harman/kardon®

AVR 760
AVR 660

AUDIO/VIDEO RECEIVER

OWNER'S MANUAL – Advanced 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.

NOTE: This Owner's Manual explains the advanced functions of the harman/kardon AVR 760/AVR 660 receivers. It also contains note sheets for your personal use when setting up and adjusting your unit. Please read and use the Basic Manual that came with your unit before continuing with this Advanced Manual.

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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.

ENGLISH

Harman Kardon AVR 760/AVR 660 7.2/7.1-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, 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)

Much of the AVR 760/AVR 660's performance is handled automatically, with little intervention required on your part. The AVR 760/AVR 660 is capable of being customized to suit your system and your tastes. In this Advanced Functions Manual, some of the more advanced adjustments available are described.

AUDIO PROCESSING AND SURROUND SOUND

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

Analog Audio Signals

Analog audio signals usually consist of two channels — left and right. The AVR 760/AVR 660 offers three options for playback:

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

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

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

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

   NOTE: Audio from The Bridge II source is analog, and when 2-channel Stereo mode is selected, the audio will be played in Analog Bypass mode.

2. **Analog Surround Modes**: The AVR 760/AVR 660 is able to process 2-channel audio signals to produce multichannel surround sound, even when no surround sound has been encoded in the recording. Among the available modes are the Dolby Pro Logic II/IIx modes, the Dolby Virtual Speaker modes, the DTS Neo:6 modes, the Logic 7 modes and the Stereo modes.

Digital Audio Signals

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

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

Surround Modes

Surround mode selection is dependent upon the format of the incoming audio signal, as well as personal taste. Table A13 offers a brief description of each mode and indicates the types of incoming signals or digital bitstreams the mode may be used with. Additional information about the Dolby and DTS modes is available on the companies' Web sites: www.dolby.com and www.dtsonline.com.

When in doubt, check the jacket of your disc for more information on which surround modes are available. Usually, nonessential sections of the disc, such as trailers, extra materials or the disc menu, are only available in Dolby Digital 2.0 (2-channel) or PCM 2-channel mode. If the main title is playing and the display shows one of these surround modes, look for an audio or language setup section in the disc's menu. Also, make sure your player's audio output is set to the original bitstream rather than 2-channel PCM. Stop play and check the player's output setting.

For any incoming signal, only a limited number of surround modes are available. Although there is never a time when all of the AVR 760/AVR 660's surround modes are available, there is usually a wide variety of modes available for a given input.

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

6.1-Channel recordings add a single surround back channel, and 7.1-channel recordings add surround back left and surround back right channels to the 5.1-channel configuration. New formats are available in 7.1-channel configurations. The AVR 760/AVR 660 is able to play the new audio formats, delivering a more exciting home theater experience.

NOTE: To use the 6.1- and 7.1-channel surround modes, the Surround Back channels must be enabled. See the Manual Speaker Setup section on page 6 for more information.

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

When a digital signal is received, the AVR 760/AVR 660 detects the encoding method and the number of channels, which is displayed briefly as three numbers, separated by slashes (e.g., "3/2/.1").

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

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

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

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

The second number indicates whether any surround channels are present:

"0" indicates that no surround information is present.

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

"2" indicates discrete left and right surround channels.

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

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

The third number is used for the LFE channel:

"0" indicates no LFE channel.

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

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

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

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

When only two channels – left and right – are present, the analog surround modes may be used to decode the signal into the remaining channels. If you would prefer a different surround format than the native signal's digital encoding, press the Surround Modes Button to display the Surround Modes menu (see Figure 26 in the Basic Manual).

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

Each category is set to a default surround mode:

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

You may select a different mode. The choice of surround modes depends on the number of speakers in your system.

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

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

Please refer to Table A13 in the appendix for more information on which surround modes are available with different bitstreams.

Dolby Surround Settings

Some additional settings are available for Dolby modes. When the Dolby Pro Logic II or IIx Music modes have been selected, choose the Edit submenu to adjust the Center Width, Dimension and Panorama settings. See Figure 27.
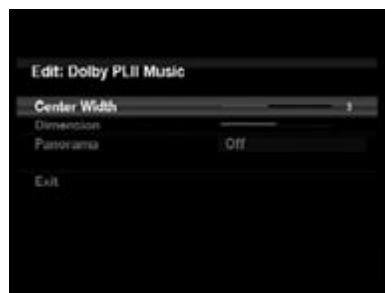
Figure 27 – Dolby Pro Logic II/IIx Music Mode Settings

Center Width: This setting affects how vocals sound through the three front speakers. A higher number (up to 7) focuses the vocal information tightly on the center channel. Lower numbers broaden the vocal soundstage. Use the ◀ ▶ Buttons to adjust.

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

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

MANUAL SPEAKER SETUP

The AVR 760/AVR 660 is flexible and may be configured for most speakers, and to compensate for the acoustic characteristics of your room.

The EzSet/EQ II process automatically detects the capabilities of each speaker, and optimizes the AVR 760/AVR 660's performance. If you are unable to run EzSet/EQ II calibration, or if you wish to make further adjustments, use the Manual Speaker Setup on-screen menus.

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

Record your configuration settings in Tables A3 through A12 in the appendix for easy re-entry after a system reset, or if the AVR's Master Power Switch is turned off or the unit is unplugged for more than four weeks.

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

STEP ONE – Determine Speaker Crossover

Without using the EzSet/EQ II process, the AVR 760/AVR 660 can't detect how many speakers you've connected to it; nor can it determine their capabilities. Consult the speaker's technical specifications and locate the frequency response, usually given as a range, e.g., 100Hz – 20kHz (±3dB). Write down the lowest frequency that each of your main speakers is capable of playing (100Hz in the example) as the crossover in Table A3 in the appendix. This is not the same as the crossover frequency listed in the speaker's specifications. For the subwoofer, write down the transducer size.

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

With proper bass management, the AVR 760/AVR 660 divides the source signal at a crossover point. All information above the crossover point is played through the satellite speaker, and all information below the crossover point is played through the subwoofer. Each loudspeaker in your system performs at its best, delivering an enjoyable sound experience.

STEP TWO – Measure Speaker Distances

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

Use the AVR's Distance/Delay adjustment to compensate for real-world speaker placements.

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

STEP THREE – Manual Setup Menu

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

With the receiver and video display turned on, press the AVR Settings Button to display the menu system. Use the ▼ Button to move the cursor to the Speaker Setup line, and press the OK Button to display the Speaker Setup menu. See Figure 21 in the Basic Manual.

If you have run the EzSet/EQ II process, the results were saved in one of the two listening positions (AVR 760 position 1+2, AVR 660 1 position). Adjust the Speaker Setup setting in the Audio Effects menu to activate the results for either position (AVR 660: 1 position) (see page 26-27 in the Basic Manual). To tweak the EzSet/EQ II results, or to configure the AVR from scratch, select Setup Listening Position 1 (AVR 760, AVR 660) or Setup Listening Position 2 (AVR 760). A screen similar to the one shown in Figure 28 will appear.

