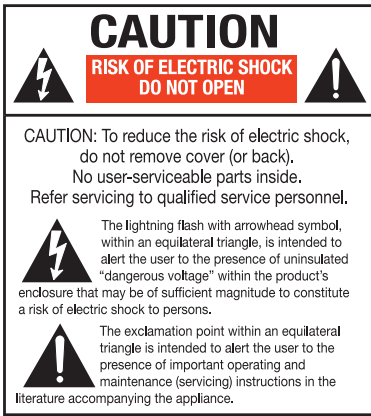


**harman/kardon®**  
Designed to Entertain.™

## **DVD 38**

DVD AUDIO/VIDEO PLAYER  
WITH HDMI™

# SAFETY INFORMATION



1. **Read Instructions.** All the safety and operating instructions should be read before the product is operated.
2. **Retain Instructions.** The safety and operating instructions should be retained for future reference.
3. **Heed Warnings.** All warnings on the product and in the operating instructions should be adhered to.
4. **Follow Instructions.** All operating and use instructions should be followed.
5. **Cleaning.** Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
6. **Attachments.** Do not use attachments not recommended by the product manufacturer, as they may cause hazards.
7. **Water and Moisture.** Do not use this product near water – for example, near a bathtub, wash bowl, kitchen sink or laundry tub; in a wet basement; near a swimming pool; or the like.
8. **Accessories.** Do not place this product on an unstable cart, stand, tripod, bracket or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.
9. **A Product and Cart Combination Should Be Moved With Care.** Quick stops, excessive force and uneven surfaces may cause the product and cart combination to overturn. 
10. **Ventilation.** Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug or other similar surface. This product should not be placed in a built-in installation, such as a bookcase or rack, unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
11. **Power Sources.** This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your

home, consult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.

**12. Polarization.** This product may be equipped with a polarized alternating-current-line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

**13. Power-Cord Protection.** Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

**14. Nonuse Periods.** The power cord of the product should be unplugged from the outlet when left unused for long periods of time.

**15. Outdoor Antenna Grounding.** If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure A.

**16. Lightning.** For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.

**17. Power Lines.** An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits, as contact with them might be fatal.

**18. Overloading.** Do not overload wall outlets, extension cords, or integral convenience receptacles, as this can result in a risk of fire or electric shock.

**19. Object and Liquid Entry.** Never push objects of any kind into this product through openings, as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

**20. Servicing.** Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

**21. Damage Requiring Service.** Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- a. The power-supply cord or the plug has been damaged; or
- b. Objects have fallen onto, or liquid has been spilled into, the product; or
- c. The product has been exposed to rain or water; or
- d. The product does not operate normally when following the operating instructions. Adjust only those controls that are covered by the operating instructions, as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation; or
- e. The product has been dropped or damaged in any way; or
- f. The product exhibits a distinct change in performance; this indicates a need for service.

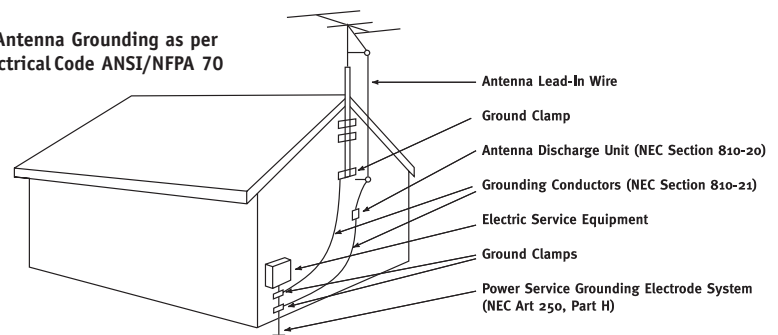
**22. Replacement Parts.** When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

**23. Safety Check.** Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

**24. Wall or Ceiling Mounting.** The product should be mounted to a wall or ceiling only as recommended by the manufacturer.

**25. Heat.** The product should be situated away from heat sources such as radiators, heat registers, stoves or other products (including amplifiers) that produce heat.

**Figure A.**  
Example of Antenna Grounding as per  
National Electrical Code ANSI/NFPA 70



# SAFETY INFORMATION

## Important Safety Information

### Verify Line Voltage Before Use

Your DVD 38 has been designed for use with 110–240-volt AC current, and the plug is specifically designed for 120-volt applications. Connection to a line voltage other than that for which the plug is intended can create a safety and fire hazard and may damage the unit.

If you have any questions about the voltage requirements for your specific model, or about the line voltage in your area, contact your selling dealer before plugging the unit into a wall outlet.

### Do Not Use Extension Cords

To avoid safety hazards, use only the power cord attached to your unit. We do not recommend that extension cords be used with this product. As with all electrical devices, do not run power cords under rugs or carpets or place heavy objects on them. Damaged power cords should be replaced immediately by an authorized service center with a cord meeting factory specifications.

### Handle the AC Power Cord Gently

When disconnecting the power cord from an AC outlet, always pull the plug; never pull the cord. If you do not intend to use the unit for any considerable length of time, disconnect the plug from the AC outlet.

### Do Not Open the Cabinet

There are no user-serviceable components inside this product. Opening the cabinet may present a shock hazard, and any modification to the product will void your guarantee. If water or any metal object such as a paper clip, wire or staple accidentally falls inside the unit, disconnect it from the AC power source immediately, and consult an authorized service center.

### Installation Location

- To ensure proper operation and to avoid the potential for safety hazards, place the unit on a firm and level surface. When placing the unit on a shelf, be certain that the shelf and any mounting hardware can support the weight of the product.
- Make certain that proper space is provided both above and below the unit for ventilation. If this product will be installed in a cabinet or other enclosed area, make certain that there is sufficient air movement within the cabinet. Under some circumstances, a fan may be required. The unit should be placed on its own shelf, not directly on top of another component.
- Do not place the unit directly on a carpeted surface.
- Avoid installation in extremely hot or cold locations, or in an area that is exposed to direct sunlight or heating equipment.
- Avoid moist or humid locations.
- Do not obstruct the ventilation slots on the unit, or place objects directly over them.
- Due to the heat generated by operation of the DVD 38 and other components in your system, there is the remote possibility that the rubber padding on the bottom of the unit's feet may leave marks on certain wood or veneer materials. Use caution when placing the unit on soft woods or other materials that may be damaged by heat or heavy objects. Some surface finishes may be particularly sensitive to absorbing such marks, due to a variety of factors beyond Harman Kardon's control, including the nature of the finish, cleaning materials used, and normal heat and vibration caused by the use of the product, or other factors. We recommend that caution be exercised in choosing an installation location for the component and in normal maintenance practices, as your warranty will not cover this type of damage to furniture.

### Cleaning

When the unit gets dirty, wipe it with a clean, soft, dry cloth. If necessary, and only after unplugging the AC power cord, wipe it with a soft cloth dampened with mild soapy

water, then a fresh cloth with clean water. Wipe it dry immediately with a dry cloth. NEVER use benzene, aerosol cleaners, thinner, alcohol or any other volatile cleaning agent. Do not use abrasive cleaners, as they may damage the finish of metal parts. Avoid spraying insecticide near the unit.

### Moving the Unit

Before moving the unit, be certain to disconnect any interconnection cords with other components, and make certain that you disconnect the unit from the AC outlet.

**NOTE:** To avoid damage to the DVD 38 that may not be covered by the warranty, be certain that the disc is removed from the unit before it is moved. Once the DVD 38 is installed, a disc may be left in the unit when it is turned off, but the unit should NEVER be moved with a disc left in the disc tray.

### Important Information for the User

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. The limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio-frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communication. However, there is no guarantee that harmful interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept interference received, including interference that may cause undesired operation.

**NOTE:** Changes or modifications may cause this unit to fail to comply with Part 15 of the FCC Rules and may void the user's authority to operate the equipment.

**CAUTION:** The DVD 38 uses a laser system. To prevent direct exposure to the laser beam, do not open the cabinet enclosure or defeat any of the safety mechanisms provided for your protection. DO NOT STARE INTO THE LASER BEAM. To ensure proper use of this product, please read this Owner's Manual carefully and retain it for future use. Should the unit require maintenance or repair, please contact your local Harman Kardon service center. Refer servicing to qualified personnel only

### Unpacking

The carton and shipping materials used to protect your new receiver during shipment were specially designed to cushion it from shock and vibration. We suggest that you save the carton and packing materials for use in shipping if you move, or should the unit ever need repair.

To minimize the size of the carton in storage, you may wish to flatten it. This is done by carefully slitting the tape seams on the bottom and collapsing the carton. Other cardboard inserts may be stored in the same manner. Packing materials that cannot be collapsed should be saved along with the carton in a plastic bag.

If you do not wish to save the packaging materials, please note that the carton and other sections of the shipping protection are recyclable. Please respect the environment and discard those materials at a local recycling center.

It is important that you remove the protective plastic film from the front-panel lens. Leaving the film in place will affect the performance of your remote control.

# STAPLE INVOICE HERE

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## WARNING

To prevent fire or shock hazard, do not expose this appliance to rain or moisture.

## For Canadian model

This Class B digital apparatus complies with Canadian ICES-003.  
For models having a power cord with a polarized plug:  
CAUTION: To prevent electric shock, match wide blade of plug to wide slot, fully insert.

## Modèle pour les Canadien

Cet appareil numérique de la Classe B est conforme à la norme NMB-003 du Canada.  
Sur les modèles dont la fiche est polarisée:  
ATTENTION: Pour éviter les chocs électriques, introduire la lame la plus large de la fiche dans la borne correspondante de la prise et pousser jusqu'au fond.

# INTRODUCTION

Please register your product on our Web site at [www.harmankardon.com](http://www.harmankardon.com).

Note: You'll need the product's serial number. At the same time, you can choose to be notified about our new products and/or special promotions.

[WWW.HARMANKARDON.COM](http://WWW.HARMANKARDON.COM)

## Thank you for choosing Harman Kardon®!

Harman Kardon invented the audio receiver more than 50 years ago, and in the intervening years we have witnessed amazing advances in consumer electronics. With our line of high-performance DVD players, Harman Kardon offers a complete home theater solution: source DVD player, audio/video receiver and loudspeakers. The DVD 38 features a variety of standard connections that make it compatible with almost any home theater component available. Whether your television is a CRT or the latest high-definition digital flat-screen display, the DVD 38 offers a range of video outputs, including Simplay HD™-verified HDMI™, each of which delivers stunning picture quality to match your display's capabilities.

The DVD 38's user-friendly on-screen menus are easy to use, and high-performance features, such as pixel-by-pixel video processing and true 3/2 pulldown reconstruction of film-based programming, make using it a pleasure. With the ability to play almost any disc in your library, including DVD Audio/Video, DVD±R/RW, CD-R/RW, MP3, WMA, VCD and JPEG, the DVD 38 is bound to be enjoyed for many years to come.

To obtain the maximum enjoyment from your new DVD player, we urge you to read this manual and refer back to it as you become more familiar with its features and their operation.

If you have any questions about this product, its installation or its operation, please contact your retailer or customer installer, or visit our Web site at [www.harmankardon.com](http://www.harmankardon.com).



## DVD 38 DVD Audio/Video Player With HDMI™

### Outputs

- Digital audio: Coaxial and optical
- Analog audio: 2-channel and 6-channel
- Digital Audio/Video: Simplay HD-verified HDMI
- Analog Video: Composite, S-video and component
- Remote Control IR: Input and Output

### Ease of Use

- Graphic user interface with composite, S-video, component video and HDMI
- Dot-matrix front-panel display
- Color-coded connections
- Backlit remote control

 The DVD 38 is Simplay HD-verified for compatibility via the HDMI connection with other Simplay HD-verified products.

### DVD Player

- Plays 5-inch (12cm) and 3-inch (8cm) discs
- Video formats supported: DVD, DVD-R/RW, DVD+R/RW, VCD
- Audio formats supported: DVD-Audio, CD, CD-R/RW, MP3, Windows Media® WMA
- Still-image formats supported: JPEG, Kodak® Picture Disc
- Video upscaling to 720p and 1080i via HDMI output
- MP3 bit rates: 32kbps – 320kbps
- WMA bit rates: 64kbps – 320kbps
- JPEG files: 5 megapixels, 5MB file size, up to 250 files per disc
- Still-image rotation in 90-degree increments
- Thumbnail still-image menu

- Internal video test signal
- Fast Play: 2x, 4x, 8x, 20x, 100x
- Slow Play: 1/2x, 1/4x, 1/8x, 1/16x (1/2x and 1/4x only in reverse)
- Zoom (DVDs and JPEGs): 2x, 3x, 4x, 5x (VCDs: 2x, 3x)
- Random Play (CDs, MP3s, WMAs only)
- Repeat Play: 1 group/title, 1 track/chapter, 1 folder, 1 disc, 1 playlist
- A-B Repeat Play (DVDs, CDs and VCDs only)
- Parental control system with user-programmable password
- Disc recognition for up to five discs
- Playback control for VCDs
- Aspect-ratio adjustment

### Supplied Accessories

The following accessory items are supplied with the DVD 38. If any of these items is missing, please contact Harman Kardon customer service at [www.harmankardon.com](http://www.harmankardon.com).

- System remote control
- Two AAA batteries
- HDMI cable
- A/V cable for stereo analog audio and composite video
- S-video cable
- Mini-plug remote interconnect cable



**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 1, 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 in the DVD 38.

# DISC COMPATIBILITY

## Disc Formats Supported by This Player

The DVD 38 can play the following types of prerecorded discs:



DVD	CD
3" (8cm) disc	3" (8cm) disc
5" (12cm) disc	5" (12cm) disc

The DVD 38 will also play most recordable discs, but we cannot guarantee complete playback compatibility due to the wide variation in recorders and blank discs.



CD-RW	CD-R	VCD
5" (12cm) disc	3" (8cm) disc 5" (12cm) disc	5" (12cm) disc

### DVD-Video Disc Compatibility:

- 3" (8cm) or 5" (12cm) discs
- Single-sided or double-sided discs
- Single-layer or dual-layer discs
- Dolby® Digital, DTS®, MPEG or Linear PCM digital audio tracks
- MPEG-2 digital video
- Discs are generally divided into one or more titles, which may be further subdivided into chapters.

### DVD-Audio Disc Compatibility

- 3" (8cm) or 5" (12cm) discs
- Single-sided discs
- Single-layer or dual-layer discs
- Linear or packed PCM digital audio
- Some discs may contain MPEG-2 video, and Dolby Digital, DTS or MPEG digital audio.
- Discs are generally divided into one or more groups, which may be further subdivided into tracks.

### Audio CD Compatibility

- 3" (8cm) or 5" (12cm) discs
- Linear PCM digital audio
- Audio CDs are divided into tracks

### CD-R/RW Compatibility

- 5" (12cm) discs
- Linear PCM, MP3 (32kbps – 320kbps) or Windows Media WMA (64kbps – 320kbps) digital audio
- May contain JPEG still images (up to 5 megapixels, file size up to 5MB, limit of approximately 250 files per disc).
- Linear PCM discs are generally divided into tracks like an audio CD. MP3, WMA and JPEG discs (or discs that contain more than one of these formats) are divided into files, which may be organized into folders, depending on how the disc was created.

### VCD Compatibility

- 5" (12cm) discs

- Linear PCM, MP1 (MPEG-1, Layer 1), MP3 (MPEG-1, Layer 3) digital audio
- MPEG-1 digital video
- May contain JPEG still images (Video CD Version 2.0).
- Some discs may contain menus and chapters, while other discs simply contain tracks. Version 2.0 discs may offer interactive playback control (PBC).

### The DVD 38 will NOT play the following:

- DVD discs with a Region Code other than 1 or 0
- DVD-ROM data discs
- DVD-RAM discs
- CD-I discs
- CD-G discs
- SVCD discs
- Kodak Photo CD™ discs (Kodak Picture CD discs, available to consumers, may be viewed using the DVD 38)
- Discs intended for use in video game consoles
- Discs recorded in the "VR" mode or at any speed other than "SP"
- High-definition optical discs such as WMVHD, SACD™, HD-DVD™ and Blu-ray Disc™

### NOTES:

Due to differences in the authoring of certain discs, it is possible that some discs may include features that are not compatible with the DVD 38. Similarly, although the DVD 38 is capable of a wide range of features, not all discs include every capability of the DVD system. For example, although the DVD 38 is compatible with multiangle discs, that feature is only possible when the disc is specially encoded for multiple-angle play. To make certain that a specific feature or soundtrack option is available, please check the options listed on the disc jacket.

- Playback of DTS audio discs requires connection to a processor or receiver with a DTS decoder and the correct setting of the Digital Output in the AUDIO SETUP Submenu to "Bitstream" (see page 26).
- Playback of CD-R/RW and DVD±R/RW discs created on a computer requires proper formatting and finalization of the disc.
- The DVD 38 is compatible with most discs recorded with files encoded using MP3 or Windows Media 9 (up to 320kbps), as well as JPEG still images. However, variations in the encoder or codec used and the bit rate of the encoding may affect the DVD 38's ability to play 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 38 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.

# FRONT-PANEL CONTROLS

**Standby/On Switch:** This electrical switch turns the DVD 38 on for playback, or leaves it in Standby mode for quick turn-on using this switch or the remote control.

**Power Indicator:** This LED is next to the Standby/On Switch. When the DVD 38 is plugged into AC power, the LED turns amber to indicate that the DVD 38 is in Standby mode (ready to be turned on). When the DVD 38 is turned on (by pressing the Standby/On Switch), the LED turns blue. If this LED ever turns red, immediately unplug the DVD 38. Check the wire connections. If the LED remains red, bring the DVD 38 to an authorized Harman Kardon service provider.

**Open/Close:** Press this button to open or close the disc drawer. When the DVD 38 is in Standby mode, press this button to turn it on and open the drawer. Before pressing this button, always make sure no objects are blocking the drawer. Remember to close the door or turn off the DVD 38 when you have finished. The door will close automatically after five minutes.

**Message Display:** Various messages appear in this display in response to commands. In addition, a variety of indicators will light at various times to display the current playback mode, video settings or other aspects of the DVD 38's status.

**Disc Drawer:** This drawer holds a disc that is played in the DVD 38. Press the Open/Close Button to access it. Be sure to carefully seat all discs in the recess in the drawer tray. To avoid damaging the drawer accidentally, do not press down on it when open. The drawer will close automatically after five minutes of inactivity to prevent dust or dirt from entering the DVD 38 and to prevent damage. If a disc is present, it will begin playing.

**Play:** Press to start playback of a loaded disc, or to resume play after the disc has been paused.

**Pause:** Press to pause play, or to resume after play has been momentarily paused. When a DVD is playing, a still image of the frozen action will appear on-screen. In Pause mode, you may access the Frame-by-Frame Advance and Slow Search functions by pressing the forward or reverse Step or Skip Buttons on the remote. The Disc Recognition function is not activated by Pause mode.

