

harman/kardon®
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HS 100

INTEGRATED HOME THEATER SYSTEM
OWNER'S MANUAL

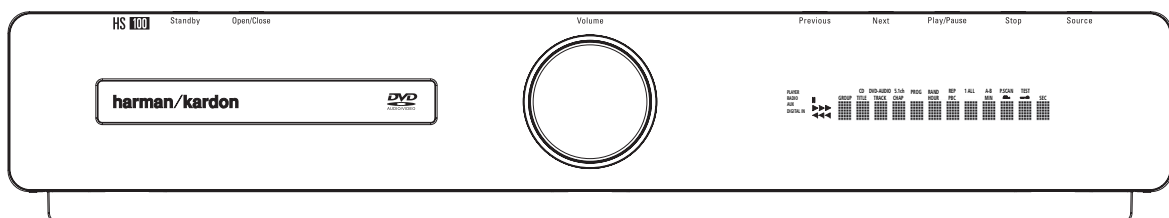


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Typographical Conventions

In order to help you use this manual with the remote control, front-panel controls and rear-panel connections, certain conventions have been used.

EXAMPLE – (bold type) indicates a specific remote control or front-panel button, or rear-panel connection jack

EXAMPLE – (OCR type) indicates a message that is visible on the front-panel information display

1 – (number in a square) indicates a specific front-panel control

1 – (number in a circle) indicates a rear-panel connection

1 – (number in an oval) indicates a button or indicator on the remote

A – (letter in a square) indicates an indicator on the front-panel display

A – (letter in a circle) indicates a section of an on-screen display

Please register your HS 100 by visiting our Web site at www.harmanardon.com. At the same time, you may choose to be notified about our new products and special promotions. Note that you will need the serial number shown on the rear panel of your HS 100 to complete the registration process.

CAUTION

**RISK OF ELECTRIC SHOCK
DO NOT OPEN**

CAUTION: To prevent electric shock, do not use this (polarized) plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.



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



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

Thank you for choosing Harman Kardon®!

With the purchase of a Harman Kardon HS 100, you are about to begin many years of home theater enjoyment. Designed to provide the usual excitement of movies and every nuance of musical selections, the HS 100 is truly a complete home theater system for the new millennium.

The HS 100 has been engineered to make it easy to take advantage of the power of its digital technology. To obtain the maximum enjoyment from your new system, we urge you to read this manual. A few minutes spent learning the functions of the various controls will enable you to take advantage of everything the HS 100 is able to deliver.

If you have any questions about this product, its installation or its operation, please contact your retailer or custom installer. They are your best local sources of information.

Description and Features

The HS 100 is among the most versatile home cinema systems available, incorporating an audio video controller, with built-in DVD-Audio/Video player, a powerful amplifier and a complete 5.1 loudspeaker system in one complete system solution. In addition to Dolby Digital and DTS decoding for digital sources, the Dolby Pro Logic II mode for Matrix surround-encoded or Stereo recordings is available for use with sources such as CD, VCR, TV broadcasts and the system's own FM/AM tuner.

To enable you to get the maximum quality from DVDs, the HS 100 is equipped with the latest in design techniques, including advanced 10-bit video digital-to-analog converters (DAC) and video (composite), S-video and component video outputs, to ensure that you get all the quality inherent in today's DVD medium. For optimum playback with compatible digital display devices, the HS 100 is equipped with progressive component video outputs.



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 on the DVD.

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

Disc Formats Supported by This Player

The unit can play the following disc formats in both 5-inch (12cm) and 3-inch (8cm) sizes:

- DVD-Audio
- DVD
- DVD-R
- DVD-RW
- DVD+R
- DVD+RW
- CD
- CD-R
- CD-RW
- VCD
- SVCD

NOTE: Due to differences in the format of certain discs, it is possible that some discs may include a mix of features that are not compatible with the HS 100. Similarly, although the HS 100 is capable of a wide range of features, not all discs include every capability of the DVD system. For example, although the HS 100 is compatible with multi-angle discs, that feature is only possible when the disc is specially encoded for multiple-angle play. In addition, the HS 100 is capable of playing back both Dolby Digital and DTS soundtracks, but the number and types of tracks available will vary from disc to disc. To make certain that a specific feature or soundtrack option is available, please check the options noted on the disc jacket.

- Playback capability for CD-R, CD-RW, WMA, JPEG, MP3, VCD/SVCD, DVD-R, DVD+R, DVD-RW and DVD+RW discs may vary with the quality of the disc and the recorder used to create the disc.

Upgradeability

The "firmware" controlling the functionality of the HS 100 is upgradeable. In the event of future improvements to its operations and features, it will be possible to use special CD-ROM discs to upgrade your system.

Features

- Plays a Wide Range of Video and Audio Formats, Including DVD-Video Discs, VCD, Standard CD Audio Discs, CD-R/RW, DVD-R/RW, DVD+R/RW, Windows Media® Discs and MP3 Discs
- DVD-Audio Playback for Expanded Dynamic Range and Improved Realism
- High-Quality Video Playback 10-Bit DACs, Progressive Scan and Component Video Outputs
- Easy-to-Use On-Screen Navigation System
- Playback of MP3 and Windows® WMA Audio Discs and JPEG Image Files
- Simultaneous Playback of MP3 and JPEG files
- Extensive Programming Capability for Audio and Video Discs
- Parental Lock Controls Prevent Unauthorized Viewing of Restricted Movies
- Multiple Options for Language, Soundtrack and Subtitle Selection
- Multiple-Angle Capabilities With Specially Encoded DVD Discs
- On-Screen Menu and Display System

IMPORTANT NOTES:

This manual should be read in conjunction with the owner's manual of the accompanying loudspeaker system. The instructions found therein should be followed with respect to loudspeaker operation and safety.

Use the HS 100 controller only with the loudspeaker system supplied. Failure to do so may cause damage to either the controller or the loudspeakers and may invalidate the warranty.

This system was designed to provide you with many years of reliable operation with a minimum of care and maintenance. If you experience any problems with the setup or operation of this system, please review the Troubleshooting Guide at the end of this manual before you contact your authorized Harman Kardon dealer.

SAFETY INFORMATION

Important Safety Information

Verify Line Voltage Before Use

Your HS 100 has been designed for use with 110–240-volt AC current and the line cord and plug are specifically designed for 120-volt applications. Connection to a line voltage other than that for which it 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

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 cords 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.
- Do not place the unit directly on a carpeted surface.
- Avoid moist or humid locations.
- Avoid installation in extremely hot or cold locations, or an area that is exposed to direct sunlight or heating equipment.
- Do not obstruct the ventilation slots on the sides of the unit, or place objects on top of the unit.

- 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.

Cleaning

When the unit gets dirty, gently wipe it with a clean, soft, dry cloth. If necessary, first unplug the unit from its AC power source and then wipe it with a soft cloth dampened with mild soapy water, followed by a fresh cloth with clean water. Wipe immediately with a dry cloth. NEVER use benzene, aerosol cleaners, thinner, alcohol or any volatile cleaning agent. Do not use abrasive cleaners, as they may damage the finish of metal parts. Avoid spraying insecticide near the unit.

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 down to a more two-dimensional appearance. 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.

Remove Front-Panel Protective Film

In order to protect the lens covering the front panel of your new HS 100, it is shipped from the factory covered by a protective plastic film. Before using the unit, remove this film by grabbing one corner and gently peeling back the plastic sheet. Note that the film must be removed for proper operation of the remote control.

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.

IMPORTANT NOTE: To avoid damage to the HS 100 that may not be covered by the warranty, be certain that the disc is removed from the unit before it is

moved. Once the HS 100 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:

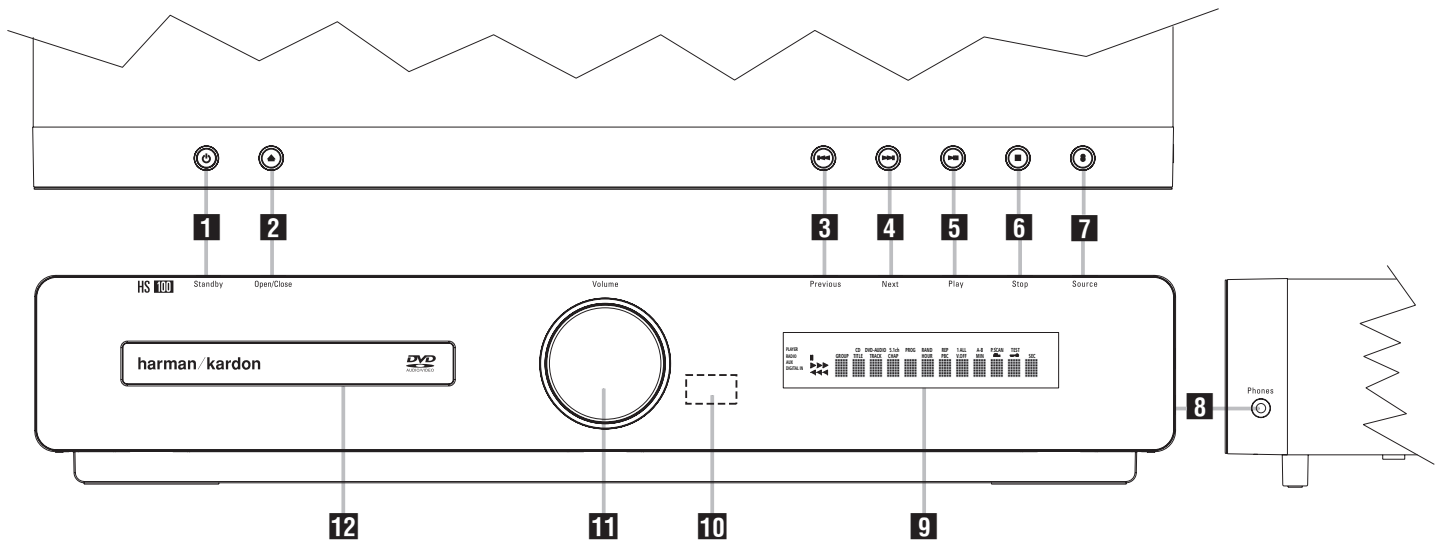
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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 HS 100 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.

FRONT-PANEL CONTROLS



NOTE: To make it easier to follow the instructions that refer to this illustration, a larger copy may be downloaded from the Product Support section for this product at www.harmankardon.com.

- 1** Power On/Off (Standby)
- 2** Open/Close
- 3** Skip (Previous)
- 4** Skip (Next)
- 5** Play/Pause

- 6** Stop
- 7** Source
- 8** Headphone Jack
- 9** Information Display
- 10** Remote Sensor

- 11** Volume Control
- 12** Disc Drawer

1 Power On/Off (Standby): When the HS 100 is connected to AC power, the ring around this button will glow amber, indicating that the unit is in Standby and is ready to be turned on. Press this button (or the **Power On Button** **1** on the remote control) to turn the unit on. When the unit is on, the amber illumination around the button turns blue and the lighting surrounding the **Volume Control** **11** will turn blue.

2 Open/Close: Press this button to open or close the Disc Tray.

3 Skip (Previous): Press this button to move backward through the music tracks on a CD or the chapters on a DVD.

4 Skip (Next): Press to move forward through the music tracks on a CD or the chapters on a DVD.

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

6 Stop: Press this button once to place the disc in the Resume mode, which means that playback will stop; but as long as the tray is not opened, DVD playback will continue from the same point on the disc when the Play button is pressed again. Resume will also work if the unit was turned off. When this button is pressed twice, playback of the disc will restart at the beginning of the disc.

7 Source: Press this button repeatedly to scroll through the available audio and video sources.

8 Headphone Jack: This jack may be used to listen to the system's output through a pair of headphones with a standard 3.5mm stereo mini plug. Note that the main room speakers will automatically be turned off when the headphone jack is in use.

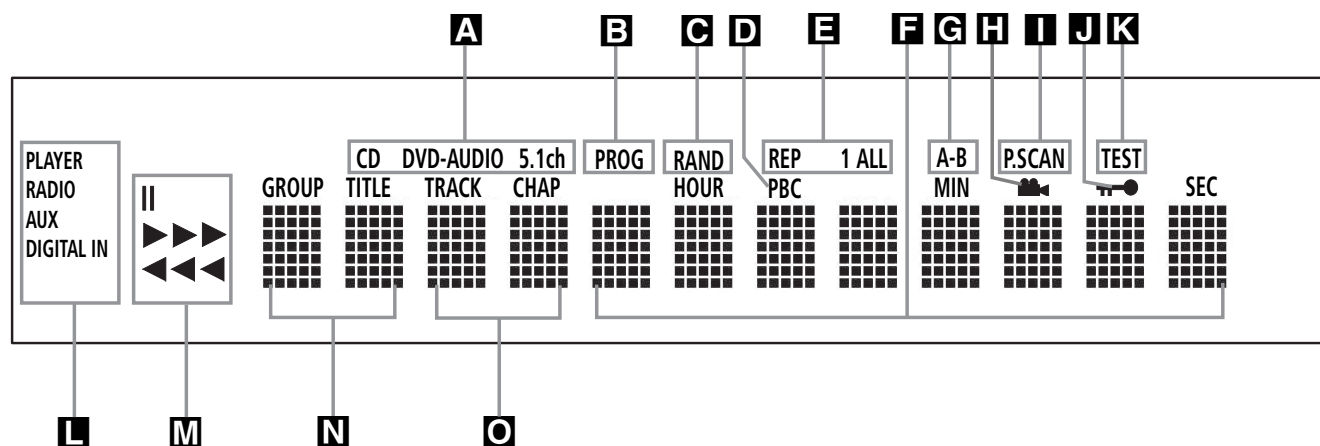
9 Information Display: This display delivers messages and status indications to help you operate the HS 100 controller.

10 Remote Sensor: The infrared sensor that receives commands from the remote control is behind the front-panel lens in this area. To ensure proper operation of the HS 100, it is important that this area is not blocked or covered.

11 Volume Control: Turn this knob clockwise to increase the volume, counterclockwise to decrease the volume. If the HS 100 is muted, adjusting the volume control will automatically release the unit from the silenced condition.

12 Disc Drawer: This drawer holds the discs played in the HS 100. Be certain to properly seat all discs carefully in the recess in the drawer tray. Do not press down on the drawer when it is open, as this will damage the player.

FRONT-PANEL DISPLAY



NOTE: To make it easier to follow the instructions that refer to this illustration, a larger copy may be downloaded from the Product Support section for this product at www.harmanardon.com.

