

AVR 1710, AVR 171 /230, AVR 171 /230C,
AVR 1610, AVR 161 /230, AVR 161 /230C,
AVR 1510, AVR 151 /230, AVR 151 /230C

Audio/Video Receiver

Quick-Start Guide



beautiful/sound
harman/kardon[®]
by HARMAN

Introduction

Thank you for choosing a Harman Kardon® product!

This quick-start guide contains all the information you need to connect and set up your new Harman Kardon audio/video receiver (AVR).

To conserve our natural resources, your AVR does not include a printed owner's manual. An owner's manual containing complete information about operating all of your new AVR's features is available at our Web site. Go to www.harmankardon.com and download the *AVR 1710, AVR 171/230, AVR 171/230C, AVR 1610, AVR 161/230, AVR 161/230C Owner's Manual* or the *AVR 1510, AVR 151/230, AVR 151/230C Owner's Manual*.

Place the AVR

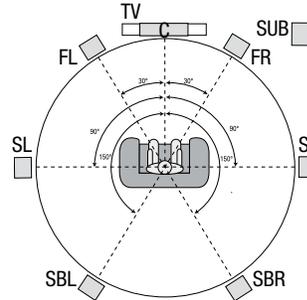
- Place the AVR on a firm and level surface. Be certain that the surface and any mounting hardware can support the AVR's weight.
- Provide proper space above, below, behind and to the sides of the AVR for ventilation. Maintain a clearance of at least 12" (30cm) on each side of, above and behind the unit.
- 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.

Connections

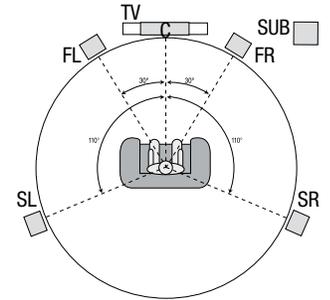
CAUTION: Before making any connections to the AVR, ensure that the AVR's AC cord is unplugged from the AVR and the AC outlet. Making connections with the AVR plugged in and turned on could damage the speakers.

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 illustrations below as a guide for 7.1-channel and 5.1-channel systems.



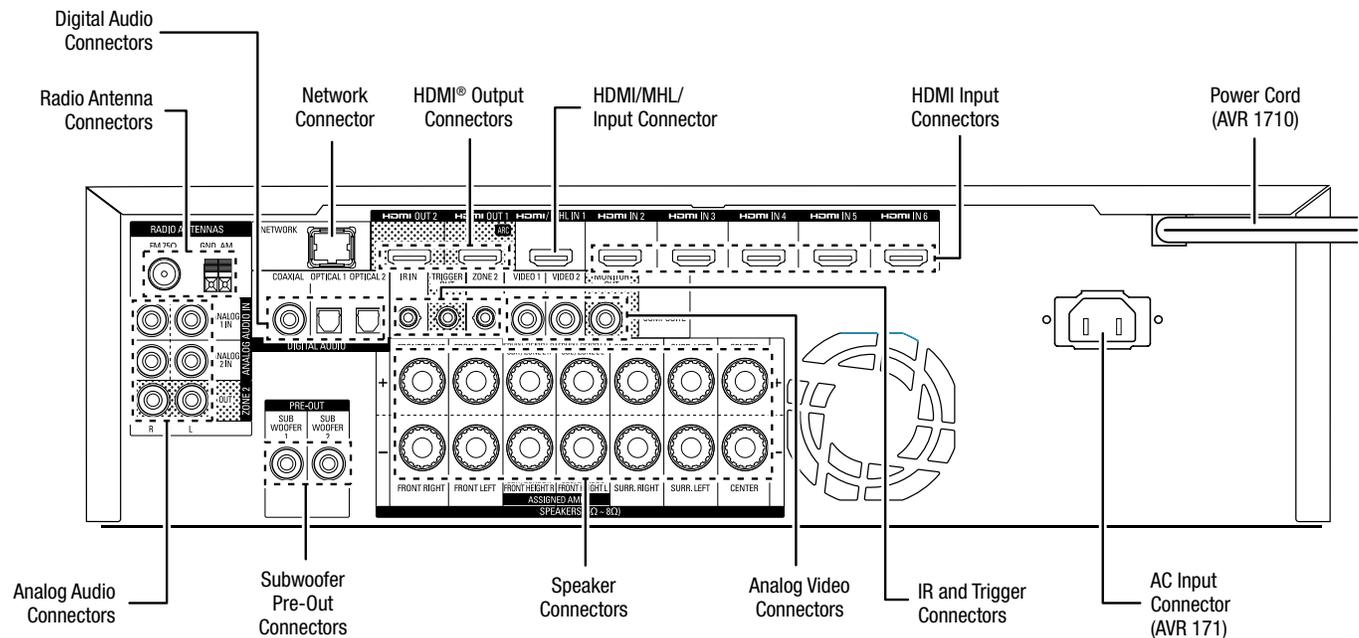
Speaker Positioning for 7.1-Channel Systems



