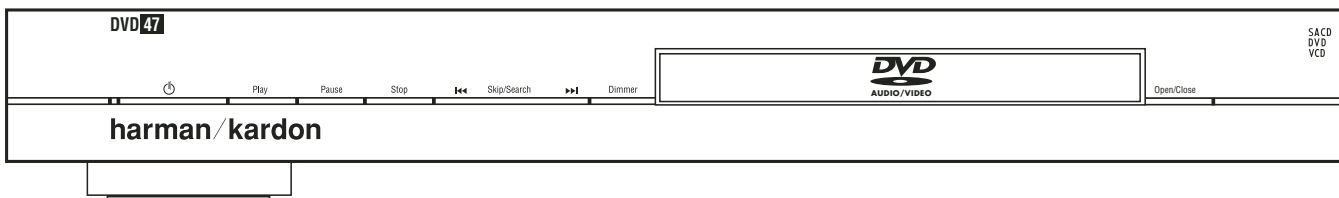


ENGLISH

# DVD 47 Digital Versatile Disc Player

## OWNER'S MANUAL



harman/kardon®

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### Declaration of Conformity



We, Harman Consumer Group, Inc.  
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 55013:2001

EN 55020:2002

EN 61000-3-2:2000

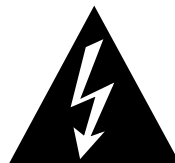
EN 61000-3-3:1995+A1:2001

EN 60065:2002

Jurjen Amsterdam  
Harman Consumer Group, Inc.  
09/06

**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.



### 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

The DVD 47 is a state-of-the-art optical disc player that can play almost every music, movie and still-image disc in your library with the highest fidelity available today. Along with conventional Video and CD audio discs, the DVD 47 lets you enjoy the latest high-resolution DVD-Audio and SACD™ discs, with HDMI™ (High-Definition Multimedia Interface™) output of pure, uncompressed digital audio and video as well as DivX® and VCD discs.

To enable you to get the maximum quality from DVDs, the DVD 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. For optimum playback of NTSC and PAL DVD with compatible high-definition display devices, DVD is equipped with progressive component video outputs.

When used with an HDMI-compatible audio/video receiver and video display, the program quality is preserved. By passing an uncompressed signal, degradation is virtually nonexistent. And the single-cable connection eliminates the problem of wire management.

If you have not yet upgraded to an HDMI video display, you may still enjoy pristine picture quality with the DVD 47's precision video DACs, which output a Y/Pr/Pb progressive-scan component signal and composite and S-video. Thus, no matter what type of video display used, you will see images that are the closest thing to the original film or performance this side of your local theater. To further fine-tune the video output, a built-in test pattern may be used in conjunction with either the controls on your display, or the video output adjustments on the DVD 47.

In addition, Harman Kardon's audio heritage continues into the digital video era with audiophile-grade 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. The analog outputs for down-mixed stereo or DVD-Audio and SACD playback use audiophile-grade digital-to-analog converters for crystal-clear outputs. 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.

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 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 has to offer, we encourage you to review this quick setup manual. That small investment of your time will pay major dividends in the enjoyment you will get from proper use of the DVD.

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.

- **Plays a Wide Range of Video and Audio Formats, Including DVD-Video Discs, DVD-Audio discs, SACD™, VCD, Standard CD Audio Discs, CD-R/RW, DVD-R/RW, DVD+R/RW, Audio Discs and MP3 Discs**
- **HDMI™ 1.0 port with HDCP outputs uncompressed high-definition digital video (720p and 1080i) and up to six channels of Dolby Digital, DTS or PCM digital audio, depending on the source disc**
- **High-quality video reproduction with pixel-by-pixel processing, progressive scan output and 3/2 pull-down reconstruction**
- **Simultaneous composite and component or S-video video outputs**
- **Complete bass management for DVD-Audio and SACD™ playback**
- **High-Quality Video Playback 10-Bit DACs, Progressive Scan and Component Video Outputs**
- **Dolby Digital and DTS Data Signal Output Through Both Optical and Coaxial Digital Audio Connections**
- **Audiophile-Grade Output DACs for the Finest Audio reproduction**
- **Easy-to-Use On-Screen Navigation System**
- **Playback of MP3 and Windows® WMA Audio Discs and JPEG image files**
- **Parental Lock Controls Prevent Unauthorized Viewing of Restricted Movies**
- **Playback of DivX compressed video files**
- **Extensive Programming Capability for Audio and Video Discs**
- **Multiple Options for Language, Soundtrack and Subtitle Selection**
- **Multiple-Angle Capabilities With Specially Encoded DVD Discs**
- **Backlit, Ergonomically Designed Remote Control**

### 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.

**DVD Audio:** With the arrival of DVD, disc data capacity has increased dramatically. On a DVD Video disc most of this capacity is taken up by MPEG 2 video and the multichannel movie soundtrack in Dolby Digital and/or DTS. This information is compressed.

But with DVD Audio, most of this capacity is available for music only, without any compression. This allows us to put the audio information on the disc in the same quality as the original mastering in the studio, in PCM up to 24 bit/192 kHz.

DVD-Audio's 24-bit system provides substantially improved resolution of fine detail, because it describes a specific point in the musical information using a 24-digit long string of one's and zero's with 16,777,216 possible combinations, while CD's primitive 16-bit system offers only 65,536 options. The 192 kHz frequency allows us to have fast changes in music made audible, which results in more dynamism, and also allows us to obtain a higher bandwidth, up to 96 kHz. Although that is far beyond the human audible spectrum, it still improves the musical realism.

**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 to play back in either format, depending on the features recorded on a disc.

## Terminology

**Component Video:** This form of video signal eliminates many of the artifacts of traditional composite video signals by splitting the signal into a separate luminance channel (the "Y" signal channel) and two color-difference signals (the Pr and Pb signal channels). With a component video connection, you will see greater picture resolution and eliminate many picture imperfections such as the moiré patterns often seen on check-patterned cloth. However, in order to benefit from component video, you must have a video display with Y/Pr/Pb component video inputs. Do not connect the component video outputs of the DVD 47 to the standard composite or S-video inputs of a TV or recorder.

**Group:** The individual tracks on a DVD-Audio disc may be combined into Groups. There may be more than one Group on a disc. Depending on the way a disc's producers create the program, the Groups can contain different program material, or they may repeat the disc's content in different audio formats, such as 5.1 audio or high-resolution stereo.

**HDCP (High-Bandwidth Digital Content Protection):** HDCP is the specification for protecting digitally encoded content from unauthorized copying when it is transmitted from a DVD player (or other video source) to a video display using HDMI or DVI connections. In order to take advantage of the high-resolution output of the DVD 47 via its HDMI output, your display must be HDCP-compliant. Virtually all displays with HDMI inputs are HDCP-compliant, but not all DVI-equipped displays are. If you are using the DVD 47 with an optional HDMI-to-DVI cable or adapter, check the owner's manual for your display to determine whether it is HDCP-compliant.

**HDMI™ (High-Definition Multimedia Interface™):** HDMI is a serial-bus form of communication between the DVD player and the video display or audio/video receiver. With 5Gbps of bandwidth, it is capable of passing uncompressed digital audio and high-definition digital video using a single cable. With HDMI, the DVD 47 is capable of outputting high-resolution (720p or 1080i) video and 5.1-channel Dolby Digital or DTS digital audio, with the convenience of just a single cable connection.

**JPEG Files:** JPEG stands for the Joint Photographic Experts Group, which developed a standard for compressing still images, such as photographs. JPEG files may be created on a personal computer by importing images from a digital camera, or scanning printed photographs. These files may be burned onto a compact disc. The DVD 47 is capable of recognizing JPEG files and enabling you to view them on your video screen.

**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.

**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.

**Progressive Scan:** Due to the immense data storage capacity of DVD, images are nowadays stored progressively (intact, rather than interlaced). This allows all of the lines in each frame (odd and even) to be shown at the same time. Harman Kardon Cinema Lounge comes with true progressive scan video output resulting in a 40% greater light output than a conventional TV and a stunningly detailed, high definition image with absence of visible scanlines and motion artifacts.

**WMA Files:** WMA (Windows Media® Audio) is an audio compression format that was developed by the Microsoft® Corporation for use with its Windows Media Player. WMA files can be even smaller in size than MP3 files, while maintaining similar quality. The DVD 47 is among those DVD players capable of playing discs containing WMA files. Note that Windows Media Player uses other file formats; however, the DVD 47 is only capable of playing files that end in the ".wma" extension. See page 5 for more information on WMA file support.

**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 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, 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.

### DivX

DivX is the name of a revolutionary new video codec which is based on the MPEG-4 compression standard for video. This DVD player will playback discs created with DivX software. The DVD player's playback functionalities of DivX video discs will vary depending on the DivX software version used for creating your movies. For more information about the different software versions of DivX, please go to [www.divx.com](http://www.divx.com).

**SACD (Super Audio Compact Disc):** The SACD format is an improvement upon the original compact disc, and was developed by the same companies that originated the CD. Thanks to its high-density format, the SACD disc is capable of storing more than seven times the amount of data as on a standard CD. Engineers realized that if they utilized a much higher sampling frequency in a single-bit format, but eliminated the downsampling required to fit 74 minutes of audio on a standard CD, they could preserve a much higher quality of audio that more closely approximates the original analog signal. In addition, the playback equipment would no longer need to perform an upsampling interpolation to play back the program. Eliminating these two conversion steps minimizes distortion and artifacts, while enabling much higher resolution. Most SACD discs are dual layer, including a conventional CD layer for compatibility with older disc players, as well as the SACD high-density layer. In addition, SACD discs may contain two-channel or multichannel versions of the program, or both.

## Features

### High quality video

- High Definition Multimedia Interface (HDMI) for a single wire, digital connection to your HD-Ready screen.
- 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.
- Progressive Scan component video outputs (NTSC and PAL)
- Playback of JPEG image files

### High quality digital audio

- Built-in DVD-Audio decoder for improved musical realism.
- 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).
- Intuitive menu operating system.
- 4 step Zoom during play and pause.
- Backlit, ergonomically designed remote control.
- Future software upgrades accessible via Internet. (See information below.)

\* *The number of languages recorded depends on the software.*

### Compatible with CD as well as DVD

- The DVD 47 will play any conventional Audio CD or recordable (CD-R) or erasable CD (CD-RW), MP3, WMA (v8) or any DivX or VCD or DVD/Video 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-AUDIO
- SACD
- DVD
- DVD-R
- DVD-RW
- DVD+R
- DVD+RW
- CD
- CD-R
- CD-RW
- VCD/SVCD
- WMA (v8)
- DivX and XviD

**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. Similarly, although the DVD is capable of a wide range of features, not all discs include every capability of the DVD system. For example, although the DVD is compatible with multi-angle discs, that feature is only possible when the disc is specially encoded for multi-angle play. In addition, the DVD 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, WMA, JPEG, MP3, DivX, VCD/SVCD, 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.

- The DVD 47 is compatible with most discs recorded with files encoded using MP3 or Windows Media 8, as well as JPEG still images. However, note that variations in the encoder or codec used and the bit rate of the encoding may affect the DVD 47's ability to play back a specific disc. As a result, we cannot guarantee complete compatibility with all encoders and versions of the codecs. For best results, we recommend that MP3 files be encoded at bit rates ranging between 32kbps and 320kbps. WMA files should be encoded at bit rates between 64kbps and 320kbps. Although the DVD 47 is capable of playing some WMA 9 files, not all features of version 9 are supported. JPEG files should contain no

more than 5 megapixels, and the file size should be no larger than 5Mb.

- SACD discs are available in SACD-only and hybrid formats. Hybrid discs contain a conventional CD-DA (red book) layer, in addition to the high-density SACD layer, that enables the disc to be backwards compatible with conventional optical disc players. The DVD 47 is capable of playing both types of SACD discs. When a hybrid disc is loaded, the DVD 47 will default to playing the SACD layer.

- SACD discs are also available in either two-channel or multichannel formats. The DVD 47 will play either format correctly, with multi-channel materials being outputted through the **6-Channel Outputs** 12.

### The DVD 47 will NOT play the following:

- DVD discs with a Region Code other than 2
- DVD-ROM data discs
- DVD-RAM discs
- CD-I discs
- CD-G discs
- Kodak Photo CD™ discs (Kodak Picture CD discs, available to consumers, may be viewed using the DVD 47).
- Discs intended for use in video game consoles
- Discs recorded in the "VR" mode
- High-definition optical discs such as WMVHD, HD-DVD and Blu-ray

### Upgradeability via Internet

The "firmware" controlling the functionality of the Harman Kardon DVD 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/International/](http://www.harmankardon.com/International/) All you have to do is create a CD-R with the data and insert it in the DVD for an automatic upgrade.