A Disc Type Indicators

B Program Indicator

C Random Indicator

D VCD Playback Control Indicator

E Repeat Indicators

F Time Indicators

G A-B Repeat Indicator

H Angle Indicator

I Progressive Scan Indicator

J Parental Lock Indicator

K Test Indicator

L Source Indicators

M Playback-Mode Indicators

N Title Indicators

O Chapter/Track Number Indicators

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

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

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

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

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

NOTE: In addition to functioning individually to display information about DVD, DVD-Audio or CD discs, the **NOF** indicators also are used together as a group to display information messages about the status of the HS 100, such as the selected input's name and surround mode, the station playing when the tuner is in use and specific function messages when a DVD, DVD-Audio or CD disc is playing (such as **Reading** when the disc is loading).

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

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

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

I Progressive Scan Indicator: This indicator lights when the unit sends out a progressive scan signal.

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

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

L Source Indicators: These indicators will light to show which source is currently selected.

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

▶ Lights when a disc is playing in the normal mode.

▶▶▶ When the HS 100 is in the Fast Search play mode, two or three of these indicators will light to show that the unit is in a Fast Play mode, depending on the speed.

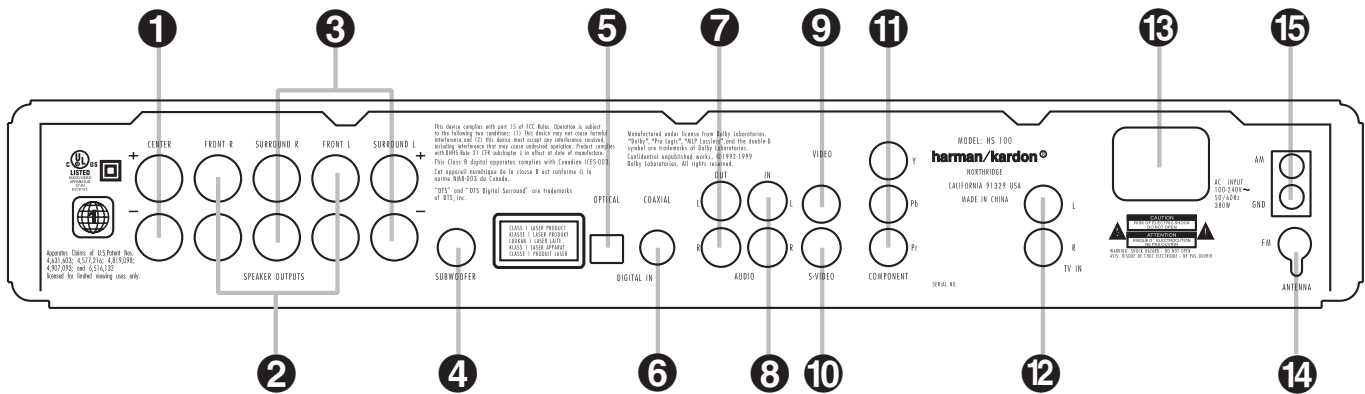
|| Lights when the disc is paused.

◀◀◀ Lights when the disc is in the Fast Search Reverse mode. Two or three of these indicators will light to show that the unit is in a Fast Play mode, depending on the speed.

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

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

REAR-PANEL CONNECTIONS



- 1** Center Speaker Outputs
- 2** Front Speaker Outputs
- 3** Surround Speaker Outputs
- 4** Subwoofer Output
- 5** Optical Digital Input
- 6** Coaxial Digital Input
- 7** Analog Audio Outputs
- 8** Analog Audio In
- 9** Composite Video Output
- 10** S-Video Output
- 11** Component Video Outputs
- 12** TV Audio In
- 13** AC Power Cord Jack
- 14** FM Antenna
- 15** AM Antenna

NOTE: To make it easier to follow the instructions that refer to this illustration, a larger copy may be downloaded from the Product Support section for this product at www.harmankardon.com.

- 1 Center Speaker Outputs:** Connect these outputs to the matching + and – terminals on your center channel speaker. The Green terminal is the positive (+) terminal that should be connected to the Red (+) terminal on the speakers. Connect the Black (–) terminal on the HS 100 to the Black negative (–) terminal on your speaker. (See page 12 for more information on speaker polarity.)
- 2 Front Speaker Outputs:** Connect these outputs to the matching + or – terminals on your left and right speakers. The White terminal is the positive (+) terminal that should be connected to the Red (+) terminal on Front Left speaker, while the Red terminal is the positive (+) terminal that should be connected to the Red (+) terminal on Front Right speaker. Connect the Black (–) terminals on the HS 100 to the Black (–) terminals on the speakers. See page 11 for more information on speaker polarity.
- 3 Surround Speaker Outputs:** Connect these outputs to the matching + and – terminals on your surround channel speakers. The Blue terminal is the positive (+) terminal that should be connected to the Red (+) terminal on the Surround Left speaker, while the Gray terminal should be connected to the Red (+) terminal on the Surround Right speaker. Connect the Black (–) terminal on the HS 100 to the matching Black negative (–) terminals for each surround speaker. (See page 11 for more information on speaker polarity.)

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

- 4 Subwoofer Output:** Connect to the SUB/LFE input on the subwoofer.
- 5 Optical Digital Input:** Connect the optical digital output from an HDTV receiver, LD player, MD player, satellite receiver or CD player to this jack. The signal may be a Dolby Digital signal, DTS signal or a standard PCM digital source.
- 6 Coaxial Digital Input:** Connect the coax digital output from an HDTV receiver, LD player, MD player, satellite receiver or CD player to this jack. The signal may be a Dolby Digital signal, DTS signal or a standard PCM digital source. Do not connect the RF digital output of an LD player to these jacks.
- 7 Analog Audio Outputs:** Connect these jacks to the Record/Input jacks of an audio recorder for recording.
- 8 Analog Audio In:** Connect to the output of a line-level analog audio source: TV, tape player, Minidisc, PC, etc.
- 9 Composite Video Output:** Connect this jack to the video input on a television or video projector.
- 10 S-Video Output:** Connect this jack to the S-video input on a television or video projector.
- 11 Component Video Outputs:** These outputs carry the component video signals for connection to display monitors with component video inputs. For standard analog TVs or projectors with inputs marked Y/Pr/Pb or Y/Cr/Cb, connect these outputs to the corresponding

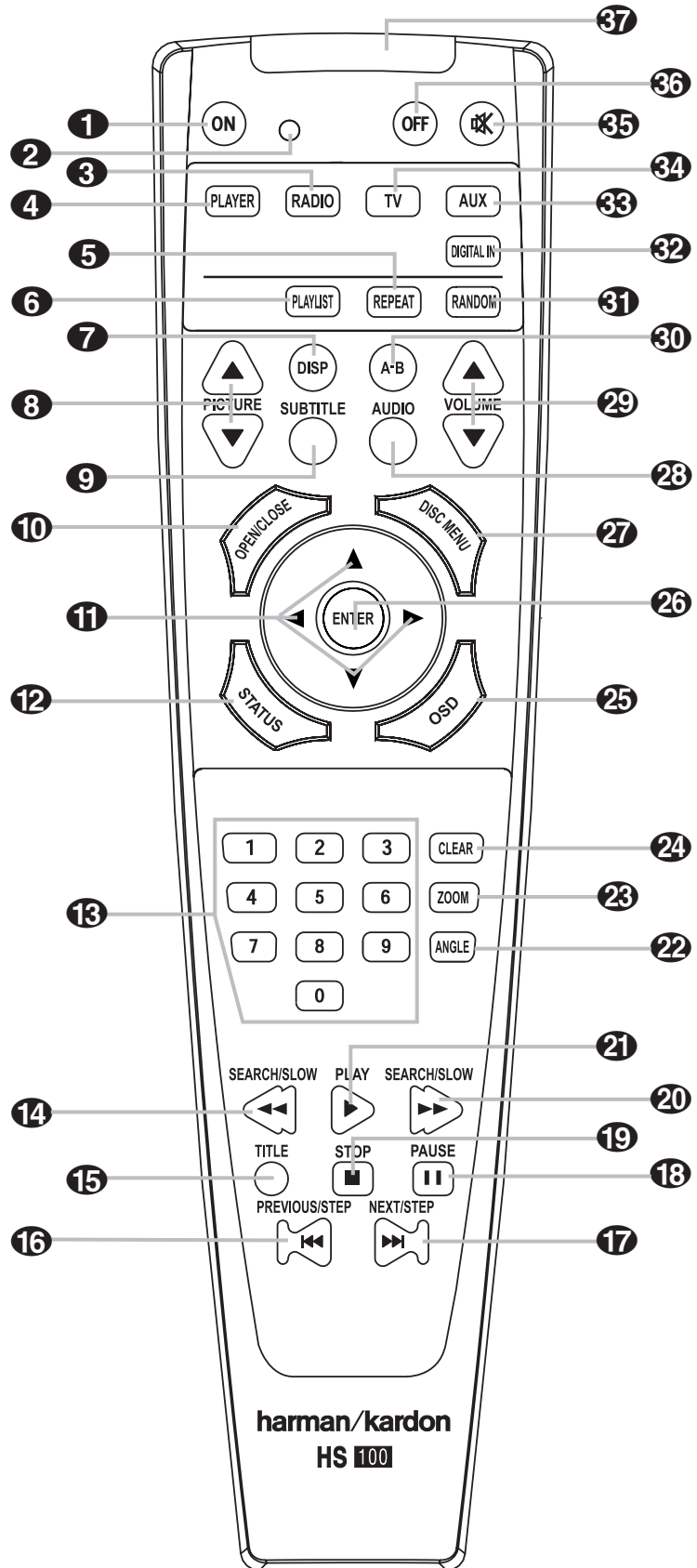
inputs. If you have a high-definition television or projector that is compatible with high-scan-rate progressive video, connect these jacks to the "HD Component" inputs. Note that if you are using a progressive scan display device, then "Progressive" must be selected in the Video Setup menu in order to take advantage of the progressive scan circuitry. See page 14 for more information on progressive scan video.

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

- 12 TV Audio In:** Connect the analog left/right outputs of a cable TV set-top, satellite receiver, or the analog left/right stereo outputs from a video display with integrated digital tuner to these jacks.
- 13 AC Power Cord:** Connect the AC power cord to this jack when the installation is complete. To ensure safe operation, use only the power cord supplied with the unit. If a replacement is required, it must be of the same type and capacity.
- 14 FM Antenna Jack:** Connect to the supplied FM antenna.
- 15 AM Antenna:** Connect the AM loop antenna supplied with the receiver to these terminals with the white wire connected to the "AM" terminal and the black wire connected to the "GND" terminal. If an external AM antenna is used, make connections to the AM and GND terminals in accordance with the instructions supplied with the antenna.

REMOTE CONTROL

- 1 Power On
- 2 Transmit Indicator
- 3 Radio
- 4 Player
- 5 Repeat
- 6 Playlist
- 7 Display
- 8 Pic +/Pic -
- 9 Subtitle
- 10 Open/Close
- 11 Navigation Buttons
- 12 Status
- 13 Numeric Keys
- 14 Search/Slow Reverse
- 15 Title
- 16 Skip/Step (Previous)
- 17 Skip/Step (Next)
- 18 Pause
- 19 STOP
- 20 Search/Slow Forward
- 21 Play
- 22 Angle
- 23 Zoom
- 24 Clear
- 25 OSD
- 26 Enter
- 27 Disc Menu
- 28 Audio
- 29 Volume Control
- 30 A-B Repeat
- 31 Random
- 32 Digital In
- 33 AUX
- 34 TV
- 35 Mute
- 36 Power Off
- 37 IR Transmitter Window



NOTE: To make it easier to follow the instructions that refer to this illustration, a larger copy may be downloaded from the Product Support section for this product at www.harmankardon.com.

- 1 Power On:** Press this button to turn the HS 100 on when it is in Standby mode.
- 2 Transmit Indicator:** This LED will light red when any button is pressed to confirm that the remote code is being transmitted.
- 3 Radio:** Press this button to select the internal tuner as the input source. When the tuner is in use, press this button to switch between the AM and FM frequency bands.
- 4 Player:** Press this button to select the internal CD/DVD drive as the input source.
- 5 Repeat:** Press this button to go to the Repeat menu. You can repeat a chapter, track or the entire disc.
- 6 Playlist:** Press this button to change the playback order of the disc.
- 7 Display:** Press this button to change the brightness of the front-panel display or to turn the display off completely in the following order: FULL BRIGHTNESS → HALF BRIGHTNESS → OFF → FULL BRIGHTNESS.
- 8 Pic +/Pic -:** Press these buttons to move to the previous or next image when viewing JPEG images.
- 9 Subtitle:** When a DVD is playing, press this button to select a subtitle language or to turn subtitles off.
- 10 Open/Close:** Press this button to open or close the disc tray.
- 11 Navigation Buttons (◀/▶/▲/▼):** Press these buttons to move the cursor in the OSD.
- 12 Status:** Press this button while a disc is playing to view the banner display. Use the **Navigation Buttons 11** to move through the different features in the banner display. When a symbol is highlighted, press the **Enter Button 26** on the remote to select it.
- 13 Numeric Keys:** Press this button to select numbers.
- 14 Search/Slow (Rev.):** Allows you to search in reverse through a disc while it is in Play mode. Each time you press this button, the search speed changes as indicated by a number of arrows on the right top of your screen. After pressing the **Pause Button 18** and then pressing this button, each press will change the slow-play speed as indicated by the number of arrows on the right top of the screen.
- 15 Title:** When a disc is playing, press this button to go back to the first section of the disc.
- 16 Skip/Step (Previous):** Press this button to go to the beginning of the current track. Press it again quickly to go to the beginning of the previous track. After pressing the **Pause Button 18**, each press of this button will move the image in reverse, frame by frame.
- 17 Skip/Step (Next):** Press this button to go to the beginning of the next track. After pressing the **Pause Button 18**, each press of this button will move the image forward, frame by frame.
- 18 Pause:** Press this button to freeze a picture (with DVD/VCD) or pause playback (CD). Press it again for normal playback.
- 19 Stop:** Press this button to stop a disc. When a disc is playing, if you press STOP and the **Play Button 21**, the disc will resume play; i.e., it will start from the same point on the disc where the unit was stopped. If you press STOP twice and the **Play Button 21**, the disc will start from the beginning.
- 20 Search/Slow (Fwd.):** Press this button to search forward through a disc while it is in Play mode. Each time you press this button, the search speed changes, as indicated by a number of arrows on the right top of your screen. After pressing the **Pause Button 18** and then pressing this button, each press of this button will change the slow-play speed, as indicated by the number of arrows on the right top of the screen.
- 21 Play:** Press this button to begin playback of a disc. If the disc drawer is open, pressing this button will also close the drawer automatically.
- 22 Angle:** Press this button to access various camera angles on a DVD (if the DVD contains multiple camera angles) or to rotate JPEG images.
- 23 Zoom:** When a DVD or VCD is playing, press this button to zoom the picture. There are four steps to the zoom function, each progressively larger. Press through each of the zoom stages to return to a normal picture.
- 24 Clear:** Press this button to remove the Banner menu from the screen.
- 25 OSD:** Press this button to access the On-Screen Display menu.
- 26 Enter:** Press this button to activate a setting or option.
- 27 Disc Menu:** Press this button to display the actual DVD Disc menu on the TV screen in Play mode. When playing discs with JPEG images, pressing this button will access the thumbnails.
- 28 Audio:** Press this button to access various audio languages on a DVD (if the DVD contains multiple audio streams).
- 29 Volume (+ or -):** Increase/decrease the master volume level.
- 30 A-B:** Press this button to select section A-B and to play repeatedly.
- 31 Random:** Press this button for Random playback in random order.
- 32 Digital In:** Press this button to select the audio device connected to either digital audio input as the input source.
- 33 AUX:** Press this button to select the device connected to the **Audio In Jacks 8** as the input source.
- 34 TV:** Press this button to select the device connected to the TV In **Audio Jacks 12** as the input source.
- 35 Mute:** Press this button to mute the sound. Press the button again, or press either of the **Volume Control Buttons 29**, to return to normal audio output.
- 36 Power Off:** Press this button to place the HS 100 in the Standby mode.
- 37 IR Transmitter Window:** Point this window toward the HS 100 when pressing buttons on the remote to make certain that the infrared commands are properly received.

