

Panasonic

DVD/CD Player / Video Cassette Recorder NV-VP30 / NV-VP25

Operating Instructions



CVC super





SHOWVIEW

SUPER DRIVE



Before you connect or adjust any settings,
read through the operating instructions.

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Accessories Included	
Remote Control EUR7615KS0	
AC Mains Lead RJA0043-1C	
RF coaxial cable	
Remote Control Batteries AA, UM3 oder R6	
Operating Instructions	
Guarantee Card	

CE This equipment complies with European conformity requirements, in accordance with the conditions of electromagnetic compatibility and product safety.

□ This equipment complies with the requirements of protection class 2.

⚡ This equipment complies with the safety requirements of the VDE. (German Association of Electrical Engineers)

Dear customer

Thank you for trusting and purchasing this high-quality product. Panasonic is one of the leading companies of the consumer electronics industry. We are sure that this appliance will meet with all your expectations.

Matsushita Electric Industrial Co., Ltd.

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

Precautions

Voltage:

Only use power sources complying with the specifications (220-240 VAC, 50/60 Hz). You may otherwise overload the unit and cause fire. Do not use DC power sources. Check the source carefully when setting up the unit on a ship or other place where DC is used.

AC mains lead protection:

Ensure the AC mains lead is connected correctly and not damaged. Poor connection and lead damage can cause fire or electric shock.

Service:

Do not attempt to repair this unit by yourself. If the sound fails, the display is off, smoke escapes from the unit or any other problem occurs that is not described in these operating instructions, disconnect the power supply and contact your dealer or an authorised aftersales service centre.

Inside of product

Produktets innside (Norsk)

CAUTION	- LASER RADIATION WHEN OPEN. DO NOT STARE INTO BEAM.	FDA 21 CFR / Class II
CAUTION	- VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.	IEC 60825-1 / Class 3b
ATTENTION	- RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU.	
ADVARSEL	- SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING. UNNGÅ UDSÆTTELSE FOR STRÅLING.	
VARO!	- AVATTRESSA OLET ALTIINNA NÄRYVÄÄ JA NÄRYMÄTÖN LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.	
WARNING	- SYNLIG OCH OSYNLIG LASERSTRÅLING NÄR DENNA DEL ÄR ÖPPNAD. BETRÄKTA EJ STRÅLEN.	
ADVARSEL	- SYNLIG OG USYNLIG LASERSTRÅLING NÄR DEKSEL ÅPNES. UNNGÅ EKSPONERING FOR STRÅLEN.	
VORSICHT	- SICHTBARE UND UNSICHTBARE LASERSTRÄHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT ODER STRAHLEN AUSSETZEN.	
注意	- 打开时可见及不可见激光辐射。避免激光照射。	
注意	- ここを開くと可視及び不可視レーザー光が出ます。 ビームを見たり、触れたりしないで下さい。	R0LCA0141

Back of product, see page 8.

**CLASS 1
LASER PRODUCT**

Warning

WARNING:

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

CAUTION!

- DO NOT INSTALL OR PLACE THIS UNIT IN A BOOKCASE, BUILT-IN CABINET OR IN ANOTHER CONFINED SPACE. ENSURE THE UNIT IS WELL VENTILATED. TO PREVENT RISK OF ELECTRIC SHOCK OR FIRE HAZARD DUE TO OVERHEATING, ENSURE THAT CURTAINS AND ANY OTHER MATERIALS DO NOT OBSTRUCT THE VENTILATION VENTS.
- DO NOT OBSTRUCT THE UNIT'S VENTILATION OPENINGS WITH NEWSPAPERS, TABLECLOTHS, CURTAINS, AND SIMILAR ITEMS.
- DO NOT PLACE SOURCES OF NAKED FLAMES, SUCH AS LIGHTED CANDLES, ON THE UNIT.
- DISPOSE OF BATTERIES IN AN ENVIRONMENTALLY FRIENDLY MANNER.

THIS UNIT IS INTENDED FOR USE IN MODERATE CLIMATES.

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

CAUTION!

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

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 Plasseres GJENSTANDER FYLT MED VANN, SLIK SOM BLOMSTERVASER, OPPÅ APPARATET.

ADVARSEL!

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

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.









ADVARSEL!

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

Front Panel











Device control

	Standby/on switch \mathcal{O}/I		Displays the timer programme for verification.
	To eject a video cassette.		Erases a video cassette.
	Opens and closes the disc tray.		Plays back programmed recordings.
	You will be displayed either the Timer menu or an information on the current recording		Playback of an audio CD including video output.






Description of some function buttons on the front panel is to be found under Remote control functions.



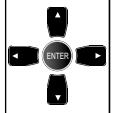













Display

	Active picture signal. The symbol appears on the VCR or DVD display. Use the VCR/DVD OUTPUT button to switch over the picture signal. To directly change the VCR or DVD output use the VCR/TV/DVD toggle switch in combination with a function button (e.g. PLAY \blacktriangleright).		Playback
	A video cassette is in.		Still Playback
	A disc is in.		Slow Playback
			Forward and backward search
			VCR: Fast winding

Remote control functions






Some TV sets accept control signals from the VCR/DVD's remote control unit. (Page 43).











TV-Operations	
	To switch on and out the TV.
	Selects the TV set's AV port.
	Changes the screen format (e.g. wide-screen).
	To select the respective TV programme memory location.
	To control TV set volume.







General Operations	
	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.
	OSD menu selection buttons. ENTER: Selects or saves a setting.
	Quits a menu.
	OFF TIMER: Switches the unit into standby mode after the set time of recording, playback or in Stop mode.
	Remote control toggle switch For changing between VCR, DVD and TV functions.
	AV input select button Toggles between input A1, A2, A3 (front) or dc (DVD).
	To eject the cassette / disc Press STOP  for more than 3 seconds.
	Undoes entries or selections.
	Output signal select button Toggles between VCR and DVD signal (for AV1, VCR/DVD OUT).
	Direct input via numeric buttons (way of input = example: 18=    )










Remote control functions

VCR-Playback Operations	
	<ul style="list-style-type: none"> Press PLAY ► to start playback.
	<ul style="list-style-type: none"> Press STOP ■ to stop recording, playback or winding.
	<p>Still Playback: In Playback mode. Press button again or press PLAY ► to quit..</p> <p>Slow Playback: Press for more than 2 seconds while in Playback mode. Press PLAY ► to quit.</p>
	<p>Fast winding / Forward and backward search</p> <ul style="list-style-type: none"> Goes from Stop into Fast Forward or Fast Rewind mode. Starts the search for a frame during playback. Press button twice to increase the speed of search (JET SEARCH). Press PLAY ► to quit the Search mode. The unit keeps searching while the button is pressed.
	Finds the start of a programme.















VCR-Recording Operations	
	Video recording (page 11)
	Displays the menu ShowView (page 15)
	Displays the menu Timer recording (page12)
	Activates the recording timer (page 12).
	Defines programmes transmitted to the same programme memory location at the same time (page 14).
	Sets the tape speed (page 11).
	Controls the beginning and end of a recording session by a special signal (page 13).
	Activates the recording timer for externally controlled recording (page 16).
	Plays back programmed recordings (page 13).
	You will be displayed either the Timer Recording menu or an information on the current recording.

VCR-General Operations	
	Press the button repeatedly to display the time, tape counter or remaining tape.
	Toggles between TV reception and video playback channel.
	Channel selector / Tracking control of disturbed VCR picture.
	Displays the main menu.
	<p>CANCEL: Clears an entry you made.</p> <p>RESET : Resets the counter to 0:00.00.</p>
	<p>At each press of the button, the selected sound output is indicated:</p> <p>Stereo: Display L R</p> <p>Left channel: Display L -</p> <p>Right channel: Display - R</p> <p>Mono: Display - -</p>

DVD-Playback Operations

	<ul style="list-style-type: none"> Press PLAY ► to start playback. 		Still Playback
	<ul style="list-style-type: none"> Press STOP ■ two times to stop playback. 		<ul style="list-style-type: none"> Slow motion playback forwards or backwards in pause mode. The speed of slow playback will increase in 5 steps while the relevant button keeps being pressed. Search function during playback. The speed of the search function will increase in 5 steps while the relevant button keeps being pressed. PLAY ► resumes playback at normal speed. * VCDs do not support reverse slow motion playback.
	<p>Resume function This function allows you to interrupt the playback of a disc.</p> <ul style="list-style-type: none"> STOP ■ during playback stores the current position on the disc. PLAY ► while "▷" is flashing on the display. Playback will be resumed at the point where you stopped it. <p>To cancel the Resume function</p> <ul style="list-style-type: none"> Open the disc tray ▲, ⊖ switch unit to standby mode or press STOP ■ until "▷" disappears from the display. * The resume function is available only if the disc runtime is displayed during playback. 		Resumes playback following an interruption (page 26).
			To skip chapters, titles or frames during playback or in pause mode.

DVD-Operations

	Zoom function during playback (page 28).		Scene replay during playback. Pressing the button will replay a couple of seconds of the current track or programme; on a JPEG disc it will take you back a couple of pictures.
	PLAY MODE: Random play/Programme play (page 27).		Enhances the contrast of the picture (page 36).
	Changes the audio track (page 37).		On-screen display of groups of titles (page 34).
	Enables the on-screen display (page 34).		Displays the SETUP menu (basic DVD player settings, page 25).
	Displays the main menu of a DVD (page 42).		Repeat function (page 28)
	Enables the Menu-display of a disc.		Chooses from various camera angles; turns menu pages.
	Quits a menu.		
	Selects the language of subtitles (page 37).		

For some disc formats not all of the described DVD functions are available.

