AVR 7000 Audio/Video Receiver

OWNER'S MANUAL

harman/kardon   AVR 7000

- ● dts   ● Hall 1
- ● DIGITAL   ● Hall 2
- ● PRO LOGIC   ● Theater
- ● 3 STEREO   ● VMAx
- ● Surround Off   ● Logic 7

DOLBY
DIGITAL

HDCD

DIGITAL
dts
SURROUND

MUTE   RDS   PTY   CT   RT   TA   AUTO   TUNED   ST   MEMORY   PRESET
SLEEP

DTS
AC-3
PCM
HDCD

COAXIAL 1 2   OPTICAL 1 2   ANALOG   MPEG   VMAx   LOGIC 7 CM   dts
DIGITAL   PRO LOGIC   3 STEREO   HALL 12   THEATER   OSD   NIGHT   MULTI

L C R
LS   LFE   RS

- ● VID 1   ● CD
- ● VID 2   ● TAPE
- ● VID 3   ● FM
- ● VID 4   ● AM
- ● DVD   ● 6 CH.

Test Tone   Speaker   Channel   Digital Select   Delay

◄   Set   ►

TONE MODE   SURROUND MODE   ▼ TUNING ▲   BAND   ▼ PRESET ▲   SOURCE   RDS

Bass
Min   Max   Min

POWER   Phones

S Video

harman/kardon®

Power for the Digital Revolution™

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Declaration of Conformity

$C\,\epsilon$

We, Harman Consumer International
   2, route de Tours
   72500 Château-du-Loir,
   FRANCE

declare in own responsibility, that the product described in this owner's manual is in compliance with technical standards:

EN 55013/6.1990
EN 55020/12.1994
EN 60065:1993
EN 61000-3-2/4.1995

Carsten Olesen
Harman Kardon Europe A/S

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

E X A M P L E – (OCR type) indicates a message that is visible on the front-panel information display

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

➊ – (number in a circle) indicates a rear-panel connection

➊ – (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 the time 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 dealer. He is 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, even with a normal Non-HDCD-compatible CD or DVD player. 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 A/V-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 the finest receiver 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**

Safety Information

Important Safety Information

Verify Line Voltage Before Use
Your AVR 7000 has been designed for use with 220-240-volt AC current. Connection to a line voltage other than that for which it is intended can create a safety and fire hazard and may damage the unit.

If you have any questions about the voltage requirements for your specific model, or about the line voltage in your area, contact your 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.

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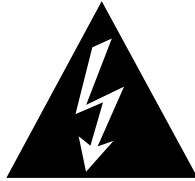
Moving the Unit
Before moving the unit, be certain to disconnect any interconnection cords with other components, and make certain that you disconnect the unit from the AC outlet.
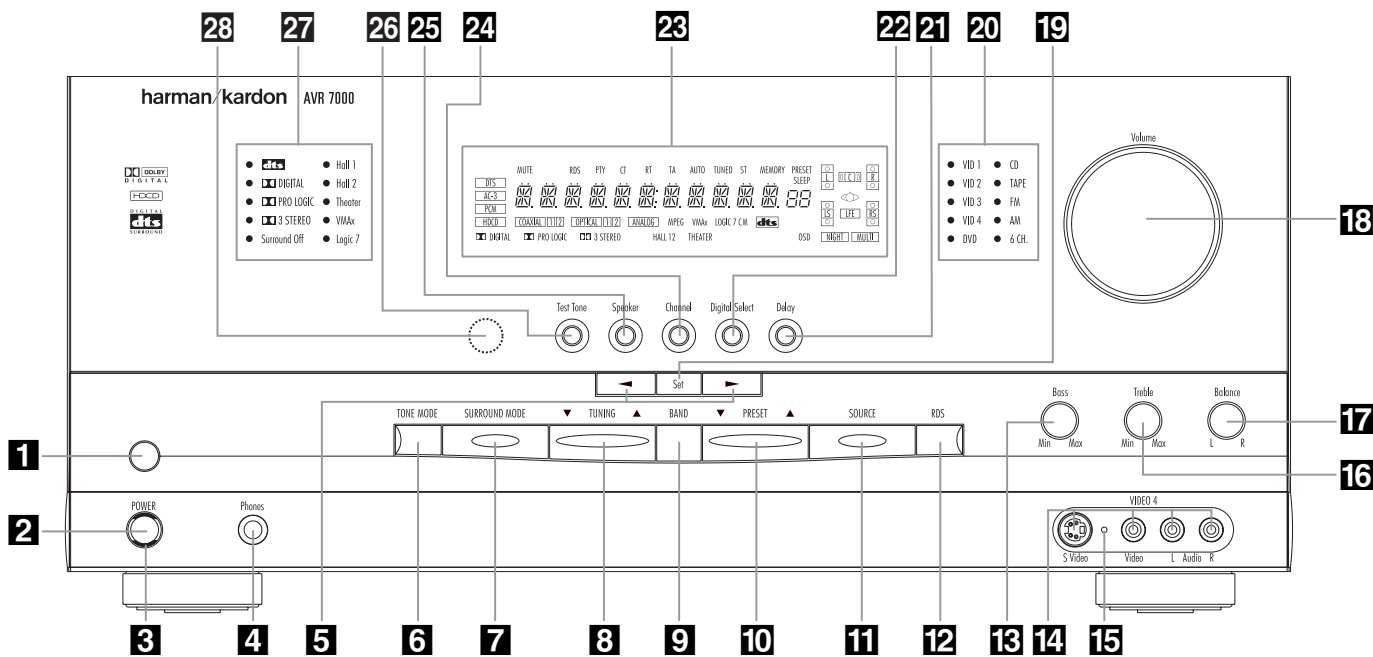
Unpacking

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.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

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

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

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

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

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 RDS Button
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 completely 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 (to Standby). Note that the **Power Indicator** surrounding the switch **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 6.3 mm stereo phone plug. Note that the main room speakers and all Pre-amp Outputs **16** 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 T O N E I N 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 T O N E O U T 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 Dolby Digital and DTS modes can be selected only when a digital input is used (See page 28 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** (see page 31 for more information on tuning stations).

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, holding it pressed for two seconds will switch between stereo and mono receiving and between automatic and manual tuning mode (See page 31 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 32 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 RDS Button: Press this button to display the various messages that are part of the RDS data system of the AVR7000´s tuner (see page 32 for more information on RDS).

13 Bass Control: Turn this control to modify the low frequency output of the left/right channels by as much as ±10dB. 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 35 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 35 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 ±10dB. 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 35.)

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 24–25 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 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 33.)

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 25.)

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
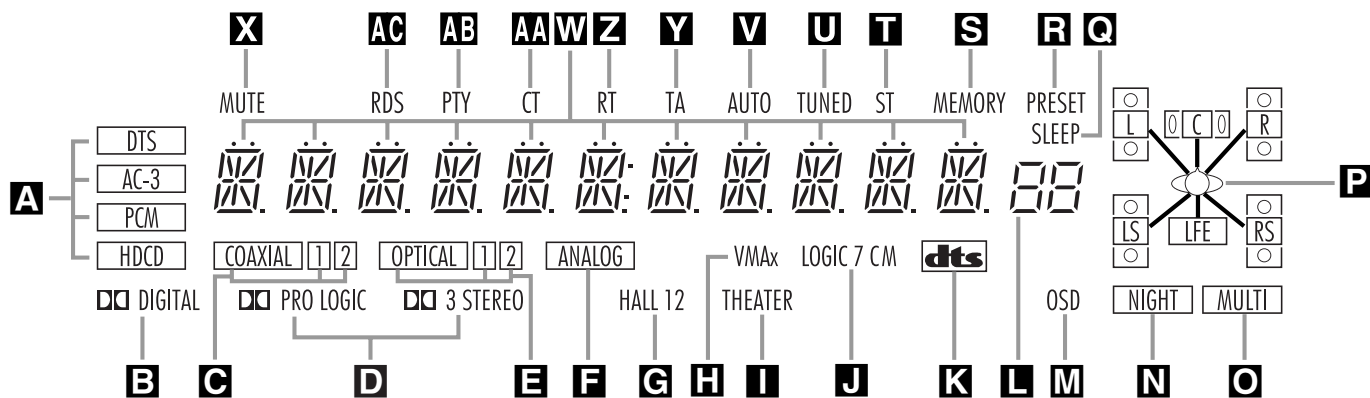
A Bitstream Indicators
B Dolby Digital Indicator
C Coaxial Source Indicators
D Analog Dolby Surround Mode Indicators
E Optical Source Indicators
F Analog Input Indicator
G Hall Mode Indicators
H VMAx Mode Indicator
I Theater Mode Indicator
J Logic 7 Mode Indicators

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
Y Traffic Indicator
Z Radiotext Indicator
AA Clock Time Indicator
AB Program Type Indicator
AC RDS 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 (more details see page 30).

B **Dolby Digital Indicator:** This indicator illuminates when Dolby Digital mode is selected.

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

K **DTS Mode Indicator:** This indicator illuminates when the DTS mode is selected.

L **Preset Number/Sleep Timer:** When the tuner is in use, these numbers indicate the specific preset memory location in use. (See page 32 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 37 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, 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 31 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 27 for more information on the Sleep function.)

Front Panel Information Display

R **Preset Indicator:** This indicator lights when the tuner is in use to show that the **Preset Number/Sleep Timer L** is showing the station's preset memory number. (See page 32 for more information on tuner presets.)

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

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**. Press the Mute button again to return to the previously selected output level.

Y **TA Traffic Announcement Indicator:** This indicator illuminates if the RDS station tuned somtimes transmits traffic information (see page 32 for more information on RDS).

Z **RT Text Indicator:** This indicator illuminates when the RDS station tuned is transmitting radiotext (RT) data.

AA **Clock Time Indicator:** This indicator illuminates when the RDS station tuned is transmitting the CT (clock time) code, indicating the current time of day.

AB **PTY Indicator:** This indicator illuminates when the RDS station tuned is transmitting program type data, or during a PTY search.

AC **RDS Indicator:** This indicator illuminates when the station tuned is transmitting RDS data.

Rear Panel Connections
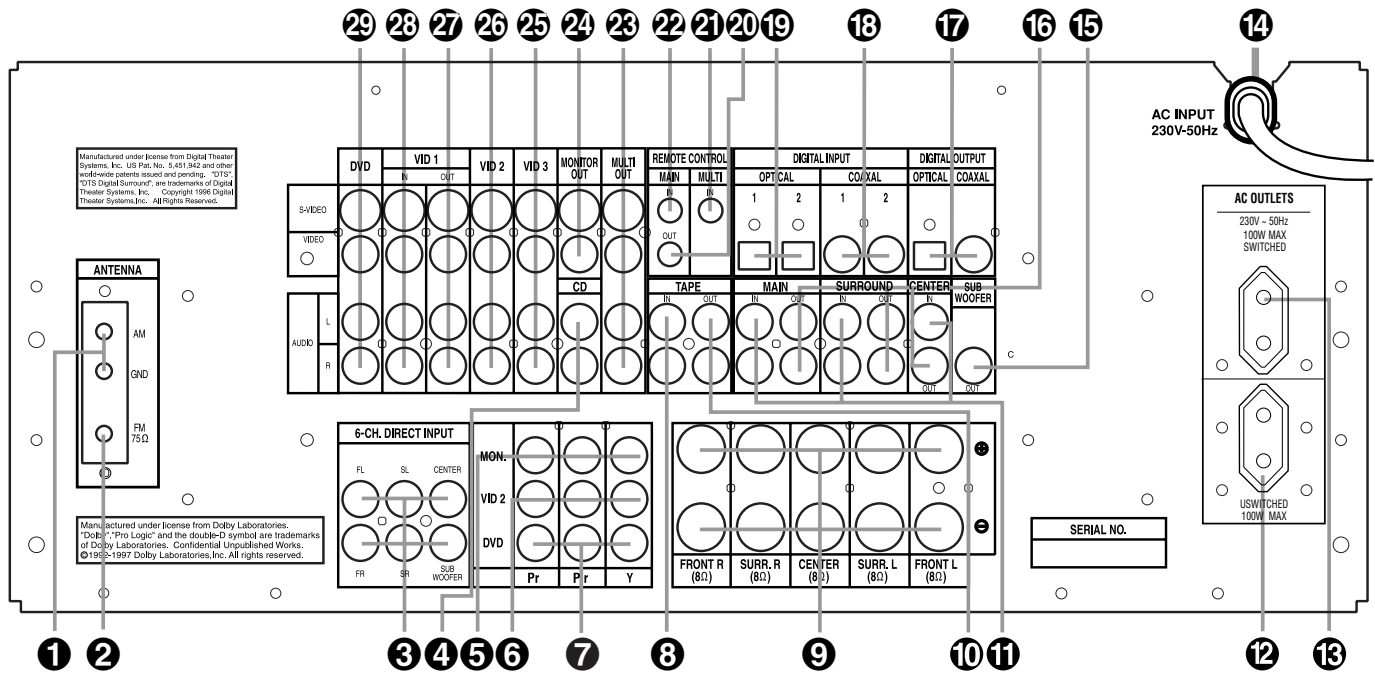
❶ AM Antenna
❷ FM Antenna
❸ 6-Channel Direct Inputs
❹ CD Inputs
❺ Component Monitor Outputs
❻ Video 2 Component Video Inputs
❼ DVD Component Video Inputs
❽ Tape Inputs
❾ Speaker Outputs
❿ Tape Outputs

⓫ Amplifier Inputs
⓬ Unswitched AC Accessory Outlet
⓭ Switched AC Accessory Outlets
⓮ AC Power Cord
⓯ Subwoofer Output
⓰ Preamp Outputs
⓱ Digital Audio Outputs
⓲ Coaxial Digital Inputs
⓳ Optical Digital Inputs
⓴ Remote IR Output

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

❶ **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.

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

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

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

❺ **Component Monitor 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** ❻❼ is selected the signal will be sent to these jacks.

❻ **Video 2 Component Video Inputs:** Connect the Y/Pr/Pb component video outputs of a set top converter box or other video source to these jacks.

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

Note: All component inputs/outputs can be used for RGB signals too, in the same way as described for the Y/Pr/Pb signals, then connected to the jacks with the corresponding color. But this is only true as long as only the three RGB lines are used and not any sync signal is output separately from the source.

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

❾ **Speaker Outputs:** Connect 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.)

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

⓫ **Amplifier Inputs:** When the jumper pins that link the **Preamp Outputs** ⓰ with these inputs are removed, these jacks may be used to connect any external 5.1 channel source (or 2 channel source, if only Main Inputs are used), e.g. processors, to the internal amplifiers. (See page 18 for more information on using these connections.)

⓬ **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 (in Standby), provided that the **Main Power** switch ❶ is on.

⓭ **Switched AC Accessory Outlet:** This outlet 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 ❷.

Note: The power consumption of the device plugged into each of these outlets ❶ ⓭ must not exceed 100 watts.

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

⓯ **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.

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

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

⓲ **Coaxial Digital Inputs:** Connect the coax digital output from a DVD player, HDTV receiver, LD player, MD player or CD player to these jacks. The signal may be either a Dolby Digital signal, DTS signal or a standard PCM digital source.

⓳ **Optical Digital Inputs:** Connect the optical digital output from a DVD player, HDTV receiver, LD player, MD 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.

⓴ **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 mulitroom system in a remote room.

㉔ **Video Monitor Outputs:** Connect these jacks to the composite or S-Video input of a TV monitor or video projector to view the on-screen menus and the output of any 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 or S-video output of a DVD or LD player to these jacks.

Note: Connect either the Video or S-Video output of any S-Video source to AVR7000, but never both at the same time, otherwise video quality may be distorted or reduced.

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 M 1/2 Buttons
19 OSD Button
20 Light Button
21 Direct/M 3 Button
22 Clear/M 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 (SAT/TV/VCR/AUX)
35 IR Transmitter Window
36 RDS Button

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 42/43 for a list of these functions.

harman/kardon

ON
AVR   CD   TAPE   DVD
SAT   TV   VCR   AUX

POWER   SLEEP

T/V
MUTE   TEST   CH.   VOL.
SURR.

GUIDE   MENU
CH.   SPKR

SET

DIGITAL   DELAY
EXIT   PREV.CH.

