

Grounding Noise and Possible Solutions

If you're working with Roland/BOSS/EDIROL gear or any other audio equipment, you may find that you're hearing an unwanted humming sound in the background. This annoying sound is most likely grounding noise, and it can be tricky to diagnose and resolve.

Here are some things to check out. Any one of them—or a combination of them—may solve your problem.

- If you're listening to multiple audio devices, and they draw power from different circuits—for example, from electrical sockets located on different walls—you may have a *ground loop*. Confirm that your Roland/BOSS/EDIROL product is connected to the same outlet or power strip as the other audio devices to which it's connected. (Don't forget to include your speakers.)
- Keep power cables and audio cables as far apart from each other as possible. If power or audio cables *must* cross paths, keep them at 90 degree angles to each other, instead of, for example, running side-by-side.
- Try moving your Roland/BOSS/EDIROL product away from your computer, computer monitor(s), power cables, UPS ("Uninterruptible Power Supply") devices, and electrical wall sockets.
- Computers, lighting—especially florescent lighting—electronic appliances, and such can all play a role in grounding noise. Make sure these devices are not on the same circuit as your music-related gear.
- Some higher-quality power strips/conditioners claim they can help reduce or eliminate grounding noise, and there are companies that make products designed specifically to avoid grounding noise issues.
- Using DI (direct) boxes and balanced cables can help, since the outputs on most music devices are unbalanced, and the inputs on your audio Interface may be balanced. Unbalanced cables can be more susceptible to picking up electrical noise.

- Your building/home may be supplying "dirty power"—fluctuating or unstable power that produces spikes, surges, or interruptions in the flow of electricity. This can produce humming or buzzing in your audio system. A possible solution is to connect all of the peripherals in your audio system to a power conditioner or UPS, or have the building inspected by a qualified electrician.

If You're Using an Electric Guitar

Electric guitar pickups are prone to humming/buzzing. Disconnect your guitar to see if the instrument itself is introducing noise into your system. Next, connect only your guitar to your Roland/BOSS/EDIROL product—no effects, stomp boxes, etc. If this solves the problem, the noise is coming from one of the effects previously connected.

Note: Be sure you're using good-quality cables and components on the guitar—knobs, input jack, etc.—and that your guitar has properly installed shielding, which even new electric guitars may not always have.

Tip: You may also be able to reduce guitar-related hum by turning your body to the left or right in order to play at a different angle relative to your other equipment.