

EBTECH® Hum Eliminator™ Applications 8/12/13

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HE-2: Two channel box with 1/4" Smart Jacks (TS or TRS)

HE-2-XLR: Two channel box with 1/4" Smart Jacks and XLR

HE-8: Eight channel single space rack with 1/4" Smart Jacks (TS or TRS)

HE-8-XLR: Eight channel single space rack with XLR jacks

The Hum Eliminator™ does more than just prevent AC hum from being picked up by your sound systems. It also can be used as one of the most cost-effective ways to convert unbalanced signals to truly balanced signals. On either of the XLR versions, you can use the 1/4" and XLR jacks in any combination.

GROUND LOOPS - The Hum Eliminator™ prevents ground loop antennae from forming and picking up AC hum. AC hum & noise is almost always caused by a loop antenna effect across signal lines between two or more pieces of gear, or by long unbalanced cables picking up noise. Loop antenna(e) are basically a type of radio antenna, which tend to pick up the 60Hz and harmonics (50Hz in other parts of the world) AC signal being broadcast by a building's electrical current. These loop antennae are closed circuits usually along the ground wires and hence are commonly called ground loops.

BALANCED / UNBALANCED CONNECTIONS - Unbalanced signals are more susceptible to picking up electrical noise & RF interference than balanced signals are. The longer the unbalanced cable is the greater the chance of a problem. The Hum Eliminator™ is one of the most cost-effective ways to convert between unbalanced signals and true balanced signals.

BROADCASTING / VIDEO - Press Boxes and broadcast studios have many feeds all going to different gear; which can create ground loops and hum/buzz problems. Use a Hum Eliminator™ on these feeds to eliminate the problem. Using a Hum Eliminator™ on the audio feed of a video camera can help prevent video hum (snow) as well as video hum bars that are caused by ground loops. .

COMPUTER SOUND CARDS - Most sound cards have unbalanced inputs and outputs. Balance these with the Hum Eliminator™. Even balanced sound cards have tremendous susceptibility to ground loops because of the computer's power supply. If you hear a buzz, use a Hum Eliminator™.

GUITAR OR BASS - Whenever possible, we recommend you use our Hum X product for GROUND RELATED hum issues on a guitar or bass rig setup. If you're in a part of the world where the Hum X cannot be used, the Hum Eliminator™ is the next best solution. If any of your FX pedals have a 3 prong ground power plug, you will need to put the Hum Eliminator on the audio feed to the amp. When using two or more guitar amplifiers (with stereo FX or ABY splitters) ground loops can form between the amplifiers; place the Hum Eliminator™ on the audio signal between the ABY and the amp that is buzzing. Bass amps can get ground loop hum from the DI connection to the PA; simply run that DI feed through the Hum Eliminator™.

HOME THEATERS - Most modern Home Theater systems utilize many different components hooked together via a mixer or distribution device. These days more and more consumer audio/video equipment has a three-prong grounded plug. This creates a large potential for ground loops which results in hum or buzz in the audio. Placing the Hum Eliminator™ between offending gear will solve the noise issue. The Hum Eliminator will even get rid of Video Hum Bars that are caused by Ground Loop!

KEYBOARDS / SAMPLERS / SYNTHS - Most keyboards, samplers, and synthesizers have unbalanced -10dBV outputs. Use a Hum Eliminator™ to balance the signals if using with other -10dBV equipment. To use a -10dBV unbalanced device with a +4dBu balanced device, use an EBTECH® Line Level Shifter™.

LIVE SOUND / DJ MIXERS - A common problem with live performance is long unbalanced cables picking up hum along the way. Balanced signals are more immune to picking up noise. Use the Hum Eliminator™ to balance long unbalanced signals. Mobile DJs or bands never know when setting up their system if they're going to get a hum or not. The electrical wiring changes from one building to another. What works fine at one gig might not work at the next. It's worth the low cost to keep a Hum Eliminator™ available, nobody can afford to lose a gig because of hum problems. Some DJs run everything in their rig through Hum Eliminators to play it safe. The main outs on most DJ mixers are -10dBV unbalanced RCA. When using with a +4dBu power amp, over 2/3rd's of the amp's volume can be lost. Use an EBTECH® Line Level Shifter™.

MIXERS/RECORDING - Many mixers have either unbalanced or "impedance balanced" monitor outs / aux sends. Use a Hum Eliminator™ to get true balanced monitor outs for noise-free performance. When using more than one mixer (or sub-mixing), there's a huge chance of getting ground loops (and that buzz!). Use Hum Eliminators™ to prevent these ground loops. Eliminating hum is one of the biggest challenges facing studios. Many studios will run all of their line level gear through Hum Eliminators™ to help ensure noise-free recording.

POWER AMPLIFIERS - Running multiple amplifiers can create ground loops between the amplifiers, which will pick up the dreaded hum and buzz. Run each amplifier's input line through a Hum Eliminator™ to prevent this problem. **IMPORTANT NOTE: Do not place the Hum Eliminator™ between the power amp outputs and the speakers. Doing so will damage the power amp and/or the speakers.**