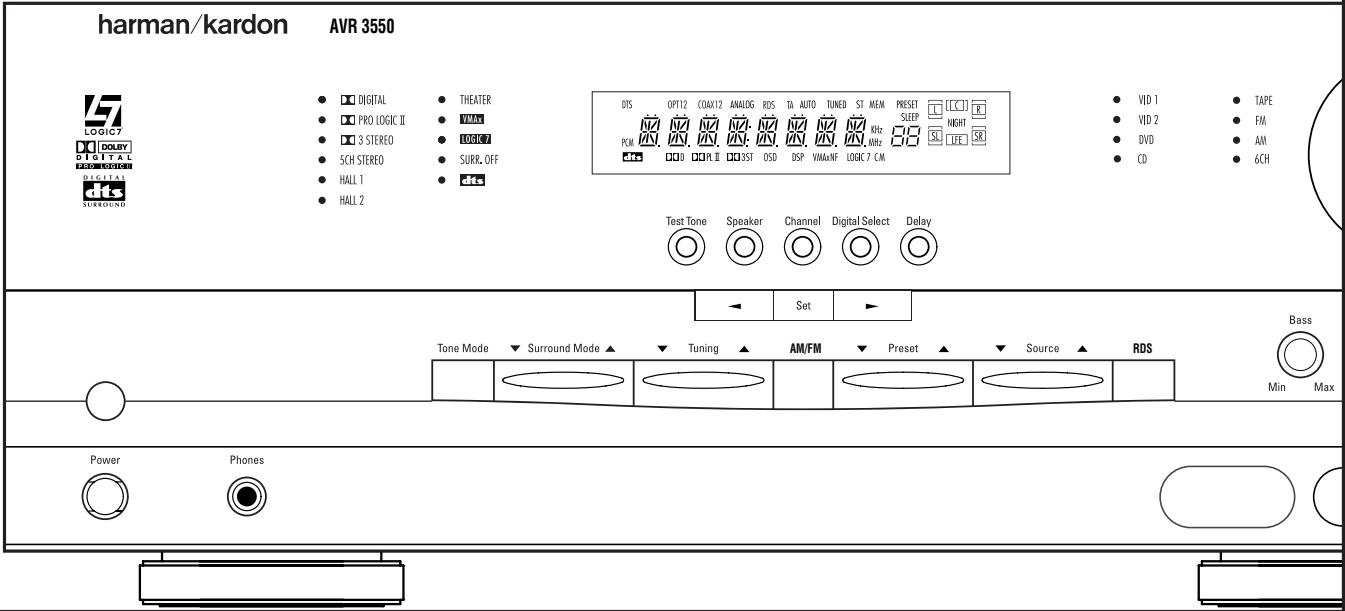


AVR 3550 Audio/Video Receiver

OWNER'S MANUAL



harman/kardon®

Power for the Digital Revolution™

Table of Contents

3	Introduction
4	Safety Information
4	Unpacking
5	Front Panel Controls
7	Front Panel Information Display
9	Rear Panel Connections
11	Remote Control Functions
14	Installation and Connections
14	Audio Equipment Connections
14	Video Equipment Connections
15	SCART A/V Connections
16	Remote Control Extension
16	AC Power Connections
17	Speaker Selection and Placement
18	System Configuration
18	First Turn On and Use of the OSD
18	Settings to be Made With Each Input Used
19	Input Setup
19	Surround Setup
19	Adjustments for Other Inputs
20	Making Settings independent of selected Input
20	Speaker Setup
21	Delay Settings
22	Night Mode Settings
22	Output Level Adjustment
22	Using EzSet
23	Manual Output Level Adjustment
25	Operation
25	Basic Operation
25	Source Selection
25	Controls and Use of Headphones
26	Surround Mode Chart
27	Surround Mode Selection
27	Digital Audio Playback
28	Selecting a Digital Source
28	Digital Status Indicators
29	Night Mode
29	Tape Recording
30	Output Level Trim Adjustment
30	6-Channel Direct Input
30	Memory Backup
31	Tuner Operation
32	RDS Operation
33	Advanced Features
33	Display Brightness
33	Turn-On Volume Level
34	Semi OSD Settings
34	Full-OSD Time Out Adjustment
35	Programming the Remote
35	Programming the Remote with Codes
35	Macro Programming
36	Programmed Device Function
36	Volume Punch-Through
37	Channel Control Punch-Through
37	Transport Control Punch-Through
37	Resetting the Remote Memory
38	Function List
40	Troubleshooting Guide
40	Processor Reset
41	Technical Specifications

Declaration of Conformity



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 stan-
dards:

EN 55013/6.1990

EN 55020/12.1994

EN 60065:1993

EN 61000-3-2/4.1995

Carsten Olesen
Harman Kardon Europe A/S
03/02

Typographical Conventions

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

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

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

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

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

1 – (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

Introduction

Thank you for choosing Harman Kardon!

With the purchase of a Harman Kardon AVR 3550 you are about to begin many years of listening enjoyment. The AVR 3550 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 DTS¹ decoding, the AVR 3550 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 3550 to make all of this happen, hookup and operation are simple. Color-keyed connections, programmable remote control, and on-screen menus make the AVR 3550 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 3550 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 3550 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 the latest Dolby ProLogic[®] II decoding technology, Dolby 3 Stereo, 5 Ch 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.

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.

In addition to providing a wide range of listening options, the AVR 3550 is easy to configure so that it provides the best results with your speakers and specific listening-room environment. On-screen menus make it simple to enter settings for speakers, inputs and delay times, while our exclusive EzSet[™] remote measures a system's sound levels and automatically calibrates them for perfectly balanced soundfield presentation.

For the ultimate in flexibility, the AVR 3550 features connections for three video devices, all with both composite and S-Video inputs. Two additional audio inputs are available, and a total of four digital inputs make the AVR 3550 capable of handling all the latest digital audio sources. Coax and optical digital outputs are available for direct connection to digital recorders. A video recording output, and a six-channel input make the AVR 3550 virtually future-proof, with everything needed to accommodate tomorrow's new formats right on board.

The AVR 3550'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-nine years ago. With state-of-the-art circuitry and time-honored circuit designs, the AVR 3550 is one of the finest receivers ever offered by Harman Kardon within its price range.

■ Onboard Dolby Digital and DTS Decoding Using Crystal[®] Chip Technology

■ Harman Kardon's Exclusive Logic 7 and VMAx Modes

■ Dolby Laboratory's latest ProLogic II decoding technology.


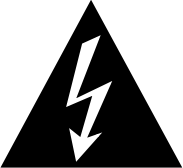
■ EzSet[™] Remote Automatically Sets Output Levels for Optimum Performance

■ Multiple Digital Inputs and Outputs

■ On-Screen Menu and Display System


■ 6-Channel direct input for use with SACD or DVD-Audio players, other products with internal surround decoders or external surround decoders.

■ Remote with Internal Codes Capability




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.

Safety Information

Important Safety Information

Verify Line Voltage Before Use

Your AVR 3550 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.

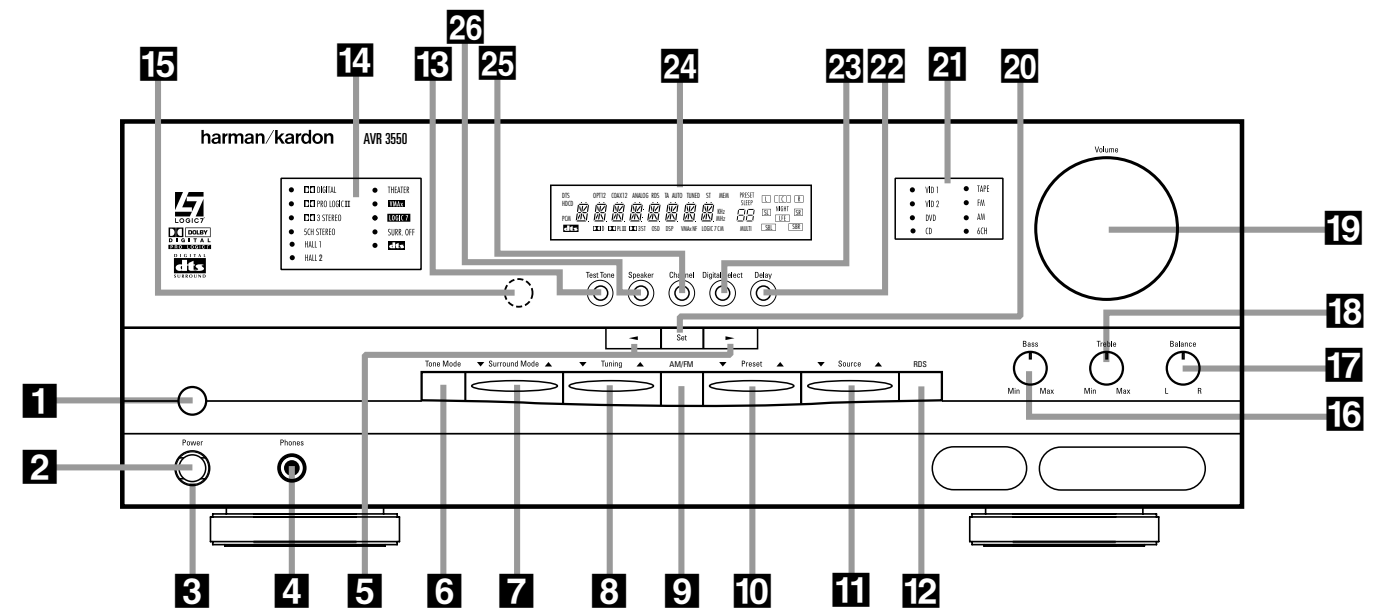
Unpacking

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.

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
- 9 Tuner Band Selector
- 10 Preset Stations Selector

- 11 Input Source Selector
- 12 RDS Select Button
- 13 Test Tone Selector
- 14 Surround Mode Indicators
- 15 Remote Sensor Window
- 16 Bass Control
- 17 Balance Control
- 18 Treble Control
- 19 Volume Control
- 20 Set Button

- 21 Input Indicators
- 22 Delay
- 23 Digital Input Selector
- 24 Main Information Display
- 25 Channel Select Button
- 26 Speaker Select Button

1 Main Power Switch: Press this button to apply power to the AVR. When the switch is pressed in, the unit is placed in a Standby mode, as indicated by the orange 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: This switch is normally left in the "ON" position.

2 System Power Control: When the **Main Power Switch** **1** is "ON," press this button to turn on the AVR; 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 be illuminated in orange 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's output through a pair of headphones. Be certain that the headphones have a standard 6.3 mm stereo phone plug. Note that the speakers will automatically be turned off when the headphones are connected.

5 Selector Buttons: When you are establishing the AVR's configuration settings, use these buttons to select from the choices available, as shown in the **Main Information Display** **24**.

6 Tone Mode: Pressing this button enables or disables the Balance, Bass and Treble tone controls. When the button is pressed so that the words **TONE IN** appear in the **Main Information Display** **24**, the settings of the **Bass** **16** and **Treble** **18** controls and of the **Balance** control **17** will affect the output signals. When the button is pressed so that the words **TONE OUT** appear in the **Main Information Display** **24**, the output signal will be "flat," without any balance, 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 26 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 **L** will illuminate in the **Main Information Display 24** (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 some 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 scroll up or down through the list of stations that have been entered into the preset memory. (See page 31 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 Select Button: Press this button to display the various messages that are part of the RDS data system of the AVR's tuner. (See page 32 for more information on RDS).

13 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 22.)

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

15 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.

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

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

19 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.

20 Set Button: When making choices during the setup and configuration process, press this button to enter the desired setting as shown in the **Main Information Display 24** into the AVR's memory. The set button may also be used to change the display brightness. (See page 33).

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

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

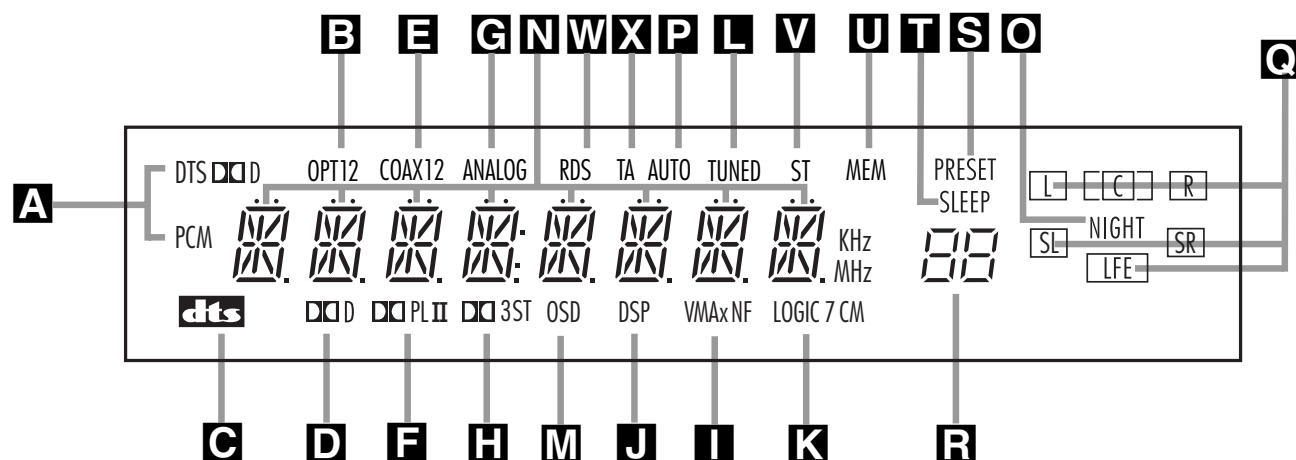
23 Digital Input Selector: When playing a source that has a digital output, press this button to select between the **Optical 25** and **Coaxial 11** Digital inputs. (See pages 27-29 for more information on digital audio.)

24 Main 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.)

25 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 30.)

26 Speaker Select Button: Press this button to begin the process of selecting the speaker positions that are used in your listening room. (See page 18 for more information on setup and configuration.)

