



# AVR 8000 Audio/Video Receiver

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## Typographical Conventions

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

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

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

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

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

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

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

Ⓐ – (letter in an oval) indicates a button on the Zone II remote

# Introduction

## Thank you for choosing Harman Kardon!

With the purchase of a Harman Kardon AVR 8000 you are about to begin many years of listening enjoyment. Designed to provide all the excitement and detail of movie soundtracks and every nuance of musical selections, the AVR 8000 is truly a multichannel receiver for the new millennium.

The AVR 8000 has been engineered so that it is easy to take advantage of all the power of its digital technology. On-screen menus, fully color-coded connection jacks and terminals and our exclusive EzSet remote make installation fast and simple. However, to obtain the maximum enjoyment from your new receiver, we urge you to read this manual. A few minutes spent learning the functions of the various controls will enable you to take advantage of all the power the AVR 8000 is able to deliver.

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

## Description and Features

The AVR 8000 is among the most versatile and multifeatured A/V receivers available, incorporating a wide range of listening options. In addition to the benefits of world-famous THX Ultra processing, as well as Dolby Digital and DTS decoding for digital sources, a broad choice of Matrix surround-encoded or Stereo surround modes are available for use with sources such as CD, VCR, TV broadcasts and the AVR 8000's own FM/AM tuner. Along with THX Surround EX, Dolby Pro Logic II, DTS Neo:6, Dolby 3 Stereo, and Hall and Theater modes, the AVR 8000 offers Harman International's exclusive Logic 7 process in both 5.1 and 7.1 versions to create a wider, more enveloping field environment and more defined fly-overs and pans. Another Harman Kardon exclusive is VMaX, which uses proprietary processing to create an open, spacious sound field even when only two front speakers are available. Finally, the AVR 8000 is among the very few A/V receivers that offer decoding of MP3 data, so that you may listen to the latest music selections directly from compatible computers or playback devices with the power and fidelity you expect from Harman Kardon.

In addition to providing a wide range of listening options, the AVR 8000 is easy to configure so that it provides the best results with your speakers and specific listening-room environ-

ment. On-screen menus make it simple to enter settings for speaker configurations and bass management, and the EzSet remote measures a system's sound levels and automatically calibrates them for perfectly balanced sound field presentation.

For the ultimate in flexibility, the AVR 8000 features connections for six video devices, all with both composite and S-Video inputs. Two additional audio inputs are available, and a total of eight digital inputs make the AVR 8000 capable of handling all the latest digital audio sources. For compatibility with the latest HDTV video sources and progressive scan DVD players, the AVR 8000 also features wide-bandwidth, low-crosstalk component video switching.

Behind a front panel door are coax and optical digital inputs and outputs for direct connection to digital recorders, along with analog audio/video connections that may be switched to outputs for use with portable recorders – a Harman Kardon exclusive. Two video recording outputs, preamp-out and main amp-in jacks, and a color-coded eight-channel input make the AVR 8000 virtually future-proof, with everything needed to accommodate tomorrow's new formats right on board.

The AVR 8000's flexibility and power extend beyond your main home theater or listening room. The AVR 8000 includes a sophisticated multizone control system that allows you to select one source for use in the main room and a different source for audio and video distribution to a second zone. Complete volume control in the second zone is possible with a separate infrared control link. To make it easy to operate the AVR 8000 from a remote zone, a separate "Zone II" remote is included.

The AVR 8000's powerful amplifier uses traditional Harman Kardon high-current design technologies to meet the wide dynamic range of any program selection.

Harman Kardon invented the high-fidelity receiver more than forty-seven years ago. With state-of-the-art circuitry and time-honored circuit designs, the AVR 8000 is the perfect combination of the latest in digital audio technology, a quiet yet powerful analog amplifier in an elegant, easy-to-use package.

- **THX® Ultra processing, THX Surround EX™, Dolby® Digital and Dolby Pro Logic® II decoding, and the full suite of DTS® modes, including DTS-ES® 6.1 Discrete & Matrix and Neo:6® using the latest 24-bit, twin-core Crystal® DSP engine**
- **Harman Kardon's exclusive Logic 7® processing, available for the first time with both 7.1 and 5.1 processing in a variety of modes and two modes of VMaX®**
- **MP3 decoding for use with computers and digital audio players**
- **EzSet™ remote automatically sets output levels for optimum performance**
- **High-bandwidth, HDTV-compatible component video switching**
- **Discrete front panel coaxial and optical digital inputs and outputs for easy connection to portable digital devices and the latest video game consoles**
- **Multiple digital inputs and outputs**
- **Front panel analog A/V jacks switchable to outputs for easy connection to portable digital devices and video game consoles**
- **On-screen menu and display system**
- **Complete multizone system allows a separate audio and video source to be sent to a remote zone – separate Zone II remote included**

## CAUTION

### RISK OF ELECTRIC SHOCK DO NOT OPEN

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



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



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

# Safety Information

## Important Safety Information

### Verify Line Voltage Before Use

Your AVR 8000 has been designed for use with 120-volt AC current. Connection to a line voltage other than that for which it is intended can create a safety and fire hazard and may damage the unit.

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

### Do Not Use Extension Cords

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

### Handle the AC Power Cord Gently

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

### Do Not Open the Cabinet

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

### CATV or Antenna Grounding

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

**NOTE TO CATV SYSTEM INSTALLER:** This reminder is provided to call the CATV (Cable TV) system installer's attention to article 820-

40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as possible.

### Installation Location

- To ensure proper operation and to avoid the potential for safety hazards, place the unit on a firm and level surface. When placing the unit on a shelf, be certain that the shelf and any mounting hardware can support the weight of the product.
- Make certain that proper space is provided both above and below the unit for ventilation. If this product will be installed in a cabinet or other enclosed area, make certain that there is sufficient air movement within the cabinet. Under some circumstances a fan may be required.
- Do not place the unit directly on a carpeted surface.
- Avoid installation in extremely hot or cold locations, or in an area that is exposed to direct sunlight or heating equipment.
- Avoid moist or humid locations.
- Do not obstruct the ventilation slots on the top of the unit, or place objects directly over them.

### Cleaning

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

### Moving the Unit

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

### Important Information for the User

This equipment has been tested and found to comply with the limits for a Class-B digital device, pursuant to Part 15 of the FCC Rules. The limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio-frequency energy and, if not installed and used in accordance with the instructions, may cause harmful inter-

ference to radio communication. However, there is no guarantee that harmful interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

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

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

## Unpacking

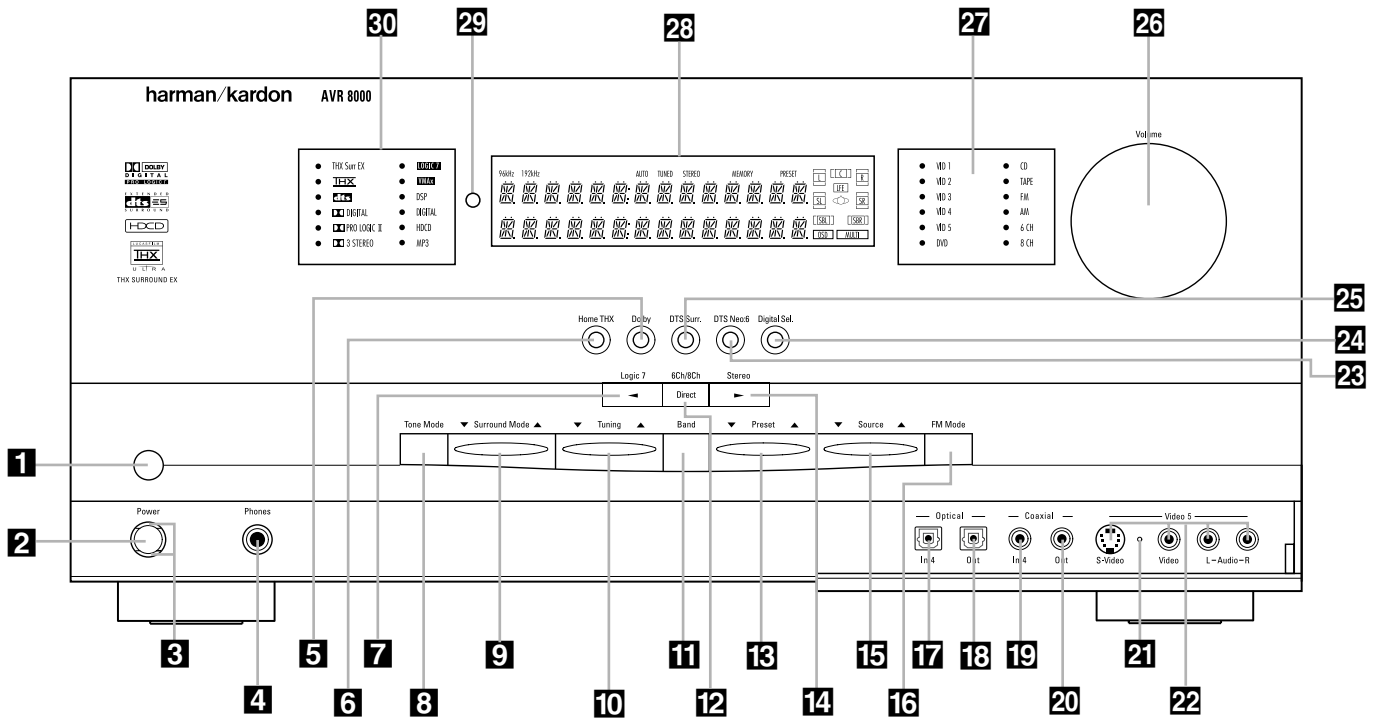
The carton and shipping materials used to protect your new receiver during shipment were specially designed to cushion it from shock and vibration. We suggest that you save the carton and packing materials for use in shipping if you move, or should the unit ever need repair.

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

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

At this time you should remove the protective plastic film from the front panel lens. Leaving the film in place may affect the performance of your remote control.

# Front Panel Controls



- 1** Main Power Switch
- 2** System Power Control
- 3** Power Indicator
- 4** Headphone Jack
- 5** Dolby Mode Selector
- 6** Home THX Mode Selector
- 7** Logic 7 Mode Selector/◀ Button
- 8** Tone Mode
- 9** DSP Surround Mode Selector
- 10** Tuning Selector
- 11** Tuner Band Selector
- 12** 6Ch/8Ch Direct Button
- 13** Preset Station Selector
- 14** Stereo Mode Selector/▶ Button
- 15** Input Source Selector
- 16** FM Mode Selector
- 17** Optical Digital 4 Input Jack
- 18** Optical Digital 4 Output Jack
- 19** Coaxial Digital 4 Input Jack
- 20** Coaxial Digital 4 Output Jack
- 21** Input/Output Status Indicator
- 22** Video 5 Input Jacks
- 23** DTS Neo:6 Mode Selector
- 24** Digital Select Button
- 25** DTS Surround Mode Selector
- 26** Volume Control
- 27** Input Indicators
- 28** Main Information Display
- 29** Remote Sensor Window
- 30** Surround Mode/Bitstream Indicators

**1 Main Power Switch:** Press this button to apply power to the AVR 8000. When the switch is pressed in, the unit is placed in a Standby mode, as indicated by the amber **Power Indicator 3** surrounding the **System Power Control 2**. This button MUST be pressed in to operate the unit. To turn the unit off and prevent the use of the remote control, this switch should be pressed until it pops out from the front panel so that the word "OFF" may be read at the top of the switch.

**NOTE:** This switch is normally left in the "ON" position.

**2 System Power Control:** When the **Main Power Switch 1** is "ON," press this button to turn on the AVR 8000; press it again to turn the unit off. Note that the **Power Indicator 3**

surrounding the switch will turn green when the unit is on.

**3 Power Indicator:** This LED will be lit in amber when the unit is in the Standby mode to signal that the unit is ready to be turned on. When the unit is in operation, the indicator will turn green.

**4 Headphone Jack:** This jack may be used to listen to the AVR 8000's output through a pair of headphones. Be certain that the headphones have a standard 1/4" stereo phone plug. Note that the main room speakers will automatically be turned off when the headphone jack is in use.

**5 Dolby Mode Selector:** Pressing this selector button cycles the AVR through the various Dolby surround modes. The first press of the button switches the surround mode to

the last Dolby surround mode that was in use. The choice of modes available will vary based on the type of input source (digital or analog) and the number of speaker channels your system is configured for.

**6 Home THX Mode Selector:** Press this button to select Home THX processing. The choice of THX modes will vary according to the type of input source and program material (Dolby Digital, DTS 5.1, DTS 6.1 or analog), and the number of speakers in your system. In some cases the system will auto-default to the THX Surround EX or THX Cinema mode, while in other cases you will have a choice of modes.

**7 Logic 7 Mode Selector/◀ Button:** This button has two functions: In normal use, press it to select one of the Logic 7 modes. When an adjustment is being made using using the

## Front Panel Controls

**Digital Select Button 24**, this button may be pressed to scroll through the available options.

**8 Tone Mode:** This button controls the tone control settings, enabling adjustment of the bass and treble boost/cut or the removal of the tone controls from the signal path. The first press of the button displays a **TONE IN** message in the **Main Information Display 23**. If you wish to take the tone controls to "flat," without any treble or bass alteration, press the **◀** or **▶** **Selector Buttons 7|14** so that **TONE OUT** appears in the **Lower Display Line 3**. To change the tone settings, press the button until either **TREBLE** or **BASS** appears in the **Lower Display Line 3** as desired, and then press the **◀** or **▶** **Selector Buttons 7|14** to increase or decrease the setting. Note that the Tone settings apply only to the front left and right speakers, and they are not in effect when a THX mode is in use.

**9 DSP Surround Mode Selector:** Press this button to select the following DSP Surround Modes: Hall 1, Hall 2 or Theater. (See page 28 for more information about surround modes.)

**10 Tuning Selector:** Press the left side of the button to tune lower-frequency stations and the right side of the button to tune higher-frequency stations. When a station with a strong signal is reached, the **TUNED Indicator 1** will be lit in the **Main Information Display 23**.

To tune manually, tap the button lightly and note that the tuner will step up one frequency increment per button press. When the button is held for a few seconds you will note that the unit will quickly search the frequency band. Release it once the fast tuning starts; the tuner will automatically scan for the next station with an acceptable signal and then stop.

**11 Tuner Band Selector:** Pressing this button will automatically switch the AVR 8000 to the Tuner mode. Pressing it again will switch between the AM and FM frequency bands. (See page 33 for more information on the tuner.)

**12 6Ch/8Ch Direct Button:** Press this button to select the 6-Channel Direct or 8-Channel Direct inputs as the AVR 8000's source.

**13 Preset Station Selector:** Press this button to scroll up or down through the list or stations that have been entered into the preset memory. (See pages 33 and 34 for more information on tuner programming.)

**14 Stereo Mode Selector/▶ Button:** Pressing this selector button cycles through the

stereo modes, and it is also used to turn off all surround processing and place the unit in a traditional two-channel Stereo mode. The first press selects 5-Channel Stereo, the next press selects 7-Channel Stereo, and the third press selects "SURROUND OFF," which is true Stereo.

**15 Input Source Selector:** Press this button to change the input by scrolling up or down through the list of input sources.

**16 FM Mode Selector:** Press this button to select Auto or Manual tuning. When the button is pressed so that the **AUTO Indicator J** lights, the tuner will search for the next station with an acceptable signal when the **Tuning Selector 10|21 E** is pressed. When the button is pressed so that the **AUTO Indicator J** is not lit, each press of the **Tuning Selector 10|21 E** will increase the frequency. (See page 33 for more information on using the tuner.)

**NOTE:** The front panel digital audio, video and analog audio input and output jacks are normally concealed behind a drop-down door in the lower right corner of the front panel. To access these jacks, open the panel door by gently pulling down the upper right corner of the door as indicated by "PULL/OPEN."

**17 Optical Digital 4 Input Jack:** Connect the optical digital output of an audio or video product to this jack.

**18 Optical Digital 4 Output Jack:** Connect this jack to the optical digital input of a digital recorder to send a feed of the digital output when a PCM digital input source is in use by the AVR 8000.

**19 Coaxial Digital 4 Input Jack:** Connect the output of a digital audio source to this jack.

**20 Coaxial Digital 4 Output Jack:** Connect this jack to the coaxial digital input of a digital recorder to send a feed of the digital output when a PCM digital input source is in use by the AVR 8000.

**21 Input/Output Status Indicator:** This LED indicator will normally light green to show that the front panel **Video 5 Input Jacks 22** are operating as inputs. When these jacks are configured for use as an output, the indicator will turn red to show that the jack may be used for recording. (See page 34 for more information on configuring the front panel jacks as outputs, rather than inputs.)

**22 Video 5 Input Jacks:** These audio/video jacks may be used for temporary connection to

video games or portable audio/video products such as camcorders and portable audio players.

**23 DTS Neo:6 Mode Selector:** Pressing this button selects one of the DTS Neo:6 modes. The first press selects the Neo:6 Movies mode, and a second press will select the Neo:6 Music mode. (See page 28 for more information on the Neo:6 modes.)

**24 Digital Select Button:** When playing a source that has a digital output, press this button to select between the **Optical 17|24** and **Coaxial 19|21 Digital** inputs. (See page 31 for more information on digital audio.)

**25 DTS Surround Mode Selector:** Pressing this selector button cycles the AVR through the DTS surround modes. The choice of available DTS modes will vary according to the type of program source material (DTS 5.1 or DTS 6.1) and whether your system is configured for 5.1 or 6.1/7.1 channel operation.

**26 Volume Control:** Turn this knob clockwise to increase the volume, counterclockwise to decrease the volume. If the AVR 8000 is muted, adjusting volume control will automatically release the unit from the silenced condition.

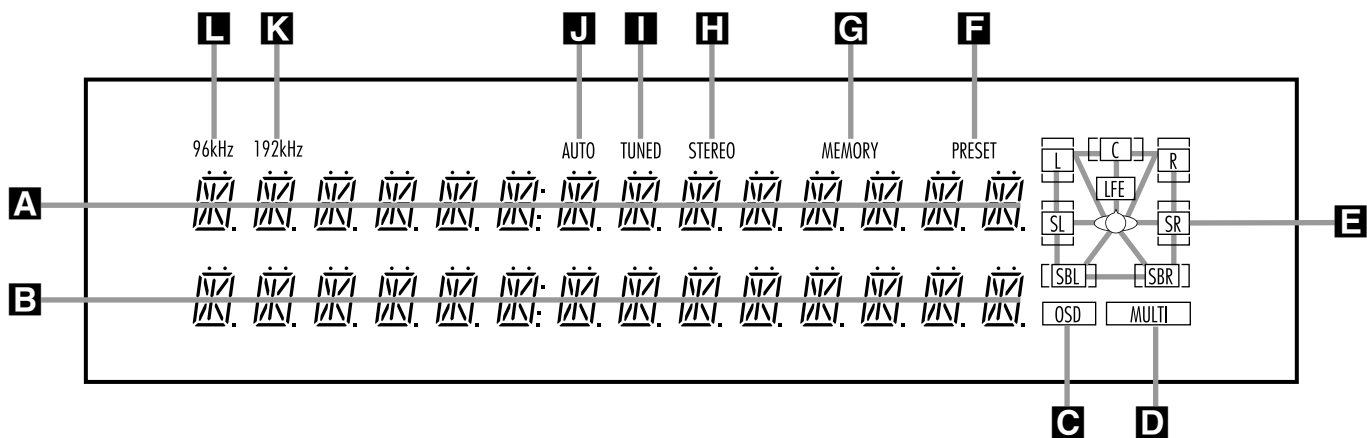
**27 Input Indicators:** A green LED will light to the left of the input that is currently the input source for the AVR 8000.

**28 Main Information Display:** This display delivers messages and status indications to help you operate the receiver. (See page 7 for a complete explanation of the Information Display.)

**29 Remote Sensor Window:** The sensor behind this window receives infrared signals from the remote control. Aim the remote at this area and do not block or cover it unless an external remote sensor is installed.

**30 Surround Mode/Bitstream Indicators:** These LEDs will light to show the surround mode and digital bitstream in use. Note that depending on the specific combination of input sources and surround mode selected, more than one indicator may light. (See page 32 for more information.)

## Front Panel Information Display



- A** Upper Display Line
- B** Lower Display Line
- C** OSD Indicator
- D** Multiroom Indicator

- E** Speaker/Channel Input Indicators
- F** PRESET Indicator
- G** MEMORY Indicator
- H** STEREO Indicator

- I** TUNED Indicator
- J** AUTO Indicator
- K** 192kHz Indicator
- L** 96kHz Indicator

**A Upper Display Line:** Depending on the unit's status, a variety of messages will appear here. In normal operation, the current input source name will appear on this line.

**B Lower Display Line:** Depending on the unit's status, a variety of messages will appear here. In normal operation, the current surround mode name will appear on this line.

**C OSD Indicator:** When the OSD system is in use, this indicator lights to remind you that the other indicators in this display do not function when the On-Screen Display is being used.

**D Multiroom Indicator:** This indicator lights when the multiroom system is active. Note that it will remain lit when the multiroom system is in use even though the main room system is in the Standby mode and all other indicators are dark. (See page 38 for more information on the Multiroom system.)

**E Speaker/Channel Input Indicators:** These indicators are multipurpose, indicating either the speaker type selected for each channel or the incoming data-signal configuration. The left, center, right, right surround and left surround speaker indicators are composed of three boxes, while the subwoofer is a single box. The center box lights when a "Small" speaker is selected, and the two outer boxes light when "Large"

speakers are selected. When none of the boxes are lit for the center, surround or subwoofer channels, no speaker has been selected for one of those positions. (See page 21 for more information on configuring speakers.) The letters inside each of the center boxes display the active input channels. For standard analog inputs, only the L and R will light, indicating a stereo input. When a digital source is playing, the indicators will light to display the channels being received at the digital input. When the letters flash, the digital input has been interrupted. (See pages 25 & 32 for more information on the Channel Indicators.)

**F PRESET Indicator:** This indicator lights when the tuner is in use to show that the present number for the current station being listened to appears in the Upper Display Line. (See page 34 for more information on tuner presets.)

**G MEMORY Indicator:** This indicator flashes when entering presets and other information into the tuner's memory.

**H STEREO Indicator:** This indicator lights when an FM station is being tuned in stereo.

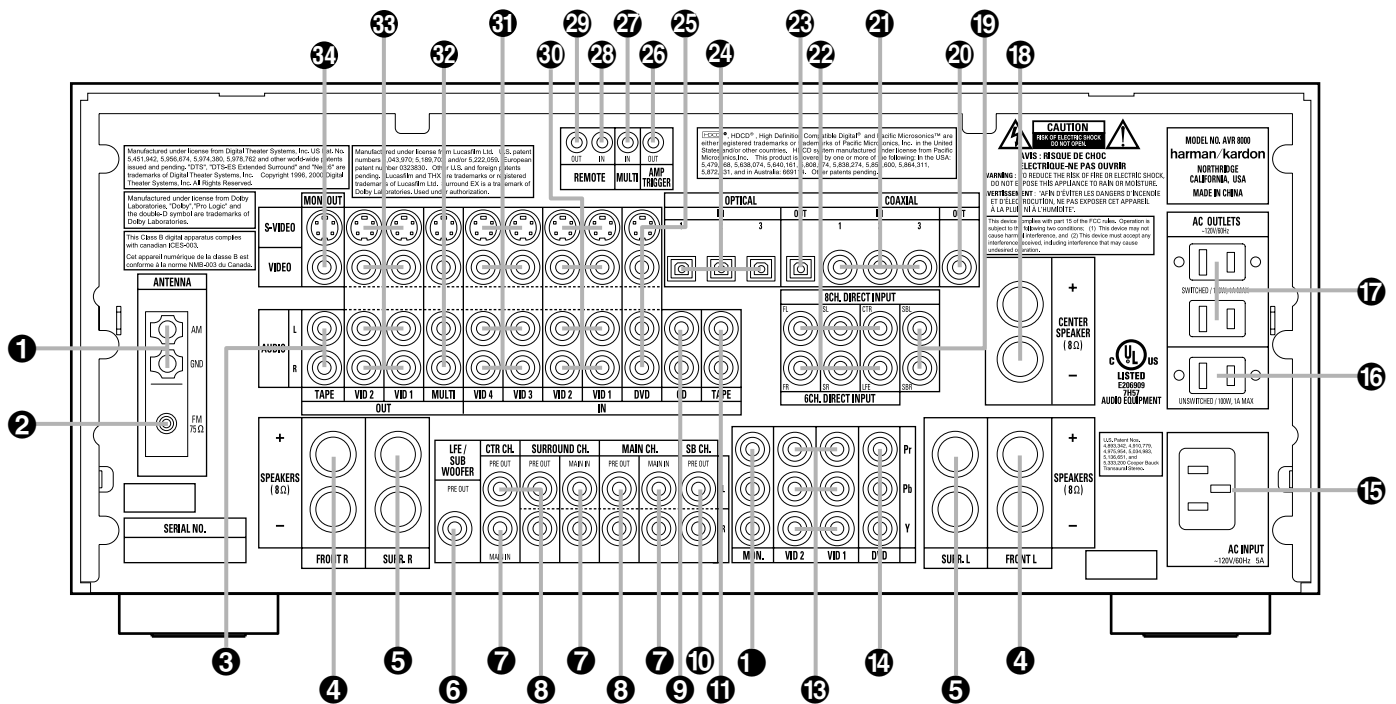
**I TUNED Indicator:** This indicator lights when a station is being received with sufficient signal strength to provide acceptable listening quality.

**J AUTO Indicator:** This indicator lights when the tuner's Auto mode is in use.

**K 192kHz Indicator:** This indicator lights when the input source has a 192kHz bit rate.

**L 96kHz Indicator:** This indicator lights when the input source has a 96kHz bit rate.

# Rear Panel Connections



- 1 AM Antenna
- 2 FM Antenna
- 3 Tape Outputs
- 4 Front Speaker Outputs
- 5 Surround Speaker Outputs
- 6 Subwoofer Output
- 7 Amplifier Inputs
- 8 Main Channel Preamp Outputs
- 9 CD Inputs
- 10 Surround Back Preamp Outputs
- 11 Tape Inputs
- 1 Component Video Outputs
- 13 Video 1/Video 2 Component Video Inputs
- 14 DVD Component Video Inputs
- 15 AC Power Cord Jack
- 16 Unswitched AC Accessory Outlet
- 17 Switched AC Accessory Outlet
- 18 Center Speaker Outputs
- 19 8-Channel Direct Inputs
- 20 Coaxial Digital Audio Output
- 21 Coaxial Digital Inputs
- 22 6-Channel Direct Inputs
- 23 Optical Digital Audio Output
- 24 Optical Digital Inputs
- 25 DVD Inputs
- 26 Amplifier Trigger Jack
- 27 Multizone IR Input
- 28 Remote IR Input
- 29 Remote IR Output
- 30 Video 1/Video 2 Inputs
- 31 Video 3/Video 4 Inputs
- 32 Multizone Outputs
- 33 Video 1/Video 2 Outputs
- 34 Video Monitor Outputs

**1 AM Antenna:** Connect the AM loop antenna supplied with the receiver to these terminals. If an external AM antenna is used, make connections to the **AM** and **GND** terminals in accordance with the instructions supplied with the antenna.

