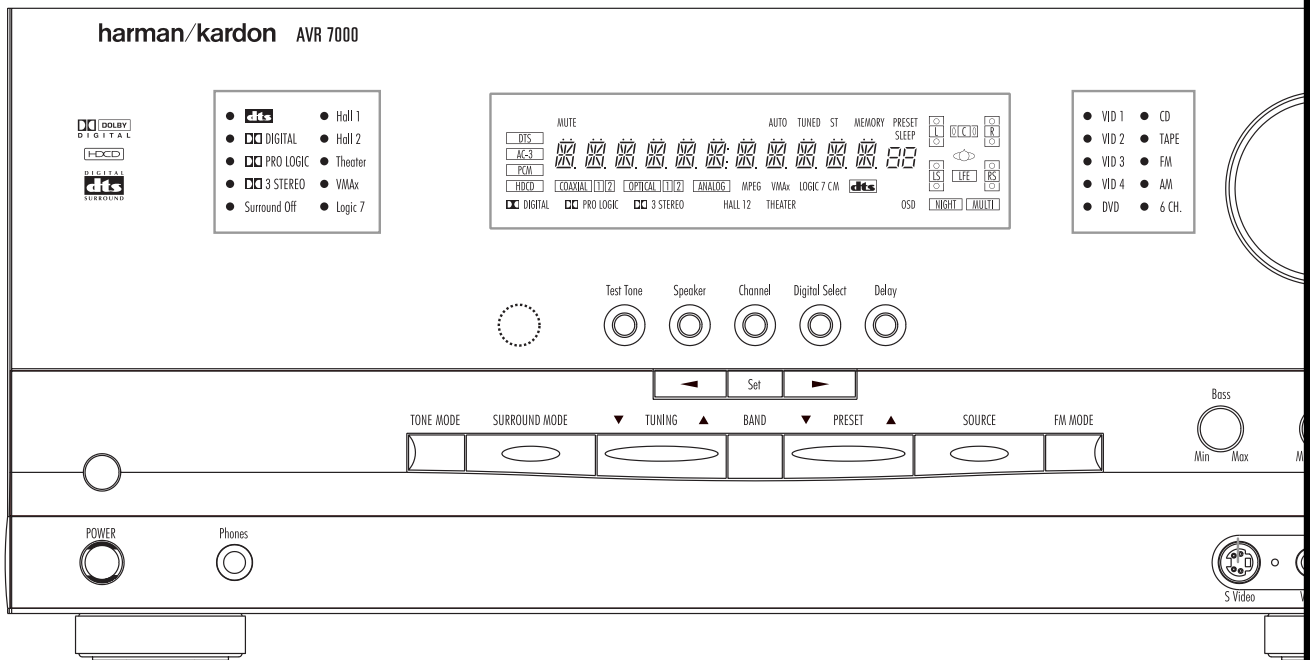


AVR 7000 Audio/Video Receiver

OWNER'S MANUAL



harman/kardon®

Power for the digital revolution.™

AVR 7000 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 the front-panel information display

EXAMPLE – (outlined type) indicates a lit indicator in 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 7000 you are about to begin many years of listening enjoyment. The AVR 7000 has been custom designed to provide all the excitement and detail of movie sound tracks and every nuance of musical selections. With onboard Dolby* Digital and DTS† decoding, the AVR 7000 delivers six discrete channels of audio that take advantage of the digital sound tracks from the latest DVD and LD releases and Digital Television broadcasts.

While complex digital systems are hard at work within the AVR 7000 to make all of this happen, hookup and operation are simple. Color-keyed connections, a backlit, programmable remote control, and on-screen menus make the AVR 7000 easy to use. To obtain the maximum enjoyment from your new receiver, we urge you to take a few minutes to read through this manual. This will ensure that connections to speakers, source playback units and other external devices are made properly. In addition, a few minutes spent learning the functions of the various controls will enable you to take advantage of all the power the AVR 7000 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 source of information.

Description and Features

The AVR 7000 is among the most versatile and multi-featured A/V receivers available, incorporating a wide range of listening options. In addition to Dolby Digital and DTS decoding for digital sources, a broad choice of analog surround modes are available for use with sources such as CD, VCR, TV broadcasts and the AVR's own FM/AM tuner. Along with Dolby Pro Logic,* Dolby 3 Stereo and custom Hall and Theater

modes, only Harman Kardon receivers offer Logic 7® to create a wider, more enveloping field environment and more defined fly-overs and pans. The AVR 7000 is also the only receiver that offers HDCD® decoding to provide the most realistic playback of CDs when a digital connection is used. 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.

No matter how sophisticated your system components, the AVR 7000 is able to accommodate them. In addition to five inputs with audio, composite video and S-Video, the AVR 7000 features two component video inputs to ensure the utmost in picture quality. Audio is accommodated by two additional audio-only inputs, four digital audio inputs and two digital audio outputs. A separate six-channel direct input is also available to ensure compatibility with future audio systems.

Despite the wide range of inputs available, selecting between them is simple, using a backlit remote control that operates the AVR and up to seven additional devices. Codes may be programmed into the remote either from an extensive internal database or via a learning method.

The AVR 7000's flexibility and power extend beyond your main home theater or listening room. The AVR includes a sophisticated multi-zone control system that allows you to select one source for use in the main room and a different one in a second room. Both composite video and S-Video, as well as audio, are routed to the remote room location, with complete control over volume provided by a separate infrared control link. To make it easy to operate the AVR 7000 from a remote room, a separate Zone II remote is included.

The AVR 7000'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 7000 is one of the finest receivers ever offered by Harman Kardon.

- Onboard Dolby Digital and DTS Decoding Using Crystal® Chip Technology
- Harman Kardon's Exclusive Logic 7 and VMaX Modes
- HDCD Decoding for Superb CD Playback
- Component Video Switching
- Multiple Coax and Optical Digital Audio Inputs and Outputs
- Front Panel Input Jacks Switchable to Input or Output
- Backlit Remote with Both Internal Codes and Learning Capability
- On-Screen Menu and Display System
- 6-Channel Direct Input, Preamp Output and Main Amp Input Jacks Permit Easy Expansion and Provide for Future Formats
- Sophisticated Multizone Control System with Separate Remote

CAUTION

RISK OF ELECTRIC SHOCK DO NOT OPEN

CAUTION: To prevent electric shock, do not remove the grounding plug on the power cord, or use any plug or extension cord that does not have a grounding plug provided.

Make certain that the AC outlet is properly grounded.

Do not use an adapter plug with this product.



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 7000 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 assure 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 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 interference to radio communication. However, there is no guarantee that harmful interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

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

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

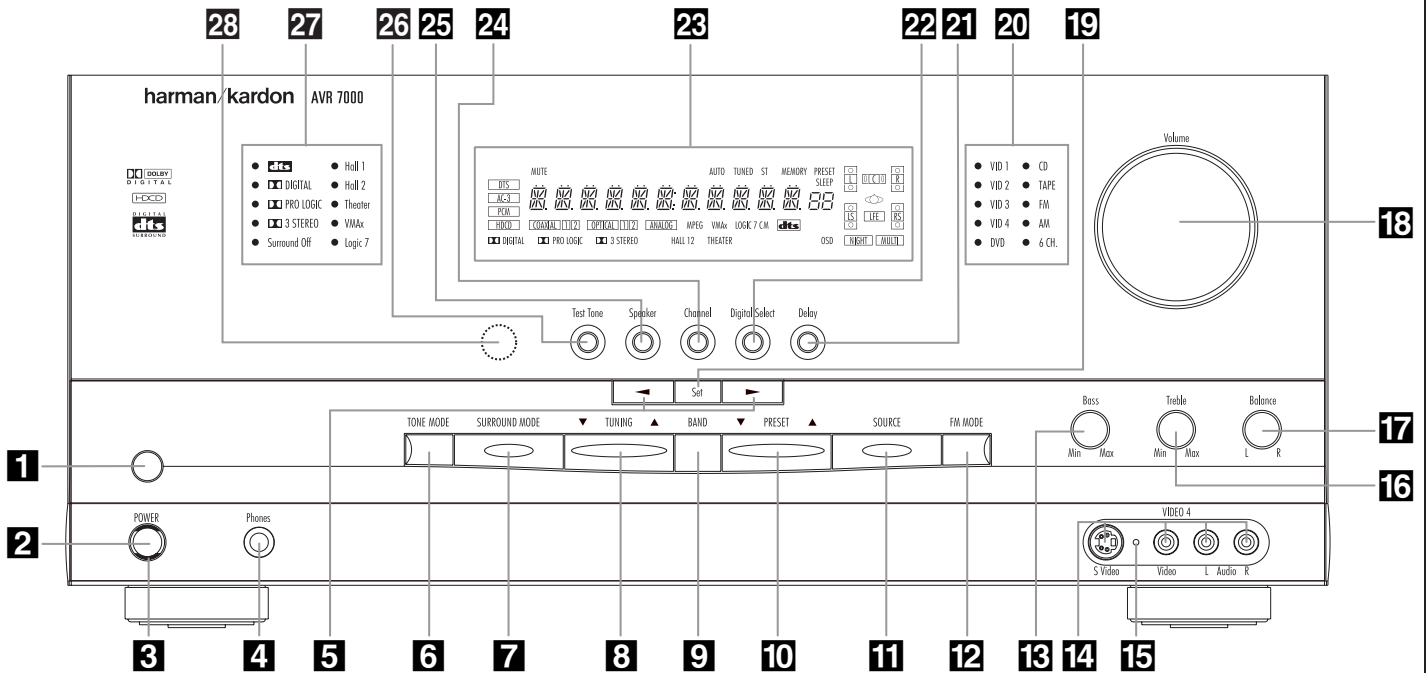
Unpacking

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

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

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

Front Panel Controls



- 1** Main Power Switch
- 2** System Power Control
- 3** Power Indicator
- 4** Headphone Jack
- 5** Selector Buttons
- 6** Tone Mode
- 7** Surround Mode Selector
- 8** Tuning Selector
- 9** Tuner Band Selector
- 10** Preset Stations Selector
- 11** Input Source Selector
- 12** FM Mode Selector
- 13** Bass Control
- 14** Video 4 Input Jacks
- 15** Video 4 Status Indicator
- 16** Treble Control
- 17** Balance Control
- 18** Volume Control
- 19** Set Button
- 20** Input Indicators
- 21** Delay
- 22** Digital Input Selector
- 23** Information Display
- 24** Channel Select Button
- 25** Speaker Select Button
- 26** Test Tone Selector
- 27** Surround Mode Indicators
- 28** Remote Sensor Window

1 Main Power Switch: Press this button to apply power to the AVR 7000. When the switch is pressed in, the unit is placed in a Standby mode, as indicated by the amber LED **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: In normal operation this switch is 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 7000; press it again to turn the unit off. Note that the **Power Indicator 3** will turn green when the unit is on.

3 Power Indicator: This LED will illuminate 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 7000'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 Selector Buttons: When you are establishing the AVR 7000's configuration settings, use these buttons to select from the choices available, as shown in the **Information Display 23**.

6 Tone Mode: Pressing this button enables or disables the Bass and Treble tone controls. When the button is pressed so that the words TONE IN appear in the Main Information Display **23**, the settings of the Bass **13** and Treble **16** controls will affect the output signals. When the button is pressed so that the words TONE OUT appear in the Main Information Display **23**, the output signal will be "flat," without any bass or treble alteration.

Front Panel Controls

7 Surround Mode Selector: Press this button to change the surround mode by scrolling through the list of available modes. Note that depending on the type of input, some modes are not always available. (See page 25 for more information about surround modes.)

8 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 **U** will illuminate in the **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 and the tuner will automatically scan for the next station with an acceptable signal and then stop.

9 Tuner Band Selector: Pressing this button will automatically switch the AVR to the Tuner mode. Pressing it again will switch between the AM and FM frequency bands. (See page 29 for more information on the tuner.)

10 Preset Stations Selector: Press this button to select stations that have been entered into the preset memory. (See page 29 for more information on tuner programming.)

11 Input Source Selector: Press this button to change the input by scrolling through the list of input sources.

12 FM Mode Selector: Press this button to select Auto or Manual tuning. When the button is pressed so that the **AUTO** Indicator **V** lights, the tuner will search for the next station with an acceptable signal when the **Tuning Selector 8 24 E** is pressed. When the button is pressed so that the **AUTO** Indicator **V** is not lit, each press of the **Tuning Selector 8 24 E** will increase the frequency. (See page 29 for more information on using the tuner.)

13 Bass Control: Turn this control to modify the low frequency output of the left/right channels by as much as ± 10 dB. Set this control to a suitable position for your taste or room acoustics.

14 Video 4 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.

In normal use, they are an input that may be selected by pressing the **Input Source Selector 11** on the front panel, or the **Video 4 Selector** on either remote **13 C**. These jacks may also be configured as an audio/video output, that will make a dub of the currently selected source when connected to an external recorder or camcorder. To change the jacks from their default setting as an input to an output, use the Advanced Menu in the OSD system. (See page 31 for more information on using the Video 4 jacks as a record output.)

15 Video 4 Status Indicator: This indicator will normally be green to show that the Video 4 jacks are operating as an input source. When the jacks have been configured as an output, the indicator will turn red to show that they are being used for recording. (See page 31 for more information on using the Video 4 jacks.)

16 Treble Control: Turn this control to modify the high frequency output of the left/right channels by as much as ± 10 dB. Set this control to a suitable position for your taste or room acoustics.

17 Balance Control: Turn this control to change the relative volume for the front left/right channels.

NOTE: For proper operation of the surround modes this control should be at the midpoint or "12 o'clock" position.

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

19 Set Button: When making choices during the setup and configuration process, press this button to enter the desired setting as shown in the **Information Display 23** into the AVR 7000's memory. The set button may also be used to change the display brightness. (See page 31.)

20 Input indicators: A green LED will light in front of the input that is currently being used as the source for the AVR 7000.

21 Delay: Press this button to begin the sequence of steps required to enter delay time settings. (See pages 20–21 for more information on delay times.)

22 Digital Input Selector: When playing a source that has a digital output, press this button to select between the **Optical 19** and **Coaxial 18 Digital** inputs. (See pages 27–29 for more information on digital audio.)

23 Information Display: This display delivers messages and status indications to help you operate the receiver. (See pages 7–8 for a complete explanation of the Information Display.)

24 Channel Select Button: Press this button to begin the process of trimming the channel output levels using an external audio source. (For more information on output level trim adjustment, see page 29.)

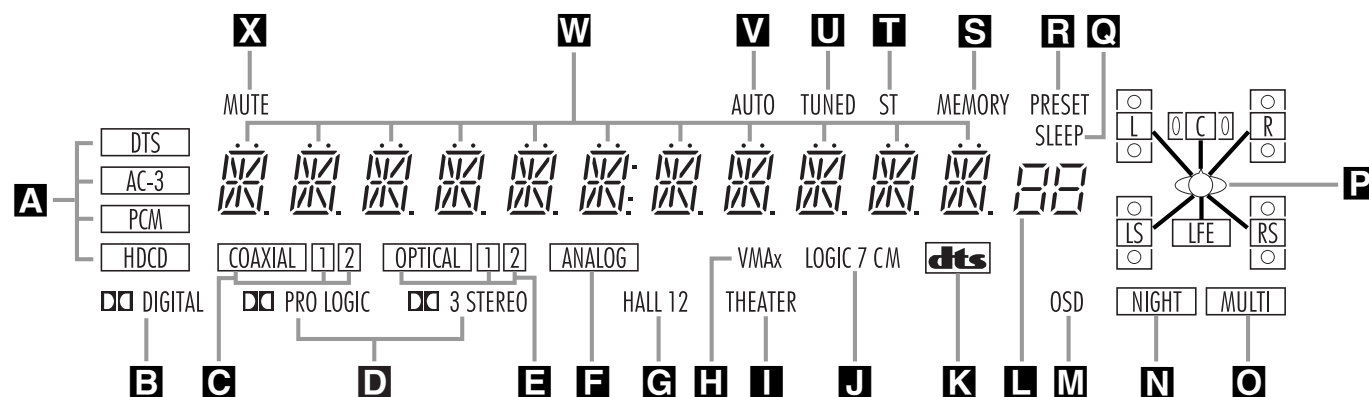
25 Speaker Select Button: Press this button to begin the process of selecting the speaker positions that are used in your listening room. (See page 22 for more information on setup and configuration.)

26 Test Tone Selector: Press this button to begin the process of adjusting the channel output levels using the internal test tone as a reference. (For more information on output level adjustment, see page 23.)

