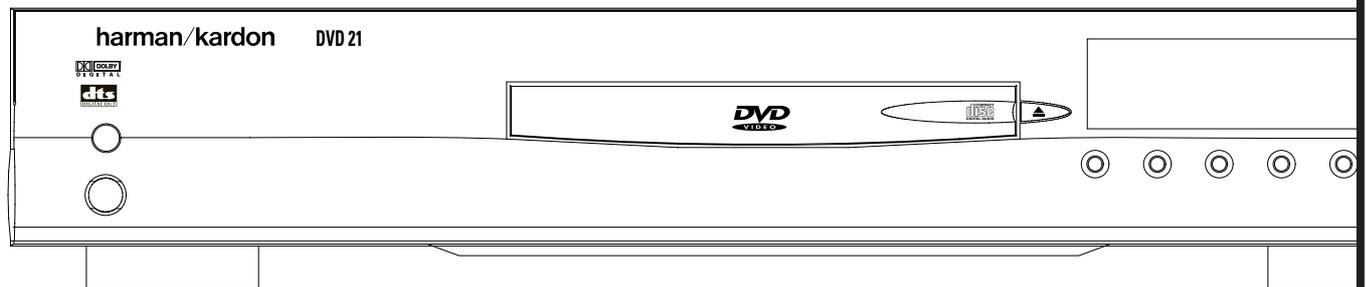


DVD 21 Digital Versatile Disc Player

OWNER'S MANUAL



harman/kardon®

Power for the Digital Revolution™

Table of Contents

3	Introduction and Terminology
4	Features, Packing List
5	Front Panel Controls
6	Front Panel Information Display
7	Remote Control
9	Rear Panel Connections
10	Setup and Connections
10	to a Stereo TV and Stereo or Pro Logic Amplifier/Receiver
11	to a Dolby Digital/DTS Amplifier/Receiver
12	to a TV or monitor with SCART Connectors
13	Remote Control
14	Digital Audio Connections
15	Playback Basics
15	Basic Play
15	Playback Features
16	System Set-up
16	System Defaults
16	Set-up Menu
16	Navigating Menus
16	Video Menu
16	Video Output
16	SCART Video
16	TV Standard
17	Aspect Ratio
17	Audio Menu
17	Dynamic Range
17	Audio Language
18	Select Other Audio Language
18	Digital Output
18	PCM Limit
18	Player Set-Up Menu
18	Parental Control
18	Password
19	Display Language
19	Menu Language
19	Subtitle Language
19	Status Bar Timeout
19	Panel Dimmer
20	Test Screen
20	Test Screen
20	TV Picture Adjustment with Test Screen
21	Playing DVD Discs
21	Using the Status Bar
21	Selecting a Title/Chapter
22	Using Bookmarks
22	Changing Audio Track
22	Changing Subtitle Language
22	Changing Camera Angle
23	Repeat Play
23	Zoom Playback
23	Information Menus
24	Programmed Play with DVD
25	CD Playback
25	Disc Compatibility
25	To Load and Play an Audio CD
25	Audio CD Playback Features
25	Using the Status Bar
25	Information Menus
26	Selecting a Track
26	Using Bookmarks
26	Selecting the Time Display
27	Repeat Play
27	Random Play
28	Programmed Play with CD
29	MP3 Playback
30	VCD Playback
31	Troubleshooting Guide
32	DVD Language Codes
33	Specifications

Declaration of Conformity



We, Harman Consumer International
2, Route de Tours
72500 Château-du-Loir,
FRANCE

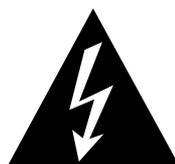
declare in own responsibility, that the product described in this owner's manual is in compliance with technical standards:

EN 60 065:1993
EN 55 013/A12/8.1994
EN 55 020/12.1994
EN 61000-3-2/4.1995
EN 61000-3-3/1.1995

Carsten Olesen
Harman Kardon Europe
06/02

NOTE: This player is designed and manufactured for compatibility with Region Management Information that is encoded on most DVD discs. This player is designed only for

playback of discs with Region Code 2, or for discs that do not contain Region Code information. If there is any other Region Code on a disc, that disc will not play on the DVD 21.



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

Introduction & Terminology

Thank you for choosing the Harman

Kardon DVD 21. The DVD 21 is a multipurpose DVD player, capable of playing both DVD discs and conventional CD audio discs with the highest fidelity and access to future software upgrades via the Internet. Along with conventional DVD and CD audio discs, the DVD 21 is also compatible with MP3, CD-R and CD-RW as well as VCD discs. To enable you to get the maximum quality from DVDs, the DVD 21 is equipped with the latest in design techniques, including advanced 10-bit video digital-to-analog converters (DAC) and Video (composite), S-Video and RGB video (RGB via SCART) outputs, to ensure that you get all the quality inherent in today's DVD medium.

In addition, Harman Kardon's audio heritage continues into the digital video era with Wolfson DACs to ensure that the audio quality matches the superb video. Of course, both coaxial and optical digital audio outputs are available for direct connection to A/V receivers or processors so that you may take advantage of Dolby Digital* and DTS® soundtracks. When playing audio CDs, the playback quality is state-of-the-art, matching that of the finest players available.

A wide range of programming features makes it easy to program an evening's worth of entertainment. When playing DVDs, easy-to-understand on-screen menus and icons make it simple to change languages, soundtracks, subtitles or aspect ratio, while a parental-lock function enables you to control which discs may be viewed by younger members of the household.

DVD players are among the fastest growing consumer electronics products ever brought to market, but this may, nevertheless, be the first DVD player you've owned. Although many of the features of the DVD 21 resemble those of standard CD players, there are a number of functions that you may be unfamiliar with. To ensure that you are able to take advantage of all the power and flexibility the DVD 21 has to offer, we encourage you to review this manual. That small investment of your time will pay major dividends in the enjoyment you will get from proper use of the DVD 21.

If you have additional questions about this product or its installation or operation that are not answered in this manual, please contact your dealer, as he is your best source of local information.

Terminology

Since they share some of the characteristics and technology of CD players, many of the terms and operational concepts used in a DVD player are similar to what you may be familiar with from CD players and changers, or older video disc formats such as Laser Disc. However, if this is your first DVD product, some of the terms used to describe the features of a DVD player may be unfamiliar. The following explanations should solve some of the mysteries of DVD, and help you to enjoy all the power and flexibility of the DVD format and the DVD 21.

Aspect Ratio: This is a description of the width of a video image in relation to its height. A conventional video screen is four units wide for every three units of height, that's why the ratio is called "4:3". Newer wide aspect ratio video displays are 16 units wide for every nine units of height, making them more like the screen in a movie theater. The program material on a DVD may be recorded in either format and, in addition, you may configure the DVD 21 to play back in either format, depending on the features recorded on a disc. (For details about TV Aspect Ratio see page 17).

Title: For a DVD, a title is defined as an entire movie or program. There can be as many chapters within a title as the producers decide to include. Most discs include only one title, but some may have more than one, to give you a "Double Feature" presentation. Press the MENU button on the remote to see the Menu of the DVD where you can find all titles available on the DVD or all chapters, if the disc has only one title.

Chapter: DVD programs are divided into chapters and titles. Chapters are the sub-sections programmed into a single title on a disc. Chapters may be compared to the individual tracks on an audio CD.

RGB Video: This is a new form of video signal that eliminates many of the artifacts of traditional composite video signals by splitting the signal into the three fundamental colors Red, Green and Blue (RGB). With an RGB connection (via SCART), you will see greater picture resolution and eliminate many picture imperfections such as the moiré patterns often seen on checkered patterned cloths. However, in order to benefit from RGB video, you must have a video display with an RGB compatible SCART input.

Multiple Angle: DVDs have the capability to show up to four different views of the same scene in a program. When a disc is encoded with multiple-angle information, pressing the Angle button will enable you to switch between these different views. Note that at present, few discs take advantage of this capability and, when they do, the multiple-angle technology may only be present for short periods of time within the disc. Producers will usually insert some sort of icon or graphic in the picture to alert you to the availability of multiple viewing angles.

Reading: This is a message that you will see after you've loaded the disc and the tray has closed. It refers to the fact that the player must first examine the contents of the disc to see if it is a CD or DVD, and then extract the information about the type of material on the disc, such as languages, aspect ratios, subtitles, number of titles and more. The slight delay while the contents of the disc are read is normal.

Resume: The operation of the Stop Button on the DVD 21 works differently from what you are used to on CD players. On a traditional CD player, when you press the Stop button, the unit does just that: it stops playback. On a CD player, when you press the start button again, the disc starts from the beginning. With the DVD 21, however, you have two options when playing DVD discs. Pressing Stop once will stop playback, but it actually puts the unit in the Resume mode. This means that you can turn the machine off and, when you press play the next time, the disc will resume or continue from the point on the disc where the Stop button was pressed. This is helpful if you are watching a movie and must interrupt your viewing session but wish to pick up where you left off. Pressing the Stop button twice will stop the machine in a traditional manner and, when the disc is played again, it will start from the beginning.

In resume mode, the cover of the DVD will be displayed, if available. Otherwise, the Harman Kardon screen will appear.

Features

High quality video

- Advanced sophisticated 10-bit MPEG-2 video decoding circuits.
- Direct RGB output via SCART (selectable) for optimum video performance. SCART connector also configurable for Composite Video output.
- Test screen videos available for testing video performance and setup.
- Pure PAL with NTSC disc due to true NTSC/PAL conversion.
- Dual-layer compatibility for extended play DVD.

High quality digital audio

- By connecting a DTS (Digital Theater Systems) or a Dolby Digital decoder, you can enjoy high quality 5.1 digital surround sound from DTS or Dolby Digital discs.
- With linear PCM audio at 16-24 bits and 44-96 kHz (also on digital output, see table page 14), audio quality exceeding that of CD becomes possible.
- Optical and coaxial digital audio output.

Many convenient features

- On-Screen Menu Icons for disc information or player information and access to many major functions of this unit.
- Subtitles may be displayed in one of numerous languages*.
- The multi-angle function allows you to choose the viewing angle of scenes which were shot from a number of different angles (Limited to DVD's recorded with multiple camera angles.)
- Multiple options for dialog language and soundtrack selection (limited to DVD's recorded with multiple dialog languages or soundtracks).
- Programming of up to 9 scenes in memory (markers).
- Parental lock settings to prevent play of discs unsuitable for some audiences [DVD only].
- Intuitive menu operating system.
- 4 step Zoom during play and pause.
- Backlit, ergonomically designed remote control.
- Future software upgrades accessible via Internet.

* The number of languages recorded depends on the software.

Compatible with CD as well as DVD

- The DVD 21 will play any conventional Audio CD or recordable (CD-R) or erasable CD (CD-RW), bearing the logos shown here, MP3 or any VCD or DVD with the region code 0 or 2.

Disc formats supported by this player

The unit can play the following disc formats (8 cm and 12 cm size):

DVD
DVD-R
DVD-RW
DVD+R
DVD+RW
CD
CD-R
CD-RW
VCD
S-VCD

NOTE: Due to differences in the format of certain discs, it is possible that some discs may include a mix of features that are not compatible with the DVD 21. Similarly, although the DVD 21 is capable of a wide range of features, not all discs include every capability of the DVD system. For example, although the DVD 21 is compatible with multi-angle discs, that feature is only possible when the disc is specially encoded for multiple-angle play. In addition, the DVD 21 is capable of playing back both Dolby Digital and DTS soundtracks, but the number and types of tracks available will vary from disc to disc. To make certain that a specific feature or soundtrack option is available, please check the options noted on the disc jacket.

- Playback capability for CD-R, CD-RW, DVD-R, DVD+R, DVD-RW and DVD+RW discs may vary due to variations in the quality of the disc and the recorder used to create the disc.

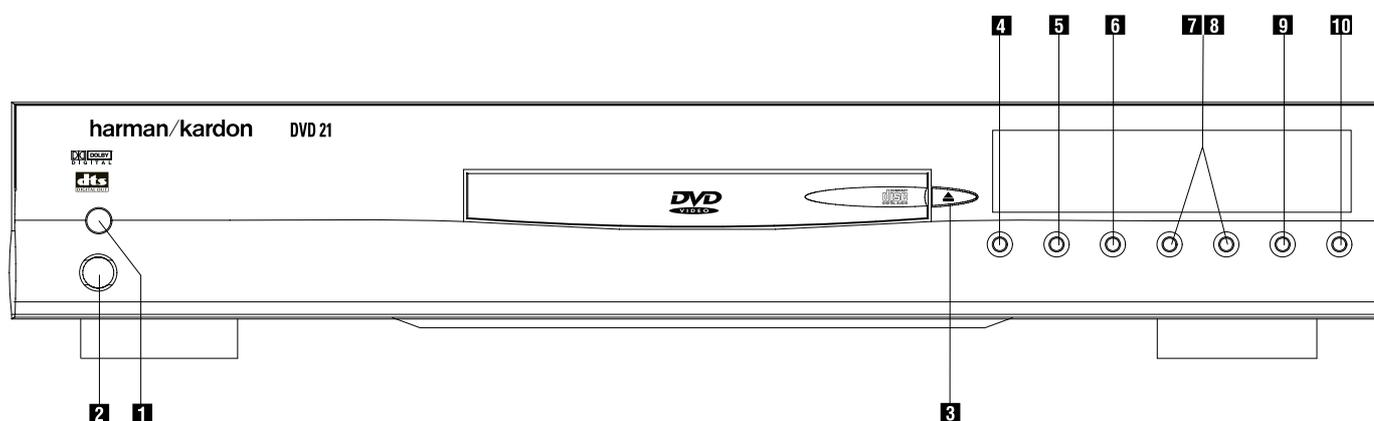
Upgradeability via Internet

The "firmware" controlling the functionality of the Harman Kardon DVD 21 is fully upgradeable. In the event of future improvements to its operations and features, it will be possible to download firmware upgrades from www.harmankardon.com. All you have to do is create a CD-R with the data and insert it in the DVD 21 for an automatic upgrade.

Packing List

- 1 Harman Kardon DVD 21 DVD Player
- 1 Remote control
- 2 AA batteries
- 1 A/V cable for stereo analog audio and composite video
- 1 S-Video cable
- 1 remote extension cable
- 1 owner's manual

Front Panel Controls



- | | | |
|---------------------------------|--------------------------|-----------------|
| 1 Main Power On/Off | 5 Pause | 9 Dimmer |
| 2 Power On/Off (Standby) | 6 Stop | 10 Test |
| 3 Eject | 7 Skip (Previous) | |
| 4 Play | 8 Skip (Next) | |

1 Main Power On/Off: Press this switch to apply power to the DVD player. Once the unit has been turned on with this switch, it may be operated from either the front panel or remote control. Press the switch again to turn the unit completely off.

2 Power On/Off (Standby): Press the button once to turn the DVD player on, press it again to put the unit in the Standby mode. Note that in order for this switch to operate, the **Main Power Switch 1** must be pressed in so that it is in the ON position.

