GLI-200
GROUND LOOP ISOLATOR

The Sound That Will *Move* You

The Earthquake Sound GLI-200 is a device that was designed to resolve most issues of ground loop noise or buzzing which can be common in audio systems due to ground loop. The standard A/V receiver output is 600Ω yet most ground loop isolators on the market today have 200Ω at best. If using a substandard product, your A/V receiver has to deliver 3X more current and or compromise the output level. The GLI-200 comes with an impedance of 600Ω right out of the box matching that of the industry standard. Unlike other products on the market, Earthquake's GLI-200 is constructed with high-quality components and will not roll-off the low frequency response due to undersized transformers resulting in substandard performance. The GLI-200 was designed to remedy most situations where a ground loop creates an unwelcomed hum or buzz noise that some experience in their audio systems. The compact and rugged construction of the GLI-200 allows for it to fit into virtually any audio system and can be mounted to any surface with its built-in mounting bracket. This will give you a cleaner looking install and allow it to be hidden out of sight. The GLI-200 can be applied to a range of applications that accept an RCA input and output.

Do not panic if you find that the GLI-200 increases noise. You will need to locate the source of the noise, trap it , and kill it. Please refer to the A/V System section of this guide for more details. Earthquake Sound recognizes that not all hum or buzz noise situations are the same and encourages you to contact tech support if you need further assistance.

