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You can read the recommendations in the user guide, the technical guide or the installation guide for HARMAN KARDON AVR 165. You'll find the answers to all your questions on the HARMAN KARDON AVR 165 in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

**User manual HARMAN KARDON AVR 165**

**User guide HARMAN KARDON AVR 165**

**Operating instructions HARMAN KARDON AVR 165**

**Instructions for use HARMAN KARDON AVR 165**

**Instruction manual HARMAN KARDON AVR 165**

AVR 1650/AVR 165

Audio/video receiver

Owner's Manual



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**Manual abstract:**

If you have any questions about this product, its installation or its operation, please contact your Harman Kardon retailer or custom installer, or visit our Web site at [www.harmankardon.com](http://www.harmankardon.com). Introduction, Supplied Accessories, Important Safety Information and Place the AVR IMPORTANT SAFETY INFORMATION Verify Line Voltage Before Use The AVR 1650 has been designed for use with 120-volt alternating current (AC). The AVR 165 has been designed for use with 220 240-volt AC. Connection to a line voltage other than that for which your AVR is intended can create a safety and fire hazard, and may damage the unit. @@@@We do not recommend that extension cords be used with this product. @@@@If you do not intend to use your AVR for any considerable length of time, disconnect the plug from the AC outlet. Supplied Accessories The following accessory items are supplied with your AVR. If any of these items are missing, please contact your Harman Kardon dealer, or Harman Kardon customer service at [www.harmankardon.com](http://www.harmankardon.com). System remote control EzSet/EQTM microphone AM loop antenna FM wire antenna Three AAA batteries AC power cord Do Not Open the Cabinet There are no user-serviceable components inside this product. Opening the cabinet may present a shock hazard, and any modification to the product will void your warranty. If water or any metal object such as a paper clip, wire or staple accidentally falls inside the unit, disconnect it from the AC power source immediately, and consult an authorized service center.

CATV or Antenna Grounding (AVR 1650) If an outside antenna or cable system is connected to this product, be certain that it is grounded so as to provide some protection against voltage surges and static charges. Section 810 of the United States National Electrical Code, ANSI/NFPA No. 70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes and requirements of the grounding electrode. NOTE TO CATV SYSTEM INSTALLER: This reminder is provided to call the CATV (cable TV) system installer's attention to article 820-40 of the NEC, which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as possible. Place the AVR Place the AVR on a firm and level surface.

Be certain that the surface and any mounting hardware can support the AVR's weight. Provide proper space above and below the AVR for ventilation. If you install the AVR in a cabinet or other enclosed area, provide cooling air within the cabinet. Under some circumstances, a fan may be required. Do not obstruct the ventilation slots on the top of the AVR or place objects directly over them. Do not place the AVR directly on a carpeted surface. Do not place the AVR in moist or humid locations, in extremely hot or cold locations, in areas near heaters or heat registers, or in direct sunlight. AVR 1650/AVR 165 Front-Panel Controls Front-Panel Controls Power Indicator IR Sensor Set Button Message Display Surround Mode Select Buttons Volume Knob Power Button Channel Level Control Button Left/Right Buttons Up/Down Buttons/ Tuning Buttons Headphone Jack/ EzSet/EQ Mic Connector USB Port Aux Analog Audio Input Connector Tuning Mode Button Digital Input Button Surround-Mode Category Button Source Select Buttons 4 AVR 1650/AVR 165 Front-Panel Controls, continued Power indicator: This LED has three possible modes: LED is off: Indicates that the AVR is unplugged or the rear-panel Main Power switch is off. LED glows amber: Indicates that the AVR is in the Standby mode. LED glows white: Indicates that the AVR is turned on.

IMPORTANT NOTE: If the PROTECT message ever appears on the AVR's front-panel Message display, turn off the AVR and unplug it from the AC outlet. Check all speaker wires for a possible short circuit (the "+" and "" conductors touching each other or both touching the same piece of metal). If a short circuit is not found, bring the unit to an authorized Harman Kardon service center for inspection and repair before using it again. IR sensor: This sensor receives infrared (IR) commands from the remote control. It is important to ensure that the sensor is not blocked. Set button: Press this button to select the currently highlighted menu item. Message display: Various messages appear in this two-line display in response to commands and changes in the incoming signal. In normal operation, the current source name appears on the upper line, while the surround mode is displayed on the lower line. When the on-screen display menu system (OSD) is in use, the current menu settings appear. Surround-Mode Select buttons: After you have selected the desired surround-mode category, press these buttons to select a specific mode within the category, such as to change from Dolby® Pro Logic® II Movie mode to Logic 7® Movie mode.

Surround-mode availability depends on the nature of the source input signal, i.e., digital versus analog, and the number of channels encoded within the signal. Volume knob: Turn this knob to raise or lower the volume. Front-Panel Controls, continued Power button: Press this button to turn the AVR on or to place it in the Standby mode.

Tuning Mode button: This button toggles between manual (one frequency step at a time) and automatic (seeks frequencies with acceptable signal strength) tuning mode. It also toggles between stereo and mono modes when an FM station is tuned in. Channel Level Control button: Press this button to activate the channel-level adjustment feature. After pressing this button, use the Up/Down buttons to select the channel for adjustment and use the Left/Right buttons to adjust the channel's level. Digital Input button: Press this button to change the audio input for the current source.

Use the Left/Right buttons to cycle through the available inputs. Although you can assign any digital audio input to any source, the analog audio inputs are all permanently dedicated to the source with which they are labeled. Left/Right buttons: Use these buttons to navigate the AVR's menus. Up/Down buttons/Tuning buttons: Use these buttons to navigate the AVR's menus. When the radio is the active source, use these buttons to tune stations according to the setting of the Tuning Mode button (see above). Surround-Mode Category button: Press this button to select a surround-sound category. Each press changes the surround-mode category: Auto Select, Virtual, Stereo, Movie, Music and Video Game. To change the specific surround-sound mode within the category, use the Surround Mode Select buttons. See Audio Processing and Surround Sound, on page 20, for more information on surround modes.

Headphone jack/EzSet/EQ Mic connector: Connect a 1/4" stereo headphone plug to this jack for private listening.



