harman/kardon®

AVR 760
AVR 660

AUDIO/VIDEO RECEIVER

OWNER'S MANUAL – Basic Functions

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. Clean only with a dry cloth.

7. Do not block any 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. If 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 attachments/accessories specified by the manufacturer.

12. Use only with the 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.

15. Do not expose this apparatus to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the apparatus.

16. To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from the AC receptacle.

17. The mains plug of the power supply cord shall remain readily operable.

18. Do not expose batteries to excessive heat such as sunshine, fire or the like.

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

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

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 760/AVR 660 has been designed for use with 230-240 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 supplied with 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 warranty. 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.

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

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

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

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

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

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 760/AVR 660 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.

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.

NOTE:

This Owner's Manual is the Basic version. It describes all functions essential for the use of the unit. For more in-depth information, please download the Advanced Functions Manual from the harmankardon.com web site.

All references to the Advanced Functions Manual in the Basic Manual refer to the web-only, additional manual which explains functions that go beyond the basic use of the receiver. This Advanced Functions Manual also contains more worksheets and the remote control function list.

Please register your AVR 760/AVR 660 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.

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. Harman Kardon, Inc., invented the receiver, a single component designed to simplify home entertainment without compromising performance. Over the years, Harman Kardon products have become easier to use, while offering more features and sounding better than ever. The AVR 760 multizone 7.2-channel digital audio/video receiver (AVR 660 is 7.1-channel) continues this tradition with some of the most advanced audio and 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 760/AVR 660 7.2-Channel Audio/Video Receiver

Audio Section

- AVR 760: 85 Watts x 7, seven channels driven at full power at 8 ohms, 20Hz – 20kHz, <0.07% THD, 595 watts total. AVR 660: 75 Watts x 7, 525 watts total.
- High-current capability, ultrawide-bandwidth amplifier design with low negative feedback
- All-discrete amplifier circuitry
- Quadruple-crossover bass management with DVD-Audio bass management capability
- Dual 32-bit TI DA 710 DSP processors
- 192kHz/24-bit A/D and D/A conversion
- Sampling upconversion to 96kHz
- Dolby® Volume processing

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, 2-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-,6- or 7-channel; Music 5-, 6- or 7-channel), up to 96kHz
- Logic 7® (Movie, Music and Game), up to 96kHz
- 5- or 7-Channel Stereo, up to 96kHz
- Surround Off (DSP or Analog Bypass)

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Audio Inputs

- AM/FM tuner
- Analog Audio 1 through 5
- Front-panel Analog Audio
- 6-/8-Channel Analog Audio

Audio/Video Inputs

- Three Analog Video
- Front-panel Analog Video
- Three Component Video 100MHz
- Four HDMI™ (V.1.3a with Deep Color)
- Faroudja DCDi Cinema™ video processing
  - ◆ Transcodes composite and S-video to component video
  - ◆ Transcodes 576i/480i video to component video format, with upscaling to 1080i
  - ◆ Transcodes 576i/480i video to HDMI output, with upscaling to 1080p
- The Bridge II dock for iPod* connectivity with audio/video playback
- Ethernet port for Internet Radio and Network
- USB Port for audio and still-image playback from compatible storage devices

Digital Audio Inputs

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

Outputs

- 7.2-Channel preamp outputs
- Analog Audio 3 and 4
- Analog Video 2 (composite and S-video)
- Video Monitor (composite, S-video and component)
- Digital Audio (one coaxial, one optical)
- HDMI (V.1.3a with Deep Color)
- Multizone Audio: speaker- and two line-level (one dedicated, one shared with surround back channels)
- Multizone Video: composite (AVR 760 only)
- A-BUS® port
- Headphone

Ease of Use

- EzSet/EQ™ II automated setup (microphone supplied)
- Full-color user interface and setup menu, generated in high-definition video
- Text-based on-screen menus available to Zone 2 (AVR 760 only)
- Two-line dot-matrix front-panel display
- Color-coded connections
- Programmable, learning seven-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 control
- System upgradeable from USB device
- Switched accessory power outlet
- Remote infrared (IR) input and output
- Zone 2 IR input and Carrier IR output
- Two trigger outputs (3–30V DC) for auto turn-on of other system components
- IEC detachable AC power cord for easy installation

Supplied Accessories

The following accessory items are supplied with the AVR 760/AVR 660. 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 II microphone
- Extension rod for EzSet/EQ II microphone
- The Bridge II docking station for iPod
- AM loop antenna
- FM wire antenna
- Six AAA batteries
- AC power cord

Made for iPod

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

Power indicator   Remote IR Sensor   Message Display   Volume

Main Power Switch   AVR Settings   Resolution   Video Modes   Source List   Back/Exit   OK   USB Port   Digital Audio Inputs (Optical and Coaxial Front)   Video Inputs (S- and Composite Front)   EzSet/EQ II Microphone Input

Standby/On Switch   Info Settings   Audio Effects   Surround Modes   Menu   ▲ ▼ ◄ ► Navigation   Headphone Jack   Analog Audio Front Inputs
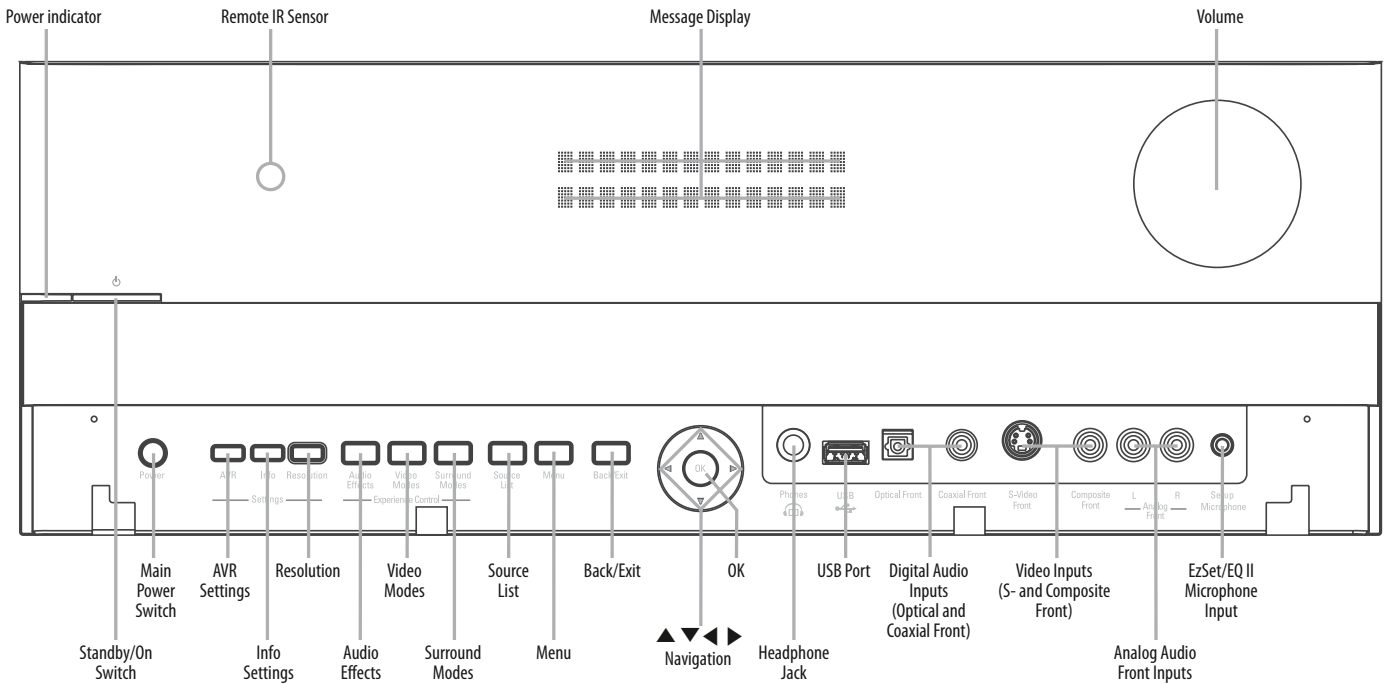
Power Indicator: This LED has three possible modes:

- **Main Power Off**: When the AVR is unplugged or the 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.

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

Front-Panel Door (not shown): Most of the controls and connectors described below are hidden behind this door. To open it, gently grab the right or left edge of the door and pull it forward and down.

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

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: Press this button to access the AVR's video output resolution setting: 480i, 480p, 576i, 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 available video connection from the AVR to the TV is either composite or S-video, press this button and change the resolution to 576i.

Audio Effects: Press this button to directly access the Audio Effects submenu, which allows adjustment of the tone and other audio 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.

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.

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

Menu Button: Press to display the menus for the tuner, the USB device, The Bridge II, the Network or Internet Radio, when any of those sources is in use.

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

▲▼◀ ▶ **Navigation**: These buttons are used to navigate the AVR's menus, including the menus for the tuner, the USB device, The Bridge II, the Network and Internet Radio.

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

Headphone Jack: Plug a 1/4" stereo headphone plug into this jack for private listening.

USB Port: Connect a USB flash drive, to play audio files in the MP3 or WMA format or still images in the JPEG format. DO NOT connect a PC, keyboards, pointing devices or other peripheral products to the AVR 760/AVR 660. Do not connect an iPod here; use The Bridge II instead. Do not connect a USB hub or multi-card device.

Digital Audio, Video and Analog 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.

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

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.