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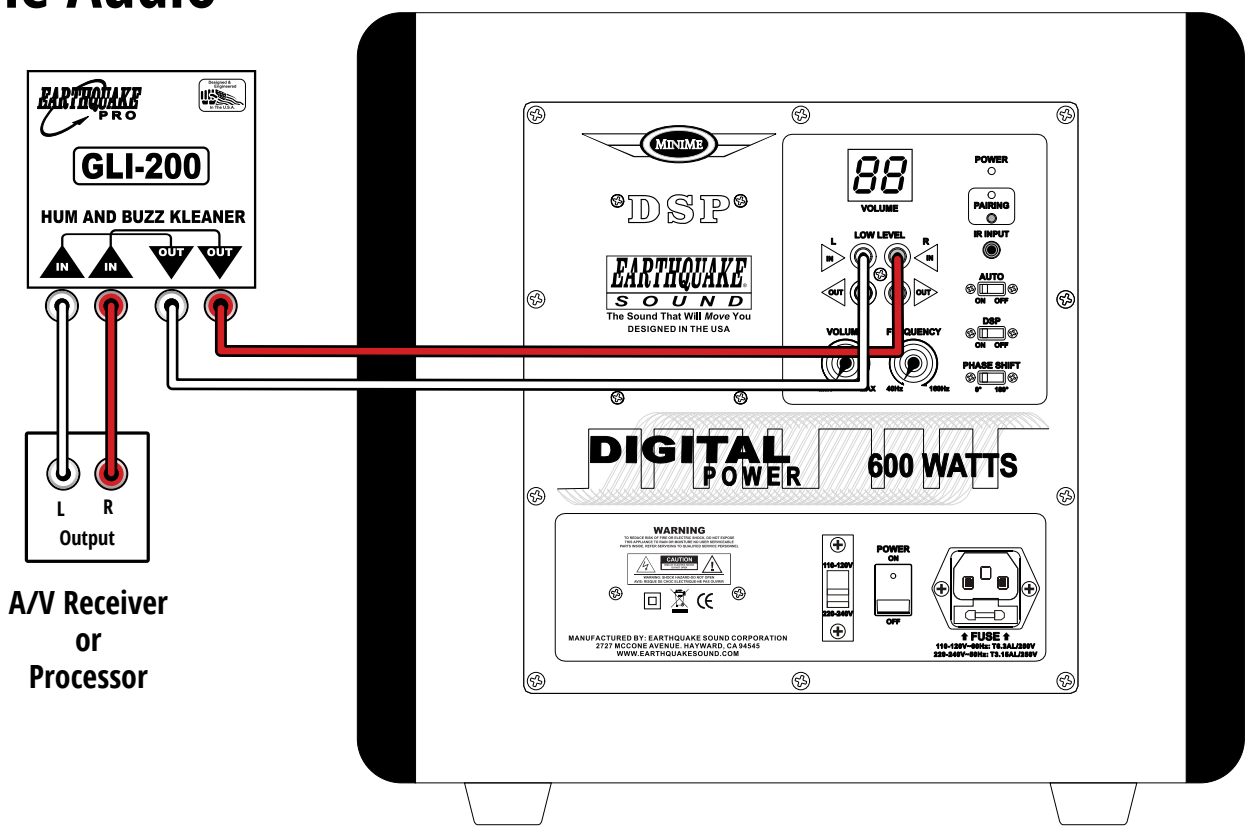
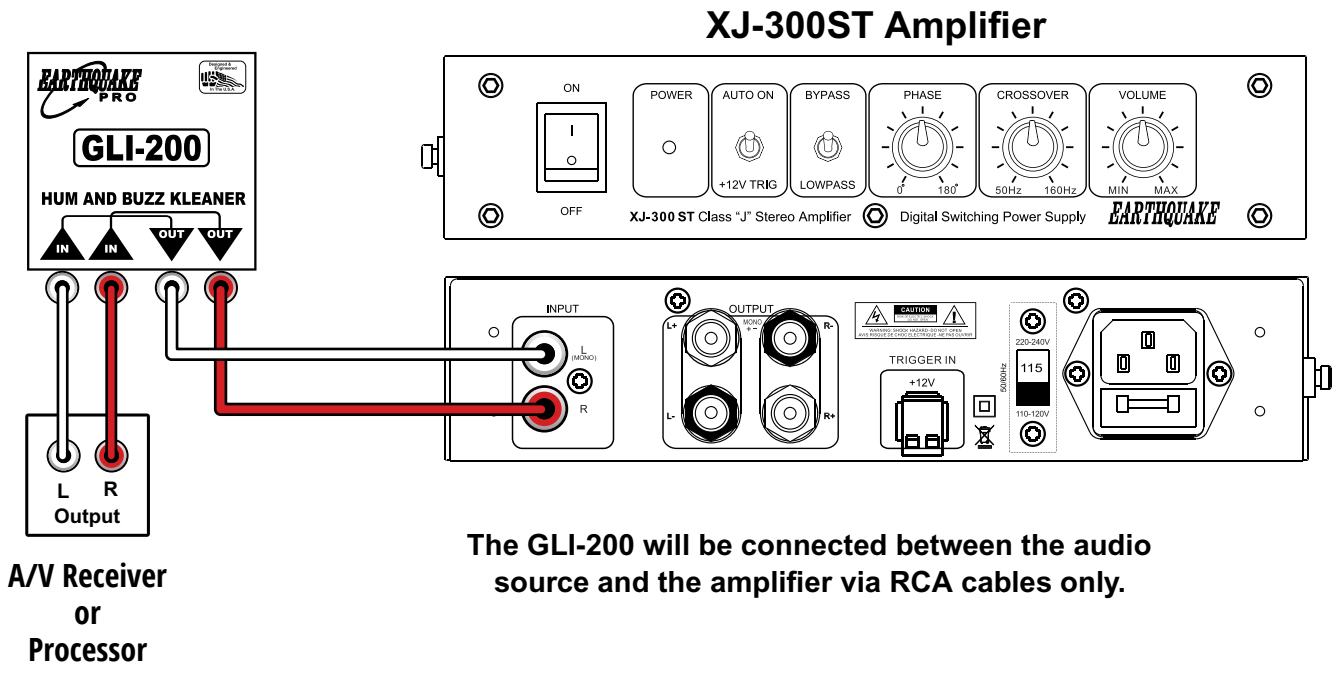
Home Audio