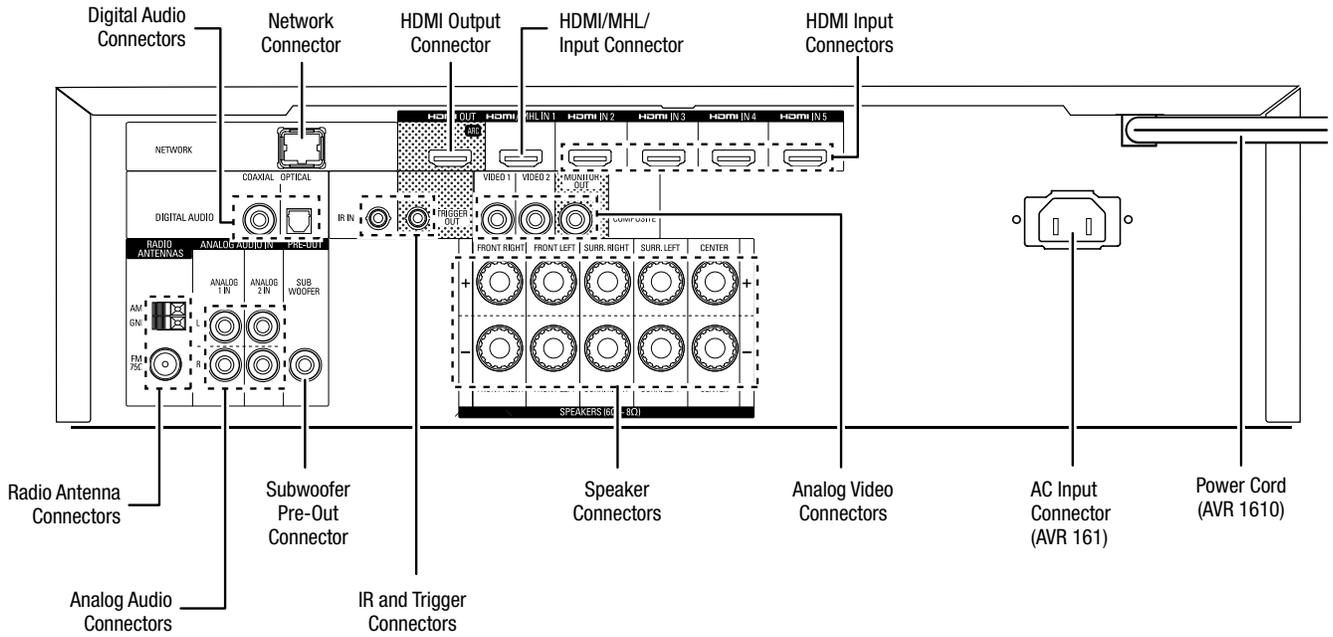
Speaker Positioning for 5.1-Channel Systems

For more detailed speaker placement information, including the use of front height speakers with the Dolby® Pro Logic® IIz mode, download the complete *AVR 1710, AVR 171/230, AVR 171/230C, AVR 1610, AVR 161/230, AVR 161/230C Owner's Manual* or the *AVR 1510, AVR 151/230, AVR 151/230C Owner's Manual* from www.harmankardon.com.

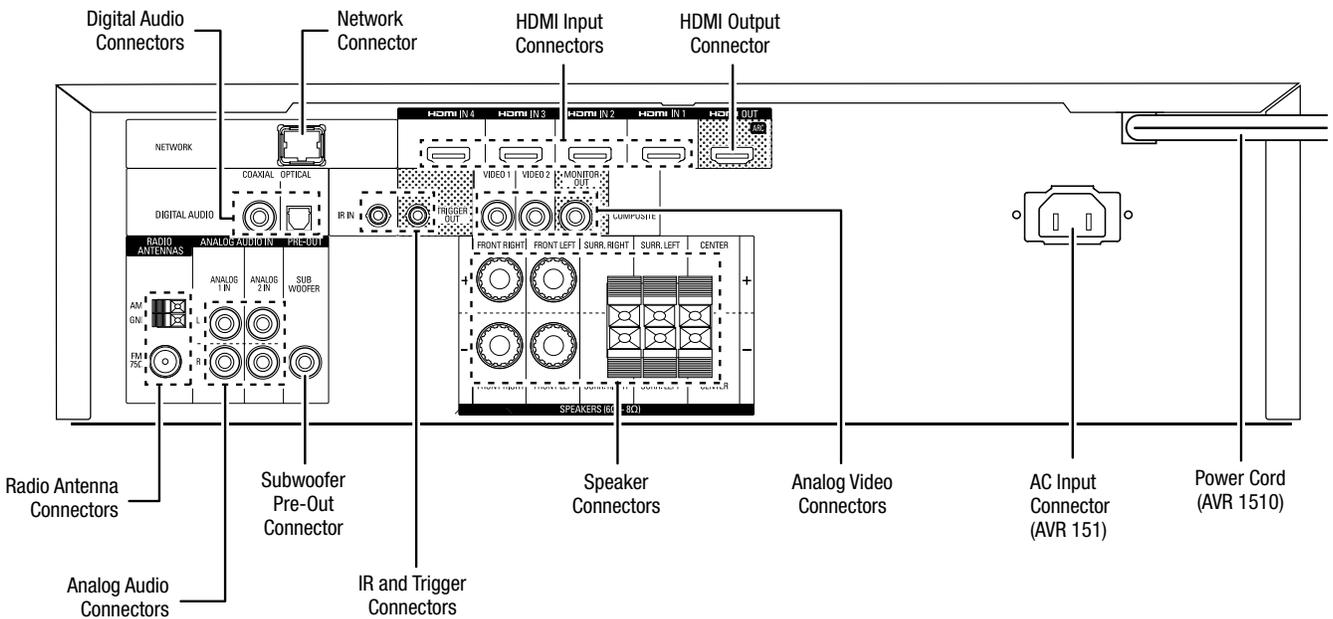
AVR 1710/AVR 171



AVR 1610/AVR 161

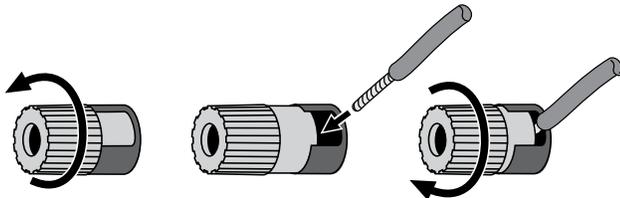


AVR 1510/AVR 151



Connect Your Speakers

How to use the AVR speaker terminals:



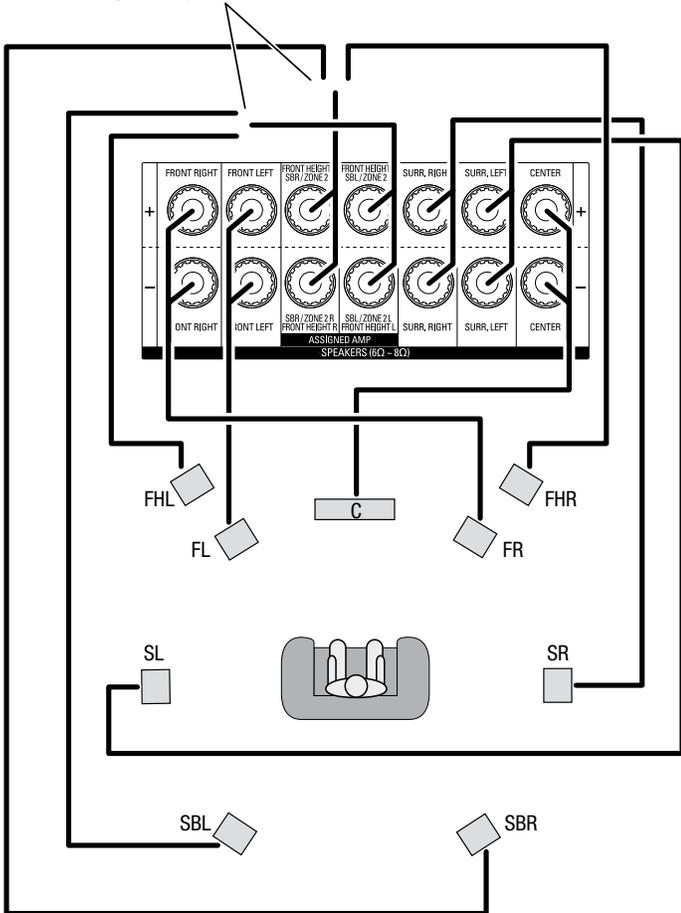
1. Unscrew Cap
2. Insert Bare Wire
3. Tighten Cap

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.

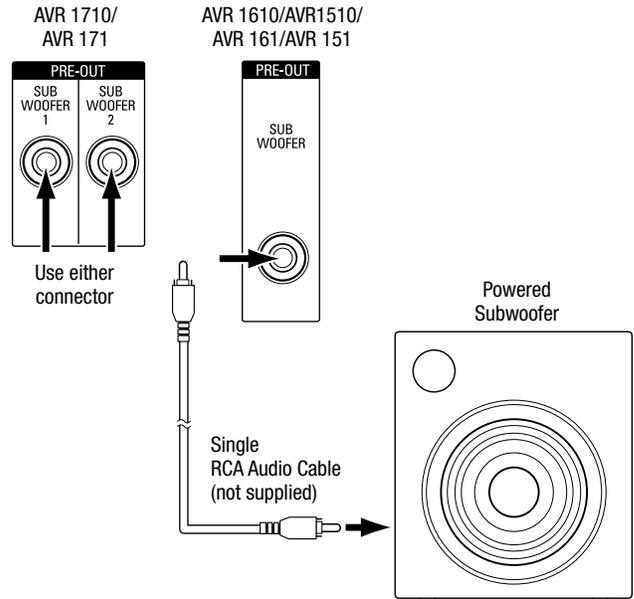
Connect the speakers as shown in the illustration.

AVR 1710/AVR 171 Only:
Connect Surround Back L/R Speakers
-OR- Front Height L/R Speakers Here



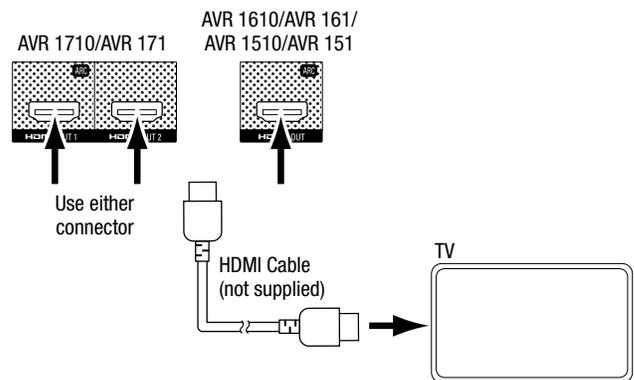
Connect Your Subwoofer

Use a single RCA audio cable to connect your subwoofer to AVR's Subwoofer Pre-Out connector, as shown in the illustration below. (For the AVR 1710/AVR 171 you can use either the Subwoofer 1 or Subwoofer 2 connector when you're using a single subwoofer, or you may connect two subwoofers for increased bass performance in larger listening rooms.) Consult your subwoofer's user manual for specific information about making connections to it.



Connect Your TV or Video Display

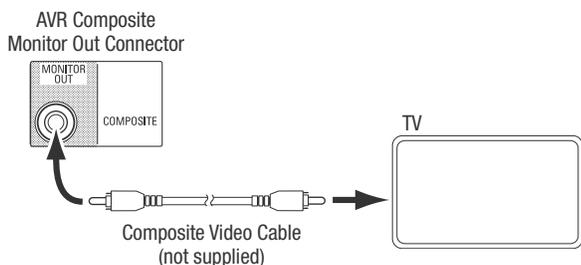
If your TV has an HDMI connector: Use an HDMI cable (not included) to connect it to the AVR's HDMI Out connector. (For the AVR 1710/AVR 171 you can use either HDMI Out connector.) You do not need to make any other connections to your TV from the AVR or from any of your video source components.