**2 FM Antenna:** Connect the supplied indoor or an optional external FM antenna to this terminal.

**3 Tape Outputs:** Connect these jacks to the **RECORD/INPUT** jacks of an audio recorder.

**4 Front Speaker Outputs:** Connect these outputs to the matching + or – terminals on your left and right speakers. When making speaker connections always make certain to maintain correct polarity by connecting the color-coded (white for front left and red for front right) (+) terminals on the AVR 8000 to

the red (+) terminals on the speakers and the black (–) terminals on the AVR 8000 to the black (–) terminals on the speakers. See page 15 for more information on speaker polarity.

**5 Surround Speaker Outputs:** Connect these outputs to the matching + and – terminals on your surround channel speakers. In conformance with the new CEA color code specification, the Blue terminal is the positive, or “+” terminal that should be connected to the red (+) terminal on the Surround Left speaker with older color coding, while the Gray terminal should be connected to the red (+) terminal on the Surround Right speaker with the older color coding. Connect the black (–) terminal on the AVR to the matching black negative (–) terminals for each surround speaker. (See page 15 for more information on speaker polarity.)

**6 Subwoofer Output:** Connect this jack to the line-level input of a powered subwoofer. If an external subwoofer amplifier is used, connect this jack to the subwoofer amplifier input.

**7 Amplifier Inputs:** When the jumper pins that link the **Preamp Outputs** 8 with these inputs are removed, these jacks may be used to connect an external source or the AVR 8000’s multiroom system to the internal amplifiers.

**8 Main Channel Preamp Outputs:** When the jumper pins that link the **Amplifier Inputs** 7 with these outputs are removed, these jacks may be connected to an external power amplifier.

**9 CD Inputs:** Connect these jacks to the output of a compact disc player or CD changer.



## Rear Panel Connections

**10 Surround Back Preamp Outputs:** When the AVR is used in the 6.1 or 7.1 configuration, connect these jacks to an optional, external power amplifier to power the Surround Back Channels.

**11 Tape Inputs:** Connect these jacks to the PLAY/OUT jacks of an audio recorder.

**1 Component Video Outputs:** Connect these outputs to the component video inputs of a video projector or monitor. When a source connected to one of the **Component Video Inputs** 13-14 is selected the signal will be sent to these jacks.

**13 Video 1/Video 2 Component Video Inputs:** Connect the Y/Pr/Pb component video outputs of an HDTV Set-top convertor, satellite receiver, or other video source device with component video outputs to these jacks.

**14 DVD Component Video Inputs:** Connect the Y/Pr/Pb component video outputs of a DVD player to these jacks.

**15 AC Power Cord Jack:** Connect the AC Power cord to this jack when the installation is complete. To ensure safe operation, use only the power cord supplied with the unit. If a replacement is required it must be of same type and capacity.

**16 Unswitched AC Accessory Outlet:** This outlet may be used to power any AC device. The power will remain on at this outlet regardless of whether the AVR 8000 is on or off.

**NOTE:** The total power consumption of all devices connected to the accessory outlets should not exceed 100 watts.

**17 Switched AC Accessory Outlets:** These outlets may be used to power any device you wish to have turned on when the AVR 8000 is turned on with the **System Power Control Button** 2.

**18 Center Speaker Outputs:** Connect these outputs to the matching + and – terminals on your center channel speaker. In conformance with the new CEA color code specification, the Green Terminal is the positive, or “+” terminal that should be connected to the red (+) terminal on speakers with the older color coding. Connect the black (–) terminal on the AVR to the black negative (–) terminal on your speaker. (See page 15 for more information on speaker polarity.)

**19 8-Channel Direct Inputs:** When an optional, external source with discrete 7.1 analog audio output capability such as a DVD-Audio or SACD player is used, connect that unit’s surround back output jacks here.

**20 Coaxial Digital Audio Output:** Connect this jack to the coaxial digital input of a CD-R/RW, MiniDisc or other digital recorder.

**21 Coaxial Digital Inputs:** Connect the coax digital output from a DVD player, HDTV receiver, the S/P-DIF output of a compatible computer sound card playing MP3 files or streams, LD player or CD player to these jacks. The signal may be either a Dolby Digital signal, DTS signal or a standard PCM digital source. Do not connect the RF digital output of an LD player to these jacks.

**22 6-Channel Direct Inputs:** When an optional, external source with discrete 5.1 analog audio output capability such as a DVD-Audio or SACD player is used, connect that unit’s output jacks here.

**NOTE:** To assist in making the correct connections for multichannel input output and speaker connections, all connection jacks and terminals have been color coded in conformance with the latest CEA standards as follows:

Front Left: White  
Front Right: Red  
Center: Green  
Surround Left: Blue  
Surround Right: Gray  
Surround Back Left: Brown  
Surround Back Right: Tan  
Subwoofer: Purple  
Digital Audio: Orange  
Composite Video: Yellow  
Component Video “Y”: Green  
Component Video “Pr”: Red  
Component Video “Pb”: Blue

**23 Optical Digital Audio Output:** Connect this jack to the optical digital input connector on a CD-R/RW, MiniDisc or other digital recorder.

**24 Optical Digital Inputs:** Connect the optical digital output from a DVD player, HDTV receiver, the S/P-DIF output of a compatible computer sound card playing MP3 files or streams, LD player or CD player to these jacks. The signal may be either a Dolby Digital signal, a DTS signal or a standard PCM digital source.

**25 DVD Inputs:** Connect the analog left/right audio and composite or S-Video output of a DVD player or other video source to these jacks.

**26 Amplifier Trigger Jack:** Connect this jack to the compatible input trigger jack on a power amplifier or other relay controlled device. The connected product will turn on when the AVR is turned on.

**27 Multizone IR Input:** Connect the output of an IR sensor in a remote room to this jack to operate the AVR 8000’s multizone control system.

**28 Remote IR Input:** If the AVR 8000’s front-panel IR sensor is blocked due to cabinet doors or other obstructions, an external IR sensor may be used. Connect the output of the sensor to this jack.

**29 Remote IR Output:** This connection permits the IR sensor in the receiver to serve other remote controlled devices. Connect this jack to the “IR IN” jack on Harman Kardon (or other compatible) equipment.

**30 Video 1/Video 2 Inputs:** Connect the left/right audio and composite or S-Video PLAY/OUT jacks on a VCR or other video source to these jacks.

**31 Video 3/Video 4 Inputs:** Connect the left/right audio and composite or S-Video outputs of a video source such as a VCR, satellite receiver, hard drive video recorder or other device to these jacks.

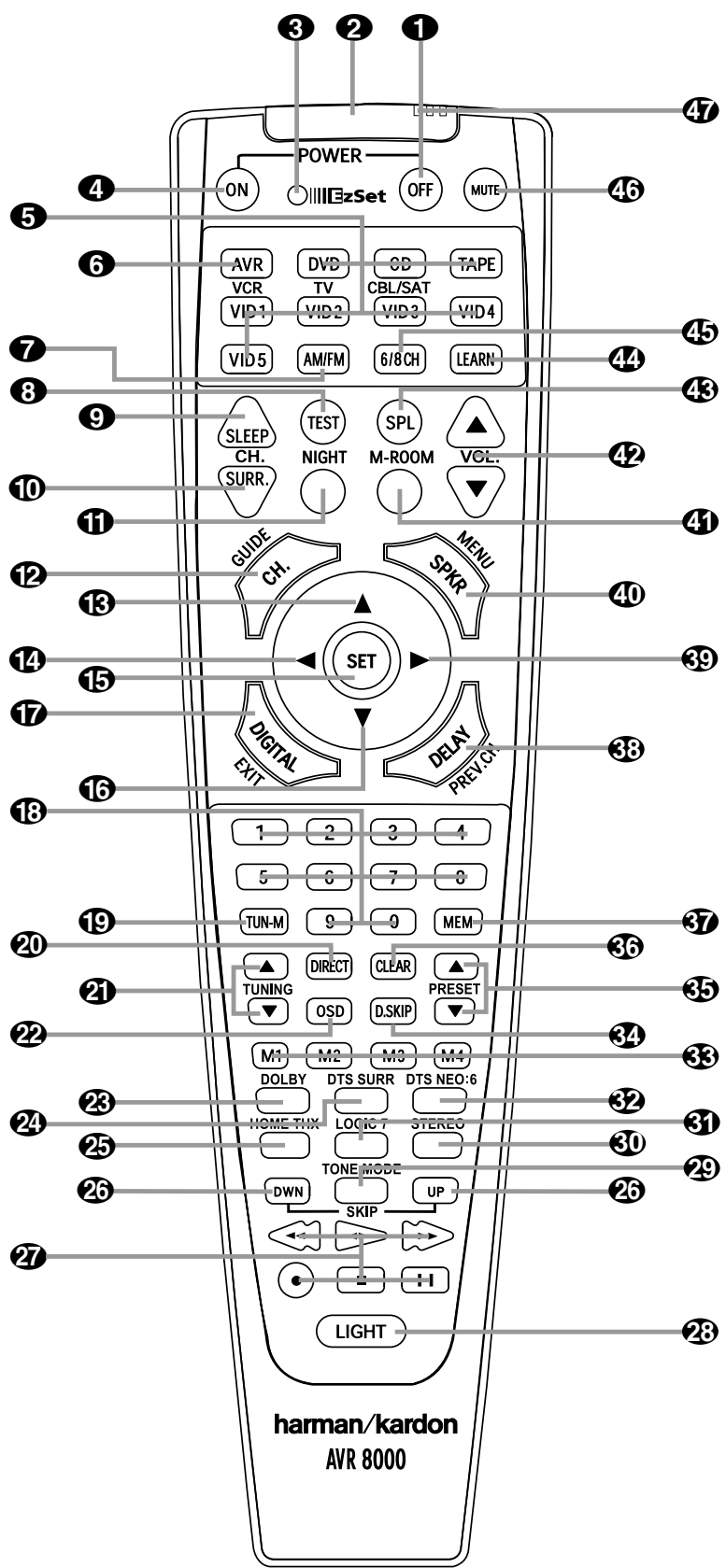
**32 Multizone Outputs:** Connect these jacks to the optional external audio power amplifier and video distribution system that delivers the source selected for multizone distribution.

**33 Video 1/Video 2 Outputs:** Connect the left/right audio and composite or S-Video Record/Input jacks on a VCR or camcorder to these jacks.

**34 Video Monitor Outputs:** Connect these jacks to the composite or S-Video input of a TV monitor or video projector to view the on-screen menus and the output of any standard video source selected by the receiver’s video switcher.

# Main Remote Control Functions

- 1 Power Off Button
- 2 IR Transmitter Window
- 3 Program/SPL Indicator
- 4 Power On Button
- 5 Input Selectors
- 6 AVR Selector
- 7 AM/FM Tuner Select
- 8 Test Button
- 9 Sleep Button
- 10 Surround Mode Selector
- 11 Night Mode
- 12 Channel Select Button
- 13 ▲ Button
- 14 ◀ Button
- 15 Set Button
- 16 ▼ Button
- 17 Digital Select
- 18 Numeric Keys
- 19 Tuner Mode
- 20 Direct Button
- 21 Tuning Up/Down
- 22 OSD Button
- 23 Dolby Mode Select Button
- 24 DTS Digital Mode Selector
- 25 THX Mode Select Button
- 26 Skip Up/Down Buttons
- 27 Transport Controls
- 28 Light Button
- 29 Tone Mode Button
- 30 Stereo Mode Select Button
- 31 Logic 7 Mode Select Button
- 32 DTS Neo:6 Mode Select
- 33 Macro Buttons
- 34 Disc Skip Button
- 35 Preset Up/Down
- 36 Clear Button
- 37 Memory Button
- 38 Delay/Prev. Ch.
- 39 ▶ Button
- 40 Speaker Select
- 41 Multiroom
- 42 Volume Up/Down
- 43 SPL Select
- 44 Learn Button
- 45 6-Channel/8-Channel Direct Input
- 46 Mute
- 47 EzSet Sensor Microphone



**NOTE:** The function names shown here are each button's feature when used with the AVR 8000. Most buttons have additional functions when used with other devices. See pages 44–45 for a list of these functions.

## Main Remote Control Functions

**IMPORTANT NOTE:** The AVR 8000's remote may be programmed to control up to eight devices, including the AVR 8000. Before using the remote, it is important to remember to press the **Input Selector Button 5** that corresponds to the unit you wish to operate. In addition, the AVR 8000's remote is shipped from the factory programmed to operate the AVR 8000 and most Harman Kardon CD or DVD players and cassette decks. The remote is also capable of operating a wide variety of other products using the control codes that are part of the remote. Before using the remote with other products, follow the instructions on pages 39–43 to program the proper codes for the products in your system.

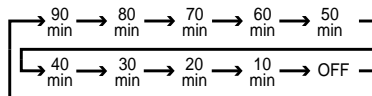
It is also important to remember that many of the buttons on the remote take on different functions, depending on the product selected using the Device Control Selectors. The descriptions shown here primarily detail the functions of the remote when it is used to operate the AVR 8000. (See page 44 for information about alternate functions for the remote's buttons.)

- 1 Power Off Button:** Press this button to place the AVR 8000 or a selected device in the Standby mode. Note that this will turn off the main room functions, but if the Multiroom system is activated, it will continue to function.
- 2 IR Transmitter Window:** Point this window towards the AVR 8000 when pressing buttons on the remote to make certain that infrared commands are properly received.
- 3 Program/SPL Indicator:** This three-color indicator is used to guide you through the process of programming the remote or learning commands from a remote into the AVR 8000's remote code memory and it is also used as a level indicator when using the remote's EzSet capabilities. (See page 24 for more information on setting output levels, and see page 39 for information on programming the remote.)
- 4 Power On Button:** Press this button to turn on the power to a device selected by pressing one of the **Input Selectors 5 6**.
- 5 Input Selectors:** Pressing one of these buttons will perform three actions at the same time. First, if the AVR 8000 is not turned on, this will power up the unit. Next, it will select the source shown on the button as the input to the AVR 8000. Finally, it will change the remote control so that it controls the device selected. After pressing one of these buttons you must press the **AVR Selector Button 6** again to

operate the AVR 8000's functions with the remote.

- 6 AVR Selector:** Pressing this button will switch the remote so that it will operate the AVR 8000's functions. If the AVR 8000 is in the Standby mode, it will also turn the AVR 8000 on.
- 7 AM/FM Tuner Select:** Press this button to select the AVR 8000's tuner as the listening choice. Pressing this button when the tuner is already in use will select between the AM and FM bands.
- 8 Test Button:** Press this button to begin the sequence used to calibrate the AVR 8000's output levels. (See page 24 for more information on calibrating the AVR 8000.)

- 9 Sleep Button:** Press this button to place the unit in the Sleep mode. After the time shown in the display, the AVR 8000 will automatically go into the Standby mode. Each press of the button changes the time until turn-off in the following order:



Once the sleep timer has been activated, note that the **Main Information Display 23** will dim to half brightness. Note that this button is also used to change channels on your TV when the TV is selected.

When the AVR 8000 remote is being programmed with the codes to operate another device, this button is also used in the "Auto Search" process. (See page 39 for more information on programming the remote.)

- 10 Surround Mode Selector:** Press this button to begin the process of changing the surround mode. After the button has been pressed, use the **▲/▼ Buttons 13 16** to select the desired surround mode. (See page 28 for more information.) Note that this button is also used to tune channels when the TV is selected using the device **Input Selector 5**. When the AVR 8000 remote is being programmed with the codes of another device, this button is also used in the "Auto Search" process. (See page 39 for more information on programming the remote.)

- 11 Night Mode:** Press this button to activate the Night mode. This mode is available in specially encoded digital sources, and it preserves dialog (center channel) intelligibility at low volume levels.

- 12 Channel Select Button:** This button is used to start the process of setting the AVR 8000's output levels to an external source. Once this button is pressed, use the **▲/▼ Buttons 13 16** to select the channel being adjusted, then press the **Set Button 15**, followed by the **▲/▼ Buttons 13 16** again, to change the level setting. (See page 34 for more information.)

- 13 ▲ Button:** This multipurpose button is used to change or scroll up through the list of items in the on-screen menus, make configuration settings such as digital inputs or delay timing, or to select surround modes. When changing a setting, first press the button for the function or setting to be changed (e.g., press the **Surround Mode Selector 10** to select a sound field mode or the **Digital Select Button 17** to change a digital input) and then press this button to scroll through the list of options or to increase a setting. The sections in this manual describing the individual features and functions contain specific information on using this button for each application.

- 14 ◀ Button:** This button is used to change the menu selection or setting during some of the setup procedures for the AVR 8000.

- 15 Set Button:** This button is used to enter settings into the AVR 8000's memory. It is also used in the setup procedures for delay time, speaker configuration and channel output level adjustment.

- 16 ▼ Button:** This multipurpose button is used to change or scroll down through the items in the on-screen menus, make configuration settings such as digital inputs or delay timing, or to select surround modes. When changing a setting, first press the button for the function or setting to be changed and then press this button to scroll down through the list of options or to decrease a setting. The sections in this manual describing the individual features and function contain specific information on using this button for each specific application.

- 17 Digital Select:** Press this button to assign one of the digital inputs **17 19 21 24** to a source. (See page 31 for more information on using digital inputs.)

- 18 Numeric Keys:** These buttons serve as a ten-button numeric keypad to enter tuner preset positions. They are also used to select channel numbers when TV, Cable or SAT has been selected on the remote, or to select track numbers on a CD, DVD or LD player, depending on how the remote has been programmed.

## Main Remote Control Functions

**19 Tuner Mode:** Press this button when the tuner is in use to select between automatic tuning and manual tuning. When the button is pressed so that the **AUTO Indicator** **J** goes out, pressing the **Tuning Buttons** **21** **10** **E** will move the frequency up or down in single-step increments. When the FM band is in use, pressing this button when a station's signal is weak will change to monaural reception. (See page 33 for more information.)

**20 Direct Button:** Press this button when the tuner is in use to start the sequence for direct entry of a station's frequency. After pressing the button, simply press the proper **Numeric Keys** **13** to select a station. (See page 33 for more information on the tuner.)

**21 Tuning Up/Down:** When the tuner is in use, these buttons will tune up or down through the selected frequency band. If the **Tuner Mode Button** **19** **16** has been pressed so that the **AUTO Indicator** **J** is illuminated, pressing and holding either of the buttons for three seconds will cause the tuner to seek the next station with acceptable signal strength for quality reception. When the **AUTO Indicator** **J** is NOT illuminated, pressing these buttons will tune stations in single-step increments. (See page 33 for more information.)

**22 OSD Button:** Press this button to activate the On-Screen Display (OSD) system used to set up or adjust the AVR 8000's parameters.

**23 Dolby Mode Selector:** This button is used to select from among the available Dolby Surround processing modes. Each press of this button will select one of the Dolby Pro Logic II modes or Dolby 3 Stereo. When a Dolby Digital encoded source is in use, the Dolby Digital mode may also be selected. (See page 28 for the available Dolby surround mode options.)

**24 DTS Digital Mode Selector:** When a DTS-encoded digital source is selected, each press of this button will scroll through the available DTS modes. The specific choice of modes will vary according to whether or not the source material contains DTS-ES 6.1 Discrete encoding. When a DTS source is not in use, this button has no function. (See page 28 for the available DTS Digital options.)

**25 THX Mode Select Button:** Press this button to select the Home THX mode that is applicable to the input type and speaker configuration in use.

**26 Skip Up/Down Buttons:** These buttons don't have a direct function with the AVR 8000, but when used with a compatibly programmed

CD or DVD changer they will change the disc currently being played in the changer.

**27 Transport Controls:** These buttons do not have any functions for the AVR 8000, but they may be programmed for the forward/reverse play operation of a wide variety of CD or DVD players, and audio or video cassette recorders. (See page 42 for more information.)

**28 Light Button:** Press this button to activate the remote's backlight for ease of use in darkened rooms.

**29 Tone Mode Button:** Press this button to turn the controls off so that the output is "flat," or to boost or lower the tone modification. The first press of this button shows whether the tone controls are active or not. Subsequent presses enable you to select the treble or bass for change by pressing the **▲/▼ Buttons** **13** **16**. Note that the tone controls only change the output for the front left/right speakers and they are not available when a THX mode is in use.

**30 Stereo Mode Select Button:** Press this button to select a stereo listening mode. The first press of the button places the AVR in a true, two-channel, left/right stereo mode with no surround processing. The next press selects either five-channel stereo or seven-channel stereo, depending on the speaker configuration.

**31 Logic 7 Mode Select Button:** Press this button to select a Logic 7 Mode. This Harman proprietary process excels at converting two channel stereo or matrix surround encoded sources into a full five, six or seven channel sound field. (See page 28 for the available Logic 7 options.)

**32 DTS Neo:6 Mode Select:** Press this button to select a DTS Neo:6 Mode. These modes take a two channel stereo or matrix surround encoded source and create a full five-, six- or seven-channel sound field. (See page 28 for the available DTS Neo:6 options.)

**33 Macro Buttons:** Press these buttons to store or recall a "Macro", which is a preprogrammed sequence of commands stored in the remote. (See page 40 for more information on storing and recalling macros.)

**34 Disc Skip Button:** This button has no direct function for the AVR 8000 but is most often used to change to the next disc in a CD or DVD player when the remote is programmed for that type of device. (See page 39 for more information on using the remote with products other than the AVR 8000.)

**35 Preset Up/Down:** When the tuner is in use, press these buttons to scroll through the stations programmed into the AVR 8000's memory. When some source devices, such as CD players, VCRs and cassette decks, are selected using the device **Input Selectors** **5**, these buttons may function as Chapter Step or Track Advance.

**36 Clear Button:** Press this button to clear incorrect entries when using the remote to directly enter a radio station's frequency.

**37 Memory Button:** Press this button to enter a radio station into the AVR 8000's preset memory. Once the **MEMORY Indicator** **G** flashes, you have five seconds to enter a preset memory location using the **Numeric Keys** **18**. (See page 34 for more information.)

**38 Delay/Prev Ch.:** Press this button to begin the process for setting the delay times used by the AVR 8000 when processing surround sound. After pressing this button, the delay times are entered by pressing the **Set Button** **15** and then using the **▲/▼ Buttons** **13** **16** to change the setting. Press the **Set Button** **15** again to complete the process. (See page 24 for more information.)

**39 ► Button:** Press this button to change a setting or selection when configuring many of the AVR 8000's settings.

**40 Speaker Select:** Press this button to begin the process of configuring the AVR 8000's bass management system for use with the type of speakers used in your system. Once the button has been pressed, use the **▲/▼ Buttons** **13** **16** to select the channel you wish to set up. Press the **Set Button** **15** and then select another channel to configure. When all adjustments have been completed, press the **Set Button** **15** twice to exit the settings and return to normal operation. (See page 21 for more information.)

**41 Multiroom:** Press this button to activate the multiroom system or to begin the process of changing the input or volume level for the second zone. (See page 38 for more information on the Multiroom system.)

**42 Volume Up/Down:** Press these buttons to raise or lower the system volume.

**43 SPL Select:** This button activates the AVR 8000's EzSet function to quickly and accurately calibrate the AVR 8000's output levels. Press and hold the button for three seconds and then release it. Note that the test tone will begin circulating, and the

## Main Remote Control Functions

**Program/SPL Indicator ③** will change colors. During this sequence, EzSet will automatically adjust the output levels for all channels until they are equal, as shown by the **Program/SPL Indicator ③** lighting green for each channel. Press this button again when the adjustment is complete to turn off the test tone. (See pages 24 and 25 for more information on EzSet.)

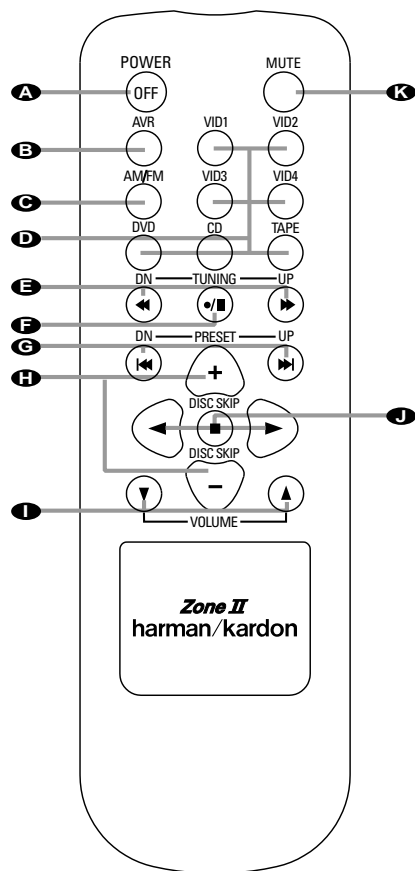
**44 Learn Button:** Press this button to begin the process of “learning” the codes from another product’s remote into the AVR 8000’s remote. (See page 39 for more information on using the remote’s learning function.)

**45 6-Channel/8-Channel Direct Input:** Press this button to select the device connected to the **6-Channel Direct Inputs ⑳** or the **8-Channel Direct Inputs ㉑**. (See page 35 for more information.)

**46 Mute:** Press this button to momentarily silence the AVR 8000 or TV set being controlled, depending on which device has been selected. When the AVR 8000 remote is being programmed to operate another device, this button is pressed with the **Input Selector Button ⑤** to begin the programming process. (See page 39 for more information on programming the remote.)

**47 EzSet Sensor Microphone:** The sensor microphone for the EzSet microphone is behind these slots. When using the remote to calibrate speaker output levels using EzSet, be sure that you do not hold the remote in a way that covers these slots. (See pages 24 and 25 for more information on using EzSet.)

## Zone II Remote Control Functions



- A** Power Off
- B** AVR Selector
- C** AM/FM Tuner Select
- D** Input Selectors
- E** Tuning Up/Down – Fast Play
- F** Record/Pause
- G** Preset Up/Down – Track Skip
- H** Disc Skip
- I** Volume Up/Down
- J** Play Forward/Reverse/Stop
- K** Mute

**A Power Off:** When used in the room where the AVR 8000 is located, press this button to place the unit in Standby. When it is used in a remote room with a sensor that is connected to the **Multizone IR Input** jack, this button turns the Multiroom system on and off.

**B AVR Selector:** Press this button to turn on the AVR 8000. The input in use when the unit was last on will be selected.

**C AM/FM Tuner Select:** Press this button to select the Tuner as the input to the Multiroom system. Press it again to change between the AM and FM bands.

**D Input Selectors:** When the AVR 8000 is off, press one of these buttons to select a specific input and turn the unit on. When the unit is already in use, pressing one of these buttons will change the input.

**E Tuning Up/Down – Fast Play:** When this remote is used in the same room as the AVR 8000, these buttons may be used to change the frequency of the tuner. These buttons may also control the Fast Play or Fast Reverse functions of compatible Harman Kardon CD, DVD or cassette decks in the same room, or from a remote room when an IR link is connected to the AVR 8000.