**Stop:** Press once to stop play and enter Resume mode, in which pressing Play resumes playback from the point at which it was stopped. Press this button twice to fully stop play of the disc. The Disc Recognition function is activated by Resume mode, enabling you to turn off the player or change discs, then resume play from the point at which it was stopped the next time the disc is loaded. Resume mode is not available for WMA files or VCDs without playback control.

**Skip/Search Reverse:** Press once to return to the beginning of the current chapter or track. Quickly press again to skip to previous chapters or tracks. Press and hold for fast search reverse within the current chapter or track at the speed indicated on-screen.

**Skip/Search Forward:** Each press advances to the next chapter or track. Press and hold for fast search forward within the current chapter or track at the speed indicated on-screen.

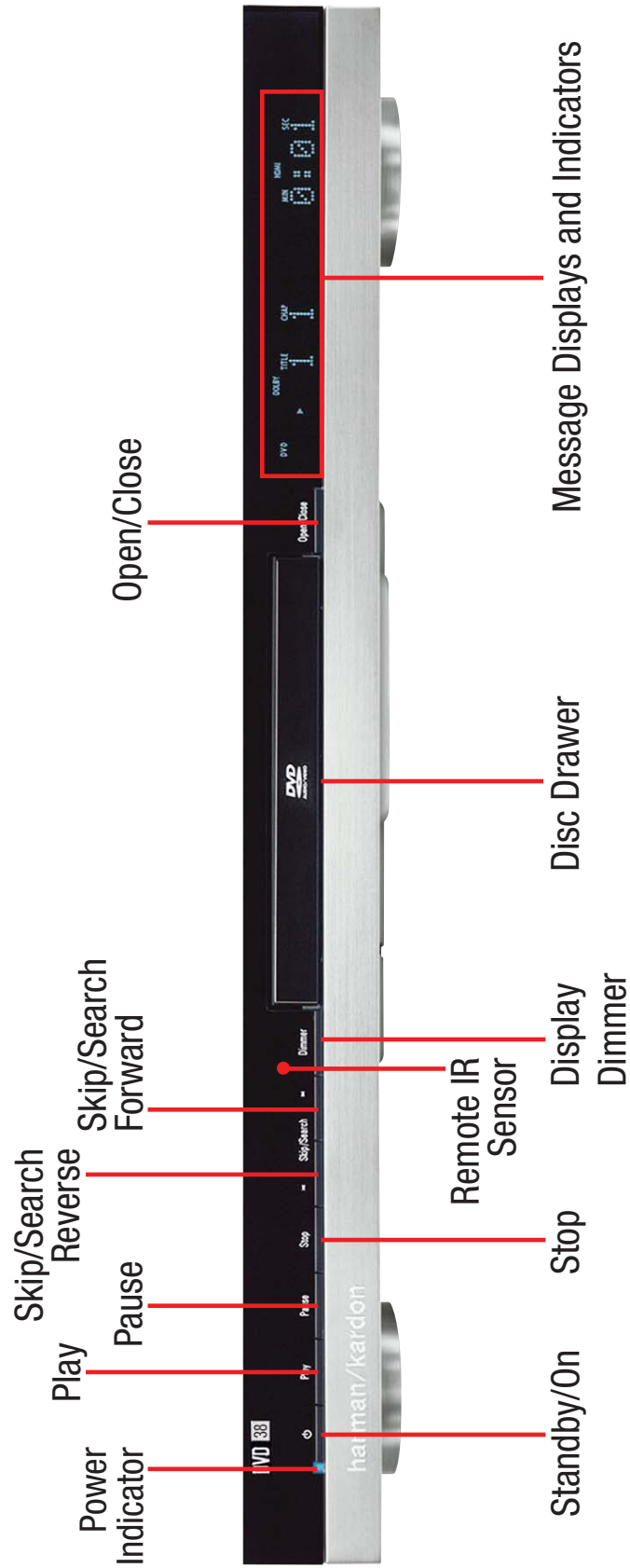
**Remote IR Sensor:** This sensor receives infrared commands from the remote control. It is important to ensure that it is not blocked. If covering the sensor is unavoidable, such as when the DVD 38 is placed inside a cabinet, you may use an optional Harman Kardon HE 1000, or other infrared receiver, connecting it to the Remote IR Input on the DVD 38's rear panel. Alternatively, connect the Remote IR Output of another compatible component, such as a Harman Kardon AVR, to the DVD 38's Remote IR Input. Point the remote at the other device's remote sensor, and the command will be transmitted to the DVD 38. An external IR "blaster" may also be used, positioned to point at this area.

**Dimmer:** Some people find the front-panel display distracting, especially while watching a movie. Each press of this button cycles through the front-panel brightness options of Full Brightness, Half Brightness and Off. The Power Indicator always remains lit to remind you that the DVD 38 is turned on, but the display will remain dimmed or off, even when a command is entered.

**Open/Close:** Press this button to open or close the disc drawer.

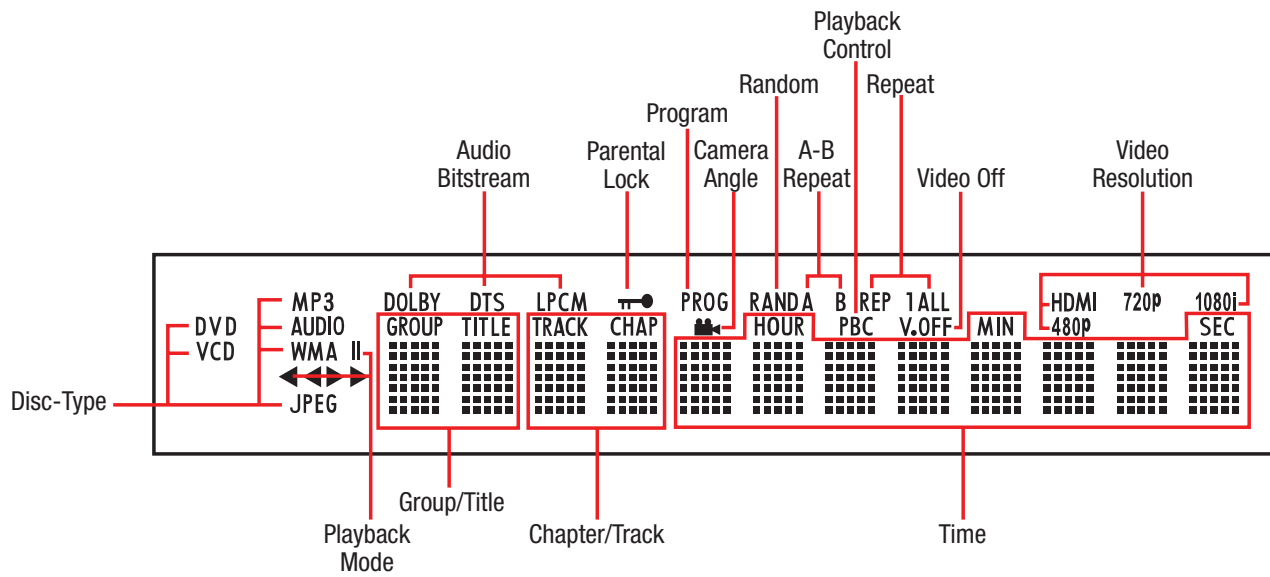


# FRONT-PANEL CONTROLS



**NOTE:** To make it easier to follow the instructions throughout the manual that refer to this illustration, a copy of this page may be downloaded from the Product Support section at [www.harmankardon.com](http://www.harmankardon.com).

# FRONT-PANEL INFORMATION DISPLAY



**NOTE:** To make it easier to follow the instructions that refer to the controls and connectors in this illustration, a larger copy may be downloaded from the Product Support section for this product at [www.harmanardon.com](http://www.harmanardon.com).

**Disc-Type Indicators:** The DVD, DVD-Audio, CD, VCD, MP3, WMA or JPEG indicator will light to show the type of disc currently being played.

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

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

**Program Indicator:** This indicator lights when a playlist has been programmed using the menu system (available for CDs only).

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

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

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

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

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

**Video OFF Indicator:** This indicator lights in red when the unit's video output has been turned off by pressing the **Video OFF Button** on the remote control.

**Video Resolution Indicators:** One of these indicators will light to indicate the video resolution of the source DVD, usually 480p. However, if your video display is capable of handling higher resolutions, the HDMI Output will upscale to the higher resolution, as indicated in the VIDEO SETUP menu (explained in the Initial Setup section). You may change the HDMI Mode setting to a lower resolution to improve picture quality

using the VIDEO SETUP menu, or by pressing the HD Mode Button on the remote. This indicator does not reflect the HDMI Mode setting.

**Time Indicators:** These positions show the running time of a disc in play.

**NOTE:** These positions will also display text messages about the DVD's status, including Loading when a disc is loading, Power Off when the unit is turned off, and Disc Error when a disc not compatible with the DVD 38 is loaded.

**Chapter/Track Number Indicators:** When a DVD disc is playing, these two positions show the current chapter. When a DVD-Audio or CD disc is playing they will show the current track number.

**Group/Title Indicators:** These two positions show the current title number when a DVD disc is playing, or the current group for a DVD-Audio disc.

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

► Lights when a disc is playing in the Normal mode. This indicator will flash when the disc is in Forward Slow Play mode. The on-screen banner display indicates the selected speed (1/2x, 1/4x, 1/8x or 1/16x).

►► When the DVD 38 is in the Fast Search Play mode, two of these indicators will light to show that the unit is in a Fast Play mode. The on-screen banner display indicates the selected speed (2x, 4x, 8x, 20x or 100x). Fast Play mode is not available for WMA files.

|| 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 (2x, 4x, 8x, 20x or 100x). Fast Search Reverse mode is not available for WMA files.

◄ Flashes when the disc is in Reverse Slow Play mode. The on-screen banner display indicates the selected speed (1/2x or 1/4x).

# REAR-PANEL CONNECTIONS

**Remote Infrared (IR) Input and Output:** When the Remote IR sensor on the front panel is blocked, such as when the DVD 38 is placed inside a cabinet, connect the IR Output of your receiver/processor or an optional IR receiver to the Remote IR Input jack for use with the remote control. The Remote IR Output may be connected to the Remote IR Input of a compatible source device (or other product) to enable remote control through the DVD 38. When several devices are used, connect them in "daisy chain" fashion.

**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 high-quality digital audio and video. Even if your receiver is not capable of processing audio in the HDMI format, you will still experience the superb reproduction of HDMI video.

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 without a repeater. 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.

The DVD 38 is Simplay HD-verified for compatibility via the HDMI connection with other Simplay HD-verified products.

The following audio formats may be output via the HDMI connection:  
Audio CD – 2-Channel PCM or 5.1-channel DTS  
DVD-Audio – 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 discs, you also need to connect the **6-Channel Audio Outputs** to the corresponding input jacks on your receiver or processor. These formats are not output digitally.

To hear a two-channel analog downmix via the 2-Channel Analog Audio Outputs, select Stereo at the Bass Management setting in the AUDIO SETUP submenu, or press the Audio Mode Button on the remote repeatedly until the Stereo setting is selected.

**Coaxial and Optical Digital Audio Outputs:** If your receiver or processor has an available digital audio input, connect either of these digital audio outputs to the corresponding input on the receiver/processor to enjoy digital audio formats such as Dolby Digital, DTS or standard PCM (traditionally found on CDs and may be available on other discs). Never connect both of these outputs to the same device simultaneously. However, it is okay to connect one of the digital audio outputs plus the analog audio outputs to the same device.

**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.

**Component Video Outputs:** If your television or video display and receiver are component video-capable, and your display does not have an HDMI input, connect these jacks to the corresponding inputs on the receiver or TV that are labeled "Y/Pr/Pb" or "Y/Cr/Cb." If your video display is capable of handling resolutions of 480p or better, connect these outputs to the HD (high-definition) component video inputs on your display. If the display is capable of displaying progressive-scan

video, select Progressive at the Scan Type setting in the VIDEO SETUP submenu, or press the P/I Button on the remote repeatedly until the Progressive Scan setting is selected.

**IMPORTANT NOTE:** Do not connect the Component Video Output jacks to standard composite video inputs on any device.

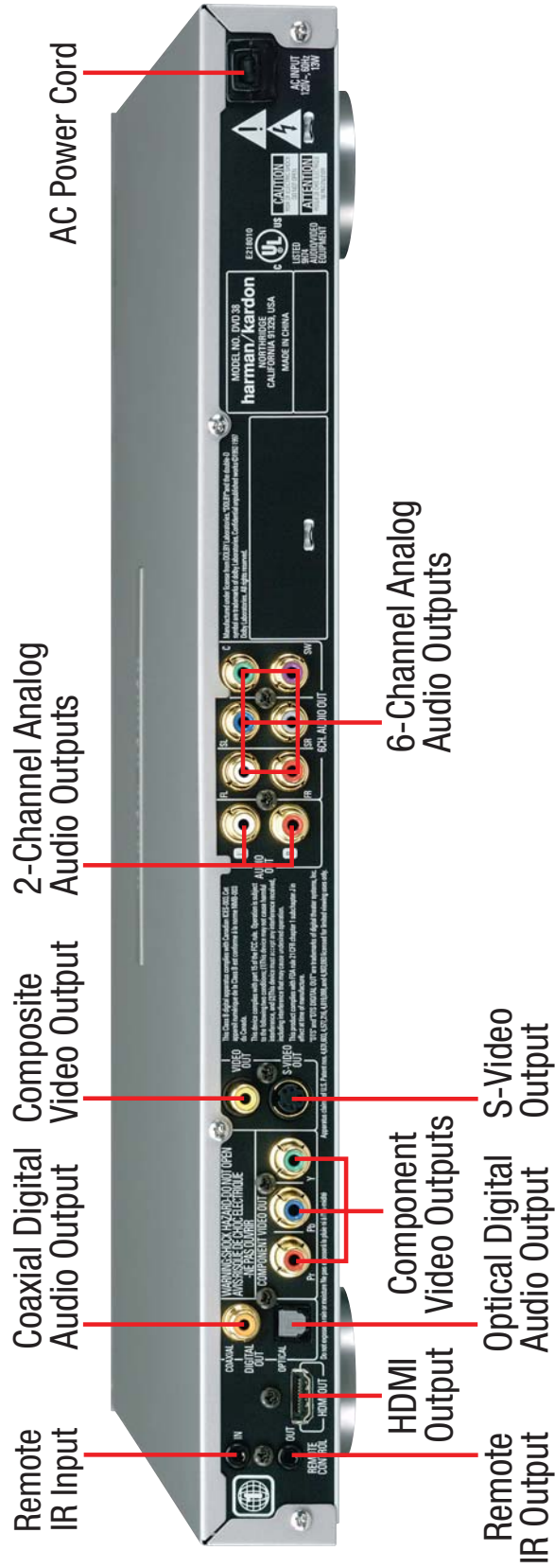
**Composite and S-Video Outputs:** If your video display does not have HDMI or component video inputs, connect one of these two video outputs to your receiver/processor or directly to the display. If available, S-video is preferred. Do not connect more than one of the DVD 38's analog video outputs (component video, S-video, composite video) to any other device at the same time. You may connect both the HDMI Output and the Composite Video Output to your receiver if your receiver distributes composite video through a multiroom system.

**2-Channel Analog Audio Outputs:** Connect these outputs to the left and right analog audio inputs on your receiver/processor or TV. You may connect these jacks in addition to a digital audio connection, and it is recommended that you do so as a backup if you wish to use the DVD 38 as a source device for a multiroom system or if you wish to make analog recordings, as it is not possible to make digital recordings of most DVDs.

**6-Channel Analog 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 DVD-Audio discs. If the disc also contains a Linear PCM, Dolby Digital or DTS track, you may listen to it using the **HDMI Output**, the **Coaxial** or **Optical Digital Audio Output** or the **2-Channel Analog Audio Outputs**.

**AC Power Cord:** Connect the AC power cord to an AC outlet. If the outlet is controlled by a switch, make certain that it is in the ON position. If the cord somehow becomes damaged, contact your authorized Harman Kardon dealer for a replacement.

# REAR-PANEL CONNECTIONS



**NOTE:** To make it easier to follow the instructions throughout the manual that refer to this illustration, a copy of this page may be downloaded from the Product Support section at [www.harmankardon.com](http://www.harmankardon.com).

# REMOTE CONTROL FUNCTIONS

**IR Transmitter Lens:** As buttons are pressed on the remote, infrared codes are emitted through this lens. Make sure it is pointing toward the component being operated.

**Power On:** Press this button to turn on the DVD 38 when it is in Standby mode (plugged in with the Power Indicator lit up in amber).

**Power Off:** Press this button to turn off the DVD 38, placing it in Standby mode.

**Open/Close:** Press this button to open or close the disc drawer. If the DVD 38 is in Standby mode, pressing this button will turn it on.

**Audio:** Press this button while a DVD is playing to display the current audio track information and to select another audio format.

**Clear:** Press this button to clear a number you have started to enter. This button may also be used to clear the on-screen displays. Press and hold this button for five seconds while in Stop mode and with all on-screen displays cleared to reset the DVD 38 to its factory-default settings.

**Title:** This button allows you to select from the titles stored on the disc, which may include "making of" or other featurettes. Some DVD-Audio discs may allow you to select from the available audio formats using the Title Button.

**Subtitle:** Press this button while a DVD containing subtitle information is playing to turn subtitles off or select a subtitle language. This setting will only be in effect for the current disc.

**NOTE:** Due to the variations in how DVD discs are authored, the subtitle languages displayed by the DVD 38 may not accurately reflect the actual languages available on the disc. It is recommended that subtitles be selected using the disc's menu.

**Playlist:** Press this button to display the Disc Information screen, which shows the order in which tracks are currently being played. You may navigate to the Program screen to program a playlist, in which the tracks may be played in a different order than they appear on the disc. See the Programming a Playlist section for more information.

**Repeat:** Press this button repeatedly to cycle through the Repeat modes available with the current disc. This button is not used to access A-B Repeat mode.

**A-B Repeat:** While a disc is playing, the A-B Repeat function allows you to repeatedly play a passage, which may include several tracks or chapters. Press the button once to select the starting point ("A"), and a second time to select the end of the passage ("B"). Press the button again to end repeat play.

**Random:** This button turns on or off Random Play mode, which plays the tracks on a CD in random order.

**Numeric Keys:** Use these buttons to directly enter a track or chapter number to skip to that section of the disc, or to enter a password for the parental control system.

**Info:** Press this button to display the Disc Information screen, which contains detailed information about the current disc. Press it again to clear the display. See the Operation section for more information.

**System Setup:** Press this button to access the SYSTEM SETUP menu. See the Initial Setup section for more information.

**Disc Menu:** Press this button while a DVD is playing to view the disc's menu.

**Status:** When a DVD or VCD is playing, press this button to view the Status Bar, which contains playback mode information.

