
SOUNDSTREAM®

EXACT

4.2

Coaxial
Speaker System
OWNER'S MANUAL

SOUNDSTREAM®
T E C H N O L O G I E S

Coaxial Speaker System

INTRODUCTION AND REGISTRATION

Congratulations on your purchase of the Soundstream EXACT4.2 Coaxial Speaker System. You now own one of the finest car audio speaker systems available.

As with all high quality car audio components, professional installation is recommended. Your dealer's knowledge and experience can ensure a problem-free, cosmetically integrated installation. If you plan on installing the EXACT4.2 speaker system yourself, please review this Owner's Manual first before attempting installation. In addition, it's a good idea to keep the manual for future reference.

EXACT4.2 Serial Number _____

Date of Purchase _____

Date of Installation _____

Dealer's Name _____

HARDWARE AND CONNECTOR PARTS LIST

Before beginning your installation, please check to see that the number of parts contained in your box match the list below:

Hardware

12 each - #8 x 1" sheet metal screws (for mounting speakers and crossovers)

Connectors

8 each - gold spade connectors (for connecting to crossover)

16 each - vinyl insulators

2 each - coaxial wiring harness with gold connectors

EXACT 4.2 DESIGN

The EXACT4.2 Coaxial Speaker System is the result of highly focused engineering effort. Each element of the EXACT4.2 represents several advances in automotive speaker technology. When the project was initiated, the following goals were established:

- High performance sound reproduction in the automotive environment
- Ease of installation
- Superb ergonomics and visual appeal
- High output capability
- Ability to “tailor” sound to each vehicle

Through extensive testing and development, the EXACT4.2 has been designed to provide extremely consistent on and off-axis response in the automobile. The high output capability and low frequency extension of the EXACT4.2 are atypical of 4” drivers due to the excursion capabilities of the EXACT 4 and the steep crossover slopes of the EXACT4.2X.

These efforts have resulted in an extremely flexible speaker system that performs flawlessly in a variety of installation locations in virtually any vehicle.

FEATURES

EXACT4.2 Midrange / Woofer

The EXACT4.2 represents a departure from typical midrange/midbass drivers by combining massive midbass *and* exceptionally smooth midrange.

- **Copper Inductance Cap** for smoother midrange response and lower distortion
- **Natural Fiber Cone** designed for optimum rigidity and damping with minimal “coloration.”

13mm Soft Dome Neodymium Tweeter

The EXACT4.2's tweeter is an ultra-high performance 13mm Neodymium tweeter designed to deliver outstanding high frequency reproduction.

- **Fourth-generation Neodymium Magnetic Assembly** providing performance comparable or superior to tweeters three times the size.
- **Specialty-treated Textile Dome** for a natural, smooth response to 20 kHz.
- **Ferrofluid-immersed Voice Coil** enhances heat dissipation

EXACT4.2X Passive Crossover Network

The EXACT4.2X Passive Crossover represents a new concept in crossover philosophy. The EXACT4.2X crossover consists of high quality, multi-element components with two switchable functions. First is a three position tweeter level control. Second is a two position midrange “presence” control. This combination allows for a multitude of control options. Dual inputs allow for multi-channel amp operation of woofer and tweeter circuits.

- **24 dB/octave Acoustic Summation Crossover Slopes**
- **Variable Tweeter and Midrange Controls** for added flexibility
- **Dual Inputs** for multi-amp operation and further flexibility
- **Dynamic Tweeter Level Control** allows for improved power handling and continuous output
- **Ultra-low DCR Inductors** for minimal signal loss (High power Air-core in woofer path)
- **Mylar Film Capacitors** to ensure low saturation and accuracy in the high frequencies

LOCATION AND MOUNTING

The first step in a successful installation is thorough planning. Choose the location for your speaker components carefully. Follow these suggestions to ensure proper imaging and the best performance:

- Choose a location that offers the least obstruction of sound to your ears.
 - Always check behind the chosen mounting locations to make sure that there are no obstructions (e.g., trunk springs, gas tank, window tracks) or wires in the way, as well as to make sure that there is ample support on which to mount the components.
-

INSTALLING THE EXACT4.2 DRIVER

The EXACT4.2 Driver can be mounted on the front or rear of a panel; gaskets are provided for both options. The bolt hole configuration will fit a variety of standard American, Asian and European OEM patterns making it ideal for direct replacement. Best performance is achieved when the speaker is securely mounted to a door panel or rear deck. There should be no gaps between the speaker and the mounting surface, as this will impair its low frequency performance. Be certain that both the panel and the speaker are securely mounted to prevent unwanted vibration.