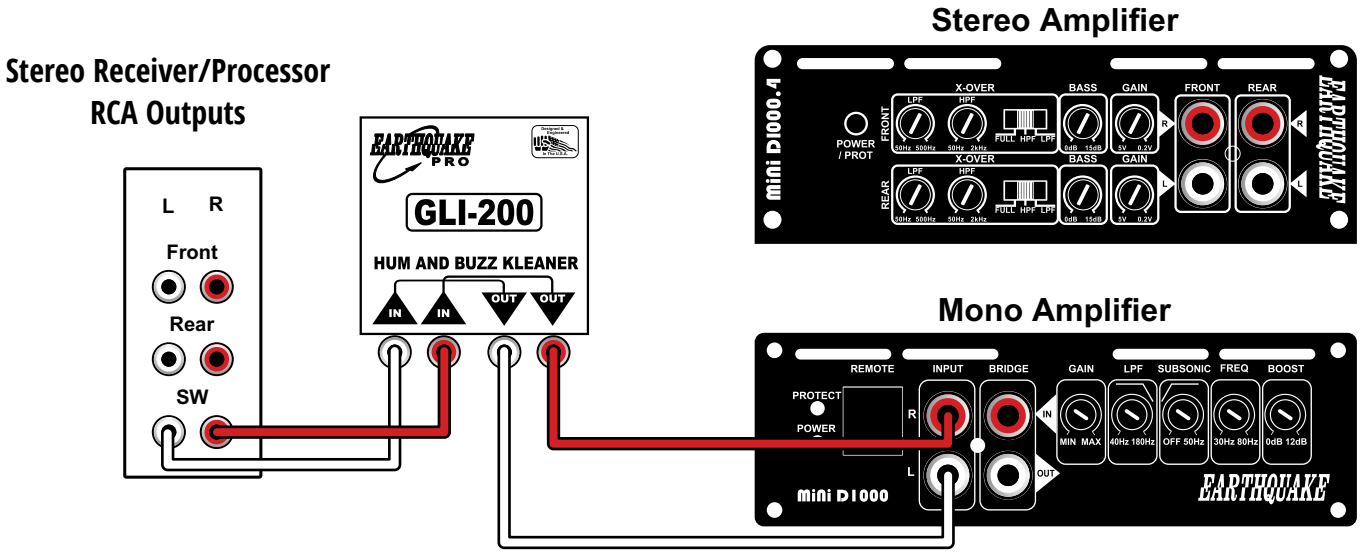
Connect the GLI-200 between the A/V Receiver/Processor and a powered subwoofer via RCA cables.

Home Audio



The GLI-200 will be connected between the audio source and the amplifier via RCA cables only.

Mobile Audio



Connect the GLI-200 between the stereo receiver/processor front, rear, or sub outputs and a stereo or mono amplifier inputs via RCA cables.

Removing Unwanted Noise From Your Audio System

Introduction

Home theater audio systems are a complex system with many components, especially on the source side. These sources are typically connected to an audio/video processor. In many occasions, as soon as the system is fired up and the sound comes out of the speakers, you will hear a HUM, often confused with BUZZ.

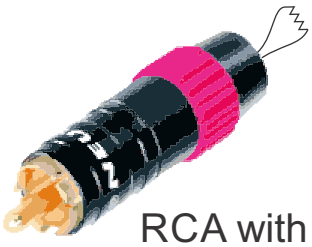
In this guide, we will focus on how to get rid of the hum, but first understand the nature of HUM noise.

Some have been advised that removing the third prong of the power plug is the solution. In reality, this method only masks the problem. Hum is generated when there are different grounds among the components. Such ground differences cause the audio path to seek a lower ground (0-Ohm).

About 80% of hum noise is attributed to the cable box and around 15% of hum noise is attributed to 20ft or longer RCA cable runs.

