harman/kardon®

AVR 3550HD

AUDIO/VIDEO RECEIVER
OWNER'S MANUAL

SAFETY INFORMATION

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. The A/V receiver's cabinet may be cleaned by gently wiping with a soft cotton or microfiber cloth. Do not use water or any liquid cleaners.
7. Do not block any of the ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles and the point where they exit from the apparatus.
11. Only use the attachments/accessories specified by the manufacturer.
12. Use only with a cart, stand, tripod, bracket or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Wet Location Marking

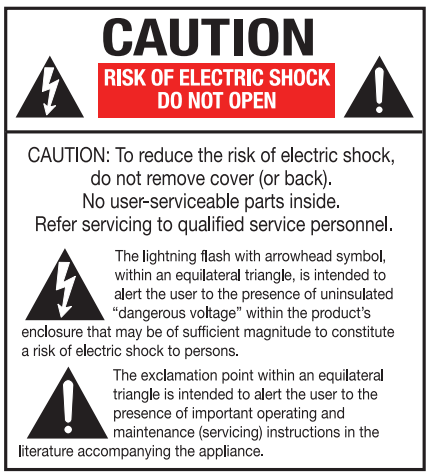
Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

Service Instructions

CAUTION – These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions, unless you are qualified to do so.

Outdoor Use Marking

WARNING – To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.



Important Safety Information

Verify Line Voltage Before Use

Your AVR 3550HD has been designed for use with 120-volt AC current. 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

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

Handle the AC Power Cord Gently

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

Do Not Open the Cabinet

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

CATV or Antenna Grounding

If an outside antenna or cable system is connected to this product, be certain that it is grounded so as to provide some protection against voltage surges and static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes and requirements of the grounding electrode.

NOTE TO CATV SYSTEM INSTALLER: This reminder is provided to call the CATV (cable TV) system installer's attention to article 820-40 of the NEC, which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as possible.

Installation Location

- To ensure proper operation and to avoid the potential for safety hazards, place the unit on a firm and level surface. When placing the unit on a shelf, be certain that the shelf and any mounting hardware can support the weight of the product.
- Make certain that proper space is provided both above and below the unit for ventilation. If this product will be installed in a cabinet or other enclosed area, make certain that there is sufficient air movement within the cabinet. Under some circumstances, a fan may be required.
- Do not place the unit directly on a carpeted surface.
- Avoid installation in extremely hot or cold locations, or in an area that is exposed to direct sunlight or heating equipment.
- Avoid moist or humid locations.
- Do not obstruct the ventilation slots on the top of the unit, or place objects directly over them.
- Due to the weight of the AVR 3550HD and the heat generated by the amplifiers, there is the remote possibility that the rubber padding on the bottom of the unit's feet may leave marks on certain wood or veneer materials. Use caution when placing the unit on soft woods or other materials that may be damaged by heat or heavy objects. Some surface finishes may be particularly sensitive to absorbing such marks, due to a variety of factors beyond our control, including the nature of the finish, cleaning materials used, and normal heat and vibration caused by the use of the product, or other factors. We recommend that caution be exercised in choosing an installation location for the component and in normal maintenance practices, as your warranty will not cover this type of damage to furniture.

Cleaning

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

Moving the Unit

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

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.

Unpacking

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

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

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

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

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WARNING

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

For Canadian model

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

Modèle pour les Canadien

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

Please register your AVR 3550HD at www.harmankardon.com.

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

WWW.HARMANKARDON.COM

Thank you for choosing a Harman Kardon® product!

For more than fifty years, the Harman Kardon® mission has been to share a passion for music and entertainment, using leading-edge technology to achieve premium performance. To this end, Harman Kardon, Inc., invented the receiver, a single component designed to simplify home entertainment while maintaining the highest level of quality. Over the years, Harman Kardon products have become easier to use, and have delivered superior value. The AVR 3550HD multizone 7.1-channel digital audio/video receiver carries this tradition forward, with some of the most advanced Harman Kardon video processing capabilities yet, and a wealth of listening and viewing options.

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

If you have any questions about this product, its installation or its operation, please contact your Harman Kardon retailer or custom installer, or visit the Web site at www.harmankardon.com.

Harman Kardon AVR 3550HD 7.1-Channel Audio/Video Receiver

Audio Section

- 75 Watts x 7, seven channels driven at full power at 8 ohms, 20Hz – 20kHz, <0.07% THD, 525 watts total
- High-current capability, ultrawide-bandwidth amplifier design with low negative feedback
- All-discrete amplifier circuitry
- Quadruple-crossover bass management
- 24-Bit, twin-core Cirrus Logic® CS 49700 DSP processor
- 192kHz/24-bit D/A conversion
- Sampling upconversion to 96kHz

Surround Modes

- Dolby® Digital EX, Dolby Digital Plus, Dolby TrueHD
- Dolby Pro Logic® II and IIx (Movie, Music and Game), up to 96kHz
- Dolby Virtual Speaker Version 2 (Reference or Wide, two-channel)
- Dolby Headphone Version 2, up to 96kHz
- DTS-HD™ High Resolution Audio, DTS-HD Master Audio™
- DTS® (5.1; DTS Stereo; DTS-ES® 6.1 Discrete and Matrix)
- DTS 96/24™ (DTS Stereo)
- DTS Neo:6® (Cinema 5- or 6-channel; Music 5- or 6-channel), up to 96kHz
- Logic 7® (Movie, Music and Game – 5.1 and 7.1), up to 96kHz
- 5- or 7-Channel Stereo, up to 96kHz
- Surround Off (DSP or Analog Bypass)

INTRODUCTION

Audio Inputs

- AM/FM/XM®* tuner
- Analog Audio 1 through 5 (assignable)
- Front-panel Analog Audio (assignable)
- 6-/8-Channel Analog Audio (assignable)

Audio/Video Inputs

- Three Analog Video (assignable)
- Front-panel Analog Video (assignable)
- Three Component Video 100MHz (assignable)
- Three HDMI™ (V.1.3 with Deep Color and audio/video processing)
- Faroudja DCDi Cinema™ video processing
  - Transcodes composite and S-video to component video
  - Transcodes 480i video to component video format, with upscaling to 1080i
  - Transcodes 480i video to HDMI output, with upscaling up to 1080p
- The Bridge II for iPod** connectivity with audio/video playback

Digital Audio Inputs

- Coaxial: two rear-panel/one front-panel
- Optical: three rear-panel/one front-panel

Outputs

- 7.1-Channel preamp outputs
- Analog Audio 2 and 4
- Analog Video 2
- Video monitor (composite, S-video and component)
- Digital audio (one coaxial)
- HDMI (V.1.3a with Deep Color)
- Multizone audio: speaker- and two line-level (one dedicated, one shared with surround back channels)
- A-BUS® Port
- Headphone

Ease of Use

- EzSet/EQ™ automated setup (microphone supplied)
- Full-color user interface and setup menu, generated in high-definition video
- Two-line dot-matrix front-panel display
- Color-coded connections
- Programmable, learning 7-device main remote control (includes AVR control over The Bridge II)
- Source input renaming
- Lip Sync Delay (up to 180msec)
- RS-232 serial port for system upgrades
- Switched accessory power outlet
- Remote infrared (IR) input and output
- Zone 2 IR input, Carrier IR Output and A-BUS IR Output
- IEC detachable AC power cord for easy installation

Supplied Accessories

The following accessory items are supplied with the AVR 3550HD. If any of these items are missing, please contact Harman Kardon customer service at www.harmankardon.com.

- System and Zone 2 remote controls
- EzSet/EQ microphone
- The Bridge II docking station for iPod

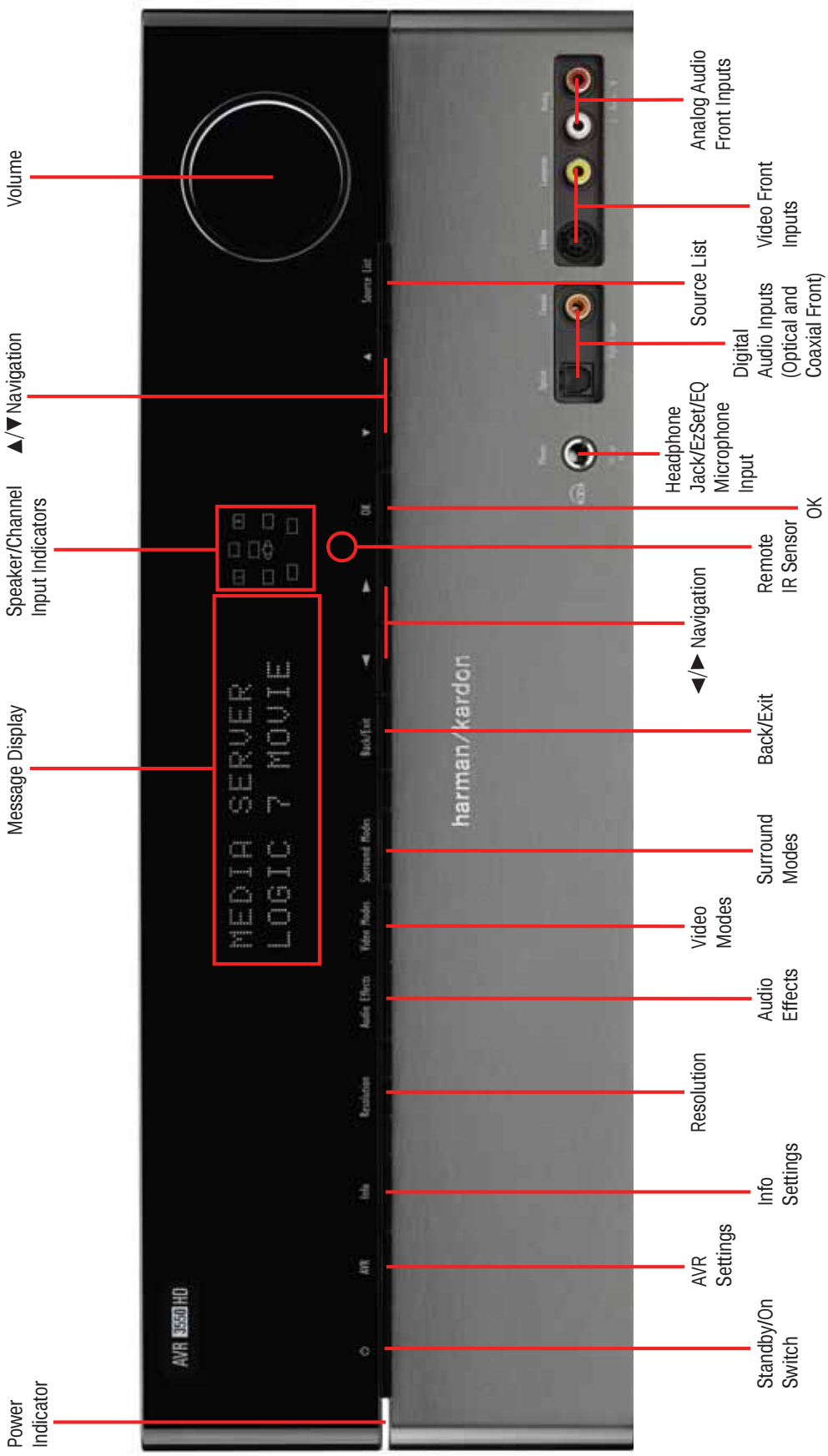
Made for iPod

- AM loop antenna
- FM wire antenna
- Six AAA batteries
- Two covers for front-panel jacks
- AC power cord

* XM antenna module and subscription to XM service required. Hardware and service sold separately. XM service is not available in Alaska or Hawaii.

** Compatible with most docking iPod models, 4G and later. Video and still-image viewing requires an iPod that supports video browsing.

FRONT-PANEL CONTROLS



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

FRONT-PANEL CONTROLS

Standby/On Switch: This electrical switch turns the receiver on, or places it in Standby mode for quick turn-on.

Power Indicator: This LED has three possible modes:

- Main Power Off: When the AVR is unplugged or the rear-panel Main Power Switch is off, this LED is off.
- Standby: Amber indicates that the AVR is ready to be turned on.
- On: When the AVR is turned on, this LED turns white.

NOTE: If the PROTECT message ever appears, turn off the AVR and unplug it. Check all speaker wires for a possible short. If none is found, bring the unit to an authorized Harman Kardon service center for inspection and repair before using it again.

Source List: Press this button to select a source device, which is a component where a playback signal originates, e.g., DVD.

Volume Knob: Turn this knob to raise or lower the volume.

Message Display: Various messages appear in this two-line display in response to commands and changes in the incoming signal. In normal operation, the current source name appears on the upper line, while the surround mode is displayed on the lower line. When the on-screen display menu system (OSD) is in use, the current menu settings appear.

Headphone Jack/EzSet/EQ Microphone Input: Plug a 1/4" headphone plug into this jack for private listening.

This jack is also used to connect the supplied microphone for the EzSet/EQ procedure described in the Initial Setup section.

Surround Modes: Press this button to select a surround sound (e.g., multichannel) mode. The Surround Modes menu will appear on screen, and the menu line will appear in the front-panel display.

See the Advanced Functions section for more information on surround modes.

Analog Audio, Video and Digital Audio Front Inputs: Connect a source component that will only be used temporarily, such as a digital camera or game console, to these jacks. Use only one type of audio and one type of video connection.

NOTE: The AVR's menus refer to these jacks as the Optical Front, Coaxial Front, Composite Front, S-Video Front and Analog Front inputs.

Speaker/Channel Input Indicators: The box icons indicate which speaker positions you have configured (see the Initial Setup Section), and the size (frequency range) of each speaker. The letters will light inside the boxes to indicate which channels are present in the incoming signal.

Navigation: These buttons are used to navigate the AVR's menus and to operate the tuner.

Remote IR Sensor: This sensor receives infrared (IR) commands from the remote control. It is important to ensure that it is not blocked. If covering the sensor is unavoidable, use an optional Harman Kardon HE 1000, or other infrared receiver, connecting it to the Remote IR Input on the AVR 3550HD's rear panel.

AVR Settings Button: Press this button to access the AVR's main menu.

Info Settings Button: Press this button to directly access the AVR's Source Info submenu, which contains the settings for the current source.

Resolution: Each press of this button changes the AVR's video output resolution to these settings: 480i, 480p, 720p, 1080i or 1080p.

IMPORTANT NOTE: If the AVR's video output resolution is set higher than the capabilities of the actual connection, you will not see a picture. If the best video connection from the AVR to the TV is either composite or S-video, press this button until the resolution is set to 480i.

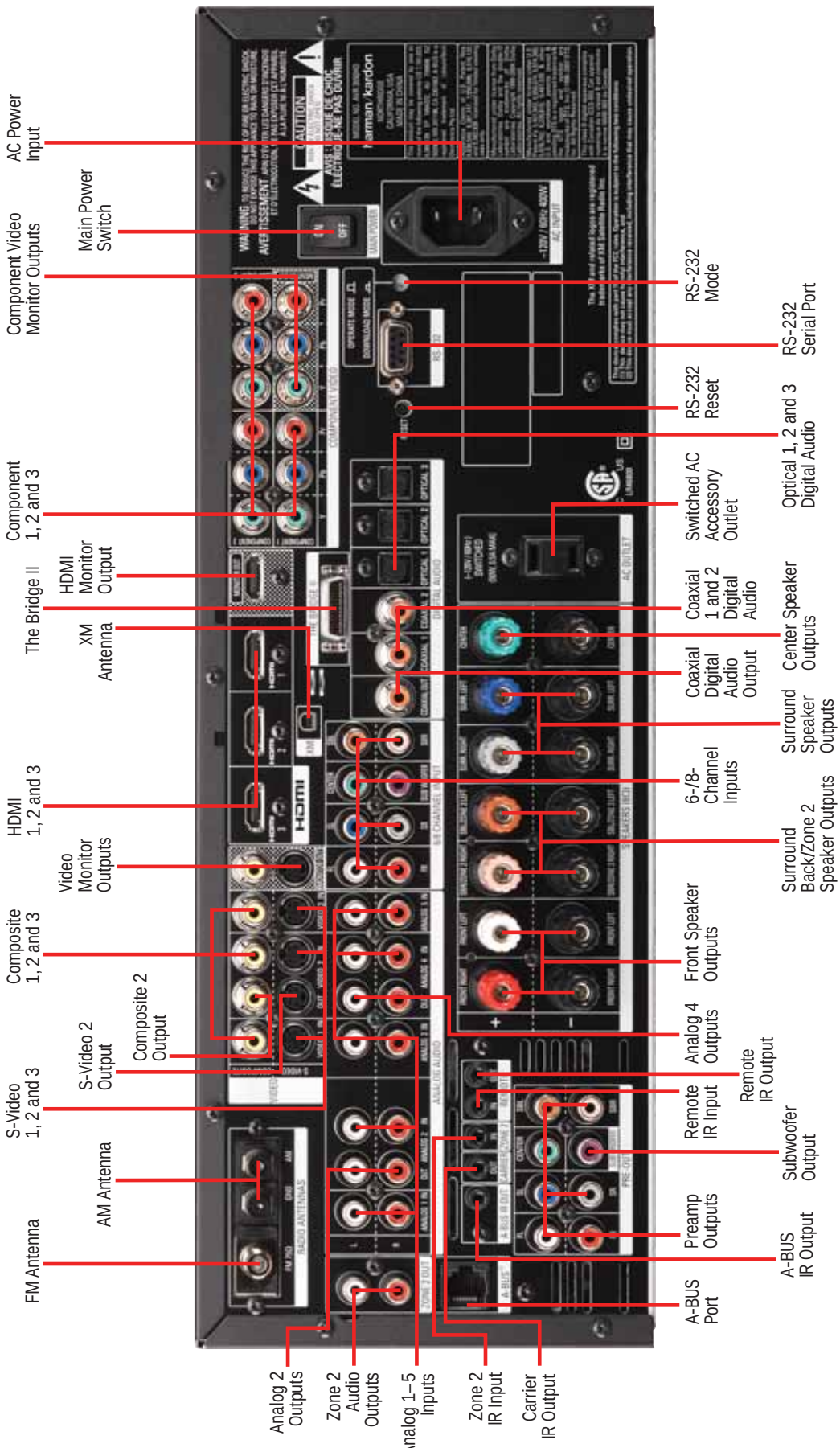
Audio Effects: Press this button to directly access the Audio Effects submenu, which allows adjustment of the tone and other controls. See the Initial Setup section for more information.

Video Modes: Press this button for direct access to the Video Modes submenu, which contains settings that may be used to improve the picture if necessary after you have adjusted the picture settings using the video display or TV.

OK: Press this button to select the currently highlighted item.

Back/Exit: Press this button to return to the previous menu, or to exit the menu system.

REAR-PANEL CONNECTIONS



NOTE: To make it easier to follow the instructions throughout the manual that refer to this illustration, a copy of this page may be downloaded from the Product Support section at www.harmankardon.com. All connectors are inputs except as indicated.

REAR-PANEL CONNECTIONS

Main Power Switch: This mechanical switch turns the power supply on or off. It is usually left on, and cannot be turned on using the remote control.

AM and FM Antenna Terminals: Connect the included AM and FM antennas to their respective terminals for radio reception.

XM Antenna Jack: Plug in an XM Connect-and-Play or Mini-Tuner antenna module here.

Front, Center and Surround Speaker Outputs: Use two-conductor speaker wire to connect each set of terminals to the correct speaker. Remember to observe the correct polarity (positive and negative connections).

Surround Back/Zone 2 Speaker Outputs: These speaker outputs are used for the surround back channels in a 7.1-channel home theater, or may be reassigned to a remote room for multizone operation.

Subwoofer Output: If you have a powered subwoofer with a line-level input, connect it to this jack.

Preamp Outputs: Connect these jacks to an external amplifier if more power is desired. The Surround Back/Zone 2 Preamp Outputs may be used with an external amplifier to power the remote zone of a multizone system.

Remote Infrared (IR) Input and Output: When the remote IR receiver on the front panel is blocked, connect an optional IR receiver to the Remote IR Input jack. The Remote IR Output may be connected to the Remote IR Input of a compatible product to enable remote control through the AVR.

Zone 2 Infrared (IR) Input: Connect a remote IR receiver located in the remote zone of a multizone system to this jack to control the AVR (and any source devices connected to the Remote IR Output) from the remote zone.

Remote IR Carrier Output: This output is similar in function to the Remote IR Output, with the difference that this jack outputs the full infrared signal as received by the AVR's IR sensor or the Remote IR Input, while the Remote IR Output jack outputs a "stripped" signal that has no carrier frequency.

A-BUS IR Output: This is an additional IR output that may only be controlled through the A-BUS system. Use it as a dedicated connection to sources used only with the A-BUS system.

A-BUS Port: Use a Category 5/5e cable to connect this port to optional A-BUS equipment for multizone operation. When the A-BUS system is used, it is possible to have a full 7.1-channel system in the main listening room at the same time the multizone system is in use.

Composite and S-Video 1, 2 and 3 Video Inputs: Use these jacks to connect your video-capable source components (e.g., VCR, DVD player, cable TV box) to the receiver. Use only one type of video connection for each source.

Composite and S-Video 2 Outputs: Connect one of these analog video outputs to the composite or S-video inputs of a recording device. A signal is available at these outputs whenever an analog video source is playing.

Composite and S-Video Monitor Outputs: If any of your sources use composite or S-video connections, connect one or both of these monitor outputs to the corresponding inputs on your video display. If your video display is equipped with HDMI or component video inputs, these connections are unnecessary, as the AVR 3550HD will convert the composite or S-video source signal to the correct format for a single video cable connection to the TV.

HDMI Inputs and Output: HDMI (High-Definition Multimedia Interface) is a connection for transmitting digital audio and video signals between devices. Connect up to three HDMI-equipped source devices to the HDMI inputs using a single-cable connection.

When you connect the HDMI Output to your video display, the AVR 3550HD will automatically transcode analog video signals to the HDMI format, upscaling to as high as 1080p.

Analog 1–5: Connect the left and right analog audio outputs of a source device to any of these inputs. These inputs may be paired with any video inputs.

NOTES:

- The Analog 3 through 5 connectors physically line up below the Video 1 through 3 connectors. For convenience, consider using Analog 3 with Video 1, Analog 4 with Video 2 and Analog 5 with Video 3.
- The Analog 1 and 2 connectors don't physically line up with any analog video inputs. Consider using them for audio-only devices, such as a CD player or cassette tape deck.
- The Analog 2 and 4 inputs are each associated with a set of outputs. Consider using the Analog 2 connectors for an audio recorder, and the Analog 4 connectors for a video recorder (along with the Video 2 connectors).
- You may optionally connect a source to both an analog and digital audio input. This is useful for making recordings, for multizone applications or simply as a backup.

Analog 2 and 4 Outputs: Connect either of these analog audio outputs to the analog audio inputs of a recording device. A signal is available at these outputs whenever an analog audio source is playing.

Coaxial 1/2 and Optical 1/2/3 Digital Audio Inputs: If a source has a compatible digital audio output, and if you are not using an HDMI connection for audio for the device, connect it to one of these jacks to hear digital audio formats, such as Dolby Digital, DTS and linear PCM. Use only one type of digital audio connection for each source.

Coaxial Digital Audio Output: If a source is also an audio recorder, connect the Coaxial Digital Audio Output to the recorder's input for improved recording quality. Only PCM digital audio signals (coaxial and optical) are available for recording.

The Bridge II Input: Connect the included Harman Kardon The Bridge II docking station to this input for use with most docking iPod models, 4G and later (not included). Turn the receiver off (Standby mode) when connecting The Bridge II.

6-/8-Channel Inputs: Connect the multichannel analog audio outputs of a non-HDMI player (DVD-Audio, SACD™, Blu-ray Disc™ or HD-DVD, or any other external decoder) to these jacks.

Zone 2 Audio Outputs: Connect these jacks to an external amplifier to power the speakers in the remote zone of a multizone system.

Component Video 1, 2 and 3 Inputs: If a video source has analog component video (Y/Pb/Pr) capability, and if you are not using an HDMI connection, connect the component video outputs of the source to one of the sets of component video inputs. Do not make any other video connections to that source.

Component Video Monitor Outputs: If you are using one of the Component Video Inputs and your television or video display is component-video-capable (but does not have HDMI), connect these jacks to the video display.

NOTES:

- Due to copy-protection restrictions, there is no output at the Component Video Monitor Outputs for copy-protected sources.
- Composite and S-video signals are upscaled to as high as 1080i and available at these outputs. If your video display's best connection is component video, it is the only video connection required from the AVR to the display.

RS-232 Serial Port: This specialized connector may be used with your personal computer in case we offer a software upgrade for the receiver in the future.