Front Panel Information Display



- | | | |
|---|-----------------------------------|---|
| A Bitstream Indicators | I VMAx Mode Indicator | Q Speaker/Channel Input Indicators |
| B Optical Source Indicators | J DSP Mode Indicator | R Preset Number/Sleep Timer |
| C DTS Mode Indicator | K Logic 7 Mode Indicators | S Preset Indicator |
| D Dolby Digital Indicator | L Tuned Indicator | T Sleep Indicator |
| E Coaxial Digital Input Indicators | M OSD Indicator | U Memory Indicator |
| F Dolby Pro Logic II Indicator | N Main Information Display | V Stereo Indicator |
| G Analog Input Indicator | O Night Mode Indicator | W RDS Indicator |
| H Dolby 3 Stereo Indicator | P Auto Indicator | X Traffic Program Indicator |

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

B Optical Source Indicators: These indicators light to show when a Optical Digital Input has been selected.

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

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

E Coaxial Digital Input Indicators: These indicators light to show when a Coaxial Digital Input has been selected.

F Dolby Pro Logic II Indicator: This indicator lights when the Dolby Pro Logic II mode has been selected.

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

H Dolby 3 Stereo Indicator: This indicator lights when the Dolby 3 Stereo Mode has been selected. Only **S T** (Stereo) will light when "Surround Off" has been selected. Then all Surround Modes are turned off and the unit will play in pure stereo mode.

I VMAx Mode Indicator: This indicator illuminates to show that the VMAx mode is in use. **V M A x F** appears when the Far Field VMAx mode is selected; **V M A x N** appears when the Near Field VMAx mode is selected. (See page 26 for a description of the VMAx Modes.)

J DSP Mode Indicator: This indicator lights when any of the surround modes created by Digital Signal Processing, or DSP are in use. These modes include Hall 1, Hall 2, Theater, Surround Off A/D-Mode and 5 Channel Stereo.

K Logic 7 Mode Indicators: These indicators illuminate when the Logic 7 mode is in use. **L O G I C 7 C** appears for the Cinema version of Logic 7, **L O G I C 7 M** appears for the Music version of Logic 7. (See page 26 for a description of the Logic 7 Modes.)

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

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 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.

O Night Mode Indicator: This indicator lights when the AVR 3550 is in the Night mode, which preserves the dynamic range of digital program material at low volume levels.

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

Q 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 19 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 29 for more information on the Channel Indicators).

R Preset Number/Sleep Timer: When the tuner is in use, these numbers indicate the specific preset memory location in use. (See page 31 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.

Front Panel Information Display

S Preset Indicator: This indicator lights when the tuner is in use to show that the **Preset Number/Sleep Timer R** is showing the station's preset memory number. (See page 31 for more information on tuner presets).

T 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 goes into the Standby mode. (See page 25 for more information on the Sleep function).

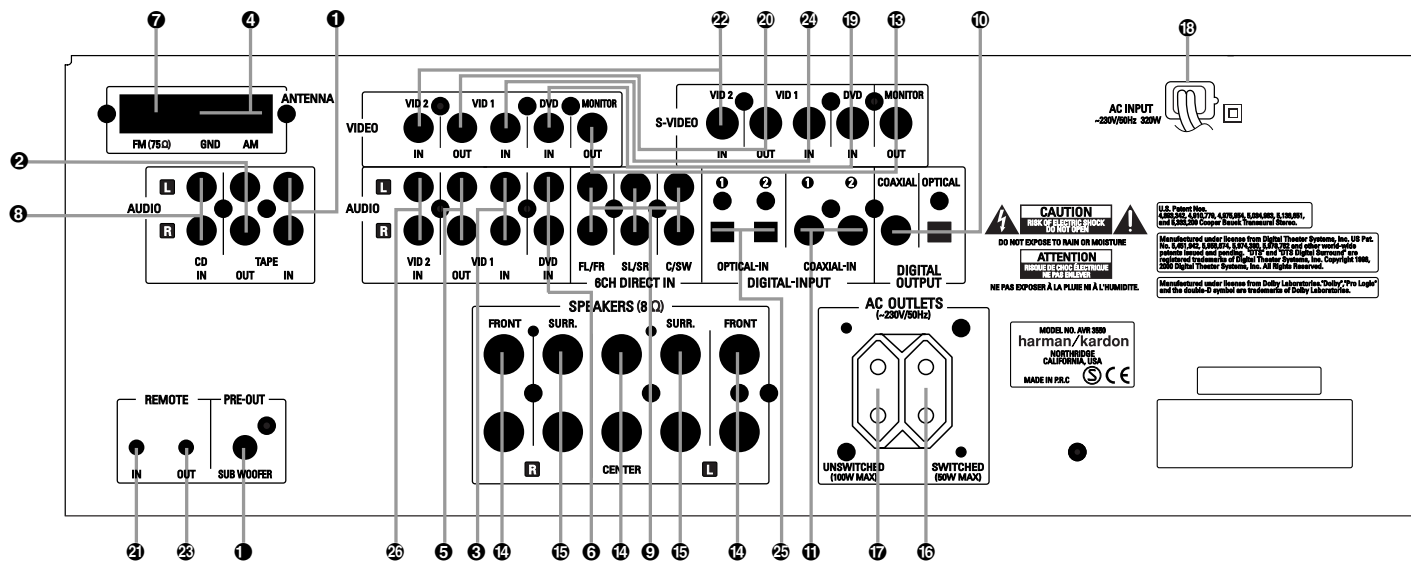
U Memory Indicator: This indicator flashes when entering presets and other information into the tuner's memory.

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

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

X Traffic Program Indicator: This indicator illuminates if the RDS station tuned sometimes transmits traffic information (see page 32 for more information on RDS).

Rear Panel Connections



- | | | |
|---------------------------|-----------------------------------|---------------------------|
| 1 Tape Inputs | 11 Coaxial Digital Inputs | 21 Remote IR Input |
| 2 Tape Outputs | 12 Subwoofer Output | 22 Video 2 Video Inputs |
| 3 Video 1 Audio Inputs | 13 Video Monitor Outputs | 23 Remote IR Output |
| 4 AM Antenna | 14 Front/Center Speaker Outputs | 24 Video 1 Video Inputs |
| 5 Video 1 Audio Outputs | 15 Surround Speaker Outputs | 25 Optical Digital Inputs |
| 6 DVD Audio Inputs | 16 Switched AC Accessory Outlet | 26 Video 2 Audio Inputs |
| 7 FM Antenna | 17 Unswitched AC Accessory Outlet | |
| 8 CD Inputs | 18 AC Power Cord | |
| 9 6-Channel Direct Inputs | 19 DVD Video Inputs | |
| 10 Digital Audio Outputs | 20 Video 1 Video Outputs | |

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

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

3 Video 1 Audio Inputs: Connect these jacks to the **PLAY/OUT** audio jacks on a VCR or other video source.

4 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.

5 Video 1 Audio Outputs: Connect these jacks to the **RECORD/INPUT** audio jacks on a VCR or any other Audio recorder.

6 DVD Audio Inputs: Connect these jacks to the analog audio jacks on a DVD or other video source.

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

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

9 6-Channel Direct Inputs: If an external digital audio decoder is used, connect the outputs of that decoder to these jacks.

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

11 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. Do not connect the RF digital output of an LD player to these jacks.

12 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.

Rear Panel Connections

13 Video Monitor Outputs: Connect these jacks to the composite and/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.

14 Front/Center Speaker Outputs: Connect these outputs to the matching + or – terminals on your front/center 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 14 for more information on speaker polarity.)

15 Surround Speaker Outputs: Connect these outputs to the matching + or – terminals on your left and right surround 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 speakers and the black (–) terminals on the AVR to the black (–) terminals on the speakers. See page 14 for more information on speaker polarity.

16 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 **2**.

17 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 is on or off (in Standby), provided that the **Main Power** switch **1** is on.

Note: The total power consumption of all devices connected to the accessory outlets should not exceed 100 watts from the **Unswitched Outlet 17** and 50 W from the **Switched Outlet 16**.

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

19 DVD Video Inputs: Connect these jacks to the composite or S-Video output jacks on a DVD player or other video source.

20 Video 1 Video Outputs: Connect these jacks to the **RECORD/INPUT** composite or S-Video jack on a VCR.

21 Remote IR Input: If the receiver'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.

22 Video 2 Video Inputs: Connect these jacks to the **PLAY/OUT** composite or S-Video jacks on a second VCR or other video source.

23 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.

24 Video 1 Video Inputs: Connect these jacks to the **PLAY/OUT** composite or S-Video jacks on a VCR or other video source.

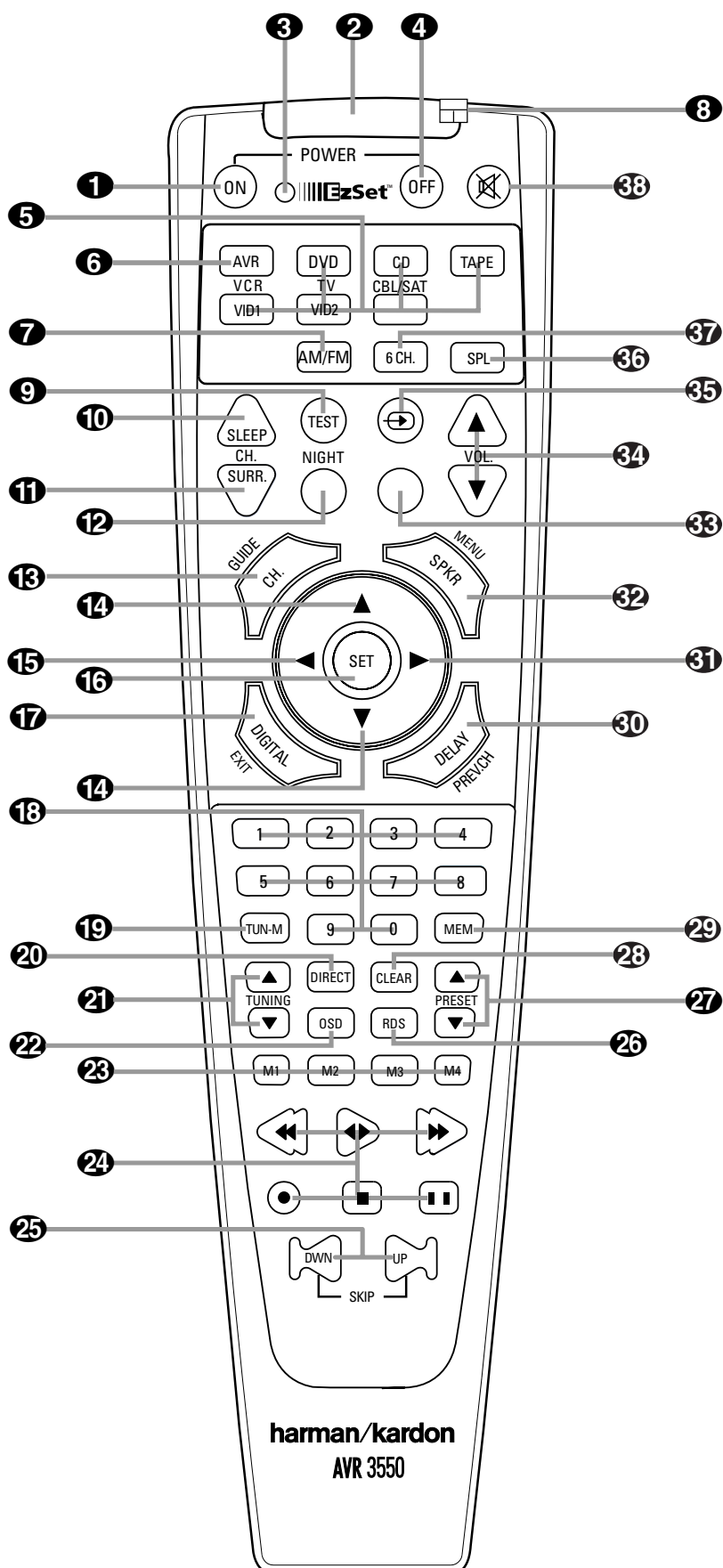
25 Optical Digital Inputs: Connect the optical digital output from a DVD player, HDTV receiver, LD player, MD player or CD player to these jacks. The signal may be either a Dolby Digital signal, a DTS signal or a standard PCM digital source.

26 Video 2 Audio Inputs: Connect these jacks to the **PLAY/OUT** audio jacks on a VCR or other video source.

Note: Either the Video or S-Video output of any S-Video source must be connected to the AVR, not both in parallel, otherwise the video may be disturbed or its performance be adversely effected.

Remote Control Functions

- ❶ Power On Button
- ❷ IR Transmitter Window
- ❸ Program/SPL Indicator
- ❹ Power Off Button
- ❺ Input Selectors
- ❻ AVR Selector
- ❼ AM/FM Tuner Select
- ❽ EzSet Sensor Microphone
- ❾ Test Button
- ❿ Sleep Button
- ⓫ Surround Mode Selector
- ⓬ Night Mode
- ⓬ Channel Select Button
- ⓬ ▲/▼ Buttons
- ⓬ ◀ Button
- ⓬ Set Button
- ⓬ Digital Select
- ⓬ Numeric Keys
- ⓬ Tuner Mode
- ⓬ Direct Button
- ⓬ Tuning Up/Down
- ⓬ OSD Button
- ⓬ Macro Buttons
- ⓬ Transport Controls
- ⓬ Skip Up/Down Buttons
- ⓬ RDS Select Button
- ⓬ Preset Up/Down
- ⓬ Clear Button
- ⓬ Memory Button
- ⓬ Delay/Prev. Ch.
- ⓬ ▶ Button
- ⓬ Speaker Select
- ⓬ Spare Button
- ⓬ Volume Up/Down
- ⓬ TV/Video Selector
- ⓬ SPL Indicator Select
- ⓬ 6-Channel Direct Input
- ⓬ Mute



NOTE: The function names shown here are each button's feature when used with the AVR. Most buttons have additional functions when used with other devices. See page 38-39 for a list of these functions.

Remote Control Functions

IMPORTANT NOTE: The AVR 3550's remote may be programmed to control up to seven devices, including the AVR 3550. Before using the remote, it is important to remember to press the **Input Selector** button **5** that corresponds to the unit you wish to operate. In addition, the AVR 3550's remote is shipped from the factory to operate the AVR 3550 and most Harman Kardon CD or DVD players and cassette decks. The remote is also capable of operating a wide variety of other products using the control codes that are part of the remote. Before using the remote with other products, follow the instructions on pages 35 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 Input Selectors. The descriptions shown here primarily detail the functions of the remote when it is used to operate the AVR 3550. (See page 38 for information about alternate functions for the remote's buttons.)

