



ZR800-CW

Subwoofer

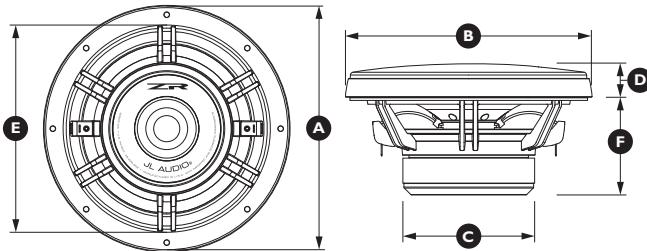
owner's manual

Thank you for choosing a JL Audio Evolution ZR Component Woofer for your automotive sound system. With proper installation, your new speaker will deliver years of listening pleasure.

We strongly recommend that you have your new Evolution speaker installed by your authorized JL Audio dealer. The installation professionals employed by your dealer have the necessary tools and experience to disassemble your interior panels, install your new speakers and reassemble your vehicle properly. If you prefer to perform your own installation, please read this instruction manual completely before beginning the process.

JL AUDIO®

Ahead of the Curve™



Woofer Physical Dimensions

Frame Outer Diameter (A)	8.26 in. / 209.8 mm
Grille Tray Outer Diameter (B)	8.49 in. / 215.6 mm
Magnet Outer Diameter (C)	4.54 in. / 115.3 mm
Frontal Grille Protrusion (D)	1.17 in. / 29.7 mm
Mounting Hole Diameter (E)	7.125 in. / 181.0 mm
Mounting Depth (F)	3.39 in. / 86.0 mm

Subwoofer Parameters

ZR800-CW

Free Air Resonance (Fs):	46.27 Hz
Electrical "Q" (Qes):	0.702
Mechanical "Q" (Qms):	11.667
Total Speaker "Q" (Qts):	0.662
Equivalent Compliance (Vas):	0.787 ft ³ / 22.29 litres
One-way, Linear Excursion (Xmax)*:	0.34 in. / 8.6 mm
Efficiency (1W/1m)**:	87.0 dB SPL
Effective Piston Area (Sd):	33.34 in ² / 0.0215 m ²
DC Resistance (Re):	3.935 ohm
Nominal Impedance:	4 ohm
Infinite Baffle Use:	Yes
Enclosure Use:	Yes (Sealed & Ported)
Power Handling (continuous):	125W

* Xmax specifications are derived via one-way voice coil overhang method with no correction factors applied.

** Efficiency (1W/1m) is not an accurate indicator of a subwoofer's output capability and should not be used as a comparison to other subwoofers to determine which one is "louder" !

ZR800-CW SPECIFICATIONS

Cast Alloy Frame

Elevated Frame Cooling (U.S. Patent #6,219,431 & #6,229,902)

DMA-Optimized Motor System

Mineral-Filled Polypropylene Cone

Santoprene Surround

1.75-in. / 44 mm Voice Coil

Kapton® Former

Progressive Roll Spider

Ferrite Magnet

Precision-Built in Miramar, Florida - USA

Continuous Power Handling (Pt): 125W

(RMS Method)

Peak Music Power: 225 W

Recommended Power Range: 75-150W (RMS)

Frequency Response: 50 Hz - 500 Hz (± 3 dB)

Included Components and Parts:

- One ZR800-CW 8.0-inch (200 mm) Woofer
- One Metal Woofer Grille with ABS Grille Tray
- One Self-Adhesive JL Audio Nameplate for Grille
- Butyl Adhesive Putty for Woofer Grille
- Eight #8 x 1.25 inch (32 mm) Sheet Metal Screws
- Eight Mounting Clips for Woofer Mounting
- One 6.4 mm Female Crimpable Connectors
- One 4.7 mm Female Crimpable Connectors

APPLICATION INFORMATION

The ZR800-CW is a powerful 8-inch component woofer designed to operate in automotive sound systems reproducing the frequency range between 30 Hz and 400 Hz. It can be used in infinite-baffle or enclosed applications as an extremely potent, dedicated mid-bass speaker or as a full woofer.