### Packing List

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

## Front Panel Controls



- 1** Main Information Display
- 2** Power On/Off (Standby)
- 3** Open/Close

- 4** Play
- 5** Pause
- 6** Stop

- 7** Skip/Search (Previous)
- 8** Skip/Search (Next)
- 9** Dimmer

**1 Main Information Display:** This display delivers messages and status indications to help you operate the DVD player.

**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.

**3 Open/Close:** 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.

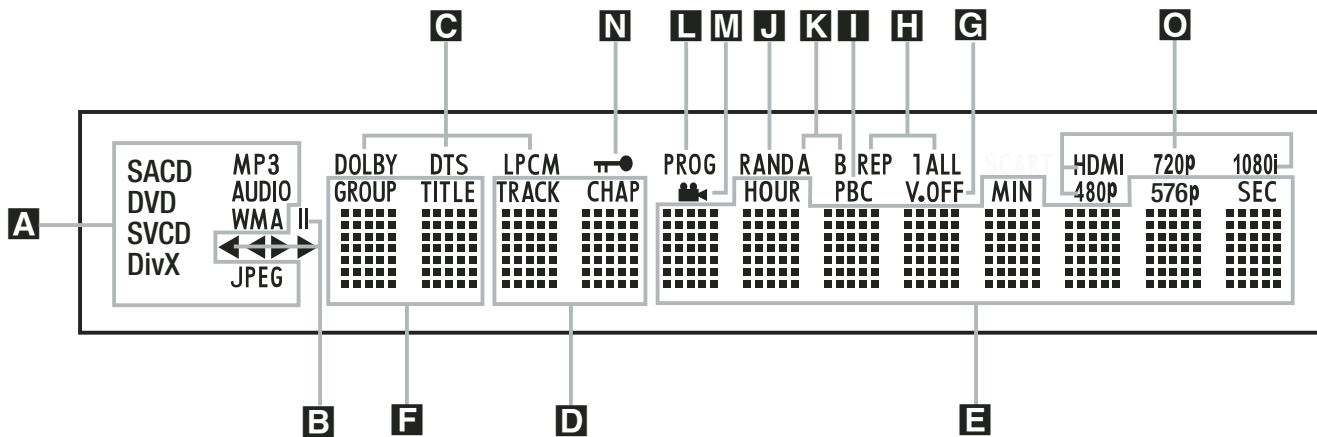
**6 Stop:** Press this button once to place the disc in the Resume mode, which means that playback will stop, but as long as the tray is not opened or the disc changed, DVD playback will continue from the same point on the disc when the Play Button is pressed again. Resume will also work if the unit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

**7 Skip/Search (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/Search (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.

## Front Panel Information Display



- A** Disc Type Indicators
- B** Playback-Mode Indicators
- C** Audio Bitstream Indicators
- D** Chapter/Track Number Indicators
- E** Time Indicators

- F** Title Indicators
- G** V-OFF Indicator
- H** Repeat Indicators
- I** VCD Playback Control Indicator
- J** Random Indicator

- K** A-B Repeat Indicator
- L** Program Indicator
- M** Angle Indicator
- N** Parental Lock Indicator
- O** Video Output Indicators

**A Disc Type Indicators:** The CD, DVD, DVD-Audio, SACD, VCD, MP3, WMA or JPEG 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 (x2, x4, x8, x20, x100).

|| 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 (x2, x4, x8, x20, x100).

**C Audio Bitstream Indicators:** When a Dolby® Digital, DTS® or linear PCM digital audio signal is present on the disc, one of these indicators will light. DVD-Audio, MP3 and WMA bitstreams will be indicated by the **Disc Type Indicator A**.

**D 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.

**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.

**NOTE:** The Indicators **D E F** will also display text messages about the DVD's status, including **L O A D I N G** when a disc is loading, **P O W E R O F F** when the unit is turned off, and **D I S C E R R O R** when a disc not compatible with the DVD is put into the play position.

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

**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.

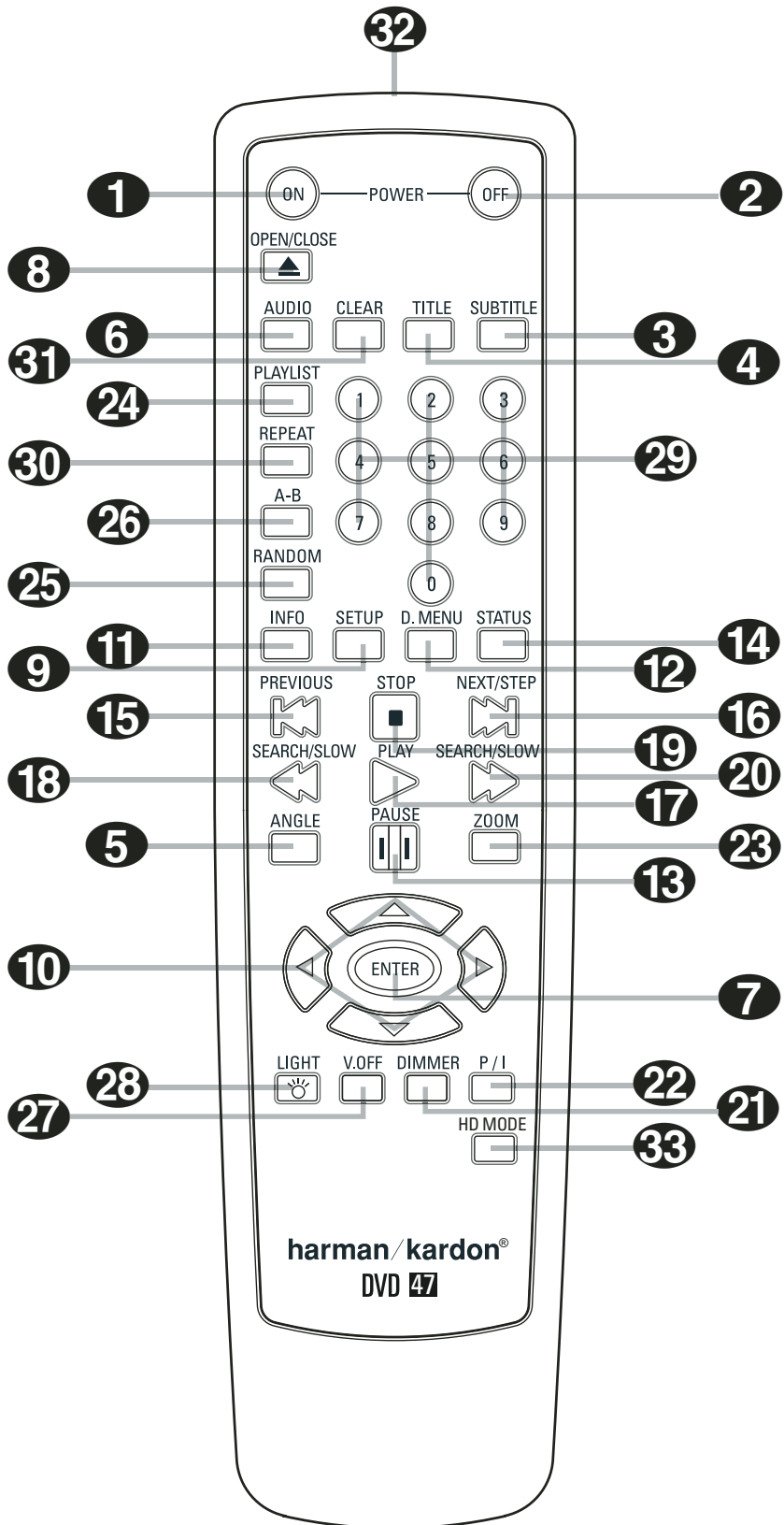
**M Angle Indicator:** This indicator blinks when alternative viewing angles are available on the DVD currently playing.

**N 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.

**O Video Output Indicators:** When the DVD 47 is connected to a video display using the **HDMI Output 1**, as soon as the player is turned on (while the display is on already) the display sends information to the DVD 47 indicating the highest video resolution it is capable of handling, and the DVD 47 automatically sets the video output to match it. That resolution is displayed here. You may use the **HD Mode Selector 63** to manually select another video output resolution.

## Remote Control Functions

- ➊ POWER ON
- ➋ POWER OFF
- ➌ SUBTITLE
- ➍ TITLE
- ➎ ANGLE
- ➏ AUDIO
- ➐ ENTER
- ➑ OPEN/CLOSE
- ➒ SETUP
- ➓ ARROWS
- ➔ INFO
- ➕ MENU
- ⏸ PAUSE
- ➖ STATUS
- ⏮ SKIP (PREVIOUS)
- ⏪ SKIP/STEP (NEXT)
- ▶ PLAY
- ⏭ SEARCH/SLOW REVERSE
- ⏩ STOP
- ⏮ SEARCH/SLOW FORWARD
- ⏪ DIMMER
- ⏭ PROGRESSIVE SCAN/INTERLACED
- ⏩ ZOOM
- ➔ PLAYLIST
- ➕ RANDOM
- ➖ A-B Repeat
- ➔ V.OFF
- ➖ LIGHT
- ➓ NUMERIC KEYS
- ➑ REPEAT
- ➓ CLEAR
- ➓ IR EMITTER
- ➓ HD Mode Selector





## 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.

**Note:** Due to the variations in how DVD discs are authored, the subtitle languages displayed by the DVD 47 may not accurately reflect the actual languages available on the disc. It is recommended that subtitles be selected using the disc's menu.

**4 TITLE:** When a disc is playing, press to make the player go back to the first section of the disc. If you are playing a DVD-Audio disc that contains other formats the DVD 47 is capable of playing, such as linear PCM or Dolby Digital 5.1, pressing this button may enable you to switch playback from one audio format to another.

**5 ANGLE:** Press to access various camera angles on a DVD (If the DVD contains multiple camera angles) or to rotate JPEG images.

**6 AUDIO:** Press to access various audio languages on a DVD (If the DVD contains multiple audio streams).

**7 ENTER:** Press this button to activate a setting or option

**8 OPEN/CLOSE:** Press to open or close the disc tray.

**9 SETUP:** Press this button to use the DVD 47's on-screen menu system to adjust the player's configuration settings. Note that the **Info Button** **11** must be pressed to access the DVD 47's Player Information menu to obtain detailed disc information, (lower **INFO** icon is selected) and to configure the playback mode of the disc (when upper **INFO** icon is selected).

**10 ARROW buttons** (◀/▶/▲/▼): Use to move the cursor in the OSD.

**11 INFO:** Press for detailed informations on the disc playing (Video/Audio Bit rate, Movie aspect ratio and others), and for current player settings made. Press again to remove information from screen.

**12 MENU:** Displays the actual DVD Disc Menu on the TV screen in play mode. When playing discs with JPEG images, pressing this button will access the thumbnails.

**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 banner display. Use the ARROW buttons to move through the different features in the Banner Display. 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/STEP (Next):** Press to go to beginning of next track. After pressing the PAUSE button, each press of this button will move the image forwards frame by frame.

**17 PLAY:** Begins to play disc (closes disc tray first, if it is open.)

**18 SEARCH/SLOW (REV):** Allows you to search in reverse through a disc while it is in play mode. Each time you press this button, the search speed changes as indicated by a number of arrows on the right top of your screen. After pressing the PAUSE button, each press of this button will change the slow down speed indicated by a number of arrows in the right top of the screen.

**19 STOP:** Stops playing a disc. When a 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 the PLAY button, the disc will start play from the beginning.

**20 SEARCH/SLOW (FWD):** Allows you to search forward through a disc while it is in play mode. Each time you press this button, the search speed changes as indicated by a number of arrows on the right top of your screen. After pressing the PAUSE button, each press of this button will change the slow down speed as indicated by a number of arrows in the right top of the screen.

**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 PROGRESSIVE SCAN/INTERLACED:** Press this button to change the resolution of the Component Video Output between standard definition and progressive definition (PAL interlaced and PAL progressive; NTSC interlaced and NTSC progressive). The setting can be changed only after quitting the Setup menu.

### Important Note:

Before changing this setting read the notes for this selection on page 19.

**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.

**24 PLAYLIST:** Press this button to change the playback order of the disc.

**25 RANDOM:** Press for RANDOM playback in random order.

**26 A-B:** Press to select section A-B and to play repeatedly.

**27 V.OFF:** Press to turn off video output for improved performance from audio-only discs. Press again to restore video output.