**Transport Controls:** These buttons are used to operate the disc player. Use the controls to skip forward or reverse by track or chapter; to fast-search forward or reverse; and to play, pause or stop the disc. After pressing the Pause button, the Skip buttons may be used to step frame-by-frame through a video presentation, and the Fast-Search buttons may be used for slow play.

**Angle:** When a DVD encoded with multiple camera angles is playing and when the Angle Icon appears to indicate that the multiple-angle passage has been reached, press this button to cycle through the various available angles.

This button is also used to rotate still images. Each press rotates the image clockwise 90 degrees.

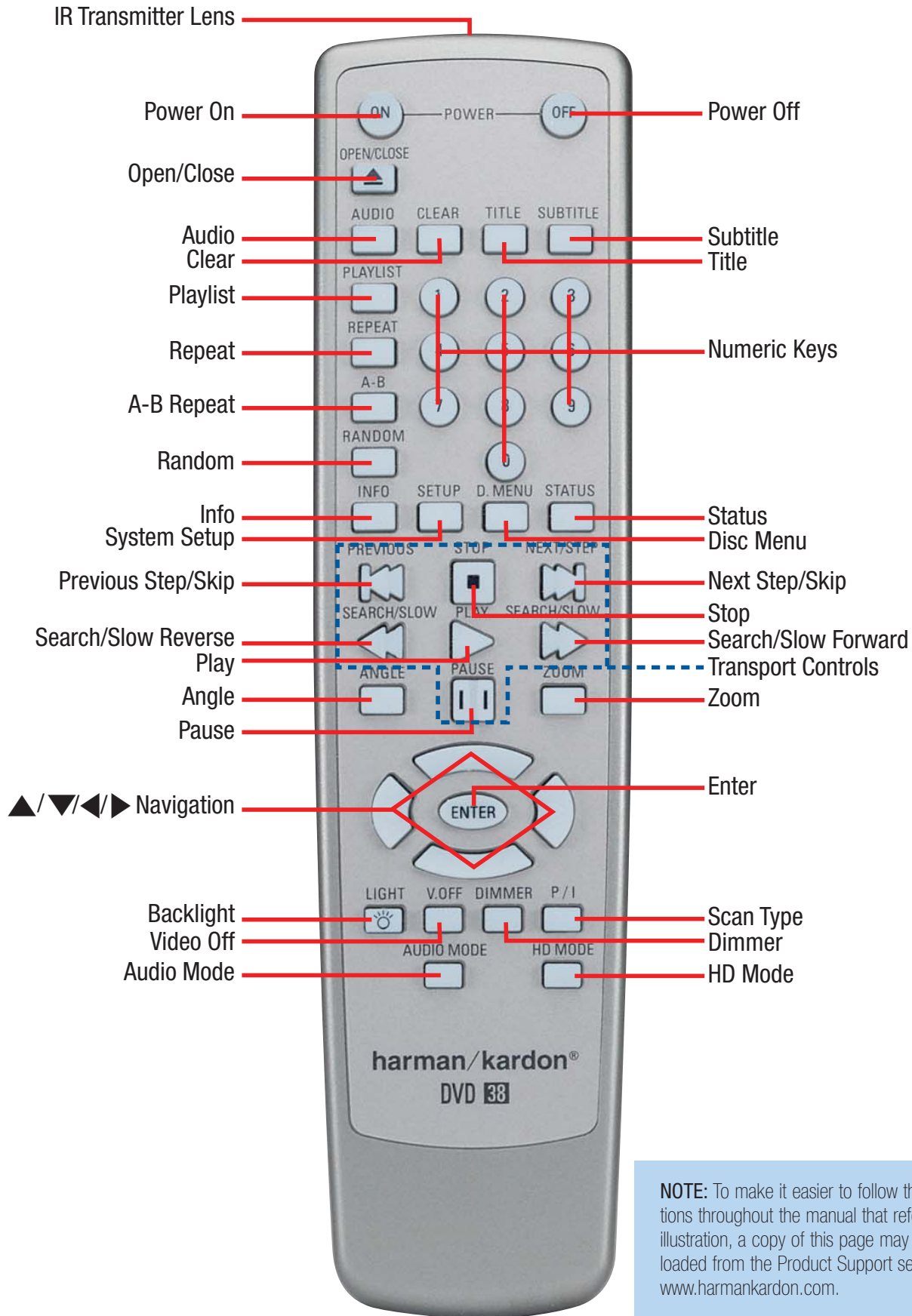
**Zoom:** When viewing a DVD, VCD or JPEG still image, press this button repeatedly to enlarge the on-screen image by 2x, 3x, 4x or 5x (2x or 3x only for VCDs) before returning to the original size. While enlarged, use the Navigation buttons to explore the image.

**▲/▼/◀/▶ Navigation and Enter Buttons:** These buttons are used together to make selections within the on-screen menu system.

**Backlight:** Press this button to turn on the backlight to make it easier to see the buttons in a darkened room. The backlight will remain on for a few seconds after your last button press before going out, or you may turn off the backlight by pressing this button again.

**Video Off:** Some people prefer to turn off the video display when listening to audio-only discs. Pressing this button deactivates the video circuitry, avoiding any possible interference with the audio. Moreover, plasma and CRT video displays are subject to "burn-in" when a still image, such as a menu, remains on-screen for more than a short time. Although the DVD 38 features a screen saver that appears automatically after a brief period of inactivity, we strongly recommend that plasma and CRT owners use the Video Off function liberally. Press the button a second time to reactivate the video displays.

# REMOTE CONTROL FUNCTIONS



# REMOTE CONTROL FUNCTIONS

**Dimmer:** Some people find the front-panel displays distracting, especially while watching a movie in a darkened room. Each press of this button cycles through the Full Brightness, Half Brightness and Off settings. The Power Indicator will always remain lit to remind you that the DVD 38 is turned on.

**NOTE:** Although you may enter commands and operate the DVD 38 normally even with the front-panel display fully dimmed, the display will not wake when a command is entered. To view the display messages, press the Dimmer Button to change the brightness setting.

**Scan Type:** Each press of this button toggles between the Progressive and Interlaced Scan settings of the Component Video Outputs. It has no effect on the Composite, S-Video or HDMI Outputs. The button also has no effect while the SYSTEM SETUP menu is on-screen. Press the Clear or Setup Button to clear the on-screen displays. Use this button when your video display is not capable of handling progressive-scan component video signals, and you have inadvertently selected the progressive scan setting in the VIDEO SETUP menu.

**Audio Mode:** This button adjusts the Bass Management setting, which is also found in the AUDIO SETUP menu. Stop playback of the current disc in order to use this selector.

There are three available settings: Bypass (the default), On and Stereo. The first press displays the current setting, and each additional press cycles through the three settings.

**Bypass:** The analog audio information is passed through the Analog Audio Outputs as is, without applying any bass management adjustments. This mode is used with receivers and processors that are capable of applying bass management settings (speaker size, output levels and delay times) to their 6-channel analog inputs.

**On:** This setting is used with receivers and processors that pass the audio signals from their 6-channel analog inputs directly to the outputs without applying any bass management settings. With Bass Management on, use the AUDIO ADJUSTMENTS submenu to set the DVD 38's bass management settings.

**Stereo:** This mode is used when a 2-channel downmix of a multichannel audio signal is desired. For example, if you are playing a DVD-Audio disc, in which case the multichannel presentation is only available through the Analog Audio Outputs, and you would like to distribute the program to a multiroom system, select the Stereo mode.

**NOTE:** The 2-channel downmix (Stereo mode) and the 5.1-channel presentation of multichannel audio discs (Bypass or Bass Management On modes) are not available simultaneously. With Bass Management on, only the front left and right channel information will be available at both the 2-channel and 6-channel left and right Analog Audio Outputs. No surround or center channel information will be present in the signal output at the 2-channel Analog Audio Outputs. In Stereo mode, the down-mixed 2-channel signal will be available at both the 2-channel and 6-channel left and right Analog Audio Outputs, while none of the remaining 6-channel outputs will have any information.

Use the Audio Mode Selector to conveniently select from the three available settings without having to enter the on-screen menu system.

**HD Mode:** Each time the DVD 38 is turned on while connected via HDMI to a video display or other device, the DVD 38 and the other device exchange information about the other device's video resolution capabilities. The DVD 38 sets the resolution of the HDMI Output to match the video display. If the original program materials were recorded at a much lower resolution, you may wish to change the video output resolution to improve the picture quality. Press this button to select from the resolution settings available with your display. You will not be able to select a resolution greater than your display's capabilities.

This button performs the same function as the HDMI Settings line in the VIDEO SETUP menu. The HDMI Mode setting will not be displayed on the front panel, which indicates the resolution of the source disc's video signal. The HDMI Mode setting may be viewed by accessing the VIDEO SETUP menu as described in the Initial Setup section.

# INTRODUCTION TO HOME THEATER

The DVD 38 may be the first multichannel surround sound component you've owned. This introductory section will help to familiarize you with the basic concepts, which may make setup and operation smoother.

If you are already familiar with home theater, you may skip this section and proceed to the Connections section on page 17.

## Typical Home Theater System

A home theater typically includes your audio/video receiver, which controls the system; a DVD player; a source component for television broadcasts; (e.g., a cable box, a satellite dish receiver, an HDTV tuner or simply an antenna connected to the TV); a video display (TV); and loudspeakers.

All of these components are connected by various types of cables for audio and video signals.

## Multichannel Audio

The benefit of a home theater system is that several loudspeakers are used in various locations around the room to produce "surround sound," immersing you in the musical or film presentation for increased realism.

The receiver used with the DVD 38 may have up to seven speakers connected to it (plus a subwoofer). When more than two speakers are used, it is called a multichannel system

- **Front Left and Right** – The main speakers are used the same way as in a two-channel system. However, you may notice that in many surround modes, these speakers are used more for ambient sound while the main action and dialogue are moved to the center speaker.
- **Center** – The center speaker is usually placed above or below the video screen, and is used mostly for dialogue in movies and television programs. This placement allows the dialogue to originate near the actors' faces, for a more natural sound.
- **Surround Left and Right** – The surround speakers are used to improve directionality of ambient sounds. In addition, by using more loudspeakers in the system, more dynamic soundtracks may be played without risk of overloading any one speaker.
- **Surround Back Left and Right** – Additional surround speakers may be placed behind the listening position, improving the precision with which ambient sounds may be placed and allowing for more realistic-sounding pans. By using more speakers in the system, the same sound levels may be attained with less burden placed on any individual speaker.

The surround back speakers may also be used with specialized surround modes that are designed for use with 7.1-channel systems, such as Dolby Digital EX, DTS-ES<sup>®</sup> (Discrete and Matrix) and Logic 7 (7.1 modes). However, the surround back speakers are optional.

Many people expect the surround speakers to play as loudly as the front speakers. Although all of the speakers in the system will be calibrated to sound equally loud at the listening position, most sound tracks use the surround speaker for ambient effects only, and they program their materials to steer very little sound to these speakers.

- **Subwoofer** – A subwoofer is a special-purpose speaker designed to play only the lowest frequencies (bass). It is used to augment the smaller, limited-range satellite speakers used for the other channels. In addition, many digital-format programs, such as movies recorded

in Dolby Digital, contain a special low-frequency effects (LFE) channel that is directed only to the subwoofer. The LFE channel packs the punch of a rumbling train or airplane, or the power of an explosion, adding realism and excitement to your home theater.

## Surround Modes

There are different theories as to the best way to present surround sound and to distribute soundtrack information among the various speakers. A variety of algorithms have been developed in an effort to accurately reproduce the way we hear sounds in the real world. The result is a rich variety of surround mode options. Some modes are selected automatically, depending on the signal being received from the source. In many cases, you may select a surround mode manually.

Several companies have taken surround sound in slightly different directions. It is helpful to group the numerous surround modes either by their brand name, or by using a generic name:

### • Dolby Laboratories Modes:

- **Dolby Digital, Dolby Digital EX** – These modes are encoded in the program material either on a disc or within a television broadcast. They provide up to five or six separate main audio channels and a dedicated low-frequency effects (LFE) channel.
- **Dolby Pro Logic<sup>®</sup> II/IIx** – These modes are derived by an analog decoder that creates five or six full-range, discrete main audio channels from matrix surround-encoded or 2-channel analog sources. Select from Movie mode, which is optimized for movies and television programs; Music mode, which is optimized for music selections; or Dolby Pro Logic, the original version that steers a mono signal containing information below 7kHz to the surround channels.

- **DTS Modes** – DTS is a digital surround format that is encoded in the program material. It uses a different encoding and decoding method than Dolby Digital to provide up to 5 discrete main channels, plus an LFE channel. The DTS-ES (Discrete and Matrix) and DTS Neo:6<sup>®</sup> modes offer up to six main channels, either encoded or derived. DTS 96/24<sup>®</sup> is a mode encoded in special high-resolution audio-only discs.














- **Stereo Mode** – Two-channel mode with no surround sound.

Surround modes are selected using your receiver or processor. The availability of multichannel surround sound depends on the capabilities of your receiver/processor; consult its owner's manual for more information.



There are different types of audio and video connections used to connect the DVD 38 to your receiver or processor and video display. To make it easier to keep them all straight, the Consumer Electronics Association (CEA®) has established a color-coding standard. Table 1 may be helpful to you as a reference while you set up your system.

**Table 1 – Connection Color Guide**

Audio Connections	
	Left Right
Front (FL/FR)	
Center (C)	
Surround (SL/SR)	
Subwoofer (SUB)	
Digital Audio Connections	
Coaxial	
Optical	Input  Output 
Video Connections	
Component	Y  Pb  Pr 
Composite	
S-Video	
HDMI™ Connections	
HDMI	

## Types of Connections

This section will briefly review different types of cables and connections that you may use to set up your system.

Audio and video signals originate in what are known as “source devices,” including a DVD/CD player such as the DVD 38.

Separate connections are required for the audio and video portions of the signal unless an HDMI connection is used (see below). The types of connections used depend upon what’s available on your receiver, and for video signals, the capabilities of your video display.

## Audio Connections

There are two formats for audio connections: digital and analog. Digital audio signals are required for listening to sources encoded with digital surround modes, such as Dolby Digital and DTS. There are two types of digital audio connections commonly used: coaxial and optical. Either type of digital audio connection may be used, but never both simultaneously. However, it’s okay to make both analog and digital audio connections at the same time to the same source.

**NOTE:** The DVD 38 outputs digital audio signals through the HDMI connection. If your receiver/processor or video display is capable of *processing* the audio portion of the HDMI signal, then you will not need to make a separate digital audio connection. However, as explained in the Analog Audio section below, you may still need to make the analog audio connections. If your receiver/processor is only capable of *switching* HDMI signals, use HDMI for your video connection only and connect either the DVD 38’s coaxial or optical digital audio output to the corresponding input on your receiver.

## Digital Audio

Coaxial digital audio jacks are usually color-coded in orange. Although they look similar to analog jacks, they should not be confused, and you

should not connect coaxial digital audio outputs to analog inputs or vice versa. See Figure 1.

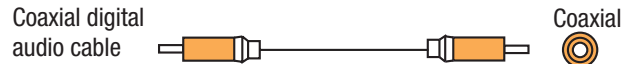


Figure 1 – Coaxial Digital Audio

Optical digital audio connectors are normally covered by a shutter to protect them from dust. The shutter opens as the cable is inserted. See Figure 2.



Figure 2 – Optical Digital Audio

Due to the nature of digital signals as binary bits, they aren’t subject to signal degradation the way analog signals are. Therefore, the quality of coaxial and optical digital audio connections should be the same, although it is important to limit the length of the cable. Whichever type of connection you choose, Harman Kardon recommends that you always select the highest quality cables available within your budget.

## Analog Audio

Analog connections require two cables, one for the left channel (white) and one for the right channel (red). See Figure 3. These two cables are often attached to each other for most of their length. Most devices that have digital audio jacks also have analog audio jacks. We recommend that you always connect the DVD 38’s 2-Channel Analog Audio Outputs to your receiver/processor, or to your TV if you are not using a receiver. There are four reasons to use analog audio connections, even if you are using one of the digital audio connections:

1. To make recordings. Most DVDs are protected from digital copying and only analog copies are permitted. Please make sure to comply with all copyright laws when making recordings for personal use.
2. In a multiroom system. Many receivers and processors require sources used in multiroom systems to output analog audio signals.
3. When connecting the DVD 38 directly to a TV. The TV may not have digital audio inputs.
4. When playing high-resolution 96kHz PCM audio discs. If your receiver is not capable of processing 96kHz audio, you may need to use the analog audio connection.

**NOTE:** The DVD 38 is capable of downmixing multichannel materials and outputting a two-channel downmix. However, make sure to adjust the Bass Management setting in the Audio Setup menu to Stereo.

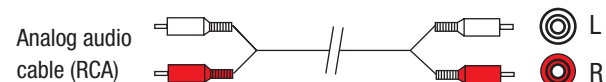


Figure 3 – Analog Audio

Multichannel analog connections are used with high-resolution DVD-Audio discs, where the copy-protected digital content is decoded inside the DVD 38. These connections are required for playing DVD-Audio discs, unless the disc also carries two-channel PCM and 5.1-channel

# CONNECTIONS

Dolby Digital or DTS soundtracks for use with receivers/processors that are not equipped with 5.1-channel analog inputs. Check the disc's jacket for more information on alternate audio tracks. See Figure 4.

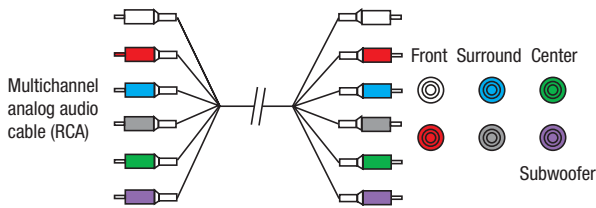


Figure 4 – Multichannel Analog Audio

**NOTE:** In order to enjoy the full benefit of lossless multichannel recordings, make sure the Bass Management setting in the AUDIO SETUP menu is set to On or Bypass, depending on the bass management capabilities of your receiver/processor. When the Stereo setting is selected, the center and surround channel information will be combined with the left and right channels, and will only be heard through the front channels. This setting may also be accessed by pressing the Audio Mode Button on the remote.

## Video Connections

As mentioned above, the video signal is often transmitted separately from the audio signal. Even when the HDMI connection described below is used, sometimes the receiver is not capable of accessing the audio portion of the HDMI signal, and a separate audio connection is required.

### Digital Video

The DVD 38 is equipped with an HDMI (High-Definition Multimedia Interface) output. HDMI is capable of carrying digital audio and video information using a single cable, delivering high-quality picture and sound.