NIGHT   MULTI-ROOM
VID 1   6 CH.   ●/II   ■

VID 2   AM/FM   ◄   ►
DWN-TUNING-UP

VID 3   TUN-M   ◄◄   ►►
DWN-PRESET-UP

VID 4   MEMORY   I◄◄   ►►I

1   2   3   4   5
6   7   8   9   0

DIRECT   CLEAR
M1   M2   M3   M4

OSD   LIGHT   RDS
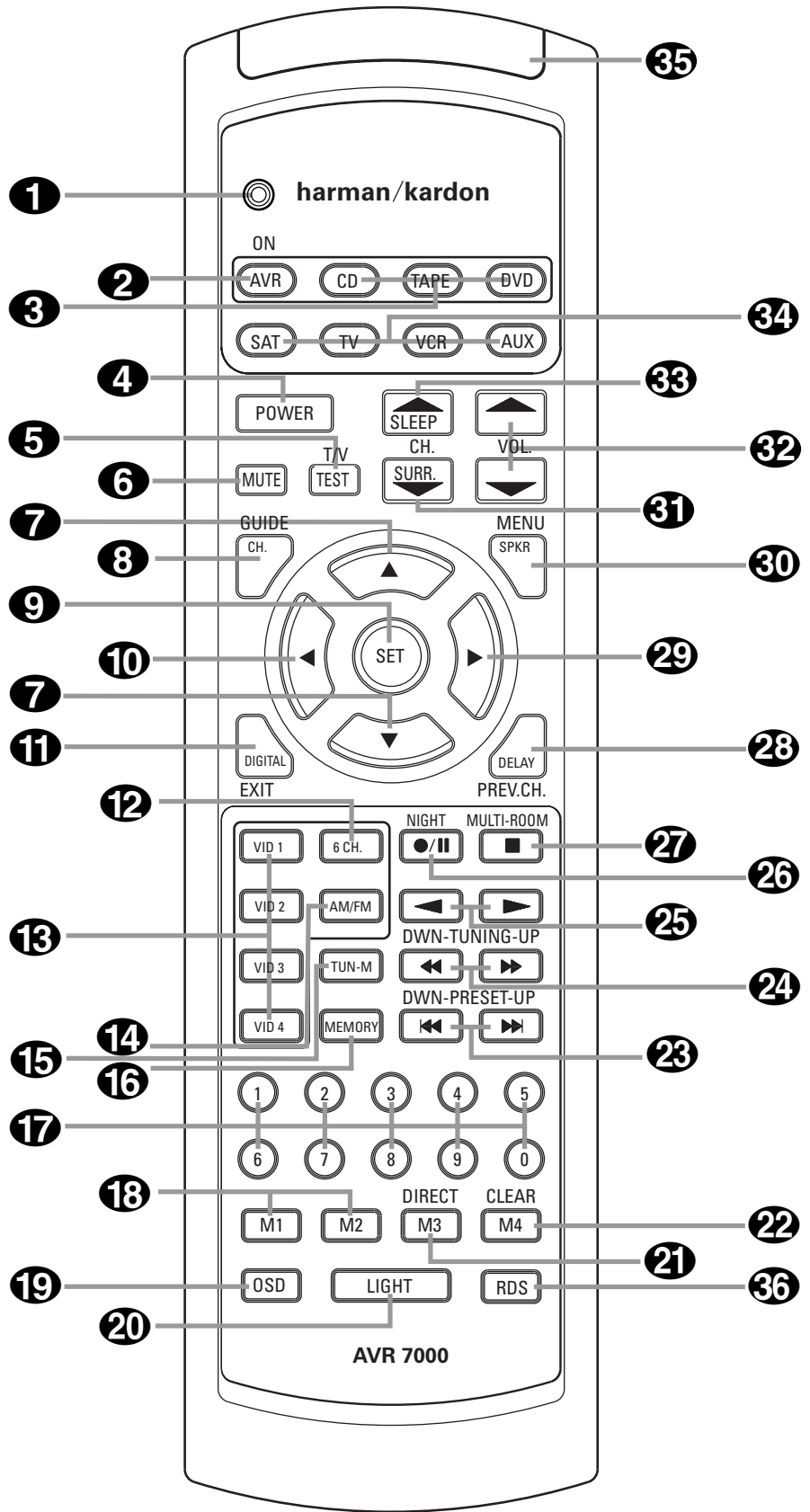
AVR 7000

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 ❷❸❹ 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 or by learning commands from other remotes. Before using the remote with other products, follow the instructions on pages 38–49 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 39 for information about alternate functions for the remote's buttons.)

❶ **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 39 for information on learning IR codes.)

❷ **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.

❸ **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 ❷ again to operate the AVR's functions with the remote.

❹ **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.

❺ **Test Tone:** Press this button to begin the sequence used to calibrate the AVR 7000's output levels. (See page 25 for more information on calibrating the AVR 7000.)

❻ **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 ❷ ❹ to begin the programming process. (See page 38 for more information on programming the remote.)

❼ ▲/▼ **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 ㉘ has been pressed.

❽ **Channel Select Button:** This button is used to start the process of setting the AVR 7000's output levels with an external source. Once this button is pressed, use the ▲/▼ buttons ❼ to select the channel being adjusted, then press the **Set** button ❾, followed by the ▲/▼ buttons again, to change the level setting. (See page 33 for more information.)

❾ **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.

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

⓫ **Digital Select:** Press this button to assign one of the digital inputs ⓲ ⓳ to a source. (See page 30 for more information on using digital inputs.)

⓬ **6-Ch. Direct Input:** Press this button to select the component connected to the **6-Ch. Direct Input** ❸ as the source

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

⓮ **AM/FM Tuner Select:** Press this button to select the AVR's tuner as the listening choice. Pressing this button when the tuner is in use will select between the AM and FM bands.

⓯ **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 🅥 goes out, pressing the **Tuning** buttons ㉔🅱🅔 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 32 for more information.)

⓰ **Memory Button:** Press this button to enter a radio station into the AVR 7000's preset memory. After pressing the button the **MEMORY** indicator 🅢 will flash; you then have five seconds to enter a preset memory location using the **Numeric Keys** ⓱. (See page 32 for more information.)

⓱ **Numeric Keys:** These buttons serve as a ten-button numeric keypad to enter tuner preset positions. They are also used to select channel numbers when **TV**, **Cable** or **Sat** receiver 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.

⓲ **M 1/2 Buttons:** These buttons cannot be used with the AVR7000, but they have several functions with other devices (see function list, page 42) or can be programmed (See page 38 for more information on programming the remote).

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

⓴ **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/M 3 Button:** Pressing this button 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** ⓱ to select a station (See page 32 for more information on the tuner).

Main Remote Control Functions

22 **Clear/M 4 Button:** This button has no function with the AVR7000, but it controls the "+10" or "Clear" function with CD or DVD players (see function list page 42); it may also be programmed for use with other devices (See page 38 for more information).

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 DVD players, are selected using the **Device Control Selectors** **3** **34** , 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** has been pressed or the **Band** button **12** on the front panel was held pressed so that the **AUTO** indicator **V** is illuminated, pressing either of the buttons 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 31 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 38 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) intelligibilty at low volume levels (See page 31 for more information).

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 37 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 24 for more information.)
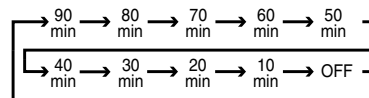
29 **▶ Button:** Press this button to change a setting or selection when configuring many of the AVR's settings.

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 the speaker type (see page 23 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 28 for more information). Note that this button is also used to tune channels when the TV, VCR, AUX and SAT receiver 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 38 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:

```
→ 90    → 80    → 70    → 60    → 50
   min      min      min      min      min

→ 40    → 30    → 20    → 10    → OFF
   min      min      min      min
```

Hold the button pressed for two seconds to turn off the Sleep mode setting.
Note that this button is also used to change channels on your TV, VCR, AUX and SAT receiver when 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 38 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 page 38.)

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.

36 **RDS Button:** When an FM RDS station is tuned, press this button to select the RDS service indicated in the display (See page 32 for more information on RDS).

NOTE: As any of the remote buttons pressed is active with the device selected, the corresponding **Selector** button **2** **3** **34** will briefly flash red to confirm your selection.

Zone II Remote Control Functions
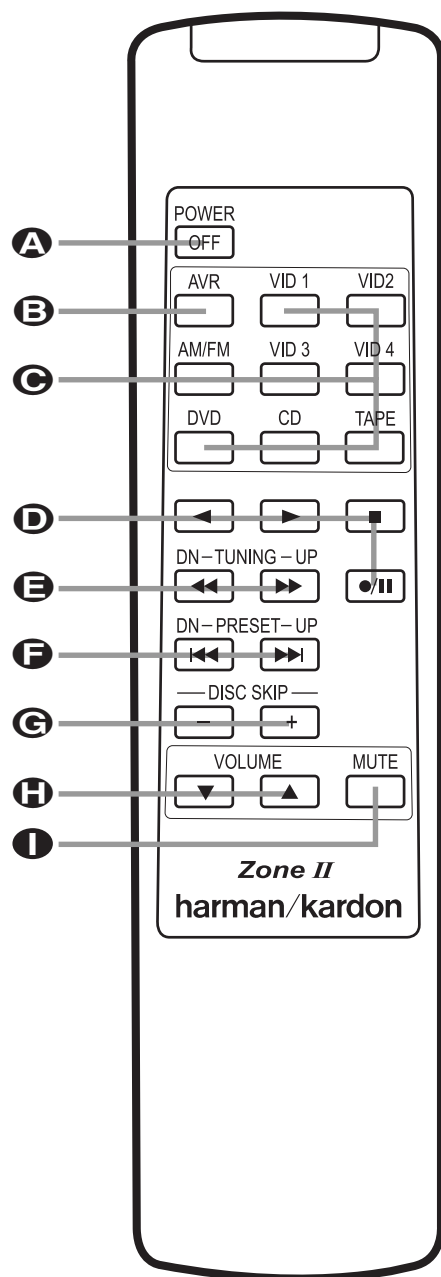
```
          POWER
      ┌──────────┐
A ────│   OFF    │
      └──────────┘
      ┌────┬──────┬──────┐
B ────│AVR │VID 1 │VID2  │
      ├────┼──────┼──────┤
C ────│AM/FM│VID 3│VID 4 │
      ├────┼──────┼──────┤
      │DVD │ CD   │TAPE  │
      └────┴──────┴──────┘
      ┌────┬──────┬──────┐
D ────│ ◄  │  ►   │  ■   │
      └────┴──────┴──────┘
      DN – TUNING – UP
      ┌────┬──────┐┌──────┐
E ────│ ◄◄ │  ►►  ││ ●/❚❚ │
      └────┴──────┘└──────┘
      DN – PRESET – UP
      ┌────┬──────┐
F ────│ ◄◄❙│ ❙►►  │
      └────┴──────┘
      ── DISC SKIP ──
      ┌────┬──────┐
G ────│ –  │  +   │
      └────┴──────┘
       VOLUME        MUTE
      ┌────┬──────┐┌──────┐
H ────│ ▼  │  ▲   ││      │
      └────┴──────┘└──────┘
  I

         Zone II
      harman/kardon
```

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 ㉑.

Ⓐ 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 ㉑, this button turns the Multi-Room system off.

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

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

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

Ⓔ 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.

Ⓕ 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.

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

Ⓗ 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 ㉑, this button will raise or lower the volume in the remote room.

Ⓘ 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 ㉑, this button will temporarily silence the feed to the remote room only. Press the button again to return to the previous volume level.

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

NOTE: When the Zone II remote 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 as described above. When it is used in a separate room via a sensor connected to the Multi IR Jack ㉑ the **transport** buttons Ⓓ Ⓔ Ⓕ Ⓖ will control functions of other devices in the main room, 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 ㉓. (See page 37 for complete information on using the Multi-Room system.)

Installation and Connections

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 inter-connect 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 ❹.

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 ❽. Connect the analog Record/In jacks on the recorder to the **Tape Out** jacks ❿ 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 ⓲⓳ may be used with a Dolby Digital or DTS source or the output of a conventional CD, MD or LD player's PCM (S/P-DIF) output.

4. Connect the **Coaxial or Optical Digital Outputs** ⓱ 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 ❶ .
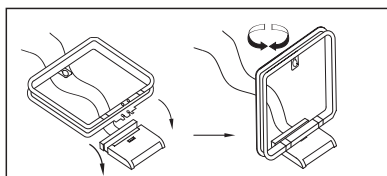
6. Connect the supplied FM antenna to the **FM (75 ohm)** connection ❷. The FM antenna may be an external roof antenna, an inside powered or wire lead antenna or a connection from a cable system. Note that if the antenna or connection uses 300-ohm twin-lead cable, you must use a 300-ohm-to-75-ohm adapter to make the connection.

7. Connect the front, center and surround speaker outputs ❾ 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 an area greater than 2 mm^2.

Cable with an area of 1.5 mm^2 may be used for short runs of less than 4 m. We do not recommend that you use cables with an area less than 1mm^2 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 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** ⓯ 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.

Note: Speaker sets with two front satellites and a passive subwoofer must be connected to the front speaker outputs ❾ only rather than to the **Subwoofer Output** ⓯.

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. To ensure best video performance S-Video sources should be connected to the AVR7000RDS only with their S-Video In/Outputs, not with their composite video connectors too.

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** ㉖ 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 CD, MD or DVD player, satellite receiver, cable box or HDTV converter to the appropriate **Optical** or **Coaxial Digital Inputs** ⓲⓳.

5. Connect the **Video Monitor Out** ㉔ jacks on the receiver to the composite and 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** ❼. Note that even when component video connections are used the audio connections must still be made to either the analog **DVD Audio Inputs** ㉙ or any of the **Coaxial** or **Optical Digital Input** jacks ⓲⓳.

7. If another component video device is available, connect it to the **Video 2 Component Video Input** jacks ❻. 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 ⓲⓳.

8. If the component video inputs are used, connect the **Component Video Output** ❺ 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 video from DVD players and similar devices. While it may operate with high definition signals, the video quality may be slightly less than with a direct connection between the DVD and your TV.
- The AVR 7000 will accept either standard composite, S-Video or Y/Pr/Pb component video signals. However, it will not convert composite or S signals to component video.
- Component or Composite video signals may only be viewed in their native formats. However, S-Video signals will be converted to standard, composite video, and are viewable through the **Composite Video Monitor Output** ㉔.

SCART A/V Connections

For the connections described above your video device needs RCA (cinch) connectors or/and S-Video connectors for all Audio and Video signals: Any normal video device (Not SVHS or High 8) for only playback needs 3 RCA jacks, VCRs for record and playback even 6 RCA jacks. Any S-Video device (SVHS, High 8) needs 2 RCA (Audio) and 1 S-Video jack (Video), if it´s a playback unit, or 4 RCA (Audio In/Out) and 2 S-Video (Video In/Out) jacks, if it´s a recording VCR.

Many european video devices are equipped with RCA (Cinch) or S-Video jacks only partially, not for all audio and video in/outputs needed as described above, but with a so called Scart or Euro-AV connector (almost rectangular jack with 21 pins, see drawings on next page).

In that case the following Scart to Cinch adapters or cables are needed:

- Units for playback, such as satellite receivers, camcorders, DVD or LD players, need an adapter from Scart to 3 RCA plugs, see fig. 1 (normal video devices) or from Scart to 2 RCA+1 S-Video plugs, see fig. 4 (S-Video devices).

- HiFi VCRs need an adapter from Scart to 6 RCA plugs, see fig. 2 (normal video), or from Scart to 4 Audio+2S-Video jacks, see fig. 5 (S-Video VCR). Read carefully the instruction attached to the adapter to find which of the six plugs is used for the record signal to the VCR (connect with the AVR´s Out jacks) and for the playback signal from the VCR (connect with the AVR´s In jacks). Do not misconnect Audio and Video signals. Don´t hesitate to consult your dealer, if you are uncertain.

- If you use only normal video devices the TV monitor needs an adapter from 3 RCA plugs to Scart (fig. 3) only. If also S-Video devices are used an adapter from 2 RCA+1S-Video plugs to Scart is needed additionally (fig. 6), connected to the SCART input on your TV that is provided for S-Video.

Note that only the video plugs (the "yellow" cinch plug in fig. 3 and the S-Video plug in fig. 6) must be connected to the **TV Monitor Output** ㉔, and the volume on the TV must be reduced to minimum.