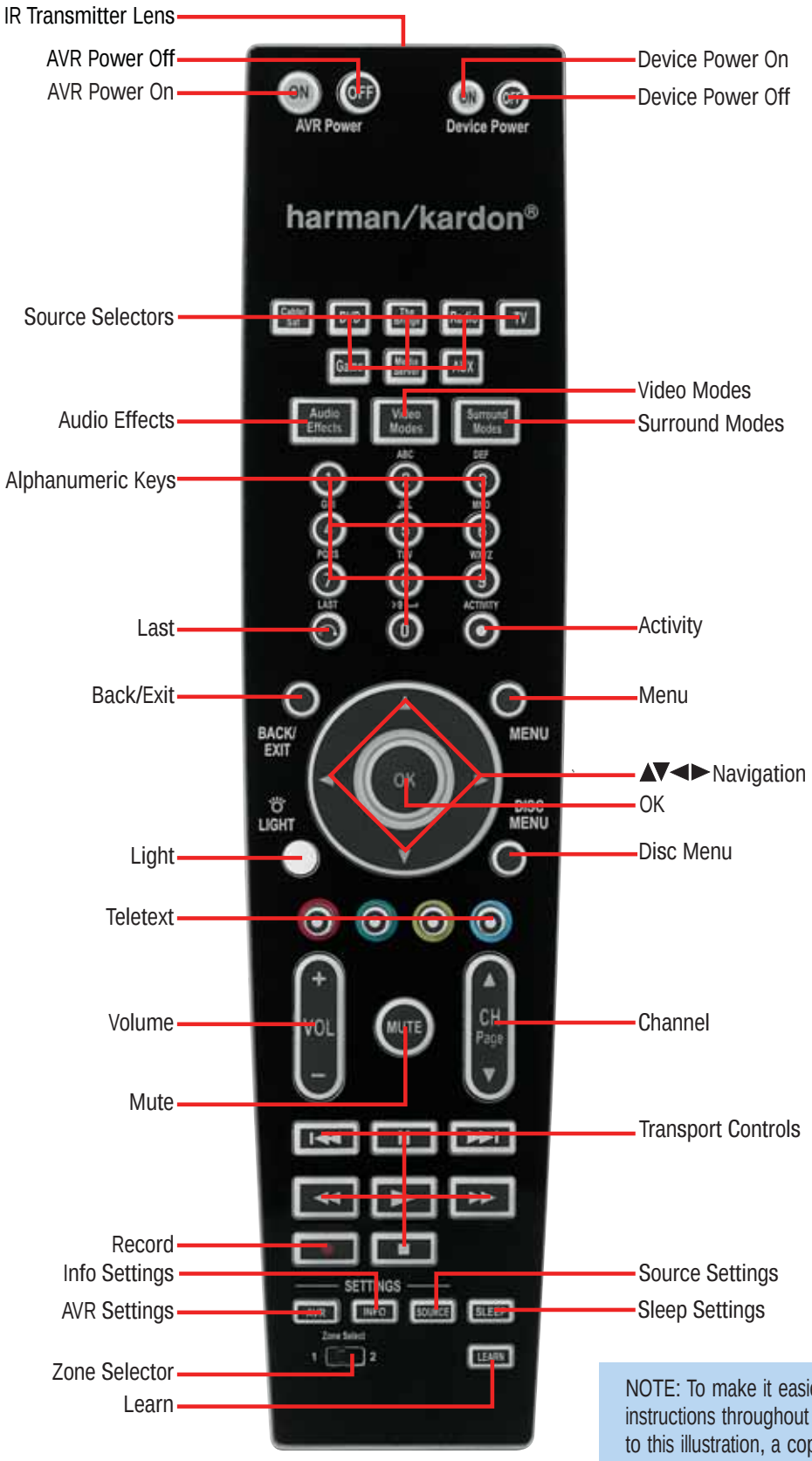
RS-232 Mode: Leave this switch popped out in the Operate position unless the AVR 3550HD is being upgraded.

RS-232 Reset: This switch is only used during a software upgrade.

Switched AC Accessory Outlet: You may plug the AC power cord of one source device into this outlet, and it will turn on whenever you turn on the receiver. Do not use a source that consumes more than 50 watts of power.

AC Power Input: After you have made all other connections, plug the AC power cord into this receptacle and into an unswitched wall outlet.

MAIN REMOTE CONTROL FUNCTIONS



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MAIN REMOTE CONTROL FUNCTIONS

The AVR 3550HD remote is capable of controlling 8 devices, including the AVR itself and an iPod docked in the included The Bridge II. During the installation process, you may program the codes for each of your source components into the remote. To operate a component, press its Selector button to change the device mode.

Each Source Selector has been preprogrammed to control certain types of components, with only the codes specific to each brand and model changing, depending on which product code is programmed. The AUX and CBL/SAT Source Selectors may be used for multiple device types, depending on the first digit of the product code. Other Source Selectors may be reassigned to other device types (see Initial Setup section).

AUX Source Selctor: CD player product codes begin with 0, 1 or 2. VCR codes begin with 3 or 4. HDTV set-top box codes begin with 6, PVD codes begin with 7 and TiVo® set-top box codes begin with 8.

CBL/SAT Source Selector: Cable set-top box codes begin with 0, 1 or 2, and satellite set-top box codes begin with 3 or 4.

IMPORTANT NOTE: All of the AVR 3550HD's audio and video inputs are independently assignable. Select the inputs to which the device is physically connected during Initial setup. Any device may be connected to any compatible input and given any name (e.g., DVD or Game).

Most of the buttons on the remote have dedicated functions, although the precise codes transmitted vary depending on the device mode. Due to the wide variety of functions for various source devices, we have included only a few of the most-often used functions on the remote: alphanumeric keys, transport controls, television-channel control, menu access and power on and off.

Buttons dedicated to the AVR are available at any time, even in another device mode: AVR Power On and Off, Audio Effects, Video Modes, Surround Modes, Volume, Mute and Sleep Settings. Press the AVR Settings button near the bottom of the remote to return it to AVR mode.

A button's function depends on which component is being controlled. See Table A13 in the appendix for listings of the functions for each type of component.

IR Transmitter Lens: As buttons are pressed on the remote, infrared codes are emitted through this lens.

AVR Power On Button: Press to turn on the AVR. The Master Power Switch on the rear panel must be on.

Device Power Off Button: Press a device's Source Selector, then press this button to turn off the device.

Device Power On Button: Press a device's Source Selector, then press this button to turn on the device.

Mute Button: Press to mute the AVR 3550HD's speaker and headphone outputs. To end the muting, press this button, adjust the volume, or turn off the receiver.

AVR Power Off Button: Press to turn off the AVR 3550HD.

Source Selectors: Press one of these buttons to select a source device, e.g., DVD, CD, cable TV, satellite or HDTV tuner. This will also turn on the receiver and switch the remote's device mode to operate the source. The first press of the Radio Selector switches the AVR to the last-used tuner band (AM, FM or XM). Each successive press changes the band.

Audio Effects: Press to directly access the Audio Effects submenu, which allows adjustment of the AVR's tone and other controls. Each additional press scrolls to the next line in the menu. See the Initial Setup section for more information.

Video Modes: Press for direct access to the Video Modes submenu, which contains picture settings to be used after you have adjusted the picture settings on the video display or TV. Each successive press scrolls to the next line in the menu. See the Advanced Functions section for more information.

Surround Modes: Press to directly access the Surround Modes submenu. Each successive press scrolls to the next line in the menu: Auto Select, Virtual Surround, Stereo, Movie, Music or Video Game. The menu lines indicate types of audio input signals.

Press the OK Button when the menu line is highlighted and select one of the available surround mode options, using the ▲/▼ Buttons. Press the OK Button, then press the Back/Exit Button to exit the Surround Modes menu and display the next higher menu in the hierarchy.

See the Advanced Functions section for more information on surround modes.

Sleep Settings Button: Press to activate the sleep timer, which turns off the receiver after a programmed period of time of up to 90 minutes. Each press increases the timer by 10 minutes, ending with the "Sleep Off" message.

Volume Control: Press to raise or lower the volume.

Navigation (▲/▼/◀/▶) and OK Buttons: These buttons are used to make selections within the menu system and to operate the tuner.

Alphanumeric Keys: Use these buttons to enter numbers for radio station frequencies or to select station presets.

Last Channel: When controlling a cable, satellite or HDTV set-top box or a TV, press this button to return to the previous television channel.

Activity: With this button, up to eleven Activities may be programmed to transmit a series of commands with a single press. Execute an Activity by pressing this button, then the Alphanumeric Key (or the AVR Power On Button) into which it was programmed. See the Advanced Functions section for more information on Activities.

Back/Exit: Press to return to the previous menu or to exit the menu system.

Menu Button: This button is used to display the main menu on some source devices. To display the AVR 3550HD's main menu, press the AVR Settings Button.

MAIN REMOTE CONTROL FUNCTIONS

Disc Menu: While a DVD is playing, press the DVD Source Selector, then this button, to display the disc's menu.

Teletext Buttons: These buttons are used with some source devices. See Table A13 in the appendix for details. They are also used with a Teletext-capable television if your broadcast, cable or satellite provider offers Teletext service.

Channel/Page Control: When the tuner has been selected, this control selects a preset radio station. While operating a cable, satellite or HDTV set-top box or a television, press these buttons to change channels.

Record Button: Use this button to make recordings when an audio or video recorder is in use.

AVR Settings Button: Press to display the AVR's Main Menu, or to switch the remote to AVR device mode.

Info Settings Button: Press to display the AVR's Info Menu, which contains the settings for the current source.

Source Settings Button: Press a Source Selector and then this button to display a source device's settings menu.

Zone Selector: Use this switch to select whether AVR commands will affect the main listening area (Zone 1) or the remote zone of a multizone system (Zone 2). For normal operation, leave the switch in the Zone 1 position.

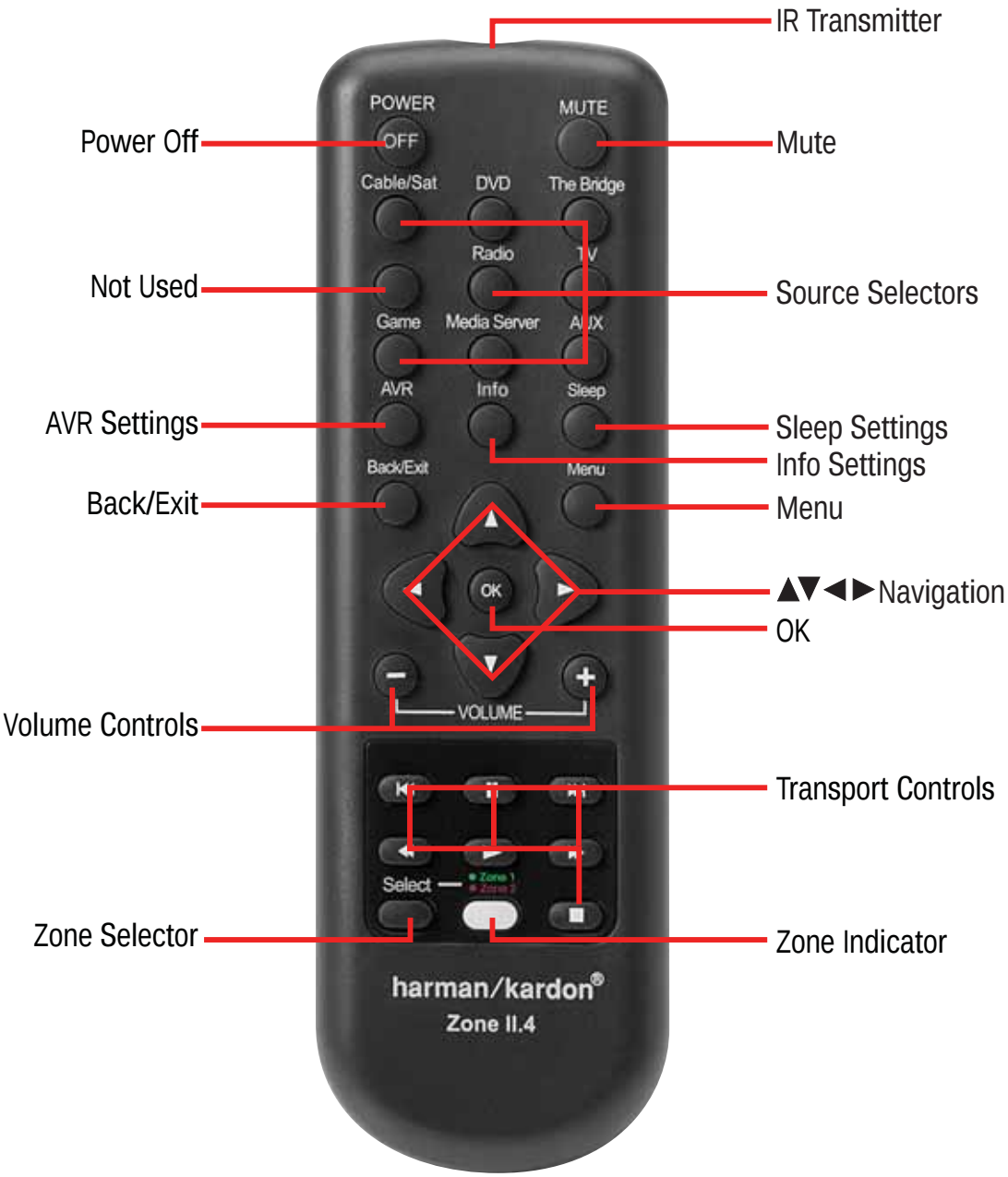
Track Skip: These buttons are used with source components to change tracks or chapters.

Transport Controls: These buttons are used to control source components.

Light: Press to illuminate the buttons on the remote. Press it again to turn the backlight off, or wait ten seconds after the last button press for the light to turn off on its own.

Learn: The AVR 3550HD remote is capable of "learning" individual IR codes from the original remote that came with a source device. See Step Eight of the Installation section.

ZONE 2 REMOTE CONTROL FUNCTIONS



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

ZONE 2 REMOTE CONTROL FUNCTIONS

The Zone 2 remote control is used in the remote zone of a multizone system with an IR receiver connected to the Zone 2 IR Input or an A-BUS device. It may be used to control the power, volume and mute functions or to select a source input for the remote zone, and to control a Harman Kardon source connected to one of the AVR's Remote IR Outputs or the A-BUS IR Output.

The Zone 2 remote may also be used in the main listening room to directly control the AVR 3550HD and Harman Kardon DVD, CD or tape players. The power, volume and mute controls will only affect the main listening area.

The Zone 2 remote requires two AAA batteries (included) that are installed in the battery compartment on the back of the remote. Make sure to observe proper polarity by matching the + and – symbols on the batteries to the symbols printed inside the compartment.

IR Transmitter: This lens emits infrared codes when buttons on the remote are pressed.

Power Off: Press to turn off the AVR 3550HD. The Zone 2 remote has no Power On Button, since the AVR turns on its multizone system automatically when any of the Input Selectors is pressed, even if the AVR itself is in Standby mode. When in the main listening room, press any Input Selector or the AVR Selector to turn on the AVR 3550HD.

Mute: Press to mute the AVR 3550HD's remote zone speakers temporarily. To end the muting, press this button or adjust the volume, or turn off the multizone system. Unless the remote is used in the main listening area, only the remote zone will be affected.

Source Selectors: Press one of these buttons to select a source device for the remote zone. It will also turn on the multizone system and switch the remote to the source's device mode. You may select a different source device than the main room. If you select the same source as the main room, then any commands sent to the source will affect both zones. The first press of the Radio Selector switches the AVR to the last-used tuner band (AM, FM or XM). Each successive press changes the band.

NOTE: The blank button to the left of the Radio Selector is not used, even though pressing it causes the Zone Indicator to light up.

Transport Controls: These buttons are used to control many source components.

AVR Settings Button: Press to display the AVR's Main Menu. It is also used to switch the remote to AVR device mode.

Info Settings Button: Press to display the AVR's Info Menu, which contains the settings for the current source.

Sleep Settings Button: Press to activate the sleep timer, which turns off the receiver after a programmed period of time of up to 90 minutes. Each additional press increases the timer by 10 minutes, ending with the "Sleep Off" message.

Back/Exit: Press to return to the previous menu or to exit the menu system.

Menu Button: This button is used to display the main menu on some source devices. To display the AVR 3550HD's main menu, press the AVR Settings Button.

Navigation (▲/▼/◀/▶) and OK Buttons: These buttons are used to make selections within the menu system and also to operate the tuner.

Zone Selector and Zone Indicator: Each press of the Zone Selector determines whether the AVR commands will affect the main listening area (Zone 1) or the remote zone (Zone 2). The Zone Indicator will turn green when Zone 1 has been selected, and red for Zone 2. The Zone Indicator will also light briefly whenever any button is pressed.

Volume Controls: Press to raise or lower the volume level in the remote zone.

The AVR 3550HD may be the first multichannel surround sound receiver you have owned. This introductory section will help you to familiarize yourself with some basic concepts, which will make setup and operation smoother.

Typical Home Theater System

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

Multichannel Audio

The main benefit of a home theater system is the placement of loudspeakers around the room to produce "surround sound." Surround sound immerses you in the presentation for increased realism.

The AVR 3550HD may have up to seven speakers connected directly to it (plus a subwoofer). Each main speaker is powered by its own amplifier channel inside the receiver. A system with more than two speakers is called a multichannel system.

- Front Left and Right – The main speakers are used as in a 2-channel system. In many surround modes, these speakers are used for ambient sound while the main action, especially dialogue, is moved to the center speaker.
- Center – The center speaker is used for dialogue in movies and television programs, allowing the dialogue to originate near the actors' faces, for a more natural sound.
- Surround Left and Right – The surround speakers improve directionality of ambient sounds. In addition, more loudspeakers play dynamic soundtracks without risk of overloading any one speaker.
- Surround Back Left and Right – Additional surround speakers may be placed behind the listening position, improving the precision of ambient sounds and allowing for more realistic pans.

  The surround back speakers are used with surround modes designed for 7.1-channel systems, such as Dolby Digital EX, Dolby Digital Plus, Dolby TrueHD, DTS-ES (Discrete and Matrix), DTS-HD High Resolution Audio, DTS-HD Master Audio and Logic 7 (7.1 modes). The surround back speakers are optional, and the AVR 3550HD may be set up with a 5.1-channel system in the main listening area, and the surround back channels reassigned to a multizone system, where the surround back channels power loudspeakers located in another room.

  Many people expect the surround speakers to play as loudly as the front speakers. Although all of the speakers in the system will be calibrated to sound equally loud at the listening position, most artists use the surround speakers for ambient effects only, and they program their materials to steer very little sound to these speakers.
- Subwoofer – A subwoofer is designed to play only the lowest frequencies (the bass). It augments smaller, limited-range satellite speakers used for the other channels. Many digital-format programs, such as movies recorded in Dolby Digital, contain a low-frequency effects (LFE) channel which is directed to the subwoofer. The LFE channel packs the punch of a rumbling train or airplane, or the power of an explosion, adding realism and excitement to your home theater. Some people use two subwoofers, for additional power and even distribution of the sound.

Surround Modes

There are different theories as to the best way to present surround sound and to distribute information to the speakers. A variety of algorithms have been developed in an effort to reproduce the way we hear sounds in the real world, resulting in a rich variety of options.

Several companies have taken surround sound in different directions:

- Dolby Laboratories – Dolby TrueHD, Dolby Digital Plus, Dolby Digital, Dolby Digital EX, Dolby Pro Logic II and IIx, Dolby Virtual Speaker, Dolby Headphone
- DTS – DTS-HD High Resolution Audio,™ DTS-HD Master Audio, DTS, DTS-ES (Discrete and Matrix), DTS Neo:6, DTS 96/24
- Harman International (the Harman Kardon parent company) – Logic 7
- Stereo Modes – Generic modes that expand upon conventional 2-channel stereo, including 5- and 7-Channel Stereo

Table A12 in the appendix contains detailed explanations of the mode groups and the mode options available within each group. Digital modes, such as Dolby Digital and DTS, are only available with specially encoded programs, such as HDTV, Blu-ray discs and digital cable or satellite television. Other modes may be used with digital and analog signals to create a different surround presentation, or to use a different number of speakers. Surround Mode selection depends upon the number of speakers in your system, the materials you are watching or listening to, and your personal tastes.

There are different types of audio and video connections used to connect the receiver, the speakers, the video display, and the source devices. The Consumer Electronics Association has established the CEA® color-coding standard. See Table 1.

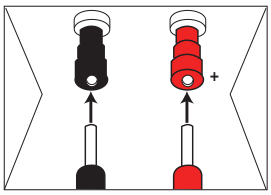
Table 1 – Connection Color Guide

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

Speaker Connections

Speaker cables carry an amplified signal from the receiver's speaker terminals to each loudspeaker. They contain two wire conductors, or leads, inside plastic insulation, that are differentiated in some way, such as with colors or stripes.

The differentiation preserves polarity, without which low-frequency performance can suffer. Each speaker is connected to the receiver's speaker-output terminals using two wires, one positive (+) and one negative (–). Always connect the positive terminal on the loudspeaker, which is usually colored red, to the positive terminal on the receiver, which is colored as shown in the Connection Color Guide (Table 1). The negative terminals are both black.



The AVR 3550HD uses binding-post speaker terminals that can accept banana plugs or bare-wire cables. Banana plugs are inserted into the hole in the middle of the terminal cap. See Figure 1.

Figure 1 – Binding-Post Speaker Terminals With Banana Plugs

Bare wire cables are installed as follows (see Figure 2):

1. Unscrew the terminal cap until the pass-through hole in the collar is revealed.
2. Insert the bare end of the wire into the hole.
3. Hand-tighten the cap until the wire is held snugly.

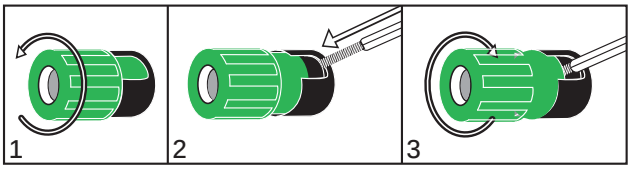


Figure 2 – Binding-Post Speaker Terminals With Bare Wires

Subwoofer

The subwoofer is dedicated to the low frequencies (bass), which require more power. To obtain the best results, most speaker manufacturers offer powered subwoofers that contain their own amplifier. Usually, a line-level (nonamplified) connection is made from the receiver's Subwoofer Output to a corresponding jack on the subwoofer, as shown in Figure 3.

Although the purple subwoofer output looks similar to full-range analog audio jacks, it is filtered to allow only the low frequencies to pass. Don't connect this output to any other devices.

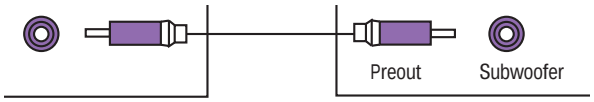


Figure 3 – Subwoofer

Connecting Source Devices to the AVR

Audio and video signals originate in "source devices," including your DVD player, CD player, DVR (digital video recorder) or other recorder, tape deck, game console, cable or satellite television box or MP3 player. The AVR's tuner also counts as a source, even though no external connections are needed, other than the FM and AM antennas and the XM antenna module.

Separate connections are required for the audio and video portions of the signal, except for digital HDMI connections. The types of connections used depend upon the capabilities of the source device and video display.

Audio Connections

There are two types of audio connections: digital and analog. Digital audio signals are required for listening to sources encoded with digital surround modes, such as Dolby Digital and DTS, or for non-compressed PCM digital audio. There are three types of digital audio connections: HDMI, coaxial and optical. Never use more than one type of digital audio connection for each source device. However, it's okay to make both analog and digital audio connections to the same source.

NOTE: HDMI signals may carry both audio and video. If your video display device has an HDMI input, make a single HDMI connection from each source device to the AVR. Usually, a separate digital audio connection is not required. Turn the volume on your television all the way down.

Digital Audio

The AVR 3550HD is equipped with three HDMI (High-Definition Multimedia Interface) inputs, and one output. HDMI technology enables digital audio and video information to be carried using a single cable, delivering the highest quality picture and sound.

The AVR 3550HD uses HDMI (V.1.3a with Deep Color) technology and is capable of processing both the audio and video components of the HDMI data, minimizing the number of cable connections in your system. The AVR 3550HD implements Deep Color, which increases by an order

of magnitude the shades of color that can be displayed; and the latest lossless multichannel audio formats, including Dolby TrueHD and DTS-HD Master Audio.

NOTE: Some DVD-Audio, SACD, Blu-ray Disc and HD-DVD players only output multichannel audio through their multichannel analog outputs. Make a separate analog audio connection in addition to the HDMI connection, which is still used for video and to listen to Dolby Digital, DTS or PCM materials that may be stored on the disc.

The AVR 3550HD converts analog video signals to the HDMI format, including its on-screen menus, upscaling to high-definition 1080p resolution.

The HDMI connector is shaped for easy plug-in (see Figure 4). If your video display has a DVI input and is HDCP-compliant, use an HDMI-to-DVI adapter (not included). A separate audio connection is required. HDMI cable runs are limited to about 10 feet.

Figure 4 – HDMI Connection

If your video display or source device is not HDMI-capable, use one of the analog video connections (composite, S- or component video) and a separate audio connection.

Coaxial digital audio jacks are usually color-coded in orange. Although they look similar to analog jacks, you should not connect coaxial digital audio outputs to analog inputs or vice versa. See Figure 5.

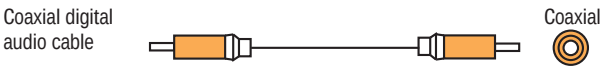


Figure 5 – Coaxial Digital Audio

Optical digital audio connectors are normally covered by a shutter to protect them from dust. The shutter opens as the cable is inserted. Input connectors are color-coded using a black shutter, while outputs use a gray shutter. See Figure 6.

Figure 6 – Optical Digital Audio

Analog Audio

Analog connections require two cables, one for the left channel (white) and one for the right channel (red). These two cables are often attached to each other. See Figure 7.

For sources that are capable of both digital and analog audio, you may make both connections.

The analog audio connection is required for multizone operation, as the AVR 3550HD's multizone system is not capable of converting a digital signal to analog format. Use the analog audio connections even with the Surround Back/Zone 2 speaker outputs, in case another 2-channel digital audio source is in use in the main listening area. The AVR 3550HD is only capable of processing one PCM source at a time.

You may only record materials from DVDs or other copy-protected sources using analog connections. Remember to comply with all copyright laws, if you choose to make a copy for your own personal use.

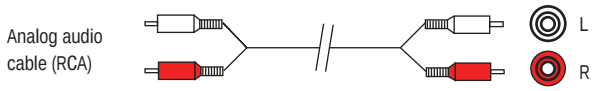


Figure 7 – Analog Audio

Multichannel analog connections are used with high-definition sources that decode the copy-protected digital content, such as some DVD-Audio, SACD, Blu-ray Disc and HD-DVD players. See Figure 8. The multichannel analog audio connection is not required for players compliant with HDMI version 1.1 or better, or that output linear PCM signals via an HDMI connection. Consult the owner's guide for your disc player for more information.

