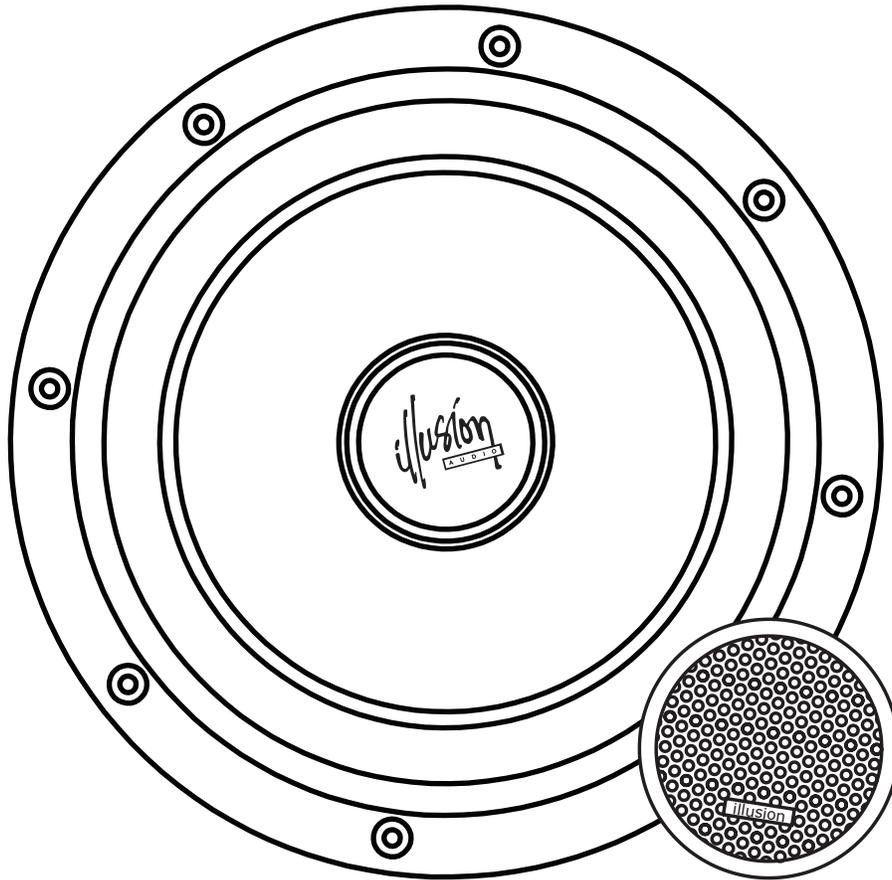


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ILLUSION AUDIO

WWW.ILLUSIONAUDIO-AMERICA.COM

A U D I O



PRODUCT MANUAL

**CARBON, LUCCENT & ELECTRA
COMPONENTS**



THANK YOU!

Thank you for purchasing Illusion Audio products. At Illusion, we are dedicated to the design and manufacturing of "State Of The Art" loudspeakers. Illusion Audio strives to set a new standard for both quality and sonic accuracy.

Through innovation, design, testing and listening, Illusion Audio speakers represent the passion that the entire staff at Illusion Audio has; That passion for GREAT SOUNDING MUSIC!

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INSTALLATION OPTIONS

1 SINGLE AMPLIFIER SYSTEMS

The objective behind a single amplifier system is simplicity.

By choosing this route the installer can run minimum components and achieve excellent sound quality. A single two channel amplifier will drive both the mid bass and tweeters; eliminating the need for an additional amplifier and installation time, thus reducing the cost.

1. The amplifier will need to be connected to either the crossover mid-bass input (TIN) or the midbass input (WIN).
2. The internal switch will need to be set to single amp.
3. Connect the crossover mid-bass output to the mid-bass driver.
4. Connect the crossover tweeter output to the tweeter.
5. The internal jumpers control the tweeters output level. With 3 selectable jumpers we have the options of **-1db, -2db, and -3db**. These can be added together so you will have up to **-6db**. If you want **-4db** as an example, you would turn on the **-1db & -3db** which will give you **-4db** of tweeter attenuation.