The DVD 38 is capable of outputting up to 720p or 1080i video and 2-channel PCM or up to 5.1-channel Dolby Digital or DTS audio through its HDMI connection. The DVD 38 is in compliance with HDCP (High-Definition Copy Protection) and the video display must also be HDCP-compliant to be used with the DVD 38's HDMI output.

**SimplayHD** The DVD 38 is Simplay HD-verified for compatibility via the HDMI connection with other Simplay HD-verified products.

The physical HDMI connection is simple. The connector is shaped for easy plug-in (see Figure 5). If your video display has a DVI input, you may use an HDMI-to-DVI adapter (not included) to connect it to the HDMI Output.



Figure 5 – HDMI Connection

### Analog Video

There are three types of analog video connections: composite video, S-video and component video.

Composite video is the basic connection most commonly available. The jack is usually color-coded yellow, and looks like an analog audio jack, although it is important never to confuse the two. Do not plug a

composite video cable into an analog or coaxial digital audio jack, or vice versa. Both the chrominance (color) and luminance (intensity) components of the video signal are transmitted using a single cable. See Figure 6.

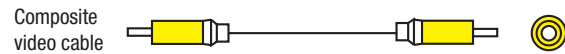


Figure 6 – Composite Video

S-video, or "separate" video, transmits the chrominance and luminance components using separate wires contained within a single cable. The plug on an S-video cable contains four metal pins, plus a plastic guide pin. Be careful to line up the plug correctly when you insert it into the jack on the receiver, source or video display. See Figure 7.



Figure 7 – S-Video

Component video separates the video signal into three components – one luminance ("Y") and two sub-sampled color signals ("Pb" and "Pr") – that are transmitted using three separate cables. The "Y" cable is color-coded green, the "Pb" cable is colored blue and the "Pr" cable is colored red. See Figure 8.

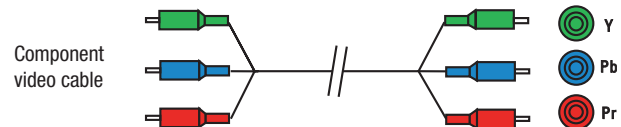


Figure 8 – Component Video

Do not confuse component video connections with composite video (described above). Although the plugs and jacks may look similar, they are not compatible and cross-connecting them will result in no picture or a very distorted picture. Remember that component video uses three connections, colored green, blue and red, while composite video uses a single connection, which is often color-coded yellow.

If your video display is capable of handling progressive-scan signals (480p or better), then connect the DVD 38's Component Video Outputs to the input jacks on your video display marked "HD Component". Make sure to configure your display for use with 480p video signals. Set the Scan Type setting in the DVD 38's Video Setup menu to Progressive; this setting may also be accessed by pressing the Scan Type Button on the remote (marked P/I).

#### NOTES:

- The DVD 38's component and S-video outputs are not available simultaneously. Adjust the Video Output setting in the VIDEO SETUP menu for the desired output. You may need to temporarily connect the DVD 38's Composite Video Output to your video display in order to view the menu.
- For simplified operation, connect one of the DVD 38's video outputs to your receiver or processor, and use the receiver/processor as a switching device for all of your sources, connecting only the receiver/processor to your video display. However, if your receiver is not capable of switching HDMI signals, connect the DVD 38's HDMI Output directly to an HDMI-capable video display for superior picture quality.

- If you are using the DVD 38 with a multiroom receiver/processor that is capable of distributing video, connect the DVD 38's Composite Video Output to the receiver in addition to the HDMI, Component Video or S-Video Output.

If it's available on your video display, HDMI is recommended as the best-quality connection, followed in preference by component video, S-video and then composite video. Except as indicated above for use in a multiroom system, do not connect more than one video output from the DVD 38 to another device.

## Remote IR Input and Output

The DVD 38 is equipped with an infrared input and output to facilitate use of your system with a remote control in a variety of situations.

When the DVD 38 is placed in such a way that aiming the remote at the front-panel IR sensor is difficult, such as inside a cabinet or facing away from the listener, you may connect an external IR receiver, such as the optional Harman Kardon HE 1000, to the Remote IR Input jack.

If your receiver or any of your other components are equipped with a compatible remote IR input, you may use the included 1/8" mini-plug interconnect cable to connect the Remote IR Output to the device's remote IR input, which will pass any applicable remote signals transmitted through the DVD 38 to the other device. This enables you to control your devices even when the DVD 38 itself is controlled via an external IR receiver.

To control more than one device using the Remote IR Output, connect all devices in "daisy chain" fashion, with the receiver's remote IR output connected to the DVD 38's Remote IR input, then the DVD 38's Remote IR Output connected to the next device's remote IR input, that device's remote IR output connected to the next device's remote IR input, and so forth.

**NOTE:** Not all remote controllable devices are equipped with compatible IR inputs and outputs. Check with the manufacturer of the source device for more information on the type of IR signal expected. The DVD 38 will output a "stripped carrier" IR signal.

# INSTALLATION

You are now ready to connect the DVD 38 to your system. Before beginning, make sure that all components, including the DVD 38, are turned completely off and their power cords are unplugged. **Don't plug any of the power cords back in until you have finished making all of your connections.**

Many components in a home theater system, such as a receiver or power amplifier, generate a great deal of heat that can interfere with the operation of the DVD 38. Therefore, it is best to place the DVD 38 on its own shelf instead of stacking it directly on top of another component. It is also a good idea to check the finish of your shelf. Some wood or other finishes can be affected over time by the DVD 38's rubber feet.

## Step One – Connect the DVD 38 to Other Components

Select one of the following two sections, depending on whether you are connecting the DVD 38 directly to a television or video display, or if you are using an audio/video receiver or processor (this manual will use the term "receiver" to refer to either a receiver or a processor) that incorporates the DVD 38 as part of a home theater system.

### Connecting the DVD 38 Directly to a Television

If your television is HDMI-capable and HDCP-compliant, then only one cable connection is required, and it will carry both audio and video signals. Use the included HDMI cable to connect the DVD 38's HDMI output to your television's HDMI input. See Figure 9. If your television has a DVI input rather than an HDMI input, purchase an HDMI-to-DVI cable or adapter.

 The DVD 38 is Simplay HD™-verified for compatibility via the HDMI connection with other Simplay HD-verified products.



Figure 9 – HDMI Output

**NOTE:** When using the HDMI connection, turn on the television or video display *before* the DVD 38.

If your video display does not have an HDMI input, then separate audio and video connections are required. Select one of these types of video connections, in order of preference: component video, S-video, composite video. See Figure 10.



Figure 10 – Component, S- and Composite Video Outputs

Other than HDMI, most video displays are not equipped with coaxial or optical digital audio inputs. If your display is, then it would be preferable to connect one of the DVD 38's digital audio outputs to the corresponding input on your display. However, most likely you will use the 2-Channel Analog Audio Outputs. See Figure 11.



Figure 11 – 2-Channel Analog Audio Outputs

**NOTE:** The DVD 38 is capable of downmixing 5.1-channel materials to the two-channel format, but it is necessary to adjust the Bass Management setting in the AUDIO SETUP menu to Stereo. You may also access this setting by pressing the Audio Mode Button on the remote. If you leave the Bass Management setting at On or Bypass, the DVD 38 will only output content specific to the front left and right channels through the 2-Channel Analog Audio Outputs, losing the center and surround channel information.

After you have connected the DVD 38 to your television, skip to Step Two for more information.

### Connecting the DVD 38 to an Audio/Video Receiver

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. In addition, the DVD 38 is capable of playing DVD-Audio discs, which contain high-resolution multichannel audio materials. In order to benefit from these audio formats, we strongly recommend that you connect the DVD 38 to a 5.1-, 6.1- or 7.1-channel audio/video receiver with the ability to decode digital audio such as Dolby Digital and DTS, and with 5.1-channel "direct" analog audio inputs. Harman Kardon AVR Series receivers are compatible with the DVD 38.

The DVD 38 may also be used with an analog A/V receiver by connecting the 2-Channel Analog Audio Outputs to any one of the receiver's inputs (in addition to a video connection).

If your receiver is HDMI-capable, connect the DVD 38's HDMI Output to one of the receiver's HDMI inputs. See Figure 9. If the receiver is equipped with a DVI port, purchase an HDMI-to-DVI cable or adapter.

 The DVD 38 is Simplay HD™-verified for compatibility via the HDMI connection with other Simplay HD-verified products.



Figure 9 (repeated) – HDMI Output

Check your receiver's owner's manual to determine how it handles HDMI signals. It may simply switch the signal, it may process the audio portion of the signal but not the video portion, or it may be capable of processing both the audio and video portions of the signal. If the receiver only switches the signal, but is not capable of accessing and processing the audio or video data, then a separate audio connection is required, as explained below.

If the receiver is *not* HDMI-capable, then separate audio and video connections are required. Select *one* of these types of video connections, in order of preference: component video, S-video, composite video. See Figure 10.



Figure 10 (repeated) – Component, S- and Composite Video Outputs

If your receiver is equipped with digital audio inputs, then select *either* a coaxial or optical digital audio input, and connect it to the corresponding output on the DVD 38. See Figure 12. This step also applies to a receiver that is only capable of HDMI switching and cannot process the audio portion of the HDMI signal. If your HDMI-capable receiver processes the HDMI audio, then do not make another digital audio connection.



Figure 12 – Coaxial and Optical Digital Audio Outputs

If you wish to enjoy DVD-Audio discs in their native lossless format, connect the DVD 38's 6-Channel Analog Audio Outputs to the corresponding 6-channel analog audio inputs on the receiver. This connection is necessary because the digital content is copy-protected and decoded by the DVD 38, with only the analog audio output available. See Figure 13.



Figure 13 – 6-Channel Analog Audio Outputs

**NOTE:** When using the 6-Channel Analog Audio Outputs, remember to adjust the Bass Management setting in the AUDIO SETUP menu to On if the inputs on your receiver are "direct", meaning that the receiver does not perform any bass management on the signal; or to Bypass if the receiver does perform bass management on the 6-channel inputs, which may be indicated by calling them 6-channel DVD-Audio inputs. Consult your receiver's owner's manual for more information.

As explained in the Connections section, there may be several reasons for using the DVD 38's Analog Audio Outputs in addition to the Digital Audio Outputs. If you wish to make recordings, to use the DVD 38 as an audio source for a multiroom system, to play 96kHz discs when your receiver is not capable of processing 96kHz audio, or if your receiver is not equipped with digital audio inputs, then connect the DVD 38's 2-Channel Analog Audio Outputs to any pair of analog audio inputs on the receiver. See Figure 11.



Figure 11 (repeated) – 2-Channel Analog Audio Outputs

Even if you connected one of the DVD 38's digital audio outputs to your receiver, you may wish to connect the 2-Channel Analog Audio Outputs to your TV (if it isn't HDMI-capable) so that you may watch a DVD without turning on your complete home theater system. If you make this connection, remember to also connect one of the DVD 38's video outputs directly to the TV.

## Step Two – Plug In AC Power

Having made all of your wiring connections, it is now time to power up the DVD 38. Plug the AC Power cord into a working, unswitched AC outlet. See Figure 14.



Figure 14 – AC Input for Power Cord

## Step Three – Insert Batteries in Remote

The DVD 38 remote control uses two AAA batteries (included).

To remove the battery cover located on the back of the remote, firmly press the ridged area and slide the cover towards the bottom of the remote.

Insert the batteries as shown in Figure 15, making sure to observe the correct polarity.

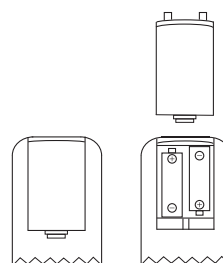


Figure 15 – Remote Battery Compartment

When using the remote, remember to point the lens toward the front panel of the DVD 38. Make sure no objects, such as furniture, are blocking the remote's path. Bright lights, fluorescent lights and plasma video displays may interfere with the remote's functioning. The remote has a range of about 20 feet, depending on the lighting conditions. It may be used at an angle of up to 30 degrees to either side of the DVD 38.

If the remote seems to operate intermittently, make sure the batteries have been inserted correctly, or replace all three batteries with fresh ones.

# INSTALLATION

## Step Four – Turn On the DVD 38

Plugging the DVD 38 into AC power places it in Standby mode, which is indicated by the Power Indicator (surrounding the Standby/On Switch) turning amber.

**NOTE:** When HDMI connections are used, turn on your television or video display before turning on the receiver and DVD 38.

There are several ways in which the DVD 38 may be turned on from Standby mode.

a) Press the Standby/On Switch on the front panel or remote.  
See Figure 16.



Figure 16 – Standby/On Switch

b) Press the Open/Close Button on the front panel or remote.  
See Figure 17.



Figure 17 – Open/Close Button

Pressing the Open/Close Button will also open the disc drawer.

c) Press the Play Button on the front panel or remote. If a disc is present, it will begin playing automatically. See Figure 18.

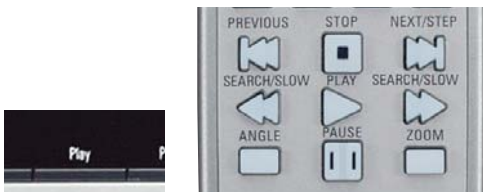


Figure 18 – Play Button

After customizing a few settings in the Initial Setup section, you may soon enjoy the finest in home entertainment.

# INITIAL SETUP

Before you begin enjoying your new DVD player, a few adjustments should be made to configure it.

Make sure that you have connected a video display to one of the video monitor outputs. When you turn on your display and the DVD 38, you should see the DVD 38's splash screen. The DVD 38 will determine whether a disc is loaded and, if so, begin play. If not, the splash screen will remain.

**IMPORTANT NOTE:** The DVD 38 is not capable of outputting both S-video and component video signals simultaneously. If you have used either of these connections and have no picture, the likely problem is that the DVD 38 is set to output only the other type of video.

Temporarily connect the DVD 38's Composite Video Output to the corresponding input on your TV. Press the Setup Button to access the menu system, and then use the ▲/▼ Navigation Buttons to highlight the VIDEO SETUP submenu's icon (with the word "VIDEO" on it). Press the Enter Button, and then use the ▲/▼ Navigation Buttons to navigate to the Video Output line. If it is set incorrectly, press the Enter Button and use the ▲/▼ Navigation Buttons to scroll to the desired type of video output, then press the Enter Button again to select it. When you turn off the DVD 38 and disconnect the composite video cable, you should be able to see a picture using the S-video or component video connection as appropriate.

## Using the On-Screen Menu System

The DVD 38 uses two types of menu screens: Setup menus and Player Information menus.

Press the Setup Menu button on the remote to display the SYSTEM SETUP menu. See Figures 19 and 20.



Figure 19 – Setup, Info, Disc Menu and Navigation Buttons

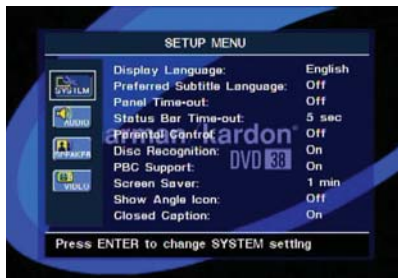


Figure 20 – System Setup Menu Screen

All of the DVD 38's menu screens follow the same basic format.

The top line is the Main Menu line. It indicates whether the SYSTEM SETUP or PLAYER INFORMATION menu is active.

The DVD 38 displays instructions at the bottom of the screen to guide you in making your selections.

On the left side of the screen are navigation icons that may be used to access the submenu or display screens. Use the Navigation Buttons on the remote to highlight an icon, and press the Enter button to select or deselect it. When the icon is selected, it will look like a button that has been pressed in. When it is deselected, it looks like a button in the out position.

The Setup submenus are:

- **SYSTEM SETUP:** Identified by a wrench icon and the word SYSTEM. Used to establish the player's general settings.
- **AUDIO SETUP:** Identified by a speaker icon and the word AUDIO. Used to establish the player's audio output settings.
- **SPEAKER SETUP:** Identified by a loudspeaker cabinet icon. When the Bass Management line of the AUDIO SETUP submenu is set to On, this submenu is used to establish the Bass Management settings for the 6-Channel Analog Audio Outputs that are used when a DVD-Audio disc is playing.
- **VIDEO SETUP:** Identified by a TV icon and the word VIDEO. Used to establish the video formatting and configuration settings and to access the video adjustments screen for the picture settings.

The PLAYER INFORMATION menu appears automatically for audio-only discs, JPEG discs and VCDs without playback control (PBC). For DVDs and VCDs with PBC, press the Info Button (see Figure 19) to display it. Unlike the Setup menus, many of the lines on the Player Information menu screens are informational displays only that cannot be changed. The Player Information screens are described in greater detail in the Operation section. The submenus available are:

- **PLAYBACK INFO:** Identified by an "i" icon. Displays the disc type and name (if available on the disc), and contains settings to control the playback mode.
- **PROGRAM:** Identified by an icon showing musical notes. Used to program a playlist, which lets you play back selected CD tracks in the order you choose. Playlists are only available for audio CDs.
- **DISC INFO:** Identified by a disc icon. Displays detailed information about the audio and video content on the current disc.

The main area of each setup menu's screen contains the various configuration settings, with the current setting displayed to the right. Use the Navigation Buttons to highlight a setting. Press the Enter Button, and a dropdown menu will appear that contains the available options for that setting. Press the ▲/▼ Navigation Buttons until the desired option is highlighted, then press the Enter Button to select that option. See Figure 21 for an example of a dropdown menu.

# INITIAL SETUP

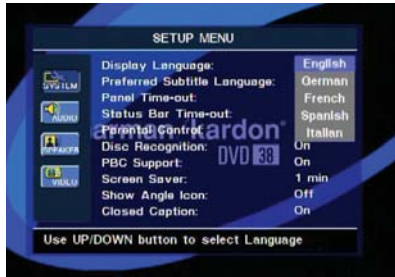


Figure 21 – Settings Dropdown Menu

Press the Enter Button when the desired setting is highlighted, and use the ▲/▼ buttons to select another setting line.

Some settings call for numeric entries, such as the password for the Parental Control setting. A set of underscore lines will be shown ( \_ \_ \_ ). Use the Numeric Keys on the remote to enter the code, and the DVD 38 will automatically proceed to the next setting line.

When you have made all desired adjustments to the current submenu, use the Navigation buttons to highlight the icon for the next submenu, and press the Enter Button to switch to that submenu.

When you have finished adjusting all settings, press the Setup button to clear the menu from the display. See Figure 19.

## Step One – System Setup

In this step you will configure some basic system settings using the SYSTEM SETUP submenu. Press the Setup Button and the Enter Button as explained above to access the settings in this submenu. Your screen should look similar to the one shown in Figure 20.

**DISPLAY LANGUAGE:** This setting selects the language that will be used for the DVD 38's OSD menus and other system messages. The default is English, but you may select French, Spanish, German or Italian.