- 1) Mark the speaker location by using the template provided.
- 2) Cut the opening and debur the edges with a file.
- 3) Hold the speaker in place against the mounting surface and mark the mounting bolt holes.
- 4) Drill the appropriate size hole for the screws provided.
- 5) Make all speaker connections prior to mounting the speaker to the panel.
- 6) Place the EXACT4.2 into the trim ring, make the speaker wire connections, then install the speaker/trim ring assembly to the panel using the screws provided. Affix the grille.
- 7) When routing speaker cables to the EXACT driver, it is important to form a drip loop in the cable below the level of the speaker to keep water from reaching it. See

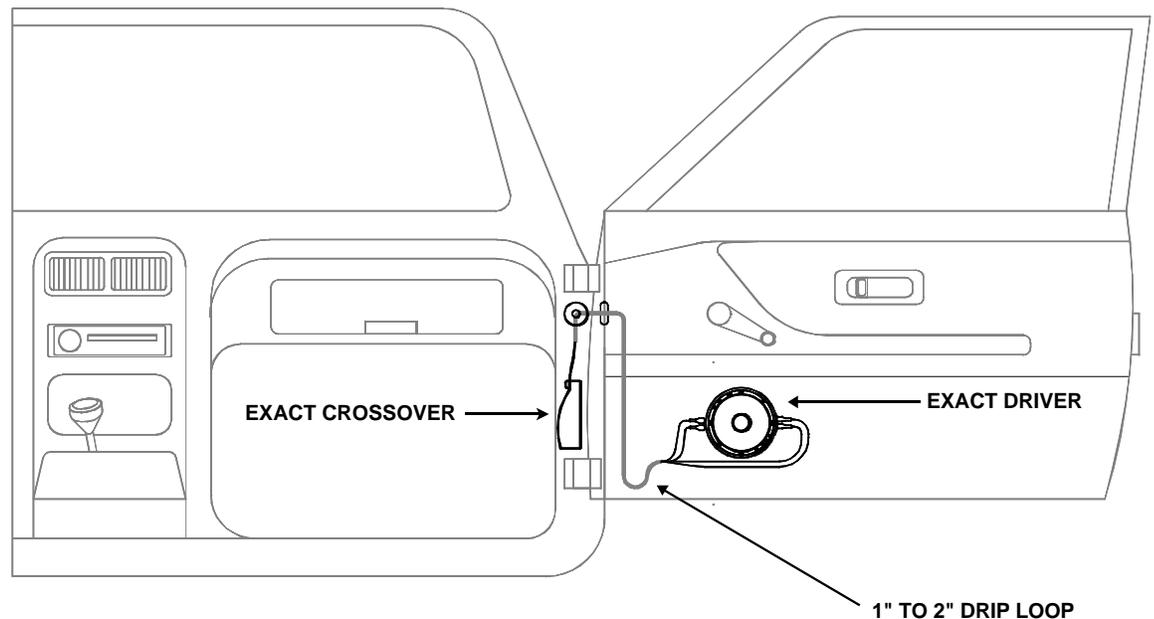


FIGURE 1

**MOUNTING
THE
EXACT4.2X
CROSSOVER**

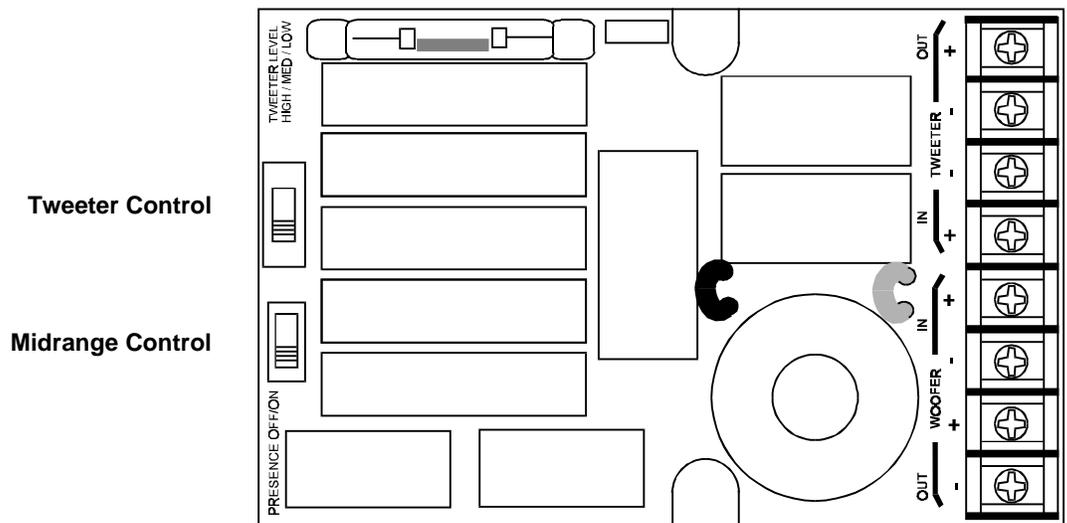
The EXACT4.2X Passive Crossover can be mounted in virtually any location inside the vehicle. Be sure not to mount the EXACT4.2X outside the vehicle, or in a location where it may be exposed to dirt or moisture (e.g., the engine compartment, inside a wheel housing, inside a door, at the bottom of a leaky trunk).

**TWEETER
LEVEL
CONTROL****Tweeter Attenuation**

The EXACT4.2 system has been designed to provide optimum sound in a variety of installation locations. The provided crossover allows for three positions of tweeter level control: HIGH, MED and LOW. The LOW position is useful for using the EXACT4.2 in rear-fill applications. A switch under the clear plastic crossover cover sets one of the three positions. See Figure 2.

**MIDRANGE
LEVEL
CONTROL****Midrange Attenuation**

The provided crossover also allows for two positions of midrange level control. A switch under the clear plastic crossover cover sets one of the two positions -- MIDRANGE PRESENCE -- ON/OFF. The ON position provides increased midrange, a feature useful for adjusting midrange vocal presence. See Figure 2.

**FIGURE 2**

**DYNAMIC
TWEETER
LEVEL
CONTROL**

Tweeter Protection Activation

Under high power/high volume conditions, the dynamic tweeter level control (DTLC) circuit may activate. The purpose of DTLC is to prevent failure of the tweeter by reducing its output when necessary. If the DTLC circuit is engaged you will notice a decrease in high frequency output and the light bulb on the crossover board will light up (see Figure 3). The circuit is self-resetting -- if the DTLC activates, turn the volume down and normal operation will resume in a few minutes.