27 Surround Mode Indicators: A green LED will light in front of the surround mode that is currently in use.

28 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.

Front Panel Information Display



- A** Bitstream Indicators
- B** Dolby Digital Indicator
- C** Coaxial Source Indicators
- D** Analog Dolby Surround Mode Indicators
- E** Optical Source Indicators
- F** Analog Input Indicator
- G** Hall Mode Indicators
- H** VMaX Mode Indicator

- I** Theater Mode Indicator
- J** Logic 7 Mode Indicators
- K** DTS Mode Indicator
- L** Preset Number/Sleep Timer
- M** OSD Indicator
- N** Night Mode Indicator
- O** Multiroom Indicator
- P** Speaker/Channel Input Indicators

- Q** Sleep Indicator
- R** Preset Indicator
- S** Memory Indicator
- T** Stereo Indicator
- U** Tuned Indicator
- V** Auto Indicator
- W** Main Information Display
- X** Mute Indicator

A Bitstream™ Indicators: When the selected input is a digital source, one of these indicators will light to display the specific type of signal in use.

B Dolby Digital Indicator: This indicator illuminates when a Dolby Digital source is being played.

C Coaxial Source Indicators: These indicators light to show when one of the two Coaxial Digital Inputs has been selected.

D Analog Dolby Surround Mode Indicators: These indicators illuminate when one of the analog (matrix) Dolby Surround modes is in use.

E Optical Source Indicators: These indicators light to show when one of the two Optical Digital Inputs has been selected.

F Analog Input Indicator: This indicator lights when an analog input source has been selected.

G Hall Mode Indicators: These indicators light when one of the Hall modes has been selected.

H VMaX Mode Indicator: This indicator illuminates to show that the VMaX mode is in use.

I Theater Mode Indicator: This indicator illuminates to show that the Theater mode is in use.

J Logic 7 Mode Indicators: These indicators illuminate when the Logic 7 mode is in use. **LOGIC 7C** appears for the Cinema ver-

sion of Logic 7, **LOGIC 7M** appears for the Music version of Logic 7.

K DTS Mode Indicator: This indicator illuminates when a DTS-encoded source is playing.

L Preset Number/Sleep Timer: When the tuner is in use, these numbers indicate the specific preset memory location in use. (See page 29 for more information on preset stations.) When the Sleep function is in use, these numbers show how many minutes remain before the unit goes into the Standby mode.

M 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.

N Night Mode Indicator: This indicator lights when the AVR 7000 is in the Night mode, which preserves the dynamic range of digital program material at low volume levels.

O 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 33 for more information on the Multiroom system.)

P 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 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 that position. (See page 22 for more information on configuring speakers.) The letters inside each of the center boxes display 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 begin received at the digital input. When the letters flash, the digital input has been interrupted. See page 28 for more information on the Channel Indicators.

Q Sleep Indicator: This indicator lights when the Sleep function is in use. The numbers in the Preset/Sleep Number Indicators will show the minutes remaining before the AVR 7000 goes into the Standby mode. (See page 25 for more information on the Sleep function.)

R Preset Indicator: This indicator lights when the tuner in use to show that the **Preset Number/Sleep Timer L** is showing the station's preset memory number. (See page 29 for more information on tuner presets.)

S Memory Indicator: This indicator flashes when entering presets and other information into the tuner's memory.

Front Panel Information Display

T Stereo Indicator: This indicator illuminates when an FM station is being tuned in stereo.

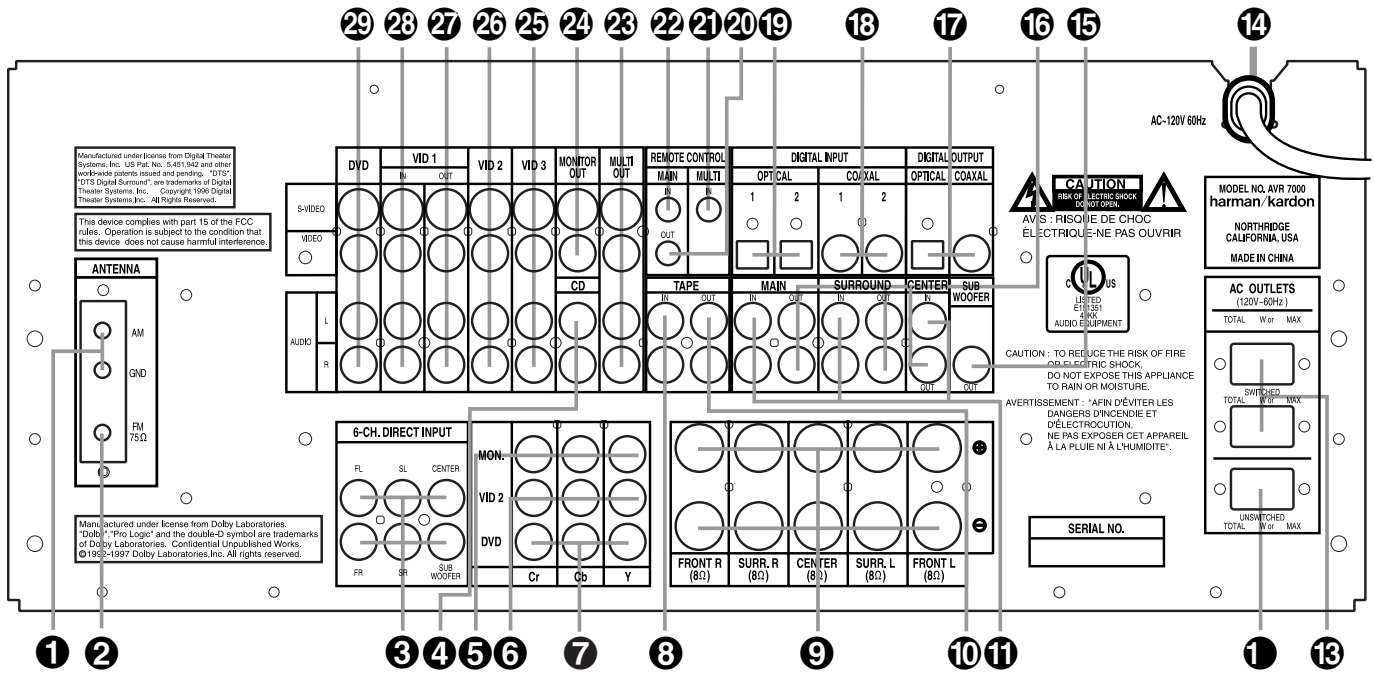
U Tuned Indicator: This indicator illuminates when a station is being received with sufficient signal strength to provide acceptable listening quality.

V Auto Indicator: This indicator illuminates when the tuner's Auto mode is in use.

W Main Information Display: This display shows messages relating to the status, input source, surround mode, tuner, volume level or other aspects of unit's operation.

X Mute Indicator: This indicator illuminates to remind you that the AVR 7000's output has been silenced by pressing the **Mute** button **6** **1**. Press the Mute button again to return to the previously selected output level.

Rear Panel Connections



- | | | |
|--|---|---|
| <ul style="list-style-type: none"> 1 AM Antenna 2 FM Antenna 3 6-Channel Direct Inputs 4 CD Inputs 5 Component Video Outputs 6 Video 2 Component Video Inputs 7 DVD Component Video Inputs 8 Tape Inputs 9 Speaker Outputs 10 Tape Outputs | <ul style="list-style-type: none"> 11 Amplifier Inputs 12 Unswitched AC Accessory Outlet 13 Switched AC Accessory Outlets 14 AC Power Cord 15 Subwoofer Output 16 Preamp Outputs 17 Digital Audio Outputs 18 Coaxial Digital Inputs 19 Optical Digital Inputs 20 Remote IR Output | <ul style="list-style-type: none"> 21 Multiroom IR Input 22 Remote IR Input 23 Multiroom Outputs 24 Video Monitor Outputs 25 Video 3 Inputs 26 Video 2 Inputs 27 Video 1 Outputs 28 Video 1 Inputs 29 DVD Inputs |
|--|---|---|

NOTE: For all video inputs and outputs 25 26 27 28 29, the same number is used to indicate the audio, composite-video and S-Video connections related to that input. This accounts for the same number appearing in more than one place on the rear-panel drawing.

Rear Panel Connections

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 the optional external FM antenna to this terminal.

3 6-Channel Direct Inputs: If an external digital audio decoder is used, connect the outputs of that decoder to these jacks.

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

5 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 two **Component Video Inputs 6 7** is selected the signal will be sent to these jacks.

6 Video 2 Component Video Inputs: Connect the Y/Cr/Cb component video outputs of a set top converter box or other video product to these jacks.

7 DVD Component Video Inputs: Connect the Y/Cr/Cb component video outputs of a DVD player to these jacks.

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

9 Speaker Outputs: Connect the these jacks to the matching + or – terminals on your speakers. When making speaker connections, always make certain to maintain correct polarity by connecting the red (+) terminals on the AVR to the red terminals on the speaker and the black (–) terminals on the AVR to the black terminals on the speakers. (See page 15 for more information on speaker polarity.)

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

11 Amplifier Inputs: When the jumper pins that link the **Preamp Outputs 16** with these inputs are removed, these jacks may be used to connect an external source or the AVR7000's multiroom system to the internal amplifiers. (See page 17 for more information on using these connections.)

12 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 7000 is on or off.

13 Switched AC Accessory Outlets: These outlets may be used to power any device that you wish to have turn on when the unit is turned on with the **System Power Control** switch **2**.

14 AC Power Cord: Connect the AC plug to an unswitched AC wall output.

15 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.

16 Preamp Outputs: When the jumper pins that link the **Amplifier Inputs 11** with these outputs are removed, these jacks may be connected to an external power amplifier.

17 Digital Audio Outputs: Connect these jacks to the matching digital input connector on a digital recorder such as a CD-R or MiniDisc recorder.

18 Coaxial Digital Inputs: Connect the coax digital output from a DVD player, HDTV receiver, 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.

19 Optical Digital Inputs: Connect the optical digital output from a DVD player, HDTV receiver, 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.

20 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.

21 Multiroom IR Input: Connect the output of an IR sensor in a remote room to this jack to operate the AVR 7000's multiroom control system.

22 Remote IR Input: If the AVR 7000'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.

23 Multiroom Outputs: Connect these jacks to the optional audio power amplifiers or video display devices to view and listen to the source selected by the multiroom system in a remote room.

24 Video Monitor Outputs: Connect this jack 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.

25 Video 3 Inputs: Connect these jacks to the audio and video outputs of a TV tuner, Cable TV converter box, satellite receiver or another audio/video source.

26 Video 2 Inputs: Connect these jacks to the audio and video outputs of a TV Tuner, Cable TV converter box, satellite receiver or any other audio/video source.

27 Video 1 Outputs: Connect these jacks to the audio and video **RECORD/INPUT** jacks of a VCR.

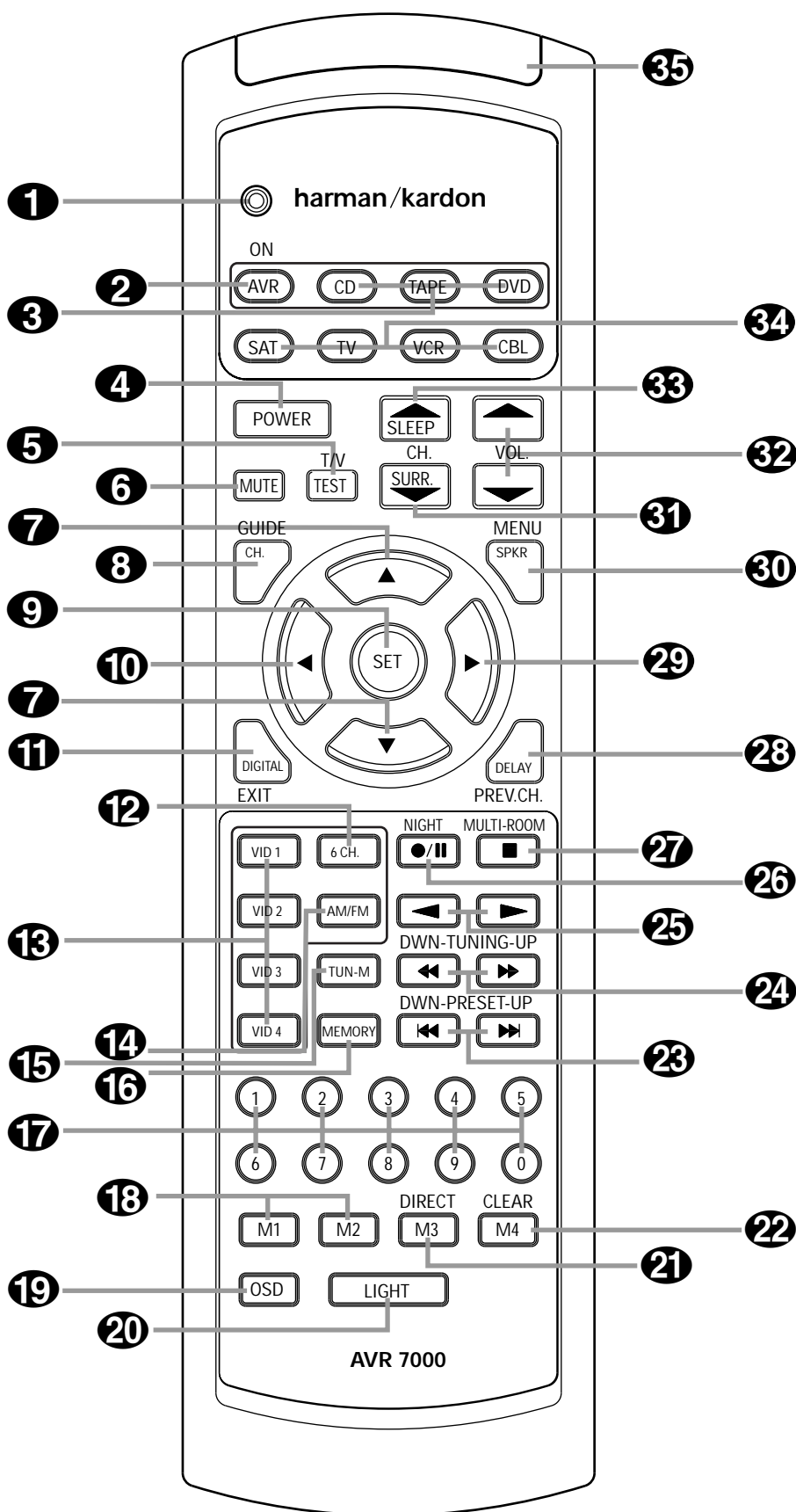
28 Video 1 Inputs: Connect these jacks to the audio and video **PLAY/OUT** jacks of a VCR.

29 DVD Inputs: Connect the analog audio outputs and composite video output of a DVD or LD player to these jacks.

Main Remote Control Functions

- 1 Program Indicator
- 2 AVR Selector
- 3 CD/Tape/DVD Input Selectors
- 4 Power Off Button
- 5 Test Tone
- 6 Mute
- 7 ▲/▼ Buttons
- 8 Channel Select Button
- 9 Set Button
- 10 ◀ Button
- 11 Digital Select
- 12 6-Ch. Direct Input
- 13 Video Input Selectors
- 14 AM/FM Tuner Select
- 15 Tuner Mode
- 16 Memory Button
- 17 Numeric Keys
- 18 Macro 1/2 Buttons
- 19 OSD Button
- 20 Light Button
- 21 Direct/Macro 3 Button
- 22 Clear/Macro 4 Button
- 23 Preset Up/Down
- 24 Tuning Up/Down
- 25 Forward/Reverse Transport Buttons
- 26 Night Mode
- 27 Multi-Room
- 28 Delay/Prev. Ch.
- 29 ▶ Button
- 30 Speaker Select
- 31 Surround Mode Selector
- 32 Volume Up/Down
- 33 Sleep Button
- 34 Video Remote Selectors
- 35 IR Transmitter Window

NOTE: The function names shown here are each button's feature when used with the AVR. Most buttons have additional functions when used with other devices. See page 38 for a list of these functions.



Main Remote Control Functions

IMPORTANT NOTE: The AVR 7000's remote may be programmed to control up to eight devices, including the AVR 7000. Before using the remote, it is important to remember to press the **Device Control Selector** button **2** **3** that corresponds to the unit you wish to operate. In addition, the AVR 7000's remote is shipped from the factory to operate the AVR 7000 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 34–45 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 7000. (See page 38 for information about alternate functions for the remote's buttons.)