AVR 1710/AVR 171 only: Connect a single TV to the HDMI Out 1 connector. If you have a second TV you can connect it to the AVR's HDMI Out 2 connector. Both TVs will display the same picture, but the HDMI Out 2 connector will not output the AVR's on-screen display and does not have Audio Return Channel capability (see below).

Note: If your TV is equipped with the HDMI Audio Return Channel function, you can feed its sound to the AVR via the HDMI Out connector's Audio Return Channel, and it will not require additional audio connections to the AVR. (For the AVR 1710/AVR 171 the ARC is available only on the HDMI Out 1 connector.)

If your TV does not have an HDMI connector: Use a composite video cable (not included) to connect the AVR's Composite Monitor Out connector to your TV's composite video connector.



Note: The HDMI connection to your TV is preferred. If you use the composite video connection to your TV, you will not be able to view the AVR's on-screen menus and will need to use the AVR's front-panel display to set up the AVR.

Connect Your Audio and Video Source Devices

A source device is a component where a playback signal originates – a Blu-ray Disc™ or DVD player; a cable, satellite or HDTV tuner; etc. Your AVR has several different types of input connectors for your audio and video source devices: HDMI, composite video, optical digital audio, coaxial digital audio and analog audio. The connectors are not labeled for specific types of source devices; they are labeled numerically, so you can connect your devices according to your individual system's makeup.

Your AVR's various source buttons have default assignments to different input connectors (listed in the "Default Connector(s)" column of the table below). For ease of setup, you should connect each source device to the connector where the corresponding default source button is assigned (e.g., connect your Blu-ray Disc player to HDMI 2).

However, you can connect your source devices as you wish and re-assign any of the input connections to any of the source buttons listed in the table according to where you actually connect each of your source devices.

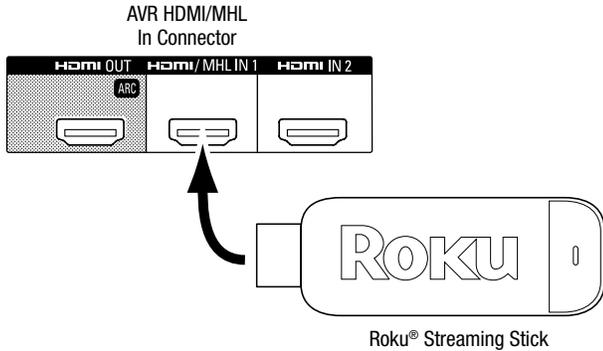
As you connect your various source devices, fill out the "Connected Device" column in the table – it will make it easier for you to assign the various source buttons after you have completed making all of the connections. (You will make any changes to the source-button assignments and fill in the "Assigned Connector(s)" column later in the setup process.)

Note: You cannot assign connectors to the Network, Radio, TV and USB source buttons.

Source Buttons and Assigned Connectors			
Source Button	Default Connector(s)	Assigned Connector(s)	Connected Device
MHL (AVR 1710/AVR 171/AVR 1610/AVR 161); Server (AVR 1510/AVR 151)	HDMI 1		
Disc	HDMI 2		
Cable/Sat	HDMI 3		
STB	HDMI 4		
Game	HDMI 5 (AVR 1710/AVR 171/AVR 1610/AVR 161); Composite 2/Analog 2 (AVR 1510/AVR 151)		
Aux	Composite 1/Analog 1		
Audio	None/Analog 2		
Monitor Output Connector			Connected Device
HDMI Out 1			
HDMI Out 2 (AVR 1710/AVR 171 only)			
Composite Video Monitor Out			

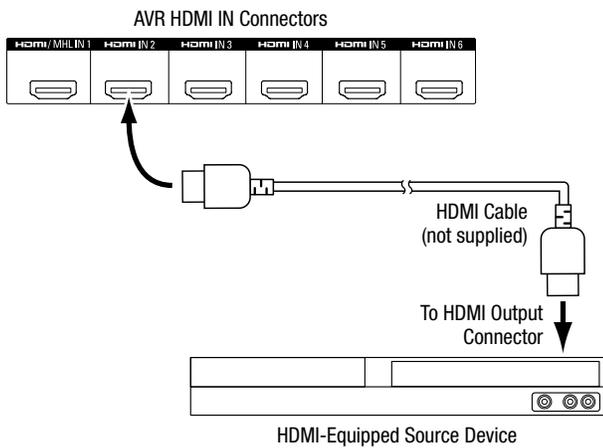
Roku Streaming Stick™ (AVR 1710/AVR 171/AVR 1610/AVR 161 only):

If you have a Roku Streaming Stick device, insert it into the AVR's HDMI/MHL In connector.
NOTE: Do not insert the Roku Streaming Stick device into any other HDMI In connector.



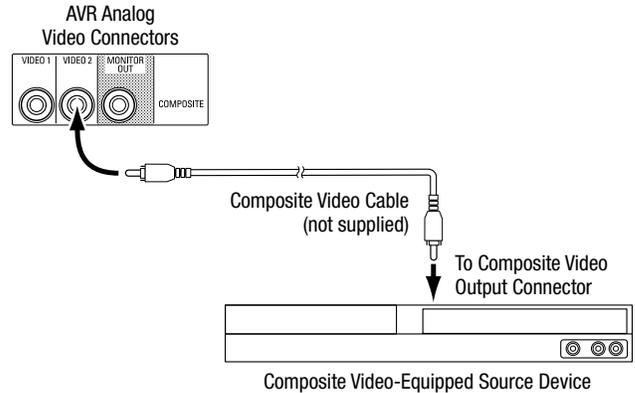
HDMI Devices

If any of 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 audio connections for source devices you connect via HDMI connectors.