**F Record/Pause:** Press this button to activate the Record or Pause function on compatible Harman Kardon CD, DVD or cassette deck products.

**NOTE:** The Zone II remote may be used in either the same room where the AVR 8000 is located, or it may be used in a separate room with an optional infrared sensor that is connected to the AVR 8000's **Multizone IR Input** jack. When it is used in the same room as the AVR 8000, it will control the functions of the AVR 8000 or any compatible Harman Kardon products in that room. When it is used in a separate room via a sensor connected to the **Multizone IR Input** jack, the buttons for Power, Input Source, Volume and Mute will control the source and volume for the second zone, as connected to the **Multizone Output** jacks. (See page 38 for complete information on using the Multiroom system.)

**G Preset Up/Down – Track Skip:** When the AVR 8000's tuner is selected as the input source, these buttons will move up or down through the list of stations that have been stored in the preset memory. When a CD or DVD changer or player is selected, these buttons activate the Forward or Reverse Track or Chapter Skip functions.

**H Disc Skip:** Press these buttons to change discs on compatible Harman Kardon CD or DVD changer or players.

**I Volume Up/Down:** When used in the room where the AVR 8000 is located, press this button to raise or lower the volume in that room. When it is used in a remote room with a sensor that is connected to the **Multizone IR Input** jack, this button will raise or lower the volume in the remote room.

**J Play Forward/Reverse/Stop:** Press these buttons to control compatible Harman Kardon CD, DVD or cassette players.

**K Mute:** When used in the room where the AVR 8000 is located, press this button to temporarily silence the unit. When it is used in a remote room with a sensor that is connected to the **Multizone IR Input** jack, this button will temporarily silence the feed to the remote room only. Press the button again to return to the previous volume level.

# Installation and Connections

## System Installation

After unpacking the unit, and placing it on a solid surface capable of supporting its weight, you will need to make the connections to your audio and video equipment.

**IMPORTANT NOTE:** For your personal safety and to avoid possible damage to your equipment and speakers, it is always good practice to turn off and unplug the AVR and ALL source equipment from the AC output before making any audio or video system connections.

### Audio Equipment Connections

We recommend that you use high-quality interconnect cables when making connections to source equipment and recorders to preserve the integrity of the signals.

1. Connect the analog output of a CD player to the **CD Inputs 9**.

**NOTE:** When the CD player has both fixed and variable audio outputs, it is best to use the fixed output unless you find that the input to the receiver is so low that the sound is noisy, or so high that the signal is distorted.

2. Connect the analog Play/Out jacks of a cassette deck, MD, CD-R or other audio recorder to the **Tape Input Jacks 11**. Connect the analog Record/In jacks on the recorder to the **Tape Output Jacks 3** on the AVR 8000.

3. Connect the output of any digital sources such as such as a CD or DVD changer or player, advanced video game, a digital satellite receiver, HDTV tuner or digital cable set-top box or the output of a compatible computer sound card to the **Optical and Coaxial Digital Inputs 21, 24, 17, 19**.

4. Connect the coaxial or optical **Digital Audio Outputs 20, 23** on the rear panel of the AVR 8000 to the matching digital input connections on a CD-R or MiniDisc recorder.

5. Assemble the AM Loop Antenna supplied with the unit. Connect it to the **AM and GND Screw Terminals 1**.

6. Connect the supplied FM antenna to the **FM (75-ohm) Connection 2**. The FM antenna may be an external roof antenna, an inside powered or wire-lead antenna or a connection from a cable TV system. Note that if the antenna or connection uses 300-ohm twin-lead cable, you must use the 300-ohm-to-75-ohm

adapter supplied with the unit to make the connection.

7. Connect the front, center and surround speaker outputs **4, 5, 18** to the respective speakers.

To ensure that all the audio signals are carried to your speakers without loss of clarity or resolution, we suggest that you use high-quality speaker cable. Many brands of cable are available and the choice of cable may be influenced by the distance between your speakers and the receiver, the type of speakers you use, personal preferences and other factors. Your dealer or installer is a valuable resource to consult in selecting the proper cable.

Regardless of the brand of cable selected, we recommend that you use a cable constructed of multistrand copper with a gauge of 14 or smaller. Remember that in specifying cable, the lower the number, the thicker the cable.

Cable with a gauge of 16 may be used for short runs of less than ten feet. We do not recommend that you use cables with an AWG equivalent of 18 or higher, due to the power loss and degradation in performance that will occur.

Cables that are run inside walls should have the appropriate markings to indicate listing with UL, CSA or other appropriate testing agency standards. Questions about running cables inside walls should be referred to your installer or a licensed electrician who is familiar with the NEC and/or the applicable local building codes in your area.

When connecting wires to the speakers, be certain to observe proper polarity. Note that the positive (+) terminal of each speaker connection now carries a specific color code as noted on pages 8 and 9. However, most speakers will still use a red terminal for the positive (+) connection. Connect the "negative" or "black" wire to the same terminal on both the receiver and the speaker.

**NOTE:** While most speaker manufacturers adhere to an industry convention of using black terminals for negative and red ones for positive, some manufacturers may vary from this configuration. To ensure proper phase and optimal performance, consult the identification plate on your speaker or the speaker's manual to verify polarity. If you do not know the polarity of your speaker, ask your dealer for advice before proceeding, or consult the speaker's manufacturer.

We also recommend that the length of cable used to connect speaker pairs be identical. For example, use the same length piece of cable to connect the front-left and front-right or surround-left and surround-right speakers, even if the speakers are a different distance from the AVR 8000.

8. Connections to a subwoofer are normally made via a line-level audio connection from the **Subwoofer Output 6** to the line-level input of a subwoofer with a built-in amplifier. When a passive subwoofer is used, the connection first goes to a power amplifier, which will be connected to one or more subwoofer speakers. If you are using a powered subwoofer that does not have line-level input connections, follow the instructions furnished with the speaker for connection information.

9. If an external multichannel audio source with 5.1 outputs such as an external digital processor/decoder, DVD-Audio or SACD player is used, connect the outputs of that device to the **6-Channel Direct Inputs 22**.

10. If an external multichannel audio source with 7.1 outputs such as an external digital processor/decoder, DVD-Audio or SACD player is used, first connect the outputs of that device to both the **6-Channel Direct Inputs 22** as noted above, and then connect the Surround Back Left and Surround Back Right output channels of the source device to the **8-Channel Direct Inputs 19**.

11. If you plan to use a 7.1 channel source or wish to take advantage of the 6.1/7.1 channel processing modes such as THX Surround EX or DTS-ES, you must use an optional audio power amplifier for those channels. Connect the **Surround Back Preamp Outputs 10** to the inputs of the amplifier feeding those channels' speakers.

### Video Equipment Connections

Video equipment is connected in the same manner as audio components. Again, the use of high-quality interconnect cables is recommended to preserve signal quality.

1. Connect a VCR's or other video source's audio and video Play/Out jacks to the **Video 1/ Video 2 Input Jacks 30** on the rear panel. The Audio and Video Record/In jacks on the VCR should be connected to the **Video 1/Video 2 Output Jacks 33** on the AVR 8000.

## Installation and Connections

2. Connect the analog audio and video outputs of a satellite receiver, cable TV converter or television set or any other video source to the **Video 3/Video 4 Input Jacks 31**.

3. Connect the analog audio and video outputs of a DVD or laser disc player to the **DVD Inputs 25**.

4. Connect the digital audio outputs of a DVD player, satellite receiver, cable box or HDTV converter to the appropriate **Optical** or **Coaxial Digital Inputs 21, 24, 17, 19**.

5. Connect the **Video Monitor Output 34** jacks on the receiver to the composite or S-Video input of your television monitor or video projector.

6. If your DVD player and monitor both have component video connections, connect the component outputs of the DVD player to the **DVD Component Video Inputs 14**. Note that even when component video connections are used, the audio connections should still be made to either the analog **DVD Inputs 25** or any of the **Optical** or **Coaxial Digital Input Jacks 21, 24**.

7. If other devices with component video outputs are available, connect it to the **Video 1/Video 2 Component Video Inputs 13**. The audio connections for this device should be made to either the **Video 1/Video 2 Inputs 30** or any of the **Optical** or **Coaxial Digital Input Jacks 21, 24**.

8. If the component video inputs are used, connect the **Component Video Outputs 1** to the component video inputs of your TV, projector or display device.

9. If you have a camcorder, video game or other audio/video device that is connected to the AVR on a temporary, rather than permanent, basis, connect the audio, video and digital audio outputs of that device to the **Front Panel Inputs 17, 19, 22**. A device connected here is selected as the Video 5 input, and the digital inputs must be assigned to the Video 5 input. (See page 20 for more information on input configuration.)

### Video Connection Notes:

- When the component video jacks are used, the on-screen menus are not visible and you must switch to the standard composite or S-Video input on your TV to view them.

- The AVR 8000 will accept either standard composite, S-Video or Y/Pr/Pb component video signals. However, it will not convert composite or S signals to component video.

- Component or composite video signals may only be viewed in their native formats.

## System and Power Connections

The AVR 8000 is designed for flexible use with multiroom systems, external control components and power amplifiers.

### Main Room Remote Control Extension

If the receiver is placed behind a solid or smoked glass cabinet door, the obstruction may prevent the remote sensor from receiving commands. In this event, an optional remote sensor may be used. Connect the output of the remote sensor to the **Remote IR Input 28** jack.

If other components are also prevented from receiving remote commands, only one sensor is needed. Simply use this unit's sensor or a remote eye by running a connection from the **Remote IR Output 29** jack to the Remote IR Input jack on Harman Kardon or other compatible equipment.

### Multiroom IR Link

The remote room IR receiver should be connected to the AVR 8000 via standard coaxial cable. Plug the IR connection cable into the **Multizone IR Input 27** jack on the AVR 8000's rear panel.

If other Harman Kardon compatible source equipment is part of the main room installation, the **Remote IR Output 29** jack on the rear panel should be connected to the IR IN jack on source equipment. This will enable the remote room location to control source equipment functions.

**NOTE:** All remotely controlled components must be linked together in a "daisy chain." Connect the **IR OUT** jack of one unit to the **IR IN** of the next to establish this chain.

### Amplifier Trigger Connections

If an optional, external audio power amplifier is used, this jack will provide the connection needed to automate the amplifier's turn-on. Connect this jack to the Trigger Input on a compatible amplifier. When this connection is made, the amplifier or any other trigger-controlled device such as a projection screen or automatic blinds will be turned on when the AVR is on, and off when the AVR is off.

**NOTE:** When connecting any device to this jack, make certain that proper connection polarity is maintained and that the total current draw of any device connected does not exceed 500 milliamps. If you are not familiar with this type of connection, we recommend that you consult your dealer or installer for more information.

## Multizone Connections

The AVR 8000 is equipped with complete multizone capabilities that allow it to send a separate audio/video source to the remote zone from the one selected for use in the main room.

To view the video output of the source selected for multizone operation at the remote location, connect the wires connecting to the remote video monitor to the **Multizone Output 32** jacks.

Depending on the distance from the AVR 8000 to the remote room, two options are available for audio connection:

**Option 1:** Use high-quality, shielded audio interconnect cable from the AVR 8000's location to the remote room. In the remote room, connect the interconnect cable to a stereo power amplifier. The amplifier will be connected to the room's speakers. At the AVR 8000, plug the audio interconnect cables into the **Multizone Output 32** jacks on the AVR 8000's rear panel.

**Option 2:** Connect the **Multizone Output 32** jacks on the AVR 8000 to the inputs of an optional stereo power amplifier. Run high-quality speaker wire from the amplifier to the speakers in the remote room.

**NOTE:** In both options, you may connect an optional IR sensor in the remote room to the AVR 8000 via an appropriate cable. Connect the sensor's cable to the **Multizone IR Input 27** on the AVR 8000 and use the Zone II remote to control the room volume. Alternatively, you may install an optional volume control between the output of the amplifiers and the speakers.

## AC Power Connections

This unit is equipped with three accessory AC outlets. They may be used to power accessory devices, but they should not be used with high-current draw equipment such as power amplifiers. The total power draw to each outlet may not exceed 100 watts.



## Installation and Connections

The **Switched AC Accessory Outlets 17** will receive power only when the unit is on. This is recommended for devices that have no power switch or a mechanical power switch that may be left in the "ON" position.

**NOTE:** Many audio and video products go into a Standby mode when they are used with switched outlets, and cannot be fully turned on using the outlet alone without a remote control command.

The **Unswitched AC Accessory Outlet 16** will receive power as long as the unit is plugged into a powered AC outlet.

The AVR 8000 features a removable power cord that allows wires to be run to a complex installation so that the unit, itself, need not be installed until it is ready for connection. When all connections described above have been made, connect the AC Power cord to the **AC Power Cord Jack 15**.

Note that the AVR 8000 draws significantly more current than other household devices such as computers that use removable power cords. For that reason, it is important that only the cord supplied with the unit (or a direct replacement of identical capacity) be used.

Once the power cord is connected, you are almost ready to enjoy the AVR 8000's incredible power and fidelity!

## System Configuration

When all audio, video and system connections have been made, there are a few configuration adjustments that must be made. A few minutes spent to correctly configure and calibrate the unit will greatly add to your listening experience.

### Speaker Selection and Placement

The placement of speakers in a multichannel home theater system can have a noticeable impact on the quality of sound reproduced.

No matter which type or brand of speakers is used, the same model or brand of speaker should be used for the left front, center and right front speakers. This creates a seamless front soundstage and eliminates the possibility of distracting sonic disturbances that occur when a sound moves across mismatched front-channel speakers.

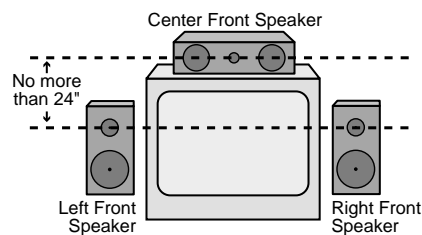
### Speaker Placement

Depending on the type of center-channel speaker in use and your viewing device, place the center speaker either directly above or below your TV, or in the center behind a perforated front projection screen.

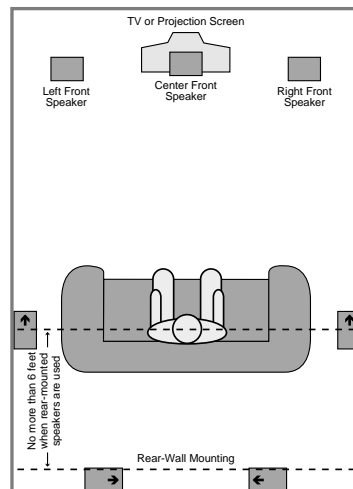
Once the center channel speaker is installed, position the front left and front right speakers so that they are as far away from one another as the center channel speaker is from the preferred listening position. Ideally, the front channel speakers should be placed so that their tweeters are no more than 24" above or below the tweeter in the center-channel speaker.

Depending on the specifics of your room acoustics and the type of speakers in use, you may find that imaging is improved by moving the left front and right front speakers slightly forward of the center channel speaker. If possible, adjust all front loudspeakers so that they are aimed at ear height when you are seated in the listening position.

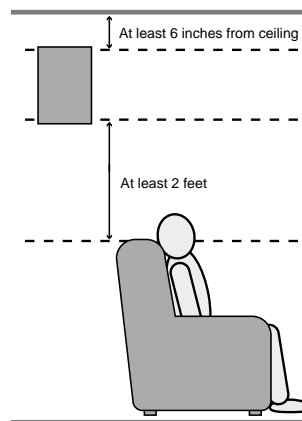
Using these guidelines, you'll find that it takes some experimentation to find the correct location for the front speakers in your particular installation. Don't be afraid to move things around until the system sounds correct. Optimize your speakers so that audio transitions across the front of the room sound smooth, and that sounds from all speakers appear to arrive at the listening position at the same time (without delay from the center speaker compared to the left and right speakers).



A) Front-Channel Speaker Installation With Direct-View TV Sets or Rear-Screen Projectors



B) Rear speaker mounting is an alternate location for 5.1 systems. It is required for 7.1 operation.



When the AVR 8000 is used in 5.1-channel operation, the preferred location for surround speakers is on the side walls of the room, at or slightly behind the listening position. In a 7.1-channel system, both side surround and back surround speakers are required. The center of the speaker should face into the room. The speakers should be located so that the bottom of the cabinet is at least two feet higher than the listeners' ears when the listeners are seated in the desired area.

Rear surround speakers are required when a full 7.1-channel system is installed, and they may also be used in 5.1 channel systems as an alternative mounting position when it is not practical to place the main surround speakers on the sides of the room. Speakers may be placed on a rear wall, behind the listening position. As with the side speakers, rear surrounds should be located so that the bottom of the cabinet is at least two feet higher than the listeners' ears. The speakers should be no more than six feet behind the rear of the seating area.

If dipole-type speakers are used on either the side or rear walls of the room, please note that if there are arrows on the speakers they should face the front of the room for the side speakers, or towards the center of the wall for the rear speakers.

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

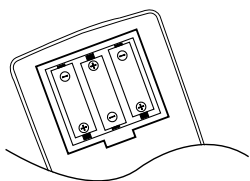
# System Configuration

## System Setup

Once the speakers have been placed in the room and connected, the remaining steps in the setup process are to program the AVR 8000's bass management system for the type of speakers used in your system, calibrate the output levels, and set the delay times used by the surround sound processor.

You are now ready to power up the AVR 8000 to begin these final adjustments.

1. Make certain that the AC power cord is firmly inserted in to the **AC Power Cord Receptacle 15** and plug the cord into an unswitched AC outlet. To maintain the unit's safety rating, DO NOT substitute the power cord for one with lower current capacity.
2. Press the **Main Power Switch 1** in until it latches and the word "OFF" on the top of the switch disappears inside the front panel. Note that the **Power Indicator 3** will turn amber, indicating that the unit is in the Standby mode.
3. Remove the protective plastic film from the front panel lens. If left in place, the film may affect the performance of your remote control.
4. Install the three supplied AAA batteries in the remote as shown. Be certain to follow the (+) and (-) polarity indicators that are on the top of the battery compartment.



5. Turn the AVR 8000 on either by pressing the **System Power Control 2** on the front panel, or via the remote by pressing the **Power On Button 4**, the **AVR Selector 6** or any of the **Input Selectors 5 7 45** on the remote. The **Power Indicator 3** will turn green to confirm that the unit is on, and the **Main Information Display 28** will also light.

## Using the On-Screen Display

When making the following adjustments, you may find it easier to use the AVR 8000's on-screen display system. These easy-to-read dis-

plays give you a clear picture of the current status of the unit and make it easy to see which speaker, delay, input or digital selection you are making.

To view the on-screen menus, make certain you have made a connection from the **Video Monitor Out Jack 34** on the rear panel to the composite or S-Video input of your TV or projector. In order to view the AVR 8000's displays, the correct video source must be selected on the video display. Note that the on-screen menus are not available when a component video display is in use.

**IMPORTANT NOTE:** When viewing the on-screen menus using a CRT-based projector, plasma display or any direct-view CRT monitor or television, it is important that they not be left on the screen for an extended period of time. The constant display of a static image such as these menus or video game images may cause the image to be permanently "burned into" the projection tubes, plasma screen or CRT. This type of damage is not covered by the AVR 8000 warranty and may not be covered by the projector/TV set's warranty.

The AVR 8000 has two on-screen display modes, "Semi-OSD" and "Full-OSD." When making configuration adjustments, it is recommended that the Full-OSD mode be used. This will place an option listing on the screen, making it easier to view the available options.

## Making Configuration Adjustments

The full-OSD system is available by pressing the **OSD Button 22**. When this button is pressed, the **MASTER MENU** (Figure 1) will appear, and adjustments are made from the individual menus.

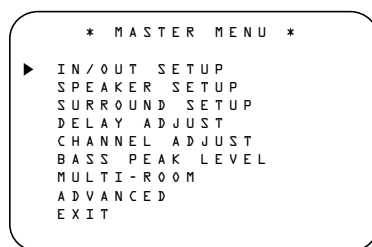


Figure 1

The semi-OSD system is also available, allowing you to make adjustments directly, by pressing the appropriate buttons on the front panel or remote control for the specific parameter to be adjusted. For example, to change the digital input for any of the sources, press the

**Digital Select Button 17** and then press the **▲/▼ Buttons 13 16** to scroll through the list of options as they appear in the on-screen display or the **Lower Display Line E**.

To use the full-OSD menu system, press the **OSD Button 22**. When the menu is on the screen, press the **▲/▼ Buttons 13 16** until the on-screen ► cursor is next to the item you wish to adjust, and then press the **Set Button 15** to adjust that item. Note that the menus will remain on the screen for 20 seconds, and then they will "time-out" and disappear from the screen. The time-out may be increased to as much as 50 seconds by going to the **ADVANCED** menu, and changing the item titled **FULL OSD TIME OUT**.

When the full-OSD system is in use, the menu selections are not shown in the **Main Information Display 28 A B**. When the full-OSD menu system is used, **OSD ON** will appear in the **Upper Display Line A** and the **OSD Indicator C** will light to remind you that a video display must be used. When the semi-OSD system is used in conjunction with the discrete configuration buttons, the on-screen display will show a single line of text with the current menu selection. That selection will also be shown in the **Upper Display Line A** or the **Lower Display Line B**, depending on which parameter is being adjusted.

## Setting the System Configuration Memory

The AVR 8000 features an advanced memory system that enables you to establish different configurations for the speaker configuration, digital input, surround mode, delay times, crossover frequency and output levels for each input source. This flexibility enables you to custom-tailor the way in which you listen to each source and have the AVR 8000 memorize those settings. This means, for example, that you may use different output levels or trims for different sources, or set different speaker configurations with the resultant changes to the bass management system. Once these settings are made, they will automatically be recalled whenever you select that input.

The factory default settings for the AVR 8000 have all inputs except for DVD configured for an analog audio input except for the DVD input, where the **Coaxial Digital Input 1 21** is the default. The default speaker settings are for "Large" speakers at the front left/right, "Small" at all other positions, and for the Subwoofer set as being on. However, once the

## System Configuration

DSP processing system is used for the first time for any input, the speaker settings will automatically default to "Small" at all positions with the subwoofer set to "LFE." The default setting for the surround modes is "Surround Off," or two-channel stereo, although Dolby Digital or DTS will automatically be selected as appropriate when a source with digital encoding is in use.

Before using the unit, you will probably want to change the settings for most inputs so that they are properly configured to reflect the use of digital or analog inputs, the type of speakers installed and the surround mode specifics of your home theater system. Remember that since the AVR 8000 memorizes the settings for each input individually, you will need to make these adjustments for each input used. However, once they are made, further adjustment is only required when system components are changed.

To make this process as quick and as easy as possible, we suggest that you use the full-OSD system with the on-screen menus, and step through each input. Once you have completed the settings for the first input, many settings may be duplicated for the remaining inputs. It is also a good idea to set the configuration data in the order these items are listed in the **MASTER MENU**, as some settings require a specific entry in a prior menu item. Remember that once the settings are made for one input, they must be made for all other input sources in your system.

### Input Setup

The first step in configuring the AVR 8000 is to configure each input. Note that the once an input is selected, all settings for the Digital Input, Speaker Configuration, Surround Mode and Delay Timing will "attach" themselves to that input and be stored in a non-volatile memory. This means that once made, the selection of an input will automatically recall those settings. For that reason, the procedures described below must be repeated for each input source so that you have the opportunity to custom tailor each source to your specific listening requirements. However, once made they need not be changed again unless you need to alter a setting.

When using the full-OSD system to make the setup adjustments, press the **OSD Button 22** once so that the **MASTER MENU** (Figure 1) appears. Note that the ► cursor will be next to

the **IN/OUT SETUP** line. Press the **Set Button 15** to enter the menu and the **IN/OUT SETUP** menu (Figure 2) will appear on the screen. Press the ◀/▶ **Buttons 14 39** until the desired input name appears in the highlighted video, as well as being indicated in the front panel **Input Indicators 27** by the green LED next to the desired input name. If the input will use the standard left/right analog inputs, no further adjustment is needed.

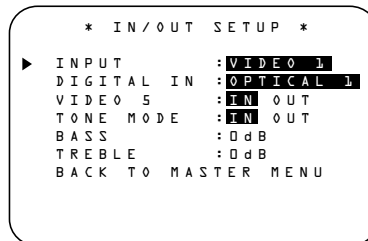


Figure 2

If you wish to associate one of the digital inputs with the selected input source, press the ▼ **Button 16** on the remote while the **IN/OUT SETUP** menu (Figure 2) is on the screen, and note that the on-screen cursor will drop down to the **DIGITAL IN** line. Press the ◀/▶ **Buttons 14 39** until the name of the desired digital input appears. To return to the analog input, press the buttons until the word **ANALOG** appears. When the correct input source appears, press the ▼ **Button 16** once so that the ► cursor appears next to **BACK TO MASTER MENU**, and press the **Set Button 15**.

To change the digital input at any time using the discrete function buttons and the semi-OSD system, press the **Digital Select Button 17** on the remote. Within five seconds, make your input selection using the ▲/▼ **Buttons 13 16** until the desired digital or analog input is shown in the **Upper Display Line A** and in the lower line of the on-screen display. Press the **Set Button 15** to enter the new digital input assignment.

The front panel analog **Video 5 Inputs 22** are normally set as an input for use with camcorders, video games and other portable audio/video products, but they may be switched to an output for connection to portable audio/video recorders. To temporarily switch them to outputs, you must first be at the **IN/OUT SETUP** menu. Press the ▼ **Button 16** until the on-screen ► cursor is

pointing to the **VIDEO 5** line. Press the ► **Button 39** so that the word **OUT** is highlighted. Note that the **Input/Output Status Indicator 21** between the S- and Composite video jacks will turn red, indicating that the analog Video 5 jacks are now record outputs.

Selection of the front panel jacks as an output will remain effective as long as the AVR 8000 is on. Once the unit is turned off, the jacks will revert to their normal use as an input when the unit is turned on again.

The AVR 8000 features electronic bass and treble adjustments for the front left and right channels when the stereo mode is in use. Accessible either through the on-screen menus or directly from the remote, the electronic adjustments provide greater accuracy than traditional front panel knobs.

To adjust the tone controls through the on-screen menu system, you must first go to the **IN/OUT SETUP** menu. If that menu is not already on the screen, press the **OSD Button 22** so that the **MASTER MENU** appears. As the ► cursor will already be at the **IN/OUT SETUP** line, press the **Set Button 15** to enter the **IN/OUT SETUP** menu. Next, press the ▼ **Button 16** until the ► cursor is next to the **TONE MODE** line.

At the **TONE MODE** line press the ◀/▶ **Buttons 14 39** to select **OUT** if you wish to disable any settings for the tone controls. When **OUT** is highlighted the unit is in the "flat" mode and the tone controls have no effect. The normal setting is **IN**, which activates the tone controls.

To adjust either the bass or treble settings for the front left and right speakers, press the ▲/▼ **Buttons 13 16** until the ► cursor is to the left of the setting you wish to adjust. At the line for the desired option, press the ◀/▶ **Buttons 14 39** to increase or decrease the bass or treble output.