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 760/AVR 660's rear panel.
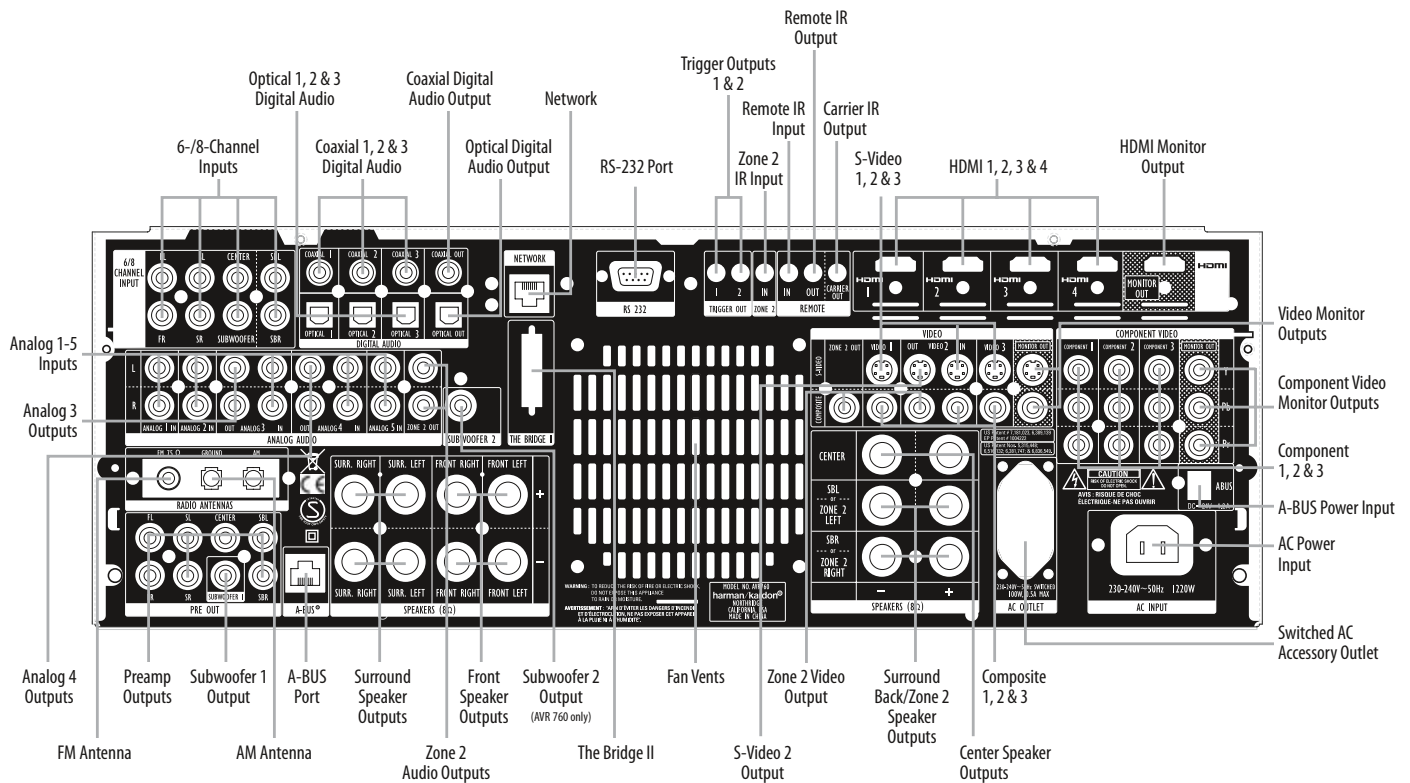
6-/8-Channel Inputs: Connect the multichannel analog audio outputs of a non-HDMI player (DVD-Audio, SACD™, Blu-ray Disc™ or HD-DVD, or any other external decoder) to these jacks.

Coaxial 1/2/3 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 and Optical Digital Audio Outputs: If a source is also an audio recorder, connect one of the Digital Audio Outputs to the recorder's matching input for improved recording quality. Only PCM digital audio signals are available for recording. Both coaxial and optical digital audio signals are available at either Digital Audio Output.

Network Jack: Plug in an RJ-45-compatible cable that connects to a personal computer (PC), router or Internet access. When connected to a PC, the AVR 760/AVR 660 is capable of playing audio and JPEG files stored on the PC. When connected to the Internet, the AVR 760/AVR 660 may be used to enjoy Internet Radio. See pages 33 and 34 for more information.

RS-232 Serial Port: This bi-directional port may be used to control the AVR 760/AVR 660 using an RS-232 serial control link to a compatible computer or programmable remote control system. Due to the complexity of programming RS-232 commands, connections and programming for control purposes should be performed by a qualified custom installer.

Trigger 1 and 2 Outputs: Connect these control jacks to the trigger input jack of an external component, such as an audio power amplifier, that you want to power on any time the AVR 760/AVR 660 is turned on, without using the AVR's Switched Accessory Outlet for power. When this connection is used, the AVR 760/AVR 660 will automatically send a low-voltage signal to the connected device that triggers it to turn on when the AVR 760/AVR 660 is on, and off when the AVR 760/AVR 660 is placed in the Standby Mode. The connected component must respond to 6-volt presence as the control signal.

The Trigger 2 Output may be programmed to transmit its signal only when certain of the AVR's source inputs are selected. For example, to lower a screen when watching a DVD movie, but not while listening to the tuner, connect the Trigger 2 Output to the screen and program it to be on when the DVD source is selected, but off when the AM or FM bands are in use. See the Initial Setup section for more information on programming this setting in the Info Settings menus for each source.

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 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.

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.

ENGLISH

9

HDMI Inputs and Output: HDMI (High-Definition Multimedia Interface) is a connection for transmitting digital audio and video signals between devices. Connect up to four 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 760/AVR 660 will automatically transcode analog video signals to the HDMI format, upscaling to as high as 1080p.

NOTES: When connecting a DVI-equipped display to one of the HDMI Outputs:

- Use an HDMI-to-DVI adapter.
- Make sure the display is HDCP-compliant. If it isn't, do not connect it to an HDMI Output; use an analog video connection instead.
- Always make a separate audio connection.

Analog 1 – 5 Inputs: 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 and 4 inputs are each associated with a set of outputs. Consider using these connectors for an audio or video recorder.

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 3 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.

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

Subwoofer 1 and 2 Outputs: If you have a powered subwoofer with a line-level input, connect it to the Subwoofer 1 Output. For improved performance, connect a second powered subwoofer to the Subwoofer 2 Output (Subwoofer 2 on AVR 760 only).

The Bridge II Input: Connect the included Harman Kardon ™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.

Fan Vents: This area contains vents used by the AVR 760/AVR 660's fan to cool the system. Maintain a clearance of at least 8 cm from the nearest surface to avoid overheating the unit. It is normal for the fan to remain off at most normal volume levels. An automatic temperature sensor turns the fan on only when it is needed.

IMPORTANT NOTE: Never block the fan vents, as doing so could allow the AVR to overheat to dangerous levels.

Zone 2 Video Output: Connect this composite video jack to a video display located in the remote zone of a multizone system. When the multizone system is in use, viewers in the remote zone will be able to see the AVR's on-screen text menus and any available source video, as long as the source is connected to a Composite Video Input, and that input is specified for that source in the Zone 2 Video setting of the Info Settings menu (AVR 760 only).

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 760/AVR 660 will convert the composite or S-video source signal to the correct format for a single video-cable connection to the TV.

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.

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

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.

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 7.2-channel system in the main listening room at the same time the multizone system is in use.

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 7.2-channel home theater, or may be reassigned to a remote room for multizone operation.

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.

A-BUS Power Input: When using optional A-BUS equipment, connect an optional A-BUS power supply to this port.

ENGLISH

MAIN REMOTE CONTROL

IR Transmitter Lens
AVR Power Off
AVR Power On
Device Power On
Device Power Off
LCD Display
Source Selectors
Audio Effects
Video Modes
Surround Modes
Alphanumeric Keys
Last
Activity
Back/Exit
Menu
▲▼◄► Navigation
OK
Light
Disc Menu
Soft Keys
Volume
Channel
Mute
Transport Controls
Record
Info Settings
Source Settings
AVR Settings/Remote Menu
Sleep Settings
Zone Selector

ZONE 2 REMOTE CONTROL

IR Transmitter
Power Off
Mute
Source Selectors
Sleep Settings
AVR Settings
Back/Exit
Menu
▲▼◄► Navigation
OK
Volume Controls
Transport Controls
Zone Selector
Zone Indicator

The AVR 760/AVR 660 remote is capable of controlling up to 14 devices, including the AVR itself, an iPod docked in the included The Bridge II, a USB device and a Network device (see page 34 for details). During the installation process, you may program the codes for your source components into the remote. To operate a component, press its Selector button to change the device mode. The device mode will appear on the top line of the remote's LCD Display.

NOTE: Four of the sources do not have dedicated Source Selectors: Source A, Source B, Source C and Source D. To select one of these sources, first press the AVR Settings Button, then press the appropriate Soft Key: Red for Source A, Green for Source B, Yellow for Source C and Blue for Source D. These sources may also be selected using the AVR Settings menu.

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 Cable/SAT Source Selectors may be used for multiple device types. All of the external Source Selectors may be reassigned to other device types (see Initial Setup section).

AUX Source Selector: CD player, VCR, HDTV set-top box, PVD or TiVo® set-top box. Refer to page 23 for details on Source Selection.

Cable/SAT Source Selector: Cable set-top box or satellite set-top box.

IMPORTANT NOTE: All of the AVR 760/AVR 660'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).

11

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, only a few of the most-often used functions on the remote have been included: 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 A14 in the Advanced Functions Manual 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 behind the front-panel door must be on.

AVR Power Off Button: Press to turn off the AVR 760/AVR 660.

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

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

LCD Display: This two-line text display informs you of the current device mode (i.e., which source is active) on the upper line. When you press a key, the command will appear briefly on the lower line.

Source Selectors: Press one of these buttons to select a source device, e.g., DVD or satellite 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 or FM). Each successive press changes the band. Similarly, the Network Button toggles between the Network and Internet Radio sources.

Audio Effects: Press to directly access the Audio Effects submenu, which allows adjustment of the AVR's tone and other audio controls. 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. See the Advanced Functions Manual for more information.

Surround Modes: Press to directly access the Surround Modes submenu. Scroll to the lines for the Surround Mode categories: Auto Select, Virtual Surround, Stereo, Movie, Music or Video Game. The surround mode will change when the menu line is highlighted.
To change the surround mode for the selected category, press the OK Button when the menu line for the Surround Mode category matching the audio program is highlighted, and select one of the available surround mode options using the ▲ ▼ Buttons. Press the OK Button.
See the Advanced Functions Manual for more information on surround modes.

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

Last Channel: When controlling the tuner; a cable, satellite or HDTV set-top box; or a TV, press this button to return to the previous station or channel. For Internet Radio, this is only available to toggle between stations previously saved as presets.

Activity: With this button, up to 11 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 or Off Button by themselves) into which it was programmed. See the Advanced Functions Manual 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 within the Now Playing menu for the tuner, USB, The Bridge II, Internet Radio and the Network, and to display the main menu on some source devices. To display the AVR 760/AVR 660's main menu, press the AVR Settings Button.

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

Light: Press to illuminate the buttons on the remote. Press it again to turn the back light off, or wait 10 seconds after the last button press for the light to turn off on its own.

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

Soft Keys: These buttons are used to select sources A, B, C and D (see note on page 11), or for other functions with some source devices. See Table A14 in the Advanced Functions Manual for details. They are also used with a Teletext-capable television if your broadcast, cable or satellite provider offers Teletext service.

Volume Control: Press to raise or lower the volume.

Mute Button: Press to mute the AVR 760/AVR 660's speaker and headphone outputs. To end the muting, press this button, adjust the volume, or turn off the receiver.

Channel/Page Control: When the tuner has been selected, this control changes the station. When using The Bridge II or a USB drive, this control allows you to scroll a page at a time through a long list of content. While operating a cable, satellite or HDTV set-top box or a television, press these buttons to change channels.

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

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

AVR Settings/Remote Menu Button: Press to display the AVR's Main Menu, or to switch the remote to AVR device mode. Press and hold for 3 seconds to access the menu for the remote control. The menu commands and options will appear in the LCD Display.