Figure 28 – Speaker Setup Position Menu

NOTE: All of the speaker setup submenus include the Back option, as shown at the bottom of Figure 28. To save the current settings, select the Back option.

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

For best results, adjust the submenus in this order: Number of Speakers, Crossover (Size), Sub Mode, Distance and Level Adjust.

Number of Speakers

Move the cursor to the Number of Speakers line and press the OK Button. See Figure 29.

Figure 29 – Number of Speakers Menu

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

The setting for the surround back speakers includes a third option: Zone 2. The AVR 760/AVR 660 is capable of multizone operation, supporting placement of a pair of speakers in another room. The AVR 760/AVR 660's assignable surround back amplifier channels make multizone operation easier than ever, since an external power amplifier is not required. Select the Zone 2 option at this line, and connect the Surround Back Speaker Outputs to loudspeakers located in the remote room. The main room will be configured automatically for up to 5.1 channels. See the Multizone Operation section for more information.

NOTE: When the Surround Back speakers are set to "Zone 2", they will not be configured during the EzSet/EQ II process. To use the speakers in the main listening area, configure them as "On", and run the EzSet/EQ II process for a 7.1- or 7.2-channel system. If the speakers will only be used during multizone operation, configure them manually, as explained below.

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

When you have finished, select the Back option or use the Back/Exit Button.

Adjust Crossover Frequencies Menu

After you have programmed the number of speakers, the AVR will return to the Speaker Setup Position menu (see Figure 28). Navigate to the Crossover (Size) line and press the OK Button to display the Adjust Crossover Frequencies menu (see Figure 30).
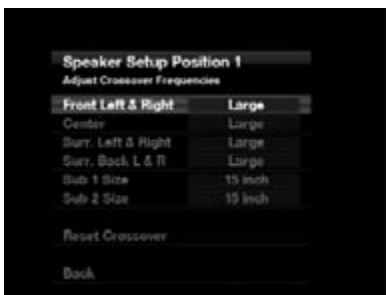

Figure 30 — Adjust Crossover Frequencies Menu

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

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

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

Specify the size of the subwoofer's transducer as 8, 10, 12 or 15 inches (20, 25, 30 or 38 cm). The AVR always sets the subwoofer crossover to 100Hz, but uses the transducer size for equalization. Write down the settings in Table A3 in the appendix.

When you have finished entering the settings, select Back, or press the Back/Exit Button.

Sub Mode

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

- If you set the front speakers to a numeric crossover frequency, the subwoofer setting will always be LFE. All low-frequency information will always be sent to the subwoofer. If you don't have a subwoofer, either upgrade to full-range speakers or add a subwoofer at the earliest opportunity.

- If you set the front speakers to LARGE, select one of the three settings for the subwoofer.

  ♦ **L/R+LFE**: This setting sends all low-frequency information to the subwoofer, including both information that would normally be played through the front left and right speakers, and the special low-frequency effects (LFE) channel information.

  ♦ **Off**: Select this setting when no subwoofer is in use. All low-frequency information will be sent to the front left and right speakers.

  ♦ **LFE**: This setting plays low-frequency information contained in the left and right program channels through the front speakers, and directs only the LFE channel to the subwoofer.

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

Adjust Speaker Distance Menu

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

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

On the Speaker Setup Position menu, move the cursor to the Distance line and press the OK Button to display the Adjust Speaker Distance menu. See Figure 31.
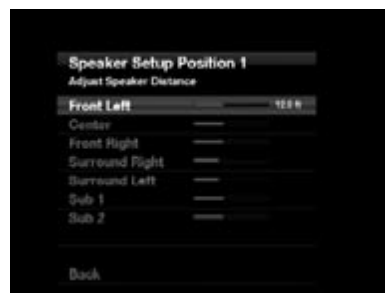
Figure 31 — Adjust Speaker Distance Menu

Enter the distance from each speaker to the listening position, as measured in Step Two — Measure Speaker Distances and recorded in Table A4 in the appendix (see page 17).

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

Select a speaker, then use the ◄ ► Buttons to change the measurement. The values vary between 0 and 10 meter, with a default of 4 m for all speakers except the Surround Left and Right Speakers, for which the default is 3,3 meter.

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

STEP FOUR – Setting Channel Output Levels Manually

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

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

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

1. Make sure all speakers have been placed and connected correctly.

2. Adjust the number of speakers, crossover, distance and sub mode for each speaker in your system, as described in Step Three.

3. Measure the channel levels in one of these ways, and adjust the channel levels using the Adjust Speaker Levels menu:

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

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

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

Press the AVR Settings Button to display the menu system, and then navigate to the Speaker Setup line. Press the OK Button to display the Speaker Setup menu. Select Setup Listening Position 1 (AVR 760, AVR 660) or 2 (AVR 760), press the OK Button, and then navigate to the Level Adjust line. Press the OK Button to display the Adjust Speaker Levels menu. See Figure 32.

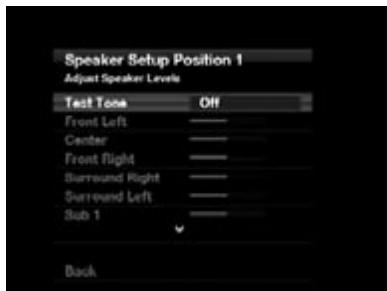Figure 32 – Adjust Speaker Levels Menu

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

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

To set your levels using the AVR 760/AVR 660's internal test tone, adjust the TEST TONE line as follows:

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

When this setting reads AUTO, the test tone will automatically circulate to all channels, pausing for a few moments at each channel and then moving to the next channel several seconds later, as indicated by the highlight bar. Adjust the level for any channel when the test tone is paused there, using the ◀ ▶ Buttons. Use the ▲ ▼ Buttons to move the cursor to another line, and the test tone will follow the cursor.

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

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

When you have finished adjusting the speaker levels, select the Back option or press the Back/Exit Button. Record the level settings in Table A3 in the appendix.

AUDIO EFFECTS

To adjust other audio settings, such as the tone controls, to improve performance, press the Audio Effects Button to display the Audio Effects menu (see Figure 24 in the Basic Manual). The menu may also be accessed from the Setup Source menu by pressing the Info Settings Button and selecting Audio Effects.

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

Dolby Volume: See page 30 of the Basic Manual for an explanation of Dolby Volume processing and its benefits. Refer to Table 3 on that page for an explanation of each of the Dolby Volume settings.

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

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

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

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

Speaker Setup: Select Position 1 (AVR 760, AVR 660) or 2 (AVR 760) to activate the speaker configuration settings saved for the desired position. The settings may be configured either by running the EzSet/EQ II process and saving the results, or manually, as explained in the Manual Speaker Setup section on page 6.