**PREFERRED SUBTITLE LANGUAGE:** This setting selects the language used for the display of subtitles. The default setting is OFF, to play discs without subtitles. To set the player so that subtitles will always play in a specific language when they are available, select from the choices shown.

If you do not find your preferred language in the options list, you may select a preferred language by first pressing the ▲/▼ Buttons so that UNKNOWN or OTHER is highlighted in the drop down menu. Press the Enter Button, and then use the ▲/▼/◀/▶ Buttons to select a language from those shown on screen (see Figure 22). You may exit the languages screen by navigating to the word RETURN at the bottom of the screen and pressing the Enter Button to return to the SYSTEM SETUP submenu.



Figure 22 – Languages Screen

This procedure selects a preferred subtitle language, but it will only be available when the disc being played contains that language. The list of subtitles available on any given disc is always shown on the disc jacket, usually at the bottom of the back cover. The subtitles may also be switched on or off, or a new language selected during playback using the Subtitle Button.

If you have selected a subtitle language and subtitles do not appear on screen, press the Subtitle Button to display the Subtitle banner. Each press of the Enter or Subtitle button will cycle through the subtitle language options available on the disc. Use the ◀/▶ buttons to navigate to the Done button, and press Enter to clear the banner from the screen.

If subtitles still do not appear, press the Disc Menu Button to make sure that subtitling has been selected in the disc's menu system. See Figure 19.

**NOTE:** Due to the variations in how DVD discs are authored, the subtitle languages displayed by the DVD 38 may not accurately reflect the actual languages available on the disc. It is recommended that subtitles be selected using the disc's menu.

**PANEL TIME-OUT:** This setting allows you to select the length of time the Front-Panel Display remains lit during disc playback (as some people find the front-panel display distracting while a movie is playing). You may program the DVD 38 to refresh the front-panel display only when a button is pressed on the remote or front panel, and to turn the display off again after either five or 20 seconds. When the display is off, the blue Power Indicator will remain lit to remind you that the unit is turned on. When the Panel Time-Out setting is set to "Off," the display remains lit at all times. This feature is only in effect when a DVD or VCD is playing. However, you may always press the Dimmer Button to dim the front-panel display either by half or fully.

**STATUS BAR TIME-OUT:** This setting selects the timeout interval for the on-screen Status Bar that appears at the top of your video screen when the Status Button is pressed while a disc is playing. During DVD playback, the status bar shows the current title and chapter, playback mode, the elapsed or remaining time in the current chapter or title, a setting to adjust the time display, and a temperature bar for the time display.

You may program the status bar to remain on screen for either five or 20 seconds after the Status Button is pressed. When OFF is selected, the timeout is disabled, and the status bar will remain on the screen until the Status Button or Clear Button is pressed. We strongly recommend programming the Status Bar to disappear on its own to avoid burning its image into a plasma or CRT display.



**PARENTAL CONTROL:** The DVD 38's password system allows you to restrict viewing of certain materials that may not be suitable for younger members of the household by requiring the viewer to enter a password to view those materials. The system is based on rating information encoded in some DVDs that classifies materials into eight levels, roughly corresponding to the Motion Picture Association of America (MPAA) voluntary ratings system:

**Level 1 G:** Corresponds to the MPAA's "G" (General Audiences) rating, and is considered suitable for all viewers.

**Level 2:** Intermediate level between the "PG" and "G" ratings.

**Level 3 PG:** Corresponds to the MPAA's "PG" (Parental Guidance) rating.

**Level 4 PG13:** Corresponds to the MPAA's "PG-13" (Parental Guidance and 13 years old) rating.

**Level 5:** Intermediate level between the "R" and "PG-13" ratings.

**Level 6 R:** Corresponds to the MPAA's "R" (Restricted) rating.

**Level 7 NC17:** Corresponds to the MPAA's "NC-17" (17 years and older) rating.

**Level 8 Adult:** All DVDs, including adult materials, can be played.

**Off:** Any DVD may be viewed without entering the password.

The DVD 38 is shipped from the factory with the parental control system unlocked (no password is required to view any DVD), and with the password set to the four-digit code "1234." To activate the system, highlight the Parental Control Setting on the SYSTEM SETUP submenu, and press the Enter Button. Select On from the dropdown menu and the Password Screen will appear (see Figure 23). Use the Numeric Keys to enter the password code.



Figure 23 – Password Screen

If you have entered the password correctly, the Rating line will be highlighted. Press the Enter Button to display the ratings dropdown menu. Select a new rating using the ▲/▼ Navigation Buttons and the Enter Button.

The first time you use the DVD 38, it is recommended that you scroll to the Change Password setting and press the Enter Button to enter a new password. Use the Numeric Keys to enter your new password once at the New Password prompt, and a second time at the Confirm Password prompt. The DVD 38 will return to the screen shown in Figure 23, and you may then change the Ratings Setting. After you press the Enter Button and return to the SYSTEM SETUP submenu, the new password will take effect.

**DISC RECOGNITION:** When this setting is turned on, the Disc Recognition feature allows you to stop a DVD-Video disc, 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. When a previously played disc is reinserted in the DVD 38, you will be presented with an on-screen status message asking whether you wish to start playback from the beginning of the disc or resume at the point where you left off. Even when the setting is activated, to benefit from Disc Recognition, you must press the Stop Button either once (Resume mode) or twice (Stop mode), but not the Pause Button. The unit may be turned off between discs. The DVD 38 can store the information for up to five DVDs at a time.

**PBC SUPPORT:** This setting controls the activation of PBC (Play Back Control) Support for VCD discs. If you plan to play VCD discs, which are a CD-ROM-based format that predates DVD, we recommend that the setting be turned ON. However, with PBC enabled, the Repeat Track, Repeat Disc and Random functions may not be available for VCDs.

**SCREEN SAVER:** The DVD 38 offers a Screen Saver option to protect your TV or video display from damage that may occur if the player is left turned on with the same still image for a period of time, as there is a possibility that the image may be "burned" into some display devices. This is particularly important for plasma displays and some CRT devices. Set Screen Saver to ON so that the DVD 38 will run the screen saver when no action has been detected for either one or five minutes. Press a desired command key on the front panel or remote to "wake" the DVD 38 and resume normal operation.

**IMPORTANT NOTE:** If the screen cursor is left on one of the navigation icons on the left side of the screen, the screen saver will not be activated. Moreover, some discs, such as DVD-Audio discs and JPEG discs, can leave a still image displayed indefinitely. Use caution in these situations to avoid causing burn-in on your video display.

**SHOW ANGLE ICON:** Some DVDs are programmed with multiple-angle capability, allowing you to view the same scene from a different camera angle. Normally, the angle icon will be displayed on screen during those sections of the disc to inform you that you may press the Angle Button to change to a different view. If you find the appearance of the icon on-screen distracting, select the Show Angle Icon setting in the SYSTEM SETUP submenu, and set it to OFF. The front-panel Angle indicator will remain lit for the duration of the sequence containing multiple camera angles, regardless of the Show Angle Icon setting.

**CLOSED CAPTION:** This setting enables viewing of closed caption messages, if they have been encoded in the video material. Closed captions – text displays of the program's dialogue which are normally hidden from view – are broadcast for the hearing-impaired or others. Select the ON setting to activate the DVD 38's closed captioning decoder so that these messages may be viewed.

## Step Two – Audio Setup

In this step you may make adjustments to the audio settings using the Audio Setup submenu.

# INITIAL SETUP

Use the ◀▶ Buttons to move the cursor to the submenu icons on the left side of the screen, and then use the ▲/▼ buttons to highlight the Audio Setup icon. See Figure 24. Press the Enter Button, and then use the Navigation Buttons to move the cursor to the settings on the AUDIO SETUP submenu.



Figure 24 – Audio Setup Submenu

**PREFERRED AUDIO LANGUAGE:** This setting is used to select the default language that will be used for program playback. The factory default setting is English, but you may choose French, Spanish, German or Italian by making a selection from the dropdown menu as explained in the Using the On-Screen Menus section. To select a language other than those shown, select OTHER from the dropdown menu and press the Enter Button. The Languages Screen (see Figure 22) will appear. Navigate to the desired language and press the Enter Button to select it, or navigate to RETURN at the bottom of the screen and press the Enter Button to return to the AUDIO SETUP submenu.

This procedure selects a preferred audio program language, but it will only be available when the disc being played contains that language. The list of languages available on any given disc is always shown on the disc jacket, usually at the bottom of the back cover. The audio playback language may also be changed during playback using the Audio Select Button, but any changes made will only be effective during playback of that disc.

**NOTE:** The Audio Select Button is also used to change the disc's audio output format, e.g., Dolby Digital 5.1 versus Dolby Digital 2.0.

**DIGITAL OUTPUT:** This setting selects the digital audio data stream that is routed to the Optical or Coaxial Digital Output. Two choices are available:

- **Bitstream:** This is the default setting. The DVD 38 will output the Dolby Digital or DTS signal selected using the disc's menu or using the Audio Select Button. This setting should be used when your receiver or processor is capable of decoding signals in the Dolby Digital or DTS format.
- **PCM:** At this setting the DVD 38 outputs a standard PCM signal for decoding by receivers or processors that are not capable of decoding a Dolby Digital or DTS bitstream. This setting enables 2-channel audio playback or matrix decoding where available.

**NOTE:** Any changes made to the Digital Output setting during playback will not take effect until after play has been stopped and restarted.

**PCM LIMIT:** This setting affects playback of high-resolution (96kHz or greater) audio materials. If your receiver is capable of handling signals

greater than 48kHz, select the 96kHz setting. If your receiver is not capable of resolving these signals, or if you aren't sure of your receiver's capabilities, select the 48kHz setting. At the 48kHz setting high-resolution materials will be downsampled to 48kHz. If you select the 96kHz setting when your receiver is not capable of processing high-resolution signals, you will not hear any audio when these materials are played.

**NOTE:** Due to copyright restrictions, the DVD 38 will not output an uncompressed signal in the PCM format from a disc recorded with 96kHz/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 Night-mode encoding present on some Dolby Digital recordings to reduce the volume of louder passages while maintaining intelligibility of quieter passages. This allows you to 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 38 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 signal, 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.

**NOTE:** If your receiver or processor also allows you to program the dynamic range setting, sometimes called "Night Mode," you do not need to adjust this setting on the DVD 38 and you should leave it at MAXIMUM.

**DELAY UNIT:** This setting selects the unit of distance used for calculating delay times when the AUDIO ADJUSTMENTS submenu is activated using the Bass Management setting described below. The default unit is feet, but you may select meters.

**BASS MANAGEMENT:** This setting activates the AUDIO ADJUSTMENTS menu's bass management settings, to optimize playback of DVD-Audio discs through the 6-Channel Analog Audio Outputs, or to downmix the signal to two channels. This setting may also be adjusted by pressing the Audio Mode Button on the remote repeatedly until the desired setting is selected. Three settings are available:

- **On:** 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 change this setting to On, and proceed to the AUDIO ADJUSTMENTS menu to program the bass management settings.

- **Bypass:** This is the default setting. 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 (sometimes called the 6-channel DVD-Audio inputs during source selection), then we recommend you leave this setting at the default 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, or if you wish to use the DVD 38 as the source for a multiroom system, to connect it directly to your TV or for recording, then change this setting to Stereo, which will send a downmixed 2-channel signal to the Analog Audio Outputs, for use with any 2-channel analog input on your receiver. You may then select an analog surround mode available on your receiver.

**NOTE:** The 2-channel downmix (Stereo mode) and the 5.1-channel presentation of multichannel audio discs (Bypass or Bass Management On modes) are not available simultaneously.

With bass management on or in Bypass mode, the same front left and right channel information will be available at both the 2-Channel and 6-Channel left and right Analog Audio Outputs. No center or surround information will be present in the signal output at the 2-channel Analog Audio Outputs.

In Stereo mode, the downmixed 2-channel signal will be available at both the 2-Channel and 6-Channel Analog Audio Outputs, with no center or surround channel information available at the 6-Channel Analog Audio Outputs.

## Step Three – Audio Adjustments

This menu allows you to adjust bass management settings that control the audio output of the 6-Channel Audio Outputs for speaker size, output level and delay times. The proper adjustment of these settings is key to optimal reproduction of DVD-Audio discs, when the DVD 38 is used with a receiver or processor that does not have audio adjustment capabilities for the direct inputs. These settings are only effective when the Bass Management line of the AUDIO SETUP submenu is set to On.

**IMPORTANT NOTE:** In order to avoid audio problems, when the DVD 38 is connected to a receiver that *does* have the capability to adjust bass management parameters for its multichannel inputs, it is preferable 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 38'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 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 to any 2-channel analog inputs on your receiver.

Press the Setup Button to activate the Setup menu; then use the ▲/▼ Navigation Buttons until the AUDIO ADJUSTMENTS submenu is highlighted, and press the Enter Button. See Figure 25.



Figure 25 – Audio Adjustments Submenu

The following adjustments are available on the AUDIO ADJUSTMENTS menu for each speaker position. Use the Navigation Buttons to select the settings for each speaker. Press the Enter Button to display a drop-down menu with the selections available for the setting. Use the ▲/▼ Navigation Buttons to highlight the appropriate setting, and then press the Enter Button 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.

Before proceeding with the DVD 38's audio setup adjustments, we recommend that you first use the menu system in your receiver to ascertain the settings already established for "Speaker Size," "Output Level" and "Delay Time" (may be set as a distance). Record these settings in Table A3 in the appendix to refer to during the configuration process, or follow these steps to obtain the information:

1. Consult the frequency response specification (usually found in the owner's manual) for each of your speakers. Make a note of the lowest frequency each speaker is capable of handling. For example, if your speaker has a frequency response of 80Hz – 20kHz, then 80Hz is the lowest frequency it is capable of handling.  
For your subwoofer, the important figure is the highest frequency it is capable of handling. For example, if the subwoofer has a frequency response of 25Hz – 150Hz, then 150Hz is the highest frequency it can handle. Some subwoofers allow you to adjust the frequency crossover. Consult the subwoofer's owner's manual for instructions on setting its crossover, and use the approximate number you selected.
2. Measure the distance from each speaker to the listening position. This is used for setting the delay.

# INITIAL SETUP

If you use the metric system, return to the AUDIO SETUP submenu and change the Delay Unit setting from its default of FEET to METER.

**NOTE:** The DVD 38 is designed to accommodate speaker placements of up to 15 feet from the listening position. If you have placed your speakers further from the listening position, move them closer. If that isn't possible, measure the differences in the distances from each speaker to the listening position, and enter the delay settings so as to reflect these differences, even though the actual distances will be incorrect.

Before you begin to make the audio adjustments, select test program material, either a test DVD you have purchased, or a movie or music selection you are familiar with. For best results, you may wish to also purchase a sound-pressure level (SPL) meter to assist you in setting the output levels correctly. If you use an SPL meter, set it to the C-Weighting, Slow scale, and adjust the receiver's volume control until the meter measures 75dB. If you don't have an SPL meter, you may set the output levels "by ear".

**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 100Hz 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.

**DELAY SETTINGS:** The delay settings indicate the distance from each speaker to the listening position. Although ideally you placed all of your speakers in a circle equidistant from the listening position, we recognize that it isn't always practical to do so. This setting enables the DVD 38 to delay the signal from some speakers by up to 15 mS to compensate.

Use the Navigation buttons to highlight the distance for each speaker, and press the Enter button to change it. Use the ▲/▼ Buttons to scroll through the available settings.

**NOTE:** There is no delay setting for the subwoofer. Low-frequency sound waves by their nature are not noticeably affected by the distances in a typical listening room.

**OUTPUT LEVEL SETTINGS:** Output level adjustment is a key part of the configuration process for any surround sound system. The goal is to set the output levels so that all channels sound equally loud at the listening position. This is important because movie directors adjust the loudness of each channel in the recording to produce a desired sound presentation. Usually the director reduces the loudness, or even the presence, of information in the surround channels so as not to distract the viewer from the main action taking place on screen. If the test tones on your test disc sound as loud in the rear speakers as they do coming from the other speakers, the DVD 38 is performing correctly.

In many cases the factory default setting of 0dB should accomplish that. However, in some cases the specifics of your listening room may require some adjustments.

To adjust the output levels, first insert a disc with test tones or content you are familiar with, and that has a reasonably even level without many dynamic changes.

If you are using an SPL meter with a disc containing test tones, adjust the level of each channel so that the meter reads 75dB. If you don't have a meter or a test disc, adjust the levels until all channels sound equally loud. Make sure not to use a surround sound-encoded disc for this process, or the surround channels will be set too high.

Use the Navigation Buttons to highlight the level setting for the front left channel. Press the Enter Button to display the available settings, which range from -6 dB to +6dB, and use the ▲/▼ Buttons to scroll through them until you are satisfied with the level setting for that channel. Press the Enter button to select the setting, and use the Navigation Buttons to select the next channel. Repeat the procedure to enter the output level offset, if needed, that brings all of the channels to the same output volume. You may need to repeat this procedure more than once to accurately set the levels.

For the subwoofer, the settings are slightly different. Select On when a subwoofer is connected, or Off if one is not used.

The second setting for the subwoofer is the crossover. This determines which sounds will be sent to the subwoofer, and which to the main speakers when Small is selected as the speaker size for any of the speakers. Select the frequency from those shown that is closest to the lowest frequency your main (left/center/right/surround left/surround right) speakers are able to reproduce. The output level should be set the same way as for the other speakers.

## Step Four – Video Setup

In this step you may make a few adjustments to insure that the video signal is output in a way that is compatible with your video display.

Use the ◀▶ Buttons to move the cursor to the submenu icons on the left side of the screen, and then use the ▲/▼ buttons to highlight the Video Setup icon. See Figure 26. Press the Enter Button, and then use the Navigation Buttons to move the cursor to the settings on the Video Setup submenu.



Figure 26 – Video Setup Submenu

**ASPECT RATIO:** This setting selects the aspect ratio of video programming. Your choice should be made according to the shape of your video display and your personal preferences. Three choices are available:

- **16:9:** If you have a widescreen (16:9) display, or a display that has a widescreen mode, choose this setting. The DVD 38 will adjust the output for widescreen movies so that they fill the entire screen in the proper aspect ratio. However, a disc recorded in the 4:3 aspect ratio

will appear as a boxed image in the center, with black or gray bars on the left and right side of the screen. If the widescreen option is chosen and a widescreen movie is played on a conventional 4:3 aspect ratio set, the image will be distorted due to vertical compression.

- **4:3 Letterbox:** If you have a standard, 4:3 aspect ratio video display, choose this setting to see the entire frame of the movie as it is recorded on the disc without any image cutoff at the left and right sides. While this allows widescreen movies to be shown in their entirety, they will occupy a smaller portion of the screen and black "letterbox" bars may appear at the top and bottom of the screen.