1 Program Indicator: This three-color indicator is used to guide you through the process of learning commands from a remote into the AVR's remote code memory. (See page 35 for information on learning IR codes.)

2 AVR Selector: Pressing this button will switch the remote so that it will operate the AVR's functions. If the AVR is in the Standby mode, it will also turn the AVR on.

3 CD/Tape/DVD Input Selectors: Pressing one of these buttons will perform three actions at the same time. First, if the AVR 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. 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 **2** again to operate the AVR's functions with the remote.

4 Power Off Button: Press this button to place the unit 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.

5 Test Tone: Press this button to begin the sequence used to calibrate the AVR 7000's output levels. (See page 23 for more information on calibrating the AVR 7000.)

6 Mute: Press this button to momentarily silence the AVR 7000 or TV set being controlled, depending on which device has been selected.

When the AVR 7000 remote is being programmed to operate another device, this button is pressed with the **Device Control Selector** button **2** **34** to begin the programming process. (See page 34 for more information on programming the remote.)

7 ▲/▼ Buttons: These are multi-purpose buttons. They will be used most frequently to select a surround mode. To change the surround mode, first press the **SURR/CH ▼** button **31**. Next press these buttons to scroll up or down through the list of surround modes that appear in the **Information Display 23**. These buttons are also used to increase or decrease output levels when configuring the unit with either the internal test tone or an external source. They are also used to enter delay time settings after the **Delay** button **25** has been pressed.

8 Channel Select Button: This button is used to start the process of setting the AVR 7000's output levels to an external source. Once this button is pressed, use the **▲/▼** buttons **7** to select the channel being adjusted, then press the **Set** button **9**, followed by the **▲/▼** buttons again, to change the level setting. (See page 23 for more information.)

9 Set Button: This button is used to enter settings into the AVR 7000's memory. It is also used in the setup procedures for delay time, speaker configuration and channel output level adjustment.

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

11 Digital Select: Press this button to assign one of the digital inputs **18** **19** to a source. (See page 27 for more information on using digital inputs.)

12 6-Ch. Direct Input: Press this button to select the component connected to the 6-Ch. direct Input **3** as the source

13 Video Input Selector: Press one of these buttons to select a video input as the listening and viewing source.

14 AM/FM Tuner Select: Press this button to select the AVR's tuner as the listening choice.

Pressing this button when a tuner is in use will select between the AM and FM bands.

15 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 **V** goes out, pressing the **Tuning** buttons **24** **8** **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 29 for more information.)

16 Memory Button: Press this button to enter a radio station into the AVR 7000's preset memory. After pressing the button the **MEMORY** indicator **S** will flash; you then have five seconds to enter a preset memory location using the **Numeric Keys 17**. (See page 29 for more information.)

17 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** 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.

18 Macro 1/2 Buttons: These buttons are used to recall or enter the programming sequence for a preprogrammed Macro sequence. (See page 36 for more information on programming and using Macros.)

19 OSD Button: Press this button to activate the On Screen Display (OSD) system used to set up or adjust the AVR 7000's parameters.

20 Light Button: Press this button to activate the remote's built-in backlight for better legibility of the buttons in a darkened room.

21 Direct/Macro 3 Button: This button has two functions. Pressing it when the tuner is in use will start the sequence for direct entry of a station's frequency. After pressing the button simply press the proper **Numeric Keys 17** to select a station. This button may also be used to store or recall a macro sequence. (See page 29 for more information on the tuner, and page 36 for more information on programming and using Macros.)

22 Clear/Macro 4 Button: This button may be used to store and recall a macro; it may also be programmed for use with other devices. (See page 36 for more information on macros.)

Main Remote Control Functions

23 Preset Up/Down: When the tuner is in use, press these buttons to scroll through the stations programmed into the AVR 7000's memory. When some source devices, such as CD players, VCRs and cassette decks, are selected using the **Device Control Selectors** **3** **6**, these buttons may function as chapter step or track advance.

24 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 **15** **12** has been pressed so that the **AUTO** indicator **V** 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 **V** is NOT illuminated, pressing these buttons will tune stations in single-step increments. (See page 29 for more information.)

25 Forward/Reverse Transport Buttons: These buttons do not have any functions for the AVR, 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 34 for more information on programming the remote.)

26 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.

27 Multi-Room: 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 33 for more information on the Multiroom system.)

28 Delay/Prev Ch.: Press this button to begin the process for setting the delay times used by the AVR 7000 when processing surround sound. After pressing this button, the delay times are entered by pressing the **Set** button **9** and then using the **▲/▼** buttons **7** to change the setting. Press the **Set** button again to complete the process. (See page 20 for more information.)

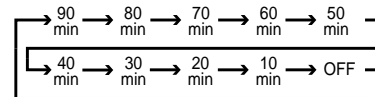
29 ► Button: Press this button to change a setting or selection when configuring many of the AVR's settings.

30 Speaker Select: Press this button to begin the process of configuring the AVR 7000's Bass Management System for use with the type of speakers used in your system. Once the button has been pressed, use the **▲/▼** buttons **7** to select the channel you wish to set up. Press the **Set** button **9** and then select another channel to configure. When all adjustments have been completed, press the **Set** button twice to exit the settings and return to normal operation. (See page 22 for more information.)

31 Surround Mode Selector: Press this button to begin the process of changing the surround mode. After the button has been pressed, use the **▲/▼** buttons **7** to select the desired surround mode. (See page 25 for more information.) Note that this button is also used to tune channels when the TV is selected using the **Device Control Selector** **34**. When the AVR 7000 remote is being programmed for the codes of another device, this button is also used in the "Auto Search" process. (See page 34 for more information on programming the remote.)

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

33 Sleep Button: Press this button to place the unit in the Sleep mode. After the time shown in the display, the AVR 7000 will automatically go into the Standby mode. Each press of the button changes the time until turn-off in the following order:



Note that this button is also used to change channels on your TV when the TV is selected using the **Video Remote Selectors** **34**.

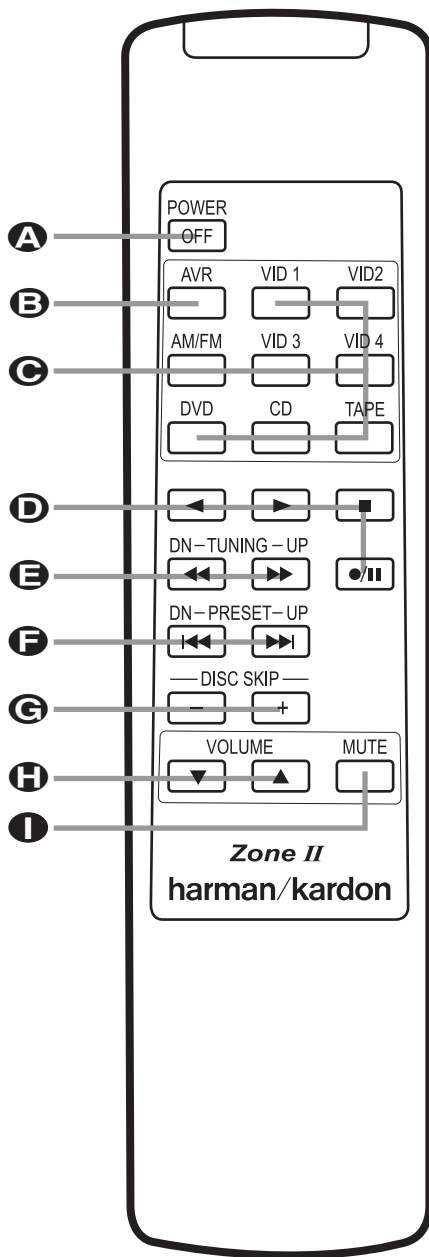
When the AVR 7000 remote is being programmed for the codes of another device, this button is also used in the "Auto Search" process. (See page 34 for more information on programming the remote.)

34 Video Remote Selectors: Press one of these buttons to use the remote to control the functions of the device shown on the button. (For more information on programming the remote to operate these devices, see pages 34–35.)

NOTE: As any of these buttons is pressed, it will briefly flash red to confirm your selection.

35 IR Transmitter Window: Point this window towards the AVR 7000 when pressing buttons on the remote to make certain that infrared commands are properly received.

Zone II Remote Control Functions



A Power Off: When used in the room where the AVR 7000 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 **Multi IR Jack** ②, this button turns the Multi-Room system on and off.

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

C Input Selectors: When the AVR 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.

D Transport Controls: These buttons control the Play, Pause and Stop functions of compatible Harman Kardon CD, DVD and cassette players.

E Tuning Up/Down – Fast Play: When the AVR's tuner is selected as the input source, these buttons will tune up or down through the frequencies of the chosen band. When a CD, DVD or cassette deck is selected, these buttons activate the Fast Play Forward or Fast Play Reverse functions.

F Preset Up/Down – Track Skip: When the AVR'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 player is selected, these buttons activate the forward or reverse track or chapter skip functions.

G Disc Skip: When a compatible Harman Kardon CD or DVD changer has been selected, these buttons activate the Disc Skip function.

H Volume Up/Down: When used in the room where the AVR 7000 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 **Multi IR Jack** ②, this button will raise or lower the volume in the remote room.

I Mute: When used in the room where the AVR 7000 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 **Multi IR Jack** ②, this button will temporarily silence the feed to the remote room only. Press the button again to return to the previous volume level.

- A** Power Off
- B** AVR Selector
- C** Input Selectors
- D** Transport Controls
- E** Tuning Up/Down – Fast Play
- F** Preset Up/Down – Track Skip
- G** Disk Skip
- H** Volume Up/Down
- I** Mute

NOTE: The Zone II remote may be used in either the same room where the AVR 7000 is located, or it may be used in a separate room with an optional infrared sensor that is connected to the AVR 7000's Multi IR input jack ②. When it is used in the same room as the AVR, it will control the functions of the AVR or any compatible Harman Kardon products in that room. When it is used in a separate room

via a sensor connected to the Multi IR Jack ②, the buttons for power, input source, volume, mute and the tuner will control the source and volume for the second zone, as connected to the Multi Out Jacks ③. (See page 33 for complete information on using the Multi-Room system.)

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.

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.

When making connections to audio source equipment or speakers it is always a good practice to unplug the unit from the AC wall outlet. This prevents any possibility of accidentally sending audio or transient signals to the speakers that may damage them.

1. Connect the analog output of a CD player to the **CD** inputs **4**.

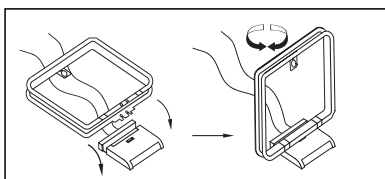
NOTE: When the CD player has both fixed and variable audio outputs it is best to use the fixed output unless you find that the input to the receiver is so low that the sound is noisy, or so high that the signal is distorted.

2. Connect the analog Play/Out jacks of a cassette deck, MD, CD-R or other audio recorder to the **Tape In** jacks **3**. Connect the analog Record/In jacks on the recorder to the **Tape Out** jacks **10** on the AVR 7000.

3. Connect the output of any digital sources to the appropriate input connections on the AVR 7000 rear panel. Note that the **Optical** and **Coaxial** digital inputs **18** **19** may be used with a Dolby Digital or DTS source or the output of a conventional CD or LD player's PCM (S/P-DIF) output.

4. Connect the **Coaxial or Optical Digital Outputs** **17** on the rear panel of the AVR to the matching digital input connections on a CD-R or MiniDisc recorder.

5. Assemble the AM Loop Antenna supplied with the unit as shown below. 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 **9** to the respective speakers.

To assure 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 fine, 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 electrical contractor 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. Remember to connect the "negative" or "black" wire to the same terminal on both the receiver and the speaker. Similarly, the "positive" or "red" wire should be connected to like terminals on the AVR 7000 and 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 assure 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 7000.

8. Connections to a subwoofer are normally made via a line level audio connection from the **Subwoofer Output** **15** 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.

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 audio and video Play/Out jacks to the **Video 1 In** jacks **28** on the rear panel. The Audio and Video Record/In jacks on the VCR should be connected to the **Video 1 Out** jacks **27** on the AVR 7000.

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 2** **25** or **Video 3** **25** jacks.

3. Connect the analog audio and video outputs of a DVD or laser disc player to the **DVD** jacks **29**.

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** **18** **19**.

5. Connect the **Video Monitor Out** **24** jacks on the receiver to the composite or S-Video input of your television monitor or video projector.

Installation and Connections

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 7**. Note that even when component video connections are used the audio connections should still be made to either the analog **DVD Audio Inputs 29** or any of the **Coaxial** or **Optical Digital Input jacks 18 19**.

7. If another component video device is available, connect it to the **Video 2 Component Video Input jacks 6**. The audio connections for this device should be made to either the **Video 2 Input jacks 26** or any of the **Coaxial** or **Optical Digital Input jacks 18 19**.

8. If the component video inputs are used, connect the **Component Video Output 5** to the component video inputs of your TV, projector or display device.

Video Connection Notes:

- When the component video jacks are used, the on-screen menus will not be visible. You must switch to the standard composite or S-Video input on your TV to view those menus.
- The AVR 7000's component video system is designed for standard video rate (NTSC/480i) video from DVD players and similar devices. While it may operate with high definition signals, the quality may be slightly less than with a direct connection.
- The AVR 7000 will accept either standard composite, S-Video or Y/Cr/Cb 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. However, S-Video signals will be converted to standard, composite video, and are viewable through the **Composite Video Monitor Output 24**.

System and Power Connections

The AVR 7000 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 jack 22**.

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 jack 20** 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 7000 via standard coaxial cable. Plug the IR connection cable into the **Multiroom IR Input jack 21** on the AVR 7000's rear panel.

If other Harman Kardon compatible source equipment is part of the main room installation, the **Remote IR Output jack 20** on the rear panel should be connected to the IR IN jack on the CD player or cassette deck. This will enable the remote room location to control source equipment functions in addition to the remote room input and volume.

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.

Multiroom Audio/Video Connections

Depending on the distance from the AVR 7000 to the remote room, two options (A and B) are available for audio connection:

A. Use high-quality, shielded audio interconnect cable from the AVR 7000's location to the remote room. At the remote room, connect the interconnect cable to a stereo power amplifier. The amplifier will be connected to the room's speakers. No volume control is required, as the AVR 7000 and the remote IR link will provide that function. At the AVR 7000, plug the audio interconnect cables into the **Multi-Room Output jacks 23** on the AVR 7000's rear panel.

NOTE: The remote power amplifier must have signal sensing capability or be left on constantly to assure automatic operation at the remote room.

B. Place the amplifier that will provide power to the remote location speakers in the same room as the AVR 7000, and connect the **Multiroom Output jacks 23** on the rear panel of the AVR to the audio input of the remote room amplifier. Use the appropriate speaker wire to connect the optional power amplifier to the remote speakers. High-quality wire of at least AWG14 is recommended for long multiroom connections.

The AVR 7000's multiroom system is also capable of sending either S-Video or standard composite video to the remote room location. Connect the video feeds for the remote location to the **Multiroom Output 23** video jacks. Note that standard S-Video cables may not provide acceptable signal quality when used for runs longer than 35 feet. Consult your dealer or installer for additional cable options for S-Video applications. When running longer lengths of composite video cable for multi-room applications, we recommend that dual shield or quad shield RG-6 cable be used.

IMPORTANT NOTE: Any cables run inside walls should be CL3/FT4 rated, or carry any other certification that is required by the NEC or state and local building and electrical codes. To avoid interference, audio and speaker cables should not be parallel to, or run in the same conduits or path with, AC cables. If you have any questions about multiroom wiring, consult your dealer, custom installer or low-voltage electrical contractor.

Installation and Connections

External Audio Power Amplifier Connections

If desired, the AVR 7000 may be connected to optional, external audio power amplifiers or used with equalizers or speaker systems that require connection between the preamp and amplifier sections of a receiver.

To make these connections, remove the jumpers that connect the **Preamp Out** jacks 16 and **Amplifier In** jacks 11 for the channels to be used with external devices. Store the jumpers in a safe place so that the AVR may be used in its normal mode at a future date, if desired.

When an external amplifier is used, connect the **Preamp Out** jacks 16 to the inputs on the amplifier. When an equalizer or speaker processor is used, connect the **Preamp Out** jacks 16 to the inputs of the processor, and connect the outputs of the processor back to the **Amplifier In** jacks 11 on the AVR. Note that when external amplifiers or devices are used, the volume control is still controlled by the AVR, although additional volume controls on the external device may impact the volume settings and output levels from the AVR.