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This jack is also used to connect the supplied microphone for the EzSet/EQ procedure described in *Configure the AVR for Your Speakers*, on page 17. **Source Select buttons:** Press these buttons to select the active source. **USB port:** You can use this port to perform software upgrades that may be offered in the future. **Do not connect a storage device, a peripheral product or a PC here, unless instructed to do so as part of an upgrade procedure.** **Aux Analog Audio Input connector:** Connect an auxiliary source component that will be used only temporarily, such as a camcorder, portable music player or game console, here. **ENGLISH 5 AVR 1650/AVR 165 Rear-Panel Connectors Composite Video Monitor Out Connector Video 2 Out Connector Rear-Panel Connectors HDMI® Monitor Out Connector DVD Component Video Input Connector Composite Video Input Connectors Radio Antenna Connectors HDMI Input Connectors Digital Audio Input Connectors IR Remote In/Out Connectors The Bridge IIP Connector Analog Audio Input/Output Connectors Speaker Connectors Main Power Switch AC Input Connector Subwoofer Connector Optical Digital Output Connector 12V Trigger Connector AVR 1650/AVR 165 Rear-Panel Connections (AVR 1650 shown) 6 AVR 1650/AVR 165 Rear-Panel Connectors, continued Radio Antenna connectors:** Connect the included AM and FM antennas to their respective terminals for radio reception. **HDMI Monitor Out connector:** If your TV has an HDMI connector and you have HDMI or component video source devices, use an HDMI cable (not included) to connect it to the AVR's HDMI Monitor Out connector. **Notes on using the HDMI Monitor Out connector:** When connecting a DVI-equipped display to the HDMI Monitor Out connector, use an HDMI-to-DVI adapter and make a separate audio connection. Make sure the HDMI-equipped display is HDCP-compliant. If it isn't, do not connect it via HDMI; use an analog video connection instead and make a separate audio connection.

**HDMI Input connectors:** The HDMI (High-Definition Multimedia Interface®) feature is a connection for transmitting digital audio and video signals between devices. If your source devices have HDMI connectors, using them will provide the best possible video and audio performance quality. Since the HDMI cable carries both digital video and digital audio signals, you do not have to make any additional audiodicator **LED Power On Button Power Off Button AVR Button System Remote Control Functions Mute Button Source Selector Buttons Test Tone Button Sleep/CH Up/Down Buttons OSD Button Channel Level Control Button Speaker Setup Buttons Volume Up/Down Buttons OK Button Digital Input Button Delay Button Left/Right/Up/Down Buttons Tuning Mode Button Number Buttons Memory Button Direct Station Entry Button Tuning Up/Down Buttons Clear Button Preset Station Up/Down Buttons Disc Skip Button (AVR 1650) RDS Button (AVR 165) Macro Buttons Display Dimmer Button Track Skip Up/Down Buttons Transport Control Buttons Tone Control Button Night Mode Button 8 AVR 1650/AVR 165 System Remote Control Functions, continued** In addition to controlling the AVR, the AVR remote is capable of controlling nine other devices, including an iPod/iPhone device docked in a The Bridge IIP docking station connected to the AVR. During the installation process, you may program the codes for each of your source components into the remote. (See *Program the Remote to Control Your Source Devices and TV*, on page 16, for programming information.

) To operate a component, press its Source Selector button to change the remote's control mode. A button's function depends on which component is being controlled. See Table A10 in the Appendix for listings of the functions for each type of component. Most of the buttons on the remote have dedicated functions, although the precise codes transmitted vary depending on the specific device being controlled. Due to the wide variety of functions for various source devices, we have included only a few of the most often-used functions on the remote: alphanumeric keys, transport controls, television-channel control, menu access and power on and off.

To return the remote to the AVR control mode at any time, press the AVR button. **IR Transmitter lens:** As buttons are pressed on the remote, infrared codes are emitted through this lens. **Program Indicator LED:** This LED lights up to indicate various procedures when the remote is in the Programming mode. **Power On/Off buttons:** Press these buttons to turn the AVR or the device being controlled on and off. The Main Power switch on the AVR's rear panel must be on for this button to turn the AVR on and off. **Mute button:** Press this button to mute the AVR's speaker-output connectors and Headphone jack. To restore the sound, press this button or adjust the volume. **AVR button:** Press this button to switch the remote's control mode to operate the AVR. **FM radio station that broadcasts RDS information, this button activates the various RDS functions.** **Night Mode button:** Press this button to activate Night mode with specially encoded Dolby Digital discs or broadcasts.

**Night mode compresses the audio so that louder passages are reduced in volume to avoid disturbing others, while dialogue remains intelligible. Each press of the button advances through the following settings:** **Off:** No compression is applied. Loud passages in the program remain as they were recorded. **Mid:** Loud passages in the program are reduced moderately in volume. **Max:** Loud passages in the program are reduced more in volume. **Macro buttons:** These buttons may be programmed to execute a series of up to 19 commands with a single button press. They are useful for programming the command to turn on or off all of your components or for accessing specialized functions for a different component from the one that you are currently operating. See *Programming Macro Commands*, on page 24, for information about programming macros. **Track Skip Up/Down buttons:** These buttons have no effect on the AVR but are used with many source components to change tracks or chapters. **Display Dimmer button:** Press this button to dim the AVR's front-panel display partially or fully.

**Transport Control buttons:** These buttons have no effect on the AVR but are used to control many source components. By default, when the remote is operating the AVR, these buttons will control a Harman Kardon Blu-ray Disc player or DVD player. **9 AVR 1650/AVR 165 Introduction to Home Theater** This introductory section will help you to familiarize yourself with some basic concepts unique to multichannel surround-sound AVRs, which will make it easier for you to set up and operate your AVR. **Introduction to Home Theater and Place Your Speakers Place Your Speakers Determine the locations for your system's speakers according to their manufacturer's directions and the layout of your listening room. Use the illustration below as a guide for 5. 1-channel systems.**



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To create the most realistic surround-sound environment possible, you should place your speakers in a circle with the listening position at its center. You should angle each speaker so it directly faces the listening position. Use the diagram below as a guide. TV C FL SUB FR Typical Home Theater System A home theater typically includes an audio/video receiver (AVR), which controls the system and supplies amplification for the loudspeakers; a disc player; a source component for television broadcasts (cable box, satellite dish AVR, HDTV tuner or antenna connected to the TV); a TV or video display; and multiple loudspeakers.

**Multichannel Audio** The main benefit of a home theater system is its ability to produce "surround sound." Surround sound uses multiple speakers and amplifier channels to immerse you in the audio/video presentation for a dramatically increased sense of realism. Your AVR can have up to five main speakers connected directly to it, plus a subwoofer. Each main speaker is powered by its own amplifier channel inside the AVR. A system with more than two speakers is called a multichannel system. The different main speaker types in a home theater system are: **Front Left and Right:** The front left and right speakers are used as in a 2-channel system. In many surround-sound modes, these speakers are secondary, while the main action, especially dialogue, is reproduced by the center speaker. **Center:** When you are watching movies and television programs, the center speaker reproduces most of the dialogue and other soundtrack information that occurs on the screen, anchoring it with the picture. When you are listening to a musical program, the center speaker helps to create a seamless front soundstage, creating a more realistic "you-are-there" listening experience. **Surround Left and Right:** The surround left and right speakers produce ambient sounds that help create a realistic and immersive surround-sound environment.