**VIDEO OUTPUT:** This setting selects between the S-Video and Component Video Outputs, which are not available simultaneously. If you have connected one of these outputs to your video display and the screen is blank, temporarily connect the Composite Video Output to your TV in order to view the on-screen menus and change this setting.

**SCAN TYPE:** This setting allows you to select between progressive and interlaced scanning for the Component Video Outputs to maximize the image resolution for the type of video display in use. The output at the S-Video and Composite Video 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. 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:

- The Scan Type may only be changed when the Video Output setting has been set to Component.
- If you have connected the DVD 38 to a video display that is not capable of displaying progressive scan video using the Component (Y/Pr/Pb) Video Outputs, and you have inadvertently changed the Scan Type to Progressive, reset the scan type to Interlaced by pressing the Setup Button on the remote to deactivate the Setup menu system. Then press the Progressive Scan/Interlaced Button. The display will blink, indicating that the scan type has been reset to interlaced mode. Alternatively, as a last-resort measure, you may completely reset all of the DVD 38's settings, including the scan type, by exiting the on-screen menu system and pressing and holding the Clear Button for five seconds. The display will blink, and all settings will return to the factory defaults.

**VIDEO ADJUSTMENT:** Use this setting to access the Video Adjustments banner by changing the setting from Off to On. See Step Five below for more information on using the Video Adjustments banner to optimize your picture settings.

**HDMI SETTINGS:** This setting displays the characteristics of the video output signal. When the DVD 38 is connected to a video display using the HDMI Output, the display sends information to the DVD 38 that

indicates the highest video resolution it is capable of handling, and the DVD 38 automatically sets the video output to match it. That resolution is displayed here (not in the front-panel display). If your program was recorded at a low resolution, use this setting to manually select a lower video output resolution. Changes made here remain active until the DVD 38 or the display is turned off. When either is turned off, and then on again, the DVD 38 will revert to the default setting transmitted by the display. Make sure your video display is compatible with the DVD 38's HDMI output signal.

You may also access this setting by repeatedly pressing the HD Mode Button on the remote.

## Step Five – Video Adjustments

In this step you may adjust the brightness, sharpness and black level of the video signal to compensate for differences between the DVD 38 and other video sources. You may use either the DVD 38's built-in color bar test signal or a test disc as the standard for the adjustments. To ensure that your system is properly optimized, we strongly recommend that you adjust your video display using the display's own controls before making any changes to the DVD 38's output. Once the display is properly calibrated with all settings on the DVD 38 set to their midpoint, use the controls on this menu to fine tune the DVD 38's output, if necessary.

Due to the nature of these settings, the navigation is somewhat different from the DVD 38's other menus and controls. The banner is accessed from the VIDEO SETUP submenu. Press the Setup Button to display the Setup menu, and then press the ▲/▼ Navigation Buttons until the VIDEO SETUP submenu icon is highlighted. Press the Enter Button to access the VIDEO SETUP submenu, then scroll down to the Video Adjustment line and press the Enter Button again. Select On to display the VIDEO ADJUSTMENTS banner. The Setup screen will disappear from view. See Figure 27.



Figure 27 – Video Adjustments Banner

To change any of the video adjustments shown at the top of the screen, use the Navigation Buttons to highlight the setting bar. Each press of the ► Button increases the setting, and each press of the ◀ Button decreases it.

The default values for the Brightness and Edges settings are "0", indicated by the setting bar ending at the midpoint.

When adjusting the Black Level setting, only two adjustments are available:

"0 to 100" provides a full black level setting, which is indicated by a completely filled-in setting bar. This is the default setting that provides the full dynamic range of black as it is presented on most DVDs.

# INITIAL SETUP

"7.5 to 100" complies with NTSC standards for video with "setup," and may be more appropriate when you are only using the composite or S-video output with a display that has limited video processing capability.

Changes to any of the settings may be made with a test disc or broadcast signal playing, or you may use the internal test screen by using the Navigation Buttons to highlight the word OFF next to the TEST SCREEN line. Press the Enter Button and the setting will change to ON. A special combination test screen, including both color bars and gray scale along with 100% black and white fields, will be displayed behind the Video Adjustments banner. See Figure 28. If the Video Adjustments banner disappears from view after a few seconds, press any button on the remote to restore it so that you can make any necessary changes.



Figure 28 – Video Test Screen

With the test screen showing on your video display, the following adjustments may be made:

- The proper color intensity setting on your TV.
- Proper color adjustments using the color bars, which should be (left to right) black, white, yellow, cyan (turquoise), green, magenta, red, blue, black.
- The proper color transition, seen as sharp separation of the bars.
- The performance of the color circuits in your TV (with "Video" signals); bar edges should show no vertical crawling dots.

With the gray scale and the black/white fields below the color bars, the brightness and contrast of your screen can be adjusted.

**IMPORTANT NOTE:** Video adjustments for all sources should be made using the controls on your video display. Use the DVD 38's Video Adjustments Banner only if additional minor corrections are needed when DVDs are played.

## 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 gray scale bars separately and clearly.
3. Adjust the brightness so that the bars in the gray scale are all visible. The bar farthest to the left has to be as black as possible rather than gray but the next gradation must clearly be distinct from it. All the bars in the gray scale should be gradually and evenly changing from black to white, left to right.

## Contrast Adjustment

1. Adjust the contrast on your TV until you see a bright white bar in the lower right corner of the screen and a deep-dark-black bar to the left. The optimal contrast setting will depend on your preference and the surrounding light in the TV room.
2. If the brightness of the white bar no longer increases when the contrast is turned up or the borders of the white "harman/kardon" letters on top bloom (overlight) into the black areas (drastically decreasing the sharpness of the type), the contrast has been turned up too much. Reduce the contrast until these effects disappear and the video still looks realistic.
3. If you are watching TV with ambient daylight, adjust the contrast so that a normal video picture has about the same look as the surroundings in your room. That way the eye is relaxed when watching the TV picture. This contrast setting may be reduced when the surrounding light is dimmed, thereby usually improving the sharpness of a video significantly.
4. The gray 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 "Brightness Adjustment" and repeat Step 3 and then "Contrast Adjustment," making only minor adjustments each time for optimization.

## Color Adjustment

1. When the brightness and contrast are set optimally, adjust the color control to the level of your preference. Set the level so that the colors look strong but still natural, not overdone. If the color level is too high, depending on the TV, some of the bars will seem wider or the color intensity will not increase when the control is turned up. Then the color control must be reduced again. Ultimately, you also should test the color intensity with a video – e.g., pictures of natural faces, flowers, fruit and vegetables, and other common natural articles for an optimal setting of the color intensity.
2. Use the large white bar below the gray scale to tweak the warmth of the picture. Every viewer has a preference as to how the glow of the picture should be. Some prefer a 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 38 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

# INITIAL SETUP

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 you have finished making your adjustments, navigate to the word Done and press the Enter Button to exit the Video Adjustments banner and return to the VIDEO SETUP submenu.

When you have finished making all of the system, audio and video adjustments, press the Setup Button or the Clear Button to clear the screen. If a DVD is loaded, the splash screen will appear. If any other type of disc is loaded, the Player Information menu will appear.

You are now ready to begin enjoying the finest in home entertainment with your DVD 38 DVD player!

# OPERATION

Now that you have installed and configured your DVD 38, you are ready to begin enjoying your home theater system.

## Turning On the DVD 38

When you have plugged in the DVD 38, the Power Indicator next to the power switch should light up in amber. This indicates that the DVD 38 is in Standby mode and is ready to be turned on. See Figure 16.



Figure 16 (repeated) – Standby/On Switch

There are several ways in which the DVD 38 may be turned on:

- Press the Standby/On Switch. See Figure 16.
- Press the Open/Close Button. See Figure 17.
- Press the Play Button. See Figure 18.



Figure 17 (repeated) – Open/Close Button

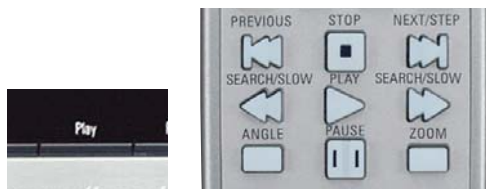


Figure 18 (repeated) – Play Button

To turn the DVD 38 off, press either the Standby/On Switch on the front panel, or press the Power Off Button on the remote. See Figure 16. When the DVD 38 is unplugged, any settings you have programmed will be preserved for up to four weeks.

Although you may previously have owned a CD or DVD player, we recommend you take a few minutes to learn the specifics of operating the DVD 38. You also may want to take a moment now to review the glossary terms in the back of the manual to familiarize yourself with the terminology used to describe DVD players.

## Playback Basics

In some respects disc playback is the same for all types of discs. We suggest you read through the basic instructions, and then read the sections pertaining to the various disc types.

## Disc Handling Precautions

- To keep the disc clean, handle the disc by its edge. Do not touch the surface. See Figure 29.

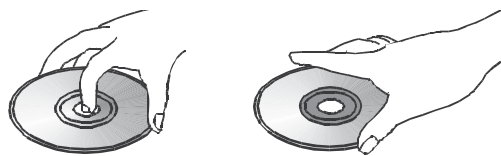


Figure 29 – How to Handle a Disc

- Do not stick paper or tape on the disc. If there is glue (or a similar substance) on the disc, remove the glue completely before using the disc.
- Do not expose the disc to direct sunlight or sources such as hot air ducts, or leave it in a car parked in direct sunlight, as there can be a considerable rise in temperature inside the car.
- After playing, store the disc in its case.
- Do not write on the label side with a ball-point pen or other sharp writing utensil.
- Be careful not to drop or bend the disc.

## Disc Cleaning Precautions

- Before playing, clean the disc with a cleaning cloth. Wipe the disc from the center out.
- Do not use solvents such as benzene, thinner, commercially available cleaners or anti-static spray.

## Disc Loading Precautions

- Do not load more than one disc on disc tray.
- Do not place a disc on the tray upside down.
- Do not try to close the disc tray when the disc is not positioned or centered properly.

## Loading Discs

To load discs in the DVD 38, first turn it on by pressing the Standby/On Switch or the Open/Close Button on the front panel or the Power On Button on the remote. The Power Indicator is amber when the unit is connected to an AC power source, and it turns blue when the DVD 38 is turned on.

Next, if you have not already done so, press the Open/Close Button so that the disc tray opens.

Hold the disc by the edge, and gently place it into the disc drawer, making certain that the disc is properly seated in the tray's insert. If the disc is not correctly centered, you may damage both the disc and the player when the drawer closes. When loading discs, please note the following:

- The DVD 38 will play discs with the following logos as well as most DVD-RW or DVD+RW discs and most WMA and JPEG discs, including Kodak Picture CDs, but not Kodak Photo CDs. DO NOT attempt to play another type of disc.





- The DVD 38 will only play discs that are coded for Region 1 or discs that are open to being played in all regions (Region Code "0"). Discs that contain a Region Code of 2, 3, 4, 5 or 6 (as noted by a number inside a world map logo on the disc's jacket) will not play.
- The DVD 38 will only display video in the NTSC format. The PAL format is generally used in Europe and other regions of the world outside North America, and some music or other DVDs are available in PAL with a Region Code of "0". The DVD 38 will automatically detect the PAL format, and make the necessary conversions so that the video may be displayed on an NTSC TV. PAL discs bearing a Region Code other than "0" or "1" may not be played on the DVD 38.
- Playback capability for CD-RW, DVD-RW, DVD-R, DVD+RW or DVD+R discs will vary according to the quality of the disc. On some occasions it is possible that these discs may not play on the DVD 38.
- Both 5-inch (12cm) and 3-inch (8cm) discs may be used.
- Load CDs or DVD-Audio discs with the label side up.
- Load DVD-Video discs with printed labels label side up. If the disc contains both standard and high-definition (not HD-DVD or Blu-ray Disc) versions of the program, make sure the desired label faces up.
- Some DVD-Video discs are double-sided. The title information for these will be printed on the inner ring of the disc, very close to the center hole. The title for the side you wish to play should be facing up.

After a disc is properly loaded, press the Open/Close Button to close the disc drawer. After the drawer closes, the LOADING message will appear in the Main Information Display while the unit is determining the type of disc (DVD-Video, DVD-Audio, CD, VCD, JPEG, WMA or MP3) and is reading the data for track, chapter, title and other information about the disc.

Next, the applicable Disc-Type Indicator will light up in the front-panel display. If the disc is a DVD, CD or VCD2.0 disc, it will automatically begin playing. The disc's track and timing information and other relevant data will also appear in the Main Information Display.

Any time a control button is pressed, an icon will appear in the upper right corner of the screen to indicate the player's action. These icons include the standard transport modes (play, stop, pause, forward and reverse fast and slow search, track skip), the opening or closing of the disc drawer, or the prohibit icon (Ø) if the command action is not available at that time or for that disc. As explained in more detail below, pressing the Status Button displays the Status Banner for DVDs, and pressing the Info Button displays the Player Information submenu.

- When a DVD is detected, playback will automatically begin and the screen will show the program or the disc's menu, depending on how the disc was created.
- If a CD is detected, playback will begin automatically, and the Player Information screen will appear. See Figure 30.



Figure 30 – Player Information Screen (Audio CD)

- If the disc contains MP3, WMA or JPEG files, or if it is a VCD without playback control, the Player Information display will appear. See Figure 31. To play one of these files, use the Navigation Buttons to select a folder and press the Enter Button to open it. Use the Navigation Buttons to select a file for playback, and press the Enter Button to begin play.



Figure 31 – Player Information Screen (WMA Disc)

- VCD2.0 discs will begin play automatically, similar to a conventional audio CD. VCDs containing raw MPEG files may play, depending on how the disc was created.

If a disc is already in the drawer when the unit is turned on, it will begin playing. If the disc was stopped using the Resume function, playback will begin from the point where it was stopped. If the disc was stopped by pressing the Stop Button twice, the disc will begin playing from its beginning. If the Disc Recognition feature was turned on in the System Setup menu (see Figure 20), a screen will appear asking you whether to begin playback from the beginning of the disc, or from the point where playback was stopped during the last viewing session. See Figure 32.



Figure 32 – Disc-Recognition Resume Screen

# OPERATION

## Playback Control

See Figure 33 for reference to the transport controls described below.



Figure 33 – Transport Controls

- To momentarily pause playback and freeze the current picture frame on a DVD, press the Pause Button. To resume playback after pressing the Pause button, press the Play Button.
- To move forward or backward through the tracks on a DVD-Audio disc or CD, or the chapters on a DVD, press the Skip Forward/Reverse Buttons on the front panel or the Previous/Next Buttons on the remote.
- To move forward or backward through the DVD or CD disc being played at fast speed, press the Search Forward/Reverse Buttons on the remote, or press and hold the front-panel Skip/Search Buttons briefly until fast play begins and then release them. Once one of these buttons is pressed, the fast search will continue until the Play Button is pressed. Each additional press of the Search Forward/Reverse Buttons will cycle through the five available fast-search speeds: 2X, 4x, 8x, 20x, 100x.

**NOTE:** Fast search is available when DVD-Audio and MP3 discs are playing, but not for WMA discs. Search speeds available may vary for different types of discs.

- When a DVD or VCD is playing, you may move forward or backward through the disc in slow motion by first pressing the Pause Button and then pressing the Search/Slow Forward or Reverse Buttons. Each additional press of the buttons will cycle the player through one of the four forward slow-play speeds: 1/2x, 1/4x, 1/8x or 1/16x, or one of the two reverse slow-play speeds: 1/2x or 1/4x. Press the Play Button to resume normal playback.

**NOTE:** There is no audio playback during fast or slow-forward or -reverse play. This is normal for DVDs, as surround processors cannot process the digital audio streams during slow modes. Slow-play is available for VCDs, but not for audio CDs, MP3s or WMAs. Slow-play speeds may vary for different types of discs.

- To advance frame by frame while a DVD is playing, first press the Pause Button, then press the Skip/Step (Previous) or Skip/Step (Next) button repeatedly. Press the Pause or Play Button to resume normal play. Frame-by-frame movement in reverse is not available.

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

- When a camera icon appears on screen, or the Angle Indicator appears on the front panel, it indicates that there is multiple-angle information on the disc being played. To change the angle, press the Angle Button repeatedly until the desired angle view appears. An on-screen banner message will indicate the current angle view.
- To illuminate the buttons on the remote control so that they may be seen in low-light conditions, press the Light Button.

The availability of the Zoom, Repeat, Repeat A-B and Random functions depends on the type of disc. In addition, the availability of the Player Information screens and Status Bar vary from one disc type to another. These features are described in the following sections describing playback of DVDs, CDs, MP3s, WMAs, JPEGs and VCDs. Programming playlists is explained after the section on VCDs.

## Video Off Feature

The Video Off feature is available during playback of audio-only discs, such as CD, DVD-Audio, MP3 or WMA discs. Although the video circuitry 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 audio playback.

**IMPORTANT NOTE:** It is strongly recommended that plasma and CRT video display owners use the Video Off feature to avoid burn-in, especially as some audio discs display still images continuously.

To turn the video displays off while an audio disc is playing, press the Video Off Button. Press the button again to restore the video output. The V-Off Indicator will light in red to remind you that the video displays have been turned off. The video output will automatically be restored each time the DVD 38 is turned on.

## DVD Playback

### Using a DVD's Menu

The DVD system offers a producer the opportunity to include a wide range of features on a disc, including multiple language tracks; subtitles in a variety of languages; special information such as movie trailers and cast information; and other customized information. In addition, producers may divide a movie or program into chapters that allow for quick access to specific parts of the program. These chapters may be accompanied by thumbnail pictures of a scene from the specific chapter to help you select the desired spot on the disc.

When a disc is playing, press the Disc Menu Button to pause playback and display the disc's menu. As there are no hard rules about style and contents for DVD menus, the way they appear on the screen and the information they contain will vary from one disc to another. However, the following general rules apply to most menus:

- You may move through the options on a menu using the Navigation Buttons, as the disc's programming allows. The option selected will typically be highlighted in a certain color or inside an outline box.
- To select a highlighted option, which may either play a portion of the disc or move to a submenu, press the Enter Button.
- On some discs, when you select the DVD menu during the playback of a movie, the disc will return to the point in the program where the menu was selected by offering a "Play Movie" option. Press the Enter Button or Play Button to resume play. However, not all discs offer this feature, and selecting the menu while playing a movie may mean that you will have to go back to either the beginning of the program or the start of a chapter. This feature is out of the control of the DVD 38, as it is set by the disc's internal programming.

#### NOTE ON PROHIBITED FUNCTIONS

The DVD 38 is capable of all the features and options covered by the DVD standards. However, not all discs will function identically, and some discs will not have many of the features of the DVD system. For example, most current DVD discs do not take advantage of the multiple-angle feature.

When you press a button and the player displays the "Function Prohibited" icon "Ø", this is an indication that the disc has not been programmed for that function. In addition, it is common for the producers of DVD discs to block the use of certain functions during only some parts of a disc. For example, many discs prohibit the use of fast-play buttons or prohibit access to the Chapter Menu display during the playback of copyright notices, studio logos, movie credits or trailers.

