

# Installation Manual for Experience Line

**EL-C260S**

2-Way Component System

100 Watts

Part Nr. 280088

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**Please read installation manual carefully before beginning  
installation!**



**rainbow**

Rainbow Audio GmbH - Bernbrunnerstr. 54 - 74831 Gundelsheim

[www.rainbow-audio.de](http://www.rainbow-audio.de)

[info@rainbow-audio.de](mailto:info@rainbow-audio.de)

Dear Music Lover,

We congratulate you on your purchase of our superior product and thank you for placing your trust in rainbow. With over 30 years of engineering expertise in car audio speakers and belief in Golden Spiral for product design, rainbow has created a wide range of products that reproduce life-like sound with all the details and emotions you can hope for. Rainbow guarantees outstanding quality and we wish you many pleasant hours enjoying your favorite music with our high-performance products. We have put together this installation manual with great consideration of different mechanical and acoustical features to help you better understand and operate rainbow products. And we'd love to hear your questions, feedback and improvement suggestions via email [info@rainbow-audio.de](mailto:info@rainbow-audio.de).

Best wishes,  
Your Rainbow Team

## **Safety Instruction**

### **Attention**

Please read all warnings found in this manual. This information is included and highlighted to inform you of the potential risks of personal injury or damage to property.

**Our products are intended for those who want to upgrade their car audio systems and enjoy unbeatable sound performance in cars. The relevant safety regulations regarding related auto parts, the regulations of internal vehicle safety, as well as the regulations of the authorized vehicle manufacturers should be followed diligently.**

### **Hearing Damage**

**Continuous exposure to sound pressure levels over 85 dB may cause permanent hearing loss. High-powered auto sound system could produce sound pressure levels over 130 dB, which may cause damage to hearing. Use common sense and avoid such risks.**

### **Volume and Driver Awareness**

Use of audio components can impair your ability to hear necessary traffic sounds and may constitute a safety hazard while driving your automobile.

Rainbow accepts no liability for hearing loss, bodily injury or property damage as a result of use or misuse of this product.

**Installation Notice**

Do not use your automobile until the subwoofer has been secured to the interior framework. Failure to do so may turn a component into a dangerous, flying projectile during a sudden stop or accident.

Do not drill or drive screw through any vehicle interior or carpeted floor before inspecting the underside for potential punctures to control lines or cables. Be sure to avoid all fuel lines, brake lines, electrical cables or oil lines when planning the installation.

We recommend disconnecting the battery before beginning installation of the loudspeaker system. Please ask your car dealer if disconnecting the battery is feasible without any problems.

Always be meticulous when removing interior trim panels. Car manufacturers use a variety of fastening devices that can be damaged in the disassembly process.

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If sheet metal must be cut or removed, contact your authorized car dealer for professional advice. By damage to supporting body structures the safety certificate may be withdrawn.

**Shock Hazard!**

Do not touch the connectors while the system is running.

# Mechanical Installation

## Choosing a location

The first step of a favorable installation is to select the best mounting locations for the component system. Under most circumstances, component speakers are mounted in front doors. For easy and quick installation, use the original factory speaker locations since these positions will save plenty of installation time and provide the best optical integration.

## Tweeter Mounting

The tweeter positioning indeed has a direct and noticeable impact on the front staging of your component system. Loudness levels in the high frequency will vary because of different locations where the tweeters are installed. Installation extremely close to reflecting surfaces can have adverse effects on stereo imaging. Due to the different distances of the sound, there can be differences in the sum of the individual sound components of the tweeter and mid woofer around the crossover frequency. The distance between each mid woofer and tweeter pair should not exceed 60cm.

Instances of different tweeter installation locations and the corresponding results generally produced are explained as follows:

### 1. A-pillar

Optimum option regarding the depth of imaging and overall sound balance of the component system. It's not that easy to get it done, namely, excessive mounting effort.

### 2. Dashboard

Sometimes aggressive and overly bright treble playback caused by the horn loading effects of the front window. Setting tweeter as -3dB may benefit.

### 3. Window triangles

Bright sound combined with a high sound stage, sometimes sound a bit "tense" with side biasing.

### 4. On the upper end of the door panel

Balanced sound with good staging qualities, reduced imaging and focus with side biasing.

### 5. Right on top of the mid woofer

Muffled or dull sound, particularly with a person sitting in the passenger's seat.

**Attention:** The major radiation axis of both tweeters are supposed to cross at a virtual point approximately in the center between the front passenger and the driver's seat. A direct "on-axis" installation



of the tweeters, where they direct or point at the listener is not recommended. The phenomenon of tweeters aiming too much at the listener is called “side-biasing”. The sound appears to originate from the side door instead of playing in the center of the dashboard.

### **Crossover Mounting and Connection**

Find an appropriate mounting location for the crossovers. For instance, the crossovers can be installed in an existing cavity behind the door panel or below the dashboard. It is to the benefit of adjustment work if the crossovers remain easily accessible. Connect the cables from the tweeters, the mid woofers and the amplifier to the respective crossovers.

Observe the polarities indicated and ensure that everything has been connected correctly. All speaker cables must be connected to the crossover with the right polarity. The correct polarity of the speakers is a critical factor for the sound performance of the entire audio system. An incorrect polarity could “destroy” the sound of the best loudspeaker system. Unintentional polarity reversal of the cables could give rise to missing bass, squawky midrange or extremely diffuse sound.