DTLC Light Bulb

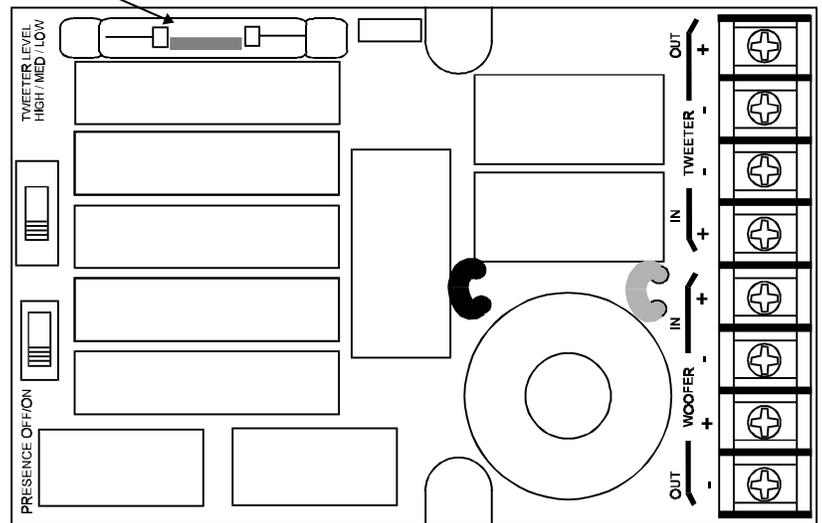
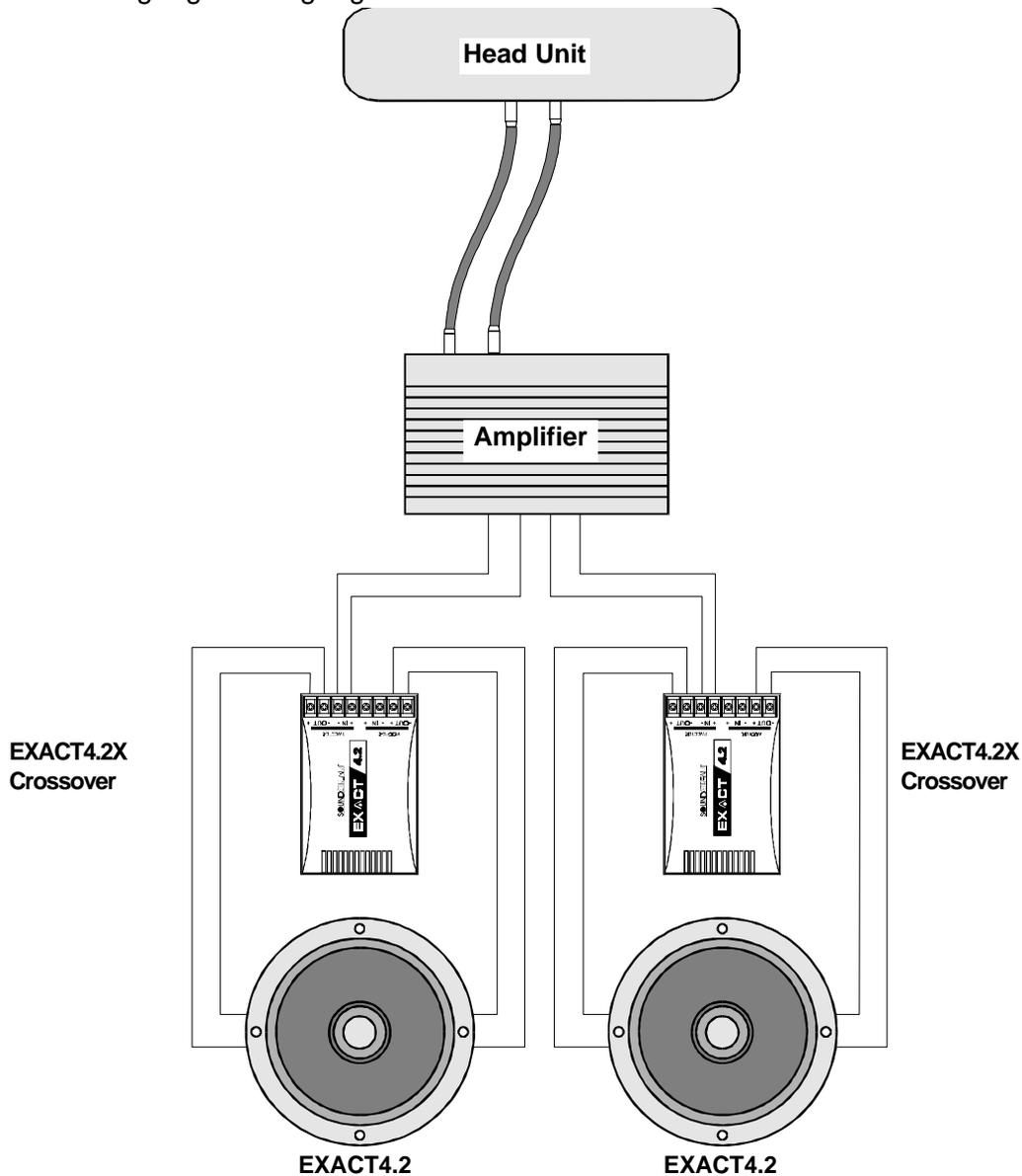