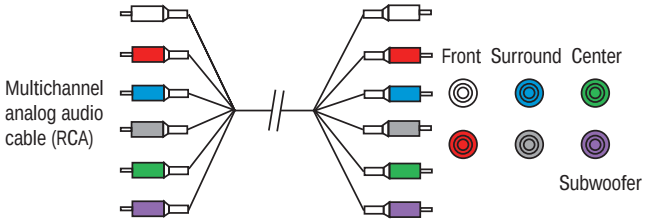


Figure 8 – Multichannel Analog Audio

The AVR 3550HD also includes a proprietary, dedicated audio connection for The Bridge II docking station for iPod. If you own a docking iPod (most models, 4G or later), connect The Bridge II (included) to The Bridge II port on the receiver. See Figure 9. Dock your iPod (not included) in The Bridge II, and you may listen to your audio materials through your high-performance audio system. You may view still images or video materials stored on a photo- or video-capable iPod that supports video browsing. Use the AVR 3550HD remote to control the iPod, with navigation messages displayed on the front panel and on a video display connected to the AVR. The Bridge II outputs analog audio to the AVR 3550HD, and is available to the multiroom system.

Figure 9 – The Bridge II port

Video Connections

Many sources output both audio and video signals (e.g., DVD player, cable television box, HDTV tuner, satellite box, VCR, DVR). In addition to the audio connection, make one type of video connection for each of these sources (only one at a time for any source).

Digital Video

If you have already connected a source device to one of the HDMI inputs, you have automatically made a video connection, as the HDMI signal includes both digital audio and video components.

Analog Video

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

Composite video is the basic connection most commonly available. The jack is usually color-coded yellow, and looks like an analog audio jack. Do not plug a composite video cable into an analog or coaxial digital audio jack, or vice versa. Both the chrominance (color) and luminance (intensity) components of the video signal are transmitted using a single cable. See Figure 10.

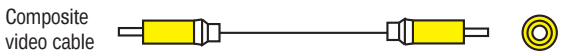


Figure 10 – Composite Video

S-video, or "separate" video, transmits the chrominance and luminance components using separate wires contained within a single cable. The plug on an S-video cable contains four metal pins, plus a plastic guide pin. Align the plug correctly when you insert it into the jack. See Figure 11.

Figure 11 – S-Video

Component video separates the video signal into three components – one luminance ("Y") and two sub-sampled color signals ("Pb" and "Pr") – that are transmitted using three separate cables. The "Y" cable is color-coded green, the "Pb" cable is colored blue and the "Pr" cable is colored red. See Figure 12.

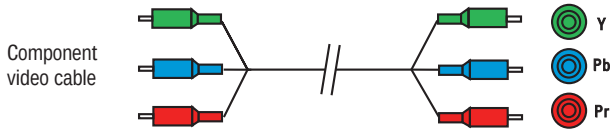


Figure 12 – Component Video

If it's available on your video display, an HDMI connection is recommended as the best quality connection, followed by component video, S-video and then composite video.

NOTES:

- Copy-protected sources are not available at the Component Video Monitor Outputs.
- Standard and high-definition analog video signals are upscaled to 1080i resolution for the Component Video Monitor Outputs. For improved video performance, consider upgrading to an HDMI-capable video display with 1080p resolution.

Antennas

The AVR 3550HD uses separate terminals for the included FM and AM antennas.

The FM antenna uses a 75-ohm F-connector. See Figure 13.

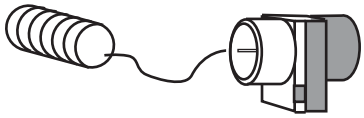


Figure 13 – FM Antenna

The AM loop antenna needs to be assembled. Connect the two leads to the spring terminals on the receiver. The AM antenna leads have no polarity, and you may connect them to either terminal. See Figure 14.

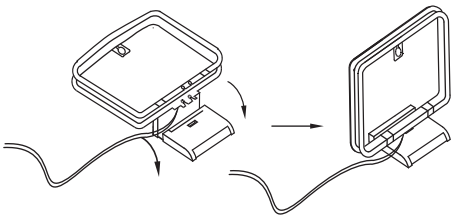


Figure 14 – AM Antenna

To enjoy XM satellite radio, purchase an XM Ready antenna module and a subscription to the XM service. We recommend the XM Mini Tuner and Home Dock Bundle, available at www.xmradio.com. The older Connect-and-Play module is also compatible with the AVR 3550HD, but it may no longer be available. Although you may use a module with standard audio connections, labeled for "car and home use," you will not be able to enjoy the AVR 3550HD's ease of control.

RS-232 Serial Port

The RS-232 serial port on the AVR 3550HD is used only for software upgrades. If an upgrade for the receiver's operating system is released in the future, it may be downloaded to the AVR using this port. Complete instructions will be provided at that time.

Optimally, the speakers should be placed in a circle with the listening position at its center. The speakers should be angled so that they directly face the listening position.

Front Speaker Placement

The center speaker is placed either on top of, below or mounted on the wall above or below the video display screen.

The front left and right speakers are placed along the circle, about 30 degrees from the center speaker and angled toward the listener.

Place the front left/right and center speakers at the same height, preferably at about the same height as the listener's ears. The center speaker should be no more than two feet above or below the left/right speakers. If you're using only two speakers with the AVR 3550HD, place them in the front left and right positions.

Placement of the surround speakers depends on the number of speakers in your system.

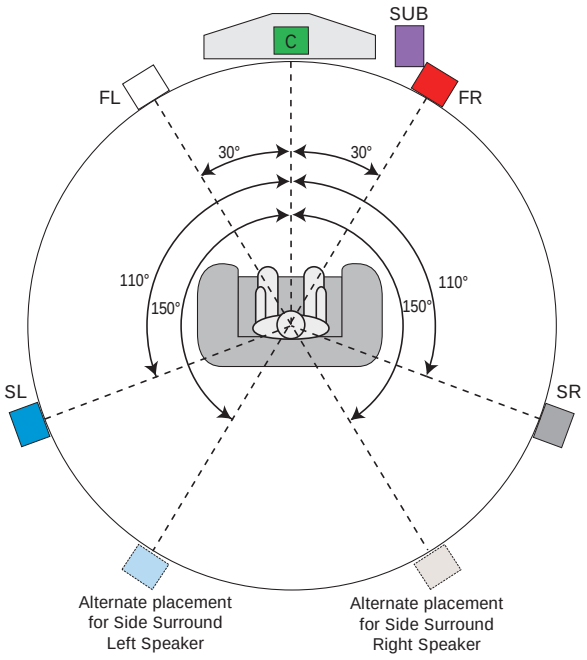


Figure 15 – Speaker Placement (5.1-Channel System)

Placement of Surround Speakers in a 5.1-Channel System

The side surround speakers should be placed 110 degrees from the center speaker, slightly behind and angled toward the listener. Alternatively, place them behind the listener, with each surround speaker facing the opposite-side front speaker. See Figure 15. The surround speakers may be placed a little higher than the listener's ears.

Placement of Surround Speakers in a 7.1-Channel System

In a 7.1-channel system, the side surround speakers are placed 90 degrees from the center speaker, directly to either side of the listening position.

The surround back left and right speakers are placed 150 degrees from the center speaker, or directly facing the opposite-side front speaker. See Figure 16.

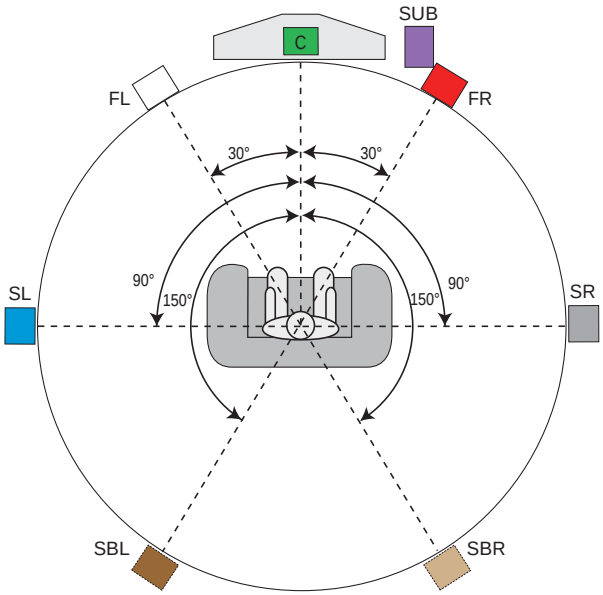


Figure 16 – Speaker Placement (7.1-Channel System)

NOTE: Some speaker manufacturers offer 6.1-channel speaker systems, for 6.1-channel surround sound formats, such as Dolby Digital EX, DTS-ES Discrete and Matrix modes and DTS Neo:6 mode. We do not recommend using the AVR 3550HD in a 6.1-channel configuration. The 6.1-channel formats will sound better when played through a 7.1-channel system. The same surround back channel information is played through both surround back speakers, but with twice the power and clarity.

To use the AVR 3550HD with a 6.1-channel speaker system, place the single surround back speaker directly behind the listener, but do not connect it until after you have run the EzSet/EQ procedure for a 5.1-channel system. After the EzSet/EQ process finishes, connect the surround back speaker to the Surround Back Left Speaker Output. Then follow the directions in the Advanced Features section for manual setup of the surround back speaker.

Subwoofer Placement

The subwoofer's location is less critical, since low-frequency sounds are omnidirectional. Placing the subwoofer close to a wall or in a corner will reinforce the low frequencies, and may create a "boomy" sound. Temporarily place the subwoofer where the listener normally sits, then walk around the room until the low frequencies sound best. Place the subwoofer in that spot.

NOTE: Your receiver will sound its best when the same model or brand loudspeaker is used for all positions.

Before beginning to connect the various components to the receiver, turn off all devices, including the AVR 3550HD, and unplug their power cords. Don't plug in any of the power cords until you have finished making all of your connections.

The receiver generates heat. Select a location that leaves several inches of space on all sides. Avoid completely enclosing the receiver inside an unventilated cabinet. Place components on separate shelves rather than stacking them directly on top of the receiver. Some shelf surface finishes are delicate. Try to select a location with a sturdy surface finish.

Step One – Connect the Speakers

Place your speakers as described in the Speaker Placement section.

Connect all of the loudspeakers to their corresponding speaker terminals on the AVR 3550HD. See Figure 17. Maintain the proper polarity by always connecting the positive and negative terminals on each speaker to the positive and negative terminals on the receiver. Use the Connection Color Guide on page 18 as a reference.

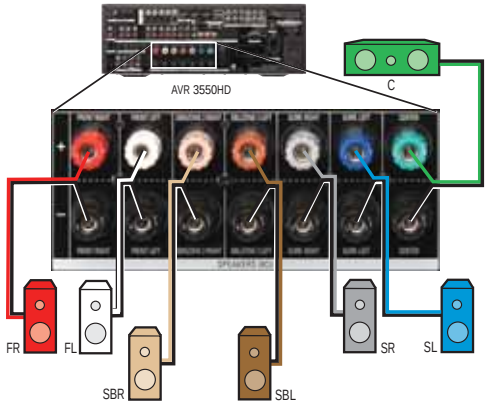


Figure 17 – Speaker Connections

Step Two – Connect the Subwoofer

Connect the Subwoofer Output on the AVR 3550HD to the line-level input on your subwoofer. See Figure 18. Consult the manufacturer's guide for the subwoofer for additional information.

When the system has two subwoofers for a 7.2-channel system, use a Y-Adapter (not included) with one male RCA plug and two female RCA jacks. Connect the male plug to the Subwoofer Output, and connect each female jack to a cable that is then plugged into the line-level input on each subwoofer.

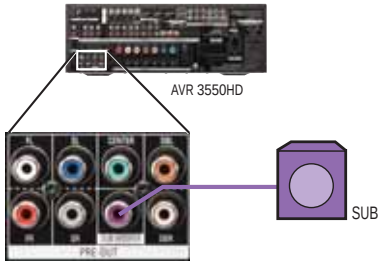


Figure 18 – Subwoofer Connection

Step Three – Connect the Antennas

Connect the FM and AM antennas to their terminals. Connect an optional XM antenna module designed for an XM Ready device. To enjoy XM Radio, remember to purchase a subscription and activate your antenna module. More information is available at www.xmradio.com. See Figure 19.

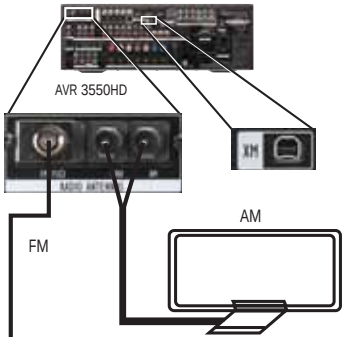


Figure 19 – Antenna Connections

Step Four – Connect the Source Components

A source is a device where the audio and video signals originate. Some sources, such as CD players, only offer audio, while sources used for watching movies or broadcast-television programming deliver a video signal as well.

There is a section of 8 buttons near the top of the remote designated "Source Selectors": Cable/Sat, DVD, Media Server, Radio, TV, Game, The Bridge and AUX. See page 12. Each button corresponds to a "source input". The AVR 3550HD's flexible design allows you to use almost any combination of audio and video connections for each source device.

NOTE: This is not true of The Bridge II and the tuner, which use dedicated audio source signals, and a dedicated video signal when applicable for The Bridge II.

Write down the audio and video inputs used for each device in Table A5 in the appendix. Table A2 indicates the default input-connection assignments, any of which may be changed to match the actual connections in your system.

The precise connections depend on the capabilities of the source device and your video display (TV). Select the best audio and video connections for each source, in order of preference:

HDMI Connections

- Choose the HDMI connection if it's available on your source device and your TV. An HDMI connection carries both digital audio and video, enabling a single-cable connection from the source device to the AVR. No other audio or video connections are usually required.

NOTE: If your DVD-Audio, SACD, Blu-ray Disc or HD-DVD player is not capable of outputting multichannel digital audio through its HDMI output, make additional 6-/8-channel analog audio connections.

Audio Connections (for non-HDMI sources)

- Choose one digital audio connection: Optical or Coaxial
- Optional, or where digital audio is not available, for recording, for multizone use or as a backup: Analog audio.

Video Connections (for non-HDMI sources)

(choose only one, and make sure that type is available on your TV)

- Component video
- S-video
- Composite video

NOTE: If the video display is equipped with a DVI digital video input, it must be HDCP-compliant (High-Bandwidth Digital Content Protection) to display copy-protected materials. Use an HDMI-to-DVI adapter (not included), and make a separate audio connection from the source.

Connect a DVD, SACD, Blu-ray Disc or HD-DVD Player

HDMI Video: Connect the player as shown in Figure 20:

- Connect the player's HDMI output to the HDMI 1, 2 or 3 Input.

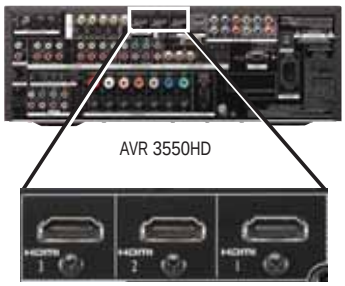


Figure 20 – Connecting an HDMI-Equipped Disc Player

If the DVD-Audio, SACD, Blu-ray Disc or HD-DVD player is not capable of outputting multichannel audio through its HDMI output, connect it as shown in Figure 21:

- Connect the player's 6-/8-channel analog audio outputs to the 6-/8-Channel Analog Audio Inputs.

Figure 21 – Connecting a Multichannel Audio Player

Component Video: If both the player and the TV have component video connectors, connect the player as shown in Figure 22:

- Connect the player's component video output to the Component Video 1, 2 or 3 Input.
- Connect one of the player's digital audio outputs to one of the Coaxial or Optical Inputs.

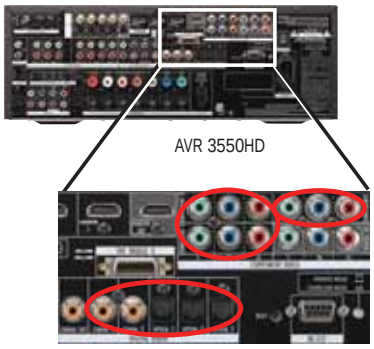


Figure 22 – Connecting a Component-Video-Equipped Disc Player

If the player is capable of playing multichannel discs, add the 6-/8-Channel Analog Audio Input connection, as shown in Figure 21.

Composite/S-Video: If the best video connection common to both the player and the TV is either S-video or composite video, follow these steps (see Figure 23):

- Connect the player's S-video or composite video output (one only) to the Video 1, 2 or 3 Input, or the front-panel Video 4 Composite or S-video Input (see Figure 31).
- Connect the player's digital audio output to one of the Coaxial or Optical Inputs.

If the player is capable of playing multichannel discs, connect it as shown in Figure 23:

- Connect the player's 6-/8-channel analog audio outputs to the 6-/8-Channel Analog Audio Inputs.

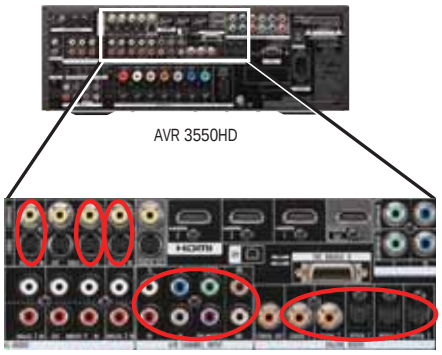


Figure 23 – Connecting a Composite- or S-Video-Equipped Disc Player

NOTES:
- Refer to Table A2 in the appendix for the default audio and video input assignments for each source. You may assign any audio and any video input to any source, as long as the assignments match the physical connections.
- To make recordings from a DVD, use an S-video or composite video input, and an Analog Audio input in addition to any other connections. The AVR cannot make recordings from HDMI or component video sources, and digital audio sources may only be recorded in two channels.

Connect an Audio/Video Recorder (PVD, DVR or TiVo)

HDMI Video: Connect the recorder as shown in Figure 24:

- Connect the recorder's HDMI output to the HDMI 1, 2 or 3 Input for playback only.
- To make recordings, follow the instructions below for Composite/S-video recorders.

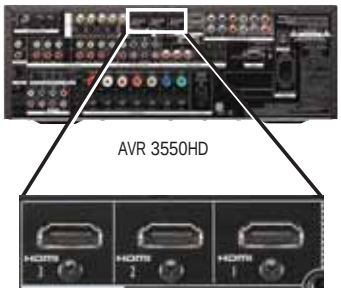


Figure 24 – Connecting an HDMI-Equipped Recorder

Component Video: If the recorder and the TV both have component video connectors, connect the recorder as shown in Figure 25:

- Connect the recorder's component video output to the Component Video 1, 2 or 3 Input for playback only.
- Connect the recorder's digital audio output to a Coaxial or Optical Input.
- Follow the instructions below for Composite/S-Video recorders.

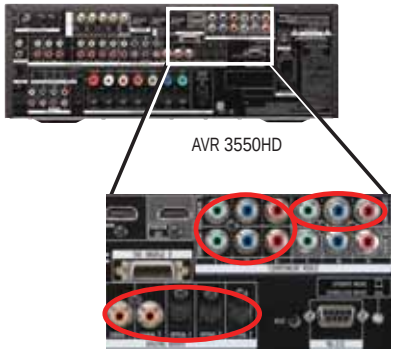


Figure 25 – Connecting a Component-Video-Equipped Recorder

Composite/S-Video: If the best video connection common to both the recorder and the TV is either S-video or composite video, and to make recordings, follow these steps, using only one type of video connection (see Figure 26):

- Connect the recorder's S-video or composite video output to the Video 2 S-Video or Composite Video Input.
- Connect the recorder's S-video or composite video input to the Video 2 S-Video or Composite Video Output.
- Connect the recorder's analog audio outputs to the Analog 4 Audio Inputs.
- Connect the recorder's analog audio inputs to the Analog 4 Audio Outputs.

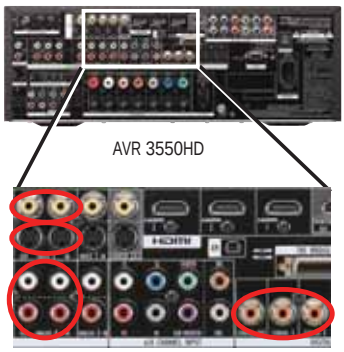


Figure 26 – Connecting a Composite or S-Video Recorder

- To make 2-channel digital audio recordings, connect the recorder's digital audio output to one of the Optical or Coaxial Inputs, and connect the Coaxial Digital Audio Output to the recorder's coaxial input. The AVR will convert an optical digital audio input signal to the proper format for recording via the Coaxial Digital Audio Output. See Figure 26.

Connect a Cable TV, Satellite, HDTV or Other Set-Top Box

NOTE: If you use a direct cable connection to your TV, or an antenna connection with the TV's internal tuner, connect either the TV's digital audio output (if available) or its analog audio outputs to the AVR. See Step Five for information on connecting the receiver's video monitor outputs to the television.

HDMI Video: If the set-top box and the TV both have an HDMI connector, connect the set-top box as shown in Figure 24:

- Connect the set-top's HDMI output to the HDMI 1, 2 or 3 Input.

Component Video: If the set-top box and the TV both have component video connectors, connect the set-top box as shown in Figure 25:

- Connect the set-top's component video output to the Component Video 1, 2 or 3 Input.
- Connect the set-top's digital audio output to one of the Coaxial or Optical Inputs.

Composite/S-Video: If the best video connection common to both the set-top box and the TV is either S-video or composite video, follow these steps (see Figure 27):

- Connect the set-top's S-video or composite video output (one only) to the corresponding Video 1, 2 or 3 Input.
- Connect the set-top's digital audio output to one of the Coaxial or Optical Inputs. For fully analog set-top boxes, connect the box's analog audio outputs to the Analog 1, 2, 3, 4 or 5 Audio Inputs.

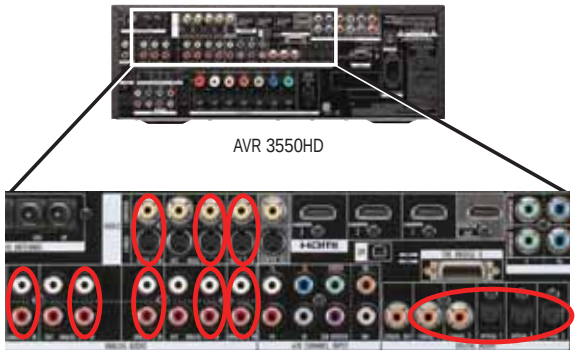


Figure 27 – Connecting a Composite- or S-Video-Equipped Set-Top Box

Connect a CD Player or Any Audio-Only Device

If the player has a digital audio output, connect it to any available digital audio input on the AVR. If not, connect the player's analog audio outputs to the Analog 1 or 2 Audio Inputs. No video connection is required. The AVR will display any signal present at the video input assigned to the same source. See Figure 28.

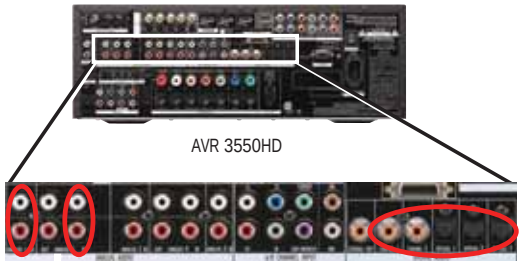


Figure 28 – Connecting a CD or Audio-Only Source

NOTE: A turntable requires an internal or external phono preamp available at audio specialty stores or through the Harman Kardon Parts Dept. Connect it to any set of analog audio inputs.

Connect a Tape Deck or Any Audio-Only Recorder

If the recorder has digital audio inputs and outputs, connect either its coaxial or optical digital audio output (not both) to the corresponding input on the AVR, and connect the Coaxial Digital Audio Output to the recorder's coaxial digital audio input.

To make analog audio recordings, connect the recorder's analog audio outputs to the Analog 2 Audio Inputs, and the recorder's analog audio inputs to the Analog 2 Audio Outputs.

No video connection is required. The AVR will display any signal present at the video input assigned to the same source. See Figure 29.

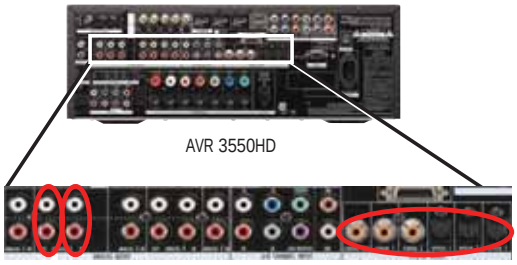


Figure 29 – Connecting an Audio Recorder

Connect an iPod Using The Bridge II Docking Station

The AVR 3550HD includes The Bridge II, a docking station compatible with most docking iPod models, 4G and later (not included). Use the AVR remote to enjoy navigation and control of audio and video content stored on the iPod following the on-screen menus.

Plug the proprietary cable from The Bridge II into the connector, as shown in Figure 30. Use a dock adapter to avoid damaging The Bridge II or the iPod during use. Refer to the Adapter Identification Chart packed with The Bridge II to select one of the included adapters, or use an adapter supplied by Apple Inc.

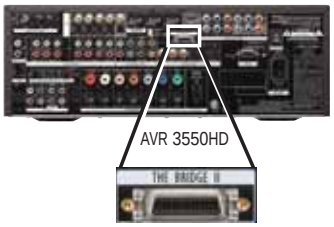


Figure 30 – The Bridge II Connector

NOTE: The original version of this accessory, known as The Bridge, is not compatible with the AVR 3550HD.

Use a stereo 1/8-inch mini-plug RCA interconnect cable to connect any portable audio player to the front-panel Audio Inputs. See Figure 31.

Connecting a Game Console, Camera or Other Device

Use the front-panel audio/video inputs to connect a device temporarily. When not in use, place the supplied covers over the jacks by snapping them in place. To remove, gently press on the left side of each cover so that it pivots out.