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

VIDEO ADJUSTMENTS

The AVR 760/AVR 660 uses leading-edge Faroudja DCDi Cinema video processing technology. Incoming video is upscaled to 1080p (1080i with component video outputs) for outstanding video quality, even with analog video sources. The Faroudja DCDi Cinema Dual 3D comb filters and 10-bit video processing eliminate the jagged edges and moiré patterns seen with less advanced processing.

The "Torino" video processing chip generates on-screen graphics in high definition, and blends it with the incoming video, so that you can continue to watch a program while using system menus.

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

Video Modes

Adjust the picture settings on your video display before adjusting the AVR. Access the picture settings from the Video Modes menu. Press the Video Modes Button, and the screen shown in Figure 33 will appear. The menu may also be accessed from the Info Settings menu.

NOTE: The settings in the Video Modes menu affect each source independently.

Figure 33 — Video Modes Menu

Video Mode: The default setting of Off passes the video signal through to the display without any picture processing. Video scaling cannot be turned off, but selecting the HDMI Bypass mode in the Info Settings menu for a source connected to one of the HDMI Inputs passes the video signal directly from the HDMI Input to the HDMI Output, bypassing all video processing. Select one of these processing options to optimize the picture for the current program by applying adjustments to the brightness, contrast, color and sharpness:

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

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

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

Plasma and CRT monitors may suffer from "burn-in" when the same image, such as the horizontal or vertical bars, is left on screen for a long period of time. Adjust the picture so that it fills the display's screen. Highlight this setting and press the OK Button. Each press of the ▲ ▼ Buttons changes the setting. Press the OK Button when the desired setting appears.

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

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

Overscan: For historical reasons, there is a convention to reserve an area around the border of a video frame, called "overscan", that may be viewed on newer high-definition displays, although it was not visible on older analog television sets. However, since not all displays are capable of showing this portion of the frame, directors avoid placing important information in that area.

If your video display is capable of displaying the overscan area, turn this setting on to avoid seeing a black border around the image which could cause unwanted "burn-in" on some plasma and CRT displays. The AVR turns this setting off by default when the source device is connected to one of the HDMI Inputs. The setting is turned on by default when the source is connected to one of the analog video inputs.

Advanced Video Settings: Press the ► or OK Button to display the Advanced Video Modes submenu (see Figure 34). This submenu is not accessible when the video processor (Video Mode setting) is turned off.
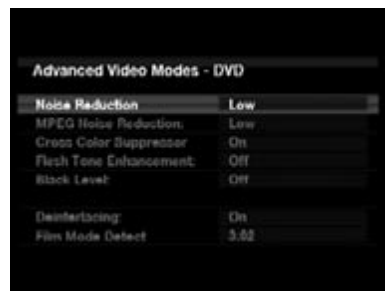

Figure 34 — Advanced Video Modes Menu

Noise Reduction: Adjust this setting to Low, Medium or High to filter out signal noise, or turn it off.

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

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

Flesh Tone Enhancement: Turn this setting on to improve the appearance of actors' skin tones.

Black Level: This setting is only effective when used with the Composite Video Output. Turn it on for a full black-level setting that provides the full dynamic range of black as presented on most DVDs. When turned off, the setting complies with NTSC standards for video with "setup", and may be more appropriate when your video display has limited video processing capability.

Deinterlacing: For historical reasons, video in the NTSC format was interlaced. That is, each refresh of the television screen displayed only half the pixels in a frame, alternating between all of the even rows of pixels and all of the odd rows. Modern displays are capable of displaying the complete frame all at once by progressively scanning all of the rows of pixels from top to bottom. For optimal viewing on a progressive-scan display (most flat-panel displays), the video images must be deinterlaced. When viewing images via the Composite or S-Video Monitor Output, or any time the AVR's video output resolution is 576i, this setting may be turned off.

Film Mode Detect: This setting is only accessible when the Deinterlacing setting is turned on. It compensates for the different frame rates in which film and video are shot. Film is shot at a rate of 24 frames per second (progressive scan), while video is shot at slightly less than 60 frames per second (interlaced). The AVR is able to detect whether the program was originally shot on film and transferred to video (e.g., to create a DVD), and to compensate appropriately for any authoring errors in the conversion. Select a setting of 3:2 (for NTSC materials), 2:2 (for PAL materials originating overseas), Off or Auto.

How to Adjust the Custom Picture Settings

Set the Video Mode to Custom to display the picture settings, as shown in Figure 35.

Figure 35 – Video Modes Custom Processing

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

- The color intensity setting on your TV.

- Color adjustments using the color bars, which may be (left to right) black, white, yellow, cyan (turquoise), green, magenta, red, blue, black.

- The color transition, seen as sharp separation of the bars.

- The performance of the color circuits in your TV (with "Video" signals); bar edges should show no vertical crawling dots.

Use the gray scale and the black/white fields in the test pattern to adjust the brightness and contrast.

Brightness Adjustment

1. Turn down the color control on your TV until the color bars appear in black and white.

2. Adjust the contrast to the lowest level where you still can see all gray scale bars separately and clearly.

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

Contrast Adjustment

1. Adjust the contrast on your TV until you see a bright white bar in the lower right corner of the screen and a deep-dark-black bar to the left.

2. If the brightness of the white bar no longer increases when the contrast is turned up or the borders of white letters bloom (overlight) into the black areas (drastically decreasing the sharpness of the type), the contrast has been turned up too much. Reduce the contrast until these effects disappear and the video still looks realistic.

3. If you are watching TV with ambient daylight, adjust the contrast so that a normal video picture looks the same as the surroundings in your room; that way the eye is relaxed when watching the TV picture. Reduce the setting when the surrounding light is dimmed to improve the sharpness of the picture.

4. The gray scale in the middle line should retain the same distinction between each bar as before the contrast adjustment. If not, repeat both Step 3 of the Brightness Adjustment and the Contrast Adjustment.

Color Adjustment

1. When the brightness and contrast are set optimally, adjust the color control. Set the level so that the colors look strong but still natural, not overdone. If the color level is too high, depending on the TV, some of the bars will seem wider or the color intensity will not increase when the control is turned up. Test the color intensity with a video of pictures of faces, flowers, fruit and vegetables.

2. Refer to the large white bar below the gray scale to tweak the warmth of the picture using the Tint control on your TV.

Sharpness Adjustment

Contrary to intuition, the picture will appear sharper and clearer with the sharpness backed off from the maximum setting. Reduce the sharpness setting on your television, and the setting on the AVR 760/AVR 660, if necessary, to minimize the appearance of any white lines between the bars in the gray scale portion of the test screen.

Convergence and Edge Focus

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

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

MULTIZONE OPERATION

With the multizone system in use, you may enjoy an exciting 5.1- or 5.2-channel home theater presentation in the main listening area, while others listen to the same materials or an entirely different presentation in another room.