Note that the Tone Mode settings are not available when the AVR 8000 is in the THX Cinema or THX Surround EX mode.

When all needed adjustments have been made, press the ▼ **Button 16** until the ► cursor is next to **BACK TO MASTER MENU** to continue with the system configuration.

## System Configuration

The tone controls may also be adjusted at any time by pressing the **Tone Mode Button** 29 8. The first press will bring up the **TONE MODE** setting in the semi-OSD on-screen display and in the **Lower Display Line** 3. Press the **◀▶ Buttons** 14 39 7/14 to activate or disable the tone controls as shown above.

To change the tone control settings, press the **Tone Mode Button** 29 8 until the desired setting (BASS or TREBLE) appears in the semi-OSD on-screen display and in the **Lower Display Line** 3. When you see the correct name press the **◀▶ Buttons** 14 39 7/14 to make the adjustments. If no buttons are pressed for five seconds the displays will return to their normal operation and any changes will be stored in the AVR's memory.

**NOTE:** Although all other settings in the **IN/OUT SETUP** menu are specific to the input being adjusted, the Tone settings are global and will carry through to all input sources. There is no need to adjust these settings when configuring subsequent inputs.

### Speaker Setup

This menu tells the AVR 8000 which type of speakers are in use. This is important as it adjusts the settings that decide whether your system should use the "5-channel" or "6-channel/7-channel" modes, as well as determining which speakers receive low-frequency (bass) information.

For each of these settings, use the **LARGE** setting if the speakers for a particular position are traditional full-range loudspeakers that are capable of reproducing sounds below 100Hz. Use the **SMALL** setting for smaller, frequency-limited satellite speakers that do not reproduce sounds below 100Hz. Note that when "small" speakers are used, a subwoofer is required to reproduce low-frequency sounds. Remember that the "large" and "small" descriptions do not refer to the actual physical size of the speakers, but to their ability to reproduce low-frequency sounds. If you are in doubt as to which category describes your speakers, consult the specifications in the speakers' owner's manual, or ask your dealer.

After the selections are made for the **IN/OUT SETUP** menu options, press the **▲/▼ Buttons** 13 16, so that the cursor moves to the **BACK TO MASTER MENU** line and press the **Set Button** 15.

It is easiest to enter the proper settings for the speaker setup through the **SPEAKER SETUP** menu (Figure 3). If that menu is not already on your screen from the prior adjustments, press the **OSD Button** 22 to bring up the **MASTER MENU** (Figure 1), and then press the **▼ Button** 16 until the cursor is on the **SPEAKER SETUP** line. At this point, press the **Set Button** 15 to bring up the **SPEAKER SETUP** menu (Figure 3).

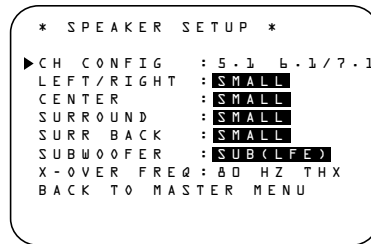


Figure 3

The first line of the **SPEAKER SETUP** menu allows you to configure the AVR either for standard 5.1 surround operation or for advanced 6.1/7.1 operation. Note that in order to take advantage of the 6.1/7.1 modes you must have speakers placed at the rear of the room through connections to an optional, external amplifier connected to the **Surround Back Preamp Outputs** 10. If you do not have these additional speakers installed, leave the setting at the factory default of 5.1 and proceed to the next step by pressing the **▼ Button** 16 to begin setting the speaker configuration process.

If your system does include rear surround amplification and speakers, change this setting by pressing the **Set Button** 15 while the cursor is at the **CH CONFIG** line, and then press the **◀ or ▶ Buttons** 14 39 so that **6.1 / 7.1** is highlighted. When the setting is complete, press the **▲ or ▼ Buttons** 13 16 to move to the **LEFT / RIGHT** line to begin the speaker configuration process.

**NOTE:** The **CH CONFIG** setting establishes the surround mode options for the AVR so that only the correct modes for the number of speakers in your specific system will be available. Should you add rear surround speakers to your system at a later date, it is important to change this setting so that advanced surround modes such as Logic 7/7.1, THX Surround EX and DTS-ES will be available.

Once the correct channel configuration setting has been established, begin the speaker setup process by making certain that the cursor is

pointing toward the **LEFT / RIGHT** line, which sets the configuration for the front left and right speakers. If you wish to make a change to the front speakers' configuration, press the **◀▶ Buttons** 14 39 so that either **LARGE** or **SMALL** appears, matching the appropriate description from the definitions shown above.

When **SMALL** is selected, low-frequency sounds will be sent only to the subwoofer output. If you choose this option and there is no subwoofer connected, you will not hear any low-frequency sounds from the front channels.

When **LARGE** is selected, a full-range output will be sent to the front left and front right outputs. Depending on the choice made in the **SUBWOOFER** line in this menu, bass information may also be directed to the front left/right speakers, a subwoofer or both.

When you have completed your selection for the front channel, press the **▼ Button** 16 on the remote to move the cursor to **CENTER**.

Press the **◀▶ Buttons** 14 39 on the remote to select the option that best describes your system, based on the speaker definitions shown below.

When **SMALL** is selected, low-frequency center channel sounds will be sent only to the subwoofer output. If you choose this option and there is no subwoofer connected, you will not hear low-frequency sounds from the center channel speaker.

When **LARGE** is selected, a full-range output will be sent to the center speaker output, and NO center channel signal will be sent to the subwoofer output.

**NOTE:** If you choose Logic 7 as the surround mode for the particular input source for which you are configuring your speakers, the AVR 8000 will not make the **LARGE** option available for the center speaker. This is due to the requirements of Logic 7 processing, and does not indicate a problem with your receiver.

When **NONE** is selected, no signals will be sent to the center channel output. The receiver will operate in a "phantom" center channel mode and center channel information will be sent to the left and right front channel outputs. When only front left and right speakers are used, with no center or surround speakers, **VMAx** is a good alternative mode.

## System Configuration

When you have completed your selection for the center channel, press the **▼ Button 16** on the remote to move the cursor to **SURROUND**.

Press the **◀▶ Buttons 14 39** on the remote to select the option that best describes the surround speakers in your system based on the speaker definitions shown on this page.

When **SMALL** is selected, low-frequency surround channel sounds will be sent to the subwoofer output only. If you choose this option and there is no subwoofer connected, you will not hear any low-frequency sounds from the surround speakers.

When **LARGE** is selected, a full-range output will be sent to the surround channel outputs, and NO surround channel signals will be sent to the subwoofer output.

When **NONE** is selected, surround sound information will be split between the front left and front right outputs. For optimal performance when no surround speakers are in use, the Dolby 3 Stereo mode should be used.

If the **CH CONFIG** has been set to **5 • 1**, pressing the **▼ Button 16** will take you to the subwoofer settings, as there are no Surround Back speakers in your system to configure. If the **CH CONFIG** has been set to **6 • 1/7 • 1**, press the **▼ Button 16** to enter the correct setting for the "size" of the Surround Back speakers. With the cursor on the **SURR BACK** line, press the **◀▶ Buttons 14 39** so that the correct choice is highlighted.

When you have completed your selection for the back surround channels, press the **▼ Button 16** on the remote to move the cursor to **SUBWOOFER**.

Press the **◀▶ Buttons 14 39** on the remote to select the option that best describes your system.

The choices available for the subwoofer position will depend on the settings for the other speakers, particularly the front left/right positions.

If the front left/right speakers are set to **SMALL**, the subwoofer will automatically be set to **SUB**, which is the "on" position.

If the front left/right speakers are set to **LARGE**, three options are available:

- If no subwoofer is connected to the AVR 8000, press the **◀▶ Buttons 14 39** on the remote so that **NONE** appears in the on-screen menu. When this option is selected, all bass information will be routed to the front left/right "main" speakers.
- If a subwoofer is connected to the AVR 8000, you have the option to have the front left/right "main" speakers reproduce bass frequencies at all times, and have the subwoofer operate only when the AVR 8000 is being used with a digital source that contains a dedicated Low Frequency Effects, or LFE soundtrack. This allows you to use both your main and subwoofer speakers to take advantage of the special bass created for certain movies. Press **◀▶ Buttons 14 39** on the remote so that **SUB (LFE)** appears in the on-screen menu.
- If a subwoofer is connected and you wish to use it for bass reproduction in conjunction with the main front left/right speakers, regardless of the type of program source or Surround mode you are listening to, press the **◀▶ Buttons 14 39** on the remote so that **SUB LFE+L/R** appears in the on-screen menu. When this option is selected, a full-range signal will be sent to the front left/right "main" speakers, and the subwoofer will receive the bass frequencies under frequency selected, as described below.

Once you have completed the speaker configuration settings, press the **▼ Button 16** on the remote to change the cursor to **X-OVER FREQ**. The subwoofer crossover setting may only be adjusted using the on-screen display system.

At this line, you will select the frequency at which bass information is directed to the **Subwoofer Output 6**. To select the crossover frequency, press the **◀▶ Buttons 14 39** until the frequency closest to the lowest frequency of your front left/right speakers appears. This figure is normally printed in the owner's manual or data sheet for the speakers; or consult the speaker's manufacturer. Note that if you are using THX-certified speakers, the 80Hz crossover point should be selected.

When all speaker selections have been made, press the **▼ Button 16** and then the **Set Button 15** to return to the **MASTER MENU**.

### Surround Setup

Once the speaker setup has been completed, the next step is to set the surround mode you wish to use with the input that was previously selected in the **IN/OUT** menu. Since surround modes are a matter of personal taste, feel free to select any mode you wish – you may change it later. However, to make it easier to establish the initial parameters for the AVR 8000, it is best to select Dolby Pro Logic II or Logic 7 for most analog inputs and Dolby Digital for inputs connected to digital sources. In the case of inputs such as a CD Player, Tape Deck or Tuner, you may wish to set the mode to Stereo ("Surround off") as they are not typically used with multichannel program material, and it is unlikely that surround-encoded material will be used. Alternatively, the Logic 7 Music mode is a good choice for stereo-only source material. See page 28 for more information on available surround modes.

When selecting surround modes for digital program material, the AVR will always examine the data stream and automatically select Dolby Digital or DTS as applicable. You may then change to THX or another choice as the program type and your speaker configuration permits.

It is easiest to complete the surround setup using the full-OSD on-screen menus. From the **MASTER MENU** (Figure 1), press the **▲/▼ Buttons 13 16** until the **▶** cursor is next to the **SURROUND SELECT** menu. Press the **Set Button 15** until the **SURROUND SELECT** menu (Figure 4) is on the screen.

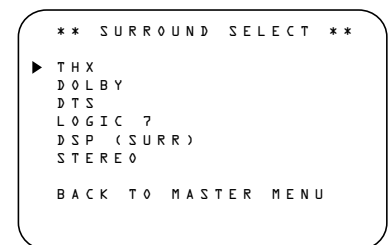


Figure 4

Each of the option lines on this menu (Figure 4) selects the surround mode category, and within each of those categories there will be a choice of the specific mode options. Note that the choice of modes will vary according to the speaker configuration in your system. When the **CH CONFIG** line is set to **5 • 1** in the **SPEAKER SETUP** menu (Figure 3) you will see only the modes appropriate to a 5.1-

## System Configuration

channel system. When the **CH CONFIG** line is set to **6.1/7.1**, the appropriate modes will appear for that type of operation. In addition, some of the modes available in the AVR 8000 will not appear unless a digital source is selected and is playing the correct bitstream.

To select the mode that will be used as the initial default for an input, first press the **▲/▼ Buttons 13 16** until the on-screen cursor is next to the desired mode's master category name, such as **THX**, **DOLBY**, **DTS**, **DSP (SURR)**, etc. Next, press the **Set Button 15** to view the sub-menu. Press the **◀▶ Buttons 14 39** to scroll through the available choices, and then press the **▼ Button 16** so that the cursor is next to **BACK TO MASTER MENU** to continue the setup process.

The following few paragraphs detail the instructions needed for modes with multiple choices.

To attach a THX mode to the input in use, press the **▼ Button 16** until the cursor is on the **THX** line and press the **Set Button 15**. The menus will vary according to the speaker configuration for your system. When the system is configured for 5.1-channel, the **MODE** line on the **THX** menu page will read **THX CINEMA** or **DTS+THX**, and a **NO SURR BACK SPEAKERS** message will also appear.

When selecting a THX mode for use with a 7.1-channel system, the THX Surround EX mode will automatically be activated when a Dolby Digital 5.1 program is in use and a special "flag" signal is encoded in the program material. When no flag is present, you may select the Surround EX mode by pressing the **◀▶ Buttons 14 39** until the format name appears (Figure 5).

When a DTS source is playing, the choice of modes for 7.1 systems will vary according to the type of program source (DTS 5.1, DTS-ES Matrix or DTS-ES Discrete). Press the **◀▶ Buttons 14 39** to scroll through the choices that are available for your system and the program in use.

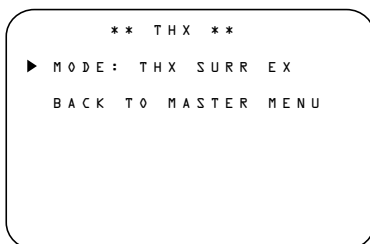


Figure 5

When the desired THX mode selection is completed, press the **▼ Button 16** until the cursor is next to **BACK TO MASTER MENU** and then press the **Set Button 15** to continue the setup process.

On the **DOLBY** menu (Figure 6), the selection choices include Dolby Digital, Dolby Pro Logic II Music, Dolby Pro Logic II Cinema, Dolby Pro Logic II Emulation and Dolby 3 Stereo. A complete explanation of these modes is found on page 28. Note that when the Dolby Digital mode is selected there are additional settings available for the Night mode.

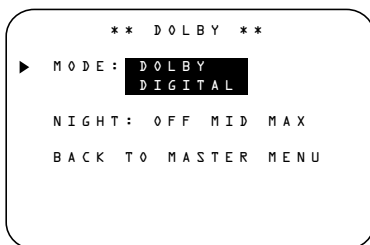


Figure 6

The Night mode is a feature of Dolby Digital that uses special processing to preserve the dynamic range and full intelligibility of a movie sound track while reducing the peak level. This prevents abruptly loud transitions from disturbing others, without reducing the sonic impact of a digital source. The Night mode is only available when specially encoded Dolby Digital signals are played.

To adjust the Night mode setting, make certain that the **▶** cursor is on the **NIGHT** line of the **DOLBY** menu. Next, press **◀▶ Buttons 14 39** to choose between the following settings, as they appear in the on-screen display:

**OFF**: When **OFF** is highlighted, the Night mode will not function.

**MID**: When **MID** is highlighted, a mild compression will be applied.

**MAX**: When **MAX** is highlighted, a more severe compression algorithm will be applied.

We recommend that you select the **MID** setting as a starting point and change to the **MAX** setting later, if desired.

The Night mode may also be adjusted directly any time a Dolby Digital source is playing by pressing the **Night Mode Button 11**. When the button is pressed, **D-RANGE** will appear in the lower third of the video screen and in the **Main Information Display 28**. Press the **▲/▼ Button 13 16** within three seconds to select the desired setting.

When all settings for the surround setup have been made, press the **▲/▼ Buttons 13 16** so that the **▶** cursor is next to **BACK TO MASTER MENU**, and press the **Set Button 15** to return to the **MASTER MENU**.

On the **DTS** menu, the selection choices made with the **◀▶ Buttons 14 39** on the remote are determined by a combination of the type of program material in use and whether the 5.1 or 6.1/7.1 channel configuration is in use. The DTS Neo:6 Music mode is available with analog stereo sources and the DTS Neo:6 Cinema mode is available with analog matrix surround-encoded sources to deliver an enhanced 5.1-channel sound field.

When the 5.1 configuration is in use the AVR will automatically select the 5.1 version of DTS processing when a DTS data stream is selected. When the 6.1/7.1 mode is selected, the DTS-ES Discrete mode will automatically be activated when a DTS source with the ES Discrete "flag" is in use. When a non-ES DTS disc is in use, you may select the DTS-ES Matrix mode through this menu to create a full eight-speaker surround mode. See page 28 for a complete explanation of the DTS modes.

On the **LOGIC 7** menu, the selection choices made with the **◀▶ Buttons 14 39** on the remote are determined by whether the 5.1 or 6.1/7.1 channel configuration is in use. In either case, the selection of a Logic 7 mode enables Harman Kardon's exclusive Logic 7 processing to create fully enveloping, multichannel surround from either two-channel Stereo or Matrix-encoded programming such as VHS cassettes, laser discs or television broadcasts produced with Dolby surround.

## System Configuration

In the 5.1 configuration you may select the Logic 7/5.1 Music, Cinema or Enhanced modes. They work best with two-channel music, surround-encoded programs or standard two-channel programming of any type, respectively. For 6.1/7.1 configurations the Music and Cinema modes may be selected. Note that the Logic 7 modes are not available when either Dolby Digital or DTS Digital soundtracks are in use. See pages 28 and 29 for a complete explanation of the DSP Surround modes.

On the **DSP (SURR)** menu, the selection choices made with the **◀▶ Buttons 14 39** on the remote select from one of the DSP surround modes that are designed for use with two-channel stereo programs to create a variety of sound field presentations. The choices available are Hall 1, Hall 2, Theater, VMaX Near and VMaX Far. The Hall and Theater modes are designed for multichannel installations, while the two VMaX modes are optimized for use in delivering a full surround field when only the front left and front right speakers are installed. See pages 28 and 29 for a complete explanation of the DSP surround modes.

On the **STEREO** menu, the selection choices made with the **◀▶ Buttons 14 39** on the remote may either turn the surround processing off for a traditional two-channel stereo presentation, or select **5 Stereo** or **7 Stereo** depending on whether the 5.1 or 6.1/7.1 output is in use. The latter modes feed a two-channel presentation to all speakers, regardless of the number of speakers in use. See page 29 for a complete explanation of the 5 Stereo and 7 Stereo modes.

After the selections are made on the Dolby, DTS, Logic 7, DSP (Surround) or Stereo menus, press the **▲/▼ Buttons 13 16** so that the cursor moves to the **BACK TO MASTER MENU** line and press the **Set Button 15**.

### Delay Settings

Due to the different distances between the listening position for the front channel speakers and the surround speakers, the amount of time it takes for sound to reach your ears from the front versus surround speakers differs. You may compensate for this difference through the use of the delay settings to adjust the timing for the speaker placement and acoustic conditions in your listening room or home theater.

The AVR 8000's advanced software enables you to quickly and easily set delay times without the need to calculate them using a complex for-

mula. Instead, all you need to do is measure the approximate distance between your listening position and each of the speakers in your system. When you enter those distances into the AVR's memory as shown below, the AVR's microprocessor does the rest of the work, calculating the proper delay time. Note that the measurements need not be accurate to the inch, as the system is designed to accommodate a typical listening area rather than require the precise measurement to one "sweet spot" position.

Due to the differences between the way each surround mode operates, some modes allow for a greater range of delay times than others. To avoid problems, we recommend that delay times be adjusted using the Dolby Digital mode. If a different mode is selected at a later time, the AVR 8000 will automatically restrict the delay settings to those required by the surround mode in use.

To set the delay time for a specific input, the **DELAY ADJUST** menu (Figure 7) should be visible on your on-screen display. If the system is not already at that point, press the **OSD Button 22** to bring up the **MASTER MENU**, press the **▼ Button 16** three times or until the on-screen ► cursor is pointing at the **DELAY ADJUST** line. Press the **Set Button 15** to call up the menu.

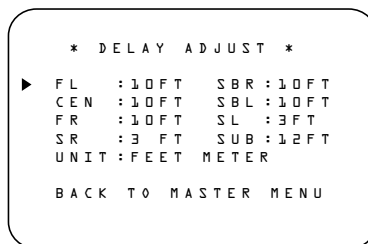


Figure 7

Once the **DELAY ADJUST** menu is on your screen note that the default setting is to enter the distances from the speakers to the listening position in feet. If your measurements are in feet, proceed to the next step; if your measurements are made in meters, press the **▼ Button 16** until the on-screen ► cursor is at the **UNIT** line on the menu. Then, press the **◀▶ Buttons 14 39** so that **METER** is highlighted. When the change in measurement units is made, press the **▲/▼ Buttons 13 16** to return the ► cursor to the **FL** position.

With the on-screen ► cursor pointing to **FL**, press the **▲/▼ Buttons 13 16** until the distance to the front left speaker is entered. Press the **▼ Button 16** to move down to the center speaker, and use the **▲/▼ Buttons 13 16** again to enter the distance. Repeat the procedure until the correct distance is entered for each speaker position by pressing the **▼ Button 16** to select the speaker and the **▲/▼ Buttons 13 16** to enter the distance. In order, the speaker positions are: Front Left, Center, Front Right, Surround Right, Surround Back Right, Surround Back Left, Surround Left and Subwoofer.

Note that when the system is configured for 5.1 operation in the **CH CONFIG** line on the **SPEAKER SETUP** menu as shown on page 21, no entry is needed for the SBR and SBL speakers, as they are not present. Similarly, if you have entered **NONE** for the Center or Surround positions on the **SPEAKER SETUP** menu, as shown on page 21, no entry will be possible or needed for that position.

When the speaker-to-listening position distance has been entered for all active speaker positions, press the **▲/▼ Buttons 13 16** until the on-screen cursor is next to **BACK TO MASTER MENU** and press the **Set Button 15**.

Note that the delay settings may be changed at any time directly from the remote control by pressing the **Delay Button 38**. **FL SPEAKER DELAY** will appear in the **Lower Display Line B**, but you may press the **▲/▼ Buttons 13 16** to select any of the individual speaker positions.

Press the **Set Button 15** when the desired speaker position appears, and then press that **▲/▼ Buttons 13 16** again to enter the distance from the speaker to the listening position. Press the **Set Button 15** again to enter the data. You may then press the **▲/▼ Buttons 13 16** to select another speaker position to repeat the procedure as needed, or wait five seconds for the system to return to normal operation.

### Output Level Adjustment

Output level adjustment is a key part of the configuration of any surround sound product. It is particularly important for a digital receiver such as the AVR 8000, as correct outputs ensure that you hear sound tracks with the proper directionality and intensity.



# System Configuration

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

Before beginning the output level adjustment process, make certain that all speaker connections have been properly made. The system volume should be set to the level that you will use during a typical listening session. While the AVR 8000 allows you to set output levels manually, we recommend that EzSet system be used when the AVR is first installed to establish the initial level settings.

## Using EzSet

Harman Kardon's exclusive EzSet remote makes it possible to quickly and accurately set the AVR 8000's output levels without the use of a sound pressure meter, although manual adjustment is also available. However, for the easiest setup, follow these steps while seated in the listening position that will be used most often:

1. Make certain that all speaker positions have been properly configured for their "large" or "small" settings (as outlined above) and turn off the OSD system if it is in use.
2. Adjust the volume so that it is at  $-1.5\text{dB}$ , as shown in the on-screen display or **Main Information Display 23**.
3. Hold the remote in front of you at arm's length, being sure not to cover the **EzSet Sensor Microphone 47** at the top of the remote.
4. Press and hold the **SPL Select Button 43** for three seconds. Release it when the **Program/SPL Indicator 3** stops flashing and remains lit. Within five seconds, press the **5 Button 13** on the remote if your system is configured for 5.1 operation with standard speakers or the

**7 Button 13** on the remote if your system is configured for 6.1/7.1 operation with a full speaker complement including rear surround speakers. Once the correct channel configuration button has been pressed the test noise will be heard from the front left speaker.

5. At this point, EzSet will take over, adjusting the output level of each channel so that when the process is complete all levels will be equal and at the set reference point. This process may take a few minutes, depending on the extent of adjustment required.

6. During the adjustment, you will see the location of the channel position being adjusted appear in the on-screen display (if connected) and in the **Main Information Display 23**, alternating with a readout of the output setting, relative to the reference volume level, and in the **Speaker/Channel Input Indicators E** where the letters for the channel being adjusted will flash to indicate from which channel the test tone should be heard. As the adjustment proceeds, a few things will happen simultaneously:

- The channel position being adjusted will flash in the **Speaker/Channel Input Indicators E**. If the test noise is heard from a channel other than the one shown in the Indicator, there is an error in the speaker connections. If this is the case, press the **Test Button 8** TWICE to stop the adjustment. Then, turn the unit off and verify that all speakers are connected to the proper **Outputs 4 5 13** and that any connections made to rear surround speakers powered by optional amplifiers through the **Surround Back Preamp Outputs 10** are correct.

- As the individual channels are set, the channel name and the adjustment offset will appear in the on-screen display (if connected) and the **Main Information Display 23**. While the level is changing, the **Program/SPL Indicator 3** will change colors to reflect the output level in relation to the reference. A red indication shows that the level is too high, while an amber indication shows that the level is too low. When the indicator is green, the level is correct, and the test noise will move to the next channel.

- While adjustments are being made, the red LED under the **AVR Selector 6** will flash. This is normal, and indicates that EzSet is operating.

7. After the test noise has circulated once through each channel, it will send the tone to each channel once again, to verify the settings.
8. After two complete circulations of the tone, the levels are set. The **Program/SPL Indicator 3** will remain green at each channel. Upon completion of the second circulation, the **Program/SPL Indicator 3** will flash green twice and then go out. The tone will stop and the AVR 8000 will return to normal operation.

If you find that the output levels chosen by EzSet are either uncomfortably low or high, you may repeat the procedure. Return to Step 2 and adjust the master volume either slightly higher or lower to accommodate your particular room layout and your tastes. You may repeat this procedure as many times as necessary to achieve a desired result. In order to prevent possible damage to your hearing or your equipment, we emphasize that you should avoid setting the master volume above 0dB.

## Manual Output Level Adjustment

Output levels may also be adjusted manually, either to set them to a specific level with an SPL meter, or to make fine tuning adjustments to the levels obtained using the EzSet remote.

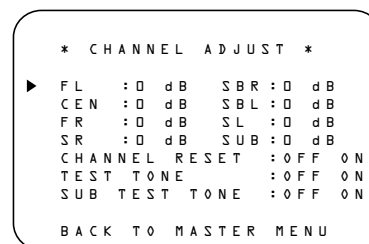


Figure 8

Manual output level adjustment is most easily done through the **CHANNEL ADJUST** menu (Figure 8). If you are already at the **MASTER MENU**, press the **▼ Button 16** until the on-screen ► cursor is next to the **CHANNEL ADJUST** line. If you are not at the **MASTER MENU**, press the **OSD Button 22** to bring up the **MASTER MENU** (Figure 1), and then press the **▼ Button 16** until the on-screen ► cursor is next to the **CHANNEL ADJUST** line.

## System Configuration

Press the **Set Button** **15** to bring the **CHANNEL ADJUST** menu (Figure 8) to the screen.