They also help recreate directional sound effects such as aircraft flyovers. Many people expect the surround speakers to play as loudly as the front speakers.

Although you will calibrate all of the speakers in your system to sound equally loud at the listening position, most artists use the surround speakers for ambient effects only, and they create their programs to steer relatively little sound to these speakers. **Subwoofer:** A subwoofer is designed to play only the lowest frequencies (the deep bass). It augments smaller, limited-range main speakers that are usually used for the other channels. Many digital-format programs, such as movies recorded in Dolby Digital, contain a low-frequency effects (LFE) channel that is directed to the subwoofer. The LFE channel packs the punch of a rumbling train or airplane, or the power of an explosion, adding realism and excitement to your home theater. Some people use two subwoofers for additional power and for even distribution of the sound. **SL SR Placing the Left, Center and Right Speakers** Place the center speaker either on top of, below or mounted on the wall above or below the TV or video-display screen. Place the front left and right speakers along the circle, about 30 degrees from the center speaker and angled toward the listener.

Place the front left, front right and center speakers at the same height, preferably at about the same height as the listener's ears. The center speaker should be no more than 2 feet (0.6m) above or below the left/right speakers. If you're using only two speakers with your AVR, place them in the front left and front right positions. **Placing the Surround Speakers** You should place the left and right surround speakers approximately 110 degrees from the center speaker, slightly behind and angled toward the listener.

Alternatively, you can place them behind the listener, with each surround speaker facing the opposite-side front speaker. You should place the surround speakers 2 feet 6 feet (0.6m 1.8m) higher than the listener's ears. **NOTE:** Your AVR will sound its best when the same model or brand of loudspeaker is used for all positions.

**Surround Modes** There are different theories as to the best way to present surround sound and to distribute the individual channel information to the surround-sound system's speakers. A variety of algorithms have been developed in an effort to recreate the way we hear sounds in the real world, resulting in a rich variety of options. Several companies have developed different surround-sound technologies, all of which can be accurately reproduced by your AVR: **Dolby Laboratories:** Dolby TrueHD, Dolby Digital Plus, Dolby Digital, Dolby Digital EX, Dolby Pro Logic II. **DTS:** DTS-HD High Resolution Audio, DTS-HD Master AudioTM, DTS, DTS 96/24TM. **HARMAN International:** Logic 7, HARMAN virtual speaker, HARMAN headphone. **Stereo Modes:** 2-channel stereo and 5-channel stereo. Appendix Table A9, on page 31, contains detailed explanations of the different surroundsound options available on your AVR. Digital surround-sound modes, such as Dolby Digital and DTS systems, are available only with specially encoded programs, such as those available via HDTV, DVD and Blu-ray Disc media and digital cable or satellite television. Other surround modes may be used with digital and analog signals to create a different surround presentation or to use a different number of speakers. Surroundmode selection depends upon the number of speakers in your system, the programs you are watching or listening to, and your personal tastes.

**Placing the Subwoofer** Because a room's shape and volume can have a dramatic effect on a subwoofer's performance, it is best to experiment with placement so that you will find the location that produces the best results in your particular listening room. With that in mind, these rules will help you get started:

Placing the subwoofer next to a wall generally will increase the amount of bass in the room. Placing the subwoofer in a corner generally will maximize the amount of bass in the room. In many rooms, placing the subwoofer along the same plane as the left and right speakers can produce the best integration between the sound of the subwoofer and that of the left and right speakers. In some rooms, the best performance could even result from placing the subwoofer behind the listening position. A good way to determine the best location for the subwoofer is by temporarily placing it in the listening position and playing music with strong bass content. Move around to various locations in the room while the system is playing (putting your ears where the subwoofer would be placed), and listen until you find the location where the bass performance is best. Place the subwoofer in that location. **10 AVR 1650/AVR 165 Types of Home Theater System Connections** There are different types of audio and video connections used to connect the AVR to your speakers, your TV or video display, and your source devices. The Consumer Electronics Association has established the CEA® color-coding standard.



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*Connection Color Guide Table Types of Home Theater System Connections Subwoofer Connections* The subwoofer is a speaker dedicated to reproducing only the low (bass) frequencies, which require more power. To obtain the best results, most speaker manufacturers offer powered subwoofers that contain their own amplifiers. Use a single RCA audio cable (not included) to make a line-level (non-amplified) connection from the AVR's Subwoofer connector to a corresponding input jack on the subwoofer. ENGLISH Analog Audio Connection Front Left/Right Center Surround Left/Right Subwoofer Color White/Red Green Blue/Gray Purple Although the AVR's purple subwoofer output looks similar to a full-range analog audio jack, it is filtered so that only the low frequencies pass through it. Don't connect this output to any device other than a subwoofer.

*Digital Audio Connection Coaxial (input or output) Optical Input Optical Record Output Color Orange Black Gray Source Device Connections* Audio and video signals originate in source devices (components where a playback signal originates) such as your Blu-ray Disc or DVD player, CD player, DVR (digital video recorder) or other recorder, tape deck, game console, cable or satellite television tuner, iPod or iPhone (docked in an optional The Bridge IIP docking station) or MP3 player. The AVR's FM/AM tuner also counts as a source, even though no external connectors are needed other than the AVR's FM and AM antennas. Separate connectors are required for the audio and video portions of the source device's signal, except for digital HDMI connectors. The types of connectors you use will depend upon the capabilities of the source device and of your TV or video display. Digital Audio Connections HDMI There are two types of audio connections digital and analog.

Digital audio signals are required for listening to sources encoded with digital surround modes, such as Dolby Digital and DTS, or for uncompressed PCM digital audio. Your AVR has three types of digital audio connectors: HDMI, coaxial and optical. Do not use more than one type of digital audio connector for each source device. However, it's okay to make both analog and digital audio connections to the same source. Your AVR is equipped with four rear-panel HDMI input connectors and one HDMI monitor output connector. HDMI technology enables digital audio and video information to be carried using a single cable, delivering the highest quality picture and sound. If your TV or video-display device has an HDMI input connector, make a single HDMI connection from each source device to the AVR. Usually, a separate digital audio connection is not required. The AVR's HDMI Monitor Output connector contains an Audio Return Channel (ARC) that carries a digital audio signal from your TV or video display back to the AVR. It allows you to listen to HDMI devices that are connected directly to your TV (such as an Internet connection) without making an additional connection from the device to the AVR.

