

powerbass®

X T R E M E



3XL-653

3XL-693

3XL-63C

3XL COMPONENT AND COAXIAL SPEAKER SERIES

Application Guide



Thank you and Congratulations

Congratulations on your purchase of Powerbass Xtreme speakers. You now own a car audio speaker of uncompromising design and engineering from a factory that truly believes in the relentless pursuit of perfection. Incorporating the highest quality parts and state-of-the-art materials, these speakers display the ultimate balance between high fidelity, extreme performance and long-lasting reliability.



At PowerBass USA, Inc. we are confident you will have many years of outstanding enjoyment from this great SPEAKER investment. For maximum performance we recommend that you have your new PowerBass Xtreme product installed by an Authorized PowerBass Xtreme Dealer. Doing so will also automatically extend your warranty to a full THREE YEAR Period.

To learn more about PowerBass Xtreme, please visit us on the World Wide Web at

<http://www.powerbassusa.com>

Δ Warning Δ

Continuous exposure to sound pressure levels in excess of 100 dB can cause permanent hearing loss. PowerBass Xtreme Speakers are capable of producing sound pressure levels well over 170 dB. Please observe all local sound ordinances while listening to your PowerBass Xtreme system. PowerBass USA, Inc. accepts no liability for hearing loss, bodily injury, or property damage due to the result of use or misuse of this product.

POWERBASS XTREME 3XL SPEAKER FEATURES

Stamped Steel Non-resonant Basket: These rigid baskets are designed to give the moving parts of the speaker a solid platform to perform. Each basket has been treated with an acoustical sound reduction coating that greatly reduces sound transmission and reflection which dampens ringing and tinning making the basket acoustically “dead”.

S-2 Fiberglass Cone: A higher strength glass fabric with a twill weave for more tensile strength and modulus. Superior S-2 fibers are lightweight, yet durable. An aerospace grade gel coating holds the weave in place and increases low frequency output.

High Damping Butyl Rubber Surround: This surround is used to ensure linear travel throughout the entire frequency range resulting in more bass output and higher efficiency while reducing distortion.

Emperors Silk Soft Dome Tweeter with Diffuser: Very large premium grade hand spun silk tweeters are a full 1-inch (25mm) for most models.* The neodymium motor structure and ribbon wire voice coil provide an extremely wide bandwidth. A diffuser has been added to for uniform imaging.

Y-35 Grade Ferrite Magnet: oversized high energy magnet provides increased magnetic field and higher power handling.

High Voltage Crossover Capacitor: A non-polarized high voltage electrolytic capacitor is used as a high pass filter since it can tolerate voltage fluctuations up to 100 volts without breaking down, thus greatly increasing the power handling of the tweeter.

Additional Features: PBX tuner inspired custom grills*, professional mounting hardware and speaker wire adds further value to your investment.

3XL COMPONENT FEATURES

Computer Optimized Crossover Network: These asymmetrical crossovers were designed using a sophisticated computer program to provide a smooth, flat frequency transition between the midrange and tweeter. High quality air cores, parallel stacked high stability metal film capacitors, low DC resistance inductors insure audiophile sound separation. A tweeter attenuation circuit is included for treble adjustment +/- 3dB.

Dynamic Phase Imaging Technology: Specially designed inverted metal dome replaces the traditional dust cap to provide smoother dispersion of the midrange frequencies.

Tweeter Mounting Cups: Flush, surface and angle-mounting cups allows multiple mounting options for custom tailored high frequency dispersion.