When the **CHANNEL ADJUST** menu appears, press the **▼ Button** **16** until the on-screen ► cursor is next to the **TEST TONE** line. Press the **◀/▶ Buttons** **14** **39** so that **ON** is highlighted and the AVR's internal test tone will begin to circulate from speaker to speaker in a clockwise direction into all speakers. The test noise will play for two seconds in each speaker before circulating, and a blinking on-screen cursor will appear next to the name of each speaker location when the sound is at that speaker.

**NOTE:** Remember to verify that the speakers have been properly connected. As the test noise circulates, listen to make certain that the sound comes from the speaker position shown in the **Main Information Display** **28**. If the sound from a speaker location does NOT match the position indicated in the display, turn the AVR 8000 off using the **Main Power Switch** **1** and check the speaker wiring or connections to external power amplifiers to make certain that each speaker is connected to the correct output terminal.

After checking for speaker placement, let the test noise circulate again, and listen to see which channels sound louder than the others. Using the front left speaker as a reference, press the **◀/▶ Buttons** **14** **39** on the remote to bring all speakers to the same volume level. When one of the **◀/▶** buttons is pushed, the test noise circulation will pause on the channel being adjusted to give you time to make the adjustment. When you release the button, the circulation will resume after five seconds.

Continue to adjust the individual channels until the volume level sounds the same from each speaker. Note that adjustments should be made with the **◀/▶ Buttons** **14** **39** on the remote only, NOT the main volume controls. If you are using a sound-pressure level (SPL) meter for precise level adjustment, set the volume so that the meter reads 75dB, C-Weighting Slow.

You may also adjust the output levels manually while using the level indication feature of the EzSet remote. To activate the sensor and indicator, simply press and release the **SPL Select Button** **43** on the remote while the test tone is circulating. The **Program/SPL Indicator** **3** will change color to indicate the level. Adjust the level using the **◀/▶ Buttons** **14** **39** until the

LED lights green for all channels. When it is red, the level is too high; when it is amber, the level is too low. Press the **SPL Select Button** **43** when you are finished to turn the sensor and indicator off.

**NOTE:** The Subwoofer level is not adjustable when the normal test tone is in use as proper subwoofer adjustment requires a different test tone. Instructions for adjusting the subwoofer level using the test tone follow below. The subwoofer output level may also be adjusted when the channel levels are being trimmed to a program source rather than the test tone, as shown on page 34.

When all channels have an equal volume level, the adjustment is complete. To exit this menu, press the **▲/▼ Buttons** **13** **16** until the on-screen ► cursor is next to the **BACK TO MASTER MENU** line, and then press the **Set Button** **15** to return to the **MASTER MENU**.

The output levels may also be adjusted at any time using the remote control and semi-OSD system. To adjust the output levels in this fashion, press the **Test Button** **8**. As soon as the button is pressed, the test tone will begin to circulate as indicated earlier. The correct channel from which the test noise should be heard will be shown in the lower third of the video screen and in the **Lower Display Line** **5**. While the test noise is circulating, the proper channel position will also be indicated in the **Speaker/Channel Input Indicators** **5** by a blinking letter within the correct channel.

To adjust the output level, press the **▲/▼ Buttons** **13** **16** until the desired level is shown in the display or on screen. Once the buttons are released, the test noise will begin to circulate again in five seconds.

When all channels have the same output level, press the **Test Button** **8** again to complete the process.

**NOTE:** Output level adjustment is not available for the VMaX or Surround Off modes.

### Additional Input Adjustments

After one input has been adjusted for Surround mode, digital input (if any), speaker type, and output levels, go back to the **IN/OUT SETUP** line on the **MASTER MENU** and enter the settings for each input that you will use. In most cases, only the digital input and

surround mode will be different from one input to the next, while the speaker type, crossover frequency, Night mode and output level settings will usually be the same and may be quickly entered by entering the same data used for the original input.

### Bass Peak Limiter

The AVR 8000 includes a bass peak level limiter as part of the THX Ultra program to protect your subwoofer from being damaged by excessive levels. Note that if you are using full range front left/right speakers instead of a conventional subwoofer, the settings for the Bass Peak Limiter will apply to those speakers.

To set the Bass Peak Limiter you must be at the **BASS PEAK LEVEL** menu (Figure 9). If that menu is not on the screen, press the **OSD Button** **22** and then press the **▼ Button** **16** until the on-screen ► cursor is next to **BASS PEAK LEVEL**. Press the **Set Button** **15** to display that menu.

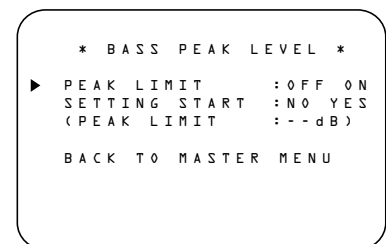


Figure 9

If you wish to use the Limiter, press the **◀/▶ Buttons** **14** **39** so that **ON** is highlighted while the on-screen ► cursor is at the **PEAK LIMIT** line. Next, press the **▼ Button** **16** once so that the cursor is on the **SETTING START** line. Press the **◀/▶ Buttons** **14** **39** so that **YES** is highlighted to start the processing of setting the peak level. Note that the menu will change to provide additional instructions as shown in Figure 10.

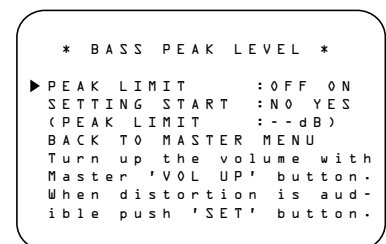







Figure 10

## System Configuration

As indicated in the menu, when you start the process a special test tone will be heard through the subwoofer or front/left right speakers, depending on your system's configuration. Press the **Volume Up Button**  until the sound from the subwoofer or front speakers' low-frequency drivers sounds distorted or crackly. At that point IMMEDIATELY press the **Set Button** .

At this point the maximum setting will be entered and the test noise will stop. Press the **▲/▼ Buttons**   so that the on-screen ► cursor is next to **BACK TO MASTER MENU**. Press the **Set Button**  to return to the **MASTER MENU**.

When all settings and adjustments have been made, press the **OSD Button**  to return to normal operation of the AVR.

Once the settings outlined on the previous pages have been made, the AVR 8000 is ready for operation. While there are some additional settings to be made, these are best done after you have had an opportunity to listen to a variety of sources and different kinds of program material. These advanced settings are described on pages 36 to 37 of this manual. In addition, any of the settings made in the initial configuration of the unit may be changed at any time. As you add new or different sources or speakers, or if you wish to change a setting to better reflect your listening taste, simply follow the instructions for changing the settings for that parameter as shown in this section.

Having completed the setup and configuration process for your AVR 8000, you are about to experience the finest in music and home theater listening. Enjoy!

# Operation

## Surround Mode Chart

MODE	FEATURES
DOLBY DIGITAL	Available only with digital input sources encoded with Dolby Digital data. It provides up to five separate main audio channels and a special dedicated Low Frequency Effects channel.
DTS 5.1	When the speaker configuration is set for 5.1-channel operation, the DTS 5.1 mode is available when DVD, audio-only music or laser discs encoded with DTS data are played. DTS 5.1 provides up to five separate main audio channels and a special dedicated low-frequency channel.
DTS-ES 6.1 Matrix DTS-ES 6.1 Discrete	When the speaker configuration is set for 6.1/7.1 operation, playback of a DTS-encoded program source will automatically trigger the selection of one of the two DTS-ES modes. Newer discs with special DTS-ES discrete encoding will be decoded to provide six discrete, full-bandwidth channels plus a separate low-frequency channel. All other DTS discs will be decoded using the DTS-ES Matrix mode, which creates a 6.1-channel sound field from the original 5.1-channel soundtrack.
DOLBY PRO LOGIC II MOVIE MUSIC EMULATION	Dolby Pro Logic II is the latest version of Dolby Laboratory's benchmark surround technology that decodes full-range, discrete left, center right, right surround and left surround channels from either matrix surround-encoded programs or conventional stereo sources when an analog input is in use. The Dolby Pro Logic II Movie mode is optimized for movie soundtracks, while the Pro Logic II Music mode should be used with musical selections. The Pro Logic II Emulation mode provides a sound field that is identical to the original Dolby Pro Logic mode for those who prefer that sonic presentation.
Logic 7 Cinema Logic 7 Music Logic 7 Enhance	Exclusive to Harman Kardon for A/V receivers, Logic 7 is an advanced mode that extracts the maximum surround information from either surround-encoded programs or conventional stereo material. Depending on the number of speakers in use and the selection made in the <b>SURROUND SELECT</b> menu, the "5.1" versions of Logic 7 modes are available when the 5.1 option is chosen, while the "7.1" versions of Logic 7 produce a full sound field presentation, including back surround speakers when the "6.1/7.1" option is chosen. The Logic 7 C (or Cinema) mode should be used with any source that contains Dolby Surround or similar matrix encoding. Logic 7 C delivers increased center channel intelligibility, and more accurate placement of sounds with fades and pans that are much smoother and more realistic than with other decoding techniques. The Logic 7 M or Music mode should be used with analog or PCM stereo sources. Logic 7 M enhances the listening experience by presenting a wider front soundstage and greater rear ambience. Both Logic 7 modes also direct low-frequency information to the subwoofer (if installed and configured) to deliver maximum bass impact. The Logic 7 E (or Enhance) mode is an extension of Logic 7 for 5.1 configurations only and is primarily used with musical programs. Logic 7 adds additional bass enhancement that circulates low frequencies in the 40Hz to 120Hz range to the front and surround speakers to deliver a less localized soundstage that appears broader and wider than when the subwoofer is the sole source of bass energy.
THX Ultra	The THX Ultra modes use special patented circuits and techniques developed by Lucasfilm, Ltd, and they are available only in THX-licensed products. Compatible with both digital sources using either Dolby Digital or DTS technology, or traditional analog soundtracks, THX Ultra compensates for the differences between a movie theater and a home listening room to make it possible for your home theater to best allow you to hear movie soundtracks the way a film's sound designers intended them to be heard. When an analog source is in use, THX processing may be selected to enhance the presentation of matrix surround-encoded programs with either Dolby Pro Logic II or DTS Neo:6 as the basic surround processor. When a digital source is in use, the proper THX 5.1 or 7.1 mode will be selected, depending on the speaker configuration in your system. For 7.1 systems, THX Surround EX is available with Dolby Digital sources to create rear surround channels using specially encoded information within a movie's soundtrack for the ultimate cinema sound experience.
DTS Neo:6 Cinema DTS Neo:6 Music	These two modes are available when any analog source is playing to create a six-channel surround presentation from conventional Matrix-encoded and traditional Stereo sources. Select the Cinema version of Neo:6 when a program with any type of analog Matrix surround encoding is present. Select the Music version of Neo:6 for optimal processing when a nonencoded, two-channel stereo program is being played. Once the DTS Neo:6 Cinema mode is selected, you may also add THX processing by pressing the THX Button on the front panel or remote.
DOLBY 3 STEREO	Uses the information contained in a surround-encoded or two-channel stereo program to create center channel information. In addition, the information that is normally sent to the rear channel surround speakers is carefully mixed in with the front-left and front-right channels for increased realism. Use this mode when you have a center channel speaker but no surround speakers.
THEATER	The THEATER mode creates a sound field that resembles the acoustic feeling of a standard live performance theater.
HALL 1 HALL 2	The two Hall modes create sound fields that resemble a small (HALL1) or medium-sized (HALL 2) concert hall.

# Operation

MODE	FEATURES
VMAx Near VMAx Far	When only the two front channel loudspeakers are used, Harman's patented VMAx mode delivers a three-dimensional sound space with the illusion of "phantom speakers" at the center and surround positions. The VMAx N, or "Near Field," mode should be selected when your listening position is less than five feet from the speakers. The VMAx F, or "Far Field," mode should be selected when your listening position is greater than five feet from the speakers. The VMAx modes are also available using the <b>Headphone Jack 4</b> . When headphones are being used, the Far Field mode will appear to push the sound field away from your ears, reducing the "inside the head" sensation often experienced when using headphones.
5-Channel Stereo 7-Channel Stereo	This mode takes advantage of multiple speakers to place a stereo signal at both the front and back of a room. Depending on whether the AVR has been configured for either 5.1 or 6.1/7.1 operation, one of these modes, but not both, is available at any time. Ideal for playing music in situations such as a party, it places the same signal in this mode at the front-left and surround-left, and front-right and surround-right speakers. The center channel is fed a summed mono mix of the in-phase material of the left and right channels.
SURROUND OFF (STEREO)	This mode turns off all surround processing and presents the pure left- and right-channel presentation of two-channel stereo programs.

## NOTES ON SURROUND MODE SELECTION:

- The choice of available surround modes will vary depending on the type of input signal. For example, when a Dolby Digital source is playing it is not possible to use the DTS Neo:6 process.
- The choice of available surround modes will also vary depending on whether a two-channel, 5.1-channel or 6.1/7.1-channel speaker configuration is selected. For example, Logic 7 Enhanced is not available with 7.1 operation, while THX Surround EX is not available with DTS-ES Discrete sources.
- In some cases it is possible to combine surround mode techniques. For example, you may select THX or Logic 7 processing with a Dolby Digital, DTS or analog input source. However, you may not combine DTS-ES 6.1 source material with Logic 7 processing.
- No surround mode processing is available when an HDCD or MP3 source is being decoded.

# Operation

## Basic Operation

Once you have completed the initial setup and configuration of the AVR 8000, it is simple to operate and enjoy. The following instructions will help you maximize the enjoyment of your new receiver:

### Turning the AVR 8000 On or Off

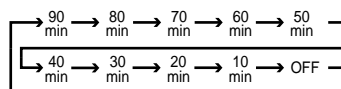
- When using the AVR 8000 for the first time, you must press the **Main Power Switch 1** on the front panel to turn the unit on. This places the unit in a Standby mode, as indicated by the amber color of the **Power Indicator 3**. Once the unit is in Standby, you may begin a listening session by pressing the **System Power Control 2** on the front panel, or the **Power On Button 4** or **AVR Selector 6** on the remote. Note that the **Power Indicator 3** will turn green. This will turn the unit on and return it to the input source that was last used. The unit may also be turned on from Standby by pressing any of the **Input Selector Buttons 5 6 7 45** **B C D** on the remote or the **Input Source Selector Button 15** on the front panel.

**NOTE:** After pressing one of the **Input Selector Buttons 5 7 45** to turn the unit on, press the **AVR Selector 6** to set the remote control to the AVR 8000 functions.

To turn the unit off at the end of a listening session, simply press the **System Power Control 2** on the front panel or the **Power Off Button 1 A** on the remote. Power will be shut off to any equipment plugged into the rear panel **Switched AC Outlet 17** and the **Power Indicator 3** will turn amber.

When the remote is used to turn the unit "off" it is actually placing the system in a Standby mode, as indicated by the amber color of the **Power Indicator 3**.

- To program the AVR 8000 for automatic turn-off, press the **Sleep Button 9** on the remote. Each press of the button will decrease the time before shut-down in the following sequence:



The sleep time will be displayed in the **Lower Display Line B** and it will count down until the time has elapsed.

When the programmed sleep time has elapsed, the unit will automatically turn off. Note that the front panel display will dim to one half

brightness when the Sleep function is programmed. To cancel the Sleep function, press and hold the **Sleep Button 9** until the information display returns to normal brightness; the Sleep indicator numbers will disappear and the words **SLEEP OFF** will appear in the **Lower Display Line B**.

When you will be away from home for an extended period of time it is always a good idea to completely turn the unit off with the front panel **Main Power Switch 1**.

**NOTE:** All preset memories are lost if the unit is left turned off by using the **Main Power Switch 1** for more than two weeks.

### Source Selection

- To select a source, press any of the **Input Selector Buttons 5 7 45 C D** on the remote.

- The input source may also be changed by pressing the front panel **Input Source Selector Button 15**. Each press of the button will move the input selection through the list of available inputs.

- As the input is changed, the AVR 8000 will automatically switch to the digital input (if selected), surround mode, speaker configuration, output levels, crossover frequency and night mode status that were entered during the configuration process for that source.

- The front panel **Video 5 Inputs 22**, **Optical Digital 4 Input 17** or the **Coaxial Digital 4 Input 19** may be used to connect a device such as a video game or camcorder to your home entertainment system on a temporary basis.

- As the input source is changed, the new input name will appear momentarily as an on-screen display in the lower third of the video display. The input name will also appear in the **Main Information Display 23** and a green LED will light next to the selected input's name in the front-panel **Input Indicators 27**.

- When an audio source is selected, the last video input used remains routed to the **Video 1/ Video 2 Outputs 33** and **Video Monitor Outputs 34**. This permits simultaneous viewing and listening to different sources.

- When a composite or S-Video source is selected, the video signal for that input will be routed to the **Video Monitor Output 34** and will be viewable on a TV monitor connected to the AVR 8000.

### Volume Control

- Adjust the volume to a comfortable level using the front panel **Volume Control 26** or remote **Volume Up/Down 42** **⬆** buttons.

- To temporarily silence all speaker outputs, press the **Mute Button 46 K**. This will interrupt the output to all speakers and the headphone jack, but it will not affect any recording or dubbing that may be in progress. When the system is muted, the word **MUTE** will flash in the **Main Information Display 28**. Press the **Mute Buttons 46 K** again to return to normal operation.

- During a listening session, you may turn the tone controls for the front left/right speakers off or adjust the bass and treble settings using remote control, rather than the front panel knobs used on many audio products. To adjust the tone settings, first press the **Tone Mode Button 29**. The first press of this button shows if the tone controls are active or not. When the default setting of **TONE IN** appears, press the **▲/▼ Buttons 13 16** so that **TONE OUT** appears on the **Lower Display Line B** and in the semi-OSD display. To adjust the Bass or Treble settings, press the **Tone Mode Button 29** until the current Bass or Treble status appears in the **Lower Display Line B** and then press the **▲/▼ Buttons 13 16** to raise or lower the settings. When all tone mode adjustments are complete, simply wait a few seconds until the display returns to normal operation as your indication that the settings have been accepted by the AVR's memory. Note that the tone controls only change the output for the front left/right speakers.

- For private listening, plug the 1/4" stereo phone plug from a pair of stereo headphones into the front panel **Headphone Jack 4**. Note that when the headphone's plug is connected, the word **HEADPHONE** will scroll once across the **Lower Display Line B** and all speakers will be silenced. When the headphone plug is removed, the audio feed to the speakers will be restored.

### Surround Mode Selection

One of the most important features of the AVR 8000 is its ability to reproduce a full multichannel surround sound field from digital sources, analog matrix surround-encoded programs and standard stereo programs.

Selection of a surround mode is based on personal taste, as well as the type of program source material being used. For example, motion

## Operation

pictures or TV programs bearing the logo of one of the major surround-encoding processes, such as Dolby Surround, DTS Stereo or UltraStereo® may be played in either the Dolby Digital, Dolby Pro Logic II Cinema, DTS Neo:6 Cinema, or Logic 7 Cinema surround modes depending on the source material. In addition, the THX mode may be used with both analog and digital soundtracks to provide optimal reproduction.

**NOTE:** Once a program has been encoded with matrix surround information, it retains the surround information as long as the program is broadcast in stereo. Thus, movies with surround sound may be decoded via any of the analog surround modes such as Pro Logic II Cinema, Logic 7 Cinema or DTS Neo:6 Cinema, when they are broadcast via conventional TV stations, cable, pay-TV and satellite transmission. In addition, a growing number of made-for-television programs, sports broadcasts, radio dramas and music CDs are also recorded in surround sound. You may view a list of these programs at the Dolby Laboratories Web site at [www.dolby.com](http://www.dolby.com).

Even when a program is not listed as carrying intentional surround information, you may find that the Pro Logic II, Logic 7 Enhanced or DTS Neo:6, VMaX and the Hall or Theater modes often deliver enveloping surround presentations through the use of the natural information present in all stereo recordings.

Surround modes are selected using either the front panel controls or the remote. To select a surround mode, first determine which of the surround mode categories you wish to choose from and press the button corresponding to that category: **Dolby Mode** **23** **5**, **DTS Surround** **24** **25** for digital sources, **DTS Neo:6** **22** **23** for analog sources, **Logic 7** **31** **7**, **DSP** **10** **9** modes or **Stereo** **30** **14**.

As you press any of the **Mode Select Buttons** **23** **24** **30** **31** **22** **5** **7** **14** **23** **25** (except the **Surround Mode Selector** **10** as noted below) the surround mode name will appear in the **Main Information Display** **28** and in the on-screen display.

As the surround modes change, a green LED will light next to the current mode in the **Surround Mode Indicators** **30** list on the front panel.

The Dolby Digital and DTS 5.1, DTS-ES Matrix and DTS-ES Discrete modes may only be selected when a digital input is in use. In addition, when a digital source is present, the AVR 8000

will automatically select and switch to the correct mode, regardless of the mode that has been previously selected. For more information on selecting digital sources, see the Digital Audio Playback section below.

The THX modes involve specialized postprocessing techniques that optimize the audio signals after they have been decoded. Thus, when selecting a THX mode, the AVR will automatically examine the signal to see whether it is analog or digital and apply Dolby Digital or DTS decoding if needed. The special THX circuits will then be activated. To select a THX mode, press the **THX Mode Select Button** **25** **6** and the proper THX mode for the active input will be activated.

When the 6-Channel/8-Channel direct inputs are in use there is no surround processing, as these inputs take the analog output signals from an optional, external DVD-Audio or SACD player, or another source device and carry them straight through to the volume control without any further digital processing.

To listen to a program in traditional two-channel stereo, using the front left and front right speakers only (plus the subwoofer, if installed and configured), press the **Stereo Button** **30** **14** until **SURR OFF** appears in the **Main Information Display** **28**.

### Digital Audio Playback

Digital audio is a major advancement over older analog surround processing systems such as Dolby Pro Logic. It delivers five discrete channels: left front, center, right front, left surround and right surround. Each channel reproduces full frequency range (20Hz to 20kHz) and offers dramatically improved dynamic range and significant improvements to signal-to-noise ratios. In addition, digital systems have the capability to deliver an additional channel that is specifically devoted to low-frequency information. This is the ".1" channel referred to when you see these systems described as "5.1," "6.1" or "7.1". The bass channel is separate from the other channels, but since it is intentionally bandwidth-limited, sound designers have given it that unique designation.

### Dolby Digital

Dolby Digital is a standard part of DVD, and is available on specially encoded LD discs and satellite broadcasts and it is a part of the new high-definition television (HDTV) system.

Note that an optional, external RF demodulator is required to use the AVR 8000 to listen to the

Dolby Digital soundtracks available on laser discs. Connect the RF output of the LD player to the demodulator and then connect the digital output of the demodulator to the **Optical** or **Coaxial Inputs** **17** **19** **21** **24** of the AVR 8000. No demodulator is required for use with DVD players or DTS-encoded laser discs.

### DTS

DTS is another digital audio system that is capable of delivering 5.1 or 6.1 discrete or matrix sound field reproduction. Although both DTS and Dolby Digital are digital, they use different methods of encoding the signals, and thus they require different decoding circuits to convert the digital signals back to analog.

DTS-encoded soundtracks are available on select DVD and LD discs, as well as on special audio-only DTS discs. You may use any LD or CD player equipped with a digital output to play DTS-encoded discs with the AVR 8000. All that is required is to connect the player's output to either an **Optical** or **Coaxial Input** on the rear panel **21** **24** or front panel **17** **19**.

In order to listen to DVDs encoded with DTS soundtracks, the DVD player must be compatible with the DTS signal as indicated by a DTS logo on the player's front panel. Early DVD players may not be able to play DTS-encoded DVDs. This does not indicate a problem with the AVR 8000, as some players cannot pass the DTS signal through to the digital outputs. If you are in doubt as to the capability of your DVD player to handle DTS discs, consult the player's owner's manual.

### Selecting a Digital Source

To utilize either digital mode, you must have properly connected a digital source to the AVR 8000. Connect the digital outputs from DVD players, HDTV receivers, satellite systems or CD players to the **Optical** or **Coaxial Inputs** **17** **19** **21** **24**. In order to provide a backup signal and a source for analog stereo recording, the analog outputs provided on digital source equipment should also be connected to their appropriate inputs on the AVR 8000 rear panel (e.g., connect the analog stereo audio output from a DVD to the **DVD Audio Inputs** **25** on the rear panel when you connect the source's digital outputs).

If you have not already configured an input for a digital source using the on-screen menus as shown on page 20, first select the input using the remote or front panel controls as outlined in this manual. Next, select the digital source

## Operation

by pressing the **Digital Select Button** **17** **24** and then using the **▲/▼ Buttons** **13** **15** on the remote or the **Selector Buttons** **7** **14** on the front panel to choose any of the **OPTICAL** or **COAXIAL** inputs, as they appear in the **Upper Display Line A** or on-screen display. When the digital source is playing, the AVR 8000 will automatically detect which type of digital data stream is being decoded and display that information in the **Upper Display Line A**.

### Digital Bitstream Indicators

When a digital source is playing, the AVR 8000 senses the type of bitstream data that is present. Using this information, the correct surround mode will automatically be selected. For example, DTS bitstreams will cause the unit to switch to DTS decoding, and Dolby Digital bitstreams will enable Dolby Digital decoding. When the unit senses PCM data from CDs and LDs, it will allow the appropriate surround sources to be selected manually. Since the range of available surround modes is dependent on the type of digital data that is present, the AVR 8000 uses a variety of indicators to let you know what type of signal is present. This will help you to understand the choice of modes.

To help you see which type of digital source is playing, the **Surround Mode Indicators** **30** also serve as bitstream indications to show which type of bitstream is present, as well as the surround mode in use, if applicable.

**Dolby Digital:** When the green LED next to the Dolby Digital logo is lit, a Dolby Digital bitstream is being received. Depending on the settings on the source player and specific surround information and number of channels on the disc, a number of surround modes are possible. For discs with full 5.1 audio, only the Dolby Digital and VMAX modes are available.

**DTS:** When the green LED next to the DTS logo lights, a DTS bitstream is being received. When the unit senses this type of data, only the applicable DTS mode may be used.

**PCM:** When the green LED next to the word **DIGITAL** lights, a standard Pulse Code Modulation, or PCM, signal is being received. This is the type of digital audio used by conventional compact disc and laser disc recordings. When a PCM bitstream is present, all modes except Dolby Digital and DTS are available.

**HDCD:** When the green LED next to the letters **HDCD** is lit in conjunction with the PCM indicator, the CD that is playing is encoded through the special High Definition Compatible Digital® process. HDCD® discs use 20-bit encoding and other proprietary processing to provide the ultimate in CD listening. Note that HDCD processing is only available in the Stereo (Surround Off) mode.

**MP3:** When the green LED next to **MP3** is lit, a compatible MPEG 1/Layer 3 digital signal is being received. This is the popular audio format used by many computer programs for recording compressed audio files. When an MP3 bitstream is present, the sound will automatically be played in the Stereo (Surround Off) mode. The surround modes are not available during MP3 playback. Note that there are many different forms of MP3 encoding available and the format is used at a number of different bit rates. The AVR 8000 may not be compatible with all forms of MP3, particularly when the data file is encoded at 128 kb/s or above.