The ARC signal is active when the TV source is selected. See System Setup, on page 23, for more information. Analog Video Connection Component Video Composite Video Color Red/Green/Blue Yellow Speaker Connections Speaker cables carry an amplified signal from the AVR's speaker terminals to each loudspeaker. Each cable contains two wire conductors, or leads, that are differentiated in some way, such as with colors or stripes. The differentiation helps you maintain proper polarity, without which your system's low-frequency performance can suffer. Each speaker is connected to the AVR's speaker output terminals using two wires, one positive (+) and one negative (-). Always connect the positive terminal on the speaker, which is usually colored red, to the positive terminal on the AVR, which is colored as indicated in the Connection Color Guide Table, above. The negative terminals on the speakers and the AVR are black. Your AVR uses binding-post speaker terminals that can accept bare-wire cables or banana plugs. Bare-wire cables are installed as shown below:

1.

Unscrew Cap 2. Insert Bare Wire 3. Tighten Cap Banana plugs are inserted into the hole in the middle of the terminal cap, as shown below: A. Tighten Cap B. Insert Banana Connector into Hole in Cap The HDMI connector is shaped for easy plug-in (see illustration, below), and HDMI cable runs are limited to about 10 feet (3m).

If your video display has a DVI input and is HDCP-compliant, use an HDMI-to-DVI adapter (not included), and make a separate audio connection. Always connect the colored (+) terminal on the AVR to the (+) terminal on the speaker (usually red), and the black (-) terminal on the AVR to the (-) terminal on the speaker (usually black). IMPORTANT: Make sure the (+) and (-) bare wires do not touch each other or the other terminal. Touching wires can cause a short circuit that can damage your AVR or amplifier. Digital Audio Connections Coaxial Coaxial digital audio jacks are usually color-coded orange.

Although they look like standard RCA-type analog jacks, you should not connect coaxial digital audio outputs to analog inputs or vice versa. 11 AVR 1650/AVR 165 Digital Audio Connections Optical Optical digital audio connectors are normally covered by a shutter to protect them from dust. The shutter opens as the cable is inserted. Optical input connectors are color-coded using a black shutter, while optical outputs use a gray shutter. Types of Home Theater System Connections, continued Analog Video Connections Component Video Component video separates the video signal into three components one luminance ("Y") and two sub-sampled color signals ("Pb" and "Pr") that are transmitted using three separate cables that are color-coded green (Y), blue (Pb) and red (Pr). Component video cables that join three separate green, blue and red connectors into a single cable are sold separately. Analog Audio Connections Two-channel analog connections require a stereo audio cable, with one connector for the left channel (white) and one for the right channel (red). These two connectors are attached to each other. If your TV or video display has an HDMI connector, we recommend it for the best quality connection. Your AVR converts component analog video input signals to the HDMI format, upscaling them to high-definition 1080p resolution.

Radio Connections For source devices that have both digital and analog audio outputs, you may make both connections. The analog connections also feed the Analog Record Output connectors. You may record materials from Blu-ray Disc recordings, DVDs or other copy-protected sources using only analog connections. Remember to comply with all copyright laws if you choose to make a copy for your own personal use. The Bridge IIP Connection Your AVR includes a proprietary, dedicated connector for a The Bridge IIP docking station (available separately) for the iPod or iPhone.



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The AM antenna connector uses spring-clip terminals. After assembling the antenna as shown below, press the levers to open the connectors, insert the bare wires into the openings, and release the levers to secure the wires. The antenna wires are not polarized, so you can insert either wire into either connector.

Your AVR uses separate terminals for the included FM and AM antennas. The FM antenna uses a 75-ohm F-connector.

**USB Port** The USB port on your AVR is used for firmware upgrades. If an upgrade for the AVR's operating system is released in the future, you will be able to download it to the AVR using this port. Complete instructions will be provided at that time. **Video Connections** Many source devices output both audio and video signals (e.g.

, Blu-ray Disc, DVD player, cable television box, HDTV tuner, satellite box, VCR, DVR). In addition to an audio connection as described above, make a video connection for each of these source devices. Make only one type of video connection for each device. **Digital Video Connections** If you have already connected a source device to one of the AVR's HDMI input connectors, you have automatically made a video connection for that device, since the HDMI cable carries both digital audio and digital video signals. **Analog Video Connections** Composite Video Your AVR uses two types of analog video connections: composite video and component video.

**Composite video** is the basic connection most commonly available. Both the chrominance (color) and the luminance (intensity) components of the video signal are transmitted using a single cable. The jack is usually color-coded yellow and looks like an analog audio jack. Do not connect a composite video jack to an analog audio or coaxial digital audio jack, or vice versa. **IMPORTANT: Do not connect a PC or other USB host/controller to the AVR's USB port, or you may damage both the AVR and the other device.** 12 AVR 1650/AVR 165 **Making Connections** **CAUTION: Before making any connections to the AVR, ensure that the AVR's AC cord is unplugged from the AVR and the AC outlet. Making connections with the AVR plugged in and turned on could damage the speakers.**

**Making Connections** **Connect Your TV or Video Display** If your TV has an HDMI connector and you have HDMI or component video source devices, use an HDMI cable (not included) to connect your TV to the AVR's HDMI Monitor Out connector. It will provide the best possible picture quality. **AVR HDMI Monitor Out Connector** HDMI Cable (not supplied) **Composite Video** Monitor Out connector If your TV does not have an HDMI connector, or if your TV does have an HDMI connector but you are connecting some source devices with only composite video connectors, use a composite video cable (not included) to connect the AVR's Composite Monitor Out connector to your TV's composite video connector.

**AVR Composite Monitor Out Connector** TV TV ENGLISH **HDMI Monitor Out connector** **Connect Your Speakers** After you have placed your loudspeakers in the room as explained in *Place Your Speakers*, on page 10, connect each speaker to its color-coded terminal on the AVR as explained in *Speaker Connections*, on page 11. Connect the speakers as shown in the illustration. **C FL FR Composite Video Cable** (not supplied) **Connect Your Source Devices** Source devices are components where a playback signal originates, such as a Blu-ray Disc or DVD player, or a cable, satellite or HDTV tuner. Your AVR has several different types of input connectors for your audio and video source devices: HDMI, component video, composite video, optical digital audio, coaxial digital audio and analog audio. The connectors are labeled for the types of source devices you are most likely to connect. **SL SR** Each of your AVR's source buttons is assigned to an HDMI connector or an analog audio input connector (listed in the "AVR Source Button/Analog Audio Connector" column of the table below). To provide you flexibility for connecting and configuring your system, we have designed the AVR so that you can assign the digital audio inputs to any of the video AVR sources. As you connect your various source components, fill out the "Source Device Connected" column in the following table it will make it easier for you to assign the digital audio input connectors and component video connector later in the setup process. **AVR Source Button/ Analog Audio Connector** Video 1 Video 2 DVD CD Tape Aux The Bridge IIIP AVR Source Button/ HDMI Connector HDMI 1 HDMI 2 HDMI 3 HDMI 4 **Recommended Source Device** Type Cable or Satellite Tuner DVD Recorder or VCR Blu-ray Disc or DVD Player CD Player Cassette Deck or Audio Recorder Portable Media Palyer iPod/iPhone Device \_\_\_\_\_ Source Device Connected **Digital Audio Input Connector** Assigned Source Device Connected **Digital Audio Input Connector** Assigned **Connect Your Subwoofer** Use a single RCA audio cable to connect the AVR's Subwoofer Pre-Out connector to your subwoofer. Consult your subwoofer's user manual for specific information about making connections to it.

