

CA Amplifier FAQ:

Can I run one channel of my CA Amplifier at a different impedance than the other channel?

Yes. All dual channel CA amplifiers can be treated as if they are two separate "mono" amplifiers (One channel completely independent of the other) For example: A CA1500 can function with a single 8 ohm speaker on channel one and four 8 ohm speakers (a two ohm load) on channel two.

Should I have the level controls on my amplifier turned all the way up? It depends on the system and how much gain you have prior to the amplifier. The level controls can be thought of as input attenuators. They do not limit the power available from the amplifier. With the level controls turned down the amplifier can still reach full rated output power, it just takes more drive level from your mixer to achieve it. Generally, you should set the mixer's individual channel sliders and master gain to 0 dB, then adjust the amplifier level controls to the desired sound level.

How do I determine the best input sensitivity setting? The input sensitivity setting is a function of amplifier gain. You will want to match it with the output level of whatever is before the amp in the audio chain (i.e. preamps, mixers). Three levels are available on each channel. 0dBu, +4 dBu and 26 dBu. The 26dBu position is a fixed gain position. It is also the lowest gain position, and will usually work well with output levels of +10 dBu (2.5Vrms and above).

How can I parallel the inputs of my CA amplifier with the same signal? Using a standard "Y" cable works wonderfully. The input impedance of the CA amplifiers are high enough that paralleling multiple inputs together is not a problem. The 1/4" jack inputs are in parallel with XLR, use the XLR as an input and the 1/4" of the same channel as an output to another amp channel.

Should I use Bridge Mode or Dual Mono? Generally, the deciding factor to this dilemma is the total speaker load impedance you wish to drive. You would want to use Bridge Mode to get the most power available when driving an 8 or 4 ohm load. Conversely use Dual mono when driving many loudspeakers, eg. Six, Eight ohm loudspeakers (Three per output) all receiving the same signal.

How can I get rid of the "hum" in my system? First let us lay some ground work: audio systems can exhibit hum and they can exhibit buzz. Do not confuse audio system buzz with hum. Fifty hertz/sixty hertz hum is a result of having a ground loop in the audio system. "Hum" is usually (though not always) caused by a system ground loop. This is where there are two or more ground references in the system, and current is flowing from one ground point to another. Any piece audio equipment requires one ground reference. Ground loops can be formed in a number of ways. For example: An audio power amplifier obtains its ground from the AC power cord. The mixer, which drives the power amplifier, also receives its ground from the AC power cord. When the audio cable connects the mixer to the power amplifier the amplifier now sees a second ground from the mixer. If the mixer and power amplifier are both plugged into the same AC power strip then the mixer/amplifier interconnect cable shield can be cut to eliminate this problem. On CA amplifiers there is a "ground lift" switch on the back of the amplifier that performs this function and can be used to eliminate hum caused by ground loops. Another cause of system "hum" is electrically induced, such as having a very sensitive component too close to a power transformer. Power amplifiers have large power transformers and can induce a magnetic field into other equipment. If you suspect this may be the cause of your problem then placing more distance between the two components is the only practical solution. Excessive "noise" on the AC mains can cause "buzz" in certain components. Lighting dimmer packs are notorious for inducing "noise" onto the AC mains. If this is your problem, try putting the lighting system on a different AC mains feed. Ground loops, induced hum, and all kinds of nasty noises are sometimes hard to pin point. You may have to try several different approaches before arriving at a solution.

What gauge speaker wire should I use in my system? For the best speaker damping and least amount of power loss you will want to use the heaviest gauge that is practical. The length of the speaker wire should be considered when considering wire gauge. The shorter the run, the smaller gauge you can use with minimum power and damping factor loss. The longer the run, the heavier gauge you will need to minimise power and damping factor loss. You will also want to consider the size of power amplifier you are using. The larger the amplifier, the heavier gauge you will want to use.

What is Damping Factor? Though technically more complex than this, Damping factor is usually thought of as an indicator of how tight an amplifier will sound when powering bass speakers. A speaker is a coil of wire (called a voice coil) mounted within a magnet. As this coil of wire moves within this magnet's field of energy, a signal can be induced in the voice coil. If not compensated for properly the speaker output will have an over accentuated or boomy bass sound. This signal is called a "Back EMF". From a technical stand point Damping factor is a reciprocal of the amplifiers output impedance and output impedance is a derivative of the amount and implementation of negative feedback within the amplifier. Properly designed negative feedback not only corrects for 'Back EMF' but also produces other benefits:

- 1.Low distortion
- 2.Low noise (hiss)
- 3.Flat frequency response

How much does my amplifier weigh? The following chart gives the NET weight (weight of the amplifier itself) and the SHIPPING weight (weight of amplifier in original factory shipping carton).

Amplifier	Net	Shipping
CA600		
CA1500		
CA3000		

Which XLR pin is hot(non-inverting)on a CA amplifier?

Pin 1 is ground (shield).

Pin 2 is hot (non-inverting)

Pin 3 is cold (inverting)

Which 1/4 inch (6.35 mm) phone jack pin is the hot (non-inverting) connection?

Tip: hot (non-inverting)

Ring: cold (inverting)

Sleeve: Shield (ground)