Optional Tools To Have On Hand

Shorted RCA



OR

RCA with 600Ω 1/4W resistor between the positive & ground

6ft long speaker wire with alligator clamp at each end

What You Need To Know To Find The Best Solution

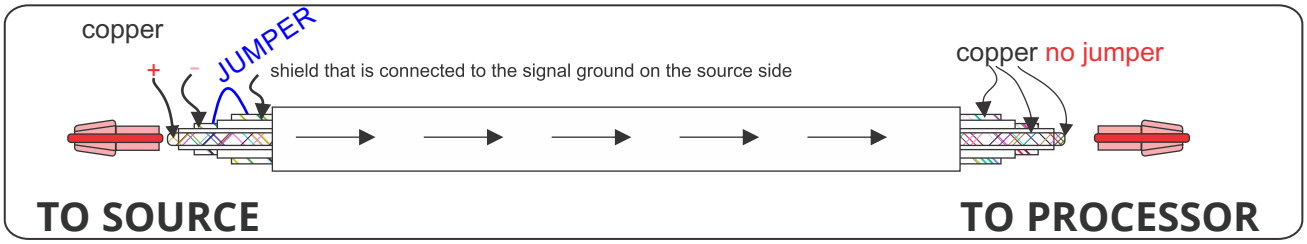
(1) The sources connected to the system, i.e. cable box, CD player, DVD/Blu-ray player, game console, etc.

(2) Does the system involve a cable box?

Typically, the ground of the cable box is above 0-Ohm due to poor grounding. One solution is to ground the source components.

(3) The length of RCA cable used

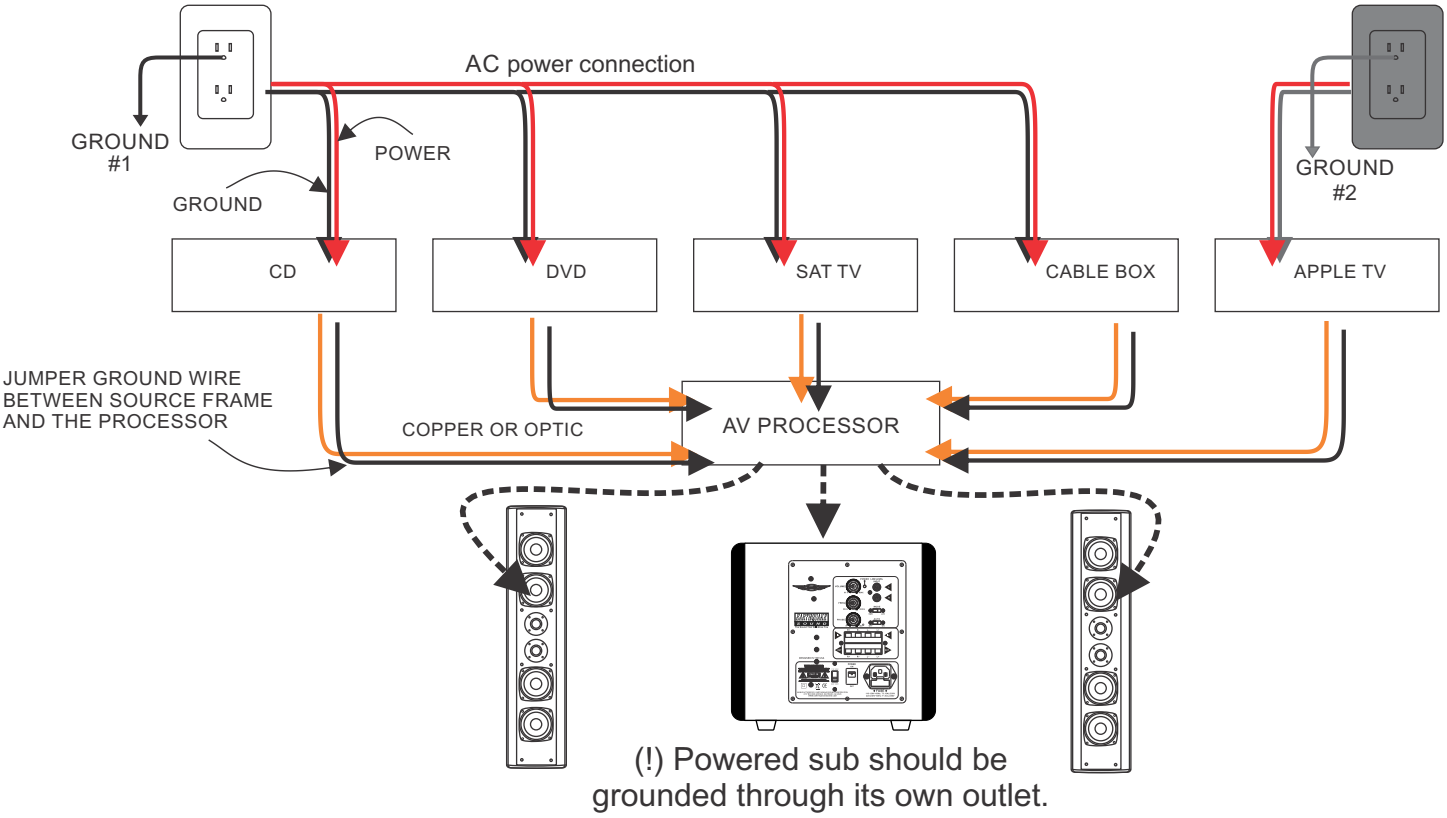
When you have more than 6 feet (1.8m) RCA cable run, it is best to use an RCA cable that has a positive conductor, a ground conductor and a shield conductor. The shield conductor should be left open only on the receiving unit. On the source side, the shield conductor should be shorted between the ground and the shield itself. This method of noise reduction is called "Source Grounded Wiring."