3 Eject: Press this button to open or close the Disc Tray.

4 Play: Press to initiate playback or to resume playback after Pause has been pressed.

5 Pause: Press this button to momentarily pause playback. To resume playback, press the button again. If a DVD is playing, action will freeze and a still picture will be displayed when the button is pressed.

6 Stop: Press this button once to place the disc in the Resume mode, which means that playback will stop, but as long as the tray is not opened or the disc changed, DVD playback will continue from the same point on the disc when the Play Button is pressed again. Resume will also work if the unit was turned off. To stop a disc and have play start from the beginning, press the button twice.

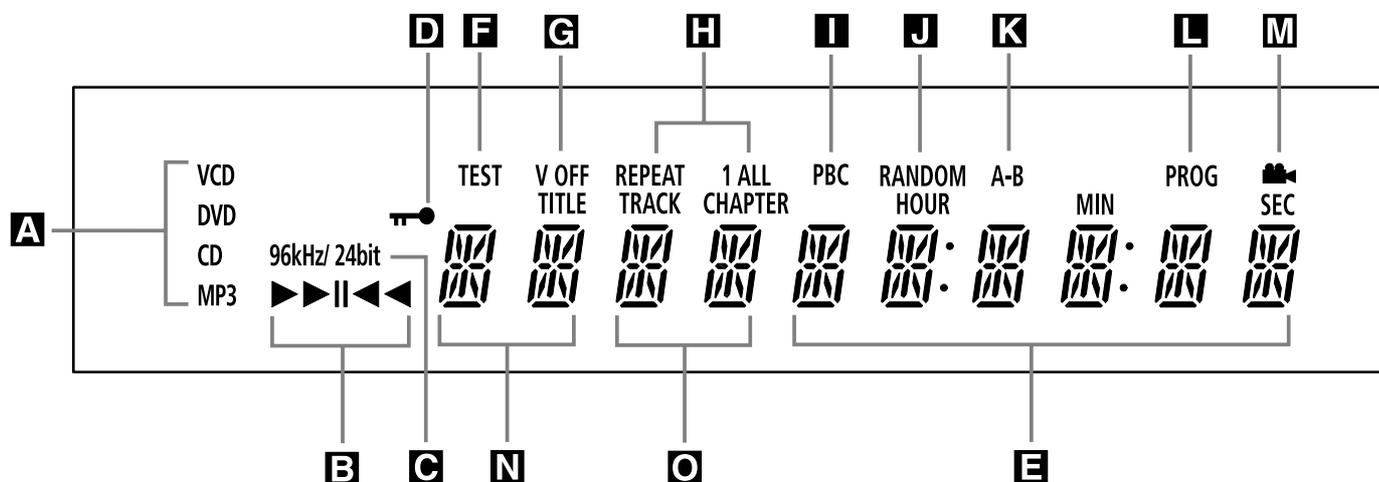
7 Skip (Previous): Press this button to move backward through the music tracks on a CD disc or the chapters on a DVD disc. Keep the button pressed to search backwards at one of the available speeds.

8 Skip (Next): Press to move forward through the music tracks on a CD or the chapters on a DVD disc. Keep the button pressed to search forwards at one of the available speeds.

9 Dimmer: Press this button to reduce the brightness of the Information Display by 50% or to turn the display off completely in the following order: FULL BRIGHTNESS → HALF BRIGHTNESS → OFF → FULL BRIGHTNESS.

10 TEST: Press this button to bring a test picture to the screen, that enables you to optimally adjust all important parameters of color videos like brightness, contrast, color intensity and tint.

Front Panel Information Display



- A** Disc Type Indicators
- B** Playback-Mode Indicators
- C** 96kHz/24-Bit Indicator
- D** Parental Lock Indicator
- E** Time Indicators
- F** Test Indicator

- G** V-OFF Indicator
- H** Repeat Indicator
- I** VCD Playback Control Indicator
- J** Random Indicator
- K** A-B Repeat Indicator
- L** Program Indicator

- M** Angle Indicator
- N** Title Indicators
- O** Chapter/Track Number Indicators

A Disc Type Indicators: The DVD, VCD, CD or MP3 indicator will illuminate to show the type of disc currently being played.

B Playback-Mode Indicators: These indicators light to show the current playback mode:

▶ Lights when a disc is playing in the normal mode

▶▶ Lights when the disc is in the Fast Search Forward mode. The on-screen banner display indicates the selected speed.

▶▶| Lights when the disc is paused.

◀◀ Lights when the disc is in the Fast Search Reverse mode. The on-screen banner display indicates the selected speed.

C 96kHz/24-Bit Indicator: This indicator will light when a disc recorded with 96k/24-Bit-LPCM content is playing.

D Parental Lock Indicator: This indicator lights when the parental-lock system is engaged in order to prevent anyone from changing the rating level without a code.

E Time Indicators: These positions in the indicator will show the running time of a DVD in play. When a CD is playing, these indicators will show the current track time, time remaining in the current track, or the total remaining time on the disc.

F Test Indicator: This indicator lights when the TV test screen is activated.

G V-OFF Indicator: This indicator lights when the unit's video output has been turned off by pressing the V-OFF button on the remote control.

H Repeat Indicators: These indicators light when any of the Repeat functions are in use.

I VCD Playback Control Indicator: This indicator lights when the playback control function is turned on with VCDs.

J Random Indicator: This indicator lights when the unit is in the Random Play mode.

K A-B Repeat Indicator: This indicator lights when a specific passage for repeat playback has been selected.

L Program Indicator: This indicator lights when the programming functions are in use.

M Angle Indicator: This indicator blinks when alternative viewing angles are available on the DVD's title/chapter currently playing.

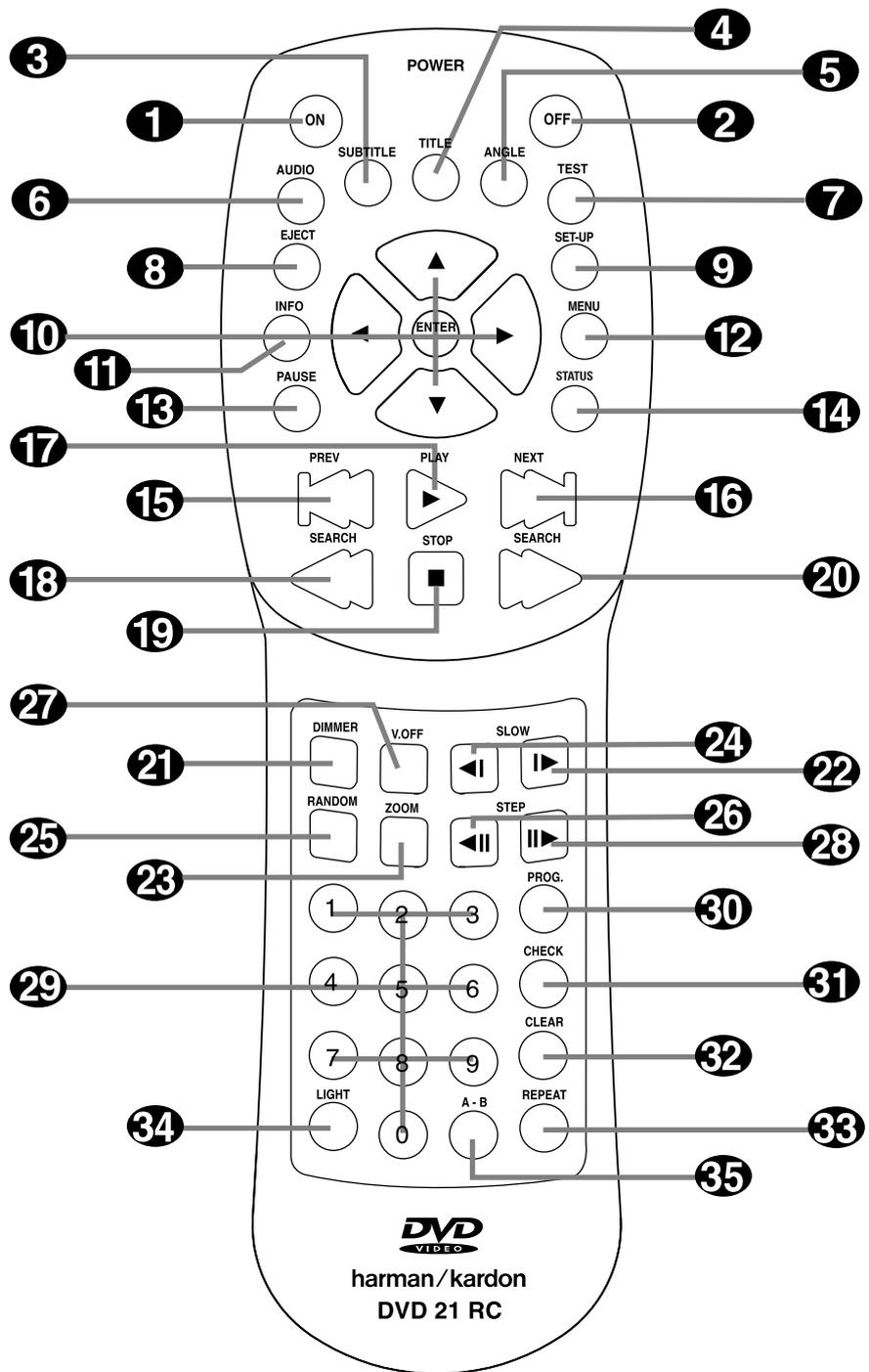
N Title Indicators: These two positions in the display will show the current title number when a DVD disc is playing.

O Chapter/Track Number Indicators: When a DVD disc is playing, these two positions in the display will show the current chapter. When a CD disc is playing they will show the current track number.

NOTE: The Indicators **NOE** will also display text messages about the DVD 21's status, including **Reading** when a disc is loading, **STAND-BY** when the unit is turned off, and **Disc Error** when a disc not compatible with the DVD player is put into the play position.

Remote Control Functions

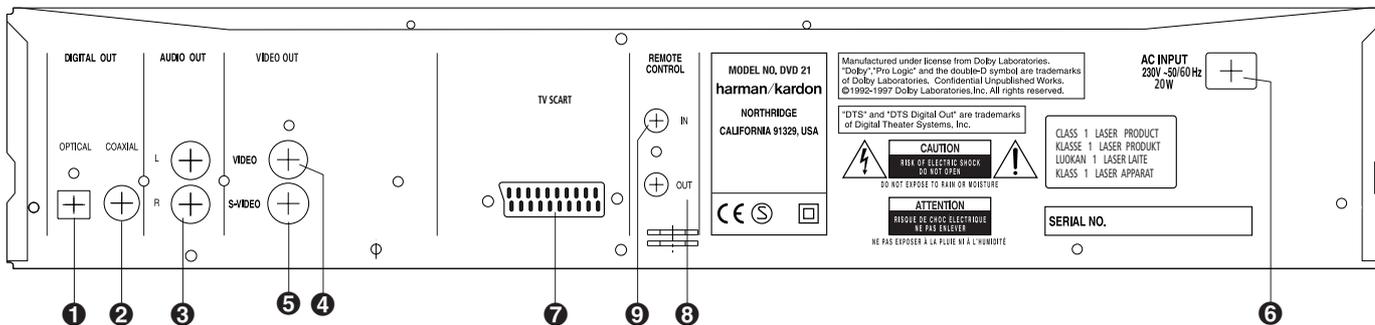
- ① POWER ON
- ② POWER OFF
- ③ SUBTITLE
- ④ TITLE
- ⑤ ANGLE
- ⑥ AUDIO
- ⑦ TEST
- ⑧ EJECT
- ⑨ SET-UP
- ⑩ ARROWS/ENTER
- ⑪ INFO
- ⑫ MENU
- ⑬ PAUSE
- ⑭ STATUS
- ⑮ SKIP (PREVIOUS)
- ⑯ SKIP (NEXT)
- ⑰ PLAY
- ⑱ SEARCH REVERSE
- ⑲ STOP
- ⑳ SEARCH FORWARD
- ㉑ DIMMER
- ㉒ SLOW FORWARD
- ㉓ ZOOM
- ㉔ SLOW REVERSE
- ㉕ RANDOM
- ㉖ STEP FORWARD
- ㉗ V.OFF
- ㉘ STEP REVERSE
- ㉙ NUMBERS
- ㉚ PROGRAM
- ㉛ CHECK
- ㉜ CLEAR
- ㉝ REPEAT
- ㉞ LIGHT
- ㉟ A-B Repeat



Remote Control Functions

- 1 POWER ON:** Turns on the player when it is in standby mode (Harman Kardon logo appears on screen).
- 2 POWER OFF:** Turns off the player to standby mode.
- 3 SUBTITLE:** When a DVD is playing, press to select a subtitle language or to turn subtitles off.
- 4 TITLE:** When a disc is playing, press to show the number of the title currently played. Press TITLE again to jump to the subsequent title (with the next title number) on the disc. Note that this function works (most times) even if title jump is prohibited by a DVD's playback control.
- 5 ANGLE:** Press to access various camera angles on a DVD (If the DVD contains multiple camera angles).
- 6 AUDIO:** Press to access various audio languages on a DVD (If the DVD contains multiple audio streams).
- 7 TEST:** Press for on-screen test pattern that enables you to optimally adjust brightness, contrast, color intensity, etc. of your display device.
- 8 EJECT:** Press to open or close the disc tray.
- 9 SET-UP:** Press to access player set-up menu.
- 10 ARROW buttons (◀/▶/▲/▼/ENTER):** Use to select and execute items or settings.
- 11 INFO:** Press once for detailed informations on the disc playing (Video/Audio Bit rate, Movie aspect ratio and others), press again for current player settings made. Note that the unit doesn't react on any transport button as long as the info menu is displayed. Press again to remove information from screen.
- 12 MENU:** Displays the actual DVD Disc Menu on the TV screen in play mode.
- 13 PAUSE:** Freezes a picture (with DVD/VCD) and pauses the playback signal (CD) when a disc is playing. Press again for normal playback.
- 14 STATUS:** Press while a disc is playing to view the Status Bar. Use the ARROW buttons to move through the different features in the Status Bar. When a symbol is highlighted, press ENTER on the remote to select it.
- 15 SKIP (Previous):** Press to go to beginning of current track. Press again quickly to go to beginning of previous track.
- 16 SKIP (Next):** Press to go to beginning of next track.
- 17 PLAY:** Begins to play disc (closes disc tray first, if it is open.)
- 18 SEARCH (REV):** Allows you to search in reverse through a disc while it is in play mode. Each time you press this button, search speed changes as below:
R.SEARCH 2x → R.SEARCH 4x → R.SEARCH 16x → R.SEARCH 100x → R.SEARCH 2x
- 19 STOP:** Stops playing a disc. When disc is playing, if you press STOP and PLAY, the disc will resume play, i.e. it will start from the same point on the disc where the unit was stopped. If you press STOP twice and PLAY button, disc will start play from the beginning.
- 20 SEARCH (FWD):** Allows you to search forward through a disc while it is in play mode. Each time you press this button, search speed changes as below:
F.SEARCH 2x → F.SEARCH 4x → F.SEARCH 16x → F.SEARCH 100x → F.SEARCH 2x
- 21 DIMMER:** Press to change the brightness of the front panel display or to turn the display off completely in the following order: FULL BRIGHTNESS → HALF BRIGHTNESS → OFF → FULL BRIGHTNESS
- 22 / 24 SLOW (FWD/REV):** Allows you to play movie in slow mode. Each time you press this button, slow speed will be changed as below:
F.SLOW 1/2x → F.SLOW 1/4x → F.SLOW 1/16x → F.SLOW 1/2x
R.SLOW 1/2x → R.SLOW 1/4x → R.SLOW 1/16x → R.SLOW 1/2x
- 23 ZOOM:** When a DVD or VCD is playing, press this button to zoom the picture so that it is enlarged. There are 4 steps to the zoom function, each progressively larger. Press through each of the zoom stages to return to a normal picture.
- 25 RANDOM:** Press for RANDOM playback in random order.
- 26 / 28 STEP (REV/FWD):** Freeze a picture when a disc is playing. Also the picture advances frame by frame each time this button is pressed.
- 27 V.OFF:** Press to turn off video output for improved performance from audio-only discs. Press again to restore video output.
- 29 NUMBER (0~9):** Select numbers by pressing these buttons.
- 30 PROG:** Press to see Program Edit Display on the screen when in STOP mode.
- 31 CHECK:** Press during program play (in Resume mode) to check the program status on VFD (front display). Escape from this display by pressing "PLAY".
- 32 CLEAR:** Press to remove Banner menu from the screen.
- 33 REPEAT:** Press to go to the Repeat menu. You can repeat a chapter, track or the entire disc.
- 34 LIGHT:** Press to illuminate remote controller.
- 35 A-B:** Press to select section A-B and to play repeatedly.