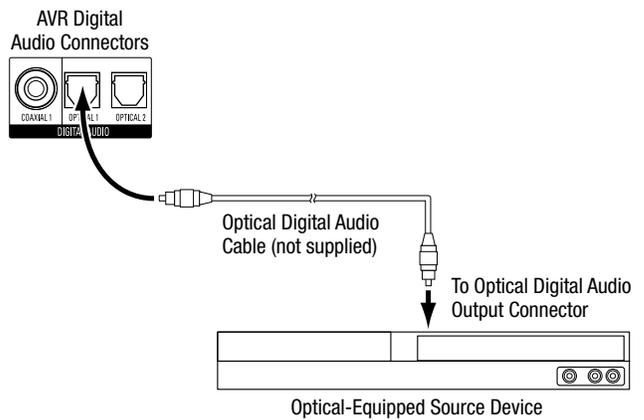
Composite Video Devices

Use composite video connectors for video source devices that don't have HDMI or component video connectors. You will also need to make an audio connection from the source device to the AVR.



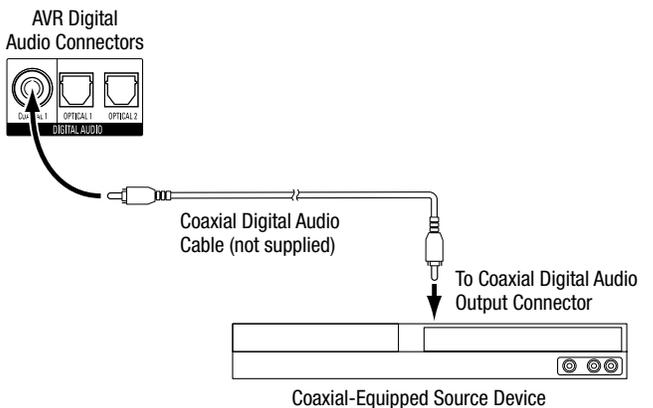
Optical Digital Audio Devices

If your non-HDMI source devices have optical digital output connectors, connect them to the AVR's optical digital audio connectors. **NOTE:** Make only one type of digital connection (HDMI, optical or coaxial) from each source device.



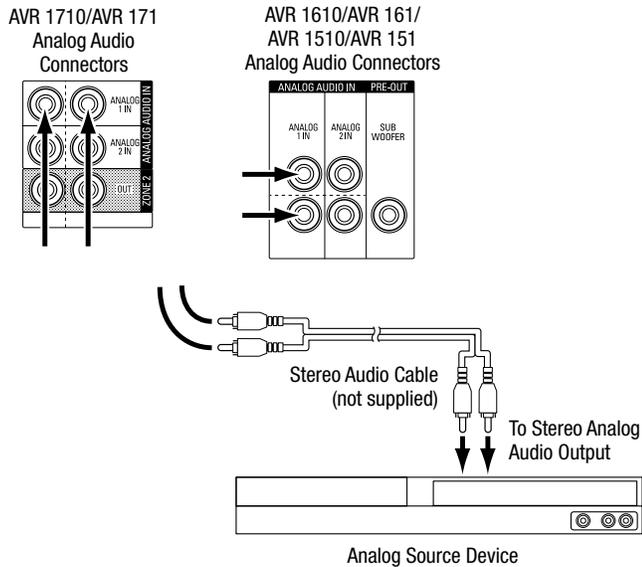
Coaxial Digital Audio Devices

If any of your non-HDMI source devices have coaxial digital output connectors, connect them to the AVR's coaxial digital audio connector. **NOTE:** Make only one type of digital connection (HDMI, optical or coaxial) from each source device.



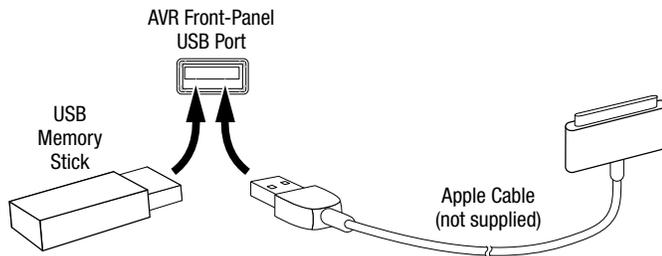
Analog Audio Devices

Use the AVR's analog audio connectors for source devices that don't have HDMI or digital audio connectors.



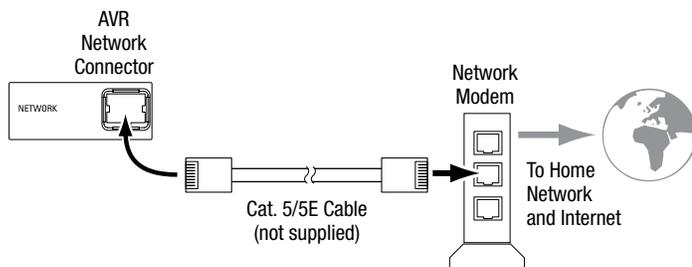
USB and iOS® Devices

Use the AVR's front-panel USB port to connect an iPod, iPhone or iPad using an Apple cable (not supplied) or to connect a USB memory stick. You can play audio files from the device or memory stick, and use the AVR's remote to control playback.