**AVR Subwoofer Pre-Out Connector** Single RCA Audio Cable (not supplied) **Powered Subwoofer Input Connections and Source Buttons** 13 AVR 1650/AVR 165 **HDMI devices** If any of your source devices have HDMI connectors, using those connectors will provide the best possible video and audio performance quality. Since the HDMI cable carries both digital video and digital audio signals, you do not have to make any additional audio connections for devices you connect via HDMI cables, although you can assign one of the digital audio connectors to one of the HDMI inputs. If you have a TV or other source device equipped with the HDMI Audio Return Channel function, you can feed its sound to the AVR via the HDMI Monitor Out connector's Audio Return Channel, and it will not require additional audio connections to the AVR. **AVR HDMI Connectors** **Optical digital audio devices** **Making Connections, continued** If your source devices have optical digital outputs, connect them to the AVR's Optical Digital Audio connectors. **NOTE: Make only one type of digital connection (HDMI, optical or coaxial) from each device.**

**AVR Digital Audio Connectors** **Optical Digital Audio Cable** (not supplied) **To Optical Digital Audio Output** HDMI Cable (not supplied) **To HDMI Output** **Coaxial digital audio devices** **Optical Digital-Equipped Source Device** If your source devices have coaxial digital outputs, connect them to the AVR's Coaxial Digital Audio connectors. **NOTE: Make only one type of digital connection (HDMI, optical or coaxial) from each device.** **AVR Digital Audio Connectors** **HDMI-Equipped Source Device** **Component video devices** If your Blu-ray Disc or DVD player does not have an HDMI connector but does have a component video connector, using the component video connector will provide superior video performance. You will also need to make an audio connection from the player to the AVR.



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AVR DVD Component Video Connectors Coaxial Digital Audio Cable (not supplied) To Coaxial Digital Output Component Video Cable (not supplied) Coaxial Digital-Equipped Source Device To Component Video Outputs Analog audio devices Make analog audio connections from your source devices that do not have HDMI or digital audio connectors.

If you're connecting video sources to the DVD, Video 1 or Video 2 audio inputs, you must also connect the source device's composite video output to the corresponding composite video connector. AVR Analog Audio Connectors Component Video-Equipped Blu-ray Disc or DVD Player Composite video devices You will need to make composite video connections from your source devices that do not have HDMI or component video connectors. You will also need to connect the source device's analog audio outputs to the AVR's corresponding analog audio connectors. **IMPORTANT:** If you connected your Blu-ray Disc or DVD player to the AVR's DVD Component Video Input connectors, do not connect a source device to the AVR's DVD Composite Video Input connector. AVR Composite Video Connectors Stereo Audio Cable (not supplied) To Stereo Analog Audio Output Composite Video Cable (not supplied) To Composite Video Output Analog Source Device Composite Video-Equipped Source Device 14 AVR 1650/AVR 165 Audio recorders Connect an analog audio recorder's inputs to the AVR's analog audio Tape Out connectors. You can record any analog audio input signal. AVR Analog Audio Recorder Connectors Making Connections, continued Connect the Radio Antennas ENGLISH Connect the supplied FM antenna to the AVR's FM 75 Radio Antenna connector. For the best reception, extend the FM antenna as far as possible. Bend and fold the base of the supplied AM antenna as shown and connect the antenna wires to the AVR's AM and Gnd connectors. (You can connect either wire to either connector.

) Rotate the antenna as necessary to minimize background noise. AVR Radio Antenna Connectors FM Antenna (supplied) Stereo Audio Cable (not supplied) To Stereo Analog Record Inputs AM Antenna (supplied) Bend and fold base Analog Recording Device You can connect the AVR's Optical Digital Output connector to a digital audio recorder's optical digital input connector. You can record both coaxial and optical digital input signals. Digital Audio Recorder Connector Connect IR Equipment The AVR's Remote IR Input and Output connectors let you remotely control the AVR in a variety of situations: When you place the AVR inside a cabinet or facing away from the listener, connect an external IR receiver, such as the Harman Kardon HE 1000 (available separately), to the AVR's IR Remote In connector. External IR Receiver Optical Digital Audio Cable (not supplied) To Optical Digital Record Input AVR IR Remote In Connector Digital Recording Device Video recorders Connect an analog video recorder's video input connector to the AVR's Video 2 Out Composite Video connector, and its audio input connectors to the AVR's Video 2 Out Analog Audio connectors. You can record any composite video signal. AVR Analog Video Connectors AVR and Source Devices Installed Inside of Cabinet AVR Analog Audio Connectors Analog Audio/Video Cable (not supplied) To Analog Audio/Video Record Inputs If any source devices are equipped with a compatible IR input connector, use a 1/8-inch (3.5mm) mini-plug interconnect cable (not included) to connect the AVR's IR Remote Out jack to the source device's IR input connector. External IR Receiver Analog Video Recording Device Connect The Bridge IIRP Connect an optional The Bridge IIRP to the AVR's The Bridge IIRP connector. Insert the plug until it snaps into place in the connector. **IMPORTANT:** Connect The Bridge IIRP only with the AVR's power turned OFF. AVR The Bridge IIRP Connector AVR 1650/AVR 165 Mono 1/8-inch (3.5mm) MiniPlug Interconnect (not supplied) Source Devices w/Remote In/Out Jacks The Bridge IIRP To control more than one source device through the AVR's IR Remote Out connector, connect all sources in "daisy chain" fashion, connecting each device's IR output connector to the next device's IR input connector, starting with the AVR. 15 AVR 1650/AVR 165 Connect the 12V Trigger Output If your system has equipment that can be controlled by a DC trigger signal, connect it to the AVR's 12V Trigger connector with a mono 1/8-inch (3.5mm) mini-plug interconnect cable.