FIGURE 3

WIRING**EXACT4.2 Wiring Diagram**

Figure 4 shows a diagram illustrating the wiring of the EXACT4.2 Component Speaker System. It is important to make sure that all connections are in phase; that is positive (+) is connected to positive (+), and negative (-) is connected to negative (-), since an out-of-phase connection will cause a dislocated image and low bass output. The provided cable harness is color coordinated to aid proper connection of crossovers to speakers; wire colors should match speaker terminal tab colors. For amplifier to crossover connection, we suggest using a minimum of 16 gauge (ideally 12 gauge) premium cable. The connectors provided with this system will accommodate wire from 12 gauge to 16 gauge.

**FIGURE 4**

**NOTES
ON
BI-AMPING**

Bi-Wiring

The EXACT4.2 system includes the EXACT4.2X passive crossover which is optimized for the speakers. The EXACT4.2X allows for dual amp inputs. See Figure 5.

This feature allows for a 4 channel amplifier or two 2 channel amps to power the four individual drivers of an EXACT4.2 system. The benefit of this is added dynamics and level setting flexibility. For example, a head unit's fader control could be used as a tweeter level control. (See note about crossover modification for bi-

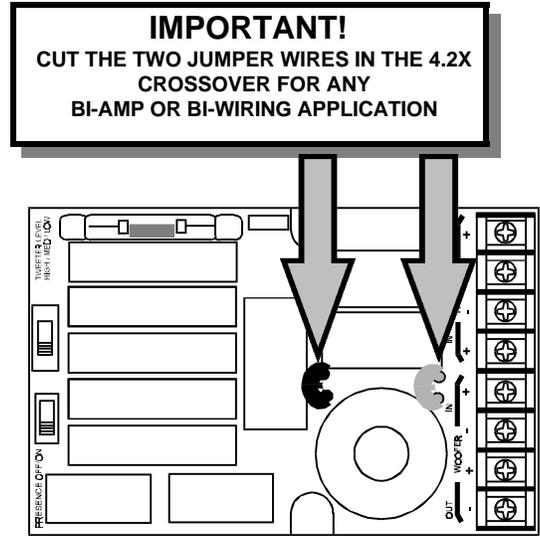
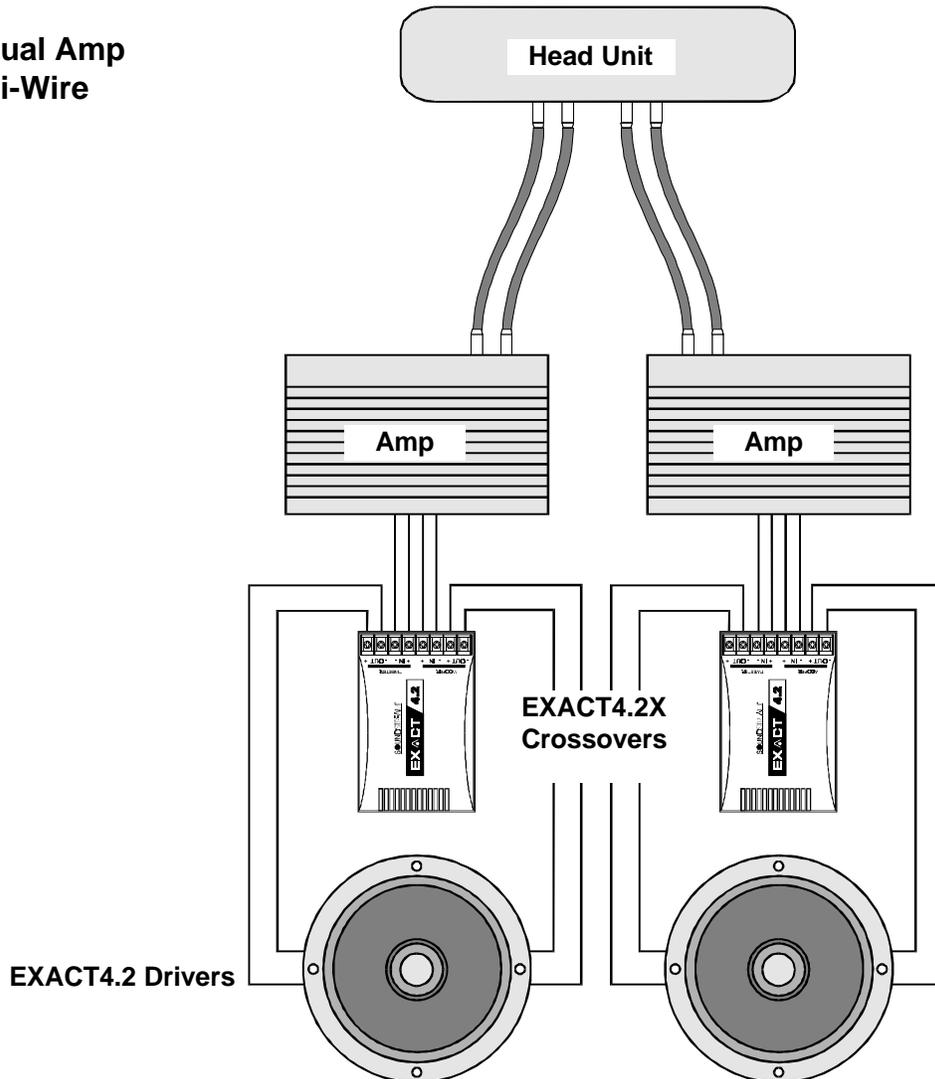


