FAT16			
<b>DV input</b> IEEE 1394 Standard (4 pin) (PAL/NTSC)			
<b>Tuner</b> Two integrated tuners (one for DVD and one for VCR) <b>Tuner system</b> PAL-BGH <b>Channel range</b> VHF: CH E2-E12 A-H2 (Italy), UHF: CH 21-69 CATV: S01-S05(S1-S3), S1-S20(M1-U10), S21-S41 <b>RF converter</b> Not provided			

**Note:** The values given for weight and dimension are approximate values. The technical data can be changed without advanced notice.

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