Installation and Connections

Figure 1:
SCART/Cinch-Adapter for playback;
signal flow:
SCART → Cinch

Black
Yellow
Red

Figure 2:
SCART/Cinch-Adapter for record and playback;
signal flow:
SCART ↔ Cinch

Black
Red
Blue[1]
Yellow
Green[1]
White

Figure 3:
Cinch/SCART-Adapter for playback;
signal flow:
Cinch → SCART

Black
Yellow
Red

Figure 4:
SCART/S-Video Adapter for playback;
signal flow:
SCART → Cinch

Red
Black
S-Video In

Figure 5:
SCART/S-Video Adapter for record and playback;
signal flow:
SCART ↔ Cinch

Black
Red
Blue[1]
Yellow
S-Video In
S-Video Out

Figure 6:
SCART/S-Video Adapter for playback;
signal flow:
Cinch → SCART

Red
Black
S-Video Out

[1] Also other colours possible, e.g. brown and grey.

Note for RGB signal with SCART:

If you use a unit providing RGB signals on a SCART output (as e.g. most DVD players do) and you want to use that RGB signal, this SCART output must be connected directly to your TV. Although the AVR 7000 RDS can switch three-way video signals (like component signals Y/Pb/Pr), TVs need separate sync signals besides RGB (also with SCART) that cannot be switched and provided by the AVR 7000 additionally.

Important Note for Adapter Cables:

If the cinch connectors of the adapter you'll use are labeled, connect the Audio and Video "In" plugs with the corresponding Audio and Video "In" jacks on the AVR 7000 (and with a VCR connect the "Out" plugs to the "Out" jacks on the AVR). Note that with some adapter types it may be just turned around: If no signal is audible/ visible when the VCR is playing connect the "Out" plugs to the "In" jacks on the AVR and turned around. If the adapter plugs are not labeled in that way, pay attention to the signal flow directions as shown in the diagrams above and in the instruction attached to the adapter. If uncertain, don't hesitate to consult your dealer.

Important Notes for S-Video connections:

1. Only the S-Video In/Out of S-Video devices must be connected to the AVR, NOT both, normal video and S-Video In/Outputs (except the TV, see item 2).

2. Like all common AV units the AVR 7000 does not convert the Video signal to S-Video. Thus both connections must be made from the AVR 7000 to the TV if both, Video and S-Video sources, are used, and the appropriate input on the TV must be selected.

Installation and Connections

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, the remote sensor of any Harman Kardon or other compatible device, not covered by the door, or an optional remote sensor may be used. Connect the **Remote IR Output** of that device or 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.

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 IR Link

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. The remote room IR receiver (this can be an optional IR receiver or any other remotable Harman Kardon device in the remote room with IR sensor integrated) should be connected to the AVR 7000 via standard coaxial cable. Connect the **Remote IR Output** of the device or of the optional sensor with 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 that source device. This will enable the remote room location to control source equipment functions in addition to the remote room input and volume.

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 stereo audio interconnect cable with phono plugs on both ends 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 2.5 mm^2 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 10 m. 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 carry any certification that is required by the 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.

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.

Installation and Connections

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 having those decoders integrated. If an external decoder is used, connect the output jacks of the decoder to the **6-Channel Direct** inputs ❸, 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 two 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** ⓱ outlets will receive power only when the unit is on completely. 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** ❶ outlet will receive power as long as the unit is plugged into a powered AC outlet and the **Main Power** Switch **1** is on.

Finally, when all connections are complete, plug the power cord into a nonswitched 220-240-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

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

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

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 60cm above or below the tweeter in the center-channel speaker.

They should also be at least 0.5 meter from your TV set unless the speakers are magnetically shielded to avoid colourings on the TV screen.

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.

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 you.

If side-wall mounting is not practical, the speakers may be placed on a rear wall, behind the listening position. The speakers should be no more than two meters behind the rear of the seating area.

Subwoofers produce largely 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 15cm 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.
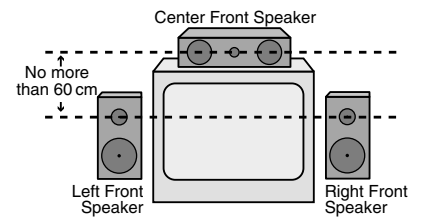
A) Front Channel Speaker Installation with Direct-View TV Sets or Rear-Screen Projectors
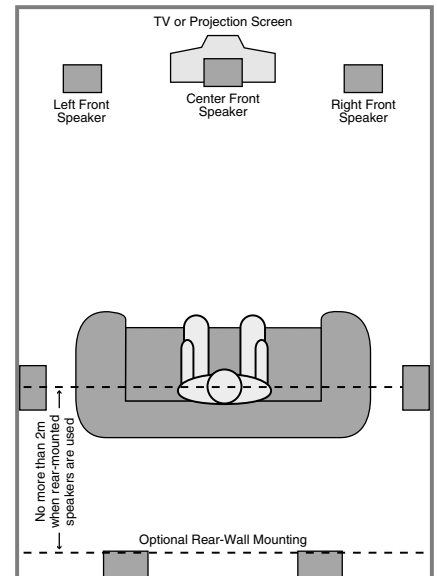
B) The distance between the left and right speakers should be equal to the distance from the seating position to the viewing screen. You may also experiment with placing the left and right speakers slightly forward of the center speaker.

System Configuration

System Setup

Once the speakers have been placed in the room and connected, the remaining steps are to program the system configuration memories. With the AVR 7000 two kind of memories are used, those associated individually with the input selected, e.g. surround modes, and others working independently from any input selected like speaker output levels, crossover frequencies or 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** ⓲ into an unswitched AC outlet.

2. Press the **Main Power Switch** ❶ in until it latches and the word "OFF" on the top of the switch disappears inside the front panel. Note that the **Power Indicator** ❸ 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.
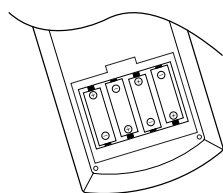
4. Turn the AVR 7000 on either by pressing the **System Power Control** ❷ or the **Input Source Selector** ⓫ on the front panel, or via the remote by pressing the **AVR Selector** ❷ or any of the **CD/Tape/ DVD Selectors** ❸ on the remote. The **Power Indicator** ❸ will turn green to confirm that the 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 via 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 facilitate 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 input must be selected on your 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 and make the settings on the screen. The Semi-OSD mode uses one-line displays only.

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 Ⓦ. When the full OSD menu system is used, OSD ON will appear in the **Main Information Display** Ⓦ and the **OSD Indicator** Ⓜ 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** Ⓦ Note that the horizontal arrow buttons ◄/► ❿ ㉙ cannot be used with the semi-OSD. Settings must be made by pressing the appropriate discrete configuration button, e.g. **Speaker** ㉕ ㉚ and options be selected, e.g. **Center Speaker**, with the ◄/► **Selector Buttons** ❺ on the front or ▲/▼ ❼ on the remote, then **Set** ⓳ ❾ to confirm. Afterwards the setting can be made, e.g. **Small/Large**, with the ◄/► **Selector Buttons** ❺ on the front or ▲/▼ ❼ on the remote and confirmed again with the **Set** ⓳ ❾ button.

Selecting the On-Screen display
The full OSD system is always available by pressing the **OSD** button ⓳. When this button is pressed the main **A U D I O S E T U P** menu (Figure 1) will appear, and adjustments are made from the individual menus. Note that the menus will remain on the screen for 20 seconds after the latest action was made on the screen menu, 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 **A D V A N C E D S E L E C T** menu, and changing the item titled **F U L L O S D T I M E O U T**.

The semi-OSD system is also available as a system default, although it may be turned off by using the **A D V A N C E D S E L E C T** menu. (See page 35.) 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 as outlined above.

```
     *  A U D I O   S E T U P  *

  ►  I N P U T   S E T U P
     S U R R O U N D   S E T U P
     S P E A K E R   S E T U P
     O U T P U T   A D J U S T
     C H A N N E L   A D J U S T
     M U L T I - R O O M
     A D V A N C E D
     E X I T
```
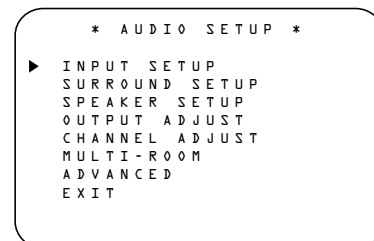
Figure 1

Settings associated only with Input selected

The AVR 7000 features an advanced memory system that enables you to establish different configurations for the speaker configuration, digital input and surround mode 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 associate different surround modes and analog or digital inputs with 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" (with surround modes other speakers to "small"), and a subwoofer connected. Before using the unit, you will probably want to change these 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 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

System Configuration

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** ⓫ until the desired input's name appears momentarily in the **Main Information Display** Ⓦ, and the green LED lights next to the input's name in the front panel **Input Indicators** ⓴. The input may also be selected by pressing the appropriate Input Selector on the remote control ❸ ⓬ ⓭ ⓮.

When using the full-OSD system to make the setup adjustments, press the **OSD** button ⓳ once so that the main A U D I O S E T U P menu (Figure 1) appears. Note that the ▶ cursor will be next to the input setup line. Press the **Set** button ❾ to enter the menu and the I N P U T S E T U P menu (Figure 2) will appear on the screen. Press the ◀/▶ buttons ❿ ㉙ until the desired input name appears in the highlighted video, as well as being indicated in the front panel **Input Indicators** ⓴ 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.
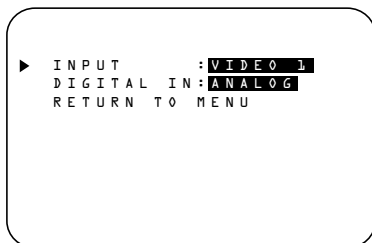
```
  ▶  I N P U T      : VIDEO 1
     D I G I T A L  I N : ANALOG
     R E T U R N  T O  M E N U
```

Figure 2

If you wish to associate one of the digital inputs with the selected input source, press the ▼ button ❼ on the remote while the I N P U T S E T U P menu (Figure 2) is on the screen, and note that the on-screen cursor will drop down to the D I G I T A L I N line. Press the ◀/▶ buttons ❿ ㉙ until the name of the desired digital input name appears. To return to the A N A - L O G input, press the buttons until the word analog appears. When the correct input appears, press the ▼ button ❼ once so that the ▶ cursor appears next R E T U R N T O M E N U, and press the **Set** button ❾ or press the ▲ button ❼ until cursor is next to I N P U T and select another input to be configured with the ◀/▶ buttons ❿ ㉙.

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 ⓫ on the front panel or the remote. Within five seconds, make your input selection using the **Selector** buttons on the front panel ❺ or the ▲/▼ buttons ❼ on the remote until the desired digital or analog input is shown in the **Main Information Display** Ⓦ and in the lower third of the video display connected to the AVR 7000, then press **Set** ⓳ ⓳. This selection will also keep memorized, associated with the input source selected, until another selection is made.

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 A U D I O S E T U P menu (Figure 1), press the ▲/▼ button ❼ until the ▶ cursor is next to the S U R R O U N D S E T U P menu. Press the **Set** button ❾ ⓳ so that the S U R R O U N D S E T U P menu (Figure 3 or 4) is on the screen.

```
     * S U R R O U N D  S E T U P *
  ▶  S U R R O U N D :  SURR OFF

     C E N T E R  D E L A Y :  - - M S
     S U R R    D E L A Y :  - - M S
     C R O S S O V E R  F R E Q :  90HZ
     N I G H T :  - - -  - - -  - - -
     R E T U R N  T O  M E N U
```

Figure 3

```
     * S U R R O U N D  S E T U P *
  ▶  S U R R O U N D :  DOLBY
                        DIGITAL
     C E N T E R  D E L A Y :   0MS
     S U R R    D E L A Y :  00MS
     C R O S S O V E R  F R E Q :  90HZ
     N I G H T :  OFF  MID  MAX
     R E T U R N  T O  M E N U
```
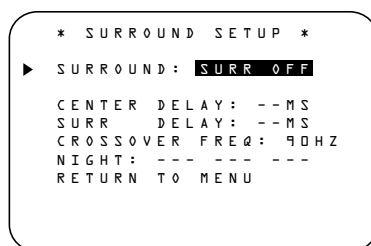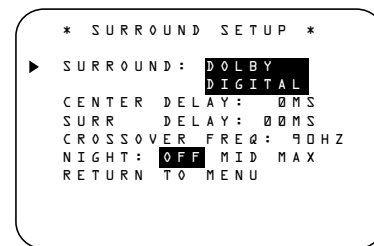
Figure 4

Since the factory default for all inputs is Stereo, the words S U R R O F F will initially appear in highlighted video (Figure 3) unless another surround mode choice was made with the input just selected. To change the surround mode while the ▶ cursor is next to the surround line, press the ◀/▶ buttons ❿ 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. These settings for Delay, Crossover Frequency and Night mode, that are independent from any input selected, will be described in the next chapter on page 24.

Speaker Setup
These 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 L A R G E setting if the speakers for a particular position are traditional full-range loudspeakers that are capable of reproducing sounds below 100Hz. Use the S M A L L setting for smaller, frequency-limited satellite speakers that do not reproduce sounds below 100Hz. Note that when "small" front (left and right) speakers are used, a subwoofer is required 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. Remember that the speaker setup must be made individually for each input of the AVR 7000.

System Configuration

It is best to select the Dolby Pro Logic mode for making the speaker setup. Note that with the actually selected input all settings will be copied to other surround modes too (as far as possible).

To enter the proper settings for the speaker setup, the easiest path is through the SPEAKER SETUP menu (Figure 5 below).

1. Press the **OSD** button ⑲ to bring up the AUDIO SETUP menu (Figure 1), and then press the ▼ button ❼ twice so that the cursor is on the SPEAKER SETUP line. At this point, press the **Set** button ❾ to bring up the SPEAKER SETUP menu (Figure 5).

```
    *  SPEAKER  SETUP  *
 ▶  LEFT/RIGHT:  SMALL
    CENTER     :  SMALL
    SURROUND   :  SMALL
    SUBWOOFER  :  YES
    RETURN  TO  MENU
```

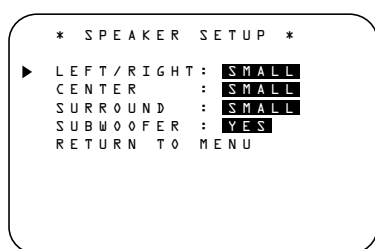*Figure* 5

2. 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 ❿ ㉙ so that either LARGE or SMALL appears, matching the appropriate description from the definitions shown above.

When SMALL is selected, low frequency front 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 front channels.

When LARGE is selected, a full-range output will be sent to the front left and front right outputs, and with all analog surround modes the front channel low frequency signals will be sent to the subwoofer output.

Important Note: When a speaker set with two front satellites and a passive subwoofer is used, connected to the front speaker outputs ❾, the fronts must be set for LARGE.

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

4. Press the ◀/▶ buttons ❿ ㉙ on the remote to select the option that best describes your Center speaker based on the speaker definitions shown on this page.

When SMALL is selected, low frequency center channel sounds will be sent to the Fronts, if they are set for LARGE and Sub is turned off. When Sub is on, low frequency center channel sounds will be sent to the subwoofer only.

When LARGE is selected, a full-range output will be sent to the center speaker output, and with analog and digital surround modes NO center channel signal will be sent to the subwoofer output.

When NONE is selected, no signal 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. This mode is needed if no Center speaker is used.

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

6. Press the ◀/▶ buttons ❿ 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 Fronts, when Sub is turned off, or to the subwoofer output when Sub is on. In Pro Logic mode, there is no bass in the surround channels.

When LARGE is selected, a full-range output will be sent to the surround channel outputs (with all analog and digital surround modes), and, except with Hall and Theater modes, 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.

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

8. Press the ◀/▶ buttons ❿ 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 only. This option is not available when the front, speakers are set to SMALL.

When a speaker set with two or more satellites and a subwoofer is used, the front satellites and the subwoofer must be connected to the front speaker outputs ❾ and the subwoofer must be set for NO.

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

10. 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** 🆆.