**28 LIGHT:** Press to illuminate remote controller.

**29 NUMERIC KEYS:** Select numbers by pressing these buttons.

**30 REPEAT:** Each press of this button changes the playback mode to repeat a chapter or track or the entire disc. A repeat icon will appear in the upper right corner of the screen indicating the current repeat mode. If the Player Information Screen is active, the changes will be displayed on screen.

**31 CLEAR:** Press to remove the Banner menu from the screen.

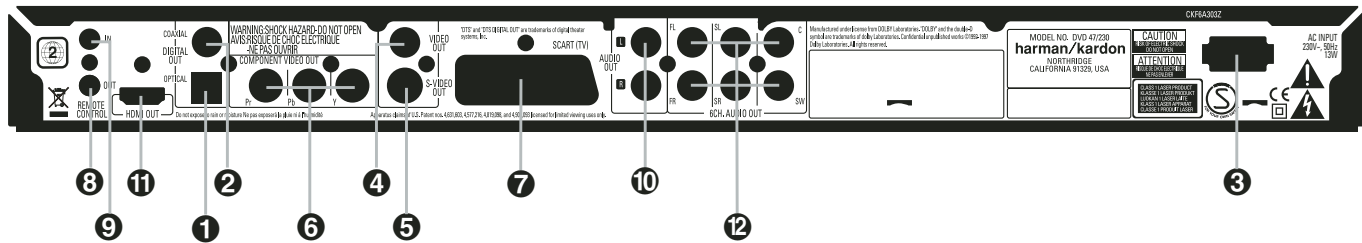
In Stop mode and with all menus and banners removed from the display, press and hold this button for five seconds to reset all settings to their factory defaults.

**32 IR EMITTER:** This small, clear button-like device sends the IR commands from the remote control to the DVD 47. To ensure proper performance of the remote control, be sure to point it toward the unit and do not cover it with your fingers when sending remote commands.

**33 HD Mode Selector:** When the DVD 47 is connected to a video display using the **HDMI Output** **11**, as soon as the player is turned on (while the display is on already) the display sends information to the DVD 47 indicating the highest video resolution it is capable of handling, and the DVD 47 automatically sets the video output to match it. Pressing this button allows you to manually change the output resolution, with your selection indicated by the **Video Output Indicators** **10**.

Changes made with this button remain active until the DVD 47 is turned off. When the DVD 47 is turned off, and then on again, the DVD 47 will revert to the default setting transmitted by the display.

## Rear Panel Connections



- 1 Optical Digital Output
- 2 Coaxial Digital Output
- 3 AC Power Cord
- 4 Composite Video Output
- 5 S-Video Output
- 6 Component Video Outputs
- 7 SCART (TV) Output
- 8 Remote Control Output
- 9 Remote Control Input
- 10 Analog Audio Output
- 11 HDMI Output
- 12 6-Channel Audio Outputs

**1 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.

**2 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.

Connect either the **Optical Digital Audio Output 1** or the **Coaxial Digital Audio Output 2** to a corresponding digital audio input on your receiver or processor, but not both.

**3 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.

**4 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.

**5 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.

**6 Component Video Outputs:** These outputs carry the component video signals for connection to display monitors with component video inputs. For standard analog TV's or projectors with inputs marked Y/Pr/Pb or Y/Cr/Cb, connect these outputs to the corresponding inputs. Note that if you are using a progressive scan display device, then "Progressive" must be selected in the Video Set-up Menu in

order to take advantage of the progressive scan circuitry. See page 19 for more information on progressive scan video.

**IMPORTANT:** These jacks should NOT be connected to standard composite video inputs.

**7 SCART OUT (TV):** 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.

**8 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 provide IR signals to other compatible products.

**9 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 is blocked. This jack may also be used with compatible IR remote control-based automation systems.

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

**11 HDMI Output:** If you have an HDMI-compatible receiver or video display device, connect this output to an HDMI input on the receiver or video display for the highest-quality uncompressed digital audio and video available. Even if your receiver is not capable of processing audio in the HDMI format, you may still experience the superb reproduction of HDMI video.

If your video display has a DVI input, you may use an optional HDMI-to-DVI cable or adapter for the connection to the display. In all cases, the

video display must be HDCP-compliant in order to use the HDMI output. For best results, we do not recommend HDMI connections in excess of ten feet.

The following audio formats may be output via the HDMI connection:

Audio CD – 2-Channel PCM or 5.1-channel DTS

DVD-Audio and SACD – 2-Channel PCM

DVD-Video – Up to 5.1-channel Dolby Digital or DTS

**Note:** To hear the high-resolution surround sound recorded on DVD-Audio and SACD discs, you need to connect the **6-Channel Audio Outputs 12** to the corresponding input jacks on your receiver or processor. These formats are not output digitally.

**12 6-Channel Audio Outputs:** Connect these outputs to the matching 6-channel analog audio inputs on your receiver or surround sound processor. This connection is required to listen to the multichannel tracks on SACD and DVD-Audio discs. If the disc also contains a linear PCM, Dolby Digital or DTS track, you may listen to it using the **HDMI 11**, **Optical 1** or **Coaxial Digital Audio Output 2** or the **Analog Audio Outputs 10**.

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

## Setup and Connections

### Before connecting your DVD 47, please:

- 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.

For the best quality, if your receiver or processor and/or video display are HDMI-capable, we recommend using the HDMI output. With a single cable connection between components, HDMI is able to deliver uncompressed high-definition digital video and digital audio programming.

**Note:** If your video display has no HDMI but a DVI input, you may use an optional HDMI-to-DVI cable or adapter for the connection to the display. In all cases, the video display must be HDCP-compliant in order to use the HDMI output.

If your equipment is not HDMI-ready, we recommend the use of component video for higher quality pictures.

For that case use the input jacks on the video display marked "Component" or "Y/Pr/Pb" or "Y/U/V".

If you are using a television or video display that is compatible with 576p progressive component video signals, make sure to configure the display's input settings for use with "576P" video signals.

You will also need to change the scan type in the DVD 47's Video Setup menu from "Interlaced" to "Progressive." See page 19.

You may also use the standard S-video or composite video connection if your TV does not have component video inputs. The component and S-video outputs are not available simultaneously.

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. Separate analog audio connections to TV are needed only if your TV is connected to the video or S-video output.

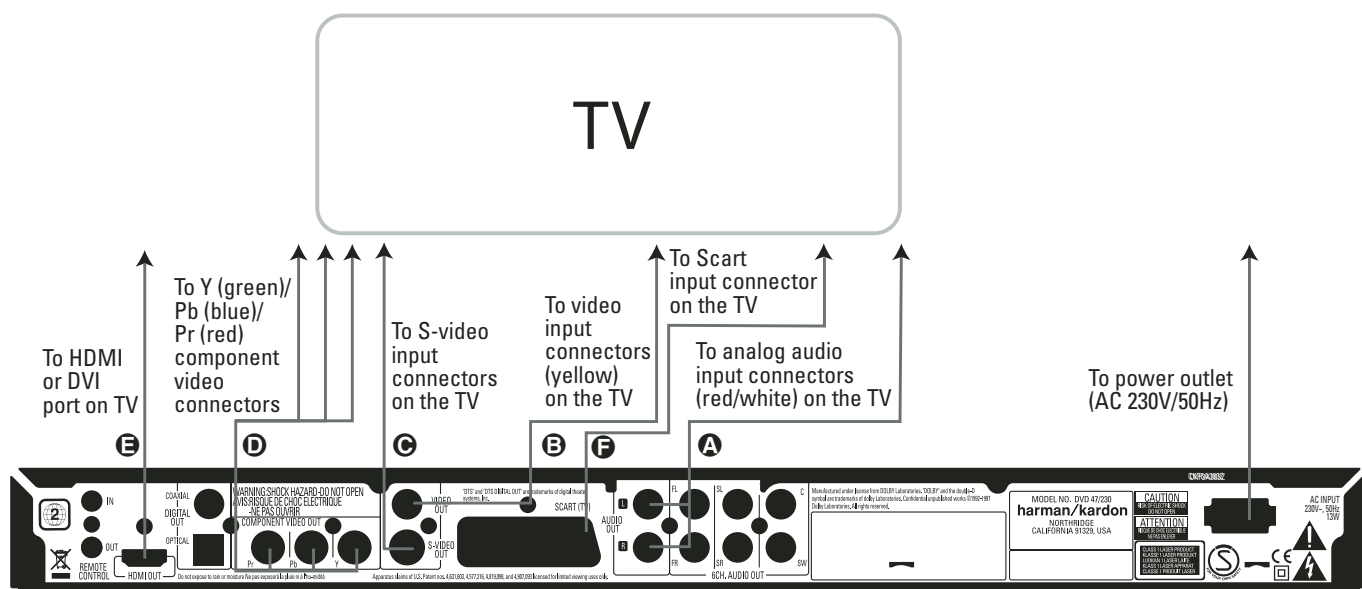
- Modern audio/video receivers are capable of connection to several video source devices, such as the DVD 47 and a VCR, cable television set-top box, HDTV tuner or other device. The receiver is equipped with video monitor outputs for connection to your television, projector or plasma display. As you select any input source device, the receiver selects the correct video input and routes it to the correct video monitor output to your

television. It is recommended that you connect one of the video outputs from the DVD 47 to the corresponding input on your receiver to simplify operation of your home entertainment system. Refer to the owner's guide for your receiver for more information.

- If your receiver is capable of multiroom operation, it is recommended that you connect both the component (or HDMI) and composite video outputs of the DVD 47 to the receiver. This enables the highest-quality picture (component video) for viewing in the main listening room, while enabling the multiroom system, if it is video-capable, to distribute the composite video signal to the remote zone. Consult the owner's guide for your receiver to determine whether it has video multiroom capability.

### Connecting to a TV Only

When using the DVD 47 with a television but no audio receiver or processor, connect it as follows. Make the **Analog Audio Connection A** and one of the **Video Connections (Composite Video B, S-Video C, Component Video D)** or use the **Scart Connection F**, providing the audio signal too. If your television or video display is HDMI-capable, you only need to make the **HDMI E** connection, as it handles both audio and video. Remember to plug in the power cord.



## Setup and Connections

### Connecting to a Receiver/Amplifier With a Dolby Digital or DTS Decoder

One of the major advantages of the DVD format is its ability to use a variety of digital audio formats for the ultimate in sonic performance. However, in order to enjoy the benefits of digital audio, you must use a receiver or processor that has digital audio decoding capabilities and make an optical or coaxial digital audio connection between the DVD 47 and your home theater system. This simple connection is made as shown below with an optional coax or optical cable. Only one of these connections is required, and both should not be made at the same time.

In order to take advantage of the high-resolution SACD and DVD-Audio output of the DVD 47, you must connect the **6-Channel Audio Outputs 12** to the matching 6-channel inputs on your receiver or processor.

#### NOTES FOR ANALOG AUDIO:

- If you wish to use the DVD 47 as the input for a multiroom system, the **Analog Audio Outputs 10** should be connected to the standard analog left/right DVD or CD inputs on your digital receiver or processor.
- The connection from the **Analog Audio Outputs 10** to the TV is optional.

- When the audio signal is to be fed to an analog receiver rather than to the TV, connect the **Analog Audio Outputs 10** to any analog audio inputs on your receiver or processor.
- The analog audio connection should also be made if you wish to play high-resolution 96kHz PCM audio discs where your receiver does not support 96kHz processing.

