



## CS65<sup>IV</sup> 2-WAY HIGH QUALITY COMPONENT LOUDSPEAKER SYSTEM

Congratulations on your new SUONO CS65 Component System!

### FEATURES:

Two-way component-type loudspeaker system for High Sound Quality. 6.5" Mid-Bass driver with cast aluminum basket, carbon fiber cone, and butyl rubber surround. High performance 1" silk dome tweeter. High-quality components crossover, electric second order per side, with the option of two different output levels for the Tweeter.



### TO ACHIEVE THE BEST SOUND...

The effort invested in the right installation and setup of your new **CS65** Component Speaker System will have a lot to do with its final sound quality. Among our main recommendations are:

Pay attention to the polarities of the Passive Crossovers and the Mid-Bass outputs. Once connected, the phase can be verified as follows: play some music with good low-frequency content, then experiment with the Balance Control turning it fully from one end to the other. If the phase is correct, there will always be more bass response when the Balance knob is at the center than all the way to the Left or the Right channel. Also, make sure that when you turn the Balance to the right, sound comes only from the right speakers, front and rear, and the same happens with the Left channel. Because of the shorter wavelengths of high frequencies and the unknown final position of the Tweeter relative to the Mid-Bass driver, the Tweeter phase is not guaranteed with the right polarity connection. You may want to experiment with your Tweeter's polarity as a final fine-tuning, which may improve both Frequency Response and Imaging.

Try to place Mid-Bass and Tweeters at both ends of the front of the car, as far away from the driver as possible. The farther away the more equidistant they will be, which should help in achieving the best Frontal Acoustic Scenario. Once there, experiment with the position and direction of the speakers, looking for the so-called "phantom center channel", that is, being able to locate the singer's voice at the center of the car.

The most coherent sound is usually obtained by placing the Tweeter as close to the Mid-Bass as possible. However, this is not always the case, your best friend is experimentation: placing and aiming the Tweeter in all positions and directions you can think of, until you find the one that produces the strongest and most convincing image and soundstage.

When possible, install the Mid-Bass inside a sealed cabinet. The internal volume of this box should be as large as possible, up to around 14 liters per side. Even if you can only get a fraction of this volume, the musical reproduction in low and low mid registers will be impressively improved when operating from such a box. Add some fiberglass, dacron or equivalent as sound-absorbing material inside this box.

When enjoying your new **SUONO CS65** speaker system at high sound pressure levels, try not to go beyond that point where distortion begins to be perceived. It is distortion rather than power what damages speakers. If in doubt, take your equipment to a professional installer for a Gain Structure Adjustment with the help of an oscilloscope or equivalent. Once the gains are adjusted with this method, the best possible Dynamic Range and Signal to Noise Ratio are achieved, significantly reducing distortion throughout the system and the probability of damage.

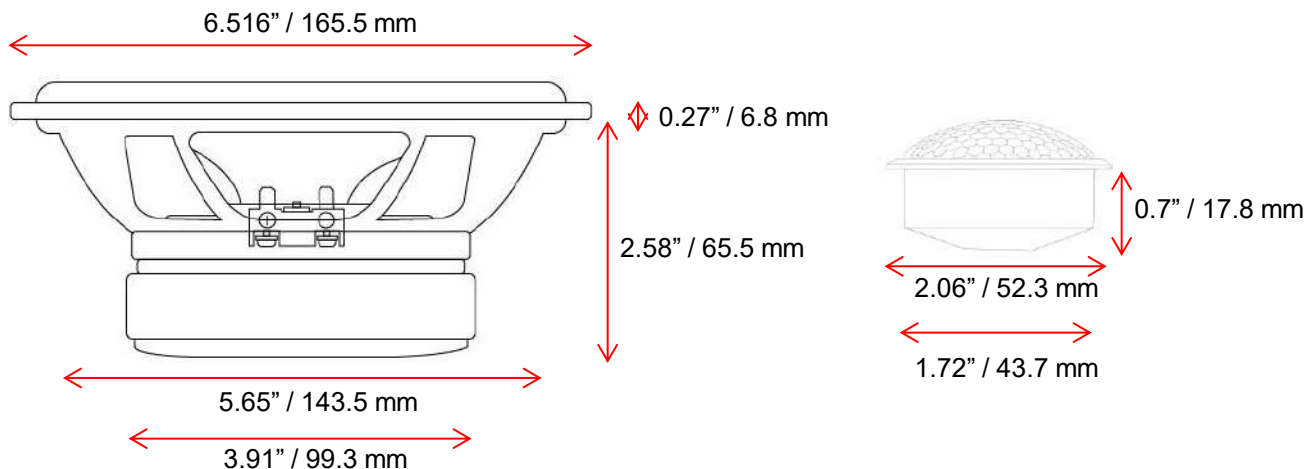
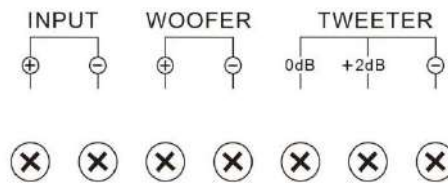
If once the installation is finished and the system adjusted, "engine noise" is perceived through the speakers, the location of the Crossovers may be suspected. Since they have coils, they tend to pick up such noises if they are in the wrong place. Just relocate them. If that were the case, just moving them 4 to 6 inches usually solves the problem.

**Crossover CONNECTION:**

**INPUT:** This is where the cables with the audio signal coming from your stereo or amplifier are connected.

**WOOFER:** 6.5" Mid-Bass audio output

**TWEETER:** audio output to the Tweeter. The negative wire should be connected to the one that marked with (-). For the positive, there are two options: the one marked as 0 dB is the recommended one. The other is 2 dB louder.



**SPECIFICATIONS:**

Nominal Impedance	4 ohms
Frequency Response	50 - 20,000 Hz
Power Handling	120 watts RMS
Sensitivity	89 dB SPL @ 2.83 Volts /1m

**6.5" Mid-Bass:**

Cone	Carbon Fiber
Surround	Butyl rubber
Basket	Cast Aluminum
Magnet	16.5 Oz / 468 g
Voice Coil	1.18" / 30 mm KSV

**TWEETER:**

Dome	Silk
Basket	Aluminum
Magnet	Neodymium
Voice Coil	1" / 25 mm

**Thiele-Small Parameters**

Fs:	53.5 Hertz
Qms:	9.18
Qes:	0.64
Qts:	0.6
Vas:	16 liters
Re:	3.53 ohms

**WARRANTY:**

SUONO products are guaranteed for one year for the original retail purchaser against defects in material and workmanship. Products found to be defective will be repaired or replaced (at SUONO's discretion) at no charge. Damage caused by misuse, abuse, product modification, accidents, improper installation, water, and unauthorized repair attempts is not covered. Cosmetic or finish damages are not covered. Products not purchased in the United States from an authorized dealer are not covered. Incidental or subsequent damages to other products are not covered. Any costs or expenses for removing and/or reinstalling the product are not covered. SUONO's total liability will not exceed the purchase price of the product. Some states do not allow limitations on implied warranties so this may not apply to you. You are responsible for the shipment of your product to SUONO. Please get in touch with SUONO first to get a Return Authorization Number.

**SUONO CAR AUDIO LLC**

1517 Pech Road, Houston, Texas 77055. USA

Phone : (832) 853 71 85    [juan.castillo@suonocaraudio.com](mailto:juan.castillo@suonocaraudio.com)    [www.suonocaraudio.com](http://www.suonocaraudio.com)