INSTALLATION AND CONNECTIONS

Installation and Connections

After unpacking the HS 100 controller unit and the speakers, the first step is to place each speaker and the HS 100 controller unit in its location in your listening room. Consult the separate owner's manual packed with the speaker system for detailed information on physical mounting of the speakers.

When making any connections between speakers and the HS 100, as well as between the HS 100 and other audio/video components, it is important that both the HS 100 and external components be turned off, preferably with the power removed from the AC outlet. This protects against accidental turn-on that might cause damage not covered by the products' warranty.

When placing any speaker or the controller, make certain that it is on a solid surface capable of supporting its weight, and make certain that there is a means for connecting cables or speaker wires to reach through the back of any cabinets or shelves to the components they are connected to. As important, please note that due to the weight of the speaker cabinets, particularly the subwoofer, and the weight of and heat generated by the HS 100 controller, there is the remote possibility that the rubber padding on the bottom of the feet of the system components may leave marks on certain soft woods, wood veneers or carpets. Always use caution when placing any speaker or electronic component on a material that is soft or porous, or of a significantly different color than the feet or rubber padding on the component.

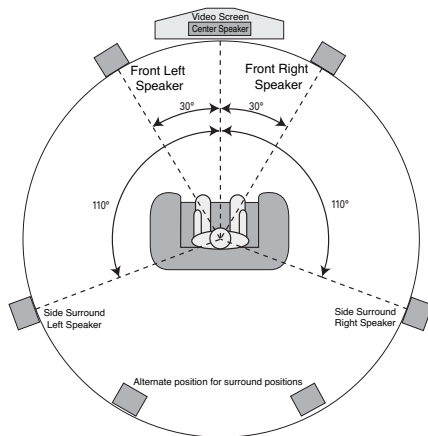
Speaker Placement

It is important that the speakers be placed in positions that enable them to do the best job of reproducing the sound as it was meant to be heard, regardless of the program content. Particularly in a multichannel 5.1 system, the placement of speakers can have a noticeable impact on the accuracy of the surround process.

When placing your speakers in a listening room, picture an imaginary circle starting at the center of your video screen that arcs around the room with the prime listening position, or "sweet spot" at the center of the circle. Depending on the number of speakers in your system, there is a recommended placement along the arc for each speaker, though the specific construction of your room (taking into account the available walls, bookcases, or floor space at which the speakers may be placed) will obviously have some impact on where the speakers are ultimately located. As a general rule, try to place all speakers so that they are positioned at the same height as your ears when you are seated at the prime listening position.

Use the following suggestions as a guide, and make the changes needed to fit the speakers to your room. Don't be afraid to experiment a bit until you find the right combination of locations that works for you. There

is no real "right" or "wrong" place to put the speakers; work to optimize their locations so that audio moves across the front of the room smoothly, without seeming to jump from one speaker to another.



Center Channel Speaker

The ideal location for the center channel speaker is at "0 degrees" in our circle, directly in front of the prime listening position. Place the center channel speaker as close to the top (or bottom) of the video screen as possible so that when you position the front left/right speakers the tweeters of all three front channel speakers are within 24" of one another.

Front Left/Right Speakers

The recommended placement for front left/right speakers is to place them at the 30-degree position with reference to the center channel speaker. The distance between them should be about the same as the distance from the center channel speaker to the prime listening position.

Although the natural tendency is to place the speakers so they are parallel to the wall behind them, and thus in line with the video screen, the preferred placement is to angle the speakers slightly ("toe in") so that they point to the prime listening position.

Surround Speakers

In a 5.1 surround system, an additional pair of left/right speakers is added to the front left, right and center speakers. Although many believe that these speakers should be placed at the rear of the room, the preferred position for them is at the sides of the room, with rear placement a second option when room conditions prevent the use of side-mounted surround speakers.

When side-wall mounting is possible, place the left/right surround speakers at a point that is 110 degrees along our circle from the center of the video screen. This translates to placing them to the side and slightly behind your preferred listening position. If possible, angle the speakers in slightly so that they are pointing toward the listener's ears.

If it is not possible to place the surround speakers at the sides of the room, the alternate position is at the back of the room, about 150 degrees on our circle from the center of the video screen. Another way to spot the optimal, alternate rear-wall mounting position is to place the left surround speaker on the back wall so that it points directly at the front right speaker, and to have the right surround speaker point directly at the front left speaker. If possible aim the surround speakers so that they point "in" toward the listening area, rather than perpendicular to the walls.

NOTES ON SPEAKER PLACEMENT:

The limitations of your listening room, including the placement of walls and furniture, may make it difficult to follow the speaker placement suggestions shown above. Depending on the specific layout of the room, here are some ways to compensate for unusual conditions:

- Try to follow the suggested placement, but move the speakers within a few feet from the preferred locations.
- Regardless of where they are placed, always try to make certain that the main surround speakers are the same distance from the front speakers. (For example, try not to have the right surround speaker further back into the room than the left surround speaker.)
- If it is not possible to wall-mount or place speakers on a shelf, consider the use of optional floor stands.

Main Speaker Connections

Once you have placed your left, center, right and surround speakers in the listening room, use the speaker wire supplied with the HKTS 7 speaker system to connect the individual speakers to the rear panel of the HS 100. Follow the instructions in the HKTS 7 owner's manual concerning connection of the speaker wire to the back of each of the main speakers.

To simplify installation, the speaker wire included with the HKTS 7 has a color marking tab at each end of the wire to indicate the channel the wire's speaker is connected to. When connecting the wire to the speakers, we strongly recommend that you connect the wire in conformance with this color code, as it then makes it easier to match the color code for the speaker terminals on the HS 100.

The color coding is as shown below:

Speaker Position	Cable Color Code
Front Left	White
Center	Green
Front Right	Red
Surround Right	Gray
Surround Left	Blue

If you wish to shorten the length of the speaker wires, a set of colored stickers is included with the HKTS 7 owner's manual. For consistency, apply the tab to the

side of the cable pair that has a white stripe. The speaker wires are not only color-coded for channel identification; they are also color-coded for polarity. Since proper polarity is important for system performance, note that the side of each cable pair with the white stripe and color tab is the positive side, and the pure black side of the cable pair is the negative. When connecting the cables to the speakers, the red speaker terminal is positive (+), and should be connected to the side of the wire with the white stripe and color tab. The pure black side of the cable, where there is no color tab, is negative and should be connected to the black speaker terminal.

Once the wires are connected at the speaker end, connect each speaker to the rear panel of the HS 100. The color-coding on the speaker wire connectors makes it easy to make the connections properly. The positive (+) connection for the **Front Speaker Connections 2** are white for left and red for white, positive connection for the **Center Speaker Connection 1** is green, and the positive connections for the **Surround Speakers 3** are blue for left and gray for right. In each case, the corresponding black side of each speaker cable is the negative (-) connection and goes to the matching black terminal for the speaker.

Subwoofer Placement and Connection

Since subwoofers produce nondirectional sound, they may be placed almost anywhere in a room. Actual placement should be based on room size and shape and the type of subwoofer used. One method of finding the optimal location for a subwoofer is to begin by placing it in the front of the room, about six inches from a wall, or near the front corner of the room. Another method is to temporarily place the subwoofer at your normal listening position, and then walk around the room until you find a spot where the subwoofer sounds best. Place the subwoofer in that spot, or you may wish to experiment with the best location for a subwoofer in your listening room.

Using the audio interconnect packaged with the HKTS 7 system, connect one end to the **Subwoofer Output 4** on the rear panel of the HS 100 and connect the other end to the "SUB" input on the subwoofer.

Audio Equipment Connections

Since the HS 100 is a complete integrated home theater system with an onboard DVD Audio/Video player and tuner, you may not need to make any additional audio equipment connections. However, if you have any external audio components, they should be connected as follows:

Products with digital audio outputs, such as an external CD changer, set-top cable box, satellite receiver, video game console, compatible computer sound card or HDTV receiver may be connected to either the **Optical 5** or **Coaxial 6** Digital inputs.

Connections to the analog audio output of a cable set-top, satellite receiver, or the Left/Right analog output of a TV set with built-in digital television tuner should be connected to the **TV Audio Inputs 12**.

You may connect the outputs of any other analog audio device, such as a phono preamp, video game console, camcorder, audio recorder or similar to the **Analog Audio Inputs 8**. If you are connecting an audio recorder to the HS 100, the record/in jacks on the recording device should be connected to the **Analog Audio Outputs 7** on the HS 100.

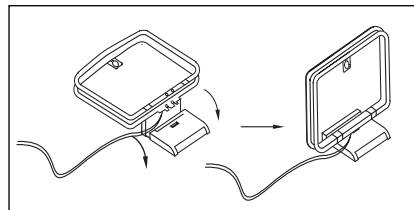
Video Equipment Connections

Depending on the type of TV set or video display to be used, connect the HS 100 to the display using one of the following methods:

- If you have a high-definition, or "digital", television, connect the **Component Video Outputs 12** to a matching set of component inputs on the display.
- If your TV set has only S-video and standard, composite video inputs, we recommend that the **S-Video Output 10** be used as the connection.
- When a standard, composite video input is all that is available on the TV set for video input, connect the **Composite Video Output 9** to the TV.

System Connections

Connect the FM antenna supplied with the HS 100, or an optional, external FM antenna feed to the **FM Antenna Jack 14**. If the antenna uses 300-ohm twin-lead cable, you must use an optional 300-ohm to 75-ohm adaptor to make the connection. Assemble the supplied AM loop antenna so that the tabs at the bottom of the antenna loop snap into the holes in the base. Connect the white wire to the "AM" terminal and the black wire to the **GND Terminals 15**.

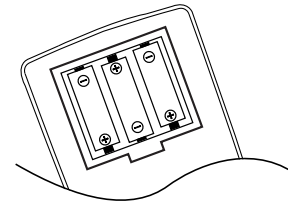


Connect the AC power cord to the **AC Power Cord Jack 13**, and then plug the cord into an unswitched AC outlet. Note that the ring surrounding the Power On/Off switch will turn amber to indicate that the HS 100 is connected to an AC power source and in the Standby mode.

System Preparation

Remove the protective plastic film from the HS 100's front-panel lens. If left in place, this film may affect the performance of the remote control.

Install the three supplied AAA batteries in the remote, as shown below.



To remove the battery cover, place your thumb on the round inset area on the door and gently press upward until the door slides out. When inserting the batteries be certain to follow the (+) and (-) polarity indications that appear at the bottom of the battery compartment. Replace the battery compartment cover by pressing it down toward the bottom of the remote until it snaps into place.

Connecting the AC Power

You are now ready to power up the HS 100 controller before beginning the final adjustments.

1. Plug the AC power cord into the **AC Power Cord Jack 13**, and then into an unswitched AC outlet. Note that the **Power Indicator 2** will turn orange, indicating that the unit is in the Standby mode.
2. Turn the HS 100 on either by pressing the **Power On/Off 2** or the **Input Source Selector 5** on the front panel, or via the remote by pressing the **Power On Button 1** on the remote. The **Power Indicator 2** will turn blue to confirm that the unit is on, and the **Main Information Display 1** will also light up.

Congratulations! You have now completed the physical installation and connection of your HS 100 system and only a few configuration steps are needed to tailor the way the HS 100 operates to meet your needs and the requirements of your listening room. Please continue with the steps on the following pages to make certain that your new system delivers all the performance it was designed to provide.

SYSTEM SETUP

System Setup

The final step in the installation of the HS 100 is to establish the system's configuration. Before proceeding, make certain that the HS 100 is properly connected to a video display and an AC power source. Turn on the video display, and switch its input, if necessary, to the input connected to the HS 100's video output.

Turn on the HS 100 by pressing the **Power On/Off Switch 1** on the front panel or the **Power On Button 1** on the remote. Note that the lighting surrounding the **Power On/Off Switch 1** will turn blue, a blue light will surround the front-panel **Volume Control 10**, the **Information Display 9** will light and the HS 100 screen will appear on your video display.

In many cases you will not need to change the default settings. This is normal, as we have anticipated the typical system setup. Of course, you may return to the setup menus and change them at any time to reflect a change in your personal preferences or equipment selection.

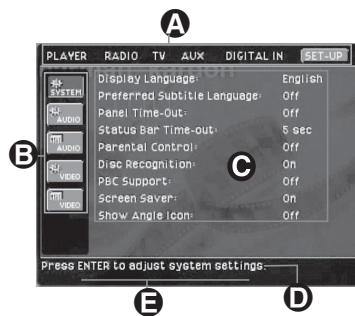
System Defaults

General Functionality of the OSD Menu

The setup and control of the HS 100 takes place in an advanced user-guided On Screen Display (OSD) menu system. The OSD can be activated by pressing the **OSD Button 25** on the remote control. Pressing this button again de-activates the OSD.