The functions are: program the codes for a device, learn codes for an individual key, change the device type of a selector, program an activity (macro), program punch-through functions for channel control or transport control, rename a device or a key's function, change the brightness of the back light, reset the remote to its factory-default status, or exit the remote menu. See the Initial Setup section for details on programming the remote, and see the Advanced Functions Manual for further information.

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.

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 decreases the timer by 10 minutes, ending with the "Sleep Off" message.

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.

ZONE 2 REMOTE CONTROL

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 760/AVR 660 and Harman Kardon DVD, CD or tape players. When the Zone Selector is pressed to switch the remote to Zone 1 mode (the Zone Indicator will turn green), the power, volume and mute controls will only affect the main listening area. To control operation for the remote zone, press the Zone Selector so that the Zone Indicator turns red.

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.

The following explanations describe the buttons that are not similar in function to the main remote control, or are found on the Zone 2 remote control only. For explanations of all other Zone 2 remote control functions, see the descriptions above that cover functions that are common to the two Remote Controls as well as functions available on the Main Remote Control only.

Power: Press to turn the AVR 760/AVR 660 on or off. The AVR also 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 760/AVR 660.

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.

ENGLISH

Instructions for users on removal and disposal of used batteries. Specification of included battery types.

These symbols shown on the product, the packaging or in the manual or separate information sheet mean that the product itself, as well as the batteries included or built into the product, should never be thrown away with general household waste. Take them to suitable collection points, where proper treatment, recycling and recovery take place, in accordance with national or local legislation, or European Directives 2002/96/EC and 2006/66/EC.

Correct handling of the product and batteries to be disposed of helps to save resources and prevents possible negative effects on the environment or human health.

The batteries included with your equipment may be Alkaline, Carbon Zinc/Manganese or Lithium (button cells) type. All types should be disposed of according to the above instructions.

To remove the batteries from your equipment or remote control, reverse the procedure described for inserting batteries in the Owners Manual.

For products with a built-in battery that lasts for the lifetime of the product, removal may not be possible for the user. In this case, recycling or recovery centers handle the dismantling of the product and the removal of the battery. If, for any reason, it becomes necessary to replace such a battery, this procedure must be performed by authorized service centers.

INTRODUCTION TO HOME THEATER

This introductory section will help you to familiarize yourself with some basic concepts unique to multichannel surround sound receivers, 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 760/AVR 660 may have up to seven speakers connected directly to it (plus up to two subwoofers). 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 secondary, 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 and 7.2 modes). The surround back speakers are optional, and the AVR 760/AVR 660 may be set up with a 5.1- or 5.2-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 A13 in the Advanced Functions Manual 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 Disc media 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			
Front (**FL/FR**)	Left **White**		Right **Red**
Center (**C**)	**Green**		
Surround (**SL/SR**)	**Blue**		**Gray**
Surround Back (**SBL/SBR**)	**Brown**		**Tan**
Subwoofer (**SUB**)	**Purple**		
Digital Audio Connections			
Coaxial	**Orange**		
Optical	Input ◾		Output ◾
Video Connections			
Component	Y **Green**	Pb **Blue**	Pr **Red**
Composite	**Yellow**		
S-Video	◉		
HDMI™ Connections (digital audio/video)			
HDMI	▭		

Figure 1

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 speaker, which is usually colored red, to the positive terminal on the receiver, which is colored as indicated in the Connection Color Guide above (Table 1). The negative terminals are both black.

The AVR 760/AVR 660 uses binding-post speaker terminals that can accept bare-wire cables.

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

1. Unscrew the terminal cap until the pass-through hole is revealed.

2. Insert the bare end of the wire into the hole.

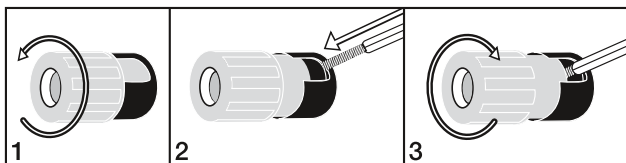3. Hand-tighten the cap until the wire is held snugly.

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. The AVR 760 offers the option of connecting two subwoofers to independent outputs, which enables the EzSet/EQ II process to configure each subwoofer precisely to account for its unique characteristics and placement within the room.

Although the purple subwoofer outputs look similar to full-range analog audio jacks, they are filtered to allow only the low frequencies to pass. Don't connect these outputs to any other devices.
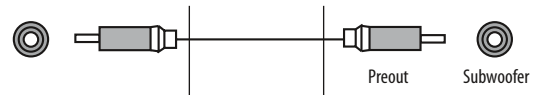

Preout   Subwoofer

Figure 3 – Subwoofer

CONNECTING SOURCE DEVICES TO THE AVR

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

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 noncompressed PCM digital audio. There are three types of digital audio connections: HDMI, coaxial and optical. Do not 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 760/AVR 660 is equipped with four 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 760/AVR 660 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 760/AVR 660 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 760/AVR 660 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 3 meter.
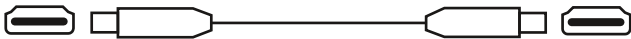
Figure 4 – HDMI Connection

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.

Coaxial digital audio cable

Coaxial

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.
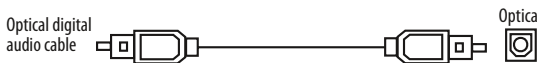
Optical digital audio cable

Optical

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 760/AVR 660'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 760/AVR 660 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.
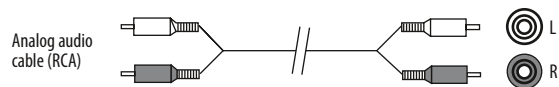
Analog audio cable (RCA)

L
R

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.

Multichannel analog audio cable (RCA)

Front	Surround	Center
White	Blue	Green

Subwoofer

| Red | Gray | Purple |
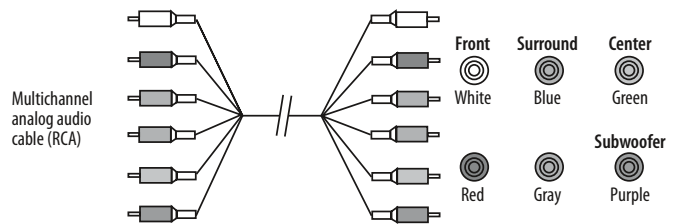
Figure 8 – Multichannel Analog Audio

The AVR 760/AVR 660 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 760/AVR 660 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 760/AVR 660, and is available to the multiroom system.

THE BRIDGE   Figure 9 –   The Bridge II port

CONNECTIONS

Video Connections

Many sources output both audio and video signals (e.g., Blu-ray Disc or 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.
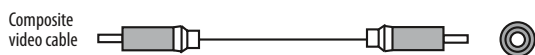
Composite video cable

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.
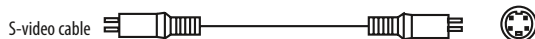
S-video cable

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. See Figure 12.

Component video cable

Y Green
Pb Blue
Pr Red
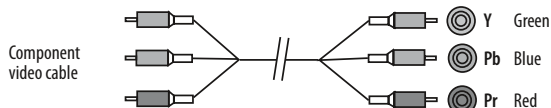
Figure 12 – Component Video

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 may be 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 760/AVR 660 uses separate terminals for the included FM and AM antennas.

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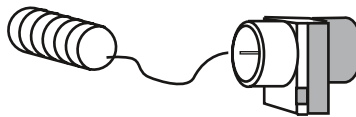
Figure 13 – FM Antenna

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.
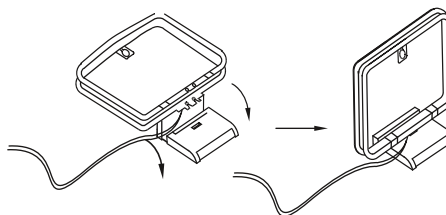
Figure 14 – AM Antenna

RS-232 SERIAL PORT

The RS-232 serial port may be connected to an external computer or control device to allow the external device to transmit control commands to the AVR. The port is bidirectional, so that the AVR can transmit status updates to the control device. Connecting and using the RS-232 port requires technical knowledge, and is best left to a professional custom installer.

ENGLISH

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 approx. 60 cm above or below the left/right speakers. If you're using only two speakers with the AVR 760/AVR 660, place them in the front left and right positions.

Placement of the surround speakers depends on the number of speakers in your system.
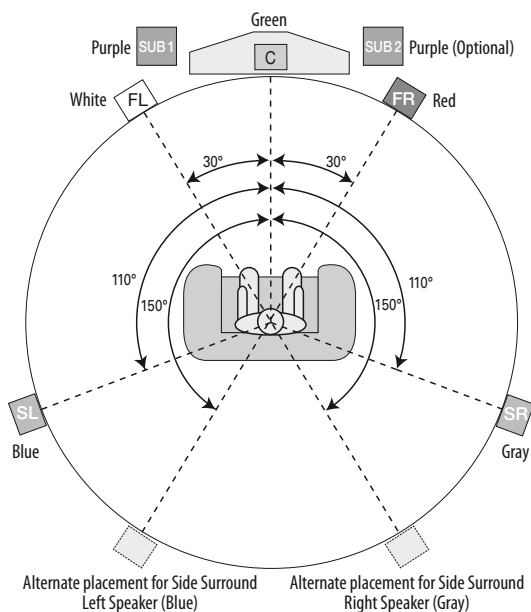
Figure 15 — Speaker Placement (5.1- or 5.2-Channel System)

Placement of Surround Speakers in a 5.1- or 5.2-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- or 7.2-Channel System

In a 7.1- or 7.2-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.
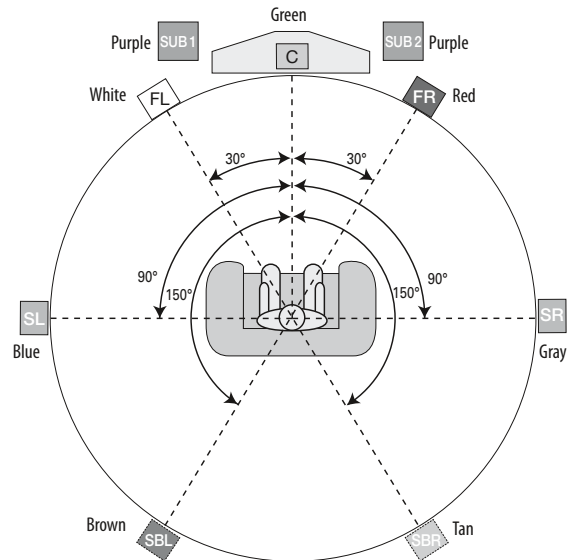
Figure 16 — Speaker Placement (7.1- or 7.2-Channel System)

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. Using the AVR 760/AVR 660 in a 6.1-channel configuration is not recommended. 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 760/AVR 660 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 II procedure for a 5.1-channel system. After the EzSet/EQ II process finishes, connect the surround back speaker to the Surround Back Left Speaker Output. Then follow the directions in the Advanced Functions Manual for manual setup of the surround back speaker.