Rear Panel Connections



- ❶ Optical Digital Output
- ❷ Coaxial Digital Output
- ❸ Analog Audio Outputs
- ❹ Composite Video Output

- ❺ S-Video Output
- ❻ AC Power Cord
- ❼ SCART TV Output
- ❽ Remote Control Output

- ❾ Remote Control Input

❶ Optical Digital Output: Connect this jack to the optical digital input of an A/V receiver or surround processor for Dolby Digital, DTS or PCM audio playback.

❷ Coaxial Digital Output: Connect this jack to the coaxial digital input of an A/V receiver or surround processor for Dolby Digital, DTS or PCM audio playback.

NOTE: The coaxial digital output should only be connected to a digital input. Even though it is the same RCA-type connector as standard analog audio connections, DO NOT connect it to a conventional analog input jack.

❸ Analog Audio Outputs: Connect these jacks to an audio input on an A/V receiver or surround processor for analog audio playback.

❹ Composite Video Output: Connect this jack to the video input on a television or video projector, or to a video input on an A/V receiver or processor if you are using that type of device for video input switching.

❺ S-Video Output: Connect this jack to the S-Video input on a television or video projector, or to an S-Video input on an A/V receiver or processor if you are using that type of device for S-Video input switching.

❻ AC Power Cord: Connect this plug to an AC outlet. If the outlet is controlled by a switch, make certain that it is in the ON position.

Note: You'll find more details about all Audio/Video connections under Setup and Connections on the following pages.

❼ SCART OUT (TV SCART): If your TV has a SCART socket, you can connect a SCART cable to your TV and to your DVD Player for improved video quality. The SCART cable carries both audio and video. You can select Composite Video or RGB video for that SCART connector's video output signal (see page 16).

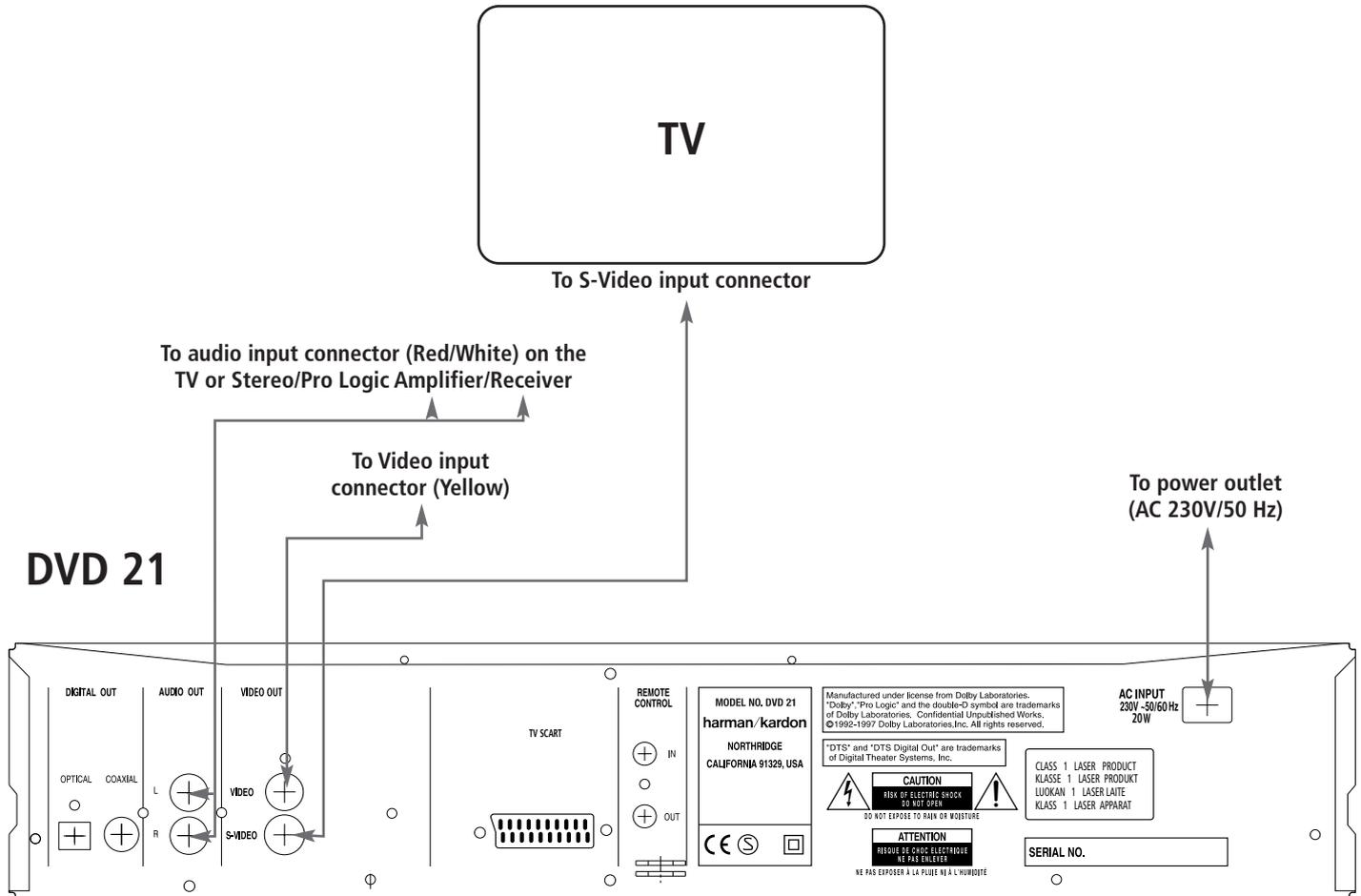
❽ Remote Control Output: Connect this jack to the infrared (IR) input jack of another compatible Harman Kardon remote controlled product to have the built-in Remote Sensor on the DVD player provide IR signals to other compatible products.

❾ Remote Control Input: Connect the output of a remote infrared sensor, or the remote control output of another compatible Harman Kardon product, to this jack. This will enable the remote control to operate even when the front panel **Remote Sensor** on the DVD player is blocked. This jack may also be used with compatible IR remote control-based automation systems.

Setup and Connections

- Ensure that the power switch of this unit and other equipment to be connected is set to off before commencing connection.
- Do not block ventilation holes of any of the equipment and arrange them so that air can circulate freely.
- Read through the instructions before connecting other equipment.
- Ensure that you observe the color coding when connecting audio and video cables.

Connecting to a stereo TV and stereo or Pro Logic Amplifier/Receiver



Notes:

- The Video output (yellow) combines the complete video signal (composite) and sends it to the TV (or to the AV Receiver) by one line only. Use the Video output, when your TV set is equipped with a Video input jack only.
 - The S (separate) video output connector separates the color (C) and luminance (Y) signals before transmitting them to the TV set in order to achieve a sharper picture. Use the S-video cable when connecting the player to a TV equipped with an S-video input
- for improved picture clarity. Never connect both outputs, Video and S-Video, to your TV or AV Receiver, only one of them.
- Most European TV's are equipped with SCART connectors rather than with a normal video input (yellow cinch). In that case the SCART connection should be used, providing the audio signal too, (see page 12). Separate analog audio connections to TV are needed only if your TV is connected to the video or S-video output.

- When the audio signal is to be fed to a stereo or Pro Logic amplifier/decoder or receiver rather than to the TV, connect the Audio Out jacks to any normal audio input on your amplifier/decoder/receiver. The DVD player will "downmix" Dolby Digital recordings to Pro Logic, available on these connectors, all analog surround or stereo signals will be fed to them directly. You can also select the audio and video signals of all your video devices with your AV Receiver/Amplifier. For more information see "Note" on next page.

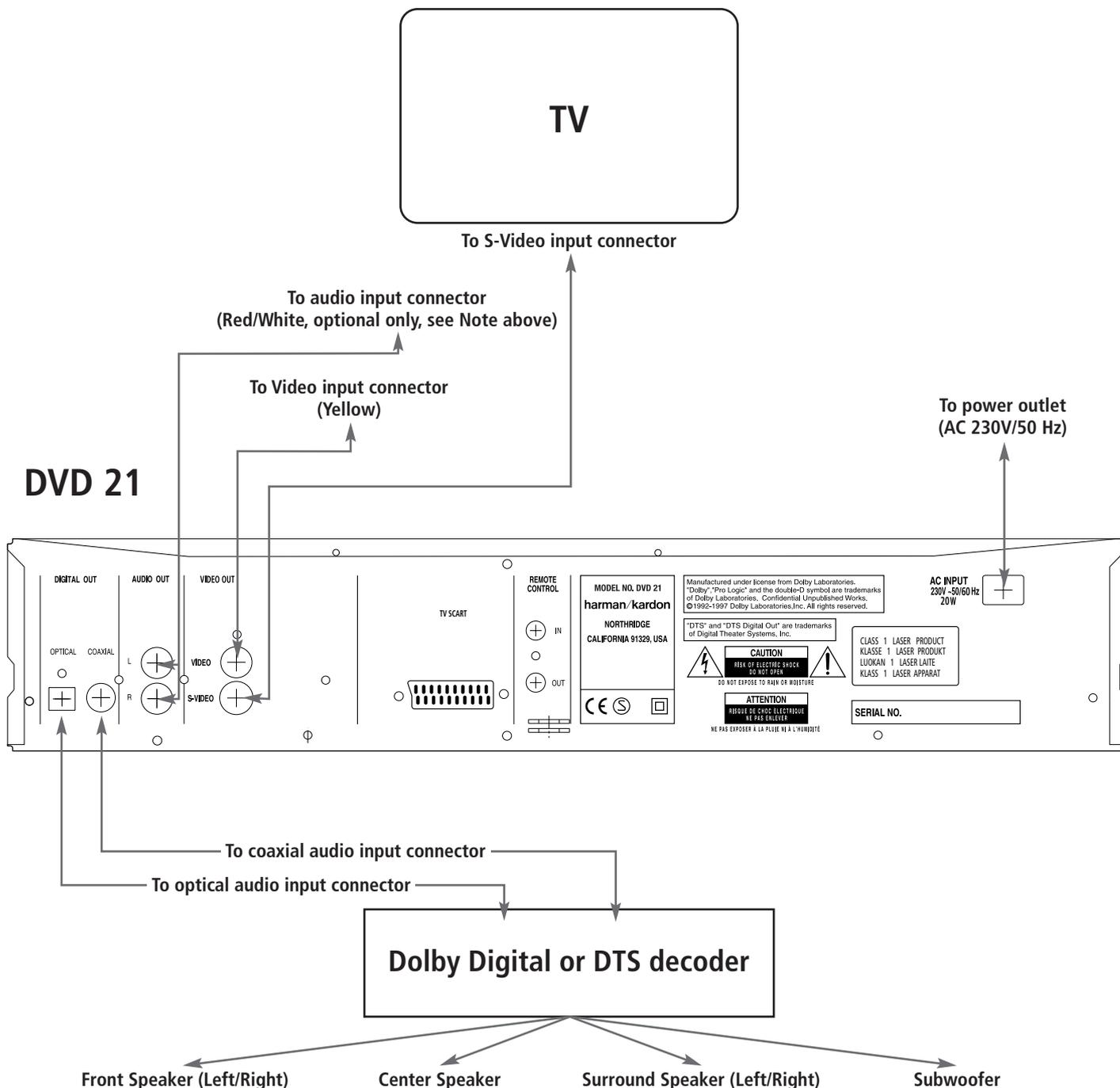
Setup and Connections

Connecting to a receiver/amplifier with Dolby Digital (AC-3) or DTS (Digital Theater Systems) decoder

When DVD's encoded in Dolby Digital or DTS are played, the Dolby Digital or DTS bitstream is output from the player's OPTICAL or COAXIAL digital audio output. When the player is connected to a Dolby Digital or DTS decoder, you can enjoy theater-quality audio in your home. An optical digital audio cable or coaxial audio cable (both optional) is required for these connections, as shown below. Only one connection is needed, not both at the same time.

■ **Note:** With multiple video sources, your Audio/Video device can be used for selecting the video signal and routing it to the TV. Connect the video or S-video output of the DVD player (whatever is provided with your device) to the video or S-video input on your device and the video/S-video output of this device to your TV. For more details, see the manual of your Audio/Video amplifier/receiver.

■ **Note for Analog Audio:** The connection from Audio Out to the TV is optional only. Normally you'll hear the sound from your AV-system's speakers, so the TV volume should be completely turned down. If you plan to use your DVD player also without having to turn on your complete system, this connection must exist, then you can turn up the TV's volume as needed.