SPECIFICATION FOR POWERBASS 3XL SPEAKERS

(Due to continuing improvement, specifications and parameters are subject to change without notice)

Model	Size	Nominal Impedance	Frequency Response	Sensitivity 1W/1M	Magnet Size	Mounting Depth	Power RMS/Max
3XL-653	6.5"	3 Ohm	55Hz - 22 kHz	86 dB	13 oz	2.56" (65mm)	90 W / 180 W
3XL-693	6 x 9"	3 Ohm	40 Hz - 22 kHz	89 dB	30 oz	3.43" (87mm)	130 W / 260 W
3XL-63C	6.5	3 Ohm	52 Hz - 22 kHz	86 dB	13 oz	2.56" (65mm)	90W / 180W



INSTALLATION EXPERIENCE

Installation of PowerBass Xtreme Speakers requires experience with a variety of mechanical and electrical procedures. This manual provides only general installation and operation instructions. If you have any reservations about your installation skills or lack of the proper tools, please contact your PowerBass Xtreme dealer for assistance.

TIPS TO GET THE MOST OUT OF YOUR POWERBASS SYSTEM

Your PowerBass Xtreme speakers have been meticulously engineered and designed to handle high power musical reproduction. Despite their rugged construction, it is possible to damage your speaker if they are improperly used. In general, you will hear distortion as a so-called warning before any damage occurs. If you hear distortion in your system, immediately reduce the musical level to the point where the sound retains its clarity.

1. Be sure you supply the speakers with enough unclipped amplifier power to drive them properly. (More damage can be done to a speaker by under-powering and clipping your amplifier than any other way!)
2. Where possible, a separate amplifier just for your speaker should be used with an electronic crossover to set the frequency range. One amplifier with passive crossovers will work (Tri-Way Setup), but the system will do more with less stress on the amplifier by using two amplifiers.
3. To avoid any possible sound cancellation from the front of the speaker to that of the rear of the speaker, cut a baffle of Masonite or MDF to firmly mount the speaker if the vehicle's original cutout is too big.
4. When connecting speaker wires from the amplifier or head unit to that of the speaker itself, pay attention to the polarity of the connection. This will insure optimum sound reproduction and performance.
5. For maximum dynamic performance use weather stripping to insure a tight seal.
6. Do not mount any speakers or external crossovers where they will get wet.
7. Remember the Golden Rule "Measure twice...cut once."

PREPARING FOR INSTALLATION

NOTE: The tools listed below may be required for proper installation.

1. An electric drill with drill bits
2. Phillips-head and standard screwdrivers
3. Wire strippers
4. Crimping tool and needle-nose pliers
5. Silicone sealant or closed cell weather-stripping
6. Metal file
7. Hole saw

INSTALLATION PRECAUTIONS

NOTE: Proceed only if you are a qualified installer otherwise; let your dealer do it.

- Always wear protective eyewear when using tools.
- Turn off all stereo and other electrical devices before you begin.
- Disconnect the (-) negative lead from your vehicle's battery.
- Keep the speakers in the package until final installation.
- Locate all fuel lines, brake lines, oil lines, and electrical cables when planning your installation.
- Check to see if there is enough clearance behind the mounting surface before installing the speakers.
- When running speaker wires through sheet metal, be sure to use grommets to properly insulate the wires from metal edges.

INSTALLATION PROCEDURES

- Since these speakers utilize a unique low profile swivel tweeter housing that has minimal tweeter protrusion, original factory mounting cutouts can still be used with the factory grills in most cases.
- These PowerBass Xtreme speakers can be used above or below the mounting hole. Typically, your vehicle factory's speaker cutouts will accommodate these new speakers without any modifications. When the speaker has been correctly installed, there should be no air leaks between the front and back of the speaker.
- For door installations, check the clearance of the windows throughout the entire range of the window's travel.
- Check the available mounting depth before installing the speaker. Use care when removing factory grills, door panels and factory speakers.

REAR DECK MOUNTING

Use caution when mounting speakers through the rear deck of a vehicle. Take note of wiring, trunk springs, hinges and folding seats that may interfere with the operation of the car or sound system. When running the speaker wires, be careful not to damage them with seat bolts or door screws.