Figure 5 Dual Amp Bi-Wire



**NOTES
ON
BI-AMPING
(CONTD)**

Bi-Amping

True bi-amping can also be accomplished with an external electronic crossover. See Figure 6. Even greater dynamics can be realized with bandwidth limited amplifiers. If you decide to bi-amp, please follow the recommendations below :

- 1) Use at least a 12dB/octave high pass filter no higher than 1500 Hz on the tweeters.
- 2) Use at least a 12 dB/octave low pass filter no lower than 6000 Hz on the woofers.

This “staggered” active arrangement allows one full octave of bandwidth between the amp’s active range and the speaker’s passive range. This stagger allows the purpose-designed passive network to operate as intended. You will gain the benefit of dedicated amplifiers

IMPORTANT!
CUT THE TWO JUMPER WIRES IN THE 4.2X
CROSSOVER FOR ANY
BI-AMP OR BI-WIRING APPLICATION

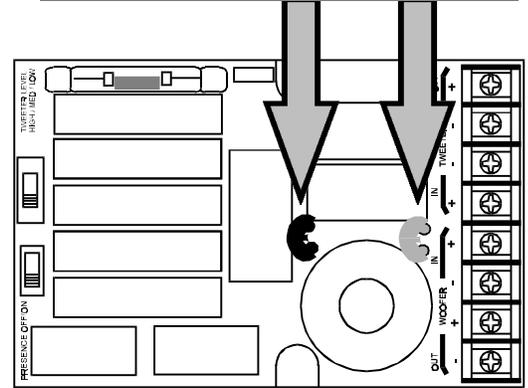