External Audio Decoder Connection

To provide for ultimate flexibility, the AVR 7000 may be used in conjunction with optional, external decoders for digital audio systems other than the AVR 7000's own built-in Dolby Digital and DTS decoding system or with DVD players using the DVD Audio Format. If an external decoder is used, connect the output jacks of the decoder to the **6-Channel Direct** inputs 3, making sure to match channels.

These jacks may also be used for connections to devices such as DVD players or High Definition Television (HDTV) sets or decoders that feature built-in digital surround decoders. Although the digital decoding system in the AVR 7000 will typically provide audio performance that is superior to other decoders, you may use these jacks to provide an additional 6-channel input for connection to a DVD player or HDTV set with a built-in decoder and discrete 6-channel analog outputs.

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.

The **Switched** 13 outlets 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** 11 outlet will receive power as long as the unit is plugged into a powered AC outlet.

Finally, when all connections are complete, plug the power cord into a nonswitched 120-volt AC wall outlet. You're almost ready to enjoy the AVR 7000!

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 front left, center and front right 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 left front and right front 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.

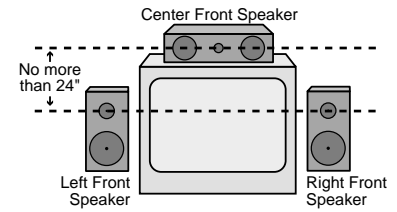
Depending on the specifics of your room acoustics and the type of speakers in use, you may find that imaging is improved by moving the front left and front right speakers slightly forward of the center channel speaker. If possible, adjust all front loudspeakers so that they are aimed at ear height when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

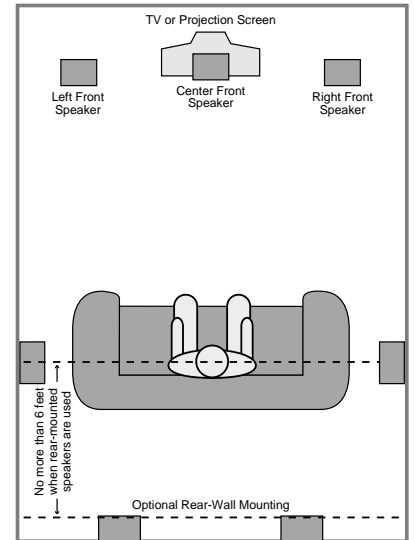
Surround speakers should be placed on the side walls of the room, at or slightly behind the listening position. The center of the speaker should face into the room. The speakers should be located so that the bottom of the cabinet is at least two feet higher than the listeners' ears when the listeners are seated in the desired area.

If side wall mounting is not practical, the speakers may be placed on a rear wall, behind the listening position. Again, they 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.

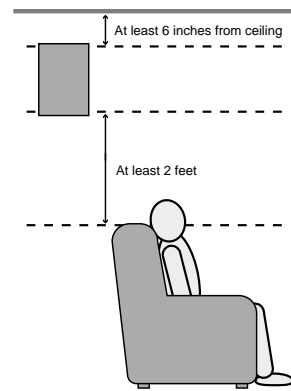
Subwoofers produce nondirectional sound, so they may be placed almost anywhere in a room. Actual placement should be based on room size and shape and the type of subwoofer used. One method of finding the optimal location for a subwoofer is to begin by placing it in the front of the room, about six inches from a wall, or near the front corner of the room. Another method is to temporarily place the subwoofer in the spot where you will normally sit, 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.



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



B) The distance between the left and right speakers should be equal to the distance from the seating position to the viewing screen. You may also experiment with placing the left and right speakers slightly forward of the center speaker.



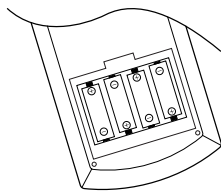
System Configuration

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 7000'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 7000 to begin these final adjustments.

1. Plug the **Power Cable 14** into an unswitched AC outlet.
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. Install the four supplied AAA batteries in the remote as shown. Be certain to follow the (+) and (-) polarity indicators that are on the bottom of the battery compartment.



4. Turn the AVR 7000 on either by pressing the **System Power Control 2** on the front panel, or via the remote by pressing the **AVR Selector 2** or any of the **CD/Tape/ DVD Selectors 3** on the remote. The **Power Indicator 3** will turn green to confirm that the unit is on, and the **Information Display 23** will also light up.

Using the On-Screen Display

When making the following adjustments, you may find them easier to make if you use the unit's on-screen display system. These easy-to-read displays 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 displays, make certain you have made a connection from the **Monitor Out jack 24** on the rear panel to the composite or S-Video input of your TV or projector. In order to view the AVR's displays, the correct video source must be selected on the video display.

IMPORTANT NOTE: When viewing the displays on a projection TV it is important that they not be left on the screen for an extended period of time. As with any video display, but particularly with projectors, constant display of a static image such as these menus or video game images may cause the image to be permanently "burned into" the CRT. This type of damage is not covered by the AVR 7000 warranty and may not be covered by the projector TV set's warranty.

The AVR 7000 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 a complete status report or option listing on the screen, making it easier to view the available options. The Semi-OSD mode uses one-line displays only.

Making Configuration Adjustments

The full OSD system is always available by pressing the OSD button **19**. When this button is pressed the main **AUDIO SETUP** menu (Figure 1) will appear, and adjustments are made from the individual menus. The semi-OSD system is also available as a system default, although it may be turned off by using the **ADVANCED SELECT** menu. (See page 32.) With the semi-OSD system, you may make adjustments directly, by pressing the buttons on the front panel or remote control for the specific parameter to be adjusted. For example, press the **Speaker button 30 25** to set the speaker configuration, etc.

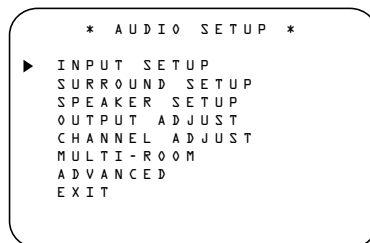


Figure 1

Using the full OSD system and the on-screen menus is usually the easiest way to make adjustments, as this method presents the full range of choices for each option on the screen. However, note that when the full OSD system is in use, the menu selections are not shown in the **Information Display 23 W**. When the full OSD menu system is used, OSD ON will appear in the **Main Information Display W** and the **OSD Indicator W** will illuminate 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 **Main Information Display W**.

To use the full OSD menu system, press the **OSD button 19**. When the menu is on the screen, press the **▲/▼ buttons 7** until the on-screen **▶** cursor is next to the item you wish to adjust, and then press the **Set button 9** 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 SELECT** menu, and changing the item titled **FULL OSD TIME OUT**.

Setting the System Configuration Memories

The AVR 7000 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 7000 memorize them. 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 an input.

The default settings for the AVR 7000, as it is shipped from the factory, have all inputs set for an analog source, with stereo as the surround mode, the front left and right speakers set to "large," and a subwoofer connected. 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. Remember, since the AVR 7000's memory system keeps the settings for each input separate from the other inputs, 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

System Configuration

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 Main Audio Setup Menu, as some settings require a specific entry in a prior menu item.

The items that follow will describe the individual settings required for each input. 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 7000 is to select an input. This may be done by pressing the front panel **Input Source Selector 11** until the desired input's name appears momentarily in the **Main Information Display W**, and the green LED lights next to the input's name in the front panel **Input Indicators 20**. The input may also be selected by pressing the appropriate Input Selector on the remote control **2 3 12 13 14**.

When using the full-OSD system to make the setup adjustments, press the **OSD button 19** once so that the main **AUDIO SETUP** menu (Figure 1) appears. Note that the ► cursor will be next to the input setup line. Press the **Set button 9** to enter the menu and the **INPUT SETUP** menu (Figure 2) will appear on the screen. Press the ◀▶ buttons **10 29** until the desired input name appears in the highlighted video, as well as being indicated in the front panel **Input Indicators 20** 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.

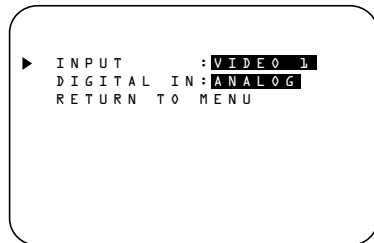


Figure 2

If you wish to associate one of the digital inputs with the selected input source, press the ▼ button **7** on the remote while the **INPUT 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 **10 29** until the name of the

desired digital input name appears. To return to the **ANALOG** input, press the buttons until the word analog appears. When the correct input source appears, press the ▼ button once so that the ► cursor appears next **RETURN TO MENU**, and press the **Set button 9**.

To change the digital input at any time using the discrete function buttons and the semi-OSD system, press the **Digital Input Select button 22 11** on the front panel or the remote. Within five seconds, make your input selection using the **Selector** buttons on the front panel **5** or the ▲/▼ buttons **7** on the remote until the desired digital or analog input is shown in the **Main Information Display W** and in the lower third of the video display connected to the AVR 7000.

Surround Setup

Once the input setup has been completed, the next step for that input is to set the surround mode you wish to use with that input. 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 7000, it is best to select Dolby Pro Logic 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, if that is your preferred listening mode for standard stereo sources, where it is unlikely that surround encoded material will be used. Alternatively, the Logic 7 Music mode may also be a good choice for stereo-only source material.

It is easiest to complete the surround setup using the full-OSD on-screen menus. From the **MAIN AUDIO SETUP** menu (Figure 1), press the ◀▶ button **7 5** until the ► cursor is next to the **SURROUND SETUP** menu. Press the **Set button 9 19** so that the **SURROUND SETUP** menu (Figure 3 or 4) is on the screen.

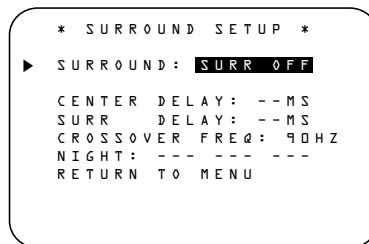


Figure 3

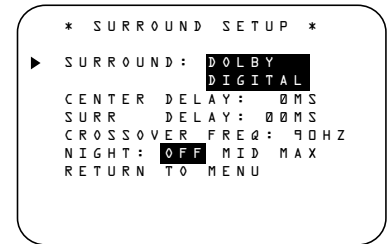


Figure 4

Since the factory default for all inputs is Stereo, the words **SURR OFF** will initially appear in highlighted video (Figure 3). To change the surround mode while the ► cursor is next to the surround line, press the ◀▶ buttons **10 29** until the desired surround mode's name appears in the highlighted video. As the modes are changed, a green LED will also light next to the mode names in the **Surround Mode Indicators 27** on the front panel.

Note that the data lines next to the items in the screen display will show either numbers or a series of dashes, depending on whether or not the specific parameter is adjustable. For example, the Center Delay and Night Mode items are only adjustable for Dolby Digital, and the Delay Time is only adjusted for Dolby Digital and Dolby Pro Logic. The Crossover Frequency is adjustable in all modes. Note, also, that Dolby Digital and DTS will only appear as choices (Figure 4) when a digital input was previously selected.

Depending on the surround mode selected, you will now proceed to change either the delay time or the crossover frequency. For Dolby Digital and Dolby Pro Logic, pressing the ▲/▼ buttons **7 5** will take you to the delay settings, for all other modes, it will take you to the Crossover Frequency adjustment.

Delay Settings

If Dolby Digital or Dolby Pro Logic is selected as the surround mode for an input, you will need to adjust the delay time setting. Note that the delay time is not adjustable for any other modes.

Due the different distances between the front channel speakers and the listening position compared to the surround speakers and the listening position, the amount of time it takes for sound to reach your ears from the front or surround speakers is different. You may compensate for this difference through the use of the delay settings to adjust the timing for the

System Configuration

specific speaker placement and acoustic conditions in your listening room or home theater.

The factory setting is appropriate for most rooms, but some installations create an uncommon distance between the front and surround speakers that may cause the arrival of front channel sounds to become disconnected from surround channel sounds.

To resynchronize the front and surround channels, follow these steps:

1. Measure the distance from the listening position to the front speakers.
2. Measure the distance from the listening position to the surround speakers.
3. Subtract the distance to the surround speakers from the distance to the front speakers.
 - a. When setting the delay time for the Dolby Digital surround modes, the optimal delay time is the result of that subtraction. For example, if the front speakers are ten feet away and the surround speakers are five feet away, the optimal delay time is figured as $10-5=5$. Thus, in this example, the delay time for Dolby Digital should be set at five milliseconds.
 - b. When setting the delay time for the Pro Logic mode, take the result of the subtraction and add 15 to obtain the optimal delay time. For example, if the front speakers are ten feet away and the surround speakers are five feet away, the optimal delay time is figured as $10-5+15=20$. Thus, in this example, the Pro Logic delay should be set at twenty milliseconds.

NOTE: The DTS, Logic 7, Hall and Theater modes use a fixed, nonadjustable delay time.

The Dolby Digital Mode also includes a separate setting for the center channel delay mode, since the discrete nature of these signals makes the location of the center channel speaker more critical. To calculate the delay for the center channel, measure the distance from the preferred listening position in the center of the room to both the center channel speaker and either the left or right speaker.

If the distances are equal, no further adjustment is required and the center delay should be set to zero. If the distance to the front speakers is greater than the distance to the center speaker, you may wish to reposition the speakers by moving the front left and front right speakers closer to the listening position or the center speaker further away from the listening position.

If repositioning of the speakers is not possible, adjust the center delay time, adding one millisecond of center channel delay for every foot closer to the listening position the center speaker is than the front speakers. For example, if the front left and front right speakers are each 10 feet from the listening position and the center channel speaker is 8 feet away, the delay is figured as $10-8=2$, suggesting an optimal center delay of 2 milliseconds.

To set the delay time for a specific input, continue within the **SURROUND SETUP** (Figure 4) menu. If the system is not already at that point, press the **OSD** button **19** to bring up the main audio setup menu, press the **▼** button **7 5** and then the **Set** button **9 19** to bring up the surround setup menu, and then press the **▼** button **7 5** once.

If the Dolby Digital mode is selected, the **▶** cursor will stop at the **CENTER DELAY** line. In that case, press the **◀▶** buttons **10 29** until the desired figure appears in the display, using the number calculated using the formula shown above. When the **CENTER DELAY** is entered, press the **▼** button **7 5** once to move to the next line.

When the **CENTER DELAY** is set, or if the Dolby Pro Logic mode is selected, the **▶** cursor will be at the **SURR DELAY** line so that the delay for the surround speakers may be set. Press the **◀▶** buttons **10 29** until the desired figure appears in the display, using the number calculated using the formula shown above. When the delay settings are complete, press the **▼** button **7 5** once to move to the next line.

Note that the delay settings may also be adjusted at any time when the Dolby Digital or Dolby Pro Logic modes are in use by pressing the **Delay** button on the front panel **21** or remote **28**, followed by a press of the **Set** button **19 9**. Next, press the **▲/▼** buttons **7 5** until the desired figure appears in the **Main Information Display W**.

Crossover Frequency

The crossover frequency is the point at which the AVR 7000 divides low frequency, or bass sounds, from the rest of the audio output. This is important as it enables you to match the performance of the AVR's bass management system to the precise characteristics of your speakers and subwoofer. When a subwoofer is used, this setting determines which sounds go to the subwoofer and which to your other speakers.

Before entering the data for this setting, you will need to find out what the crossover point of your subwoofer is. This is the number that is the high range of your subwoofer's frequency response. Consult the Owner's Manual for your subwoofer, and look for the frequency response line on the specifications page. The number at the high end is the figure that should be used for the crossover point. If your subwoofer has an adjustable crossover, set it for 80Hz, 90Hz and 100Hz, and then enter that setting into the AVR 7000.

To set the crossover point, make certain that the **▶** cursor is on the **CROSSOVER FREQ** line. Next, press the **◀▶** buttons **10 29** until the desired figure appears on the screen. If the choices shown do not match the choices available, select the number closest to the required number.

If you do not know the correct crossover point, or are unable to find the information, leave the factory default in effect. If it appears that there is a "hole" in the smoothness of the system's sound, as evidenced by rough transitions from bass to higher-range sounds, choose a higher setting than the default.

For all modes other than Dolby Digital, the Surround Setup is now complete. Press the **▼** button **7 5** one more time so that the **▶** cursor is next to **RETURN TO MENU**, and press the **Set** button **9 19**. For the Dolby Digital mode, there is one more adjustment to be made. Press the **▼** button **7 5** to go to the **NIGHT MODE** setting line.