Within five seconds, either press the front panel ◀/▶ Selector buttons ❺ or the ▲/▼ buttons ❼ on the remote to select a different speaker position, or press the **Set** Button ⑲ ❾ to begin the adjustment process for the front left and right speakers

When the **Set** button ⑲❾ has been pressed and the system is ready for a change to the speaker setting, the on-screen display and **Main Information Display** 🆆 will read FNT LARGE or FNT SMALL depending on the current setting. Press the front panel ◀/▶ Selector Buttons ❺ or the ▲/▼ buttons ❼ on the remote until the desired setting is shown, using the instructions for "large" or "small" shown earlier, then press the **Set** button ⑲❾.

If another speaker position needs to be changed, press the front panel ◀/▶ **Selector** buttons ❺ or the ▲/▼ buttons ❼ on the remote to select a different speaker position, press the **Set** button ⑲❾ and then press the front panel ◀/▶ **Selector** buttons ❺ or the ▲/▼ buttons ❼ on the remote until the correct speaker setting is shown and press the **Set** button ⑲❾ again to confirm the selection.

To assist in making these settings, the icons in the **Speaker/Channel Input Indicators** 🅿 will change as the speaker type is selected at each position. When only the inner 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."

System Configuration

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".
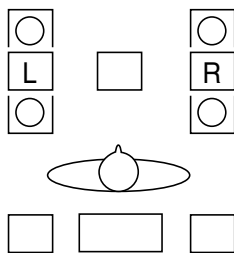
Figure 6

Adjustments for Other Inputs
After one input has been adjusted for surround mode, digital input (if any) and speaker type 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 will usually be the same and may be quickly entered by entering the same data used for the original input.

Settings independent from Inputs selected

After the settings described above are made for all input sources in your system, the following settings, made with any input, will be effective for all inputs selected.

Again to make these settings the best the full OSD menu system should be used. From the AUDIO SETUP menu (Figure 1) move the cursor to the SURROUND SETUP line and press the **Set 9** button to bring up the Sourround Setup menu.

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** 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, you will need to adjust the delay time setting. Note that the delay time is not adjustable for any other modes.

Important Note: Once the delay time is set with any input it will be effective with all other inputs too. Moreover the surround delay time setting must be made only for either the Dolby Pro Logic or the Dolby Digital mode. The other setting will be set automatically.

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 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/ viewing position to the front speakers in meters.

2. Measure the distance from the listening/ viewing position to the surround speakers.

3. Subtract the distance to the surround speakers from the distance to the front speakers and multiply the result by 3.

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 3 m away and the surround speakers are 1 m away, the optimal delay time is figured as (3−1)x3=6. Thus, in this example, the delay time for Dolby Digital should be set at six 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 3 m away and the surround speakers are 1 m away, the optimal delay time is figured as (3−1)x3+15=21. 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 30 cm 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 3 m from the listening position and the center channel speaker is 2.4 m away, the delay is figured as 300 cm −240 cm=60 cm, suggesting an optimal center delay of 2 milliseconds.

To set the delay time, continue within the main AUDIO SETUP (Figure 1) menu. If the system is not already at that point, press the **OSD** button **19** to bring up the main audio setup menu. To make the delay settings for the Dolby Digital mode (this will include the Center delay setting, and the surround delay for the Pro Logic mode will be set automatically), press the **Set 9** button and select any input now that is associated with a digital input and the Dolby Digital surround mode, then return to the main menu. Press the ▼ button **7** and then the **Set** button **9** to bring up the surround setup menu, now select the Dolby Digital mode, if not so already and then press the ▼ button **7** once.

As the Dolby Digital mode is selected, the ▶ cursor will stop at the CENTER DELAY line. 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** once to move to 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 for the Dolby Digital surround mode (item 3a). When the delay settings are complete, press the ▼ button **7** once to move to the next line.

System Configuration

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, that are set for "Small".

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 or 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. For the Dolby Digital mode, there is one more adjustment to be made. Press the ▼ button 7 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 only available when Dolby Digital signals are played.

To adjust the Night mode setting 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, then press **Set** 19 9 to confirm the 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.

Output Level Adjustment

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

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.

IMPORTANT NOTE: The output level can be adjusted for each digital and analog surround mode separately. This allows you to compensate for level differences between speakers, that may also vary with the surround mode selected, or to increase or decrease the level of certain speakers intentionally, depending on the surround mode selected.

Before beginning the output level adjustment process, make certain that all speaker connections have been properly made. The system volume should be turned down at first. Finally, make certain that the **Balance Control** 17 is set to the center "12 o'clock" position.

To adjust and calibrate the output levels with help of the test tone generator integrated, follow these steps, (the levels can be adjusted also with an external source, without any test tone, see Level Trim Adjustment on page 33). 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.

```
  * OUTPUT ADJUST *

▶ FRONT LEFT : 0dB
  CENTER      : 0dB
  FRONT RIGHT : 0dB
  SURR RIGHT  : 0dB
  SURR LEFT   : 0dB
  RETURN TO MENU
```
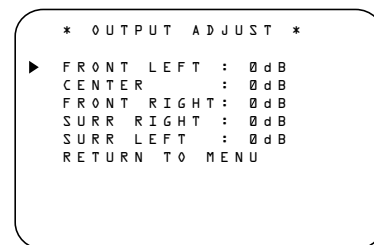
Figure 7

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. Now

System Configuration

turn up the volume until you can hear the noise clearly.

IMPORTANT NOTE: Because this test noise will have a much lower level than normal music, the volume must be lowered after the adjustment for all channels is made, but BEFORE you return to the main menu and the test tone turns off.

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 indicated by the on-screen cursor ▶. If the sound from a speaker location does NOT match the position indicated, turn the AVR 7000 off using the **Main Power Switch 1** and check the speaker wiring to make certain that each speaker is connected to the correct output terminal.

After checking for speaker placement, let the test noise circulate again, and listen to see which channels sound louder than the others. Using the front left speaker as a reference, press the ◀/▶ buttons **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. The on-screen cursor ▶ can also be moved directly to the speaker to be adjusted by pressing the ▲/▼ buttons **7** on the remote.

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.

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 33.

When all channels have an equal volume level, the adjustment is complete. **Lower the Volume 18 32 to about - 40dB**, otherwise the listening level will be too high as soon as music starts to play. 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 turn the test tone off and 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. Turn up the **Volume 18 32** until you can hear the noise clearly.

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, **lower the Volume 18 32 to about - 40dB,** and press the **Test Tone Selector 26 5** button again to turn the test tone off and complete the process.

IMPORTANT NOTE: The Output level adjustment made will be effective for all inputs, but only for the actual surround mode selected. To be effective for any other mode select that mode (with any input) and repeat the level adjustment described above. This will also allow you to compensate level differences between speakers, that may be different with each surround mode, or to increase or decrease the level of certain speakers intentionally, depending on the surround mode selected.

Note: Output level adjustment is not available for the VMAx or Surround Off mode, as no surround speakers are used (so level differences between the speakers in the room cannot occur). But to compensate level differences between stereo, VMAx and other surround modes (independently from the input selected) the outputs can be adjusted with the Level Trim Adjustment procedure, see page 33, also for the Surround Off (Stereo) and VMAx modes.

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 pages 35-38 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 above and on pages 35-38. Note that any settings changed at any time, also when the discrete buttons are used only, will be stored in memory in the AVR7000, also if it's turned off completely, unless it will be reset (see page 51). They will either depend on the input (Speaker configuration, analog/digital input selection, surround mode) or on the surround mode selected (speaker output level, delay) or be independent from any input or surround mode (crossover), as described on former pages.

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** ❶ 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** ❸. Once the unit is in Standby, you may begin a listening session by pressing the **System Power Control** ❷ or the **Source** button ⓫ on the front panel or the **AVR Selector** ❷ Ⓑ. Note that the **Power Indicator** ❸ 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 ❸ ⓬ ⓭ ⓮ Ⓒ.

NOTE: After pressing **CD, TAPE** or **DVD** buttons ❸ to turn the unit on, press the **AVR Selector** ❷ to have the remote control the AVR functions.
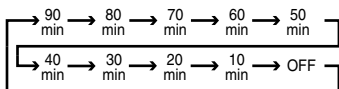
To turn the unit off at the end of a listening session, simply press the **System Power Control** ❷ on the front panel or the **Power Off Button** ❹ Ⓐ on the remote. Power will be shut off to any equipment plugged into the rear panel **Switched AC Outlets** ⓭ and the **Power Indicator** ❸ will turn amber.

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** ❸.

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** ❶.

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

• 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:

```
  ┌→ 90 → 80 → 70 → 60 → 50 ┐
  │    min   min   min   min   min │
  └→ 40 → 30 → 20 → 10 → OFF ┘
       min   min   min   min
```

The sleep time will be displayed in the **Preset Number/Sleep Timer Indicator** Ⓛ and it will count down until the time has elapsed.

When the programmed sleep time has elapsed, the unit will automatically turn off (to Standby mode). 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.

Source Selection

• To select a source, press any of the **Source Selector** buttons on the remote ❸ ⓬ ⓭ ⓮ Ⓒ.

NOTE: After pressing **CD, TAPE** or **DVD** buttons ❸ to turn the unit on, press the **AVR Selector** ❷ to have the remote control the AVR functions.

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

• The front-panel **Video 4 Inputs** ⓮ 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** Ⓦ and a green LED will light next to the selected input's name in the front-panel **Input Indicators** ⓴.

• As the input is changed, the AVR 7000 will automatically switch to the digital input, surround mode and speaker configuration that were entered during the configuration process for that source.

• When a pure audio source (Tuner, CD, Tape, 6 Channel direct inputs) 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, its audio signal will be fed to the speakers and the video signal for that input will be routed to the appropriate **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** ❼ or **Video 2** ❻ component inputs, it will be routed to the **Component Video Output** ❺. Make certain that your TV is set to the proper input to view the appropriate video signal (composite, S-Video or component video, see Notes for S-Video on page 17).

Controls and Use of Headphones

• Adjust the volume to a comfortable level using the front panel **Volume Control** ⓲ or remote **Volume Up/Down** ㉜ Ⓗ buttons.

• The **Balance Control** ⓱ 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 ❻ Ⓘ. 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 Ⓧ will light in the **Information Display** ㉓. Press the **Mute** button ❻ Ⓘ again to return to normal operation.

• During a listening session you may wish to adjust the **Bass Control** ⓭ and **Treble Control** ⓰ to suit your listening tastes or room acoustics. Note that these controls are not effective with the 6-Channel Direct Input.

• To set the output of the AVR 7000 so that the output is "flat," with the tone controls de-activated, press the **Tone Mode** button ❻ button once or twice so that the words T o n e O u t appear momentarily in the **Main Information Display** Ⓦ. To return the tone controls to an active condition, press the **Tone Mode** ❻ button once or twice so that the words T o n e I n momentarily appear in the **Main Information Display** Ⓦ.

• For private listening, plug the 6.3 mm stereo phone plug from a pair of stereo headphones into the front panel **Headphone Jack** ❹. Note that when the headphone's plug is connected, the word H E A D P H O N E will scroll once across the **Main Information Display** Ⓦ 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 multi-channel surround sound field from digital sources, analog matrix surround encoded programs and standard stereo or even mono 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[††] should be played in either the Dolby 3 Stereo, Dolby Pro Logic or Logic 7 Cinema surround modes depending on the source material.

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	An advanced mode that extracts the maximum surround information from either convention-al stereo material or surround-encoded programs. When used with encoded material, decod-ing is more accurate in terms of the placement of sounds, and fades and pans are much smoother and more realistic than with other decoding techniques. Logic 7 also delivers increased spaciousness and a wider sound stage when it is used with conventional natural stereo recordings and music programs throug the use of the natural surround information present also in those stereo recordings. The Logic 7C or Cinema mode is tailored to provide an optimal sound field for movie soundtracks. The Logic 7M or Music mode uses a decoding formula that is best suited to music.	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	This surround processing uses matrix surround decoding to simulate a standard movie or stage theater.	Delay time not adjustable
HALL 1 and 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

However to create wider, enveloping sound field environments and more defined pans and fly-overs with all analog stereo and surround recordings select Harman Kardon's exclusive Logic 7 mode, that creates a stereophonic left and right rear signal, just as recorded in real life (e.g. sound being recorded from left rear side will be heard from that side only) for a dramatic improvement in comparison to Dolby Pro Logic.

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 or Logic 7 modes often deliver enveloping surround presentations through the use of the natural surround information present in all stereo recordings. However, for pure stereo programs without any surround information (e.g. some old "extreme" stereo recordings) and for mono programs, we suggest that you try the Theater or Hall modes. And when you use only two front channel speakers you should select Harman's patented VMAx mode, delivering a virtually three dimensional sound space with two speakers only.

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 S U R R   O F F 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 descibed 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 coming 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 **⓲⓳** 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 CDs. You may use any LD, DVD or CD player equipped with a digital output to play DTS-encoded special audio-only CDs with the AVR 7000, but DTS-LDs can be played on LD players and DTS-DVDs on DVD players only. All that is required is to connect the player's output to either the **Optical** or **Coaxial** input on the rear panel **⓲⓳**.

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 DVDs, consult the player's owner's manual.

PCM Audio Playback

PCM (Pulse Code Modulation) is the non-compressed digital audio system used for compact discs, Non-Dolby Digital/DTS Laserdiscs and some special PCM encoded DVDs. 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/DVD or LD player (LD only for PCM or DTS programs, for Dolby Digital laser discs an RF adapter is needed, see above).

Connections may be made to either the **Optical** or **Coaxial** inputs **⓲⓳** on the rear panel.

To listen to a PCM digital source, first select the input for the desired source (e.g., CD) to feed its video signal (if any) to the TV monitor and to provide its analog audio signal for recording. Next press the **Digital Select** button **㉒ ⓫** 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**, then press the **Set** button **⓳ 9** to confirm the choice.

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 (see below) 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.

HDCD

HDCD, which stands for High Definition Compatible Digital®, is a sophisticated process that enables the AVR 7000 to deliver outstanding digital-to-analog decoding of PCM signals from any DVD or CD player, connected to a digital input on the AVR 7000, no matter what type of CD or DVD is played and even when normal,

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Non-HDCD-compatible players are used (only a digital output is needed).

When a CD with the HDCD logo is played, the AVR 7000 is able to take advantage of the special recording process that is used in the creation of HDCD disc. The special circuitry enables audio with extraordinary fidelity, stunning resolution and the highest possible overall quality.

The AVR 7000 will automatically sense that it is an HDCD recording and the HDCD indicator **A** will illuminate on the front panel to remind you that an HDCD disc is playing.

It is important to note that the HDCD process is completely compatible with standard recordings. Indeed, the high-quality digital-to-analog circuitry, that is part of HDCD and the HDCD decoder chip, replacing the monolithic digital filters used in conventional DACs, will enable enhanced performance also with normal, Non-HDCD encoded program material.

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 ⓲ ⓳. 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 its analog input (DVD) using the remote or front-panel controls to feed its video signal to the TV monitor and to provide its analog audio signal for recording. Next, select the digital input connected with the DVD player by pressing the **Digital Input Selector** button ⓫ ㉒ and then using the ▲/▼ buttons ❼ on the remote or the **Selector** buttons ❺ on the front panel to choose either of the OPTICAL or COAXI-AL inputs, as they appear in the **Main Information Display** Ⓦ or on screen display. Press the **Set** button ❾ ⓳ to enter the desired choice. Note, that a digital input (e.g. coaxial) remains associated with any analog input (e.g. DVD) as soon as it was selected, thus the digital input needs not to be re-selected each time the appropriate input choice (e.g. DVD) is made.

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 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 and some music DVDs, the unit will allow the appropriate surround sources to be selected manually. Since the range of available surround modes depends 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 and the input channels recorded on the disc.

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

A C - Ǝ: When the AC-3* indicator lights, a Dolby Digital bitstream is being received. Depending on the audio track selected on the source player and number of channels on the disc, different surround modes are possible. Note that only one channel without subwoofer, called "1.0" audio, or all five channels with subwoofer ("5.1" audio) or all steps between can be recorded on digitally surround encoded audio tracks (see NOTE below). With all those tracks, except "2.0" audio, only the Dolby Digital and VMAx modes are available. When the Dolby Digital signal is only two channel ("2.0") these two channels (l and r) often contain Pro Logic surround informations. With those tracks the AVR7000 automatically switches to the Pro Logic mode, but you may turn Pro Logic off manually or you may also select the Vmax mode.