### Zoom

The DVD 38's advanced digital video processing circuits include a Zoom feature that allows you to enlarge the image of a DVD, VCD or JPEG for closer examination of a particular part of the picture. Four steps of enlargement are available.

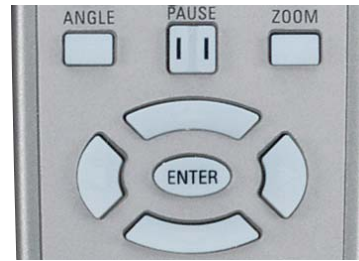


Figure 34 – Zoom and Navigation Buttons

- To use the Zoom feature, press the Zoom Button while a disc is playing or paused. See Figure 34. Each press of the button will increase the zoom-in effect. When you have cycled through all four steps (three steps of enlargement for VCDs), the picture will return to normal size.
- When the Zoom feature is activated, you may use the Navigation Buttons to explore the enlarged picture once the information box with the zoom ratio and playback time no longer appears on the screen.
- Some discs are created in a way that prevents the Zoom feature from operating. In addition, the Zoom feature will not operate on disc menus and may not operate on subtitles.

### Playback Resume

The DVD 38 offers a "Resume" feature for DVD playback that is different from the conventional "Stop" function you may be used to on CD players. When the Stop Button is pressed once, the disc will stop and Resume will appear briefly in the upper right corner of the video screen and in the Main Information Display. While the Resume feature is active, the disc's position is entered into the unit's memory so that when the Play Button is pressed to resume playback, the program will continue from the point where the Stop Button was pressed. To completely stop playback, press the Stop Button twice.

You may resume a DVD (Audio or Video), CD, VCD with Playback Control, MP3 or JPEG disc after placing the DVD 38 in Standby mode. Resume will not operate for WMA files or for VCDs that do not have playback control.

### Disc Recognition

When the Disc Recognition feature is turned on in the SYSTEM SETUP menu, you may press the Stop Button either once (to enter Resume mode) or twice (to enter Stop mode) and remove the DVD from the player. Even if you turn the DVD 38 off, the next time you insert that DVD, you will be presented with the option of either starting playback from the beginning, or resuming playback from the point at which you stopped previously. See Figure 32. The DVD 38 can recognize up to five discs total.

### Player Information Menu

The DVD 38's PLAYER INFORMATION menu displays disc information and enables you to program playback modes. Press the Info Button to display the PLAYER INFORMATION menu. See Figure 35.

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Figure 35 – Player Information Screen

The PLAYER INFORMATION menu has three submenus, which may be accessed by using the Navigation Buttons to highlight the submenu's icon, and pressing the Enter Button 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 displays basic disc and playback mode information. See Figure 36. Access this submenu by highlighting the Info icon (top icon with a small "I") and pressing the Enter Button. See Figure 36.



Figure 36 – Playback Info Submenu

- **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:** This line indicates whether playback will occur in the disc's order, or following a programmed playlist. For DVDs this line will always indicate playback in the disc's order, as programmed play is not available for DVDs.
- **Repeat:** This line displays the current repeat mode, or Off if Repeat mode is not active.

**PROGRAM submenu:** The Program submenu is not available for DVDs.

**DISC INFO Submenu:** This submenu displays detailed information about the disc content (see Figure 35). You will not be able to make any changes to the items on this submenu. However, you may use the VIDEO SETUP submenu to change the DVD 38 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. 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 1 players, this will normally be NTSC, although some DVDs that are open region (playable in all regions) may be in the PAL format. The DVD 38 will convert the video to the NTSC format used by your television.
- **Scan Type:** This line displays 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.
- **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 maximum 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, as shown in Figure 35, when the disc is stopped or paused, this line will remain blank.

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

## On-Screen Status Display

When a DVD is playing, you may press the Status Button 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 group, title, chapter or track, or use the time search feature. See Figure 37.

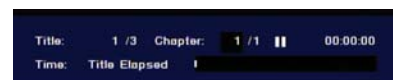


Figure 37 – Status Bar

- **Group/Title:** For DVD-Video discs, this displays the current title number and the total number of titles on the disc. For DVD-Audio discs, the current group number and total number of groups are shown.
- **Chapter:** For DVD-Video discs, this shows the current chapter and the total number on the disc. For DVD-Audio discs, the current and total tracks are shown.
- **Play Mode Icon:** This displays the current play mode icon; i.e., Play ▶, Pause ||, Stop ■.
- **Time Display:** This section of the display shows the time corresponding to the type of display indicated in the Time Display Type. The Time Search function enables you to start playback at any point in the program. Use the ◀▶ Navigation Buttons to highlight this display. You may then use the Numeric Keys to enter the numbers corresponding to the time on the disc from which you wish play to commence. Press the Enter Button and play will begin at the selected time position.
- **Time Display Type:** This section identifies the type of information in the Time Display section of the display. Use the Navigation Buttons

to select this setting, and each subsequent press of the Enter Button 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 will change accordingly. For DVD-Audio discs, the time display options are Group Elapsed, Group Remaining, Track Elapsed and Track Remaining.

- **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. It is not affected by changes to the Time Display Type.

## Titles and Groups

To select a title or group, first press the Status Button so that the Status Display appears. Navigate so that the Current Title or Group is highlighted. Use the Numeric Keys to enter the desired title/group and it will begin playing immediately. See Figure 38.



Figure 38 – Selecting a Title

If a “Ø” icon appears when you attempt to select a new title (group), this is an indication that the disc does not allow the title (group) to be changed in this manner, even though a list of numbers will appear. This is a function of the way the disc was created and is not a flaw in the DVD 38.

For some discs, you may press the Title or Audio Button during playback to change the current title or group. Other discs will switch to the disc menu, and some discs may simply restart play from the beginning of the current title or group. This is a function of how the disc was authored, and does not reflect a problem with the DVD 38.

## Chapters and Tracks

To select a chapter for DVD-Video discs or a track for DVD-Audio discs, first press the Status Button so that the Status Display appears. The Current Chapter or Track Number will be highlighted. Use the Numeric Keys to enter the desired chapter/track, and it will begin playing immediately.

To select a specific chapter or track on a DVD at any time during playback, simply press the number corresponding to the chapter or track you wish to view using the Numeric Keys. You may also move one by one through the chapters or tracks at any time by pressing the Skip Reverse (Previous)/Skip Forward (Next) Buttons.

## Audio Soundtracks

Many DVDs contain more than one audio soundtrack. On many discs, you will find multiple languages, while others offer a choice of different audio formats or mixes (e.g., Dolby Digital or DTS). Some will also contain commentary from the director or stars. The default audio language is set in the AUDIO SETUP menu.

To change the audio soundtrack, press the Audio Select Button to display the Audio banner and show the current audio soundtrack configuration. See Figure 39.



Figure 39 – Audio Status Bar

Each press of the Audio Select Button or the Enter Button will change the current audio soundtrack. Don't press any of the Numeric Keys to select an audio track; doing so will change the chapter or track.

When the desired selection appears, press the ◀▶ Navigation Buttons so that Done is highlighted, and then press the Enter Button to remove the banner display and return to normal playback.

### NOTES ON AUDIO TRACKS:

- Not all discs contain multiple audio soundtrack choices. Check the information on the disc jacket to see what audio languages or format options are available.
- Some DVDs do not allow direct selection of the audio track during playback. For these discs, you must change the audio soundtrack using the disc's menu system. Press the Disc Menu Button to display the disc's menu and then use the Navigation Buttons to make your selection following the navigation scheme of the individual disc.
- When you change the audio soundtrack or language with the Audio Select Button on the remote control as shown above, you only override the audio language setting established in the AUDIO SETUP menu for the disc currently being played. The unit will revert to its default setting with the next disc.

## Subtitles (DVD-Video Discs Only)

Many DVDs contain one or more subtitle languages. The default subtitle language is set in the SYSTEM SETUP menu, but you may also turn the subtitles on or off, or change the language at any time during a disc's playback.

To change the subtitle language or turn the subtitles on or off, press the Subtitle Button to display the Subtitle banner and show the current configuration. See Figure 40. Each press of either the Subtitle Button or the Enter Button will change the current subtitle language, or turn subtitled off.



Figure 40 – Subtitle Banner

When your desired selection appears, press the ◀▶ Navigation Buttons until Done is highlighted and then press the Enter Button to remove the banner display and return to normal playback.

**NOTE:** Due to the variations in how DVD discs are authored, subtitle languages displayed by the DVD 38 may not accurately reflect the actual languages available on the disc. It is recommended that subtitles be selected using the disc's menu.

## Angles (DVD-Video Discs Only)

Some DVDs contain multiple-angle views, which allow the disc's creators to provide different camera views of the same scene. In many cases the disc will alert you to the presence of multiple angles by showing a camera icon or other indication, but in any case where multiple-angle

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material is available, if the Show Angle Icon setting in the SYSTEM SETUP menu has been set to On, the Multiple Angle Icon will appear on screen briefly at the beginning of the passage where multiple camera angles are available, and the Angle Indicator will light in the front panel Information Display.

When multiple angle views are available, press the Angle Button to change the view. See Figures 41 and 42. The current angle number and total available angles will be displayed. Each press of the Angle Button will change the current camera angle. If you press the Angle Button during a section without multiple views, only one view will be available.



Figure 41 – Angle Button



Figure 42 – Angle Banner

When your desired selection appears, press the ◀▶ Navigation Buttons until Done is highlighted and then press the Enter Button to remove the banner display and return to normal playback.

## Repeat Play

The DVD 38 offers several repeat functions that allow you to take advantage of the capacity of the unit for unattended playback. Press the Repeat button once to display the Repeat Message on-screen. See Figure 43. Press the Repeat Button again to cycle through the options.



Figure 43 – Repeat Message

- **Repeat 1:** Repeats the DVD chapter or DVD-Audio track currently being played until the disc is manually stopped. The Repeat (“Rep.”) indicator will light in the front-panel display, and the Chapter or Track indicator will flash.
- **Repeat Title or Group:** This mode repeats the title or group currently being played until the disc is manually stopped. The Repeat (“Rep.”) indicator will light in the front-panel display, and the Title or Group indicator will flash.

## A-B Repeat Play

The Repeat A-B function allows you to select any portion of a DVD-Video disc and have it repeat continuously until stopped.

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



Figure 44 – A-B Repeat Button

1. Press the A-B Repeat Button (see Figure 44) on the remote when you want to choose the beginning point; the “REPEAT A-” message will appear on screen. The “A” indicator will light in the front-panel display.
2. Press the A-B Repeat Button again to choose the end point. Repeat A-B has been set, and the A-B section will be played continuously. See Figure 45.



Figure 45 – Repeat A-B Message

3. Press the A-B Repeat Button on the remote again to cancel Repeat A-B mode.

## CD Playback

Many functions of the DVD 38 operate the same way for CD playback as for DVD play; however, there are some important differences. When a CD is loaded, the DVD 38 will automatically display the Player Information menu. See Figure 46. Status banners are not available during CD play. Features unique to CD play are described in this section.

### Player Information Menu

The DVD 38's Player Information menu displays disc information and enables you to program playback modes. If it is not already on screen, press the Info Button to display the Player Information menu. See Figure 46.



Figure 46 – CD Player Information Screen

The Player Information menu has three submenus, PLAYBACK INFO, PROGRAM and DISC INFORMATION, which may be accessed by using the Navigation Buttons to highlight the submenu's icon, and pressing the Enter Button to select.

**PLAYBACK INFO Submenu:** This submenu displays basic disc and playback mode information. See Figure 46.

- **Disc:** This line displays the disc type, such as CD-DA (Compact Disc Digital Audio).
- **Playlist:** 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. To change this setting, use the PROGRAM submenu, as explained in the Programming Playlists section.
- **Repeat:** With this line highlighted, press the Enter Button or the Repeat Button to activate Repeat mode. Each press will change the repeat mode from Repeat 1 (repeat one track) to Repeat All (repeat all tracks on the disc) to Repeat Off. Repeat A-B is not selected using this setting.
- **Random:** With this line highlighted, press the Enter Button or the Random Button to activate Random play mode, in which the tracks on the disc are played in random order. Each press will toggle between turning Random play on or off.
- **Track List:** A list of tracks on the disc will appear. Use the Navigation Buttons to scroll through the list. Press the Enter Button or the Play Button while a track is highlighted to begin play.



Figure 47 – Program Submenu

**PROGRAM Submenu:** This submenu lets you program a playlist. The PROGRAM submenu is only accessible for CD's (see Figure 47).

- **Disc:** This line displays the disc type.
- **Audio:** This line displays the type of audio that was recorded on the disc, usually Stereo.
- **Playlist:** With this line highlighted, press the Enter Button 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). If you select Programmed order, a list of program steps and the track programmed for each step will appear at the bottom of the screen (see Figure 54). You may enter a track number using the Numeric Keys and then use the Navigation Buttons to program another track. To remove a track from the playlist, press the Clear Button. 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 to begin play. See the Programming a Playlist section for more information.

**DISC INFORMATION Submenu:** This screen displays abbreviated track and playback information, and allows you to change the time display setting.



Figure 48 – Disc Information Submenu

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 other submenus. 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 the current track number is highlighted, you may use the Numeric Keys to skip to a new track. The new track will begin playing immediately.
- **Play Mode Icon:** This icon appears to the right of the Track display and indicates the current playback mode.

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- **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 a temperature bar reflecting the percentage of the disc that has been played.

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

- **Time Search:** The Time Search function enables you to start playback at any point in the track. Use the Navigation Buttons to highlight the track time display. Press the Numeric Keys to enter all six digits, including leading zeros if needed, to select the desired starting time, followed by the Enter Button.

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

## Tracks

To select a track, make sure the PLAYER INFORMATION menu is on screen. Press the Info Button to activate it if necessary. Next, press the Navigation Buttons so that the Track is highlighted. Use the Numeric Keys to enter the desired track, and press the Enter Button to begin playing the new track.

During playback, you may move one by one through the tracks at any time by pressing the Skip Reverse (Previous)/Skip Forward (Next) Buttons. When you press the Previous or Skip Reverse 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. See Figure 49.



Figure 49 – Skip Reverse (Previous) and Skip Forward (Next) Buttons

**NOTE:** When a JPEG, MP3 or Windows Media disc is playing, a special screen will appear. See the section describing those types of discs for more information.

## Repeat Play

The DVD 38 offers several repeat functions for CDs that allow you to take advantage of the capacity of the unit for unattended playback:

- **Repeat Program:** Repeats the current playlist if Programmed Order has been selected at the Playlist setting.
- **Repeat 1 Track:** For CDs, VCDs, MP3s and WMAs, repeats the track or file currently playing until the disc is manually stopped. The Repeat and 1 indicators will light in the front-panel display.
- **Repeat Disc:** For CDs, VCDs, MP3s, WMAs and JPEGs, repeats the entire disc until play is manually stopped. The Repeat and All indicators will light in the front-panel display.

- **Repeat Folder:** For MP3s, WMAs and JPEGs, repeats all tracks within the current folder until play is manually stopped. The Repeat indicator will light in the front-panel display.

Each press of the Repeat Button (see Figure 50) cycles through the available Repeat options (except Repeat A-B). In addition, the Repeat setting in the Player Information menu will change.



Figure 50 – Repeat, A-B and Random Buttons

## A-B Repeat Play

The Repeat A-B function allows you to select any portion of a CD and have it repeat continuously 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 on the remote (see Figure 50) when you want to choose the beginning point; the Repeat A- icon appears on screen and on the front panel to indicate the beginning of the passage to be repeated.
2. Press the A-B Repeat Button 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 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 38. Once the DVD 38 has played all of the tracks on the disc once, it will stop.

Select the random mode by pressing the Random Button on the remote. See Figure 50. Each press of the Random Button 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 in the Front-Panel Information Display will light when the Random setting is on.



## MP3, Windows Media and JPEG Playback

The DVD 38 will recognize data on CD-ROM discs recorded in the MP3, Windows Media 9 (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 38 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. In order to play an MP3 file on the DVD 38, 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.
- 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. There have been a number of versions of Windows Media, and the DVD 38 is compatible only with files that end in the “wma” extension and that were recorded using the Windows Media Series 9 encoding, but only up to 320kbps.
- 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 a little differently than standard DVDs and CDs. When a disc containing one or more of these types of files is loaded in the DVD 38, the PLAYER INFORMATION menu screen will appear. See Figure 51.



Figure 51 – Player Information Screen For WMA Disc

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 or more tracks. To get the best view of all tracks on the disc, including 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 64kbps and 320kbps. The supported bit rate for MP3 files is between 32kbps and 320kbps.

- To expand a folder (if any), press the Navigation Buttons until the desired folder name is highlighted, then press the Enter Button.
- To collapse a folder (so that you can select another folder on the disc), use the Navigation Buttons to highlight the folder icon at the top of the track list and press the Enter Button.
- To select a track, press the Navigation Buttons until the desired track name is highlighted. To start play of the selected track, press the Enter or Play Button.

During MP3/WMA playback, some of the standard CD/DVD playback controls operate in their normal fashion (refer to Figure 33):

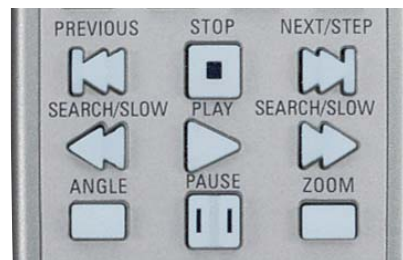


Figure 33 (repeated) – Transport Controls

- You may skip forward to the next track on the disc by pressing the Skip/Next Button.
- You may skip back to the previous track on the disc by pressing the Skip/Prev Button *twice*.
- Press the Pause Button to momentarily stop playback. Press the Play Button to resume play. Press the Stop Button to enter stop mode.
- Press the Search Forward or Search Reverse buttons for fast search of a track. Press the Play ►, Pause || or Stop Button ■ to end fast play.
- Slow-play is not available during MP3/WMA playback.
- You may play an MP3 or WMA disc in random mode by pressing the Random Button. See Figure 50.
- The Repeat function may be accessed during playback of an MP3 or WMA disc by pressing the Repeat Button on the remote. See Figure 50. Repeatedly press the Repeat Button 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.

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## 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 38 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 38.
- 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 38 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 38 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 38 may not recognize files added during the later sessions, especially if the disc was finalized after the first session.
- 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 or Enter Button to start the first track. To see and play tracks from other folders, you must first collapse the current folder as appropriate and use the Navigation Buttons until the desired folder is selected. Press the Enter Button to expand the folder, navigate to the desired track, and press the Enter or Play Button to begin play.
- Only stereo-audio playback is available for MP3 and WMA discs.
- Programmed playlists are not available for MP3/WMA discs.
- Use the Navigation Buttons to select the DISC INFO Submenu icon on the left side of the screen, and press the Enter Button to view it. If the disc contains ID3 tag information, then the current MP3 track information – song title, artist, album, year, genre, and any comments will be displayed. For WMA and JPEG files, only the file name will appear.