Active Filtering is Recommended:

When used as a mid-bass speaker, we recommend the use of dedicated amplifier channels and active filtering (electronic crossovers) with the ZR800-CW.

The ZR800-CW maintains smooth frequency response characteristics up to 500 Hz, so it is advisable to cross it over with mid-range speakers at 300-400 Hz to ensure a smooth transition. Pushing it higher than this range may result in uneven response which may require equalization to correct.

Infinite Baffle:

As a dedicated mid-bass speaker operating above 50 Hz (with active filtering) the ZR800-CW can be safely operated at power levels momentarily exceeding 200 watts per woofer. When operating below 50 Hz as a true woofer, power should be limited to no more than 125 watts per woofer in infinite baffle applications.

Enclosed Operation:

The ZR800-CW can also be used in sealed or ported enclosures as recommended in this manual. Again, power should be limited to no more than 125 watts per woofer if being played below 50 Hz. More power can be used if appropriate active high-pass filtering is applied.

GETTING STARTED

- Turn off the audio system. It is also advisable to disconnect the negative (-) terminal of your vehicle's battery whenever performing installation work.
- Before cutting, drilling or inserting any screw, check clearances on both sides of the planned mounting surface. Also check for any potential obstacles, such as window tracks and motors, wiring harnesses, etc. Check both sides of the vehicle, many vehicles are not symmetrical!
- Always wear protective eyewear.

SPEAKER INSTALLATION

Run speaker wire to the desired mounting location. If you are running wires into a door, use existing factory wiring boots whenever possible. If you are drilling new holes, file their edges and install rubber grommets into each hole. Then, cover the wires with a protective PVC sleeve and run them through the door jamb. Make sure that the wires will clear door hinges and other structures in the door. If you are unsure about any part of this process, please contact your JL AUDIO dealer for installation help.

!! WARNING

Double check the clearance for both speakers before proceeding. Many cars are different from one side to the other!

Select an even surface. Tightening a speaker onto an uneven surface can damage it. Use the supplied template to mark the desired mounting location. Mark the center and the outline of the mounting hole as well as the mounting screw positions. Before drilling or cutting on your interior panels, use a utility knife to cut any fabric, vinyl or leather from hole locations. These materials can easily be snagged by a drill or a saw, causing damage to the panel and possible bodily injury. Drill eight 1/8-inch (3 mm) holes for the speaker's mounting screws at the positions you have marked. Also drill

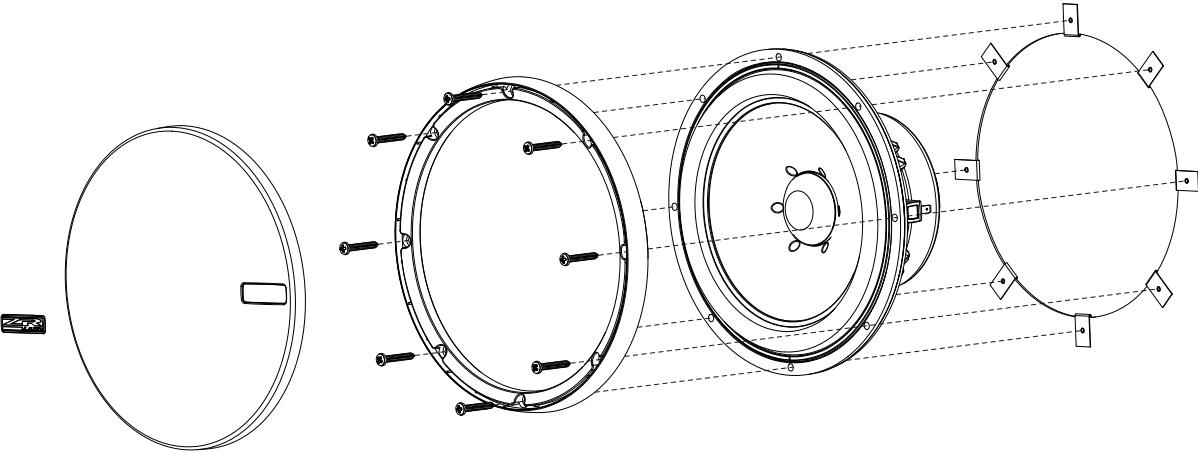
a pilot hole in the center of the speaker mounting hole at this time. Then, using a saber saw, make the circular cut out for the speaker. File any rough edges. Insert the mounting clips with the flat side towards the speaker as shown in Diagram B (below).