Although installation of a multizone system is not complicated, it requires running wires inside walls. Check your local building codes and comply with the requirements for in-wall wiring systems, to prevent the possibility of a dangerous situation. If you have any questions about installing a multizone system, it is strongly recommended that you contact a professional custom installer. See Step Eleven of the Installation section on page 22 of the Basic Manual for instructions on installing a multizone system.

Operating the Multizone System

The AVR 760/AVR 660's multizone system is accessed using the on-screen Zone 2 menu. Press the AVR Settings Button, and use the ▲ ▼ Buttons to navigate to the Zone 2 line. Press the OK Button to display the Zone 2 menu. See Figure 36.

> **NOTE**: When the Zone 2 Video Output is connected to a display, a text-based version of the menu will appear. However, no menus will appear when USB, Internet Radio or the Network is selected as the source in either the main or remote zone, and a different source is selected for the other zone.

Figure 36 – Zone 2 Menu

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

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

> **NOTE**: Only analog audio sources, including The Bridge II, are available to the multizone system. The USB, Network and Internet Radio sources are also available. To hear digital devices, such as a CD player, in the remote zone, follow these steps:
>
> 1. In addition to a digital audio connection, connect the source device's analog audio outputs to the AVR. Make a note in Table A5 in the appendix on which set of inputs was used.
>
> 2. In the Info Settings menu, leave the Audio Input From Source setting at the digital audio input. Scroll down to the Zone 2 Audio setting and select the analog audio input.

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

Surround Back Amps: Reassign the surround back channels to the multizone system. When this line is set to Zone 2, you may only configure the main listening room for up to 5.2 channels. EzSet/EQ II will only configure the main system. Use the Manual Setup section of the Speaker Setup menu to configure the remote speakers with this setting at Main Room, then return this setting to Zone 2.

Carrier Out: The Carrier IR Output passes the full remote infrared signal, rather than a signal stripped of the carrier frequency, as is available at the Remote IR Output. This setting determines the source for the Carrier IR Output.

- **Zone 2**: Uses the Zone 2 IR Input.

- **Front Panel**: Uses either the front-panel IR receiver or the Remote IR Input.

- **A-BUS**: Uses the A-BUS system.

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

SYSTEM SETTINGS

The AVR 760/AVR 660 offers system settings for ease of use. These settings may be accessed from the System Settings menu, which is selected by pressing the AVR Settings Button and navigating to the System line. Press the OK Button to display the System Settings menu. See Figure 37.
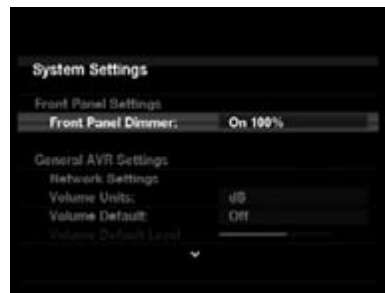

Figure 37 – Systems Settings Screen

Front-Panel Dimmer: Select On 100% for full brightness, dim to 50% or 25% of full brightness or select Off to fully darken the display. The light inside the Volume Control will go out when the display is partly or fully dimmed, but the Power Indicator will always remain lit to remind you that the AVR is powered on.

GENERAL AVR SETTINGS

Network Settings: When the AVR is connected to a home network router using the Network Jack, you may play shared content stored on a PC or other device connected to the network, and you may enjoy Internet Radio streams when the network is connected to the Internet. If you are having difficulty accessing these sources, check the Network Settings. Highlight the Network Settings line and press the OK Button to view the Network Settings submenu.

- **ID #**: This line is informational only, and identifies the AVR to other devices on your home network and the Internet for www.radioharmankardon.com.

- **Network Settings**: If leaving this setting at "Automatic" does not allow access, press the OK Button to change it to "Manual" and adjust the other settings below it.

- **IP Address, Subnet Mask, Gateway, Primary DNS, Secondary DNS**: Depending on your system, this information may be set automatically and may change each time the AVR accesses the network for a new listening session. Contact your ISP (Internet Service Provider) for this information.

- **Proxy Address** and **Proxy Port**: Some network security systems access the Internet using a proxy server. Sometimes filling in just this information correctly may resolve Internet access issues.

Volume Units: Select whether volume is displayed in the conventional decibel scale or on a numeric scale from 0 to 90. When the decibel scale is used, 0dB is the maximum recommended volume, with lower volumes displayed as negative values.

Volume Default and **Volume Default Level**: These two settings are used together to program the volume level at turn-on. Turn Volume Default on, and then set the Volume Default Level to the desired turn-on volume. When the Volume Default setting is left off, the AVR will play at the last-used volume setting from the previous listening session.

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

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

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

Dolby Volume Calibration: This setting determines the Dolby Volume Calibration Offset, as described on page 30 of the Basic Manual. Its default of 0dB is best when the system's loudspeakers have a sensitivity rating of 88dB (8 ohms, 1 watt, 1 meter). If your loudspeakers have a higher sensitivity rating, increase the Dolby Volume Calibration setting by the difference between your speakers' sensitivity and 88dB. If your speakers have a lower sensitivity, decrease the Dolby Volume Calibration setting by the difference between 88dB and your speakers' sensitivity.

Menu Appearance

Menu Transparency: Select whether video programs will be visible when the menu system is in use. Select Normal for a fully transparent background, Medium for partial transparency or Opaque to block video programs while the menus are on screen.

Volume Status Messages: When the AVR is turned on, the volume is adjusted or the source is changed, or if a change in the input signal is detected, a status message will be displayed on screen. Select how long the message remains visible, from 2 to 10 seconds, with a default of 3 seconds. Select "Off" if you do not wish to see the status messages.

Menus: The settings in the Surround Modes, Video Modes and Audio Effects menus only remain in effect during the current listening session. This setting governs how long these menus remain visible after the last adjustment: 5, 10 or 30 seconds, 1 minute or 5 minutes. Select "No Time-Out" to view the menus indefinitely, but this setting is not recommended, due to the danger of "burn-in" on some video displays.

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

Screen Saver: Program a time-out period for no activity (with no menus displayed) before the AVR's built-in screen saver begins. Select a period of 5, 10, 20 or 30 minutes or 1 hour, or turn off the screen saver. A time-out period avoids the possibility of burn-in damage to plasma or CRT displays.

System Information

Software Version: This line is informational only. From time to time, Harman Kardon Inc., may release software upgrades that improve performance or add features. If you are experiencing difficulties with the AVR, a customer service representative may ask for the software version of your product to determine whether a later upgrade is available.

Upgrade Software: If a software upgrade is released for the AVR 760/AVR 660, installation instructions will be available in the Product Support section of the Web site or from Harman Kardon Customer Service. At that time, you may access this submenu to install the upgrade software.

NOTE: During a system upgrade, do not power off the AVR or use any of its controls. Doing so could permanently damage the AVR.