### Speaker/Channel Indicators

In addition to the bitstream indicators, the AVR 8000 features a set of unique channel-input indicators that tell you how many channels of digital information are being received and/or whether the digital signal is interrupted. (See Figure 11.)

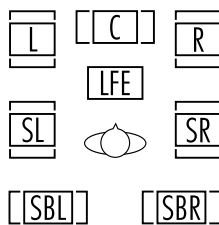


Figure 11

These indicators are the **L/C/R/LFE/SL/SR/SBL/SBR** letters that are inside the center boxes of the **Speaker/Channel Input Indicators** **E** in the front panel **Main Information Display** **23**. When a standard analog signal is in use, only the "L" and "R" indicators will light, as analog signals have only left and right channels.

Digital signals, however, may have two, five, six or seven separate channels, depending on the program material, the method of transmission and the way in which it was encoded. When a digital signal is playing, the letters in these indi-

cators will light in response to the specific signal being received. It is important to note that although Dolby Digital, for example, is referred to as a "5.1" system, not all Dolby Digital DVDs or programs are encoded for 5.1. Thus, it is sometimes normal for a DVD with a Dolby Digital soundtrack to trigger only the "L" and "R" indicators.

**NOTE:** Many DVD discs are recorded with both "5.1" and "2.0" versions of the same soundtrack. When playing a DVD, always be certain to check the type of material on the disc. Most discs show this information in the form of a listing or icon on the back of the disc jacket. When a disc does offer multiple soundtrack choices, you may have to make some adjustments to your DVD player (usually with the "Audio Select" button or in a menu screen on the disc) to send a full 5.1 feed to the AVR 8000. It is also possible for the type of signal feed to change during the course of a DVD playback. In some cases, the previews of special material will only be recorded in 2.0 audio, while the main feature is available in 5.1 audio. The AVR 8000 will automatically sense changes to the bitstream and channel count and reflect them in these indicators.

The letters used by the **Speaker/Channel Input Indicators** **E** also flash to indicate when a bitstream has been interrupted. This will happen when a digital input source is selected before the playback starts, or when a digital source such as a DVD is paused. The flashing indicators remind you that the playback has stopped due to the absence of a digital signal and not through any fault of the AVR 8000. This is normal, and the digital playback will resume once the playback is started again.

### Night Mode

A special feature of Dolby Digital is the Night mode, which enables specially encoded Dolby Digital input sources to be played back with full digital intelligibility while reducing the minimum peak level by  $\frac{1}{4}$  to  $\frac{1}{3}$ . This prevents abruptly loud transitions from disturbing others, without reducing the impact of the digital source. The Night mode is available only when Dolby Digital signals with special data are being played.

The Night mode may be engaged when a Dolby Digital DVD is playing by pressing the **Night**

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# Operation

**Mode Button** **11** on the remote. Next, press the **▲/▼ Buttons** **13** **16** to select either the middle range or full compression versions of the Night mode. To turn the Night mode off, press the **▲/▼ Buttons** **13** **16** until the message in the lower third of the video display and in the **Lower Display Line** **B** reads **D - RANGE OFF**.

The Night mode may also be selected to always be on at either level of compression using the options in the **DOLBY** menu. See page 23 for information on using the menus to set this option.

## IMPORTANT NOTES ON DIGITAL PLAYBACK:

- When the digital playback source is stopped, or in a pause, fast forward or chapter search mode, the digital audio data will momentarily stop, and the channel position letters inside the **Speaker/Channel Input Indicators** **E** will flash. This is normal and does not indicate a problem with either the AVR 8000 or the source machine. The AVR 8000 will return to digital playback as soon as the data is available and when the machine is in a standard play mode.

- Although the AVR 8000 will decode virtually all DVD movies, CDs and HDTV sources, it is possible that some future digital sources may not be compatible with the AVR 8000.

- Note that not all digitally encoded programs contain full 5.1 or 6.1 channel audio. Consult the program guide that accompanies the DVD or laser disc to determine which type of audio has been recorded on the disc. The AVR 8000 will automatically sense the type of digital surround encoding used and adjust to accommodate it.

- When a digital source is playing, you may not be able to select some of the analog surround modes such as Dolby Pro Logic II, Dolby 3, Stereo, Hall, Theater or Logic 7.

- When a Dolby Digital or DTS source is playing, it is not possible to make an analog recording using the **Tape** **3** and **Video 1** or **Video 2 Outputs** **33**. However, the digital signals will be passed through to the **Digital Audio Outputs** **20****23****18****20**.

## PCM Audio Playback

PCM (Pulse Code Modulation) is the noncompressed digital audio system used for compact discs and laser discs. It is also the format used as an output by audio transcoders such as the Harman Kardon DAL 150. The digital circuits in the AVR 8000 are capable of high-quality digital-to-analog decoding, and they may be connected directly to the digital audio output of your CD or LD player.

Connections may be made to either the rear panel **Optical** or **Coaxial Inputs** **24****21** or the front panel **Digital Inputs** **17****19**.

To listen to a PCM digital source, first select the input for the desired source (e.g., CD). Next press the **Digital Select Button** **24** **17** and then use the **▲/▼ Buttons** **13** **16** on the remote, or the **Selector Buttons** **7****14** on the front panel, until the desired choice appears in the **Main Information Display** **28**.

During PCM playback, you may select any Surround mode except Dolby Digital or DTS. When an HDCD-encoded disc is being played and the DVD or CD player is connected to the AVR 8000 via a digital connection, select Surround Off as the Surround mode to enjoy the benefits of the HDCD process.

## MP3 Audio Playback

The AVR 8000 is one of the few receivers equipped for onboard decoding for the MP3 audio format used by computers and portable audio devices. Also, some new CD players are capable of playing back optical discs that are recorded with MP3, rather than standard CD audio information. By offering MP3 decoding, the AVR 8000 is able to deliver precise conversion of the digital signals to an analog output, along with the benefits of listening to the MP3 audio through the AVR 8000's high-current amplifier and the speakers from your surround system, rather than the smaller speakers and low-powered amplifiers typically used with computers.

To take advantage of the AVR 8000's MP3 capabilities, simply connect the PCM output of a computer's sound card or the PCM output of a portable digital audio device to either the rear panel **Digital Inputs** **21****24** or the front panel **Digital Inputs** **17****19**. When the digital signal is available, the green LED next to the MP3 indication in the **Surround Mode Indicators** **30** will light, and the audio will begin playing.

## NOTES:

- The AVR 8000 is only capable of playing signals in the MP3 (MPEG 1/Layer 3) format. It is not compatible with other computer audio codecs.
- The digital audio input signal may be either optical or coaxial, but the signal must be in the PCM format. Direct connection of USB or serial data outputs is not possible, even though the signals are in the MP3 format. If you have any questions about the data output format from your computer or a sound card, check with the device's owner's manual or contact the manufacturer's technical support area.
- If your computer or sound card's digital output is not capable of direct connection to the AVR 8000, you may use an optional, external transcoder, such as those available from Harman Kardon, to convert the USB output of a computer to a format compatible with the AVR. Contact your Harman Kardon dealer for additional details.
- Due to the wide variation in MP3 formats and encoding speeds, it is possible that the AVR 8000 may not be compatible with all MP3 input signals. Some may produce unacceptable results and some may not be decoded. This is not a fault of either the computer or the AVR 8000, but rather a by-product of the unpredictable nature of MP3 playback.

## Tuner Operation

The AVR 8000's tuner is capable of tuning AM, FM and FM Stereo broadcast stations. Stations may be tuned manually, or they may be stored as favorite station presets and recalled from a 30-position memory.

### Station Selection

1. Press the **AM/FM Tuner Select Button** **7** **C** on the remote to select the tuner as an input. The tuner may be selected from the front panel by either pressing the **Input Source Selector** **15** until the tuner is active or by pressing the **Tuner Band Selector** **11** at any time.

2. Press the **AM/FM Tuner Select Button** **7** **C** or **Tuner Band Selector** **11** again to switch between AM and FM so that the desired frequency band is selected.

# Operation

3. Press the **FM Mode 16** or **Tuner Mode Button 19** to select manual or automatic tuning.

When the **AUTO Indicator J** is illuminated in the **Main Information Display 28** the tuner will only stop at those stations that have a strong enough signal to be received with acceptable quality.

When the **AUTO Indicator J** is not lit, the tuner is in a manual mode and will stop at each frequency increment in the selected band.

4. To select stations, press the **Tuning Selector Button 10 21 E**. When the **AUTO Indicator J** is illuminated, press the button for two seconds and then release to cause the tuner to search for the next highest or lowest frequency station that has an acceptable signal. When tuning FM stations in the Auto mode, the tuner will only select stereo stations. To tune to the next station, press the button again. If the **STEREO Indicator H** is not lit, tap the **Tuning Selector Button 10 21 E** to advance one frequency increment at a time, or press and hold it to locate a specific station. When the **TUNED Indicator I** lights, the station is properly tuned and should be heard with clarity.

5. Stations may also be tuned directly by pressing the **Direct Button 20**, and then pressing the **Numeric Keys 18** that correspond to the station's frequency. The desired station will automatically be tuned. If you press an incorrect button while entering a direct frequency, press the **Clear Button 36** to start over.

**NOTE:** When the FM reception of a station is weak, audio quality will be increased by switching to Mono mode by pressing the **FM Mode Button 16 19** until the **STEREO Indicator H** goes out.

### Preset Tuning

Using the remote, up to 30 stations may be stored in the AVR 8000's memory for easy recall using the front panel controls or the remote.

To enter a station into the memory, first tune the station using the steps outlined above. Then:

1. Press the **Memory Button 37** on the remote. Note that the **MEMORY Indicator G** will be illuminated and flash in the **Main Information Display 28**.

2. Within five seconds, press the **Numeric Keys 18** corresponding to the location where you wish to store this station's frequency. Once entered, the preset number will appear in the **Main Information Display 28**.

3. Repeat the process after tuning any additional stations to be preset.

### Recalling Preset Stations

- To manually select a station previously entered in the preset memory, press the **Numeric Keys 18** that correspond to the desired station's memory location.

- To manually tune through the list of stored preset stations one by one, press the **Preset Stations Selector Buttons 13 35 G** on the front panel or remote.

### Tape Recording

In normal operation, the audio or video source selected for listening through the AVR 8000 is sent to the record outputs. This means that any program you are watching or listening to may be recorded simply by placing machines connected to the outputs for **Tape Outputs 3** or **Video 1/Video 2 Outputs 33** in the record mode.

When a digital audio recorder is connected to the **Digital Audio Outputs 20 23 13 20**, you are able to record the digital signal using a CD-R, MiniDisc or other digital recording system.

### NOTES:

- The digital outputs are active only when a digital signal is present, and they do not convert an analog input to a digital signal, or change the format of the digital signal. In addition, the digital recorder must be compatible with the output signal. For example, the PCM digital input from a CD player may be recorded on a CD-R or MiniDisc, but Dolby Digital or DTS signals may not.

- Please make certain that you are aware of any copyright restrictions on any material you copy. Unauthorized duplication of copyrighted materials is prohibited by federal law.

### Front Panel Connections

In addition to the rear panel digital outputs, the AVR 8000 offers Harman Kardon's exclusive configurable front panel output jack feature. For easy connection of portable devices, you may

switch the front panel **Video 5 Jacks 22** from an input to an output by following these steps:

1. Press the **OSD Button 22** to view the **MASTER MENU** (Figure 1).
2. Press the **Set Button 15** to enter the **IN/OUT SETUP** menu (Figure 2).
3. Press the **▼ Button 16** so that the on-screen **►** cursor is next to **VIDEO 5**.
4. Press the **Set Button 15** and then press either of the **◀/▶ Buttons 14/ 39** so that the word **OUT** is highlighted.
5. Press the **Set Button 15** to enter the change.
6. Press the **OSD Button 22** to exit the menus and return to normal operation.

Note that once the setting is made, the **Input/Output Status Indicator 21** will turn red, indicating that the jacks are now an output, instead of in the default setting as an input. Once changed to an output, the setting will remain as long as the AVR 8000 is turned on, unless the setting is changed in the OSD menu system, as described above. Note, however, that once the AVR 8000 is turned off, the setting is cancelled. When the unit is turned on again, the front panel jacks will return to their normal default setting as an input. If you wish to use their jacks as an output at a future time, the setting must be changed again using the OSD menu system, as described above.

### Output Level Trim Adjustment

Normal output level adjustment for the AVR 8000 is established using the test tone, as outlined on pages 24 through 26. In some cases, however, it may be desirable to adjust the output levels using program material such as a test disc, or a selection you are familiar with. Additionally, the output level for the subwoofer can only be adjusted using this procedure.

To adjust the output levels using program material, first set the reference volume for the front left and front right channels using the **Volume Control 26 42 1**.

If you are using a disc with test signals or an external signal generator as the source from which to trim the output levels, you may use the EzSet feature of the remote to guide you to the correct SPL level. To use the remote for

## Operation

this purpose, press and quickly release the **SPL Select Button** 43 to activate the sensor. While the test tone is circulating, the **Program/SPL Indicator** 3 will change color to indicate the level. Adjust the level as shown above until the LED lights green for all channels. When it is red the level is too high; when it is amber the level is too low. Press the **SPL Select Button** 43 to turn the sensor and indicator off.

Once the reference level has been set, press the **Channel Select Button** 12 and note that **FRONT L LEV** will appear in the **Main Information Display** 23. To change the level, first press the **Set Button** 15, and then use the **▲/▼ Buttons** 13 16 to raise or lower the level. DO NOT use the volume control, as this will alter the reference setting.

Once the change has been made, press the **Set Button** 15 and then press the **▲/▼ Buttons** 13 16 to select the next output channel location that you wish to adjust. To adjust the subwoofer level, press the **▲/▼ Buttons** 13 16 until **W00FER LEV** appears in the **Main Information Display** 23 or on-screen display.

Repeat the procedure as needed until all channels requiring adjustment have been set. When all adjustments have been made and no further adjustments are made for five seconds, the AVR 8000 will return to normal operation.

The channel output for any input may also be adjusted using the full-OSD on-screen menu system. First, set the volume to a comfortable listening level using the **Volume Control** 26 42 1. Then, press the **OSD Button** 22

to bring up the **MASTER MENU** (Figure 1). Press the **▼ Button** 16 until the on-screen ► cursor is next to the **CHANNEL ADJUST** line. Press the **Set Button** 15 to activate the **CHANNEL ADJUST** menu.

Once the menu appears on your video screen, first use the **▲/▼ Buttons** 13 16 to move the on-screen ► cursor so that it is next to the **TEST TONE** line. Press the **◀/▶ Buttons** 14 39 so that **OFF** is highlighted. This will turn off the test tone and allow you to use your external test disc or other source material as the reference. Then, use the **▲/▼ Buttons** 13 16 to select the channels to be adjusted. At each channel position, use the **◀/▶ Buttons** 14 39 to change the output level. Remember, the goal is to have the output level at each channel be equal when heard at the listening position.

If you wish to reset all the levels to their original factory default of 0dB offset, press the **▲/▼ Buttons** 13 16 so that the on-screen cursor is next to the **CHANNEL RESET** line and press the **◀/▶ Buttons** 14 39 so that the word **ON** is highlighted. After the levels are reset, resume the procedure outlined above to reset the levels to the desired settings. When all adjustments are done, press the **▲/▼ Buttons** 13 16 to move the on-screen ► cursor so that it is next to **BACK TO MASTER MENU** and then press the **Set Button** 15 if you wish to go back to the main menu to make other adjustments. If you have no other adjustments to make, press the **OSD Button** 22 to exit the menu system.

**NOTE:** The output levels may be separately trimmed for each digital and analog surround

mode. If you wish to have different trim levels for a specific mode, select that mode and then follow the instructions in the steps shown earlier.

### 6-Channel/8-Channel Direct Input

The AVR 8000 is equipped for future expansion through the use of optional, external adapters for formats that the AVR 8000 may not be capable of processing or to allow connection to the output of high-resolution optical audio playback systems such as DVD-Audio or SACD. When a device with six-channel outputs (5.1 audio) is used, connect the source device to the **6-Channel Direct Inputs** 22. When a device with eight-channel outputs (7.1 audio) is used, connect the additional Surround Back Left (SBL) and Surround Back Right (SBR) outputs to the **8-Channel Direct Inputs** 19 on the AVR. To select these inputs, press the **6-Channel/8-Channel Direct Button** 45 12 until the desired input configuration appears in the **Main Information Display** 23.

Note that when the 6-Channel or 8-Channel Direct Input is in use, you may not select a surround mode, as the external decoder determines the processing in use. In addition, there is no signal at the record outputs or bass management when the 6-Channel or 8-Channel Direct Input is in use.

### Memory Backup

This product is equipped with a memory backup system that preserves the system configuration information and tuner presets if the unit is accidentally unplugged or subjected to a power outage. This memory will last for approximately two weeks, after which time all information must be reentered.

## Advanced Features

The AVR 8000 is equipped with a number of advanced features that add extra flexibility to the unit's operation. While it is not necessary to use these features to operate the unit, they provide additional options that you may wish to use.

### Speaker Reset

In some cases you may wish to reset the speaker configuration to the factory default settings. To restore those settings you will need to make an adjustment in the **ADVANCED** menu. To recall that menu, press the **OSD Button** 22 to bring the **MASTER MENU** (Figure 1) to the screen. Press the **▼ Button** 16 until the **►** cursor is next to the **ADVANCED** line. Press the **Set Button** 15 to enter the **ADVANCED** menu (Figure 12).

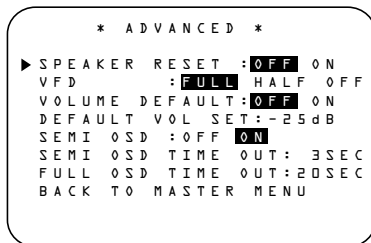


Figure 12

To reset the speaker configuration to the factory default, press the **► Button** 39 so that the word **ON** is highlighted and then press the **Set Button** 15.

Once the speaker settings are reset you may press the **▼ Button** 16 to make any of the other adjustments available on this menu. If no other adjustments are needed, press the **OSD Button** 22 to exit the menu system.

### Display Brightness

The AVR 8000's **Main Information Display** 23 is set at a default brightness level that is sufficient for viewing in a normally lit room. However, in some home theater installations, you may wish to occasionally lower the brightness of the display, or turn it off completely.

To change the display brightness setting for a specific listening session, you will need to make an adjustment in the **ADVANCED** menu. To start the adjustment, press the **OSD Button** 22 to bring the **MASTER MENU** to the screen. Press the **▼ Button** 16, until the on-screen **►** cursor is next to the **ADVANCED** line. Press the **Set Button** 15 to enter the **ADVANCED** menu (Figure 12).

To change the brightness setting, at the **ADVANCED** menu, make certain that the on-screen **►** cursor is next to the **VFD** line, and press the **► Button** 39 until the desired brightness level is highlighted in the video display. When **FULL** is highlighted, the display is at its normal brightness. When **HALF** is highlighted, the display is at half the normal brightness level. When **OFF** is highlighted, all of the indicators in the **Main Information Display** 23 will go dark. Note, however, that the green LEDs for the **Input Indicators** 27 and the **Surround Mode Indicators** 30, as well as for the **Power Indicator** 31, will always remain lit to remind you that the unit is turned on.

Once the desired brightness level is selected, it will remain in effect until it is changed again or until the unit is turned off.

If you wish to make other adjustments, press the **▲/▼ Buttons** 13 16 until the on-screen **►** cursor is next to the desired setting or the **BACK TO MASTER MENU** line and press the **Set Button** 15. If you have no other adjustments to make, press the **OSD Button** 22 to exit the menu system.

### Turn-On Volume Level

As is the case with most audio/video receivers, when the AVR 8000 is turned on, it will always return to the volume setting in effect when the unit was turned off. However, you may prefer to always have the AVR 8000 turn on at a specific setting, regardless of what was last in use when the unit was turned off. To change the default condition so that the same volume level is always used at turn-on, you will need to make an adjustment in the **ADVANCED** menu. To start the adjustment, press the **OSD Button** 22 to bring the **MASTER MENU** (Figure 1) to the screen. Press the **▼ Button** 16, until the on-screen **►** cursor is next to the **ADVANCED** line. Press the **Set Button** 15 to enter the **ADVANCED** menu (Figure 12).

At the **ADVANCED** menu make certain that the on-screen **►** cursor is next to the **VOLUME DEFAULT** line by pressing the **▲/▼ Buttons** 13 16 as needed. Next, press the **► Button** 39 so that the word **ON** is highlighted in the video display. Next, press the **▼ Button** 16 once so that the on-screen **►** cursor is next to the **DEFAULT VOL SET** line. To set the desired turn-on volume, press the **◀/▶ Buttons** 14 39 until the desired volume level is shown on the **DEFAULT VOL SET** line. Note that this setting may NOT be made with the regular volume controls.

**NOTE:** Since the setting for the turn-on volume cannot be heard while the setting is being made, you may wish to determine the setting before making the adjustment. To do this, listen to any source and adjust the volume to the desired level using the regular **Volume Controls** 26 42 1. When the desired volume level to be used at turn-on is reached, make a note of the setting as it appears in the lower third of the video screen or in the **Lower Display Line** 3. (A typical volume level will appear as a negative number such as -25dB.) When making the adjustment, use the **◀/▶ Buttons** 14 39 to enter this setting.

Unlike some of the other adjustments in this menu, the turn-on volume default will remain in effect until it is changed or turned off in this menu, even when the unit is turned off.

If you wish to make other adjustments, press the **▲/▼ Buttons** 13 16 until the on-screen **►** cursor is next to the desired setting or the **BACK TO MASTER MENU** line and press the **Set Button** 15. If you have no other adjustments to make, press the **OSD Button** 22 to exit the menu system.

### Semi-OSD Settings

The semi-OSD system places one-line messages at the lower third of the video display screen whenever the Volume, Input Source, Surround mode or tuner frequency of any of the configuration settings are changed. The semi-OSD system is helpful in that it enables you to have feedback on any control changes or remote commands using the video display when it is difficult to view the front panel displays. However, you may occasionally prefer to turn these displays off for a particular listening session. You may also want to adjust the length of time the displays remain on the screen. Both of those options are possible with the AVR 8000.

To turn off the semi-OSD system, you'll need to make an adjustment in the **ADVANCED** menu (Figure 12). To start the adjustment, press the **OSD Button** 22 to bring the **MASTER MENU** to the screen. Press the **▼ Button** 16, until the on-screen **▼** cursor is next to the **ADVANCED** line. Press the **Set Button** 15 to enter the **ADVANCED** menu.

At the **ADVANCED** menu, make certain that the on-screen **►** cursor is next to the **SEMI OSD DEFAULT** line by pressing the **▲/▼ Buttons** 13 16 as needed. Next, press the **► Button** 39 so that the word **OFF** is highlighted in the video display.

## Advanced Features

Note that this setting is temporary and will remain active only until it is changed or until the AVR 8000 is turned off. Once the unit is turned off, the semi-OSD displays will remain activated, even if they were switched off for the previous listening session.

To change the length of time that the semi-OSD displays remain on the screen, go to the **ADVANCED** menu as outlined earlier, and press the **▲/▼ Buttons 13 16** as needed, until the on-screen ► cursor is next to the **SEMI OSD TIME OUT** line. Next, press the **◀/▶ Buttons 14 39** until the desired time in seconds is displayed. Note that unlike most of the other options in this menu, this is a permanent setting change, and the time-out entry will remain in effect until it is changed, even when the unit is turned off.

If you wish to make other adjustments, press the **▲/▼ Buttons 13 16** until the on-screen ► cursor is next to the desired setting or the **BACK TO MASTER MENU** line and press the **Set Button 15**. If you have no other adjustments to make, press the **OSD Button 22** to exit the menu system.

### Full-OSD Time-Out Adjustment

The **FULL OSD** menu system is used to simplify the setup and adjustment of the AVR 8000, using a series of on-screen menus. The factory default setting for these menus leaves them on the screen for 20 seconds after a period of inactivity before they disappear from the screen (Time-Out). Time-Out is a safety measure to prevent image retention of the menu text in your monitor or projector, which might happen if it were left on indefinitely. However, some viewers may prefer a slightly longer or shorter period before the Time-Out display.

To change the full-OSD Time-Out, you will need to make an adjustment in the **ADVANCED** menu (Figure 12). To start the adjustment, press the **OSD Button 22** to bring the **MASTER MENU** to the screen. Press the **▼ Button 16**, until the on-screen ▼ cursor is next to the **ADVANCED** line. Press the **Set Button 15** to enter the **ADVANCED** menu (Figure 12).

At the **ADVANCED** menu (Figure 12) make certain that the on-screen ► cursor is next to the **FULL OSD TIME OUT** line by press-

ing the **▲/▼ Buttons 13 16** as needed. Next, press the **◀/▶ Buttons 14 39** until the desired time is displayed in seconds. Note that unlike most of the other options in this menu, this is a permanent setting change, and the Time-Out entry will remain in effect until it is changed, even if the unit is turned off.

If you wish to make other adjustments, press the **▲/▼ Buttons 13 16** until the on-screen ► cursor is next to the desired setting or the **RETURN TO MASTER MENU** line and press the **Set Button 15**. If you have no other adjustments to make, press the **OSD Button 22** to exit the menu system.

## Multiroom Operation

The AVR 8000 is fully equipped to operate as the control center for a multiroom system with optional remote external infrared (IR) sensors, speakers and power amplifiers. Although some multiroom installations will require the services of a specially trained installer, it is possible for the average do-it-yourself hobbyist to install a simple remote room system.

### Installation

The key to remote room operation is to link the remote room to the AVR 8000's location with wire for an infrared link and speakers or an amplifier. For installation instructions for Multiroom use, see page 16.

### Multiroom Setup

Once the audio and IR link connections have been made, the AVR 8000 needs to be configured for multiroom operation using the steps below. Press the **OSD Button** 22 to bring the **MASTER MENU** (Figure 1) to the screen. Press the **▼ Button** 16, until the on-screen ► cursor is next to the **MULTI - ROOM** line. Press the **Set Button** 15 to enter the **MULTI - ROOM** menu (Figure 13).

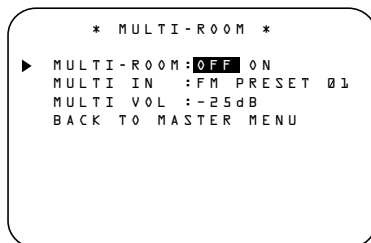


Figure 13

When the **MULTI - ROOM** menu appears, the on-screen ► cursor will be at the **MULTI - ROOM** line. Since this line is used to turn the system on and off, don't make an adjustment here unless you wish to turn the system on at this time. To turn the system on, press the **► Button** 39 so that **ON** is highlighted. If you do not wish to turn the system on at this time or to proceed to the next step, press the **▼ Button** 16 once so that the ► on-screen cursor is next to the **MULTI IN** line.

At the **MULTI IN** line, press the **◀/► Buttons** 14 39 until the desired input to the multiroom system appears in the highlighted video. When the selection has been made, press the **▼ Button** 16 once so that the ► on-screen cursor is next to the **MULTI VOL** line.