It is absolutely vital that the speaker frame fits into the mounting hole cleanly. This must be checked prior to tightening the screws. Do not force the frame into a hole that is too small. Do not tighten the speaker onto an uneven surface. This will damage your speakers. The speaker should also fit so that air does not leak around the mounting flange. Air leaks will cause a severe degradation in sound quality. Seal any air leaks with an automotive-grade sealant material.

Connect the speaker wires, observing correct polarity, and install the speaker and grille tray as shown in Diagram A (page 5). Hand-tighten the screws evenly to avoid bending the speaker frame!

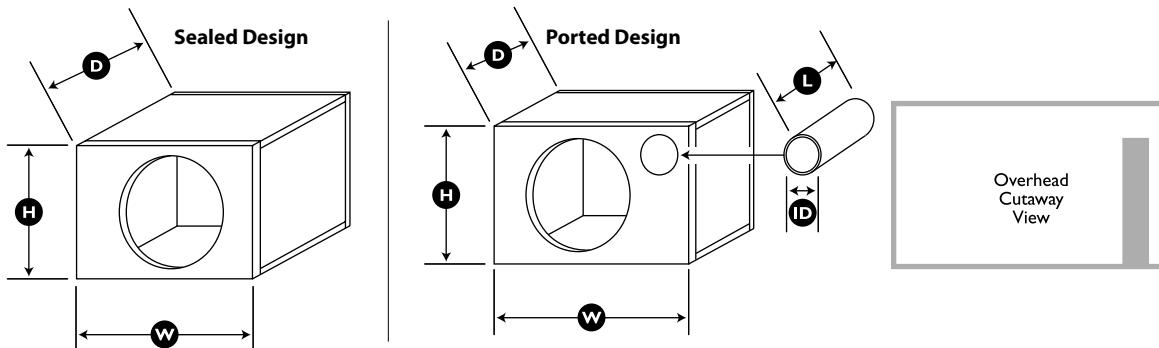
Break off small pieces of the supplied butyl adhesive putty and place them on the inside of each grille tray. This adhesive will hold the grille in place firmly and prevent rattling. Then insert the metal grille into the grille tray, squeezing gently around its edge until it seats firmly into the tray.

Diagram A:
Typical Woofer Installation



ENCLOSURE SPECIFICATIONS

Driver		Recommended Sealed Design				
	Volume (net int.)	External Dimensions (Width x Height x Depth)		F3 (Hz)	Fc (Hz)	Qtc
ZR800-CW	0.750 ft ³ 21.2 litres	15.5 in. x 12 in. x 10.5 in. 394 mm x 305 mm x 267 mm		60	80.73	1.155

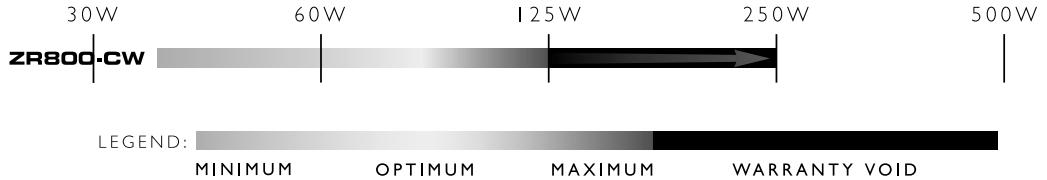


Driver		Recommended Ported Design				
	Volume (net int.)	Enclosure External Dimensions (Width x Height x Depth)		Round Port Specs (Inner Diameter x Length)	Tune to: (Hz)	F3 (Hz)
ZR800-CW	1.125 ft ³ 31.9 litres	18 in. x 15 in. x 10.5 in. 457 mm x 381 mm x 267 mm		2 in. x 5 in. 51 mm x 127 mm	32	50

The enclosure recommendations listed are external dimensions which assume the use of 3/4" (19mm) thick material. If you are using 5/8" (16mm) thick material, subtract 1/4" (6.5mm) from each dimension. Do not use any material with a thickness of less than 5/8" (16mm) as this may compromise the rigidity of the enclosure.