Video Components: Install video components, e.g., game consoles and camcorders, as follows (see Figure 31):

- Connect the component's S-video or composite video output (use only one) to the AVR's front-panel Input.
- Connect the component's optical or coaxial digital audio output to either the Optical or Coaxial Input on the front panel. Connect an analog device's audio outputs to the AVR's front-panel Analog Audio Inputs.

Figure 31 – Connecting a Device to the Front-Panel Inputs

Audio Components: Connect audio-only devices, such as CD players, to either the Coaxial or Optical Digital Audio Inputs, or the Analog Audio Inputs (see Figure 31).

Step Five – Connect the Video Display

IMPORTANT NOTE: Do not connect any video output on the video display (TV) to any video input on the AVR. Doing so will cause undesirable video interference.

HDMI Video: If the display has an HDMI input, connect it to the HDMI Monitor Output (see Figure 32). No other video connections are required from the AVR to the video display. Analog video sources (composite, S-video and component) are converted to the HDMI format and upscaled to as much as 1080p resolution, depending on the display's capabilities. Proceed to Step Six.

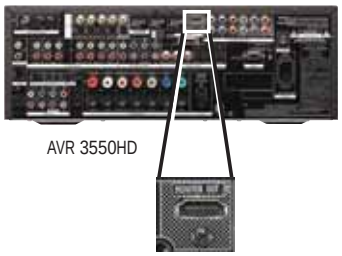


Figure 32 – HDMI Monitor Output

Component Video: If the display does not have HDMI inputs, but does have component video inputs, connect the Component Video Monitor Outputs to the display (see Figure 33). The AVR 3550HD converts composite and S-video sources to the component video format, while upscaling the resolution to as high as 1080i, depending on the display's capabilities. Select the appropriate resolution manually, as described in the Initial Setup section.

Figure 33 – Component Video Monitor Outputs

Composite/S-Video: If the video display does not have HDMI or component video inputs, connect the composite or S-video Monitor Output to the display. If available, S-video is preferred over composite video. The AVR 3550HD will convert composite video sources to S-video. See Figure 34.

Figure 34 – Composite and S-Video Monitor Outputs

Consult the manual for your TV to learn how to select the correct video input.

Step Six – Plug in AC Power

After making all wiring connections, plug each component's AC power cord into a working outlet.

You may plug one device that draws no more than 50 watts into the AC Switched Accessory Outlet. See Figure 35. Turn on the device's mechanical or master power switch, and it will power on any time the AVR 3550HD is turned on. If the device has a clock or must always be on, do not plug it into this outlet.

Figure 35 – Switched AC Accessory Outlet

Flip the rear-panel Master Power Switch Off before plugging the AC Power Cord into an electrical outlet. This will prevent the possibility of damaging the AVR in case of a transient power surge.

The AVR 3550HD is equipped with a detachable power cord, allowing you to fully wire your system before installing the AVR. Plug the male end of the cord into an unswitched AC outlet, and the female end into the AVR 3550HD. See Figure 36.

Figure 36 – AC Power Input

Step Seven – Insert Batteries in Remote

The AVR 3550HD remote control uses four AAA batteries (included).

To remove the battery cover located on the back of the remote, squeeze the tab and lift the cover.

Insert the batteries as shown in Figure 37, observing the correct polarity.

Figure 37 – Remote Battery Compartment

Point the remote's lens toward the front panel of the AVR 3550HD. Make sure no objects, such as furniture, are blocking the remote's path to the receiver. Bright lights, fluorescent lights and plasma video displays may interfere with the remote's functioning. The remote has a range of about 20 feet, depending on the lighting conditions. It may be used at an angle of up to 30 degrees to either side of the AVR.

Leave the Zone Selector Switch at the bottom in the Zone 1 position for normal use.

If the remote seems to operate intermittently, or if pressing a button on the remote does not cause the AVR Settings Button or one of the Source Selectors to light, check or replace the batteries.

Step Eight – Program Sources Into the Remote

The AVR 3550HD remote may be programmed to control many brands and models of DVD players, cable boxes, satellite receivers, the Harman Kardon DMC 1000 digital media center and TVs. It is also preprogrammed to operate your iPod when docked in The Bridge II.

To access the functions for a particular device, switch the remote's device mode. Press the AVR Settings Button to access the codes that control the receiver, or the Source Selector Buttons to access the codes for the devices programmed into the remote.

Follow these steps to program the correct codes for each source device into the remote:

1. Look up the codes for the product type (e.g., DVD, cable TV box) and the brand name of your source in Tables A14 – A24 of the Appendix.

NOTE: The AUX Source Selector is used for the CD, HDTV, PVD recorder, TiVo and VCR device types. Similarly, the CBL/SAT Source Selector is used for either a cable or satellite TV set-top box. The first digit of the product code indicates the device type.

2. Turn on your source device.

3. Place the remote in program mode: Press and hold the Source Selector (see Figure 38) as it turns red, goes dark, and turns red again. Then release it.

Figure 38 – Source Selectors

Optional: To reassign a Source Selector's device type (e.g., if there are two DVD players in the system), press the Source Selector for the new device type now. For example, to reassign the Cable/Sat Source Selector to operate a DVD player, first press and hold the Cable/Sat Button, then press the DVD Button.

4. Enter a code from Step 1, above.

   a) If the device turns off, press the Source Selector again to save the code. It will flash and the remote will exit Program mode.

   b) If the device does not turn off, enter another code. If you run out of codes, search through all of the codes in the remote's library for that product type by pressing the ▲ or ▼ Button repeatedly until the device turns off. When the device turns off, save the code by pressing the Source Selector. It will flash, and the remote will exit Program mode.

5. Check that other functions control the device correctly. Sometimes manufacturers use the same Power code for several models, while other codes vary. Repeat this process until you've programmed a satisfactory code set that operates most functions.

6. Find out which code number you have programmed by pressing and holding the Source Selector to enter the Program mode. Press the OK Button, and the Source Selector will flash in the code sequence. One flash represents "1", two flashes for "2", and so forth. A series of many fast flashes represents "0". Record the codes programmed for each device in Table A9 in the appendix.

Learning

You may "learn" individual key codes if you have the device's original remote control by following this procedure:

a) Place the two remotes with their IR transmitters facing each other, about one inch apart. See Figure 39.

Figure 39 – AVR 3550HD and Original Remote Head-to-Head

b) Press the destination Source Selector, then press and hold the Learn Button until the Source Selector lights up. See Figure 40.

Figure 40 – Learning Remote Commands

c) Press the destination button, and the Source Selector will flash once. You may learn a new code into the following buttons: Device Power On/Off, Alphanumeric Keys, Last Button, Back/Exit Button, Menu Button, ▲/▼/◀/▶ Navigation Buttons, OK Button, Disc Menu Button, the four Teletext Buttons, Channel Up/Down, Volume Up/Down, Mute and the Transport Controls (including Record).

d) Press and hold the source button until the Source Selector flashes three times.

e) Program additional buttons by repeating steps c) and d). Press the Learn Button once to exit Learning mode, or wait for the remote to "time out" and exit Learning mode on its own after about 30 seconds.

Most of the button labels on the remote describe the button's function when used to control the AVR 3550HD. However, the button may perform a different function when used to control another device. Refer to the Remote Control Function List, Table A13 in the Appendix.

Activities are preprogrammed code sequences that execute many code commands with a single button press. "Punch-through" programming allows the remote to operate a device's channel or transport controls with the remote in another device's mode. See page 49 for instructions on these advanced programming functions.

Step Nine – Remote IR Inputs and Output (Optional)

The AVR 3550HD is equipped with a Remote IR Input, a Zone 2 Input, an A-BUS IR Output and both full-carrier and stripped Remote IR Outputs to facilitate use of your system with a remote control in a variety of situations. See Figure 41.

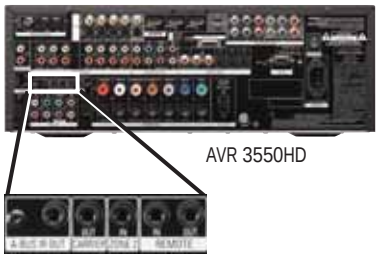


Figure 41 – IR Inputs and Outputs

When the AVR 3550HD is placed inside a cabinet or facing away from the listener, connect an external IR receiver, such as the optional Harman Kardon HE 1000, to the Remote IR Input jack. For multizone operation, connect an optional IR receiver, keypad or other control device to the Zone 2 IR Input for remote control of the AVR 3550HD (and any sources connected to the AVR's Remote IR Output) from the remote zone. Any signals transmitted through the Zone 2 IR Input will control source selection and volume for the remote zone only. If a source device is shared with the main listening area, any control commands issued to that source will also affect the main room.

If any source devices are equipped with a compatible Remote IR Input, use a 1/8" mini-plug interconnect cable (not included) to connect the AVR's Remote IR Output to the source device's Remote IR Input.

The AVR 3550HD outputs a "stripped carrier" IR signal through the Remote IR Output, but a full-carrier IR signal is available at the Carrier Remote IR Output.

The AVR 3550HD is also equipped with an A-BUS IR Output for dedicated use with the A-BUS multizone system. Any devices connected to this output will only respond to commands transmitted through the A-BUS system.

To control more than one source device through the Remote IR Output, connect all sources in "daisy chain" fashion, connecting each device's IR output to the next device's IR input, starting with the AVR. Connect devices expecting a full-carrier IR signal to the Carrier Remote IR Output. Use the Remote IR Output for devices expecting a stripped signal.

Step Ten – Install a Multizone System (Optional)

The AVR 3550HD offers several methods of distributing audio to other areas in your home.

IMPORTANT SAFETY NOTE: Installing a multizone system typically requires running cables inside walls. Always comply with the appropriate safety codes when installing concealed wiring, particularly all applicable state and local building codes and the NEC (National Electrical Code). Failure to do so may present a safety hazard. If you have any doubt about your ability to work with electrical and telecommunications wiring, hire a licensed electrician or custom installer to install the multizone system.

When the system is installed using methods 2 or 3 below, multizone operation takes over the Surround Back/Zone 2 amplifier channels, limiting the system in the main listening room to 5.1 channels.

Select one or all of these systems:

1. Connect an external amplifier to the Zone 2 Audio Outputs. See Figure 42.

Figure 42 – Zone 2 Audio Outputs

It is recommended that you place the amplifier in the same room as the AVR 3550HD so that a shorter length of interconnect cable is used with a long run of speaker wire to the remote room. A long run of interconnect cable would be subject to signal degradation. Depending on your amplifier, distribute the audio signal to a single pair of speakers, or to several pairs placed in different rooms.

The Zone 2 Audio Outputs offer the benefit of 7.1-channel in the main room simultaneously with multizone operation. However, the benefit is achieved with the expense of an additional component, i.e., the amplifier.

2. Connect the remote room's speakers directly to the Surround Back/Zone 2 Speaker Outputs. See Figure 43.

Figure 43 – Surround Back/Zone 2 Speaker Outputs

Reassign the Surround Back amplifier channels to power the speakers (see page 48). However, your main system will be limited to 5.1 channels, affecting playback of programs recorded in 6.1 or 7.1 channels.

3. Connect an external amplifier to the Surround Back/Zone 2 Preamp Outputs. See Figure 44.

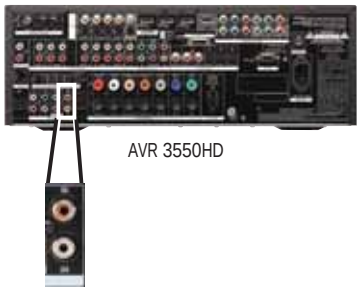


Figure 44 – Surround Back/Zone 2 Preamp Outputs

This method requires an additional amplifier, but may increase the number of remote rooms when used with methods 1 and 2.

4. Connect an A-BUS hub or other A-BUS components to the A-BUS Port. See Figure 45.

Figure 45 – A-BUS Port

Use Category 5/5e cable as described in the instructions for your A-BUS components. The A-BUS system carries the audio signal to the remote components, while receiving IR control codes. A hub may distrubute audio to many remote rooms. To control source devices exclusively from the remote A-BUS module, connect the AVR's A-BUS IR Output to a compatible IR input on the source. This frees up the AVR's other IR outputs for special applications. IR commands received from the A-BUS system are also distributed to the AVR's other IR outputs. Visit the Web site at www.harmankardon.com for information on available Harman Kardon hubs, the ABH 4 and ABH 4000, and amplified in-wall modules, the AB 1 and AB 2.

For methods 1, 2 and 3, connect an IR control device to the Zone 2 IR Input for remote-room control of the multizone system, source devices and volume in the remote zone. An A-BUS system does not require a separate IR control connection.

NOTE: Only analog audio sources are available to the multizone system.

Step Eleven – Turn On the AVR 3550HD

Two steps are required the first time you turn on the AVR 3550HD.

1. Flip the rear-panel Main Power Switch to the "On" position. The Power Indicator on the front panel will turn amber, indicating that the AVR is in Standby mode and is ready to be turned on. See Figure 46. Normally, you may leave the Main Power Switch on, even when the receiver is not being used.

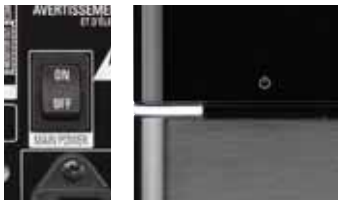


Figure 46 – Power Switches

2. There are several ways to turn on the AVR from Standby mode.

   a) Press the Standby/On Switch on the front panel. See Figure 46.

   b) Using the remote, press the AVR Power On Button or any of the Source Selectors. See Figure 47.

Figure 47 – AVR Power On and Source Selectors

NOTES:

- Any time you press one of the Source Selectors on the remote (i.e., Cable/Sat, DVD, Media Server, Radio, TV, Game or AUX), the remote will switch device modes. To control the receiver, press the AVR Settings Button. Some AVR functions are available in all device modes: Volume Controls (including Mute), Audio Effects, Video Modes, Surround Modes, AVR Settings, Info Settings, Sleep Settings and AVR Power On and Off.

- If you do not see a picture within about 1 minute, refer to the Video Troubleshooting Tips on page 36.

In this section, you will configure the AVR 3550HD to match your actual system. A video display must be connected to one of the video monitor outputs on the receiver.

Using the On-Screen Menu System

Although it's possible to configure the AVR using only the remote and the front-panel messages, it is easier to use the full-screen menu system.

The menu system is accessed by pressing the AVR Settings Button on the remote or front panel. See Figure 48.

Figure 48 – Settings Buttons

The Main Menu will appear (see Figure 49), and if a video source is playing, it will be visible behind the transparent menu.

Figure 49 – Main Menu

NOTE: When using the AVR's on-screen menu system, a video output resolution of 720p or higher is recommended for best legibility, and to provide graphics that simplify some configuration options. Depending on the resolution selected, the menus shown by your system may vary in appearance.

The menu system consists of five main menus: Source Selection, Setup Source, Speaker Setup, Zone 2 and System.

Use the ▲/▼/◀/▶ Buttons on the remote or front panel to navigate the menu system, and press the OK Button to select a menu or setting line or to enter a new setting.

The current menu, setting line or setting will appear in the Message Display as well as on screen.

To return to the previous menu or exit the menu system, press the Back/Exit Button. Be certain all settings are correct, as any changes you have made will be retained.

Most users should follow the instructions in this Initial Setup section to configure a basic home theater system. You may return to these menus at any time to make additional adjustments, such as those described in the Advanced Functions section.

Before beginning initial setup, all loudspeakers, a video display, and all source devices should be connected. You should be able to turn on the receiver and view the main menu when you press the AVR Settings Button. If necessary, reread the Installation Section and the beginning of this section before continuing.

Configure the AVR 3550HD Using EzSet/EQ Technology

One of the most important steps in setting up a home theater system is to calibrate the receiver to match the loudspeakers, optimizing sound reproduction.

Until recently, most receivers required manual calibration and configuration, a tedious process that called for a good ear or the purchase of an SPL (sound-pressure level) meter. Although you may configure the AVR 3550HD manually, as described in the Advanced Functions section, it is recommended that you take advantage of the signature Harman Kardon EzSet/EQ system.

Eliminate extraneous background noise, such as noisy air conditioning. Avoid making any loud noises while running EzSet/EQ setup.

IMPORTANT SAFETY NOTE: During the EzSet/EQ procedure, a series of very loud test tones will be played through all of the speakers. Avoid sitting or standing close to any one speaker during the procedure. If you are particularly sensitive to loud noises, you may wish to leave the room and have someone else run the EzSet/EQ process.

Step One – Place the included EzSet/EQ microphone in the listening position, or in the center of the room, at about the same height as the listeners' ears. The microphone features a threaded insert on the bottom, for mounting on a camera tripod.

Step Two – Plug the EzSet/EQ microphone into the Headphone Jack/EzSet/EQ Microphone Input Jack on the front of the receiver. See Figure 50.

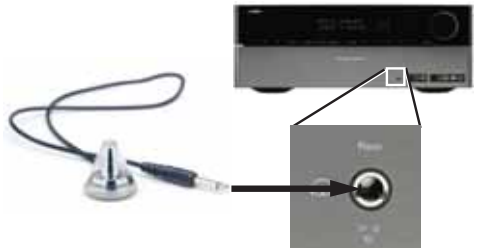


Figure 50 – Plug EzSet/EQ microphone into receiver.

Step Three – Turn on the AVR 3550HD and the video display. Press the AVR Settings Button to display the Main Menu. Use the ▼ Button to highlight the Speaker Setup line, then press the OK Button. See Figure 51.

Figure 51 – Speaker Setup Menu Screen

Select "Automatic Setup-EzSet/EQ" and the screen shown in Figure 52 will appear. Plug the EzSet/EQ microphone into the Headphone Jack, and set the level control on the subwoofer to the halfway point.

Figure 52 – EzSet/EQ Screen

To return to the Speaker Setup menu without starting the EzSet/EQ process, select Cancel. When you are ready to begin, select Continue and press the OK Button.

NOTE: The AVR 3550HD will automatically set its master volume to –25dB.

Step Four – After you select "Continue", the screen shown in Figure 53 will appear. Select the number of speakers in your system. Select 5.1 if no surround back speakers are present, or if the surround back channels will be used for multizone operation.

Figure 53 – EzSet/EQ: Number of Speakers

NOTE: If there are fewer than five main speakers in your system, do not use the EzSet/EQ process. Instead, proceed as described in the Advanced Functions section. If you have selected a 6.1-channel configuration with a single surround back speaker, use EzSet/EQ automatic configuration for 5.1 speakers, connect the single surround back speaker to the *left* Surround Back Speaker Output, then configure the surround back speaker manually, as described in the Advanced Functions section. The 6.1-channel configuration is not recommended.

The test will begin, and the screen shown in Figure 54 will appear. Maintain silence during the EzSet/EQ configuration.

Figure 54 – EzSet/EQ in Progress

As EzSet/EQ tests each speaker, its position will appear on screen. If the test tone is heard from a different speaker than the one indicated on screen, turn off the AVR and check the speaker-wire connections, then begin again.

When the test is completed, select the Continue option. The results will be displayed, along with these options:

- The Retest option repeats the EzSet/EQ process. Increase the master volume manually if some speakers were not correctly detected.
- Select Cancel to return to the Speaker Setup menu.

See the Advanced Functions section for instructions on how to manually configure the speakers or manually adjust the settings established by the EzSet/EQ process.

Set Up Sources

The Info Settings menu is used to assign the correct physical audio and video connections to each source.

The following settings are not optional and must be adjusted now to enable playback of each source: Video Input from source, Audio Input from Source and Resolution to Display. The other settings may be adjusted later.

To display the Source Info menu, press the Info Settings Button (front panel or remote). Or, from the Main Menu, select the Setup Source line and select a source from the slide-in menu. A screen similar to the one shown in Figure 55 will appear.

Figure 55 – Setup Source Menu

Audio Effects: Displays the Audio Effects submenu, where you may adjust: the bass and treble tone controls, the LFE trim or the Night Mode setting. Leave this submenu at its default settings, and return to it later

if your system requires fine-tuning. See the Advanced Functions section for more information.

Video Modes: Displays the Video Modes submenu, where you may make picture adjustments. Leave the settings at their factory defaults. Picture adjustments should be made to your video display first, with this menu used only for fine-tuning. See the Advanced Functions section for more information.

Surround Modes: Displays the Surround Modes submenu, where you may program surround modes for analog movies, music and games.

Digital surround signals, such as Dolby Digital and DTS, are automatically played in their native formats, although you may change the surround mode. See the Advanced Functions section for more information.

Audio Format From Source: This line is informational only. When a digital program is playing, its format will be identified here. When analog audio programs are playing, this line displays NO AUDIO INPUT.

Audio and Video Input Selection

See Table A2 in the appendix for the factory default input assignments for each source. You may assign any available input to any source using the Info Settings menu.

When a source is selected, the AVR will check the assigned digital audio input for a signal. If one is present, the digital input will be selected. If not, the AVR will select the analog audio input specified at the Audio Auto Polling line of the Setup Source menu. If you don't want the AVR to select an analog audio input for the source, change this setting to Off.

The AVR will also select the assigned video source. There are no "audio-only" sources on the AVR 3550HD, other than the Radio, which uses a special on-screen menu. If no video signal is present, the display will remain black. You may pair an audio device with an A/V device's video signal using the Info Settings menu. Sources may share audio or video inputs.

NOTE: The Bridge II obtains its audio and video signals (when available) from the iPod docked in it, and it may not be used with other audio or video sources.

Video Input From Source: Assign the correct video input. Refer to Table A5 in the appendix, where you noted the physical video input the source is connected to, and select that input here.

Audio Input From Source: Assign the correct analog or digital audio input. Refer to Table A5 in the appendix, where you noted the physical audio input the source is connected to, and select that input here. If both analog and digital audio connections were made, select the digital input here, and select the analog input at the Audio Auto Polling line below.

6-/8-Channel Direct Inputs

The 6-/8-Channel Analog Audio Inputs are used when playing certain multichannel discs (DVD-Audio, Blu-ray Disc, SACD and HD-DVD) on a player that decodes the audio and outputs it via its multichannel analog audio outputs but not via its HDMI output.

HDMI-Equipped Multichannel Disc Player:

- Connect the player's HDMI output to one of the AVR's HDMI Inputs. No other connections are necessary.
- Assign the HDMI Input to both the Audio and Video Input from source settings.

HDMI-Equipped Multichannel Disc Player That Does Not Output Multichannel Audio via an HDMI Connection:

- Connect the player's HDMI output and its multichannel analog audio outputs to one of the AVR's HDMI Inputs and to the AVR's 6-/8-Channel Analog Audio Inputs.
- Assign the HDMI Input to both the Audio and Video Input from source settings.
- When listening to DVD-Video discs, CDs or other materials outputting standard-definition digital audio, do nothing, as long as the HDMI Input is assigned to the Audio Input from source setting.
- To listen to high-resolution multichannel discs, change the Audio Input from Source Setting to "6/8 Channel". Change it back to the HDMI Input to listen to standard-resolution digital materials.

Multichannel Disc Player Without HDMI Output, or When Video Display Has No HDMI Input:

- Connect the player's component video outputs to one set of Component Video Inputs on the AVR. Depending on the capabilities of the player and your video display, you may need to use a composite or S-video connection instead.
- Connect the player's digital audio output to a digital audio input on the AVR.
- Connect the player's multichannel audio outputs to the AVR's 6-/8-Channel Analog Audio Inputs.
- Assign the correct audio and video inputs to the Audio and Video Input from source Settings.
- When listening to DVD-Video discs, CDs or other materials outputting standard-definition digital audio, do nothing, as long as the correct digital audio input is assigned to the Audio Input From Source setting.
- To listen to high-resolution multichannel discs, change the Audio Input from Source setting to "6/8 Channel". Change it back to the digital audio input to listen to standard-resolution digital materials.

NOTE: The 6-/8-Channel Inputs pass the incoming signals directly to the volume control, without digitizing or processing them. Configure the bass management settings (i.e., speaker size, delay and output level) on your source device to match the settings programmed using the EzSet/EQ procedure, which may be viewed using the Speaker Setup menu (see Advanced Functions section). Consult the owner's guide for your multi-channel player for more information.

Resolution to Display: This setting reflects the video output resolution, which is dependent upon the capabilities of the video display.

- If the display is connected to the AVR's HDMI Output, the two devices will communicate with each other, and the AVR will automatically select the correct video output resolution.
- If the display is connected to the AVR's Component Video Outputs, there is no automatic detection of the display's capabilities, and the video output resolution must be manually adjusted to match the display's capabilities (which may be obtained from the display's manual or its manufacturer's Web site).
- If the display is connected to the AVR's Composite or S-Video Monitor Output, the video output resolution must be set to 480i (the factory default) to view any content, including the AVR's own menus.

Adjust the resolution by pressing the front-panel Resolution Button repeatedly until the correct setting appears in the front-panel Message Display. For composite and S-video, the correct setting is 480i. For component video, it is the highest resolution where a picture is visible. You will be prompted to accept or cancel the resolution change; the CANCEL message will appear on the front panel. Press the ▼ Button to view the ACCEPT option, and then press the OK Button.

NOTE: When the display has a DVI input which is connected to the AVR using an HDMI-to-DVI adapter, the picture will be distorted or blank if the display is not HDCP-compliant. In that case, a different video connection must be used (component, composite or S-video).

Resolution From Source: Indicates the resolution of the video output by the source device.

Adjust Lip Sync: Resynchronizes the audio and video signals from a source to eliminate a "lip sync" problem. Lip sync issues can occur when the video portion of a signal undergoes additional processing in either the source or the video display. The Lip Sync adjuster appears by itself, enabling you to view the video while listening to the audio. Use the ◀/▶ Buttons to delay the audio by up to 180ms. See Figure 56.