At the **MULTI VOL** line, press the **◀/► Buttons** 14 39 until the desired volume level for the multiroom system is entered. DO NOT use the regular volume control knobs for this setting. When all settings for the multiroom setup have been made, press the **▲/▼ Buttons** 13 16 until the on-screen ► cursor is next to the **BACK TO MASTER MENU** line. If you have no other adjustments to make, press the **OSD Button** 22 to exit the menu system.

### Multiroom Operation

When operating the AVR 8000 from a remote room location where an IR sensor link has been connected to the AVR 8000's rear panel **Multizone IR Input** 27, you may use either the main remote control or the Zone II remote. To turn on the multiroom feed, press any of the **Input Selector** buttons on the Zone II remote **B C D** or the main remote **5 6 7 45**. Press the **AVR Selector** **6 E** to turn the unit on to the last source, or any of the other **Selector** buttons to turn on to a specific source.

As long as an IR feed to the AVR 8000 has been established from the remote room, using any of the buttons on either remote will control the remote location volume **42 1**, change the tuner frequency **21 E**, change the tuner preset **35 G** or mute the output **46 ●**.

If the **Remote IR Output Jack** 29 on the AVR 8000 is connected to an IR Input jack on compatible Harman Kardon audio components such as CD, DVD or cassette players, the transport functions of those machines may also be controlled using the **Transport Controls** **26 27 F H J** on either remote control.

To turn the system off from the remote room, press the **Power Off Button** **1 A**. Remember that the AVR 8000 may be turned on or off from the remote room, regardless of the system's operation or status in the main room.

**NOTE:** When the tuner is selected as the source for the remote zone, any change to the frequency or preset will also change the station being listened to in the main room, if the tuner is in use there. Similarly, if someone in the main room changes the station, the change will also impact the remote room.

To activate the feed to the remote room, while you are in the main listening room where the AVR 8000 is located, press the **Multiroom Button** **41** on the remote. Next, press the **Set Button** 15. Press the **▲/▼ Buttons** 13 16 to turn the multiroom feed on or off. When the multiroom system is on, the **Multiroom Indicator** **D** will light in the **Main Information Display** 28, and the **Main Information Display** 28 or OSD will display **MULTI ON**. Press the **Set Button** 15 to enter the setting.

When the multiroom system is turned on, the input selected using the multiroom menu will be fed to the **Multizone Output** 32 jacks on the rear panel. The volume will be as set in the previous selection, although it may also be adjusted using an optional IR sensor and the Zone II remote in the remote location or on the optional audio power amplifier connected to the **Multizone Output** 32 jacks.

Once the multiroom system is turned on, it will remain on even if the AVR 8000 is placed in the Standby mode in the main room by pressing the **Power Off Button** **A** or the **System Power Control** **2** on the front panel. To turn off the multiroom system, even when the AVR is in Standby mode in the main listening room, press the **Multiroom Button** **41** and then the **Set Button** 15. Press the **▲/▼ Buttons** 13 16 so that the **Multiroom Indicator** **D** in the **Main Information Display** 28 goes out, and the **Main Information Display** 28 or OSD will display **MULTI OFF**. Press the **Set Button** 15 to enter the setting and turn the unit off.

Even when the AVR 8000 is turned off in the main room, the multiroom system may be turned on at any time by pressing the **Multiroom Button** **41**, or any of the **Selector Buttons** **B C D** in the remote room.

## Programming the Remote

The AVR 8000 is equipped with a powerful remote control that will control not only the receiver's functions, but also most popular brands of audio and video equipment, including CD players, cassette decks, TV sets, cable boxes, VCRs, satellite receivers and other home-theater equipment. Once the AVR 8000's remote is programmed with the codes for the products you own, it is possible to eliminate most other remotes and replace them with the convenience of a single, backlit universal remote control.

### Programming the Remote

The AVR 8000 remote is factory-programmed for all AVR functions, as well as those of most Harman Kardon CD changers, DVD players, CD players and cassette decks. In addition, by following one of the methods below, you may program the remote to operate a wide range of devices from other manufacturers.

#### Direct Code Entry

This method is the easiest way to program your remote to work with different products.

1. Use the tables in the following pages to determine the three-digit code or codes that match both the product type (e.g., VCR, TV) and the specific brand name. If there is more than one number for a brand, make note of the different choices.
2. Turn on the unit you wish to program into the AVR 8000 remote.
3. Press and hold both the **Input Selector 5** for the product you wish to control (e.g., VCR, TV) and the **Mute Button 46** at the same time. When the **Program/SPL Indicator 3** turns amber and begins flashing and the red light under the **Input Selector 5** stays lit, release the buttons. It is important that you begin the next step within 20 seconds.
4. Point the AVR 8000's remote towards the unit to be programmed, and enter the first three-digit code number using the **Numeric Keys 18**. If the unit turns off, the correct code has been entered. Press the **Input Selector 5** again, and note that the red light will flash three times before going dark to confirm the entry.
5. If the device to be programmed in does NOT turn off, continue to enter three-digit code numbers until the equipment turns off.

At this point, the correct code has been entered. Press the **Input Selector 5** again and note that the red light under the **Input Selector 5** will flash three times before going dark to confirm the entry.

6. Try all of the functions on the remote to make certain that the product operates properly. Keep in mind that many manufacturers use a number of different combinations of codes, so it is a good idea to make certain that not only the Power control, but the volume, channel and transport controls work as they should. If functions do not work properly, you may need to use a different remote code.
7. If a code cannot be entered to turn the unit off, if the code for your product does not appear in the tables in this manual, or if not all functions operate properly, try programming the remote with the Auto Search Method.

#### Auto Search Method

If the unit you wish to include in the AVR 8000's remote is not listed in the code tables in this manual or if the code does not seem to operate properly, you may wish to program the correct code using the Auto Search method that follows:

1. Turn on the unit that you wish to include in the AVR 8000 remote.
2. Press the **Input Selector 5** for the type of product to be entered (e.g., VCR, TV) and the **Mute Button 46** at the same time. Hold both buttons until the **Program/SPL Indicator 3** turns amber and begins flashing and the red light under the **Input Selector 5** stays lit. Note that the next step must take place while the red light is on, and it must begin within 20 seconds after the light appears.
3. Point the AVR 8000 remote towards the unit to be programmed, and press either the **▲** or **▼ Button 13 16**. Each press will send out a series of codes from the remote's built-in database. When the unit being programmed turns off, release the **▲/▼ Button 13 16**, as that is your indication that the correct code is in use.
4. Press the **Input Selector 5**, and note that the red light under the **Input Selector 5** will flash three times before going dark to confirm the entry.

5. Try all of the functions on the remote to make certain that the product operates. Keep in mind that many manufacturers use a number of different combinations of codes, and it is a good idea to make certain that not only the Power control works, but also the volume, channel and transport controls, as appropriate. If all functions do not work properly, you may need to Auto-Search for a different code, or enter a code via the Direct Code Entry method.

#### Code Readout

When the code has been entered using the Auto Search method, it is always a good idea to find out the exact code so that it may be easily reentered if necessary. You may also read the codes to verify which device has been programmed to a specific Control Selector button.

1. Press and hold both the **Input Selector 5** for the device you wish to find the code for and the **Mute Button 46** at the same time. Note that the **Program/SPL Indicator 3** will initially turn amber and begin flashing, and the red light under the **Input Selector 5** will stay lit. Release the buttons and begin the next step within 20 seconds.
2. Press the **Set Button 15**. The **Program/SPL Indicator 3** will then blink green in a sequence that corresponds to the three-digit code, with a one-second pause between each digit. Count the number of blinks between pauses to determine the digit of the code. One blink indicates the number 1, two blinks for the number 2, and so forth. Ten blinks are used to indicate a "0."

Example: One blink, followed by a one-second pause, followed by six blinks, followed by a one-second pause, followed by ten blinks indicates that the code has been set to 160.

For future reference, enter the Setup Codes for the equipment in your system here:

DVD \_\_\_\_\_ CD \_\_\_\_\_  
VID1/VCR \_\_\_\_\_ VID2/TV \_\_\_\_\_  
VID3/CBL \_\_\_\_\_ VID3/SAT \_\_\_\_\_  
VID4 \_\_\_\_\_ TAPE \_\_\_\_\_

# Programming the Remote

## Learning Codes

In addition to using codes from the remote's internal code library, the AVR 8000's remote is able to "learn" codes from remotes that may not be in the code library. In addition, you may use this function to "learn over" the codes from a preprogrammed device to add functions not included in the preprogrammed codes. To learn or transfer codes from an IR remote to the AVR 8000's remote, follow these steps:

1. Place the front of the original remote with the code being sent so that it is facing the **IR Transmitter Window 2** on the AVR 8000 remote "head-to-head." The remotes should be between one and three inches apart.
2. Select the button on the remote that you wish to use as the device selector for the codes about to be entered. This may be any of the **Input Selectors 5**.
3. Press the **Input Selector 5** button chosen and the **Learn Button 44** at the same time. Hold these buttons until the **Program/SPL Indicator 3** flashes amber and the light under the device selector button turns red. Release the buttons.
4. Press the button on the AVR 8000 remote that you wish to program. Note that the **Program/SPL Indicator 3** will stop flashing.
5. Within five seconds, press and hold the button on the original remote that you wish to "teach" into the AVR 8000 remote. When the **Program/SPL Indicator 3** turns green three times, release the button. Note that the Program Indicator will then begin to flash amber again.

**NOTE:** If the **Program/SPL Indicator 3** turns red during Step 4 or 5, the programming was not successful. Repeat the steps to see if the code will "take."

6. Repeat Steps 4 and 5 for each button on the source remote that you wish to transfer to the AVR 8000 remote.
7. Once all codes have been transferred from the original source remote to the AVR 8000 remote, press the **Learn Button 44**.

8. Repeat Steps 1 through 7 for any additional remotes you wish to "teach" into the AVR 8000 Remote.

## Erasing Learned Codes

The AVR 8000's remote allows you to remove or erase the code learned into a single button for a single device, to remove or erase the code set for all the codes that have been programmed into specific device buttons, or to erase all commands that have been learned to all devices.

To erase a single learned code from within a single device's settings, follow these steps:

1. Press and hold both the **Input Selector 5** within which the individual button to be erased has been programmed and the **Learn Button 44**.
2. When the red LED under the **Input Selector** turns red and the **Program/SPL Indicator 3** flashes amber, release the buttons.
3. Press and release the **Input Selector 5** again for the device within which the individual button to be erased has been programmed.
4. Press the **7 Button 18** four times.
5. Press and release the individual button for which the code is to be erased. The **Program/SPL Indicator 3** will blink green two times and then return to amber.
6. To erase other buttons within the same device, press them as noted in Step 5.
7. When all buttons to be erased have been pressed, press the **Learn Button 44** to complete the process.

To erase all codes within a single device, follow these steps:

1. Press and hold both the **Input Selector 5** for which you wish to erase the codes and the **Learn Button 44**.
2. When the red LED under the **Input Selector** turns red and the **Program/SPL Indicator 3** flashes amber, release the buttons.
3. Press and release the **Input Selector 5** again for the device whose codes you wish to erase.

4. Press the **8 Button 18** four times.

5. The **Program/SPL Indicator 3** will turn off and the red light under the **Input Selector** will flash on and off once to indicate that the codes have been erased.

To erase all codes that have been programmed to all devices in the remote, follow these steps:

1. Press any **Input Selector 5** for which you wish to erase the codes and also the **Learn Button 44**.
2. When the red LED under the **Input Selector** turns red and the **Program/SPL Indicator 3** flashes amber, release the buttons.
3. Press and release the same **Input Selector 5** again for the device whose codes you wish to erase.
4. Press the **9 Button 18** four times.
5. The **Program/SPL Indicator 3** will turn off and the red light under the **Input Selector 5** will flash on and off once to indicate that the codes have been erased.

## Macro Programming

Macros enable you to easily repeat frequently used combinations of commands with the press of a single button on the AVR 8000's remote control. Once programmed, a macro will send out up to 19 different remote codes in a predetermined sequential order enabling you to automate the process of turning on your system, changing devices, or other common tasks. The AVR 8000's remote can store up to five separate macro command sequences: one that is associated with the **Power On Button 4** and four more that are accessed by pressing the **Macro Buttons 33**.

1. Press the **Mute Button 46** and the **Macro Button 33** to be programmed or the **Power On Button 4** at the same time. Note that the **AVR Selector 6** will light red, and the **Program/SPL Indicator 3** will flash amber.
2. Enter the steps for the macro sequence by pressing the button for the actual command step. Although the macro may contain up to 19 steps, each button press, including those used to change devices, counts as a step. The **Program/SPL Indicator 3** will flash green to confirm each button press as you enter commands.



## Programming the Remote

**NOTE:** While entering commands for Power On/Off of any device during a macro sequence, press the **Mute Button 46**. DO NOT press the actual Power button.

- When all the steps have been entered, press the **Sleep Button 9** to enter the commands. The red light under the **Input Selectors 5 6** will blink and then turn off.

**Example:** To program the Macro 1 button so that it turns on the AVR 8000, TV and a Cable Box, follow these steps:

- Press the **Macro 1 Button 33** and **Mute Button 46** at the same time and then release them.
- Note that the **Program/SPL Indicator 3** will flash amber.
- Press the **AVR Selector 6**.
- Press the **Mute Button 46** to store the AVR 8000's power on command.
- Press the **VID 2 Input Selector Button 5** to indicate the next command is for "TV Power On."
- Press the **Mute Button 46** to store the TV Power On Command.
- Press the **VID 3 Input Selector Button 5** to indicate the next command is for "Cable Power On."
- Press the **Mute Button 46** to store the Cable Power On command.
- Press the **Sleep Button 9** to complete the process and store the macro sequence.

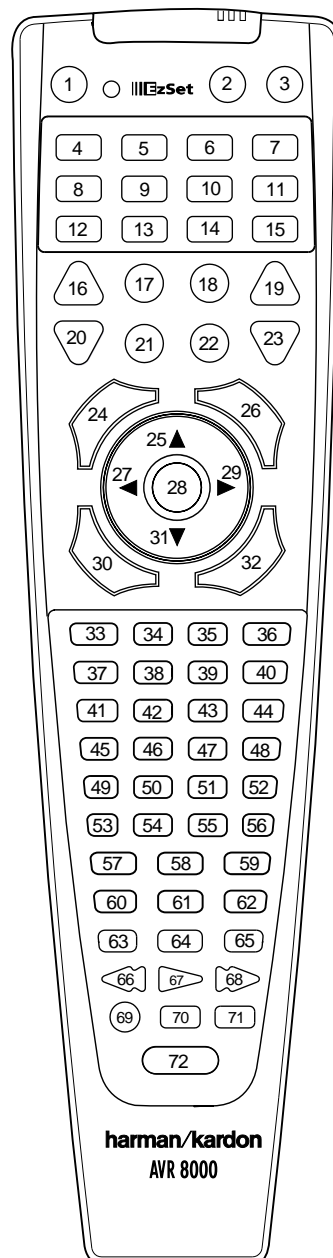
After following these steps, each time you press the **Macro 1 Button 33**, the remote will send the Power On/Off command to those three devices.

### Erasing Macro Commands

To remove the commands that have been programmed into one of the Macro buttons, follow these steps:

- Press the **Mute Button 46** and the **Macro Button 33** that contains the commands you wish to erase.

- Note that the **Program/SPL Indicator 3** will flash amber, and the LED under the **AVR Selector 6** will turn red.
- Within ten seconds, press the **Surround Mode Selector Button 10**.
- The red LED under the **AVR Selector 6** will go out, and the **Program/SPL Indicator 3** will turn green and flash three times before it goes out.
- When the **Program/SPL Indicator 3** goes out, the Macro has been erased.



### Programmed Device Functions

Once the AVR 8000's remote has been programmed for the codes of other devices, press the appropriate **Input Selector 5** to change the remote from controlling the AVR 8000 to controlling the additional product. When you press any one of the selectors, it will briefly flash in red to indicate that you have changed the device being controlled.

When operating a device other than the AVR 8000, the controls may not correspond exactly to the function printed on the remote or button. Some commands, such as the volume control, are the same as they are with the AVR 8000. Other buttons will change their function so that they correspond to a secondary label on the remote. For example, the Sleep and Surround mode selector buttons also function as the Channel Up and Channel Down buttons when operating most TV sets, VCRs or cable boxes. The Channel Up/Down indication is printed directly on the remote. For many standard CD players, cassette decks, VCRs and DVD functions, the standard function icons are printed on top of the buttons.

For some products, however, the function of a particular button does not follow the command printed on the remote. In order to see which function a button controls, consult the Function List tables on pages 44 and 45. To use those tables, first check the type of device being controlled (e.g., TV, VCR). Next, look at the remote control diagram pictured at the left. Note that each button has a number on it.

To find out what function a particular button has for a specific device, find the button number on the Function List and then look in the column for the device you are controlling. For example, button number 46 is the Direct button for the AVR 8000, but it is the "Favorite" button for many cable television boxes and satellite receivers. Button number 32 is the Delay button for the AVR 8000, but the Open/Close button for CD players.

**NOTE:** That the numbers used to describe the button functions at the left for the purposes of describing how a button operates are a different set of numbers than those used in the rest of this manual to describe the button functions for the AVR 8000.

# Programming the Remote

## Notes on Using the AVR 8000 Remote With Other Devices

- Manufacturers may use different code sets for the same product category. For that reason, it is important that you check to see whether the code set you have entered operates as many controls as possible. If it appears that only a few functions operate, check to see whether another code set will work with more buttons.
- When a button is pressed on the AVR 8000 remote, the red light under the **Input Selector 5 6** for the product being operated should flash briefly. If the Device Control Selector flashes for some but not all buttons for a particular product, it does NOT indicate a problem with the remote but rather that no function is programmed for the button being pushed.

## Volume Punch-Through

The AVR 8000's remote may be programmed to operate the **Volume Control 42** and **Mute 46** functions of either the TV or the AVR 8000 in conjunction with any of the devices controlled by the remote. For example, since the AVR 8000 will likely be used as the sound system for TV viewing, you may wish to have the AVR 8000's volume activated, although the remote is set to run the TV. Either the AVR 8000 or TV volume control may be associated with any of the remote's devices. To program the remote for Volume Punch-Through, follow these steps:

- Press the **Input Selector 5** for the unit you wish to have associated with the volume control and the **Mute Button 46** at the same time until the red light appears under the **Input Selector 5** and note that the **Program/SPL Indicator 3** will flash amber.
- Press the **Volume Up Button 42** and note that the **Program/SPL Indicator 3** will stop flashing and stay amber.
- Press either the **AVR Selector 6** or the **Input Selector 5**, depending on which system's volume control you wish to have attached for the punch-through mode. The **Program/SPL Indicator 3** will blink green three times and then go out to confirm the data entry.

**Example:** To have the AVR 8000's volume control activated even though the remote is set to control the TV, first press the **Video 2/TV Input Selector 5** and the **Mute Button 46** at the same time. Next, press the **Volume Up Button 42**, followed by the **AVR Selector 6**.

**NOTE:** Should you wish to return the remote to the original configuration after entering a Volume Punch-Through, you will need to repeat the steps shown above. However, press the same Input Selector in Steps 1 and 3.

## Channel Control Punch-Through

The AVR 8000's remote may be programmed to operate so that the channel control function for either the TV, cable or satellite receiver used in your system may be used in conjunction with one of the other devices controlled by the remote. For example, while using and controlling the VCR, you may wish to change channels on a cable box or satellite receiver without having to change the device selected by the AVR 8000 or the remote. To program the remote for Channel Control Punch-Through, follow these steps:

- Press the **Input Selector Button 5** for the device you wish to have the channel control associated with and the **Mute Button 46** at the same time until the red light appears under the **Input Selector 5** and the **Program/SPL Indicator 3** flashes amber.
- Press the **Volume Down Button 42**. The **Program/SPL Indicator 3** will stop flashing and stay amber.
- Press and release the **Input Selector Button 5** for the device that will be used to change the channels. The **Program/SPL Indicator 3** will blink green three times and then go out to confirm the data entry.

**Example:** To control the channels using your Cable Box or Satellite Receiver while the remote is set to control the VCR, first press the **VID 1/VCR Input Selector Button 5** and the **Mute Button 46** at the same time. Next, release them and press the **Volume Down Button 42**, followed by the **VID 2/TV Input Selector Button 5**.

**NOTE:** To remove the Channel Control Punch-Through and return the remote to its original

configuration, repeat the steps shown in the example above. However, press the same **Input Selector 5** in Steps 1 and 3.

## Transport Control Punch-Through

The AVR 8000's remote may be programmed to operate so that the **Transport Control Functions 27** (Play, Stop, Fast Forward, Rewind, Pause and Record) for a VCR, DVD or CD will operate in conjunction with one of the other devices controlled by the remote. For example, while using and controlling the TV, you may wish to start or stop your VCR or DVD without having to change the device selected by the AVR 8000 or the remote. To program the remote for Transport Control Punch-Through, follow these steps:

- Press the **Input Selector 5** for the device you wish to have the channel control associated with and the **Mute Button 46** at the same time until the red light appears under the **Input Selector 5** and the **Program/SPL Indicator 3** flashes amber.
- Press the **Play Button 27**. The **Program/SPL Indicator 3** will stop flashing and stay amber.
- Press and release the **Input Selector Button 5** for the device that will be used to change the channels. The **Program/SPL Indicator 3** will blink green three times and then go out to confirm the data entry.

**Example:** To control the transport of a DVD player while the remote is set to control the TV, first press the **VID 2/TV Input Selector Button 5** and the **Mute Button 46** at the same time. Next, release them and press the **Play Button 27**, followed by the **DVD Input Selector Button 5**.

**NOTE:** To remove the Channel Control Punch-Through and return the remote to its original configuration, repeat the steps shown in the example above. However, press the same **Input Selector 5** in Steps 1 and 3.

**NOTE:** Before programming the remote for Volume, Channel or Transport Punch-Through, make certain that any programming needed for the specific TV, CD, DVD, Cable or Satellite Receivers has been completed.

# Programming the Remote

## Reassigning Device Control Selectors

Although each **Input Selector 5** is normally assigned to the category of product shown on the remote, it is possible to reassign one of these buttons to operate a second device of another type. For example, if you have two VCRs but no satellite receiver, you may program the "SAT" button to operate a second VCR. Before following the normal programming steps for either Three-Digit entry or Auto Search code entry, you must first reassign the button with the following steps:

1. Press the **Input Selector 5** you wish to reassign and the **Mute Button 46** at the same time until the red light appears under the **Input Selector 5** and the **Program/SPL Indicator 3** flashes amber.
2. Press the **Input Selector 5** matching the device type you wish to program into the reassigned button.
3. Enter the three-digit code for the specific model you wish the reassigned button to operate.
4. Press the same **Input Selector 5** pressed in Step 1 once again to store the selection. The red LED under the re-assigned Input Selector will flash three times and then go out.

**Example:** To use the CBL/SAT button to operate a second VCR, first press the **CBL/SAT Input Selector 5** and the **Mute Button 46** at the same time until the red light glows under the **CBL/SAT Input Selector 5** button. Press the **VCR Button 5**, followed by the three-digit code for the specific model you wish to control. Finally, press the **CBL/SAT Button 5** again.

## Resetting the Remote Memory

As you add components to your home theater system, occasionally you may wish to totally reprogram the remote control without the confusion of any commands, macros or "Punch-Through" programming that you may have done. To do this, it is possible to reset the remote to the original factory defaults and command codes by following these steps. Note, however, that once the remote is reset,

all commands or codes that you have entered will be erased and will need to be re-entered:

1. Press any of the **Input Selector Buttons 5** and the **0 Button 18** at the same time until the **Program/SPL Indicator 3** begins to flash amber.
2. Press the **3 Button 18** three times.
3. The red LED under the **Input Selector 5** will go out and the **Program/SPL Indicator 3** will stop flashing and turn green.
4. The **Program/SPL Indicator 3** will remain green until the remote is reset. Note that this may take a while, depending on how many commands are in the memory and need to be erased.
5. When the **Program/SPL Indicator 3** goes out, the remote has been reset to the factory settings.