1 Power On Button: Press this button to turn on the power to a device selected by pressing one of the **Input Selectors** **5**.

2 IR Transmitter Window: Point this window towards the AVR 3550 when pressing buttons on the remote to make certain that infrared commands are properly received.

3 Program/SPL Indicator: This three-color indicator is used to guide you through the process of programming the remote and it is also used as a level indicator when using the remote's EzSet capabilities. (See page 22 for more information on setting output levels, and see page 35 for information on programming the remote.)

4 Power Off Button: Press this button to place the AVR or a selected device unit in the Standby mode.

5 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 **6** again to operate the AVR's functions with the remote.

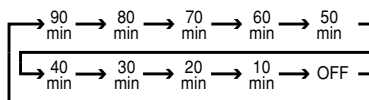
6 AVR Selector: Pressing this button will switch the remote so that it will operate the AVR's functions. If the AVR is in the Standby mode, it will also turn the AVR on.

7 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.

8 EzSet Sensor Microphone: The sensor microphone for the EzSet microphone is behind these slots. When using the remote to calibrate speaker output levels using EzSet, be sure that you do not hold the remote in a way that covers these slots. (See page 22 for more information on using EzSet.)

9 Test Tone: Press this button to begin the sequence used to calibrate the AVR's output levels. (See page 22 for more information on calibrating the AVR.)

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



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 and SAT receiver when selected.

11 Surround Mode Selector: Press this button to begin the process of changing the surround mode. After the button has been pressed, use the **▲/▼** buttons **14** to select the desired surround mode (See page 26 for more information). Note that this button is also used to tune channels when the TV, VCR and SAT receiver is selected using the **Input Selector** **5**.

12 Night Mode: Press this button to activate the Night mode. This mode is available only with Dolby Digital encoded digital sources, and it preserves dialog (center channel) intelligibility at low volume levels (See page 29 for more information).

13 Channel Select Button: This button is used to start the process of setting the AVR's output levels with an external source. Once this button is pressed, use the **▲/▼** buttons **14** to select the channel being adjusted, then press the **Set** button **16**, followed by the **▲/▼** buttons again, to change the level setting. (See page 30 for more information.)

14 ▲/▼ 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 **11**. Next press these buttons to scroll up or down through the list of surround modes that appear in the **Main Information Display** **24**. 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 **30** has been pressed.

When the AVR 3550 remote is being programmed for the codes of another device, these buttons are also used in the "Auto Search" process (See page 35 for more information on programming the remote.)

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

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

17 Digital Select: Press this button to assign one of the digital inputs **25 11** to a source. (See page 28 for more information on using digital inputs.)

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

19 Tuner Mode: Press this button when the tuner is in use to select between automatic tuning and manual tuning. When the button is pressed so that the **AUTO** indicator **P** goes out, pressing the **Tuning** buttons **21 8** will move the frequency up or down in single-step increments. When the FM band is in use and the **AUTO** indicator **P** is on, pressing this button will change to monaural reception making even weak stations audible. (See page 31 for more information.)

Remote Control Functions

20 Direct Button: Press this button when the tuner is in use to start the sequence for direct entry of a station's frequency. After pressing the button simply press the proper **Numeric Keys 18** to select a station (See page 31 for more information on the tuner).

21 Tuning Up/Down: When the tuner is in use, these buttons will tune up or down through the selected frequency band. If the **Tuner Mode** button **19** has been pressed or the **Band** button **9** on the front panel was held pressed so that the **AUTO** indicator **P** 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 **P** is NOT illuminated, pressing these buttons will tune stations in single-step increments. (See page 31 for more information.)

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

23 Macro Buttons: Press these buttons to store or recall a "Macro", which is a pre-programmed sequence of commands stored in the remote. (See page 35 for more information on storing and recalling macros.)

24 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 35 for more information on programming the remote.)

25 Skip Up/Down Buttons: These buttons do not have a direct function with the AVR 3550, but when used with a compatibly programmed CD or DVD changer they will change the tracks on the disc currently being played in the changer.

26 RDS Select Button: Press this button to display the various messages that are part of the RDS data system of the AVR 3550's tuner. (See page 32 for more information on RDS).

27 Preset Up/Down: When the tuner is in use, press these buttons to scroll through the stations programmed into the AVR's memory. When CD or DVD is selected using the **Input Selector** button **5**, these buttons may function as Slow Fwd/Rev (DVD) or "+10" (CD).

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

29 Memory Button: Press this button to enter a radio station into the AVR's preset memory. After pressing the button the **MEMORY** indicator **U** will flash; you then have five seconds to enter a preset memory location using the **Numeric Keys 18**. (See page 31 for more information.)

30 Delay/Prev Ch.: Press this button to begin the process for setting the delay times used by the AVR when processing surround sound. After pressing this button, the delay times are entered by pressing the **Set** button **16** and then using the **▲/▼** buttons **14** to change the setting. Press the Set button again to complete the process. (See page 21 for more information.)

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

32 Speaker Select: Press this button to begin the process of configuring the AVR 3550's Bass Management System for use with the type of speakers used in your system. Once the button has been pressed, use the **▲/▼** buttons **14** to select the channel you wish to set up. Press the **Set** button **16** and then select the speaker type (see page 19 for more information.)

33 Spare Button: This button does not have any function for the operation of the AVR 3550, but it can turn on/off the Multiroom system on other Harman Kardon AV-receivers with that feature and the Sub-function on DVD players.

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

35 TV/Video Button: This button does not have a direct function on the AVR 3550, but when used with a compatibly programmed VCR, DVD or satellite receiver that has a "TV/Video" function, pressing this button will switch between the output of the player or receiver and the external video input to that player. Consult the Owner's Manual for your specific player or receiver for the details of how it implements this function.

36 SPL Indicator Select: This button activates the AVR 3550's EzSet function to quickly and accurately calibrate the AVR's output levels. Press and hold the button for three seconds and then release it. Note that the Test Tone will begin circulating, and the **Program Indicator 3** will change colors. During this sequence, EzSet will automatically adjust the output levels for all channels until they are equal, as shown by the **Program Indicator** lighting green for each channel. (See page 22 for more information on EzSet.)

37 6-Ch. Direct Input: Press this button to select the component connected to the **6-Ch. Direct Input 9** as the source

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

When the AVR remote is being programmed to operate another device, this button is pressed with the **Input Selector** button **5** to begin the programming process. (See page 35 for more information on programming the remote.)

NOTE: As any of the remote buttons pressed is active with the device selected, the corresponding **Selector** button **5 6** will briefly flash red to confirm your selection.

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 interconnect cables when making connections to source equipment and recorders to preserve the integrity of the signals.

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

Important Note: In order to clearly identify all connectors and simplify installation, as per the new EIA/CEA-863 standard, all connections are colour coded as follows:

For Speakers and Audio In/Outputs: White (Left, speakers front) and Red (Right, speakers front).
For Speakers: Green (Center), Blue (Left Surround) and Grey (Right Surround).
For Audio Output: Purple (Subwoofer).
For Composite Video In/Outputs: Yellow.
For Digital Audio In/Outputs: Orange.

1. Connect the analog output of a CD player to the **CD inputs** ③.

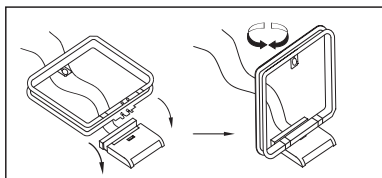
NOTE: When the CD player has both fixed and variable audio outputs it is best to use the fixed output unless you find that the input to the receiver is so low that the sound is noisy, or so high that the signal is distorted.

2. Connect the analog Play/Out jacks of a cassette deck, MD, CD-R or other audio recorder to the **Tape Input** jacks ①. Connect the analog Record/In jacks on the recorder to the **Tape Output** jacks ② on the AVR.

3. Connect the output of any digital sources to the appropriate input connections on the AVR 3550. Note that the **Optical** and **Coaxial** digital inputs ②⑤ ① 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** ⑩ 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 ④.



6. Connect the supplied FM antenna to the **FM (75 ohm)** connection ⑦. 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 ⑭⑮ 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 mm².

Cable with an area of 1.5 mm² may be used for short runs of less than 4 m. We do not recommend that you use cables with an area less than 1mm² 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 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.

8. Connections to a subwoofer are normally made via a line level audio connection from the **Subwoofer Output** ⑫ 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 ⑭ only rather than to the **Subwoofer Output** ⑫.

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 AVR 3550 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** or **Video 2 In** jacks ③ ②②④⑤ on the rear panel. The Audio and Video Record/In jacks on the VCR should be connected to the **Video 1** jacks ⑤ ②① on the AVR 3550.

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** ②②⑤ (if not in use) jacks.

3. Connect the analog audio and video outputs of a DVD or laser disc player to the **DVD** jacks ⑥ ①⑨.

4. Connect the **Video Monitor Out** ①⑧ jacks on the receiver to the composite and S-Video input of your television monitor or video projector.

Video Connection Note:

- S-Video or Composite video signals may only be viewed in their native formats and will not be converted to the other format. But the OSD will be viewed on the TV screen in any case, with Video or S-Video input selected on the TV.

Installation and Connections

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 with 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 this 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** 13, and the volume on the TV must be reduced to minimum.

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 (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

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

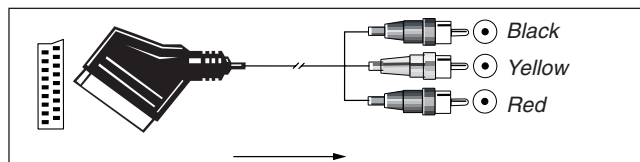


Figure 2:
SCART/Cinch-Adapter for
record and playback;
signal flow:
SCART ↔ Cinch

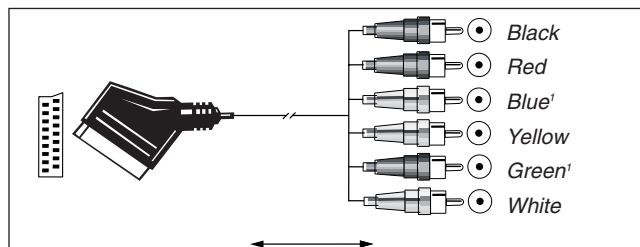


Figure 3:
Cinch/SCART-Adapter for
playback;
signal flow:
Cinch → SCART

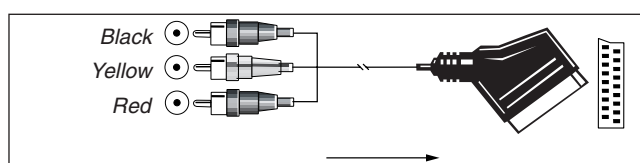


Figure 4:
SCART/S-Video Adapter
for playback;
signal flow:
SCART → Cinch

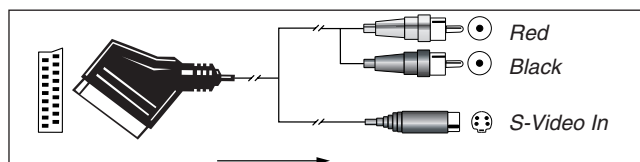


Figure 5:
SCART/S-Video Adapter
for record and playback;
signal flow:
SCART ↔ Cinch

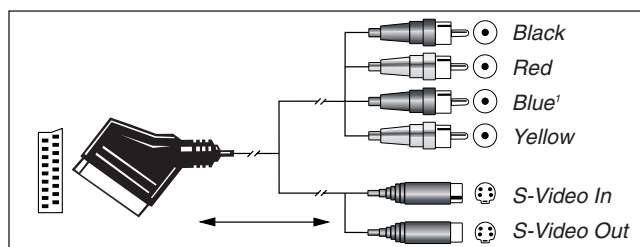
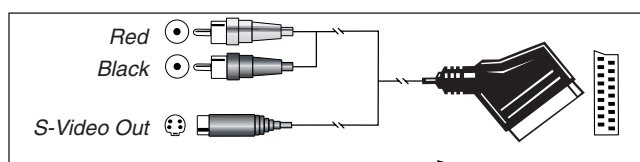


Figure 6:
SCART/S-Video Adapter
for playback;
signal flow:
Cinch → SCART



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

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 most common AV units the AVR 3550 does not convert the Video signal to S-Video or vice versa. Thus both connections must be made from the AVR 3550 to the TV if both, Video and S-Video sources, are used, and the appropriate input on the TV must be selected.

Important Note for the Use of SCART-Cinch Adapters:

When video sources are connected to the TV directly with a SCART cable, specific control signals apart from Audio/Video signals will be fed to the TV. These specific signals are: With all video sources, the signal for automatic input selection that switches the TV automatically to the appropriate input as soon as the video source is started. And with DVD players, the signals automatically turning the TV to 4:3/16:9 format (with 16:9 TVs or 4:3 TVs with 16:9 capability) and turning the RGB video decoder of the TV on or off, depending on the DVD player's setting. With any adapter cable, these control signals will be lost and the appropriate setting of the TV must be made manually.

Installation and Connections

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 21.

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 23 to the **Remote IR Input** jack on Harman Kardon or other compatible equipment.

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 the **Unswitched** Outlet 17 must not exceed 100 watts, that to the **Switched** Outlet 16 50 watts.

The **Switched** 16 outlet 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 turn to Standby mode only when they are used with switched outlets, and cannot be fully turned on using the outlet alone without a remote control command.

The **Unswitched** 17 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 3550!

Installation and Connections

Speaker Selection

No matter which type or brand of speakers is used, the same model or brand of speaker should be used at least 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. Note that most speakers are not shielded, even with complete surround sets only the Center speaker may be.