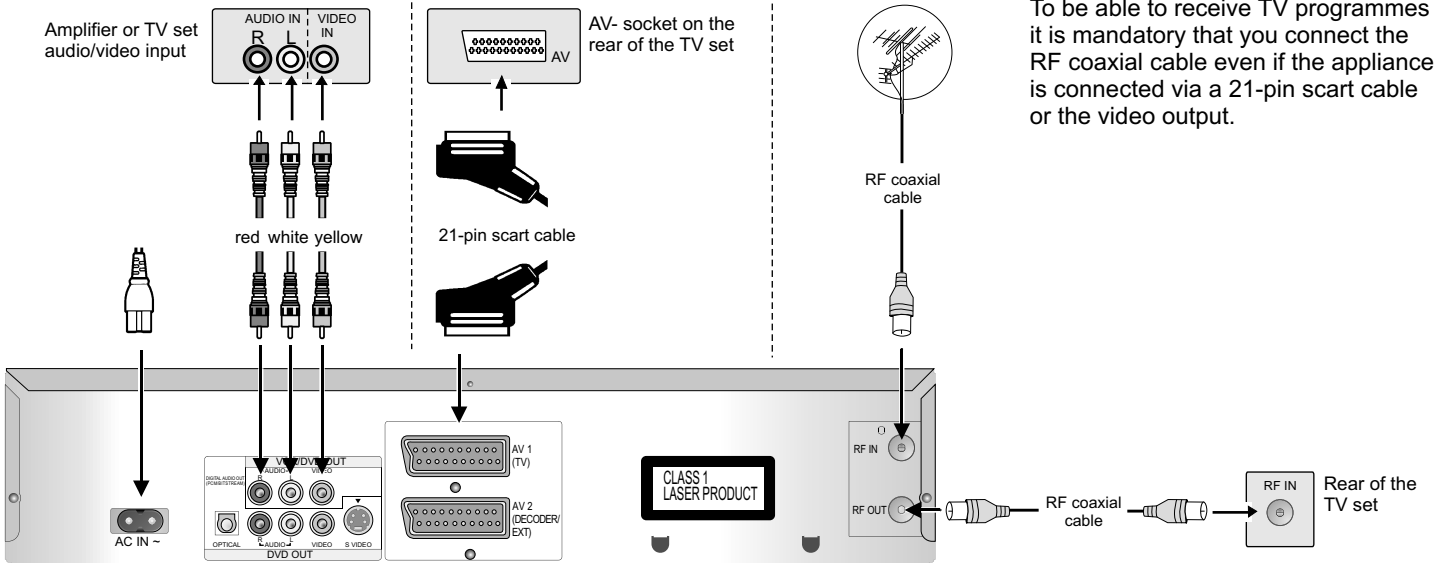
Connections

Connection to a TV set with or without a scart socket or to an amplifier component (home cinema)

- Read the operating instructions of your TV set or amplifier.
- Connect the cables as shown on the illustrations. Make sure not to confuse the colours or labels.
- When the unit is fully connected plug the AC mains

The VCR/DVD audio/video output or AV1 scart socket are to be used for connection of the unit to the TV set.

Use the RF aerial socket to connect the unit to the TV set.

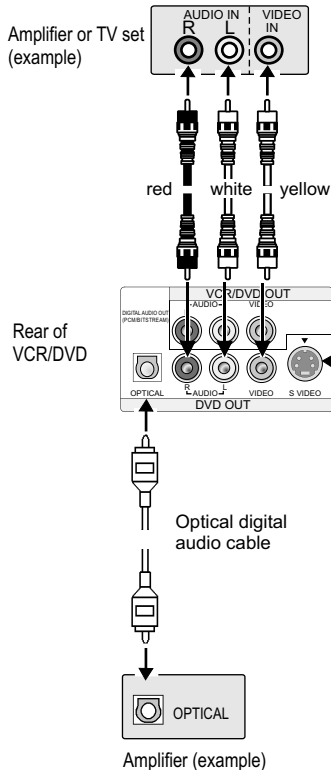


To be able to receive TV programmes it is mandatory that you connect the RF coaxial cable even if the appliance is connected via a 21-pin scart cable or the video output.

Note on all connections shown

Connect the unit directly to the TV set. If you let the unit connection go through a video recorder you will experience a disturbed picture when playing copy-protected DVDs. To avoid sound quality problems, deactivate function Advanced Surround when you connect an amplifier with Dolby Pro Logic functionality (page 36).

DVD Connections



Push in the jack all the way into the socket with this side facing up.



Direct DVD audio/video output

Independently of the VCR/DVD sockets you can connect all DVD sockets to a respective external unit.

A disc is played by the DVD player using the DVD OUT sockets. At the same time the video recorder is able to record or play back another programme.

- Connect the analogue audio output (L/white and R/red) with a “Dolby Pro Logic amplifier”, for example.
- To avoid sound quality problems, deactivate function Advanced Surround when you connect an amplifier with Dolby Pro Logic functionality (page 36).

S-VIDEO output

Connecting the video recorder to the TV set with the S-VIDEO socket results in a higher picture quality compared to the connection via VIDEO OUT socket (only for DVD OUT).

Digital connectors (OPTICAL)

For optimum surround sound, connect a digital amplifier or a digital audio component.

To play programmes with a 5.1-channel surround sound, connect the digital audio output (OPTICAL) with an external “Multi-channel Dolby Digital Decoder”, for example.

Prerequisites for making recordings with an external digital recorder:

- The original disc must not be copy-protected.
- The recorder must be able to process signals with a scanning frequency of 48 kHz/16 bit.
- You cannot make recordings from MP3/WMA originals.

Adapt the settings of SETUP menu Audio (see page 40) to the following:

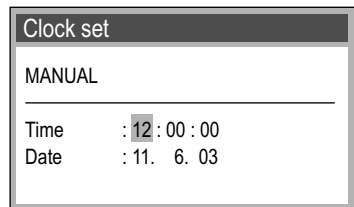
- PCM Down Conversion : Yes
- Dolby Digital : PCM
- DTS Digital Surround : PCM
- MPEG : PCM

Deactivate function Advanced Surround (see page 36).

VCR AUTO SETUP



DVD QUICK SETUP must follow the VCR AUTO SETUP for the DVD player (page 25).



VCR AUTO SETUP with connection of a 21-pin scart cable

- Switch on the TV set.
- Select VCR of the **VCR/TV/DVD** switch.
- Press the **Standby/On** button to switch on the VCR/DVD player.
- The Country menu will be displayed.
- Use the arrow keys ◀▶▲▼ to select your country.
- Press **ENTER** to confirm.

The VCR starts the automatic tuning. (The search will take approx. 5 min. to be completed)

* If the Country menu does not appear after switching on you can manually restart Automatic Tuning (page 20).

VCR AUTO SETUP with connection via the RF coaxial cable

If you decide to just use the RF coaxial cable to connect the TV set you must adjust the video output channel with the TV set's input channel.

- Switch on the TV set.
- Select VCR of the **VCR/TV/DVD** switch.
- Press the **Standby/on** button to switch on the VCR/DVD player.
- Press the **MENU** button for approx. 7 seconds. The preset channel appears on the display.
- Tune the TV set until the test pattern appears. If there is any interference select another channel for the TV set and VCR/DVD player.
- Press the **CH** button to change the channel (e.g. to channel 39).
- Tune the TV set until the test pattern appears.
- Press **ENTER** to confirm.



If the clock setting menu appears

Normally date and time are set due to programme transmission. Otherwise you have to manually set date and time.

- Use ▲▼◀▶ or 1 2 3...0 to enter Time and Date, **ENTER** will store the information.

* Mind that a wrong date or time will influence the programmed recording of TV programmes (don't forget to change to DST and back).

Recording

AV-channels



A1: Scart input AV1
 A2: Scart input AV2
 A3: Front input AV3
 dc: DVD (disc intern)



Set the TV set to the video channel and insert a cassette into the video recorder; make sure that the cassette's protection tab is still in.

- Select a channel to record from
- Select the AV channel if you are recording via the 21-pin scart cable.
- Press **REC** to start recording.
- Press the Stop button ■ to stop recording.
- To pause recording: **||▶**
- To resume recording: **||▶**



Tape Remain counter/indicator

The VCR display shows: time - counter - tape remain.

- Press **OSD/DISPLAY** until 'REMAIN' is displayed.



- Prior to starting the recording session, press **SP/LP/EP** to set the tape speed.

SP : normal recording time	- optimal picture quality
LP : double recording time	- simple picture quality
EP : triple recording time	- reduced picture quality
- * When you play back LP or EP recordings, some cassettes (e.g. E-300 type) may produce interference. This is not indicative of a malfunction.

Timer recording



Timer recording 1 / 3						
Pos	Date	Start	Stop		VPS PDC	
1	ARD 31/12	10:30	11:30	SP	ON	
1	ARD 31/12	11:30	12:30	SP	ON	
2	ZDF 31/12	12:30	13:30	SP	ON	
4	RTL 31/12	13:30	14:30	SP	ON	
6	VOX 31/12	14:30	15:30	SP	ON	
----- -/- - -:- -:- -:-				SP	---	
◀ :select :store :delete :exit						



PROG/CHECK



TIMER



TIMER CHECK

The Timer recording allows you to programme the recording time of TV programmes up to 1 month in advance. Use the on-screen menu to programme a maximum of 16 recordings.

- Press **PROG/CHECK** to select an available memory location ▲▼.
- Press **ENTER** to confirm
- First select the respective station ▲▼, then use ► to set date, week or day of week ▲▼.
- Enter start and stop time ▲▼, ►
Keep the buttons pressed to change the time in 30-minute steps.
- Set the tape speed: **A** (Automatic), **SP**, **LP**, **EP** ▲▼, ►
Press ▲▼ or the **VPS/PDC** button to change the VPS/PDC setting
- Press **ENTER** to save the timer programme.
- Repeat these steps for further recordings you may wish to programme.
- Press **TIMER** to activate the recorder's timer mode.
Ensure that the VCR symbol ⊕ is displayed.
- * Do not forget to verify that there is enough tape remain. The length of the recording must not exceed the time remain on the video cassette.

Quitting the timer mode

- Press **TIMER**, the VCR symbol ⊕ turns off.
You can now play back a cassette or make a manual recording.
- Press **TIMER** again to reactivate the timer programme you entered previously.

Displays the timer programmes for verifications (button on the unit only)

Repeatedly press the button to view the details of the timer programmes on the VCR display.

Timer recording



Automatic SP/LP selection

A: If, at the beginning of a timer programme, there is not enough tape remain to complete it, the SP/LP function will automatically run the tape at LP speed. This ensures that the entire programme will be recorded. If the LP mode is not enough to 'stretch' the remaining tape to fit you will not be able to record all of the TV programmes.

* It is not possible to automatically activate the EP mode.

VPS/PDC function

If start or ending time of a programme are changed, this function synchronises the beginning and the end of the recording session with the actual beginning and end of the TV programme by a VPS signal of the respective station.

ON : The station transmits VPS/PDC signals. You must set the timer to the time specified in the TV magazines. Use the special VPS time the TV magazine may indicate.

- - - : The station does not transmit VPS/PDC signals. Try to set the start and stop times such that the entire film can be recorded even if a programme begins or ends earlier or later than planned.

Checking the timer programme

- Press **PROG/CHECK**, the Timer recording menu will appear.
- Press **PROG/CHECK** again or **EXIT** to quit the menu.

Changing or cancelling a timer programme

- Press **PROG/CHECK** to display the Timer recording menu.
- Press **▲▼** to select the entry you wish to edit, press **ENTER** to confirm.
- Change the entries **◀▶▲▼**, press **ENTER** to confirm.
- Press **CANCEL/RESET** to cancel the timer programme.

Playing back programmed recordings

The unit will rewind to the beginning of the programmed recording and automatically start playing it back.

* You can also play back programmed recordings manually.