## JPEG Playback

The DVD 38 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 will light in the Main Information Display. The disc will immediately begin displaying the images on the disc in order.

When viewing JPEG images, the Angle Button may be used to rotate the image. With the image onscreen, press the Angle Button once to display the current orientation of the image, usually +0. Press the Angle Button again to rotate the image clockwise 90 degrees. Each additional press of the Angle Button will continue to rotate the image clockwise by 90 degrees.

You may use the Zoom Button to enlarge a JPEG image, and the Navigation Buttons to explore the enlarged image.

You may view thumbnails of the images in an expanded folder by pressing the Disc Menu Button. When the images appear on screen, you may use the Navigation Buttons to move the picture frame until the desired image is selected. Press the Enter Button to display a full-size view of that image. See Figure 52.

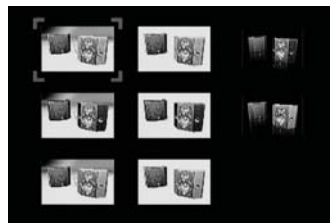


Figure 52 – Thumbnail Image Menu

## VCD Playback

VCD, a video-playback format that predates DVD, is based on a different compression format than DVD and uses a recording method that is similar to CD. Although the DVD 38 has, for the most part, replaced VCD as a format, the DVD 38 offers VCD playback so that you may play your existing library of VCD discs, or home movies that you have recorded as VCDs on your computer.

There are two versions of the VCD format: an early version which is simply called "VCD" and a later version with Playback Control that's called "Version 2.0" or "PBC." The DVD 38 is compatible with both forms of VCD, although playback will vary according to which version is used and the specific way in which the disc was created.

Even though VCD discs provide video, because the format is based on CD technology, the playback functions for a VCD disc are similar to CD. To play a VCD disc, place it in the DVD 38 as you would do with any other CD or DVD disc. The unit takes a few seconds to read the disc's contents; the VCD Disc-Type Indicator in the front-panel display will light and the disc will begin playing.

Keep in mind that the exact level of functionality for any VCD will vary widely and it is ultimately determined by the way the disc was created, not by the DVD 38, particularly if the disc has been created under VCD Version 2.0 with Playback Control (see "Playback Control").

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

You may access information on the disc by pressing the Info Button on the remote. The availability of the Repeat and Random functions will depend on whether PBC Support has been activated using the SYSTEM SETUP submenu. With PBC Support on, Repeat and Random will not be available.

Repeat A-B is always available. Simply press the Repeat A-B Button once at the beginning of the passage to be repeated, again at the end of the passage, and a third time to cancel Repeat A-B mode.

**NOTE:** Discs containing raw MPEG files, without playback control, are not technically Video CDs, and are played in a different manner. When such a disc is loaded, the Player Information menu will appear, with a list of folders or files, similar to an MP3 disc. The disc directory is navigated using the Navigation Buttons. Press the Enter Button to expand or collapse a folder. Select the desired track, and press the Play Button or the Enter Button to begin play. You will find that the Stop, Pause, Track Skip Forward and Reverse, Slow Forward and Reverse, Step Forward and Reverse, and Fast Forward and Reverse Search functions are all available, depending on how the disc was encoded. However, the Status Banner is not available for these types of VCDs.

## Status Bar

When playing VCD discs, it is possible to access the disc's features using the Status Bar. Press the Status Button to view it.

The Status Bar will appear the same as for DVDs (see Figure 53), except that the current and total track numbers will be shown, rather than the title, and there is no chapter display. If PBC is off, you may select the track number and change it to skip to another track. You may also use the Time Search function to begin play at a desired place. You may change the time display from Track Elapsed, to Track Remaining, to Disc Elapsed, to Disc Remaining, and back to Track Elapsed, just as with DVDs. The elapsed time will appear as a graphic temperature bar, with additional lines added as more of the track or disc is played.

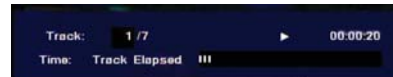


Figure 53 – VCD Status Bar

## Zoom

The Zoom function is available for VCDs by pressing the Zoom Button. Repeatedly pressing this button will cycle through the possible settings of 1x, 2x and 3x zoom, as indicated on screen. After the enlargement indication disappears from view, you may explore the image using the Navigation Buttons.

## Playback Control

VCD discs made under the Revision 2.0 specification will usually offer PBC playback control. The PBC Indicator in the front display will turn on automatically with any VCD when the disc is played. With PBC, you can select titles and navigate the disc as with DVDs. However, the access to some functions may be prohibited by PBC playback control; in that case, the prohibit icon will appear on screen.

When a VCD is made without PBC, the disc can be controlled the same as an audio CD, but direct track access by entering a number is not possible without opening the Status Bar. With PBC, many discs include chapter selection menus that are similar to those found on DVDs. However, on VCD discs, the disc menu (if any) is accessed and controlled differently than on DVDs.

- Play will start with the first track (which may be an intro), then proceed to the VCD menu (if any) automatically.
- The Next (Skip Forward) command will skip to the VCD menu from the intro (Track 1) directly.
- Once the menu options appear on the screen, make your selection by pressing the Numeric Keys that correspond to your desired choice. The desired selection will begin playing automatically.
- Direct number entry without any VCD menu shown on-screen has no effect – even when the Status Bar is on.

The Disc Menu Button used during DVD playback is not used for VCD playback. Use of functions when PBC is on will vary according to the disc type.

# OPERATION

## Programming a Playlist

Programmed play allows you to select tracks on a CD for playback in a specific order, skipping tracks you don't wish to hear and reordering other tracks to suit your tastes.

To program a disc for playback, follow these steps:

1. Load the desired disc, but stop play if it begins automatically. Playlists may only be programmed in Stop mode.
2. Press the Info Button to display the PLAYER INFORMATION menu. Use the Navigation Buttons to highlight the icon for the PROGRAM submenu, and press the Enter Button to display it.
3. Use the ▲/▼ Navigation Buttons to highlight the Playlist setting. Press the Enter Button so that the setting changes to Programmed Order and a grid of program steps appears on the bottom of the screen (see Figure 54).



Figure 54 – Programmed Play Screen

4. At this time the playlist will simply contain the tracks in the disc's order. Thus, Step P01 will display track 1 from the disc, Step P02 will display track 2 from the disc, and so forth. The track assigned to Step P01 will be highlighted. Use the Numeric Keys to enter the number of the track on the disc which you wish to hear first in your playlist. When you have finished entering it, press the ► Navigation Button to move to Step P02.
5. Continue entering the disc track numbers into the desired program step positions. You need not do so in step order; you may use the Navigation Buttons to navigate to any step in the list.
6. Press the Clear Button to remove a track from the playlist.
7. Although you may enter fewer programmed steps in your list than the number of tracks on the disc, you may not repeat tracks within the list. However, while the playlist is playing, the normal Repeat functions will be available.
8. When you have finished entering all of the tracks in your playlist, press the Play Button to begin playback of your programmed list.

During programmed play the track number shown in the front-panel display will reflect its normal order on the disc. However, the Program Indicator will light to remind you that the disc's tracks are playing in programmed order.

To cancel programmed play, stop play and perform one of these steps:

1. Open the Disc Drawer.
2. Press the Playlist Button. The Playlist Banner will appear on screen. Each press of the Playlist Button will toggle the mode between programmed order and disc order.

3. Press the Info Button and navigate to the PROGRAM submenu, as described above in Step 2 of the instructions for programming a playlist. With the Playlist setting highlighted, press the Enter Button until the setting reads Disc's Order.

# TROUBLESHOOTING GUIDE

SYMPTOM	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>Make certain AC power cord is plugged into a live outlet.</li> <li>Check to see whether outlet is switch-controlled.</li> </ul>
Unit does not respond to remote commands	<ul style="list-style-type: none"> <li>Weak batteries in remote</li> <li>Remote sensor is obscured</li> </ul>	<ul style="list-style-type: none"> <li>Change remote batteries and insert with correct polarity.</li> <li>Make certain front panel sensor is in line of sight of remote or connect an optional remote sensor.</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>HDMI Output is connected to a video display that is not HDCP-compliant</li> <li>Video Off feature active</li> <li>Wrong video output setting in VIDEO SETUP menu</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. Press Scan Type Button to toggle to the correct resolution.</li> <li>The HDMI Output may not be used with video displays that are not HDCP-compliant. Unplug the cable and select another audio and video connection.</li> <li>Press Video Off Button to reactivate video circuitry.</li> <li>S- and component video are not available simultaneously. Temporarily connect composite video to access Video Setup menu and change Video Output setting to desired type.</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 control setting</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 the disc is CD, CD-R, CD-RW, VCD, MP3, WMA, JPEG, DVD-R/RW, DVD+R/RW (standard-conforming), DVD-Audio or DVD-Video; other types will not play.</li> <li>Use Region 1 or Open Region (0) disc only.</li> <li>Enter password to override or change rating settings.</li> </ul>
No sound	<ul style="list-style-type: none"> <li>Intermittent connections</li> <li>Incorrect digital audio input 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 disc is loaded without using analog audio connection</li> <li>Wrong bass management setting in AUDIO SETUP</li> </ul>	<ul style="list-style-type: none"> <li>Check all audio connections.</li> <li>Check digital audio settings on DVD 38 and on receiver.</li> <li>There is no audio playback on DVD discs during fast or slow modes.</li> <li>Change PCM Limit setting in Audio Setup menu to 48kHz.</li> <li>Use 6-Channel Audio Outputs or Analog Audio Outputs.</li> <li>In order to hear a downmixed 2-channel signal at the Analog Audio Outputs, make sure to change the Bass Management setting to Stereo.</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>

# TROUBLESHOOTING GUIDE

SYMPTOM	CAUSE	SOLUTION
Some remote buttons do not operate during DVD play; prohibited symbol ∅ appears	<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 in the SYSTEM SETUP menu.</li> </ul>
The ∅ 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 some 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>
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 and clear all displays from screen. Press and hold Clear Button until the display blinks. This resets the password and all settings to their defaults. You will need to reenter all audio, video and system settings.</li> </ul>
Screen Saver not activated	<ul style="list-style-type: none"> <li>Screen saver will not activate when cursor is in column of icons on left side of screen</li> </ul>	<ul style="list-style-type: none"> <li>Move cursor to main disc information or playlist area to avoid burn-in on plasma and CRT displays.</li> </ul>
Cannot program playlist	<ul style="list-style-type: none"> <li>Programmed play is not available for all disc types</li> <li>DVD 38 must be in Stop mode to program a playlist</li> </ul>	<ul style="list-style-type: none"> <li>Programmed play is available only for CDs.</li> <li>Stop play of disc before programming a playlist.</li> </ul>

In addition to the items shown above, additional information on troubleshooting possible problems with your DVD 38, or installation-related issues, may be found in the list of "Frequently Asked Questions" which is located in the Product Support section of our Web site at [www.harmanardon.com](http://www.harmanardon.com).

# DVD 38 TECHNICAL SPECIFICATIONS

## Applicable Disc:

Disc formats: 5-inch (12cm) or 3-inch (8cm) DVD-Video, DVD-Audio, standard-conforming DVD-R, DVD+R, DVD-RW, DVD+RW, VCD, CD, CD-R, CD-RW or MP3 discs

Region code: DVD video disc with Code 1 or 0 only

DVD layers: Single side/single layer, single side/dual layer, dual side/dual layer

Audio formats: DVD Audio MLP lossless, Linear PCM, MPEG, Windows Media® 9, Dolby® Digital or DTS® audio discs

Still-image format: JPEG

Video Signal System: NTSC

HDMI™ Output: Video: 480p, 720p, 1080i  
HDMI Version 1.0-compliant  
HDCP Version 1.1-compliant

Composite Video Output: 1V p-p/75 ohms, sync negative polarity

## S-Video Output:

Y/luminance: 1V p-p/75 ohms, sync negative polarity

C/chrominance: 0.286V p-p

Component Video Output: Y: 1V p-p/75 ohms, sync negative polarity

Pr: 0.7V p-p/75 ohms

Pb: 0.7V p-p/75 ohms

Analog Audio Output: 2V RMS (1kHz, 0dB)

## Frequency Response:

DVD (linear PCM): 2Hz – 22kHz +0/–0.5dB (48kHz sampling)  
2Hz – 44kHz +0/–1.5dB (96kHz sampling)  
2Hz – 88kHz +0/–0.5dB (192kHz sampling)

CD: 2Hz – 20kHz +0/–0.5dB

Signal/Noise Ratio (SNR): 105dB (A-weighted)

## Dynamic Range:

DVD: 100dB (18-bit)/105dB (20-bit)

CD/DVD: 96dB (16-bit)

THD/1kHz: DVD/CD: 0.0025%

Wow & Flutter: Below measurable limits

AC Power: 110–240V AC/50–60Hz

Power Consumption: 1 Watt (on/standby)/13 watts (max)

Dimensions (H x W x D): 2" x 17-3/10" x 11-1/4"  
(50mm x 440mm x 285mm)

Weight: 6 lb (2.7kg)

Shipping Dimensions (H x W x D): 5" x 14-3/8" x 20"  
(127mm x 365mm x 508mm)

Shipping Weight: 8.8 lb (4kg)

 The DVD 38 is Simplay HD™-verified for compatibility via the HDMI connection with other Simplay HD-verified products.

Depth measurement includes knobs, buttons and terminal connections. Height measurement includes feet and chassis.

All features and specifications are subject to change without notice.

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Please register your product on our Web site at [www.harmankardon.com](http://www.harmankardon.com). Note: You'll need your serial number. At the same time, you can choose to be notified about our new products and/or special promotions.

# GLOSSARY

## GLOSSARY

**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, making it almost square. 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 HS 300 to play back in either format, depending on the features recorded on a disc.

**Chapter:** DVD programs are divided into chapters and titles. Chapters are the subsections programmed into a single title on a disc. Chapters may be compared to the individual tracks on an audio CD. Press the Disc Menu Button to see a listing of the chapters on a disc.

**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 38 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 38 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 38 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. It is capable of passing digital audio and high-definition digital video using a single cable. With HDMI, the DVD 38 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 38

is capable of recognizing JPEG files and enabling you to view them on your video screen.

**MP3 Files:** MP3 is an audio compression format that was developed by the Motion Picture Experts Group as an adjunct to the MPEG-1 video compression format. A number of encoding software programs are available for transferring CDs and other audio programs into the MP3 format. The main benefit of MP3 is that it reduces the size of audio files considerably, depending on the amount of compression selected during the encoding process, enabling you to store many more songs on one compact disc than in the standard audio CD format. The DVD 38 is capable of playing MP3 files stored on a disc using its advanced graphic interface.

**MPEG-2 files:** MPEG stands for the Motion Pictures Expert Group, which defines digital audio/video standards. The MPEG-2 format is a method of compressing video presentations, and is the standard generally used for television broadcasting and DVD, with some minor modifications appropriate to each type of use.

**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-angle scenes. In addition, the DVD 38's angle indicator will remain lit in the front-panel display for the duration of multi-angle availability.

**Progressive Scan:** Progressive-scan playback takes the original video signal on the disc and formats it as a high-scan-rate output with twice the scan lines of conventional video images. Progressive-scan outputs must be connected to "digital-ready" or high-definition video displays, regardless of the technology of the specific display (e.g., conventional direct-view television, front or rear projector, plasma display panel or LCD). In some cases, the displays may have special inputs for use with high-scan-rate inputs, and in others you may need to make adjustments to the display's setup menus to make certain that the inputs used are configured for an "HD" signal. Although the progressive-scan output uses the component video jacks, it is not compatible with older conventional analog video displays, even when they have component inputs, unless you change the Scan Rate setting in the Video Setup submenu.

**Reading or Loading:** This is a message that you will see when you first press the Play Button. It refers to the fact that the player must first examine the contents of the disc to determine its type, and then extract the information about the 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 38 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 38, however, you have two options when playing most discs. Pressing the Stop Button once will stop the playback, but it actually puts the unit in the Resume mode. This means that you can turn the machine off and, when you press the Play Button the next time, the disc will resume playback 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 Harman Kardon screen will appear, and the RESUME message will appear in the Information Display.

The resume function is not available for WMA files. For DVDs, CDs, MP3 files, JPEG files, and VCDs with PBC (Playback Control) only, the resume function will be retained even after the DVD 38 has been placed in Standby mode by pressing the Standby/On Switch, but not after the unit has been unplugged from AC power.

**Title:** For a DVD, a title is defined as an entire movie or program. There may 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 or to include other special features. Press the Title Button to see a listing of the titles on a disc. When a disc has only one title, pressing the Title Button may show a list of the chapters.

**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 and other devices. WMA files can be even smaller in size than MP3 files, while maintaining similar quality. The DVD 38 is capable of playing WMA files stored on a disc. Although Windows Media Player uses other file formats, the DVD 38 is only capable of playing WMA files that end in the ".wma" extension.

# APPENDIX

## Appendix – Default settings and worksheets

**Table A1 – System Setup Menu Settings**

Setting	Default	Your Setting
Display Language	English	
Preferred Subtitle Language	Off	
Panel Time-Out	Off	
Status Bar Time-Out	5 Seconds	
Parental Control	Off	
Disc Recognition	On	
PBC Support	On	
Screen Saver	1 Minute	
Show Angle Icon	Off	
Closed Caption	On	

**Table A2 – Audio Setup Menu Settings**

Setting	Default	Your Setting
Preferred Audio Language	English	
Digital Output	Bitstream	
PCM Limit	96kHz	
Dynamic Range	Maximum	
Delay Unit	Feet	
Bass Management	On	

**Table A3 – Audio Adjustments Menu (Bass Management) Settings**

Speaker Position	Default Size	Your Speaker Size	Default Delay Distance (From Speaker to Listening Position)	Your Delay Distance	Default Output Level	Your Output Level
Front Left	Small		11 Feet		0dB	
Center	Small		11 Feet		0dB	
Front Right	Small		11 Feet		0dB	
Surround Right	Small		10 Feet		0dB	
Surround Left	Small		10 Feet		0dB	
Subwoofer	N/A	-----	N/A	-----	0dB	

**Table A4 – Video Setup Menu Settings**

Setting	Default	Your Setting
Aspect Ratio	4:3	
Video Output	S-Video	
Scan Type	Interlaced	
Video Adjustments	Off	
HDMI Settings	Determined at Power-Up	

**Table A5 – Video Adjustments Menu Settings**

All settings default to "0", showing bar ending at midpoint of the graph, except Black Level, which defaults to Full.

Setting	Your Setting
Brightness	
Edges	
Black Level	

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