

Frequently Asked Questions

Q: How do I adjust the gain or level adjustment on my amplifier?

A: Below you will find information on adjusting the amplifiers gains. Adjusting the gain correctly is essential to proper operation of the amplifier. **If the gain is not adjusted properly it can and will lead to damage of the amplifier and connected speakers and will void your MANUFACTURER WARRANTY.** The gain on an amplifier is not a volume control. It is a signal level setting that tells the amplifier how strong of a signal is coming from the head unit. Your amplifier has an input sensitivity of 200mV-8V. The minimum setting is 8V and the maximum setting is 200mV.

When using Low-Level (RCA) inputs you MUST know what the pre-out or line-out voltage of your head unit is rated in Volts. This is not the wattage rating. This can be found in the manual of the head unit or by contacting the manufacturer. If you are using a line-driver or another type of processor that adjusts the output voltage of the signal to the amplifier you will need to know what the output is adjusted to. the gain on the amplifier needs to be set proportionately to the pre-out or line-out voltage rating of the head unit or processor.

If the signal strength is 4V then the gain would be adjusted to about 45-50%. Below is a list of commonly found voltage ratings and their appropriate gain adjustments. When adjusting the gains you want to start with the bass boost setting on the amp set to minimum and bass adjustments on the head unit or processor are set at 0 or flat. As these other settings for bass adjustments are increased, the gain setting will need to be adjusted lower.

2V less than or equal to 70%

4V less than or equal to 45%

5V less than or equal to 32.5%

8V less than or equal to 5% (Bass boost must be left at minimum on the amp and 0 or flat on the head unit or processor)

10V May not be used with this amplifier

If your amplifier includes Hi-Level (speaker wire) inputs and you are using them for the audio signal connection, please use the below steps to adjust the amplifier.

1. Use a screwdriver to turn GAIN (8V/0.2V) fully counterclockwise to 8V
2. Turn the auto sound system's volume control to about one-third of its full range.
3. Adjust GAIN (8V/0.2V) to a comfortable listening level.
4. Turn up the auto sound system's volume control until the sound begins to distort, then immediately turn the volume down to a point just before where the distortion began. Caution: Never turn up the auto sound system's volume control more than needed to adjust the audio level (More than two thirds of its maximum volume).
5. Adjust GAIN (8V/ 0.2V) until the sound is at the maximum level you want the amplifier to produce.
6. Adjust the auto sound system's volume control to a comfortable listening level.

IMPORTANT NOTE: If you should have any questions concerning the installation or settings of your amplifier or are unsure of anything discussed in your manual, please contact our Technical Support department at 1-800-488-8595 for help. It is much better to take 5 minutes today to get it right than to adjust the settings incorrectly and have a problem with your amp or subs.

Q: Since the Immortal (AWIS) series subs are the biggest and most expensive, are they the best?

A: Yes and no. The Immortal series of subwoofers are designed as an SPL competition sub. Due to the unique materials and designs used to construct the sub, it is ideally suited for high frequency bass response such as used in SPL competition. Optimal tuning for the Immortal subs ranges from about 50Hz ~ 75Hz. This means the sub will not respond well at lower frequencies. Normal or everyday music usually plays between 30Hz ~ 80Hz or so. This means there is a large gap of low frequency bass that will not be well produced by the Immortal subs. So for SPL competition the Immortal series subs are the best choice for you. If you are looking for a sub that is designed for everyday use, try the Eternal (AWES) series of subs. They are based off of the Immortal subs with the same basket and look, just designed for low-end frequency response.

Q: I have a sub and I can't find the terminal's +/- labeling, how do I know which is which?

A: If you are holding the sub face down (Cone facing down) and looking at the voice coil terminals, the 2 on the right are + and the 2 on the left are -. Same with the other side.

Q: On my sub, why are there 2 + and 2 - terminals on each voice coil?

A: There are 2 + and 2 - on each voice coil. This is so when wiring the subs together you do not need to try and fit both wires in the same hole. You do not have to use both on each coil, but it will let you use a larger wire. Think of them as Y connectors. Both + and both - go to the same place on the same coil. You can wire as normal and only use 1 + and 1- on each coil.

Q: Is it necessary to wire both voice coils of my subs up to an amplifier?

A: Yes, by only wiring one voice coil, you can cause damage to the subwoofer making it unplayable. You always need to wire both voice coils together.

Q: How do I know what type and size of a box I need to use for my subs?

A: You can look up the box parameters for our subs under the Technical Support Section of our website www.audiobahn.com. The files require Adobe Acrobat Reader 4.0 or greater to view. There is a download link to for the program on the page.