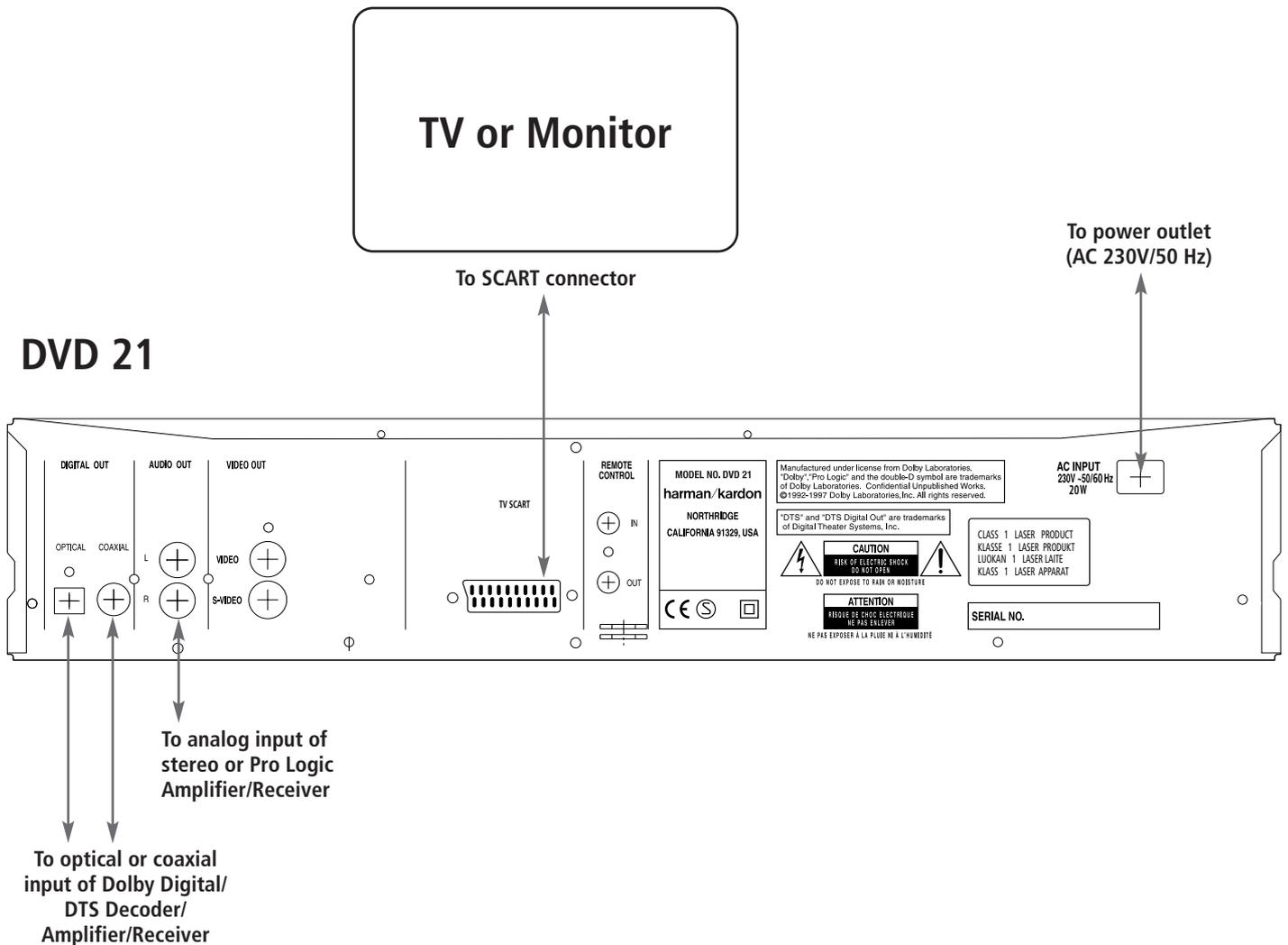


Setup and Connections

Connecting to a TV or monitor with SCART connectors

Important Notes on SCART and RGB format:

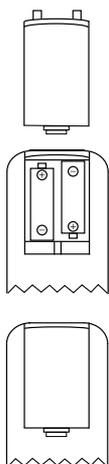
- Your DVD 21 is equipped with a SCART connector for direct connection to the TV.
 - The SCART connector provides the video signal as well as audio (stereo L/R) signals.
 - The SCART connector for the TV provides the composite video signal or the direct RGB signal, delivering the best video performance possible, selectable in the Setup menu.
- To view RGB video on your TV, the RGB compatible SCART connector on the TV must be used and the DVD 21's SCART Video Output in the "Video Menu" must be set to "RGB" (see page 16). Note that with RGB video the color intensity cannot be adjusted with most TVs.
- When the RGB video signal is used, DVD's recorded with the NTSC format (with regional code 0 or 2) can be viewed even on non-NTSC compatible TVs.



Remote Control

Battery installation

Insert the batteries supplied while observing the correct (+) and (-) polarities.



Service life of batteries

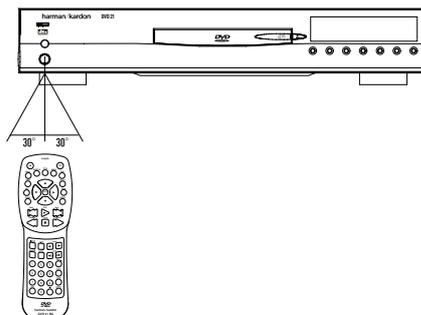
- The batteries normally last for about one year, although this depends on how often, and for what operations, the remote control is used.
- If the remote control unit fails to work even when it is operated near the player, replace the batteries.
- Use size "AA" batteries.

Notes:

- Do not attempt to recharge, short-circuit, disassemble, heat or throw the batteries into fire.
- Do not drop, step on or otherwise impact the remote control unit. This may damage the parts or lead to malfunction.
- Do not mix old and new batteries.
- Wipe away any leakage inside the remote control unit, and install new batteries.
- If leakage should come into contact with parts of your body, wash it off thoroughly with water.
- Batteries contain chemical substances and we recommend that you dispose of them properly and in compliance with any local regulations. Do not simply throw them away but return to your dealer or special battery disposal centers.

Remote control operation range

Point the remote control unit from no more than about 7 m from the remote control sensor and within about 60 degrees of the front of the unit.



- The operating distance may vary according to the brightness of the room.

Notes:

- Do not point bright lights at the remote control sensor.
- Do not place objects between the remote control unit and the remote control sensor.
- Do not use this remote control unit while simultaneously operating the remote control unit of any other equipment.

Digital Audio Connections

Audio output from the unit's optical/coaxial digital audio output connector

Disc:	Sound recording format:	Optical/Coaxial digital audio output
DVD	Dolby Digital (AC-3)	Dolby Digital bitstream (2-5.1 ch) or PCM (2 ch, 48 kHz/16bit) *
	Linear PCM (48/96 kHz 16/20/24bit)	Linear PCM (2 ch) (48/96 kHz 16/20/24bit)
	DTS	DTS Bitstream or no output *
	MPEG (2.0)	MPEG bitstream (2ch) or linear PCM (2 ch, 48kHz)
VCD	MPEG-1 or CD-DA	Linear PCM
CD	Linear PCM	Linear PCM (44.1 kHz sampling)

* Digital Format must be selected as "ORIGINAL" or "PCM" in Digital Output Menu (see page 18).

For your reference:

- Dolby Digital (AC-3) is a digital sound compression technique developed by the Dolby Laboratories Licensing Corporation, supporting 5.1-channel surround sound, as well as stereo (2-channel) sound, this technique enables a large quantity of sound data to be efficiently recorded on a disc.
- Linear PCM is a signal recording format used in CDs. While CDs are recorded in 44.1 kHz/16 bit, DVDs are recorded in 48 kHz/16 bit up to 96 kHz /24 bit.
- If you have a Dolby Pro Logic Surround decoder connected to the DVD 21's analog AUDIO OUT connectors, thanks to the "Downmix" function of the DVD 21 you will obtain the full benefit of Pro Logic from the same DVD movies that provide full 5.1-channel Dolby Digital soundtracks, as well as from titles encoded with Dolby Surround.
- The DVD 21 is designed to digitally output 96 kHz-PCM audio with a 96 kHz sampling rate. The 96 kHz indicator will light in the display. However, some 96 kHz DVD's may include copy protection codes that do not permit digital output. For full 96 kHz fidelity from these discs, use the analog outputs of the DVD 21.

IMPORTANT: If your surround processor/D/A converter does not support 96 kHz PCM audio, you must use the DVD 21 analog outputs for full 96 kHz fidelity with these discs.

Caution for the optical/coaxial digital audio outputs:

- When connecting an amplifier (with an optical/coaxial digital input) which does not contain a Dolby Digital (AC-3) or DTS decoder, be sure to select "PCM" as initial setting in the "Digital Output" menu (see also page 18). Otherwise, any attempt to play DVD may cause such a high level of noise that it may be harmful to your ears and damage your speakers.
- CD's can be played as they would normally be played.

Note:

- Some first generation DTS decoders which do not support DVD-DTS interface may not work properly with the DVD/CD player.

Notes when connecting the optical digital audio cable (optional)

- Remove the dust protection cap from the optical digital audio output and connect the cable firmly so that the configurations of both the cable and the connector match.
- Keep the dust protection cap and always reattach the cap when not using the connector.

Dolby Digital and DTS

Both Dolby Digital and DTS are audio formats used to record 5.1-channel audio signals onto the digital track of film. Both of these formats provide six separate channels: left, right, center, left rear, right rear, and common subwoofer, latest 6.1-formats Dolby Digital EX and DTS ES even one (or two) additional "Surround Back" channel for a center between the rears.

Remember, that Dolby Digital or DTS will only play 5.1-channel sound if you've connected the optical or coaxial output of the DVD player to a DTS or Dolby Digital receiver or decoder (see page 11) and if the disc was recorded in the Dolby Digital or DTS format.

Dolby Digital is a trademark of Dolby Laboratories Licensing Corporation.

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

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Dolby Laboratories, Inc. All rights reserved.

DTS is a registered trademark of Digital Theater Systems.

Playback Basics

Basic Play

Preparation

1. Switch the TV ON and select its video input connected to the DVD 21.
2. Press the Main Power On button (above the "POWER" button) to switch on power, the unit will go into Standby mode indicated by the ring surrounding the POWER turning on orange.
3. Press POWER to turn on the unit, the DVD 21 harman/kardon logo should appear now on the screen. If that logo can be viewed only disturbedly on the screen or without any color, skip to page 16 and make the appropriate settings at the "Video menu" according to your TV set and to the connection used between the DVD 21 and your TV.
When you see no video at all, even no harman/kardon logo, check the setting of the video input used on your TV (most SCART inputs on TVs can be configured in the TV's menu). When you don't succeed, connect your TV with different cables to the DVD 21, e.g. via Composite (yellow jacks) or S-Video cables, see page 10 and 11, rather than per SCART to view the setup menus until all appropriate "Video menu" settings are made properly.
4. Switch on your A/V system's power, if the player has been connected to such a system.
5. Press EJECT to open the disc tray.
6. Place a disc on the disc tray.
Hold the disc without touching either of its surfaces, position it with the side you wish to play facing down, align it with the guides, and place it in its proper position.
 - 3" (8 cm) discs or 5" (12 cm) discs can be used.
7. Press PLAY. The disc tray is automatically closed and play begins.
 - When the disc tray is closed by pressing EJECT, play will start automatically.
 - With most DVD's, a Disc Menu appears on the screen. Select specific menu item by using ARROW buttons on the remote, then press ENTER.

Disc Playback Features

Skipping tracks or titles/chapters

To move forward or backward through the tracks on a CD or the titles or chapters on a DVD, press SKIP on the front panel or PREVIOUS/NEXT on the remote.

Fast Motion Playback/Fast Search

1. To move forward or backward through the DVD or CD disc being played at fast speed, press SEARCH on the remote. Once one of these buttons is pressed, the fast search will continue until PLAY is pressed.

There are four fast-play speeds. Each press of the SEARCH Buttons will cycle to the next speed in the following order: 2x, 4x, 16x, 100x.

2. Press PLAY at any time to resume normal playback.

Note that there will be no audio playback during fast-forward or -reverse play of DVD discs. This is normal for DVD, as A/V receivers and surround processors cannot process the digital audio streams during fast-play modes; audio will be heard during fast-play of conventional CD's.

Freeze Frame and Frame Advance (with DVD only)

1. Press STEP (FWD or REV) when a DVD is playing to freeze the picture.
2. Each time you press one of the buttons, the picture advances one frame in the selected direction.
3. Press PLAY to resume normal playback.

Slow Motion Playback (with DVD only)

1. When playing a DVD disc or when it's in pause or freeze frame mode, you may move slowly forward or backward through the program being played at one of four speeds by pressing the SLOW-Play Buttons on the remote. Each press of the buttons will move to the next speed in the following order:

F.SLOW 1/2x → F.SLOW 1/4x → F.SLOW 1/16x → F.SLOW 1/2x

R.SLOW 1/2x → R.SLOW 1/4x → R.SLOW 1/16x → R.SLOW 1/2x

2. Press PLAY to resume normal playback.

Note that there will be no audio playback during slow-forward or -reverse play of DVD discs. This is normal for DVD, as A/V receivers and surround processors cannot process the digital audio streams during slow modes. Slow play is not available for CD.

Notes: Playback features may not be available during the opening credits of a movie. This is intended by the disc author and is not a failure of the DVD 21.

Playback of a DVD with 96 kHz/24-bit audio requires the use of circuitry normally used for other features. Accordingly, Slow Play Reverse and Step Advance features are not available with these discs.

Depending on the structure of a VCD disc, the functions Slow Reverse and Step Reverse may be prohibited or have no function and Fast Playback (Search) may not function (more details about VCD Playback see page 30).

System Setup

System Defaults

The final step of the installation is to establish the system's defaults. It is helpful to take a few minutes to familiarize yourself with these settings, as they may require change before the first use and later from time to time.

Set Up Menu

The first step in checking or changing the system defaults is to access the Setup Menu. First, make certain that the DVD 21 is properly connected to a video display, and that power is connected. For this process, however, you do not need to load any discs into the unit.

During STOP, PAUSE or PLAY mode, if you press SETUP on the remote, the Set Up Menu appears on the screen.



This Main Menu and all menus in the following may look different, listing the settings with different languages, depending on the settings made already. With the factory default setting all languages are set to "English", that's why with all menus the English version is shown in the manual.

Navigating Menus

The ARROW (▲▼▶◀) and ENTER buttons are used to navigate the menus and select specific settings. Use the ARROW (▲▼) buttons to move the cursor to highlight the desired sub-menu, then press ARROW (▶) button or ENTER to enter the highlighted menu or choose the highlighted content. The current setting is highlighted. If you wish to change this setting, use the ARROW (▲▼) buttons to select a new setting and press ENTER. Press ARROW (◀) button to return to the left sub-menus column. Press PLAY or SETUP to exit the Setup menu. Any new settings that you have selected will be activated immediately, except for TV Standard and Aspect Ratio which will be activated after the player exits the Setup Menu.

After you press SETUP on the remote to enter the Main menu, three sub-menus are shown: VIDEO, AUDIO and PLAYER. You may press ARROW (◀) or select EXIT with the ARROW buttons and press ENTER at any time to leave the Main Menu.