The main menu consists of a **PLAYER** menu, **RADIO** menu, **TV** menu, **AUX** menu, **DIGITAL IN** menu and a **SET-UP** menu. The **PLAYER** menu will show all information and options available for the disc currently playing. The **RADIO** menu will show radio and RDS options. The **TV**, **AUX** and **DIGITAL IN** menus show the surround options for these specific audio inputs. The **SET-UP** menu will help you configure all audio and video settings which are normally made only once.

Each main menu contains submenus. These submenus are shown as icons on the left side of the menu. They may be selected by moving the white highlighted square around the icon by pressing the **Navigation Buttons 11**. Menus may be activated by pressing the **Enter Button 26** when an icon is highlighted. When the **Enter Button 26** has been pressed, the color of the icon will change to dark blue and the current settings of this submenu will appear on the right side of the menu. Although each menu has various submenus and settings, they are all navigated in the same way. All submenus, settings and options can be accessed with the help of the **Navigation Button 11** and the **Enter Button 26** on the remote control.



- A Main Menu Line
- B Submenus
- C Current Settings
- D Command Descriptions
- E Option Descriptions

To change a setting, simply move the highlight cursor to the setting you wish to change. This setting will be highlighted in light blue, and a brief explanation will appear in the Upper Menu Line on the bottom of your screen, together with the available options for this setting on the Lower Menu Line. Use the **Navigation Buttons 11** to highlight the requested option for this setting. Press the **Enter Button 26** to activate the new setting.

Setup Menu

The first step in checking or changing the system defaults is to access the **SET-UP** Menu. First, make certain that the HS 100 Controller is properly connected to a video display, and that power is connected. For this process, however, you do not need to load a disc into the unit.

During Stop, Pause or Play mode, if you press the **OSD Button 25** on the remote, the main menu appears on the screen.

In the **SET-UP** menu you will find submenus for making or changing all settings and adjustments for both the Audio and Video aspects of your HS 100.

To access the **SET-UP** Menu, press the **OSD Button 25**, and press the **Navigation Buttons 11** until **SET-UP** is highlighted. Press **Enter Button 26** to activate the **SYSTEM** settings:

System Settings



The System Setting submenu contains the following sections. Follow the explanations in the Upper Menu Line at the bottom of the screen to change settings.

Display Language: This setting selects the language that will be used for the HS 100's OSD menus and other system messages. The default is English, but you may also 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**, which plays discs without subtitles. To set the player so that subtitles will always play in a specific language when they are available, select from any of the choices shown on the **Option Descriptions E** when adjusting this item, as shown above. If you do not find your preferred language in the list of options, you may select a preferred language by first pressing the **Navigation Buttons 11** during the setting adjustment so that **OTHER** is highlighted. Press the **Enter Button 26** and then use the **Numeric Keys 13** to enter the four-digit code listed on page 31 for the desired language. This 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. Note that the subtitles may also be switched on or off, or a new language selected during playback using the **Subtitle Button 9**, as described on page 21.

Panel Time-Out: This settings selects the time-out interval for the front-panel **Information Display 9**. The default setting is **OFF**, which disables this feature so that the front-panel indicators are always illuminated. You may also choose five to 20 seconds as the length of time after you press any button on the front panel or remote for the display to go out. To view the displays when they are off, press any button on the remote.

Status Bar Time-Out: This setting selects the time-out interval for the on-screen Status Bar that appears at the top of your video screen when the **Status Button 12** is pressed while a disc is playing. During DVD playback, the status bar shows the current title and chapter, as well as the elapsed or remaining time in the current title. You may program the status bar to remain on screen for either five or 20 seconds after the **Status Button 12** is pressed. When **OFF** is selected, the time-out is disabled, and the status bar will remain on the screen until the **Status Button 12** or **Clear Button 24** is pressed.

Parental Control: This setting enables you to restrict viewing to films or other discs encoded with parental control information to a specific level or below, and it also allows you to change the password that must be entered to change the settings for this option. The default setting allows all discs to be played, but you may change the setting so that viewing is controlled within eight steps, with lower numbers being more

restrictive and high numbers allowing more material to be viewed. The steps correspond to the standard MPAA ratings symbols as follows. Additional information about movie ratings is available online at www.mpa.org/movieratings.

- Step 1 is equivalent to a “G” rating for general audiences with material appropriate for all viewers.
- Step 2 is an intermediate level between “G” and “PG” rated material.
- Step 3 is equivalent to a “PG” rating.
- Step 4 is equivalent to a “PG-13” rating.
- Step 5 is an intermediate level between “PG-13” and “R” rated material.
- Step 6 is equivalent to an “R” rating.
- Step 7 is equivalent to an “NC17” rating.
- Step 8 allows all discs to be played, regardless of their content rating.

To access the Parental Control settings, press the **▲/▼ Navigation Buttons 11** until the current setting on the **Parental Control Settings** line is highlighted and press the **Enter Button 26**. Next, enter the default password by pressing “8888” using the **Numeric Buttons 13**. Finally, use the **◀/▶ Navigation Buttons 11** to highlight the desired parental control level as shown on the **Options Descriptions E** line as described above. You may also change the password by highlighting **NEW PASSWORD**, pressing **Enter Button 26** and by following the instructions that appear in the **Command Descriptions D** line.

Disc Recognition: This setting controls the Disc Recognition feature. When turned on, it allows you to pause a DVD-Video disc, remove it from the player, play another disc, and then resume the 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 HS 100, an on-screen status message will ask whether you wish to start playback from the beginning of the disc or resume at the point where you left off. Note that even when the setting is activated, you must *pause* the playback, rather than bring it to a full stop, and the unit must not be turned off between discs.

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**.

Screen Saver: This setting controls the activation of a screen saver that prevents the image of the “splash screen” from being “burned” into the face of your video display when a disc is stopped for more than five minutes. If you use the HS 100 with a plasma display, direct-view CRT set or a CRT-based projector, we strongly recommend that the setting be turned **ON**.

Show Angle Icon: This setting controls the activation of the Angle Icon. When this setting is turned **ON**, the Angle Icon, which is a small image of a movie camera, will appear in the upper right corner of the screen when multiple-angle material is available on the disc being played. When the icon appears, press the **Angle Button 22** on the remote to switch between the available views or program material.

Audio Setup Menu

This menu establishes the HS 100’s configuration for general audio settings, such as preferred language and digital audio settings.

As with all setup menus, press the **OSD Button 27** to activate the main menu screen, and then press the **◀/▶ Navigation Buttons 11** so that **SETUP** is highlighted. Press **Enter Button 26**, and then use the **◀/▶/▲/▼ Navigation Buttons 11** until the **AUDIO SETUP** menu is highlighted within a white outline and press the **Enter Button 26** again. Finally, press the **◀/▶/▲/▼ Navigation Buttons 5** once more to move the highlight to the **Control Settings C** side of the menu screen.



The following adjustments are available on the **AUDIO SETUP** menu:

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 on the **Options Descriptions E** line. To select a language other than those shown, select **OTHER** from the choices on the **Options Descriptions E** line and press the **Enter Button 26**. Then, use the **Numeric Keys 16** to enter the four-digit code listed on page 31 for the desired language. This 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. Note that the audio playback language may also be changed at any time during playback using the **Audio Button 23**, as described on page 20, but any changes made will only be effective during playback of that disc.

Dynamic Range: This setting allows you to take advantage of the programming present on some

Dolby Digital recordings to reduce the volume of louder, peak passages while maintaining intelligibility of quieter passages. This means that you may listen to programs at a level that allows the full impact of a soundtrack to be heard at a volume that is lower than you might otherwise use to avoid complaints about loud volume levels. The HS 100 accomplishes this by compressing the audio to a greater or lesser degree, depending on which setting you choose. Three options are available:

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

Feel free to experiment with the settings at any time. Note that if your receiver or processor also allows you to program the dynamic range setting, also known as the “Night Mode,” you do not need to make any adjustments on the HS 100 and should leave the setting at **MINIMUM**.

Delay Unit: This setting selects the measurement system used in entering delay times when the **AUDIO ADJUSTMENTS** menu is activated. Distance entry in feet is the default, but you may alternatively choose to enter the distances in meters.

Tone Control: This setting determines whether the Tone Controls are activated. When **OFF** is selected, the audio output is run “flat” with no tone cut or boost. When **ON** is selected, the tone control settings made in the next two adjustments are applied.

Bass Level: When the Tone Control setting (above) is **ON**, the amount of bass (low frequency) boost or cut selected here is applied to the output signal. To change the setting, make certain that the number at the right side of the Bass Level Command Descriptions Line is press the **Enter Button 26** and then use the **Navigation Buttons 11** to change the setting.

Treble Level: When the Tone Control setting (above) is **ON**, the amount of treble (high frequency) boost or cut selected here is applied to the output signal. To change the setting, make certain that the number at the right side of the Treble Level Command Descriptions Line is press the **Enter Button 26** and then use the **◀/▶ Navigation Buttons 11** to change the setting.

DVD Sound Mode: This setting selects the surround mode that will be used when a DVD is playing. (To set the surround mode option for another input, such as “TV,” “Digital In,” “AUX” or the unit’s internal AM/FM tuner, go to the specific menu for that input.) The factory default is **ORIGINAL**, which will play back DVDs in the format output from the disc, such as Dolby Digital or

SYSTEM SETUP

DTS. To select the mode that will be used when a disc with two-channel audio is playing, make certain that the mode name at the right side of the DVD Sound Mode Command Descriptions Line is highlighted and then press the **Enter Button** **26**. Use the **◀/▶ Navigation Buttons** **11** to change the setting.

Audio Adjustment

The Audio Adjustment Submenu contains the speaker delay and output level adjustment settings of the HS 100. Follow the explanations in the **Command Options** **D** on the bottom of your screen to make adjustments.



Delay

Due to the different distances between the listening position for the front and surround channel speakers, the amount of time it takes for sound to reach your ears from each set of speakers is different. You may compensate for this difference through the use of the delay settings to adjust the timing for specific speaker placement in your particular home theater or listening room. Before proceeding, measure the distance between each speaker and the preferred listening location.

Next, press the **◀/▶/▲/▼ Navigation Buttons** **11** so that the second of the two **AUDIO** icons in the **Sub-Menus** column **B** is surrounded by a white outline, with the icon box turning dark, rather than light, blue. This is the Audio Settings Menu. Next, press the **◀/▶/▲/▼ Navigation Buttons** **11** until the distance setting under the Front Left speaker title is highlighted and press the **Enter Button** **26**. To change the setting, press the **◀/▶ Navigation Buttons** **11** so that the number highlighted in the **Options Description** line **E** at the bottom of the screen is the distance from the speaker to the listening position. Press the **Enter Button** **26** when you are done.

Press the **◀/▶/▲/▼ Navigation Buttons** **11** to move across the menu screen to each of the distance settings under each of the rest of the speaker positions, and repeat the procedure to enter the distance setting. Note that distance setting for the subwoofer does not need to be entered, as delay is not a factor with low-frequency information.

Output Level Adjustment

Output level adjustment is a key part of the configuration process for any surround sound system.

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

For ideal surround playback, the output level from each channel should be equal, and in most 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 put in a disc with test tones or content you are familiar with, and that has a reasonably even level without a great deal of changes. Then, press the **◀/▶/▲/▼ Navigation Buttons** **11** until the output level setting with the factory default of "+0dB" at the bottom of the list under the Front Left speaker distance setting is highlighted. If an increase or decrease needs to be made to the level, press the **Enter Button** **26** and then use the **◀/▶ Navigation Buttons** **11** so that the desired level is highlighted in the **Options Description** line **E** at the bottom of the menu screen. Press the **Enter Button** **26**, and then press the **◀/▶/▲/▼ Navigation Buttons** **11** to move across the menu screen to each of the output level settings under each of the rest of the speaker positions, and 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.

Video Setting

This menu establishes the DVD's configuration for video format settings such as aspect ratio and output scan.

As with all setup menus, press the **OSD Button** **25** to activate the main menu screen, and then press the **◀/▶ Navigation Buttons** **11** so that **SETUP** is highlighted. Press the **Enter Button** **26**, and then use the **◀/▶/▲/▼ Navigation Buttons** **11** until the **VIDEO SETUP** menu is highlighted within a white outline, and press the **Enter Button** **26** again. Finally, press the **◀/▶ Navigation Buttons** **5** once more to move the highlight to the **Control Settings** **C** side of the menu screen.



The following adjustments are available on the Video Setup menu:

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. With this setting, the HS 100 will adjust the output for widescreen movies so that they fill the entire screen in the proper aspect ratio. Note, however, that in this setting a disc recorded in the 4:3 aspect ratio will appear in the widescreen as a boxed image in the center, with black columns on the left and right side of the screen. Note that 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 if you wish 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.
- **4:3 PanScan:** If you have a standard, 4:3 aspect ratio video display and prefer to have widescreen movies displayed without the black bars at the top and bottom of the screen, choose this option. Note, however, that since most DVDs do not contain special "pan/scan" coding that allows the on-screen image to follow the action, you may find that while the image will fill the screen, the vertical spread will cause it to be cropped at the left and right side.

Scan Type: This setting allows you to select between progressive and interlaced scanning for the **Component Video Outputs** **11** to maximize the image resolution for the type of video display in use. When all desired setup and configuration entries have been made, press the **OSD Button** **25** to return the player to normal operation and you are ready to enjoy the finest in DVD or CD playback. Note that the output at the **S-Video** **10** and **Composite Video** **9** 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.

Video Mode: This setting affects only the **Component Video Outputs** **11**, and it controls how the video signals are optimized for progressive scan display. In most cases, the "automatic" mode is your best choice, as it senses whether the disc being played was originally recorded on video or shot on film. However, in some cases you may wish to compensate for errors in the disc authoring that occur when the frame rate is not properly maintained when films are converted to video. Three choices are available:

- **Auto:** This is the recommended setting, as it lets the HS 100 analyze the signals from the DVD and adjust the output accordingly.
- **Movie:** Choose this option for optimal playback of material that was shot on film, even though you are viewing it on video via a DVD.
- **Video:** Choose this option for optimal playback of material that was shot directly to video, such as concerts and sports programming.