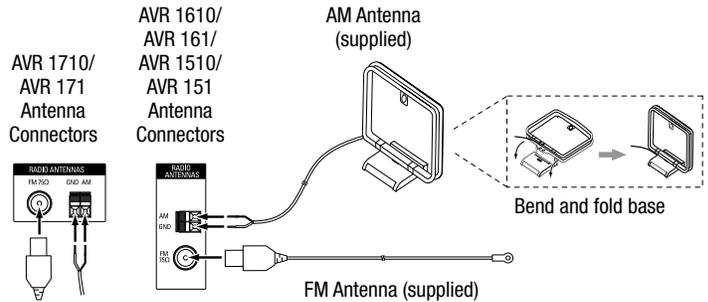
Connect Your Home Network

Use a Cat. 5 or Cat. 5E cable (not supplied) to connect the AVR's Network connector to your home network to enjoy AirPlay (AVR 1710/AVR 171 only), Internet radio and content from DLNA®-compatible devices that are connected to the network.



Connect the Radio Antennas

- Connect the supplied FM antenna to the AVR's FM 75Ω 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.

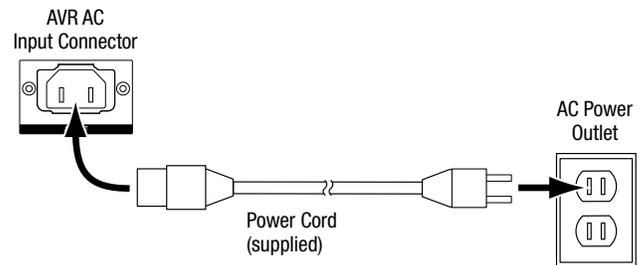


NOTE: To connect multizone, remote IR and trigger equipment, please download the AVR 1710, AVR 171/230, AVR 171/230C, AVR 1610, AVR 161/230, AVR 161/230C Owner's Manual or the AVR 1510, AVR 151/230, AVR 151/230C Owner's Manual from www.harmaninternational.com.

Connect to AC Power

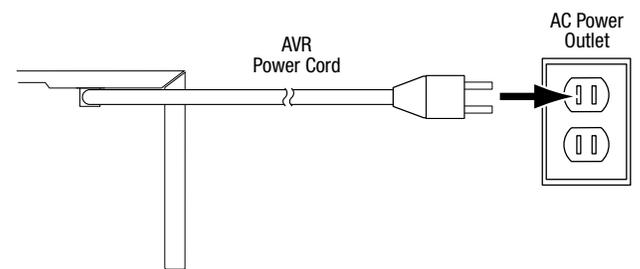
AVR 171/AVR 161/AVR 151:

Connect the supplied AC power cord to the AVR's AC Input connector and then to a working, non-switched AC power outlet.



AVR 1710/AVR 1610/AVR 1510:

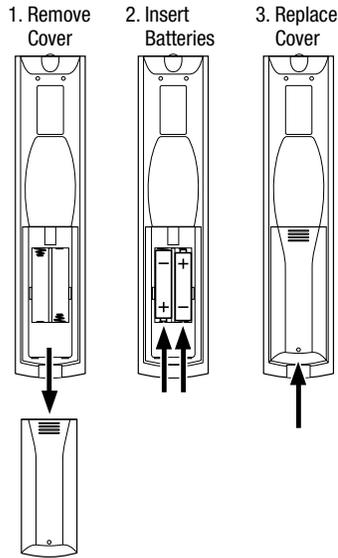
Connect the AVR's power cord to a working, nonswitched AC power outlet.



Set Up the AVR

Install the Batteries in the Remote Control

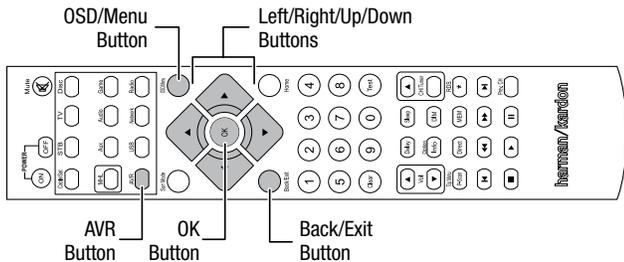
Remove the remote control's battery cover, insert the two supplied AAA batteries as shown in the illustration, and replace the battery cover.



NOTE: Remove the protective plastic from the AVR's front panel so it doesn't reduce the remote control's effectiveness.

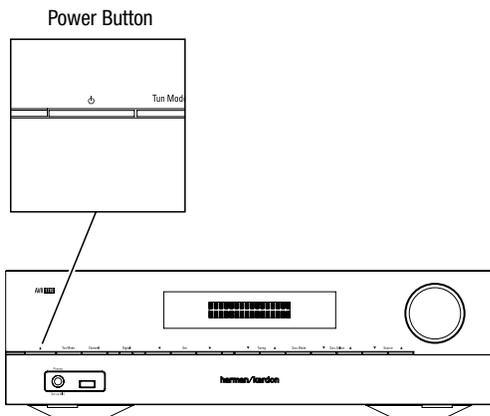
Using the Remote Control

You will be using the following remote-control buttons to configure your AVR:



Turn On the AVR

Press the front-panel Power button.

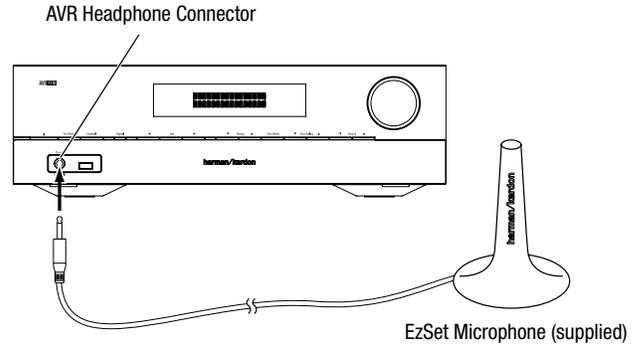


Configure the AVR for Your Speakers: AVR 1710/AVR 171/AVR 1610/AVR 161

Note: The on-screen menus shown in this guide may differ slightly from your AVR's actual menu screens.