You may at any time restore all original factory default settings. When the player is in Standby, press and hold CLEAR for six seconds. This will restore all default settings and any changes you have made will be lost.

Video Menu

When you enter the Main Menu, the Video sub-menu will be highlighted. If not, use the ARROW (▲▼) buttons to highlight the Video menu, then press the ARROW (▶) or ENTER button to access the Video Menu. The left column shows the items in the Video Menu. The right column shows the current setting for each item.



Video Output

Select VIDEO OUTPUT, if it is not already selected, then press ARROW (▶) or ENTER to access the VIDEO OUTPUT sub-menu. The right column displays the current setting (highlighted) and two options.



DVD 21 provides multiple output connectors for various video devices, but to optimize video quality, all of the connectors cannot work at the same time. Make sure that the player's settings match the connections available on your TV. The default setting for the VIDEO OUTPUT is S-VIDEO. The Composite Video Output is always active. If you set Video Output to SCART, the player can provide RGB and Composite Video via the SCART socket. To use the SCART output, you must set the Video Output to SCART. If you select S-Video, the player will provide S-Video output via the rear S-Video socket. Note that only the rear video outputs corresponding to the selected setting will be activated.

SCART Video



Select SCART VIDEO OUTPUT with the ARROW (▲▼) buttons, if it is not already selected, then press ARROW (▶) or ENTER to access the SCART VIDEO sub-menu. The right column displays the current setting (highlighted) and one option.

Note: If the VIDEO OUTPUT is not set to SCART, the SCART Video sub-menu cannot be accessed.

The DVD 21 SCART connector can output RGB or Composite video. If your TV can accept an RGB input signal, RGB output is recommended for superior picture quality. Otherwise, select the composite video setting.

Control signals in the SCART connection will automatically reconfigure the TV's SCART input to match the selection of RGB or composite, if the TV is capable of running RGB.

Note: If you use RGB via SCART, then your TV will be able to reproduce NTSC images, even if the TV is PAL-only.

TV Standard



DVD 21 can set the output video format to AUTO, PAL, PAL60 or NTSC. Select TV STANDARD with the ARROW (▲▼) buttons, if it is not already selected, then press ARROW (▶) or ENTER to access the TV STANDARD sub-menu. The right column displays the current setting (highlighted) and three options.

AUTO will automatically output the original video format on the disc playing. If the disc is PAL, DVD 21 will output PAL video. If the disc is NTSC, the player will output NTSC video.

PAL will always output PAL video, even if the disc is in NTSC format. This works with all PAL-TV's, even old ones without PAL60 capability, as a real standard conversion is being made.

PAL60 will also convert NTSC signals to PAL, but with 60 Hz video repetition rate (as with NTSC). This will avoid any artifacts that may come up in rare cases with true NTSC to PAL conversion activated by the PAL selection above. Note that for viewing the PAL60 format your TV must be PAL60 compatible.

NTSC will always output NTSC video, even if the disc is in PAL format.

If you own a multi-standard TV, we recommend the AUTO setting for optimal picture quality. If your TV is single-standard, select the appropriate standard. (PAL, PAL60 or NTSC).

System Setup

Important Note:

Some DVD discs currently available contain a video data inconsistency resulting in an unwanted screen artifact. This can occur during video standard conversion as from NTSC to PAL (when PAL is selected and you see a slight flickering on horizontal lines with NTSC discs).

To overcome these artifacts follow these steps: During Play mode press the STATUS button, the Status Bar will appear (see page 21). Press ARROW (◀) to select the "V" (Video) field on the far right side of the banner, then change the setting from 0 to either 1 or 2 (▲▼) until the artifacts disappear.

Note: If the DVD 21 is connected to the TV using RGB via SCART, then the TV will be able to reproduce NTSC images correctly, even if the TV is PAL-only, (but it must be PAL60 compatible).

Aspect Ratio



This step selects the TV aspect ratio, conventional screen shape (4:3) or widescreen (16:9), according to your TV:

- **4:3 Letterbox:** Choose this setting if the DVD player is connected to a conventional (4:3) TV set and you would prefer to see movies without any parts being cut off. You will see the entire frame of the movie and DVD's recorded with normal 4:3 format will fill the entire screen. But movies in widescreen will occupy a smaller portion of the screen, with black bars at the top and bottom of the screen.
- **4:3 Pan Scan:** Choose this setting if the DVD player is connected to a conventional (4:3) TV set and you want widescreen movies to fill the entire screen. Note that this setting is effective only with a few widescreen DVD's recorded with the Pan and Scan mode. With those movies you won't see parts of the picture (particularly the right and left edges). Most discs produced in a widescreen format can't be cropped in this fashion, which means the black bars will appear at the top and bottom of the screen (letterbox format). Some widescreen DVD's, particularly anamorphic types (with full vertical line resolution, see section "16:9" below), may be shown with original width but spread vertically. With these disc, the letterbox format must be selected. This setting is useful only with a few DVD's, with all others the letterbox format fits best.

- **16:9 Widescreen:** Choose this setting if your DVD player is connected to a widescreen TV, or to a conventional (4:3) TV changeable to widescreen (16:9) mode. With this set up, discs recorded with 4:3 aspect ratio will appear as a boxed image in the center of a 16:9 widescreen TV, with black bars to the left and right of the image (not with 4:3 TVs changeable to 16:9 mode). True widescreen (anamorphic) DVD's i.e. those shown spread vertically when the DVD player is set to "16:9" and your TV is set to "4:3", will be shown optimally with full vertical resolution. With some 4:3 TV's, set to 16:9 format, discs with 4:3 format may be played compressed vertically. With those discs the TV must be set to 4:3 format.

Select TV ASPECT with the ARROW (▲▼) buttons, if it is not already selected in the VIDEO menu, then press ARROW (▶) or ENTER to access the TV ASPECT sub-menu. The right column displays the current setting (highlighted) and two options. If needed, select a new setting. Press ENTER to confirm the new setting.

Audio Menu

In the Main Menu, use the ARROW (▲▼) buttons to highlight the AUDIO menu, press ARROW (▶) or ENTER to access the AUDIO sub-menu. The left column shows the items in the Audio Menu. The right column shows the current setting for each item.



Dynamic Range

Select DYNAMIC RANGE with the Arrow (▲▼) buttons, if it is not already highlighted, then press ARROW (▶) or ENTER to access the Dynamic Range sub-menu.



This setting enables Dolby Digital recordings to be played back with full dialogue intelligibility while reducing peak levels by a selected amount. This smooth level compression prevents abrupt loud transitions from disturbing others without reducing the impact of the digital source perceptibly.

Select FULL for normal, uncompressed dynamic range. Select MEDIUM for moderate compression. Select MINIMUM for the highest level of compression.

Note: If selected, Dynamic Range compression is only active when a Dolby Digital signal is detected and only for the analog outputs.

Audio Language

This step will define the default audio language (if the disc contains different language tracks). Choosing an audio language by pressing AUDIO on the remote control (see page 8) will change this setting only temporarily.

Select AUDIO LANGUAGE with the ARROW (▲▼) buttons, if it is not already selected, then press ARROW (▶) or ENTER to access the AUDIO LANGUAGE sub-menu. The right column displays the current setting (highlighted) and the options.



System Setup

Select Another Audio Language

1. When Audio Language is on the screen, select "Other".
2. Press ENTER, an entry field will appear, waiting for your entry.



3. Input the language code (see table on page 32) directly with the NUMBER (0~9) keys.
4. After pressing the last digit, the setting will become active.

■ Note that when a default language is selected, it will be used whenever that language is present on the DVD disc being played. However, when that language is not present, the language used will be the one preprogrammed into the disc itself. Typically, that default will be English, but the selection will vary at the discretion of the disc's producer.

Although the default will set the language that will be used when a disc is first put into play, the language may easily be changed at any time by using the AUDIO Button on the remote. See page 22 for more information.

Digital Output

If your system includes 5.1 digital audio surround decoding (Dolby Digital and/or DTS), select ORIGINAL as the digital Output. In that case all audio signals will be output with their original format. If your system only includes stereo and/or Dolby Pro Logic, select PCM. Then all audio signals will be output in PCM format only (DTS will output no signal).

Select DIGITAL OUTPUT with the ARROW (▲▼) buttons, if it is not already selected, then press ARROW (▶) or ENTER to access the DIGITAL OUTPUT sub-menu. The right column displays the current setting (highlighted) and one option.



PCM Limit

Once a selection has been made for the type of digital audio data streams that the DVD player outputs, you may also need to adjust the way it handles the various sampling frequencies used in the production of digital audio for DVD. The DVD 21 is compatible with both 48kHz and 96kHz sampling, but some early A/V receivers and surround processors are not.

If your A/V receiver or surround processor is NOT capable of handling 96kHz signals, select the 48kHz option. When this choice is made, the DVD 21 will automatically convert any 96kHz signals to a 48kHz output so that your system is capable of decoding them.

If your A/V receiver or surround processor IS capable of handling 96kHz signals, select the 96kHz option to achieve the greatest audio fidelity available. When this choice is made, the DVD 21 will pass each type of signal through without any further processing.

To select the Sample Frequency follow these steps:

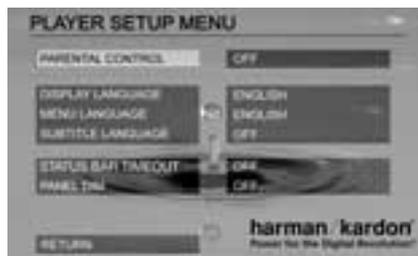
1. Press ARROW (▲▼) on the remote to select PCM LIMIT on the AUDIO Menu.
2. Press ENTER or ARROW (▶), PCM LIMIT Menu appears.



3. Press ARROW (▲▼) on the remote to select the specific frequency option.
4. Press ENTER, the screen will return to the AUDIO Menu, the sample frequency selected will be shown down at its right side.

Player Setup Menu

From the Main Menu, use the ARROW (▲▼) buttons to select the Player menu, then press ARROW (▶) or ENTER to access the Player Menu. The left column shows the items in the menu. The right column shows the current setting of each item.



Parental Control

The DVD 21's Password System is used to control viewing of restricted programs and the capability to change the password itself and the rating. The DVD player is shipped with "8888" as the default password and with the parental control settings "OFF". The following instructions will show how to change the password and to lock the settings.

Note: The DVD must be specifically encoded with rating information for Parental Control to work.

The rating levels

The five standard US rating symbols are "G" (General, level 2), "PG" (Parental Guidance, level 4), "PG13" (Parental Guidance and 13 years old, level 4), "R" (Restricted, level 6) and "NC 17" (from 17 years old, level 7). The DVD 21 will accommodate a total of eight rating steps, as set by the DVD creators. These additional steps allow for more critical control of program playback for all audiences.

Level 8: All DVDs can be played.

Levels 7 to 2: DVDs for general audiences/children can be played.

Level 1: DVDs for children can be played, DVDs for adults/general audiences are prohibited.

Password

Important: You must write the password in a safe place or remember it reliably. You cannot access rated discs or rating/password menus or change or clear the password (see below) without entering the correct password.

If you forget your password, you can re-set DVD 21 to the factory default password (8888) when the player is in Standby, by pressing and holding CLEAR for six seconds. Note: This will restore all menu settings to the factory default settings. Any changes you have made will be lost.

Enter Password and Setting Level

For disabling the playback of rated DVD's a password consisting of four digits must be entered.

Select PARENTAL CONTROL in the Player Setup Menu, then press ARROW (▶) or ENTER to access the PARENTAL CONTROL sub-menu. "PASSWORD" appears in the right column followed by a four digit entry field. Enter the password (The initial password is 8888.)

System Setup



If the password is correct, the following display will appear in the menu:



The current parental control level will be highlighted. Use the ARROW (▲▼) buttons to select the level of restricted access you want. **REMEMBER:** the lower the number, the higher the restriction. When the level you prefer is highlighted, press ENTER to activate it.

Change Password

After the password was entered or the parental control level was set, use the ARROW (▼) button to make sure the cursor is pointing to "NEW PASSWORD" and press ENTER." Enter the new password. The display will change to "CONFIRM", requesting that you repeat the new password to confirm that it is correct. If you have correctly entered the new password twice, the display will confirm the change by "OK". Press Arrow (◀) button to exit the level/password sub-menu.

Display Language

When you enter the Player menu, Display LANGUAGE will be highlighted. If not, use the ARROW (▲▼) buttons to select it, then press ARROW (▶) or ENTER to access the Display LANGUAGE sub-menu. The right column now shows the current Display Language setting (highlighted) and the options.



Select the language you prefer for the player's onscreen displays and short messages. This selection does not affect the front panel display.

Menu Language

Some discs include several menus made with different languages. Select MENU LANGUAGE in the Player Setup Menu, then press ARROW (▶) or ENTER to access the MENU LANGUAGE sub-menu. The right column now shows the current Menu Language setting (highlighted) and the options.



Select the language you prefer for disc menus. If a disc does not support the selected language, the original default language will automatically be chosen.

Select another Menu Language

Other languages for the DVD menu can be selected in the same way as described for the "Audio Language" on page 18 by selecting OTHER and entering a four digit code.

Subtitle Language

Select SUBTITLE LANGUAGE in the Player Setup Menu, then press ARROW (▶) or ENTER to access the SUBTITLE LANGUAGE sub-menu. The right column now shows the current Subtitle Language setting (highlighted) and the options.

With this setting you define your preferred subtitle language (if the disc contains different subtitles). Choosing a subtitle language with the SUBTITLE button on the remote control (see page 8) will change this setting only temporarily.

This setting can turn subtitles on or off. If set to OFF, subtitles will not be displayed automatically. The SUBTITLE button on the remote control can be used to select and change subtitles during playback.



Select another Subtitle Language

Other languages for the subtitle can be selected in the same way as described for the "Audio Language" on page 18 by selecting OTHER and entering a four digit code.

Status Bar Time Out

Select STATUS BAR TIMEOUT in the Player Setup Menu, then press ARROW (▶) or ENTER to access the STATUS BAR TIMEOUT sub-menu. The right column now shows the current timeout setting (highlighted) and the options.

When set to OFF, the Status Bar will remain onscreen when selected, until STATUS or CLEAR is pressed on the remote control. If set to 5 or 20 seconds, the Status Bar will disappear after that number of seconds. However, during CD playback, the Status Bar will always remain on-screen unless CLEAR or STATUS Bar is pressed.



Panel Dimmer

Select PANEL DIM in the Player Setup Menu, then press ARROW (▶) or ENTER to access the PANEL DIM sub-menu. The right column now shows the current setting (highlighted) and the options.



If you wish the front panel display to be lit whenever DVD player is on, select Off.

If you wish the display to dim in normal play mode and to light up for 5 or 20 seconds only when a button has been pressed on the front or remote, select 5 seconds or 20 seconds as the timeout.