Night Mode Settings

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. Note that the Night mode is

System Configuration

only available when specially encoded Dolby Digital signals are played.

To adjust the Night mode setting for an input from the menu, make certain that the ► cursor is on the Night line of the **SURROUND SETUP** menu. Next, press ◀▶ buttons **10 29** to choose between the following settings.

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

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

MAX: When **MAX** is in the highlighted video, 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.

Note that the Night mode may be adjusted directly any time that a Dolby Digital source is playing by pressing the **Night** button **26**.

When the button is pressed, the words **D-RANGE** will appear in the lower third of the video screen and in the **Main Information Display W**. Press the ▲/▼ button **7** within three seconds to select the desired setting.

When all settings for the surround setup have been made, press the ▲/▼ buttons **7** so that the ► cursor is next to **RETURN TO MENU**, and press the **Set** button **9** to return to the main menu.

Speaker Setup

The first few adjustments tell the AVR 7000 which type of speakers are in use. This is important as it adjusts the settings that determine 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.

To enter the proper settings for the speaker setup, the easiest path is through the **SPEAKER SETUP** menu (Figure 5). If that menu is not already on your screen from the prior adjustments, press the **OSD** button **19** to bring up the **AUDIO SET UP** menu (Figure 1), and then press the ▼ button **7** twice so that the cursor is on the **SPEAKER SETUP** line. At this point, press the **Set** button **9** to bring up the **SPEAKER SETUP** menu (Figure 5).



Figure 5

When the **SPEAKER SETUP** menu first appears, the on-screen cursor ► will be at the top of the list of speaker positions, pointing toward the **LEFT/RIGHT** line, which sets the configuration for the two front speakers. If you wish to make a change to the front speakers, press the ▲/▼ buttons **7** 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. Note that 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, and NO low frequency signals will be sent to the subwoofer output.

When you have completed your selection for the front channel, press the ▼ button **7** on the remote to move the cursor to **CENTER**.

Press the ◀▶ buttons **10 29** on the remote to select the option that best describes your

system based on the speaker definitions shown on this page.

When **SMALL** is selected, low frequency center channel sounds will be sent only to the subwoofer output. Note that if you choose this option and there is no subwoofer connected, you will not hear any 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.

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 you have completed your selection for the center channel, press the ▼ button **7** on the remote to change the cursor to **SURROUND**.

Press the ◀▶ buttons **10 29** 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. Note that 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. Note that for optimal performance when no surround speakers are in use, the Dolby 3 Stereo mode should be used instead of Dolby Pro Logic. When only front left and right speakers are used, with no center or surround speakers, VMAX is a good alternative mode.

When you have completed your selection for the surround channel, press the ▼ button **7** on the remote to move the cursor to **SUBWOOFER**.

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Press the ◀▶ buttons **10** **29** on the remote to select the option that best describes your system.

Select **YES** if a subwoofer is connected to your system.

Select **NO** if a subwoofer is NOT connected to your system. Note that when no subwoofer is selected, low frequency sounds below 100Hz will be sent to the front left and front right speakers, provided that the left and right speakers have been set to **LARGE**. Otherwise, no low frequency sounds will be heard at all. This option is not available when the front, center or surround speakers are set to **SMALL**.

When all speaker selections have been made, press the ▼ button **7** and then the **Set** button **9** to return to main menu.

The Speaker Configuration may be changed at any time without using the full-OSD on-screen menu system by pressing the **Speaker Select** button on the front panel **25** or remote **30**. Once the button is pressed, **FNT SPEAKER** will appear in both the lower third of the video display and the **Main Information Display W**.

Within three seconds, either press the front panel ◀▶ Selector buttons **5** or the ◀▶ buttons **10** **29** on the remote to select a different speaker position, or press the **Set** Button **19** **9** to begin the adjustment process for the front left and right speakers

When the **Set** button **19** **9** has been pressed and the system is ready for a change to the speaker setting, the on-screen display and **Main Information Display W** will read **FNT LARGE** or **FNT SMALL** depending on the current setting. Press the front panel ◀▶ Selector Buttons **5** or the ◀▶ buttons **10** **29** on the remote until the desired setting is shown, using the instructions for "large" or "small" shown earlier.

If another speaker position needs to be changed, press the front panel ◀▶ Selector buttons **5** or the ◀▶ buttons **10** **29** on the remote to select a different speaker position, and then press the front panel ◀▶ Selector buttons **5** or the ◀▶ buttons **7** on the remote until the correct speaker setting is shown.

To assist in making these settings, the icons in the **Speaker/Channel Input Indicators P** will change as the speaker type is selected at each position. When only the center icon box containing the abbreviation for the speaker position is lit, the speaker is set for "small." When the inner box and the two outer boxes with circles inside them are lit, the speaker is set for "large." When no indicator appears at a speaker location, that position is set for "none" or "no" speaker.

Note: These icons are available only when making setup changes in the semi-OSD mode.

As an example, in Figure 6 below, the left front and right front speakers are set for "large," the center, left surround (LS) and right surround (RS) speakers are set for small, and a subwoofer is set, as shown by the box with the abbreviation "LFE", which stands for "low frequency effects".

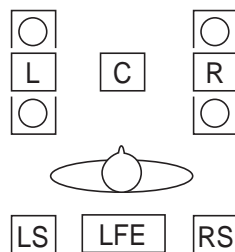


Figure 6

Output Level Adjustment

Output level adjustment is a key part of the configuration process for any surround sound product. It is particularly important for the Dolby Digital receiver such as the AVR 7000, as correct outputs will ensure that you hear sound tracks with the proper directionality and intensity.

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 ambiance, 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. Finally, make certain that the **Balance Control 17** is set to the center "12 o'clock" position.

To adjust and calibrate the output levels, follow these steps. For accurate calibration, it is a good idea to make these adjustments while seated in your favorite listening position:

Output level adjustment is most easily done through the **OUTPUT ADJUST** menu (Figure 7). If you are already at the main menu, press the ▼ buttons **7** until the on-screen ► cursor is next to the **OUTPUT ADJUST** line. If you are not at the main menu, press the **OSD** button **19** to bring up the **MAIN AUDIO SETUP** menu (Figure 1), and then press the ▼ buttons **7** three times so that the on-screen ► cursor is next to the Output adjust line. Press the **Set** button **9** to bring the **OUTPUT ADJUST** menu (Figure 7) to the screen.

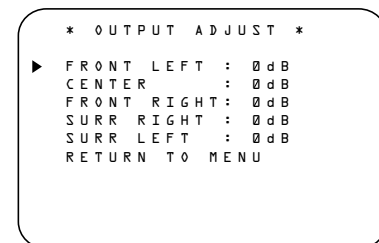


Figure 7

As soon as the new menu appears, you will hear a test noise circulate from speaker to speaker in a clockwise direction around the room. 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: This is a good time 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. If the sound from a speaker location does NOT match the position indicated in the display, turn the AVR 7000 off using the **Main Power Switch 1** and check the speaker wiring to make

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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 **10** **29** on the remote to bring all speakers to the same volume level. Note that 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 speakers until they all have the same volume. Note that adjustments should be made with the ◀▶ buttons **10** **29** 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.

NOTE: The subwoofer output level is not adjustable using the test tone. To change the subwoofer level, follow the steps for Output Level Trim Adjustment on page 29.

When all channels have an equal volume level, the adjustment is complete. To exit this menu, press the ▲/▼ buttons **7** until the on-screen ► cursor is next to the **RETURN TO MENU** line, and then press the **Set** button **9** to return to the main **AUDIO SETUP** menu.

The output levels may also be adjusted at any time using the discrete buttons and semi-OSD system. To adjust the output levels in this fashion, press the **Test Tone Selector** **26** **5**. 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 **Main Information Display** **W**. As an added assist, while the test noise is circulating, the proper channel position will also be indicated in the **Speaker/Channel Indicators** **P** by a blinking letter within the correct channel.

To adjust the output level, press the **Selector** buttons on the front panel **5** or the ▲/▼ buttons **7** 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 Tone Selector** **26** **5** button again to complete the process.

Note: Output level adjustment is not available for the VMAX or Surround Off mode.

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 **INPUT SETUP** line on the main **AUDIO SETUP** 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.

Once the settings outlined on the previous pages have been made, the AVR 7000 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 in the following pages 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 7000, you are about to experience the finest in music and home theater listening. Enjoy!

Operation

Basic Operation

Once you have completed the setup and configuration of the AVR 7000, it is simple to operate and enjoy. The following instructions should be followed for you to maximize your enjoyment of your new receiver:

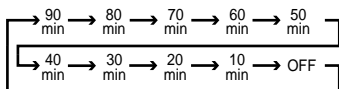
- When using the AVR 7000 for the first time, you must press the **Main Power Switch 1** on the front panel to turn the unit on. This places the unit in a Standby mode, as indicated by the amber color of the **Power Indicator 3**. Once the unit is in Standby, you may begin a listening session by pressing the **System Power Control 2** on the front panel or the **AVR Selector 2**. 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 **Source Selector** buttons on the remote **12 13 14 C** or the **Source** button **11** on the front panel.

NOTE: After pressing CD, TAPE or DVD buttons **3** to turn the unit on, press the **AVR Selector 2** to have the remote control the AVR 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 4 A** on the remote. Power will be shut off to any equipment plugged into the rear panel **Switched AC Outlets 13** 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 7000 for automatic turn-off, press the **Sleep Button 33** on the remote. Each press of the button will increase the time before shut down in the following sequence:



The sleep time will be displayed in the **Preset Number/Sleep Timer Indicator 1** 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 33** until the information display returns to normal brightness and the Sleep indicator numbers disappear.

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 with the **Main Power Switch 1** for more than two weeks.

Source Selection

- To select a source, press any of the **Source Selector** buttons on the remote **3 12 13 14 C**.
- The input source may also be changed by pressing the front-panel **Input Source Selector** button **11**. Each press of the button will move the input selection through the list of available inputs.
- The front-panel **Video 4 Inputs 14** 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 W** and a green LED will light next to the selected input's name in the front-panel **Input Indicators 20**.
- As the input is changed, the AVR 7000 will automatically switch to the digital input, surround mode, speaker configuration, output levels, crossover frequency and night mode status that were entered during the configuration process for that source.

- When an audio source is selected, the last video input used remains routed to the **Video 1 Outputs 27** and **Video Monitor Output 24**. This permits simultaneous viewing and listening to different sources.

- When a Video source is selected, the video signal for that input will be routed to the **Monitor Output** jack **24** and will be viewable on a TV monitor connected to the AVR 7000. If a component video input is connected to the

DVD 7 or **Video 2 6** component inputs, it will be routed to the **Component Video Output 5**. Make certain that your TV is set to the proper input to view the signal.

Volume Control

- Adjust the volume to a comfortable level using the front panel **Volume Control 13** or remote **Volume Up/Down 32 H** buttons.
- When listening in the Stereo mode, with the surround circuits off, the **Balance Control 17** may be used to adjust the relative sound output between the left front and right front speakers.

- To temporarily silence all speaker outputs press the **Mute** button **6 1**. 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 **MUTE** indicator **X** will light in the **Information Display 23**. Press the **Mute** button **6 1** again to return to normal operation.

- During a listening session you may wish to adjust the **Bass Control 13** and **Treble Control 16** to suit your listening tastes or room acoustics.

- To set the output of the AVR 7000 so that the output is "flat," with the tone controls deactivated, press the **Tone Mode** button **6** once or twice so that the words **Tone Out** appear momentarily in the **Main Information Display W**. To return the tone controls to an active condition, press the **Tone Mode 6** button once or twice so that the words **Tone In** momentarily appear in the **Main Information Display W**.

- 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 **Main Information Display W** 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 7000 is its ability to reproduce a full multichannel surround sound field from digital sources, analog matrix surround encoded

Operation

Surround Mode Chart

MODE	FEATURES	DELAY TIME RANGE
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.	Center: 0 ms – 5 ms Initial Setting – 0 ms Surround: 0 ms – 15 ms Initial Setting – 0 ms
DTS	Available only with digital input sources encoded with DTS data. Available on special DVD, LD and audio-only discs, DTS provides up to five separate main audio channels and a special dedicated low frequency channel.	Delay time not adjustable
DOLBY PRO LOGIC	The standard mode for analog surround sound decoding. It uses information encoded in a two channel stereo recording to produce four distinct outputs: Left, Center, Right and a Mono Surround channel. Use this mode for accurate reproduction of programs bearing the Dolby Surround, DTS Stereo, UltraStereo or other "Surround" logos. Surround-encoded programs include videocassette, DVD and LD movies, TV and cable programs, radio programs and audio CDs. Dolby Pro Logic processing may also be used to provide a pleasing surround effect with some stereophonic source material that does not carry surround encoding.	15 ms – 30 ms Initial Setting = 15 ms
LOGIC 7 C LOGIC 7 M	Logic 7 is an advanced mode that extracts the maximum surround information from either surround-encoded programs or conventional stereo material. 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 sound stage 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.	Delay time not adjustable
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.	No surround channels
THEATER	Surround processing uses matrix surround decoding to simulate a standard movie or stage theater.	Delay time not adjustable
HALL 1 HALL 2	The two Hall modes offer two different matrix surround decoding choices that simulate either a medium-sized chamber hall (Hall1) or a large concert hall or opera house (Hall 2)	Delay time not adjustable
VMAx	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.	No surround 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.	No surround channels

Operation

programs and standard stereo programs. In all, a total of ten listening modes are available on the AVR 7000.

Selection of a surround mode is based on personal taste, as well as the type of program source material being used. For example, motion pictures or TV programs bearing the logo of one of the major surround encoding processes, such as Dolby Surround, DTS Stereo or UltraStereo^{TT} may be played in either the Dolby Digital, Dolby Pro Logic or Logic 7 Cinema surround modes depending on the source material.

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 or Logic 7, 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.

When a program is not listed as carrying intentional surround information, you may find that the Pro Logic, Dolby 3 Stereo, Logic 7 and VMaX modes often deliver enveloping surround presentations through the use of the natural information present in all stereo recordings. However, for stereo, but nonsurround programs, we suggest that you try the Logic 7, VMaX, 2 Hall or Theater modes.

Surround modes are selected using either the front panel controls or the remote. To select a surround mode from the front panel, press the **Surround Mode Selector** **7** to scroll through the list of available modes. To select a surround mode using the remote, press the **Surround Mode Selector** **31**, and then press the **▲/▼** buttons **7** to change the mode. As you press the buttons, the Surround mode name will appear in the **Main Information Display** **W**, and an individual mode indicator will also light up **B D G H I J K**. As the surround modes change, a green LED will light next to the current mode in the **Surround Mode Indicators** list **27** on the front panel.

Note that the Dolby Digital or DTS modes may only be selected when a digital input is in use. In addition, when a digital source is present, the AVR 7000 will automatically select and

switch to the correct mode (Dolby Digital or DTS), regardless of the mode that has been previously selected. For more information on selecting digital sources, see the following section of this manual.

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), follow the instructions shown above for using the remote until **SURR OFF** appears in the **Main Information Display** **W**.

Digital Audio Playback

Digital audio is a major advancement over past 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”. 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 (originally known as AC-3[®]) is available on DVD, and specially encoded LD discs and satellite broadcasts and is a part of the new high definition television (HDTV) system.

Note that an optional, external RF demodulator is required to use the AVR 7000 to listen to the Dolby Digital sound tracks 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 **18 19** of the AVR 7000. 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 audio. 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 sound tracks 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 7000. All that is required is to connect the player's output to either the **Optical** or **Coaxial** input on the rear panel **18 19**.

In order to listen to DVDs encoded with DTS sound tracks, the DVD player must be compatible with the DTS signal as indicated by a DTS logo on the player's front panel. Note that early DVD players may not be able to play DTS-encoded DVDs. This does not indicate a problem with the AVR 7000, 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 7000. Connect the digital outputs from DVD players, HDTV receivers, satellite systems or CD players to the **Optical** or **Coaxial** inputs on the rear panel **18 19**. 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 7000 rear panel (e.g., connect the analog stereo audio output from a DVD to the **DVD inputs** **29** on the rear panel when you connect the source's digital outputs).

