

# **SS10, SS12, SS15**

**REFERENCE SUBWOOFERS**

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## **Owner's Manual**

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## Congratulations!

**You** have chosen a superior product for reproducing true high-fidelity in the car. Soundstream has engineered the Reference Series Subwoofers to flawlessly reproduce extended low frequency information in a variety of applications. The SS10, SS12 and SS15 were designed and manufactured in the U.S. A.

*In order to get the most out of your subwoofer and its associated equipment, we suggest you carefully acquaint yourself with its capabilities and design, and retain this manual for future reference.*

Model Number: \_\_\_\_\_

Dealer Name: \_\_\_\_\_

Date of Installation: \_\_\_\_\_

Serial Number: \_\_\_\_\_

Date of Purchase: \_\_\_\_\_

## General Information

Unlike many subwoofers currently available, Soundstream Reference Series Subwoofers will offer flawless performance in three types of installation configurations. These configurations are: Ported Enclosures, Sealed Enclosures, and an Infinite Baffle.

The most difficult of all applications for a subwoofer is an Infinite Baffle. Due to the lack of rear loading, infinite baffle or rear deck installations place a tremendous strain on a subwoofer. Soundstream subwoofers are designed to operate at high SPLs (Sound Pressure Levels) for extended periods of time in an infinite baffle.

No matter which of the three methods of installation you choose to use for your new Soundstream subwoofer, we are confident you will find the performance to be excellent.

## Installation

Proper installation and adjustment will reward you with reliable operation and optimum performance. Automotive sound system installations can be tricky, especially for first-timers. For this **reason, you may want to consider using a professional installer who has the foos and more importantly, the experience to do the job right.** If you decide to install your equipment yourself, we hope that this manual will serve as a helpful guide.

If you wish to build an enclosure for your Soundstream woofers, your local authorized Soundstream dealer has been equipped with the necessary information to calculate the size of the enclosure and port size. In addition, your dealer has been supplied with several pre-calculated enclosure dimensions which we feel fully utilize the potential of our subwoofers.

## Before Starting

Make sure that you have all of the necessary tools and mounting hardware to install your subwoofers. We have chosen not to supply any mounting hardware with the woofers because each installation may require different types of hardware. However, we have supplied a foam gasket that can be mounted either to the top or bottom of the woofer. Mounting this gasket will ensure an airtight fit when mounting your subwoofers to the baffle.

## Recommended Mounting Hardware

- For mounting Soundstream Reference Series Subwoofers onto a wood baffle board we recommend using 1/4" / 20 bolts with washers and tee-nuts.
- Tools required for installation: electric drill, sheet metal cutter or saw, eye protection, phillips head screwdriver, file (for removing rough edges from mounting hole).

## Check the Mounting Location

If these woofers are being mounted to a rear deck or package shelf, please make sure there are no obstacles, electrical lines. or fuel lines blocking the location.

Make sure there is sufficient clearance between the speaker and gas tanks, and the rear window.

**Infinite Baffle Installation (Rear Deck without a Box)**  
After you check for obstructions, mark the mounting hole and the bolt holes. Now cut and drill the speaker hole. (Do not operate your drill through the mounting holes of your subwoofer.) File all the rough edges away from the mounting hole.

**NOTE:** If the mounting surface is irregular or not rigid it will be necessary to mount the woofers to a baffle board. This can be fabricated out of 1/2" to 3/4" plywood. Make sure to securely mount the baffle board to the rear deck using nuts, bolts, and washers. Insert Neoprene (or other closed-cell foam) between the rear deck and baffle board to prevent vibrations.

At this point you are ready to mount your subwoofer. Make sure to securely bolt the speaker to the baffle board or rear deck. By using the supplied gasket you should be able to achieve an airtight fit. This is important to the performance of any subwoofer.

## Installation in a Sealed or Vented Box

Because an automobile encounters numerous bumps and rough roads, be sure to build a strong box. We recommend using 1/2" to 3/4" HIGH DENSITY particle board. The enclosure should be glued and screwed together. A box simply nailed together cannot be guaranteed to withstand the harsh car environment. We further recommend the inside of the cabinet be reinforced with a firing strip. This strip should be glued to the entire inside perimeter of the enclosure. Your authorized Soundstream dealer has all of

the necessary data to calculate the proper box and port size. We have also provided the dealer with several optimum enclosure dimensions.

## Connection Speaker Cable

Speaker cable is not supplied with these subwoofers. We strongly recommend using a high quality speaker cable to connect your subwoofers to the amplifier. Your Soundstream dealer has a variety of high quality speaker cables; ask for their recommendation.

The Soundstream Reference Series Subwoofers have been supplied with premium connection terminals. These terminals do not require any type of wire fitting.

**CAUTION: Before connecting speaker to the woofers, be sure that the system's power is off!**

## Proper Phasing

When connecting the speaker cable to the subwoofer, be sure the positive terminal of the amplifier is connected to the positive terminal of the speaker, and the negative terminal of the amplifier is connected to the negative terminal of the speaker.

The terminals of your subwoofers are Red for positive (+) and Black for negative. Speaker cable is typically coded by color or by markings on the jacket.

If you have any questions as to whether your subwoofer is in phase, verify by ear. The correct polarity produces the most bass; incorrect polarity produces a strangely dislocated sound image on mono material. A positive (+) DC voltage applied to the positive (+) terminal will produce a forward excursion of the cone.

## Crossover Points

If you are using these speakers as a subwoofer, you will want the crossover point to be set at 100 HZ or less. If you are using them as a woofer, set the crossover point at 1000 Hz or less. The optimum crossover frequency choices depend on three factors: the slope of your crossover network, enclosures used for your subwoofers, and the acoustics of your car. Because of interior dimensions, most automobiles have a strong resonance in the 100 Hz-200 Hz mid-bass region, which causes the boomy, muddy bass typical of many installations. Therefore, we suggest you use an electric crossover with the ability to stagger the high and low bass frequencies such as the Soundstream SX1, DX1, or DX3.

By spacing crossover points (that is, placing the low frequency crossover point at a lower frequency than the high frequency crossover point), you can create a dip in the output response of the system that will compensate for the peak caused by the resonance. Flat response is the ultimate

result. (If the low and high frequency crossover points were set at the same frequency, the system output might be flat but the audible result would be a severe peak.) With optimum crossover settings utilized, equalization is often unnecessary. (The fewer links in the audio chain, the better.)

## Service

Your Soundstream subwoofer is protected by a limited warranty. Please read the warranty statement supplied with this manual.

Should any problems occur, contact your dealer, or you may contact Soundstream directly at (800) 999-1350 (Monday-Friday 8:30am-5:00pm Pacific Time).

**DO NOT send your subwoofer to Soundstream without first obtaining a return authorization number.** This will facilitate repairs and will allow us to return your unit in the shortest possible time.

## Specifications

	SS10	SS12	SS15
Recommended maximum power handling, program (watts)	250	300	1000
Sensitivity, dB SPL (1 meter/1 watt)	92.0	93.0	98.0
Nominal Impedance (ohms)	4	4	8
Frequency Response (Hz)	30-1 000	26-1000	30-1 000
Woofer size	10"	12"	15"
Maximum mounting depth	3-7/8"	4-3/4"	6-3/4"
Free air resonance (Hz)	33	32	35
Mounting cutout	9"	11"	14"
Approximate weight (lbs)	11.5	13.0	22.0
Mounting height	5/8"	5/8"	1/4"

Design and specifications subject to change without notice

**SOUNDSTREAM®**  
C A R A U D I O