The 5 or 20 second timeout interacts with the remote Dimmer button in the following way: If display lighting has been turned off with the Dimmer button, the PANEL DIM will only turn on the green LED's, not the full display. If display lighting has been set to half brightness with the Dimmer button, the display will light up to this level and the LED's to full level.

You've completed the setup process for your DVD 21 and are about to experience the finest in music and home entertainment. Enjoy!

Press SETUP or PLAY on the remote control to exit the setup-menu.

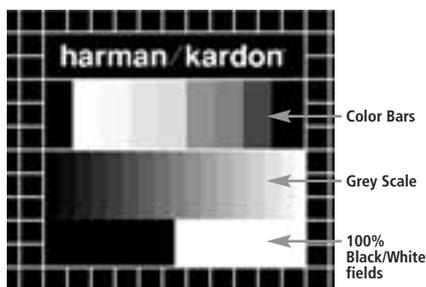
Test Screen

Test Screen

When you press the TEST button on the front panel or on the remote you can activate a still image to test all settings and the video performance of your TV. With the vertical color bars you can test the following:

- proper color intensity setting on your TV,
- the proper color of each bar, showing if the proper video standard is turned on: the colors should be (left to right): black, white, yellow, cyan (turquoise), green, magenta (purple), red, blue, black.
- proper color transition, seen as sharp separation of the bars, S-Video will be better than Video, RGB best of all.
- the performance of the color filter in your TV (with "Video" signals), bar edges should show no vertical crawling dots. Here S-Video and RGB formats usually give no problems.

With the grey scale and the black/white fields below the color bars the brightness and contrast of your screen can be adjusted optimally, see chapter "TV Picture Adjustment" below.



TV Picture Adjustment with Test Screen

These adjustments may be done now, but you can also make them after setup has been finalized. They can also be made at any time simply by pressing TEST on the remote control or on the front panel.

Brightness adjustment:

1. Turn down the color control on your TV until the color bars are visible in black and white.
2. Adjust the contrast to the lowest level where you still can see all bars within the grey scale in the test picture separately and clearly.
3. Adjust the Brightness so that the bars in the grey scale are all visible. The bar furthest to the left has to be as black as possible rather than grey but the next aside must clearly be differable. All the bars in the grey scale have to be gradually and evenly changing from black to whiter, going from left to right.

Contrast adjustment:

1. Adjust the contrast on your TV until you see a bright white bar in the right low corner of the screen and a deep dark black bar at the left. The optimal contrast setting will depend from your preference and the surrounding light in the TV room.
2. If the brightness of the white bar will no more increase while turning up the contrast or when the borders of the white "harman/kardon" text letters on top will bloom (overlight) into the black areas, what drastically will decrease the sharpness of the script, then the Contrast has been turned up too much. Reduce the contrast until these effects will disappear and the video still looks realistic.
3. If you are watching TV with a usual surrounding daylight, adjust the Contrast so that a normal video picture has about the same looking as the surroundings in your room. By that way the eye is relaxed when watching the TV picture. This contrast setting may be reduced when the surrounding light is dimmed, usually improving the sharpness of a video a lot thereby.
4. The grey scale in the middle line needs to have the same clear difference between each bar as before the contrast adjustment. If not, go back to the brightness adjustment and repeat step 3 and then the contrast adjustments, making only minor adjustments each time for optimisation.

Color adjustment.

1. When the Brightness and the Contrast are set optimally, turn up the color control to the level of your preference. Adjust to the level where the colors look strong but still natural, not overdone. If the color level is too high, depending from the TV used some of the bars will seem wider or the color intensity will not increase while the control is turned up. Then the color control must be reduced again. At the end you should test the color intensity also with a video, e.g. pictures of natural faces, flowers, fruit and vegetables and other well known natural articles of our life most usefull for an optimal setting of the color intensity.
2. If your TV has a Tint option (with most European TVs this is available or effective only with NTSC signals, not with PAL), use the large white bar below the Greyscale to tweak the warmth of the picture. Every viewer has a difference in preference as how the glow of the picture should be. Some prefer a little colder picture, some a warmer glow. The Tint function on your TV and the white bar can be used to control this. Adjust the Tint to the level where you feel the white color has the tone you prefer.

Playing DVD Discs

Using Bookmarks

Bookmarks are a feature of the DVD 21 that allows you to mark up to nine different points on a disc and to quickly return to those points later. The Bookmarks feature works on both DVD and CD discs.

To Enter a Bookmark, Follow These Steps:

1. While a disc is playing, press STATUS on the remote.
2. Use the ARROW (◀ or ▶) on the remote until the Mark icon is highlighted and press ENTER, the Bookmark menu appears.



3. Move the cursor with the ARROW (▼) to the SET line. When you reach the scene you want to mark, press ENTER.
4. To add any mark, move the cursor with the ARROW (▼) to the "SET" line (if not so already), then move it to any free frame with the ARROW (▶) and press ENTER when the scene you want to mark is reached.
5. Press STATUS or move the cursor to EXIT (far right) and press ENTER to return to the Banner Display or press CLEAR on the remote to make the Status Bar disappear from the screen.

Recalling a Bookmarked Scene:

1. While playing a disc, press STATUS on the remote, the Status Bar appears.
2. Press the ARROW (◀ or ▶) on the remote, until the Mark icon is highlighted.
3. Press ENTER.
4. The cursor automatically will highlight the first mark in the "JUMP" line of the Bookmark menu.



5. Use the ARROW (◀ or ▶) on the remote to select the bookmarked scene you want to activate.
6. Press ENTER to go to the bookmark.
7. Press STATUS or move the cursor to EXIT (far right) and press ENTER to return to the Status Bar. To make the Status Bar disappear from the screen, press CLEAR on the remote.

Note: If all 9 bookmarks are in use, you can still mark new scenes, but the previous bookmarks will be erased.

Clearing a Bookmark

The bookmarks are cleared each time a disc is removed from the player or when the power is turned off completely (not to Standby only).

You may also clear all bookmarks by moving the cursor to "CANCEL" and pressing ENTER.

Changing the Audio Track

Please remember you can only access the various Audio Track, Subtitle, Angle and Repeat Displays when playing a disc. Also, each Banner Display feature is only available if the disc was created with that particular feature (i.e., if you select the Subtitle icon, you won't be able to change the subtitle language unless the author of the disc created the disc with subtitles).

DVD discs may contain a variety of audio tracks, including foreign languages, special commentaries, descriptive video for the sight impaired, and various digital formats. In normal play, the unit will always look for the default setting for the audio track, but you may change the audio track at any time using the AUDIO button on the remote control.

While playing a disc, press AUDIO on the remote control once to see the Audio display with the current audio language and format. Press repeatedly to select other languages and/or audio formats.



Notes :

- The audio feature only works if the disc was created with multiple audio tracks.
- Some DVD's do not allow direct selection of audio during playback. Instead, you must use the audio set-up section of the disc menu.
- When you choose an audio language with the Audio button on the remote control, you only override the audio language setting in the DVD Player's main menu (Audio menu within Setup menu) temporarily.

Changing the Subtitle Language

DVD discs may contain a variety of subtitles. In normal play, the unit will always look for the default setting for the subtitle language, but you may temporarily change that language at any time using the SUBTITLE button on the remote.

While playing a disc, press SUBTITLE on the remote control once to see the Subtitle display with the current subtitle language. Press repeatedly to select other subtitle languages.



Notes :

- The subtitle feature only works if the disc was created with subtitles.
- Some DVDs force the player to bring up subtitles to the screen even if OFF was selected. This is no failure of the unit but the intention of the disc's author.

Changing the Camera Angle

A special feature of the DVD format is its capability of showing more than one view, or camera angle, of the same scene. This feature enables you to become the director, selecting the view of a scene that you wish. Note, however, that this feature does not appear on many discs and, when it does appear, it will typically be for only certain scenes and not for the entire disc's program.

To see if a disc contains multiple angles, check the disc's cover or jacket. When the DVD's title or chapter played currently does contain scenes with multiple angles, the multi-angle symbol in the upper right corner of the front panel display will flash. The multi-angle feature is only available when this symbol is flashing.

When the multi-angle symbol flashes, you can press ANGLE on the remote control. The Angle display will appear with the number of the camera angle currently being viewed and the total number of angles on the disc.

Press ANGLE again to change camera angle. There can be up to 9 different camera angles for a scene.



Playing DVD Discs

Repeat Play

The DVD 21 offers three repeat functions that allow you to take advantage of the capacity of the unit for unattended playback:

■ **Repeat Title:** For DVD discs only, this mode repeats the title currently being played until the disc is manually stopped, in the front panel display REPEAT and ALL CHAPTER will light up.

■ **Repeat Chapter:** Repeats the DVD chapter currently being played until the disc is manually stopped, in the front panel display REPEAT and 1 CHAPTER will light up.

■ **Repeat A-B:** Repeats any selected portion of the disc until the disc is manually stopped.

To select any repeat mode, follow this way:

1. While a disc is playing, press REPEAT on the remote, the Repeat Display appears, showing the repeat mode currently activated.



REPEAT CHAPTER

2. Access the Repeat modes and their appropriate menus in the following order by pressing REPEAT on the remote repeatedly until the desired function is displayed. REPEAT CHAPTER → REPEAT TITLE → REPEAT OFF.
 3. To make the menu disappear from the screen, press CLEAR on the remote or wait a few seconds.
- To stop any Repeat Play function and continue normal play, press the Repeat Button until the Repeat Off menu appears in the on-screen display or all Repeat Indicators in the Front Information Display go out.
- Repeat Play may be stopped by pressing the Stop Button twice.

A-B Repeat Play

The Repeat A-B function allows you to select any portion of a DVD and have it repeat continually until the unit is manually stopped.

To initiate a Repeat A-B playback sequence, follow these steps while a disc is playing:

1. While a disc is playing, press A-B on the remote when you want to choose a scene as the beginning point, the Repeat A- Display appears.



REPEAT A —

2. Press A-B again to choose a scene as the end point. Repeat A-B setting is done, A-B section will be played continuously.
3. Press A-B on the remote again to cancel repeat A-B mode.
4. To make the menu disappear from the screen, press CLEAR on the remote or wait a few seconds.

Note: The A-B Repeat range may cover several titles or chapters as long as the DVD's control system does not force the unit to return to any DVD menu in between.

Zoom Playback

The DVD 21's advanced digital video processing circuits include a Zoom feature that allows you to enlarge the image for closer examination of the picture.

Four steps of enlargement are available. You can zoom in on the picture by pressing ZOOM on the remote repeatedly while a disc is playing or paused. Press through each of the zoom stages to return to normal image size.

Note that some discs do not allow the use of the Zoom feature. In addition, Zoom may not operate on some disc menus and on subtitles.

Information Menus

The DVD 21 has the capability to give you an on-screen-overview about various informations on the DVD, CD or VCD currently playing or all important player settings made, only by the press of one button and without having to stop the playback mode.

While the disc is playing press the INFO button on the remote once for detailed informations on the disc playing like Disc Type, Video and Audio Bit rate, Movie aspect ratio, Audio resolution and others. Press INFO again to get an compact overview about all basic player settings made and further informations like Digital Audio format currently playing ("Audio Output Format") and the maximum Audio Resolution enabled by the player (24 Bits).

Press the button again to delete those Information menus. Note that transport functions will not work as long as any menu is on the screen.

Programmed Play with DVD

Program Play

Programmed play allows you to select any track, title or chapter from a DVD in the DVD 21 for playback in a specific order. This type of programming is particularly useful for parties or other situations where you want continuous playback of specific selections for a long period of time. To program the disc in the DVD player for playback, follow these steps:

Program Edit

1. In Stop or Resume mode, press PROG on the remote, Program Edit Display appears.



- If there is no programmed Title/Chapter on the playlist, the above Display appears when you press PROG. The numbers below the TITLE and CHAPTER icons indicate the number of Titles on the disc and Chapters on any title selected.

2. Select specific Title by pressing ARROW (▲ or ▼), then press ARROW (▶) or ENTER to highlight "Chapter". You can also select a title directly by entering its number with NUMBER (0~9) keys.
3. Select chapter in the same way as above, after the title containing the chapter was selected. The number of chapters, contained in each title selected, is indicated in parentheses under the "Chapter" box. When chapter is selected press ARROW (▶) or ENTER then ADD will be highlighted automatically. Press ENTER to add selected chapter onto Playlist.
4. You can select maximum 50 items by repeating steps 2 and 3.



5. When you've completed program edit, select PLAY icon and then press ENTER on the remote or press PLAY on the remote to start program play. If you have completed program edit, but do not wish to play the program immediately, select DONE and then press ENTER on the remote, followed by PLAY to resume normal playback.

- To start playback of a previously selected program while a disc is playing normally, press PROG. The program will play and the PROG indicator in the front display will light.

Delete a Title/Chapter

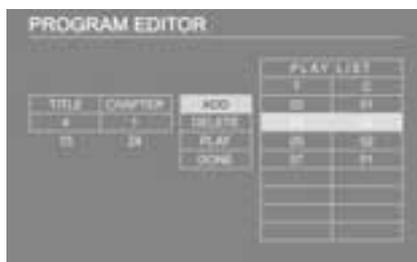
1. To delete any programmed Title/Chapter, press ARROW (▶ or ◀) on the remote to move the cursor (highlight) to the Playlist, in the same moment the DELETE box left of the list will be greyed out (is selected automatically).
2. Press ARROW (▲ or ▼) to select the Title/Chapter to be deleted. When it is selected, press ENTER, the selected Title/Chapter will be deleted. Note that the next value in the list will replace the deleted one and will be selected automatically.

- The program can be deleted completely by moving the cursor to the top of the play list, and pressing ENTER for each value programmed or by turning the unit off (completely, not to Standby only) or opening the tray (see chapter "Cancel Program Play" below)

Insert Title/Chapter

Inserting titles or chapters is possible only if titles or chapters are already programmed on the playlist and will change the order of playback.

1. Press PROG on the remote to insert Title/Chapter, Program Edit Display appears, with all titles/chapters programmed listed in the playlist.
2. To insert Title/Chapter, move cursor to Playlist. Then press ARROW (▲ or ▼) on the remote to select location where you want to insert a Title/Chapter. It will be inserted above the location selected.
3. Move cursor to TITLE icon and select title and chapter to be inserted as described in the chapter Program Edit above. The location where any new selections will be inserted remains highlighted.



4. Select ADD and press ENTER. Selected Title/Chapter will be inserted.



- When you finish adding values to Playlist and want to return to normal play mode, select DONE and press ENTER on the remote.

Cancel Program Play

Program Play will be canceled:

1. When you open the tray; this will delete the complete program.
2. When you press STOP twice from the play mode. Then the PROG indicator will disappear from display and the player will stop and return to normal mode, but the program will remain in memory and can be recalled by pressing PROG again.
3. To cancel Program play while a program is playing, simply press PROG. Normal playback will resume and the PROG indicator will turn off. To return to program play from normal play, simply press PROG, the program will be played at once.