D T S: 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.

P C M: 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. Note that the PCM signal format can be selected on the DVD player with any audio track, even with Dolby Digital tracks. So, if selected, even "2.0" D.D. audio tracks can be played with all surround modes, also with the most effective Logic 7.

H Ⅾ C Ⅾ: 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 (see page 29). 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 stereo or matrix surround signal is in use, only the "L" and "R" indicators will light, as analog signals have only left and right channels, respectively, even surround recordings, carrying surround information on the left and right channels only.

Digital signals, however, may have one to 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 DVD or audio tracks selected on DVD or other Dolby Digital 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, the "2.0" version often is used with other languages. 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 or to select the appropriate audio track and thus language ("2.0" audio tracks can be played with all surround modes, even with Logic 7, see indicator "PCM" left on that page). 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

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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** ▣ 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 intelligibilty while reducing the maximum peak level and lifting the low levels 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 mode is selected.

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 ❼ to select either the middle range or full compression versions of the Night mode. To turn the Night mode off, press the ▲/▼ buttons ❼ until the message in the lower third of the video display and the **Main Information Display** ▣ reads D-Range Off. When the Night mode is active, the **Night Mode Indicator** ▣ 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 25 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** ▣ 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, indicate it in the **Bitstream Indicators** ▣ and **Channel Input Indicators** ▣ and adjust to accommodate it.

4. When a Dolby Digital or DTS source is playing, you normally 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, except with special audio tracks (see indication "AC-3" above) or data format selected (see "PCM" above).

5. When a Dolby Digital or DTS source is playing, it is not possible to make an analog recording using the Tape ❿ and **VID 1** ㉗ record outputs, if the source is connected to any digital input of the AVR7000 only. But the analog two channel signal of that source, the "Downmix" to Stereo or Dolby Surround, can be recorded by connecting its analog audio outputs to the appropriate analog inputs (e.g. DVD) of the AVR7000, even if the digital input of the AVR7000 remains selected. Additionally, the digital signals will be passed through to the **Digital Audio Outputs** ⓱.

Tuner Operation

The AVR 7000's tuner is capable of tuning AM, FM and FM Stereo broadcast stations and receiving RDS data. 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 ⓮ 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** ❾ at any time.

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

3. Press the **Tuner Mode** button ⓯ on the remote or hold the **Band Selector** ❾ on the front panel pressed for 2 seconds to select manual or automatic tuning.

When the **AUTO** indicator ▣ 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 ▣ 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 any **Tuning** button ❽ ㉔. When the **AUTO** indicator ▣ is illuminated, press the button to cause the tuner to search for the next highest or lowest frequency station that has an acceptable signal or hold the button pressed to tune more quickly and release it to start the auto search. In the Auto mode the tuner will play each station in stereo or mono mode, just as the program is transmitted. If the **AUTO** indicator ▣ is not illuminated, tap the **Tuning** button ❽ ㉔ to advance one frequency increment at a time, or press and hold it to locate a specific station. When the **TUNED** indicator ▣ 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** ⓱ that correspond to the station's frequency. The desired station will automatically be tuned after the latest number is entered. 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 stereo station is weak, audio quality will be increased by switching to Mono mode by pressing the

Operation

Tuner Mode button ⓕ on the remote or holding the **Band Selector** ⑨ on the front panel pressed for 2 second until the S T E R E O 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 ⓖ on the remote. Note that M e m o r y indicator 🔳S will illuminate and flash in the **Information Display** ㉓.

2. Within five seconds, press the **Numeric Keys** ⓗ 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** ⓗ 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 🔟 ㉓ on the front panel or remote.

RDS Operation

The AVR 7000 is equipped with RDS (Radio Data System), which brings a wide range of information to FM radio. Now in use in many countries, RDS is a system for transmitting station call signs or network information, a description of station program type, text messages about the station or specifics of a musical selection, and the correct time.

As more FM stations become equipped with RDS capabilities, the AVR 7000 will serve as an easy-to-use center for both information and entertainment. This section will help you take maximum advantage of the RDS system.

RDS Tuning
When an FM station is tuned in and it contains RDS data, the **RDS Indicator** 🔳AC will illuminate and the AVR 7000 will automatically display the station's call sign or other program service in the **Main Information Display** 🔳W.

RDS Display Options
The RDS system is capable of transmitting a wide variety of information in addition to the initial station call sign that appears when a station is first tuned. In normal RDS operation the display will indicate the station name, broadcast network or call letters. Pressing the **RDS** button ⓵⓶ ㊱ enables you to cycle through the various data types in the following sequence:

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

• The station's frequency.

• The Program Type (PTY) as shown in the list below. The **PTY Indicator** 🔳AB will illuminate when this data is being received.

• A "text" message (Radiotext, RT) containing special information from the broadcast station. Note that this message may scroll across the display to permit messages longer than the eight positions in the display. Depending on signal quality, it may take up to 30 seconds for the text message to appear; in that time, the word TEXT will flash in the Information Display when RT is selected. The **RT Indicator** 🔳Z will illuminate when text data is being received and ready to be displayed.

• The current time of day (CT). Note that it may take up to two minutes for the time to appear, in that time the word TIME will flash in the information display when CT is selected. The **CT Indicator** 🔳AA will illuminate when time data is being received. Please note that the accuracy of the time data is dependent on the radio station, not the AVR 7000.

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

In any FM mode the RDS function requires a strong enough signal for proper operation. If you receive a partial message, or any of the **RDS, PTY, CT** or **RT Indicators** 🔳AC 🔳AB 🔳AA 🔳Z going on and off, try slowly adjusting the antenna or tune to another stronger RDS station.

Program Search (PTY)
An important feature of RDS is its capability of encoding broadcasts with Program Type (PTY) codes that indicate the type of material being broadcast. The following list shows the abbreviations used to indicate each PTY, along with an explanation of the PTY:

• (RDS ONLY)

• (TRAFFIC)

• NEWS: News

• AFFAIRS: Current Affairs

• INFO: Infomation

• SPORT: Sports

• EDUCATE: Educational

• DRAMA: Drama

• CULTURE: Culture

• SCIENCE: Science

• VARIED: Varied Speech Programs

• POPM: Popular Music

• ROCKM: Rock Music

• M.O.R.M.: Middle-of-the-Road Music

• LIGHTM: Classical Music

• CLASSICS: Serious Classical Music

• OTHERM: Other Music

• WEATHER: Weather Information

• FINANCE: Financial Programs

• CHILDREN: Children's Programs

• SOCIAL A: Social Affairs Programs

• RELIGION: Religious Broadcasts

• PHONE IN: Phone-In Programs

• TRAVEL: Travel and Touring

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- **LEISURE**: Leisure and Hobby
- **JAZZ**: Jazz Music
- **COUNTRY**: Country Music
- **NATIONAL**: National Music
- **OLDIES**: Oldies Music
- **FOLK M**: Folk Music
- **DOCUMENT**: Documentary Programs
- **TEST**: Emergency Test
- **ALARM**: Emergency Broadcast Information

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

1. Press the **RDS** button 🔢12 🔢36 until the current PTY is shown in the **Main Information Display** Ⓦ.

2. While the PTY is shown, press the **Preset Up/Down** button 🔢10 🔢23 or hold them pressed to scroll through the list of available PTY types, as shown above. To simply search for the next station transmitting any RDS data, use the **Preset Up/Down** button 🔢10 🔢23 until **RDS ONLY** appears in the display.

3. Press any of the **Tuning Up/Down** buttons 🔢8 🔢24, the tuner begins to scan the FM band upwards or downwards for the first station that has RDS data that matches the desired selection, and acceptable signal strength for quality reception.

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

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

NOTE: Some stations transmit constant traffic information. To identify as traffic station, they transmit a specific traffic code constantly, which causes the **TA Indicator** 🔢Y to light in the display. These stations can be found by selecting TRAFFIC, the option in front of NEWS in the list. The AVR 7000 RDS will find the appropriate station, even if it is not broadcasting traffic information when the search is made.

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 additon, 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.

• Recording the signal of a Dolby Digital or DTS source is not possible, if the source is connected to a digital input of the AVR 7000 only. But the analog two channel signal of that source can be recorded (see item 5, "Important Notes on Digital Playback" above).

Output Level Trim Adjustment

Normal output level adjustment for the AVR 7000 is established using the test tone, as outlined on page 25. 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 and those for the Stereo and VMAx modes can only be adjusted using this procedure.

To adjust the output levels using program material, first select the surround mode for which you want to trim the speakers (see NOTE below), start your program material source and set the reference volume for the front left and front right channels using the **Volume Control** 🔢18 🔢32 Ⓗ.

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** Ⓦ. 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** Ⓦ or on-screen display. (only available if the subwoofer is turned on).

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

Repeat the procedure as needed until all channels requiring adjustment have been set. When all adjustments have been made press the **Set button** 🔢9 🔢19 twice, the AVR 7000 will return to normal operation.

The channel output 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 Ⓗ. Then, press the **OSD** button 🔢19 to bring up the main **AUDIO SETUP** menu (Figure 1). Press the ▼ Button 🔢7 until the on-screen ▶ cursor is next to the **CHANNEL ADJUST** line. Press the **Set** Button 🔢9 to activate the **CHANNEL ADJUST** menu (Figure 8).

```
  *  C H A N N E L   A D J U S T   *
▶ F R O N T   L E F T  :  0 d B
  C E N T E R      :  0 d B
  F R O N T   R I G H T :  0 d B
  S U R R   R I G H T  :  0 d B
  S U R R   L E F T   :  0 d B
  S U B W O O F E R   :  0 d B
  R E T U R N   T O   M E N U
```
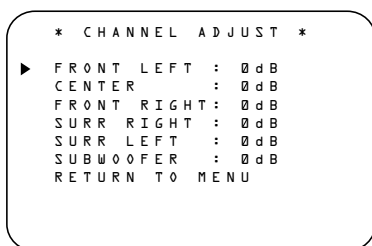
Figure 8

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 ❿ ㉙ to raise or lower the output level.

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 ❾ 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 ⓳ 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 above.

Changing the levels by the trim adjustment as described above will automatically change the level settings in the Output Adjust Menu (Fig. 7, page 25) correspondingly (and vice versa). With Stereo and Vmax modes the adjustment proce-dure described above is the only way to trim the output level (e.g. to match the Vmax level with other modes).

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** ❸, you may select it by pressing the **6-Ch Direct Input Selector** ⓬ . The 6-Channel Direct Input may also be selected by pressing the **Input Source Selector** button ⓫ on the front panel until the words 6 CH DIRECT appear in the **Main Information Display** Ⓦ, and a green LED lights next to **6 CH** in the **Input Indicators** ⓴.

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 addi-tion, 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 turned off completely 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
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** 🔟4️⃣ are configured as an input. Their use as an input is indicated by the green color of the **Video 4 Status Indicator** 🔟5️⃣.

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 🔟9️⃣ to bring the 𝖬𝖠𝖨𝖭 𝖠𝖴𝖣𝖨𝖮 𝖲𝖤𝖳𝖴𝖯 menu (Figure 1) to the screen. Press the ▲ Button 7️⃣, until the on-screen ▶ cursor is next to the 𝖠𝖣𝖵𝖠𝖭𝖢𝖤𝖣 line. Press the **Set** Button 9️⃣ to enter the 𝖠𝖣𝖵𝖠𝖭𝖢𝖤𝖣 𝖲𝖤𝖫𝖤𝖢𝖳 menu (Figure 9).

```
     *  ADVANCED  SELECT  *

 ▶   VIDEO 4:  IN    OUT
     VFD    :  FULL HALF OFF
     VOLUME DEFAULT  :OFF  ON
     DEFAULT VOL SET:-25dB
     SEMI OSD  :OFF   ON
     SEMI OSD  TIME OUT: 35
     FULL OSD  TIME OUT:20S
     RETURN TO MENU
```
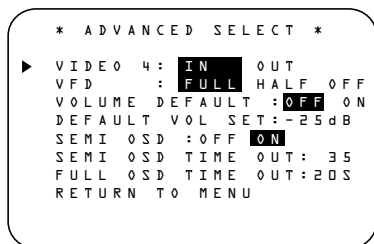
Figure 9

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 4️⃣ line, and press the ▶ button 2️⃣9️⃣ so that the word 𝖮𝖴𝖳 is highlighted in the video display. At the same time, note that **Video 4 Status Indicator** 🔟5️⃣ will turn red, to indicate the output status. If you wish to make other adjustments in the main menu, press the ▲/▼ buttons

7️⃣ 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 🔟9️⃣ 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 **Information Display** 2️⃣3️⃣ is set at a default brightness level that is sufficient for viewing in a normally lit room. However, in some home theater installations, you may wish to occasionally lower the brightness of the display, or turn it off completely.

To change the display brightness setting for a specific listening session, you will need to make an adjustment in the 𝖠𝖣𝖵𝖠𝖭𝖢𝖤𝖣 𝖲𝖤𝖫𝖤𝖢𝖳 menu. To start the adjustment, press the **OSD** button 🔟9️⃣ to bring the main audio setup menu to the screen. Press the ▲/▼ Button 7️⃣, until the on-screen ▶ cursor is next to the 𝖠𝖣𝖵𝖠𝖭𝖢𝖤𝖣 line. Press the **Set** Button 9️⃣ to enter the 𝖠𝖣𝖵𝖠𝖭𝖢𝖤𝖣 𝖲𝖤𝖫𝖤𝖢𝖳 menu (Figure 9).

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 2️⃣9️⃣ 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** 2️⃣3️⃣ will go dark. Note, however, that the green LEDs for the **Input Indicators** 2️⃣0️⃣ and the **Surround Mode Indicators** 2️⃣7️⃣, as well as for the **Power Indicator** 3️⃣, 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 🔟9️⃣ on the front for three seconds until the message in the **Main Information Display** 🆆 reads 𝖵𝖥𝖣 𝖥𝖴𝖫𝖫. Within five seconds, press the front panel **Selector** buttons 5️⃣ until the desired brightness display level is shown. At that point, press the **Set** button 🔟9️⃣ 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 in the main menu, press the ▲/▼ Buttons 7️⃣ 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 🔟9️⃣ 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 🔟9️⃣ to bring the main 𝖠𝖴𝖣𝖨𝖮 𝖲𝖤𝖳𝖴𝖯 menu (Figure 1) to the screen. Press the ▲/▼ button 7️⃣, until the on-screen ▶ cursor is next to the 𝖠𝖣𝖵𝖠𝖭𝖢𝖤𝖣 line. Press the **Set** button 9️⃣ to enter the 𝖠𝖣𝖵𝖠𝖭𝖢𝖤𝖣 𝖲𝖤𝖫𝖤𝖢𝖳 menu (Figure 9).

At the 𝖠𝖣𝖵𝖠𝖭𝖢𝖤𝖣 𝖲𝖤𝖫𝖤𝖢𝖳 menu make certain that the on-screen ▶ cursor is next to the volume default line by pressing the ▲/▼ buttons 7️⃣ as needed. Next, press the ▶ button 2️⃣9️⃣ so that the word 𝖮𝖭 is highlighted in the video display. Next, press the ▼ button 7️⃣ once so that the on-screen ▶ cursor is next to the 𝖣𝖤𝖥𝖠𝖴𝖫𝖳 𝖵𝖮𝖫 𝖲𝖤𝖳 line. To set the desired turn-on volume, press the ◀/▶ buttons 🔟0️⃣ 2️⃣9️⃣ or hold them pressed 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 🔟8️⃣ 3️⃣2️⃣ 🅗. 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

Advanced Features

video screen or in the **Main Information Display** Ⓦ (a typical volume level will appear as a negative number such as –25dB). When making the adjustment, use the ◄/► buttons ➓ 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 completely.

If you wish to make other adjustments in the main menu, press the ▲/▼ buttons ➐ until the on-screen ► cursor is next to the R E T U R N T O M A I N M E N U 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 A D V A N C E D S E L E C T menu (Figure 9). To start the adjustment, press the **OSD** button ⑲ to bring the main A U D I O S E T U P menu to the screen. Press the ▲/▼ Button ➐, until the on-screen ▼ cursor is next to the A D V A N C E D line. Press the **Set** Button ➒ to enter the A D V A N C E D S E L E C T menu.