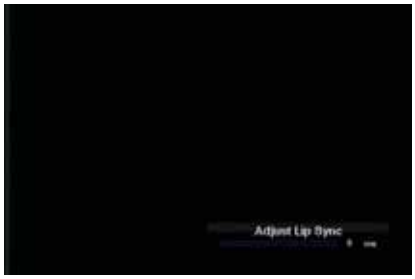


Figure 56 – Adjust Lip Sync

Change Name: Change the display name for your source, useful if your source's device type is different from the available source names. Select this line and use the ▲/▼ Buttons to scroll forward or reverse through the alphanumeric characters. When the desired character appears, use the ▶ Button to move the cursor to the next position. Move the cursor again to leave a blank space. When you have finished, press the OK Button. The name will appear on the front panel and next to its original name, e.g., DVD, throughout the on-screen menu system. To clear the entry without making any changes, scroll to the blank character before "A".

Audio Auto Polling: Used when both analog and digital audio connections are made. When no digital signal is present, the AVR will automatically switch to the analog audio input.

This can be useful for older cable television systems that broadcast channels in both analog and digital audio, and for making analog recordings of copy-protected digital sources.

If an analog audio connection was made, select it here. If not, choose the Off setting, and the AVR will always use the digital audio connection.

Zone 2 Audio: Determines the source for the multizone system remote zone. Select the analog audio input the source is connected to. Digital audio is not available to the multizone system, nor is any type of video.

Press the Back/Exit Button, then return to the Setup Source line of the Main Menu to configure the next source. When you have finished, press the Back/Exit Button to clear the menus from view.

You are now ready to begin enjoying your new receiver!

Now that you have installed your components and completed a basic configuration, you are ready to begin enjoying your home theater system.

Turning On the AVR 3550HD

Flip the Main Power Switch on the rear panel up to the "On" position. The Power Indicator on the front panel will turn amber, indicating that the AVR is in Standby mode and is ready to be turned on. The Main Power Switch is normally left on. See Figure 46.

There are several ways to trun on the AVR 3550HD:

a) Press the Standby/On Switch on the front panel. See Figure 46.

b) Using the remote, press the AVR Power On Button or any of the Source Selectors. See Figure 47.

To turn the receiver off, press either the Standby/On Switch on the front panel or the AVR Power Off Button on the remote. Unless the receiver will not be used for an extended period of time, leave the Main Power Switch on. When the Main Power Switch is turned off, any settings you have programmed will be preserved for up to four weeks.

IMPORTANT NOTE: If the PROTECT message ever appears in the Message Display, turn off the AVR and unplug it. Check all speaker wires for a short. If none is found, bring the unit to an authorized Harman Kardon service center for inspection and repair before using it again.

Volume Control

Adjust the volume either by turning the knob on the front panel (clockwise to increase volume or counterclockwise to decrease volume), or by pressing the Volume Control on the remote. See Figure 57. The volume is displayed as a negative number of decibels (dB) below the 0dB reference point.

0dB is the maximum volume for the AVR 3550HD. Although it's possible to turn the volume to a higher level, doing so may damage your hearing and your speakers. For certain more dynamic audio materials, even 0dB may be too high, allowing for damage to equipment. Use caution with regard to volume levels.

To change the volume level display from the default decibel scale to a 0-to-100 scale, adjust the Volume Units setting in the System Settings menu, as described on page 48.

Figure 57 – Volume Controls

Mute Function

To temporarily mute all speakers and the headphones, press the Mute Button on the remote. See Figure 57. Any recording in progress will not be affected. The MUTE message will appear in the display as a reminder. To restore normal audio, press the Mute Button again, or adjust the volume. Turning off the AVR will also end muting.

Sleep Timer

The sleep timer sets the AVR to play for up to 90 minutes and then turn off automatically.

Press the Sleep Settings Button on the remote, and the time until turn-off will be displayed. See Figure 58. Each additional press of the Sleep Button increases the play time by 10 minutes, up to a maximum of 90 minutes. The SLEEP OFF setting disables the sleep timer.

Figure 58 – Sleep Settings Button

When the sleep timer has been set, the front-panel display will automatically dim to half-brightness. If you press any button on the remote or front panel, the display will return to full-brightness. The display will dim again several seconds after your last command.

If you press the Sleep Button after the timer has been set, the remaining play time will be displayed. Press the Sleep Button again to change the play time.

Audio Effects

Adjust the tone controls, subwoofer level or Night Mode to improve performance. Access these settings from the Audio Effects submenu, as described in the Advanced Functions section.

It is recommend that you leave the settings at their default values until you are more familiar with your system.

Video Modes

The settings in the Video Modes menu are used to fine-tune the picture if necessary after making all adjustments on the video display. It is recommended that you leave the settings at their defaults. See the Advanced Functions section for detailed information.

Headphones

Plug the 1/4" plug on a pair of headphones into the jack on the front of the receiver for private listening. See Figure 59. The default Dolby Headphone bypass mode delivers a conventional 2-channel signal to the headphones.

Figure 59 – Headphone Jack

Press the Surround Modes Button on the front panel or the remote, to switch to Dolby Headphone virtual surround processing, which emulates a 5.1-channel speaker system. No other surround modes are available for the headphones.

Source Selection

Press the front-panel Source List Button. Press it again repeatedly, or use the ▲/▼ Buttons, to scroll through the sources. See Figure 60.

Figure 60 – Source List Button

For direct access to any source, press its Source Selector on the remote.

The AVR selects the audio and video inputs assigned to the source, and any other settings made during setup.

The source name, the audio and video inputs assigned to the source, and the surround mode will appear on the front panel. The source name and surround mode will also appear on screen.

VIDEO TROUBLESHOOTING TIPS:
If there is no picture:

- Check the source selection and video input assignment.
- Check the wires for a loose or incorrect connection.
- Check the video input selection on the display device (TV).
- Press the front-panel Resolution Button repeatedly until the correct video output resolution is selected and a picture appears. The CANCEL message will appear. Press the ▼ Button to view the ACCEPT option, then press the OK Button.

Additional Tips for HDMI Connections:

- Turn off all devices (including the TV, AVR and any source components).
- Unplug the HDMI cables starting with the cable between the TV and AVR, and continuing with the cables between the AVR and each source device.
- Carefully reconnect the cables from the source devices to the AVR. Connect the cable from the AVR to the TV last.
- Turn on the devices in this order: TV, AVR, source devices.

Using the Tuner

To select the AVR 3550HD's built-in tuner:

1. Press the Source List Button on the front panel. Press it again repeatedly until the desired tuner band is selected, or use the ▲/▼ Buttons to scroll through the source list.
2. Press the Radio Source Selector on the remote. Press it again to switch bands (AM, FM or XM).

A screen similar to the one shown in Figure 61 will appear. The XM band uses a slightly different screen.

Figure 61 – FM Radio

Use the ▲/▼ Buttons or the Channel Control to tune a station (or channel for XM Radio), as displayed on the front panel and on screen.

The AVR defaults to automatic tuning, meaning each press of the ▲/▼ Buttons scans through all frequencies until a station with acceptable signal strength is found. To switch to manual tuning, in which each press of the ▲/▼ Buttons steps through a single frequency increment (0.1MHz for FM, or 10kHz for AM), press the Menu Button. The Mode line will display the current setting. Each press of the OK Button toggles between automatic and manual tuning modes.

When an FM station has been tuned, toggling the tuning mode switches between stereo and monaural play, which may improve reception of weaker stations.

A total of 30 stations (AM and FM together) may be stored as presets. When the desired station has been tuned, press the OK Button, and two dashes will flash in the front-panel display. Use the Alphanumeric Keys to enter the desired preset number.

To tune a preset station, press the ◀/▶ Buttons or the ⏮/⏭ Transport Controls, or press the Menu Button and scroll to the desired preset, then press the OK Button. Or, enter the preset number using the Numeric Keys. For presets 10 through 30 press 0 before the preset number. For example, to enter preset 21, press 0-2-1.

XM Radio Operation

XM Radio is a satellite-delivered service that offers hundreds of program channels, as well as local traffic and weather information for select cities. The AVR 3550HD is an XM Ready device, and is able to receive the XM service when a user-supplied XM antenna module is connected and the service activated.

Select an antenna module designated for XM Ready audio components. An XM Ready module uses the special connector on the AVR and is controlled by the AVR's tuner, including its 40 preset station locations and remote control. Although you may use a "car and home" module with standard audio connections, you will not be able to enjoy the AVR's ease of control.

The XM Mini-Tuner and Home Dock (Models CNP-2000 and CNP-2000H; both pieces are required) are compatible with the AVR 3550HD. The older Audiovox® CNP 1000 "Connect-and-Play" module for home audio

use is also compatible, but has been discontinued. Other modules that have standard analog or digital audio outputs, may be connected to a compatible input and operated using their own controls.

NOTE: To listen to XM Radio using the AVR 3550HD, you will need to purchase an XM antenna module and subscription, and activate your module. XM service is not available in Alaska or Hawaii. Visit the XM Radio Web site at www.xmradio.com for more information.

Plug the module into the XM Antenna Jack on the rear of the AVR 3550HD. Place the antenna module so that it has a clear view through a south-facing window.

Select XM Radio as the source in one of these ways:

1. Press the Source List Button on the front panel. Press it again repeatedly until XM Radio is selected, or use the ▲/▼ Buttons to scroll.
2. Press the Radio Source Selector on the remote repeatedly until XM Radio is selected.

There are four ways to tune an XM Radio channel:

1. Use the ▲/▼ Buttons or the Channel Control to scan through the channel numbers.
2. Use the ◀/▶ Buttons to scan through any previously programmed preset stations.
3. After you have programmed presets, directly enter the preset number (1 through 40) using the Alphanumeric Keys. For single-digit positions, enter a "0" before the number.
4. Press the Menu Button to search for a channel by: preset, category, all channels or direct entry.

When you are able to hear Channel 1, you are ready to activate your module. If you don't hear Channel 1, make sure the module's plug is firmly seated in the XM Antenna jack, and that the module is near a south-facing window. Try unfolding the module and rotating it to obtain reception. You may need to purchase an extension cable to ensure that the module is near the window.

Tune to Channel 0 for a display of your module's Radio ID number.

The current channel number and preset location will appear in the upper line of the Message Display, and the channel name will appear in the lower line. Three signal-strength bars will appear to the right of the channel number and preset location. The song title, artist and channel category, along with the channel number and preset position (if programmed), will all appear on screen when a video display is in use.

For traffic and weather channels, the current city's name will appear instead of the channel name, and the local weather and temperature will be displayed on screen.

To store a channel in one of the 40 preset locations:

1. Tune to the desired channel and press the OK Button. The lowest available preset number will flash.
2. Use the Alphanumeric Keys to enter the numbered preset location you wish to store the channel in, or do nothing if the current preset location is acceptable.
3. Press the OK Button to store the new preset.

Recording

Two-channel analog and digital audio signals, as well as composite and S-video signals, are normally available at the appropriate recording outputs. To make a recording, connect your audio or video recorder to the appropriate output jacks, as described in the Installation section, insert blank media and make sure the recorder is turned on and recording while the source is playing.

NOTES:

1. Analog and digital audio signals are not converted to the other format. Both coaxial and optical digital audio are available at the Coaxial Digital Audio Output.
2. Only PCM digital audio signals are available for recording. Proprietary formats such as Dolby Digital and DTS may not be recorded using the digital audio connections. Use the analog audio connections to make an analog recording.
3. HDMI and component video sources are not available for recording.
4. Please make certain that you are aware of any copyright restrictions on any material you record. Unauthorized duplication of copyrighted materials is prohibited by federal law.

Using The Bridge II Docking Station

The Bridge II is an included dock that is compatible with most docking iPod models, 4G and later (not included). When The Bridge II is connected to its proprietary input on the AVR 3550HD and the iPod is docked, you may play the audio, video and still-image materials on your iPod through your high-quality audio/video system, operate the iPod using the AVR remote or the AVR's front-panel controls, view navigation messages on the AVR's front panel or a connected video display, and charge the iPod.

When the source The Bridge is selected and an iPod is docked, the message "The Bridge is CONNECTED" appears the front panel. If the AVR doesn't detect the iPod, turn off the AVR, remove the iPod from The Bridge II and reset the iPod. When the iPod returns to its main menu, redock it and turn on the AVR.

When The Bridge II is connected, the screen shown in Figure 62 will appear.

Figure 62 – The Bridge

Press the Menu Button to view the slide-out menu:

Back: Returns to the previous screen. This option appears while navigating the contents of the iPod.

Music: Navigates the audio materials stored on the iPod.

Photos: Select this line to view still images stored on a photo-capable iPod. The system will switch to iPod Manual Mode, and control will shift to the iPod. Use the screen and controls on the iPod. The AVR remote may also be used.

To view photos on a video monitor connected to the AVR, select the photo and press the Play Button *on the iPod itself,* or press the OK Button on the remote *three* times.

Videos: Select this line to view videos stored on an iPod that supports video browsing.

NOTES ON VIDEO PLAYBACK:

- As of this writing, video browsing is only supported on the iPod 5G, iPod classic (80GB, 120GB and 160GB), iPod nano 3G and 4G, and iPod touch (when loaded with software version 2 or higher). For other iPod models, it is not possible to view photos (except iPod 4G) or videos on an external monitor while using The Bridge II. However, you may purchase a compatible A/V cable from Apple Inc. that has a dock connector on one end and conventional audio and video plugs on the other end. The audio/video plugs may be connected to any available analog inputs on the AVR.
- Before attempting to view photos or videos stored on your iPod, check the Video Settings menu on the iPod and make sure that the TV Out setting is set to On. The TV Signal setting should be NTSC to match the capabilities of your video display. If your selection was playing and paused, the iPod requires you to reselect the video for the new TV Out setting to take effect.

To exit iPod Manual Mode, with the AVR remote in The Bridge mode, press and hold the Menu Button.

Random: Select this setting for random playback, also known as "Shuffle Mode". Each press of the OK Button switches the setting: shuffle by Song, shuffle by Album, or Off to end random playback.

Repeat: Select this setting to repeat a track or all tracks in the current album or play list. Each press of the OK Button switches the setting: repeat Off, repeat One or repeat All.

NOTE: The iTunes application allows you to exempt some tracks from Shuffle mode. The AVR 3550HD cannot override this setting.

Table 2 summarizes the controls available with The Bridge II.

Table 2 – Using The Bridge II

iPod Function	Remote Control Key
Play	Play (▶)
Pause	Pause (II)
Menu	Menu
Select	OK
Scroll Reverse	Left Arrow (◀)
Scroll Forward	Right Arrow (▶)
Forward Search/Next Track	Forward/Next (▶▶)
Reverse Search/Previous Track	Reverse/Previous (◀◀)
Page Up/Down	Channel/Page Up/Down

While scrolling, hold the key to scroll faster. Use the Page Up/Down control on the remote to scroll a page at a time.

NOTES:

- The Play and Pause functions are not available unless content has been selected for playback.
- To search within a track, press and hold the indicated button. Press the Previous Track Button once to skip to the beginning of the current track. Press the Previous Track Button *twice* to skip to the beginning of the previous track.

While a selection is playing, the song title, artist and album name will appear in the upper line in the front-panel Message Display. The lower line will display the elapsed time of the track on the left, the play mode icon, and the time remaining on the right.

If a video monitor is connected to the AVR 3550HD and the system is not in iPod Manual Mode, it will display the play mode icon, song title, artist and album. A graphic bar indicates the current play position within the track. If random or repeat play has been programmed, an icon will appear in the upper right corner.

The screen may disappear from view, depending on the Setup and Slide-In Menus setting in the System Settings menu (described in the Advanced Functions section). Restore the Now Playing screen to view by pressing either of the ◀/▶ Buttons.

NOTE: It is strongly recommended that you use a screen saver built into your video display to avoid possible damage from "burn-in" that may occur with plasma and many CRT displays when a still image, such as a menu screen, remains on display for an extended period of time.

Selecting a Surround Mode

Surround mode selection can be as simple or sophisticated as your individual system and tastes. Feel free to experiment, and you may find a few favorites for certain sources or program types. More detailed

information on surround modes may be found in the Advanced Functions section.

To select a surround mode, press the Surround Modes Button (front panel or remote) repeatedly until the desired option appears: SURR: AUTO SELECT, SURR: VIRTUAL, SURR: STEREO, SURR: MOVIE, SURR: MUSIC or SURR: GAME. The Surround Modes menu will appear (see Figure 63). Press the OK Button to change the option's surround mode.

Figure 63 – Surround Modes Menu

Auto Select: For digital programs, such as movies recorded with a Dolby Digital soundtrack, the AVR will automatically use the native surround format. For 2-channel analog and PCM programs, the AVR uses Logic 7 Movie mode.

Virtual Surround: When only two main speakers are present in the system, Dolby Virtual Surround may be used to create an enhanced soundfield that virtualizes the missing speakers. Select between Wide and Reference modes.

Stereo: When 2-channel playback is desired, select the number of speakers used for playback:

- 2 CH STEREO uses only two speakers. As described on page 40, you may select Analog Bypass mode for a pure analog signal when analog audio inputs are in use. Turn off the Tone Control setting in the Audio Effects submenu, and the AVR does the rest.
- 5 CH STEREO plays the left-channel signal through the front and surround left speakers, the right-channel signal through the right speakers and a summed mono signal through the center speaker.
- 7 CH STEREO follows the same scheme as 5 CH STEREO, but adds the surround back speakers. This mode is only available when the surround back speakers are present and have not been reassigned to multizone operation. See the Initial Setup section for more information.

Movie: Use when an analog surround mode is desired for movie playback: Logic 7 Movie, DTS Neo:6 Cinema or Dolby Pro Logic II (IIx when seven main speakers are present).

Music: Use when an analog surround mode is desired for music playback: Logic 7 Music, DTS Neo:6 Music or Dolby Pro Logic II (IIx when seven main speakers are present). The Dolby Pro Logic II/IIx Music mode allows access to a submenu with some additional settings. See the Advanced Functions section for more information.

Video Game: Use to select an analog surround mode for game playback: Logic 7 Game, or Dolby Pro Logic II (IIx when seven main speakers are present) Game.

After you have made your selection, press the Back/Exit Button.

See the Advanced Functions section for more information on surround modes.

Much of the AVR 3550HD's performance is handled automatically, with little intervention required on your part. The AVR 3550HD is capable of being customized to suit your system and your tastes. In this section we describe some of the more advanced adjustments available.

Audio Processing and Surround Sound

Audio signals output by sources are encoded in a variety of formats that can affect not only the quality of the sound but the number of speaker channels and the surround mode. You may also manually select a different surround mode, when available.

Analog Audio Signals

Analog audio signals usually consist of two channels – left and right. The AVR 3550HD offers three options for playback:

1. Analog Bypass Mode: The 2-channel signal is passed directly from the input to the volume control, without being digitized or undergoing any processing for bass management or surround sound. To select analog bypass mode:

   a) The analog audio inputs for the source must be selected. If necessary, press the Info Button on the remote and use the ▲/▼ Buttons to scroll to the Audio Input from source setting.

   b) The tone controls must be disabled by setting Tone Control to Off. Press the Audio Effects Button to access the Tone Control setting.

   c) The 2-channel Stereo mode must be selected. Press the Surround Modes Button to access the STEREO line of the Surround Modes submenu. Press the OK Button to select 2-channel Stereo.

When the Tone Control setting is Off, the front speakers will be set to Large automatically, indicated by double boxes in the Speaker/Channel Input Indicators. When the Tone Control setting is turned On, if you have set the front speaker crossover to a numeric setting, the front speakers will return to the Small setting, indicated by single boxes in the Speaker/Channel Input Indicators.

2. DSP Surround Off Mode: The DSP Surround Off mode digitizes the incoming signal and applies the bass management settings, including speaker configuration, delay times and output levels. Select this mode when your front speakers are small, limited-range satellites and you are using a subwoofer. To select this mode, use a digital audio input, or turn the Tone Control setting off, and select 2-channel Stereo mode.

3. Analog Surround Modes: The AVR 3550HD is able to process 2-channel audio signals to produce multichannel surround sound, even when no surround sound has been encoded in the recording. Among the available modes are the Dolby Pro Logic II/IIx modes, the Dolby Virtual Speaker modes, the DTS Neo:6 modes, the Logic 7 modes, and the Stereo modes.

Digital Audio Signals

Digital audio signals offer greater capacity, which allows the encoding of center and surround channel information directly into the signal. The result is improved sound quality and startling directionality, since each channel is reproduced discretely.

Even when only two channels are encoded, the digital signal allows for a higher sampling rate that delivers greater detail. High-resolution recordings sound extraordinarily distortion-free, especially at high frequencies.

Surround Modes

Surround mode selection is dependent upon the format of the incoming audio signal, as well as personal taste. Table A12 offers a brief description of each mode and indicates the types of incoming signals or digital bitstreams the mode may be used with. Additional information about the Dolby and DTS modes is available on the companies' Web sites: www.dolby.com and www.dtsonline.com.

When in doubt, check the jacket of your disc for more information on which surround modes are available. Usually, nonessential sections of the disc, such as trailers, extra materials or the disc menu, are only available in Dolby Digital 2.0 (2-channel) or PCM 2-channel mode. If the main title is playing and the letters in the Speaker/Channel Input Indicators are not lit for all speaker locations, look for an audio or language setup section in the disc's menu. Also, make sure your player's audio output is set to the original bitstream rather than just PCM. Stop play and check the player's output setting.

For any incoming signal, only a limited number of surround modes are available. Although there is never a time when all of the AVR 3550HD's surround modes are available, there is usually a wide variety of modes available for a given input.

Multichannel digital recordings are found in the 5.1-, 6.1- or 7.1-channel formats. The channels included in a 5.1-channel recording are front left, front right, center, surround left, surround right and LFE. The LFE channel is denoted as ".1" to represent the fact that it is limited to the low frequencies.

6.1-Channel recordings add a single surround back channel, and 7.1-channel recordings add surround back left and surround back right channels to the 5.1-channel configuration. New formats are available in 7.1-channel configurations. The AVR 3550HD is able to play the new audio formats, delivering a more exciting home theater experience.

> NOTE: To use the 6.1- and 7.1-channel surround modes, the Surround Back channels must be enabled. See the Manual Setup section on page 42 for more information.

The Digital formats are Dolby Digital 2.0 (two channels only), Dolby Digital 5.1, Dolby Digital EX (6.1), Dolby Digital Plus (7.1), Dolby TrueHD (7.1), DTS-HD High-Resolution Audio (7.1), DTS-HD Master Audio (7.1), DTS 5.1, DTS-ES (6.1 Matrix and Discrete), DTS 96/24 (5.1), 2-channel PCM modes in 32kHz, 44.1kHz, 48kHz or 96kHz, and 5.1 or 7.1 multichannel PCM.

When a digital signal is received, the AVR 3550HD detects the encoding method and the number of channels, which is displayed briefly as three numbers, separated by slashes (e.g., "3/2/.1").

The first number indicates the number of front channels in the signal:

"1" represents a monophonic recording, usually an older program that has been digitally remastered or, more rarely, a modern program for which the director has chosen a special effect.

"2" indicates the presence of the left and right channels, but no center channel.

"3" indicates that all three front channels (left, right and center) are present.

The second number indicates whether any surround channels are present:

"0" indicates that no surround information is present.

"1" indicates that a matrixed surround signal is present.

"2" indicates discrete left and right surround channels.

"3" is used with DTS-ES bitstreams to represent the presence of the discrete surround back channel in addition to the side surround left and right channels.

"4" is used with 7.1-channel digital formats to indicate the presence of two discrete side surround channels and two discrete back surround channels.

The third number is used for the LFE channel:

"0" indicates no LFE channel.

".1" indicates that an LFE channel is present.

The 6.1-channel signals – Dolby Digital EX and DTS-ES Matrix and Discrete – each include a flag meant to signal the receiver to decode the surround back channel, indicated as 3/2/.1 EX-ON for Dolby Digital EX materials, and 3/3/.1 ES-ON for DTS-ES materials.

Dolby Digital 2.0 signals may include a Dolby Surround flag indicating DS-ON or DS-OFF, depending on whether the 2-channel bitstream contains only stereo information, or a downmix of a multichannel program that can be decoded by the AVR's Dolby Pro Logic decoder. By default, these signals are played in Dolby Pro Logic IIx Movie mode.

When a PCM signal is received, the PCM message and the sampling rate (32kHz, 44.1kHz, 48kHz or 96kHz) will appear.

The Speaker/Channel Input Indicators indicate the number of channels discretely encoded in the signal by displaying a letter inside that channel's speaker box. A line connects the SBL and SBR boxes when a 6.1-channel signal is detected, indicating that the same signal is playing through both speakers. The letters flash when no signal is present, such as when a disc is paused. See Figure 64.

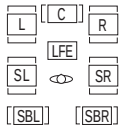


Figure 64 – Speaker/Channel Input Indicators

When only two channels – left and right – are present, the analog surround modes may be used to decode the signal into the remaining channels. If you would prefer a different surround format than the native signal's digital encoding, press the Surround Modes Button to display the Surround Modes menu (see Figure 63).

The Auto Select option uses the native signal's digital encoding, e.g., Dolby Digital or DTS. For 2-channel materials, the AVR defaults to Logic 7 Movie mode. If you prefer a different surround mode, select the processing type: Virtual Surround, Stereo, Movie, Music or Video Game. Press the OK Button to change the mode.

Each processing type is set to a default surround mode:

- Virtual Surround: Dolby Virtual Speaker Reference
- Stereo: 7-channel stereo
- Movie: Logic 7 Movie
- Music: Logic 7 Music
- Video Game: Logic 7 Game

The choice of surround modes depends on the number of speakers in your system.

- Virtual Surround: Dolby Virtual Speaker Reference or Wide
- Stereo: 2-channel stereo, 5-channel stereo or 7-channel stereo
- Movie: Logic 7 Movie, DTS Neo 6:Cinema, Dolby Pro Logic II Movie, Dolby Pro Logic IIx Movie
- Music: Logic 7 Music, DTS Neo 6:Music, Dolby Pro Logic II Music, Dolby Pro Logic IIx Music
- Video Game: Logic 7 Game, Dolby Pro Logic II Game, Dolby Pro Logic IIx Game

Once you have programmed the surround mode for each type of processing, select the line from the Surround Modes menu to override the AVR's automatic surround mode selection. The AVR will use the same surround mode the next time the source input is selected.