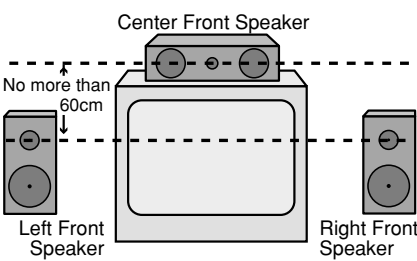
Depending on the specifics of your room acoustics and the type of speakers in use, you may find that imaging is improved by moving the front-left and front-right speakers slightly forward of the center-channel speaker. If possible, adjust all front loudspeakers so that they are aimed at ear height when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

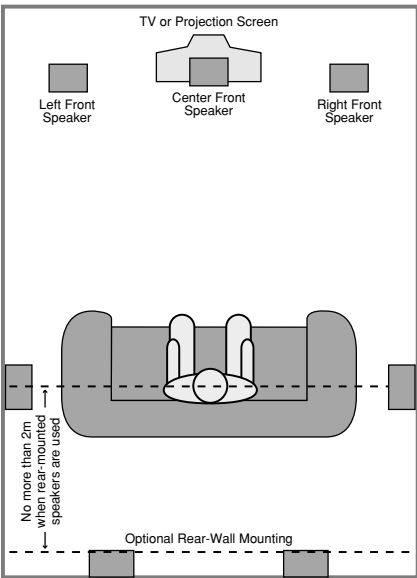
Surround speakers should be placed on the side walls of the room, at or slightly behind the listening position. The center of the speaker should face you.

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.

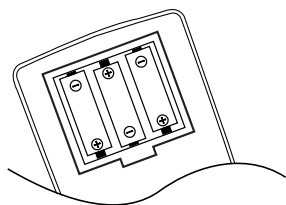
System Configuration

Once the speakers have been placed in the room and connected, the remaining steps are to program the system configuration memories. With the AVR 3550 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, or delay times used by the surround sound processor.

First Turn On and Use of the OSD

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

1. Plug the **Power Cable 18** into an unswitched AC outlet.
2. Press the **Main Power Switch 1** in until it latches and the word "OFF" on the top of the switch disappears inside the front panel. Note that the **Power Indicator 3** will turn orange, indicating that the unit is in the Standby mode.
3. Install the three 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 on either by pressing the **System Power Control 2** or the **Input Source Selector 11** on the front panel, or via the remote by pressing the **AVR Selector 6** or any of the **Input Selectors 5 7** on the remote. The **Power Indicator 3** will turn green to confirm that the unit is on, and the **Main Information Display 24** 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 **Video Monitor Out** jack 13 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 warranty and may not be covered by the projector TV set's warranty.

The AVR 3550 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.

Note that when the full OSD system is in use, the menu selections are not shown in the **Information Display 24 N**. When the full OSD menu system is used, **OSD ON** will appear in the **Main Information Display N** and the **OSD Indicator M** 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 N**.

Selecting the On-Screen display

The full OSD system is always available by pressing the **OSD button 22**. When this button is pressed the **MASTER MENU** (Figure 1) will appear, and adjustments are made from the individual menus. 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 **ADVANCED SELECT** menu, and changing the item titled **FULL OSD TIME OUT** (see page 34).

The semi-OSD system is also available as a system default, although it may be turned off by using the **ADVANCED SELECT** menu. (See page 34). 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 in the following. Note that these direct adjustments can be made only when the full OSD system is turned off.

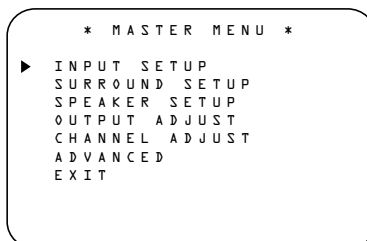


Figure 1

Settings to be Made With Each Input Used

The AVR 3550 features an advanced memory system that enables you to establish different settings for the 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 memorize them. This means, for example, that you may associate different surround modes and analog or digital inputs with different sources. Once these settings are made, they will automatically be recalled whenever you select an input.

The default settings for the AVR 3550, as it is shipped from the factory, have all inputs set for an analog source, with stereo as the surround mode. 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, and the surround mode associated with the input. Remember, since the AVR 3550'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.

The items that follow will describe the individual settings required for each input. Remember that once the settings are made for one input, they are effective for that input only. Settings must be made separately for each other input in use.

System Configuration

Input Setup

The first step in configuring the AVR 3550 is to select an input. This may be done by pressing the front panel **Input Source Selector** 11 until the desired input's name appears momentarily in the **Main Information Display** N, and the green LED lights next to the input's name in the front panel **Input Indicators** 21. The input may also be selected by pressing the appropriate Input Selector on the remote control 5 7 37.

When using the full-OSD system to make the setup adjustments, press the **OSD** button 22 once so that the **MASTER MENU** (Figure 1) appears. Note that the ► cursor will be next to the **INPUT SETUP** line. Press the **Set** button 16 to enter the menu and the **INPUT SETUP** menu (Figure 2) will appear on the screen. Press the ◀▶ buttons 15 31 until the desired input name appears in the highlighted video, as well as being indicated in the front panel **Input Indicators** 21 by the green LED next to the desired input name. If the input will use the standard left/right analog inputs, no further adjustment is needed.

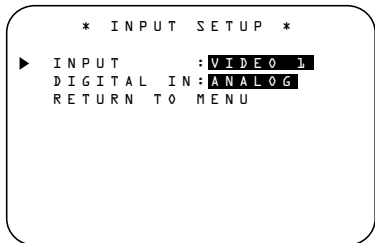


Figure 2

If you wish to associate one of the digital inputs with the selected input source, press the ▼ button 14 on the remote while the **INPUT SETUP** menu (Figure 2) is on the screen, and note that the on-screen cursor will drop down to the **DIGITAL IN** line. Press the ◀▶ buttons 15 31 until the name of the desired digital input name appears. To return to the **ANALOG** input, press the buttons until the word **ANALOG** appears. When the correct input appears, press the ▼ button 14 until the ► cursor appears next to **RETURN TO MENU**, and press the **Set** button 16.

To change the digital input associated with the input selected at any time using the discrete function buttons and the semi-OSD system, press the **Digital Input Select** button 23 17 on the front panel or the remote. Within five seconds, make your input selection using the **Selector** buttons on the front panel 5 or the ▲/▼ buttons 14 on the remote until the desired digital or analog input is shown in the **Main Information Display** N and in the lower third of the video display connected to the AVR. Then press the **Set** button 16 to enter the new digital input assignment.

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. The Surround Mode chart on page 26 may help you select the mode best suited to the input source selected. However, to make it easier to establish the initial parameters for the AVR, it is best to select Dolby Pro Logic II 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. Note that two stereo modes are available, the pure **STEREO** mode and an **A/D MODE**. In the **STEREO** mode, both the surround processing and the bass management system will be switched off. Use this setting for stereo when your front loudspeakers are set to Large.

In the **A/D MODE**, the surround processing will be switched off, but the bass management system will be active. Use this setting for stereo when your front loudspeakers connected to the **Front Speaker Outputs** 14 are set to Small, in combination with an active subwoofer connected to the **Subwoofer Output** 12. Alternatively, the 5 Channel Stereo or 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 **MASTER MENU** menu (Figure 1), press the ▲/▼ button 14 until the ► cursor is next to the **SURROUND SETUP** menu. Press the **Set** button 16 so that the **SURROUND SETUP** menu (Figure 3 or 4) is on the screen.

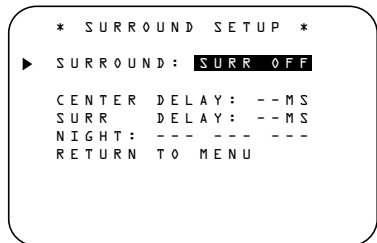


Figure 3

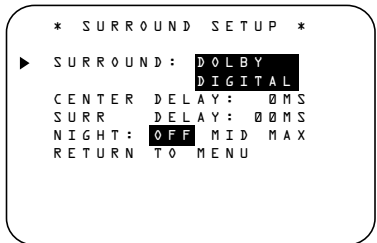


Figure 4

Since the factory default for all inputs is Stereo, the words **SURR OFF** will initially appear in highlighted video (Figure 3) 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 15 31 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** 14 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 adjustable for Dolby Digital and Dolby Pro Logic II. 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, and Night mode, that are independent of any input selected, will be described in the next main chapter on this page.

To change the Surround mode associated with the input selected at any time without using the full-OSD on-screen menu system press the **Surround Mode Selector** 7 on the front panel until the mode desired is indicated in the display or press the **Surround Mode Selector** 11 and select the surround mode with the ▲/▼ **Selector Buttons** 14.

Adjustments for Other Inputs

After one input has been adjusted for analog or digital input and surround mode return to the **INPUT SETUP** line on the **MASTER MENU** and enter the settings for each input that you will use.

System Configuration

Making Settings independent of selected Input

After the settings described above have been made for all input sources in your system, the following settings, made with any input, will remain in effect independent of the input selected.

Speaker Setup

This menu tells the AVR which type of speakers are in use. This is important as it adjusts the settings that determine which speakers receive low frequency (bass) information. For each of these settings use the **LARGE** setting if the speakers for a particular position are traditional full-range loudspeakers that are capable of reproducing sounds below 100Hz. Use the **SMALL** setting for smaller, frequency-limited satellite speakers that do not reproduce sounds below 100Hz. Note that when "small" 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.

It is best to select the Dolby Pro Logic II mode for making the speaker setup. For that press the **Surround Mode Selector 7** on the front panel until any Pro Logic II mode is indicated in the display or press the **Surround Mode Selector 11** and select any Pro Logic II mode with the **▲/▼ Selector Buttons 14**. Note that with the currently selected input all speaker settings will be copied to other surround modes too (as far as possible) and need not be repeated with any other mode.

1. It is easiest to enter the proper settings for the speaker setup through the **SPEAKER SETUP** menu (Figure 5). If that menu is not already on your screen from the prior adjustments, press the **OSD button 22** to bring up the **MASTER MENU** (Figure 1), and then press the **▼ button 14** twice so that the cursor is on the **SPEAKER SETUP** line. At this point, press the **Set button 16** to bring up the **SPEAKER SETUP** menu (Figure 5).

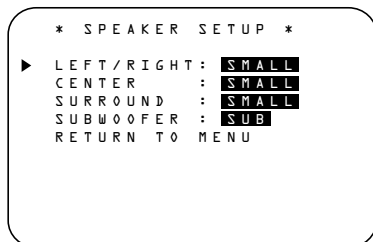


Figure 5

2. When the **SPEAKER SETUP** menu 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 front left and right speakers. If you

wish to make a change to the front speakers configuration, press the **◀▶ buttons 15 31** 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. This setting is not available with stereo mode to ensure purest sound by bypassing the crossovers of the DSP's.

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

Important Note: When a speaker set with two front satellites and a passive subwoofer is used, connected to the **front speaker outputs 14**, the fronts must be set for **LARGE**.

3. When you have completed your selection for the front channel, press the **▼ button 14** on the remote to move the cursor to **CENTER**.

4. Press the **◀▶ buttons 15 31** 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 (except with the Pro Logic II Music mode) 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 and its bass will be sent to the subwoofer output too as long as **SW L/R+LFE** is selected in the **SUBWOOFER** line in this menu (see below). This mode is needed if no Center speaker is used. Note that for the use of Logic 7C surround mode a Center speaker is needed, but Logic 7M works well without a Center too.

5. When you have completed your selection for the center channel, press the **▼ button 14** on the remote to change the cursor to **SURROUND**.

6. Press the **◀▶ buttons 15 31** 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, with all digital surround modes 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. With the analog surround modes the rear bass feed depends on the mode selected and the setting of the sub and front speakers.

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 bass 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 II.

7. When you have completed your selection for the surround channel, press the **▼ button 14** on the remote to move the cursor to **SUBWOOFER**.

8. Press the **◀▶ buttons 15 31** on the remote to select the option that best describes your system.

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

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

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

- If no subwoofer is connected to the AVR, press the **◀▶ buttons 15 31** on the remote so that **NONE** appears in the on-screen menu. When this option is selected, all bass information will be routed to the front left/right "main" speakers.

- If a subwoofer is connected to the AVR, you have the option to have the front left/right "main" speakers reproduce bass frequencies at all times, and have the subwoofer operate only when the AVR is being used with a digital source that contains a dedicated Low Frequency Effects, or LFE soundtrack. This allows you to use both your main and subwoofer speakers to take advantage of the special bass created for certain movies. To select that option press **◀▶ buttons 15 31** on the remote so that **SW (LFE)** appears in the on-screen menu.

- If a subwoofer is connected and you wish to use it for bass reproduction in conjunction with the main front left/right speakers, regardless of

System Configuration

the type of program source or surround mode you are listening to, press the ◀▶ buttons 15 31 on the remote so that **S L L / R + L F E** appears in the on-screen menu. When this option is selected, a "complete" feed will be sent to the front left/right "main" speakers, and the subwoofer will receive the front left and right bass frequencies under the crossover frequency of 80 Hz, additionally to the LFE soundtrack (see above).

9. When all speaker selections have been made, press the ▼ button 14 and then the **Set** button 16 to return to main menu.

10. The Speaker Configuration may also be changed at any time without using the full-OSD on-screen menu system by pressing the **Speaker Select** button on the front panel 26 or remote 32. Once the button is pressed, **F N T S P K R** will appear in both the lower third of the video display and the **Main Information Display** N.

Within five seconds, either press the front panel ◀▶ Selector buttons 5 or the ▲/▼ buttons 14 on the remote to select a different speaker position, or press the **Set** Button 20 16 to begin the adjustment process for the front left and right speakers

When the **Set** button 20 16 has been pressed and the system is ready for a change to the front speaker setting, the on-screen display and **Main Information Display** N will read **F - LARGE** or **F - SMALL** depending on the current setting. Press the front panel ◀▶ Selector Buttons 5 or the ▲/▼ buttons 14 on the remote until the desired setting is shown, using the instructions for "large" or "small" shown earlier, then press the **Set** button 20 16.

If another speaker position needs to be changed, press the front panel ◀▶ **Selector** buttons 5 or the ▲/▼ buttons 14 on the remote to select a different speaker position, press the **Set** button 20 16 and then press the front panel ◀▶ **Selector** buttons 5 or the ▲/▼ buttons 14 on the remote until the correct speaker setting is shown and press the **Set** button 20 16 again to confirm the selection.

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

Note: These icons are not visible when making setup changes through the full OSD speaker setup menu.

As an example, in Figure 6 below, the left front and right front speakers are set for "large," the center, left surround and right surround speakers are set for small, and a subwoofer is set.