## Function List

No.	Button Name	AVR Function	DVD	CD/CD-R	Tape	VCR (VID1)	TV (VID1)	CBL (VID3)	SAT (VID3)
1	<b>Power On</b>	Power On	Power On	Power On	Power On	Power On	Power On	Power On	Power On
2	<b>Power Off</b>	Power Off	Power Off	Power Off	Power Off	Power Off	Power Off	Power Off	Power Off
3	<b>Mute</b>	Mute	Mute	Mute	Mute	Mute	Mute	Mute	Mute
4	<b>AVR</b>	AVR Select							
5	<b>DVD</b>	DVD Input Select	DVD Select						
6	<b>CD</b>	CD Input Select		CD Select					
7	<b>Tape</b>	Tape Input Select			Tape Select				
8	<b>VID 1</b>	Video 1 Select				VCR Select	TV Select	VID3 Select	
9	<b>VID 2</b>	Video 2 Select							
10	<b>VID 3</b>	Video 3 Select							
11	<b>VID 4</b>	Video 4 Select							
12	<b>VID 5</b>	Video 5 Select							
13	<b>AM/FM</b>	Tuner Select							
14	<b>6/8-Ch. Select</b>	6/8-Ch. Input Select							
15	<b>Learn</b>	Learn							
16	<b>Sleep</b>	Sleep					Channel +	Channel +	Channel +
17	<b>Test</b>	Test Tone	TV/DVD	Input Select		TV/VCR	TV/VCR	TV/Cable	TV/Sat
18	<b>SPL</b>	SPL							
19	<b>Volume Up</b>	Volume Up		Input Level Up		Volume Up	Volume Up	Volume Up	Volume Up
20	<b>Surround Select</b>	Surround Mode Select		CD-R Select		Channel –		Channel –	Channel –
21	<b>Night</b>	Night Mode Select	Subtitle On/Off	CD-R Select					
22	<b>Multiroom</b>	Multiroom Select							
23	<b>Volume Down</b>	Volume Down		Input Level Down			Volume Down	Volume Down	Volume Down
24	<b>Channel/Guide</b>	Channel Trim	Title					Info/Guide	Info/Guide
25	<b>▲</b>	Move/Adjust Up	Up			Up	Up	Up	Up
26	<b>Speaker/Menu</b>	Speaker Adjust	Menu	Intro Scan		Menu	Menu	Menu	Menu
27	<b>◀</b>	Move/Adjust Left	Left			Left	Left	Left	Left
28	<b>Set</b>	Set	Enter			Enter	Enter	Enter	Enter
29	<b>▶</b>	Move/Adjust Right	Right			Right	Right	Right	Right
30	<b>Digital/Exit</b>	Digital Input Select	Open/Close			Exit	Exit	Exit	Exit
31	<b>▼</b>	Move/Adjust Down	Down			Down	Down	Down	Down
32	<b>Delay/Prev. Ch.</b>	Delay Adjust	Return	Open/Close			Prev Channel	Prev Channel	Prev Channel
33	<b>1</b>	1	1	1		1	1	1	1
34	<b>2</b>	2	2	2		2	2	2	2
35	<b>3</b>	3	3	3		3	3	3	3
36	<b>4</b>	4	4	4		4	4	4	4
37	<b>5</b>	5	5	5		5	5	5	5
38	<b>6</b>	6	6	6		6	6	6	6
39	<b>7</b>	7	7	7		7	7	7	7
40	<b>8</b>	8	8	8		8	8	8	8
41	<b>Tun-M</b>	Tuner Mode	Chapter	Repeat					
42	<b>9</b>	9	9	9		9	9	9	9
43	<b>0</b>	0	0	0		0	0	0	0
44	<b>Memory</b>	Memory	Audio	Time					
45	<b>Tune Up</b>	Tune Up	Next Chapter	Track Direct		Cancel	Sleep		

## Function List (continued)

No.	Button Name	AVR Function	DVD	CD/CD-R	Tape	VCR (VID1)	TV (VID1)	CBL (VID3)	SAT (VID3)
46	<b>Direct</b>	Direct Tuner Entry	Angle	Random Play				FAV	FAV
47	<b>Clear</b>	Clear	Clear	Clear		Clear	Clear	Bypass	Next
48	<b>Preset Up</b>	Preset Tune Up	Slow Forward	+10				Music	Alt
49	<b>Tune Down</b>	Tune Down	Prev Chapter	Track Increment					
50	<b>OSD</b>	OSD		Program		OSD	OSD	OSD	OSD
51	<b>D. Skip</b>		Disc Skip	Disc Skip					
52	<b>Preset Down</b>	Preset Tune Down	Slow Rev						
53	<b>M1</b>	M1	M1	M1	M1	M1	M1	M1	M1
54	<b>M2</b>	M2	M2	M2	M2	M2	M2	M2	M2
55	<b>M3</b>	M3	M3	M3	M3	M3	M3	M3	M3
56	<b>M4</b>	M4	M4	M4	M4	M4	M4	M4	M4
57	<b>Dolby</b>	Dolby Modes							
58	<b>DTS SURR</b>	DTS Digital Modes							
59	<b>DTS Neo:6</b>	DTS Neo:6 Select							
60	<b>Home THX</b>	THX Modes Select							
61	<b>Logic 7</b>	Logic 7 Select							
62	<b>Stereo</b>	Stereo Mode Select							
63	<b>Skip Down</b>		Skip –	Skip –		Scan –			
64	<b>Tone Mode</b>	Tone Mode Select							
65	<b>Skip Up</b>		Skip +	Skip +		Scan +			
66	<b>Rewind</b>		R. Search	R. Search	Rewind	Rewind			
67	<b>Play</b>		Play	Play	Play	Play			
68	<b>Fast Forward</b>		F. Search	F. Search	Fast Fwd	Fast Fwd		Day +	Day +
69	<b>Record</b>			Record	Record	Record			
70	<b>Stop</b>		Stop	Stop	Stop	Stop			
71	<b>Pause</b>		Pause	Pause		Pause			
72	<b>Light</b>	Light	Light	Light	Light	Light	Light	Light	Light

## Setup Code Table: TV

Manufacturer/Brand	Setup Code Number
A MARK	103 132
ADMIRAL	192
AKAI	001 160
AMPRO	070 164
AMSTRAD	053
ANAM	045 055 057 076 095 099 103 106 109 112 122
AOC	001 011 103
BLAUPUNKT	084
BROKSONIC	205 206
CANDLE	001 002 003 011
CAPEHART	059
CENTURION	170 171
CENTRONIC	045
CITIZEN	001 002 003 011 045 092 094 132
CLASSIC	045
CONCERTO	011
CONTEC	041 045 051 052
CORANDO	172
CORONADO	132
CRAIG	045 055 157 158 159
CROWN	045 132
CURTIS MATHES	001 092 107 132
CXC	045
DAEWOO	011 022 023 038 045 046 056 068 073 094 098 102 105 108 111 114 116 118 119 127 132
DAYTRON	107 132
DIGI LINK	200
DYNASTY	045
DYNATECH	063
ELECTROHOME	074 132
EMERSON	001 012 033 045 048 049 051 052 091 107 132 137 139 141 157 158 162 205
FISHER	013 058
FUNAI	033 045
FUTURETECH	045
GE	001 014 015 038 057 070 071 107 121 133 141 145 163 199
GOLDSTAR	011 093 097 101 103 104 107 110 113 118 128 132
GRUNDIG	193
HALL MARK	107
HARMAN KARDON	201
HITACHI	001 011 015 016 017 018 029 043 072 132 144 147
INFINITY	148
INKEL	120
JBL	148
JC PENNEY	001 011 014 015 030 035 092 132 145
JENSEN	019
JVC	038 040 079 134
KAWASHO	173
KEC	045
KENWOOD	001 204
KLOSS	002 060
KMC	132
KTV	001 045 132 162
LLOYTRON	172 173
LODGENET	069
LOGIK	069
LUXMAN	011
LXI	013 021 053 077 145 148
MAGNAVOX	001 003 011 060 061 062 064 065 118 132 145 148
MARANTZ	001 074 148
MATSUI	148
MEMOREX	013 069 107
METZ	084
MGA	001 011 033 044 050 074 107

## Setup Code Table: TV (Continued)

Manufacturer/Brand	Setup Code Number
MIDLAND	199
MINERVA	084
MITSUBISHI	001 011 030 033 042 044 100 107 115 154 160 167 168
MTC	175 176
NAD	021 031
NATIONAL	177 178 179 180 181 182
NEC	001 013 022 025 030 042 057 121 123 125
NIKEI	045
ONKING	045
ONWA	045
OPTONICA	025 077
ORION	207 208 209 210 211
PANASONIC	038 057 076 087 148 169
PENNEY	199
PHILCO	001 003 011 030 045 057 060 061 064 065 118 132 148
PHILIPS	001 003 011 040 060 067 088 132 145 148
PIONEER	001 024 029 031 032 107 213 214
PORTLAND	011 132
PROSCAN	133
PROTON	059 107 122 132 165
QUASAR	038 057 087
RADIO SHACK	025 045 048 107 118 132 195 196 197 198
RCA	001 011 029 030 057 071 133 145 161 163 199
REALISTIC	013 025 045 048 195 196 197
RUNCO	152 153
SAA	183
SAMPO	001 059 107
SAMSUNG	051 085 092 096 104 107 118 124 128 132 145
SANYO	013 026 027 037 041 054 058 078
SCOTT	033 045 049 107 132
SEARS	011 013 021 033 035 058 078 092 107 132 145
SHARP	011 020 025 028 033 034 077 132 154
SIEMENS	084
SIGNATURE	069
SONY	043 067 075 117 130 136 194 212
SOUNDESIGN	003 033 045 107
SPECTRICON	103
SSS	011 045
SUPREMACY	002
SYLVANIA	001 003 011 060 061 064 065 107 118 131 145 148
SYMPHONIC	184
TANDY	077
TATUNG	057 063
TECHNICS	080
TECHWOOD	011
TEKNIKA	001 002 003 011 030 033 036 045 069 074 092 094 132
TELEFUNKEN	039 047 083
TELERENT	069
TERA	156
THOMSON	190 191
TMK	011 107
TOSHIBA	013 021 035 042 052 063 092 129 202
TOTEVISION	132
UNIVERSAL	014 015
VIDEO CONCEPTS	160
VIDTECH	011 107
WARDS	011 014 015 025 033 061 062 064 065 069 071 107 132 148
YAMAHA	001 011
YORK	107
YUPITERU	045
ZENITH	069 070 090 094
ZONDA	103

## Setup Code Table: VCR

Manufacturer/Brand	Setup Code Number
AIWA	040
AKAI	022 048 050 108 109 126
AMPRO	076
AMSTRAD	133
ANAM	037 039 089
ASA	134
AUDIO DYNAMICS	018 029 044 048
BROKSONIC	041 043 110 147 166
CANDLE	134 135 137
CANON	034 037 039 135 140
CAPEHART	094
CITIZEN	134
CRAIG	003 045 116
CURTIS MATHES	037 039
DAEWOO	012 014 017 068 069 094 096 097 098 102 103 104
DAYTRON	094
DBX	018 029 044 048
DUAL	136
DYNATECH	040 057
ELECTROHOME	063
EMERSON	013 023 031 033 035 037 040 041 042 043 050 087 110 112 119
FERGUSON	136
FINLUX	133
FISHER	003 015 016 017
FUNAI	040 133
GE	037 039 067 076 093 095 124 127
GO VIDEO	113 117
GOLDSTAR	018 019 026 087 092 100 107
GRAETZ	136
HARMAN KARDON	018 049
HITACHI	011 040 048 067 118 130
INSTANT REPLAY	037 039
ITT	136
JCL	037 039
JC PENNEY	018 019 021 039 045 070 087
JENSEN	048
JVC	018 037 039 048 052 054 059 064 111 130 132
KENWOOD	020 044 048 052
LLOYD	040
LXI	019 020 040 087
MAGIN	045
MAGNAVOX	037 039 040 071 072
MARANTZ	018 037 039 071 073
MARTA	087
MATSUI	033 036
MEI	037 039
MEMOREX	003 017 020 037 039 040 057 076 087 115 120
MGA	049 050 063
MINOLTA	019 026
mitsubishi	019 026 049 050 053 055 063 065 131 145 146
MTC	133
MULTITECH	030 040
NAD	139
NATIONAL	140
NEC	018 029 044 048 052



## Setup Code Table: VCR (continued)

Manufacturer/Brand	Setup Code Number
NORDMENDE	048
OPTIMUS	159
OPTONICA	057 058
ORION	147 166
PANASONIC	070 074 078 086 114 125 150 167 172
PENTAX	019 026 037 039 067
PHILCO	037 039 040 071
PHILIPS	037 039 040 058 071 075 087
PILOT	087
PIONEER	019 027 052
PORTLAND	094
PULSAR	076
QUARTZ	001 020
QUASAR	039 070 079 125 144
RADIO SHACK	133 134 137 140 141 142 152 158 159 160 161
RCA	019 026 039 066 067 093 095 124 125 127 157 172
REALISTIC	003 015 017 020 037 039 040 045 057 058 087 137 152 159 160
RICO	062
RUNCO	128
SABA	136
SAISHO	143
SALORA	020
SAMSUNG	038 045 088 090 091 093 095 098 099 101 105 106 109
SANSUI	028 048 052 116 147 166
SANYO	003 014 017 020 115
SCHAUB LORENZ	136
SCOTT	023 043 098 110 112
SEARS	003 015 016 017 019 020 026 037 047 077 084 087
SHARP	037 058 129 156
SHINTOM	030
SONY	003 016 037 056 060 061 062 080 081 082 129
SOUNDESIGN	040
STS	019
SYLVANIA	037 039 040 063 071
SYMPHONIC	040
TANDY	017 040
TASHICO	134
TATUNG	044 048
TEAC	040 044 048
TECHNICS	037 039
TEKNIKA	025 037 039 040 087
TELEFUNKEN	136
THOMAS	040
THOMSON	136
THORN	136
TMK	013
TOSHIBA	015 019 047 051 063 085 098 112 155
TOTEVISION	045 087
UNITECH	045
VECTOR RESEARCH	018
VICTOR	052
VIDEO CONCEPTS	018 040 050
VIDEOSONIC	045
WARDS	003 019 023 030 037 039 040 045 057 058 112
YAMAHA	018 040 044 048
ZENITH	040 052 060 062 076 083 087

## Setup Code Table: CD

Manufacturer/Brand	Setup Code Number
ADC	012
ADCOM	049 063 069
AIWA	072 111 118 156 170
AKAI	050 177 184
AUDIO TECHNICA	053
AUDIOACCESS	125
AUDIOFILE	211
BSR	044 064
CALIFORNIA AUDIO	015 109
CAPETRONIC	070
CARRERA	064 087
CARVER	051 057 136 140 141 143 144 145 185 186
CASIO	066 117 122 166
CLARINETTE	122 166
CROWN	042
CURTIS MATHES	066
DENON	187 188 213
EMERSON	049 052 093 108
FISHER	023 055 057 068
FRABA	117
FUNAI	126
GE	164
GENEXXA	017 096 108
GOLDSTAR	016 087
HAITAI	099 214
HARMAN KARDON	001 002 025 040 054 190 218 219
HITACHI	049 093
INKEL	026 027 216
JC PENNEY	021 066 098 147
JENSEN	153
JVC	029 176 195 196
KENWOOD	014 020 023 030 062 078 079 148 151 176 178 181
KYOCERA	012
LOTTE	108
LUXMAN	018 035 077 102
LXI	066 164
MAGNAVOX	039 051 113
MARANTZ	043 051 058 084 191 192 193
MCINTOSH	194
MCS	021 066 080 098
MEMOREX	096
MGA	032
MISSION	051
mitsubishi	032
MITSUMI	152
MODULAIRE	122 166
NAD	013 074 197 198
NAKAMICHI	199 200 201
NEC	021 069
NIKKO	053 055
NSM	051

## Setup Code Table: CD (continued)

Manufacturer/Brand	Setup Code Number
ONKYO	037 038 045 046 171 175 202 203
OPTIMUS	020 036 056 057 064 065 089 090 091 092 096 099 104 212
PANASONIC	015 075 109 119 158 183 204
PHILIPS	039 051 138 149 209
PIONEER	017 036 071 094 096 100 112 123 131 160 161 162 215
PROTON	051 210
QUASAR	015 109
RADIO SHACK	122 126 213
RCA	024 049 081 093 150
RCX	169
REALISTIC	049 056 057 058 093 095 104 105 108 164 166
ROTEL	051
SAE	051
SAMSUNG	028
SANSUI	047 051 081 134 157 172
SANYO	033 057 068 082 095 168
SCOTT	108
SEARS	066
SHARP	020 058 073 105 114 151 159 167 180 181
SHERWOOD	003 026 027 041 058 105 133
SIGNATURE	040
SONY	060 103 115 116 118 132 139 163 205 206 207 208 212 217
SOUNDSTREAM	124
STS	012
SYLVANIA	051
SYMPHONIC	059 110
TAEKWANG	177
TANDY	096
TEAC	011 022 048 058 085 086 106 107 110 121 137 146 154
TECHWOOD	083
THETA DIGITAL	039
TOSHIBA	013 074 097 151 155 173
VECTOR RESEARCH	087
VICTOR	029 120 130
WARDS	040 095
YAMAHA	019 031 053 061 135 169
YORK	122 166

## Setup Code Table: Tape

Manufacturer/Brand	Setup Code Number
HARMAN KARDON	001

## Setup Code Table: Audio

Manufacturer/Brand	Setup Code Number
HARMAN KARDON	001

## Setup Code Table: DVD

Manufacturer/Brand	Setup Code Number
APEX DIGITAL	061
CALIFORNIA AUDIO	040
DENON	002 019 022 034 051
GE	003 004
GOLDSTAR	005
HARMAN KARDON	001 032
JVC	006
KENWOOD	007 050
LG	005 055 064
LOTTE	008
MAGNAVOX	033 056
MARANTZ	033 059
MITSUBISHI	023 036
NAD	010 062
ONKYO	009 015 048
OPTIMUS	011 050
PANASONIC	024 025 030 034 035 044 052
PHILIPS	033 056
PIONEER	012 020 038 041 046 047 065
PROCEED	060
PROSCAN	003 004 037
RCA	003 004 018 037
RUNCO	027
SAMSUNG	031 053 054
SANYO	013 049
SHARP	021 028 050
SONY	015 029 043 045
TECHNICS	026
THOMSON	003 004
TOSHIBA	009 033 047 057 058
YAMAHA	016 017 030 063
ZENITH	005 033 055 064
ZENITH DIVX	039

## Setup Code Table: SAT

Manufacturer/Brand	Setup Code Number
ALPHASTAR	472
ALPHASTAR DBS	450
ALPHASTAR DSR	422 442
AMPLICA	356
BIRDVIEW	414 425
BSR	359
CAPETRONICS	359
CHANNEL MASTER	320 321 322 325 361
CHAPARRAL	315 316 319 380 451
CITOH	360
CURTIS MATHES	356
DRAKE	312 313 317 318 413 481
DX ANTENNA	331 352 362 379 483
ECHOSTAR	364 395 397 452 453 463 477 478 484 485
ELECTRO HOME	392
EUROPLUS	415
FUJITSU	324 328 329 334
GENERAL INSTRUMENT	303 311 323 365 403 454 468 474
HITACHI DBS	455
HOUSTON TRACKER	463
HUGHES	372 437
HYTEK	359
JANIEL	366
JERROLD	367 454 464 468
KATHREIN	410
LEGEND	453
LUXOR	368
MACOM	317 365 369 370 371
MAGNAVOX	461 473
MEMOREX	453
NEXTWAVE	423 424
NORSAT	373 374
OPTIMUS	466
PANASONIC	366 469
PANASONIC DBS	457
PANSAT	420
PERSONAL CABLE	418
PHILIPS	375
PICO	407
PRESIDENT	326 404
PRIMESTAR	412 454 464 475
RCA	301 408 436 439 458 465
REALISTIC	349 377 480
SAMSUNG	422 442
SATELLITE SERVICE CO	335 341 353 388
SCIENTIFIC ATLANTA	339
SONY	405 438
STAR CHOICE DBS	459
STARCAST	347
SUPER GUIDE	327 423 424
TEECOM	330 333 378 390 391 393 409
TOSHIBA	302 426 443 460 461 462 470
UNIDEN	323 332 348 349 350 351 354 355 381 382 383 389 403 466 479 480
ZENITH	385 386 387 394 419

## Setup Code Table: CBL

Manufacturer/Brand	Setup Code Number
ABC	001 003 011 045 048 052 059 110
ALLEGRO	111
AMERICAST	212
ANTRONIX	021
ARCHER	012 014 021 031 112
BELCOR	113
CABLE STAR	033 113
CENTURION	092
CENTURY	014
CITIZEN	014 111
COLOUR VOICE	069 090
COMBANO	083 084
COMTRONICS	026 037
DIAMOND	030
DIGI	114
EAGLE	027 037 046 186
EASTERN	063 066 070 115
ELECTRICORD	039
EMERSON	112
FOCUS	116
G.I.	001 003 011 015 017 093 095 096 097
GC ELECTRONICS	113
GE	076
GEMINI	015 029 032 060
GENERAL	210
GENERAL INSTRUMENT	168
GOLDEN CHANNEL	037
GOODMIND	112
HAMLIN	055 056 061 099 100 101 117 175 207 208
HITACHI	001 061 188
HOSPITALITY	074 080
JASCO	111
JERROLD	001 002 003 011 015 016 017 073 093 095 096 097 162 167
LINDSAY	118
M-NET	043
MACOM	040 191
MAGNAVOX	017 019 068 082
MEMOREX	058
MOVIE TIME	035 039
NSC	022 035 044 075 190
OAK	023 038 043 059 094 196 197
PACE	179
PANASONIC	050 053 176 177 189 214
PANTHER	114
PARAGON	058
PHILIPS	013 019 020 027 069 085 090
PIONEER	001 041 057 079 119 171 200 209
POPULAR MECHANICS	116
POST NEWS WEEK	023
PRELUDE	120
PRIMESTAR	162
PTS	018 054 075 076

## Setup Code Table: CBL (continued)

Manufacturer/Brand	Setup Code Number
PULSAR	058
RADIO SHACK	111 112 213
RCA	053 214
RECOTON	116
REGAL	055 056 061 099 100 101 207
REGENCY	063 115
REMBRANT	032
SAMSUNG	037 072 186
SCIENTIFIC ATLANTA	003 018 047 048 049 051 052 110 183 184 203 204
SEAM	121
SHERITECH	029
SIGNAL	037
SIGNATURE	001 188
SL MARX	037
SPRUCER	053 081 177 189
STARCOM	002 011 015 016 163
STARGATE	015 037 120
SYLVANIA	071
TADIRAN	037
TANDY	024
TELECAPATION	028
TEXSCAN	036 071
TFC	122
TIMELESS	123
TOCOM	045 046 062 170 205
TOSHIBA	058
UNIKA	014 021 031
UNITED CABLE	011 059
UNIVERSAL	012 014 021 031 033 034 039 042 113
VIDEOWAY	124 211
VIEWSTAR	019 022 025 086 087 088 089 190
ZENITH	058 065 098 125 211
ZENTEK	116

## Troubleshooting Guide

SYMPTOM	CAUSE	SOLUTION
Unit does not function when Main Power Switch is pushed	<ul style="list-style-type: none"> <li>No AC Power</li> </ul>	<ul style="list-style-type: none"> <li>Make certain AC power cord is plugged into a live outlet</li> <li>Check to see whether outlet is switch-controlled</li> </ul>
Display lights, but no sound or picture	<ul style="list-style-type: none"> <li>Intermittent input connections</li> <li><b>Mute</b> is on</li> <li>Volume control is down</li> </ul>	<ul style="list-style-type: none"> <li>Make certain that all input and speaker connections are secure</li> <li>Press <b>Mute</b> button</li> <li>Turn up volume control</li> </ul>
Unit turns on, but front panel display does not light up	<ul style="list-style-type: none"> <li>Display brightness is turned off</li> </ul>	<ul style="list-style-type: none"> <li>Follow the instructions in the Display Brightness section on page 36 so that the display is set to <b>VFD FULL</b></li> </ul>
No sound from any speaker; light around power switch is red	<ul style="list-style-type: none"> <li>Amplifier is in protection mode due to possible short</li> <li>Amplifier is in protection mode due to internal problems</li> </ul>	<ul style="list-style-type: none"> <li>Check speaker wire connections for shorts at receiver and speaker ends</li> <li>Contact your local Harman Kardon service center</li> </ul>
No sound from surround or center speakers	<ul style="list-style-type: none"> <li>Incorrect surround mode</li> <li>Input is monaural</li> <li>Incorrect configuration</li> <li>Stereo or Mono program material</li> </ul>	<ul style="list-style-type: none"> <li>Select a mode other than Stereo</li> <li>There is no surround information from mono sources</li> <li>Check speaker mode configuration</li> <li>The surround decoder may not create center- or rear-channel information from nonencoded programs</li> </ul>
Unit does not respond to remote commands	<ul style="list-style-type: none"> <li>Weak batteries in remote</li> <li>Wrong device selected</li> <li>Remote sensor is obscured</li> </ul>	<ul style="list-style-type: none"> <li>Change remote batteries</li> <li>Press the AVR selector</li> <li>Make certain front panel sensor is visible to remote or connect remote sensor</li> </ul>
Intermittent buzzing in tuner	<ul style="list-style-type: none"> <li>Local interference</li> </ul>	<ul style="list-style-type: none"> <li>Move unit or antenna away from computers, fluorescent lights, motors or other electrical appliances</li> </ul>
Letters flash in the channel indicator display and digital audio stops	<ul style="list-style-type: none"> <li>Digital audio feed paused</li> </ul>	<ul style="list-style-type: none"> <li>Resume play for DVD</li> <li>Check that Digital Input is selected</li> </ul>

### Processor Reset

In the rare case where the unit's operation or the displays seem abnormal, the cause may involve the erratic operation of the system's memory or microprocessor.

To correct this problem, first unplug the unit from the AC wall outlet and wait at least three minutes. After the pause, reconnect the AC power cord and check the unit's operation. If the system still malfunctions, a system reset may clear the problem.

To clear the AVR 8000's entire system memory including tuner presets, output level settings,

delay times and speaker configuration data, first put the unit in Standby by pressing the **System Power Control Button** **2**. Next, press and hold the **Tone Mode** **3** and the **FM Mode Selector** **16** buttons for three seconds.

The unit will turn on automatically and display the **RESET** message in the **Main Information Display** **28**. Note that once you have cleared the memory in this manner, it is necessary to reestablish all system configuration settings and tuner presets.

**NOTE:** Resetting the processor will erase any configuration settings you have made for

speakers, output levels, surround modes, digital input assignments as well as the tuner presets. After a reset the unit will be returned to the factory presets, and all settings for these items must be reentered.

If the system is still operating incorrectly, there may have been an electronic discharge or severe AC line interference that has corrupted the memory or microprocessor.

If these steps do not solve the problem, consult an authorized Harman Kardon service center.



# Technical Specifications

## Audio Section

Stereo Mode

Continuous Average Power (FTC)

125 Watts per channel, 20Hz–20kHz,  
@ < 0.07% THD, both channels driven into 8 ohms

Five-Channel Surround Modes

Power Per Individual Channel

Front L&R channels:

110 Watts per channel

@ < 0.07% THD, 20Hz–20kHz into 8 ohms

Center channel:

110 Watts @ < 0.07% THD, 20Hz–20kHz into 8 ohms

Surround channels:

110 Watts per channel

@ < 0.07% THD, 20Hz–20kHz into 8 ohms

Input Sensitivity/Impedance

Linear (High-Level) 200mV/47k ohms

Signal-to-Noise Ratio (IHF-A) 95dB

Surround System Adjacent Channel Separation

Analog Decoding 40dB

(Pro Logic II, etc.)

Dolby Digital (AC-3) 55dB

DTS 55dB

Frequency Response

@ 1W (+0dB, –3dB) 10Hz – 100kHz

High Instantaneous

Current Capability (HCC) ±85 Amps

Transient Intermodulation

Distortion (TIM) Unmeasurable

Slew Rate

40V/μsec

## FM Tuner Section

Frequency Range 87.5–108.0MHz

Usable Sensitivity IHF 1.3 μV/13.2dBf

Signal-to-Noise Ratio Mono/Stereo 70/68dB

Distortion Mono/Stereo 0.2/0.3%

Stereo Separation 40dB @ 1kHz

Selectivity ±400kHz, 70dB

Image Rejection 80dB

IF Rejection 90dB

## AM Tuner Section

Frequency Range 520–1710kHz

Signal-to-Noise Ratio 45dB

Usable Sensitivity Loop 500μV

Distortion 1kHz, 50% Mod 0.8%

Selectivity ±10kHz, 30dB

## Video Section

Television Format NTSC

Input Level/Impedance 1Vp-p/75 ohms

Output Level/Impedance 1Vp-p/75 ohms

Video Frequency Response  
(Composite and S-Video) 10Hz–8MHz (–3dB)

Video Frequency Response  
(Component) 10Hz–30MHz (–3dB)

## General

Power Requirement AC 120V/60Hz

Power Consumption 119W idle, 694W maximum  
(2 channels driven)

Trigger Output 6VDC @ 500ma

Dimensions (Max) Width 17.3 inches (440mm)

Height 7.65 inches (194mm)

Depth 20.5 inches (519mm)

Weight 53 lb (24.1 kg)

Depth measurement includes knobs, buttons and terminal connections.

Height measurement includes feet and chassis.

All features and specifications are subject to change without notice.

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Crystal is a registered trademark of Cirrus Logic Corp.

HDCD system manufactured under license from Pacific Microsonics, Inc. This product is covered by one or more of the following: In the USA: 5,479,168; 5,638,074; 5,640,161; 5,808,574; 5,838,274; 5,854,600; 5,864,311; 5,872,531; and in Australia: 669114. Other patents pending.

**Notes**



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**harman/kardon**

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