When playing a digital source such as DVD, first select the input using the remote or front panel controls as outlined in this manual. Next, select the digital source by pressing the **Digital Input Selector** button **11 22** and then using the **▲/▼** buttons **7** on the remote or the **Selector** buttons **5** on the front panel to choose either of the two **OPTICAL** or **COAXIAL** inputs, as they appear in the **Main Information Display** **W** or on-screen display. When the digital source is playing, the AVR 7000 will automatically detect whether it is a multichannel Dolby Digital or DTS source, or a conventional PCM signal, which is the standard output from CD players. A **Bitstream Indicator** **A** will light in the **Information Display** **23** to confirm that the digital signal is Dolby Digital, PTS or PCM.

Digital Status Indicators

When a digital source is playing, the AVR 7000 senses the type of bitstream data that is present. Using this information, the correct surround mode will automatically be selected. For

Operation

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, as is present from CDs and LDs, the unit will allow the appropriate surround sources to be selected manually. Since the range of available surround modes is dependant on the type of digital data that is present, the AVR 7000 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.

When a digital source is playing, a **Bitstream Indicator** **A** will light to show which type of signal is playing:

AC-3: When the AC-3* indicator lights, 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. When the Dolby Digital signal is only two channel, you may also select from the Logic 7 Cinema/Music, Hall, Theater, Dolby Pro Logic or Dolby 3 Stereo modes.

DTS: When the DTS indicator lights, a DTS bitstream is being received. When the unit senses this type of data, only the DTS mode may be used.

PCM: When the PCM indicator 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 HDCD® indicator lights 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 or Surround Off mode.

In addition to the bitstream indicators, the AVR 7000 features a set of unique channel input indicators that tell you how many channels of digital information are being received and if the digital signal is interrupted.

These indicators are the L/C/R/LS/RS/LFE letters that are inside the center boxes of the Speaker/Channel Input Indicators **P** in the front panel **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, respectively.

Digital signals, however, may have two, five or six 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 indicators 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 7000. 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. As long as your DVD player is set for 6-channel output, the AVR 7000 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** **P** 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 put into a Pause mode. 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. 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 AC-3 input sources to be

played back with full digital intelligibility while reducing the minimum peak level by 1/4 to 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 Button** **26** on the remote. Next, press the **▲/▼** buttons **7** to select either the middle range or full compression versions of the Night mode. To turn the Night mode off, press the **▲/▼** buttons **7** until the message in the lower third of the video display and the **Main Information Display** **W** reads D-Range Off. When the Night mode is active, the **Night Mode Indicator** **N** will also illuminate.

The Night mode may also be selected to always be on at either level of compression using the options in the Surround Setup Menu. See page 20 for information on using the menus to set this option.

IMPORTANT NOTES ON DIGITAL PLAYBACK:

1. 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 Indicators** **P** will flash. This is normal and does not indicate a problem with either the AVR 7000 or the source machine. The AVR 7000 will return to digital playback as soon as the data is available and when the machine is in a standard play mode.
2. Although the AVR 7000 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 7000.
3. Note that not all digitally encoded programs contain full 5.1-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 7000 will automatically sense the type of digital surround encoding used and adjust to accommodate it.
4. When a digital source is playing, you may not be able to select some of the analog surround modes such as Dolby Pro Logic, Dolby 3, Stereo, Hall, Theater or Logic 7.

Operation

5. When a Dolby Digital or DTS source is playing, it is not possible to make an analog recording using the **Tape 10** and **VID 1 27** record outputs. However, the digital signals will be passed through to the digital audio outputs **17**.

PCM Audio Playback

PCM (Pulse Code Modulation) is the non-compressed digital audio system used for compact discs and laser discs. The digital circuits in the AVR 7000 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 **Optical** or **Coaxial** inputs **18 19** on the rear panel.

To listen to a PCM digital source, first select the input for the desired source (e.g., CD). Next press the **Digital Select** button **22 11** and then use the **▲/▼** buttons **7** on the remote, or the **Selector** buttons **5** on the front panel, until the desired choice appears in the **Main Information Display W**.

When a PCM source is playing, the **PCM** indicator **A** will light. During PCM playback you may select any surround mode except Dolby Digital or DTS. When an HDCD encoded disc is being played and the CD player is connected to the AVR 7000 via a digital connection, select Surround Off as the Surround mode to enjoy the benefits of the HDCD process.

Playback from PCM sources may also benefit from the Logic 7. When playing back a surround-encoded PCM source, such as an LD or surround-encoded CD, use the Logic 7 C or Cinema mode. When playing true stereo recordings, use the Logic 7 M or Music mode for a wider sound stage and increased rear channel ambience.

Tuner Operation

The AVR 7000'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 **14** 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**

11 until the tuner is active or by pressing the **Tuner Band Selector 9** at any time.

2. Press the **AM/FM Tuner Select** button **14** or **Tuner Band Selector 9** again to switch between AM and FM so that the desired frequency band is selected.

3. Press the **Tuner Mode** button **12 15** to select manual or automatic tuning.

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

When the **AUTO** indicator **V** is not illuminated, 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 **8 24**. When the **AUTO** indicator **V** 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 **T** is not illuminated, tap the **Tuning Selector** button **8 24** to advance one frequency increment at a time, or press and hold it to locate a specific station. When the **TUNED** indicator **U** illuminates, the station is properly tuned and should be heard with clarity.

5. Stations may also be tuned directly by pressing the **Direct** button **21**, and then pressing the **Numeric Keys 17** 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 **22** 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 **Tuner Mode** button **12 15** until the **STEREO** indicator **T** goes out.

Preset Tuning

Using the remote, up to 30 stations may be stored in the AVR 7000'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 **16** on the remote. Note that **Memory** indicator **S** will illuminate and flash in the **Information Display 23**.

2. Within five seconds, press the **Numeric Keys 17** corresponding to the location where you wish to store this station's frequency.

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 17** 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 **10 23** on the front panel or remote.

Tape Recording

In normal operation, the audio or video source selected for listening through the AVR 7000 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 10** or **Video 1 Outputs 27** in the record mode.

When a digital audio recorder is connected to the **Digital Audio Outputs 17**, 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.

Operation

Output Level Trim Adjustment

Normal output level adjustment for the AVR 7000 is established using the test tone, as outlined on page 23. 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** **18** **32** **H**.

Once the reference level has been set, press the **Channel Select** button **8** **24** and note that **FRONT L LEV** will appear in the **Main Information Display W**. To change the level, first press the **Set** button **9** **19**, and then use the **Selector** buttons **5** or the **▲/▼** buttons **7** 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 **9** **19** and then press the **Selector** buttons **5** or the **▲/▼** buttons **7** to select the next output channel location that you wish to adjust. To adjust the subwoofer level, press the **Selector** buttons **5** or the **▲/▼** buttons **7** until **WOOFER LEV** appears in the **Main Information Display W** or on-screen display.

Press the **Set** button **9** **19** when the name of the desired channel appears in the **Main Information Display W** and on-screen display, and follow the instructions shown earlier to adjust the level.

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 7000 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** **18** **32** **H**. Then, press the **OSD** button **19** to bring up the main **AUDIO SETUP** menu (Figure 1). Press the **▼** Button **7** four times until the on-screen **▶** cursor is next to the **CHANNEL ADJUST** line. Press the **Set** Button **9** to activate the **CHANNEL ADJUST** menu (Figure 7).

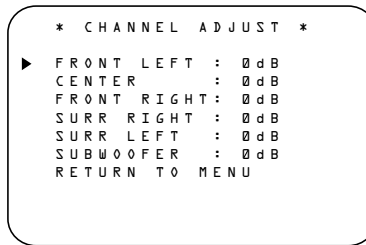


Figure 7

Once the menu appears on your video screen, use the **▲/▼** buttons to move the on-screen **▶** cursor so that it is next to the channel that you wish to adjust. Then, use the **◀▶** buttons **10** **29** to raise or lower the output level. Remember, the goal is to have the output level at each channel be equal when heard at the listening position.

When all adjustments are done, press the **▲/▼** buttons to move the on-screen **▶** cursor so that it is next to **RETURN TO MENU** and then press the **Set** Button **9** 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 **19** 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 Direct Input

The AVR 7000 is equipped for future expansion through the use of optional, external adapters for formats that the AVR 7000 may not be capable of processing. When an adapter is connected to the **6-Channel Direct Input** **3**, you may select it by pressing the **6-Ch Direct Input Selector** **12**. The 6-Channel Direct Input may also be selected by pressing the **Input Source Selector** button **11** on the front panel until the words **6 CH DIRECT** appear in the **Main Information Display W**, and a green LED lights next to 6 CH in the **Input Indicators** **20**.

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

Memory Backup

This product is equipped with a memory backup system that preserves tuner presets and system configuration information 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 7000 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.

Front Panel Input/Output Connections

Like many audio/video receivers, the AVR 7000 offers front panel audio/video inputs that simplify the temporary connection of portable audio players, video games and camcorders so that they may be used as input sources for your system. In addition to the standard left/right audio and composite video, the AVR 7000 also includes an S-Video connection.

However, unlike other products, the front panel connections on the AVR 7000 may be used as an output as well as an input. This means that you may make a simple or temporary connection to a portable tape, MD or optical disc recorder or to a computer so that it may record the program source currently playing through the AVR 7000. This is an exclusive Harman Kardon feature.

In normal operation, the front panel **Video 4 Connections 14** are configured as an input. Their use as an input is indicated by the green color of the **Video 4 Status Indicator 15**.

To temporarily switch the Video 4 connections to an output, you will need to make an adjustment in the **ADVANCED SELECT** menu (Figure 1). To start the adjustment, press the **OSD** button **19** to bring the **MAIN AUDIO SETUP** menu (Figure 1) to the screen. Press the **▼** Button **7** six times, until the on-screen **▶** cursor is next to the **ADVANCED** line. Press the **Set** Button **9** to enter the **ADVANCED SELECT** menu (Figure 8).

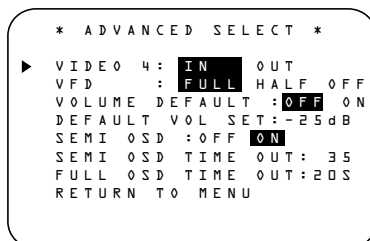


Figure 8

The default setting for the Video 4 jacks is used when the jacks are used as inputs. To change them to an output, make certain that the on-screen **▶** cursor is next to the **VIDEO 4** line,

and press the **▶** button **29** so that the word **OUT** is highlighted in the video display. At the same time, note that **Video 4 Status Indicator 15** will turn red, to indicate the output status. If you wish to make other adjustments, press the **▲/▼** buttons **7** until the on-screen **▶** cursor is next to the **RETURN TO MAIN MENU** line. If you have no other adjustments to make, press the **OSD** button **19** to exit the menu system.

Once the Video 4 jacks have been switched to an output, the signal currently selected as the AVR 7000's input will be fed to these jacks. Note, however, that like the other record outputs, only analog sources will be fed to these jacks. When either a digital input or the 6-Channel Direct input is in use, the signal will not be fed to these jacks.

Switching the front panel jacks to output status is temporary and it will be cancelled when the AVR 7000 is turned off. When the unit is turned back on, the jacks will revert to the default status as an input. To return the front panel jacks to input use without turning the unit off, use the on-screen menu system as outlined above and switch the setting so that the word **IN** is highlighted on the Video 4 line.

Display Brightness

The AVR 7000's front panel display indicators **23** are 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 SELECT** menu. To start the adjustment, press the **OSD** button **19** to bring the main audio setup menu to the screen. Press the **▼** Button **7** six times, until the on-screen **▶** cursor is next to the **ADVANCED** line. Press the **Set** Button **9** to enter the **ADVANCED SELECT** menu (Figure 8).

To change the brightness setting, at the **ADVANCED SELECT** menu, make certain that the on-screen **▶** cursor is next to the **VFD** line, and press the **▶** Button **29** 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 **Information Display 23** will go dark. Note, however, that the green LEDs for the **Input Indicators 20** and the **Surround Mode Indicators 27**, as well as for the **Power Indicator 3**, will always remain lit to remind you that the unit is turned on.

The display brightness may also be changed by pressing and holding the **Set** button **19** on the front for three seconds until the message in the **Main Information Display W** reads **VFD FULL**. Within five seconds, press the front panel **Selector** buttons **5** until the desired brightness display level is shown. At that point, press the **Set** button **W** again to enter the setting.

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 **7** until the on-screen **▶** cursor is next to the **RETURN TO MAIN MENU** line. If you have no other adjustments to make, press the **OSD** Button **19** to exit the menu system.

Turn On Volume Level

As is the case with most audio/video receivers, when the AVR 7000 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 7000 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 SELECT** menu. To start the adjustment, press the **OSD** button **19** to bring the main **AUDIO SETUP** menu (Figure 1) to the screen. Press the **▼** button **7** six times, until the on-screen **▶** cursor is next to the **ADVANCED** line. Press the **Set** button **9** to enter the **ADVANCED SELECT** menu (Figure 8).

At the **ADVANCED SELECT** menu make certain that the on-screen **▶** cursor is next to the volume default line by pressing the **▲/▼** buttons **7** as needed. Next, press the **▶** button **29** so that the word **ON** is highlighted in the video display. Next, press the **▼** button **7** once so that the on-screen **▶** cursor is next to the **DEFAULT VOL SET** line. To set the desired turn-on volume, press

Advanced Features

the ◀▶ buttons **10** **29** 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 **18** **32** **H**. 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 **Main Information Display W**. (A typical volume level will appear as a negative number such as -25dB.) When making the adjustment, use the ◀▶ buttons **10** **29** 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 **7** until the on-screen ▶ cursor is next to the **RETURN TO MAIN MENU** line. If you have no other adjustments to make, press the **OSD** Button **19** 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 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 7000.

To turn off the semi-OSD system, you will need to make an adjustment in the **ADVANCED SELECT** menu (Figure 8). To start the adjustment, press the **OSD** button **19** to bring the main **AUDIO SETUP** menu to the screen. Press the ▼ Button **7** six times, until the on-screen ▼ cursor is next to the **ADVANCED** line. Press the **Set** Button **9** to enter the **ADVANCED SELECT** menu.

At the **ADVANCED SELECT** menu make certain that the on-screen ▶ cursor is next to the **SEMI OSD DEFAULT** line by pressing the ▲/▼ buttons **7** as needed. Next, press the ▶ button **29** so that the word **OFF** is highlighted in the video display.

Note that this setting is temporary and will remain active only until it is changed or until the AVR 7000 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 SELECT** Menu as outlined earlier, and press the ▲/▼ buttons **7** as needed, until the on-screen ▶ cursor is next to the **SEMI-OSD TIME OUT** line. Next, press the ◀▶ Buttons **10** **29** 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 **7** until the on-screen ▶ cursor is next to the **RETURN TO MAIN MENU** line. If you have no other adjustments to make, press the **OSD** button **19** 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 7000 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 or Time Out. This Time Out is a safety measure to prevent the menu text from burning into the CRTs in your monitor or projector, which might happen if they 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 SELECT** Menu (Figure 1). To start the adjustment, press the **OSD** button **19** to bring the main **AUDIO SETUP** Menu to the screen. Press the ▼ button **7** six times, until the on-screen ▼ cursor is next to the **ADVANCED** line. Press the **Set** Button **9**

to enter the **ADVANCED SELECT** Menu (Figure 8).

At the **ADVANCED SELECT** menu make certain that the on-screen ▶ cursor is next to the **FULL - OSD TIME OUT** line by pressing the ▲/▼ Buttons **7** as needed. Next, press the ◀▶ buttons **10**/**29** 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 when the unit is turned off.

If you wish to make other adjustments, press the ▲/▼ buttons **7** until the on-screen ▶ cursor is next to the **RETURN TO MAIN MENU** line. If you have no other adjustments to make, press the **OSD** Button **19** to exit the menu system.

Multiroom Operation

The AVR 7000 is fully equipped to operate as the control center for a sophisticated audio/video 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 7000's location with wire for an infrared receiver and speakers or an amplifier. For complete installation instructions for Multiroom use, see page 16.

Multiroom Setup

Once the audio and IR link connections have been made, the AVR 7000 needs to be configured for multiroom operation using the steps below. Press the **OSD** button **19** to bring the **MAIN AUDIO SETUP** menu (Figure 1) to the screen. Press the **▼** button **7** five times, until the on-screen **▶** cursor is next to the **MULTI-ROOM** line. Press the **Set** button **9** to enter the **MULTI-ROOM SETUP** menu (Figure 9).