Video Adjustments Menu

This menu allows you to adjust five key parameters of the video signal to compensate for differences between HS 100 and other video sources. You may use either the HS 100'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 HS 100's output. Once the display is properly calibrated with all settings on the HS 100 set to their midpoint, use the controls on this menu to fine-tune the HS 100's output.

Due to the nature of these settings, the navigation is somewhat different from the HS 100's other menus and controls. The menu itself is called up in the same way as the other menus. Press the **OSD Button** **25** to activate the main menu screen, and then press the **▲/▼ Navigation Buttons** **11** so that **SETUP** is highlighted. Press the **Enter Button** **26**, and then use the **◀/▶/▲/▼ Navigation Buttons** **11** until the **VIDEO ADJUSTMENTS** menu box (which contains an icon with slider controls and the word **VIDEO**, and is located at the bottom of the column in the **Submenus Area** **B**) is highlighted within a white outline. Then press **Enter** **26** again.

When you press **Enter** **26** the video adjustments will appear inside a black bar at the top of the screen, with either the video from a disc being played or the splash screen shown on the rest of the screen.



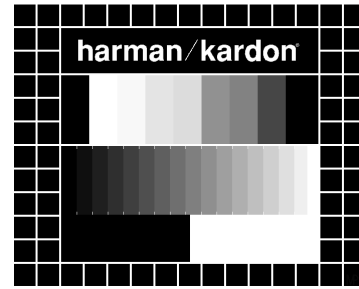
To change any of the video adjustments shown at the top of the screen, first press the **◀/▶/▲/▼ Navigation Buttons** **11** so that the "+" to the right of a parameter name is highlighted to increase the setting or "-" to the right of a parameter name is highlighted to decrease the setting. Then press the **Enter Button** **26** to change the value as shown by the number of blue lines to the left or right of the center line. When only the dark center line is shown with no blue lines, the setting is at the midpoint default value. When adjusting the Black Level setting, note that the adjustment available is to either have the setting at the midpoint, which provides a full "0 to 100" black level setting, or "full," which complies with standards for video with what is called "setup," or a "7.5 to 100" black level setting.

Changes to any of the settings may be made with a test disc playing, or you may use the internal test signal by pressing the **◀/▶/▲/▼ Navigation Buttons** **11** until the word **OFF** is highlighted next to the **TEST SCREEN** line. To activate the test signal, press the **Enter Button** **26** and note that a special combination test signal, including both color bars and gray scale along with 100% black and white fields, will be displayed. To recall the video controls, press the **OSD Button** **25** and then navigate among the settings and make any necessary changes following the steps in the previous paragraph.

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.

TV Picture Adjustment With Test Screen

Brightness Adjustment:

1. Turn down the color control on your TV until the color bars are visible in black and white.
2. Adjust the contrast to the lowest level where you still can see all bars within the gray scale in the test picture separately and clearly.
3. Adjust the brightness so that the bars in the gray scale are all visible. The bar furthest 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 (overflow) 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 customary surrounding 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

SYSTEM SETUP

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 and Tint Adjustment

1. When the brightness and contrast are set optimally, adjust the color control to the level of your preference. Set the level where 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 while 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 little colder picture, some a warmer glow. The Tint function 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.

Terminology

Since DVD players such as the one built into the HS 100 share some of the characteristics and technology of CD players, many of the terms and operational concepts used to describe DVD playback are similar to what you may be familiar with from CD players and changers. However, if this is your first DVD product, some of the terms used to describe the features of a DVD player may be unfamiliar. The following explanations should solve some of the mysteries of DVD, and help you to enjoy all the power and flexibility of the DVD format and the DVD.

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

Title: For a DVD, a title is defined as an entire movie or program. There can be as many chapters within a title as the producers decide to include. Most discs include only one title, but some may have more than one, to give you a "Double Feature" presentation.

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

Progressive scan: DVD offers progressive scan video outputs for use with compatible high-resolution televisions and projectors. Before DVD, no consumer medium could store, transmit or display video with full resolution. To conserve bandwidth, analog compression (interlacing) is employed: first the odd-numbered lines of a frame are displayed, followed by the even-numbered lines. The result is that only half of the video image is drawn at one time; the viewer's brain must reassemble the complete image. This is acceptable, if the monitor is not too large and if there is not too much motion in the image. Large displays and fast-moving images reveal the limitations of this system. Thanks to DVD's immense data capacity, images may now be stored intact (progressively), so that all the lines in each frame (odd and even) are shown at the same time. But because older analog video displays cannot handle a progressive signal, all current DVD players generate an interlaced output for compatibility. The HS 100 features true progressive scan video output for use with compatible TVs and projectors and with all "digital-ready" and high-definition display devices via the component video output. The result is 40% greater light output than a conventional TV and a stunningly detailed high definition image, along with an almost complete absence of visible scanlines and motion artifacts. Of course, traditional Y/Pr/Pb component video, S-video


and composite video outputs are also available for use with conventional televisions and projectors.

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

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

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

DVD Basics

- The types of functions and operations that can be used for a particular disc vary depending on the features of that disc. In some cases, these functions and operations may differ from the descriptions given in this manual. In this event, follow the instructions given on the screen. This manual only covers basic disc operations.
- For some operations, the  icon may appear on the screen. This indicates that the operation described in this manual is not available on the disc currently in the player.

Disc Handling Precautions

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



- 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 utensils.
- 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 benzine, thinner, commercially available cleaners or anti-static spray intended for vinyl LPs.

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.

PLAYBACK BASICS FOR ALL FORMATS

Loading Discs

To load discs, first turn the HS 100 on by pressing in the **Power On/Off Switch 1** or **Power On Button 1**.

Next, press the **Open/Close Button 10 2** until the disc tray **12** 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 HS 100 will play discs with the following logos as well as most DVD-RW or DVD+RW discs. DO NOT attempt to play another type of disc.



- The HS 100 will only play discs in the NTSC video format. It will not play discs for other standards such as PAL or SECAM.
- Playback capability for CD-RW, DVD-RW, DVD-R, DVD+RW or DVD+RW discs will vary according to the quality of the disc. On some occasions it is possible that these discs may not play on the HS 100. This does not indicate any problem with the HS 100.
- The HS 100 will only play discs that are coded for Region 1 or Region 0 discs, which are able to be played in all regions. 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 cover jacket or case) will not play.
- Both 5-inch (12cm) and 3-inch (8cm) discs may be used.
- When loading CD audio discs, load the discs with the label side up.
- When loading DVD discs with printed labels, load them label side up.
- Some DVD 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 10 2** to close the disc drawer. After the drawer closes, you will see a brief indication of

Reading in both the **Information Display 9** and in the on-screen display to alert you to the fact that the unit is determining the type of disc (DVD, CD, VCD or MP3) and is reading the data for track, chapter, title and other information about the disc.

Once the disc's data has been read, the disc will automatically begin playing.

- 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 has been created.
- If a CD is detected, playback will begin automatically and the screen will show the Info menu with information about the disc, including the number of tracks and the playback time. To remove this menu from the screen, press the **Clear Button 24**.

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 6 19** twice, the disc will begin playing from its beginning.

Playback Features for DVD and CD Discs

- To momentarily pause playback and freeze the current picture frame on a DVD, press the **Pause Button 5 18**. To resume playback after pressing the Pause button, press the **Play Button 5 21**.
- To move forward or backward through the tracks on a DVD-Audio disc or CD or the chapters on a DVD, press the **Skip/Step Next/Previous Buttons 16 17** on the remote or the **Previous/Next Buttons 3 4** on the front panel.
- To move forward or backward through a disc at fast speed, press the **Skip/Step Buttons 14 20** on the remote, or press the front-panel **Skip/Search Buttons 3 4** briefly until fast play begins and then release them. Press the buttons again to cycle through the available speeds. Once one of these buttons is pressed, the fast search will continue until the **Play Button 5 21** is pressed. Note that the fast-play speeds are different for the various disc types.

NOTE: Fast search is not available when MP3 or WMA discs are playing.

When a DVD-Video disc is playing, you may move forward or backward through the disc in slow motion by first pressing the **Pause Button 8** and then pressing the **Skip/Step Next/Previous Buttons 16 17**. Each press will cycle the player through one of the four slow-play speeds. Press the **Play Button 8 21** to resume normal playback. For VCD and SVCD discs, there are only two forward and reverse slow-play speeds.

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

NOTES: Playback features may not be available during the opening credits of a movie. This is intended by the disc author and is not a failure of the HS 100.

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

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

- When a camera icon shows on the screen, or the **Angle Indicator H** appears, this is your indication that there is multiple-angle information on the disc being played. To change the angle, press the **Angle Button 22** until the desired angle view appears. An on-screen banner message will appear to indicate the angle view in use.

Basic Operation

Once all connections have been made and the proper configuration settings entered, you are ready to enjoy the incredible listening and viewing experience made possible by the HS 100. The pages that follow have all the information needed to operate the HS 100, but the following will help get you started with a basic overview.

- To turn on the HS 100, press the **ON Button 1** on the remote or the **Power On/Off Button 1** on the front panel to use the input that was in use when the HS 100 was turned off.
- The HS 100 may also be turned on with direct access of a specific input by pressing the **Player 4**, **Radio 3**, **TV 34**, **Aux 33** or **Digital In 32** buttons on the remote.
- To select another input, press the **Player 4**, **Radio 3**, **TV 34**, **Aux 33** or **Digital In 32** buttons on the remote to choose the source.
- Turn the **Volume Control 11** or press the **Volume Control Buttons 29** on the remote to raise or lower the volume.
- To temporarily silence the output, press the **Mute Button 35**. Press the **Mute Button 35** again or use the **Volume Control 11 29** to return to normal operation.
- Control over the settings for an individual input, such as DVD playback and navigation or using the tuner is done through a combination of the on-screen menus and the remote control and front panel buttons.
 - To access the menu for a specific input, press the **OSD Button 25**, and then press the **Navigation Buttons 11** until the desired source (or the Setup menu for global system adjustments) is highlighted in a light blue box. Note that the current source will be shown with a white line below its name while you select another source. Press the **Enter Button 26** to select the highlighted source.
 - Consult the pages in this manual pertaining to each input source for the specific instructions about using or configuring that source.

Surround Modes

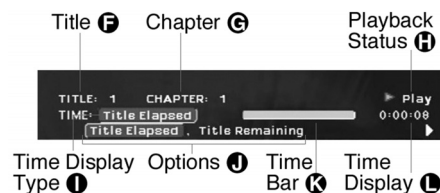
One of the most important features of the HS 100 is its ability to reproduce a multichannel surround presentation from digital sources, analog matrix-encoded sources or traditional two-channel stereo program material. In some cases, such as when a Dolby Digital or DTS source with a 5.1 soundtrack is playing, surround mode selection is automatic, regardless of which mode may be set in an input's menu. In other cases, the surround mode may be preset within the individual input's menu page. Each time the source is changed, the HS 100 will automatically change to the Surround Mode selected for that source.

When a DVD is playing, there may be a number of different surround mode or audio options such as a full 5.1 soundtrack in one language, a 2.0 soundtrack in different languages, or special commentary or descriptive tracks for the vision-impaired. You may select these tracks, when available, during DVD playback by pressing the **Audio Button 28** and then using the **Navigation Buttons 11** to choose from the options shown in the on-screen menu.

PLAYING DVDs AND CDs

Using the On-Screen Status Display

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



Terminology

For DVD-Video Discs:

- **Title F**: This display shows the current title.
- **Chapter G**: This display shows the current chapter.
- **Playback Status H**: This section shows whether the unit is in Play or Pause, or whether it is in a fast or slow search/scan mode.
- **Time Display Type I**: This section identifies the type of information in the **Time Display L** section of the display.
- **Options J**: This line is blank when the Status Display is first accessed, but when it is used to change the title, chapter or time display, the available choices will be shown here.
- **Time Bar K**: This display is a graphic representation of the time remaining for the disc being played. As the disc plays, blue bars will appear to give a relative indication of where the current scene is between the beginning and end of the title.
- **Time Display L**: This section of the display shows the time corresponding to the type of display indicated in the **Time Display Type I**.

For DVD-Audio Discs:

The Status display for DVD-Audio discs is identical to that for DVD-Video discs with the following difference:

- **Group**: Since DVD-Audio discs contain groups of tracks organized into one or more Groups, you are able to view or change the Group on a DVD-Audio disc, as opposed to the Title on a DVD-Video disc.

Selecting a Title (for DVD-Video Discs)

To select a title, first press the **Status Button 12** so that the Status Display appears. The **Current Title F** will be highlighted in a blue box. Press the **Enter Button 26** and a list of the available titles will appear in the **Options Line J**. Use the **Navigation Buttons 5** to select the desired title in a highlighted blue box and press the **Enter Button 26** to begin

playing the new title. Note that if the **⊘** icon appears when you attempt to select a new title, this is an indication that the disc does not allow the title to be changed in this manner even though a list of title numbers will appear. This is a function of the way the disc was created and is not a flaw in the HS 100.

Selecting a Group (for DVD-Audio Discs)

Since DVD-Audio discs are organized into Groups, instead of Titles, you may view or change the Group in use by following the same instructions as for changing the Title on a DVD-Video disc, as shown above.

Selecting a Chapter (for DVD-Video Discs)

To select a chapter, first press the **Status Button 12** so that the Status Display appears. Next, press the **Navigation Button 11** so that the **Current Chapter Number G** is highlighted in a blue box. Press the **Enter Button 26** and a list of the available chapters will appear in the **Options Line J**. Use the **Navigation Buttons 11** to select the desired chapter in a highlighted blue box and press the **Enter Button 26** to begin playing the new chapter.

To select a specific chapter on a DVD at any time during playback, simply press the number corresponding to the chapter you wish to view using the **Numeric Keys 13**. You may also move one by one through the chapters at any time by pressing the **Previous Step/Next Step Buttons 16 17** on the remote or the **Skip Reverse/Skip Forward Buttons 3 4** on the front panel.

Selecting a Track (for DVD-Audio Discs)

DVD-Audio selections are recorded on a disc as individual tracks, as on a CD, rather than as the Chapters on a DVD-Video disc. The instructions for viewing or changing the current track number for a DVD-Audio disc are otherwise identical to those for viewing or changing the Chapter on a DVD-Video disc, as shown above.