2 BI-AMPLIFIED SYSTEM

The objective behind a dual amplifier system is added tuning flexibility.

By choosing this route the installer can use two amplifiers or a single four-channel amplifier to achieve improved sound quality. Each driver will have its own amplifier channel, the mid-bass and tweeter levels may be easily adjusted at the amplifier. Increased sound quality may be achieved by supplying each driver with the proper amount of power.

1. The mid-bass amplifier output will connect to the crossover mid-bass input. (WIN)
2. The tweeter amplifier output will connect the crossover tweeter input. (TIN)
3. The internal switch must be set to bi-amp.
4. Connect the crossover mid-bass output to the mid-bass speaker.
5. Connect the crossover tweeter output to the tweeter.
6. Adjust the tweeter and mid-bass levels at the amplifier.
7. The crossover tweeter level jumpers should remain in the off settings.

3 BI-AMPLIFIED SYSTEM *WITHOUT USING THE PASSIVE CROSSOVER*

This setup will allow the maximum flexibility for tuning and sound quality. Each driver will have its own amplifier channel: the mid-bass and tweeter levels may be independently adjusted easily at the amplifier. Crossover points may be adjusted to maximize vehicle/speaker interaction.

Increased sound quality may be achieved by supplying each driver with the proper amount of power.

1. Connect the mid-bass amplifier output to the mid-bass driver.
2. Connect the tweeter amplifier output to the tweeter wires.
3. The tweeter and mid-bass levels are to be adjusted at the amplifiers.



ELECTRONIC FILTERING MUST BE USED TO AVOID DAMAGE TO THE SPEAKERS!

We recommend the use of a 2500hz or higher/-12db per octave high-pass filter for the tweeter. The mid-bass may be crossed over according to the listener/installers desires, but starting at the same frequency as the tweeter is a recommended starting point. **IT IS HIGHLY RECOMMENDED THAT WHEN TWEETERS ARE USED WITHOUT THE SUPPLIED PASSIVE CROSSOVER, A 30uf POLYPROPYLENE CAPACITOR MUST BE PLACED IN LINE WITH THE TWEETER TO AVOID DAMAGE FROM AMPLIFIER DC OFFSET!**

SUB-BASS CONSIDERATIONS

Illusion Audio manufactures a variety of high quality subwoofers specifically designed to integrate seamlessly in application with Illusion Audio speakers. The Carbon, Luccent, and Electra Lines feature respectively four, two, and two high quality Subwoofers that will perfectly complement your Illusion Components and Coaxials. For specifications and more information on Illusion Subs, visit <http://www.IllusionAudio-America.com> .

CROSSOVER INSTALLATION

CROSSOVER DIRECTIONS

1. CAREFULLY remove the cover by grabbing both sides, applying pressure, and lifting.
2. Mount the crossover using the two holes located under the crossover cover, being careful to not over tighten the screws and crack the plastic. A wire tie may be utilized if mounting the crossover to a wire loom etc.
3. Mounting crossovers in the doors are not recommended for 2 main reasons. 1- It's not possible to adjust tweeter attenuation after you have done some critical listening. 2- WATER DAMAGE! Damage may occur to the crossover if it is exposed to water when located in a door. If you need to mount them in the door please make sure you mount them in a DRY AREA. Water damage is NOT covered under warranty.
4. Adjust the tweeter level jumpers according to the tweeter chart, (only use if not bi-amping the system).
5. Replace the cover.

TWEETER LEVEL JUMPERS

The purpose of these jumpers is to match the tweeter volume to the midrange or midbass. This can be adjusted easily by