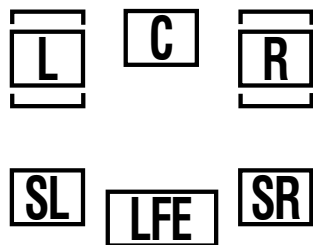


Figure 6

Delay Settings

Only for the Dolby Digital or Dolby Pro Logic II modes, you will need to adjust the delay time setting. Note that the delay time is not adjustable for any other mode.

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 II or the Dolby Digital mode. The other setting will be set automatically.

Due to the different distances between the listening position for the front channel speakers and the surround speakers, the amount of time it takes for sound to reach your ears from the front 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, center 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 $(3-1) \times 3 = 6$. Thus, in this example, the delay time for Dolby Digital should be set at six milliseconds.

- b. When setting the delay time for the Dolby Pro Logic II mode, take the result of the calculation above 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 $(3-1) \times 3 + 15 = 21$. Thus, in this example, the Dolby Pro Logic II delay should be set at twenty milliseconds.

NOTE: The DTS, Logic 7, 5CH Stereo, 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 left at 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 $300 \text{ cm} - 240 \text{ cm} = 60 \text{ cm}$, suggesting an optimal center delay of 2 milliseconds.

To set the delay time, continue within the **MASTER MENU** (Figure 1). If the system is not already at that point, press the **OSD** button 22 to bring up the master menu. To make the delay settings for the Dolby Digital mode (this will include the Center delay setting, and the surround delay for the Dolby Pro Logic II mode will be set automatically), press the **Set** 16 button and select any input now that is associated with a digital input and the Dolby Digital surround mode (the surround mode associated with each input selected will be indicated by the **Surround Mode Indicators** 14 in the front panel), then return to the master menu. Press the ▼ button 14 and then the **Set** button 16 to bring up the surround setup menu, now press the ▼ button 14 once.

As the Dolby Digital mode is selected, the ► cursor will stop at the **CENTER DELAY** line. Press the ◀▶ buttons 15 31 until the number

System Configuration

calculated using the formula shown above appears in the display. When the **CENTER DELAY** is entered, press the ▼ button **14** once to move to the **SURROUND DELAY** line so that the delay for the surround speakers may be set. Press the ◀▶ buttons **15** **31** until the desired figure appears in the display, using the number calculated using the formula shown on page 21 for the Dolby Digital surround mode (item 3a). When the delay settings are complete, press the ▼ button **14** once to move to the next line (Night Mode, see below).

Note that the delay settings may also be adjusted at any time when the Dolby Digital or Dolby Pro Logic II modes are in use by pressing the **Delay** button on the front panel **22** or remote **30**. Then press the ◀▶ **Selector Buttons** **5** on the front or ▲/▼ **14** on the remote to select the Center or Rear channels for adjustment, followed by a press of the **Set** button **20** **16**. Next, press the ▲/▼ buttons **14** on the remote or the **Selector** buttons **5** on the front panel until the desired figure appears in the **Main Information Display** **N**.

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 the Dolby Digital surround mode is selected.

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 **15** **31** 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.

When you want to use the Night mode feature, 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 Dolby Digital surround mode is selected by pressing the **Night** button **12**. When the button is pressed, the words **D - R** (Dynamic Range) followed by the current setting (MID, MAX, OFF) will appear in the lower third of the video screen and in the **Main Information Display** **N**. Press the ▲/▼ button **14** within five seconds to select the desired setting, then press **Set** **16** to confirm the setting.

When all settings for the surround setup have been made, press the ▲/▼ buttons **14** so that the ► cursor is next to **RETURN TO MENU**, and press the **Set** button **16** to return to the master 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, 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. Note that adjustments made for any surround mode are effective with all inputs associated with the same surround mode.

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.

Using EzSet

Harman Kardon's exclusive EzSet remote makes it possible to quickly and accurately set the AVR 3550's output levels without the use of a sound pressure meter, although manual adjustment is also available. However, for the easiest set-up, follow these steps while seated in the listening position that will be used most often:

1. Make certain that all speaker positions have been properly configured for their "large" or "small" settings (as outlined above) and turn off the OSD system if it is in use.
2. Adjust the volume so that it is at **-15**, as shown in the on-screen display or **Main Information Display** **N**.

3. Select any input associated with the Dolby Pro Logic II surround mode. Remember to make the same adjustment with all other surround modes you've associated with the inputs used.

4. First a non-automatic pre-test should be made: Turn on the internal test tone by pressing the **Test** button **9**. You will hear a test noise circulate from speaker to speaker in a clockwise direction around the room.

Listen to make certain that the sound comes from the speaker position shown in the **Main Information Display** **N**, while the speaker names are displayed one after another as shown in the Output Adjust Menu, see figure 7 on the next page. If the sound from a speaker location does NOT match the position indicated, turn the AVR 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. At the end of that pre-test turn the test tone off by pressing the **Test** button **9** again.

5. Hold the remote in front of you at half arm's length, making sure not to cover the EzSet Sensor Microphone **8** at the top of the remote and aim it at the AVR, not vertically (like you'd do with a microphone).

6. Press and hold the **SPL Indicator Select** button **36** for three seconds. Release the button when the **Program/SPL Indicator** **3** stops flashing and you hear the test noise from the front left speaker.

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

System Configuration

8. During the adjustment you will see the location of the channel position being adjusted appear in both the on-screen display (if connected) and the **Main Information Display N**, in front of a readout of the output setting, relative to the reference volume level. As the adjustment proceeds, a few things will happen simultaneously:

- The channel position being adjusted will also flash in the **Speaker/Channel Position Indicators Q**. If the test noise is heard from a channel other than the one shown in the Indicator, there is an error in the speaker connections. If this is the case, press the **Test** button **9** TWICE to stop the adjustment. Then, turn the unit off and verify that all speakers are connected to the proper **Outputs 14 15**.
 - When the front left channel is being set at the beginning of the process, EzSet will adjust its offset level, as shown by the indication of the **FL** in the on-screen display and the **Main Information Display N** in front of the offset level indication. During the adjustment, the test tone may seem to pulse, or click, as EzSet changes the level. This is a normal aspect of the system's operation.
 - As the other channels are set, the channel name and the adjustment offset will appear in the on-screen display (if connected) and the **Main Information Display N**. While the level is changing, the **Program/SPL Indicator 3** will change colors to reflect the output level in relation to the reference. A red indication shows that the level is too high, while an amber indication shows that the level is too low. When the Indicator is green, the level is correct, and the test noise will move to the next channel.
 - While adjustments are being made, the red LED under the **AVR Selector 6** will flash. This is normal, and indicates that EzSet is operating.
9. After the test noise has circulated once through each channel, it will circulate once again to finally indicated the offset level of each channel.
10. Upon completion of the channel adjustment, the **AVR Selector 6** will flash twice and then go out. The tone will stop and the AVR will return to normal operation.

Manual Output Level Adjustment

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

Manual 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 **14** until the on-screen **►** cursor is next to the **OUTPUT ADJUST** line. If you are not at the main menu, press the **OSD** button **22** to bring up the **MASTER MENU** (Figure 1), and then press the **▼** buttons **14** three times so that the on-screen **►** cursor is next to the Output adjust line. Press the **Set** button **16** to bring the **OUTPUT ADJUST** menu (Figure 7) to the screen.

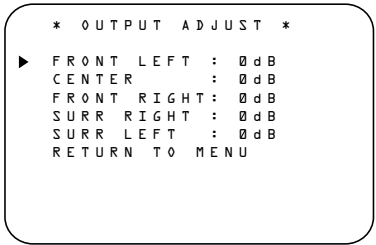


Figure 7

As soon as the new menu appears, you will hear a test noise circulate from speaker to speaker in a clockwise direction around the room. The test noise will play for two seconds in each speaker before circulating, and a blinking on-screen cursor will appear next to the name of each speaker location when the sound is at that speaker. Now 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.

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 **15 31** 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 **14** 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 **15 31** on the remote only, NOT the main volume controls.

You may also adjust the output levels manually while using the level indication feature of the EzSet remote. To activate the sensor and indicator, simply press and release the **SPL Indicator Select** button **36** on the remote while the test tone is circulating. The **Program/SPL Indicator 3** will change color to indicate the level. Adjust the level as outlined above until the LED lights green for all channels. When it is red the level is too high; when it is amber the level is too low. Press the **SPL Indicator Select 36** button when you are finished to turn the sensor and Indicator off.

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 30.

System Configuration

When all channels have an equal volume level, the adjustment is complete. Now turn the **Volume 19/34** down to about -40dB, otherwise the listening level may be too high as soon as the source's music starts to play. To exit this menu, press the **▲/▼ buttons 14** until the on-screen **►** cursor is next to the **RETURN TO MENU** line, and then press the **Set button 16** to turn the test tone off and return to the **MASTER 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 13/9**. 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 N**. As an added assist, while the test noise is circulating, the proper channel position will also be indicated in the **Speaker/Channel Indicators Q** by a blinking letter within the correct channel. Turn up the **Volume 19/34** until you can hear the noise clearly.

To adjust the output level, press the **Selector buttons** on the front panel **5** or the **◀▶ buttons 15/31** 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, turn the **Volume 19/34** down to about -40dB, otherwise the listening level may be too high as soon as the source's music starts to play. Afterwards press the **Test Tone Selector 13/9** 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 30, also for the Surround Off and VMAx modes.

Once the settings outlined on the previous pages have been made, the AVR is ready for operation. While there are some additional settings to be made, these are best done after you have had an opportunity to listen to a variety of sources and different kinds of program material. These advanced settings are described on pages 33-34 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. Note that any settings changed at any time, also when the discrete buttons are used only, will be stored in memory in the AVR, also if it's turned off completely, unless it will be reset (see page 40). The settings will either depend on the input (analog/digital input selection, surround mode) or on the surround mode selected, as described on previous pages.

Having completed the setup and configuration process for your AVR, 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 3550, it is simple to operate and enjoy. The following instructions should be followed for you to maximize your enjoyment of your new receiver:

Turning the AVR On or Off

- When using the AVR for the first time, you must press the **Main Power Switch 1** on the front panel to turn the unit on. This places the unit in a Standby mode, as indicated by the orange color of the **Power Indicator 3**. Once the unit is in Standby, you may begin a listening session by pressing the **System Power Control 2** or the **Source button 11** on the front panel or the **AVR Selector 6**. Note that the **Power Indicator 3** will turn green. This will turn the unit on and return it to the input source that was last used. The unit may also be turned on from Standby by pressing any of the **Source Selector** buttons on the remote **5 7 37**.

NOTE: After pressing one of the **Input Selector** buttons **5** to turn the unit on, press the **AVR Selector 6** to have the remote control the AVR functions.

To turn the unit off at the end of a listening session, simply press the **System Power Control 2** on the front panel or the **Power Off Button 4** on the remote. Power will be shut off to any equipment plugged into the rear panel **Switched AC Outlets 16** and the **Power Indicator 3** will turn orange.

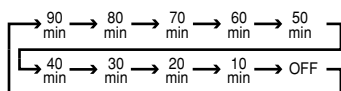
When the remote is used to turn the unit "off" it is actually placing the system in a Standby mode, as indicated by the orange color of the **Power Indicator 3**.

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

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

Using the Sleep Timer

- To program the AVR for automatic turn-off, press the **Sleep Button 10** on the remote. Each press of the button will increase the time before shut down in the following sequence:



The sleep time will be displayed in the **Preset Number/Sleep Timer Indicator R** 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 10** until the information display returns to normal brightness and the Sleep indicator numbers return to "0" in the **Main Information Display N**.

Source Selection

- To select a source, press any of the **Source Selector** buttons on the remote **5 7 37**.

NOTE: After pressing one of the **Input Selector** buttons **5** you must press the **AVR Selector 6** to have the remote control the AVR functions.

- The input source may also be changed by pressing the front-panel **Input Source Selector** button **11**. Each press of the button will move the input selection through the list of available inputs.

- As the input is changed, the AVR 3550 will automatically switch to the digital input (if selected) and surround mode that were entered during the configuration process for that source.

- 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 N** and a green LED will light next to the selected input's name in the front-panel **Input Indicators 21**.

- 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 Output 20** and **Video Monitor Output 13**. 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 **13** and will be viewable on a TV monitor connected to the AVR.

Controls and Use of Headphones

- Adjust the volume to a comfortable level using the front panel **Volume Control 19** or remote **Volume Up/Down 34** buttons.

- The **Balance Control 17** may be used to adjust the relative sound output between the left front and right front speakers.

- To temporarily silence all speaker outputs press the **Mute** button **38**. 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. Press the **Mute** button **38** again to return to normal operation.

- During a listening session you may wish to adjust the **Bass Control 16** and **Treble Control 18** 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 so that the output is "flat", with the Tone controls and the Balance control de-activated, press the **Tone Mode** button **6** button once or twice so that the words **Tone Out** appear momentarily in the **Main Information Display N**. To return the tone controls to an active condition, press the **Tone Mode 6** button once or twice so that the words **Tone In** momentarily appear in the **Main Information Display N**.

- For private listening, plug the 6.3 mm stereo phone plug from a pair of stereo headphones into the front panel **Headphone Jack 4**. Note that when the headphone's plug is connected, the word **HEADPHONE** will scroll once across the **Main Information Display N** and all speakers will be silenced. When the headphone plug is removed, the audio feed to the speakers will be restored.