Selecting a Track (for CDs)

To select a specific track on a CD during playback, when the Player menu appears in your video display, simply press the number corresponding to the track you wish to listen to using the **Numeric Keys 13**. You may also move one by one through the chapters at any time by pressing the **Previous Step/Next Step Buttons 16 17** on the remote or the **Skip Reverse/Skip Forward Buttons 3 4** on the front panel. When you press the **Previous Step 6** or **Skip Reverse 6** button once, the player will return to the start of the current track. Additional presses of the buttons will step back through the available tracks, one at a time.

Changing the Time Display

To change the Time Display, first press the **Status Button 12** so that the Status Display appears. Next,

press the **Navigation Buttons 11** so that the current **Time Display Type I** is highlighted in a blue box. Press the **Enter Button 26** and a list of the available time display options will appear in the **Options Line J**.

For DVD-Video Discs:

- **Title Elapsed** shows the time elapsed in the current title. In cases where the disc has only one title, this will be the same as the elapsed time on the disc.
- **Title Remaining** shows the time remaining in the current title. In cases where the disc has only one title, this will be the same as the time remaining on the disc.
- **Chapter Elapsed** shows the time remaining in the current chapter.
- **Chapter Remaining** shows the time remaining in the current chapter.

For DVD-Audio Discs:

- **Track Elapsed** shows the time elapsed in the current track.
- **Track Remaining** shows the time remaining in the current track.
- **Group Elapsed** shows the time elapsed in the current group.
- **Group Remaining** shows the time remaining in the current group.

Press the **Navigation Buttons 11** to highlight the desired time display method and press the **Enter Button 26** to change the display. Note that any changes made here will affect the time display in both the Status Display and the front-panel **Information Display 9**.

NOTE: When a CD, MP3 or Windows Media disc is playing, the On-Screen Status Display will not be available. Instead, the **PLAYER** menu of the OSD system will appear on screen. (See page 25 for more information on using the Player menu.)

For JPEG discs, the File Index number and File Name will be displayed; however, you will not be able to change them. To navigate a JPEG disc, you must use the Player menu of the OSD system (see page 25).

Selecting the Audio Track (DVDs Only)

Many DVDs contain more than one audio track. On many discs, you will find multiple languages, while others will offer a choice of different audio formats or mixes (e.g., Dolby Digital or DTS), while some will also contain commentary from the director or stars or Descriptive Video Service content. The default audio language is set in the **AUDIO SETUP** menu as shown on page 13.

To change the audio track, press the **Audio Select Button 3** to show the current audio track con-

figuration. When you press the **Enter Button** **26**, a series of numbers will appear. Press the **◀/▶ Navigation Buttons** **11** to change the numeric indication while noting that a description of the available options appears at the top left corner of the on-screen display. When your desired selection appears, press the **Enter Button** **26** and then press the **◀/▶ Navigation Buttons** **11** so that **DONE** is highlighted and then press the **Enter Button** **27** again to remove the on-screen display and return to normal playback.

Notes on Audio Tracks:

- Not all discs contain multiple audio track choices. Check the information on back of 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 track using the disc's menu system. Press **Disc Menu Button** **27** to display the disc's menu and then use the **◀/▶/▲/▼ Navigation Buttons** **11** to make your selection following the navigation scheme of the individual disc.
- When you change the audio track or language with the **Audio Select Button** **23** 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.

Selecting or Changing the Subtitle (DVD-Video Discs Only)

Many DVDs contain one or more subtitles. The default subtitle is set in the System Setup menu as described on page 12, 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** **9** to show the current configuration. When you press the **Enter Button** **26** the available subtitle choices will appear. Press the **◀/▶ Navigation Buttons** **11** to highlight your choice from the available languages or select **OFF** turn the subtitles off. When your desired selection appears, press the **Enter Button** **26** and then press the **◀/▶ Navigation Buttons** **11** so that **DONE** is highlighted and then press the **Enter Button** **26** again to remove the on-screen display and return to normal playback.

Selecting an Angle (DVD-Video Discs Only)

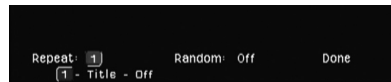
An increasing number of DVDs contain multiple-angle views, which allow the disc's creators to provide different views of the same scene, or to present additional on-screen or interactive information. In many cases the disc will alert you to the presence of multiple angles by

showing a camera icon or other indication, but in any case where multiple-angle material is available, the **Angle Indicator** **1** will light in the front-panel **Information Display** **9**.

When multiple angle views are available as shown by any of the available icons or indications, press the **Angle Button** **22** to change the view. An information box will appear in the upper right corner of your video screen to show you which angle view is playing and how many are available.

Repeat Play

The HS 100 offers a number of repeat functions that allow you to set the player so that it automatically repeats a title, chapter or selected segment of the disc ("Repeat A-B").



To repeat the current title or chapter, press the **Repeat Button** **5** to bring a control bar to the top of the screen. When it appears, press the **Enter Button** **26** and then press the **◀/▶ Navigation Buttons** **11** to highlight your choice of either **1** to repeat the current chapter or **TITLE** to repeat the current title or Group to repeat the current Group for DVD-Audio discs. For CDs, the options are **1** to repeat the current track, or **ALL** to repeat the entire disc until the playback is stopped or the function is turned off. To turn off the repeat play function, highlight the word **OFF**. When your desired selection appears, press the **Enter Button** **26** and then press the **◀/▶ Navigation Buttons** **11** so that **DONE** is highlighted and then press the **Enter Button** **26** again to remove the on-screen display and return to normal playback.

To program an "A-B" repeat, which selects any portion of a disc for continual playback, press the **A-B Repeat Button** **30** at the start of the section to be repeated, and press it again at the end of the segment to be repeated. The disc will then play back the part of the disc that elapsed between the times the button was pressed until the **Stop Button** **19** is pressed.

Information Display

To view a screen with complete information about the disc being played, press the **OSD Button** **25** and then use the **◀/▶ Navigation Buttons** **11** to highlight the Info icon. Press the **Enter Button** **26** to call up the screen.



The information shown is a mix of the settings for the player and the contents of the disc, as follows:

- **Disc:** This shows the type of disc being played.
- **Disc ID:** If the disc is encoded with its title, that information is shown on this line.
- **Aspect Ratio:** This line shows the aspect ratio of the programming recorded on the disc, and the way in which it is being played back according to the setting established in the Video Setup menu as shown on page 14. Note that some discs may contain two versions of the same program with a widescreen aspect ratio on one side and a standard aspect ratio on the other.
- **Video Standard:** The disc's format is shown here. For the HS 100, this will always be the NTSC format used in North America, as that is the only format activated for Region 1 players.
- **Scan Type:** This line shows the scan rate of the programming recorded on the disc, and the way in which it is being played back according to the setting established in the Video Setup menu, as shown on page 14.
- **Audio Resolution:** This line shows the sample rate and bit rate for the audio track being played on the disc.
- **Audio Format:** This line shows the audio format being played.
- **Video Bit Rate:** The number of blue horizontal lines inside the white bar on this line gives you an indication of the video bit rate of the material being played back up to the limit of 10 Mbps. This indication will vary as a disc is played in response to changes in the amount of compression that was applied to the video signal when it was compressed during the disc creation process.
- **Audio Bit Rate:** The number of blue horizontal lines inside the white bar on this line gives you an indication of the audio bit rate of the material being played.

When you are finished reviewing the material on the Disc Info screen, you may use the **◀/▶/▲/▼ Navigation Buttons** **11** and then the **Enter Button** **26** to select another menu to adjust a setting or program this disc, or press the **Clear Button** **24** to remove the display from your screen.

Using a DVD's Menu

One of the unique features of the DVD system is that it 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; as well as 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** **27** to pause the 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 with the **Navigation Buttons** **11**, 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** **25** or the **Play Button** **21**.
- 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** **25** or **Play Button** **21** to resume play. However, not all discs offer this feature, and selecting the menu while playing a movie may mean that you will either have to go back to the beginning of the program or the start of a chapter. This feature is out of the control of the HS 100, as it is set by the disc's internal programming.

Important Notes on DVD Playback

The HS 100 is capable of all the features and options covered by the DVD standards. However, it is up to the producer of a DVD disc to decide which of those features and functions are available on any given disc. For that reason, 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 Feature Prohibited (⊘) icon, this is an indication that the disc has not been programmed for that feature.

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. The appearance of the Feature Prohibited (⊘) icon, or the inability of certain features to operate when the disc itself has prohibited them, does not indicate a problem with the HS 100, as these features are outside of the unit's control.

Zoom Feature

The HS 100's advanced digital video processing circuits include a Zoom feature which allows you to enlarge the image for closer examination of a particular part of the picture. Four steps of enlargement are available.

- To use the Zoom feature, press the **Zoom Button** **23** while a disc is playing or paused. Each press of the button will increase the zoom-in effect. When you have zoomed through all four steps, the picture will return to normal size.
- When the zoom feature is activated, you may use the **Navigation Buttons** **11** to move the zoomed-in picture around the screen 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 Feature

The HS 100 offers a "Resume" feature for DVD playback that is different from the conventional "Stop" function that you may be used to on CD players. When the **Stop Button** **6 19** is pressed once, the disc will stop and an on-screen **RESUME** indication will appear in the **Front-Panel Information Display** **9**. While the Resume feature is active, the disc's position is entered into the unit's memory so that when the **Play Button** **5 21** is pressed to resume playback, the program will continue at the point where it was when the **Stop Button** **6 19** was pressed.

To completely stop playback, press the **Stop Button** **6 19** twice.

When the Disc Recognition feature is turned on in the System Settings menu, you may pause a disc or press the **Stop Button** **6 19** once, remove it from the player, and then have the option of resuming playback at the point where you left off, as long as the player has not been turned off after other discs have been played.

MP3, WMA* and JPEG Playback

The HS 100 will recognize data from CD-ROM discs recorded in the MP3, Windows Media® 9 (WMA) or JPEG formats. In addition to playing discs with only one of the formats, you may also play discs with more than one of the three formats and even program the player so that MP3 and JPEG files play at the same time.

When an MP3, WMA or JPEG disc is loaded, the names of the files on the disc will appear on your video display. Use the **◀/▶ Navigation Buttons 11** to highlight any file and then press the **Enter Button 26** to play it. If the files have been organized into directories, you may select a folder from the list by using the **◀/▶ Navigation Buttons 11** to highlight a directory folder and press the **Enter Button 26** to expand it. Use the **◀/▶ Navigation Buttons 11** again to select a file and press the **Enter Button 26** to play it.

The Specific File Types That May Be Played on the HS 100 Are:

- **MP3 Files:** MP3 is a popular audio compression format that was developed by the Motion Picture Experts Group as part of the MPEG-1 video compression format. Depending on the specific MP3 encoder used, file size is greatly reduced so that you store many more songs on one compact disc than in the standard audio CD format. MP3 is also used to download audio files to computers for home use. Note, however, that in order to play an MP3 file on the HS 100, 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. The HS 100 is also able to play MP3 files while displaying their file names using its advanced graphic interface. Due to variations in the different encoders and variations of the MP3 codec and the different bit rates used to record MP3 discs, the HS 100 may not be able to play all discs with MP3 files. We cannot guarantee complete compatibility with MP3 discs, even though they may play on a computer. This is normal and does not indicate a problem with the HS 100. Note, also, that when a multisession disc with both standard CD audio and MP3 (or WMA) content is used, the HS 100 will only play the CD audio sections of the disc.

- **WMA Files:** WMA (Windows Media Audio) is an audio compression format developed by the Microsoft® Corporation for use with its Windows Media Player. WMA files may be created with greater compression than MP3 without sacrificing audio quality so that even more songs may be recorded on a disc. Note that there have been a number of versions of Windows Media, and the HS 100 is compatible only with files that end in the "wma" extension and that were recorded using the Windows Media Series 9 or 10 encoding.

- **JPEG Files:** "JPEG" is the acronym used to identify image files recorded according to specifications established by Joint Photographic Experts Group for compressing still images. Identified by the file extension ".jpg" when they are recorded on most computers, JPEG files may be created by a digital still camera and then edited and "burned" to a disc in your personal computer, recorded on a CD-ROM disc from film images by a photo processor, or scanned from printed photos into your personal computer and then burned onto a CD-ROM. When playing a disc with JPEG images, press the **Picture Buttons 8** to step through the images one by one.

When a disc with only JPEG files is being played, you may rotate the image by pressing the **Angle Button 22** as needed to turn the image 90, 180 or 270 degrees so that it is properly positioned. You may also use the **Zoom Button 23** to enlarge a JPEG image and the **◀/▶/▲/▼ Navigation Buttons 11** will reposition the image when it is zoomed-in. Note that these functions are not available when a disc contains both JPEG still image files and MP3 or Windows Media files.

Slide Shows

The HS 100 is unique in its capability to create a "slide show" when you play JPEG images on a disc that also contains MP3 audio files.

To program the player so that the JPEG images will each play in order for a set time period before switching to the next image while playing an MP3 audio file at the same time, first call up the Player Menu by pressing the **OSD Button 25**. Both the Audio and Picture icons will be active. This will play an audio and JPEG file at the same time. To view the images without hearing the audio files, press the **◀/▶/▲/▼ Navigation Buttons 11** to move the cursor to the Audio icon and press the **Enter Button 26** to deactivate it. To play the audio files without viewing the images, move the cursor to the Picture icon and press the **Enter Button 26** to deactivate it. One icon will always be active.

You may also change the amount of time each jpeg image remains on screen. When the Picture icon has been activated as described above, press the **Enter Button 26** and then use the **◀/▶/▲/▼ Navigation Buttons 11** to choose an on-screen image time of 15, 30 or 45 seconds. When you press the **Enter Button 26**, the setting will remain in effect until you stop play of the disc.

NOTE: Simultaneous playback of JPEG image files and WMA files is not available.

VCD PLAYBACK

VCD Playback

VCD, a video playback format that predates DVD, is based on a different compression format than DVD and a recording method that is similar to CD. Although the DVD has, for the most part, replaced VCD as a format, the HS 100 offers VCD playback so that you may play your existing library of VCD discs.

There are two versions of the VCD format: an early version which is simply called "VCD" and a later version with Playback Control which is called "Version 2.0" or "PBC." The HS 100 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 HS 100 as you would do with any other CD or DVD disc. The unit takes a few seconds to read the disc's contents, then the disc will begin playing. However, keep in mind that the exact level of functionality for any VCD will vary widely and it is ultimately determined by the way the disc was created, not by the HS 100, 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 or Reverse Search. The functions Slow Reverse and Step Reverse are not available with VCDs.

