

SPL40

2 Ohm Nominal
Component
Speaker System
OWNER'S MANUAL

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

SPL 40 Component Speaker System

Congratulations on your purchase of the Soundstream SPL 40 Component Speaker System. When used with a high quality 2 ohm rated power amplifier, the SPL 40 will provide exceptional performance.

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 SPL 40 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.

SPL 4 Serial Number _____

SPL 1 Serial Number _____

Date of Purchase _____

Date of Installation _____

Dealer's Name _____

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

Hardware

4 each - Stainless steel tweeter spring clips (for SPL 1 flush mount cup)

2 each - Flush-mount cups for SPL1 (for SPL 1 flush mount cup)

2 each - 1/4" 6-32 machine screws (for SPL 1 flush mount cup)

2 each - Surface-mount kit for SPL 1 (includes 2 flat head screws)

12 each - 1" #8 sheet metal screws (for mounting SPL 4 and SPL 4x)

Connectors

4 each - 1/4" tab female Gold insulated slip-on connectors (for the SPL 4 woofers)

12 each - Gold Spade connectors (for connecting to crossover)

4 each - 1/8" Gold female bullet connectors with vinyl insulators (for connecting SPL 1 to speaker wire)

FEATURES

SPL 4 Midrange / Woofer

The SPL 4 is an excellent performer with a combination of high sensitivity, solid bass *and* smooth response throughout the audible range.

- **Lightweight Cone** designed for good rigidity and high sensitivity
- **2 Ohm Voice Coil** for increased output

SPL 1 Aluminum Dome Neodymium Tweeter

The SPL 1 tweeter is a high performance 1" Neodymium tweeter designed to deliver outstanding high frequency reproduction

- **Black Aluminum 1" dome for improved power handling and linear response**
- **Ferrofluid-immersed Voice Coil** enhances heat dissipation
- **Vented Aluminum Voice Coil Former** for superb heat dissipation and high power handling

SPL 4X Passive Crossover Network

The SPL 4X crossover consists of high quality, multi-element components with a two position tweeter level control. This allows tailoring high frequency output to the installation and individual preferences.

- **24 dB/octave Acoustic Summation Crossover Slopes**
- **Variable tweeter** control for added flexibility
- **Dynamic tweeter protection** allows for improved power handling and continuous output
- **Ultra-low DCR Inductors** for minimal signal loss (High power Ferrite in woofer path)

2 Ohm Nominal System Impedance

The 2 Ohm impedance design of the SPL 40 system provides an overall **3 dB increase in output** compared to a 4 Ohm design.

- Effectively a **doubling of Sound Pressure Level** -- with the same amplifier voltage output
- **More stable, phase coherent load** than two 4 Ohm speakers

LOCATION AND MOUNTING

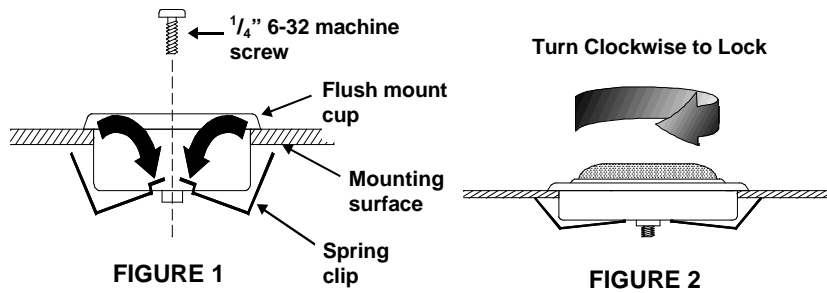
The first step in a successful installation is thorough planning. Choose the location for your speaker components carefully. Follow these suggestions to ensure proper imaging and the best performance:

- Select a location where each tweeter and midrange/woofer can be mounted close to each other. A good rule of thumb is a maximum of one foot from cone to tweeter.
- Choose a location that offers the least obstruction of sound to your ears.
- Try to mount the components on the same plane.
- 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 TWEETER

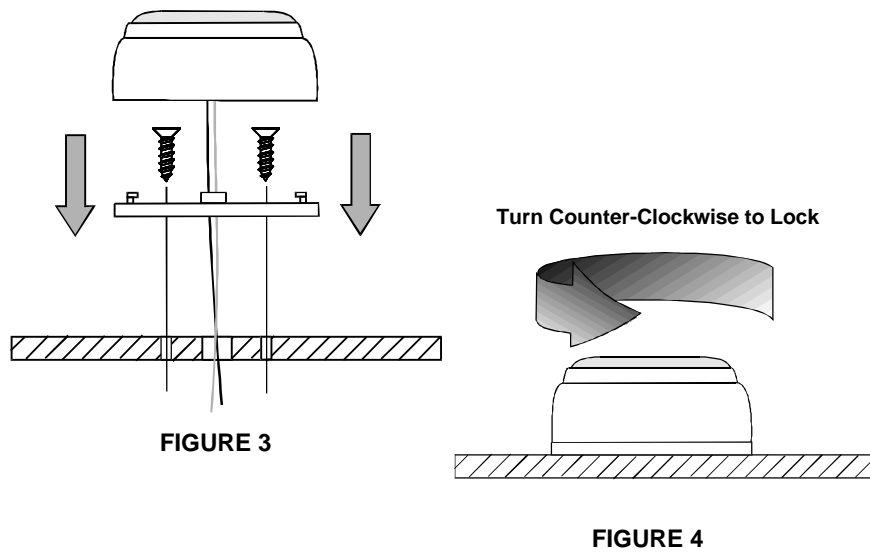
Flush Mounting:

- 1) Cut a 2 1/16" (52mm) diameter hole through the mounting surface. If the surface is covered with cloth or carpet, be careful not to tear or pull the material. Sometimes it is a good idea to peel the material away, and then trim it by hand.
- 2) Secure the cup in the mounting cutout by using the spring clips and screw provided. Slip the spring clips through the bottom of the cup and tighten the screw until the cup is firmly seated. See Figure 1.
- 3) Once the cup is secure, mount the tweeter into the cup making sure to first pass the tweeter wires through the openings in the cup. Turn the outer swivel ring, (not the tweeter) clockwise to lock it into place. See Figure 2. The tweeter may be tilted approximately 15 degrees to optimize dispersion and imaging.



Surface Mounting:

- 1) Drill one 5/16" diameter hole for the tweeter lead wires and two pilot holes for the mounting screws.
- 2) Attach the surface mount plate with two flat head screws.
- 3) Pass the lead wires through the hole. See figure 3.
- 4) Engage the locking holes on the back of the tweeter onto the tabs on the plate and rotate counter-clockwise until locked. See figure 4.



**INSTALLING
THE SPL 4
MIDRANGE/
WOOFER**

The SPL 4 Midrange/Woofers 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 American, European and Asian OEM patterns making it ideal for direct placement. 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.
- 6) Drill the appropriate size hole for the screws provided.
- 7) Place the SPL 4 into the trim ring, make the speaker wire connections, then install the speaker/trim ring assembly to the panel using

**MOUNTING
THE SPL 4X
CROSSOVER**

The SPL 4X Passive Crossover can be mounted in virtually any location inside the vehicle. Be sure not to mount the SPL 4X 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, at the bottom of a leaky trunk, inside a door).

TWEETER ATTENUATION

The SPL 40 system has been designed to provide optimum sound in a variety of installation locations. The provided crossover allows for 2 positions of tweeter level control, 0dB and -3dB. A switch under the plastic crossover cover sets one of the two positions. The factory setting is 0 dB.

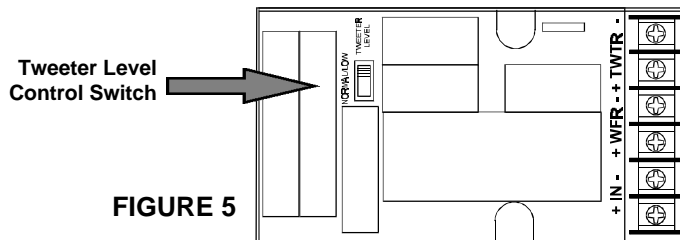


FIGURE 5

WIRING SPL 4 Wiring Diagram

Figure 6 shows a diagram illustrating the wiring of the SPL 40 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. We suggest using premium cable. The connectors provided with this system will accommodate wire from 12 gauge to 16 gauge.

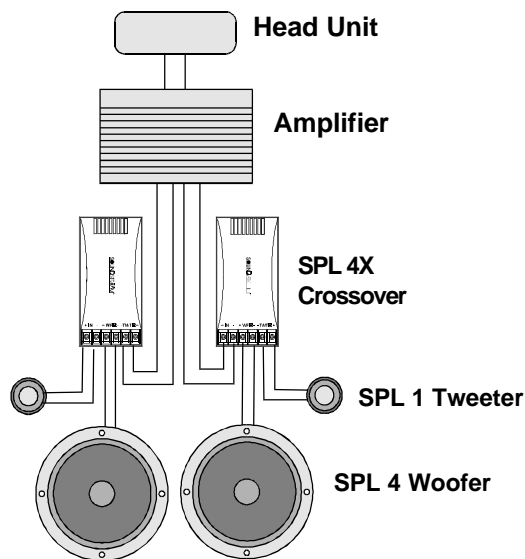


FIGURE 6

SPECIFICATIONS

SPL 40 System Specifications

Frequency Response	80 Hz - 20,000 Hz \pm 3dB
Sensitivity	92 dB SPL at 1 meter (2.83 Volts) 98 dB SPL at .5 meter (2.83 Volts)
Continuous Power Handling	40 watts
Peak Program Power Handling	80 watts
Nominal Impedance	2 Ω
Crossover Slope Rate	24 dB/octave ASC
Crossover Dimensions	2 5/8" (W) x 1 3/8" (H) x 4 3/4" (D)

SPL 4 Midrange/Woofers

Frequency Response	80 Hz - 4000 Hz \pm 3dB
Continuous Power Handling	40 watts with SPL 4X Crossover
Peak Program Power Handling	80 watts with SPL 4X Crossover
Sensitivity	92 dB SPL at 1 meter (2.83 Volts)
Nominal Impedance	2 Ω
Nominal Driver Diameter	4 1/4"
Mounting Cut-Out Diameter	3 3/4"
Mounting Depth	2 1/8"

SPL 1 Metal Dome Tweeter

Frequency Response	4000 Hz - 20,000 Hz \pm 3dB
Sensitivity	94 dB SPL at 1 meter (2.83 Volts)
Nominal Impedance	4 Ω
Nominal Tweeter Diameter	1"
Mounting Cut-Out Diameter	2 1/16"
Mounting Depth (flush mount)	3/4"

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SOUNDSTREAM[®]

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