DOOR MOUNTING

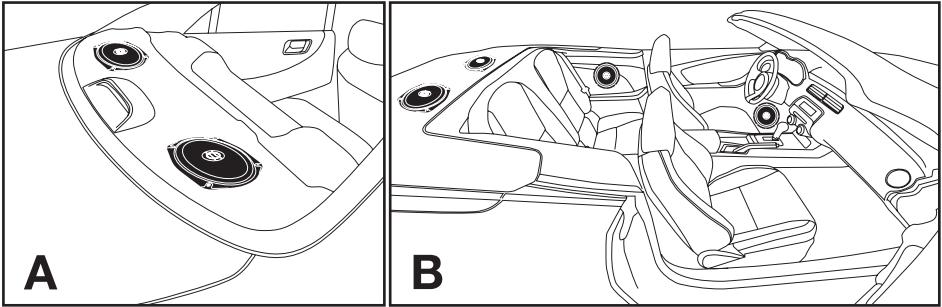
Most car doors have speaker grills that match the car's interior. Removal of integrated grills to replace the original speaker may be difficult. Often this requires the removal of door handles, window mechanisms and other intricate parts. If your vehicle uses this type of integrated grill, you may want to consult with your local PowerBass dealer before proceeding.

Many grills are fastened by either screws or hidden spring clips. If you can see screws are securing the grill, remove them storing the screws in a safe spot to reuse. Remove the grill and make sure the factory holes match up to your new PowerBass speaker.

To remove a grill fastened with spring clips, we recommend investing in a special spring clip removal tool available at most automotive supply stores. Follow the directions supplied with the tool and gently pry up the grill.

Should you decide to install your PowerBass speakers in locations other than those provided by the automaker, make certain that the location you choose is clear of all obstructions in front of and behind the panel. If it is necessary to cut any metal, take care to insure you do not weaken the vehicles structural integrity. Use the mounting template supplied with your speakers and pay close attention to the mounting depth listed on the diagram.

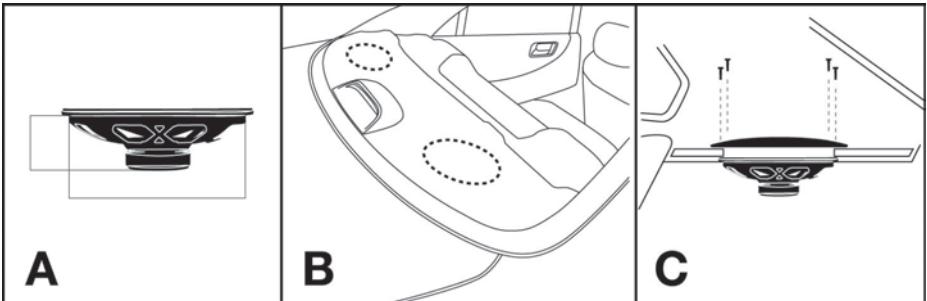
EXAMPLES OF MOUNTING



Mounting Options

- A: Rear Deck Mounting
- B: Multiple Mounting

ILLUSTRATION OF REAR DECK MOUNT INSTALLATION



- A: Speaker mounting depth and hole cutout diameter.
- B: Cut hole using saber saw/ utility knife.
- C: Connect wiring to speaker terminals. Make sure of polarity (+)positive (-)ground.
Using a philips screwdriver secure speakers and attach grille, if applicable.

3XL-63C COMPONENT SYSTEM INSTALLATION

3XL Component Midrange

The proper installation procedure for mounting these high performance midbass speakers is to secure the speaker to the vehicle's speaker mounting hole. Once the speaker is in place, determine if the supplied grill needs to be installed. If so, place the grill in place over the speaker and screw the speaker into the mounting hole.