With VCDs, you have the same access to detailed information on the disc playing or on the current player setting as with DVDs, by accessing the Information Display, as shown on page 21.

Depending on the disc's functionality, some VCD discs allow the time display to be changed, even with PBC.

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 the PBC playback control; in that case, the prohibit icon will appear on screen.

When the VCD is made without PBC, the disc can be controlled in the same way as an audio CD, but direct track access by entering a number is not possible without opening the On-Screen Banner Display.

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 leading to the VCD menu (if any) automatically.
- **Next** (Skip Forward)   will skip to the VCD menu from the intro (Track 1) directly.
- Once the menu options appear on the screen, make your selection by pressing the **Numeric 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 Banner is on.

The **Disc Menu Button**  used during DVD playback is not used for VCD playback.

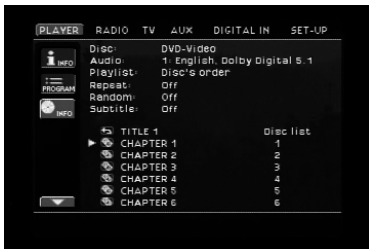
Using the Player Menu

The HS 100's innovative graphical interface uses a unique menu screen to control and program many normal playback functions once the initial configuration settings have been made. Depending on the type of disc being played, the Player menu contains a number of submenus that allow you to view information about the disc and to program tracks for playback.

To view the **PLAYER** menu, press the **OSD Button 25** and note that the layout of the screen and the way in which you navigate through it is identical to the **SETUP** menu, as described on page 17. By way of review, to select an item for adjustment, use the **Navigation Buttons 11** to highlight the icon for a **Submenu B** in a white box, or use the **Navigation Buttons 11** to highlight a **Control Setting C** in the main portion of the menu screen in a blue box for adjustment. To select a menu or view the **Command Description D** and **Adjustment Options E** line for a Control Setting, press the **Enter Button 26** once the desired item is highlighted.

Disc Info Menu

The Disc Info menu, the first **Submenu B** as indicated by an "i" icon and the word **INFO**, describes the disc, shows whether any of the repeat functions are turned on, and shows the current time of the disc.



To change the time display or turn the repeat functions on or off, use the **Navigation Buttons 11** to highlight the item to be changed and press the **Enter Button 26**. Use the **Navigation Buttons 11** to select the desired option on the **Adjustment Options E** line and then press the **Enter Button 26** again to enter the setting.

The bottom half of the main Info menu screen will show a list of the titles and chapters (for DVDs), tracks (for CDs) or files (for MP3, JPEG or WMA discs) on the disc. Titles are indicated by a left-pointing arrow icon; chapters by an open book icon; CD, MP3 or WMA audio tracks or files by a musical note icon; and JPEG photo images by a camera icon. To play any indicated title, chapter, track or file, press the **Navigation Buttons 11** to highlight it and then press the **Enter Button 26**. For discs with multiple titles or file folders, highlight the title or track

name and press the **Enter Button 26** to move the list up one level.

When a disc contains a long list of tracks, files, titles or chapters, you may move up or down through the listings by pressing the **Navigation Buttons 11** so that the Page Up and Page Down "arrow" icons in the lower left corner of the menu screen are outlined in a white box. Press the **Enter Button 26** to move up or down through the listings.

If you wish to display only the list of titles, chapters, tracks or file names without the disc information, repeat functions and time display, press the **Navigation Buttons 11** to highlight the "i" info button at the top of the list of submenus on the left side of the screen and press the **Enter Button 26**. The full-screen display may be restored by highlighting the same icon and pressing the **Enter Button 26** again.

Programmed Playback

The **PLAYER** menu also contains a powerful yet easy-to-use tool that allows you to program the order in which titles, chapters, tracks or files will play. This innovative feature permits you to create your own playlist for optimal enjoyment of the contents of any disc the HS 100 is capable of playing.

To program a disc's playback, first load it into the HS 100, but do not start playback. If the disc begins to play, press the **Stop Button 7 19** to halt the playback. Next, press the **OSD Button 25** so that the **PLAYER** menu appears, and then press the **Navigation Buttons 5** until the **PROGRAM** icon is highlighted in a white box. At this point, you may press the **Enter Button 26** to remove the disc information, repeat settings and time display lines from the menu, or simply press the **Navigation Buttons 11** to move the highlight over to the main portion of the menu for programming.

When the **Program** submenu first appears, the list of titles, tracks and/or file or folder names will be shown in the actual order in which they appear on a disc. On discs with multiple titles or folders, an icon with an open file folder will appear to the left of the title or folder to indicate that there are additional chapters or files within the title or folder. In that case, press the **Navigation Buttons 11** until the Title or Folder that contains the chapters, tracks or files you wish to play is highlighted and press the **Enter Button 26**. To return back up to a list of titles or folders once they are opened, press the **Navigation Buttons 11** to highlight the Title or File with a left-pointing "return" arrow and press the **Enter Button 26** to move up one level in the disc's hierarchy.




With the list of titles, chapters, tracks or files open to the desired place, programming is done by following these simple steps:

1. Make certain that there are two columns of information in the main portion of the screen, a list of titles, chapters, tracks or file names with their associated icons on the left side, and a column named "Disc List" on the right. As you start, the Disc List will be in ascending order.
2. To build the playlist, press the **Navigation Buttons 11** until the desired title, chapter, track or file is highlighted, and press the **Navigation Buttons 11** so that the highlight moves over to the Disc List column. Three options will appear in the **Adjustment Options E** line at the very bottom of the screen:
 - **ADD** is used to attach the highlighted title, chapter, track or file to the end of the current playback list.
 - A series of three underscore lines (_ _ _) is used to enter a specific playback position for the highlighted title, chapter, track or file in your new playlist.
 - **CLEAR** removes the highlighted title, chapter, track or file from your new playlist.
3. Press the **Enter Button 26** to program the track.
4. Press the **Navigation Buttons 11** to select the desired programming option. If you have chosen the middle option, which allows a specific playback position to be assigned, press the **Numeric Keys 13** that correspond to the desired playback position first, and then press **Enter 26**.
5. Repeat these steps for all titles, chapters or files you wish to program.
6. When all programming is complete, press the **Navigation Buttons 11** so that the option setting on the Playlist line is highlighted and press the **Enter Button 26**.
7. Press the **Navigation Buttons 11** so that **PROGRAMMED PLAY** is highlighted and press the **Enter Button 26** again.

USING THE PLAYER MENU

8. Press the **OSD Button**  to remove the menus from the screen and press the **Play Button**  to begin playback in the order you have just programmed.
9. Playback of the disc will be in the programmed order until the disc is changed, or the Playlist setting is returned to **DISC ORDER**.

Notes on Programmed Playback

- When you enter a numeric playback position for a title, chapter, track or file that is lower than its actual position on the disc, all other tracks will be “pushed down” one notch in the list.
- If you enter a numeric playback position that is greater than the actual number of titles, chapters, tracks or files on the disc, the HS 100 will automatically assign the last available position number to that title, chapter, track or file.
- During programmed play, the title, chapter, track or file numbers shown in the front-panel display will continue to display the actual number of the title, chapter, track or file on the disc, but the playback will be in the order you have just programmed. The **Program Indicator**  will light to remind you that the disc's tracks are playing in programmed order.
- For discs containing both JPEG files and audio files, you may independently program the order in which pictures will appear on screen, and the order in which audio files will be played. Select the Picture or Audio icon on the left side of the screen and follow the steps shown above to program a playlist.

Tuner Operation

The HS 100's internal tuner may be used to listen to AM, FM and FM Stereo broadcasts, with an innovative preset system for tuning stations. FM stations are further identified by the name assigned by the broadcaster when RDS information is present.

You may listen to the radio by simply turning on the HS 100 and selecting the tuner mode, but we recommend that you first take a few minutes to program the preset stations for easier operation. To access the tuner, follow these steps:

1. If the HS 100 is in the Standby mode, press the **Radio Button 3** on the remote to turn on the unit.
2. If the HS 100 is already on, press the **Radio Button 3** on the remote to switch the input, or press the **Source Button 7** on the front panel until the tuner is the active input.
3. Press the **Radio Button 3** at any time to change the frequency band.



Entering Presets

Manual Tuning and Preset Entry

The **RADIO** menu shows the list of "Station" preset numbers along with the corresponding AM or FM frequency. You may change the frequency assigned to any Station preset, change the order of the presets and add an FM station's "name" (or other information programmed by the station) when RDS is available.

To manually tune a station and assign a preset number to it, follow these steps after selecting the Radio function, and the Radio menu is on your video display:

1. To change a preset station, press the **Navigation Buttons 11** as needed so that the Auto/Manual icon in the stack of icons in the Submenus section of the screen **B** is highlighted by a white outline box.
2. If the icon reads **AUTO**, press the **Enter Button 26** to change the icon to **MANUAL**. If **MANUAL** already appears on the screen, move to the next step.
3. Press the **Navigation Buttons 11** twice to move the cursor to the center portion of the Radio menu screen containing the Station number list.

4. Press the **Navigation Buttons 11** to move the cursor so that the blue highlight is over the Station number you wish to assign the preset to.
5. Press the **Navigation Buttons 11** to move the blue highlight to the Frequency column on the far right side of the screen.
 - a. To search for a station, press the **Search Forward/Reverse Buttons 14 21** until the desired station is tuned, and then press the **Enter Button 26** to set it as a preset.
 - b. To tune a station's frequency directly, press the **Numeric Keys 12** corresponding to the station's frequency.
6. Repeat the procedure to enter any stations you would like to assign a preset to, remembering to switch to both the AM and FM bands for station entry.

Automatic Tuning and Preset Entry

You may also let the HS 100 create a list of preset stations. To do that, follow these steps twice, once for the AM band and once for FM.

1. Press the **Navigation Buttons 11** as needed so that the Auto/Manual icon in the stack of icons in the **SUBMENUS** section of the screen **B** is highlighted by a white outline box.
2. If the icon reads **MANUAL**, press the **Enter Button 26** to change the icon to **AUTO**. If **AUTO** already appears on the screen, move to the next step.
3. Press the **Navigation Buttons 11** once to move the cursor to the left portion of the Radio menu screen containing the Preset Station number list.
4. Press the **Navigation Buttons 11** to move the cursor so that the blue highlight is over the "#" number symbol at the top of the list.
5. Press the **Enter Button 26** and note that "Auto Preset" will then be highlighted in the **Options Choice Line E** at the very bottom of the screen.
6. Press the **Enter Button 26** again and the tuner will automatically scan the selected frequency band for all stations (up to 30) that have signal strength for acceptable reception and assign a preset number to them.
7. The scan will stop when the entire frequency band has been searched, or you may press the **Stop Button 19** at any time to halt the scan.
8. Repeat the process as needed for the AM and FM frequency bands.
9. Once the presets are entered, the tuner will play the first station in the list, but you may then rearrange the list or remove stations, observing the following instructions.

Editing the Preset Station List

Once the preset stations have been entered, you may edit the list by removing stations or changing the order in which they appear.

To remove a preset station from the list, follow these steps:

1. With the Radio menu on your video display, press the **Navigation Buttons 11** as needed so that the blue highlight is over the "#" number symbol at the top of the numerical list of presets.
2. Press the **Navigation Buttons 11** to move the blue highlight over the number for the preset station you wish to remove from the list.
3. Press the **Enter Button 26** and note that the word "Remove" in the **Options Description Line E** at the very bottom of the screen will be highlighted.
4. Within five seconds, press the **Enter Button 26** again to remove the station from the list.
5. Repeat as many times as needed to remove unwanted stations from the list of preset stations, and repeat again as needed for both the AM and FM station lists.

To rearrange the preset station list, follow these steps:

1. With the Radio menu on your video display, press the **Navigation Buttons 11** as needed so that the blue highlight is over the number in the left column on the screen for the preset station for which you want to assign a different position in the list.
2. Press the **Enter Button 26** and within five seconds press the **Navigation Buttons 11** so that the new position number you wish to assign is highlighted in the **Options Description Line E** at the very bottom of the screen.
3. Press the **Enter Button 26** and the station will be assigned a new position in the list. Note, however, that the actual "Station" number will be retained; only the position in the list will be changed.
4. Repeat as many times as needed to remove (or reorder the positioning of) stations in the preset list, and repeat again as needed for both the AM and FM station lists.

Selecting Presets

When the Radio function is active, you may select a preset station at any time by pressing the **Numeric Buttons 12** corresponding to the preset number for the station you wish to listen to. The station will automatically be tuned and the preset number as well as the station's frequency will also appear in the front-panel display **9**.

TUNER OPERATION

When the Radio menu is on the video display, you may also use the **◀/▶/▲/▼ Navigation Buttons 11** to move up and down the Station list in the center of the screen. When the desired station is highlighted, press the **Enter Button 26** to select it for listening.

RDS Information

RDS, which stands for Radio Data Service, is a special data signal broadcast by many FM stations to show the name of the station, or other data identification information that the station may choose. The RDS function is set to ON as a default, so that once a station is tuned, the RDS information will appear if it is available.

You may add a station's RDS information (if available) by pressing the **◀/▶/▲/▼ Navigation Buttons 11** so that the station's preset number in the center "Station" column of the Radio menu is highlighted and then pressing the **Status Button 12**. Within five seconds press the **Enter Button 26**, and if RDS information is available it will be entered into the HS 100's memory.

Important Note: When a station name does not appear, there is nothing wrong with your HS 100; that simply means that the particular station is not transmitting RDS data.

Surround Mode

As with all inputs on the HS 100, you may select a surround mode for radio listening. Note, however, that since the AM tuner is Mono only, no other surround modes are available for AM listening. To change the surround mode for FM listening, follow these steps:

1. With the **RADIO** menu on your video display, press the **◀/▶/▲/▼ Navigation Buttons 11** as needed so that the Info icon at the top of the list of items in the Submenus section of the screen **B** is highlighted by a white outline box.
2. Press the **Enter Button 26** and then press the **◀/▶/▲/▼ Navigation Buttons 11** so that the current surround mode to the right of the Audio line at the top of the menu screen is highlighted.
3. Press the **Enter Button 26**, and within five seconds press the **◀/▶ Navigation Buttons 11** so that the desired surround mode is highlighted.
4. Press the **Enter Button 26** to set that mode as the new default for FM listening.