#### NOTES ON VIDEO:

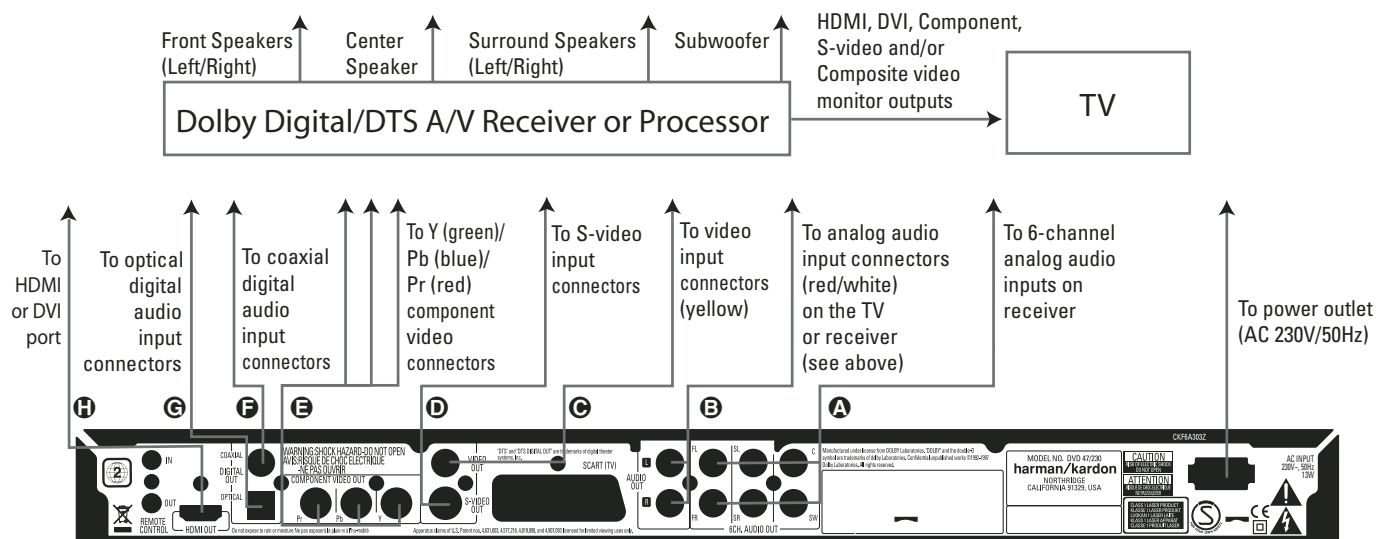
- Note: With multiple video sources, your Audio/Video device can be used for selecting the video signal and routing it to the TV. Connect the video or S-video output of the DVD player (whatever is provided with your device) to the video or S-video input on your device and the video/S-video output of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

### Connecting to a Receiver

When using the DVD 47 with an audio/video receiver or processor, connect it as follows. First, make one of the video connections (**Composite Video 6**, **S-Video 8**, **Component Video 9** or **HDMI 11**) to the video input jacks on the A/V receiver, and then connect the receiver's video monitor output to the TV. In addition, to benefit from the high-resolution surround sound formats recorded on SACD and DVD-Audio discs, which are not output via the HDMI connection, you will need to make the **6-Channel Audio Connection A** to your receiver or processor.

Second, if your receiver or processor is not HDMI-capable, make either the **Optical Digital Audio Connection G** or the **Coaxial Digital Audio Connection F**, to the receiver or processor.

**IMPORTANT NOTE:** Make certain that any device being connected, including the DVD 47, your receiver or processor and your TV or video display, is turned off whenever you make connections between products.



#### Important Notes on SCART and RGB format:

- Your DVD 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's TV SCART connector must be set to "RGB".

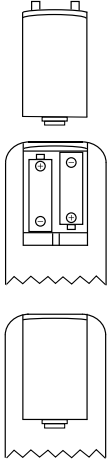
Note that with RGB video the color intensity cannot be adjusted with most TVs.

- 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

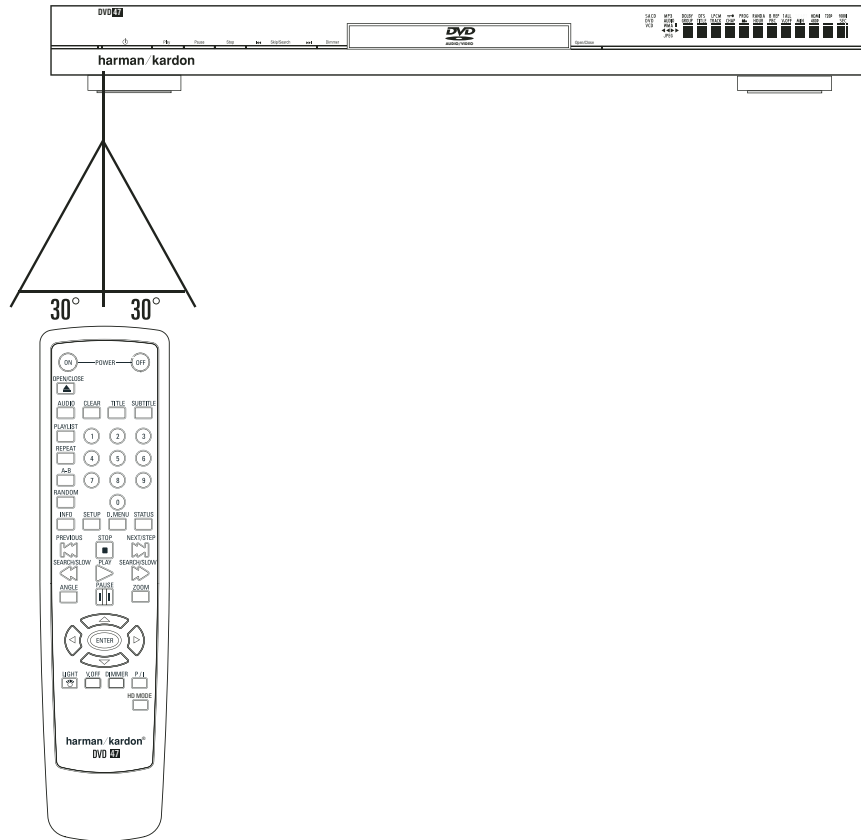
- The batteries normally last for about one year, although this depends on how often, and for what operations, the remote control is used.
- If the remote control unit fails to work even when it is operated near the player, replace the batteries.
- Use size "AAA" batteries.

#### 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	Dolby Digital bitstream (2-5.1ch) or PCM (2ch, 48kHz, 16-bit)††
	Linear PCM (48/96kHz, 16/20/24-bit)	Linear PCM (2ch) (48/96kHz, 16/20/24-bit)
	DTS	Bitstream or no output*
	MPEG (2.0)	MPEG bitstream (2ch) or linear PCM (2ch, 48kHz)
VCD	MPEG-1 CD-DA	Linear PCM*
CD	Linear PCM	Linear PCM (44.1kHz sampling)
	MP3 MPEG-1 Audio Layer 3)	Linear PCM (44.1–48kHz, depending on source, if digital output format selected as "Bitstream"). (48kHz if digital output format selected as "PCM")
	WMA (Windows Media Audio)	Linear PCM (32–48kHz)

\* Digital Format must be selected as "ORIGINAL" or "PCM" respectively in Menu

### 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's analog AUDIO OUT connectors, when you activate the "Downmix" function by selecting **STEREO** for the Bass Management in the **AUDIO** Menu (see page 18) 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 is designed to digitally output 96 kHz-PCM audio with a 96 kHz sampling rate. 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.

**IMPORTANT:** If your surround processor/D/A converter does not support 96 kHz PCM audio, you must use the DVD 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 a 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.
- Dolby Digital, DTS and PCM signals are passed through the **HDMI Output ①**. However, DVD-Audio and SACD signals are not carried via the HDMI connection. You must connect the **6-Channel Audio Outputs ②** to the corresponding input jacks on your receiver or processor in order to enjoy DVD-Audio and SACD materials.

### Notes when connecting the optical digital audio cable (optional)

- Gently push the cable plug through the built-in shutter that covers the optical digital audio output and connect the cable firmly so that the configurations of both the cable and the connector match.

### 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. The 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 and if the disc was recorded in the Dolby Digital or DTS format.

### DVD-Audio and SACD

The high-resolution output of DVD-Audio and SACD discs is only available as an analog signal. For that reason, it is necessary to make direct analog connections between the **6-Channel Audio Outputs ②** on the DVD 47 and the matching 6-channel inputs on your receiver or surround processor.

## Playback Basics

### Basic Play

#### Preparation

1. Switch the TV ON and select its video input connected to the DVD.
2. Press POWER to turn on the unit, the DVD harman/kardon logo should appear now on the screen. If that logo appears distorted on the screen or without any color, change the appropriate settings at the Video Setting Sub-menu according to your TV set and to the connection used between the DVD and your TV.
3. When you see no video at all, not even the 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, e.g. via Composite (yellow jacks) or S-Video cables, 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 OPEN/CLOSE 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 OPEN/CLOSE, 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: x2, x4, x8, x20, x100, indicated by a number of arrow indicators on the right top of the screen.

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 PAUSE when a DVD is playing to freeze the picture.
2. Each time you press the STEP FWD button , the picture advances one frame.
3. Press PLAY to resume normal playback.

#### Slow Motion Playback (with DVD only)

1. When a DVD disc is in pause or freeze frame mode, you may move slowly forward or backward through the program being played at one of the speeds by pressing the Play Buttons on the remote. Each press of the buttons will move to the next speed, indicated by a number of arrow indicators on the right top of the screen.
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.

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.

#### About DivX Movie Files

The DivX disc compatibility of this DVD player is limited by the following:

- the available resolution size of the DivX file should be below 720x576 (W x H) pixels.
- the total number of files and folders on the disc should be less than 999.
- the number of screen frames per second should be below 29.97 frames per second.
- the video and audio structure of recorded file should be interleaved.

The player is capable of playing DivX files with the extensions ".avi".

The player is capable of playing subtitle files with the extensions ".smi", ".srt", ".sub (Micro DVD format only)" or ".ssa". Other subtitle files won't be displayed. Subtitle files need to carry the same name as the movie file (but with either one of the above extensions) and should be located in the same directory.

#### Playing a DivX Movie Disc

Before playing DivX movie discs, please note the following:

- multi session DVD containing Windows Media Audio files may not be supported.
- open session discs are not supported.
- the DVD player does not support PC data.
- this DVD player does not support an unfinalized disc with a closed session.

1. Insert a disc and close the tray.
2. Press the OSD button of the remote control and select a folder by pressing the up/down cursor buttons and press ENTER. A list of files in the folder appears. If you are in a file list and want to return to the Folder list, use the up/down buttons on the remote to highlight and press ENTER.
3. If you want to view a particular file, press the up/down buttons to highlight a file and press PLAY.

When playing back a DivX movie you can use variable playback functions like fast and slow backward and forward, as well as step forward.

4. Press STOP to stop the playback.

The DVD player's playback functionalities of DivX video discs will vary depending on the DivX version used for creating your movies.

## 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.

#### General Functionality of the OSD Menu

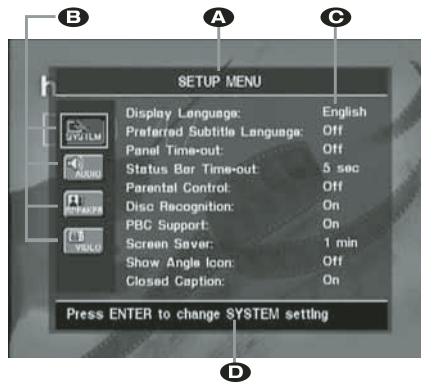
The complete setup and control of the DVD 47 takes place in an advanced user-guided On Screen Display (OSD) menu system. The OSD can be activated by pressing the SETUP button on the remote control. Pressing this button again deactivates the OSD.

The main menu consists of a PLAYER INFORMATION Menu and a SET-UP Menu. The PLAYER INFORMATION Menu will show all information and options available for the disc currently playing. The SET-UP Menu will help you configure all audio and video settings which are normally only made once.

Each Main Menu contains Submenus. These submenus are shown as icons on the left side of the menu. They can be highlighted by a white square around the icon by moving the cursor with the ARROW buttons. Icons can be activated by pressing ENTER as soon as an icon is highlighted. When ENTER has been pressed, the color of the icon will change to dark blue and you will see that the Actual Settings of this submenu will appear on the right side of the menu.

Although each Menu has various Submenus and Settings, navigating through menus, submenus and settings goes the same way. All submenus, settings and options can be accessed with the help of the ARROW (▲▼▶◀) and ENTER buttons on the remote control.

To change a setting, simply move the cursor to the appropriate submenu and press **Enter** **7**, then move the cursor to the setting you wish to change. This setting will be highlighted in light blue, and a brief explanation will appear in the Instruction Line on the bottom of your screen. Next, press the **Enter Button** **7** and a drop-down menu will appear that contains the available options for that setting. Press the **▲▼ Navigation Buttons** **10** until the desired option is highlighted, then press the **Enter Button** **7** to select that option. Then select another option in this submenu or move the cursor to the left to escape from the submenu.



- A** Main Menu Line
- B** Submenus
- C** Actual Settings
- D** Instruction Line

Most DVDs are created to allow setup menus to be displayed while the disc is playing, superimposed over the video playback. However, some discs are authored in a way that does not allow this. If you see the **⊘** icon displayed on the screen after pressing the **Setup Button** **9** or the **Info Button** **11**, press the **Stop Button** **19** and then press the **Setup** or **Info Button** **9** **11** again.