These high quality silk dome tweeters come complete with several mounting housings for installation versatility. Once you have chosen the housing that is to be used, gently press the tweeter into the proper mounting cup. Experiment with the tweeter positioned in several locations to determine the best imaging result before cutting out any panel. Typically tweeters should be mounted on axis and as close to ear level as possible. If the tweeter has to be removed from the mounting cup, insert a small screwdriver in the back of the tweeter and carefully push the tweeter from the mounting cup. The following page contains possible mounting diagrams for the component tweeter and woofer. (Note: The crossover features a -3/0/+3 attenuation switch)



SPECIFICATION FOR POWERBASS 3XL-63C TWEETERS

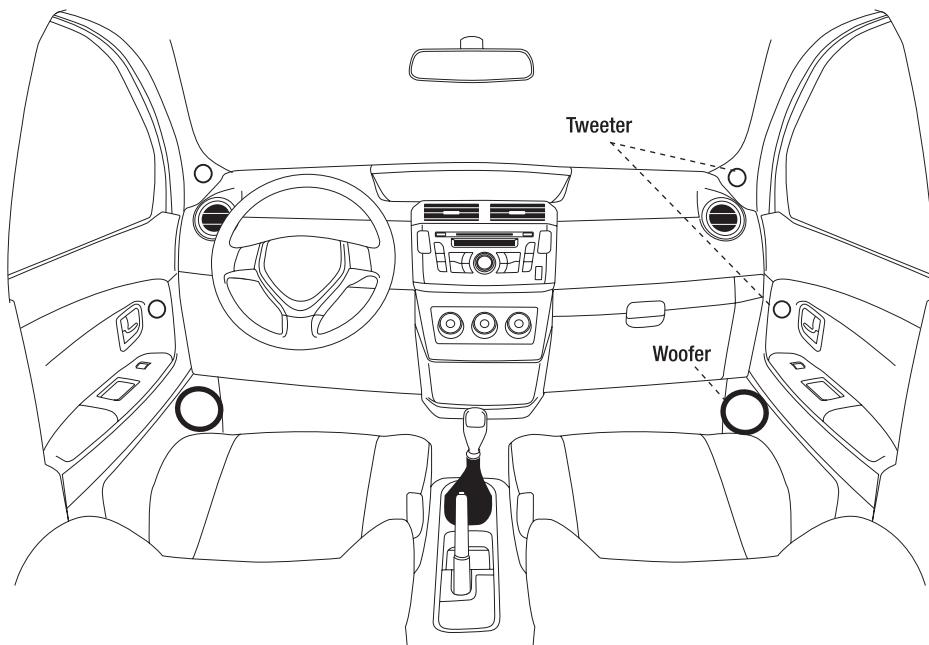
(Due to continuing improvement, specifications and parameters are subject to change without notice)

Size	Nominal Impedance	Frequency Response	Sensitivity 1W/1M	Crossover Attenuation	Mounting Depth	Mounting Diameter	Power RMS/Max
1" (25mm)	4 Ohm	3.5K - 21 kHz	92 dB	-3/ 0 /+3	7/8" (22mm)	2.0" (50.3mm)	60W / 120W

COMPONENT SYSTEM INSTALLATION

PowerBass Xtreme Component Tweeter

These high quality tweeters come complete with several mounting housings for installation versatility. Experiment with the tweeter positioned in several locations to determine the best imaging result before cutting out any panel. Typically tweeters should be mounted on axis and as close to ear level as possible. Once a suitable location has been found then you can evaluate your mounting options shown on the next page.



WOOFER MOUNTING

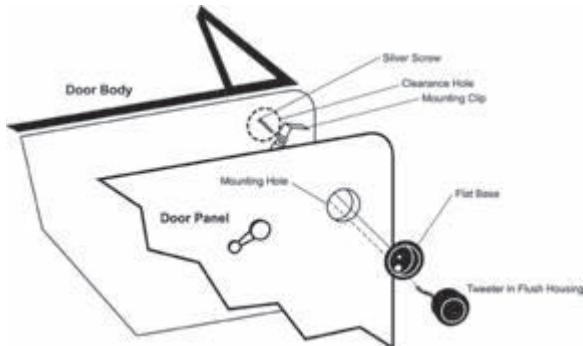
These speakers are designed for free air mounting applications and do not require a sealed enclosure for optimum performance. It is important to isolate the sound coming from the front of the speaker from the sound radiating from the back of the speaker. This is best accomplished by mounting the speakers in the factory location of the vehicle or in a location with a semi-isolated rear chamber like the rear deck of a car (behind the rear seats).