INTELLIGENT TIMER



INTELLIGENT TIMER							25/10/03	
Pos	Date	Start	Stop		VPS PDC	SP	ON	OFF
1	ARD	25/10	10:30	11:30		SP	ON	
1	ARD	25/10	18:30	19:30		SP	OFF	
2	ZDF	25/10	12:30	13:30	A		ON	

(I-TIMER) : select (TIMER) : store
 (ENTER) : edit ◀ : unlock ▶ : lock
 (CANCEL) : delete (EXIT) : exit

This function makes it easier for you to time the recording of programmes transmitted by the same station at the same time but on different days. You can fully modify the programmes once they have been transferred to the Timer recording menu. The INTELLIGENT TIMER menu lists the information of the last 5 timer programmes. To use the INTELLIGENT TIMER function you must first programme at least one normal timer programme.

Accept already saved recording time

- Press **I-TIMER**.
- Press **▲▼** or **I-TIMER** to select a programme.
- Press **TIMER** to activate the timer mode.

Timer recording							1 / 3	
Pos	Date	Start	Stop		VPS PDC	SP	ON	OFF
1	ARD	26/10	10:30	11:30		SP	ON	
1	ARD	26/10	18:30	19:30		SP	OFF	
---	---	---	---	---				
---	---	---	---	---				
---	---	---	---	---				
---	---	---	---	---				

: select (ENTER) : store
 (CANCEL) : delete (EXIT) : exit

Editing a programme

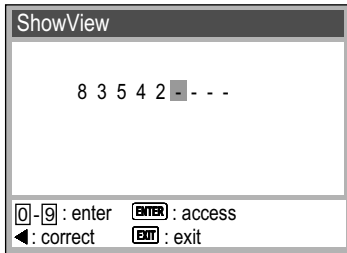
- Press **I-TIMER**.
- Press **▲▼** or **I-TIMER** to select a programme.
- Press **ENTER** to display the Timer recording screen.
- To change any of the data press **◀▶▲▼**.
- Press **ENTER** to store a change.
- Press **TIMER** to activate the timer mode.

Protection of I-Timer programmes

The timer programme function is able to store 5 entries at a time. Each further timer programming will delete the oldest timer setting from the memory.

- Select an entry **▲▼**.
- Press **▶** to protect the specific entry. The symbol is displayed.
- To unprotect the data press **◀**. The symbol disappears from the display.

ShowView



Timer recording							1/3
Pos	Date	Start	Stop		VPS/PDC		
1	ARD 31/12	10:30	11:30	SP	ON		
1	ARD 31/12	11:30	12:30	SP	ON		
2	ZDF 31/12	12:30	13:30	SP	OFF		
---	-/-	:-:-	:-:-	-	---		
---	-/-	:-:-	:-:-	-	---		
---	-/-	:-:-	:-:-	-	---		

▲ : select ENTER : access
 CANCEL : delete EXIT : exit



Using ShowView for timer programming

With the ShowView code you can easily programme TV and SAT station recordings.

- Press the **ShowView** button
- Enter the ShowView number (press ◀ to correct any mistakes)
- **ENTER** confirms your entry.

The Timer recording screen is displayed.

If the unit fails to automatically detect the station press ▲▼.

The video recorder will store the information so that you will not have to enter it again later.

Activate the Timer recording function

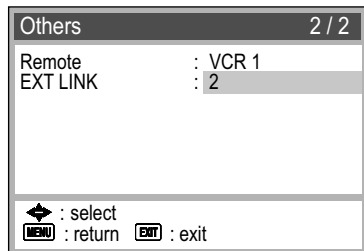
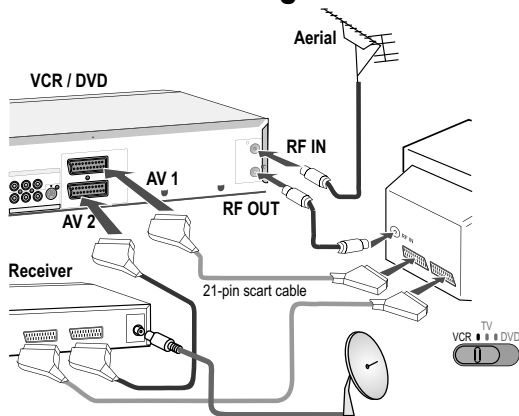
- Press **TIMER** to activate the timer mode.
- The symbol ⌚ appears on the VCR display.

Editing a programme

- Press **ENTER** to alter the timer data.
- Select a station ▲▼, ▶
- Set the date, week or day of week ▲▼, ▶
- Enter the start time: ▲▼, ▶
- Enter the stop time : ▲▼, ▶
- Set the tape speed: **A** (Automatic), **SP**, **LP**, **EP** ▲▼, ▶
Press ▲▼ or the **VPS/PDC** button to change the VPS/PDC setting
- Press **ENTER** to store a change.
- Press **TIMER** to activate the timer mode.
- The symbol ⌚ appears on the VCR display.

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

External recording control



The AV2 input of this VCR is equipped for future use with external equipment having external timer recording control such as digital satellite receivers. The AV2 input can be set to EXT LINK 1 or EXT LINK 2 depending on the equipment to be connected. Fully wired 21-pin scart cable is required. Refer also to the manufacturer's instruction for the external unit.

EXT LINK 2: The VCR will start recording when AV2 input detects the video signal and stop recording when the video signal is switched off by the external unit.

EXT LINK 1: The VCR recording start and stop time is controlled by a control signal sent via the 21-pin scart cable from the external unit, e.g. the F.U.N. receiver (TU-DSF31).

External recording control

- Press **MENU** and select Others ▼
- Press **ENTER**
- Select EXT LINK 2 or 1
- Press **MENU** to return to the Menu screen.



- Press the **EXT LINK** button to activate the VCR's recording standby mode. As long as the Video- or Controlsignal is being transmitted by the Satellite or Digital Receiver, the VCR will record.

The following screen will be shown if you selected EXT LINK 2:

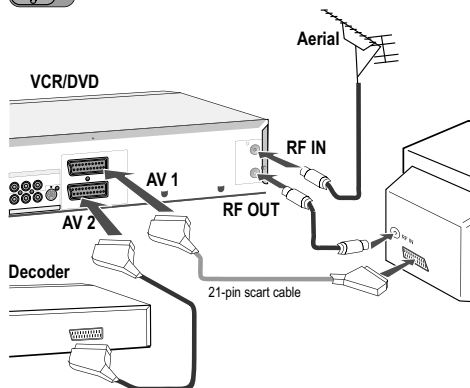
EXT LINK recording in progress.

[ENTER] : yes [EXT LINK] :cancel

- Press **ENTER** to hide the message.
- Press the **EXT LINK** button to stop recording.

- * Be sure that the timer programmes stored by your VCR do not overlap the ones of the satellite or digital receiver.
- * Some external equipment may not work with this function, refer to the operating instructions for the external unit.

External units



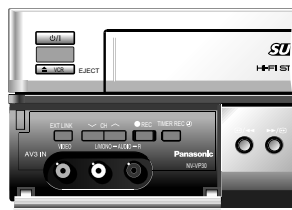
Connecting a decoder

A decoder is used to decode particular TV programmes (e.g. those of pay TV stations). Use a 21-pin scart cable to connect the decoder to the unit's AV2 socket.

Setting the channel to Decoder

- Press **MENU**.
- Select Tuning **▲▼**, press **ENTER** to confirm.
- Press **ENTER** to select Manual.
- Select the coded channel **▲▼** press **ENTER** to confirm.
- Choose Decoder **▲▼**.
- Set Decoder to ON **◀▶**.
(Interferences of the background picture vanish)
- Press **EXIT** to quit the menu.

* AV2 must be preset to DECODER (page 21).



Connecting to AV3

- Connect your external unit (e.g. a video camcorder) with the front input.
- Just seize the L/Mono port for mono recording of the audio signal.
- Select A3 with **AV INPUT SELECT**.



Manual SETUP



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

[A] : delete **[B]** : move
[Left] : select **[ENTER]** : access
[MENU] : return **[EXIT]** : exit

Pos	: 7
Name	: ----
Channel	: ---
Fine tuning	: AUTO
Decoder	: OFF
Video system	: AUTO
Mono	: OFF
Audio mode	: DK

[Left] : select
[MENU] : return **[EXIT]** : exit

99 different programme memory locations are available for TV station reception. You can manually set these programme memory locations including the option to rename them.

Manual Tuning

- Press **MENU**
 - Select Tuning **▲▼**, press **ENTER** to confirm.
 - Select Manual **▲▼**, press **ENTER** to confirm.
 - Select a free line down the list **◀▶**, press **ENTER** to confirm.
 - Pressing **◀▶** starts the channel tuning. You can also make use of the numeric buttons to select the respective channel. Wait until the desired station has been set.
 - Press **MENU** to return to the station table.
- * If you used the timer function ShowView for timer programming before manually setting a TV station, the TV station chosen might be referred to as [- -].

Options available for fine-tuning the channels

(Not every model supports all of the functions.)

Pos		Station position setting.
Name		Station name setting.
Channel		Channel setting.
Fine tuning	AUTO / MAN.	Fine-tuning of disturbed picture.
Decoder	ON / OFF	For reception of coded channels
Video System	AUTO / PAL / MESECAM	TV system set-up.
Mono	ON / OFF	Stereo-to-mono toggle.
Audio mode	BG / DK / I	Audio system set-up

Manual SETUP

Tuning					
Pos	Name	Ch	Pos	Name	Ch
1	ARD	7	6	VOX	8
2	ZDF	4	7	PRO7	95
3	N3	2	8	RTL2	85
4	RTL	12	9	KABE	97
5	SAT1	13	10	S-RT	98

Pos : 1
 Name : ARD
 Channel : 7
 Fine tuning : AUTO
 Decoder : OFF
 Video system : AUTO
 Mono : OFF
 Audio mode : DK

Tuning					
Pos	Name	Ch	Pos	Name	Ch
▶ 1	ARD	7	6	VOX	8
2	ZDF	4	7	PRO7	95
3	N3	2	8	RTL2	85
4	RTL	12	9	KABE	97
5	SAT1	13	10	S-RT	98

[A] : delete	[B] : move
[↔] : move	[ENTER] : store
[MENU] : return	[EXIT] : exit



Changing the name of TV stations

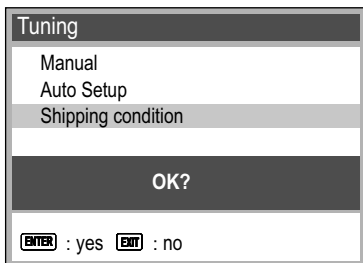
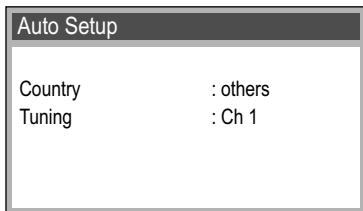
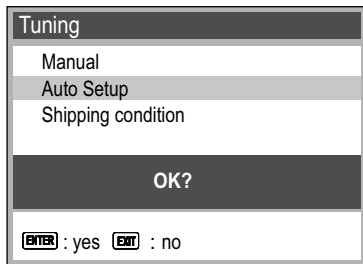
- Press **MENU**
- Select Tuning **▲▼**, press **ENTER** to confirm.
- Select Manual **▲▼**, press **ENTER** to confirm.
- Select a TV station **◀▶▲▼**, press **ENTER** to confirm.
- Select the Name entry **◀▶**.
The cursor will mark the first letter **ARD**.
- Change that letter **▲▼**
- Next letter **▶**, **ARD**
- Press **MENU**
The new name will be stored in the station table.



