



Receiver Buying Guide Quick Reference Handout

One of the major choices you are going to have to make when beginning or upgrading your home theatre is which receiver will make it all work together. The easiest way to shop for a receiver to determine your needs and eliminate the models that do not meet them.

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What is a receiver?

Receivers are the heart of a home theatre system. They connect the components of your home theatre, seamlessly integrate them, and simplify the entire process of enjoying music or movies at home.

How does an AV receiver work?

You can separate your home theatre components into two categories:

1. Input devices including Blu-ray players, PVR, or Apple TV
2. Output devices including your TV, sound bar, or home theatre and stereo speakers

The AV receiver takes your input and output devices and sends the video signals to your TV or projector while simultaneously amplifying the audio through the speakers.

Questions to ask when choosing a receiver

There are a few questions you'll want to ask yourself when deciding between the different receivers.

1. What are my audio requirements?

- **Do I want stereo sound?** Do you want to be set up a surround sound system with multiple speakers or will you be using only two speakers to listen to audio playback?
- **Do I want surround sound?** Movies are created in different formats if you want to enjoy better audio quality for movies, you may want to consider a surround sound receiver.

2. How many channels do I need?

A channel refers to how many speakers will be used in your setup. Every AV receiver is advertised using a series of numbers, such as 5.1 or 7.1. A 5-channel setup will add two rear surround channels, and a 7-channel system will take it a step further and add two side surround channels. The second number refers to the number of subwoofers the receiver is designed to handle. One subwoofer will be enough for the majority of home theatres.

3. Do I need Dolby Atmos and DTS:X?



Dolby Atmos is technology that creates object-based surround sound. Each pair of Atmos speakers will require two of your dedicated surround channels, so a 7.1 Atmos receiver will essentially give you a 5.1 surround system with 2 Atmos channels.

4. Do I want to set up multi-room audio?

Many AV receivers offer a feature that allows you to set up a second zone, enabling you to add a second pair of stereo speakers in another room.

What does Wattage mean?

Watts or wattage is simply a measurement of the “power” the amplifiers inside your receiver can deliver to your speakers, and a measurement of the “power” your speaker is able to receive.

How to match speakers to receivers

To ensure you have a good receiver/speaker match you should find the RMS (root means square) power rating of the speakers and ensure that your amplifier is able to deliver that wattage.

1. How to calculate RMS watts

A good rule of thumb is to have RMS amplification that can output 50% more than the RMS rating of your speaker. Example: You have speakers that are RMS rated at 75 watts. $75 \times 1.5 = 112.5$. An amp that outputs 110-120 RMS watts is ideal for this speaker.

2. Watts to volume ratio

Watts represent the capacity for volume. Loudness is represented in decibels (dB) and measured using a sound pressure level meter (SPL). All speakers have a sensitivity rating represented as **Sensitivity: 90 dB @ 1W/1m**. The higher this number, the more efficient the speaker. If this number is low, you will need more amplification to achieve higher volumes.

3. Take room size into account

Listening distance and room size will impact the perceived volume of your speakers.

4. Do I want wireless audio?

Most of today’s receivers are equipped to allow you to wirelessly stream music and you can play music off your wireless devices like smartphones or iPads over a Bluetooth connection.

What are my video requirements for my new receiver?

1. Resolution of your display

The resolution of your monitor or projector, which could be 720p standard definition, 1080p Full HD high definition, 4K, or 8K, will determine what you need for video processing capabilities.

2. Upscaling video



Many receivers are capable of upscaling video from SD into HD or HD to 4K.

3. Enabled Pass Through

Pass-through allows the video signal to bypass the internal video processing and go directly to the display. You can choose HDMI, 3D, or 4K/8K pass-through.

Final considerations before choosing your receiver

1. Smart features on receivers

If you like to control your home theatre devices from your phone you can choose a receiver with Wi-Fi, Bluetooth, and app control.

2. HDMI inputs

You'll find receivers with multiple HDMI inputs or just two. The most common number of HDMI inputs on a receiver is 4 or 6.

3. Easy setup process

The latest receivers offer a feature called Automatic Speaker Setting Calibration. These receivers will walk you through the setup process to perfectly calibrate each speaker connected to your receiver.

4. Connect your gaming console to the receiver

To connect one of the latest gaming consoles to your receiver you'll want to look for a model with HDMI ports that support 4K gaming as well as HDR. There are models with dedicated inputs that offer 8K/60Hz or 4K/120Hz pass-through as well as HDR10 and HDR10+.