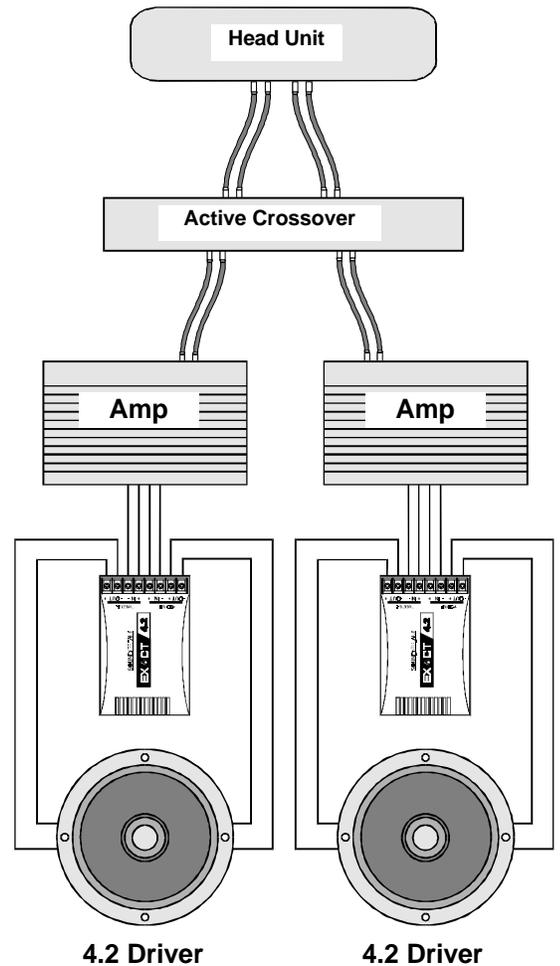
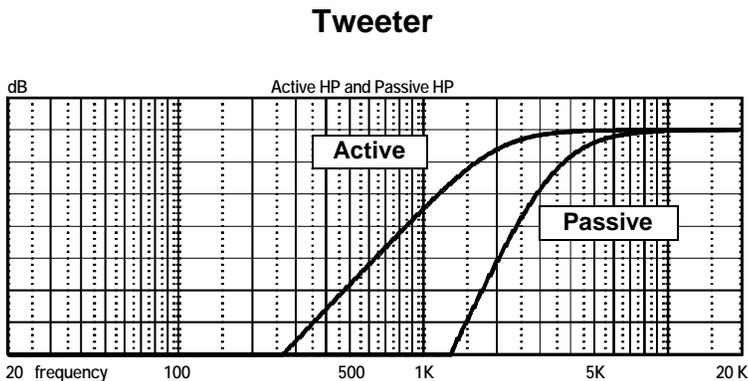
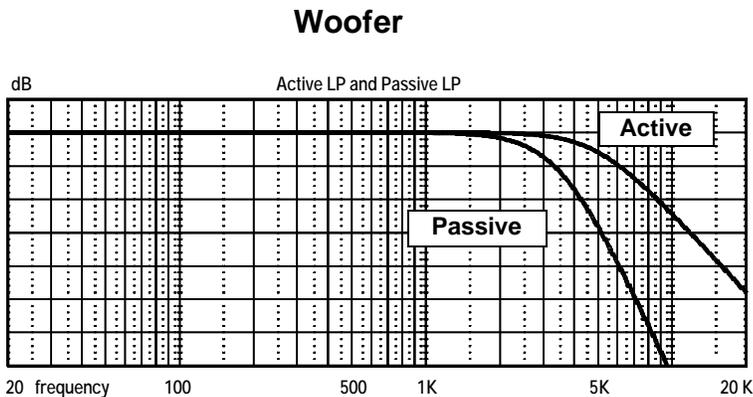


Figure 6 Active/Passive Bi-Amp



SPECIFICATIONS**EXACT4.2 System Specifications**

Frequency Response	70 Hz - 20,000 Hz \pm 3dB
Sensitivity	90 dB SPL at 1 meter (2.83v) 96 dB SPL at .5 meter (2.83v)
Continuous Power Handling	60 watts
Peak Program Power Handling	90 watts
Nominal Impedance	4 Ω
Crossover Slope Rate	24 dB/octave ASC
Crossover Dimensions	3.25" (W) x 1.5" (H) x 5.125" (D)

EXACT4.2 Midrange/Woofers

Frequency Response	70 Hz - 7,000 Hz \pm 3dB
Continuous Power Handling	60 watts with EXACT4.2X Crossover
Peak Program Power Handling	90 watts with EXACT4.2X Crossover
Sensitivity	90 dB SPL at 1 meter (2.83v)
Nominal Impedance	4 Ω
Nominal Driver Diameter	4 1/4"
Mounting Cut-Out Diameter	3 3/4"
Mounting Depth	2 1/4"