ADVANCED REMOTE CONTROL FUNCTIONS

The AVR 760/AVR 660 remote control also serves as a universal remote that may be programmed to operate other components. Refer to the Function List (Table A14 in the appendix) for assistance in operating your other components. The function of each button will not necessarily correspond to the label printed on the button.

The AVR 760/AVR 660 remote is a sophisticated and versatile device that is easy to program, thanks to its menu-based system.

To access the menu, press and hold the AVR Settings Button for at least 3 seconds, until the remote's Main Menu appears in its LCD Text Display.

The remote's menu is navigated using the ▲ ▼ ◄ ► Buttons and the OK Button. Scroll up or down to a desired menu option, and press the OK Button to select it.

Main Menu

- **Program Device**: Used to program the control codes for a source device into the appropriate Source Selector. See Step 14 in the Basic Manual for detailed instructions.

- **Learn**: Used to "learn" control codes from a source device's original remote, or to delete previously learned codes for individual keys or entire devices. See Step 14 in the Basic Manual for detailed instructions.

- **Change Device**: Used while programming a Source Selector when the source device doesn't match the Source Selector's device type. For example, when the system uses two DVD players but no media server, you may program the second DVD player's control codes into the Media Server Source Selector by changing its device type to DVD. See Step 14 in the Basic Manual for detailed instructions.

- **Activity**: Used to program a sequence of up to 20 commands into one of 10 activities so that the sequence may be executed by pressing only two buttons (Activity Button and Alphanumeric Key for the specific activity). See below for detailed instructions.

- **Punch-Through**: Used to allow transport- or channel-control of a different system component than the one currently being used. See below for detailed instructions.

- **Rename**: Used to rename a Source Selector or key on the remote to correspond to its actual function. Renaming only affects information appearing in the remote's LCD Text Display. See Step 14 in the Basic Manual for detailed instructions.

- **Back Light**: Used to program the functioning of the remote's back light. See below for detailed instructions.

- **Remote Reset**: Used to reset the remote to its factory defaults, deleting all user programming. See below for detailed instructions.

- **Exit**: Exits the remote's Program Mode when you scroll to this option and press the OK Button.

Activities (Macros)

Activities are used to program sequences of up to 20 commands that are executed with a single button press. Activities are well suited for power-on and -off commands, to send out a multidigit channel number with one button press, or to control another device with more flexibility than the built-in punch-through controls. Up to 11 activities may be programmed.

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

To program, or "record" an activity:

1. Press and hold the AVR Settings Button for 3 seconds. The remote will enter Program mode, and its Main Menu will be displayed.

2. Use the ▲ ▼ Buttons to scroll to the Activity option, and press the OK Button.

3. Use the ▲ ▼ Buttons to select the Record Activity option, and press the OK Button.

4. Use the ▲ ▼ Buttons to select the command button, and press the OK Button. The command button is the key the user will press to execute the activity. Select the AVR Power On Button, the AVR Power Off Button or one of the Alphanumeric Keys.

NOTE: When one of the Alphanumeric Keys is used as the command button, first press the Activity Button, then the Alphanumeric Key, to execute the activity. When the Alphanumeric Key is pressed by itself, the activity will not be executed. However, when the AVR Power On Button or the AVR Power Off Button is selected as the command button, the activity will be executed every time the programmed AVR Power Button is pressed.

5. Use the ▲ ▼ Buttons to select the last source, and press the OK Button. This places the AVR and the remote in the desired device mode after the Activity is finished.

6. Begin pressing the keys for the desired commands. Each command will appear in the LCD Display, with the source in use shown in square brackets on the left.

   - To switch to another source, press its Source Selector. This will count as one of the 20 commands allowed in each activity.

   - To include the AVR Power On or AVR Power Off commands, first press the AVR Settings Button to set the remote in AVR device mode, then press the desired power button.

   - To program menu navigation, press the ► Button to make a selection, and press the ◄ Button to return to a previous menu level. Pressing the OK Button will end the command sequence and save it as an activity, while pressing the Back/Exit Button will exit Program mode without saving the activity.

7. To end the command sequence, press the OK Button.

8. Use the ▲ ▼ Buttons to select either the End Activity option or the Edit Title option, and press the OK Button.

   - **End Activity**: The activity will be saved. When the activity is executed, its command button, e.g., Activity 9, will appear in the LCD Display.

- **Edit Title**: You may name the activity, e.g., All Power Off. When the activity is executed, its name will appear in the LCD Display. When this option is selected, the cursor will flash. Type the title for the activity 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 when you have finished.

To execute an activity, press the Activity Button, then the Alphanumeric Key you selected as the command button in Step 4. If you selected the AVR Power On or Off Button in Step 4, you do not need to press the Activity Button first.

To view the steps previously programmed for an activity without executing it:

1. Press and hold the AVR Settings Button for 3 seconds. The remote will enter Program mode, and its Main Menu will be displayed.

2. Use the ▲ ▼ Buttons to scroll to the Activity option, and press the OK Button.

3. Use the ▲ ▼ Buttons to select the Read Activity option, and press the OK Button.

4. Use the ▲ ▼ Buttons to select the command button, and press the OK Button.

5. Use the ▲ ▼ Buttons to scroll through the steps programmed into the activity. It is not possible to make any changes. When you have finished, press the OK Button or the Back/Exit Button to exit Program mode.

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

1. Press and hold the AVR Settings Button for 3 seconds. The remote will enter Program mode, and its Main Menu will be displayed.

2. Use the ▲ ▼ Buttons to scroll to the Activity option, and press the OK Button.

3. Use the ▲ ▼ Buttons to select the Delete Activity option, and press the OK Button.

4. Use the ▲ ▼ Buttons to select the command button or title, and press the OK Button. The activity, including any title you gave it, will be deleted.

Punch-Through Programming

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

To program punch-through control while operating any device:

1. Press and hold the AVR Settings Button for 3 seconds. The remote will enter Program mode, and its Main Menu will be displayed.

2. Use the ▲ ▼ Buttons to scroll to the Punch-Through option, and press the OK Button.

3. Use the ▲ ▼ Buttons to select either Channel or Transport control, and press the OK Button.

4. Use the ▲ ▼ Buttons to scroll to the device in use, and press the OK Button. For example, to change channels using the cable or satellite set-top box while using the remote to operate the TV, select the TV source in this step.

5. Use the ▲ ▼ Buttons to select the punch-through device (CBL/SAT in the example given in step 4), press the OK Button, and the Punch-Through programming will be saved.

To undo punch-through programming, follow the same steps as above, but select the same Source in Steps 4 and 5.

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

Back Light

The AVR remote is equipped with a back light to illuminate the keys and LCD Display to facilitate its use in a darkened home theater environment.

To turn the back light on or off at any time, press the Back Light Button.

The back light's turn-on mode may be programmed:

- **Normal**: The back light stays off unless the Back Light Button is pressed.