Subwoofer Placement

Placement of the subwoofers is less critical, since low-frequency sounds are omnidirectional. Placing each subwoofer close to a wall or in a corner will reinforce the low frequencies, and may create a "boomy" sound. Temporarily place one subwoofer where the listener normally sits, then walk around the room until the low frequencies sound best. Place the subwoofer in that spot. To place the optional second subwoofer, you may continue this method for finding a second optimal location, or place each subwoofer near the front left and right speakers, as shown in the diagrams (AVR 660 permits use of one subwoofer, AVR 760 two subwoofers).

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

Installing the AVR 760/AVR 660 and connecting it to the other system components can be complex. To simplify installation, it is suggested that you design your system before you begin connecting wires and cables.

Although the rear-panel jacks allow for a variety of audio and video connections to other components, the AVR's software organizes the connections into 10 conventional sources: CBL/SAT, DVD, TV, Game, Media Server, AUX, A, B, C and D. The internal sources (the tuner, The Bridge II dock for iPod, the USB Port, the Internet Radio and the Network) will be explained later.

Table A1 in the appendix indicates the default device types for each source, and the default audio/video connection assignments. If the defaults suit your system, then connect your devices to the audio/video inputs shown. Otherwise, design your system as explained below.

1. **Best video connection type for your system**: Examine the video inputs on your TV or video display. Write down the best available video connection type here: _____.
    The options, in order of preference, are: HDMI, DVI (must be HDCP-compliant), component video, S-video or composite video. This is the "system-best" video connection for your system.

2. **Decide which source will be used for each device**: Match up to 10 devices to the 10 conventional sources listed in the Table 2 worksheet below. Use the AUX source for any of these device types: CD player, HDTV set-top box, personal video recorder (PVR), TiVo device or VCR. The A, B, C and D sources were added to the AVR 760/AVR 660 to enable you to benefit from the wide variety of audio and video inputs available, and these sources may be used for any device type.

NOTE: You may match any device type to any source. The device type is only relevant for programming control codes into the handheld remote and, as explained on page 25, you may reassign any Source Selector's device type. Any audio or video source may be connected to any matching jack on the AVR, regardless of device type.

3. **Best video connection for each source**: Examine each source device and write down the best available type of video connection, but not better than the system-best connection. Leave blank audio-only sources, such as a CD player.

4. **Best audio connection for each source**: For each source device, write down the best available type of audio connection. See the note below, and if the HDMI connection may be used for audio, it is the best option. The other options, in order of preference, are: optical digital audio, coaxial digital audio, 2-channel analog audio.

NOTES:

*   For multichannel disc players, if both the device and the TV use HDMI connections for video, then check the owner's manual for the device to determine whether it transmits multichannel audio via its HDMI output. If it does, then no separate audio connection is required. If not, write down the multichannel analog audio connection in addition to any other audio type.

*   If the device uses an HDCP-compliant DVI output for video, then connect it to one of the AVR's HDMI Inputs using an HDMI-to-DVI adapter, but a separate audio connection will always be required.

Table 2 – Source Assignment Worksheet

Source	Device Type	Best Video Connection (HDMI, DVI, Component, S-Video, Composite)	Video Input Assigned	Second Composite Video Input for Multizone Operation	Best Audio Connection (HDMI, Optical, Coaxial, 2-Ch Analog, 6-/8-Ch Analog)	Audio Input Assigned (may be one digital plus one or more analog)	Analog Audio Input for Recording or Multizone Operation
Cable/SAT							
DVD							
TV							
Game							
Media Server							
AUX							
A							
B							
C							
D							

5. **Decide which sources to connect to each of the video inputs**: Assign only one unique video input to each source, except that you may add a composite video connection to make the source's video signal available to the multizone system. Use the best type of video connection available for each source.

- If your system-best video connection is "HDMI", select up to four HDMI source devices and assign them to one of the four numbered HDMI Inputs.

- If your system-best video connection is "Component", or if you have source devices with component video outputs that weren't assigned to one of the HDMI Inputs, assign up to three devices to one of the three numbered Component Video Inputs.

- If your system-best video connection is "S-video", or if you have source devices with S-video outputs that have not been assigned to an HDMI or Component Video Input, then assign up to three devices to one of the three numbered S-video Inputs.

- If your system-best video connection is "Composite Video", or if you have source devices with composite video outputs that have not been assigned to any other video input, then assign up to three devices to one of the three numbered composite video Inputs.

NOTE: If the source device is a video recorder that will be used to record from other devices connected to the AVR, assign the recorder to the Composite or S-Video Video 2 Input, which has a recording output. Any of the Coaxial or Optical Digital Inputs may be assigned to the recorder for audio, if it is capable of making digital audio recordings. To make analog recordings, assign either the Analog 3 or 4 Audio Inputs to the recorder, as both have recording outputs. It is not necessary to connect TiVo or Video Recorder devices that will only record from their direct cable or satellite television signals to the AVR's recording outputs.

6. **Decide which audio inputs to connect to each source**: Assign only one unique digital audio input to each digital source. Assign analog audio inputs to analog sources, or as secondary connections for digital sources for backup, for recording or to make the source available to the multizone system.

- Any source using an HDMI Input requires no additional connection for audio *unless*:
  - ◆ The source doesn't output multichannel audio through its HDMI output. Make a second connection to the 6-/8-Channel Analog Audio Inputs.
  - ◆ The source has an HDCP-compliant DVI output for video only. Assign a digital or analog audio input.

- For any source whose best audio connection is optical or coaxial digital audio, assign one of the four Optical or four Coaxial Digital Audio Inputs. Do not connect both types of digital audio to the same source device.

- You may assign one of the 2-Channel Analog Audio Inputs to a digital source.

- You may also assign the 6-/8-Channel Analog Audio Inputs, if available, to a digital source.

- Assign one of the six 2-channel Analog Audio Inputs to an analog source.

NOTE: If the source device is a digital audio recorder, it may be used with any of the Coaxial or Optical Digital Audio Inputs and Outputs. Both coaxial and optical signals are available at either digital audio output. To make analog recordings, assign either the Analog 3 or 4 Audio Inputs to the recorder, as both have recording outputs.

You are now ready to begin installing the AVR. Before beginning to connect the various components to the receiver, turn off all devices, including the AVR 760/AVR 660, 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 centimeters 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. *Never block the AVR's ventilation slots on the top and side panels. Doing so could cause the AVR to overheat, with potentially serious consequences*. Some shelf surface finishes are delicate. Try to select a location with a sturdy surface finish.

Maintain at least 7 cm of free space behind the receiver for free airflow to the fan.

Almost all of the following installation steps are optional, depending on your system. Skip any step that does not apply to your system.

STEP ONE – Connect Source Devices

Leaving all AC power cords unplugged, connect the source devices to the AVR using the audio and video inputs you assigned in Table 2.

STEP TWO – Connect TV

Connect the system-best video input on the TV to the corresponding video monitor output on the AVR.

STEP THREE – Connect Loudspeakers

After you have placed your loudspeakers in the room as explained on page 18, connect each speaker to its color-coded terminal on the AVR. Maintain proper polarity by connecting the negative terminal on the speaker (usually colored black) to the negative terminal on the AVR (also colored black); and the positive terminal on the speaker (usually red) to the positive terminal on the AVR (color varies by channel; see Table 1 on page 15).

If you have a subwoofer, connect its line-level or LFE input to the purple Subwoofer 1 Output. An optional second subwoofer may be connected to the Subwoofer 2 Output.

NOTE: If the subwoofer only has speaker-level inputs, after you have configured the AVR using EzSet/EQ II technology as described on page 26, connect the subwoofer's left and right speaker input terminals to the AVR's Front Left and Front Right Speaker Outputs, then connect the front left and right main speakers to the subwoofer's left and right speaker output terminals. Consult the owner's manual for the subwoofer for specific installation instructions.

STEP FOUR – Connect The Bridge II Dock

To enjoy content stored on a compatible iPod (not included), connect The Bridge II dock (included) to its proprietary connector.

STEP FIVE – Connect FM Antenna

Connect the included FM antenna to the 75-ohm FM antenna terminal.

STEP SIX – Connect AM Antenna

Assemble the included AM antenna (see Figure 17) and connect it to the AM and Ground antenna terminals. The antenna is not polarized, and either lead may be connected to either terminal.
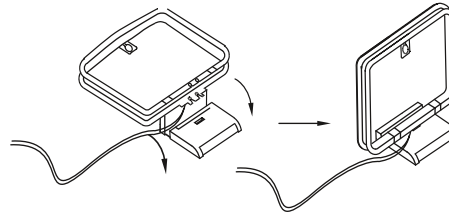

Figure 17 – AM Antenna Assembly

STEP SEVEN – Not active for AVR 760/AVR 660

STEP EIGHT – Connect USB Device

To play MP3 or WMA audio files or JPEG still-image files stored on a USB storage device, connect the device to the front-panel USB Port, using a cable or connector that is attached to the device or provided by you.

STEP NINE – Connect AVR to Internet

To use the AVR's internal Internet Radio tuner to listen to MP3 or WMA audio streams, connect the Network Jack to the Ethernet port on a router or modem that has Internet access, a home network, or directly to a PC. You may need to contact your Internet service provider (ISP), or the manufacturer of your router, to obtain the information necessary to set up the network connection. See pages 33 and 34.

STEP TEN – Connect Remote IR Inputs and Outputs

The AVR 760/AVR 660 is equipped with a Remote IR Input, a Zone 2 Input and both full-carrier and stripped Remote IR Outputs to facilitate use of your system with a remote control in a variety of situations.

When the AVR 760/AVR 660 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 760/AVR 660 (and any sources connected to the AVR's Remote IR Output) from the remote zone. Signals transmitted through the Zone 2 IR Input will control source selection and volume for the main or remote zone, depending on the setting of the remote's Zone Selector. 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-inch mini-plug interconnect cable (not included) to connect the AVR's Remote IR Output to the source device's Remote IR Input.

The AVR 760/AVR 660 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 Carrier Remote IR Output is only available to one sender at a time, which is assigned in the AVR's Zone 2 menu. Depending on whether you select Zone 2, Front or A-BUS, the Carrier Remote IR will only transmit commands received from the Zone 2 IR Input, the front-panel IR receiver or the A-BUS system to a device connected to it. This avoids having conflicting control commands sent to a device from listeners in different areas of the home.

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, and assign the desired sending zone in the Zone 2 menu. Use the Remote IR Output for devices expecting a stripped signal.

STEP ELEVEN – Install a Multizone System

The AVR 760/AVR 660 offers several methods of distributing audio to other areas in your home, and it also features video distribution.