Check a Program without Screen

To check the contents of a Playlist using the Front Panel Information Display only rather than the on-screen display, follow these steps:

1. Activate the program play mode, if not so already, the PROG indicator in the front panel display must light. Then press STOP once (Resume mode).
2. Press the CHECK Button. The first item programmed will be displayed.
3. Press the CHECK Button again to step through each of the programmed items. The Program Sequence Number will appear on the far right side of the front Display and the title number on the left side (below TRACK).
4. Press PLAY return to the programmed play mode.

CD Playback

Compatibility of Discs

Before you load a disc, make sure that it is compatible with the player.

Note that the following discs CANNOT be used with this player.

- Laserdisc
- Pure Data Disc without MP3
- MiniDisc

To Load and Play an Audio CD

Make sure that you have properly connected the DVD player:

1. Press OPEN/CLOSE on the front of the DVD player or on the remote, the disc tray opens.
2. Place a disc gently into the tray with the disc's label facing up.
3. Press PLAY to close the disc tray. The DVD player reads the disc's table of contents and the disc starts to play.
4. To search forward or reverse through the track, press SEARCH (forward/reverse) on the remote. To pause play, press PAUSE on the remote or on the front panel. To release the pause, press PAUSE or PLAY on remote or on front panel again.
5. Press STOP to stop playback.

- All playback basics and transport functions are described in detail on page 15.

Audio CD Playback Features

When playing audio CD's, your DVD player has the same features as a CD player, including track skip, repeat play and programmed playback. The on-screen Info Display, appearing when REPEAT or RANDOM is pressed (see page 27), and the Status Bar shown below, appearing automatically when the CD is played, let you choose various playback features.

TRACK		TIME	
TRACK	MARK	T-ELAPSED	V
1	OFF	00:00:17	0

BOOKMARK

Track: The number shown indicates the number of the track that is currently playing.

Bookmarks: Highlight this area and press enter to set or go to bookmarked locations on a disc.

Time Display Type: This shows the type of time indication being shown: Time Elapsed or Remaining for the Current Track, Total Elapsed for the Disc, or Total Remaining for the Disc.

Using the Status Bar

As soon as a CD is played the Status Bar will appear automatically. To delete it from screen, press STATUS or CLEAR on the remote, to re-access it, while the CD is playing, press STATUS again. In the Display some of the playback features are illustrated with an icon. To access a feature, press the appropriate ARROW (◀ or ▶) on the remote to highlight the icon. Each feature is described in the following page.

Note:

To see the Status Bar, you must turn on your TV and tune it to the appropriate Video Input Channel.

Information Menus

With CDs you have the same access to Info Menus about the disc loaded (like disc type or Audio resolution) or the player settings as with DVDs, see page 23.

However with CD you must press the INFO button during Stop or Resume mode, not during Play.

CD Playback

Selecting a Track

1. During stop, resume or play mode, enter the track number directly with the NUMBER (0~9) buttons on the remote. The track selected will be played at once.
2. Or press STATUS on the Remote to see the Status Bar on the screen if it's not on already (as normally in play mode). Press ARROW (◀ or ▶) on the remote to highlight the Track No icon if not already highlighted (in play mode this icon is highlighted automatically). Enter the Track NUMBER (0~9) on the Remote to select Track No.
 - In all modes any CD-track (not with DVD) can be selected directly by entering its number with the NUMBER (0~9) buttons on the remote, no matter if the Status Bar is on or not.
 - You can skip through tracks forward or backward by pressing the NEXT/PREV. buttons (track skip ▶▶ / ◀◀) on the remote or SKIP (forward/reverse) on the front panel.
 - In stop mode the front display will show the number of tracks recorded on a CD (below the TRACK indicator) and the total time on disc.

Using Bookmarks

Bookmarks are a feature of the DVD 21 that allows you to mark up to nine different points on a disc and to quickly return to those points later. The Bookmarks feature works on both DVD and CD discs.

To Enter a Bookmark, Follow These Steps:

1. While a disc is playing, press STATUS on the remote to see the Status Bar (if not already shown).
2. Use the ARROW (◀ or ▶) until the "Mark" icon is highlighted and press ENTER, the Bookmark menu appears.
 
3. Move the cursor with the ARROW (▲) to the "SET" line. When you reach the place on the disc you want to mark, press ENTER.
4. To add marks, move the cursor with the ARROW (▼) to the "SET" line (if not already there), then move the cursor to any free frame with the ARROW (▶). Press ENTER when the next place on disc you want to mark is reached.
5. Press STATUS or move the cursor to EXIT and press ENTER to return to the Status Bar or press CLEAR on the remote to make the Status Bar disappear from the screen.

Recalling a Bookmarked Scene:

1. While playing a disc, press STATUS on the remote, the Status Bar appears.
2. Press the ARROW (▶) on the remote, until the Mark icon is highlighted.
3. Press ENTER.
4. The cursor automatically will highlight the first mark in the "JUMP" line of the Bookmark menu.
 
5. Use the ARROW (◀ or ▶) on the remote to select the bookmarked scene you want to activate.
6. Press ENTER to go to the bookmark.
7. Press STATUS or move the cursor to EXIT (far right) and press ENTER to return to the Status Bar. To make the Status Bar disappear from the screen, press CLEAR on the remote.

NOTE: If all 9 bookmarks are in use, you can still mark new scenes, but the previous bookmarks will be erased.

Clearing Bookmarks

The bookmarks are cleared each time a disc is removed from the player or when the power is turned off completely (not to Standby only).

You may also clear all bookmarks by moving the cursor to "CANCEL" and pressing ENTER.

Selecting Time Display

The time display in the front panel display or at the right of the Status Bar can be selected too:

1. If Status Bar is on, press ARROW (◀ or ▶) on the remote to highlight the "Time" section.
2. In normal operation the elapsed time of the track being played is displayed, the Status Bar reads T-ELAPSED.

TRACK		TIME	
TRACK	MARK	T-ELAPSED	V
1	OFF	00:00:17	0

|
BOOKMARK

3. When the TIME section is highlighted, press ARROW (▲) to view time remaining on the track (T-REMAIN). Press again to view elapsed time of the disc (D-ELAPSED). Press again to view time remaining for the disc (D-REMAIN).
4. If you press ENTER while the TIME display is highlighted, the player displays SET TIME. With the NUMBER keys, you can enter an exact time from which you wish the disc to play, then press ENTER or PLAY to start playback from the selected point on the disc.

■ To change the front panel time display while a CD is playing without a TV screen, press ARROW (◀) twice. Press ARROW (▲) repeatedly to change time display: Track time elapsed - track time remaining - disc time elapsed - disc time remaining.

CD Playback

Repeat Play

With CDs the DVD 21 offers three repeat functions that allow you to take advantage of the capacity of the unit for unattended playback:

■ **Repeat Disc:** Plays the complete disc repeatedly from start to finish until the disc is manually stopped. When that mode is selected, REPEAT ALL will appear in the front panel display.

■ **Repeat Track:** Repeats the CD track currently being played until the disc is manually stopped. When that mode is selected, REPEAT 1 will light up in the front panel display above the TRACK indicator.

■ **Repeat A-B:** Repeats any selected portion of the disc until the disc is manually stopped.

To select any repeat mode, follow this way:

1. While a disc is playing, press REPEAT on the remote, the Repeat Display appears, showing the repeat mode currently activated.

A rectangular display showing the text "REPEAT ALL" in white capital letters on a black background.

2. Access the Repeat modes and their appropriate menus in the following order by pressing REPEAT on the remote repeatedly until the desired function is displayed.
REPEAT TRACK → REPEAT DISC → REPEAT OFF
3. To make the menu disappear from the screen, press CLEAR on the remote or wait a few seconds.

- To cancel any Repeat Play function and to continue with normal play, press the Repeat Button until the Repeat Off menu appears in the on-screen display or the REPEAT Indicator in the Front Information Display goes out.
- Repeat Play may be stopped and canceled by pressing the Stop Button twice.
- With CD, all repeat modes are available also with Program play (see page 28). If Repeat All is selected with Program play, the complete program will be repeated rather than the disc.

A-B Repeat Play

The Repeat A-B function allows you to select any portion of a CD and have it repeat continually until the unit is manually stopped.

To initiate a Repeat A-B playback sequence, follow these steps while a disc is playing:

1. While a disc is playing, press A-B on the remote when you want to choose a scene as the beginning point, the Repeat A- Display appears and REPEAT A - is indicated in the front panel display.

A rectangular display showing the text "REPEAT A -" in white capital letters on a black background.

2. Press A-B again to choose a scene as the end point, REPEAT A - B will appear on the screen and the front panel display. Repeat A-B is set and the A-B section will be played continuously.
3. Press A-B on the remote again so that the REPEAT A-B indicators delete and REPEAT OFF appears on the screen to cancel repeat A-B mode and to play on in normal mode.
4. To make the menu disappear from the screen, press CLEAR on the remote or wait a few seconds.

Note: The A-B Repeat range may cover several tracks on the CD.

Random Play

The Random Play function will play all of the tracks on a CD in a random order as selected by the DVD 21. Once the disc has played all of the tracks, it will stop.

While the disc is in STOP, RESUME or PLAY mode, press RANDOM on the remote. The Random indicator lights in the front panel display and all tracks on the disc will be played in random order.

Note: RANDOM can be canceled when the DVD player is in Play mode by pressing RANDOM; the player will continue to play normally. Note that Random cannot be canceled during Resume mode by pressing RANDOM again, this should be done during play. RANDOM will also be canceled when you return to Stop mode by pressing STOP twice.

Programmed Play with CD

Program Play

Programmed play allows you to select any track, from a CD for playback in a specific order. This type of programming is particularly useful for parties or other situations where you want continuous playback of specific selections for a long period of time. To program the disc in the DVD 21 for playback, follow these steps:

Program Edit

1. In Stop or Resume mode, press PROG on the remote, Program Edit Display appears.



- If there is no programmed Track on the playlist, the above Display appears when you press PROGRAM. The number below the TRACK icon indicates the number of tracks on the disc.
2. Select specific track by pressing ARROW (▲ or ▼). Then press ENTER once, ADD will be highlighted automatically. You can also select a track directly by entering its number with NUMBER (0~9) keys. Then press ENTER to add selected track to the playlist.



3. You can select maximum 50 tracks by repeating step 2.
 4. When you have completed program edit, select PLAY icon and then press ENTER on the remote or press PLAY on the remote to start program play. If you do not wish to play the program immediately, select DONE, then press ENTER followed by PLAY to resume normal playback.
- To listen to a previously edited program during normal disc playback, press PROG. The program will play and the PROG indicator in the front display will light.

Delete tracks

1. To delete any programmed track while the Program Edit Display is on the screen, press ARROW (▶ or ◀) on the remote to move the cursor (highlight) to the Playlist.
2. Press ARROW (▲ or ▼) to select the track to be deleted. When it is selected press ENTER, the selected track will be deleted. Note that the next value in the list will replace the deleted one and will be selected automatically.

- The program can be deleted completely by moving the cursor to the top of the playlist, and pressing ENTER for each track value programmed or by turning the unit off completely (by the Main Power On/Off button) or opening the tray (see chapter "Cancel Program Play" below)

Insert Tracks

Inserting tracks is possible only if tracks are already programmed on the playlist and will change the order of playback.

1. Press PROG on the remote to insert a track, Program Edit Display appears.
2. Move cursor to Playlist and press ARROW (▲ or ▼) on the remote to select location where you want to insert a track. It will be inserted above the location selected.
3. Move cursor to TRACK icon and select and add the track to be inserted as described in the chapter Program Edit above. The location where any new selections will be inserted remains highlighted by a grey background.



- When you finish adding values to Playlist and want to return to normal play mode, select DONE and press ENTER on the remote.

Cancel Program Play

Program Play will be canceled:

1. When you open the tray; this will delete the complete program.
2. When you turn Power off completely (by the Main Power On/Off button), this also will delete the complete program.
3. When you press STOP twice from the play mode. Then the PROG indicator will disappear from display and the player will stop and return to normal mode, but the program will remain in memory and can be recalled by pressing PROGRAM.
4. To cancel Program play while a program is playing and return to normal play, press PROG. The PROG indicator in the front display will turn off and the unit will turn to normal play mode.

Checking the Program without Screen

To check the contents of a Playlist using the Front Panel Information Display only rather than the on-screen display, follow these steps:

1. Activate the program play mode, if not so already, so that the PROG indicator in the front panel display will light. Then press STOP once (Resume mode).
2. Press the CHECK Button. The first track number programmed will be displayed.
3. Press the CHECK button again to step through each of the programmed tracks. The Program location Number will appear on the far right side of the front Display and the track number on the left side.
4. Press PLAY to delete the check-indication and return to programmed play mode.

MP3 Playback

The DVD 21 is rare among DVD players in that it is able to playback discs recorded with MP3 files. This means that you may enjoy the latest music using discs created in your computer through the high quality audio components in your home theater system. As the way that MP3 files are recorded on discs differs from the way conventional CD audio discs are structured, MP3 playback is some-what different from standard CDs.

Important Note on MP3 Playback: MP3 discs may contain 200 tracks or even more. To get the best overview about all tracks on the disc and their names and to select or program them comfortably use the on-screen-display rather than the front panel display. The front panel display will only show the number and the elapsed time of the track being played.

MP3 Disc Playback

After an MP3 disc is loaded and the tray closed, the DVD player will read the table of contents (TOC). At the same time a listing of all the directories on the disc (if disc was made with several directories) and of all tracks within the root directory on the disc will appear on the video screen similar to the figure below. When any of the tracks is selected and played (see below), the name and elapsed time of the track currently played is displayed on top. Note that the right side of the screen will initially be blank, as that is used for programming playlists for MP3 playback.



To select a directory (if any), press the ▲/▼ ARROW buttons until the desired directory name is highlighted, then press ENTER. To select a track, press the ▲/▼ ARROW buttons until the desired track name is highlighted. If the list of tracks is longer than will fit on the screen, press the ◀ ARROW button to move the cursor to the "+10" or "-10" box on the left and press ENTER to shift the track numbers listed for +10 or -10. Then press the ▶ ARROW button to return to the list.

To start the track selected on the list press ENTER or PLAY.

During MP3 playback some of the standard CD/DVD playback controls operate in their normal fashion:

- You may skip forward to the next track on the disc by pressing the NEXT button.
- You may skip back to the current or previous track on the disc by pressing the PREVIOUS button once or twice.
- Press the PAUSE button to momentarily stop playback. Press PLAY to resume play. Press STOP twice to turn to stop mode.
- You may search through tracks forward or reverse by pressing the appropriate SEARCH buttons on the remote.
- You may play an MP3 disc in random mode as a normal CD, see page 27. The Playlist Editor menu will appear and the PLAY LIST on the right will show the order in which the tracks will be played. To play all tracks in random order move the cursor to the track in that Play List you want to be played at first and press ENTER or PLAY.