(4) How many AC power outlets are used?

When two or more AC power outlets are used, joining the frames of all components in the system will often solve or greatly reduce the hum problem. A ground loop isolator can be used when there are different power sources present.

Frame Ground Cable Box to A/V Receiver/Processor



Step-By-Step Procedure To Find The Noise Maker & How To Kill It

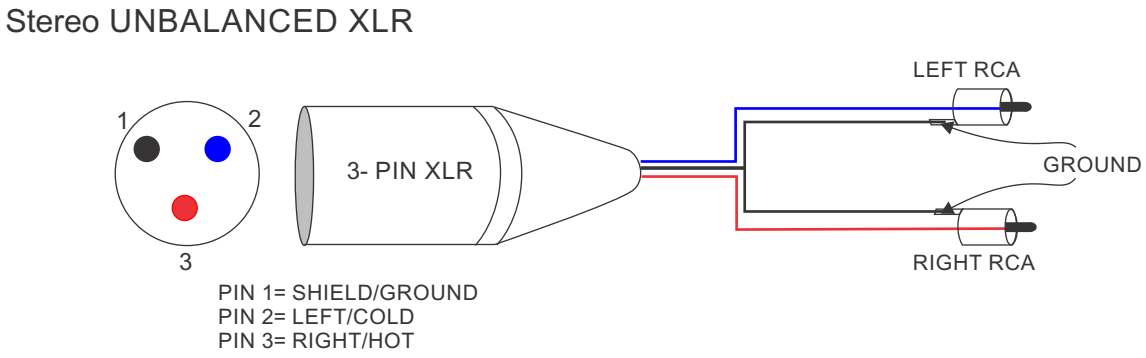
Step 1.
Disconnect all input sources from the processor/receiver leaving only the subwoofer and output speakers connected to the processor/receiver. Turn on the system and determine whether there is noise or not. If there is noise, follow Step 2. Otherwise, proceed to Step 3.

Step 2.
Bring the subwoofer closer to the processor and connect the sub using a 3-feet long RCA cable. If you do not hear any noise/hum, then using a source grounded RCA cable (with 3 conductors) when reconnecting the subwoofer from its preferred placement. Reducing the gain of the subwoofer and increasing the gain of the processor can also reduce the noise/hum problem.