TV MENU, AUX MENU, DIGITAL IN MENU

TV Menu

When the analog left/right audio outputs of a TV, set-top box, VCR, video game console or any other audio/video product are connected to the **TV Inputs 12** on the rear panel, you may listen to that source by selecting the TV input on your HS 100 by following one of these steps:

1. If the HS 100 is in the Standby mode, press the **TV Button 34** on the remote to turn on the unit and go directly to the TV input.
2. If the HS 100 is already on, press the **TV Button 34** on the remote to switch the input, or press the **Source Button 7** on the front panel until the tuner is the active input.

Since the HS 100 will only select the audio, always remember to select the corresponding video input on your display to view the video that corresponds to the audio.

The **TV** menu (viewable when your display is set to the input for the HS 100) enables you to make the configuration settings for the TV input.



Audio: This line lets you select the surround mode that is used when the TV input is selected. To change the default mode, follow these steps:

1. With the **TV** menu on your video display, press the **Navigation Buttons 11** as needed so that the current surround mode to the right of the Audio line at the top of the menu is highlighted.
2. Press the **Enter Button 26**, and within five seconds press the **Navigation Buttons 11** so that the desired surround mode is highlighted.
3. Press the **Enter Button 26** to set that mode as the new default for the TV input.

Level Adjustment: This line lets you increase or decrease the input level for the TV input to compensate for any variations that may be caused by the source device. In most cases you will not need to adjust this setting, but if the audio level when the TV input is selected appears lower or higher than other sources, follow these steps to make an adjustment:

1. With the **TV** menu on your video display, press the **Navigation Buttons 11** as needed so that the current Level Adjustment setting on the second line in the middle portion of the video display is highlighted.

2. Press the **Enter Button 26** and within five seconds press the **Navigation Buttons 11** so that the desired increase or decrease in the input level is highlighted in the **Options Description Line E** at the very bottom of the display screen.
3. Press the **Enter Button 26** to enter the new setting to the HS 100's memory.

AUX Menu

In addition to the built-in DVD/CD player, tuner and "TV" inputs, you may connect another analog audio input to the HS 100 through the **AUX Inputs 8** on the rear panel. To listen to that source, do one of the following:

1. If the HS 100 is in the Standby mode, press the **AUX Button 33** on the remote to turn on the unit and go directly to the TV input.
2. If the HS 100 is already on, press the **AUX Button 33** on the remote to switch the input, or press the **Source Button 7** on the front panel until the tuner is the active input.

The **AUX** menu allows you to make configuration settings for the **AUX Inputs 8**.



Audio: This line lets you select the surround mode that is used when the AUX input is selected. To change the default mode, follow these steps:

1. With the **TV** menu on your video display, press the **Navigation Buttons 11** as needed so that the current surround mode to the right of the Audio line at the top of the menu screen is highlighted.
2. Press the **Enter Button 26**, and within five seconds press the **Navigation Buttons 11** to highlight the desired surround mode.
3. Press the **Enter Button 26** to set that mode as the new default for the TV input.

Level Adjustment: This line lets you increase or decrease the input level for the Aux input to compensate for any variations that may be caused by the source device. In most cases you will not need to adjust this setting, but if the audio level when the Aux input is selected appears lower or higher than other sources, follow these steps to make an adjustment:

1. With the **AUX** menu on your video display, press the **Navigation Buttons 11** as needed so that the current Level Adjustment setting

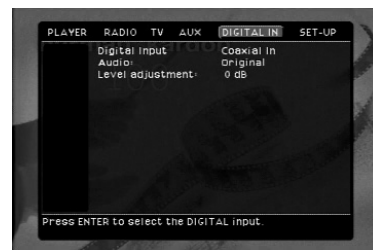
on the second line in the middle portion of the video display is highlighted.

2. Press the **Enter Button 26** and within five seconds press the **Navigation Buttons 11** so that the desired increase or decrease in the input level is highlighted in the **Options Description Line E** at the very bottom of the display screen.
3. Press the **Enter Button 26** to enter the new setting to the HS 100's memory.

Digital In Menu

In addition to all analog audio and video sources, the HS 100 also gives you the opportunity to connect two digital audio sources, for instance a digital set-top box or satellite receiver. Connect these sources to either the coaxial or optical digital input connectors on the rear panel.

1. Press the **On Button 1** or **Digital In Button 35** on the remote control to turn the DVD receiver on. Make sure that the Main Power Switch on the front panel is in the On position, shown by the blue LED surrounding the button. Also make sure that your video monitor connected to the HS 100 is switched on.
2. Press the **Digital In Button 35** on the remote control or **Source Button 5** on the front panel repeatedly to select one of the digital sources as the input. The TV monitor will show the **DIGITAL IN** menu, as shown below. You can also select the **DIGITAL IN** menu with the **Arrow Keys 10** on the remote control. Once the **DIGITAL IN** tab is highlighted, press **Enter Button 7** to access it.



Digital Input: This line selects which of the two digital sources will be used when the Digital Input is selected. You may go to this menu at any time to switch between the two digital sources.

1. With the **DIGITAL IN** menu on your video display, press the **Navigation Buttons 11** as needed so that the current selection to the right of the Digital Input line at the top of the menu screen is highlighted.
2. Press the **Enter Button 26**, and within five seconds press the **Navigation Buttons 11** so that the desired input mode is highlighted.

TV MENU, AUX MENU, DIGITAL IN MENU

3. Press the **Enter Button** **26** to make that input the new default when the digital input is selected.

Audio: This line lets you select the surround mode that is used when the Digital Input is selected. To change the default mode, follow these steps:

1. With the **DIGITAL IN** menu on your video display, press the **◀/▶/▲/▼ Navigation Buttons** **11** as needed so that the current surround mode to the right of the Audio line at the top of the menu screen is highlighted.
2. Press the **Enter Button** **26**, and within five seconds press the **◀/▶ Navigation Buttons** **11** so that the desired surround mode is highlighted. Note that "Original" will pass through the digital mode that is output from the source device without any change by the HS 100. In addition, the HS 100 always selects Dolby Digital or DTS when either of those two types of digital audio data is detected.
3. Press the **Enter Button** **26** to set that mode as the new default when the Digital input is selected.

Level Adjustment: This line lets you increase or decrease the input level for the Digital input to compensate for any variations that may be caused by the source device. In most cases you will not need to adjust this setting, but if the audio level when the Digital input is selected appears lower or higher than other sources, follow these steps to make an adjustment:

1. With the **DIGITAL IN** menu on your video display, press the **◀/▶/▲/▼ Navigation Buttons** **11** as needed so that the current Level Adjustment setting on the second line in the middle portion of the video display is highlighted.
2. Press the **Enter Button** **26** and within five seconds press the **◀/▶ Navigation Buttons** **11** so that the desired increase or decrease in the input level is highlighted in the **Options Descriptions Line** **E** at the very bottom of the display screen.
3. Press the **Enter Button** **26** to enter the new setting to the HS 100's memory.

Surround Modes

The HS 100 will always select Dolby Digital or DTS when either of those two digital formats is detected with the playback of a DVD using the HS 100's player, or when the Digital Input is selected. However, when the analog inputs are in use (except the AM section of the tuner), or when a Dolby Digital 2.0 source is in use, you have a choice of surround modes. Following the instructions above with each input, the following surround modes may be available:

Dolby Digital: Available only when digital sources encoded with a Dolby Digital data stream are in use, Dolby Digital delivers up to five separate main audio channels along with a dedicated low-frequency effects channel.

DTS: Available only when digital sources encoded with a DTS data stream are in use, DTS delivers up to five separate main audio channels along with a dedicated low-frequency effects channel.

Dolby Pro Logic II Movie: Shown in the **Options Descriptions Line** **E** as "**Dolby PLII Movie**", this mode creates or decodes full-range, discrete left, center, right, right surround and left surround channels from both matrix-encoded and conventional two-channel stereo sources. It is optimized for movie soundtracks.

Dolby Pro Logic II Music: Shown in the **Options Descriptions Line** **E** as "**Dolby PLII Music**", this mode creates or decodes full-range, discrete left, center, right, right surround and left surround channels from both matrix-encoded and conventional two-channel stereo sources. It is optimized for music playback.

Dolby Pro Logic: Shown in the **Options Descriptions Line** **E** as "**Dolby PL Emulated**", this mode activates the original Dolby Pro Logic decoding for those who prefer that presentation.

Stereo: Select the Stereo mode in the **Options Descriptions Line** **E** for traditional two-channel playback with no multichannel surround processing.

DVD LANGUAGE CODES

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

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

TROUBLESHOOTING

If you experience any of the following difficulties while using the system, use this troubleshooting guide to help you remedy the problem. Should any problem persist, consult your authorized Harman Kardon dealer.

No power.

- Is the power cord firmly plugged into the power outlet?
- The system's processor may require a reset. In this event, unplug the player from the power outlet briefly and then plug it in again.

No picture.

- Check that the system is connected correctly and securely.
- The video cable may be damaged. Replace it with a new one.
- Make sure the system is connected to a video input on the TV (see page 12).
- Make sure the TV is turned on.
- Make sure the correct video input on the TV is selected for viewing with this system.

There is no sound, or volume is very low.

- Check that the speakers and components are connected correctly and securely.
- Make sure that you have selected the correct source on the system.
- Press **MUTE** on the remote control, if the words "MUTE ON" are blinking on the front-panel display.
- The protective circuitry has been activated because of a short circuit. Turn off the system, eliminate the short circuit problem and turn on the power again.
- An audio interconnect cable is damaged. Replace it with a new one.
- The system is in pause mode or in slow-motion play mode, or fast forward or fast reverse. Press ► to return to normal play mode.
- Check the speaker settings (see page 16).

The audio channels are reversed.

- Check that the speakers and components are connected correctly and securely.

Severe hum or noise is heard.

- Check that the speakers and components are connected securely.
- Check that the connecting cords are away from a transformer or motor or fluorescent light.
- The audio plugs are dirty. Wipe them with a cloth slightly moistened with alcohol.
- Clean the disc.

The surround effect is difficult to hear when you are playing a Dolby Digital soundtrack.

- Check to see whether the Dolby Digital mode is turned on properly; otherwise, unload and load the disc again.
- Check the speaker connections.
- Depending on the DVD disc, the output signal may at times be mono or stereo even if the soundtrack is recorded in Dolby Digital format.

The sound comes from the center speaker only.

- Depending on the disc, sound may sometimes come from the center speaker only. This also applies to mono recordings (from disc or any analog source), when Pro Logic mode is selected. This is normal.

No sound is heard from the center speaker.

- Adjust center speaker volume (see pages 16).

No sound or only very low volume from the rear speakers.

- Adjust the rear speaker volume (see page 16).

Radio stations cannot be tuned in.

- Check that the antenna is connected correctly. Adjust the antenna and connect an external antenna if necessary.
- No stations have been preset.
- The tuner mode is not selected, select the Radio mode.

The remote does not function.

- Remove any obstacles between the remote control and the system.
- Move the remote control closer to the system.
- Point the remote control at the remote sensor on the front panel.
- Replace all the batteries in the remote control with new ones if they are weak.
- Check that the batteries are loaded correctly.

The disc does not play.

- There is no disc inside. ("NO DISC" appears on the front-panel display and the TV screen.) Insert a disc.
- Insert the disc correctly with the playback side facing down on the disc tray.
- Clean the disc.
- The system cannot play certain disc types (see page 3).
- DVD with wrong region code (see page 11).

Playback stops automatically.

- Some discs include an auto pause signal. When playing such a disc, the system stops playback at the signal.

Track Skip or Direct Select with numeric buttons, Search, Slow-Motion Play, Repeat Play or Program Play, etc., cannot be done.

- Depending on the DVD, some of the above operations may not be available (playback control with DVD).

The audio language cannot be changed when you play a DVD.

- Multilingual sound is not recorded on the DVD.
- Changing the language for the sound is prohibited on the DVD.

The subtitle language cannot be changed when you play a DVD.

- Multilingual subtitles are not recorded on the DVD.
- Changing the language for the subtitles is prohibited on the DVD.

The subtitles cannot be turned off when you play a DVD.

- Depending on the DVD, you may not be able to turn the subtitles off.

The angles cannot be changed when you play a DVD.

- Multi-angles are not recorded on most DVDs.
- Change the angles when the angle mark appears on the TV screen.
- Changing the angles is prohibited on some DVDs.

Please also refer to the Troubleshooting guide contained in the HKTS 7 owner's manual if you suspect a problem with the speakers.

HS 100 SPECIFICATIONS

DVD Player

Pickup:	Semiconductor laser, wavelength 650nm
Video signal system:	NTSC
Video signal horizontal resolution:	> 480 lines (DVD)
Video signal-to-noise ratio:	> 60dB (DVD)
Audio frequency response: (Stereo)	DVD (PCM): 20Hz – 22kHz (± 1 dB) CD (PCM): 20Hz – 20kHz (± 1 dB)
Audio signal-to-noise ratio:	> 80dB (PCM)
Total harmonic distortion:	< 0.01% (PCM)
Dynamic range:	DVD (PCM): > 85dB (EIAJ, 2kHz) CD: > 85dB (EIAJ)

FM Tuner

System:	PLL quartz-locked digital synthesizer system
Tuning range:	87.50 – 108.00MHz
Antenna terminals:	75 Ohms, unbalanced
Intermediate frequency:	10.7MHz

AM Tuner Section

Frequency range:	520 – 1720kHz
Signal-to-noise ratio:	45dB
Usable sensitivity:	Loop 500 μ V
Distortion:	1kHz, 50% Mod 0.8%
Selectivity:	± 10 kHz, 30dB

Video Outputs

Component video output:	Y: 1 Vp-p/75 ohms, sync negative polarity Pr: 0.7 Vp-p/75 ohms Pb: 0.7 Vp-p/75 ohms
Composite video output:	1 Vp-p/75 ohms
S-video output:	Y: 1 Vp-p/75 ohms C: NTSC 0.286 Vp-p/75 ohms

Audio Section

Amplifier power:	35 watts per channel, 20Hz – 20kHz, < 0.5% THD into 6 ohms
Line output:	1 Vrms, 1 kilohm

General

Power requirements:	AC 120V, 50Hz
Power consumption:	3W Standby, 380W Maximum
Dimensions (HxWxD):	2-11/16" x 17-15/16" x 2-3/16"
Weight:	10.6 lb

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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Supplied Accessories

The following accessory items are supplied with the HS 100 controller. If any of these items are missing, please contact Harman Kardon customer service at www.harmankardon.com.

- A system remote control
- An AM loop antenna
- An FM wire antenna
- Three AAA batteries
- AC power cord

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