Before you use your AVR you need to configure it to work with your particular speaker system. Your AVR's EZSet/EQ™ Plus system uses the supplied EzSet/EQ microphone to detect the capabilities of each connected speaker and optimize the AVR's performance for them automatically. Before beginning, be sure you have correctly connected your speakers to the AVR.

1. Plug the supplied EzSet/EQ™ microphone into the AVR's Headphone connector.



2. Place the microphone at ear height in your listening position.
3. Turn on your TV and select the TV input where you connected the AVR in *Connect Your TV or Video Display*, on page 4.
4. Press the remote control's AVR button, then press the OSD/Menu button. The AVR's on-screen display (OSD) setup menu will appear on the TV. (Note: If you have used a composite video connection to your TV, the OSD menus will not appear on your TV. Follow the steps below using the AVR's front-panel display.)



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



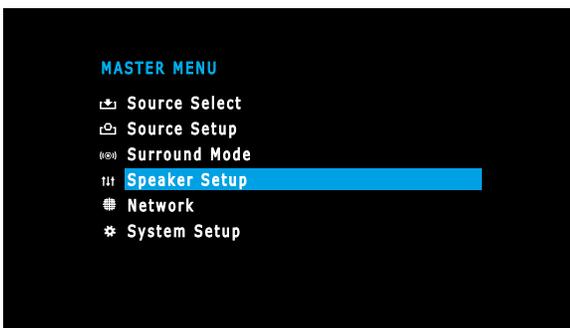
6. Select "Auto: EZ Set/EQ."
7. Select "Continue."
8. Follow the instructions that appear on the screens. Remain quiet while the test noise plays through the speakers.

Configure the AVR for Your Speakers: AVR 1510/AVR 151

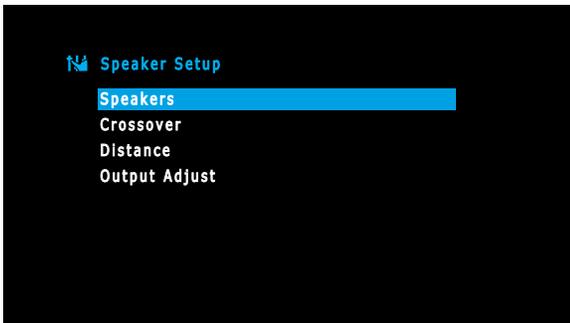
Note: The on-screen menus shown in this guide may differ slightly from your AVR's actual menu screens.

Before you use your AVR you need to configure it to work with your speakers and to compensate for the acoustic characteristics of your room. Before beginning, place your loudspeakers as explained in the *Place Your Speakers* section, on page 2, and connect them to the AVR as explained in the *Connect Your Speakers* section, on page 4.

1. Turn on your TV and select the TV input where you connected the AVR in *Connect Your TV or Video Display*, on page 4.
2. Press the remote control's OSD/Menu button. The AVR's on-screen display (OSD) setup menu will appear on the TV. (Note: If you have used a composite video connection to your TV, the OSD menus will not appear on your TV. Follow the steps below using the AVR's front-panel display.)



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

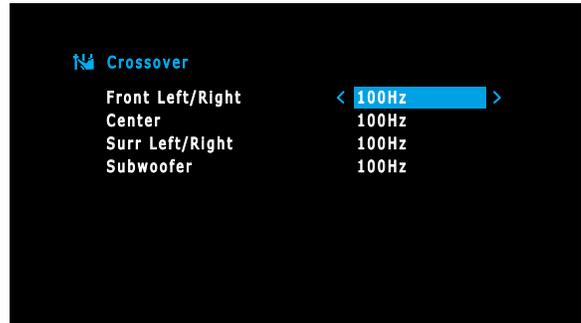


4. Select "Speakers."



5. Use the Up/Down buttons to select a speaker group and use the Left/Right buttons to select "On" when the speakers are present in the system, or "Off" for positions where no speakers are installed. The Front Left/Right setting is always On and may not be disabled. (Note: The settings in this menu affect the remainder of the speaker-setup process and the availability of various surround-sound modes.)

6. Press the Back/Exit button to return to the Manual Setup screen, then select "Crossover."



Consult the technical specifications for all of your speakers and locate their frequency response, usually given as a range, e.g., 100Hz – 20kHz ($\pm 3\text{dB}$). Write down the lowest frequency that each of your speakers is capable of playing (100Hz in the above example).

7. Use the Left/Right buttons to set each speaker group's crossover frequency to the frequency that most closely matches the frequency you noted above in the speaker's specifications. If the speaker's crossover frequency is lower than 40Hz, select the first option, "Large." (This setting doesn't refer to the speaker's physical size but to its frequency response, which is also called "full range.")

- We recommend that you set the Subwoofer Crossover to the same frequency you use for the Front Left/Right speaker setting.

Your AVR will divide the source signal at the crossover frequency; all information above that crossover point will be played through your system's speakers, and all information below the crossover point will be played through the subwoofer. This way, each loudspeaker in your system will perform at its best, delivering a powerful and enjoyable sound experience.

