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Audio Solutions For The Great American Cruiser
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Level Matching Peripheral Audio Devices To The "Aux In" On Your Radio

The purpose of this article is to help make sure the "level matching" between your peripheral audio device (MP3, Smart phone, GPS, Sat Radio etc.) and your radio is as good as it can be. The same strategy can also be used on any handle bar systems such as our "Round Town Audio Kit" that get audio from peripheral audio sources only.

On a factory radio, things like AM/FM/CD are all inside the radio, and are already level matched during manufacturing. When ever you plug in an external audio device to the aux in on the radio, level matching is required to make it so when you switch from AM/FM/CD to "AUX In", all sources are as close to the same volume as possible. In some cases, the peripheral device can sound better and be louder than the factory radio.

Think of the peripheral audio device as a "carb" and the radio as the motor that carb is feeding fuel into. In order for the motor to run good, the carb must be setup right. In electrical terms were trying to set the volume (audio voltage out) of the peripheral audio device to the voltage in the aux is looking for to operate properly.

Every peripheral audio device sends "X" amount of voltage out of its headphone out jack. This is the jack from your device that would connect to the radio's aux in. If you use a $10 MP-3 player, or $49 satellite radio receiver "special" from a big box store, you should expect the audio voltage out of that unit to be very low. This is the equivalent of having too small a carb, and the motor cannot get enough fuel to make full power-in other words, the audio device will not play as loud as the other audio sources built into the radio. If you have a decent unit such as an iPod™ that has good signal coming out of it, but leave its volume too high, this becomes the equivalent of having a carb that's big enough, but over jetted. If listening to a peripheral device, the sound will be very distorted before you have the volume on your in dash radio up to a good clip. Especially with Satellite radio receivers, we cannot stress enough the benefits of spending a few extra bucks, and getting a good unit!

Many iPod™ type devices have equalizers, bass boosts, loudness contours, and "maximum volume" settings etc built in. It works best to shut all of this off so the unit is "flat". We suggest putting the volume of your peripheral device to around 50% of the way up, and with your factory radio's "AVC" or Automatic volume control off, put the radio up to as loud as you would typically have it when riding around. Then start raising the volume of your peripheral device to the point you start hearing some distortion. Put the AVC back where you like it on your factory radio, and your ready to go. This is a general way to level match. Since each peripheral device has different features, and different audio settings, you can now "mess around a bit" by experimenting with your peripheral devices equalizers etc until you get a sound that works for you.