Q: My lights dim in my car, is this bad and what can I do to stop this from happening?

A: Lights dimming in your car is an indicator of a low voltage problem. This can be caused many problems. You might want to have your system checked out to make sure it is running smoothly. Low voltage can be a serious problem. Low voltage will cause an amplifier to put out a DC voltage rather than AC, which can damage your speakers. Low

voltage can also cause damage to an amplifier by not providing enough power to the amp to run properly. You can add batteries and/or capacitors to the system to help with voltage problems. Please consult with a professional to make sure you get what you need for your specific setup.

Q: Is too much power, or too little power worse for a speaker?

A: Rumor has it that too little power will blow your speakers. This is not exactly true. If it was, when you turn down the volume of your head unit or other source unit, your speakers will blow as the power output to your speakers will decrease. The actual problems occur when distortion is fed to a speaker. This occurs more often when you are dealing with an underpowered system. Typically the consumer will turn either turn up the volume on the head unit too much, adjust the gains too high or improperly or adjust bass boost settings on the amp or head unit to get more volume from the system trying to compensate for the lower amounts of power. This can greatly increase distortion of the signal. This can destroy any speaker. When a speaker is overpowered, however, it is not nearly as common to have these problems, so speakers aren't blown as much. It is certainly possible to destroy a speaker thermally by overpowering it or distorting the sub, but you will tend to find gain settings more appropriately set in these such cases.

Q: Are the power ratings listed in peak or RMS?

A: All of our power ratings are listed as RMS. We do not rate anything in peak power.

Q: Are your power ratings for your speakers and components listed as per pair or per side?

A: Our ratings for speakers and component sets are rated in RMS per pair. This means each side can handle half the rated power. Our subs power ratings are listed as total for both voice coils.

Q: For my removable tweeters on my speakers, which wire attached to the tweeter is + and -?

A: The wire with the black line on it is the – and the solid blue is the +.

Q: Is it ok to use a different size port than the ones listed on your technical support page?

A: Using a different size port will change the tuning of the box. You will want to check with a professional or call our technical support department for more help.

Q: Why is it when I test the resistance on my subs, I am not getting the same rating as listed on the site or manuals?

A: Every manufacturer rates their subs with a specific resistance. The R_e is not necessarily going to be exactly the same all the time. Sometimes there will be a little deviation. The best way to measure resistance is with a meter.

Q: I am looking to put new speakers in my car, what size speakers will fit?

A: This can be a difficult question to answer. It is hard to say with total accuracy. My best advice to you is to visit your local AUTHORIZED Audiobahn dealer. Their in-house

installers and salesmen will be the best source of this information and can look at your car first hand. You could also take a look for yourself and measure.

Q: What is the gain/level adjustment on my amplifier for? Is it a volume knob on the amplifier?

A: The gain/level adjustment on your amplifier is not a volume control or knob. The gain is used to tell the amplifier how strong of a signal is coming from the head unit on the RCA cables. This is called line-out or pre-out voltage and is rated in volts. The amplifier takes the signal coming from the head unit and will amplify it depending on the setting you choose. If you do not properly set the gain and turn it too high up, the signal will be over-amplified and it can cause the amp to clip, which causes distortion to be sent to the subs. This is one of the most common reasons for amplifiers / speakers or sub woofers to blow. An amplifier can produce full or maximum power with many different gain settings depending on the head unit's pre-out voltage. If you have a high pre-out voltage from the head unit, the gain will need to be set lower. If you have a low pre-out voltage, you will need to set the gain higher. Make sure your head unit does not have a higher pre-out voltage than the amplifier can use. The rating on the amplifier you need to look at is called input sensitivity. Try to always get an amplifier with a higher maximum input sensitivity than your head unit pre-out rating.

Q: Is it ok to run the voice coils of a DVC (Dual Voice Coil) sub to different channels of an amp?

A: It is acceptable to run the coils off of different channels of an amp. You will need to make sure that you are receiving a mono signal to both inputs on the amplifier; otherwise the sub will be trying to play 2 different signals. This can eventually lead to permanent damage.

Q: What is the difference between a ported box and a sealed box?

A: Sealed enclosures produce tight, accurate sound. They are good for jazz, classical, light rock or country. They are also good for anyone looking for clean tight responsive bass, otherwise known as sound quality in their music. It is not limited to these types of music. Ported enclosures use a vent to increase low bass response. They produce a looser sound and will provide more volume compared to a sealed box with the same amplifier output. Ported enclosures are good for rap and hard rock. The sound quality and the response of the subs will not be as good as in a sealed box.