All enclosure volumes listed are net internal volumes! Box volume displacement, port displacement and brace displacement must be added to obtain the final gross internal volume. All enclosure dimensions listed have already taken this into account.

RECOMMENDED CONTINUOUS (RMS) POWER RANGE FOR ONE COMPONENT WOOFER:



MEDIUM GRAY (MINIMUM):

From a reliability standpoint, this zone represents a very comfortable operating power range for each driver. This level of power will not stress the woofer but will not extract all of its performance potential, either.

Use of less than the minimum power level will not damage the woofer, but may result in unsatisfactory performance.

LIGHT GRAY (OPTIMUM):

This zone represents the best compromise between long-term reliability, high-output and low-distortion performance. This power level is lower than the woofer's continuous power rating (as published in its specifications), but you will still be taking advantage of the woofer's, low-distortion performance range without undue risk of failure.

DARK GRAY (MAXIMUM):

Slightly more SPL will be gained by pushing the power into this zone, but typically not more than 2dB, compared to the light gray zone. The subwoofer driver is designed to operate safely up to this power range, but not beyond. Operate with caution.

BLACK (WARRANTY VOID):

We do not recommend operating woofers at this level of power. In this zone, there is a very high probability that the driver will fail due to excessive heat and/or mechanical stress.

Drivers operated at these levels of power are NOT covered under warranty.

When designing systems with our drivers, it is very important to achieve a good power match between the subwoofer amplifier and the subwoofer driver's capabilities. The power levels listed in the above chart represent continuous (RMS) amplifier power per woofer and assume that the user will regularly make full use of that power without drastically overdriving the amplifier(s). Make sure you factor system impedance and the total number of subwoofers into your calculations. Adhering to these power recommendations will result in systems that are both reliable and enjoyable.

LIMITED WARRANTY - (USA) AUTOMOTIVE SPEAKER SYSTEMS

JL AUDIO warrants this speaker to be free of defects in materials and workmanship for a period of **one (1) year** from the original date of purchase.

Damage caused by the following is not covered under warranty: accident, misuse, abuse, product modification or neglect, failure to follow installation instructions, unauthorized repair attempts, misrepresentations by the seller. This warranty does not cover incidental or consequential damages and does not cover the cost of removing or reinstalling the unit(s). Cosmetic damage due to accident or normal wear and tear is not covered under warranty.

This warranty is not transferable and applies only to the original purchaser of the product from an authorized JL AUDIO dealer. Warranty is voided if the factory-applied product serial number is removed or defaced.

Should service be necessary under this warranty for any reason due to manufacturing defect or malfunction, JL AUDIO will, at its discretion, repair or replace the defective product with new or remanufactured product at no charge.

Any applicable implied warranties are limited in duration to the period of the express warranty as provided herein beginning with the date of the original purchase at retail, and no warranties, whether express or implied, shall apply to this product thereafter. Some states do not allow limitations on implied warranties, therefore these exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

If you need service on your JL AUDIO product:

All warranty returns should be sent to JL AUDIO freight prepaid through an authorized JL AUDIO dealer and must be accompanied by proof of purchase (a copy of the original sales receipt.) Direct returns from consumers or non-authorized dealers will be refused unless specifically authorized by JL AUDIO with a valid return authorization number. Warranty expiration on products returned without proof of purchase will be determined from the manufacturing date code. Coverage may be invalidated as this date is previous to purchase date. Return only defective components. Non-defective items received will be returned freight-collect. Customer is responsible for shipping charges and insurance in sending the product to JL AUDIO. Freight damage on returns is not covered under warranty. Always include

For Service Information in the U.S.A. please call:

JL Audio customer service: (954) 443-1100 during normal business hours (Eastern Time)

JL Audio, Inc

10369 North Commerce Parkway, Miramar, FL 33025

International Warranties:

Products purchased outside the United States of America are covered only by that country's distributor and not by JL Audio, Inc.