The AVR will supply a 12V DC (100mA) trigger signal at this connection whenever it is powered on. AVR Mono 1/8-inch (3.5mm) Mini-Plug Interconnect (not supplied) Making Connections, continued, and Set Up the Remote Control Program the Remote to Control Your Source Devices and TV In addition to using the remote to control the AVR itself and the AM/FM radio, you can program the remote to control up to nine additional audio/video source devices plus your TV. The remote is also ready to operate your iPod or iPhone device when the device is docked in a connected The Bridge IIRP (not included). Once you have programmed the remote, you can switch the remote's control mode to access the functions for a particular source device by pressing the remote's Source Selector button for that device.

To control the AVR, press the remote's AVR button. Before you begin programming the remote, review the connections you filled in on the Input Connections and Source Buttons table on page 13. The Source Selector buttons are assigned to the components that you listed in the table's "Source Device Connected" column. 1. Turn on the source device you want to program the remote to control. 2. Look up the code numbers for the device in Tables A11 A17 in the Appendix. Write all the applicable code numbers in a convenient place. 3. Press and hold the Source Selector button for that source device until the Program Indicator LED on the remote starts to flash, then release it.

(This procedure places the remote in the Programming mode.) Device with Trigger in Connector Connect to AC Power Connect the AC power cord to the AVR's AC Input connector and then to a working AC power outlet. AVR AC Input Connector AC Power Outlet Power Cord (supplied) **NOTE:** If you're programming one of the four HDMI source buttons, after pressing the HDMI button you must also press the Source Selector button for the type of device that will be controlled: Press DVD to control a DVD player. Press VID1 to control a VCR, DVR or Harman Kardon digital media center. Press VID2 to control a cable or satellite set-top box. 4. Aim the remote at the source device and use the remote's Number buttons to enter a code number from Step 2, above. a) If the device turns off, press the Source Selector button again to save its code. The Source Selector button will flash, and the remote will exit the Programming mode.



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b) If the device does not turn off, enter another code number.

c) If you run out of code numbers for a device, you can search through all of the codes in the remote's library for devices of its type by pressing the Up or Down button repeatedly until the device turns off. When it does, press the Source Selector button to save the code. 5. Check that other functions control the device correctly. Sometimes manufacturers use the same Power code for several models, while other function codes vary.

Repeat this process until you've programmed a satisfactory code set that operates most of the device's functions. 6. If you searched through the remote's code library to find the code, you can find out which code number you have programmed by pressing and holding the Source Selector button to re-enter the Programming Mode. Then press the remote's OK button, and the Program Indicator LED will flash in the code sequence. One flash represents "1," two flashes represent "2," and so forth.

A series of quick flashes represents "0." Record the code number programmed for each device in Table A7 in the Appendix. Repeat Steps 3-6 for each source device you want to control with the AVR remote. In general, the label for each button on the remote describes the button's function when used to control the AVR. However, the button may perform a very different function when used to control another device. Refer to the Remote Control Function List, Table A10 in the Appendix, for each button's functions with the various product types. Set Up the Remote Control Install the Batteries in the Remote Control Remove the remote control's battery cover, insert the three supplied AAA batteries as shown in the illustration, and replace the battery cover. NOTE: Remove the protective plastic from the AVR's front panel to keep it from reducing the remote control's effectiveness. You can also program the remote to perform Macros (preprogrammed code sequences that execute many code commands with a single button press) and "punch-through" programming (allowing the remote to operate a device's channel or transport controls when the remote is in another device's mode). See Advanced Remote Control Programming, on page 24, for instructions on these functions.

16 AVR 1650/AVR 165 Set Up the AVR Turn On the AVR 1. Set the rear-panel Main Power switch to "On." (The front-panel Power indicator will glow amber.) 2. Press the front-panel Power button. Main Power Switch Power Button Set Up the AVR Configure the AVR for Your Speakers NOTE: If there are fewer than five main speakers in your system, do not use the EzSet/EQ process. Instead, proceed as described in Manual Speaker Setup, on page 21. 1. Plug the supplied EzSet/EQ microphone into the AVR's Headphone connector. AVR Headphone Connector ENGLISH EzSet/EQ Microphone (supplied) Unless you will not be using the AVR for an extended period of time, leave the Main Power switch set to "On.

" When the Main Power switch is turned off, any settings you have programmed will be preserved for up to four weeks. IMPORTANT NOTE: If the PROTECT message ever appears in the Message display, turn off the AVR and unplug it. Check all speaker wires for a short circuit ("+" and "-" wires touching). If none is found, bring the unit to an authorized Harman Kardon service center for inspection and repair before using it again. 2.

Place the microphone at ear height in your listening position. The microphone features a threaded insert on the bottom for mounting on a camera tripod. 3. @.@. @.@.

Press the remote control's OSD button. @.@. To access the menu system, press the OSD button on the remote. @.@.@. YES 8. Select "5.1." 9. The test will begin. @.@. 10. @.@.@.@.@. To exit the menu system, press the OSD button. @.@.@.@.@. @.@.@.@.@. 3.

Press the remote control's OSD button. @.@.@. 1. Move the cursor to the Title line and press the OK button. A block cursor will blink. 2. @.@.@. Press the Right button twice to leave a blank space. 3. Press the OK button when you have finished. @.@.@.@.@. @.@.@.@.@. BXR: Enhances bass performance when playing MP3 tracks. @.@.@. When this line is set to Off, the tone controls are out of the circuit, with no changes to the sound.

When this line is set to On, the bass and treble frequencies are boosted or cut, depending upon the Bass and Treble settings (see below). Bass and Treble: Boost or cut the low or high frequencies by up to 10dB by using the Left/Right buttons to change the setting by 2dB at a time. When you're finished, press the remote's OSD button to turn off the on-screen menu. \*\* MASTER MENU \*\* INPUT SETUP SURROUND SELECT SPEAKER SETUP SYSTEM SETUP 4.

Use the remote's arrow and OK buttons to select "Input Setup.

" The Input Setup menu will appear. \* INPUT SETUP \* SOURCE : TITLE: AUDIO IN : AUTO POLL : BXR : TONE : BASS : TREBLE : DVD ANALOG OFF OFF IN 0 0 BACK TO MASTER MENU 5. For each source device you connected to a digital audio input: a) Use the remote's Up and Down arrow buttons to select "Source." Use the Left and Right arrow buttons to change the listed source to one of the sources you connected to a digital audio input connector. b) Use the remote's down arrow button to select "Audio In.