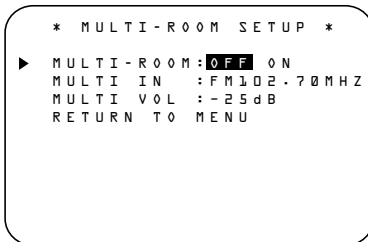


Figure 9

When the **MULTI-ROOM SETUP** 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, do not make an adjustment here unless you wish to turn the system on at this time. To turn the system on, press the **▶** button **10 29** 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 **7** once so that the **▶** on-screen cursor is next to the **MULTI IN** line.

At the **MULTI IN** line, press the **◀▶** buttons **10 29** until the desired input to the multi-room system appears in the highlighted

video. When the selection has been made, press the **▼** button **7** once so that the **▶** on-screen cursor is next to the **MULTI VOL** line.

At the **MULTI VOL** line, press the **◀▶** buttons **10 29** until the desired volume level for the multi-room 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 **7** until the on-screen **▶** cursor is next to the **RETURN TO MAIN MENU** line. If you have no other adjustments to make, press the **OSD** button **19** to exit the menu system.

Multiroom Operation

To activate the feed to the remote room, press the **Multiroom** button **27** on the remote. Next, press the **Set** button **9**. Press the **▲/▼** buttons **7** to turn the multiroom feed on or off. When the multiroom system is on, the **Multi** indicator **0** will light in the **Information Display 23**, and the **Main Information Display W** or OSD will display **MULTI ON**. Press the **Set** button **9** to enter the setting.

When the multiroom system is turned on, the previously selected input will be fed to the **Multiroom Output** jacks **23** 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 **Multiroom Output** jacks **23**.

If an optional IR sensor is located in the remote room and connected to the AVR 7000's **Multiroom IR Input** jack **21**, the multiroom system may be turned on or controlled by simply pointing the Zone II remote, or an optional programmable remote that includes codes for the AVR 7000, at the IR sensor. Note that depending on the type of programmable remote used, the code for the AVR's **Multiroom IR Input** button **21** may not be contained in the preprogrammed code library, and must be "learned" into the remote, if possible.

Once the multiroom system is turned on, any of the AVR 7000's functions including input selection, volume, mute and tuner preset selection or tuning, may be operated by using the Zone II remote and an optional remote IR sensor con-

nected to the **Multiroom IR Input** jack **21**. In addition, the Zone II remote may also be used to control compatible Harman Kardon CD, cassette and DVD players using the remote's transport controls **DEF**.

Once the multiroom system is turned on, it will remain on even if the AVR 7000 is placed in the Standby mode in the main room by pressing the **Power Off Button 4** 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 **27** and then the **Set** button **9**. Press the **▲/▼** buttons **7** so that the **Multi** indicator **0** in the **Information Display 23** goes out, and the **Main Information Display W** or OSD will display **MULTI OFF**. Press the **Set** button **9** to enter the setting and turn the unit off.

Even when the AVR is turned off in the main room, the multiroom system may be turned on at any time by pressing the **Multiroom** button **27**.

Programming the Remote

The AVR 7000 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 7000'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

As shipped from the factory, the remote is fully programmed for all AVR 7000 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 7000 remote.
3. Press and hold both the **Input or Video Selector** **3** **34** for the type of product to be entered (e.g., VCR, TV) and the **Mute** button **6** at the same time. Hold both buttons until the red light under the **Selector** button **3** **34** 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 illuminates.
4. Point the AVR 7000's remote towards the unit to be programmed, and enter the first three-digit code number using the **Numeric Keys** buttons **17**. If the unit turns off, the correct code has been entered. Press the **Input or Video Selector** **3** **34** again, and note that the red light will flash twice before going dark to confirm the entry.
5. If the device to be programmed in does NOT turn off, continue to enter the three-digit code numbers until the equipment turns off. At this point, the correct code has been

entered. Press the **Input or Video Selector** **3** **34** again and note that the red light will flash twice 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 does the Power control work, but that 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 7000'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 7000 remote.
2. Press the **Input or Video Selector** **3** **34** for the type of product to be entered (e.g., VCR, TV) and the **Mute** button **6** at the same time. Hold both buttons until the red light under the button **3** **34** stay 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 illuminates.
3. Point the AVR 7000 remote towards the unit to be programmed, and press and hold the **Surround Mode Selector** **31** or the **Sleep** button **33**. This will send out a series of codes from the remote's built-in data base, with each flash of the red light under the **Input or Video Selector** **3** **34** indicating that a code has been sent. When the device to be programmed turns off, IMMEDIATELY release the **Surround Mode** or **Sleep** button.
4. Press the **Input or Video Selector** **3** **34** again, and note that the red light will flash twice 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 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 or Video Selector** **3** **34** for the type of product to be entered (e.g., VCR, TV) and the **Mute** button **6** at the same time. Hold both buttons until the red light under the buttons **3** **34** stay 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 illuminates.
2. Press the **Test Tone** button **5**. The red light under the **Input or Video Selector** **3** **34** will blink in a sequence that corresponds to the three-digit code, with a one-second pause between each digit. Count the number of blinks between each pause to determine the digit of the code. One blink is the number 1, two blinks is 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:

CD _____ TAPE _____
AUX _____ SAT _____
TV _____ VCR _____
CBL _____ DVD _____

Programming the Remote

Learning Codes

In addition to using codes from the remote's internal code library, the AVR 7000'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 7000'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** 35 on the AVR 7000 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 **CD/Tape/DVD Input Selectors** 3 or the **Video Remote Selectors** 34.
3. Press the **Device Selector** button chosen 3 34 and the **Set Button** 9 at the same time. Hold these buttons until the **Program Indicator light** 1 turns orange and the red light under the device selector button turns red. Release the buttons.
4. Press the button on the AVR 7000 remote that you wish to program. Note that the **Program Indicator light** 1 will begin to flash continuously and the red light under the device selector will go out. Note that any button on the remote EXCEPT the AVR button 2, the **CD/Tape/DVD Input Selectors** 3 or the **Video Remote Selectors** 34 and the **Light** button 20 may be "taught" a remote code from another remote.
5. Within five seconds, press and hold the button on the original remote that you wish to "teach" into the AVR 7000 remote. When the **Program Indicator light** 1 turns green, release the button. Note that the Program Indicator will then begin to flash orange again.
6. Within five seconds, press the same button on the source remote again to verify that the remote code has been learned correctly. The

Program Indicator light 1 will flash green twice and then turn to a steady orange color indicating that the programming was successful.

NOTE: If the **Program Indicator light** 1 turns red during step 5 or 6, the programming was not successful. Repeat the steps to see if the code will "take."

7. Repeat steps 4 through 6 for each button on the source remote that you wish to transfer to the AVR 7000 remote.
8. Once all codes have been transferred from the original source remote to the AVR 7000 remote, press and hold the **Device Selector** button 3 34 for the device being programmed and the **Set Button** 9 at the same time until the **Program Indicator light** 1 flashes orange twice. Release the buttons.
9. Repeat Steps 1 through 8 for any additional remotes you wish to "teach" into the AVR 7000 Remote.

Macro Programming

Macros enable you to easily repeat frequently used combinations of commands with the press of a single button on the AVR's remote control. Once programmed, a macro will send out up to eight different remote codes in a pre-determined sequential order enabling you to automate the process of turning on your system, changing devices, or other common tasks. The AVR's remote can store up to five separate macro command sequences, one that is associated with the Power Button 4, and four more that are accessed by pressing the Macro buttons 18 21 22.

1. Press any of the **Input or Video Selectors** 3 34 and the **Mute** button 6 at the same time until the red light under the Device Control Selector turns on.
2. Press the button on the remote that you wish to use for this remote. This may be either the **Power** button 4 or any of the four Macro buttons 18 21 22. However, it is recommended that to avoid confusion, the Power button only be used to enter turn-on/turn-off sequences. When you press the button the macro will be programmed

into the light under **Selector** button 3 34 will blink once.

3. Enter up to eight steps for the macro sequence by pressing the **Selector** button 3 34 for the device to be controlled and then pressing the button for the actual command step. Although the macro may contain up to eight steps, each button press, including those used to change devices, count as a step. The red light under the **Selector** button 3 34 will blink once to confirm each button press as you enter commands.

NOTE: While entering commands for Power On/Off of any device during a macro sequence, press the **Mute** button 6. DO NOT press the actual Power button.

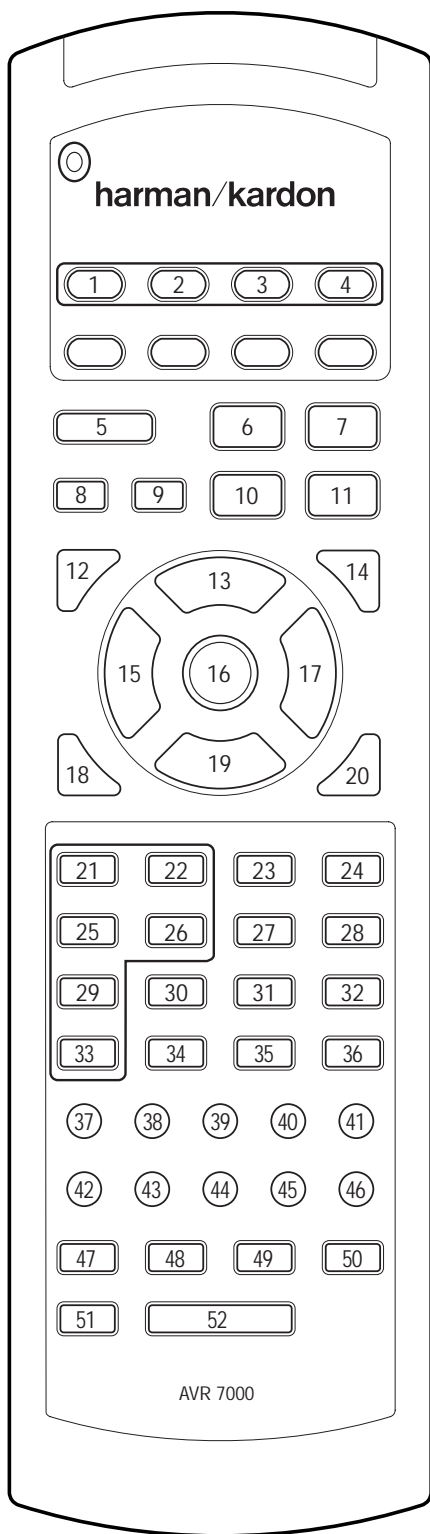
4. When the eight steps have been entered, press the **Sleep** button 33 to enter the commands. The red light under the **Input or Video Selectors** 3 34 will blink and then turn off.

Example: To program your TV, Cable Box and the AVR 7000 to turn on when the Power button is pressed, first press and hold down the **AVR** button 1 and **Mute** buttons 6 until the red light comes on under the AVR button. Next, press the **Mute** button 6 to enter the Power command for the AVR. Press the **TV Device Control Selector** 34 to select the TV mode, and then press the **Mute** button 6 again, to select TV Power. Finally, press the **CBL Device Control Selector** 34 followed by the **Mute** button 6 to select Cable Power. Press the **Sleep** button 33 to enter the commands.

After following these steps, each time you press the **Power** button 4, the remote will send the Power On/Off command.

To remove a macro program, follow steps 1, 2 and 4 above, but ignore step three. For example, to erase the macro just entered, press the **Device Selector** 3 34 and the **Mute** button 6 at the same time until the red light under the Device Control Selector turns on. Press the **Power** button 4 and then press the **Sleep** button 33. The red light under the **Device Control Selector** will blink twice to confirm the data entry and then turn off.

Programming the Remote



Programmed Device Functions

Once the AVR 7000's remote has been programmed for the codes of other devices, press the appropriate **Input or Video Selector** ③ ③④ to change the remote from controlling the AVR 7000 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 7000, 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 7000. 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. The same is true for standard CD players, cassette decks, VCRs and DVD functions, which follow the standard function icons 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 printed on page 38. 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 9 is the Test Tone button for the AVR 7000, but it is the "Favorite" button for many cable television boxes and satellite receivers. Button number 35 is the Preset Tune Down button for the AVR 7000, the Reverse Skip button for CD players and the Page Down button for some VCRs.

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.

Notes on Using the AVR 7000 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 if the code set you have entered operates as many controls as possible. If it appears that only a few functions operate, check to see if another code set will work with more buttons.
- When a button is pressed on the AVR 7000 remote, the red light under the **Input or Video Selector** ③ ③④ 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 7000's remote may be programmed to operate the **Volume Control** ③② from either the TV or the AVR in conjunction with any of the eight devices controlled by the remote. For example, since the AVR 7000 will likely be used as the sound system for TV viewing, you may wish to have the AVR's volume activated although the remote is set to run the TV. Either the AVR 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 or Video Selector** ③ ③④ for the unit you wish to have associated with the volume control and the **Mute** button ⑥ at the same time until the red light illuminates under the **Device Selector**.
- Press the **Volume Up** button ③② .

Programming the Remote

3. Press either the **AVR** **2** or the **TV Device Control Selector** **34**, depending on which system's volume control you wish to have attached for the punch-through mode. Note that the red light under the **AVR** button or **Device Control Selector** will blink twice and then go out to confirm the data entry.

Example: To have the AVR's volume control activated even though the remote is set to control the TV, first press the **TV Device Control Selector** **2 3** and the **Mute** button **6** at the same time. Next, press the **Volume Up** button **32**, followed by the **AVR Device Control Selector** **2**.

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* Device Control Selector in Steps 1 and 3.

Reassigning Device Control Selectors

Although each of the seven **Input** or **Video Selectors** **3 34** 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** or **Video Selector** **3 34** you wish to reassign and the **Mute** button **6** at the same time until the red light illuminates under the **Device Control Selector**.
2. Press the **Input** or **Video Selector** **3 34** for the function 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** or **Video Selector** **3 34** pressed in Step 1 once again to store the selection.

Example: To use the SAT button to operate a second VCR, first press the **SAT Device**

Control Selector **34** and the **Mute** button **6** at the same time until the red light glows under the **SAT** **34** button. Press the **VCR** button, followed by the three-digit code for the specific model you wish to control. Finally, press the **SAT** **34** button again.

Erasing Learned Command Codes

The AVR 7000's remote allows you to remove a single learned command from within a device's command set, to remove all the learned commands for a single device, or to remove all the learned commands that are stored in the remote.

To remove single learned commands from within a single device's settings, do the following:

1. Press the **Input** or **Video Selectors** **3 34** for the device you wish to clear a command from and the **Set** Button **9** at the same time. When the **Program Indicator** light **1** turns orange and the Device Selector turns red, release the buttons.
2. Press the button that you would like to erase the codes for. Note that the **Program Indicator** light **1** will begin to flash continuously and the red light under the Device Selector will turn off.
3. Press the **Light** Button **20** and note that the **Program Indicator** light **1** will turn green and flash twice. The red light under the Device Selector will turn on again.
4. At this point, if you wish to remove the codes from any other buttons in this device, repeat steps 2 and 3.
5. When you have erased the codes from all buttons you wish to clear in this device, press and hold the **Device Selector** **3 34** and the **Set** Button **9** at the same time. When the **Program Indicator** turns orange and flashes twice and the red light under the Device Selector goes out, the process is complete.

To remove all of the learned commands in a single device, do the following:

1. Press the **Input** or **Video Selector** **3 34** for the device you wish to clear and the **Set** Button **9** at the same time. When the **Program Indicator** light **1** turns orange and the Device Selector turns red, release the buttons.

2. Press and hold the **Light** button **20** until the red LED under the Device Selector flashes five times. Release the Light Button.

3. Note that the **Program Indicator** light **1** will flash green twice and then the red light under the Device Selector will go out.

4. The **Program Indicator** light **1** will turn to a constant orange color to indicate that all the learned information in the buttons for the Device have been erased. At this point the red LED under the Device Selector will turn on again.

5. Press and hold the Device Selector and the **Set** Button **9** at the same time until the **Program Indicator** light **1** flashes orange twice and the red LED under the Device Selector goes out. The commands for the device have now been erased and the process is complete.

To remove ALL of the learned commands that have previously been entered into the AVR, CD, TAPE, DVD, SAT, TV, VCR and CBL device buttons, do the following:

1. Press and hold the **TV Device** button **34** and the **Light** Button **20** at the same time and note that the **Program Indicator** light **1** will begin to flash red.
2. The **Program Indicator** light **1** will flash green once, orange once and then turn off.
3. Release the buttons. At this point all of the learned commands have been erased.