- **On Full**: The back light will turn on any time a key is pressed.

In both modes, the back light will remain on for 5 seconds after the last button press, and then turn off automatically.

To program the remote's back light mode:

1. Press and hold the AVR Settings Button for 3 seconds. The remote will enter Program mode, and its Main Menu will be displayed.

2. Use the ▲ ▼ Buttons to scroll to the Back Light option, and press the OK Button.

3. Use the ▲ ▼ Buttons to select the Normal or On Full option, and press the OK Button to finish.

Remote Reset

To reset the remote to its factory defaults, erasing all product codes, learned codes, activities and other user programming:

1. Press and hold the AVR Settings Button for 3 seconds. The remote will enter Program mode, and its Main Menu will be displayed.

2. Use the ▲ ▼ Buttons to scroll to the Remote Reset option, and press the OK Button. The process may take a few minutes, depending on the amount of user programming requiring erasure. Please wait until the "Remote Reset Complete" message appears before pressing any keys.

Appendix – Default settings, worksheets, remote product codes

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 page 12 for more information.

ENGLISH

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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

Table A3 – Speaker/Channel Setting Defaults

	All Digital and 2-Channel Analog Audio Inputs	6-/8-Channel Analog Audio Inputs*	Your Settings Position 1 (AVR 760, AVR 660)	Your Settings Position 2 (AVR 760)
Left/Right Speakers	ON	ON		
Center Speaker	ON	ON		
Left/Right Surround Speakers	ON	ON		
Left/Right Surround Back Speakers	OFF	OFF		
Subwoofer 1	ON	ON		
Subwoofer 2	ON	ON		
Left/Right Speakers Crossover	100Hz	Large*		
Center Speaker Crossover	100Hz	Large*		
Left/Right Surround Speakers Crossover	100Hz	Large*		
Left/Right Surround Back Speakers Crossover	100Hz	Large*		
Subwoofer Mode	LFE	LFE*		
Subwoofer 1 Size	10 inch/25 cm	ON		
Subwoofer 2 Size	10 inch/25 cm	OFF		
Front Left Level	0dB	0dB		
Center Level	0dB	0dB		
Front Right Level	0dB	0dB		
Surround Right Level	0dB	0dB		
Surround Back Right Level	0dB	0dB		
Surround Back Left Level	0dB	0dB		
Surround Left Level	0dB	0dB		
Sub Level	0dB	0dB		

* Note: When the Tone Mode setting is Off, the 6-/8-Channel Inputs are "direct" inputs whose signals are passed directly to the volume control without any bass management processing. The speakers remain full-range and cannot be adjusted. When the Tone Mode setting is On, the defaults are the same as for the other audio inputs. The settings are global for the remaining audio inputs.

Table A4 – Delay Setting Defaults

Speaker Position	Distance From Speaker to Listening Position	Your Delay Settings Position 1 (AVR 760, AVR 660)	Your Delay Settings Position 2 (AVR 760)
Front Left	4 meter		
Center	4 meter		
Front Right	4 meter		
Surround Right	3,3 meter		
Surround Left	3,3 meter		
Surround Back Right	3,3 meter		
Surround Back Left	3,3 meter		
Subwoofer 1	4 meter		
Subwoofer 2	4 meter		

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Table A5 – Source Settings

	Cable/Sat	DVD	Media Server	Radio	TV	Game	AUX	The Bridge
Device Type								
Surround Modes								
Video Input								The Bridge II
Audio Input								The Bridge II
Resolution to Display								
Adjust Lip Sync								
Change Name								N/A
Audio Auto Polling								N/A
Zone 2 Audio								The Bridge II
Zone 2 Video								
Trigger 2								
Dolby Volume								
Record Out								

Table A5 – Source Settings – continued

	USB	Internet Radio	Network	Source A	Source B	Source C	Source D
Device Type	USB Drive	N/A					
Surround Modes							
Video Input	USB	N/A	Network				
Audio Input	USB	Internet Radio	Network				
Resolution to Display							
Adjust Lip Sync							
Change Name							
Audio Auto Polling	N/A	N/A	N/A				
Zone 2 Audio	USB	Internet Radio	Network				
Zone 2 Video	N/A	N/A	N/A				
Trigger 2							
Dolby Volume							
Record Out							

Table A6 – Audio Effects Settings

	Default	Cable/Sat	DVD	Media Server	Radio	TV	Game	AUX	The Bridge
Dolby Volume	See Source								
Tone Control	Off								
Treble	0dB								
Bass	0dB								
LFE Trim	0dB								
EQ	On								
Speaker Setup	Position 1								

Table A6 – Audio Effects Settings – continued

	USB	Internet Radio	Network	Source A	Source B	Source C	Source D
Dolby Volume							
Tone Control							
Treble							
Bass							
LFE Trim							
EQ							
Speaker Setup							

Table A7 – Video Modes Settings

	Default	Cable/Sat	DVD	Media Server	Radio	TV	Game	AUX	The Bridge
Video Mode	Off								
Brightness*	50								
Contrast*	50								
Color*	50								
Sharpness*	50								
Picture Adjust	Auto Fit								
Overscan	On								
Noise Reduction**	Low								
MPEG Noise Reduction**	Low								
Cross Color Suppressor**	On								
Flesh Tone Enhancement**	Off								
Black Level**	Off								
Deinterlacing**	On								
Film Mode Detect**	3:2								

Table A7 – Video Modes Settings – continued

	USB	Internet Radio	Network	Source A	Source B	Source C	Source D
Video Mode							
Brightness*							
Contrast*							
Color*							
Sharpness*							
Picture Adjust							
Overscan							
Noise Reduction**							
MPEG Noise Reduction**							
Cross Color Suppressor**							
Flesh Tone Enhancement**							
Black Level**							
Deinterlacing**							
Film Mode Detect**							

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

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Table A8 – Surround Modes

	Default	Cable/Sat	DVD	Media Server	Radio	TV	Game	AUX	The Bridge
Auto Select	Logic 7 Movie or native digital format								
Virtual Surround	Dolby Virtual Speaker Reference								
Stereo	5 CH Stereo								
Movie	Logic 7 Movie								
Music	Logic 7 Music								
Game	Logic 7 Game								
Center Width*	0								
Dimension*	0								
Panorama*	Off								

Table A8 – Surround Modes – continued

	USB	Internet Radio	Network	Source A	Source B	Source C	Source D
Auto Select							
Virtual Surround							
Stereo							
Movie							
Music							
Game							
Center Width*							
Dimension*							
Panorama*							

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

Table A9 – Remote Control Codes

Source Input	Device Type (if changed)	Product Brand and Code Number
Cable/Sat		
DVD		
Media Server		
TV		
Game		
AUX		
Source A (Red Soft Key)		
Source B (Green Soft Key)		
Source C (Yellow Soft Key)		
Source D (Blue Soft Key)		