IMPORTANT SAFETY NOTE: Installing a multizone system typically requires running cables inside walls. Always comply with the appropriate safety codes when installing concealed wiring. 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 method B or C below, multizone operation takes over the Surround Back/ Zone 2 amplifier channels, limiting the system in the main listening room to 5.2 channels.

Select one or all of these methods for audio distribution:

A. **Connect an external amplifier to the Zone 2 Audio Outputs**. It is recommended that you place the amplifier in the same room as the AVR 760/AVR 660 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 7.2-channel audio in the main room simultaneously with multizone operation. However, the benefit is achieved with the expense of an additional component, i.e., the amplifier.

B. **Connect the remote room's speakers directly to the Surround Back/Zone 2 Speaker Outputs**. Reassign the Surround Back amplifier channels to power the speakers (see Advanced Functions Manual).
Your main system will be limited to 5.2 channels, affecting playback of programs recorded in 6.1 or 7.1 channels.

C. **Connect an external amplifier to the Surround Back/Zone 2 Preamp Outputs**. This method requires an additional amplifier, but may increase the total number of remote rooms when used with methods A and B.

D. **Connect an A-BUS hub or other A-BUS components to the A-BUS port**. Use Category 5/5e cable, as described in the instructions for your A-BUS components. Connect an optional A-BUS power supply to the A-BUS Power Port on the AVR. The A-BUS system carries the audio signal to the remote components, while receiving IR control codes. A hub may distribute audio to many remote rooms. To control source devices exclusively from the remote A-BUS module, connect the AVR's Carrier Remote IR Output to a compatible IR input on the source, and assign the full-carrier output to the A-BUS system in the AVR's Zone 2 menu. This avoids having conflicting control commands sent to a source intended for the A-BUS system.
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.

Connect a Video Display Device or Switcher (AVR 760 only)

To add video distribution to your multiroom system, connect the Multizone Video Output either directly to the video display in the remote room or to any optional video distribution switchers or amplifiers that may be required.

NOTES:
- Only composite video is output to the multizone system.
- S-video, component or HDMI video sources may not be routed through the multizone system. Make a second, composite video connection for the multizone system.
- When connecting the AVR 760 to the remote room's video display, distance limitations may exist for composite video connections. Although the use of low-loss coax cables may reduce signal loss, optional distribution amplifiers may occasionally be required when long cable runs are used.

Connect IR Control Devices to the Zone 2 IR Input

For methods A, B and C, 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. For digital sources, make a second, analog audio connection. The USB, The Bridge II and Internet Radio sources are available to the multizone system.

STEP TWELVE – Plug in AC Power Cords

Before plugging the AVR into an unswitched electrical outlet, make sure the Main Power Switch behind the front-panel door is off, to prevent the possibility of damaging the AVR in case of a transient power surge. When pressed in, the switch is on. When pressed again to unlatch it, the switch pops out.

You may plug one device that draws no more than 50 watts into the AC Switched Accessory Outlet on the rear panel. Turn on the device's mechanical or master power switch, and that device will power on any time the AVR 760/AVR 660 is turned on (some devices may require additional steps to power on from their standby mode). If the device has a clock or must always be on (such as a cable set-top box programmed to make recordings), do not plug it into this outlet.

The AVR 760/AVR 660 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 760/AVR 660.

The Advanced Manual available for download from the harman/kardon web site contains a Table A5 designed for you to enter the information from Table 2 for future reference.

STEP THIRTEEN – Insert Batteries in Remote

The AVR 760/AVR 660 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 18, observing the correct polarity.

Figure 18 –   Remote Battery Compartment

Point the remote's lens toward the front panel of the AVR 760/AVR 660. 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 7 meter, 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 FOURTEEN – Program Sources Into the Remote

The AVR 760/AVR 660 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.

To program the codes for a source device into the remote:

1. Turn on the source device.

2. Access the remote's menu system by pressing and holding the AVR Settings Button for 3 seconds, until the "Main Menu" and "Program Device" messages appear in the LCD Display.

3. Press the OK Button to select the Program Device function.

4. Use the ▲▼ Buttons to select the Source Selector (or device) to program, and press the OK Button when the desired device appears on the lower line of the LCD Display.

5. For two of the Source Selectors and for sources A, B, C and D, the next step requires you to specify the device type. For the other Source Selectors, proceed to step 6.

   • **Cable/SAT**: Use the ▲▼ Buttons to select either a cable television or satellite television set-top box, and press the OK Button.

   • **AUX**: Use the ▲▼ Buttons to select a CD player, HDTV set-top box, PVD (personal video device, such as a DVR), TiVo system or VCR. Press the OK Button when the desired device appears.

   • **A, B, C, D**: Select any desired device type.

6. Select whether to program the device manually or use the remote's Auto Search capability. Manual programming simply requires you to select the brand name of your device and try a handful of possible codes. There is no need to look up numeric codes; the AVR 760/AVR 660 does the work for you. It is recommended that you select Manual programming first.

   • **Manual Programming**: Use the ▲▼ Buttons to scroll through the list of brands for which the remote has codes stored in its library. When your brand appears on the lower line, press the OK Button.

   The remote will look up the brand in its library and display the number of codes available. Press the "1" Alphanumeric Key first. The remote will transmit the Power Off command associated with the first code set to the device. If the device turns off, then a compatible code set has been found. Press the OK Button to accept it.

   If the device remains powered on, press the "2" Alphanumeric Key. Proceed in this fashion until either a compatible code set is found, or you run out of codes for that brand.

   If you run out of codes, press the Back/Exit Button to end the process, and repeat steps 2 through 5. At step 6, select Auto and follow the instructions in the next bullet.

- **Auto Programming**: Wait for the remote to retrieve its entire library of codes for the device type. You will have to press the ▲ ▼ Buttons to transmit every code for the device type until a compatible code set is found.

    1. When a compatible code set is found, press the OK Button to program it into the Source Selector.

    2. 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.

To change the device type of a Source Selector:

If your system includes two products of one device type but no product corresponding to a different Source Selector, you may program one product into its corresponding Source Selector, and change another Source Selector's device type to program the second product by following this procedure:

1. Access the remote's menu system by pressing and holding the AVR Settings Button for 3 seconds, until the "Main Menu" and "Program Device" messages appear in the LCD Display.

2. Use the ▲ ▼ Buttons to select "Change Device Type" from the remote's main menu, and press the OK Button.

3. Use the ▲ ▼ Buttons to select the Source Selector whose device type you wish to change, and press the OK Button. Your selection will appear on the left side of the lower line, while the choice of new device types will appear on the right side.

4. Use the ▲ ▼ Buttons to select the new device type you wish to assign to the Source Selector, and press the OK Button.

5. Program your product into the Source Selector by choosing the brand, then searching for a compatible code set, as described in the preceding section. If you allow the remote to "time out", then the device type reassignment will not take effect.

To "learn" individual key codes:

If some functions do not work correctly, you may reprogram individual keys from the device's original remote by following this procedure:

1. Place the two remotes with their IR transmitters facing each other, about one inch apart. See Figure 19.

Figure 19 — AVR and Device Remotes "Head to Head"

2. Access the remote's menu system by pressing and holding the AVR Settings Button for 3 seconds, until the "Main Menu" and "Program Device" messages appear in the LCD Display.

3. Use the ▲ ▼ Buttons to select "Learn" from the remote's main menu, and press the OK Button.

4. When the "Learn Menu" message appears in the upper line of the LCD Display, make sure the "Learn" message appears in the lower line (not "Learn Delete"), and press the OK Button.

5. Use the ▲ ▼ Buttons to select the device you wish to learn a code for, and press the OK Button.

6. Press the destination button, and the menu will prompt you to press the key on the original remote whose code you wish to program into the destination button. 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 Soft Keys, Channel Up/Down, Volume Up/Down, Mute and the Transport Controls (including Record).

> **NOTE**: If you press the wrong destination button and wish to cancel the learning process, you must wait about 30 seconds for the remote to "time out". It will exit its program mode and return to normal operation, and you may begin again. Pressing another button will have no effect.

7. Press the key on the original remote, and if the code was learned correctly, the Navigation and OK Buttons will light up. The Learn Menu will prompt you to learn another key, rename the key just learned or exit Learn mode. Use the ▲ ▼ Buttons to make your selection, and press the OK Button.

To delete a programmed or learned code:

1. Access the remote's menu system by pressing and holding the AVR Settings Button for 3 seconds, until the "Main Menu" and "Program Device" messages appear in the LCD Display.

2. Use the ▲ ▼ Buttons to select "Learn" from the remote's main menu, and press the OK Button.

3. When the "Learn Menu" message appears in the upper line of the LCD Display, scroll to the "Learn Delete" option, and press the OK Button.

4. The Learn Delete menu offers the options of deleting a single learned key code, an entire device or all devices. Scroll to the desired option and press the OK Button.

   - To delete an individual key code, the remote will first prompt you to select the device containing the key code, then prompt you to press the key. It will confirm the deletion, then offer you the opportunity to delete another learned key or exit the delete key function.

   - To delete an entire device, the remote will prompt you to select the device. When you scroll to the device and press the OK Button, the remote will confirm the deletion and exit its programming mode, returning to normal operation.

   - To delete all devices, wait a few moments while the remote deletes all programmed device codes. It will then return to normal operation.

To rename a key or device:

If you wish to change the name of a device or key as it appears in the LCD Display, follow these steps:

1. Access the remote's menu system by pressing and holding the AVR Settings Button for 3 seconds, until the "Main Menu" and "Program Device" messages appear in the LCD Display.

2. Use the ▲ ▼ Buttons to select "Rename" and press the OK Button.

3. Use the ▲ ▼ Buttons to select whether to rename a device or a key, and press the OK Button.

4. Use the ▲ ▼ Buttons to select the device, either to rename the device itself or a key function used by that device, and press the OK Button.

5. The current name of the device or key will appear on the lower line of the LCD Display, with the cursor at the end of the line.
   Use the ◄ Button to move the cursor to the beginning of the name, then type over the current name using the Alphanumeric Keys.
   Each Alphanumeric Key has the characters available in addition to its number printed above the key. Each press of the key scrolls through the available characters. To move to the next character, either press the ► Button or press the next desired Alphanumeric Key.
   Press the OK Button to finish, and the remote will prompt you to rename another key or device, or to exit.

STEP FIFTEEN – Turn On the AVR 760/AVR 660

Two steps are required the first time you turn on the AVR 760/AVR 660.

1. Flip down the Front-Panel Door and press the Main Power Switch in. 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. Normally, you may leave the Main Power Switch on, even when the receiver is not being used.

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

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

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

NOTES:

- Any time you press one of the Source Selectors on the remote, 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 37.

In this section, you will configure the AVR 760/AVR 660 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.