INSTALLATION PROCEDURES

By mounting the tweeter separately from the woofer (or mid-range driver) the installer can choose the best location for sound quality and imaging. Optimum results are usually obtained by locating the tweeters and woofers relatively close to each other, and by keeping the sound path lengths between the listener and the left and right speakers as equal as possible. Three mounting types are possible allowing more versatility for the tweeter location, these are flush mount, surface mount, and angle mount.

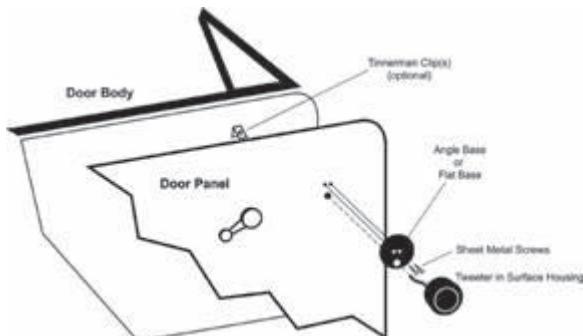
Flush Mounting (Type A)

The best location for the tweeter is usually high up on the door and as far forward as possible without interference from the dashboard. If the desired location is flat and space behind the door panel allows the use of the flush mount housing, follow the drawing as shown below: After checking for clearance, cut the mounting hole in the door panel (see Tweeter Specifications for hole size). Mount the Flat Base from the outside with the mounting clip on the inside of the door panel. Secure the mounting clip to the Flat Base with the long silver screw provided.



Surface/Angle Mounting (Type B and C)

If mounting the tweeter on the surface works out best, refer to the following drawing to see how to best mount the tweeter. Black sheet metal screws have been provided to attach the surface base to the door panel.

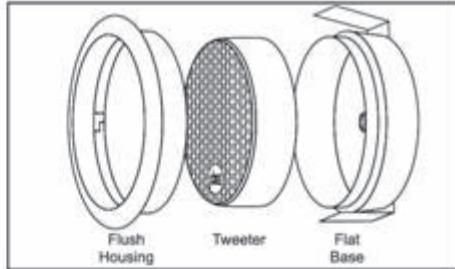
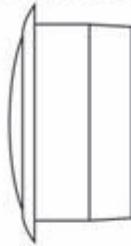


POWERBASS XTREME COMPONENT TWEETERS

These high quality tweeters come complete with several mounting housings for installation versatility. After you have chosen the housing to be used, gently press the tweeter in the proper mounting base. Once the tweeter base is mounted, push and “twist” the housing until it locks to the base. Below are exploded views showing the possible types of tweeter mounting.

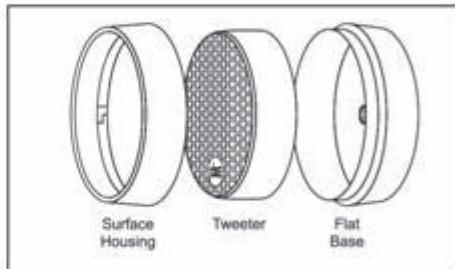
Type A

Flush Mount Tweeter



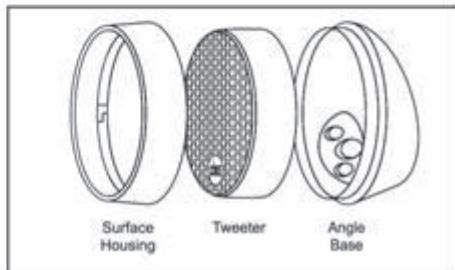
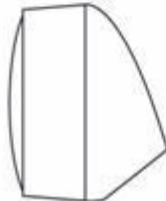
Type B