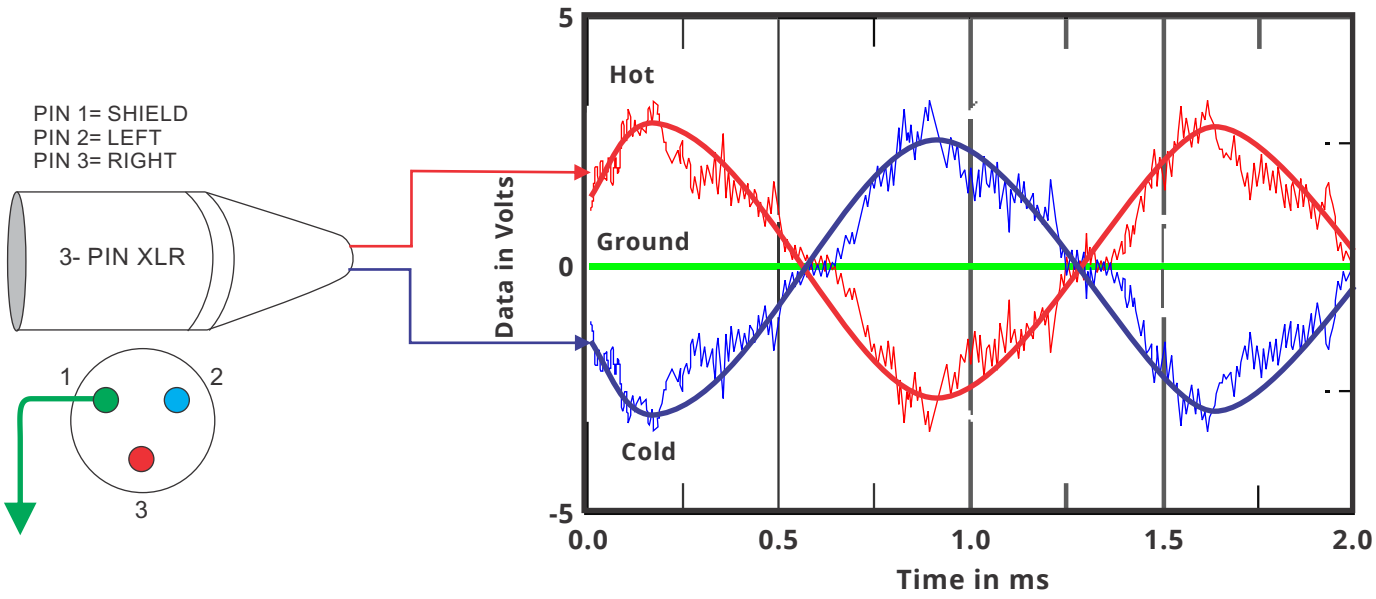
Step 3.
Since no noise is heard, connect one input source at a time. Each time you add a new component to the system, closely check for noise. Whichever source that causes the noise is the culprit. Simply ground the frame of the offending component to the processor's frame/chassis.

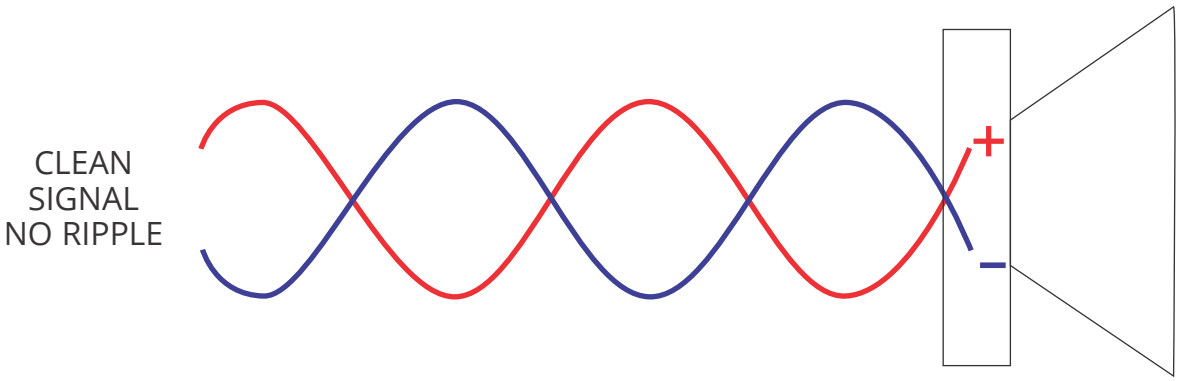
Step 4.
If all else fails, use a ground loop isolator. Ground loop isolators will help in finding a source (CD, DVD, etc.) which has a problem with its internal ground. When installing the ground loop isolator between the source and the processor/receiver, the copper connection is broken. If the hum noise disappears, then the unit has insufficient internal grounding.