Changing the order of TV stations or deleting a station

- Press **MENU**
- Select Tuning **▲▼**, press **ENTER** to confirm.
- Press **ENTER** to select Manual.
- Select a station **◀▶▲▼**.
- Press **[B]**, an arrow at the left edge indicates which field has been selected.
- You can now move the station to any other location **◀▶▲▼**.
- Press **ENTER** to store.
- Press **[A]** to delete the station.

Manual SETUP



Restart Auto SETUP

- Press **MENU**
- Select Tuning **▲▼**, press **ENTER** to confirm.
- Select Auto Setup **▲▼**, press **ENTER** to confirm.
- Pressing **ENTER** will confirm the security prompt.

The Country menu will be displayed.

- Select a country **◀▶▲▼** press **ENTER** to confirm.

The Auto Setup menu will be displayed.

The Automatic Tuning will start.



Shipping condition / restoring factory defaults

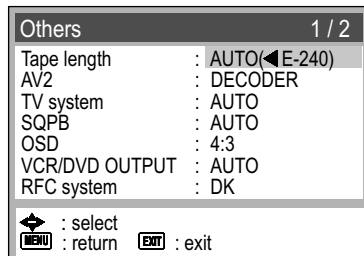
- Press **MENU**
- Select Tuning **▲▼**, press **ENTER** to confirm.
- Select Shipping condition **▲▼**, press **ENTER** to confirm.
- Pressing **ENTER** will confirm the security prompt.

* To restore the factory defaults (shipping condition) briefly unplug the AC Mains lead.

Menu Others

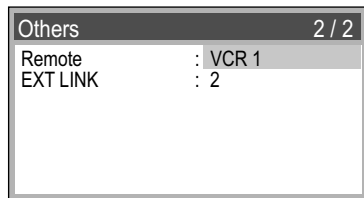


- Press **MENU**
- Select Others **▲▼**
- Confirm with **ENTER**
- Select the Menu item **▲▼**
- Changes with **◀▶**
- Press **MENU** to quit the menu.



(Not every model supports all of the functions.)

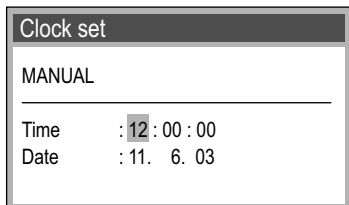
Press **▲▼** to display the 2nd screen.



Tape length	Sets the tape length of the cassette you use. AUTO (◀E - 240), E - 195, E - 260, E - 300)
AV2	Selects the type of external unit connected to the VCR/DVD's AV2 outlet. DECODER: If a decoder is connected. EXT : If another video recorder or satellite receiver is connected.
TV system	AUTO : Automatically detects PAL or MESECAM. PAL : If you are using the PAL system. MESECAM: If you are using the MESECAM system.
SQPB	AUTO : The VCR automatically detects the type of recording. ON : Plays back S-VHS format cassettes in quasi S-VHS format. OFF : Plays back cassettes recorded in VHS format only.
OSD	4:3 : Displays appear at the edge of the screen (displays not visible on 16:9 format screens). WIDE : Displays appear at the edge of the screen (displays appear in the middle on 4:3 format screens). OFF : No on-screen displays
VCR/DVD OUTPUT	AUTO : When you press a function button the unit will activate the relevant video or DVD output, depending on the setting of the VCR/TV/DVD switch. MANUAL : Press the VCR/DVD OUTPUT button to manually toggle between the video and DVD outputs.
RFc system	BG / DK / I : Sets the audio standard of RF-Converter output.

Remote	You can set both the unit and the remote control unit to another frequency by choosing VCR1 or VCR2 from the menu. Press and hold remote control unit buttons ENTER and ① or ② to set the frequency channel of the relevant unit.
EXT LINK	2 : External recording control by satellite receivers or digital receivers (video signal). 1 : For digital receivers transmitting a special recording control signal, e.g. the F.U.N. receiver (TU-DSF31).

Clock set



Date and time are usually set by a TV station transmitting the relevant signal. Otherwise you have to manually set date and time.

- Press **MENU**
- Select Clock set **▲▼**, press **ENTER** to confirm
- Select MANUAL, press **ENTER** to confirm
- Set Time/Date with **▲▼◀▶** or **1 2 3... 0**
- Press **ENTER** to store
- Press **EXIT** to quit the menu screen

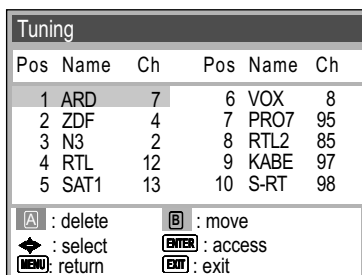
Menu language



The language set for the Video menu does not depend on the DVD SETUP menu language

- Press **MENU**
- Select Language **▲▼◀▶**
- Press **EXIT** to quit the Menu screen

NICAM sound system



This unit can receive programmes transmitted together with NICAM sound. NICAM is a digital sound system featuring two audio channels that can be set to either two-channel stereo sound or two separate mono channels (M1 and M2).

- Press **MENU**
- Select Tuning **▼**, press **ENTER** to confirm
- Select Manual, press **ENTER** to confirm
- Select the channel **◀▶▲▼**, press **ENTER** to confirm
- Mono to ON or OFF **◀▶**

Pos	: 1
Name	: ARD
Channel	: 7
Fine tuning	: AUTO
Decoder	: OFF
Video system	: PAL
Mono	: OFF
Audio mode	: BG

OFF: Records stereo sound.

ON : Used during NICAM programmes to record normal (mono) sound on the Hi-Fi audio tracks or if the stereo sound is bad.

General functions

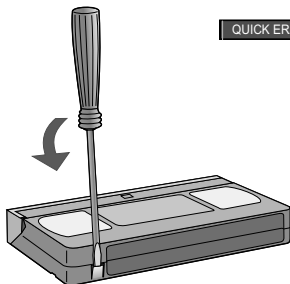


R 0:05.57

On-screen display



QUICK ERASE



Repeat playback

The video recorder repeats playback from beginning to the end of the recording

- In Stop or Playback mode, press the **PLAY** ► button for approx. 5 seconds. “R” will briefly appear on the on-screen display.
- Press **Stop** ■ to stop playing back.

Finding the start of a recording

Quickly finds the start of a recording during playback or in Stop mode.

- ►►► Fast forward / ◀◀◀ Rewind
Every time you press the button (max. 20 times) the video recorder will find the start of the next recording. Playback will start automatically.
- Press **Stop** ■ to exit the Search function.

Tape counter

To reset the tape counter time to „0:00.00“.

- The tape counter will be automatically reset to “0:00.00” when you insert a video cassette.
- Or you can press the **RESET** button on the remote control unit to manually reset the tape counter to “0:00.00”.

Erasing a cassette

Press and hold the **QUICK ERASE** button for a couple of seconds to remove all recordings from a cassette.

It takes approx. 30 minutes to erase an E-180 cassette. Erasing avoids problems that may occur at the beginning and end of a recording taken straight over an existing one.

Cassette erasure protection

Break out the erasure protection tab to protect the cassette against accidental erasure of recordings you wish to keep. Stick adhesive tape over the gap if you wish to re-record a protected cassette.

General functions



Limiting the recording and playback time

Switches the unit into standby mode after the set time of recording, playback or in Stop mode

- Press **OFF TIMER**

Press the button repeatedly to extend the switch-off time from 30 to 60, 120, 180 or 240 minutes. The timer setting appears on the VCR display.

Auto-Start

Inserting a video cassette will automatically switch on the VCR.

Automatic Rewind

When the tape gets to its end, the VCR will automatically wind it back to its beginning.

(This function is not available when playing timer programmes.)

Playback in standby mode

Insert a cassette and press the **PLAY ►** button to switch on the unit and start playing the tape.

Playing back NTSC video cassettes (NV-VP30)

You can play NTSC video cassette for viewing on a PAL-type TV set (PAL 60). You cannot record on or copy video cassettes to NTSC-format cassettes.

Automatic Playback

Insert a cassette whose protection tab has been removed and the VCR will automatically start playback. You do not have to press **PLAY ►**.

Auto Stop

To protect the video heads, the unit automatically quits the Forward/Backward Search, JET SEARCH, Still Playback and Slow Playback functions after 5-10 minutes.

Interference and motor noise are not indicative of a malfunction.

S-VHS cassette playback (SQPB=S-VHS Quasi Playback)

You can play cassettes that were recorded on a S-VHS VCR.

- The quality of the picture will be that of a VHS recording.
- You cannot make S-VHS recordings on this VCR

CVC Super - Crystal View Control Super

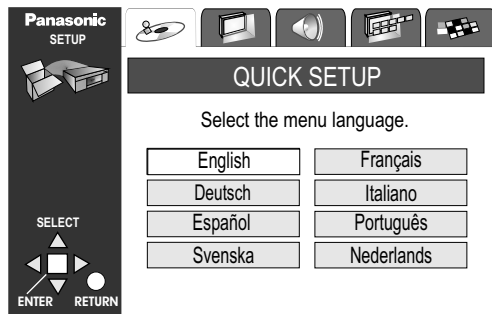
The CVC function provides a picture of perfect quality. The picture is automatically rendered as clear and sharp as possible.

Automatic switch-off after eject

If the VCR is in standby mode, you can press the **EJECT** button to remove the cassette.

The VCR will return to standby mode

DVD QUICK SETUP



QUICK SETUP

VCR AUTO SETUP must follow the DVD QUICK SETUP.

- Set the **VCR/TV/DVD** switch to DVD.
- Press the **SETUP** button to display the **QUICK SETUP** menu which allows you to make some basic settings.

Navigate the user-friendly and clearly arranged on-screen menu by means of the cursor keys ◀▶▲ on the remote control unit. Every menu item provides further information on the options you have.

- **ENTER** accepts your selection.
- **RETURN** takes you back to the previous on-screen menu.

First of all, choose the **menu language**.

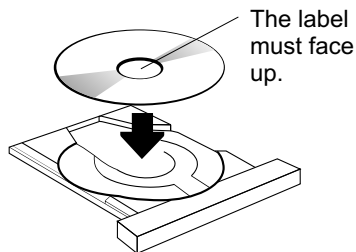
Select the audio/subtitle language

If the language you want is not on the list, go to item "Other" and type in the appropriate language code (last page) using the numeric key pad of your remote control unit.