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 II	Dolby Pro Logic II is the latest version of Dolby Laboratory's benchmark surround technology that creates or decodes full range, discrete left, center, right, right surround and left surround channels from either matrix surround encoded programs and conventional stereo sources. The Dolby ProLogic II Movie mode is optimized for movie soundtracks that are recorded with matrix surround, by creating true rear left, center and right signals. The ProLogic II Music mode should be used with musical selections, that are recorded with matrix surround or with normal stereo mode, creating discrete rear left and right signals. The ProLogic II Emulation mode creates compelling five-channel surround from conventional stereo recordings.	Movie and Emulation: 10 ms - 25 ms, Initial Setting - 10 ms, Music: 0 ms - 15 ms, Initial Setting - 0 ms
LOGIC 7 C LOGIC 7 M	An advanced mode that extracts the maximum surround information from either conventional stereo material or surround-encoded programs. When used with encoded material, decoding is more accurate in terms of the placement of sounds, and fades and pans are much smoother and more realistic than with former 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 through 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	The THEATER mode creates a sound field that resembles the acoustic feeling of a standard live performance theater, with stereo and even pure mono sources.	Delay time not adjustable
HALL 1 HALL 2	The two Hall modes create sound fields that resemble a small (HALL 1) or medium sized (HALL 2) concert hall, with stereo and even pure mono sources.	Delay time not adjustable
VMAx Near VMAx Far	When only the two front channel loudspeakers are used, Harman's patented VMAx mode delivers a three-dimensional sound space with the illusion of "phantom speakers" at the center and surround positions. The VMAx N, or "Near Field" mode should be selected when your listening position is less than 1,5m from the speakers. The VMAx F, or "Far Field" mode may be selected when your listening position is greater than 1,5m from the speakers.	No surround channels
5-Channel Stereo	This mode takes advantage of multiple speakers to place a stereo signal at both the front and back of a room. Ideal for playing music in situations such as a party, it places the same signal at the front-left and surround-left, and at the front-right and surround-right speakers. The center channel is fed a summed mono mix of the in-phase material of the left and right channels.	No delay is available for this mode
SURROUND OFF (STEREO)	This mode turns off all surround processing and bass management setting. This presents the pure left and right channel presentation of two channel stereo programs with the front loudspeakers set to large.	No surround channels
SURROUND OFF (A/D MODE)	This mode turns off all surround processing, but keeps the bass management setting active. That means any front speaker configuration (Large or Small) will be kept. Use this mode when your front loudspeakers are set to Small in combination with an active subwoofer.	No surround channels

Operation

Surround Mode Selection

One of the most important features of the AVR 3550 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 fifteen listening modes are available on the AVR 3550.

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, CD's or TV programs bearing the logo of one of the major surround encoding processes, such as Dolby Surround should be played in either the Dolby Pro Logic II Movie (with movies) or Music (with music) surround mode or with the Harman Kardon's exclusive Logic 7 Movie Mode, to create a full range discrete 5.1 channel surround signal from surround encoded programs with a stereo-phonetic left and right rear signal, just as it was recorded in real life (e.g. sound being recorded from left rear side will be heard from that side only, for more details see chart on page 26).

When no rear speakers are in use, the Dolby 3 Stereo mode should be selected with all surround recordings.

Note that when Dolby Digital 2.0 signals (e.g. "D.D. 2.0" tracks from DVD), that are encoded with Dolby Pro Logic information, are received via any digital input, the Dolby Pro Logic II Movie mode will be selected automatically (in addition to the Dolby Digital mode) and will decode a full range 5.1 channel surround sound even from those recordings (see also "Dolby Digital" on page 28).

To create wide, enveloping sound field environments and defined pans and flyovers with all analog stereo recordings select the Dolby Pro Logic II Music or Emulation mode or Harman Kardon's exclusive Logic 7 Music mode for a dramatic improvement in comparison to the Dolby Pro Logic (I) mode of former times.

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 Dolby Pro Logic II 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.

Even when a program is not listed as carrying intentional surround information, you may find that the Dolby Pro Logic II, Dolby 3 Stereo or Logic 7 modes often deliver enveloping surround pre-

sentations through the use of the natural surround information present in all stereo recordings.

However, for stereo programs without any surround information the Theater, Hall and 5CH Stereo modes should be tried (effective particularly with 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** **11**, and then press the **▲/▼** buttons **14** to change the mode. As you press the buttons, the Surround mode name will appear in the **Main Information Display** **N**, and an individual mode indicator will also light up **C D F H I J K M**. As the surround mode changes, a green LED will light next to the current mode in the **Surround Mode Indicators** list **14** on the front panel.

NOTE: The name of each Surround Mode will scroll across the bottom of the on-screen display and through the **Main Information Display** **N** while the modes are being selected. To avoid exiting from the surround mode selection process, be certain to push the **▲/▼** buttons **14** while a mode name is still visible.

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

To listen to a program in traditional two channel stereo, using the front left and front right speakers only (plus the subwoofer if installed and configured), follow the instructions shown above for using the remote until **SURR OFF** appears in the **Main Information Display** **N**.

Digital Audio Playback

Digital surround is a major advancement over older analog matrix surround systems. 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 surround systems have the capability to deliver an additional channel that

is specifically devoted to low frequency information. This is the ".1" channel referred to when you see these systems described as "5.1". The bass channel is separate from the other channels, but since it is intentionally bandwidth limited, sound designers have given it that unique designation.

Dolby Digital

Dolby Digital (originally known as AC-3®) is a standard part of DVD, and is available on specially encoded LD discs and satellite broadcasts and it is a part of the new high-definition television (HDTV) system.

Note that an optional, external RF demodulator is required to use the AVR 3550 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 **25 11** of the AVR. 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, 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 **25 11**.

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 3550, 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.

Please note that some DVD players are shipped with their output set for Dolby Digital only. To insure that DTS data is being sent to the AVR, please check the setup menu system on your DVD player to make certain that DTS data output is enabled.

Operation

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 3550 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 "Dolby Digital" above).

Connections may be made to the **Optical** or **Coaxial** inputs **25 11** 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. Next press the **Digital Select** button **23 17** and then use the **▲/▼** buttons **14** on the remote, or the **Selector** buttons **5** on the front panel, until the desired choice appears in the **Main Information Display N**, then press the **Set** button **20 16** 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 as described on pages 26 and 27 except Dolby Digital or DTS.

Selecting a Digital Source

To utilize a digital mode you must have properly connected a digital source to the AVR 3550. Connect the digital outputs from DVD players, HDTV receivers, satellite systems or CD players to the **Optical** or **Coaxial** inputs on the rear **25 11**. 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 rear panel (e.g., connect the analog stereo audio output from a DVD to the **DVD** inputs **6** on the rear panel when you connect the source's digital outputs).


When playing a digital source such as DVD, first select its input using the remote or front panel controls as outlined in this manual in order to feed its video signal (if any) to the TV monitor and to provide its analog audio signal for recording. When the digital input appropriate with the DVD player is not selected automatically (due to the input settings made earlier during the system configuration, see page 19), select the digital source by pressing the **Digital Input Selector** button **17 23** and then using the **▲/▼** buttons **14** on the remote or the **Selector** buttons **5** on the front panel to choose any of the **OPTICAL** or **COAXIAL** inputs, as they appear in the **Main Information Display N**, **Display Indicator BE** or on-screen display. When the digital source is playing, the AVR will automatically detect whether it is a multichannel Dolby Digital, DTS source or a conventional PCM signal, which is the standard output from CD players. A **Bitstream Indicator A** will light in the **Main Information Display 24** to confirm that the digital signal is Dolby Digital, DTS or PCM.

Note that a digital input (e.g. coaxial) remains associated with any analog input (e.g. DVD) as soon as it is selected, thus the digital input need not 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 senses the type of bitstream data that is present. Using this information, the correct surround mode will automatically be selected. For example, DTS bitstreams will cause the unit to switch to DTS decoding, and Dolby Digital bitstreams will enable Dolby Digital decoding. When the unit senses PCM data, from CDs and LDs and some music DVDs or certain tracks on normal DVDs, it will allow the appropriate surround mode to be selected manually. Since the range of available surround modes depends on the type of digital data that is present, the AVR 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:

: When the DOLBY D 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 AVR automatically switches to the Dolby Pro Logic II Movie mode (in addition to the Dolby Digital mode), but you may also select the Vmax mode. When the D.D. 2.0 signal contains no Pro Logic information, the pure Dolby Digital mode will be selected automatically, but you may also select any Pro Logic II mode (only Music or Emulation should be used then) or any 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 (but not with Dolby Digital decoding). So, if selected, even "2.0" D.D. audio tracks can be played with all surround modes, also with the most effective Logic 7.


Operation

In addition to the **Bitstream Indicators**, the AVR 3550 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/SL/SR/LFE letters that are inside the center boxes of the **Speaker/Channel Input Indicators**  in the front panel **Main Information Display** . 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, carry 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 e.g. 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 or to select the appropriate audio track and thus language ("2.0" audio tracks can be played with all Pro Logic II or Vmax modes, see "Dolby Digital" on page 28). It is also possible for the type of signal feed to change during the course of a DVD playback. In some cases the previews of special material will only be recorded in 2.0 audio, while the main feature is available in 5.1 audio. As long as your DVD player is set for 6-channel output, the AVR 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 Dolby Digital input sources to be played back with full digital intelligibility 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**  on the remote. Next, press the / buttons  to select either the middle range or full compression versions of the Night mode. To turn the Night mode off, press the / buttons  until the message in the lower third of the video display and the **Main Information Display**  reads **D - R O F F**. 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 as soon as the Dolby Digital mode is turned on using the options in the Surround Setup Menu. See page 22 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 3550 or the source machine. The AVR 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 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 3550.


3. Note that not all digitally encoded programs and not all audio tracks on a DVD 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 3550 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 II, Dolby 3 Stereo, Hall, Theater, 5CH Stereo or Logic 7, except with special audio tracks (see indication "Dolby Digital" on previous page) or data format selected (see "PCM" on previous page).

5. When a Dolby Digital or DTS source is playing, it is not possible to make an analog recording using the **Tape**  or **Video 1**  record outputs, if the source is connected to any digital input of the AVR 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 AVR, as soon as the appropriate analog input is selected on the AVR. Note that DTS sources will not be "downmixed" by the player unless its digital output is set to "PCM". Additionally, the digital signals will be passed through to the **Digital Audio Outputs** .

Tape Recording

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

When a digital audio recorder is connected to any of the **Digital Audio Outputs** , you are able to record the digital signal using a CD-R, MiniDisc or other digital recording system. Note that all digital signals will be passed through to both, coaxial and optical, digital outputs simultaneously, no matter which kind of digital input was selected.

NOTES:

- The AVR 3550 can convert an analog input to a digital signal. This way the analog or digital signals can be recorded on a CD-R via the digital output. Note that the change of format (eg from Dolby Digital to PCM or vice versa) is not possible. In addition, the digital recorder must be compatible with the output signal. For example, the PCM digital output from a CD player may be recorded on a CD-R or MiniDisc, but Dolby Digital or DTS signals may not.

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

Operation

Output Level Trim Adjustment

Normal output level adjustment for the AVR 3550 is established using the test tone, as outlined on pages 22 and 23. In some cases, however, it may be desirable to adjust the output levels using program material such as a test disc, or a selection you are familiar with. Additionally, the output level for the subwoofer and those for the Stereo and VMaX modes can only be adjusted using this procedure.

To adjust the output levels using program material and the **Main Information Display N** or the semi-OSD only, 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 19 34**.

Once the reference level has been set, press the **Channel Select button 13 25** and note that **FL LEVEL** will appear in the **Main Information Display N** for five seconds or on-screen display for 3 seconds. To change the level, first press the **Set button 16 20**, and then use the **Selector buttons 5** or the **▲/▼ buttons 14** 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 16 20** and then press the **Selector buttons 5** or the **▲/▼ buttons 14** 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 14** until **SW LEVEL** appears in the **Main Information Display N** or on-screen display. (only available if the subwoofer is turned on).

Press the **Set button 16 20** when the name of the desired channel appears in the **Main Information Display N** 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 16 20** twice, the AVR will return to normal operation.

If you are using a disc with noise test signals or an external signal generator to trim the output levels, you may use the EzSet feature of the remote to guide you to the correct sound pressure level (SPL). To use the remote for this purpose, start the test tone from the source and press and quickly release the **SPL Indicator Select 36** to activate the sensor. When the test tone from the source is fed to the left front speaker, to set the reference level, turn on the **Volume Control 19 34** until the **Program**

Indicator 3 on the remote lights green. When the test tone from the source is fed to the speaker you want to trim, the **Program Indicator 3** may change color to indicate the level. Adjust the level for the appropriate channel as outlined above until the LED lights green for all channels. When it is red the level is too high; when it is amber the level is too low. After the output levels of all channels are aligned, press the **SPL Indicator Select 36** to turn the sensor and indicator off.

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 19 34**. Then, press the **OSD button 22** to bring up the **MASTER MENU** (Figure 1). Press the **▼ Button 14** until the on-screen ► cursor is next to the **CHANNEL ADJUST** line. Press the **Set Button 16** to activate the **CHANNEL ADJUST** menu (Figure 8).

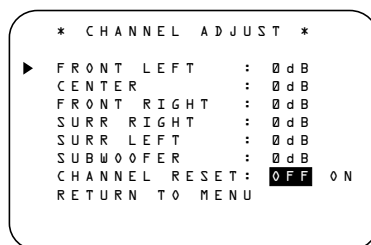


Figure 8

Once the menu appears on your video screen, use the **▲/▼ buttons 14** to move the on-screen ► cursor so that it is next to the channel that you wish to adjust. Then, use the **◀▶ buttons 15 31** to raise or lower the output level.

When all adjustments are done, press the **▲/▼ buttons 14** to move the on-screen ► cursor so that it is next to **RETURN TO MENU** and then press the **Set Button 16** if you wish to go back to the main menu to make other adjustments. If you have no other adjustments to make, press the **OSD button 22** to exit the menu system.

NOTE: The output levels may be separately trimmed for each digital and analog surround mode. If you wish to have different trim levels for a specific mode, select that mode and then follow the instructions in the steps shown 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 23) correspondingly (and vice versa). With Stereo and Vmax modes the adjustment procedure 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 3550 is equipped for future expansion through the use of optional, external adapters for formats that the AVR may not be capable of processing. When an adapter is connected to the **6-Channel Direct Input 9**, you may select it by pressing the **6-Ch Direct Input Selector 37**. The 6-Channel Direct Input may also be selected by pressing the **Input Source Selector button 11** on the front panel until the words **L C H** appear in the **Main Information Display N**, and a green LED lights next to **6 CH** in the **Input Indicators 21**.

Note that when the 6-Channel Direct Input is in use, you may not select a surround mode, as the external decoder determines processing. In addition, there is no signal at the record outputs when the 6-Channel Direct Input is in use, and the **Tone 16 18** and **Balance 17** controls will not be effective.

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 one week, after which time all information must be reentered.

Operation

Tuner Operation

The AVR 3550'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 **7** on the remote to select the tuner as an input. The tuner may be selected from the front panel by either pressing the **Input Source Selector** **11** until the tuner is active or by pressing the **Tuner Band Selector** **9** at any time.
2. Press the **AM/FM Tuner Select** button **7** or **Tuner Band Selector** **9** again to switch between AM and FM so that the desired frequency band is selected.
3. Press the **Tuner Mode** button **19** on the remote or hold the **Band Selector** **9** on the front panel pressed for 3 seconds to select manual or automatic tuning.