At the A D V A N C E D S E L E C T menu make certain that the on-screen ► cursor is next to the S E M I O S D line by pressing the ▲/▼ buttons ➐ as needed. Next, press the ► button ㉙ so that the word O F F 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 A D V A N C E D S E L E C T Menu as outlined earlier, and press the ▲/▼ buttons ➐ as needed, until the on-screen ► cursor is next to the S E M I - O S D T I M E O U T line. Next, press the ◄/► Buttons ➓ 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 in the main menu, press the ▲/▼ buttons ➐ until the on-screen ► cursor is next to the R E T U R N T O M A I N M E N U 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 F U L L - O S D 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 A D V A N C E D S E L E C T Menu (Figure 1). To start the adjustment, press the **OSD** button ⑲ to bring the main A U D I O S E T U P Menu to the screen. Press the ▲/▼ button ➐, until the on-screen ▼ cursor is next to the A D V A N C E D line. Press the **Set** Button ➒ to enter the A D V A N C E D S E L E C T Menu (Figure 9).

At the A D V A N C E D S E L E C T menu make certain that the on-screen ► cursor is next to the F U L L - O S D T I M E O U T line by pressing the ▲/▼ Buttons ➐ as needed. Next, press the ◄/► buttons ➓ 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 in the main menu, press the ▲/▼ buttons ➐ until the on-screen ► cursor is next to the R E T U R N T O M A I N M E N U 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, TV, speakers and power amplifiers. Although some multi-room 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 and a TV. For complete installation instructions for Multiroom use, see page 18.

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 ⓳ to bring the M A I N A U D I O S E T U P menu (Figure 1) to the screen. Press the ▲/▼ button ❼, until the on-screen ▶ cursor is next to the M U L T I - R O O M line. Press the **Set** button ❾ to enter the M U L T I - R O O M S E T U P menu (Figure 10).

```
   *  MULTI-ROOM  SETUP  *

▶  MULTI-ROOM:OFF  ON
   MULTI  IN   :FM102.70MHZ
   MULTI  VOL  :-25dB
   RETURN  TO  MENU
```
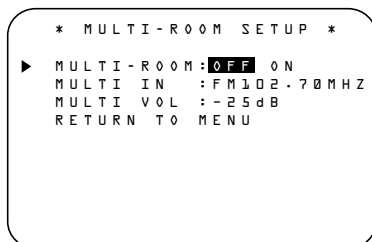
Figure 10

When the M U L T I - R O O M S E T U P menu appears, the on-screen ▶ cursor will be at the M U L T I - R O O M 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 ⓾ ㉙ so that O N 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 ❼ once so that the ▶ on-screen cursor is next to the M U L T I I N line.

At the M U L T I I N line, press the ◀/▶ buttons ⓾ ㉙ until the desired Audio/video input to the multi-room system appears in the highlighted video. Note that when a pure audio source (CD, Tape, Tuner) is selected, the former video source will keep fed to the Multiroom **Video Outputs** ㉓. When the selection has been made, press the ▼ button ❼ once so that the ▶ on-screen cursor is next to the M U L T I V O L line.

At the M U L T I V O L line, press the ◀/▶ buttons ⓾ ㉙ or hold them pressed 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 ❼ until the on-screen ▶ cursor is next to the R E T U R N T O M A I N M E N U line. If you have no other adjustments to make, press the **OSD** button ⓳ 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 ❾. Press the ▲/▼ buttons ❼ to turn the multiroom feed on or off. When the multiroom system is on, the **Multi** indicator Ⓞ will light in the **Information Display** ㉓, and the **Main Information Display** 𝕎 or OSD will display M U L T I O N. Press the **Set** button twice ❾ to enter the setting.

When the multiroom system is turned on, the audio and video input, selected in the Multiroom Setup Menu (Figure 10), will be fed to the **Multiroom Output** jacks ㉓ on the rear panel. The volume will be as set in the same menu, 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 (or any other remotable Harman Kardon unit with IR sensor integrated, see page 18) 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, the AVR 7000's functions Multiroom on/off, 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 connected 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 Ⓓ Ⓔ Ⓕ.

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** ❹ or the **System Power Control** ❷ on the front panel. To turn off the multiroom system from the main listening room, even when the AVR is in Standby mode, press the **Multiroom** button ㉗ and then the Set button ❾. Press the ▲/▼ buttons ❼ so that the **Multi** indicator Ⓞ in the **Information Display** ㉓ goes out, and the **Main Information Display** 𝕎 or OSD will display M U L T I O F F. Press the **Set** button ❾ to enter the setting and turn the unit off.

Even when the AVR is turned off (to Standby mode) and the Multiroom system is turned off too, the multiroom system may be turned on at any time from any room 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 with Codes

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** ❸ ㉞ for the type of product to be entered (e.g., VCR, TV) and the **Mute** button ❻ at the same time. Hold both buttons until the red light under the **Selector** button ❸ 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. If the unit you wish to program into the AVR 7000 remote has a remotable Power on/off function, follow these steps:

a. Point the AVR 7000's remote towards the unit to be programmed, and enter the first three-digit code number using the **Numeric** buttons ⑰. If the unit being programmed turns off, the correct code has been entered. Press the **Input or Video Selector** ❸ ㉞ again, and note that the red light will flash twice before going dark to confirm the entry.

b. If the product to be programmed 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** ❸ ㉞ again and note that the red light will flash twice before going dark to confirm the entry.

5. If the Power function of the unit to be programmed cannot be remoted, follow these steps (max. 20 seconds after step 3 above, or else step 3 must be repeated first):

a. Enter the first three-digit code number using the **Numeric** buttons ⑰ and press the **Input or Selector** ❸ ㉞ again. Press the remote button of any transport function remotable with the unit, e.g. **Pause** ㉖ or **Play ►** ㉕. If the unit being programmed starts that function, the correct code has been entered.

b. If the unit does not start the function whose button was pressed, repeat steps 3 and 5a above with the next three-digit code number listed in the setup code table for that brand and product type, until the unit reacts properly to the transport function transmitted.

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 the unit does not react to any code entered, 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.

Note on Using the AVR 7000 remote with the Harman Kardon CD Recorder CDR2.
As shipped from the factory the remote is programmed for controlling Harman Kardon CD players. But it is able to control most functions of the CD Recorder CDR2 (see function list on page 42) too after the code "002" is entered to the **CD Selector** button ❸ as described above. For returning to the CD player control commands the code "001" must be entered.

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. Note that the Auto Search method works only with units whose Power functions can be remoted:

1. Turn on the product that you wish to include in the AVR 7000 remote.

2. Press the **Input or Video Selector** ❸ ㉞ for the type of product to be entered (e.g., VCR, TV) and the **Mute** button ❻ at the same time. Hold both buttons until the red light under the

button 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.

3. To find out if the code for your unit is pre-programmed, point the AVR 7000 remote towards the unit to be programmed, and press and hold the **Sleep Selector** 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** ❸ ㉞ indicating that a code has been sent. When the device to be programmed turns off, immediately release the **Sleep Selector** button ㉝. Note that it may take one minute or more until the right code is found and the unit turns off.

4. When the Sleep button was not released in time after the unit turned off, the right code will be "overrun". That's why a function test should be made: Turn the unit on again and press the **Sleep Selector** button ㉝ once, than the **Surround Mode** selector ㉛ once too. When the unit turns off, the right code was found, when not, the code was "overrun". To re-find the correct code turn on the unit immediately again and, while the **Input or Video Selector** ❸ ㉞ still lights red, press (not hold pressed) the **Surround Mode Selector** button ㉛ repeatedly to step backwards through the codes available and observe the reaction of the unit at each press. As soon as the unit turns off the correct code is found.

5. Press the **Input or Video Selector** ❸ 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. 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** ❸ ㉞ for the type of product to be entered (e.g., VCR, TV) and the **Mute** button ❻ at the same time. Hold both buttons until the red light under the buttons ❸ ㉞ stay lit. Note that the next step must take place while

Programming the Remote

the red light is on, and it must begin within 20 seconds after the light illuminates.

2. Press the **Test Tone** button ❺. The red light under the **Input or Video Selector** ❸ 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 _____

SAT _____

TV _____ VCR _____

AUX _____ DVD _____

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** ❸ ㉞ to change the remote from control over the AVR 7000 to the additional product. When you press any of these buttons, 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 RDS, 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 ㉝ ㉛ also function as the Channel Up/Down button 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 player, cassette deck, VCR 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 42/43. To use those tables, first check the type of device being controlled (e.g., TV, VCR). Next, look at the remote

control diagram pictured on page 42. 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 22 is the Speaker button for the AVR 7000, but it is the "Menu" button for many TVs, VCRs 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 cable boxes.

Note that the numbers used to describe the button functions on page 42/43 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.

• Depending on the brand and product type used the functions listed in the Function List tables may not correspond with the function the unit reacts on the command. In these cases it's a good idea to edit the reaction of the unit into the corresponding line of the table or to set up a separate list.

• When a button is pressed on the AVR 7000 remote, the red light under the **Input or Video Selector** ❸ 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.

Learning Codes from a Remote

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 2 and 8 cm 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** ❸ or the **Video Remote Selectors** ㉞.

3. Press the **Device Selector** button chosen ❸ ㉞ and the **Set** Button ❾ at the same time. Hold these buttons until the **Program Indicator light** ❶ turns orange and the red light under the device selector button turns red. Release the buttons.

4. Within 20 seconds press the button on the AVR 7000 remote that you wish to program. Note that the **Program Indicator light** ❶ will begin to flash for six seconds and the red light under the device selector will go out. Note that any button on the remote EXCEPT the **AVR** button ❷, the **CD/Tape/DVD Input Selectors** ❸ or the **Video Remote Selectors** ㉞ and the **Light** button ⑳ may be "taught" a remote code from another remote. The **Power On** function (if different from the **Power Off** function, taught to the **Power** ❹ button), that normally is associated with the **Input Selectors** ❸ ㉞, can be taught to any button, that is not charged with any function for the device selected, e.g. **Test** ❺.

5. As long as the **Program Indicator light** ❶ is flashing, press and hold the button on the original remote that you wish to "teach" into the AVR 7000 remote. When the **Program Indicator light** ❶ 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** ❶ will flash green twice and then turn to a steady orange color indicating that the programming was successful.

NOTE: If the **Program Indicator light** ❶ turns red during step 5 or 6, the programming was not successful. Repeat the step 3 through 6, but in step 5 hold the button on the original remote pressed for some seconds after the **Program Indicator light** ❶ turned green. If the indicator keeps flashing red in steps 5 or 6, this code cannot be taught.

7. Repeat steps 4 though 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 ❸ ㉞ for the device being programmed and the **Set** Button ❾ at the same time until the **Program Indicator light** ❶ 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.

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. Note that all preprogrammed commands will never be erased.

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

1. Press the **Input** or **Video Selectors** ❸ ❸❹ for the device you wish to clear a command from and the **Set** Button ❾ at the same time. When the **Program Indicator** light ❶ 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 ❶ will begin to flash continuously and the red light under the Device Selector will turn off.

3. Press the **Light** Button ❷⓿ and note that the **Program Indicator** light ❶ will turn green and flash twice and then turn orange again. 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** ❸ ❸❹ and the **Set** Button ❾ 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** ❸ ❸❹ for the device you wish to clear and the **Set** Button ❾ at the same time. When the **Program Indicator** light ❶ turns orange and the Device Selector turns red, release the buttons.

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

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

4. Then the **Program Indicator** light ❶ 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 ❾ at the same time until the **Program Indicator** light ❶ 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 AUX device buttons, do the following:

1. Press and hold the **TV Device** button ❸❹ and the **Light** Button ❷⓿ at the same time and note that the **Program Indicator** light ❶ will begin to flash red.

2. The **Program Indicator** light ❶ 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.

Macro Programming

Macros enable you to easily repeat frequently used combinations of commands with the press of a single button, the **Power** button ❹ on the AVR's remote control. Once programmed, a macro will send out up to eight different remote codes in a pre-determined order enabling you to automate the process of turning on your system, changing devices, or other common tasks. Note that only those buttons can be used for creating macros that are preprogrammed with codes for the device selected (corresponding Device Selector button must light up if function button is pressed). The AVR's remote can store two separate macro command sequences, one that is associated with the **AVR Selector** Button ❷ (called Macro 1 in the following), another associated with the **SAT Device Selector** button ❸❹ (called Macro 2).

To program a macro into the Power button follow these steps:

1. Press either the **AVR** ❷ or the **SAT Device Selector** button ❸❹ depending on if Macro 1 or 2 should be programmed, and the **Mute** button ❻ at the same time until the red light under the Device Control Selector turns on.

2. Press the **Power** button ❹.

3. Enter up to eight steps for the macro sequence by pressing the **Selector** button ❷❸❸❹ for the device to be controlled (needed also for the AVR itself) and then pressing the button for the actual command step. Although the macro may contain up to eight steps, each button press counts as a step, including those used to change devices. The red light under the **Selector** button ❷ ❸❹ pressed in step 1 above to select the macro will blink once to confirm each button press as you enter commands.

NOTE: While entering commands for Power On/Off of the external Video devices SAT, TV, VCR or AUX during a macro sequence, press the **Mute** button ❻ (valid for devices with a common button for power on and off, if separate buttons are used, see "Important Notes" below). DO NOT press the **Power** button ❹. To turn the AVR 7000 on you must press the **AVR Selector** ❷ (this will also select the latest input) or any of the **Device Selectors CD, Tape** or **DVD** ❸ (this will also switch to the CD, Tape or DVD input), to turn it off use the **Mute** button ❻. Your CD or DVD player will be turned on by pressing the corresponding **Device Selector** button ❸, to turn it off use the **Mute** button ❻.

• Remember to press the appropriate **Device Selectors** button ❷ ❸ ❸❹ before functions are changed to another device. This is also needed for the AVR itself, particulary if it was turned on by the **CD, Tape** or **DVD** ❸ **Selector** rather than **AVR** ❷.

4. When all steps have been entered, press the **Sleep** button ❸❸ to store the commands. The red light under the **Device Selectors** ❷❸❹ pressed in step 1 above will blink twice and then turn off.

Example: To program your TV, SAT Receiver and the AVR 7000 to turn on when the Power button is pressed, first press and hold down the **SAT** ❸❹ (macro 2) and **Mute** buttons ❻ until the red light comes on under the **SAT** button, then press the **Power** button ❹. Next press the **Selector** button **AVR** ❷ or any of the **Device Selectors CD, Tape** or **DVD** ❸ to turn on the AVR's power and to select CD, Tape or DVD as input. Press the **TV Device Control Selector** ❸❹ to select the TV mode, and then press the **Mute** button ❻, to select TV Power. Finally, press the **AUX Device Control Selector** ❸❹ followed by the **Mute** button ❻ to select SAT Receiver Power. Press the **Sleep** button ❸❸ to enter the commands.

5. To recall any of the two macros available at first press either the **AVR** ❷ or **CD**, **TAPE**, **DVD** ❸ (for Macro 1) or any of the **Video Device Selectors** ❸❹ (for Macro 2), depending on which macro should be sent, then press the **Power** button ❹.

IMPORTANT NOTES:
• If a macro was set up with the **AVR Device Selector** ❷ (macro 1) the **Power** button ❹ cannot be used anymore for turning off the AVR itself or the CD or DVD player. Pressing the **Power** button ❹ after **AVR** ❷ or **CD**, **TAPE**, **DVD** ❸ was selected as device will always play the macro programmed. The same applies to the power on/off function of the SAT, TV, VCR or Aux video device, if a macro was set up with the **SAT Device Selector** ❸❹ (macro 2).

Programming the Remote

• If a macro is to turn on the AVR 7000, it should be programmed on the **SAT Device Selector** ③ (macro 2) only. Macro 1 should be selected only if the AVR is turned on already, otherwise pressing the **AVR Device Selector** ② would turn on the AVR immediately rather than selecting the macro associated with the **AVR Selector** ② (macro 1).

• Due to the limitations mentioned above we recommend to program Macro 2 for turning all units on and engaging other functions and Macro 1 to turn all devices off only.

To remove a macro program, follow steps 1, 2 and 4 above, but ignore step three. For example, to erase macro 1, press the **AVR Device Selector** ② 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 ③. The red light under the **Device Control Selector** ② will blink twice to confirm the data entry and then turn off.