Table A10 – System Settings

Feature	Default	Your Settings
Front-Panel Dimmer	On 100%	
Volume Units	dB	
Volume Default	Off	
Volume Default Level	−25dB	
Unit of Measure	Feet	
Language	English	
HDMI Audio to TV	Off	
Dolby Volume Calibration	0dB	
Menu Transparency	Medium	
Volume/Status Messages	3 seconds	
Menus	1 minute	
Setup and Slide-In Menus	15 minutes	
Screen Saver	10 minutes	
Software Version	Check your product	

Table A11 – Network Settings

Setting	Your Settings
ID #	
Network Settings	
IP Address	
Subnet Mask	
Gateway	
Primary DNS	
Secondary DNS	
Proxy Address	
Proxy Port	

Table A12 – Zone 2 Settings

Source Input	Default	Your Settings
Status	Off	
Source	FM Radio	
Volume	−25dB	
Surround Back Amps	Main Room	
Carrier Out	Zone 2	

Table A13 – Surround Modes

Surround Mode	Description	Incoming Bitstream or Signal
Dolby Digital	Provides up to five separate main audio channels and a dedicated low-frequency effects (LFE) channel.	• Dolby Digital 1/0/.0 or .1, 2/0/.0 or .1, 3/0/.0 or .1, 2/1/.0 or .1, 2/2/.0 or .1, 3/2/.0 or .1 • Dolby Digital EX (played as 5.1) • Dolby Digital Plus decoded and delivered via coax or optical connection
Dolby Digital EX	An expansion of Dolby Digital 5.1 that adds a surround back channel which may be played through one or two surround back speakers. May be manually selected when a non-EX Dolby Digital stream is detected.	• Dolby Digital EX • Dolby Digital 2/2/.0 or .1, 3/2/.0 or .1
Dolby Digital Plus	An enhanced version of Dolby Digital encoded more efficiently, Dolby Digital Plus has the capacity for additional discrete channels and for streaming audio from the Internet, all with enhanced audio quality. Source material may be delivered via an HDMI connection, or decoded to Dolby Digital or PCM and transmitted via S/P-DIF coaxial or optical digital audio.	• Dolby Digital Plus via HDMI connection (source device decodes to Dolby Digital when a coax or optical connection is used)
Dolby TrueHD	Dolby TrueHD is an expansion of MLP Lossless™ audio, the same format used on DVD Audio discs. Dolby TrueHD adds the features found in Dolby Digital, such as night mode settings, while delivering fully lossless audio that is a true reproduction of the studio master recording.	• Blu-ray Disc or HD-DVD encoded with Dolby TrueHD, delivered via HDMI
Dolby Digital Stereo	Delivers a 2-channel downmix of Dolby Digital materials.	• Dolby Digital 1/0/.0 or .1, 2/0/.0 or .1, 3/0/.0 or .1, 2/1/.0 or .1, 2/2/.0 or .1, 3/2/.0 or .1 • Dolby Digital EX
Dolby Pro Logic II Mode Group	Analog decoder that derives five full-range, discrete main audio channels from matrix surround-encoded or 2-channel analog sources. Four variants are available.	See below
Dolby Pro Logic II Movie	Variant of Dolby Pro Logic II that is optimized for movie and television programs.	• Dolby Digital 2.0 or 2.1 • Analog (2-channel) • Tuner • PCM (32kHz, 44.1kHz, 48kHz, 96kHz)
Dolby Pro Logic II Music	Variant of Dolby Pro Logic II that is optimized for music selections. Allows adjustment of sound field presentation in three dimensions: • Center Width (adjusts width of vocal soundstage) • Dimension (adjusts depth of soundstage) • Panorama (adjusts wraparound surround effect)	• Dolby Digital 2.0 or 2.1 • Analog (2-channel) • Tuner • PCM (32kHz, 44.1kHz, 48kHz, 96kHz)
Dolby Pro Logic II Game	Variant of Dolby Pro Logic II that emphasizes use of the surround channels and subwoofer for total immersion in the video gaming experience.	• Dolby Digital 2.0 or 2.1 • Analog (2-channel) • Tuner • PCM (32kHz, 44.1kHz, 48kHz, 96kHz)
Dolby Pro Logic	Original version of Dolby Pro Logic that steered a mono signal containing information below 7kHz to the surround channels.	• Dolby Digital 2.0 or 2.1 • Analog (2-channel) • Tuner • PCM (32kHz, 44.1kHz, 48kHz, 96kHz)

Surround Mode	Description	Incoming Bitstream or Signal
Dolby Pro Logic IIx Mode Group	An expansion of Dolby Pro Logic II that adds a surround back channel which may be played through one or two surround back speakers. The Dolby Pro Logic IIx modes may be selected not only with Dolby Digital bitstreams, but thanks to the AVR 760/AVR 660's post-processor, they may also be used with some DTS bitstreams to add a surround back channel to 5.1 modes.	See below
Dolby Pro Logic IIx Movie	This mode is similar to Dolby Pro Logic II Movie, with an added surround back channel.	• Dolby Digital 2/0/.0 or .1, 2/2/.0 or .1, 3/2/.0 or .1, EX • Analog (2-channel) • Tuner • PCM (32kHz, 44.1kHz, 48kHz, 96kHz)
Dolby Pro Logic IIx Music	This mode is similar to Dolby Pro Logic II Music, including the availability of center width, dimension and panorama adjustments. Dolby Pro Logic IIx Music adds a surround back channel.	• Dolby Digital 2/0/.0 or .1, 2/2/.0 or .1, 3/2/.0 or .1, EX • Analog (2-channel) • Tuner • PCM (32kHz, 44.1kHz, 48kHz, 96kHz)
Dolby Pro Logic IIx Game	This mode is similar to Dolby Pro Logic II Game, with the added benefit of a surround back channel.	• Dolby Digital 2/0/.0 or .1 • Analog (2-channel) • Tuner • PCM (32kHz, 44.1kHz, 48kHz)
Dolby Virtual Speaker Mode Group	Simulates 5.1 channels when only two speakers are present, or a more enveloping sound field is desired.	See below
Dolby Virtual Speaker Reference	When only two main speakers are present, the Reference mode virtualizes a full surround presentation with accurate localization.	• Dolby Digital (uses only two-speaker mode when signal does not contain center channel information) • Analog (2-channel) • Tuner • PCM (32kHz, 44.1kHz or 48kHz)
Dolby Virtual Speaker Wide	When only two main speakers are present, the Reference mode virtualizes a full surround presentation with accurate localization.	• Dolby Digital (uses only two-speaker mode when signal does not contain center channel information) • Analog (2-channel) • Tuner • PCM (32kHz, 44.1kHz or 48kHz)
DTS Digital	Using a different encoding/decoding method than Dolby Digital, it also provides up to five discrete main channels, plus an LFE channel.	• DTS 1/0/.0 or .1, 2/0/.0 or .1, 3/0/.0 or .1, 3/1/.0 or .1, 2/2/.0 or .1, 3/2/.0 or .1 • DTS-ES Matrix (played as 5.1) • DTS-ES Discrete (played as 5.1)
DTS-HD	DTS-HD is a new high-definition audio format that complements the high-definition video found on Blu-ray Disc and HD-DVD discs. It is transmitted using a DTS core with high-resolution extensions. Even when only DTS 5.1 surround sound is desired (or available, if the multizone system is in use), the higher capacity of high-resolution discs serves up DTS at twice the bit rate used on DVD-Video discs.	• Blu-ray Disc or HD-DVD discs encoded with DTS-HD modes, delivered via HDMI
DTS-HD Master Audio	DTS-HD Master Audio technology delivers bit-for-bit reproductions of the studio master recording in up to 7.1 channels, for an incredibly accurate performance.	• Blu-ray Disc or HD-DVD discs encoded with DTS-HD Master Audio technology, delivered via HDMI
DTS-ES Matrix	DTS Extended Surround adds a single surround back channel to DTS 5.1 digital surround sound. The Matrix version includes the surround back channel information "matrixed" into the left and right (side) surround channels, for compatibility with 5.1-channel systems.	• DTS-ES Matrix
DTS-ES Discrete	DTS-ES Discrete is another Extended Surround mode that adds a surround back channel, but this information is encoded discretely on the disc, and is not derived from information contained in the surround channels.	• DTS-ES Discrete