**Pro Advice:** Under some circumstances, reversing the polarity (positive pole reversed with negative pole) of the two tweeters to the mid woofers can provide a greater sound experience. This may be attributed to the mounting position or the distance between the speakers and the listener, or as a result of reflections in the vehicle. As taste is very individual, the decision can only be made after the loudspeakers have been installed in the vehicle.

### **Cable Cross Section**

If longer distance from the amplifier to the crossover has to be overcome, use high quality speaker cables with a minimum cross section of 2.5 mm<sup>2</sup>. Failure to do so will do harm to sound quality.

### **System Testing**

Slowly turn up the volume of your head unit and listen for distortion. If everything appears to be good and it just sounds right, check the speaker balance of both the left and the right side by adjusting the balance control of your head unit. Shifting the balance to the left channel would make sounds coming solely from the left speaker system, while shifting the balance to the right should do the same for the right speakers. If anything appears to be abnormal, you must recheck the wiring of the crossover, the amplifier or the speaker.

### **Warranty**

All rainbow products come with a year's warranty on all parts, starting from the date of purchase from the authorized retailer. Only the first buyer is entitled to this warranty policy, which would be invalid in case of products being transferred.

The warranty covers all material and manufacturing defects, however it does not cover mechanical defects, defects caused by electrical overload and foreign interference by unauthorized people.

### **Mechanical Defects**

Defects resulting from damage to components during installation, dirt or metal shavings in the open magnetic system, and inappropriate installation by using devices not conforming to the intended range of application.

### **Electrical Defects**

Damage resulting from electrical and thermal overload and/or inadmissibly high power supply, and clipping distortion.

### **Electromechanical Defects**

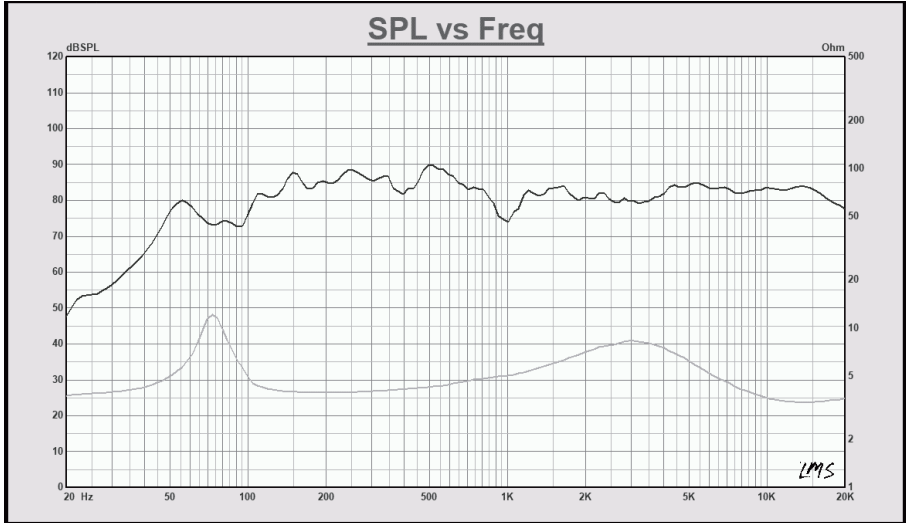
Damage resulting from running the loudspeaker system at an excessively high volume or in an improper enclosure like trunk and the results caused thereof, such as burned voice coils, broken lead wires and accidents, acts of God or other situations for which rainbow can not be held accountable. In particular, normal wear and tear is not covered by warranty.

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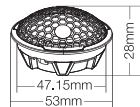
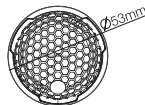
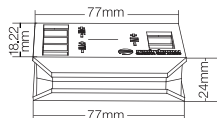
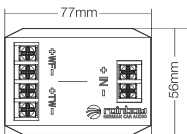
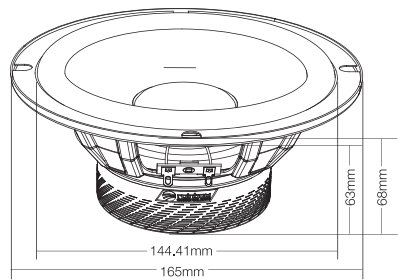
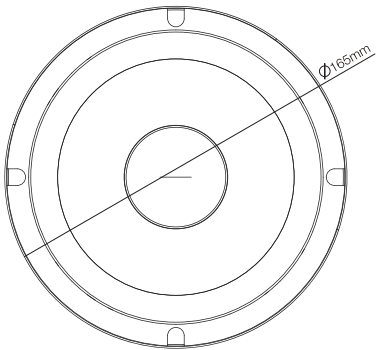
# TECHNICAL DATA

EL-C260S

SPL vs Frequency Response



## Dimension Illustration



T/S参数		
喇叭	高音	中低音
振膜	丝膜	聚丙烯
灵敏度	87 dB/W/m	85 dB/W/m
额定功率	10 W	50 W
峰值功率	20 W	100 W
额定阻抗	4 Ohm	4 Ohm
直流阻抗	3.6 Ohm	3.4 Ohm
谐振频率	1400 Hz	70 Hz
机械品质因数	N/A	4.17
电品质因数	N/A	1.87
总品质因数	N/A	1.29
振动质量	N/A	11.9
力顺	N/A	406 u M/N
振动面积	N/A	13.2 cm <sup>2</sup>
等效容积	N/A	10 L
BL磁力	N/A	3.08 Tm
磁铁尺寸	19.5*3mm	80*45*15mm
音圈直径	20.4mm	25.5mm
音圈高度	1.6mm	10.3mm

### EL-C260S 连接图示