Volume Punch-Through

The AVR 7000's remote may be programmed to operate the **Volume Control** ③ and the Mute ⑥ from either the TV or the AVR in conjunction with any of the six 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.

To program the remote for Volume Punch-Through, follow these steps:

1. Press the **Input** or **Video Device Selector** ③ ③ 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**.

2. Press the **Volume Up** button ③.

3. Press either the **AVR** ② or the **TV Device Control Selector** ③, depending on which system's volume control you wish to have attached for the punch-through mode. Note that the red light under the **Device Control Selector** ③ 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** ③ and the **Mute** button ⑥ at the same time. Next, press the **Volume Up** button ③, 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 one and three.

Reassigning Device-Control Selectors

Although any of the **Input** or **Video Device Selectors** ③ ③ 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 cable box receiver, you may program the **AUX** button ③ 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 Device Selector** ③ ③ you wish to reassign and the **Mute** button ⑥ at the same time until the red light illuminates under the **Device Control Selector** ③.

2. Press the **Input** or **Video Device Selector** ③ ③ 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 Device Selector** ③ ③ pressed in Step 1 once again to store the selection.

Example: To use the AUX button to operate a second VCR, first press the **AUX Device Control Selector** ③ and the **Mute** button ⑥ at the same time until the red light glows under the AUX button. Press the **VCR** button ③, followed by the three-digit code for the specific model you wish to control. Finally, press the **AUX** button ③ again.

Function List

harman/kardon

AVR 7000
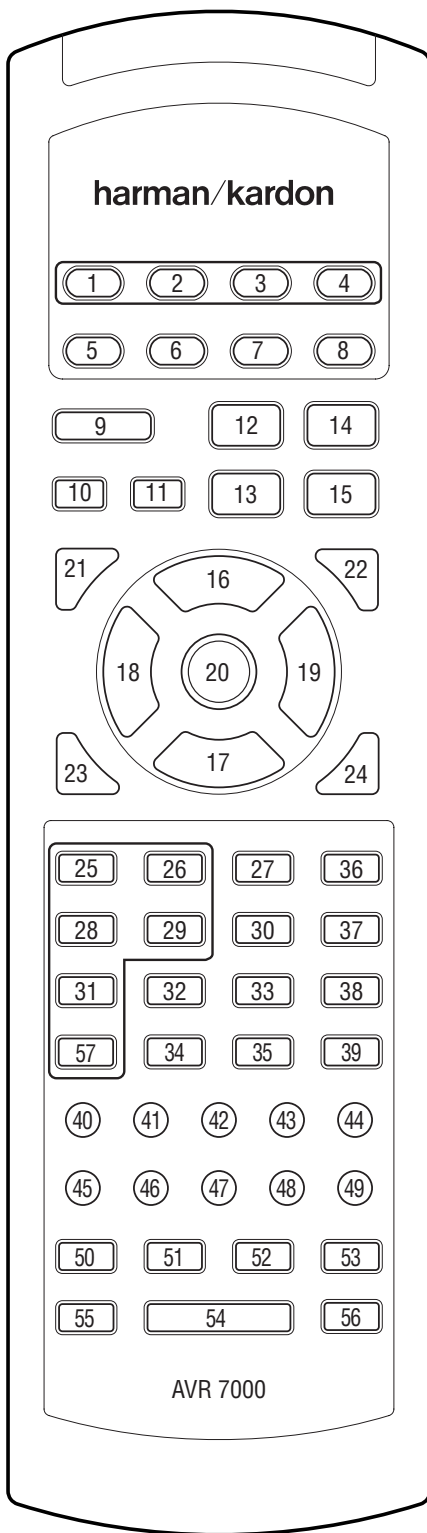
NO	Button	CD (Code 001)	CDR (Code 002)	DVD	
1	AVR / ON				
2	CD	POWER ON	POWER ON		
3	TAPE				
4	DVD			POWER ON	
5	SAT				
6	TV				
7	VCR				
8	AUX				
9	POWER	POWER OFF	POWER OFF	POWER OFF	
10	MUTE				
11	TEST		INPUT SELECT		
12	SLEEP/ CH ▲		CDP SELECT	SKIP+	
13	SURR./ CH ▼		CDR SELECT	SKIP-	
14	VOL ▲			VOLUME +	
15	VOL ▼			VOLUME -	
16	▲ / +			UP	
17	▼ / -			DOWN	
18	◄ / -			LEFT	
19	► / +			RIGHT	
20	SET/M			ENTER	
21	CH. (RED)			TITLE	
22	SPKR (GREEN)	INTRO SCAN		MENU	
23	DIGITAL (YELLOW)		RECORD	SUBTITLE ON/OFF	
24	DELAY (BLUE)	OPEN/CLOSE	OPEN/CLOSE	RETURN	
25	VID 1			SUB ON/OFF	
26	6 CH				
27	● /II / NIGHT	PAUSE	PAUSE	PAUSE	
28	VID 2		TRACK INCREM.	OPEN/CLOSE	
29	AM/FM				
30	◄				
31	VID 3 / D-SKIP	DISK SKIP		DISK SKIP	
32	TUN-M				
33	◄◄ / TUNING DWN	REV SEARCH	REV SEARCH	SEARCH-	
34	MEMORY				
35	I◄◄ / PRESET DWN	REV SKIP	REV SKIP	SLOW-	
36	■ / MULTI-ROOM	STOP	STOP	STOP	
37	►	PLAY	PLAY	PLAY	
38	►► / TUNING UP	FWD SEARCH	FWD SEARCH	SEARCH+	
39	►►I / PRESET UP	FWD SKIP	FWD SKIP	SLOW+	
40~49	1~0	1~0	1~0	1~0	
50	M1 / 1-	TIME	TIME	AUDIO	
51	M2 / 2-	REPEAT	REPEAT	ANGLE	
52	M3 / DIRECT	RANDOM PLAY	RANDOM PLAY	CHAPTER	
53	M4 / CLEAR	(+10)	CLEAR	CLEAR	
54	LIGHT				
55	OSD		PROGRAM		
56	RDS				
57	VID 4				

Function List

NO	Button	TAPE	VCR	SAT	TV
1	AVR / ON				
2	CD				
3	TAPE				
4	DVD				
5	SAT				
6	TV				
7	VCR				
8	AUX				
9	POWER		POWER, OPERATE, PLAY	POWER, STAND BY	POWER, STAND BY, ON/OFF
10	MUTE		SLOW, F.ADV	MUTE	MUTE
11	TEST		TV/VCR	TV/SAT	TV/TEXT, TXT, VT
12	SLEEP/ CH ▲		CH+, PROG+	CH+, STEP+, P+	CH+, PR+, CP+, P+
13	SURR./ CH ▼		CH -, PROG -	CH -, STEP -, P -	CH-, PR -, CP -, P -
14	VOL ▲		VOL+, SLOW+	VOL+, FINE TUNE+	VOL+
15	VOL ▼		VOL-, SLOW -	VOL -, FINE TUNE -	VOL -
16	▲ / +		PAUSE	VIDEO+, VIDEO FINE+	COLOUR+
17	▼ / -		STOP	VIDEO-, VIDEO FINE-	COLOUR-
18	◄ / -		REW	AUDIO-, SOUND-	BRIGHTNESS-
19	► / +		FF	AUDIO+, SOUND+	BRIGHTNESS+
20	SET/M		PLAY, PLAY/2X	MENU, MODE	MEMO, M/S, M, I/II, A/B
21	CH. (RED)		SEARCH REVERSE, F.ADV	WEST, ANT<<, LEFT	13, 13-29, RED FASTTEXT
22	SPKR (GREEN)		SEARCH FORWARD	EAST, ANT>>, RIGHT	14, 14-30, GREEN FASTTEXT
23	DIGITAL (YELLOW)		RECORD	SKEW-	15, 15-31, YELLOW FASTTEXT
24	DELAY (BLUE)		EJECT, VISS/INDEX MARK	SKEW+	16, 16-32, BLUE FASTTEXT
25	VID 1		QSR START	15/31	MIX
26	6 CH		CLOCK/COUNT		TEXT, TEXT-TV
27	● /II / NIGHT	RECORD/PAUSE	CLEAR, CANCEL, RESET	PL, POLARITY	NORMAL, RESET
28	VID 2		AUTO PROGRAM, MEMORY	16/32	STOP, HOLD, HOLT
29	AM/FM		ADD		EXPAND
30	◄	REVERSE PLAY	AUTO CH, CH MEMORY	AUDIO, SOUND,STEREO	REVEAL
31	VID 3 / D-SKIP		DISPLAY	DISPLAY, VIEW, RECALL	SLEEP
32	TUN-M		ERASE		STATUS, PIP
33	◄◄ / TUNING DWN	REWIND	TIMER	STORE, MEMORY	CONTRAST-
34	MEMORY		AUTO TRK, ENTER		CANCEL, SWAP
35	I◄◄ / PRESET DWN		SHIFT-, TRK-, SHIFT LEFT		BOTTOM, PAGE-, FREEZE
36	■ / MULTI-ROOM	STOP	COUNTER RESET, RESET	14/30	TV, TEST-TV
37	►	FORWARD PLAY	QSR LENGTH		INDEX, 100
38	►► / TUNING UP	FAST FORWARD	TAPE SPEED, SP/LP	13/29	CONTRAST+
39	►►I / PRESET UP		SHIFT+, TRK+, SHIFT RIGHT		TOP, PAGE+, POSITION
40~49	1~0		1~0, A~J	1~0, A~J	0/AV, 0/10, A~J, CH 1~10
50	M1 / 1-		-1-, 100, 11/27		11, 1*, 1-, 10+, 11-27
51	M2 / 2-		12/38		12, 2*, 2-, 20+, 12-28
52	M3 / DIRECT		PROGRAM, MENU	PROGRAM, SET UP, MENU	C/S, C/P, P/C, C, CH/PROG
53	M4 / CLEAR		INPUT, TU/AV, TV LINE	STATUS	TIME, TIME TEXT, TIME PAGE
54	LIGHT				
55	OSD		SET-		BASS-
56	RDS		SET+		BASS+
57	VID 4				

Setup Code Tables: CD Players

Manufacturer/Brand	Setup Code Number						
ADCOM	062						
AIWA	089	170	187				
AKAI	202						
CARVER	167	041	135	138	139	050	203
DENON	205	226					
HARMAN KARDON	047	033	208	001	002		
JVC	022	136	163				
KENWOOD	007	016	023	055	137		
MARANTZ	107	044					
MONDIAL	147						
NAD	005	178	215				
NAKAMICHI	218						
ONKYO	030	038	062	168	169		
OPTIMUS	049	085					
PANASONIC	068						
PIONEER	010	020	174				
PHILIPS	041						
REALISTIC	102	181	187				
RCA	012	150					
SHARP	051	173					
SHERWOOD	096	166					
SONY	097	126	133	225			
TEAC	079	140					
TECHNICS	068	172					
YAMAHA	012	046	183	186			

Setup Code Tables: DVD Players

Manufacturer/Brand	Setup Code Number	
DENON	014	
HARMAN KARDON	018	
JVC	012	
LG	010	
MAGNAVOX	013	
MITSUBISHI	002	
ONKYO	017	
PANASONIC	003	
PHILIPS	013	
PIONEER	004	
PROSCAN	005	006
RCA	005	006
SAMSUNG	011	015
SONY	007	
TOSHIBA	008	
YAMAHA	009	
ZENITH	010	016

Setup Code Tables: LD Players

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 receivers

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

Setup Code Tables: SAT

Manufacturer / Brand	Set-Up Code Number
ALBA	018 029 036 065 111 126
ALCATEL	013 014
ALDES	099 101 162 165
ALLSONIC	099
AMSTRAD	026 052 127 159
ANKARO	099 106
ARCON	020 136
ARISTONA	108
ARTHUR MARTIN	157
ASTON	144
ASTRA	124 160
BARCOM	106
BLAUPUNKT	083
BRUNS	099
BUSH	018 029 108 111 126
CABLETIME	002 007 038
CAMBRIDGE	030 116
CELLULARVISION	139
CH. MASTER	036
CHAPARRAL	053
CITY COM	042
CONDOR	021
CONNEXION CX	025
CONNEXIONS	084 089 158
DDC	036
DISK EXPRESS	029 084 106
DRAKE	071 085 091 092 095 117 135
DYNASAT	042
ECHOSTAR	017 057 062 097 105 121 122 128 148
ELTASAT	096
EMME ESSE	021 042 099 100
FAIT	042
FERGUSON	093 102 107 108 119 120 123
FINLUX	050 051 086
FRACARRO	042 043 110 149
FTE	020 044 140
FUBA	021 022 028 055
GALAXIS	099
GENERAL INSTRUMENT	175
GIUCAR RECORD	048 151
GOLDEN CABLE	019
GOLDSTAR	034 136
GRAETZ	150 161
GROTHUSEN	034
GRUNDIG	079 083 108 113 123 152
HINARI	036
HIRSCHMANN	032 050 079
HITACHI	086
HUTH	035 099
IMPERIAL	018 029
INGELEN	150 161
ITT	125
ITT-NOKIA	062 123 150 161
JEEMON	115
JERROLD	004 005 093
JOHANSSON	156

Manufacturer / Brand	Set-Up Code Number
KATHREIN	042 140 141 153 158
KOSMOS	034
KRIESLER	108
LA SAT	021
LENCO	034 136
LUXOR	024 090 150 157 161
MACAB	163
MAGAI	140
MARANTZ	076
MASPRO	103 108 155 158
MATAV	019
MATSUSHITA	003
METZ	152
MINERVA	152
MORGANS	056 139
MULTISTAR	140
MURATO	034
NEC	072 081 087 129
NEIRU	136
NOKIA	150 161
NORSAT	094
OLYMPIC	099
OPTEX	041
ORBIT	037
ORIGO	018
PACE	008 015 104 108 120 123 134
PALCOM	027 028 154
PALSAT	066
PALTEC	028
PANASONIC	073
PHILIPS	032 060 075 076 178
PHOENIX	015
PHONOLA	108
PLANET	018
PROSAT	036 111
PTT TELCOM	026
PYE	108
QUADRAL	036
QUELLE	152
RADIOLA	108
RADIX	097
RAMIT	144
REDIFFUSION	081 094
RFT	039
SABA	029 098 145
SAISHO	074
SAKURA	015 109 112
SALORA	077 080 124 150 157
SAMSUNG	032 140
SAT	040
SAT PARTNER	034
SATCOM	026 035
SATECO	058
SATMASTER	035
SATPORTNER	136
SCHAUB LORENZ	150 161

Setup Code Tables: SAT

Manufacturer / Brand	Set-Up Code Number
SCHNEIDER	042 108
SCIENTIFIC ATLANTA	006
SENTRA	082
SIEMENS	079 083 152
SIERA	108
SILVA	034 136
SINTRACK	054
SKY	010
SKYMASTER	099
STAR TRAK EIGHT	174
STARCOM	004
STARSAT	140
STELLA	088
STRONG	066 118
STV	055
TACHNISAT	180
TANDBERG	049
TATUNG	078 130
T-CABLE TELETEXT	061
TECHNILAND	035
TECHNISAT	031 032 033 046 047 070 177 179
TELECOM	088
TELEFUNKEN	143
TELEMAX	059
TELESERVICE	011 012
TELESYSTEM	042
THORN-FERGUSON	064 093 102 107 108 119 120 123 133
TONNA EL.	035
TRIAD	034 180
TRIAX	023
UNIDEN	016 114 131 132 140
UNITED CABLE	004
V TECHNOLOGY	034
VETCH	067
VORTEC	032 142 143
WESTMINSTER	061
WINERSAT	156
WISI	037 045 063 068 069 097
ZENDER	140 176
ZENITH	091

Setup Code Tables: TV

Manufacturer / Brand	Set-Up Code Number
ADMIRAL	122 229
AIWA	046
AKAI	045 120 197
ALBA	180 192
ALBIRAL	178
ALCATEL	053 054
AMSTRAD	005 052
ARC EN CIEL	071 087 092 131 244
ARISTONA	108 120 122 136 169 216 218
ARTHUR MARTIN	132 164 185 191 194 197 206 211