Please refer to Table A12 in the appendix for more information on which surround modes are available with different bitstreams.

Dolby Surround Settings

Some additional settings are available for Dolby modes. When the Dolby Pro Logic II or IIx Music modes have been selected, choose the Edit submenu to adjust the Center Width, Dimension and Panorama settings. See Figure 65.

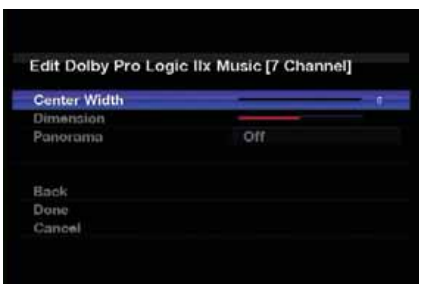


Figure 65 – Dolby Pro Logic II/IIx Music Mode Settings

Center Width: This setting affects how vocals sound through the three front speakers. A higher number (up to 7) focuses the vocal information

tightly on the center channel. Lower numbers broaden the vocal soundstage. Use the ◀/▶ Buttons to adjust.

Dimension: This setting affects the depth of the surround presentation, allowing you to "move" the sound toward the front or rear of the room. The setting of "0" is a neutral default. Setting "F-3" moves the sound toward the front of the room, while setting "R-3" moves the sound toward the rear. Use the ◀/▶ Buttons to adjust.

Panorama: With the Panorama mode turned ON, some of the sound from the front speakers is moved to the surround speakers, creating an enveloping "wraparound" effect. Each press of the OK Button toggles the setting on or off.

Night Mode

Night mode is available with Dolby Digital programs, if it has been encoded in the material. It compresses the peak sound levels, maintaining the intelligibility of the dialogue and quieter passages, while reducing the loudness of special effects and louder passages to avoid disturbing others. Night Mode is accessed from the Audio Effects menu. See page 45.

NOTE: To access 6.1- and 7.1-channel modes, the surround back channels must be enabled as explained in the Manual Setup section. Do not enable these channels if you don't have surround back speakers in your system.

Manual Setup

The AVR 3550HD is flexible and may be configured for most speakers, and to compensate for the acoustic characteristics of your room.

The EzSet/EQ process automatically detects the capabilities of each speaker, and optimizes the AVR 3550HD's performance. If you are unable to run EzSet/EQ calibration, or if you wish to make further adjustments, use the Manual Setup on-screen menus.

Before beginning, place your loudspeakers as explained in the Speaker Placement section, and connect them to the AVR. Consult the owner's guide for the speakers or the manufacturer's Web site for the frequency range specification. Although you may set the output levels "by ear," an SPL (sound-pressure level) meter purchased at a local electronics store will provide greater accuracy.

Record your configuration settings in Tables A3 through A11 in the appendix for easy re-entry after a system reset, or if the AVR's Master Power Switch is turned off or the unit is unplugged for more than four weeks.

NOTE: When using the AVR's Speaker Setup menus, select a video output resolution of 720p or higher to view graphics that simplify configuration.

Step One – Determine Speaker Crossover

Without using the EzSet/EQ process, the AVR 3550HD can't detect how many speakers you've connected to it; nor can it determine their capabilities. Consult the speaker's technical specifications and locate the frequency response, usually given as a range, e.g., 100Hz – 20kHz (±3dB). Write down the lowest frequency that each of your main speakers is capable of playing (100Hz in the example) as the crossover in Table A3 in the appendix. This is not the same as the crossover frequency listed in the speaker's specifications. For the subwoofer, write down the transducer size.

The receiver's bass management determines which speakers will be used to play back the low-frequency (bass) portion of the source program. Sending the lowest notes to small satellite speakers won't sound right, and may even damage the speaker. The highest notes may not be heard at all through the subwoofer.

With proper bass management, the AVR 3550HD divides the source signal at a crossover point. All information above the crossover point is played through the satellite speaker, and all information below the crossover point is played through the subwoofer. Each loudspeaker in your system performs at its best, delivering an enjoyable sound experience.

Step Two – Measure Speaker Distances

Ideally, all of your speakers would be placed in a circle, with the listening position at the center. However, you may have had to place some speakers a little further away from the listening position than others. Sounds that are supposed to arrive simultaneously from different speakers may blur due to different arrival times.

Use the AVR's delay adjustment to compensate for real-world speaker placements.

Measure the distance from each speaker to the listening position, and write it down in Table A4 in the appendix. Even if all of your speakers are the same distance from the listening position, enter your speaker distances as described in Step Three.

Step Three – Manual Setup Menu

Now you are ready to program the receiver. Sit in the usual listening position and make the room as quiet as possible.

With the receiver and video display turned on, press the AVR Settings Button to display the menu system. Use the ▼ Button to move the cursor to the Speaker Setup line, and press the OK Button to display the Speaker Setup menu. See Figure 51.

If you have run the EzSet/EQ process, the results were saved. Adjust the EzSet/EQ On/Off setting in the Audio Effects menu to activate or deactivate the results (see page 45). To tweak the EzSet/EQ results, or to configure the AVR from scratch, select Manual Setup. The screen shown in Figure 66 will appear.

Figure 66 – Manual Speaker Setup Menu

NOTE: All of the speaker setup submenus include the Exit and Back options as shown at the bottom of Figure 66. To return to a previous menu without making any changes, select Exit. To save the current settings, select the Back option.

To reconfigure the speakers from scratch, select the Reset option.

For best results, adjust the submenus in this order, although it may differ from the Manual Speaker Setup menu: Number of Speakers, Crossover (Size), Sub Mode, Distance and Level Adjust.

Number of Speakers

Move the cursor to the Number of Speakers line and press the OK Button. See Figure 67.

Figure 67 – Number of Speakers Menu

Program the correct setting for each speaker group: ON when the speakers are present in the system, and OFF for positions where no speakers are installed. The Front Left & Right speakers are always ON and may not be disabled. Any changes will be reflected in the total number of speakers displayed at the top of the screen.

The setting for the surround back speakers includes a third option: Zone 2. The AVR 3550HD is capable of multizone operation, supporting placement of a pair of speakers in another room. The AVR 3550HD's assignable surround back amplifier channels make multizone operation easier than ever, since an external power amplifier is not required. Select the Zone 2 option at this line, and connect the Surround Back Speaker Outputs to loudspeakers located in the remote room. The main room will be configured automatically for up to 5.1 channels. See the Multizone Operation section for more information.

The settings in this menu affect the remainder of the speaker setup process and the availability of various surround modes at any time.

When you have finished, select the Back option or use the Back/Exit Button to insure the settings are saved correctly.

Adjust Crossover Frequencies Menu

After you have programmed the number of speakers, the AVR will return to the Manual Speaker Setup menu, (see Figure 50). Navigate to the Crossover (Size) line and press the OK Button to display the Adjust Crossover Frequencies menu (see Figure 68).

Figure 68 – Adjust Crossover Frequencies Menu

The AVR will only display those speaker groups programmed in the Number of Speakers menu.

Refer to Table A3 for each speaker's crossover. For the main speakers, this is the lowest frequency the speaker reproduces well.

For each main speaker, select one of the seven crossover frequencies: 40Hz, 60Hz, 80Hz, 100Hz, 120Hz, 150Hz or 200Hz. If the crossover frequency is below 40Hz, select the first option, "Large". This setting doesn't refer to the speaker's physical size, but to its frequency response, which is also called "full range".

Specify the size of the subwoofer's transducer as 8, 10, 12 or 15 inches. The AVR always sets the subwoofer crossover to 100Hz, but uses the transducer size for equalization. Write down the settings in Table A3 in the appendix.

When you have finished entering the settings, select Back, not Exit.

Sub Mode

Move the cursor to the Sub Mode line. This setting depends upon how you programmed the front left and right speakers.

- If you set the front speakers to a numeric crossover frequency, the subwoofer setting will always be LFE. All low-frequency information will always be sent to the subwoofer. If you don't have a subwoofer, either upgrade to full-range speakers or add a subwoofer at the earliest opportunity.
- If you set the front speakers to LARGE, select between two possible settings for the subwoofer.
  - L/R+LFE: This setting sends all low-frequency information to the subwoofer, including both information that would normally be played through the front left and right speakers and the special low-frequency effects (LFE) channel information.
  - LFE: This setting plays low-frequency information contained in the left and right program channels through the front speakers, and directs only the LFE channel to the subwoofer.

NOTE: If you are using a Harman Kardon HKTS Series speaker system, select the appropriate numeric crossover frequency for the Main Speaker groups, and the subwoofer will automatically be set to LFE.

The Speaker/Channel Indicators on the front panel of the receiver (see Figure 64) display the speaker size settings. For each speaker configured numerically, a single box will appear in its position. For each speaker configured as LARGE, a double box will appear. If a speaker is configured as OFF, no box will appear. The subwoofer is indicated by a single box, or no box if no subwoofer has been configured. The letters inside the boxes appear when a digital signal is being received that has that channel discretely encoded. The letters flash when the signal is not present, such as when a DVD is paused. A line connects the SBL and SBR boxes when a 6.1-channel signal is detected, indicating that the same signal is playing through both speakers.

Adjust Speaker Distance Menu

Placing the speakers at different distances from the listening positions can muddy the sound, as sounds are heard earlier or later than desired.

Even if all of your speakers are placed the same distance from the listening position, do not skip this menu.

On the Manual Speaker Setup menu, move the cursor to the Distance line and press the OK Button to display the Adjust Speaker Distance menu. See Figure 69.

Figure 69 – Adjust Speaker Distance Menu

Enter the distance from each speaker to the listening position, as measured in Step Two – Measure Speaker Distances and recorded in Table A4 in the appendix.

The default unit of measurement is feet. To change the unit to meters, return to the main AVR menu. Select the System Settings menu, then scroll down to the General AVR Settings section and select the Unit of Measure line. Press the OK Button to change the setting.

Select a speaker, then use the ◀/▶ Buttons to change the measurement. The values vary between 0 and 30 feet, with a default of 10 feet for all speakers.

NOTE: If the surround back channels are assigned to the multi-zone system, you will not be able to adjust their delay settings.

Step Four – Setting Channel Output Levels Manually

For a conventional 2-channel receiver, the balance control affects the stereo imaging by adjusting the relative loudness of the left and right channels.

With up to seven main channels, plus a subwoofer, imaging becomes both more critical and more complex. The goal is to ensure that each channel is heard at the listening position with equal loudness.

EzSet/EQ calibration can handle this critical task for you, simply and automatically. However, the AVR's Adjust Speaker Levels menu allows you to calibrate the levels manually, either using the system's test tone or while playing source material.

1. Make sure all speakers have been placed and connected correctly.
2. Adjust the number of speakers, crossover, distance and sub mode for each speaker in your system as described in Step Three.
3. Measure the channel levels in one of these ways, and adjust the channel levels using the Adjust Speaker Levels menu:

   a) Preferably, use a handheld SPL meter set to the C-Weighting, Slow scale. Adjust each channel so that the meter reads 75dB.

   b) By ear. Adjust the levels so that all channels sound equally loud.

   c) If you are using a handheld SPL meter with source material, such as a test disc or an audio selection, play it and adjust the AVR's master volume control until the meter measures 75dB.

Press the AVR Settings Button to display the menu system, and then navigate to the Speaker Setup line. Press the OK Button to display the Speaker Setup menu. Select Manual Speaker Setup, press the OK Button, and then navigate to the Level Adjust line. Press the OK Button to display the Adjust Speaker Levels menu. See Figure 70.

Figure 70 – Adjust Speaker Levels Menu

All of the speaker channels will appear with their current level settings.

Reset Levels: To reset all levels to their factory defaults of 0dB, scroll down to this line and press the OK Button.

To set your levels using the AVR 3550HD's internal test tone, adjust the TEST TONE line as follows:

Test Tone: Determines whether the test tone is active. To begin, press the OK Button repeatedly to select the OFF, AUTO or MANUAL setting. Manually moving the cursor out of the channel listings area of the screen, automatically stops the test tone.

When this setting reads AUTO, the test tone will automatically circulate to all channels, pausing for a few moments at each channel and then moving to the next channel several seconds later, as indicated by the highlight bar. Adjust the level for any channel when the test tone is

paused there, using the ◀/▶ Buttons. Use the ▲/▼ Buttons to move the cursor to another line, and the test tone will follow the cursor.

When this setting reads MANUAL, the test tone will not move to the next channel until you use the ▲/▼ Buttons.

Individual Channels: If you are using an external source to set your output levels, navigate to each channel, press the Set Button and use the ◀/▶ Buttons to adjust the level, as desired, between –10dB and +10dB.

NOTE: Setting the channel levels while one surround mode is active does not carry over to other mode groups. After you have set the levels satisfactorily in one mode, write down the results and change to other surround modes. Either copy the settings you obtained (as a short cut), or redo the procedure to determine the correct settings.

When you have finished adjusting the speaker levels, select the SAVE option. Record the level settings in Table A3 in the appendix.

Audio Effects

To adjust other audio settings, such as the tone controls, to improve performance, press the Audio Effects Button to display the Audio Effects menu (see Figure 71). The menu may also be accessed from the Setup Source menu by pressing the Info Settings Button and selecting Audio Effects.

NOTE: The settings in the Audio Effects menu affect each source independently.

Figure 71 – Audio Effects Menu

Tone Control: Determines whether the treble and bass controls are active. When it's off, the tone controls are "flat", with no changes. When it's on, the bass and treble frequencies are boosted or cut depending upon the tone-control settings. When an analog audio source is in use and the 2-Channel Stereo surround mode is selected, setting the Tone Control to "Off" places the unit in analog bypass mode.

Treble and Bass: Boost or cut the high or low frequencies by up to 10dB by using the ◀/▶ Buttons to change the temperature bar setting. The default setting is 0dB, at the center of the temperature bar.

EzSet/EQ On/Off: This setting activates or deactivates the settings obtained when the EzSet/EQ process was run. The settings are saved for reactivation at a later listening session.

LFE Trim: Attenuates the loudness of the subwoofer. The setting defaults to the maximum of 0dB. Press the ◀/▶ Buttons to reduce the level by up to 10dB; the setting will appear as a negative number.

Night Mode: Used with encoded Dolby Digital programs to compress the signal so that louder passages do not disturb others, while dialogue remains intelligible.

- Off: For normal listening.
- Half: Applies moderate compression.
- Full: Applies the most compression.

When you have finished, press the Audio Effects Button or the Back/Exit Button.

Video Adjustments

The AVR 3550HD uses leading-edge Faroudja DCDi Cinema video processing technology. Incoming video is upscaled to 1080p (1080i with component video outputs) for outstanding video quality, even with analog video sources. The Faroudja DCDi Cinema Dual 3D comb filters and 10-bit video processing eliminate the jagged edges and moiré patterns seen with less advanced processing. The "Torino" video processing chip generates on-screen graphics in high definition, and blends it with the incoming video, so that you can continue to watch a program while using system menus.

The video processor automatically provides the best picture based on the capabilities of your video display and the incoming source video. You may experiment with the Video Modes menu adjustments to try to improve the picture further.

Video Modes

Adjust the picture settings on your video display before adjusting the AVR. Access the picture settings from the Video Modes menu. Press the Video Modes Button, and the screen shown in Figure 72 will appear. The menu may also be accessed from the Info Settings menu.

Figure 72 – Video Modes Menu

Video Mode: The default setting of Processor Off passes the video signal through to the display without any picture processing. Video scaling cannot be turned off. Select one of these processing options to optimize the picture for the current program by applying adjustments to the brightness, contrast, color and sharpness:

- Sports: For sporting events.
- Nature: For programs shot outdoors, in a natural setting.
- Movie: For movies and many television broadcasts.
- Custom: Allows manual adjustment of the picture settings. The Brightness, Contrast, Color and Sharpness settings appear as sliders with values ranging from 0 to 100. The default setting for each adjustment is 50. Use the ◀/▶ Buttons to change each setting's value.

Picture Adjust: Changes the aspect ratio of the displayed image.

Widescreen (16:9) images are displayed on a full-screen (4:3) device in letterbox format. Black bars may appear above and below the image.

When displaying full-screen images on a widescreen device, black or gray bars may appear to the left and right of the image (pillarboxing).

Plasma and CRT monitors may suffer from "burn-in" when the same image, such as the horizontal or vertical bars, is left on screen for a long period of time. Adjust the picture so that it fills the display's screen. The options are:

- Auto Fit: The AVR automatically adjusts the image as required to fit the display's capabilities.
- Height Fit: Adjusts the image to eliminate any bars above or below it. Bars may remain at the sides.
- Width Fit: Adjusts the image to eliminate any bars on the sides. Bars may remain above and below the image.
- Zoom 1x: Displays the image as received from the source. If the image is in the 4:3 aspect ratio, on widescreen displays pillarbox format may be used. If the image is in the 16:9 aspect ratio, on full screen (4:3) displays letterbox format may be used.
- Zoom 2x: Stretches the image evenly to completely fill the screen. The outer portions of the image may be cropped.

Experiment with this setting until you find a pleasing display format for each program.

Advanced Video Settings: Press the ▶ or OK Button to display the Advanced Video Modes submenu (see Figure 73).

Figure 73 – Advanced Video Modes Menu

Noise Reduction: Change this setting from the default Off to Low, Medium or High to filter out signal noise.

MPEG Noise Reduction: This setting is designed to address two specific types of video distortion, mosquito noise and blocking artifacts. If you see haziness or shimmering around the edges of objects or the scrolling credits in a film, or if the image appears to "pixellate" into blocks, change the MPEG Noise Reduction setting from its default of Off to Low, Medium or High.

Cross Color Suppressor: Turn this setting on to remove cross color artifacts, which can occur when high-frequency luminance (brightness) signals are misinterpreted as chroma (color) signals, causing unwanted flickering, flashing colors or rainbow patterns.

Film Mode Detect: Normally left off, turn this setting on to compensate for authoring errors in the conversion of film programs to video.

How to Adjust the Custom Picture Settings

Set the Video Mode to Custom to display the picture settings, as shown in Figure 74.

Figure 74 – Video Modes Custom Processing

With a color bar test pattern from a test disc or other source on screen, the following adjustments may be made:

- The color intensity setting on your TV.
- Color adjustments using the color bars, which should be (left to right) black, white, yellow, cyan (turquoise), green, magenta, red, blue, black.
- The 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.

Use the gray scale and the black/white fields below the color bars to adjust the brightness and contrast.

Brightness Adjustment

1. Turn down the color control on your TV until the color bars appear in black and white.
2. Adjust the contrast to the lowest level where you still can see all gray scale bars separately and clearly.
3. Adjust the brightness so that the bars in the gray scale are all visible. The bar farthest to the left has to be as black as possible rather than gray but the next gradation must clearly be distinct from it. The bars in the gray scale should gradually and evenly change from black to white.

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.
2. If the brightness of the white bar no longer increases when the contrast is turned up or the borders of white letters bloom (overlight) into the black areas (drastically decreasing the sharpness of the type), the contrast has been turned up too much. Reduce the contrast until these effects disappear and the video still looks realistic.
3. If you are watching TV with ambient daylight, adjust the contrast so that a normal video picture looks the same as the surroundings in your room. That way the eye is relaxed when watching the TV picture. Reduce the setting when the surrounding light is dimmed to improve the sharpness of the picture.
4. The gray scale in the middle line should retain the same distinction between each bar as before the contrast adjustment. If not, repeat both Step 3 of the Brightness Adjustment, and the Contrast Adjustment.

Color Adjustment

1. When the brightness and contrast are set optimally, adjust the color control. Set the level so that the colors look strong but still natural, not overdone. If the color level is too high, depending on the TV, some of the bars will seem wider or the color intensity will not increase when the control is turned up. Test the color intensity with a video of pictures of faces, flowers, fruit and vegetables.
2. Refer to the large white bar below the gray scale to tweak the warmth of the picture using the Tint control on your TV.

Sharpness Adjustment

Contrary to intuition, the picture will appear sharper and clearer with the sharpness backed off from the maximum setting. Reduce the sharpness setting on your television, and the setting on the AVR 3550HD if necessary, to minimize the appearance of any white lines between the bars in the gray scale portion of the test screen.

Convergence and Edge Focus

The crosshatch pattern that surrounds the test screen may be used to evaluate edge focus and convergence in front- or rear-projection video displays. If you are unable to improve the picture using the available controls, contact the video display manufacturer's authorized service representative for assistance.

When you have finished making any video adjustments, press the Back/Exit Button.

Multizone Operation

With the multizone system in use, you may enjoy an exciting 5.1-channel home theater presentation in the main listening area, while others listen to the same materials or an entirely different presentation in another room.

Although installation of a multizone system is not complicated, it requires running wires inside walls. Check your local building codes and comply with the requirements for in-wall wiring systems to prevent the possibility of a dangerous situation. If you have any questions about installing a multizone system, it is strongly recommended that you contact a professional custom installer.

Installing a Multizone System

A basic multizone system consists of only one remote room in the remote zone, using only one pair of loudspeakers placed in the remote room for stereo playback. It is not recommended that you place the left and right multizone speakers in different rooms.

To use the AVR 3550HD with more than one remote room, purchase a multichannel external amplifier, or use an A-BUS hub. However, the AVR 3550HD only outputs one remote zone. All remote rooms will hear the same source, even when a multichannel amplifier is used.

There are three ways of connecting the remote speakers to the AVR 3550HD:

a) Connect the speakers to the left and right Surround Back/Zone 2 Speaker Outputs. It is not recommended for long speaker-wire runs (e.g., more than 25 feet), as the audio signal tends to degrade over long distances. If your application requires a long speaker-wire run, consider option b below.

b) Purchase an external amplifier. Connect the Surround Back/Zone 2 Preamp Outputs or the Zone 2 Audio Outputs to the amplifier's inputs. Place the amplifier either in the main listening room or the remote room. Remote-room placement is preferred to minimize the length of the speaker wires.

c) Buy an A-BUS in-wall amplified module, such as the Harman Kardon AB 1 or AB 2, and connect it to the A-BUS port for use with a single pair of remote speakers. If you purchase an A-BUS hub, such as the Harman Kardon ABH 4 or ABH 4000, you may connect up to four in-wall modules to each hub, or you may cascade hubs to create a whole-house audio distribution system that delivers audio to almost every room in your home. A-BUS offers the benefits of simplicity, expandibility and the inclusion of IR support, all communicated via single-cable connections and requiring no external power amplifiers.

When you use either the Surround Back/Zone 2 Speaker Outputs or the Surround Back/Zone 2 Preamp Outputs for a multizone system, you will not be able to use the surround back speakers with your main system, which will then be limited to 5.1 channels. However, when the multizone system is turned off, you may reassign your remote speakers to the main listening room for 7.1-channel operation.

If you are not using A-BUS components, install an optional remote infrared (IR) receiver in the remote room and connect it to the Zone 2 IR Input to use the included Zone 2 remote control, a keypad or another control device to turn the multizone system on or off, select a source input, and operate any source devices that are connected in daisychain fashion to the AVR 3550HD's Remote IR Output.

You may use the above connection methods simultaneously to increase the total number of remote rooms in your system. Remember that sending control commands from one room in the system will affect the entire remote zone of the multizone system.

Operating the Multizone System

The AVR 3550HD's multizone system is accessed using the on-screen Zone 2 menu. Press the AVR Settings Button, and use the ▲/▼ Buttons to navigate to the Zone 2 line. Press the OK Button to display the Zone 2 menu. See Figure 75.

Figure 75 – Zone 2 Menu

Status: Turns the multizone system on or off. When no one is listening in the remote room, leave this setting at the default of OFF.

Source: Indicates the source input for the remote zone. You may select a different source from the main listening area. However, if the tuner has been selected for both the main listening area and the remote zone, listeners in both areas will hear the same radio station.

NOTE: Only analog audio sources are available to the multizone system. To hear digital devices, such as a CD player, in the remote zone, follow these steps:

1. In addition to a digital audio connection, connect the source device's analog audio outputs to the AVR. Make a note in Table A5 in the appendix which set of inputs was used.
2. In the Setup Source menu, leave the Audio Input from Source setting at the digital audio input. Scroll down to the Zone 2 Audio setting and select the analog audio input.

Volume: The volume is controlled separately for the remote zone.

Surround Back Amps: Reassign the surround back channels to the multizone system. When this line is set to Zone 2, you may only configure the main listening room for up to 5.1 channels. EzSet/EQ will only configure the main 5.1-channel system. Use the Manual Setup section of the Speaker Setup menu to configure the remote speakers with this setting at Main Room, then return this setting to Zone 2.

To operate the multizone system using the main remote, slide the Zone Select Switch at the bottom of the remote to the "2" position (see Figure 76). To select a zone using the Zone 2 remote, press the Zone Selector, and the Zone Indicator will turn green when the remote is set to operate Zone 1, or red to operate Zone 2.

Figure 76 – Zone Select Switch

System Settings

The AVR 3550HD offers system settings for ease of use that don't directly affect performance. These settings may be accessed from the System Settings menu, which is selected by pressing the AVR Settings Button and navigating to the System line. Press the OK Button to display the System Settings menu. See Figure 77.

Figure 77 – Systems Settings Screen

Front Panel Dimmer: Select On 100% for full brightness, dim to 50% or 25% of full brightness or select Off to fully darken the display. The light inside the Volume Control will go out when the display is partly or fully dimmed, but the Power Indicator will always remain lit to remind you that the AVR is powered on. When the display is partly or fully dimmed, it will return to full brightness for five seconds whenever a command is entered, and then it will dim again.

General AVR Settings

Volume Units: Select whether volume is displayed in the conventional decibel scale or on a numeric scale from 0 to 100. When the decibel scale is used, 0dB is the maximum volume, with lower volumes displayed as negative values.

Volume Default and Volume Default Level: These two settings are used together to program the volume level at turn-on. Turn Volume Default on, and then set the Volume Default Level to the desired turn-on volume.