What Is XLR & Would Using It Reduce The Noise?



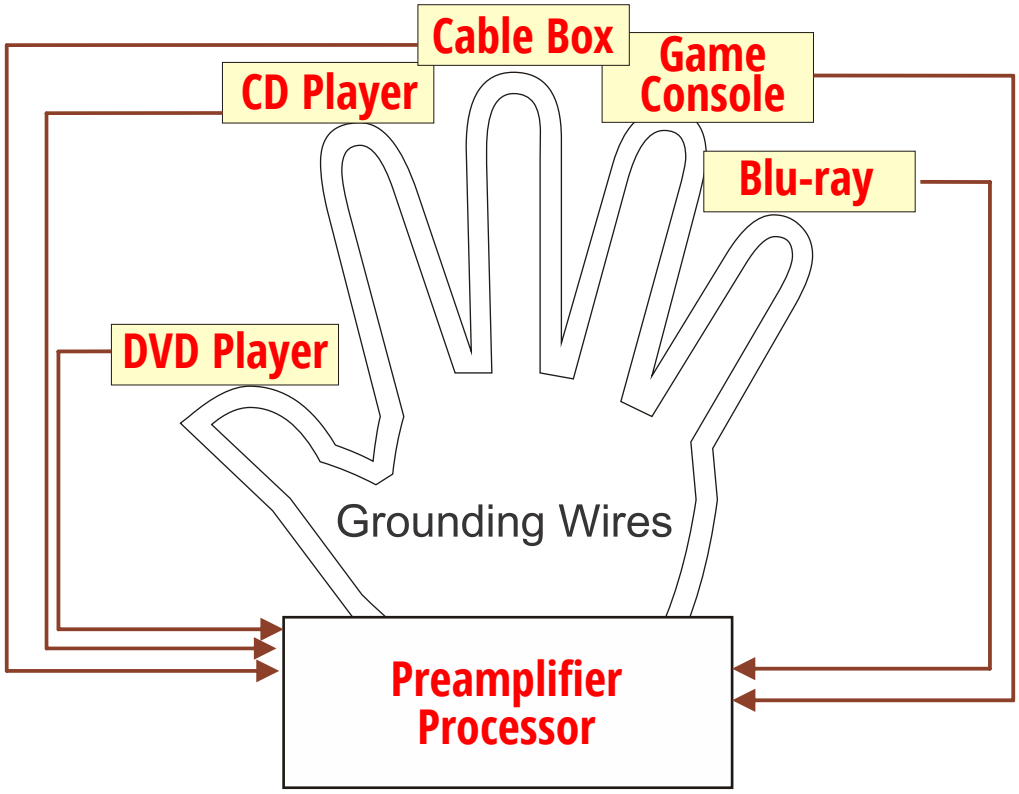
Balanced input XLR: in this situation, pins 2 and 3 are carrying the hot and cold of the same signal whereby the noise on the hot is canceled by the noise on the cold.





One Thing To Remember: Star Grounding

It is good practice to ground all input source frames to the equipment rack. If there is no equipment rack, then connect the frame of each source to the receiver/processor as depicted in the STAR GROUNDING method below.



Important Safety Information

Do not defeat the safety purpose of a polarized or grounding-type AC plug. A polarized plug has two blades with one wider than the other. The grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet then consult with a licensed electrician for proper replacement of the obsolete outlet. Earthquake Sound Corporation is not responsible for any bodily harm and or property damage due to insufficient wiring or improper handling of its products.

Earthquake Sound Corporation recognizes that not all hum or buzz noise situations are the same and strongly encourages customers to contact tech support if further assistance required.

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