### 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 47 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 and the front panel display will show **SETUP**. In the same time the DVD 47 will turn to Resume mode (when it was just in play) and resume playback after the Setup Menu has been closed again.

This Main Menu and all menus in the following section may look different, listing the settings with different languages, depending on the settings made previously. 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.

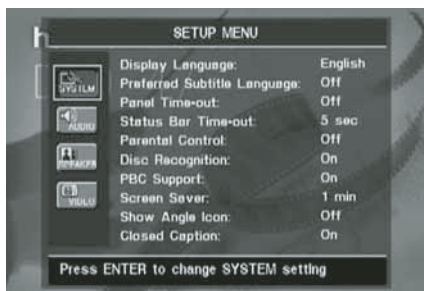
In the SET-UP Menu you will find submenus for making or changing all settings and adjustments for both Audio and Video handling of your DVD 47.

**Note:** When the Setup menu is activated while player is in play or pause mode automatically the Resume mode will be activated and the front display will read **SETUP**. As soon as the menu is closed the player will resume the playback.



## System Setup

### System Settings



The System Setting Submenu contains the following settings. Follow the explanations in the Instruction Line on the bottom of your screen to change the settings.

**Display Language:** Sets the language in which the OSD menus are shown on your screen.

**Preferred Subtitle Language:** Defines your preferred subtitle language. Every time a disc will be played that contains this subtitle language, it will be shown automatically. If you do not find your preferred language in the list of options, you can select your preferred language by highlighting OTHER. Press ENTER and use the Navigation Buttons to select your preferred language from the list shown on the screen. Note that only those languages will be available that are actually on the DVD you would like to play. You can also set the preferred subtitle language to OFF. In that case no subtitles will be shown.

**Panel Time-Out:** Sets the time-out interval for the Front Panel Information Display. After the selected time, the display will dim completely.

**Status Bar Time-Out:** Sets the time-out interval for the Status Bar, after which the Status Bar will disappear from the screen.

**Parental Control:** Defines a password used to control viewing of restricted programs. The default password is 1234. After pressing the default password, either the parental control setting can be chosen, or a new password. 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 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. Follow the explanations on the screen to set a new password.

**Disc Recognition:** This setting controls the Disc Recognition feature. When turned on, it allows you to pause a DVD, remove it from the player, play another disc, and then resume playback of the original disc at a later time from the

point at which you paused. Note that even when the setting is activated, you must pause playback, rather than bring it to a full stop, and the unit must not be turned off between discs. The DVD 47 is capable of storing the information for up to five DVDs at a time.

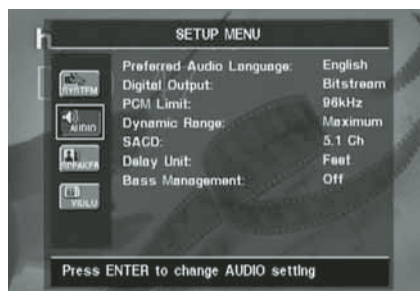
**PBC Support:** Activates PBC (Play Back Control) Support for VCD discs.

**Screen Saver:** Activates a Screen Saver to prevent an image to "burn" into a video display device. If you connect the DVD 47 to a LCD or plasma screen or video projector, we recommend you activate the screen saver at all times.

**Show Angle Icon:** Determines whether the Angle Icon will appear on the screen when there are different angles available on a DVD disc.

**Closed Caption:** This setting enables viewing of closed caption messages, if they have been encoded in the video material. Closed captions are text displays of the program's dialogue, normally hidden from view, that are made available for the hearing-impaired or others. Select the ON setting to activate the DVD 47's closed captioning decoder so that these messages may be viewed.

### Audio Settings



The Audio Setting Submenu contains the following settings. Follow the explanations in the Instruction Line on the bottom of your screen to change the settings. In case the audio settings have been changed, they will take effect after the next time the player goes through STOP mode.

**Preferred Audio Language:** Defines your preferred audio language. Every time a disc is played that contains this audio language, it will be activated automatically. If you do not find your preferred language in the list of options, you can select your preferred language by highlighting OTHER. Press ENTER and use the Navigation Buttons to select your preferred language from the list shown on the screen. Note that only those languages will be available that are actually on the DVD you would like to play.

**Digital Output:** If your system includes 5.1 digital audio surround decoding (Dolby Digital and/or DTS), select BITSTREAM 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).

**PCM Limit:** The DVD 47 is compatible with both 48 kHz and 96 kHz 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 96 kHz signals, select the 48 kHz option. If your A/V receiver or surround processor IS capable of handling 96 kHz signals, select the 96 kHz option to achieve the greatest audio fidelity available.

**Note:** Due to copyright restrictions, the DVD 47 will not output an uncompressed signal in the PCM format from a disc recorded with 96 kHz/24-bit resolution, such as some DTS audio CDs. If the Digital Output setting in the **AUDIO SETUP** submenu is set to **PCM**, and the PCM Limit setting is set to **96KHZ**, no audio will be outputted, and the message **CGMS MUTE** will appear in the Main Information Display. "CGMS" stands for "Copy General Management System." Should this message appear, change the PCM Limit setting to **48KHZ** to hear the audio at a lower resolution.

**Dynamic Range:** This setting allows you to take advantage of the programming present on some Dolby Digital recordings to reduce the volume of louder passages while maintaining intelligibility of quieter passages. This means that you may listen to programs at a level that allows the full impact of a soundtrack to be heard at a volume that is lower than you might otherwise use to avoid disturbing others. The DVD 47 accomplishes this by compressing the audio to a greater or lesser degree, depending on which setting you choose. Three options are available:

- **MAXIMUM** does not make any changes to the original playback, and should be used when the volume setting in the listening room may be as loud as you desire.
- **MEDIUM** applies a moderate amount of compression so that louder passages are a little bit quieter.
- **MINIMUM** applies more compression so that louder passages are much softer.

Feel free to experiment with the settings at any time. Note that if your receiver or processor also allows you to program the dynamic range setting, also known as the "Night Mode," you do not need to make any adjustments on the DVD 47 and should leave the setting at **MAXIMUM**.

## System Setup

**SACD:** SACD discs may contain up to three separate versions of the program, depending on the specific disc. Use this setting to choose the 2-channel or 5.1-channel version of the program, as well as the conventional "CD" version available on special hybrid discs.

**Important note:** SACD audio is available only in analog form, and no signal is available using either of the **Digital Audio Outputs 1 2**. To listen to SACD discs, connect the **Analog Audio Outputs 10** or the **6-Channel Audio Outputs 12** to your receiver.

While DVD-Audio also is output only in analog form, many discs also contain PCM, Dolby Digital or DTS digital tracks and may be played through the **Digital Audio Outputs 1 2**.

**Delay Unit:** This setting selects the unit of distance used for calculating delay times when the **AUDIO** menu is activated. The default unit is meter, but you may select feet.

**Bass Management:** This setting activates the **AUDIO** menu's bass management settings, to optimize playback of DVD-Audio and SACD discs through the **Analog Audio Outputs 10 12**. Three settings are available:

- **On:** This is the default setting. If your receiver or processor is equipped with "direct" 6-channel inputs and the receiver is not capable of performing bass management on these inputs, then leave this setting on the DVD 47 at the default of **ON**, and proceed in the **AUDIO** menu to program the bass management settings.
- **Bypass:** If your receiver or processor is equipped with 6-channel inputs and is capable of adjusting the bass management settings (speaker size, output levels and delay times) for its 6-channel analog inputs, then Harman Kardon recommends that you change this setting to **Bypass**, and adjust the bass management settings on your receiver.
- **Stereo:** If your receiver or processor is not equipped with 6-channel inputs at all, then change this setting to **Stereo**, which will send a downmixed 2-channel signal to the **Analog Audio Outputs 10** or the **Scart TV Output 7** for use with any 2-channel analog input on your receiver. You may then select an analog surround mode available on your receiver.  
This setting is also needed when you've connected the DVD 47 to the TV via Scart only and want to listen the correctly downmixed sound on the TV only (otherwise center and surround signals will be missed).

### Speaker Submenu

This menu allows you to adjust bass management settings that control the audio output of the **6-Channel Audio Outputs 12** for speaker size, output level and delay times. The proper adjustment of these settings is key to optimal reproduction of DVD-Audio and SACD discs,

when the DVD 47 is used with a receiver or processor that does not have audio adjustment capabilities for the direct inputs.

**Important Note:** In order to avoid audio problems, when the DVD 47 is connected to a receiver or processor that does have the capability to adjust bass management parameters for its multichannel inputs, you have the option to either use that capability or adjust the settings in the DVD 47. The preferred method of operation is to use the receiver for these adjustments. In that case, remember to set the **Bass Management** setting in the **AUDIO SETUP** menu to **Bypass**. If you make the adjustments using the DVD 47's settings, it is important that the receiver's settings for the multichannel direct inputs be disabled, or set to "Large" for the speaker sizes and "0" for the level adjustments and delay times, unless these settings are also used for the receiver's other source inputs, in which case they should be left the way you set them when you configured your receiver. If you have any questions about the capabilities of your receiver or processor, we recommend that you consult its owner's manual or the manufacturer's Web site for further information.

If your receiver or processor does not have 6-channel analog inputs, make sure to select **Stereo** for the **Bass Management** setting in the **AUDIO SETUP** menu. Then connect the **Analog Audio Outputs 10** to any 2-channel analog inputs on your receiver.

Before proceeding with the DVD 47's audio setup adjustments, we recommend that you first use the menu system in your receiver or processor to ascertain the settings already established for "Speaker Size," "Output Level" and "Delay Time," which may be set as a distance. Write these settings down to refer to during the configuration process.

Press the **Setup Button 9** to activate the Setup menu; then use the **Navigation Buttons 10** until the **SPEAKER** submenu is highlighted within a white outline box, and press the **Enter Button 7**.



The following adjustments are available on the **SPEAKER** menu for each speaker position. It is recommended that you cycle through the adjustments for each speaker position using the **Navigation Buttons 10** to enter the settings that are appropriate for your system. Pressing the **Enter Button 7** displays a drop-

down menu with the selections available for that setting. Use the **Navigation Buttons 10** to highlight the appropriate setting, and then press the **Enter Button 7** to select it.

You will notice that the adjustments for speaker size and distance (used to calculate delay times) are set in tandem for the front left and right speaker pair, and for the surround left and right speaker pair. Changing the settings for either speaker in these pairs also affects that setting for the other speaker in that pair. For this reason, it is important to select the same brand and model for both speakers in each pair, and also to place them at about the same distance from the listening position.

**Speaker Size:** Speaker size is part of the bass management system which determines which frequencies are sent to the specific speaker position, and which are sent to the subwoofer. The designation of "size" does not refer to the speaker's physical size, but rather to the lowest frequency a speaker can handle. For this purpose, "full-range" speakers are considered "large," while those not capable of reproduction below 100 Hz are considered "small." In general, if you are using a packaged speaker system with smaller satellite-type speakers and a subwoofer, you should select **Small** for all five speakers.

**Large** should only be selected if you are certain that your speakers are capable of handling extreme low-frequency sounds.

At the subwoofer setting, you can select the frequency under which bass information is directed to the **Subwoofer Output** and above which the remaining signal is directed to all other speakers. When making these selections, choose the crossover frequency that is closest to the lower frequency limit of your "SMALL" speakers. This figure is normally printed in the owner's manual or data sheet for the speakers; or consult the speaker's manufacturer.

### Delay

Due the different distances between the listening position for the front channel speakers and the surround speakers, the amount of time it takes for sound to reach your ears from the front or surround speakers is different. You may compensate for this difference through the use of the delay settings to adjust the timing for the specific speaker placement and acoustic conditions in your listening room or home theater. Measure the distance from the listening position to each of the individual loudspeakers. Once done, select per loudspeaker the distance that is closest to the one measured.

### Output level adjustment

Output level adjustment is a key part of the configuration process for any surround sound product. It is particularly important for DVD-Audio, as correct outputs will ensure that you hear sound tracks with the proper directionality and intensity.

**NOTE:** Listeners are often confused about the operation of the surround channels. While some

## System Setup

assume that sound should always be coming from each speaker, most of the time there will be little or no sound in the surround channels. This is because they are only used when a movie director or sound mixer specifically places sound there to create ambiance, a special effect or to continue action from the front of the room to the rear. When the output levels are properly set it is normal for surround speakers to operate only occasionally. Artificially increasing the volume to the rear speakers may destroy the illusion of an enveloping sound field that duplicates the way you hear sound in a movie theater or concert hall.