Function List

No.	Button Name	CD	Tape	Aux (DVD)	TV	VCR	CBL	SAT
1	AVR Selector							
2	CD Selector	Power On						
3	Tape Selector							
4	Aux/DVD Selector		Power On					
5	Power Off	Power Off		Power Off	Power On/Off	Power On/Off	Power On/Off	Power On/Off
6	Sleep	CDP Select		Skip Fwd	Channel +		Channel +	Channel +
7	Volume Up	Input Level Up		Skip Rev	Vol Up	Vol Up	Vol Up	Vol Up
8	Mute				Mute			
9	Test	Input Select					Fav	Fav
10	Surround Select	CDR Select			Channel -	Channel -	Channel -	Channel -
11	Volume Down	Input Level Down			Volume Down		Volume Down	Volume Down
12	Channel Select			Title	Guide	Guide	Guide	Guide
13	▲			Up	Up	Up	Up	Up
14	Speaker	Intro Scan		Menu	Menu	Menu	Menu	Menu
15	◀			Left	Left	Left	Left	Left
16	Set			Enter	Select	Select	Select	Select
17	▶			Right	Right	Right	Right	Right
18	Digital Select	Record		Subtitle	Exit	Exit	Exit	Exit
19	▼			Down	Down	Down	Down	Down
20	Delay	Open/Close		Return	Prev Channel		Prev Channel	Prev Channel
21	Vid 1 Select	Track Direct		Sub W On/Off			Music	Alt
22	6 Ch Select							
23	Night	Pause	Rec/Pause	Pause		Rec/Pause		
24	Multi Room	Stop	Stop	Stop		Stop		
25	Vid 2 Select	Track Increment		Open/Close				
26	AM/FM							
27	Transport Reverse		Play Reverse					
28	Transport Forward	Play	Play Forward	Play		Play		
29	Vid 3 Select	Disk Skip		Disk Skip				
30	Tuner Mode							
31	Tuning Down ◀◀	Rev Search	Rewind	Rev Search		Rewind	Day -	
32	Tuning Up ▶▶	Fwd Search	Fast Forward	Fwd Search		Fast Fwd	Day +	
33	Vid 4 Select							
34	Memory							
35	Preset ◀◀	Rev Skip		Rev Slow		Page -		
36	Preset ▶▶	Fwd Skip		Fwd Slow		Page +		
37	1	1		1	1	1	1	1
38	2	2		2	2	2	2	2
39	3	3		3	3		3	3
40	4	4		4	4		4	4
41	5	5		5	5		5	5
42	6	6		6	6		6	6
43	7	7		7	7		7	7
44	8	8		8	8		8	8
45	9	9		9	9		9	9
46	0	0		0	0		0	0
47	Macro 1	Time		Audio	Enter		Enter	Enter
48	Macro 2	Repeat		Angle			PPV	
49	Direct/Macro 3	Random Play		Chapter				
50	Clear/Macro 4	+ 10		Clear			Bypass	Next
51	OSD	Program						
52	Backlight						Info	Info

Setup Code Tables: TV

Manufacturer/Brand	Setup Code Number													
ADMIRAL	072	081	161											
AKAI	001	146												
AMPRO	073	167												
ANAM	043	056	080	104	108	112	118	121						
AOC	001	004	112											
CANDLE	001	003	004											
CAPEHART	058													
CENTRONIC	043													
CITIZEN	001	003	004	101	143									
CLASSIC	043													
CONCERTO	004													
CONTEC	043													
CRAIG	054													
CROWN	143													
CURTIS MATHES	001	004	101	143										
DAEWOO	004	076	103	114	127	143								
DAYTRON	004	143												
DWIN	177													
DYNATECH	062													
ELECTROHOME	024	143												
EMERSON	001	004	005	028	043	047	048	051	076	096	143	151	153	154
	155													
FISHER	007	057												
FUNAI	028	043												
FUTURETECH	043													
GE	004	008	034	056	073	074	130	144	155	160				
GOLDSTAR	004	106	110	112	113	119	127	143						
HITACHI	004	007	010	011	012	023	075	143	158	163				
INFINITY	164													
INKEL	129													
JBL	164													

Setup Code Tables: TV (continued)

Manufacturer/Brand	Setup Code Number											
JC PENNEY	004	008	024	030	065	101	143	160				
JENSEN	013											
JVC	034	038	070	083								
KENWOOD	001	070										
KLOSS	059											
KTV	043	143	154									
LUXMAN	004											
LXI	007	015	052	081	160	164						
MAGNAVOX	001	003	004	022	059	060	061	063	064	127	164	
MARANTZ	001	164										
MEMOREX	004	007	072									
METZ	088											
MGA	001	004	024	042								
MINERVA	088											
MITSUBISHI	004	024	040	042	109	146						
MTC	001	004	062	101								
NAD	015	025										
NEC	001	019	024	040	056	130	134					
OPTONICA	019	081										
PANASONIC	034	056	080	164								
PHILCO	001	003	004	024	056	059	060	063	064	127	143	164
PHILIPS	001	003	004	005	038	059	093	164				
PIONEER	004	018	023	025	135	176						
PORTLAND	004	143										
PROSCAN	144	160	161	167								
PROTON	004	143	171	173								
QUASAR	034	056										
RADIO SHACK	004	019	127	143								
RCA	001	004	023	024	056	065	074	144	152	156	160	161

Setup Code Tables: TV (continued)

Manufacturer/Brand	Setup Code Number											
REALISTIC	007	019										
RUNCO	072	169										
SAMPO	001	004										
SAMSUNG	004	101	127	133	143	160						
SANYO	007	082										
SCOTT	004	028	043	048	143							
SEARS	004	007	015	028	030	057	082	094	143	160		
SHARP	004	014	019	022	028	087	143	175				
SIGNATURE	072											
SONY	070	085	126	139								
SOUNDESIGN	003	004	028	043								
SUPRE MACY	002											
SYLVANIA	001	003	059	060	063	064	127	160	164			
SYMPHONIC	052											
TANDY	081											
TATUNG	056	062										
TECHNICS	034	080										
TECHWOOD	004											
TEKNIKA	002	003	004	024	028	043	072	101	143			
TERA	172											
TMK	004											
TOSHIBA	015	030	040	062	101							
TOTEVISION	143											
UNIVERSAL	008											
VIDEO CONCEPTS	146											
VIDIKRON	174											
VIDTECH	004											
WARDS	004	008	009	019	028	060	061	063	064	072	074	164
YAMAHA	001	004										
YORK	004											
ZENITH	072	073	095	103								

Setup Code Tables: VCR

Manufacturer/Brand	Setup Code Number											
AIWA	034	161										
AKAI	043	046	124	142	146							
ANAM	031	103										
AUDIO DYNAMICS	012	023	043									
BROKSONIC	035	037	129									
CANON	028	031										
CAPEHART	108											
CRAIG	001	040	135									
CURTIS MATHES	031	041										
DAEWOO	010	017	108	111	116	117						
DAYTRON	108											
DBX	012	023	043									
DYNATECH	034	053										
ELECTROHOME	059											
EMERSON	005	006	017	025	027	029	031	034	035	036	037	046
	101	116	129	131	138	153						
FISHER	001	008	009	010								
FUNAI	034											
GE	031	063	072	107	109	144	147					
GO VIDEO	132	136	151									
GOLDSTAR	004	012	020	101	123							
HARMAN KARDON	012	045										
HITACHI	018	026	034	043	063	137	150					
INSTANTREPLAY	031											
JC PENNEY	004	012	040	101								
JENSEN	043											
JVC	012	031	043	048	055	060	130	150	152			
KENWOOD	014	034	047	048								
LLOYD	034											
LXI	001	004	009	017	034							
MAGNAVOX	031	034	041	067	068							
MARANTZ	012	031	067	069								
MARTA	101											
MATSUI	027											
MEI	031											
MEMOREX	001	010	014	031	034	040	053	072	101	134	139	
MGA	045	046	059									
MINOLTA	004	020										
MITSUBISHI	004	020	046	051	059	061	142					
MTC	034	040										
MULTITECH	024	034										
NEC	012	023	043	048								
NORDMENDE	043											

Setup Code Tables: VCR

Manufacturer/Brand	Setup Code Number												
OPTONICA	053	054											
PANASONIC	070	131	133	140									
PENTAX	004	020	031	063									
PHILCO	031	034	067										
PHILIPS	031	034	054	067	101								
PILOT	101												
PIONEER	004	021	048										
PORTLAND	108												
PULSAR	072												
QUARTZ	014												
RCA	004	020	031	034	040	041	107	109	140	144	147	158	
REALISTIC	001	008	010	014	031	034	040	053	054	101			
RICO	058												
SAMSUNG	017	040	107	109	113	115	124						
SANSUI	043	048	135										
SANYO	001	007	010	014	040	134							
SCOTT	017	037	129	131									
SEARS	001	004	008	009	010	014	017	020	081	101			
SHARP	031	054											
SHINTOM	024												
SONY	001	002	009	031	052	053	056	057	058	155			
SOUNDESIGN	034												
SYLVANIA	031	034	059	067									
SYMPHONIC	034												
TANDY	010	034											
TATUNG	043												
TEAC	034	043											
TECHNICS	031	070											
TEKNIKA	031	034	101										
THOMAS	034												
TMK	006												
TOSHIBA	004	008	017	047	059	082	131	150					
TOTEVISION	040	101											
UNITECH	040												
VECTOR RESEARCH	012												
VICTOR	048												
VIDEO CONCEPTS	012	034	046	141									
VIDEOSONIC	040												
WARDS	001	004	017	024	031	034	040	053	054	131			
YAMAHA	012	034	043										
ZENITH	034	048	056	058	072	080	101	153					

Setup Code Tables: CD

Manufacturer/Brand	Setup Code Number
ADCOM	062
AIWA	089 170 187
AKAI	195 202
CARVER	041 050 135 138 139 167 203
DENON	205 226
FISHER	016
HARMAN KARDON	001 002 033 047 208
JVC	004 136 163
KENWOOD	007 016 023 055 137
MARANTZ	044 107
MONDIAL	147
NAD	005 178 215
NAKAMICHI	217 218 219
ONKYO	030 038 082 168 169
OPTIMUS	049 085
PANASONIC	068 172
PIONEER	010 020 174
REALISTIC	187
RCA	017 021
SANSUI	171
SHARP	013 031 051 066
SHERWOOD	096 166
SONY	097 126 133 225
TEAC	015 062 131 182
TECHNICS	008 068 172
YAMAHA	012 046 185 186

Setup Code Tables: DVD

Manufacturer/Brand	Setup Code Number
DENON	014
GE	005 006
HARMAN KARDON	001
JVC	012
LG	010
MAGNAVOX	012 013
MITSUBISHI	002
ONKYO	017
PANASONIC	003
PHILIPS	012 013
PIONEER	004
PROSCAN	005 006
RCA	006
SAMSUNG	011 015
SONY	007
TOSHIBA	008 017
YAMAHA	009

Setup Code Tables: DVD/LD

Manufacturer/Brand	Setup Code Number
DAEWOO	024
DENON	030
GOLDSTAR	027
KENWOOD	025
MAGNAVOX	026
OPTIMUS	032
PANASONIC	021
PHILIPS	026
PIONEER	020 034
RCA	031
REALISTIC	032
SAMSUNG	023 029
SHARP	025 028
SONY	022
TECHNICS	021
TOSHIBA	025
YAMAHA	033

Setup Code Tables: CABLE

Manufacturer/Brand	Setup Code Number	Remote Control Model
PIONEER	001	BR-200
AMERICAST	005	
JERROLD	006	RT-J22 (CFT2200)
JERROLD	007	RT-J550C
PHILIPS011	012	
PIONEER	002	BR-95
PIONEER	003	RT-P81/82
SCIENTIFIC-ATLANTIC	004	RT-S6X/USV86
SONY	013	
TOCOM	010	RT-T7/T8
ZENITH	008	MN2500
ZENITH	009	RT-ZPMV

Setup Code Tables: SAT

Manufacturer/Brand	Setup Code Number
GE	001
ECHOSTAR	006
HITACHI	001 012
HUGHES	003
PANASONIC	013
PRIMESTAR	002
PRIMESTAR	005
RCA	001
SONY	004
TOSHIBA	008
UNIDEN	009 010

Troubleshooting Guide

SYMPTOM	CAUSE	SOLUTION
Unit does not function when Main Power Switch is pushed	<ul style="list-style-type: none"> No AC Power 	<ul style="list-style-type: none"> Make certain AC power cord is plugged into a live outlet Check to see if outlet is switch-controlled
Display lights, but no sound or picture	<ul style="list-style-type: none"> Intermittent input connections Mute is on Volume control is down 	<ul style="list-style-type: none"> Make certain that all input and speaker connections are secure Press Mute button Turn up volume control
Unit turns on, but Front-Panel Display does not light up	<ul style="list-style-type: none"> Display brightness is turned off 	<ul style="list-style-type: none"> Follow the instructions in the Display Brightness section on page 31 so that the display is set to VFD FULL
No sound from any speaker; Light around power switch is red	<ul style="list-style-type: none"> Amplifier is in protection mode due to possible short Amplifier is in protection mode due to internal problems 	<ul style="list-style-type: none"> Check speaker wire connections for shorts at receiver and speaker ends Contact your local Harman Kardon service depot
No sound from surround or center speakers	<ul style="list-style-type: none"> Incorrect surround mode Input is monaural Incorrect configuration Stereo or Mono program material 	<ul style="list-style-type: none"> Select a mode other than Stereo There is no surround information from mono sources Check speaker mode configuration The surround decoder may not create center or rear channel information from nonencoded programs
Unit does not respond to remote commands	<ul style="list-style-type: none"> Weak batteries in remote Wrong device selected Remote sensor is obscured 	<ul style="list-style-type: none"> Change remote batteries Press the AVR selector Make certain front panel sensor is visible to remote or connect remote sensor
Intermittent buzzing in tuner	<ul style="list-style-type: none"> Local interference 	<ul style="list-style-type: none"> Move unit or antenna away from computers, fluorescent lights, motors or other electrical appliances
Letters flash in the Channel Indicator Display and Digital Audio stops	<ul style="list-style-type: none"> Digital audio feed paused 	<ul style="list-style-type: none"> Resume play for DVD Check that Digital Input is selected
HDCD encoded disc does not trigger HDCD indicator	<ul style="list-style-type: none"> Surround mode in use Analog feed in use 	<ul style="list-style-type: none"> Select "Surround Off" mode Connect and select digital connection to CD player

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 7000'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** **6** and the **FM Mode Selector** **12** buttons for three seconds.

The unit will turn on automatically and display the **RESET** message in the **Main Information Display** **W**. Note that once you have cleared the memory in this manner, it is necessary to re-establish 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 depot.

Technical Specifications

Audio Section

Stereo Mode

Continuous Average Power (FTC)

110 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:
100 Watts per channel,
@ < 0.07% THD, 20Hz–20kHz into 8 ohms

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

Surround channels:
100 Watts per channel,
@ < 0.07% THD, 20Hz–20kHz into 8 ohms

Input Sensitivity/Impedance

Linear (High Level) 200mV/47kohms

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

Surround System Adjacent Channel Separation

Analog Decoding 40dB

(Pro Logic, etc.)

Dolby Digital (AC-3) 55dB

DTS 55dB

Frequency Response

@ 1W (+0dB, –3dB) 10Hz–100kHz

High Instantaneous

Current Capability (HCC) ±75 Amps

Transient Intermodulation

Distortion (TIM) Unmeasurable

Rise Time 16 µsec

Slew Rate 40V/µsec

FM Tuner Section

Frequency Range 87.5–108MHz

Usable Sensitivity IHF 1.3 µV/13.2dB

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

Distortion Mono/Stereo 0.2/0.3%

Stereo Separation 40dB @ 1kHz

Selectivity ±400kHz, 65dB

Image Rejection 80dB

IF Rejection 90dB

Tuner Output Level 1kHz, ±75kHz Dev 500mV

AM Tuner Section

Frequency Range 520–1720kHz

Signal-to-Noise Ratio 45 dB

Usable Sensitivity Loop 500µV

Distortion 1kHz, 50% Mod 0.8%

Selectivity ±10kHz, 30dB

Video Section

Video Format NTSC

Input Level/Impedance 1Vp-p/75 ohms

Output Level/Impedance 1Vp-p/75 ohms

Video Frequency 5Hz–10MHz (–3dB)

Response

General

Power Requirement AC 120V/60Hz

Power Consumption 125W idle, 1100W maximum
(2 channels driven)

Dimensions (Max)

Width 17.3 inches (440mm)

Height 7.62 inches (193mm)

Depth 20.43 inches (519mm)

Weight 49 lb (22.3 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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