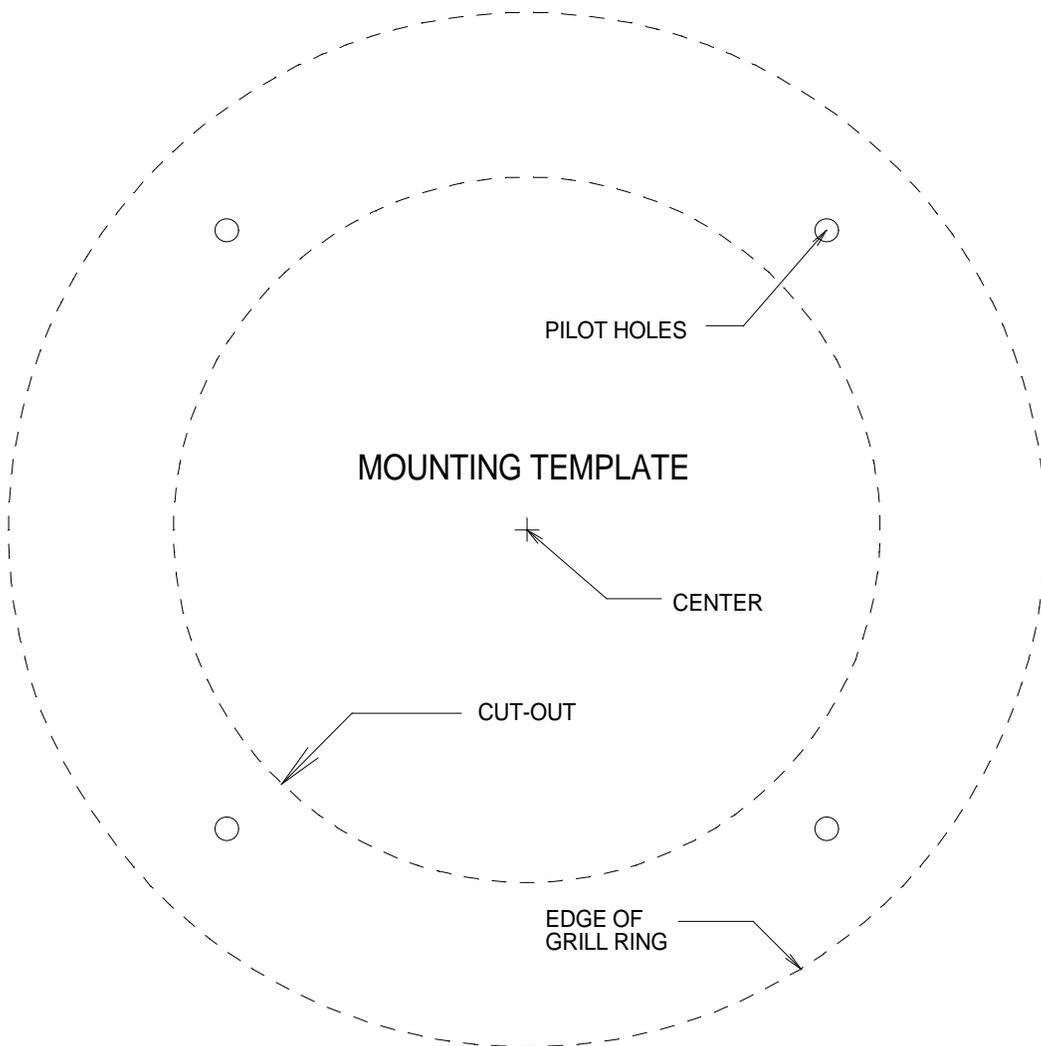
Soft Dome Neodymium Tweeter

Frequency Response	2,500 Hz - 20,000 Hz \pm 3dB
Sensitivity	90 dB SPL at 1 meter (2.83v)
Nominal Impedance	4 Ω
Nominal Tweeter Diameter	13mm

SOUNDSTREAM[®]
T E C H N O L O G I E S

(Rev A, 4/14/97)

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