Select your TV's aspect ratio

The format of TV screens is either 4:3 (standard) or 16:9 (wide-screen). Select the aspect ratio that matches the screen setting of your TV set.

General playback



Playback

DVD-V | DVD-A | RAM | VCD | CD | MP3 | WMA | JPEG | HighMAT

- **OPEN/CLOSE** ▲ opens the disc tray.
- Place the disc on the disc tray.
- **PLAY** ► closes the disc tray and automatically starts playing back the disc.
The player may take some time to read all of the disc information!
- * MP3, WMA, CD-Text : outputs some track information to the TV screen.
- **SUBTITLE** to display/quit the track information on TV screen.

To pause playback

- **PAUSE** ■■ during playback.
- **PLAY** ► resumes playback.

To stop playback

- **STOP** ■ twice one after the other.
See page 7 "Resume function"

Frame-by-frame

DVD-V | DVD-A | RAM | VCD

In pause mode, press remote control buttons ◀▶. Every push of one of these buttons takes the film a single frame forwards or backwards. Keeping one of these buttons pressed continuously displays the next single frame in the chosen direction. You can also use button ■■ to move the film forward a single frame at a time.

- * VCDs do not support a backward motion by single frames.

POSITION MEMORY

DVD-V | DVD-A | RAM | VCD | CD | MP3 | WMA | JPEG | HighMAT

Using the **Position Memory** function playback will be resumed at a stored position. The position tag is retained when you change discs or when the unit goes into standby mode. You can tag and directly access up to 5 discs. This function is available only if the elapsed playback time is displayed when playing the disc.

- **POSITION MEMORY** during playback.
- The "Position memorized" box will be displayed.
- You can now press ⏻ to go into standby mode or change discs.
- **PLAY** ► to replay the disc again. Playback will be resumed at the stored position and the position tag will be cleared.
- * Some discs do not fully support all of this function.

Position memorized ● ● ● ● ●

Position cleared ● ● ● ● ●

General playback



Chapter review

DVD-V

The first couple of seconds of every chapter of a DVD-V are played back.

- **STOP** ■ during playback.
- **PLAY** ►. The screen "Press PLAY to Chapter Review" is displayed.
- **PLAY** ►. The first couple of seconds of every chapter are played back. Normal playback will be resumed at the point where you stopped it.

Random playback

DVD-V | DVD-A | VCD | CD | MP3 | HighMAT

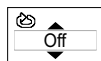
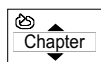
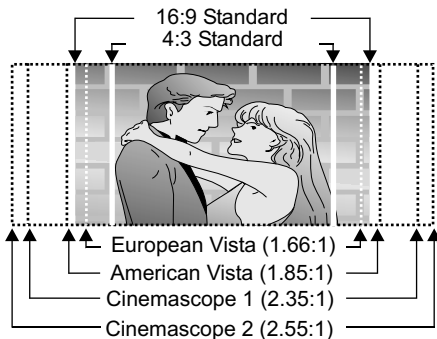
Plays all chapters/tracks once each in a random order.

- **PLAY MODE** in Stop mode. The "PROGRAM" screen is displayed.
- Press **PLAY MODE** again to display the "Random Playback" screen.
- * DVD-V/ DVD-A : Press ▼▲ or the numeric keys of the remote control unit to select or specify the title/group to be played in a random order.
- **PLAY** ► to start random playback.
- **PLAY MODE** in Stop mode to cancel the random play function
- * If you wish to use this function with HighMAT discs, you have to deactivate HighMAT in the SETUP menu. Then insert your HighMAT disc (page 33).

General playback



Preset Zoom Mode :



ZOOM function



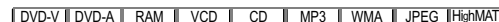
This function allows you to zoom into the picture to make better use of the available screen space.

- **ZOOM** during playback.
Press **▼▲** to set the zoom factor; to select a zoom mode: **ENTER** and **◀▶**.

To restore the original ratio

- **ZOOM** until x 1.00 is displayed.
The original ratio is also restored by opening the disc tray or when the unit goes into standby mode.
- * The zoom functionality may be restricted depending on the disc format.

REPEAT



- **REPEAT** during playback. Repeatedly press the button to browse the settings as follows:

DVD-V		Chapter	→	Title	→	Off
DVD-A		Track	→	Group	→	Off
RAM		Program	→	All	→	Off
		Scene	→	Playlist	→	Off
VCD/CD		Track	→	All	→	Off
MP3/WMA		Track	→	Group	→	Off
JPEG		Group	→	Off		
HighMAT		Content	→	Group	→	Off

- * The repeat function is available only if the elapsed time is displayed during playback. There is no mode that allows you to repeatedly play back entire DVD, WMA, JPEG or MP3 discs.

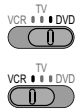
Repeating a VCD using playback control (PBC)

- **STOP** **■** during playback until "PBC" disappears from the display.
- Type in the number of the CD track using the RC unit's numeric key pad.
- **REPEAT**. The display shows "TRACK REPEAT" or "ALL REPEAT".



Synchronous recording

DVD-V | DVD-A | RAM | VCD | CD | MP3 | WMA | JPEG | HighMAT



How to copy a non copy-protected disc to VHS type cassette.

- Use **PLAY ▶** and **II/▶** to select the disc's starting position.
 - Set dc channel with **AV INPUT SELECT**.
 - Use **◀▶▶▶**, **PLAY ▶** and **II/▶** to define the starting position for tape recording.
 - Press **REC** to activate the recorder's recording standby mode.
 - **II/▶** starts synchronous recording.
- * Playing back music, NTSC formatted films or copy-protected discs might result in interferences.

MUSIC with PICTURE

MUSIC with PICTURE

DVD-V | DVD-A | RAM | VCD | CD | MP3 | HighMAT

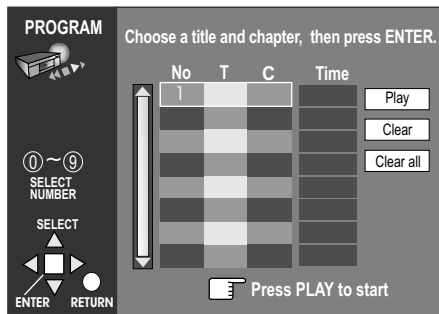
It is possible to simultaneously use the DVD player for playing back a music disc and presenting video pictures.

- Set the **VCR/TV/DVD** switch to DVD.
- Press **PLAY ▶** to start music disc playback.
- Press **MUSIC w/ PICTURE**
The VCR output is displayed.
- You can input a signal from external source (e.g. dig. camera) or use the **CH** button to select the respective TV channel.
- To playback a video cassette set the **VCR/TV/DVD** switch to VCR and press **PLAY ▶**.



- To quit press **MUSIC w/ PICTURE** in stop mode.

Programme play



If you wish to use this function with HighMAT discs, you have to deactivate HighMAT in the SETUP menu. Then insert your HighMAT disc (page 33).

Programme play

DVD-V | DVD-A | VCD | CD | MP3 | WMA | HighMAT

You can programme up to 32 chapters/tracks to be played in any order.

- **PLAY MODE** in stop mode until the "PROGRAM" screen appears.
- Type in the numbers using the RC unit's numeric key pad.
- * MP3 and WMA : Press **ENTER** to confirm your selection.
- **PLAY ▶**. Playback will start in the programmed order.
- * Certain discs may not provide this function.

To select a number using the cursor keys:

- **ENTER**.
- To select an item press ▼▲.
- **ENTER** to store that number.
- **PLAY ▶**. Playback will start in the programmed order.

To modify entries

- To select an entry press ▼▲.
- **ENTER**.
- Modify the entry as appropriate.
- **ENTER** to store the modified entry.

To delete entries

- To select an entry press ▼▲.
- Choose "Clear".
- Select "Clear all" to clear all entries.
- **ENTER** accepts your selection.

To quit the programme play mode

- **PLAY MODE** in stop mode until the programme play screen disappears.
The actual programme will be retained.
- * Switching off the player or opening the disc tray will clear the programme.

DVD-V | DVD-A | RAM | VCD | CD | MP3 | WMA | JPEG | HighMAT

Playing back a particular track or title

Type in a number using the RC unit's numeric key pad. For example, to select title 23:

DVD/RAM/VCD/CD : Press **⏮** + **2** + **3**.

MP3/WMA/JPEG/HighMAT : Press **2** + **3** + **ENTER**.

The unit will automatically start playing the selected track or title.

- * Certain discs may not provide this function at all or only if the appliance is in stop mode.

JPEG



Your VCR/DVD player can output JPEG pictures (Exif version 2.1) that were taken with a digital camera, for example, or generated by means of any other system. The resolution should range between 320 x 240 pixels and max. 6144 x 4096 pixels. Note that JPEG files must be extended by ".JPG", ".jpg", ".JPEG" or ".jpeg" and compressed in format 4:2:2 or 4:2:0.

- **MENU** displays the JPEG ALBUM.
- Use the cursor keys ◀▶ and **ENTER** to select the pictures.
- Press "**Prev**" or "**Next**" and **ENTER** to page through the album.
- Menu item "**Tree**" controls the group directory.
- Press ◀▶ and **ENTER** to take your pick.
- **RETURN** or **MENU** quit the menu screen.

To rotate pictures

- **ANGLE/PAGE** while the picture is being displayed.
- Press ◀▶ to select the direction of rotation.
- Press **ENTER** to actually rotate the picture to the desired position.
- **RETURN** quits this menu.

To skip groups

- Press ◀▶ in picture mode to skip forwards and backwards.

To activate the JPEG on-screen displays

- **DISPLAY** while pictures are being displayed.
The on-screen displays will appear.



- **DISPLAY**.
The Progress Indicator will be displayed.



Refer to pages 34-36 to learn more about how to use the on-screen displays (OSD).

MP3 / WMA MENU



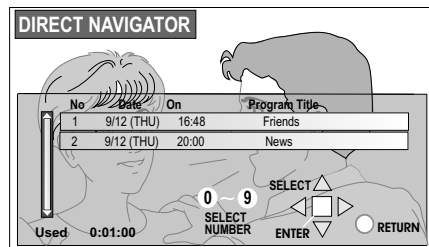
- **MENU** to display/quit the MENU.
- Press **▲▼** and **ENTER** to select a track.
- Press **▶** to expand the "Tree" (table of contents).
- Press **▲▼◀▶** to select a group, **ENTER** to confirm your selection.