Note that all other buttons and the numeric buttons will have no function with MP3 playback, except PROG and CLEAR, needed for the programmed playback, see below.

NOTES ON MP3 PLAYBACK

- During MP3 playback the front panel display and the time indicator on the screen on top of the list will show the elapsed time of the track being played. Other time display options are not available with MP3 playback.
- The DVD 21 is only compatible with standard MP3-encoded discs. Other compressed audio formats used for Internet audio downloads will not play on the DVD 21.
- Due to the differences in various versions of the MP3 format, and the many differences between the CD-R machines used to record MP3 discs on a computer, it is possible that some MP3 discs may not play on the DVD 21 even though they will work on a computer. This is normal and does not indicate a fault with the unit.
- When a multisession disc with both standard CD audio and MP3 content is in use, the DVD 21 will play only the CD audio sections of the disc. Tracknumber of MP3 tracks will be visible on the display, but the files will not be decoded.
- When an MP3 disc with multiple directories is playing, only tracks from one directory can be displayed and played at a time. Select the desired directory and press Play to start the first track. To see and play tracks from other directories, at first you must select that directory, then select the track and press PLAY.

Programmed Playback with MP3 Discs

The DVD 21 is capable of creating playlists up to 60 tracks long with the MP3 files on a properly recorded disc. To create a playback list for MP3 titles, follow these steps:

Step 1: Load a compatible MP3 disc, the MP3 Playlist Editor will appear on the screen.

Step 2: Use the ARROW (▲ or ▼) buttons to select the directory and the first track to be programmed, as described above, and press the PROG button. Note that the track name will now appear on the right side of the screen.

Step 3: Repeat the step above until all desired tracks are added to the playlist.

Step 4: To remove a track from the playlist, first press the ARROW (◀ or ▶) buttons so that the highlight bar moves to the right side of the screen. Use the ARROW (▲ or ▼) buttons to highlight the track to be deleted and press the CLEAR button.

Step 5: To clear all the tracks in the playlist, press the ARROW (◀ or ▶) buttons until the CLEAR ALL box at the bottom of the right side of the screen is highlighted and press the ENTER button.

Step 6: To play the tracks on the list, press the ARROW (▶) button to move the cursor to the playlist and select the first track to be played with the ARROW (▲ or ▼) buttons, then press PLAY. All tracks on the list will be played one after another, starting with the track selected. While any track is played its number and elapsed time will be indicated on front and screen and the name of the track on top of the screen too. You can skip to another programmed track with the NEXT and PREVIOUS buttons any time or by selecting a track from the playlist and pressing ENTER or PLAY.

Once a playlist is created, it will remain available as long as the disc is not changed or the power turned off. You may play any track on the disc, not only of the program created, without erasing the playlist by pressing the ARROW (◀ or ▶) buttons to return the high-light bar to the left side of the screen and selecting the track and pressing ENTER or PLAY.

VCD Playback

VCD Playback

VCD is a format that predates DVD which is based on a different compression format than DVD and a recording method that is similar to CD. Although the DVD has, for the most part, replaced VCD as a format, the DVD 21 offers VCD playback so that you may play your existing library of VCD discs.

There are two versions of the VCD format: an early version which is simply called "VCD" and a later version with Playback Control which is called "Version 2.0" or "PBC". The DVD 21 is compatible with both forms of VCD, although playback will vary according to which version is used and the specific way in which the disc was created.

Even though VCD discs provide video, because the format is based on CD technology, the playback functions for a VCD disc are similar to CD. To play a VCD disc, place it in the DVD player as you would do with any other CD or DVD disc. The unit takes a few seconds to read the disc's contents, the VCD Disc Type and the red PBC indicators in the front panel display will light and the disc will begin playing. However, keep in mind that the exact level of functionality for any VCD will vary widely and it is ultimately determined by the way the disc was created, not by the DVD player, particularly if the disc has been created under VCD Version 2.0 with Playback Control (see right side of that page).

When playing VCD discs, most standard DVD/CD playback controls are used, including Play, Stop, Pause, Resume, Track Skip Forward and Reverse, Slow Forward, Step Forward and Fast Forward or Reverse Search. The functions Slow Reverse, Step Reverse are not available with VCDs.

Note that also with VCDs you have the same access to detailed informations on the disc playing or on current player setting as with DVDs by pressing the INFO button on the remote once or twice during playback. See chapter "Information Menus" on page 23.

Using the Status Bar for VCD Playback

When playing VCD discs it is possible to access the disc's features using the on screen Status Bar as shown for CD playback on page 25. Press the STATUS button on the remote to see the Status Bar. Note, however, that when the PBC is on, some features may be not available with that VCD.

TRACK	MARK	T-ELAPSED	V
1	OFF	00:00:17	0

| BOOKMARK | V-MODE

Use of functions when the PBC is on will vary according to the disc type. With some VCD discs you may select the Bookmark feature, with others not. Note that when red PBC indicator lights up in the front display it is not possible to change track numbers directly.

Depending on the disc's functionality, some VCD discs allow the time display to be changed, even when the Playback Control (PBC) is on, as described for CD on page 26 .

Playback Control

VCD discs made under the Revision 2.0 specification will usually offer PBC playback control.

Note that the PBC indicator in the front display will turn on automatically with any VCD, when the disc is played.

PBC can be turned off/on in play mode by pressing the TITLE button on the remote control. When PBC is turned on, the disc will be played from the beginning, when PBC is turned off the disc will continue playing and the following message will appear on the screen:



With PBC you can select Titles and navigate the disc as with DVD's. But the access to some functions may be prohibited by the PBC playback control, in that case the prohibit icon will appear on screen.

When the PBC is turned off, the disc can be controlled like a normal CD. But direct track access by entering a number is not possible without opening the Status Bar on the screen.

VCD discs made with PBC often include chapter selection menus that are similar to those found on DVD's. However, on VCD discs the disc menu (if VCD was created with any menu) is accessed and controlled differently than on DVD's.

- PLAY will start with the first track (which may be an intro), then leading to the VCD menu (if any) automatically.
- NEXT (Skip Forward) will skip to the VCD menu from the intro (track 1) directly.
- Once the menu options appear on the screen, make your selection by pressing the Numeric Button that corresponds to your desired playing choice. The desired selection will begin playing automatically.
- Direct number entry without any VCD menu shown on screen has no effect, also when the Status Bar is on.
- When PBC is on MENU will have the same function as with DVDs, making the player return to the latest disc menu. When PBC is off, pressing MENU will turn the PBC on and the disc will be played from the beginning.

SVCD Playback

SVCDs can be played and controled in the same way as described with VCDs above.

When they are loaded the VCD indicator will turn on in the front panel too, but when the INFO button is pressed the Disc Information Menu will read SVCD for DISC TYPE.

- Due to the differences in various versions of the SVCD format, and the many differences between the CD-R machines used to record SVCD discs on a computer, it is possible that some SVCD discs may not play on the DVD 21 even though they will work on a computer. This is normal and does not indicate a fault with the unit.

Troubleshooting Guide

TROUBLESHOOTING GUIDE

SYMPTOM	POSSIBLE CAUSE	SOLUTION
Unit does not turn on	<ul style="list-style-type: none"> • Main Power Switch 1 turned Off • No AC power 	<ul style="list-style-type: none"> • Press in Main Power Switch 1 • Check AC power plug and make certain any switched outlet is turned on
Disc does not play	<ul style="list-style-type: none"> • Disc loaded improperly • Incorrect disc type • Invalid Region Code • Rating is above parental preset 	<ul style="list-style-type: none"> • Load disc label-side up, note to align the disc with the guides and place it in its proper position. • Check to see that disc is CD, CD-R, CD-RW, VCD, DVD+RW, DVD+R, DVD-R and DVD-RW (standard conforming) or DVD-Movie; other types will not play • Use Region 2 disc only • Enter password to override or change rating settings, see page 18
No picture	<ul style="list-style-type: none"> • Intermittent connections • Wrong Input 	<ul style="list-style-type: none"> • Check all video connections • Check input selection of TV or receiver.
No sound	<ul style="list-style-type: none"> • Intermittent connections • Incorrect digital audio selection • DVD disc is in fast or slow mode • Surround receiver not compatible with 96 kHz PCM audio 	<ul style="list-style-type: none"> • Check all audio connections • Check digital audio settings • There is no audio playback on DVD discs during fast or slow modes • Use analog audio outputs.
Picture is distorted or jumps during fast forward or reverse play	<ul style="list-style-type: none"> • MPEG-2 decoding 	<ul style="list-style-type: none"> • It is a normal artifact of DVD playback for pictures to jump or show some distortion during rapid play
Some remote buttons do not operate during DVD play, Prohibited symbol "⊘" appears (see below)	<ul style="list-style-type: none"> • Function not permitted at this time 	<ul style="list-style-type: none"> • With most DVDs some functions are not permitted at certain times (e.g. Track Skip) or not at all (e.g. direct Audio track selection).
The OSD menu is in a foreign language	<ul style="list-style-type: none"> • Incorrect Display language 	<ul style="list-style-type: none"> • Change Display language selection, see page 19
"⊘" Symbol Appears	<ul style="list-style-type: none"> • Requested function not available at this time 	<ul style="list-style-type: none"> • Certain functions may be disabled by the DVD itself during passages of a disc
Picture is displayed in the wrong Aspect Ratio	<ul style="list-style-type: none"> • Incorrect match of aspect ratio settings to disc • Unit is not connected to TV with a Scart connector. 	<ul style="list-style-type: none"> • Change Aspect Ratio settings, see page 17 • To make TVs turn automatically to 16:9 mode they must be connected to the player via Scart.
Remote control inoperative	<ul style="list-style-type: none"> • Weak batteries • Sensor is blocked 	<ul style="list-style-type: none"> • Change both batteries • Clear path to sensor or use remote sensor
Disc will not copy to VCR	<ul style="list-style-type: none"> • Macrovision protection 	<ul style="list-style-type: none"> • Many DVDs are encoded with Macrovision to prevent copying to VCR

DVD Language Codes

The availability of specific languages for the main audio track or subtitles is dependent on the choices made by a disc's producer. You should always consult the disc's jacket for information on languages for any disc. In the case of some languages, you may be required to enter a code from the list below to access that language. See page 18 for more information on entering language codes.

Language	Code	Language	Code	Language	Code
Abkhazian	6566	Hungarian	7285	Russian	8285
Afar	6565	Icelandic	7383	Samoan	8377
Afrikaans	6570	Indonesian	7378	Sangho	8371
Albanian	8381	Interlingua	7365	Sanskrit	8365
Ameharic	6577	Interlingue	7369	Scots Gaelic	7168
Arabic	6582	Iunpiak	7375	Serbian	8382
Armenian	7289	Irish	7165	Servo-Groatian	8372
Assamese	6583	Italian	7384	Sesotho	8384
Aymara	6588	Japanese	7465	Setswana	8478
Azerbaijani	6590	Javanese	7487	Shona	8378
Bashkir	6665	Kannada	7578	Sindhi	8368
Basque	6985	Kashmiri	7583	Singhalese	8373
Bengali; Bangla	6678	Kazakh	7575	Siswati	8383
Bhutani	6890	Kinyarwanda	8287	Slovak	8375
Bihari	6672	Kirghiz	7589	Slovenian	8376
Bislama	6673	Kirundi	8278	Somali	8379
Breton	6682	Korean	7579	Spanish	6983
Bulgarian	6671	Kurdish	7585	Sundanese	8385
Burmese	7789	Laothian	7679	Swahili	8387
Byelorussian	6669	Latin	7665	Swedish	8386
Cambodian	7577	Latvian, Lettish	7686	Tagalog	8476
Catalan	6765	Lingala	7678	Tajik	8471
Chinese	9072	Lithuanian	7684	Tamil	8465
Corsican	6779	Macedonian	7775	Tatar	8484
Croatian	7282	Malagsy	7771	Telugu	8469
Czech	6783	Malay	7783	Thai	8472
Danish	6865	Malayalam	7776	Tibetan	6679
Dutch	7876	Maltese	7784	Tigrinya	8473
English	6978	Maori	7773	Tonga	8479
Esperanto	6979	Marathi	7782	Tsonga	8483
Estonian	6984	Moldavian	7779	Turkish	8482
Faroese	7079	Mongolian	7778	Turkmen	8475
Fiji	7074	Naru	7865	Twi	8487
Finnish	7073	Nepali	7869	Ukrainian	8575
French	7082	Norwegian	7879	Urdu	8582
Frisian	7089	Occitan	7967	Uzbek	8590
Galician	7176	Oriya	7982	Vietnamese	8673
Georgian	7565	Oromo (Afan)	7977	Volapuk	8679
German	6869	Panjabi	8065	Welsh	6789
Greek	6976	Pashto, Pushto	8083	Wolof	8779
Greenlandic	7576	Persian	7065	Xhosa	8872
Guarani	7178	Polish	8076	Yiddish	7473
Gujarati	7185	Portuguese	8084	Yoruba	8979
Hausa	7265	Quechua	8185	Zulu	9085
Hebrew	7387	Rhaero-Romance	8277		
Hindi	7273	Romanian	8279		

Technical Specifications

Applicable Disc:	Disc formats: 5 inch (12 cm) or 3 inch (8 cm) DVD-Movie, Standard conforming DVD+RW, DVD+R, DVD-R and DVD-RW, VCD, CD, CD-R, MP3 or CD-RW discs, Regio code: DVD Movie disc with Code 2 or 0 only. DVD-Layers: Single Side/Single Layer, Single Side/Dual Layer, Dual Side/Single Layer, Dual Side/Dual Layer Audio formats: Linear PCM, MPEG, Dolby Digital or DTS
Video Signal System:	PAL/NTSC
Composite Video Output:	1 V p-p/75 Ohms, sync negative polarity
S Video Output:	Y/Luminance: 1 V p-p/75 Ohms, sync negative polarity C/Chrominance: 0.286 V p-p
Analog Audio Output:	2 Vrms max
Frequency Response:	DVD (Linear PCM): 2 Hz - 22 kHz +0/-0.5 dB (48 kHz sampling) 2 Hz - 44 kHz +0/-0.5 dB (96 kHz sampling) CD: 2 Hz - 20 kHz +0/-0.5 dB
Signal/Noise Ratio (SNR):	113 dB (A-weighted)
Dynamic Range:	DVD: 100 dB (18 Bit) / 105 dB (20 Bit) CD/DVD: 96 dB (16 Bit)
THD/1kHz:	DVD/CD: 0.0025 %
Wow & Flutter:	Below Measurable Limits
AC Power:	110 - 240 V/ 50 - 60 Hz
Power Consumption:	12 Watts (On)/ 20 Watts (Max)
Dimensions (WxHxD):	440 x 87 x 305 mm
Weight:	7 Kg

Depth measurement includes knobs and connectors.

Height measurement includes feet and chassis.

All specifications subject to change without notice.

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