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

When the **AUTO** indicator **P** 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 **8** **21**. When the **AUTO** indicator **P** 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 **P** is not illuminated, tap the **Tuning** button **8** **21** to advance one frequency increment at a time, or press and hold it to locate a specific station. When the **TUNED** indicator **L** illuminates, the station is properly tuned and should be heard with clarity.

5. Stations may also be tuned directly by pressing the **Direct** button **20**, and then pressing the **Numeric Keys** **18** that correspond to the station's frequency. The desired station will automatically be tuned after the latest number is entered. If you press an incorrect button while entering a direct frequency, press the **Clear** button **28** 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 **Tuner Mode** button **19** on the remote or holding the **Band Selector** **9** on the front panel pressed for 3 seconds until the **STEREO** indicator **V** goes out.

Preset Tuning

Using the remote, up to 30 stations may be stored in the AVR 3550'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 **29** on the remote. Note that **MEMORY** indicator **U** will illuminate and flash in the **Main Information Display** **24**.
2. Within five seconds, press the **Numeric Keys** **18** corresponding to the location where you wish to store this station's frequency. Once entered, the preset number will appear in the **Preset Number/Sleep Time Display** **R**.

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

Recalling Preset Stations

- To manually select a station previously entered in the preset memory, press the **Numeric Keys** **18** that correspond to the desired station's memory location.
- To manually tune through the list of stored preset stations one by one, press the **Preset Stations Selector** buttons **10** **27** on the front panel or remote.

Operation

RDS Operation

The AVR 3550 is equipped with RDS (Radio Data System), which brings a wide range of information to FM radio. Now in use in many countries, RDS is a system for transmitting station call signs or network information, a description of station program type, text messages about the station or specifics of a musical selection, and the correct time.

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

RDS Tuning

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

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 **12 26** 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.
 - 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 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. Please note that the accuracy of the time data is dependent on the radio station, not the AVR.
- Some RDS stations may not include some of these additional features. If the data required for the selected mode is not being transmitted, the **Main Information Display** **N** 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 the **RDS Indicator** **W** 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:** Information
- **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
- **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 26** until the current PTY is shown in the **Main Information Display** **N**.
2. While the PTY is shown, press the **Preset Up/Down** button **10 27** 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 27** until **RDS ONLY** appears in the display.
3. Press any of the **Tuning Up/Down** buttons **8 21**, the tuner begins to scan the FM band upwards or downwards for the first station that has RDS data that matches the desired selection, and acceptable signal strength for quality reception.
4. The tuner will make up to one complete scan of the entire FM band for the next station that matches the desired PTY type and has acceptable reception quality. If no such station is found, the display will read **NONE** for some seconds and the tuner will return to the last FM station in use before the search.

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** **X** to light in the display. These stations can be found by selecting **TRAFFIC**, the option in front of **NEWS** in the list. The AVR will find the appropriate station, even if it is not broadcasting traffic information when the search is made.

Advanced Features

The AVR 3550 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.

Display Brightness

The AVR's front panel **Main Information Display** 24 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 22 to bring the **MASTER MENU** to the screen. Press the **▲** button 14 twice, until the on-screen ► cursor is next to the **ADVANCED** line. Press the **Set** button 16 to enter the **ADVANCED SELECT** menu (Figure 9).

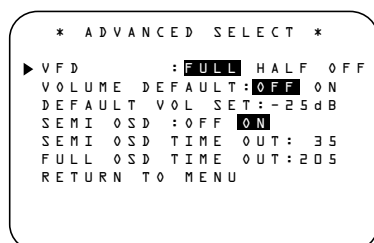


Figure 9

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 31 until the desired brightness level is highlighted in the video display. When **FULL** is highlighted, the display is at its normal brightness. When **HALF** is highlighted, the display is at half the normal brightness level. When **OFF** is highlighted, all of the indicators in the **Main Information Display** 24 will go dark. Note, however, that the green LEDs for the **Input Indicators** 21 and the **Surround Mode Indicators** 14, as well as for the **Power Indicator** 3, will always remain lit to remind you that the unit is turned on.

If you wish to make other adjustments in the menu, press the **▲/▼** Buttons 14 until the on-screen ► cursor is next to the desired setting or the **RETURN TO MENU** line and press the **Set** button 16. If you have no other adjustments to make, press the **OSD** Button 22 to exit the menu system.

The display brightness may also be changed by pressing and holding the **Set** button 20 on the front for three seconds until the message in the **Main Information Display** N reads **VFD FULL**. Within five seconds, press the front panel **Selector** buttons 5 until the desired brightness display level is shown. At that point, press the **Set** button 20 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.

Turn On Volume Level

As is the case with most audio/video receivers, when the AVR 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 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 22 to bring the **MASTER MENU** (Figure 1) to the screen. Press the **▲** button 14 twice, until the on-screen ► cursor is next to the **ADVANCED** line. Press the **Set** button 16 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 14 as needed. Next, press the ► button 31 so that the word **ON** is highlighted in the video display. Next, press the ▼ button 14 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 15 31 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 19 34. When the desired volume level to be used at turn-on is reached, make a note of the setting as it appears in the lower third of the video screen or in the **Main Information Display** N (a typical volume level will appear as a negative number such as -25dB). When making the adjustment, use the **◀▶** buttons 15 31 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 menu, press the **▲/▼** Buttons 14 until the on-screen ► cursor is next to the desired setting or the **RETURN TO MENU** line and press the **Set** button 16. If you have no other adjustments to make, press the **OSD** Button 22 to exit the menu system.

Advanced Features

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 3550.

To turn off the semi-OSD system, you will need to make an adjustment in the **ADVANCED SELECT** menu (Figure 9). To start the adjustment, press the **OSD** button **22** to bring the **MASTER MENU** to the screen. Press the **▲** Button **14** twice, until the on-screen **▼** cursor is next to the **ADVANCED** line. Press the **Set** Button **16** to enter the **ADVANCED SELECT** menu.

At the **ADVANCED SELECT** menu make certain that the on-screen **►** cursor is next to the **SEMI OSD** line by pressing the **▲/▼** buttons **14** as needed. Next, press the **►** button **31** so that the word **OFF** is highlighted in the video display.

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

To change the length of time that the semi-OSD displays remain on the screen, go to the **ADVANCED SELECT** Menu as outlined earlier, and press the **▲/▼** buttons **14** as needed, until the on-screen **►** cursor is next to the **SEMI OSD TIME OUT** line. Next, press the **◀/▶** Buttons **15 31** 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 menu, press the **▲/▼** Buttons **14** until the on-screen **►** cursor is next to the desired setting or the **RETURN TO MENU** line and press the **Set** button **16**. If you have no other adjustments to make, press the **OSD** Button **22** to exit the menu system.

Full-OSD Time Out Adjustment

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

To change the Full-OSD Time Out, you will need to make an adjustment in the **ADVANCED SELECT** Menu (Figure 1). To start the adjustment, press the **OSD** button **22** to bring the **MASTER MENU** to the screen. Press the **▲** button **14** twice, until the on-screen **▼** cursor is next to the **ADVANCED** line. Press the **Set** Button **16** to enter the **ADVANCED SELECT** Menu (Figure 9).

At the **ADVANCED SELECT** menu make certain that the on-screen **►** cursor is next to the **FULL OSD TIME OUT** line by pressing the **▲/▼** Buttons **14** as needed. Next, press the **◀/▶** buttons **15 31** 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 menu, press the **▲/▼** Buttons **14** until the on-screen **►** cursor is next to the desired setting or the **RETURN TO MENU** line and press the **Set** button **16**. If you have no other adjustments to make, press the **OSD** Button **22** to exit the menu system.

Programming the Remote

The AVR 3550 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, TV sets, cable boxes, VCRs, satellite receivers and other home-theater equipment. Once the AVR'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 universal remote control.

Programming the Remote with Codes

As shipped from the factory, the remote is fully programmed for all AVR 3550 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 booklet 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 3550 remote.
3. Press and hold both the **Input Selector** ⑤ for the type of product to be entered (e.g., VCR, TV) and the **Mute** ③ button ③⑧ at the same time. When the **Program/SPL Indicator** ③ turns amber and begins flashing, release the buttons. It is important that you begin the next step within 20 seconds.
4. If the unit you wish to program into the AVR remote has a remotable Power on/off function, follow these steps:
 - a. Point the AVR's remote towards the unit to be programmed, and enter the first three-digit code number using the **Numeric** buttons ①⑧. If the unit being programmed turns off, the correct code has been entered. Press the **Input Selector** ⑤ again, and note that the red light under the **Input Selector** will flash three times 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 Selector** ⑤ again and note that the red light under the **Input Selector** will flash three times before going dark to confirm the entry.

5. If the Power function of the unit to be programmed cannot be remotable, 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 ①⑧ and press the **Input Selector** ⑤ again. Press the remote button of any transport function remotable with the unit, e.g. **Pause** or **Play** ②④. 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 booklet for that brand and product type, until the unit reacts properly on 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 the booklet, or if not all functions operate properly, try programming the remote with the Auto Search Method.

Note on Using the AVR 3550 remote with a Harman Kardon CD Recorder.

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 and CDR20 (see function list on page 40) too after the code "002" is entered to the **CD Selector** button ③ 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's remote is not listed in the code tables in the booklet 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 remotable:

1. Turn on the product that you wish to include in the AVR 3550 remote.
2. Press and hold both the **Input Selector** ⑤ for the type of product to be entered (e.g., VCR, TV) and the **Mute** ③ button ③⑧ at the same time. When the **Program/SPL Indicator** ③

turns amber and begins flashing, release the buttons. It is important that you begin the next step within 20 seconds.

3. To find out if the code for your unit is pre-programmed, point the AVR remote towards the unit to be programmed, and press and hold the **▲** button ⑭. 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 Selector** ⑤ indicating that a code has been sent. When the device to be programmed turns off, immediately release the **▲** button ⑭. Note that it may take one minute or more until the right code is found and the unit turns off.

4. When the **▲** button was not released in time after the unit turned off, the proper code will be "overrun". That's why a function test should be made: Turn the unit on again and, while the **Input Selector** ⑤ still lights red, press the **▲** button ⑭ once, then the **▼** button ⑭ once too. When the unit turns off, the right code was found, when not, the code was "overrun". To re-find the correct, while the **Input Selector** ⑤ still lights red, press (not hold pressed) the **▼** button ⑭ 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 Selector** ⑤ again, and note that the red light will flash three times before going dark to confirm the entry.

6. Try all of the functions on the remote to make certain that the product operates. 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.

Macro Programming

Macros enable you to easily repeat frequently used combinations of commands with the press of a single button on the AVR's remote control. Once programmed, a macro will send out up to 19 different remote codes in a pre-determined sequential order enabling you to automate the process of turning on your system, changing devices, or other common tasks. The AVR's remote can store up to five separate macro command sequences, one that is associated with the **Power On** button ①, and four more that are accessed by pressing the **Macro** buttons ②③.

1. Press the **Mute** button ③⑧ and the **Macro** button ②③ to be programmed or the **Power-On** button ① at the same time. Note that the latest selected **Input Selector** will light red, and

Programming the Remote

the **Program/SPL Indicator** ③ will flash amber.

2. Enter the steps for the macro sequence by pressing the button for the actual command step. Although the macro may contain up to 19 steps, each button press, including those used to change devices, counts as a step. The **Program/SPL Indicator** ③ will flash green to confirm each button press as you enter commands.

NOTE: While entering commands for Power On of any device during a macro sequence, press the **Mute** button ③⑧. DO NOT press the actual Power ON button.

- Remember to press the appropriate **Input Selector** button ⑤ before functions are changed to another device. This is also needed for the **AVR Selector** button ⑥ itself, as long as it's not lit red and AVR functions shall be programmed.

3. When all the steps have been entered, press the **Sleep** button ⑩ to enter the commands. The red light under the **Input Selector** ⑤ ⑥ will blink and then turn off.

Example: To program the **Macro 1** ②③ button so that it turns on the AVR and your TV, follow these steps:

- Press the **Macro 1** button ②③ and **Mute** ③⑧ buttons at the same time and then release them.
- Note that the **Program/SPL Indicator** will flash amber.
- Press the **AVR Selector** ⑥.
- Press the **Mute** ③⑧ button to store the AVR's power on command.
- Press the **VID 2 Input Selector** button ⑤ to indicate the next command is for "TV Power On."
- Press the **Mute** ③⑧ button to store the TV Power On Command.
- Press the **Sleep/Channel Up** button ⑩ to complete the process and store the macro sequence.

After following these steps, each time you press the **Macro 1** button ②③, the remote will send all Power On commands.

Erasing Macro Commands

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

1. Press the **Mute** button ③⑧ and the **Macro** button ②③ that contains the commands you wish to erase.
2. Note that the **Program/SPL Indicator** ③ will flash amber, and the LED under the **AVR Selector** ⑥ will turn red.
3. Within ten seconds, press the **Surround Mode Selector/Channel Down** button ⑪.

4. The red LED under the **AVR Selector** will go out, and the **Program/SPL Indicator** ③ will turn green and flash three times before it goes out.

5. When the **Program/SPL Indicator** ③ goes out, the Macro has been erased.

Programmed Device Functions

Once the AVR 3550's remote has been programmed for the codes of other devices, press the appropriate **Input Selector** ⑤ to change the remote from control over the AVR 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, 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. Other buttons will change their function so that they correspond to a secondary label on the remote. For example, the Sleep and Surround mode selector buttons also function as the Channel Up and Channel Down buttons when operating most TV sets, VCRs or Sat-Receiver.

For some products, however, the function of a particular button does not follow the command printed on the remote. In order to see which function a button controls, consult the Function List tables printed on page 38. To use those tables, first check the type of device being controlled (e.g., TV, VCR). Next, look at the remote control diagram on page 38. 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 52 is the Macro 2 button for the AVR 3550, but it is the "Favorite" button for many cable television boxes and satellite receivers. Button number 30 is the Delay button for the AVR 3550, but the Open/Close button for CD players.

Note that the numbers used to describe the button functions at the left for the purposes of describing how a button operates are a different set of numbers than those used in the rest of this manual to describe the button functions for the AVR.