The default settings of the DVD player is 0 dB for all channels. In case you feel adjustments are necessary in your setup, we advise you to copy the settings currently in use with 5.1 surround modes (for instance Dolby Pro Logic II) of your AV receiver to the DVD player.

When all settings have been done select **Done** on the bottom of the menu and press the **Enter Button** **7**.

### Video Settings



The Video Setting Submenu contains the following settings. Follow the explanations in the Instruction Line on the bottom of your screen to change the settings.

**Important Note:** The settings for the **Video Output**, **Scan Type** and **Scart Output** will not affect the HDMI output, only the appropriate analog video outputs.

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

Also when you have a "4:3" TV that can be turned to the "16:9" mode (or turns itself automatically) select "16:9" for the aspect ratio to enable the best vertical resolution available with all movies.

**Video Standard:** Sets the output video format i.e. NTSC, PAL or SECAM, of the DVD player. If you have a multi standard TV, we recommend the AUTO setting for optimal picture quality.

**Video Output:** Sets the video output type to S-Video, Component or SCART. Scart will be used for most TV's with only analog inputs. Component will be used for most LCD, Plasma and projectors.

Note that this setting is available only when Interlaced is selected for the Scan Type (see below).

**Scan Type:** This setting allows you to select between progressive and interlaced scanning for the **Component Video Outputs** **6** to maximize the image resolution for the type of video display in use. The output at the **S-Video** **5**, **Scart** **7** and **Composite Video** **4** outputs will always be standard-rate video that is compatible with any television set or video display. Two choices are available:

**Progressive:** Select this option if you have a video display that is compatible with input sources of 480P or greater on the Component Inputs. Displays labeled as "HDTV Ready," including virtually all large-screen LCD and plasma displays, are compatible with progressive scan.

**Interlaced:** Select this option when you are using an older video display that has Y/Pr/Pb component inputs, but which is not capable of displaying high scan rate, or "HD" signals.

#### NOTES:

1. The Scan Type may only be changed when the Video Output setting has been set to Component.
2. If you have connected the DVD 47 to a video display that is not capable of displaying progressive scan video using the Component (Y/Pr/Pb) **Video Outputs** **5**, and you have inadvertently changed the Video Output Setting to Component and the Scan Type setting to Progressive, you may reset the scan type to interlaced by pressing the **Progressive Scan/Interlaced Button** **22**. Be sure that the Setup menu is not activated (then the front panel display will not show **SETUP**, otherwise press the **Setup Button** **9** at first.
3. When Progressive is selected there will be no video signal on the outputs **Composite** **4**, **Scart** **7** and **S-Video** **5**.

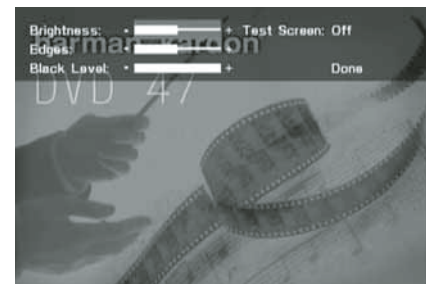
Also the **Video Output Indicators** **6** "480p" or "576p" will light in the front display, no matter which resolution is selected for the HDMI output (see below) to indicate that the **Progressive Component Outputs** **6** are in use.

**Scart Output:** Selects which kind of video output signals will be routed over the scart. RGB will be used for most TV's and is therefore recommended.

Note that for RGB on the Scart output also **RGB** must be selected in the **Video Output** line (see above).

**Video Adjustment:** The Video Adjustment Submenu, that appears after **ON** has been selected in the Video Adjustment line, contains access to some video parameters and to the Test Screen. First adjust the video display device (TV) with the help of the Test Screen. After that the

output settings of the player can be fine-tuned with the Brightness, Sharpness and Black Level settings. In order to change the settings, move the cursor to the appropriate setting. Once one of the icons is highlighted, pressing the right or left **Arrow Button** **10** will increase or decrease the value of the setting, as will be shown in the bar behind the setting. When the Test Screen is activated the Video Adjustments submenu will disappear after some seconds, to restore it simply press the **Status button** **14**. To exit the Video Adjustment Menu, move the cursor to **DONE**, and press **ENTER**.



**DivX Subtitle:** This setting selects the desired subtitle language for DivX movies.

Below the menu items you will find your personal DivX Video On Demand (VOD) code.

This code allows you to rent and purchase videos using the DivX VOD service. For more information, visit [www.divx.com/vod](http://www.divx.com/vod). Follow the instructions and download the video onto a disc for playback on this unit. Note that all the downloaded videos from DivX VOD can only be played back on this unit.

**HDMI Settings:** This setting displays the characteristics of the video output signal at the **HDMI Output** **11**. When the DVD 47 is connected to a video display using the **HDMI Output** **11**, as soon as the player is turned on (while the display is on already) the display sends information to the DVD 47 that indicates the highest video resolution it is capable of handling, and the DVD 47 automatically sets the video output to match it. That resolution is displayed here. You may use this setting to manually select another video output resolution. Changes made here remain active until the player is turned off. When it is turned on again, the DVD 47 will revert to the default setting transmitted by the display. Make sure your video display or other video switching equipment (such as an HDMI-capable receiver) is capable of handling the DVD 47's HDMI output signal.

The HDMI settings can also be changed directly by pressing the **HD Mode Selector** **33** on the remote (see more details on page 9) as long as the Progressive Component Output is not selected.

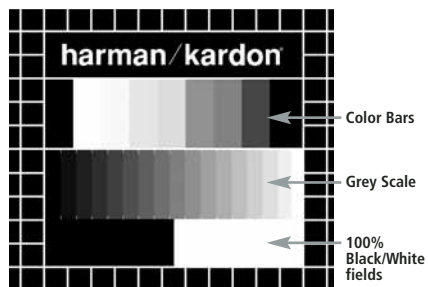
## Test Screen

### Test Screen

When you activate the Test Screen via the OSD 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 and Components (YUV) best of analog outputs, HDMI output 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.

#### 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.

#### Sharpness Adjustment

Contrary to intuition, the picture will appear sharper and clearer with the sharpness, or Edges, setting backed off from the maximum setting. Reduce the sharpness setting on your television, and the Edges setting on the DVD 47 video adjustments menu if necessary, to minimize the appearance of any white lines between the bars in the gray scale portion of the test screen.

#### Convergence and Edge Focus

The crosshatch pattern that surrounds the test screen may be used to evaluate edge focus and convergence in front- or rear-projection video displays. However, the controls used to adjust these parameters are often not user-accessible. In any event, these adjustments are extremely complex, and require proper training and experience to avoid worsening the situation. Therefore, it is recommended that if you are unable to improve the picture using the available controls, contact the video display manufacturer's authorized service representative for assistance.

When all desired setup and configuration entries have been made, use the ▲ ▼ **Navigation Buttons** 10 until "Done" is highlighted at the bottom of the Video Adjustments submenu. Press the **Enter Button** 7 to select it to return to the on-screen menu system. Then, press the **Setup Button** 9 to remove the menu displays from the screen. The unit will return to normal operation and you are ready to enjoy the finest in DVD or CD playback!

## Player Menu

### Using the Player Information Menu

The DVD 47's Player Information menu displays disc information and enables you to program playback modes.

The Player Information menu consists of two submenus which may be accessed by pressing the **Info Button** **11** (what will show the Disc Information submenu, see below), then using the **▲ ▼ Navigation Buttons** **10** to highlight the submenu's icon, and pressing the **Enter Button** **7** to select it. These submenus are different from the Setup menus in that many items are for display only and cannot be changed using the menu system.

**PLAYBACK INFO Submenu:** This submenu will appear when the upper **INFO** icon is selected, it displays basic disc and playback mode information. You may not make any changes to the items shown in this submenu, except for the Repeat mode.



- **Disc:** This line displays the disc type, such as DVD-Video.
- **Disc ID:** If the disc is encoded with an identification label, such as a movie title, it will appear here.
- **Playlist:** For DVDs, this line will reflect that playback will occur in the disc's order. Programmable playlists are not available when a DVD is loaded.
- **Repeat:** This line displays the current repeat mode, or Off if Repeat mode is not active.

**PROGRAM submenu:** The **PROGRAM** submenu is not accessible for DVDs.

**DISC INFO Submenu:** This submenu will appear when the lower **INFO** icon is selected or the **Info Button** **11** is pressed, it displays detailed information about the disc content. You will not be able to make any changes to the items on this submenu. However, you may use the **SETUP** menu system as described on page 19 to change the DVD 47 player settings for video aspect ratio or scan type.

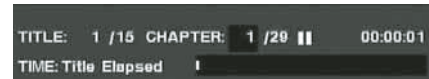


- **Disc:** This line displays the disc type.
- **Disc ID:** If the disc is encoded with an identification label, it will appear here.
- **Aspect Ratio:** This line displays the aspect ratio of the video content on the disc, and the format in which it is being played back according to the setting established in the **VIDEO SETUP** submenu as shown on page 19. Some discs may contain two versions of the same program with a widescreen aspect ratio on one side of the disc, and a standard aspect ratio on the other.
- **Video Standard:** The disc's format is shown here. For Region 2 players, this will normally be PAL, although some DVDs that are open region (playable in all regions) may be in the NTSC format. In the Player row you will see the Standard format established in the **VIDEO SETUP** submenu.
- **Scan Type:** This line displays how the flag on the DVD was set that should indicate to the deinterlacer in the player whether the video program on the DVD was recorded with a progressive or interlaced scan rate. It also displays how the program is being played back, based on the setting established in the **VIDEO SETUP** submenu as shown on page 19.
- **Audio Resolution:** This line displays the sample rate and bit rate for the current audio format.
- **Audio Format:** This line displays the current audio track, such as Dolby Digital 5.1 or linear PCM.
- **Video Bit Rate:** This line displays the video bit rate up to the limit of 10 Mbps. This indication will vary as a disc is played in response to changes in the amount of compression that was applied to the video signal when the disc was created. Thus, when the disc is stopped or paused, this line will remain blank.

When you have finished viewing the Player menus, press the **Info Button** **11** to remove the displays from the screen.

### Using the On-Screen Status Display

When a DVD is playing, you may press the **Status Button** **12** at any time to view a quick summary of the disc's playback status. The Status Bar not only gives you a snapshot of the unit's current state; it also provides an easy way to select a different title, chapter or track, or use the time search feature.



- **Title:** This displays the current title on the left, and the total number of titles on the disc on the right.
- **Chapter:** This displays the current chapter on the left, and the total number of chapters on the title currently selected on the right.
- **Play Mode Icon:** This displays the current play mode icon: e.g. **Play** ▶, **Pause** II, **Stop** ■.
- **Time Display:** This section on the upper right side of the display shows the time corresponding to the type of display indicated in the lower line of this bar. The Time Search function enables you to start playback at any point in the program. Use the **Navigation Buttons** **10** to highlight this display. You may then use the **Numeric Keys** to enter the numbers corresponding to the time on the disc at which you wish play to commence. Press the **Enter Button** **7**, and play will immediately begin at the selected time position.
- **Time Bar:** This display is a graphic representation of the time elapsed for the title being played. As the disc plays, the number of bars will increase to reflect approximately what percentage of the title has been played thus far.
- **Time Display Type:** This section identifies the type of information in the **Time Display** section of the display. Use the **Navigation Buttons** **10** to select this setting, and each subsequent press of the **Enter Button** **7** will change the time display from Title Elapsed, to Title Remaining, to Chapter Elapsed to Chapter Remaining, and cycle back to Title Elapsed. The time displayed on screen and in the front-panel **Information Display** **1** will change accordingly.

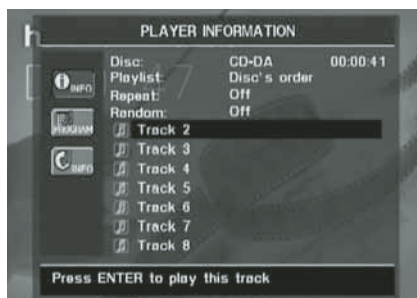
## CD Playback

Many functions of the DVD 47 operate the same way for SACD and CD playback as for DVD play; however, there are some important differences. When an SACD or CD is loaded, the DVD 47 will automatically display the Player Information main menu. Status banners are not available during SACD/CD play. A greater variety of playback options are available during CD play, including Random play and programmed playlists. These and other features unique to CD play are described in this section.