" \* INPUT SETUP \* SOURCE : TITLE: AUDIO IN : AUTO POLL : BXR : TONE : BASS : TREBLE : DVD OPT 1 ON OFF IN 0 0 BACK TO MASTER MENU c) Use the remote's Left and Right arrow buttons to select the digital audio input where you connected the source device. 18 AVR 1650/AVR 165 Operating Your AVR Now that you have installed your components and completed a basic configuration, you are ready to begin enjoying your home theater system. Operating Your AVR Listening to FM and AM Radio ENGLISH Select the AM/FM source. Use the Tuning Up/Down buttons to tune a station, which will be shown on the front-panel display and the TV screen. The AVR defaults to automatic tuning, meaning each press of the Tuning Up/Down buttons scans until a station with acceptable signal strength is found. To switch to manual tuning, in which each press of a Tuning button steps through a single frequency increment, press the Tuning Mode button. Each press of the Tuning Mode button toggles between the automatic and manual tuning modes. Once you have tuned an FM station, toggling the Tuning Mode setting also switches the radio between stereo and monaural reception. (Mono reception may improve reception of weaker stations.) Preset Stations A total of 30 stations (AM and FM combined) may be stored as presets.

When the desired station has been tuned in, press the Memory button on the remote, and two dashes will flash on the front-panel Message display. Use the Number buttons to enter the desired preset number. To tune a preset station, press the Preset Up/Down buttons or enter the preset number using the Number buttons.



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Controlling the Volume Adjust the volume either by turning the front-panel Volume knob (clockwise to increase volume or counterclockwise to decrease volume) or by pressing the Volume Up/Down buttons on the remote. The volume is displayed as a negative number of decibels (dB) below the 0dB reference point. 0dB is the maximum recommended volume for your AVR. Although it's possible to turn the volume to a higher level, doing so may damage your hearing and your speakers. For certain more dynamic audio materials, even 0dB may be too high, allowing for damage to equipment. Use caution with regard to volume levels. Muting the Sound To mute all speakers and the headphones, press the Mute button on the remote.

Any recording in progress will not be affected. The MUTE message will appear in the frontpanel display as a reminder. To restore the sound, press the Mute button again, or adjust the volume. Listening Through Headphones Plug the 1/4-inch stereo plug on a pair of headphones into the front-panel Phones jack for private listening. The default Headphone Bypass mode delivers a conventional 2-channel signal to the headphones.

Press the Surround Modes button on the front panel or use the remote and OSD to switch to HARMAN headphone virtual surround processing, which emulates a 5.1-channel speaker system. @@@@Check all connections for a loose or incorrect connection. Check the video-input selection on the TV/display device. @@@@Carefully reconnect the cables from the source devices to the AVR.

Connect the cable from the AVR to the TV last. Turn on the devices in this order: TV, AVR, source devices. @@Use the remote's Transport Control buttons to control playback. Navigating iPod/iPhone Device Menus Pressing the remote's Speaker Setup (Menu) button while an iPod/iPhone device is playing in The Bridge IIIP will display the iPod/iPhone Menu screen on a connected TV: Menu Playlists Artists Albums Songs Podcasts Genres Composers Audiobooks Use the Up/Down and OK buttons to navigate through the list and select the desired category. When the category's screen appears, use the Up/Down and OK buttons to navigate within the category and make selections. NOTE: Not all categories may appear with all iPod/iPhone devices. To return to a previous menu screen at any time, press the Speaker Setup (Menu) button. 19 AVR 1650/AVR 165 Selecting a Surround Mode Selecting a surround mode can be as simple or sophisticated as your individual system and tastes. Feel free to experiment, and you may find a few favorites for certain sources or program types. You can find more detailed information on surround modes in Audio Processing and Surround Sound, on this page.

To select a surround mode, press the OSD Button on the remote to display the Master menu: Operating Your AVR, continued, and Advanced Functions Use the Left/Right buttons to change the surround mode. You can also select surround modes using the AVR's front-panel buttons: 1. Press the Surr Mode button. The Message display will show the surround-mode category and surround mode. 2. To change the surround mode within the surround-mode category, press the Surround Select Up/Down buttons. Each press will change to the next surround mode. 3. To change the surround-mode category, press the Surr Mode button. Each press will change to the next surround-mode category.

\*\* MASTER MENU INPUT SETUP SURROUND MODE EzSet/EQ MANUAL SETUP SYSTEM SETUP \*\* Advanced Functions Much of the adjusting and configuration your AVR requires is handled automatically, with little intervention required on your part. You can also customize your AVR to suit your system and your tastes. In this section, we will describe some of the more advanced adjustments available to you. Use the Up/Down and OK buttons to select Surround Mode. The Surround Mode menu will appear: \* MODE : MUSIC \* DOLBY PLII MUSIC CENTER WIDTH : 3 DIMENSION :0 PANORAMA : Off BACK TO MASTER MENU Audio Processing and Surround Sound Audio signals can be encoded in a variety of formats that can affect not only the quality of the sound but also the number of speaker channels and the surround mode.

You may also manually select a different surround mode, when available. Analog Audio Signals Analog audio signals usually consist of two channels left and right. Your AVR offers two options for analog playback: DSP Surround Off Mode: The DSP Surround Off mode digitizes the incoming signal and applies the bass-management settings, including speaker configuration, delay times and output levels. Select this mode when your front speakers are small, limited-range satellites and you are using a subwoofer. To select this mode, use a digital audio input or turn the Tone Control setting off, then select 2 CH Stereo mode. Analog Surround Modes: Your AVR is able to process 2-channel audio signals to produce multichannel surround sound, even when no surround sound has been encoded in the recording. Among the available modes are the Dolby Pro Logic II, HARMAN virtual speaker, Logic 7 and 5 CH Stereo modes. To select one of these modes, see Selecting a Surround Mode, on this page. Digital Audio Signals Digital audio signals offer greater flexibility and capacity than analog signals and allow the encoding of discrete channel information directly into the signal. The result is improved sound quality and startling directionality, since each channel's information is transmitted discretely. High-resolution recordings sound extraordinarily distortion-free, especially in the high frequencies. Surround Modes Surround-mode selection depends upon the format of the incoming audio signal as well as your personal taste. Although there is never a time when all of the AVR's surround modes are available, there is usually a wide variety of modes available for a given input. Table A9 in the Appendix, on page 31, offers a brief description of each mode and indicates the types of incoming signals or digital bitstreams the mode may be used with. Additional information about the Dolby and DTS modes is available on the companies' Web sites: www.

dolby.com and www.dtsonline.com. When in doubt, check the jacket of your disc for more information on which surround modes are available. Usually, nonessential sections of the disc, such as trailers, extra materials or the disc menu, are available only in Dolby Digital 2.0 (2-channel) or PCM 2-channel mode. If the main title is playing and the display shows one of these surround modes, look for an audio or language setup section in the disc's menu. Also, make sure your disc player's audio output is set to the original bitstream rather than 2-channel PCM. Stop play and check the player's output setting. The channels included in a typical 5.1-channel recording are front left, front right, center, surround left, surround right and LFE (low-frequency effects). The LFE channel is denoted as ".1" to represent the fact that it is limited to the low frequencies. Digital formats include Dolby Digital 2.