Surround Mode	Description	Incoming Bitstream or Signal
DTS Stereo	Delivers a 2-channel downmix of DTS Digital materials, or presents a matrix-encoded surround presentation.	• DTS 1/0/.0 or .1, 2/0/.0 or .1, 3/0/.0 or .1, 3/1/.0 or .1, 2/2/.0 or .1, 3/2/.0 or .1 • DTS 96/24 • DTS-ES Matrix • DTS-ES Discrete
DTS Neo:6 Mode Group	DTS Neo:6 analog processing is available with DTS and DTS 96/24 signals and 2-channel analog or PCM signals to create a 3-, 5- or 6-channel presentation.	See below
DTS Neo:6 Cinema	Depending on the number of speakers in your system, select 3-, 5- or 6-channel modes, enhanced for movie or video presentations.	• DTS 2/2/.0 or .1, 3/2/.0 or .1 • DTS 96/24 • Analog (2-channel) • PCM (32kHz, 44.1kHz or 48kHz)
DTS Neo:6 Music	Available only in 5- and 6-channel modes, creates a surround presentation suitable for music recordings.	• DTS 2/2/.0 or .1, 3/2/.0 or .1 • DTS 96/24 • Analog (2-channel) • PCM (32kHz, 44.1kHz or 48kHz)
Logic 7 Mode Group	A Harman International proprietary technology, Logic 7 technology enhances 2-channel and matrix-encoded recordings by deriving separate information for the surround back channels. This provides more accurate placement of sound, improves panning and expands the sound field, even when used with 5.1-channel systems. Logic 7 technology uses 96kHz processing, and is available in 5.1-or 7.1-channel modes. Three variants are available.	See below
Logic 7 Movie	Especially suited to 2-channel sources containing Dolby Surround or matrix encoding, Logic 7 Movie mode increases center channel intelligibility.	• Analog (2-channel) • Tuner • PCM (32kHz, 44.1kHz, 48kHz, 96kHz)
Logic 7 Music	The AVR 760/AVR 660 is programmed at the factory to default to this mode for 2-channel signals. Logic 7 Music mode is well suited to conventional 2-channel music recordings.	• Analog (2-channel) • Tuner • PCM (32kHz, 44.1kHz, 48kHz, 96kHz)
Logic 7 Game	Use Logic 7 Game mode to enhance enjoyment of video game consoles.	• Analog (2-channel) • Tuner • PCM (32kHz, 44.1kHz, 48kHz, 96kHz)
5-Channel Stereo	Useful for parties, the left- and right-channel information is played through both the front and surround speakers on each side, while the center speaker plays a summed mono mix.	• Analog (2-channel) • Tuner • PCM (32kHz, 44.1kHz, 48kHz, 96kHz, 192kHz)
7-Channel Stereo	Expands the 5-Channel Stereo presentation to include the surround back channels.	• Analog (2-channel) • Tuner • PCM (32kHz, 44.1kHz, 48kHz, 96kHz, 192kHz)
2-Channel Stereo	Turns off all surround processing and plays a pure 2-channel signal or a downmix of a multichannel signal. The signal is digitized and bass management settings are applied, making it appropriate when a subwoofer is used.	• Analog (2-channel; DSP downmix available for multichannel) • Tuner • PCM (32kHz, 44.1kHz, 48kHz, 96kHz)
2-Channel Stereo (Analog Bypass)	Maintains an analog input signal in that form, bypassing all digital processing (i.e., surround and bass management). Requires Tone Control setting to be off.	• Analog (2-channel) • Tuner

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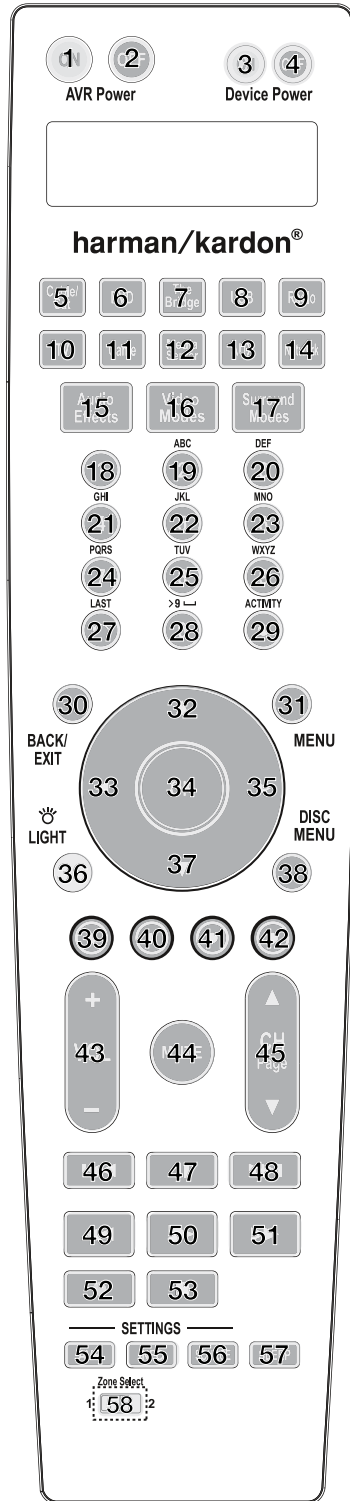
Refer to the numbered buttons in Figure 38 when using the Function List.

Figure 38 – Remote Control Function List Reference

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Table A14 – Remote Control Function List

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

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

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