



## Ai1 - FREQUENTLY ASKED QUESTIONS

Q. "How did you make the Ai1 so small? Other Pre-amp Di's I've seen on the market are much larger"

A. We use SMT (Surface Mount Technology) to produce our electronics. This is a newer and more reliable assembly method for electronics. This is the same technology that is used in computers and cell phones. This technology allows us to minimize the "size" of the electronic circuitry without sacrificing quality and features.

Q. Is the Ai1 digital?

A. No, the Ai1 uses 100% analog signal path. (No Analog to Digital and Digital to Analog conversion to degrade your tone)

Q. Why are there RCA jacks on the Ai1?

A. This is a very good question and has a long answer so bear with me. The Ai1 is a studio quality direct box and preamp and is an indispensable stage tool for acoustic musicians. It has a variable gain control for passive or active pickups and a very high quality DI output for a pristine signal sent to a soundboard. All of that being said, we wanted the Ai1 to be even more, so we added some features that make the Ai1 great for home or private practicing. The RCA "Stereo" Line Out feature allows you to plug the Ai1 into a home theater/stereo system to allow you to play your instrument without an expensive amplifier. With the "Stereo" Line Out feature you can connect to any sound equipment that uses RCA type inputs.

The Ai1 also has RCA jacks for "Stereo" Line In. You can connect an MP3 player, tape player, CD player, etc.. This signal is heard through all outputs (OUTPUT, D.I. OUT, LINE OUT, and HEADPHONE) This feature is great for the solo artist to play backing tracks during a gig or practice. You can also use this feature to play along with your favorite songs through the headphones. Your Instrument signal will be mixed in with the recorded music.

Q. "What is a "Ground Loop" and what causes this problem?"

A. When 2 pieces of "AC" powered equipment are connected together there is potential for a "Ground Loop". A ground loop is usually heard as a "hum" through the speakers of the PA or amplifier. For instance if you connect your amplifier to a mixing board via the XLR Direct Out jack or Line Out jack, there is potential for a "Ground Loop" if both pieces of equipment use earth ground as their signal ground. (Earth ground, sometimes called the "safety ground" is the round prong on the AC power cord which plugs into the wall outlet.) The cause of this is the resistance of the line cords used on your equipment and sometimes the house wiring which your equipment is plugged into. Most PA systems and some amplifiers and other high quality sound equipment have a "**Ground Lift**" switch. What this ground lift switch does is floats or separates the earth ground from the signal ground. There are also some "Hum Eliminator" boxes available which isolate the grounds by using an isolation transformer in line with the signal cables.

Q. "What is the "Shape" control on my Ai1 used for?"

A. The shape control is a mid dip control. When in the "ON" position, the mid frequencies will be cut and the high and low frequencies will be boosted. This gives the Ai1 another complete voice, or flavor allowing it to be much more versatile and useful for many different instruments.

Q. What does the "Phase" switch do?

A. The intended purpose of the phase switch is to reduce feedback when you're playing at high volume. Here's how it works: When you play, your instrument vibrates to create the sound acoustically. There is a pickup in the instrument which turns these vibrations into electrical impulses. These impulses are sent to the amp/PA which amplifies them causing the speaker to vibrate.

When you're in phase, the vibrations of the speaker and instrument are synchronized. When you change the phase switch, the vibrations become 180 degrees out of phase.

How does this reduce feedback, you may ask? When you play through an amplifier, the speaker sends out pulses in the air that cause a lot of things to vibrate. You may feel the bass in your chest. The windows might rattle. In the same manner, the speaker also causes the instrument to vibrate. If the vibrations are in phase with the notes being played, the instrument vibrates excessively, causing feedback. When the sound is out of phase, the instrument is pushing back against the amp's vibrations and feedback is potentially reduced.

Q. Why is there a headphone jack on the Ai1?

A. We added a stereo headphone jack on the Ai1 for a few reasons.

- You can plug in a pair of headphones and practice privately.
- You can monitor the signal being sent to the soundboard or your amp.
- Used in conjunction with the RCA "Stereo" Line In. You can connect an MP3 player, tape player, CD player, etc.. This feature is great for the solo artist to play backing tracks during a gig or practice. You can also use this feature to play along with your favorite songs through the headphones. Your Instrument signal will be mixed in with the recorded music.