MP3 | WMA | CD-Text

To search for tracks

- Press **▲▼** to select the "**Find**" item, then press **ENTER** to display the text box.
- To enter a word from the track title you are looking for press **▲▼**.
- Press **ENTER** after every letter to confirm it. To delete an entry press **◀**.
- Upon completion press **▶** to select "**Find**" and **ENTER** to run the function.
All entries containing the word you specified are output to the match list.
- Press **▲▼** and **ENTER** to select a track title.
To look for the first word in a title press **◀** to delete the asterisk.
All entries starting with the word you specified are output to the match list.
- If there are no matches ("**Not found**") : press **RETURN** to change your search entry.
- "**Prev**"/"**Next**" browses the album for the previous or next group.

DVD-RAM menu



Your DVD player can play DVD-RAM discs recorded in the video recording format, version 1.1, by a DVD video recorder, DVD video camera, computer etc.

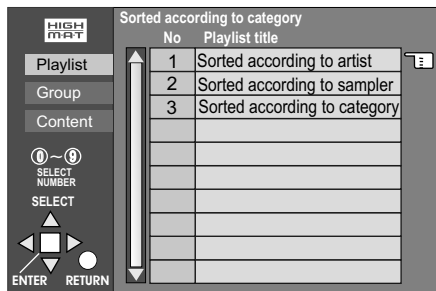
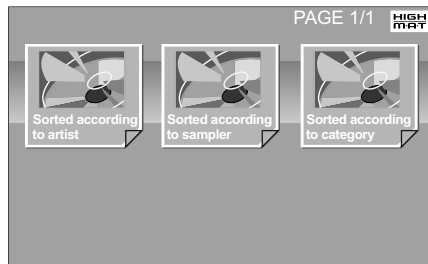
- **DIRECT NAVIGATOR** to display/quit the menu.
- Only programme names will be shown that were entered when the RAM was produced.
- Select a programme number using the numeric keys or pressing **▲▼**.
The programme you selected will be played in the background.
- **ENTER** to confirm the setting and hide the on-screen display.

To output a Playlist

This function allows you to play groups of scenes previously produced by means of a DVD video recorder, for example.

- **PLAY LIST** to display the PLAY LIST screen.
- Press **▲▼** or use the numeric keys to select a Playlist.
- **ENTER** to start playing the list.
- Press **◀▶** skips individual scenes.
- **PLAY LIST** quits the menu.

HighMAT



HighMAT (High Performance Media Access Technology) is a jointly developed technology of Panasonic and Microsoft. If diverse computer data (WMA, MP3 and/or JPEG) is stored in HighMAT format on one disc, the HighMAT technology makes all of the information easily available for playback via the user-friendly and clearly arranged menu. The HighMAT format is fully compatible to the ISO 9660 Joliet standard.

While the menu is displayed

- Press **▲▼◀▶** to select then press **ENTER**.



Menu: Takes you to the next menu which shows play lists or another menu



Play list: play starts

- Press **TOP MENU** to display the menu.
- Press **RETURN** to display the previous menu.
- Press **DISPLAY**. The background changes to the one recorded on the disc.

Selecting from the Playlist

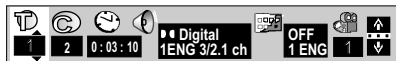
- Press **MENU** while playing.
- The Playlist appears (◻ indicates the item currently playing).
- Press **◀** then **▲▼** to switch between the Playlist, group and content lists.
- Press **▶** then **▲▼** to select an item and press **ENTER**.
- To exit the Playlist press **MENU**.

HighMAT and HighMAT logo are trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries.

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

Windows Media, and the Windows logo are trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries.

On-screen displays

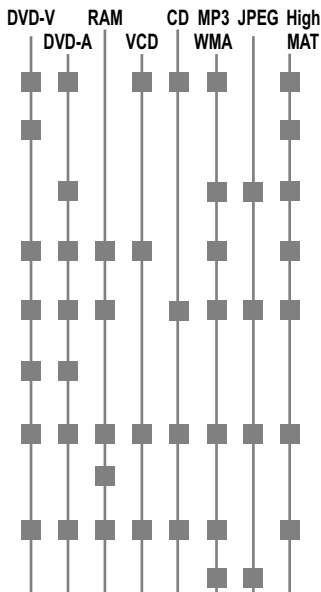


You can display on-screen information on disc and player (OSD) and manipulate various settings. Some DVD- discs do not support all of the settings. Please use the DVD menu instead.

- **DISPLAY** during playback. Enables the on-screen display feature.
- Use the cursor keys **▼▲◀▶** to make or change various settings.
- Some entries need to be confirmed by pressing **ENTER**.
- **DISPLAY**. The Progress Indicator will be displayed.

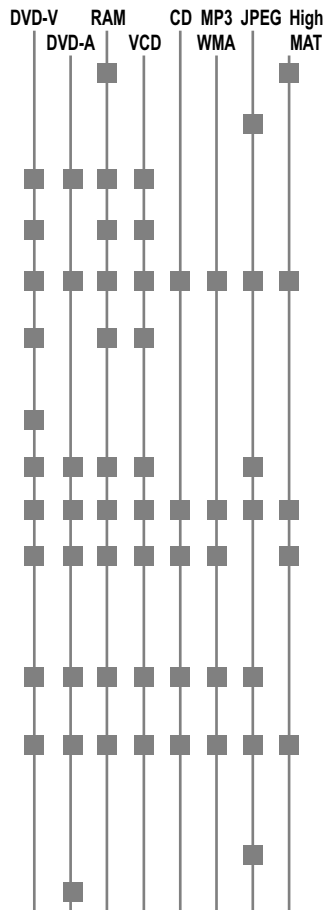


- Press **◀▶** to change the playback speed (DVD-V: Dolby Digital only).
- Press **▼▲** to display the elapsed and the remaining playback time.
- Press **DISPLAY** again. Now use the cursor keys **▼▲** to select any of the menu items (**Play Menu, Display Menu, Audio Menu, Picture Menu**).
- **RETURN** hides the on-screen displays.





- T** **Title or Track:** Allows you direct access to a title/track if the disc hosts several.
- C** **Chapter/Content:** Allows you direct access to a chapter if the disc hosts several.
- G** **Group:** MP3/WMA or DVD-A tracks or JPEG pictures defined to make up a group. You can also provoke an on-screen display by pressing the **GROUP** button on your remote control unit.
- Speaker** **Audio:** Allows you to alter the pre-set language of synchronisation provided the disc gives you an alternative. RAM/VCD: Sets the right or left audio channel.
- Subtitle** **Subtitle:** Selects the language of subtitles and sets their on-screen position and brightness. JPEG: Picture information; FULL: Displays all information; DATE: Displays the date; OFF: No display.
- Camera** **Angle:** Change between camera angles of films recorded from various camera locations.
- Bar** **Bar Position:** You can move the OSD displays around to another place on the TV screen.
- P** **Program:** Programmes stored on a DVD RAM (page32).
- Time** **Time:** Display/select playback time (DVD-V,DVD-A,RAM: numeric keys). DVD-V,DVD-A,RAM,VCD, CD: Alternative display of elapsed or remaining playback time. MP3,WMA,SVCD: Playback time only.
- Total** **Total:** Number of track/picture selected plus total number of items in selection.

On-screen displays




 **Playlist:** (page 32)


 **Picture:** Displays the number and name of a picture you selected from a group. Type in the number to display a picture.

 **Zoom:** Zoom function (page 28).

Bit Bitrate Display: Displays the video image data rate per second (Mbps)


 **OSD Brightness:** User-defined brightness of OSD displays.


 **Advanced Surround:** Produces an effect similar to surround sound at the two front speakers (SP) or the headphones (HP). Deactivate the function if the sound becomes distorted. Refer to page 36.


 **Dialogue Enhancer:** Puts up the volume of the dialogue tone of feature films. Refer to page 36.


 **Picture Mode:** "Cinema 1", "Cinema 2", "User", "Normal". Refer to page 36.


 **Repeat Mode:** Repeat function (page 28).

 **A-B Repeat:** Allows you to keep repeating a defined section between positions A and B of an item.
 ** Press **ENTER** to set starting point A and end point B.
 If you do not specify an end point, the player will assume the end of the item to be point B.
 Press **ENTER** again to cancel the function.

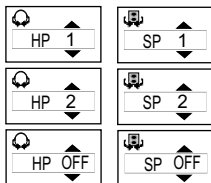
 **Play Mode Display:** "---" : normal playback, "RND" : Random play, "PGM" : Programme play.

 **Marker:** Press **ENTER** to mark up to 5 (DVD-RAM: up to 999) positions.
 Press **CANCEL** to delete any mistakes. During playback you can press ◀▶ to directly access specific scenes. Opening the disc tray or switching off the unit clears all markers.
 This function is not available in the Random or Programme modes.

 **Slideshow:** On-screen presentation On or Off. Set the time per picture between 0 and 30 seconds.

 **Page/Still Picture:** Displays the selected picture during playback.

On-screen displays



Advanced Surround

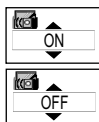
DVD-V | RAM | VCD

With 2 or more audio channels only

Repeatedly press the button to browse the settings. Press ◀ and ▼▲ to toggle between SP and HP:

- ▶ HP 1 : Normal rate of effect
- ▶ SP 1 : Enhanced rate of effect
- ▶ HP 2 : Enhanced rate of effect
- ▶ SP 2 : Enhanced rate of effect
- ▶ SP OFF/HP OFF : Advanced Surround effect off (factory default)

- * Advanced Surround is not supported by all discs.
- * Deactivate the Advanced Surround effect if you experience distorted sound.
- * Deactivate Advanced Surround if you are also using Dolby Pro Logic. Dolby Pro Logic will not work properly if Advanced Surround is on.



Dialogue Enhancer

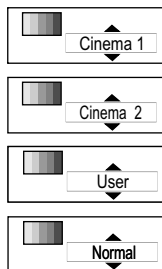
DVD-V

Available in the Dolby Digital format and DTS with 3 or multiple channels only.

Repeatedly press the button to browse the settings:

- ▶ Dialogue Enhancer ON
- ▶ Dialogue Enhancer OFF: Factory default.

- * The function Dialogue Enhancer is not supported by all discs.



Picture Mode

DVD-V | DVD-A | RAM | VCD | JPEG

The CINEMA function can either be accessed via the on-screen displays or directly selected by pressing the remote control button **CINEMA**.

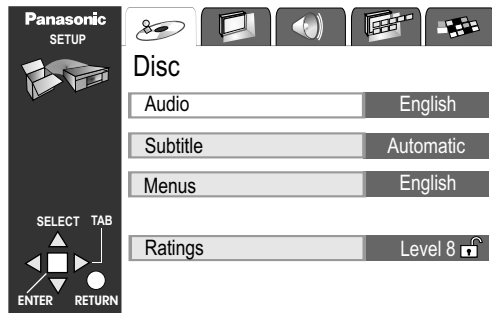
You can manipulate the picture quality of films:

• CINEMA

Press ▼▲ to select the individual settings:

- ▶ Cinema 1 : Improved contrast of details of dark scenes.
- ▶ Cinema 2 : Improved brightness setting for dark scenes.
- ▶ User : User-defined colour, contrast and brightness settings
- ▶ Normal : Normal : Factory default.