Setup Code Tables: TV

Manufacturer / Brand	Set-Up Code Number
ASA	002 122 135 146 148 174 229
ATLANTIC	108 170
AUDIOSONIC	133
AUSIND	132
AUTOVOX	049 108 128 135 136 137 140 146 196 214
BAIRD	017 233
BASICLINE	015
BAUR	029
BEKO	058 120
BLAUPUNKT	077 111 114 117 170 175
BOOTS	242
BRANDT	071 087 088 092 131 244
BRION VEGA	049 122 140 225 231 239 254
BRUNS	113 122
BSR	151 167 226
BUSH	076 192 200 205
CENTURY	102 112 122 221 247
CGE	004 038 112 150 153 200 221 226 247
CIHAN	168 182
CLARIVOX	113 178 183
CONDOR	108 170
CONTEC	237
CONTINENTAL EDISON	071 087 088 092 131 244
CROSLEY	004 112 122 150 161
CROWN	212
CTC CLATRONIC	103
DAEWOO	198 203 219 251
DECCA	008 108 159 163 168 177 189
DEGRAAF	081 179
DIXI	120 253
DRYNATRON	120
DUAL	108 152
DUAL-TEC	098 108 226
DUMONT	103 122 146 204
ELBE	035 038 039 178 252
ELBIT	168
ELCIT	103 104 105 119 122 161 208 226
ELMAN	103 226
ELTA	253
EMERSON	005 102 122
ERRES	120 169
EUROPHON	102 103 104 108 125 177 226
FERGUSON	012 088 090 130 139 146 160 178 216
FIDELITY	108 216
FINLANDIA	179
FINLUX	002 078 103 118 132 135 146 148 161 174 204 205 221
FISHER	036 113 122 126 161 247
FORGESTONE	216
FORMENTI	108 132 161 170 206
FORTRESS	248
FRABA	209
FRONTECH	133
FUJITSU	060
FUNAI	133 151
GBC	089 161 226
GEC	108 159 161 177 229 250

Setup Code Tables: TV

Manufacturer / Brand	Set-Up Code Number
GELOSO	089 105 119 161 226 229 253
GENEXXA	180
GOLDSTAR	010 011 047 108 120 209 210 213 253
GOODMANS	076 120 159 213
GORENJE	181 247
GRAETZ	006 147 161 194 197 211 217 220 229
GRANADA	076 108 120 147 159 169 177 206 229
GREAT WALL	042
GRUNDIG	077 111 146 147 158 172 175 224
HANSEATIC	076 107 108 120 161 164 170
HANTAREX	104
HEMMERMANN	208
HIFIVOX	071 087 092 131 244
HINARI	005 076 100 123 176 253
HITACHI	020 033 076 078 081 108 131 143 161 164 167 184 185 226 229 234 240 244 250
HYPER	045 108
IMPERIAL	004 038 112 150 200 221 226 247
INGELEN	006 147 161 194 197 211 217 220 229
INNO HIT	025 045 102 104 108 123 213 253
INTER	182
INTERFUNK	107 120 122 131 147 161 169 197 211 217 240
IRRADIO	045 089 123 132 213 253
ITT	006 057 147 154 161 194 197 211 215 217 220 229 230 233 251
JET POINT	040
JVC	076
KTV	108
KAISUI	015 042 180
KARCHER	015 025
KENDO	102
KENNEDY	128 136 161
KORTING	085 122 151 170
KRIESLER	108 120 122 136 169 216 218
LENOIR	108
LOEWE OPTA	021 093 104 107 110 120 122 177 202
LOGIK	189 216
LUMA	120 191 229
LUXOR	147 164 179 185 191 197 217 230 233 243
MAGNADYNE	103 104 105 119 122 161 177 208 226
MAGNAFON	103 104 108 125 132 177
MARANTZ	120
MATSUI	005 108 157 159 189 192 229 238 253
MAXIMAL	176
McMICHAEL	250
MEMOREX	253
METZ	077 109 122 124 127 149 175 227
MINERVA	077 111 146 147 175
MISTRAL	216
MITSUBISHI	076 079 107 120 122 162 189 190 215 222 241
MIVAR	048 101 104 108 115 129 138 177 213
MULTITECH	103 108 177 247
MURPHY	229
NAGEL	041
NAONIS	094 098 128 136 167 229

Manufacturer / Brand	Set-Up Code Number
NATIONAL	091 142 161
NEC	042 076 235
NECKERMANN	108 122 164 191 238 247
NEI	120 183
NIKKAI	159 180
NOBLEX	036 037
NOBLIKO	102 103 108 132 146
NOGAMATIC	071 087 092 131 244
NOKIA	006 057 147 154 161 194 197 211 215 217 220 229 230 233 251
NORDMENDE	026 071 075 087 092 096 131 140 188 223 240 244
OCEANIC	161 165 166 173 197
ONCEAS	108
OPTONICA	248
ORION	005 007 024 043 109 151 189 192 208 249 253
OSAKI	159
OSIO	213
OSUME	237
OTTO VERSAND	076 107 120 161 164
P.T ACTRON	168
PAEL	108 132
PANASONIC	074 091 097 142 156 161 193 195 207
PATHE CINEMA	108 170 178 226
PERDIO	159
PHILCO	004 038 074 112 122 150 161 200 221 226 247
PHILIPS	003 023 028 030 032 050 059 080 108 120 122 136 169 215 216 218 250
PHOENIX	108 132 161 170 206
PHONOLA	080 108 120 122 136 169 216 218
PIONEER	051 120 131 240
PRANDONI-PRINCE	102 104 132 177 229
PREMIER	200
PRINCE	102 104 132 229
PROTECH	120 133
PYE	108 120 122 136 169 215 216 218
QUASAR	103 104 125 132 213
QUELLE	107 108 111 120 132 135 146 147 148 170 172 174 175 189 197 204 205 211
RADIOLA	108 120 122 136 169 216 218
RADIOMARELLI	103 104 105 119 122 161 162 208 226
RANK	205
RBM	205
REDIFFUSION	116 162 197 229
REX	094 098 128 136 152 167 196 229
ROADSTAR	089
ROBOTRON	113 122
RTF	113 122
SABA	026 071 072 075 083 087 088 092 096 104 122 131 134 177 191 236 240 244
SAISHO	005 108 141 189 190 192 253
SALORA	055 132 164 185 191 194 197 206 211 230 233 243
SAMBERS	103 104 125 132 177 213
SAMPO	193

Setup Code Tables: TV

Manufacturer / Brand	Set-Up Code Number
SAMSUNG	025 036 037 040 061 108 133 213 247 253
SANYO	006 009 014 017 076 099 113 159 174 189 201 233 237 247
SBR	120 169 215 216 250
SCHAUB LORENZ	006 147 161 194 197 211 217 220 229
SCHNEIDER	098 108 120 122 126 136 152 161 169 171 206 214 216 218 226
SEG	103
SEI	005 109 151
SELECO	038 094 098 128 136 152 167 196 229
SHARP	022 076 237 248
SIAREM	103 104 122 161 177
SICATEL	178
SIEMENS	014 077 081 111 170 175 237
SIERA	108 120 122 136 169 216 218
SILVER	133
SINGER	038 103 105 122 161
SINUDYNE	005 018 024 043 103 109 122 151 161 208
SONOKO	120 253
SONY	012 016 019 070 076 086 189
STERN	094 098 128 136 167 196 229
SUNKAI	043
TANDBERG	227
TANDY	108 153 159 180 248
TASHIKO	009 076
TATUNG	008 108 159 163 168 177 189
TEC	098 108 226
TELEAVIA	071 087 088 092 131 240 244
TELEFUNKEN	026 071 090 121 131 139 236 240 245
TELESERVICE	056
TELETECH	253
TELEVIDEON	108 132 161 170 206
TENSAI	120
THOMSON	026 031 046 071 075 087 088 092 131 240 244
THORN-FERGUSON	033 088 090 130 133 139 146 160 178 216 236
TOCOM	073
TOSHIBA	013 038 076 186 199 205
TRANS CONTINENTS	102 104 132 229
TRIUMPH	005
UHER	126 137 170 206
ULTRAVOX	102 103 108 122 161 191
UNIVERSUM	010 078 133 213
UNIVOX	178
VEGAVOX	221
VESTEL	183
VOXSON	122 229
WATSON	170
WATT RADIO	103 108 125 161 178 208
WEGA	076
WEGA COLOR	145
WHITE WESTINGHOUSE	108 170
WINTERNITZ	044 046
YOKO	108
ZANUSSI	094 098 128 136 167 196 229
ZOPPAS	094 098 128 136 167 229

Setup Code Tables: VCR

Manufacturer / Brand	Set-Up Code Number
AIWA	051
AKAI	023 030 036 043 142 166 168 179
ALBA	024 108
AMSTRAD	034
ANITSCH	025
ARC EN CIEL	043 044 166
ARISTONA	053 167 187
ASA	067 101
AWIA	034 043
BAIRD	043 179
BAUER˙BOSCH	042 046
BLAUPUNKT	042 046 162 167 174 183 187
BRANDT ELECTRONIQUE	043 044 166
BRIONVEGA	039
BSR	038
BUSH	024 108
C. EDISON	039
CANON	042
CAPEHART	108
CGE	034 043 166
CONTINENTAL EDISON	043 044 166
CRAIG	003 040
CURTISMATHES	107 109
DAEWOO	004 108 110 111 112 116 117
DAYTRON	108
DECCA	034 043
DEGRAAF	010 013 034 053 067
DUAL	043 166
DUMONT	010 034 067
DYNATECH	034
ELBE	031
EMERSON	006 027 034 107 109 145
FERGUSON	043 157 159 166 170 176 180 184
FIDELITY	034
FINLADIA	010 067
FINLUX	010 013 034 067
FISHER	003 010 014 029
FUNAI	034
GBC	169
GE	107 109
GELOSO	169
GENERAL	042
GOLDSTAR	012 101 106
GOODMANS	024 034 054
GRAETZ	039 043 044 158 166 182
GRANADA	010 014 067 187
GRUNDIG	042 046 067 162 167 173 174 175 187
HANSEATIC	046
HARMAN-KARDON	012
HIFIVOX	043 044 166
HINARI	006 024 144 150 169
HITACHI	013 020 034 043 146 163
IMPERIAL	034 172
INGELEN	043 044 166 182
INGERSOL	150
INNO HIT	169
ITT	014 039 043 044 158 166 179 182

Setup Code Tables: VCR

Manufacturer / Brand	Set-Up Code Number
JENSEN	043
JVC	002 043 044 048 159 166
KENWOOD	014 043 048
KRIESLER	053 167 187
KUBA	046
LLOYD	034
LOEWE OPTA	042 067 155 167 187
LOGIK	024 150
LUXOR	179 182
LXI	101
MAGNADYNE	039
MAGNASONIC	182
MAGNAVOX	107 109
MARANTZ	012 042 054 067 167 187
MATSUI	027 145 150
MEMOREX	003 010 014 034 053 101
METZ	042 046 167 174 181 187
MGA	059
MINERVA	162 174 187
MINOLTA	013 020
MITSUBISHI	047 048 059 148
MTC	034 040
MULTITECH	016 024 034
MURPHY	034
NAONIS	043 044 166
NATIONAL	183
NEC	012 031 043 048 166
NECKERMANN	006 039 042 043 166 187
NOBLIKO	187
NOGAMATIC	043 044 166
NOKIA	010 014 039 043 044 158 166 179 182
NORDMENDE	002 005 009 011 015 017 018 032 043 044 166 171 173 177 178
OPTONICA	053 054
ORION	006 026 027 028 060 145 150
OSAKI	034 101
OTTO VERSAND	046
P. CINEMA	042
PALLADIUM	039 042
PANASONIC	143 164 165 183
PATHE MARCONI	043 044 166
PENTAX	013 020
PERDIO	034
PHILIPS	037 041 042 045 053 054 067 152 155 167 187
PHONOLA	042 053 067 155 167 187
PIONEER	048 057
PORTLAND	108
PROLINE	034
PYE	042 053 067 155 167 187
QUARTZ	014
QUELLE	006 052 174 187
RADIOLA	053 167 187
RADIOMARELLI	039
RCA	107 109
REALISTIC	003 010 014 034 040 053 054
REX	043 044 166

Manufacturer / Brand	Set-Up Code Number
S. LORENZ	039
SABA	002 007 008 009 011 017 018 043 044 166 178
SAISHO	006 027 145 150 163
SALORA	014 059
SAMSUNG	040 102 104 107 109 113 115 168 172
SANSUI	043 048
SANYO	003 010 014 035 050 145 182
SBR	067 152 155
SCHAUB LORENZ	043 044 158 166 182
SCHNEIDER	024 034 053 167 172 187
SEG	172
SEI-SINUDYNE	150
SELECO	043 044 166
SENTRA	108
SHARP	053 054 105 147
SHINTOM	024
SIEMENS	042 046 162 167 174 182 187
SIERA	053 167 187
SINUDYNE	150
SONY	052 056 058 149 154
STERN	043 044 166
STS	013
SUNKAI	145
SYLVANIA	034 059
SYMPHONIC	034 059
TASHIKO	034
TATUNG	034 043
TEAC	034 043
TEKNIKA	034
TELEAVIA	043 044 166
TELEFUNKEN	002 011 019 021 033 043 044 166
TENOSAL	024
THOMSON	011 015 043 044 166
THORN-FERGUSON	017 018 043 157 159 166 170 176 180 184
TOSHIBA	004 043 044 049 059 153 166
TOTEVISION	040
UHER	043 172
ULTRAVOX	039
UNITECH	040
UNIVERSUM	039 042 046
URANYA	039
VECTOR	012
VICTOR	043 048
VIDITAL	039
WESTING HOUSE	039
WARDS	107 109
YAMAHA	012 043
ZANUSSI	043 044 166
ZENDER	166
ZOPPAS	043 044

Troubleshooting Guide

SYMPTOM	CAUSE	SOLUTION
Unit does not function when Main Power Switch is pushed	• No AC Power	• 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	• Intermittent input connections • **Mute** is on • Volume control is down	• Make certain that all input and speaker connections are secure • Press **Mute** button • Turn up volume control
Sound is heard, but Front-Panel Display does not light	• Display brightness is turned off	• Follow the instructions in the Display Brightness section on page 35 so that the display is set to VFD FULL
No sound from any speaker; light around power switch is red	• Amplifier is in protection mode due to possible short • Amplifier is in protection mode due to internal problems	• 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	• Incorrect surround mode • Incorrect configuration • Stereo or Mono program material • Speakers not properly connected	• Select a mode other than Stereo • Check speaker mode • With (analog or digital) Dolby surround modes, the surround decoder may not create rear-channel information from nonencoded programs • Check speaker-wire connections or use test tone to verify connections (see page 25)
Unit does not respond to remote commands	• Weak batteries in remote • Wrong device selected • Remote sensor is obscured	• Change remote batteries • Press the AVR selector • Make certain front-panel sensor is visible to remote or connect remote sensor
Intermittent buzzing in tuner	• Local interference	• Move unit or antenna away from computers, fluorescent lights, motors or other electrical appliances
Letters flash in the Channel Indicator Display and Digital Audio stops	• Digital audio feed paused	• Resume play for DVD • Check that Digital Input is selected
HDCD encoded disc does not trigger HDCD indicator	• Surround mode in use • Analog feed in use	• 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 **RDS 12** buttons for three seconds.

The unit will turn on automatically and display the R E S E T 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/13.2dBf
Signal-to-Noise Ratio	Mono/Stereo: 70/65dB (DIN)
Distortion	Mono/Stereo: 0.15/0.3%
Stereo Separation	35dB @ 1kHz
Selectivity	±300kHz: 65dB
Image Rejection	80dB
IF Rejection	90dB

AM Tuner Section

Frequency Range	520–1611kHz
Signal-to-Noise Ratio	45dB
Usable Sensitivity	Loop: 500µV
Distortion	1kHz, 50% Mod: 0.8%
Selectivity	±9kHz: 30dB

Video Section

Video Format	PAL/NTSC
Input Level/Impedance	1Vp-p/75 ohms
Output Level/Impedance	1Vp-p/75 ohms
Video Frequency	
Response	10Hz–8MHz (–3dB)

General

Power Requirement	AC 220-240V/50Hz
Power Consumption	125W idle, 1100W maximum

Dimensions (Max)	
Width	440mm
Height	193mm
Depth	519mm
Weight	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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**Without input anti slewing and output isolation networks.

harman/kardon