Q: Are component speakers or separates better than a coaxial or full-range speaker?

A: Usually, yes. Using separates allows you to position the drivers independently and more carefully, which will give you more precise control over your imaging. For best results, try to keep the mid and tweeter as close together as possible - this will make the two drivers act more like a single point source of sound. This is an ideal situation. For rear fill applications, however, coaxial speakers will perform fine, as imaging is not a primary concern. However, it is very common to use a low pass crossover with the rear speakers since rear-fill is intended to produce "ambiance," and high frequencies (> 2500

Hz) can confuse the soundstage, making it appear that music is originating behind you. This is why we created removable tweeters on our speakers. This allows you to control their placement, positioning and if you wish make it possible to set separate crossover frequencies and power them separately.

Q: Is it bad to have a port that is too short?

A: Although a port is used to get the correct tuning in a box, it is not good to use ports that are too short. By too short we mean that you want the port to be equal to or longer than the depth of your subwoofer. This allows for proper circulation of the air.

Q: Is there a difference in performance between a circle and a slotted port?

A: No, you will get the same performance out of a box and the same tuning frequency as long as you have the same port opening size (Square inches of surface area) and depth. You will need to remember to calculate the displacement of the thickness of the wood being used as compared to the plastic of the circle ports in the box.

Q: How far from the wall of my box does my port need to be?

A: You want to have the port the same distance away from the box as the diameter of the port or more. For example, if using a 4" diameter port, keep the back of the port at least 4" away from the back wall.

Q: Are all your amplifiers capable of being bridged together to get more power to a single sub?

A: No, only our mono block high current, class D and HC amps are capable of being bridged together. Older model High Current HC amps require a bridging module model # ACHBRM. The Class D and newer High Current amps use a built in module that are connected with the provided cables. The rack mount amps use an inverted phase RCA wire to bridge together.

Q: How do I wire my speakers to my amps when I am bridging the amps together?

A: You will need to connect the – terminals of the amplifiers together. Then on the master amp the open + is your positive and on the slave amp the open + is your -. The master is the first amp you are connecting or your A amp. The slave amp is your second amp in line or your B amp. there is a diagram available in the Tech Tips section of our manual and is available for download here. (Tech Tips Manual) This method is only used in our older model amplifiers that do not include built-in bridging modules.

Q: I want lots of low bass and I want to put lots of power to my sub in a sealed or ported enclosure. Why is it that when using a large sealed box or a ported box, the less power a sub will be able to handle?

A: When using a large sealed or ported box, a sub will not be able to handle as much power as in a small sealed box. In large sealed boxes and ported boxes, lots of power will cause the sub to bottom out, which can end up causing permanent damage to the sub. A larger sealed or ported box will allow a sub to move further, producing lower bass. If the sub is pushed too far it can over-extend a subwoofer's capability of proper operation. the same is applied when using a ported enclosure.

Q: My digital voltmeter on my amp sometimes says LO. What does this mean? Is there something wrong with my amp?

A: When the voltmeter reads low, it means that there is not enough power going to the amplifier. This means that there is a low voltage problem. You will want to have your charging system and battery tested. You might need to upgrade the system.

Q: What size speaker wire should I use to connect my speakers?

A: For full-range speakers, 12-16 gauge wire is fine. For subwoofers it is suggested to use 8-10 gauge wire.

Q: What size power and ground wires do I need to use to connect my amplifier?

A: You want to make sure to use the same size wire for power and ground no matter what the setup is. Generally, 4 gauge power and ground wires will work for smaller amplifiers such as used with 4 channel amplifiers for your high and mid-range. For larger subwoofer amplifiers, 2 gauge is suggested. This is not always the rule however. Depending on how long the power cable needs to be, and how much current the amplifiers in the system will draw, you might need to adjust your size of wire used. In our Tech Tips section of our manuals in the download section of Technical Support, there is a chart displaying what size wires need to be used depending on current draw and length of the wire. When calculating how much current the amplifiers will draw, add up all the fuses in the amplifiers and use that number.

Q: The model of my product does not match the model on you website, why is this?

A: When we change a product, we change the suffix of the product model number. Below is a list of the years of our modern products with the corresponding suffixes listed next to them. Some suffixes do not change, as we have not made any changes to the product so the suffixes below represent the first year we manufactured the specific product. You will want to contact an Authorized Dealer or Audiobahn to clarify any questions.

2000: E

2001: X

2002: Q

2003: T

2004: P

2005: N

2006: V

2007: S