The Main Menu will appear (see Figure 20), and if a video source is playing, it will be visible behind the transparent menu.
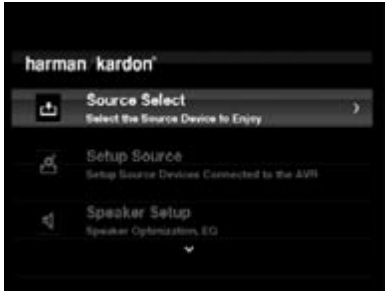

Figure 20 – Main Menu

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 main menu system consists of five submenus: 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 Manual.

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 760/AVR 660, Using EzSet/EQ II 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 760/AVR 660 manually, as described in the Advanced Functions Manual, it is recommended that you take advantage of the signature Harman Kardon EzSet/EQ II system.

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

IMPORTANT SAFETY NOTE: During the EzSet/EQ II procedure, a series of very loud test sweeps 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 II process.

STEP ONE – Place the included EzSet/EQ II 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 the included extension rod or a camera tripod.

STEP TWO – Plug the EzSet/EQ II microphone into the EzSet/EQ II Microphone Input Jack on the front of the receiver, and set the level control on the subwoofer to the halfway point.

STEP THREE – Turn on the AVR 760/AVR 660 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 21.
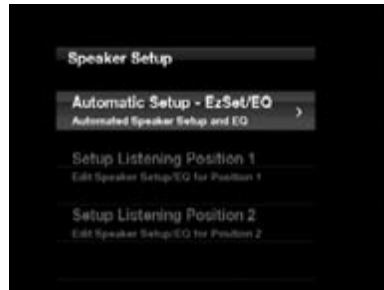
Figure 21 – Speaker Setup Menu Screen

Select "Automatic Setup-EzSet/EQ II".

To return to the Speaker Setup menu without starting the EzSet/EQ II process, select Back. When you are ready to begin, select Continue. To manually program the speaker crossover settings before the EzSet/EQ II test is run, select Manually Set Crossovers. It is recommended that you allow the EzSet/EQ II process to detect the crossovers and only adjust them manually if you have previously run the EzSet/EQ II test and you wish to change the settings to obtain different results.

NOTE: The AVR 760/AVR 660 will automatically set its master volume to −25dB.

STEP FOUR – After you select "Continue", the test will begin. Maintain silence during the EzSet/EQ II configuration.

As the EzSet/EQ II system tests each speaker, its position will appear on screen. If the test sweep 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 Speaker Detection test is completed, select the Continue option. The results will be displayed, along with these options:

- The Retest option repeats the EzSet/EQ II 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 Manual for instructions on how to manually configure the speakers or manually adjust the settings established by the EzSet/EQ II process.

During the Near Field test, follow the instructions that appear on screen. You may be directed to hold the microphone about 60 cm away from some speakers.

When the test is finished, you will be given the option of saving the EzSet/EQ II test results in one of two "listening positions", or not saving the results at all. The purpose is to allow you to run the EzSet/EQ II tests for two different frequently used listening positions within the room to optimize performance, depending on how you use the room.

After the results have been saved, the menu for manual adjustment of the listening position settings will appear. See the Advanced Functions Manual for instructions on manually adjusting the speaker settings.

If you do not save the results, you may go back and repeat the EzSet/EQ II test.

You may adjust the settings for either listening position, or repeat the EzSet/EQ II test, from the Speaker Setup menu (Figure 21).

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 Info Settings 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 22 will appear.

Figure 22 – Setup Source Menu

Audio Effects: Displays the Audio Effects submenu, where you may adjust the Dolby Volume setting, the bass and treble tone controls, and the LFE trim, or you may select the EzSet/EQ II listening position. These settings affect each source independently. Leave this submenu at its default settings, and return to it later if your system requires fine-tuning. See the Advanced Functions Manual for more information.

Video Modes: Displays the Video Modes submenu, where you may make picture adjustments for each source independently. 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 Manual for more information.

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

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 Info Settings menu. If you don't want the AVR to select an analog audio input for the source, leave this setting at its default of Off.

The AVR will also select the assigned video source. The only "audio-only" sources on the AVR 760/AVR 660 are the Radio, The Bridge II (video may be available; see page 35), USB, the Network and Internet Radio, which use special on-screen menus. 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 2, 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 2, 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 and Zone 2 Audio lines below.

6-/8-Channel 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 digital audio and analog 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 AVR is capable of processing the signal received at the 6-/8-Channel Analog Audio Inputs. With these inputs selected, press the Audio Effects Button to view the Audio Effects menu. Change the Tone Control setting to "On", and you may adjust the Dolby Volume setting, the tone controls or the EzSet/EQ II settings. With the Tone Control setting off, the AVR will pass the incoming signal directly to the volume control, without digitizing or processing it.

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 best available 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 576i (the factory default) to view any content, including the AVR's own menus.

Adjust the resolution by pressing the front-panel Resolution Button and using the ▲▼ Buttons until the correct setting appears in the front-panel Message Display. For composite and S-video, the correct setting is 576i. 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 with a timer countdown. Press the ▼ Button to view the ACCEPT option before the timer reaches 0, 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: Informational only. Indicates the resolution of the video output by the source device.

HDMI Bypass: When an HDMI source signal is in use and the system includes an HDMI-capable display, the HDMI Bypass mode passes the source signal directly to the HDMI Output, bypassing all video processing within the AVR, including video output resolution adjustment. To allow the AVR to process all video, including "blending" the source video with its on-screen messages and menus so that you may adjust the AVR without missing any portion of the program, turn this setting off. When the HDMI Bypass mode is on, it is not possible to "blend" the video source signal with the AVR's on-screen menus. When any remote or front-panel buttons are pressed, the AVR will momentarily exit HDMI Bypass mode and display the on-screen menu on a black background. After the menu is cleared from the screen, either by timing out or when the Back/Exit Button is pressed, the AVR will return to HDMI Bypass mode.

Change Name: Change the display name for your source, which is 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".

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 23.

Figure 23 — Adjust Lip Sync

Input Level From Source: This setting defaults to 0dB for all sources. If you notice that one device tends to sound louder or softer than other sources in your system, use the ◀ ▶ Buttons to adjust the input level from the source to compensate for the volume difference without compressing or distorting the signal. This setting is not the same as the Dolby Volume setting in the Audio Effects menu, which adjusts for volume differences within the source, e.g., television commercial advertisements versus the main program. See page 30 for information on the Dolby Volume setting.

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.

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 audio 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.

Zone 2 Video: Determines the video source for the multizone system remote zone. Select the composite video input the source is connected to. Only composite video sources are available to the multizone system (AVR 760 only).

Trigger 2: Determines whether a signal will be present at the Trigger 2 Output when this source is selected.

Record Out: Determines the signal available at the analog audio outputs.

- **Analog**: Passes through the analog audio signal selected as the source input.

- **DSP Downmix**: When a multichannel audio source is selected as the input, the AVR creates a 2-channel "LtRt" analog downmix of the signal.

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!

ENGLISH

29

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 760/AVR 660

Flip down the Front-Panel Door and press the Main Power Switch in. 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.

There are several ways to turn on the AVR 760/AVR 660:

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

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

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. The volume is displayed as a negative number of decibels (dB) below the 0dB reference point.

0dB is the maximum recommended volume for the AVR 760/AVR 660. 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-90 scale, adjust the Volume Units setting in the System Settings menu, as described in the Advanced Functions Manual, available on the harmankardon.com web site.

Dolby Volume

The AVR 760/AVR 660 is one of the first products to implement Dolby Volume processing, which can improve the audio performance of the system by revealing subtle details even at normal home-listening volumes.

One concern of the typical home theater listener is that volumes can vary widely for different programs played by a source, e.g., television commercial advertisements are often much louder than the main feature. Another is that details heard in the recording studio at typically high reference volumes are lost at the lower volumes used by many listeners.

The AVR 760/AVR 660 uses two Dolby Volume techniques to address these issues. The Leveler module maintains a consistent listening volume within a source, e.g., while watching commercial television or while listening to different tracks on a USB drive. The Modeler module endeavors to re-create the reference presentation that was heard in the recording studio without losing portions of the program at the typically lower volume levels often used in the home. When the Modeler module is active, you may notice details of the performance that were hidden when the program was played on other equipment.

To adjust the Dolby Volume setting, press the Audio Effects Button. A screen similar to the one shown in Figure 24 will appear. Move the cursor to highlight the Dolby Volume setting, and each press of the OK Button will switch to one of the options in Table 3 below. The settings do not refer to the volume level, which is adjusted normally using the Volume Control, but rather to the amount of Dolby Volume processing desired. See Figure 24.

Figure 24 – Adjust Dolby Volume

Table 3 – Dolby Volume Settings

Setting	Effect
Off	No Dolby Volume processing
Low	Only Dolby Volume Modeler module is active
Medium	Both Modeler and Leveler modules are active; Leveler module has a value of 3
Max	Both Modeler and Leveler modules are active; Leveler module has a value of 9

NOTE: Dolby Volume is compatible with sources recorded at a sampling rate of 48kHz. High-resolution sources, such as DTS 96/24, will be decoded at 48kHz. DTS 96/24 programs will be played in DTS 5.1 mode. To hear DTS 96/24 materials in high resolution, turn off Dolby Volume.

Dolby Volume Calibration Offset

Calibration Offset is a feature of Dolby Volume that allows you to adjust the calibration of the AVR 760/AVR 660 to optimally match your speakers and listening environment. The AVR 760/AVR 660 is calibrated with the average speaker sensitivity in mind; however, different speakers may have different sensitivities. Use Calibration Offset to adjust the calibration of the AVR 760/AVR 660 according to the types of speakers you have.

The average home audio speaker sensitivity is 88dB SPL (8 ohms, 1 watt, 1 meter). Check the sensitivity specification for your loudspeakers, found in the owner's manual or on the manufacturer's Web site. If your speakers have a sensitivity rating greater than 88dB SPL, increase Calibration Offset by the difference between your speakers' sensitivity and 88dB. If they have a sensitivity rating of less than 88dB SPL, decrease Calibration Offset by the difference between your speakers' sensitivity and 88dB.

To adjust the Calibration Offset, press the AVR Settings Button and scroll to the System Setup menu, then select it. Scroll to the Dolby Volume Calibration line, which defaults to 0dB. Use the ◀ ▶ Buttons to adjust the setting within the range of −10dB to +10dB.

MUTE FUNCTION

To temporarily mute all speakers and the headphones, press the Mute Button on the remote. 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. Each additional press of the Sleep Button decreases the play time by 10 minutes, with a maximum of 90 minutes. The SLEEP OFF setting disables the sleep timer.

When the sleep timer has been set, the front-panel display will automatically dim to half-brightness and the Volume Control will go dark.

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 Dolby Volume setting, tone controls, LFE trim or equalization, or select a speaker configuration to improve performance. Access these settings from the Audio Effects submenu, as described in the Advanced Functions Manual.

It is recommended 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 Manual for detailed information.