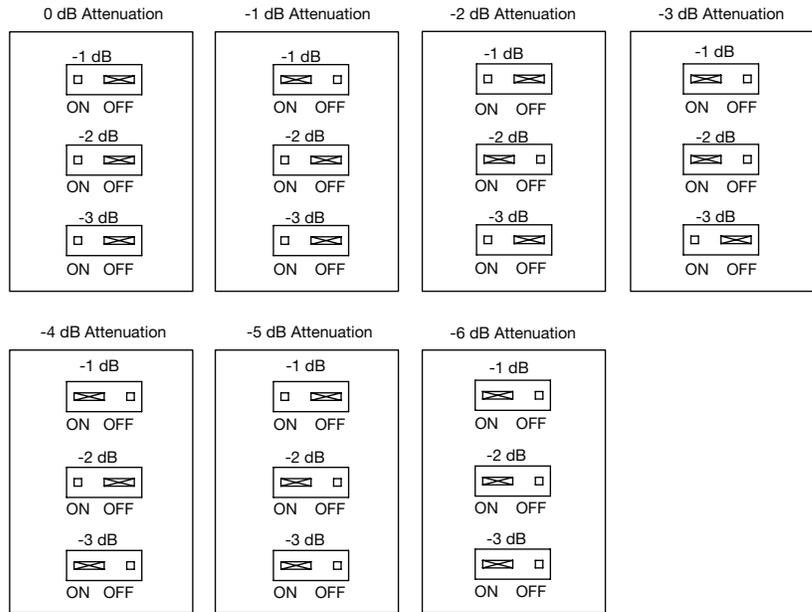
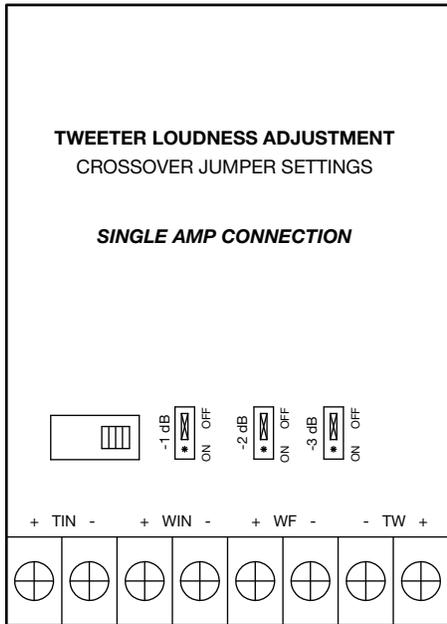
Listening to a well recorded track. If the tweeters sound too loud in comparison to the midrange or midbass then adjust the jumpers until it sound balanced. An RTA

Can also be used if you have one.

The tweeter level attenuations are specified on the following page.

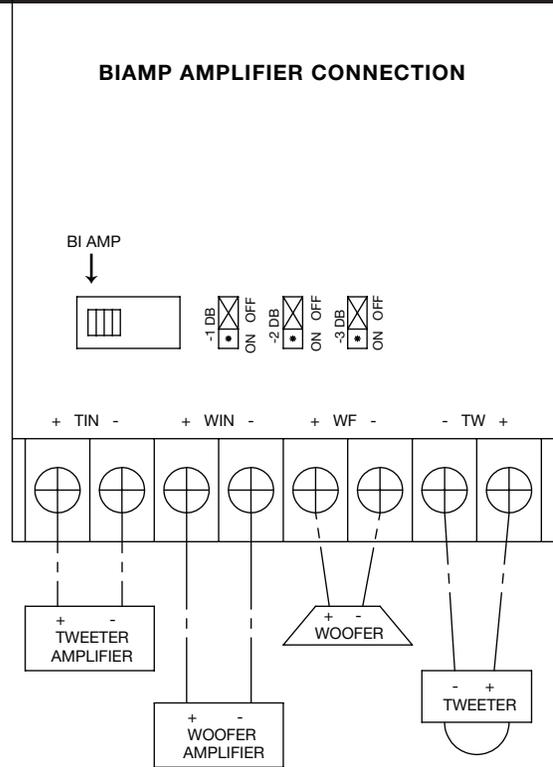
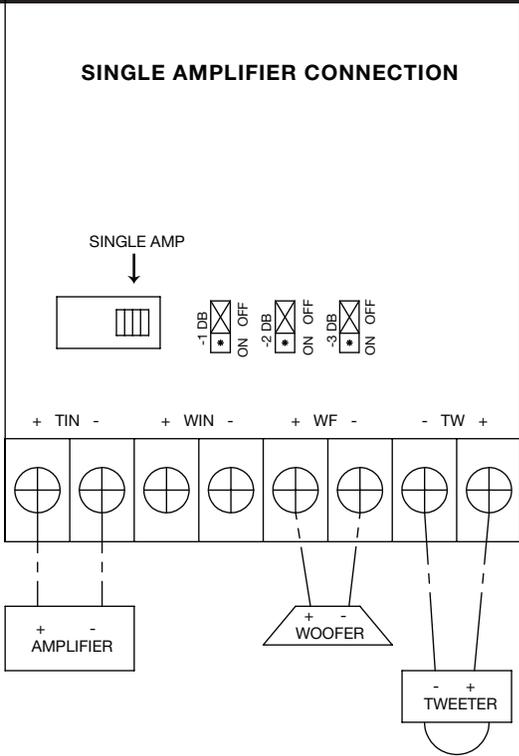
All crossovers will be shipped with bi-amp switches in the default single-amp position.