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0 (two channels only), Dolby Digital 5.1, Dolby Digital EX (6.1), Dolby Digital Plus (7.1), Dolby TrueHD (7.1), DTS-HD High-Resolution Use the Up/Down and OK buttons to select the desired surround-mode category.

**Auto Select:** For a digital program, such as a movie recorded with a Dolby Digital or DTS soundtrack, the AVR will automatically use the soundtrack's native surround format. For 2-channel analog and PCM programs, the AVR uses the Logic 7 Movie, Logic 7 Music or Logic 7 Game mode, depending on the source. **Virtual Surround:** When only two main speakers are present in the system, you can use HARMAN virtual surround to create an enhanced sound field that virtualizes the missing speakers. **Stereo:** When you want 2-channel playback, select the number of speakers you want to use for playback: "2 CH Stereo" uses two speakers. "5 CH Stereo" plays the left-channel signal through the front left and surround left speakers, the right-channel signal through the front right and surround right speakers, and a summed mono signal through the center speaker. **Movie:** Select from the following when you want a surround mode for movie playback: Logic 7 Movie or Dolby Pro Logic II Movie. **Music:** Select from the following when you want a surround mode for music playback: Logic 7 Music or Dolby Pro Logic II Music. The Dolby Pro Logic II Music mode provides some additional settings. See Audio Processing and Surround Sound, on this page, for more information. **Video Game:** Select from the following when you want a surround mode for game playback: Logic 7 Game or Dolby Pro Logic II Game.

After you select the surround-mode category, the Mode menu will appear: \* MODE : MUSIC \* DOLBY PLII MUSIC CENTER WIDTH : 3 DIMENSION : 0 PANORAMA : Off BACK TO MASTER MENU 20 AVR 1650/AVR 165 Audio (7.1), DTS-HD Master Audio (7.1), DTS 5.1, DTS 96/24 (5.1), 2-channel PCM modes in 32kHz, 44.1kHz, 48kHz or 96kHz, and 5.1 or 7.1 multichannel PCM. (Your AVR will downmix the discrete surround back-channel information in 6.1-channel and 7.

1-channel recordings into your system's surround left and surround right channels.) When the AVR receives a digital bitstream, it detects the encoding method and the number of channels, which is displayed briefly as three numbers, separated by slashes (e.g., "3/2/1").

The first number indicates the number of front channels in the signal: "1" represents a monophonic recording (usually an older program that has been digitally remastered or, more rarely, a modern program for which the director has chosen mono as a special effect). "2" indicates the presence of the left and right channels but no center channel. "3" indicates that all three front channels (left, right and center) are present. The second number indicates whether any surround channels are present: "0" indicates that no surround information is present. "1" indicates that a matrixed surround signal is present.

"2" indicates discrete surround left and right channels. (Bitstreams with discrete surround back left and right channel signals will be indicated by a "4," although the AVR downmixes the surround back-channel information into the surround left and right channels.) The third number is used for the LFE channel: "0" indicates no LFE channel. "1" indicates that an LFE channel is present. Dolby Digital 2.0 signals may include a Dolby Surround flag indicating DS-ON or DS-OFF, depending on whether the 2-channel bitstream contains only stereo information or a downmix of a multichannel program that can be decoded by the AVR's Dolby Pro Logic decoder. By default, these signals are played in Dolby Pro Logic II Movie mode. When a PCM signal is received, the PCM message and the sampling rate (32kHz, 44.1kHz, 48kHz or 96kHz) will appear.

When only two channels left and right are present, the analog surround modes may be used to decode the signal into multiple channels. If you would prefer a different surround format than the native signal's digital encoding, press the Surround Modes button to display the Surround Modes menu (see Selecting a Surround Mode, on page 20). The Auto Select option sets the surround mode to the native signal's digital encoding, e.g., Dolby Digital, DTS, Dolby TrueHD or DTS-HD Master Audio. For analog 2-channel materials, the AVR defaults to the Logic 7 Movie mode. For Dolby Digital 2.0 programs, the AVR defaults to the Dolby Pro Logic II Movie mode, which creates a 5.1-channel surround-sound presentation from the 2-channel program. If you prefer a different surround mode, select the surround-mode category: Virtual Surround, Stereo, Movie, Music or Video Game.

Press the OK button to change the mode. Each surround-mode category is set to a default surround mode: Virtual Surround: HARMAN virtual speaker. Stereo: 5-CH Stereo. Movie: Logic 7 Movie. Music: Logic 7 Music.

Video Game: Logic 7 Game. You may select a different mode for each category. Below is a complete list of available surround modes. (The actual surround modes available will depend on the number of speakers in your system.) Virtual Surround: HARMAN virtual speaker.

Stereo: 2-CH Stereo or 5-CH Stereo. Movie: Logic 7 Movie, Dolby Pro Logic II Movie. Music: Logic 7 Music, Dolby Pro Logic II Music. Video Game: Logic 7 Game, Dolby Pro Logic II Game. Once you have programmed the surround mode for each type of audio, select the line from the Surround Modes menu to override the AVR's automatic surround-mode selection. The AVR will use the same surround mode the next time the source is selected. Please refer to Table A9 in the Appendix for more information on which surround modes are available with different bitstreams. Advanced Functions, continued Dolby Pro Logic II Music Mode Adjustments ENGLISH When you select Dolby Pro Logic II as the music surround mode, additional adjustments become available: \* MODE : MUSIC \* DOLBY PLII MUSIC CENTER WIDTH : 3 DIMENSION : 0 PANORAMA : Off BACK TO MASTER MENU Center Width: This setting affects how vocals sound through the three front speakers. A lower number focuses the vocal information tightly on the center channel. Higher numbers (up to 7) broaden the vocal soundstage.

Use the Left/Right buttons to adjust this setting. Dimension: This setting affects the depth of the surround presentation, allowing you to "move" the sound toward the front or rear of the room. The setting of "0" is a neutral default. Setting "F-3" moves the sound toward the front of the room, while setting "R-3" moves the sound toward the rear. Use the Left/Right buttons to adjust it. Panorama: With the Panorama mode turned on, some of the sound from the front speakers is moved to the surround speakers, creating an enveloping "wraparound" effect. Each press of the OK button toggles the setting On or Off. Manual Speaker Setup Your AVR is flexible and may be configured to work with most speakers and to compensate for the acoustic characteristics of your room.



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