HEADPHONES

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

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. Use the ▲▼ Buttons to scroll through the sources. Using the on-screen menus, press the AVR Settings Button, highlight "Source Select" and press the OK Button. Scroll to the desired source in the slide-in menu and press the OK Button.

For direct access to any source, press its Source Selector on the remote. To directly select Source A, B, C or D, first press the AVR Settings Button, then press the appropriate Soft Key: red for Source A, green for Source B, yellow for Source C or blue for Source D. When using the Zone 2 remote, make sure to connect the Zone 2 Video Output to a display in the remote zone, and select these sources using the on-screen menu system.

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 and use the ▲▼ Buttons 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 760/AVR 660's built-in tuner:

1. Press the Source List Button on the front panel. Use the ▲ ▼ Buttons to scroll to the desired tuner band.

2. Press the Radio Source Selector on the remote. Press it again to switch bands (AM or FM).

A screen similar to the one shown in Figure 25 will appear.

Figure 25 – FM Radio

Use the ▲ ▼ Buttons or the Channel Control to tune a station, 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 also 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 I◄◄ ►►I 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.

RDS Operation

The AVR 760/AVR 660 is equipped with RDS (Radio Data System), which brings a wide range of information to FM radio. Now in use in many countries, RDS is a system for transmitting station call signs or network information, a description of station program type, text messages about the station or specifics of a musical selection, and the correct time.

As more FM stations become equipped with RDS capabilities, the AVR will serve as an easy-to-use center for both information and entertainment. This section will help you take maximum advantage of the RDS system.

RDS Tuning

When an FM station is tuned in and it contains RDS data, the AVR will automatically display the station's call sign or other program service in the Message Display and on the tv screen if this is on.

RDS Display Options

The RDS system is capable of transmitting a wide variety of information in addition to the initial station call sign that appears when a station is first tuned. In normal RDS operation the display will indicate the station name, broadcast network or call letters. Pressing the Play Button ► on the Remote enables you to cycle through the various data types in the following sequence:

- The station's call letters (PS) (with some private stations other information too).

- The station's frequency (FREQ MODE), which is always shown on the TV On-Screen Display, is shown in the Message Display.

- The Program Type (PTY).

NOTE: Many stations do not transmit a specific PTY. The display will show NONE, when such a station is selected and PTY is active.

- A "text" message (Radiotext, RT) containing special information from the broadcast station. Note that this message may scroll across the display to permit messages longer than the eight positions in the display. Radiotext is not shown on the TV On-Screen Display.

- The current time of day (CT). Note that it may take up to two minutes for the time to appear, in that time the letters CT are shown in the information display when CT is selected. Please note that the accuracy of the time data is dependent on the radio station, not the AVR.

Some RDS stations may not include some of these additional features. If the data required for the selected mode is not being transmitted, the Message Display will show a NO TYPE, NO TEXT or NO TIME message after the individual time out.

In any FM mode the RDS function requires a strong enough signal for proper operation.

Program Search (PTY)

An important feature of RDS is its capability of encoding broadcasts with Program Type (PTY) codes that indicate the type of material being broadcast.

You may search for a specific Program Type (PTY) by following these steps:

1. Press the Play button ► until the current PTY is shown in the Main Information Display.

2. While the PTY is shown, press the CH/Page Up/Down or the ◄ ► Buttons or hold them pressed to scroll through the list of available PTY types, as shown above starting with the PTY currently received.

3. Press either of the ▲ ▼ Buttons. The tuner begins to scan the FM band upwards or downwards for the first station that has RDS data that matches the desired selection, and acceptable signal strength for quality reception.

4. The tuner will make up to one complete scan of the entire FM band for the next station that matches the desired PTY type and has acceptable reception quality. If no such station is found, the display will read NONE for some seconds and the tuner will return to the last FM station in use before the search.

USB PLAYBACK

To enjoy audio and still-image playback of media stored on a USB flash drive, connect the drive to the front-panel USB Port and select the USB source on the AVR. Press the Menu Button and select "Browse USB". The AVR will list the folders and files of audio and still-image content. Do not connect a personal computer or peripheral to the USB Port. USB hubs and multi-card readers are not supported.

IMPORTANT NOTE: The AVR 760/AVR 660's internal processor requires about 10 seconds to detect, recognize and connect to a USB device. Please wait 10 seconds after inserting a device or switching the USB source before attempting to browse the device. If you try to browse the device sooner, the AVR may not display the device's contents correctly in the on-screen slide-in menu. If that happens, remove the device and reinsert it into the USB Port, then wait 10 seconds before browsing. Always stop playback before removing a USB drive, and wait at least 10 seconds before inserting another drive.

- To expand a folder, press the OK Button or the ▶ Navigation Button.
- To collapse a folder or return to the previous menu level, press the Back/Exit Button or the ◀ Button.
- To play all audio or still-image files within a folder, select the folder and press the OK Button or the Play Button.
- To skip to the next track or image, press the ▶ Navigation Button.
- To return to the beginning of the current track, press the ◀ Button once; to return to the previous track, press the ◀ Button twice. When displaying images, pressing the ◀ Button returns to the previous image.
- The Transport Controls may be used to control playback for skipping to the previous or next track, searching at high speed forward or backward within a track, playing a file, pausing playback or stopping playback.
- To repeat a file or folder, press the Menu Button and select the Repeat option. Each press of the OK Button will change the setting from Off (no repeat) to Repeat One (file) to Repeat All (files at the current directory level of the drive). Repeat All will always be activated when Random Music playback is turned on.
- To play the audio tracks in random order, press the Menu Button and select the Random Music setting. Each press of the OK Button turns the setting on or off. The AVR will automatically repeat the tracks until playback is stopped manually.
- To view the still images in random order, press the Menu Button and select the Random Photos setting. Each press of the OK Button turns the setting on or off.
  - To view a slideshow of images, select a folder containing the images for playback. You may also select audio files stored on the same device for playback as background music to the slideshow. Select the audio file, then the image files.
  - When both music and a slideshow are playing, if the slide-in menu is not displayed, press the ◀ ▶ Buttons to skip to the next picture or return to the previous picture. When the slide-in menu is displayed, press the ◀ ▶ Buttons to skip to the next or previous audio track.
  - While an image is being displayed, each press of the ▲ Button rotates the image 90° clockwise, and each press of the ▼ Button rotates the image 90° counterclockwise.
  - To change the duration of each image on screen during a slideshow, press the Menu Button and select the Slideshow Speed setting. Each press of the OK Button changes the speed: Slow, Medium or Fast.

INTERNET RADIO

With its network connection, the AVR 760/AVR 660 opens a world of MP3- and WMA-format streams when Internet access is available. Connect the RJ-45 Network jack on the AVR to an Ethernet port on a home-network router. Turn on the AVR and the video display, and press the Network Selector on the remote. Each press toggles between the Network Now Playing and Internet Radio screens.

With the Internet Radio screen displayed, the AVR will automatically connect to the Internet via the www.radioharmankardon.com portal. To select a stream, press the Menu Button, and use the ▲ ▼ Buttons to search by category: Presets, Favourites, Location, Genre, New Stations, Most Popular or Podcasts.

To create a Favourites list, log onto www.radioharmankardon.com from your PC. Enter the ID # of your AVR 760/AVR 660 (found by pressing the Menu Button and selecting "Network Setup") and create an account. Favourites that you select on the Web site will be available on the AVR.

Navigation is similar to other slide-in menus. Scroll to the desired item and press the OK Button or the ▶ Button to select it. To return to the previous menu level (or to clear the menu from view from the top level), press the Back/Exit Button or the ◀ Button.

If you know the URL (Uniform Resource Locator, or Web address) of a specific audio stream, select the Direct Station option from the menu. The AVR 760/AVR 660 is not able to connect to streams that require site registration or other interaction prior to playing the stream. A live stream is required. If the AVR cannot connect to the stream, the "Station Not Live" message will appear briefly, and the Internet Radio screen will remain essentially blank. Not all URLs will be accessible.

Up to 30 preset Internet Radio stations may be programmed. To set a preset, first tune the station. Press the OK Button, and two dashes will flash. Enter the preset number using the Alphanumeric Keys. The connection to the station will momentarily stop, interrupting the program, and the AVR will reconnect to the station.

To connect to a station programmed as a preset, enter its preset number using the Alphanumeric Keys, or select from the previously programmed presets using the ◀ ▶ Buttons.

NOTES ON NETWORK SETUP:
- It is recommended that the AVR be connected to a home-network router so that it can directly access the Internet for Internet Radio, or access a PC on the network for playback of content stored on the PC (see the Network Playback section below).
- If you are unable to connect to the Internet, try adjusting the network settings. Press the Menu Button and select Network Setup. The Network Settings line will be highlighted. Each press of the OK Button toggles between Manual and Automatic network setup. Select Manual, and the other network settings will be displayed: IP Address, Subnet Mask, Gateway, Primary DNS, Secondary DNS, Proxy Address and Proxy Port. Contact your ISP (Internet Service Provider) for the correct information to enter into these settings. To change a setting, highlight it and press the OK Button. Use the ▲ ▼ Buttons to move the cursor from one position to the next, and scroll to the desired number using the ◀ ▶ Buttons. Press the OK Button when you are finished with an entry. Scroll down to the "Apply and Save" Button and select it. The AVR will turn off and must be powered back on. To return to the previous menu screen, press the Back/Exit Button.

NETWORK PLAYBACK

The AVR 760/AVR 660 is capable of playing audio media stored on a PC when both the PC and the AVR are connected to a home-network router.

NOTES:

- The PC must be running Windows Media® Player version 11 or higher, Windows Media Center version 2.0 or 3.0, or Intel® Media Server. It is recommended that any firewalls be turned off, although Windows Media Player may automatically make any necessary adjustments to the firewall settings to allow media sharing.

- An Apple Macintosh computer must be running DLNA (Digital Living Network Alliance)- compliant software. Examples of compatible software include the MediaLink program by Nullriver, Inc., and EyeConnect™ software by Elgato Systems.

From the media player software, select the "Share media" option (or a similar menu option), and select the AVR as the device.

On the AVR, select Network as the source. Press the Network Source Selector a second time, if necessary, to switch from the Internet Radio source to the Network source. Press the Menu Button, and the PC should appear by name.

Browse the content stored in the PC's media player library, using the slide-in menu. Scroll to the desired item and press the OK Button or the ▶ Navigation Button to select it. To return to the previous menu level (or to clear the menu from view from the top level), press the Back/Exit Button or the ◀ Button.

NOTES:

- The Repeat, Random and Slideshow Speed settings are global for Network Playback and USB Playback. Changing these settings for one of these sources will have the same effect for the other source.

- Although video content may appear in the menu, the AVR does not support video playback from the network connection.

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.

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 760/AVR 660 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 while the AVR is On. (The iPod does not charge while the AVR is in the Standby mode).