STANDARD TWEETER SETTINGS ON CROSSOVER



TIN: TWEETER INPUT | WIN: WOOFER INPUT | WF: WOOFER OUTPUT | TW: TWEETER OUTPUT

CROSSOVER CONFIGURATION



SPEAKER INSTALLATION

MOUNTING SUGGESTIONS

To achieve the best possible performance from your speakers, please follow these recommendations:

1. Mount the speakers as far forward as possible. This allows for correct staging to take place.
2. Locate the speakers as far apart as possible, (left & right). This applies to speakers being installed in the rear of the vehicle as well.
3. If possible, flush all drivers into the mounting surface

INSTALLATION

1. LEAVE THE SPEAKERS IN THE PACKING BOX UNTIL FINAL INSTALLATION!
2. After determining the best location for the drivers make sure that you are not going to be cutting any wires.
3. Do not install the speaker until the area is thoroughly cleaned, vacuumed and no other work is being done that could cause metallic particles to be attracted to the driver.
4. Use the driver to mark the mounting holes.
5. Remove the driver and place it in a safe place.
6. Drill the mounting holes and CLEAN UP! Be sure to vacuum inside of the door, etc...
7. All mounting gaskets are glued to the back of the speaker so you do not need to apply one.
8. Connect the wires from the head unit/amplifier to the speaker/crossover and double check polarity.
9. Mount the driver to the baffle using the supplied hardware.
10. Check polarity again on the speaker!

TWEETER INSTALLATION

FOR FLUSH MOUNT

1. Check the area behind the tweeter location for loose wires, etc...
2. Using an adjustable hole saw carefully cut a 1 11/16 " hole for mounting the tweeter. (the hole saw is available from Macmaster.com Part number 4192a26. Changeable end and carbide tip)
3. Clean up the hole and press fit the tweeter in.
4. Connect the wires to the crossover accordingly.

FOR SURFACE MOUNT

1. A surface mounting cup is provided in the box.
2. Place the surface mounting cup where it needs to be and screw it into place. Mounting hardware is provided.
3. Run the wires from the tweeter through the mounting cup. Be sure you have the wires from the crossover available so that the tweeter wires may be attached securely.
4. Place the tweeter into the mounting cup and snap into place.

A mounting brace is provided as well to secure the tweeter behind a panel when the hole that is cut is not made of a sufficient strength material that would support a standard flush mount.

WARRANTY INFORMATION

Illusion Audio / Orca Design & Manufacturing supports their products and guarantees them to be free of manufacturing defects for a period of 1 year (non-transferrable) from the date of purchase, if purchased from an authorized retailer. This time period is extended to 3 years (non-transferrable) from the date of purchase, if the product is purchased from and installed by an authorized retailer, and no alterations are made to the installation or setup of the product outside of the authorized retailer.

This manufacturing warranty does not extend to situations involving physical or installation damage, misuse, abuse, or modification. If a product malfunctions, please return it to the authorized retailer from which the product was purchased to have it and/or its installation inspected and to have the warranty period verified from date of purchase.

The authorized dealer will then work with Illusion Audio / Orca Design & Manufacturing to obtain service, if necessary. If found to be a defect due to manufacturing, the item will be repaired or replaced with a refurbished product. The product will be returned to the authorized retailer when repairs are complete, so that the dealer can return the product to you, or reinstall the product to maintain the above mentioned warranty timeline.