Notes on Using the AVR 3550 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 remote, the red light under the **Input Selector** ⑤ 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.

- The remote was pre-programmed with codes for units of the latest generation, but some codes may differ from those needed for earlier units.

Volume Punch-Through

The AVR's remote may be programmed to operate the **Volume Control** ③④ and the **Mute** ③⑧ from either the TV or the AVR in conjunction with any of the six devices controlled by the remote. For example, since the AVR 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 Selector** ⑤ for the unit you wish to have associated with the volume control and the **Mute** button ③⑧ at the same time until the red light illuminates under the **Input Selector** ⑤ and note that the **Program/SPL Indicator** ③ will flash amber.

2. Press the **Volume Up** button ③④ and note that the **Program/SPL Indicator** ③ will stop flashing and stay amber.

3. Press either the **AVR Selector** ⑥ or the **Input Selector** ⑤, depending on which system's volume control you wish to have attached for the punch-through mode. The **Program/SPL Indicator** ③ will blink green three times and then go out to confirm the data entry.

Example: To have the AVR's volume control activated even though the remote is set to control the TV, first press the **Video/TV Input Selector** ⑤ and the **Mute** button ③⑧ at the same time. Next, press the **Volume Up** button ③④, followed by the **AVR Input Selector** ⑥.

NOTE: Should you wish to return the remote to the original configuration after entering a Volume Punch-Through, you will need to repeat the steps shown above. However, press the **Video/TV Input Selector** in steps one and three.

Programming the Remote

Channel Control Punch-Through

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

1. Press the **Input Selector** button **5** for the device you wish to have the channel control associated with and the **Mute** button **38** at the same time until the red light illuminates under the **Input Selector** **5** and the **Program/SPL Indicator** **3** flashes amber.
2. Press the **Volume Down** button **34**. The **Program/SPL Indicator** **3** will stop flashing and stay amber.
3. Press and release the **AVR** **6** or **Input Selector** button **5** for the device that will be used to change the channels. The **Program/SPL Indicator** **3** will blink green three times and then go out to confirm the data entry.

Example: To control the channels using your TV while the remote is set to control the VCR, first press the **VID 1/VCR Input Selector** button **5** and the **Mute** button **38** at the same time. Next, release them and press the **Volume Down** button **34**, followed by the **VID 2/TV Input Selector** button **5**.

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

Transport Control Punch-Through

The AVR's remote may be programmed to operate so that the Transport Control Functions **24** (Play, Stop, Fast Forward, Rewind, Pause and Record) for a VCR, DVD or CD will operate in conjunction with one of the other devices controlled by the remote. For example, while using and controlling the TV, you may wish to start or stop your VCR or DVD without having to change the device selected by the AVR or the remote. To program the remote for Transport Control Punch-Through, follow these steps:

1. Press the **Input Selector** **5** for the device you wish to have the channel control associated with and the **Mute** button **38** at the same time until the red light illuminates, under the **Input Selector** **5** and the **Program/SPL Indicator** **3** flashes amber.
2. Press the **Play** button **24**. The **Program/SPL Indicator** **3** will stop flashing and stay amber.
3. Press and release the **AVR** **6** or **Input Selector** button **5** for the device that will be used to change the channels. The **Program/SPL Indicator** **3** will blink green three times and then go out to confirm the data entry.

Example: To control the transport of a CD player while the remote is set to control the TV, press the **VID 2/TV Input Selector** button **5** and the **Mute** button **38** at the same time. Next, release them and press the **Play** button **24**, followed by the **CD Input Selector** button **5**.

NOTE: To remove the Channel Control Punch-Through and return the remote to its original configuration, repeat the steps shown in the example above. However, press the **VID 2/TV Input Selector** in Steps 1 and 3.

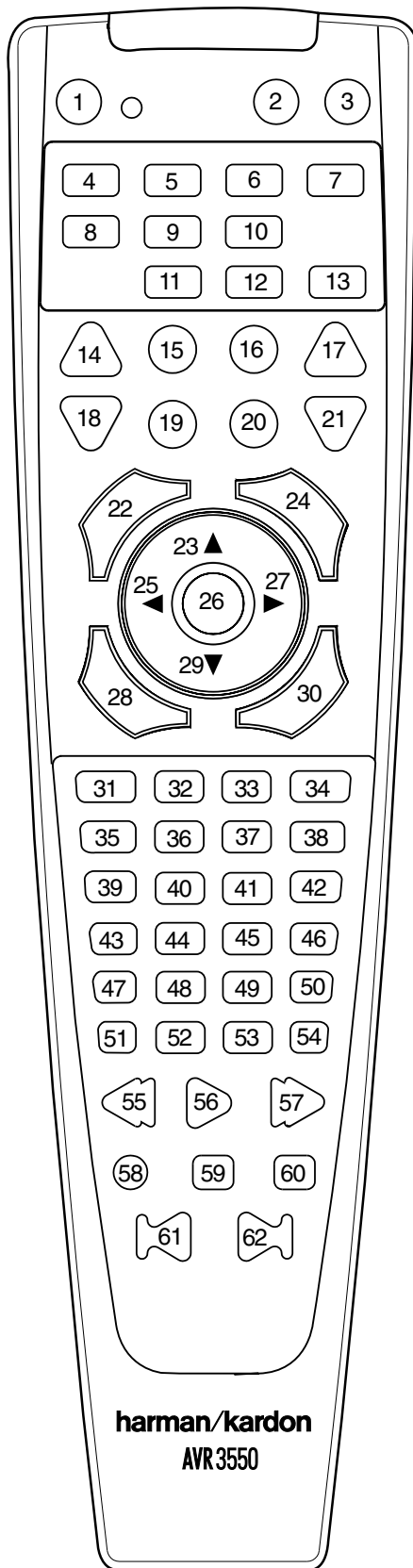
NOTE: Before programming the remote for Volume, Channel or Transport Punch-Through, make certain that any programming needed for the specific TV, CD, DVD, Cable or Satellite Receivers has been completed.

Resetting the Remote Memory

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






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

Function List



No.	Button Name	AVR Function	DVD	CD/CDR
1	Power On	Power On	Power On	Power On
2	Power Off	Power Off	Power Off	Power Off
3	Mute	Mute		
4	AVR	AVR Select		
5	DVD	DVD Input Select	DVD Select	
6	CD	CD Input Select		CD Select
7	Tape	Tape Input Select		
8	VID 1	Video 1 Select		
9	VID 2	Video 2 Select		
10	CBL/SAT			
11	AM/FM	Tuner Select		
12	6 Ch. Select	6 Ch Input Select		
13	SPL	SPL		
14	Sleep	Sleep		
15	Test	Test Tone		-/Input Select
16	↔		TV/DVD	-/CDP Select
17	Volume Up	Volume Up	Volume Up	
18	Surround Select	Surround Mode Select		-/CDR Select
19	Night	Night Mode Select	Subtitle on/off	
20	Spare			
21	Volume Down	Volume Down	Volume Down	
22	Channel/Guide	Channel Trim	Title	
23	▲	Move/Adjust Up	Up	
24	Speaker/Menu	Speaker Adjust	Menu	Intro/-
25	◀	Move/Adjust Left	Left	
26	Set	Set	Enter	
27	▶	Move/Adjust Right	Right	
28	Digital/Exit	Digital Input Select	Open/Close	
29	▼	Move/Adjust Down	Down	
30	Delay/Prev. Ch.	Delay Adjust	Return	Open/Close
31	1	1	1	1
32	2	2	2	2
33	3	3	3	3
34	4	4	4	4
35	5	5	5	5
36	6	6	6	6
37	7	7	7	7
38	8	8	8	8
39	Tun-M	Tuner Mode	Chapter	Repeat
40	9	9	9	9
41	0	0	0	0
42	Memory	Memory	Audio	Time/CDR Display
43	Tune Up	Tune Up		
44	Direct	Direct Tuner Entry	Angle	Random
45	Clear	Clear	Clear	Clear
46	Preset Up	Preset Tune Up	Slow Forward	+10/-
47	Tune Down	Tune Down		-/Track Increment
48	OSD	OSD		
49	RDS	RDS Select	Disc Skip	Disc Skip
50	Preset Down	Preset Tune Down	Slow Rev	
51	M1			
52	M2			
53	M3			
54	M4			
55	Rewind		R. Search	R. Search
56	Play		Play	Play
57	Fast Forward		F. Search	F. Search
58	Record			-/Record
59	Stop		Stop	Stop
60	Pause		Pause	Pause
61	Skip Down		Skip -	Skip -
62	Skip Up		Skip +	Skip +

Function List

No.	Button Name	Tape	VCR (VID 1)	TV (VID 2)	CBL	SAT
1	Power On	Power On	Power On	Power On	Power On	Power On
2	Power Off	Power Off	Power Off	Power Off	Power Off	Power Off
3	Mute			Mute		
4	AVR					
5	DVD					
6	CD					
7	Tape	Tape Select				
8	VID 1		VCR Select			
9	VID 2			TV Select		
10	CBL/SAT				Cable/Sat Select	Cable/Sat Select
11	AM/FM					
12	6 Ch. Select					
13	SPL					
14	Sleep		Channel +	Channel +	Channel +	Channel +
15	Test					
16			TV/VCR	TV/VCR	TV/Cable	TV/Sat
17	Volume Up		Volume Up	Volume Up		
18	Surround Select		Channel –		Channel –	Channel –
19	Night					
20	Spare					
21	Volume Down			Volume Down		
22	Channel/Guide				Info/Guide	Info/Guide
23			Up	Up		
24	Speaker/Menu		Menu	Menu	Menu	Menu
25			Left	Left	Left	Left
26	Set		Enter	Enter	Enter	Enter
27			Right	Right	Right	Right
28	Digital/Exit		Exit	Exit	Exit	Exit
29			Down	Down	Down	Down
30	Delay/Prev. Ch.			Prev Channel	Prev Channel	Prev Channel
31	1		1	1	1	1
32	2		2	2	2	2
33	3		3	3	3	3
34	4		4	4	4	4
35	5		5	5	5	5
36	6		6	6	6	6
37	7		7	7	7	7
38	8		8	8	8	8
39	Tun-M					
40	9		9	9	9	9
41	0		0	0	0	0
42	Memory					
43	Tune Up					
44	Direct					
45	Clear		Clear	Clear	Clear	Clear
46	Preset Up					
47	Tune Down					
48	OSD		OSD	OSD	OSD	OSD
49	RDS					
50	Preset Down					
51	M1		Cancel	Sleep	PPV	Cancel
52	M2				Fav	Fav
53	M3				Bypass	Next
54	M4				Music	Alt
55	Rewind	Rewind	Rewind		Day –	Day –
56	Play	Play	Play			
57	Fast Forward	Fast Fwd	Fast Fwd		Day +	Day +
58	Record	Record/Rec.Pause	Record			
59	Stop	Stop	Stop			
60	Pause		Pause			
61	Skip Down		Scan –		Page –	Page –
62	Skip Up		Scan +		Page +	Page +

Troubleshooting Guide

SYMPTOM	CAUSE	SOLUTION
Unit does not function when Main Power Switch 1 is pushed	<ul style="list-style-type: none"> No AC Power 	<ul style="list-style-type: none"> Make certain AC power cord is plugged into a live outlet Check to see if outlet is switch controlled
Display lights, but no sound or picture	<ul style="list-style-type: none"> Intermittent input connections Mute is on Volume control is down 	<ul style="list-style-type: none"> Make certain that all input and speaker connections are secure Press Mute button 38 Turn up volume control
Sound is heard, but Front-Panel Display does not light	<ul style="list-style-type: none"> Display brightness is turned off 	<ul style="list-style-type: none"> Follow the instructions in the Display Brightness section on page 34 so that the display is set to VFD FULL
No sound from any speaker; light around Power switch 2 is red	<ul style="list-style-type: none"> Amplifier is in protection mode due to possible short Amplifier is in protection mode due to internal problems 	<ul style="list-style-type: none"> Check speaker-wire connections for shorts at receiver and speaker ends Contact your local Harman Kardon service depot
No sound from surround or center speakers	<ul style="list-style-type: none"> Incorrect surround mode Incorrect configuration Stereo or Mono program material Speakers not properly connected 	<ul style="list-style-type: none"> 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 non-encoded programs Check speaker-wire connections or use test tone to verify connections (see page 22)
Unit does not respond to remote commands	<ul style="list-style-type: none"> Weak batteries in remote Wrong device selected Remote sensor 15 is obscured 	<ul style="list-style-type: none"> Change remote batteries Press the AVR selector 6 Make certain front-panel sensor is visible to remote or connect remote sensor
Intermittent buzzing in tuner	<ul style="list-style-type: none"> Local interference 	<ul style="list-style-type: none"> Move unit or antenna away from computers, fluorescent lights, motors or other electrical appliances
Letters flash in the Channel Indicator Display 9 and Digital Audio stops	<ul style="list-style-type: none"> Digital audio feed paused 	<ul style="list-style-type: none"> Resume play for DVD Check that Digital Signal is fed to the Digital Input selected

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 3550'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 the **Tone Mode 6** and keep it pressed for three seconds.

The unit will turn on automatically and display the **RESET** message in the **Main Information Display 11**. 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)	
65 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:	
55 Watts per channel,	
@ < 0.07% THD, 20Hz–20kHz into 8 ohms	
Center channel:	
55 Watts, @ < 0.07% THD, 20Hz–20kHz into 8 ohms	
Surround channels:	
55 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 II, etc.)	
Dolby Digital (AC-3)	55dB
DTS	55dB
Frequency Response	
@ 1W (+0dB, –3dB)	10Hz– 100kHz
High Instantaneous	
Current Capability (HCC)	±28 Amps
Transient Intermodulation	
Distortion (TIM)	Unmeasurable
Rise Time	16 µsec
Slew Rate	40V/µsec

FM Tuner Section

Frequency Range	87.5–108MHz
Usable Sensitivity	IHF 1.3 µV/13.2dB
Signal-to-Noise Ratio	Mono/Stereo: 70/65dB (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	522–1620kHz
Signal-to-Noise Ratio	45 dB
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	72W idle, 580W maximum (2 channels driven)
Dimensions (Max)	
Width	440mm
Height	166mm
Depth	390mm
Weight	12.0 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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(Patent No. 5,386,478).

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