SETUP-menu Disc



Options of the SETUP menu

The SETUP menu contains options concerning menu items "**Disc**", "**Video**", "**Audio**", "**Display**" and "**Others**".

A clearly arranged on-screen menu guides you to and through the options.

- **SETUP** displays the SETUP screen.
- To select one of the SETUP sub-menus (e.g. "**Disc**") press ◀▶.
- To select the option to be changed press ▼▲, then press **ENTER** to confirm.
- To select a setting press ◀▶▼▲, then press **ENTER** to confirm.
- **RETURN** takes you back to the previous screen
- **SETUP** quits the menu

Audio:

Select a dialogue language as appropriate.

The menu lists eight languages for you to choose from.

"Original" : The primary language on the disc is played.

If the language you want is not on the list, go to item "Other" and type in the appropriate language code (last page) using the numeric key pad of your remote control unit.

Subtitle:

Select a subtitle language as appropriate.

Select the "Automatic" display of subtitles if the disc contains no track with a dialogue language recording.

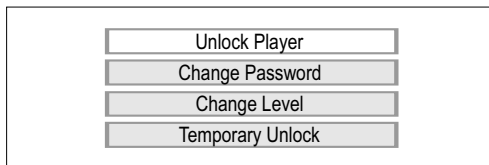
To select another language for the subtitles proceed as described in section **Audio**.

Menu:

Select the language for the disc menus.

Proceed as described in section **Audio**.

SETUP-menu Disc



Ratings

Assign a rating to disallow the viewing of some scenes (1-7) or the entire DVD-Video disc (0).

This feature is not supported by all DVD-Video discs.

To select a rating (factory setting is "8")

When you select a rating between 0 and 7 you will be automatically prompted for a password.

- Type in a 4-digit code using the numeric key pad of your remote control unit.
- **ENTER** confirms your entry.
- Press **◀** or **CANCEL** to delete any mistakes.

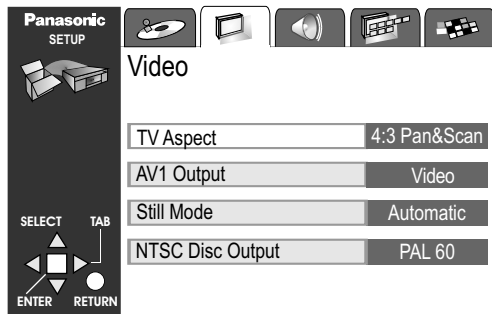
The picture of a closed padlock tells you that the system is locked.

Make sure not to forget your password code.

To change the setting:

- Type in your password code.
- **ENTER** confirms your entry.
- Select a new setting.
- **ENTER** confirms your entry.

SETUP-menu Video



TV Aspect :

The format of TV screens is either 4:3 (standard) or 16:9 (wide-screen). Choose the 16:9 format if your player is attached to a wide-screen TV set. If it is attached to a standard TV screen you can choose either 4:3 Pan&Scan or 4:3 Letterbox (see illustration):

Pan&Scan:

Automatically crops a 16:9 picture and turns it into an optimum 4:3 picture producing neither black bars nor distortions.

* This format is not supported by all DVDs.



Letterbox:

Black bars will appear at the top and bottom edge of the screen to allow the reproduction of wide-screen video material on a standard TV screen.



AV1 Output:

Please check which setting is supported by your TV set. Please refer to the operating instructions of your TV set.

Video: Standard picture quality

RGB: Set RGB for best picture quality at DVD playback.

Still Mode:

Every picture frame is made up of two fields which are output to the screen one after the other.

Automatic: The unit automatically selects the optically better type of image.

Field: Poorer quality than a frame-based image; however, the image is less fuzzy.

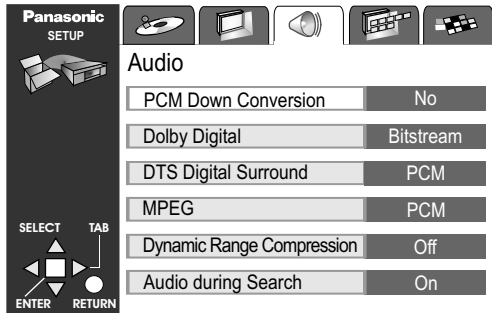
Frame: Both fields of a picture alternate on the screen. Although the image may be somewhat fuzzy, its quality is better than that of a field-based still image.

NTSC Disc Output:

To play a NTSC disc, select a TV standard (NTSC/PAL60) that matches the function of your TV set.

Please refer to the operating instructions of your TV set.

SETUP-menu Audio



Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic" and the double-D symbols are trademarks of Dolby Laboratories.

"DTS" and "DTS Digital Surround" are trademarks of Digital Theater Systems, Inc.



Decoder: This appliance features an internal Dolby Digital decoder and a DTS decoder. You can enjoy these systems in stereo quality without the need of a separate decoder. The display will show "D.Mix" if you have multi-channel sound that can be mixed down to two channels.

PCM Down Conversion: Pulse Code Modulation

PCM is the standard method used to record digital music signals on audio CDs. DVD-Videos can be produced using the linear PCM method which is based on a sampling frequency of up to 96 kHz.

For reasons of copyright protection, the digital output of PCM audio signals may be limited to 48 kHz/16 bit.

Select "Yes" if an optical digital audio cable is used to connect your player to an amplifier that only processes sampling frequencies of up to 48 kHz.

Dolby Digital/DTS Digital Surround/MPEG:

Please choose the correct settings matching your audio system:

	Your equipment can not decode the signal	Your equipment can decode the signal
Dolby Digital	PCM	Bitstream
DTS Digital Surround	PCM	Bitstream
MPEG	PCM	Bitstream

* If the equipment you connected cannot decode the signal, the setting must be changed to PCM. If not, signals that the equipment cannot process will be output by this unit causing high levels of noise which can damage your hearing and the speakers

Dynamic Range Compression:

Available in the Dolby Digital (DVD) format only.

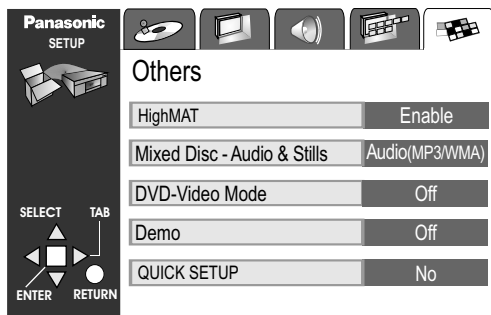
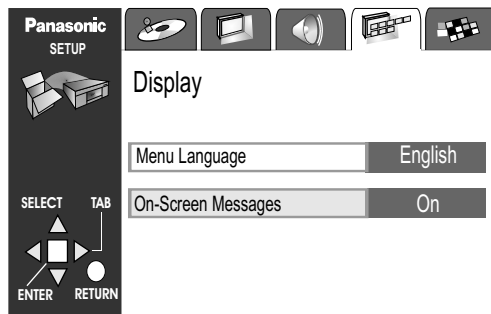
This function compresses the volume range by putting up the level of soft passages and lowering the level of loud passages, e.g. to turn down the overall volume late at night.

This option allows you to say whether or not the volume range is to be compressed.

Audio during Search:

Lets you decide whether or not the sound is to be on during the search.

SETUP-menu Display/Others



Menu Language:

Select a menu language as appropriate.

On-Screen Messages:

The TV screen displays the commands you give by pressing the buttons on the remote control unit.

Select "Off" to suppress the display of on-screen commands.

HighMAT

Enable: to activate HighMAT playback (Page 33)

Disable: to play back HighMAT discs in MP3/WMA/JPEG format.

Mixed Disc - Audio & Stills:

Your DVD player can play back/display discs in the MP3/WMA (audio) and JPEG (image) formats. Select a playback format (JPEG or MP3/WMA) if the disc provides data in both formats.

DVD-Video Mode:

Playing back a DVD-Audio disc in DVD-Video mode ("On") allows you to play the DVD-Video section of the DVD-Audio disc.

This feature is not supported by all discs.

Demo:

Select "On" to start a presentation of the different displays that the player can output to the TV screen.

Press **SETUP** to return to the SETUP menu.

QUICK SETUP:

Please refer to page 25 "DVD QUICK SETUP".

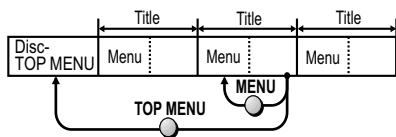
General notes on DVDs

DVDs can contain titles and chapters that the producer of the disc put into a specific order. DVDs feature a Title menu that lists the available titles and chapters. However, you can choose to select and then play individual titles and chapters. DVD playback can be controlled and manipulated via the menu that the DVD player outputs to the TV screen. The audio tracks of many DVDs contain audio material in up to 8 languages. The DVD menu has an option for selecting the language you prefer. Many DVDs provide subtitles in several languages. They may contain material in up to 32 different languages. Some DVD player functions can be controlled by the DVD itself.

This product features a copyright protection implement whose technology is protected by US patents and intellectual property rights owned by Macrovision Corporation and other copyright proprietors. The use of this copyright protection implement is subject to permission of Macrovision Corporation and is restricted to purely private use only. It is prohibited to examine this appliance for the purpose of unlicensed construction.



Region code: This player accesses the regional codes stored on DVDs. It supports all discs assigned regional code "2" or "ALL". **UK and continental Europe: "2"**.



DVD menu: Some DVDs have multiple menus. Pressing "**TOP MENU**" to display the main menu may take to another menu than pressing "**MENU**" to display the menu screen.

* The functions assigned to these buttons depend on the disc.

Please refer to the disc documentation leaflet.



Playing DVDs and VCDs: The producer of the programme material can define the way in which the disc is played. Consequently, you may sometimes find that, in some cases, you cannot control the playback the way you wish using all of the functions and operations described in these operating instructions. We therefore recommend that you always read the reference material delivered with the disc.

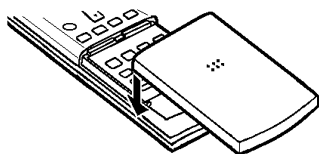
Never play anything but circular discs with a diameter of 3" (8 cm) or 5" (12 cm). Discs of other shapes may damage the player hardware.

Cleaning and care: Just use a soft, dry cloth. Do not use alcohol or benzine.

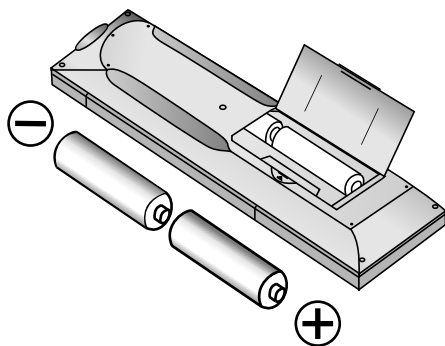
Remote control codes

You can use this remote control also for the execution of some specific TV functions of different producer appliances. Try a different code if your TV set does not respond correctly.