### Using the Player Information Menu

The DVD 47's Player Information main menu appears automatically when a SACD or CD (or differently recorded CDs like DivX) is loaded. It shows a list with all folders (if any) and tracks on the disc apart from some disc informations and playback feature settings. Use the ▲▼

**Navigation Buttons 10** to scroll through the list. Press the **Enter Button 7** while a track is highlighted, to begin play. Note that in this menu the playback features Repeat and Random are not accessible, but you can change the setting by pressing the **Repeat 30** or **Random 25** button on the remote.



The Player Information Main Menu has three submenus which may be accessed by using the ▲▼◀▶ **Navigation Buttons 10** to highlight the submenu's icon, and pressing the **Enter Button 7** to select it. These submenus are different from the Setup menus in that many items are for display only and cannot be changed using the menu system.

**PLAYBACK INFO Submenu:** This submenu appears when the upper **INFO** icon is highlighted. It displays basic disc and playback mode information.

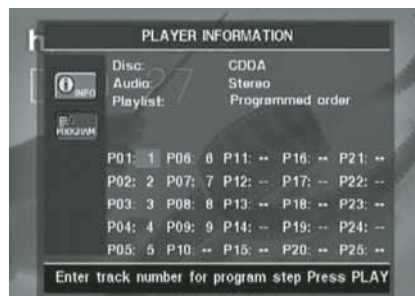
- **Disc:** (see picture right on top) This line displays the disc type, such as CDDA (Compact Disc Digital Audio).
- **Audio:** (see picture right on top) This line displays the type of audio recorded on the disc, usually Stereo.
- **Playlist:** (see picture right on top) For CDs only, you may choose to play the tracks in order as they appear on the disc, or you may program a playlist containing some or all of the tracks in the order in which you wish to hear them. This line indicates which of these two modes has been selected. In order to change this setting, you will need to access the **PROGRAM** submenu as described below.

- **Repeat** (see picture right on top): With this line highlighted, press the **Enter Button 7** to activate Repeat mode. Each press will change the repeat mode from Repeat Single (to repeat one track) to Repeat All (to repeat all tracks on the disc) to Repeat Off.
- **Random** (see picture right on top): With this line highlighted, press the **Enter Button 7** to activate Random mode. Each press will toggle between turning the Random play on or off.

**PROGRAM Submenu:** This submenu, appearing when the **PROGRAM** icon is highlighted, lets you program a playlist. The **PROGRAM** submenu is only accessible for CDs.



- **Disc:** This line displays the disc type.
- **Audio:** This line displays the type of audio recorded on the disc, usually Stereo.
- **Playlist:** With this line highlighted, press the **Enter Button 7** to change the order in which the tracks are played from the order in which they appear on the disc (**Disc's order**) to a playlist order which you may program (**Programmed order**). A list of program steps and the track programmed for each step will appear at the bottom of the screen and the cursor appear at the first program step. You may enter a track number using the **Numeric Keys 29** and then press the **Navigation Button 10** to confirm the input and to program the next track. To delete any programmed track from the program list move the cursor to it and press the **Clear button 31**. Use the ▲▼◀▶ **Navigation Button 10** to select the desired program steps. Note that you may not enter a track more than once in the playlist, if it appears in an earlier step. However, you may use the Repeat function while the playlist is playing. After you have finished programming the playlist, press the **Play Button 4 17** to begin play.



**DISC INFO Submenu:** This submenu, appearing when the lower **INFO** icon is highlighted or the **Info Button 11** is pressed, displays abbreviated track and playback information, plus more detailed timing information. It is only available for CDs.

The information at the top of the screen provides the same information on the disc type, audio format, playlist setting, Repeat play setting and Random play setting as on the **Playback Info** submenu. The following additional information appears next.

- **Track:** This line displays the current track on the left and the total number of tracks on the disc to the right. When this line is highlighted press the **Numeric Keys 29** followed by the **Enter Button 7** to select a track on the disc for being played.
- **Play Mode Icon:** This icon will appear to the right of the Track display and will indicate the current playback mode.
- **Time:** This section consists of three lines:
  - **Track Elapsed:** Displays the elapsed or remaining time of the current track.
  - **Disc Elapsed:** Displays the elapsed or remaining time of the disc.
  - **Elapsed Time Bar:** Displays in graphical form a temperature bar reflecting the percentage of the disc that has been played.

Use the ▲▼ **Navigation Buttons 10** to highlight either Track Elapsed or Disc Elapsed, and each press of the **Enter Button 7** will toggle between the elapsed and remaining settings. The time displayed to the right and in the front-panel **Information Display 1** will change accordingly.

The Time Search function to the right of the **Track** or **Disc** Time Bar enables you to start playback at any point in the **TRACK SELECTED**. Use the ▲▼◀▶ **Navigation Buttons 10** to highlight the Track display. Press the **Numeric Keys 29** followed by the **Enter Button 7** to select a new point in the track from which to commence play.

When you have finished viewing the Player menus, press the **Info Button 11** to remove the displays from the screen and return to normal play.

## CD Playback

### Selecting a Track

To select a track from the track list, make sure the Player Information main menu, appearing automatically when a CD was loaded, is on screen. Next, press the **Navigation Button** **10** so that the Track Number is highlighted and press the **Enter Button** **7** to begin playing the track.

To select a specific track on a CD or SACD at any time during playback, simply press the number corresponding to the track you wish to listen to using the **Numeric Keys** **29**. You may also move one by one through the tracks at any time by pressing the **Skip Reverse (Previous)/Skip Forward (Next) Buttons** **7 8 15 16**. When you press the **Previous** **15** or **Skip Reverse** **7** button once, the player will return to the start of the current track. Additional presses of either button will step back through the available tracks, one at a time.

**Note:** When a JPEG, MP3 or Windows Media disc is playing, a special screen will appear.

### Repeat Play

The DVD 47 offers several repeat functions for CDs that allow you to take advantage of the capacity of the unit for unattended playback:

- **Repeat 1 Track:** For CDs, SACDs, VCDs, MP3s, WMAs and JPEGs, repeats the track or file currently being played until the disc is manually stopped. The **Repeat** and **1** indicators will light in the front-panel display, and **SINGLE** will appear on the Repeat line in the Player Information menu.
- **Repeat Disc:** For CDs, SACDs, VCDs, MP3s, WMAs, and JPEGs, repeats the entire disc or program (if Programmed Order is selected at the Playlist setting) until play is manually stopped. The **Repeat** and **All** indicators will light in the front-panel display, and **ALL** will appear in the the Repeat line in the Player Information menu.
- **Repeat Folder:** For MP3s, WMAs and JPEGs, repeats all tracks within the current folder until play is manually stopped. The **Repeat** **H** indicator will light in the front-panel display, and **FOLDER** will appear on screen.
- **Repeat A-B:** Repeats any selected portion of the disc until the disc is manually stopped (see below for more information).

To select any Repeat mode (other than Repeat A-B):

While a disc is playing, press the **Repeat Button** **30** on the remote. Each press of the **Repeat Button** **30** will cycle through the available repeat modes. To end Repeat play, continue pressing the **Repeat Button** **30** until the Off mode is selected.

### A-B Repeat Play

The Repeat A-B function allows you to select any portion of a CD or SACD 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. Press the **A-B Repeat Button** **26** on the remote when you want to choose the beginning point; **A -** will appear in the Repeat line in the Player Information menu and **A R E P** in the front-panel display to indicate the beginning of the passage to be repeated.
2. Press the **A-B Repeat Button** **26** again to choose the end point. Repeat A-B has been set, and the A-B section will be played continuously.
3. Press the **A-B Repeat Button** **26** on the remote again to cancel Repeat A-B mode.

### Random Play

The Random Play function will play all of the tracks on a CD in a random order, as selected by the DVD 47. Once the DVD 47 has played all of the tracks on the disc once, it will stop.

You may select the random mode by pressing the **Random Button** **25** on the remote. Each press of the **Random Button** **25** will toggle the setting between "Off" and "On", meaning that the remaining tracks on the disc will be played in random order.

The **Random Indicator** **J** in the **Front-Panel Information Display** **1** will light and **DN** appear in the Random line in the Player Information menu any time the Random setting is on.

### Video Off Feature

During CD playback, some listeners may prefer to turn off the DVD 47's video circuitry. Although the video section is electrically isolated from the audio section, some users may prefer to turn the video displays off during audio playback to prevent any possibility of interference between audio and video. You may also wish to turn the video display off if you find the menu system distracting or unnecessary during CD playback.

**IMPORTANT NOTE:** It is strongly recommended that plasma video display owners use the Video Off feature to avoid burn-in.

To turn the video displays off while a CD is playing, simply press the **Video Off Button** **27**. Press the button again to restore the video output. The **V-Off Indicator** **G** will light to remind you that the video displays have been turned off. Note that the video output will automatically be restored each time the DVD 47 is turned on.

### SACD Discs

SACD discs are a vast improvement in sound quality over the original compact disc. Due to improvements in laser technology, SACDs allow information to be packed more densely on the disc, which in turn means that more information than ever may be stored on a single disc. The benefit to the audiophile listener is improved resolution and quality of 2-channel recordings, and a whole new world of multichannel audio recordings.

Some earlier SACD discs contain only a two-channel program. Newer discs may contain both a 2-channel and a multichannel version of the same materials. As described on page 18, a setting in the **Audio Setup** submenu is used to select between 2-channel and multichannel SACD playback, or to select the CD layer of the disc. Check the jacket of your disc to ascertain which formats are available.

SACD playback requires the use of the **6-Channel Audio Outputs** **12** or the **Analog Audio Outputs** **10** (for 2-channel playback only). If only the **HDMI** **11**, **Optical** **1** or **Coaxial Digital Audio Outputs** **2** are used, no sound will be heard.

Random play and programmed playlists are not supported for SACD discs.

## MP3, Windows Media and JPEG Playback

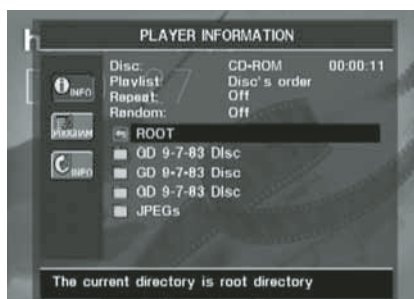
### MP3, Windows Media and JPEG Playback

The DVD 47 will recognize data from CD-ROM discs recorded in the MP3, Windows Media 8 (WMA) or JPEG formats, including images stored on Kodak Picture CDs. You may also play discs with more than one of the three formats.

#### The Specific File Types That May be Played on the DVD 47 Are:

- MP3 Files:** MP3 is a popular audio compression format that was developed by the Motion Picture Experts Group as part of the MPEG-1 video compression format. Depending on the specific MP3 encoder used, file size is greatly reduced so that you store many more songs on one compact disc than in the standard audio CD format. MP3 is also used to download audio files to computers for home use. Note, however, that in order to play an MP3 file on the DVD 47, the disc may not contain any encryption or coding that prevents playback. Always be certain that you have, or have purchased, the proper rights or authorization before creating a CD-ROM with MP3 or any other codec format. Due to variations in the different encoders and variations of the MP3 codec and the different bit rates used to record MP3 discs, the DVD 47 may not be able to play all discs with MP3 files. We cannot guarantee complete compatibility with MP3 discs, even though they may play on a computer. This is normal and does not indicate a problem with the DVD 47. Note, also, that when a multi-session disc with both standard CD audio and MP3 (or WMA) content is used, the DVD 47 will only play the CD audio sections of the disc.
- WMA Files:** WMA (Windows Media Audio) is an audio compression format developed by the Microsoft® Corporation for use with its Windows Media Player. WMA files may be created with greater compression than MP3 without sacrificing audio quality so that even more songs may be recorded on a disc. Note that there have been a number of versions of Windows Media, and the DVD 47 is compatible only with files that end in the "wma" extension and that were recorded using the Windows Media Series 8 encoding.
- JPEG Files:** "JPEG" is the acronym used to identify image files recorded according to specifications established by Joint Photographic Experts Group for compressing still images. Identified by the file extension ".jpg" when they are recorded on most computers, JPEG files may be created by a digital still camera and then edited and "burned" to a disc in your personal computer, recorded on a CD-ROM disc from film images by a photo processor, or scanned from printed photos into your personal computer and then burned onto a CD-ROM.

Discs containing MP3, WMA or JPEG files are navigated and controlled differently from standard DVDs and CDs. When a disc containing one or more of these types of files is loaded in the DVD 47, the Player Information menu screen will appear.



This screen will display a list of the main folders contained on the disc. The elapsed time will appear in the upper right corner of the screen. It isn't possible to change the time display, and the Time Search function is not available.

#### MP3 or WMA Disc Playback

MP3 and WMA 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 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.