Surface Mount Tweeter



Type C

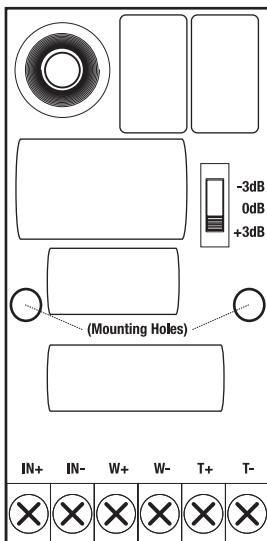
Angle Mount Tweeter



COMPONENT SET CROSSOVER INSTALLATION AND WIRING

The 3XL Series component crossover network incorporates a variety of high quality components to insure proper sound separation between the woofer and the tweeter.

The most common place to install the crossover network is on a flat surface inside the door. However, the door is subject to constant vibration from repeated opening and closing which can over time damage the electronic parts found inside the crossover. Therefore, a better option is to install the crossover network inside the passenger compartment.



It is advisable to keep the crossover network away from any auto electronics that could possibly induce noise into the system. Which ever area you select, choose your location carefully.

Mounting the crossover requires removing the top cover of its housing. This will expose the two mounting holes. You can use the crossover as a template for drilling the mounting holes.

Underneath the cover is a slide switch that controls the tweeter attenuation labeled -3/0/+3 as shown. The +3 setting gives a 3dB boost to the tweeter making it louder. You can select the setting for you own musical taste.

NOTE: It may be easier to wire the crossover prior to mounting.

Carefully route the wires from the woofer and tweeter to the crossover mounting location. Wiring the crossover network is pretty straightforward as shown in the diagram:

- 1) Connect the amplifier or head unit output to the crossover's input terminals.
- 2) Connect the terminals labeled woofer to the component midrange speaker.
- 3) Connect the terminals labeled tweeter to the component tweeter set.

CAUTION: be sure to observe proper polarity when connecting speaker wires to the crossover network terminals.

POWERBASS XTREME LIMITED WARRANTY POLICY

PowerBass USA, Inc. offers limited warranty on PowerBass products under normal use on the following terms:

PowerBass Xtreme Speakers are to be free of defects in material and workmanship for a period of one (1) year. The warranty is extended to three (3) years for parts and labor, if an Authorized PowerBass Xtreme Dealer completes the installation.

This warranty applies only to PowerBass products sold to consumers by Authorized PowerBass Dealers in the United States of America. Products purchased by consumers from a PowerBass dealer in another country are covered only by that country's Distributor and not by PowerBass USA.

This warranty covers only the original purchaser of PowerBass product. In order to receive service, the purchaser must provide PowerBass with the receipt stating the consumer name, dealer, product and date of purchase.

Products found to be defective during the warranty period will be repaired or replaced (with a product deemed to be equivalent) at PowerBass's discretion and will not be liable for incidental or consequential damages. PowerBass will not warranty this product under the following situations:

- **Speakers received with bent frames or water damage**
- **Abuse such as holes in the cone, surround or ripped spider**
- **Voice coil damage due to amplifier clipping or distortion**
- **Product that has not been installed according to this owners manual**

Any implied warranties including warranties of fitness for use and merchantability are limited in duration to the period of the express warranty set forth above. Some states do not allow limitations on the length of an implied warranty, so this limitation may not apply. No person is authorized to assume for PowerBass any other liability in connection with the sale of this product.

Please call (909) 923-3868 for PowerBass Customer Service. You must obtain an RA# (Return Authorization Number) to return any product to PowerBass. **The RA number must be prominently marked on the outside of the shipping carton or the delivery will be refused.** Please pack your return carefully; we are not responsible for items damaged in shipping. Return the defective product along with a copy of the original dated retail sales receipt, plus \$12.00 for handling and diagnostic evaluation to:

**PowerBass USA, Inc., Attn: Returns (RA# _____)
2133 S. Green Privado, Ontario, CA 91761**

Residents of HI, AK and US territories will be charged for return shipping. All inquires regarding service and warranty should be sent to the above address.