Remote control closure



In case the remote control cover gets loose, lock it again as shown above.



TV



• Keep button pressed and enter the two-digit code.

Brand	Code	Brand	Code	Brand	Code	Brand	Code
Panasonic	01-04,44	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
FERGUSON	10	MIVAR	24	SAMSUNG	31,32,43	TOSHIBA	16
GOLDSTAR/LG	31	NEC	36	SANSUI	05,31,33	WHITE WESTINGHOUSE	05,06



Note: If code 44 is the operating code for a Panasonic TV set, the corresponding remote control features additional TV functions.

A = red, **B** = green, **C** = yellow, **D** = blue

For example, to select the AV port of the Panasonic TV press the buttons INPUT SELECT AV and A,B,C or D.

Inserting batteries into the remote control unit

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

- Do not mix old with new batteries or batteries of different types.
- Only use batteries without any harmful substances (such as lead, cadmium, mercury).
- Do not use rechargeable type batteries.
- Remove the batteries if the remote control unit is not used 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 not to confuse the polarity ⊕ and ⊖.

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




Before requesting service

GENERAL DISTORTIONS

<p>There is no audio output and the sound is distorted:</p>	<ul style="list-style-type: none"> • Check the connections. • Deactivate the Advanced Surround effect.
<p>The VCR display does not light up:</p>	<ul style="list-style-type: none"> • Verify that the AC mains lead is properly attached
<p>The VCR display is on but the unit does not respond to any input:</p>	<ul style="list-style-type: none"> • There is an active timer programme. Press the TIMER button to deactivate it.
<p>Error code "H □ □" or "F □ □" appears:</p>	<ul style="list-style-type: none"> • This is indicative of a malfunction. The digits following "H" or "F" depend on what state your player is in. • Press [⏻] to put the player into standby mode, then briefly unplug and reconnect the AC mains cable. • Contact the aftersales service if this does not remove the problem. Please state the error code displayed by the set.
<p>The picture is disturbed when searching:</p>	<ul style="list-style-type: none"> • This is a technical issue and not indicative of a malfunction.
<p>The screen outputs no picture:</p>	<ul style="list-style-type: none"> • Check the connections. • Verify that the correct video input of the TV set has been selected.
<p>The picture is cut off at its left or right edge:</p>	<ul style="list-style-type: none"> • Go to the SETUP screen and check the "TV Aspect" setting in the Video menu. • Check whether the player is directly plugged into the TV set's "AV IN (Scart)" or whether it is going through a video recorder between the two units. • Check the Zoom setting (page 28).
<p>The remote control unit does not work properly:</p>	<ul style="list-style-type: none"> • Check if the remote control is operating VCR1 or VCR2 (page 21). • Check the distance between the remote control unit and the VCR/DVD (max. 7 metres). • Check the batteries in the remote control unit (page 43). • Point the remote control unit straight at the remote control signal sensor on the front panel.
<p>No messages are output to the screen:</p>	<ul style="list-style-type: none"> • Go to the SETUP screen and set Display menu option "On-Screen Messages" to "On". • Go to the DVD SETUP screen and change the "TV Aspect" setting in the VIDEO menu. • Open the VCR menu to modify the VCR OSD display

Before requesting service

VCR DISTORTIONS




<p>Manual correction of a bad picture:</p>	<ul style="list-style-type: none"> • If you notice interference or a shift of the picture during normal, still or slow motion playback, press the TRACKING / V-LOCK button towards + or - to correct the picture. • Press + and - together to actuate automatic correction. Some video cassettes do not support tracking control. This is not indicative of a malfunction.
<p>The automatic clock does not set correctly:</p>	<ul style="list-style-type: none"> • Set Clock set to AUTO (page 22). • Set Time and Date manually if the unit does not find a station emitting the time signal.
<p>Bad picture or sound:</p>	<ul style="list-style-type: none"> • The use of E-300 cassettes may cause problems if the recordings were taken at slow tape speeds (LP or EP). • Check the settings for PAL, MESECAM (page 21). • Verify that the aerial and/or scart cables are attached and work properly. • Check the SQPB setting for S-VHS cassettes (page 21). • Faulty recordings taken at slow tape speed (EP) in MESECAM are not indicative of a malfunction. • Please contact your service technician if the video heads are dirty or worn out. Having a technical service shop clean the video heads is not covered by the guarantee.
<p>The recording functions do not work properly:</p>	<ul style="list-style-type: none"> • If  flashes on the unit, check if the protection tab of the video cassette is still in. • Check the Clock set menu (page 22). • Check the start and stop time of the timer programme (page 12). • Check if the TIMER button has been pressed to put the unit into timer mode after programming a recording (page 12). • Check the start and stop time of a VPS/PDC recording (page 13).

The model no. and serial no. of this product are stuck down on the rear of the appliance. Please enter them below to serve as reference.

Model No. _____
Serial No. _____

Before requesting service

DVD DISTORTIONS

<p>The loudspeakers emit loud noise:</p>	<ul style="list-style-type: none"> • Go to the SETUP screen and check the Audio menu settings of "Dolby Digital", "DTS Digital Surround" and "MPEG".
<p>The message "NO PLAY" appears:</p>	<ul style="list-style-type: none"> • The player cannot play discs of the current format. • The disc contains no recorded material. • Child lock is enabled.
<p>The OSD displays are cut off along their top edge:</p>	<ul style="list-style-type: none"> • Move the display position down.
<p>The player does not respond to function key commands:</p>	<ul style="list-style-type: none"> • Certain control operations are not available with some discs. • Interference caused by lightning or static charge. Press [⏻] to put the player into standby mode. Restart the player.
<p>Playback does not start after pressing PLAY:</p>	<ul style="list-style-type: none"> • Condensation has accumulated inside the player. Wait for 1 to 2 hours. • The player only supports DVDs with regional code "2", "All" or from a group of regional codes containing regional code "2". • The disc is dirty. • The disc is in the wrong way round. The label of the disc you wish to play must face up.
<p>Unable to change audio track or subtitle languages:</p>	<ul style="list-style-type: none"> • You can only choose from the languages actually recorded on the disc. • Some discs require you to change languages via the disc menu.
<p>The subtitles are not shown:</p>	<ul style="list-style-type: none"> • The disc does not provide any subtitles. • You deactivated the display of subtitles. • The subtitles are output to the wrong position. Move the position of subtitles.
<p>The language selected from the menu is not used for the audio track or subtitles:</p>	<ul style="list-style-type: none"> • The disc does not provide the language you selected.
<p>Unable to change the aspect angle:</p>	<ul style="list-style-type: none"> • It depends on the disc whether this function is available.
<p>You have forgotten your password:</p>	<ul style="list-style-type: none"> • Stop the player and keep pressing player button /◀ together with  (DVD area) and  until "INIT" disappears from the screen. This will restore all factory defaults. When you are done switch off the unit and back on afterwards. You will afterwards have to go to the QUICK SETUP menu (page 25) to set up the basic settings again.

Specifications

Power supply:	220-240 V AC, 50/60 Hz
Power consumption:	27W (in operation) / approx. 6W (in Standby)
Controls	multifunctional remote control (VCR, TV and DVD), VCR / DVD, main functions on the unit
VCR playback functions	PAL and NTSC Playback on PAL TV / S-VHS Quasi Playback (SQPB)
Video- and Audio heads	4 Video heads, 2 heads Hi-Fi
VCR Recording system	2 rotary heads, helical scanning system
VCR tape speed	SP: 23.39 mm/s , 240 min / LP: 11.7 mm/s , 480min (E-240 cassette)
VCR fast forward/fast rewind time	approx. 60 sec. (E-180 cassette)
Video TV system	VCR: PAL 625/50 / DVD: PAL 625/50, PAL 525/60, NTSC
Video input and output level	1.0 Vpp (75 Ohm)
DVD S-Video output	Y-output level: 1 Vpp (75 Ohm) / C- output level: PAL: 0.300 Vpp (75 Ohm) NTSC: 0.286 Vpp (75 Ohm)
DVD RGB-Video output	output connector: S-Video-terminal RGB-output connector: 0.7 Vpp (75 Ohm) / output connector: AV1

RF-converter VCR
Horizontal resolution VCR
S/N ratio VCR video
Input level audio
Output level audio

Dynamic range Audio

Total harmonic distortion CD audio:
S/N ratio CD audio:

Frequency response VCR audio
Frequency response DVD audio
(linear audio)








DVD Optical digital output
Laser-Pick up

Norwegian

Operating temperature / humidity
Weight and dimensions

Technical specifications are subject to change without notice.

UHF-channel (21-69), 75 Ohm
more than 240 lines (SP)
more than 43 dB (SP)
0.5V eff., more than 10 kOhm
VCR: 0.5V eff., less than 1 kOhm /
DVD: 2V eff. (1 kHz, 0 dB Fs)
output connector: Pin jack, AV, 2
channel(L/R)
VCR:more than 90 dB (Hi-Fi sound tracks)
DVD:(linear audio): 100dB / CD audio: 96dB,
0.0025 %,
115dB
20 Hz to 20 kHz (Hi-Fi sound tracks)
4 Hz to 22 kHz (sampling frequency 48 kHz) /
4 Hz to 44 kHz (sampling frequency 96 kHz),
CD audio: 4 Hz to 20 kHz
Optical terminal
Wave length: 658 nm/790 nm / Laser power:
Class 2 / Class 1
Bølgelengde:658 nm/790 nm / Laserstyrke:
Class 2/Class 1 Ingen farlig stråling sendes ut.
5°C to 35°C / 35-80% RH
approx.value: 4.2 kg / 430 (width) x 89 (height) x
266 mm (depth)

DVD-Video	DVD-R	DVD-Audio	DVD-RAM	SVCD	Video-CD	CD	CD-R/RW
							---
DVD-V	DVD-A	RAM	VCD	CD	WMA MP3 JPEG		

Compatible disc formats:

DVD-V, DVD-A, DVD-RAM, DVD-R, VCD, SVCD,
CD-Audio (CD-DA), CD-R/CD-RW
(discs formatted as CD-DA or Video CD).
WMA, MP3 : Max. 999 tracks/ 99 groups.

Compatible compression rate:

MP3 : 32 - 320 kbps
WMA : 48 - 192 kbps.
JPEG : Exif Version 2.1.
Max. 3000 pictures and 300 groups;
Picture resolution between 320 x
240 and 6144 x 4096 ;
JPEG Format : 4:2:2 or 4:2:0.
HighMAT : Level 2 (Audio and Image)

* It may not be possible to play CD-R, CD-RW, DVD-R and DVD-RAM in all cases due to the type of disc or condition of the recording.

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