The supported bit rate for WMA files is between 64k bits and 320k bits. The supported bit rate for MP3 files is between 32k bits and 320k bits.

- To select a folder (if any), press the **▲▼ Navigation Buttons 10** until the desired folder name is high-lighted, then press the **Enter Button 7**.
- To select a track, press the **▲▼ Navigation Buttons 10** until the desired track name is highlighted. To start play of the track selected on the list, press the **Enter Button 7**.

During MP3/WMA 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 **Skip/Next Button 8 16**.
- You may skip back to the previous track on the disc by pressing the **Skip/Prev Button 7 15**.
- Press the **Pause Button 5 13** to momentarily stop playback. Press the **Play Button 4 17** to resume play. Press the **Stop Button 6 19** once to turn to Resume mode, press it twice to enter stop mode.

- Press the **Search Forward 8 16** or **Search Reverse 7 15** buttons, for fast search of a track. Press the **Play 4 17**, **Pause 5 13** or **Stop Button 6 19** to end fast play.
- Slow-play is not available during MP3/WMA playback.
- You may play an MP3 or WMA disc in random mode like a normal CD. You may also access the Random function while an MP3 or WMA disc is playing by pressing the **Random Button 25**. Note that the random mode will select only the tracks within one folder.
- The Repeat function may be accessed during playback of an MP3 or WMA disc by pressing the **Repeat Button 30** on the remote. Repeatedly press the **Repeat Button 30** to scroll through the options of Repeat 1 (repeat one file), Repeat All (repeat all files) or Repeat Folder (repeat all files within the current folder). The next press will turn the repeat function off. Repeat A-B is not available during MP3/WMA playback.

#### NOTES ON MP3 AND WMA PLAYBACK

- During playback, the front-panel display and the time indicator on the screen above the list will show the elapsed time of the track being played. Other time display options are not available with MP3/WMA playback.
- The DVD 47 is only compatible with standard MP3- and WMA-encoded discs. Other compressed audio formats used for Internet audio downloads will not play on the DVD 47.
- Due to the differences in various versions of the MP3 and WMA formats, and the many differences between the CD-R machines used to record discs on a computer, it is possible that some discs may not play on the DVD 47 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 or WMA content is in use, the DVD 47 will play only the CD audio sections of the disc. Track numbers will be visible in the display, but the files will not be decoded.
- If a disc containing MP3, WMA and/or JPEG files is created in more than one session, the DVD 47 may not recognize files added during the later sessions, especially if the disc was finalized after the first session.



## MP3, Windows Media and JPEG Playback

- When a disc with multiple folders is playing, only tracks from one folder can be displayed and played at a time. Select the desired folder and press the **Play Button** **4** **17** to start the first track.

To see and play tracks from other folders, you must first select the root folder using the **▲▼ Navigation Buttons** **10**, and press the **Enter Button** **7** to open or close that folder. You may then navigate an open folder and select the desired folder. Press the **Enter Button** **7** to open the folder, and select the desired track. Then press the **Enter Button** **7**.

- Only stereo audio playback is available for MP3 and WMA discs.
- Programmed playlists are not available for MP3/WMA discs.
- While a track is played or paused use the **▲▼◀▶ Navigation Buttons** **10** to select the **DISC INFO** Submenu icon on the left side of the screen (the lower INFO icon) or simply press the **Info Button** **11** to view track information. If the disc contains ID3 tag information, then the current MP3 track information will appear: song title, artist, album, year, genre, and any comments. For WMA and JPEG files, only the file name will appear.

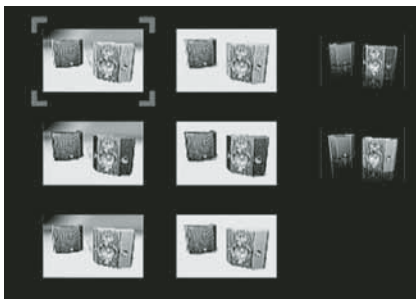
### JPEG Playback

The DVD 47 is capable of recognizing JPEG still-image files and displaying them. When a disc or folder containing JPEG files is loaded, the **JPEG Disc-Type Indicator** **A** will light in the **Main Information Display** **1**. The disc will immediately begin displaying the images on the disc in order.

When viewing JPEG images, the **Angle Button** **5** may be used to rotate the image. With the image on-screen, press the **Angle Button** **5** once to display the current orientation of the image, usually +0. Press the **Angle Button** **5** again within one second to rotate the image clockwise 90 degrees. The new orientation of +90 will be displayed. Each additional press of the **Angle Button** **5** will continue to rotate the image clockwise by 90 degrees.

You may use the **Zoom Button** **23** to enlarge a JPEG image, and the **▲▼◀▶ Navigation Buttons** **10** to explore the enlarged image.

You may view thumbnails of the images in the selected folder by pressing the **Disc Menu Button** **12**. When the images appear on screen, you may use the **▲▼◀▶ Navigation Buttons** **10** to move the picture frame around until the desired image is selected. Press the **Enter Button** **7** to display a full-size view of that image.



### Important Note:

During JPEG playback, some of the standard CD playback controls operate in their normal fashion like Pause/Play, Skip Next or Previous, Repeat (all modes except A-B), Random, Program and Info (by pressing the Info button, will only show disc type and file name).

## Troubleshooting Guide

### Troubleshooting Guide

Symptom	Possible Cause	Solution
Unit does not turn on	<ul style="list-style-type: none"> <li>No AC power</li> </ul>	<ul style="list-style-type: none"> <li>Check AC power plug and make certain any switched outlet is turned on.</li> </ul>
Disc does not play	<ul style="list-style-type: none"> <li>Disc loaded improperly</li> <li>Incorrect disc type</li> <li>Invalid Region Code</li> <li>Rating is above parental preset</li> </ul>	<ul style="list-style-type: none"> <li>Load disc label-side up; align the disc with the guides and place it in its proper position.</li> <li>Check to see that disc is CD, SACD, CD-R, CD-RW, DivX, VCD/SVCD, MP3, WMA, JPEG, DVD-R, DVD-RW, DVD+R, DVD+RW (standard conforming), DVD-Audio or DVD-Video; other types will not play.</li> <li>Use Region 2 or Open Region (0) disc only.</li> <li>Enter password to override or change rating settings.</li> </ul>
No picture	<ul style="list-style-type: none"> <li>Intermittent connections</li> <li>Wrong input</li> <li>Progressive Scan output selected</li> <li>Video Off feature active</li> <li><b>HDMI Output 11</b> is connected to a video display that is not HDCP-compliant.</li> </ul>	<ul style="list-style-type: none"> <li>Check all video connections.</li> <li>Check input selection of TV or receiver.</li> <li>Use Progressive Scan mode only with compatible TV. If needed, press the <b>Progressive Scan/Interlaced Button 22</b> to toggle to the correct mode.</li> <li>Press <b>Video Off Button 27</b> to reactivate video circuitry (see page 23)</li> <li>The <b>HDMI Output 11</b> may not be used with video displays that are not HDCP-compliant. Unplug the cable and select another audio and video connection (see pages 11 through 12).</li> </ul>
No sound	<ul style="list-style-type: none"> <li>Intermittent connections</li> <li>Incorrect digital audio selection</li> <li>DVD disc is in fast or slow mode</li> <li>Surround receiver not compatible with 96kHz PCM audio</li> <li>DVD Audio or SACD disc is loaded without using analog audio connection</li> </ul>	<ul style="list-style-type: none"> <li>Check all audio connections.</li> <li>Check digital audio settings.</li> <li>There is no audio playback on DVD discs during fast or slow modes.</li> <li>Use analog audio outputs.</li> <li>Use <b>6-Channel Audio Outputs 12</b> or <b>Analog Audio Outputs 10</b>.</li> </ul>
Picture is distorted or jumps during fast forward or reverse play	<ul style="list-style-type: none"> <li>MPEG-2 decoding</li> </ul>	<ul style="list-style-type: none"> <li>It is a normal artifact of DVD playback for pictures to jump or show some distortion during rapid play.</li> </ul>
Some remote buttons do not operate during DVD play; prohibited symbol 10 appears (see below)	<ul style="list-style-type: none"> <li>Function not permitted at this time</li> </ul>	<ul style="list-style-type: none"> <li>With most discs, some functions are not permitted at certain times (e.g., Track Skip) or at all (e.g., direct audio track selection).</li> </ul>
The OSD menu is in a foreign language	<ul style="list-style-type: none"> <li>Incorrect OSD language</li> </ul>	<ul style="list-style-type: none"> <li>Change the display language selection.</li> </ul>
The 10 symbol appears	<ul style="list-style-type: none"> <li>Requested function not available at this time</li> </ul>	<ul style="list-style-type: none"> <li>Certain functions may be disabled by the DVD itself during passages of a disc.</li> </ul>
Picture is displayed in the wrong aspect ratio	<ul style="list-style-type: none"> <li>Incorrect match of aspect ratio settings to disc</li> </ul>	<ul style="list-style-type: none"> <li>Change aspect ratio settings.</li> </ul>
Remote control inoperative	<ul style="list-style-type: none"> <li>Weak batteries</li> <li>Sensor is blocked</li> </ul>	<ul style="list-style-type: none"> <li>Change both batteries.</li> <li>Clear path to sensor or use optional outboard remote sensor.</li> </ul>
Disc will not copy to VCR	<ul style="list-style-type: none"> <li>Copy protection</li> </ul>	<ul style="list-style-type: none"> <li>Many DVDs are encoded with copy protection to prevent copying to VCR.</li> </ul>
Password not accepted.	<ul style="list-style-type: none"> <li>Incorrect password being used or password has been forgotten.</li> </ul>	<ul style="list-style-type: none"> <li>Stop play of disc. Press and hold the <b>Clear Button 31</b> until the display blinks. This resets the password and all settings to their defaults. The default password is 1234.</li> </ul>

## Technical Specifications

<b>Applicable Disc:</b>	Disc formats: 5 inch (12 cm) or 3 inch (8 cm) DVD Video, DVD-Audio, Standard conforming DVD+RW, DVD+R, DVD-R, DVD-RW and SACD, DivX, VCD/SVCD, CD, CD-R, MP3, WMA, JPEG 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: DVD-Audio MLP lossless, SACD 2-channel or multichannel, Linear PCM, MPEG, Windows Media® 9, Dolby Digital or DTS Audio discs Still-image format: JPEG	
<b>Video Signal System:</b>	PAL/NTSC	
<b>HDMI™ Output:</b>	Video: 576p, 720p, 1080i HDMI Version 1.0-compliant HDCP Version 1.1-compliant	
<b>Composite Video Output:</b>	1 V <sub>p-p</sub> /75 Ohms, sync negative polarity	
<b>S Video Output:</b>	Y/Luminance: 1 V <sub>p-p</sub> /75 Ohms, sync negative polarity C/Chrominance: 0.286 V <sub>p-p</sub>	
<b>Component Video Output:</b>	Y: 1 V <sub>p-p</sub> /75 Ohms, sync negative polarity Cr: 0.7 V <sub>p-p</sub> /75 Ohms Cb: 0.7 V <sub>p-p</sub> /75 Ohms	
<b>Analog Audio Output:</b>	2 V <sub>rms</sub> max	
<b>Frequency Response:</b>	DVD (Linear PCM):	2 Hz - 22 kHz (48 kHz sampling) 2 Hz - 44 kHz (96 kHz sampling)
	CD:	2 Hz - 20 kHz
	SACD:	2 Hz - 100 kHz
<b>Signal/Noise Ratio (SNR):</b>	105 dB (A-weighted)	
<b>Dynamic Range:</b>	DVD: 100 dB (18 Bit) / 105 dB (20 Bit) CD/DVD: 96 dB (16 Bit)	
<b>THD/1kHz:</b>	DVD/CD: 0.0025 %	
<b>Wow &amp; Flutter:</b>	Below Measurable Limits	
<b>AC Power:</b>	100 - 240 V/50 ~ 60 Hz	
<b>Power Consumption:</b>	1 Watts (Standby)/13 Watts (Max)	
<b>Dimensions (WxHxD):</b>	440 x 50 x 285 mm	
<b>Weight:</b>	4.0 kg	

Depth measurement includes knobs and connectors.

Height measurement includes feet and chassis.

All specifications subject to change without notice.

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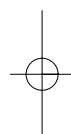
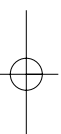
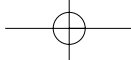
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[www.harmankardon.com](http://www.harmankardon.com)  
Harman Consumer Group, Inc.  
2, Route de Tours, 72500 Château-du-Loir, France  
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