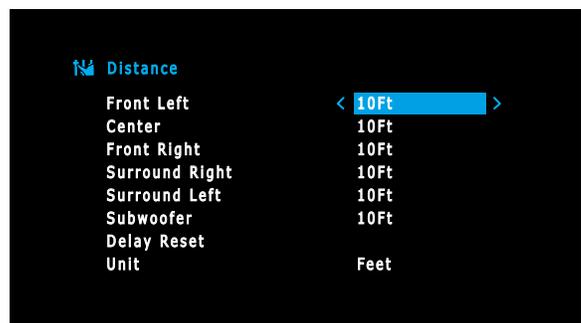
- If you set the Front Left/Right speakers to "Large," select one of the three following settings for the subwoofer:

L/R+LFE: This setting sends all low-frequency information to the subwoofer, including a) low-frequency information that is also played through the front left and right speakers and b) the special LFE (low-frequency effects) channel information that is present on some DVDs, Blu-ray™ discs and other digital programming.

LFE: This setting plays low-frequency information contained in the full-range program channels through the front left and right speakers, and directs only the LFE-channel information to the subwoofer.

OFF: Select this setting when no subwoofer is in use. All low-frequency information will be sent to the front left and right speakers.

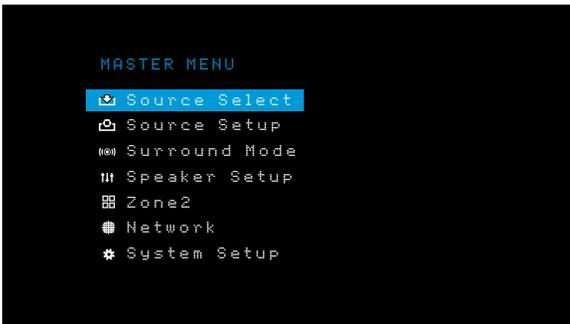
8. When you're finished, press the Back/Exit button to return to the Manual Setup screen, then select "Distance."



9. Measure the distance from each speaker to the listening position, and write it down. (Even if all of your speakers are the same distance from the listening position, you will need to do this.)
10. Enter the distance that you measured from each speaker to the listening position. Select a speaker, then use the Left/Right buttons to change the measurement. You can enter distances between 0 and 30 feet (9.1m). The default distance for all speakers is 10 feet (3m).
 - If you want to use metric measurements, select “Unit” and use the Left/Right buttons to change the units to meters.
11. When you’re finished, press the OSD/Menu button to exit the menu system.

Assign Connectors to the AVR’s Source Buttons

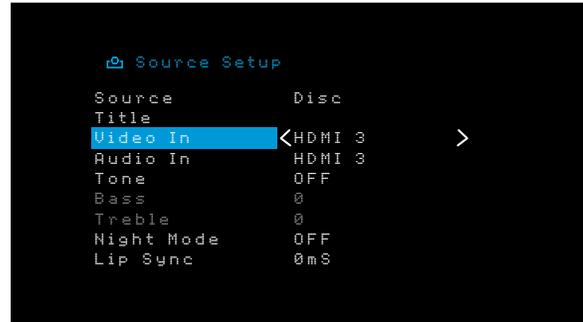
1. Review the input connections you listed on the *Source Buttons and Assigned Connectors* table, on page 5. Note what changes (if any) you want to make from the default connector assignments that appear on the list.
2. Turn on your TV and select the TV input where you connected the AVR in *Connect Your TV or Video Display*, on page 4.
3. Press the remote control’s OSD/Menu button. The AVR’s on-screen display (OSD) setup menu will appear on the TV. (Note: If you have used a composite video connection to your TV, the OSD menus will not appear on your TV. Follow the steps below using the AVR’s front-panel display.)



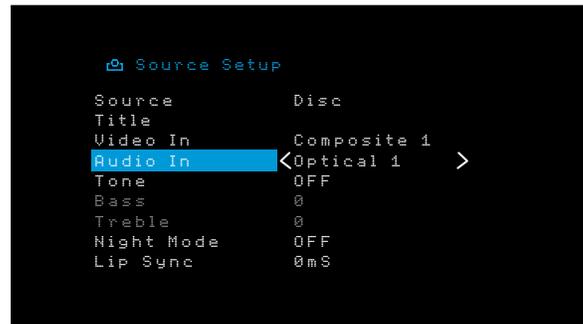
4. Use the remote’s arrow and OK buttons to select “Source Setup,” and use the left/right arrow buttons to select a source button with connectors that you want to re-assign.



5. Select “Video In” and select the video input connector you want to assign to the source button. Press the OK button. NOTE: If you select an HDMI connector as the video input connector, the audio input connector will automatically change to the same HDMI connector. You cannot use a different audio input connector with an HDMI video input connector.



6. If you have not selected an HDMI connector for Video In, select “Audio In” and select the audio input connector you want to assign to the source button. Press the OK button.



7. Press the remote’s Back/Exit button and repeat steps 3 – 6 for the remaining source buttons with connectors you want to re-assign.

You are now ready to enjoy your AVR!

IMPORTANT: For complete information about using all of your audio/video AVR’s features and capabilities, download the *AVR 1710, AVR 171/230, AVR 171/230C, AVR 1610, AVR 161/230, AVR 161/230C Owner’s Manual* or the *AVR 1510, AVR 151/230, AVR 151/230C Owner’s Manual* from www.harmaninternational.com.

General Specifications

Power consumption	
(AVR 1710/AVR 171):	<0.5W (standby); 510W (maximum)
(AVR 1610/AVR 161):	<0.5W (standby); 450W (maximum)
(AVR 1510/AVR 151):	<0.5W (standby); 410W (maximum)
Dimensions (W x H x D):	
	17-5/16" x 4-3/4" x 11-13/16" (440mm x 121mm x 300mm)
Weight	
(AVR 1710/AVR 171):	11 lb (5.1kg)
(AVR 1610/AVR 161):	10 lb (4.6kg)
(AVR 1510/AVR 151):	10 lb (4.6kg)



HARMAN

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Features, specifications and appearance are subject to change without notice.

Part #: 960-0287-001, Rev. A

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