Unit of Measure: Adjusts the speaker-distance settings for Manual Speaker Setup. Select between meters and feet.

iPod Charging: When The Bridge II is connected and an iPod is docked, the device's battery charges as long as the AVR is powered on. When this setting is turned on, the device will continue to charge when the AVR is in Standby mode.

Language: Select the preferred language for the AVR's on-screen menus and displays: English, French, Spanish or German.

HDMI Audio to TV: Determines whether HDMI audio signals are passed through the HDMI Output to the video display. In normal operation, leave this setting Off, as audio will be played through the AVR. To use the TV by itself, without the home theater system, turn this setting On. Mute the TV's speakers when using the AVR for audio.

Menu Appearance

OSD Transparency: Select whether video programs will be visible when the menu system is in use. Select Normal for a fully-transparent

background, Medium for partial transparency or Opaque to block video programs while the menus are on screen.

Volume Status Messages: When the AVR is turned on, the volume is adjusted or the source is changed, or if a change in the input signal is detected, a status message will be displayed on screen. Select how long the message remains visible, from 2 to 10 seconds, with a default of 3 seconds.

Menus: The settings in the Surround Modes, Video Modes and Audio Effects menus only remain in effect during the current listening session. This setting governs how long these menus remain visible after the last adjustment, varying from 2 to 10 seconds, with a default of 3 seconds.

Setup and Slide-In Menus: This setting determines how long the setup menus (Main Menu, Speaker Setup Menu, Zone 2 Menu, all slide-in menus) remain visible after the last adjustment. Select a timeout period of 5, 10 or 15 (the default) minutes, or no timeout, which leaves the menus on screen until manually cleared. A timeout period avoids the possibility of burn-in damage to plasma or CRT displays.

Screen Saver: Program a timeout period for no activity (with no menus displayed) before the AVR's built-in screen saver begins. Select a period of 5 (the default), 10 or 20 minutes, or turn off the screen saver. A timeout period avoids the possibility of burn-in damage to plasma or CRT displays.

Advanced Remote Control Functions

The AVR 3550HD remote control also serves as a universal remote that may be programmed to operate other components. Refer to the Function List (Table A13 in the appendix) for assistance in operating your other components. The function of each button will not necessarily correspond to the label printed on the button.

Punch-Through Programming

The punch-through feature allows you to operate one component, while setting certain groups of controls to operate another component. For example, while using the AVR controls for surround modes and other audio functions, you may operate the transport controls of your DVD player. Or while using the remote to control video functions on your TV, you may use your cable box to change channels.

To program punch-through control while operating any device:

1. Press and hold the Source Selector (or AVR Settings Button) for the main device the remote will be operating. The Source Selector will light, go dark and then light up again, indicating the remote is in Program mode and that you may release the button.
2. Select the type of punch-through programming.
   a) For channel control punch-through, press the Channel Up Button.
   b) To program transport control punch-through, press the Play Button.
3. Press the Source Selector for the device whose channel or transport controls will be used while operating the device selected in the first step. The Source Selector will flash to confirm.

For example, to watch the TV while changing channels using the cable box, press and hold the TV Button until it lights. Then press the Channel Up Button, followed by the CBL/SAT Button.

To undo punch-through programming, follow the same steps as above, but press the same Source Selector in Steps 1 and 3.

> NOTE: The Volume and Mute controls are always dedicated to the AVR.

Activities (Macros)

Activities are used to program sequences of up to 19 commands that are executed with a single button press. Activities are well suited for power on and off commands, to send out a multidigit channel number with one button press, or to control another device with more flexibility than the built-in punch-through controls. Up to eleven activities may be programmed.

> NOTE: Use caution when programming complicated activities. It isn't possible to program a pause or delay before sending commands after Power On, and the component may not be ready to respond to commands immediately after powering on.

To program, or "record" an activity, follow these steps:

1. To enter Program mode, simultaneously press and hold the Activity Button and the Alphanumeric Key or AVR Power On Button to which the activity will be assigned.
2. Press the Source Selector (or AVR Settings Button) for each device before you enter individual commands. This step counts as one of the 19 commands allowed for each activity.
3. For Power On, press the AVR or Device Power On Button.
4. Press the AVR or Device Power Off Button for Power Off.
5. Press the Activity Button to end the programming process, and the last Source Selector (or the AVR Settings Button) will flash three times.

It isn't possible to "edit" a command within an activity. To erase the activity:

1. Press and hold the Activity Button and the Alphanumeric Key or AVR Power On Button until the Source Selector or AVR Settings Button lights.
2. Press the Activity Button to erase the activity.

To execute an activity, press the Activity Button, then press the Alphanumeric Key (or the AVR Power On Button) for the Activity.

Learning

If you have programmed a product's codes into the remote and find that some functions are missing, the AVR 3550HD remote may "learn" individual codes from the product's original remote. See page 28.

Resetting the Remote

To reset the remote to its factory defaults, simultaneously press and hold the TV Source Selector and the "0" Alphanumeric Key. When the

TV Button re-lights, enter the code "333". When the TV Button goes out, and all of the Source Selectors flash, the remote will be reset.

Processor Reset

If the unit behaves erratically after a power surge, first turn off the Master Power Switch and unplug the AC power cord for at least three minutes. Plug the cord back in and turn the receiver on. If this doesn't help, reset the AVR.

NOTES:

- A system reset erases all user configurations, including video resolution, speaker and level settings, and tuner presets. After a reset, reenter all of these settings from your notes in the appendix worksheets.
- The RS-232 Reset Button on the rear panel of the AVR 3550HD does not perform a system reset. DO NOT press the RS-232 Reset Button.

To reset the AVR 3550HD, place it in Standby mode (press the front-panel Standby/On Switch so that the Power Indicator turns amber). Then press and hold the front-panel OK Button for at least five seconds until the RESET message appears.

If the receiver does not function correctly after a processor reset, contact an authorized Harman Kardon service center for assistance. Authorized service centers may be located by visiting the Web site at www.harmankardon.com.

Memory

If the AVR 3550HD is unplugged or experiences a power outage, it will retain user settings for up to four weeks.

TROUBLESHOOTING GUIDE

SYMPTOM	CAUSE	SOLUTION
Unit does not function when Main Power Switch is turned on	• No AC Power	• Make certain AC power cord is plugged into a live outlet • Check whether outlet is switch-controlled
Display lights, but no sound or picture	• Intermittent input connections • Mute is on • Volume control is down	• Secure all input and speaker connections • Press Mute Button • Turn up volume control
No sound from any speaker; PROTECT message appears on front panel	• Amplifier is in protection mode due to possible short • Amplifier is in protection mode due to internal problems	• Check speaker wires for shorts at receiver and speaker ends • Contact your local Harman Kardon service center
No sound from surround or center speakers	• Incorrect surround mode • Input is monaural • Incorrect configuration • Stereo or Mono program material	• Select a mode other than Stereo • There is no surround information from mono sources • Check speaker configuration • The surround decoder may not create center- or rear-channel information from nonencoded programs
Unit does not respond to remote commands	• Weak batteries in remote • Wrong device selected • Remote sensor is obscured	• Change remote batteries • Press the AVR Settings Button • Make certain front-panel sensor is in line of sight of remote or connect an optional remote sensor
Intermittent buzzing in tuner	• Local interference	• Move unit or antenna away from computers, fluorescent lights, motors or other electrical appliances
Letters flash in the channel indicator display and digital audio stops	• Digital audio feed paused	• Resume play for DVD • Check that the correct digital input is selected
Surround Back Speaker settings cannot be accessed, and test tone does not play through Surround Back Speakers	• Multizone system has been turned on, and the surround back channels were reassigned to multizone operation	• Use the menu system to access the Zone 2 menu and reassign the surround back channels to the main room
The XM Preview Channel (001) is silent	• XM antenna is not plugged in • XM antenna is not located in such a way as to enable reception	• Use an XM antenna module designed for use with XM Ready home audio equipment, and plug the module into the XM Radio Jack • The XM antenna module needs an unobstructed view of the southern sky, or to be within range of an XM terrestrial repeater; if necessary, purchase an extension cable from your XM Radio dealer
Unable to activate Program mode on remote	• Source Selector not held for at least 3 seconds	• The selector will light as you initially press it, and go dark as you hold it down; wait 3 seconds for the selector to light again
Remote buttons light, but AVR does not respond	• Remote is in Zone 2 mode	• Slide the Zone Switch at the bottom of the remote to the Zone 1 position

Additional information on troubleshooting possible problems with your AVR 3550HD, or installation-related issues, may be found in the list of "Frequently Asked Questions", which is located in the Product Support section of our Web site at www.harmankardon.com.

Appendix – Default settings, worksheets, remote product codes

Table A1 – Recommended Source Component Connections

Device Type	AVR 3550HD Source	Digital Audio Connection	Analog Audio Connection	Video Connections
Cable TV, satellite TV, HDTV or other device that delivers television programs	CBL/SAT	HDMI 2	Analog 1	HDMI 2
DVD Audio/Video, SACD, Blu-ray Disc, HD-DVD player	DVD	HDMI 1	Analog 2	HDMI 1
Media Server, including Harman Kardon DMC 1000	Media Server	Optical 2	Analog 5	S-Video 1
TV	TV	Optical 1	Analog 3	Component 1*
Video game console	Game	Coaxial 1	Analog 4	Composite 1
Any audio or video device, e.g., CD player, camcorder, cassette deck	AUX	Coax Front	Analog Front	Composite Front (not used for audio-only devices)
Recorder	Any	Coaxial 1 or 2 input and Coaxial Output	Analog 4 inputs and outputs	Composite OR S-Video 2 input and output
iPod	The Bridge II	None	The Bridge II	The Bridge II for photo- and video-capable iPod models

*Make this connection only when using the TV source for a non-display device. Do not connect your television's or video display's video output to the AVR at any time.

Table A2 – Source Setting Defaults

	Cable/Sat	DVD	Media Server	Radio	TV	Game	AUX	The Bridge
Surround Modes (Auto Select)	Logic 7 Movie	Logic 7 Movie	Logic 7 Movie	Logic 7 Movie	Logic 7 Movie	Logic 7 Movie	Logic 7 Movie	Logic 7 Movie
Video Input	HDMI 2	HDMI 1	S-Video 1	N/A	Component 1	Composite 1	Composite Front	The Bridge II
Audio Input	HDMI 2	HDMI 1	Optical 2	N/A	Optical 1	Coaxial 1	Coaxial Front	The Bridge II
Resolution to Display	480i	480i	480i	480i	480i	480i	480i	480i
Audio Auto Polling	Analog 1	Analog 2	Analog 5	N/A	Analog 3	Analog 4	Analog Front	The Bridge II
Zone 2 Audio	Analog 1	Analog 2	Analog 5	N/A	Analog 3	Analog 4	Analog Front	The Bridge II

Table A3 – Speaker/Channel Setting Defaults

Audio Input	All Digital and 2-Channel Analog Audio Inputs	6-/8-Channel Analog Audio Inputs*	Your Settings
Left/Right Speakers	ON	ON	
Center Speaker	ON	ON	
Left/Right Surround Speakers	ON	ON	
Left/Right Surround Back Speakers	ON	ON	
Subwoofer	ON	ON	
Left/Right Speakers Crossover	100Hz	Large*	
Center Speaker Crossover	100Hz	Large*	
Left/Right Surround Speakers Crossover	100Hz	Large*	
Left/Right Surround Back Speakers Crossover	100Hz	Large*	
Subwoofer Mode	L/R + LFE	N/A*	
Subwoofer Size	8 inch	N/A*	
Front Left Level	0dB	0dB	
Center Level	0dB	0dB	
Front Right Level	0dB	0dB	
Surround Right Level	0dB	0dB	
Surround Back Right Level	0dB	0dB	
Surround Back Left Level	0dB	0dB	
Surround Left Level	0dB	0dB	
Sub Level	0dB	0dB	

*Note: The 6-/8-Channel Inputs are "direct" inputs whose signals are passed directly to the volume control without any bass management processing. Thus, the speakers are always full-range and cannot be adjusted. The settings are global for the remaining audio inputs.

Table A4 – Delay Setting Defaults

Speaker Position	Distance From Speaker to Listening Position	Your Delay Settings
Front Left	10 feet	
Center	10 feet	
Front Right	10 feet	
Surround Right	10 feet	
Surround Left	10 feet	
Surround Back Right	10 feet	
Surround Back Left	10 feet	
Subwoofer	10 feet	
A/V Sync Delay	0mS	

Table A5 – Source Settings

	Cable/Sat	DVD	Media Server	Radio	TV	Game	AUX	The Bridge
Surround Modes								
Video Input								N/A
Audio Input								N/A
Resolution to Display								
Adjust Lip Sync								
Change Name								N/A
Audio Auto Polling								N/A
Zone 2 Audio								N/A

Table A6 – Audio Effects Settings

	Default	Cable/Sat	DVD	Media Server	Radio	TV	Game	AUX	The Bridge
Tone Control	Off								
Treble	0dB								
Bass	0dB								
LFE Trim	0dB								
Night Mode	Off								

Table A7 – Video Modes Settings

	Default	Cable/Sat	DVD	Media Server	Radio	TV	Game	AUX	The Bridge
Video Mode	Processor Off								
Brightness*	50								
Contrast*	50								
Color*	50								
Sharpness*	50								
Picture Adjust	Auto Fit								
Noise Reduction**	Off								
MPEG Noise Reduction**	Off								
Cross Color Suppressor**	Off								
Film Mode Detect**	Off								

*Note: These settings are only available when the Video Mode is set to Custom.
**Note: These settings are only displayed when Advanced Video Settings is selected.

Table A8 – Surround Modes

	Default	Cable/Sat	DVD	Media Server	Radio	TV	Game	AUX	The Bridge
Auto Select	Logic 7 Movie or native digital format								
Virtual Surround	Dolby Virtual Speaker Reference								
Stereo	7 CH Stereo								
Movie	Logic 7 Movie								
Music	Logic 7 Music								
Game	Logic 7 Game								
Center Width*	0								
Dimension*	0								
Panorama*	Off								

*Note: These settings are only available when Dolby Pro Logic II or IIx Music mode has been selected. Access these settings by selecting the Edit option.

Table A9 – Remote Control Codes

Source Input	Device Type (if changed)	Product Code
Cable/Sat		
DVD		
Media Server		
TV		
Game		
AUX		

Table A10 – System Settings

Feature	Default	Your Settings
Front-Panel Dimmer	On 100%	
Volume Units	dB	
Volume Default	Off	
Volume Default Level	–25dB	
Unit of Measure	Feet	
iPod Charging	Off	
Language	English	
HDMI Audio to TV	Off	
OSD Transparency	Normal	
Volume/Status Messages	3 seconds	
Menus	5 seconds	
Setup and Slide-In Menus	15 minutes	
Screen Saver	5 minutes	

Table A11 – Zone 2 Settings

Source Input	Default	Your Settings
Status	Off	
Source	Cable/Sat	
Volume	–25dB	
Surround Back Amps	Main Room	

Table A12 – Surround Modes

Surround Mode	Description	Incoming Bitstream or Signal
Dolby Digital	Provides up to five separate main audio channels and a dedicated low-frequency effects (LFE) channel. May be encoded for Night mode, which allows the user to apply a compression setting that maintains intelligibility of softer passages while reducing the loudness of dynamic passages to avoid disturbing others.	• Dolby Digital 1/0/.0 or .1, 2/0/.0 or .1, 3/0/.0 or .1, 2/1/.0 or .1, 2/2/.0 or .1, 3/2/.0 or .1 • Dolby Digital EX (played as 5.1) • Dolby Digital Plus decoded and delivered via coax or optical connection
Dolby Digital EX	An expansion of Dolby Digital 5.1 that adds a surround back channel which may be played through one or two surround back speakers. May be manually selected when a non-EX Dolby Digital stream is detected.	• Dolby Digital EX • Dolby Digital 2/2/.0 or .1, 3/2/.0 or .1
Dolby Digital Plus	An enhanced version of Dolby Digital encoded more efficiently, Dolby Digital Plus has the capacity for additional discrete channels and for streaming audio from the internet, all with enhanced audio quality. Source material may be delivered via an HDMI connection, or decoded to Dolby Digital or PCM and transmitted via S/P-DIF coaxial or optical digital audio.	• Dolby Digital Plus via HDMI connection (source device decodes to Dolby Digital when a coax or optical connection is used)
Dolby TrueHD	Dolby TrueHD is an expansion of MLP Lossless™ audio, the same format used on DVD Audio discs. Dolby TrueHD adds the features found in Dolby Digital, such as night mode settings, while delivering fully lossless audio that is a true reproduction of the studio master recording.	• Blu-ray Disc or HD-DVD encoded with Dolby TrueHD, delivered via HDMI
Dolby Digital Stereo	Delivers a 2-channel downmix of Dolby Digital materials.	• Dolby Digital 1/0/.0 or .1, 2/0/.0 or .1, 3/0/.0 or .1, 2/1/.0 or .1, 2/2/.0 or .1, 3/2/.0 or .1 • Dolby Digital EX
Dolby Pro Logic II Mode Group	Analog decoder that derives five full-range, discrete main audio channels from matrix surround-encoded or 2-channel analog sources. Four variants are available.	See below
Dolby Pro Logic II Movie	Variant of Dolby Pro Logic II that is optimized for movie and television programs.	• Dolby Digital 2.0 or 2.1 • Analog (2-channel) • Tuner • PCM (32kHz, 44.1kHz, 48kHz, 96kHz)
Dolby Pro Logic II Music	Variant of Dolby Pro Logic II that is optimized for music selections. Allows adjustment of sound field presentation in three dimensions: • Center Width (adjusts width of vocal soundstage) • Dimension (adjusts depth of soundstage) • Panorama (adjusts wraparound surround effect)	• Dolby Digital 2.0 or 2.1 • Analog (2-channel) • Tuner • PCM (32kHz, 44.1kHz, 48kHz, 96kHz)

Surround Mode	Description	Incoming Bitstream or Signal
Dolby Pro Logic II Game	Variant of Dolby Pro Logic II that emphasizes use of the surround channels and subwoofer for total immersion in the video gaming experience.	• Dolby Digital 2.0 or 2.1 • Analog (2-channel) • Tuner • PCM (32kHz, 44.1kHz, 48kHz, 96kHz)
Dolby Pro Logic	Original version of Dolby Pro Logic that steered a mono signal containing information below 7kHz to the surround channels.	• Dolby Digital 2.0 or 2.1 • Analog (2-channel) • Tuner • PCM (32kHz, 44.1kHz, 48kHz, 96kHz)
Dolby Pro Logic IIx Mode Group	An expansion of Dolby Pro Logic II that adds a surround back channel which may be played through one or two surround back speakers. The Dolby Pro Logic IIx modes may be selected not only with Dolby Digital bit-streams, but thanks to the AVR 3550HD's post-processor, they may also be used with some DTS bitstreams to add a surround back channel to 5.1 modes.	
Dolby Pro Logic IIx Movie	This mode is similar to Dolby Pro Logic II Movie, with an added surround back channel.	• Dolby Digital 2/0/.0 or .1, 2/2/.0 or .1, 3/2/.0 or .1, EX • Analog (2-channel) • Tuner • PCM (32kHz, 44.1kHz, 48kHz, 96kHz)
Dolby Pro Logic IIx Music	This mode is similar to Dolby Pro Logic II Music, including the availability of center width, dimension and panorama adjustments. Dolby Pro Logic IIx Music adds a surround back channel.	• Dolby Digital 2/0/.0 or .1, 2/2/.0 or .1, 3/2/.0 or .1, EX • Analog (2-channel) • Tuner • PCM (32kHz, 44.1kHz, 48kHz, 96kHz)
Dolby Pro Logic IIx Game	This mode is similar to Dolby Pro Logic II Game, with the added benefit of a surround back channel.	• Dolby Digital 2/0/.0 or .1 • Analog (2-channel) • Tuner • PCM (32kHz, 44.1kHz or 48kHz)
Dolby Virtual Speaker Mode Group	Simulates 5.1 channels when only two speakers are present, or a more enveloping sound field is desired.	See below
Dolby Virtual Speaker Reference	When only two main speakers are present, the Reference mode virtualizes a full surround presentation with accurate localization.	• Dolby Digital (uses only two-speaker mode when signal does not contain center channel information) • Analog (2-channel) • Tuner • PCM (32kHz, 44.1kHz or 48kHz)
Dolby Virtual Speaker Wide	Wide mode may be used with two main speakers to widen the front soundstage by virtualizing the locations of the left and right speakers.	• Dolby Digital (number of channels available varies by number of channels in signal) • Analog (2-channel) • Tuner • PCM (32kHz, 44.1kHz or 48kHz)
DTS Digital	Using a different encoding/decoding method than Dolby Digital, it also provides up to five discrete main channels, plus an LFE channel.	• DTS 1/0/.0 or .1, 2/0/.0 or .1, 3/0/.0 or .1, 3/1/.0 or .1, 2/2/.0 or .1, 3/2/.0 or .1 • DTS-ES Matrix (played as 5.1) • DTS-ES Discrete (played as 5.1)

APPENDIX

Surround Mode	Description	Incoming Bitstream or Signal
DTS-HD	DTS-HD is a new high-definition audio format that complements the high-definition video found on Blu-ray Disc and HD-DVD discs. It is transmitted using a DTS core with high-resolution extensions. Even when only DTS 5.1 surround sound is desired (or available, if the multizone system is in use), the higher capacity of high-resolution discs serves up DTS at twice the bit rate used on DVD-Video discs.	• Blu-ray Disc or HD-DVD discs encoded with DTS-HD modes, delivered via HDMI
DTS-HD Master Audio	DTS-HD Master Audio technology delivers bit-for-bit reproductions of the studio master recording in up to 7.1 channels, for an incredibly accurate performance.	• Blu-ray Disc or HD-DVD discs encoded with DTS-HD Master Audio technology, delivered via HDMI
DTS-ES Matrix	DTS Extended Surround adds a single surround back channel to DTS 5.1 digital surround sound. The Matrix version includes the surround back channel information "matrixed" into the left and right (side) surround channels, for compatibility with 5.1-channel systems.	• DTS-ES Matrix
DTS-ES Discrete	DTS-ES Discrete is another Extended Surround mode that adds a surround back channel, but this information is encoded discretely on the disc, and is not derived from information contained in the surround channels.	• DTS-ES Discrete
DTS Stereo	Delivers a 2-channel downmix of DTS Digital materials, or presents a matrix-encoded surround presentation.	• DTS 1/0/.0 or .1, 2/0/.0 or .1, 3/0/.0 or .1, 3/1/.0 or .1, 2/2/.0 or .1, 3/2/.0 or .1 • DTS 96/24 • DTS-ES Matrix • DTS-ES Discrete
DTS Neo:6 Mode Group	DTS Neo:6 analog processing is available with DTS and DTS 96/24 signals and 2-channel analog or PCM signals to create a 3-, 5- or 6-channel presentation.	See below
DTS Neo:6 Cinema	Depending on the number of speakers in your system, select 3-, 5- or 6-channel modes, enhanced for movie or video presentations.	• DTS 2/2/.0 or .1, 3/2/.0 or .1 • DTS 96/24 • Analog (2-channel) • PCM (32kHz, 44.1kHz or 48kHz)
DTS Neo:6 Music	Available only in 5- and 6-channel modes, creates a surround presentation suitable for music recordings.	• DTS 2/2/.0 or .1, 3/2/.0 or .1 • DTS 96/24 • Analog (2-channel) • PCM (32kHz, 44.1kHz or 48kHz)
Logic 7 Mode Group	A Harman International proprietary technology, Logic 7 technology enhances 2-channel and matrix-encoded recordings by deriving separate information for the surround back channels. This provides more accurate placement of sound, improves panning and expands the sound field, even when used with 5.1-channel systems. Logic 7 technology uses 96kHz processing, and is available in 5.1- or 7.1-channel modes. Three variants are available.	See below
Logic 7 Movie	Especially suited to 2-channel sources containing Dolby Surround or matrix encoding, Logic 7 Movie mode increases center channel intelligibility.	• Analog (2-channel) • Tuner • PCM (32kHz, 44.1kHz, 48kHz, 96kHz)
Logic 7 Music	The AVR 3550HD is programmed at the factory to default to this mode for 2-channel signals. Logic 7 Music mode is well suited to conventional 2-channel music recordings.	• Analog (2-channel) • Tuner • PCM (32kHz, 44.1kHz, 48kHz, 96kHz)

Surround Mode	Description	Incoming Bitstream or Signal
Logic 7 Game	Use Logic 7 Game mode to enhance enjoyment of video game consoles.	• Analog (2-channel) • Tuner • PCM (32kHz, 44.1kHz, 48kHz, 96kHz)
5-Channel Stereo	Useful for parties, the left- and right-channel information is played through both the front and surround speakers on each side, while the center speaker plays a summed mono mix.	• Analog (2-channel) • Tuner • PCM (32kHz, 44.1kHz or 48kHz)
7-Channel Stereo	Expands the 5-Channel Stereo presentation to include the surround back channels.	• Analog (2-channel) • Tuner • PCM (32kHz, 44.1kHz or 48kHz)
2-Channel Stereo	Turns off all surround processing and plays a pure 2-channel signal. The signal is digitized and bass management settings are applied, making it appropriate when a subwoofer is used.	• Analog (2-channel) • Tuner • PCM (32kHz, 44.1kHz, 48kHz, 96kHz)
2-Channel Stereo (Analog Bypass)	Maintains an analog input signal in that form, bypassing all digital processing (i.e., surround and bass management). Requires Tone Control setting to be off.	• Analog (2-channel) • Tuner

Refer to the numbered buttons in Figure 78 when using the Function List.