When the source The Bridge is selected and an iPod is docked, the message "The Bridge" appears in the front-panel Message Display. 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.

Table 4 summarizes the controls available with The Bridge II during normal playback.

Table 4 – Using The Bridge II

iPod Function	Remote Control Key
Play	Play (▶)
Pause	Pause (II)
Menu	Menu
Back/Exit	Back/Exit or Left Arrow (◀)
Select	OK or Right Arrow (▶)
Scroll Reverse	Up Arrow (▲)
Scroll Forward	Down Arrow (▼)
Forward Search	Forward Search (▶▶)
Reverse Search	Reverse Search (◀◀)
Next Track	Next (▶▶I) or Right Arrow (▶)
Previous Track	Previous (I◀◀) or Left Arrow (◀)
Page Up/Down	Page Up/Down
Stop	Stop (■)

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

Music: Navigates the audio materials stored on the iPod.

Photo/Manual: 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, 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.

- 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 PAL, to match the capabilities of your video display. If your selection was playing and is paused, the iPod requires you to reselect the video for the new TV Out setting to take effect.

- If you do not see the Videos line in the menu, and the iPod supports video browsing and has video content stored on it, you may need to turn off the AVR, remove the iPod from The Bridge II, reset the iPod, turn the AVR back on and dock the iPod again. This procedure may also help when a video program is selected but the "Now Playing" screen appears instead of the video images.

To exit iPod Manual Mode, with the AVR remote in The Bridge mode, press the Menu Button. To return to a previous menu level on the iPod, press the Back/Exit 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 playlist. 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 760/AVR 660 cannot override this setting.

While a selection is playing, the song title and play mode icon will appear in the front-panel Message Display.

If a video monitor is connected to the AVR 760/AVR 660 and the system is not in iPod Manual Mode, the Now Playing screen will appear and 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 Manual). Restore the Now Playing screen to view by pressing either of the ◀ ▶ Buttons.

NOTE: It is strongly recommended that you use the 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.

iPod MANUAL MODE

Press the Menu Button and select Photo/Manual to enter iPod Manual Mode. This is required to view photos stored on the iPod.

Table 5 summarizes the controls available with The Bridge II in iPod Manual Mode.

Table 5 – Using The Bridge II in iPod Manual Mode

iPod Function	Remote Control Key
Play	Play (▶)
Pause	Pause (II)
Menu	Back/Exit or Left Arrow (◀)
Select	OK
Select Next Screen (Scrubber, Cover Art, Ratings)	Right Arrow (▶)
Scroll Reverse	Page Up or Up Arrow (▲)
Scroll Forward	Page Down or Down Arrow (▼)
Next Track	Next (▶▶I)
Previous Track	Previous (I◀◀)

The AVR supports audio playback from some applications available for the iPod touch. Place the system in iPod Manual Mode by pressing the Menu Button and selecting "Photo/Manual". Then use the controls on the iPod touch to run the application. Due to the wide variety of applications and many factors affecting them, playback is not guaranteed.

While scrolling, hold the key to scroll faster. Use the Page Up/Down control on the remote to scroll a page at a time (not in Manual Mode).

NOTES:

- The Play and Pause functions are not available unless content has been selected for playback.

- To search within a track (not in Manual Mode), 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.

When a slideshow is being displayed, some controls have different effects:

- To pause the slideshow, including any audio track that is playing, press the Pause Button.

- To resume a paused slideshow, press the Pause Button. Pressing the Play Button begins audio playback.

- To play an audio track stored on the iPod, adjust the slideshow settings on the iPod.

- To skip to the next or previous photo on the iPod, press the Next or Previous Transport Control.

- It is not possible to skip to the next or previous audio track during a slideshow.

- To search forward or in reverse within an audio track, press the Forward or Reverse Search Transport Control. If no audio track is playing, these controls will have no effect during the slideshow.

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 Manual.

To select a surround mode, press the Surround Modes Button (front panel or remote). The Surround Modes menu will appear (see Figure 26). Use the ▲▼ Buttons until the desired surround mode category appears: Auto Select, Virtual Surround, Stereo, Movie, Music or Video Game. Press the OK Button to change the audio type's surround mode.

Figure 26 — 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, Music or Game mode, depending on the source.

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 in the Advanced Functions Manual, 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 Advanced Functions Manual for more information.

Movie: Use when a 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 a 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 Manual for more information.

Video Game: Use to select a 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 Manual for more information on surround modes.

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
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
Unable to activate Program mode on remote	• AVR Settings Button not held for at least 3 seconds	• Follow the instructions in the remote's LCD Display
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
Unable to play Internet Radio	• AVR is not able to access the Internet	• Make sure the Network Jack is connected to an active router; navigate to the Network Settings submenu in the System Setup menu and change the Network Settings line to "Manual"; contact your ISP to obtain the correct information for the other settings in this submenu
Unable to access content on PC from Network source	• Content not in proper format • Content has not been shared by network device	• Only content in the form of MP3, WMA and JPEG files may be shared with the AVR • Network device must be running compatible software; network device must be programmed to share the content over the network; refer to the Network Playback section on page 34 for details

Additional information on troubleshooting possible problems with your AVR 760/AVR 660, or installation-related issues, may be found in the list of "Frequently Asked Questions", which is located in the Product Support section at www.harmankardon.com.

PROCESSOR RESET

If the unit behaves erratically after a power surge, first turn off the Main Power Switch and unplug the AC power cord for at least 3 minutes. Plug the cord back in and turn the receiver on. If this doesn't help, reset the AVR.

NOTE: 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.

To reset the AVR 760/AVR 660, place it in Standby mode (press the front-panel Standby/On Switch so that the Power Indicator turns amber). Then press the front-panel AVR Settings and Source List Buttons simultaneously 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.

NOTE: After performing a system reset, wait at least 1 minute before pressing any Source Selectors. If The Bridge Source Selector is pressed too soon, video playback from the iPod will not be available.

MEMORY

If the AVR 760/AVR 660 is unplugged or experiences a power outage, it will retain user settings for up to four weeks.

Appendix – Default settings

Table A1 – Recommended Source Component Connections

Device Type	AVR 760/AVR 660 **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	HDMI 4	Analog 5	HDMI 4
TV	TV	Optical 1	Analog 3	Component 1*
Video game console	Game	HDMI 3	Analog 4	HDMI 3
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	Source D	Coaxial 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.

NOTE: Additional components may be connected to available audio and video inputs and assigned to Sources A, B, C and D. A USB drive may be plugged into the front-panel USB Port. For access to content on network computers and other devices, and to enjoy Internet Radio, connect the Network Jack to a home-network router. See pages 33 and 34 for more information.

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 Music	Logic 7 Movie	Logic 7 Movie	Logic 7 Movie	Logic 7 Music	Logic 7 Music
Video Input	HDMI 2	HDMI 1	HDMI 4	N/A	Component 1	HDMI 3	Composite Front	The Bridge II
Audio Input	HDMI 2	HDMI 1	HDMI 4	N/A	Optical 1	HDMI 3	Coaxial Front	The Bridge II
Resolution to Display*	576i/480i	576i/480i	576i/480i	576i/480i	576i/480i	576i/480i	576i/480i	576i/480i
Audio Auto Polling	Off	Off	Off	N/A	Off	Off	Off	N/A
Zone 2 Audio	Analog 1	Analog 2	Analog 5	Radio	Analog 3	Analog 4	Analog Front	The Bridge II
Zone 2 Video	Composite Video 1	Composite Video 2	Composite Video 3	N/A	Composite Video 2	Composite Video 3	Composite Video Front	The Bridge II
Trigger 2	On	On	On	On	On	On	On	On
Dolby Volume	Medium	Low	Medium	Medium	Medium	Medium	Low	Medium
Record Out	Analog	Analog	Analog	Analog	Analog	Analog	Analog	Analog

* Video output resolution may vary for HDMI connections.

Table A2 – Source Setting Defaults – continued

	USB	Internet Radio	Network	Source A	Source B	Source C	Source D
Surround Modes (Auto Select)	Logic 7 Movie	Logic 7 Music	Logic 7 Music	Logic 7 Movie	Logic 7 Movie	Logic 7 Movie	Logic 7 Movie
Video Input	USB	Internet Radio	Network	Component Video 2	Component Video 3	Composite Video 1	Composite Video 2
Audio Input	USB	N/A	Network	Optical 2	Optical 3	Analog 1	Coaxial 2
Resolution to Display	576i/480i	576i/480i	576i/480i	576i/480i	576i/480i	576i/480i	576i/480i
Audio Auto Polling	N/A	N/A	N/A	Off	Off	Off	Off
Zone 2 Audio	USB	Internet Radio	Network	Analog 1	Analog 2	Analog 3	Analog 4
Zone 2 Video	N/A	N/A	N/A	Composite Video 1	Composite Video 2	Composite Video 3	Composite Video Front
Trigger 2	On	On	On	On	On	On	On
Dolby Volume	Medium	Medium	Medium	Medium	Medium	Medium	Medium
Record Out	Analog	Analog	Analog	Analog	Analog	Analog	Analog

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Audio Section

Stereo Mode, Continuous Average Power (FTC)

AVR 760: 100 Watts per channel, 20Hz–20kHz, @ <0.07% THD, both channels driven into 8 ohms

AVR 660: 85 Watts per channel, 20Hz–20kHz, @ <0.07% THD, both channels driven into 8 ohms

Seven-Channel Surround Modes
Power per Individual Channel for AVR 760/AVR 660

Front L & R channels:
85/75 Watts per channel @ <0.07% THD, 20Hz–20kHz into 8 ohms

Center channel:
85/75 Watts @ <0.07% THD, 20Hz–20kHz into 8 ohms

Surround (L & R Side, L & R Back) channels:
85/75 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)	
AVR 660	±50 Amps
AVR 760	±60 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	PAL
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 230V/50Hz	
Power Consumption	170W idle, 1220W maximum (7 channels driven, both models)	
Stand-by consumption	AVR 760: <1 Watt, AVR 660: <1 Watt	

Dimensions	(Product)	(Shipping)
Width	440mm	520mm
Height	165mm	280mm
Depth	435mm	580mm

Weight	(Product)	(Shipping)
AVR 660	19kg (42 lb)	22.3kg (49 lb)
AVR 760	20kg (44 lb)	23.3kg (51 lb)

Depth measurement includes knobs, buttons and terminal connections.

Height measurement includes feet and chassis.

Features, specifications and appearance are subject to change without notice.

Please register your AVR 760/AVR 660 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.

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NOTE:

This Owner's Manual is the Basic version. It describes all functions essential for the use of the unit. For more in-depth information, please download the Advanced Functions Manual from the harmankardon.com web site.

All references to the Advanced Functions Manual in the Basic Manual refer to the web-only, additional manual which explains functions that go beyond the basic use of the receiver. This Advanced Functions Manual also contains more worksheets and the remote control function list.

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