Figure 78 – Remote Control Function List Reference

Table A13 – Remote Control Function List

No.	Button Name	AVR	Radio			DVD	Media Server	TV	The Bridge
			FM	AM	XM		DMC1000		
01	AVR Power On	AVR Power On	AVR Power On	AVR Power On	AVR Power On	AVR Power On	AVR Power On	AVR Power On	AVR Power On
02	AVR Power Off	AVR Power Off	AVR Power Off	AVR Power Off	AVR Power Off	AVR Power Off	AVR Power Off	AVR Power Off	AVR Power Off
03	Device Power On					Power On	On	Power On	Power On
04	Device Power Off					Power Off	Off	Power Off	Power Off
05	CBL/SAT	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel
06	DVD	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel
07	The Bridge	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel
08	Radio	Radio	Radio	Radio	Radio	Radio	Radio	Radio	Radio
09	TV	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel
10	Game	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel
11	Media Server	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel
12	AUX	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel
13	Audio Effects	Audio Effects	Audio Effects	Audio Effects	Audio Effects	Audio Effects	Audio Effects	Audio Effects	Audio Effects
14	Video Modes	Video Modes	Video Modes	Video Modes	Video Modes	Video Modes	Video Modes	Video Modes	Video Modes
15	Surround Modes	Surround Modes	Surround Modes	Surround Modes	Surround Modes	Surround Modes	Surround Modes	Surround Modes	Surround Modes
16	1	1	1	1	1	1	1	1	1
17	2	2	2	2	2	2	2	2	2
18	3	3	3	3	3	3	3	3	3
19	4	4	4	4	4	4	4	4	4
20	5	5	5	5	5	5	5	5	5
21	6	6	6	6	6	6	6	6	6
22	7	7	7	7	7	7	7	7	7
23	8	8	8	8	8	8	8	8	8
24	9	9	9	9	9	9	9	9	9
25	Last	Last	Last	Last	Last			Prev. Ch	Last
26	0	0	0	0	0	0	0	0	0
27	Activity	Activity	Activity	Activity	Activity	Activity	Activity	Activity	Activity
28	Back/Exit	Back/Exit	Back/Exit	Back/Exit	Back/Exit	Clear	Back		Back/Exit
29	Menu	Menu	Menu	Menu	Menu	Menu	Menu	Menu	Menu
30	Up	Up	Tune Up	Tune Up	Channel/Preset Up	Up	Up	Up	Up
31	Left	Left	Preset/Down	Preset/Down	Preset/Category Down	Left	Left	Left	Left
32	OK	OK	OK	OK	OK	Enter	Enter	OK	OK
33	Right	Right	Preset/Up	Preset/Up	Preset/Category Up	Right	Right	Right	Right
34	Light	Light	Light	Light	Light	Light	Light	Light	Light
35	Down	Down	Tune Down	Tune Down	Channel/Preset Down	Down	Down	Down	Down
36	Disc Menu					Disc Menu	Disc Menu	OSD	
37	Red					Angle	Angle		
38	Green					Subtitle	Subtitle		
39	Yellow					Audio	Audio		
40	Blue					Zoom	Zoom		
41	Volume +	AVR Volume +	AVR Volume +	AVR Volume +	AVR Volume +	AVR Volume +	AVR Volume +	AVR Volume +	AVR Volume +
	Volume –	AVR Volume –	AVR Volume –	AVR Volume –	AVR Volume –	AVR Volume –	AVR Volume –	AVR Volume –	AVR Volume –
42	Mute	AVR Mute	AVR Mute	AVR Mute	AVR Mute	AVR Mute	AVR Mute	AVR Mute	AVR Mute
43	Channel/Page Up	Channel/Preset Up	Preset Up	Preset Up	Preset Up	Page Up		Channel Up	Page Up
	Channel/Page Down	Channel/Preset Down	Preset Down	Preset Down	Preset Down	Page Down		Channel Down	Page Down
44	Previous					Prev. Step	Previous		Previous
45	Pause					Pause	Pause		Pause
46	Next					Next Step	Next Step		Next
47	Rew ◄◄					Rew ◄◄	Rew ◄◄		Rew ◄◄
48	Play ►					Play ►	Play ►		Play ►
49	FF ►►					FF ►►	FF ►►		FF ►►
50	Record						Record		
51	Stop					Stop	Stop		Stop
52	AVR Settings	AVR Settings	AVR Settings	AVR Settings	AVR Settings	AVR Settings	AVR Settings	AVR Settings	AVR Settings
53	Info Settings	Info Settings	Info Settings	Info Settings	Info Settings	Info Settings	Info Settings	Info Settings	Info Settings
54	Source Settings					Setup	Setup	TV/VCR	
55	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep
56	Zone Select	Zone Select	Zone Select	Zone Select	Zone Select	Zone Select	Zone Select	Zone Select	Zone Select
57	Learn	Learn	Learn	Learn	Learn	Learn	Learn	Learn	Learn

Table A13 – continued

No.	Button Name	CBL/SAT	Game	AUX				
				CD	HDTV	PVD	TiVO	VCR
01	AVR Power On	AVR Power On	AVR Power On	AVR Power On	AVR Power On	AVR Power On	AVR Power On	AVR Power On
02	AVR Power Off	AVR Power Off	AVR Power Off	AVR Power Off	AVR Power Off	AVR Power Off	AVR Power Off	AVR Power Off
03	Device Power On	Power On	Play	Power On	Power On	Power On	Power On	Power On
04	Device Power Off	Power Off	Stop	Power Off	Power Off	Power Off	Power Off	Power Off
05	CBL/SAT	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel
06	DVD	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel
07	The Bridge	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel
08	Radio	Radio	Radio	Radio	Radio	Radio	Radio	Radio
09	TV	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel
10	Game	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel
11	Media Server	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel
12	AUX	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel	Input Sel
13	Audio Effects	Audio Effects	Audio Effects	Audio Effects	Audio Effects	Audio Effects	Audio Effects	Audio Effects
14	Video Modes	Video Modes	Video Modes	Video Modes	Video Modes	Video Modes	Video Modes	Video Modes
15	Surround Modes	Surround Modes	Surround Modes	Surround Modes	Surround Modes	Surround Modes	Surround Modes	Surround Modes
16	1	1	1	1	1	1	1	1
17	2	2	2	2	2	2	2	2
18	3	3	3	3	3	3	3	3
19	4	4	4	4	4	4	4	4
20	5	5	5	5	5	5	5	5
21	6	6	6	6	6	6	6	6
22	7	7	7	7	7	7	7	7
23	8	8	8	8	8	8	8	8
24	9	9	9	9	9	9	9	9
25	Last	Prev. Ch	Enter		Prev. Ch	Instant Replay	Enter/Last	
26	0	0	0	0	0	0	0	0
27	Activity	Activity	Activity	Activity	Activity	Activity	Activity	Activity
28	Back/Exit	Bypass	Clear		Exit/Cancel	Exit	Exit	Cancel
29	Menu	Menu	Start		Menu	Menu	Menu	Menu
30	Up	Up	Up		Up	Up	Up	Up
31	Left	Left	Left		Left	Left	Left	Left
32	OK	OK	Select		Enter	Setup	Select	Enter
33	Right	Right	Right		Right	Right	Right	Right
34	Light	Light	Light	Light	Light	Light	Light	Light
35	Down	Down	Down		Down	Down	Down	Down
36	Disc Menu	OSD	DVD Menu		OSD	AV	TiVo	OSD
37	Red	Guide	•	Open/Close	Caption	Mark	Window	
38	Green	PPV	■	Random Play	Fav. Ch	Repeat	Live TV	
39	Yellow	Fav. Ch	▲	Repeat	MTS	Jump Up	Slow	
40	Blue	Music	X	Intro Scan	Aspect	Jump Down	Skip	
41	Volume +	AVR Volume +	AVR Volume +	AVR Volume +	AVR Volume +	AVR Volume +	AVR Volume +	AVR Volume +
	Volume –	AVR Volume –	AVR Volume –	AVR Volume –	AVR Volume –	AVR Volume –	AVR Volume –	AVR Volume –
42	Mute	AVR Mute	AVR Mute	AVR Mute	AVR Mute	AVR Mute	AVR Mute	AVR Mute
43	Channel/Page Up	Channel Up	Scan Up	(+10)	Channel Up	Channel Up	Channel Up	Channel Up
	Channel/Page Down	Channel Down	Scan Down	Disc Skip	Channel Down	Channel Down	Channel Down	Channel Down
44	Previous		Slow Down	Skip Down	Back	Last Clip	Thumb Down	Scan Down
45	Pause		Pause	Pause	Pause	Pause	Pause	Pause
46	Next		Slow Up	Skip Up	Replay	Next Clip	Thumb Up	Scan Up
47	Rew ◄◄		Prev.	R. Search	Rew ◄◄	Rew ◄◄	Rew ◄◄	Rew ◄◄
48	Play ►		Play ►	Play ►	Play ►	Play ►	Play ►	Play ►
49	FF ►►		Next	F. Search	FF ►►	FF ►►	FF ►►	FF ►►
50	Record		Subtitle	Time	Record	Record	Record	Record
51	Stop		Stop	Stop	Stop	Stop	Stop	Stop
52	AVR Settings	AVR Settings	AVR Settings	AVR Settings	AVR Settings	AVR Settings	AVR Settings	AVR Settings
53	Info Settings	Info Settings	Info Settings	Info Settings	Info Settings	Info Settings	Info Settings	Info Settings
54	Source Settings	TV/CATV	Program		TV/VCR	TV/DVR	TV Input	TV/VCR
55	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep
56	Zone Select							
57	Learn	Learn	Learn	Learn	Learn	Learn	Learn	Learn

Refer to Tables A14 through A24 when programming the codes for your components into the remote.

Table A14 – Remote Control Product Codes: **TV**

TV Manufacturer/Brand	Setup Code Number
AIWA	027
A MARK	122 132
ADMIRAL	192
AKAI	123 160
AMPRO	164
ANAM	045 106 109 112 122
AOC	122 123 128
BLAUPUNKT	084
BROKSONIC	205 206
CANDLE	123 128
CAPEHART	059
CENTURION	123 171
CENTRONIC	045
CITIZEN	045 123 128 132
CLASSIC	045
CONCERTO	128
CONTEC	045
CORANDO	172
CORONADO	132
CRAIG	045 157 158 159
CROWN	045 132
CURTIS MATHES	123 128 132
CXC	045
DAEWOO	045 087 102 105 106 108 111 114 116 119 127 128 132
DAYTRON	128 132
DIGI LINK	200
DYNASTY	045
DYNATECH	063
ELECTROHOME	115 132
EMERSON	045 123 128 132 139 157 158 159 162 205
FUNAI	045
FUTURETECH	045
GE	029 087 121 123 128 133 145 159 163
GRUNDIG	193
HALL MARK	128
HARMAN KARDON	201
HITACHI	123 128 132 144 147
INFINITY	148
INKEL	120
JBL	148
JC PENNEY	115 123 128 132 145
JENSEN	019
JVC	079 087 134
KAWASHO	173
KEC	045
KENWOOD	123 204
KMC	132
KTV	045 123 132 162
LG/GOLDSTAR	101 110 122 128 132
LLOYTRON	172 173
LODGENET	069
LOGIK	069
LUXMAN	128
LXI	077 145 148
MAGNAVOX	030 123 128 132 145 148
MARANTZ	115 123 148
MATSUI	148
MEMOREX	069 128
METZ	084
MGA	115 123 128
MINERVA	084
MITSUBISHI	077 115 123 128 160 167 168
MTC	175 176
NATIONAL	148 177 179 180 181 182
NEC	115 121 123 125
NIKEI	045
ONKING	045
ONWA	045
OPTONICA	077
ORION	207 208 209 210 211
PANASONIC	087 148 169
PHILCO	045 115 123 128 132 148
PHILIPS	033 034 035 036 123 128 132 145 148
PIONEER	024 123 128
PORTLAND	128 132
PROSCAN	133
PROTON	059 122 128 132 165
QUASAR	032 087
RADIO SHACK	045 128 132 180 196 197
RCA	021 115 123 128 133 145 161 163
REALISTIC	045 167 196
RUNCO	152 153
SAA	183
SAMPO	059 123 128
SAMSUNG	020 022 124 128 132 145
SANYO	026 054
SCOTT	045 128 132
SEARS	128 132 145
SHARP	077 128 132
SIEMENS	084
SIGNATURE	069
SONY	028 031 117 130 136 194 212
SOUNDESIGN	045 128
SPECTRICON	122
SSS	045
SYLVANIA	025 123 128 145 148
SYMPHONIC	184
TANDY	077

Table A14 – continued

TV Manufacturer/Brand	Setup Code Number
TATUNG	063
TECHNICS	181
TECHWOOD	128
TEKNIKA	045 069 115 123 128 132
TELERENT	069
TERA	156
THOMSON	190 191
TMK	128
TOSHIBA	063 129 202
TOTEVISION	132
VIDEO CONCEPTS	160
VIDTECH	128
WARDS	069 128 132 148
YAMAHA	123 128
YORK	128
YUPITERU	045
ZENITH	069 090
ZONDA	122

Table A15 – Remote Control Product Codes: **AUX-HDTV**

TV Manufacturer/Brand	Setup Code Number
LG	604
MOTOROLA	605
RCA	601
SAMSUNG	603
ZENITH	602

Table A16 – Remote Control Product Codes: **AUX-VCR**

VCR Manufacturer/Brand	Setup Code Number
AIWA	340
AKAI	348 408 409 426
AMPRO	376
ASA	434
AUDIO DYNAMICS	318 348
BROKSONIC	410 447
CANDLE	434 435
CANON	435 440
CAPEHART	394
CITIZEN	434
CRAIG	345 416
DAEWOO	317 394 404
DAYTRON	394
DBX	318 348
DIRECTV	314 315
DYNATECH	340
EMERSON	313 340 342 410 412
FISHER	317
FUNAI	340
GE	376 395 424
GO VIDEO	413
HARMAN KARDON	302 303 318 349
HITACHI	340 348
JC PENNEY	318 345
JENSEN	348

Table A16 – continued

VCR Manufacturer/Brand	Setup Code Number
JVC	318 348 411 432
KENWOOD	320 348
LG/GOLDSTAR	318 407
LLOYD	340
LXI	320 340
MAGIN	345
MAGNAVOX	340
MARANTZ	318
MEMOREX	317 320 340 352 353 354 376
MGA	349
MITSUBISHI	349 431
MULTITECH	340
NAD	439
NATIONAL	440
NEC	318 348
NORDMENDE	348
OPTIMUS	459
ORION	447
PANASONIC	425 450 467 472
PHILCO	340
PHILIPS	340 375
PORTLAND	394
PULSAR	376
QUASAR	301 425
RADIO SHACK	355 434 440 442 458 459
RCA	395 424 425 457 472
REALISTIC	317 320 340 345 459
SALORA	320
SAMSUNG	345 351 395 405 409
SANSUI	348 416 447
SANYO	317 320
SCOTT	410 412
SEARS	317 320
SHARP	429 456
SONY	380 429
SOUNDESIGN	340
SYLVANIA	340
SYMPHONIC	340
TANDY	317 340
TASHICO	434
TATUNG	348
TEAC	340 348
TEKNIKA	340
THOMAS	340
TiVo	304 305 306 307 308 309 310 311 312
TMK	313
TOSHIBA	412 455
TOTEVISION	345
UNITECH	345
VECTOR RESEARCH	318
VIDEO CONCEPTS	318 340
VIDEOSONIC	345
WARDS	340 345 412
YAMAHA	318 340 348
ZENITH	340 350 376 383

Table A17 – Remote Control Product Codes: **AUX-CD**

CD Manufacturer/Brand	Setup Code Number
ADCOM	063 069
AIWA	072 111 118 156 170
AKAI	050 177 184
AUDIO TECHNICA	053
AUDIOACCESS	125
AUDIOFILE	211
BSR	044
CALIFORNIA AUDIO	109
CAPETRONIC	070
CARRERA	087
CARVER	136 140 141 143 144 145 185 186
CASIO	117 166
CLARINETTE	166
DENON	187 188 213
EMERSON	052 093 108
FISHER	055 095
FRABA	117
FUNAI	126
GE	164
GENEXXA	108
HAITAI	099 214
HARMAN KARDON	001 002 025 054 190
HITACHI	093
INKEL	216
JC PENNEY	098 147
JENSEN	153
JVC	176 195 196
KENWOOD	030 062 078 079 148 151 176 178 181
LG/GOLDSTAR	016 087
LOTTE	108
LUXMAN	077 102
LXI	164
MAGNAVOX	039 113
MARANTZ	058 084 191 192 193
MCINTOSH	194
MCS	080 098
MITSUMI	152
MODULAIRE	166
NAD	013 074 197 198
NAKAMICHI	199 200 201
NEC	069
NIKKO	053 055
ONKYO	037 038 045 046 171 175 202 203
OPTIMUS	065 089 091 092 099 104 212
PANASONIC	075 109 119 158 183 204
PHILIPS	039 138 149 209
PIONEER	071 094 100 112 123 131 161 162 215
PROTON	210
QUASAR	109
RADIO SHACK	126 166 213
RCA	024 081 093 150
RCX	169
REALISTIC	058 093 095 104 105 108 164 166

Table A17 – continued

CD Manufacturer/Brand	Setup Code Number
SANSUI	047 081 134 157 172
SANYO	033 082 095
SCOTT	108
SHARP	058 105 114 151 159 167 180 181
SHERWOOD	003 041 058 105 133
SONY	103 115 116 118 132 139 163 205 206 207 208 212 217
SOUNDSTREAM	124
SYMPHONIC	059 110
TAEKWANG	177
TEAC	011 058 085 086 106 107 110 121 137 146 154
THETA DIGITAL	039
TOSHIBA	013 074 097 151 155 173
VECTOR RESEARCH	087
VICTOR	120 130
WARDS	095
YAMAHA	019 031 053 061 135 169
YORK	166

Table A18 – Remote Control Product Codes: **DVD**

DVD Manufacturer/Brand	Setup Code Number
APEX DIGITAL	061
DENON	019 051
GE	003 004
HARMAN KARDON	001 002 007 068 201 202
JVC	006
LG/GOLDSTAR	005 055 064 066
MAGNAVOX	056
MARANTZ	059
MITSUBISHI	023
NAD	062
ONKYO	009 048
PANASONIC	024 030 044
PHILIPS	056
PIONEER	041 065
PROCEED	060
PROSCAN	003 004
RCA	003 004
SAMSUNG	053 054
SHARP	028
SONY	043 045
THOMSON	003 004
TOSHIBA	009 058 067
YAMAHA	030 063
ZENITH	005 055 064

APPENDIX

Table A19 – Remote Control Product Codes: **SAT**

SAT Manufacturer/Brand	Setup Code Number
ALPHASTAR	472
ALPHASTAR DBS	450
ALPHASTAR DSR	442
BIRDVIEW	425
CHANNEL MASTER	320 321 325 361
CHAPARRAL	315 316 451
CITOH	360
DRAKE	313 317 318 413 481
DX ANTENNA	331 352 379 483
ECHOSTAR	395 397 452 453 463 477 478 484 485
ELECTRO HOME	392
FUJITSU	324 329 334
GENERAL INSTRUMENT	303 311 323 365 403 454 468 474
HITACHI DBS	455
HOUSTON TRACKER	463
HUGHES	437 489
JANIEL	366
JERROLD	454 468 484
KATHREIN	410
LEGEND	453
MACOM	317 365 369 370 371
MAGNAVOX	461 473
MEMOREX	453
NEXTWAVE	423
NORSAT	373
OPTIMUS	466
PACE DSS	487
PANASONIC	366 469
PANASONIC DBS	457
PANSAT	420
PERSONAL CABLE	418
PHILIPS	375
PICO	407
PRESIDENT	381 404
PRIMESTAR	412 454 468 475
RCA	301 439 465 490
RCA DSS	458
REALISTIC	349 480
SAMSUNG	442
SATELLITE SERVICE CO	335 388
SCIENTIFIC ATLANTA	339
SONY	405
STAR CHOICE DBS	459
STARCAST	347
SUPER GUIDE	327 423
TELECOM	330 333 390 391 393 409
TOSHIBA	302 426 460 461 462 470
UNIDEN	323 332 348 349 350 351 354 355 381 383 389 403 466 479 480
ZENITH	384 385 387 394 419 488

Table A20 – Remote Control Product Codes: **GAME**

Game Manufacturer/Brand	Setup Code Number
MICROSOFT (XBOX)	001
SONY (PLAYSTATION 2)	002

Table A21 – Remote Control Product Codes: **CBL**

CBL Manufacturer/Brand	Setup Code Number
ABC	001 011
ALLEGRO	111
AMERICAST	212
ARCHER	112
BELCOR	113
CABLE STAR	033 113
CITIZEN	111
COLOUR VOICE	085 090
DIGI	114
EAGLE	186
EASTERN	066 070
ELECTRICORD	039
EMERSON	112
FOCUS	116
G.I.	001 011 017 096 097
GC ELECTRONICS	113
GEMINI	032 060
GENERAL	210
GENERAL INSTRUMENT	210
GOODMIND	112
HAMLIN	056 099 100 101 117 175 208
HITACHI	001 188
JASCO	111
JERROLD	001 002 011 017 073 096 097 162 188 210
LINDSAY	118
MACOM	191
MAGNAVOX	017 019 068
MOVIE TIME	035 039
NSC	035 190
OAK	197 220
PACE	179
PANASONIC	053 176 177 189 214
PANTHER	114
PHILIPS	013 019 020 085 090
PIONEER	001 041 119 171 209 215 216
POPULAR MECHANICS	116
PRELUDE	120
PRIMESTAR	162
RADIO SHACK	111 112 213
RCA	053 214
RECOTON	116
REGAL	056 099 100 101 208
REMBRANT	032
SAMSUNG	003 072 186

Table A21 – continued

CBL Manufacturer/Brand	Setup Code Number
SCIENTIFIC ATLANTA	183 203 221 222
SEAM	121
SIGNATURE	001 188
SPRUCER	053 081 177 189
STARCOM	002 011 163
STARGATE	120
TANDY	024
TELECAPATION	028
TEXSCAN	036
TFC	122
TIMELESS	123
TOCOM	170 205
UNITED CABLE	011
UNIVERSAL	033 034 039 042 113
VIDEOWAY	124 211
VIEWSTAR	019 025 086 089 190
ZENITH	065 125 211 219
ZENTEK	116

Table A22 – Remote Control Product Codes:
AUX-MEDIA SERVER

Manufacturer/Brand	Setup Code Number
HARMAN KARDON	002

Table A23 – Remote Control Product Codes:
AUX-CBL/SAT RECORDER (PVD)

Manufacturer/Brand	Setup Code Number
DAEWOO	701 704
ECHOSTAR	714 715 716
EXPRESSVU	714
HUGHES	717 727
HYUNDAI	718
KEEN	709
PANASONIC	710 723
PHILIPS	711 717 724 727
PROSCAN	719
RCA	719 727
REPLAYTV	708 710 712 725 726
SONICBLUE	710 712
SONY	707 713 720 721 722 723 724

Table A24 – Remote Control Product Codes: **AUX- TiVo**

Manufacturer/Brand	Setup Code Number
DIRECTV	806 (See also Table A16)
PIONEER	801
SERIES 2 DVR	802 809
TOSHIBA	803
OTHER TiVo	804 805 807 808 810

AVR 3550HD TECHNICAL SPECIFICATIONS

Audio Section

Seven-Channel Surround Modes
Power per Individual Channel

Front L & R channels:
75 Watts per channel
@ <0.07% THD, 20Hz–20kHz into 8 ohms

Center channel:
75 Watts @ <0.07% THD, 20Hz–20kHz into 8 ohms

Surround (L & R Side, L & R Back) channels:
75 Watts per channel
@ <0.07% THD, 20Hz–20kHz into 8 ohms

Input Sensitivity/Impedance	
Linear (High-Level)	200mV/47k ohms
Signal-to-Noise Ratio (IHF-A)	100dB
Surround System Adjacent Channel Separation	
Pro Logic® I/II	40dB
Dolby® Digital (AC-3)	55dB
DTS®	55dB
Frequency Response	
@ 1W (+0dB, –3dB)	10Hz – 130kHz
High Instantaneous Current Capability (HCC)	±35 Amps
Transient Intermodulation Distortion (TIM)	Unmeasurable
Slew Rate	40V/µsec

FM Tuner Section

Frequency Range	87.5–108.0MHz
Usable Sensitivity	IHF 1.3µV/13.2dBf
Signal-to-Noise Ratio	Mono/Stereo 70/68dB
Distortion	Mono/Stereo 0.2/0.3%
Stereo Separation	40dB @ 1kHz
Selectivity	±400kHz, 70dB
Image Rejection	80dB
IF Rejection	90dB

AM Tuner Section

Frequency Range	520–1720kHz
Signal-to-Noise Ratio	45dB
Usable Sensitivity	Loop 500µV
Distortion	1kHz, 50% Mod 0.8%
Selectivity	±10kHz, 30dB

Video Section

Television Format	NTSC
Input Level/Impedance	1Vp-p/75 ohms
Output Level/Impedance	1Vp-p/75 ohms
Video Frequency Response (Composite and S-Video)	10Hz–8MHz (–3dB)
Video Frequency Response (Component Video)	10Hz–100MHz (–3dB)
HDMI™	Version 1.3a with 10-bit Deep Color

General

Power Requirement	AC 120V/60Hz	
Power Consumption	118W idle, 890W maximum (7 channels driven)	
Dimensions	(Product)	(Shipping)
Width	17-5/16 inches (440mm)	21-7/8 inches (555mm)
Height	6-1/2 inches (165mm)	10-1/2 inches (266mm)
Depth	15 inches (382mm)	18-5/16 inches (465mm)
	(Product)	(Shipping)
Weight	31.5 lb (14.3kg)	36.7 lb (16.7kg)

Depth measurement includes knobs, buttons and terminal connections.
Height measurement includes feet and chassis.
All features, specifications and appearance are subject to change without notice.

Please register your AVR 3550HD at www.harmankardon.com. You'll need the product's serial number. At the same time, you can choose to be notified about new products and/or special promotions.

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