



XR650-CXi

6.50-inch (160 mm) Coaxial Speaker System

owner's manual

Thank you for choosing JL Audio Evolution XR Coaxials for your automotive sound system. With proper installation, your new speakers will deliver years of listening pleasure.

We strongly recommend that you have your new Evolution speakers 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. Also, keep in mind that your warranty coverage extends to 1 year if your system is installed or approved by your authorized JL Audio dealer. If you prefer to perform your own installation, please read this instruction manual completely before beginning the process.



XR650-CXi SPECIFICATIONS:

Woofers: Mineral-filled polypropylene cone body, 1-inch (25mm) voice coil, low-profile/symmetrical-roll spider; butyl rubber surround.

Tweeters: 1-inch (25 mm) aluminum dome tweeter with rubber surround, neodymium magnet, ferrofluid cooled and damped. Adjustable tweeter angle.

Crossover Networks: 2-way network with 1st order low-pass circuit and 2nd order high pass circuit. Premium Mylar Capacitors and Air-Core inductors. 3-position adjustable tweeter output level. 3-position midrange presence control. Polyswitch™ tweeter protection.

Continuous Power Handling:

70 Watts (RMS Method)

Frequency Response: 48 Hz - 25 KHz (± 3 dB)

Efficiency @ 1W/1m: 89.5 dB

Nominal Impedance: 4 ohms

Included Components and Parts:

- Two XR650-CXi 6.50-inch (160 mm) Coaxial Speakers
- Two XR650-CXpxo 2-Way Crossover Networks
- Two Metal Woofer Grilles and Grille Trays
- Butyl Adhesive Putty for woofer grilles
- Twelve #8 x 1 1/4 inch (30 mm) Sheet Metal Screws
- Eight Mounting Clips
- Twelve Crimpable Fork Terminals
- Four Black Nylon Wire Ties
- Four 5-ft. (1.5 m) lengths of paired speaker wire with female clips

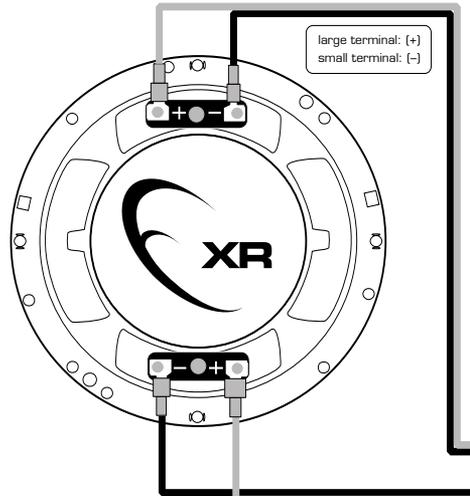
GETTING STARTED:

- 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 car; many cars are not symmetrical!
- Always wear protective eyewear.

WARNING!

It is absolutely vital that your component system is connected as shown in Diagram A below. Failure to connect the system as shown will result in damage to your speakers which is NOT covered under warranty. Do not substitute different crossover networks into your XR650-CXi System. Only use crossover networks clearly marked "XR650-CXpxo".

A) Wiring Diagram:



BUILT-IN TWEETER

PROTECTION CIRCUITRY:

The XR Crossover networks are equipped with an advanced electronic tweeter protection circuit designed to minimize the possibility of tweeter failure. This electronic device monitors current going to the tweeter and will disconnect the tweeter from the signal when it senses overload. Should this occur while listening to the audio system, simply reduce the volume for a few seconds and the protection circuit will reset itself automatically.

ADJUSTABLE TWEETER LEVEL:

Your XR Crossover networks provide three levels of tweeter adjustability designed to compensate for different mounting locations, vehicle interiors and personal taste (see Diagram B). These levels are selectable via a set of pins located under the clear cover of each crossover case. We recommend that you begin listening at the "REF" (Reference) position. If the sound seems too bright or aggressive, experiment with alternate tweeter level settings by moving the jumper connectors. It is safe to switch jumpers while the system is playing.

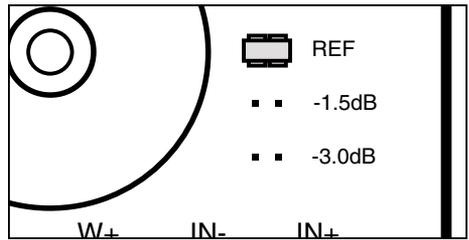
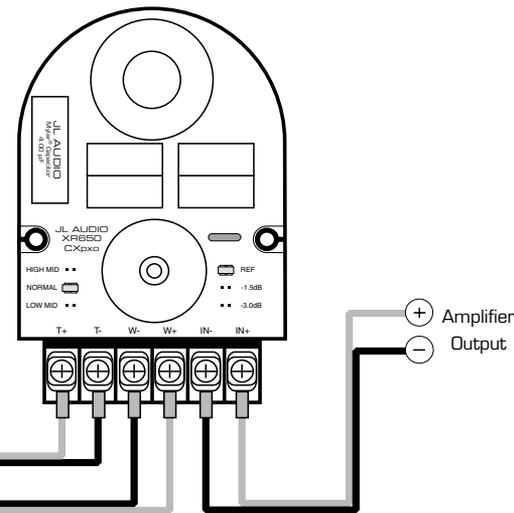
ADJUSTABLE MIDRANGE PRESENCE:

Your XR crossover networks also provide a unique midrange presence control, located under the clear cover (see Diagram C). The midrange presence is selectable via a set of pins and allows for three settings: "High-Mid", "Normal" and "Low-Mid". The settings affect the overall amplitude of the upper midrange response of the XR woofer element. We recommend that you begin your listening with the "Normal" setting and adjust up or down as needed to compensate for mounting location or personal taste.

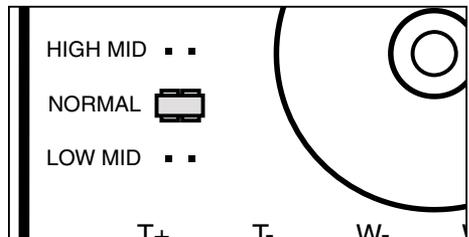
SPEAKER PLACEMENT CONSIDERATIONS:

In most cases, your speakers will be placed into factory speaker locations. If you have some speaker mounting flexibility, keep the following in mind:

Lower mounting locations, such as the lower front corner of a door or a kick-panel provide the greatest path length distances for the sound emitted by the speakers. For this reason, they are generally more desirable than higher mounting locations. Higher mounting locations will usually result in extreme near-side soundstage bias which compromises the stereo listening experience.



B) Adjustable Tweeter Level



C) Adjustable Midrange Presence

INSTALLING YOUR XR650-CXi COAXIALS IN FACTORY LOCATIONS:

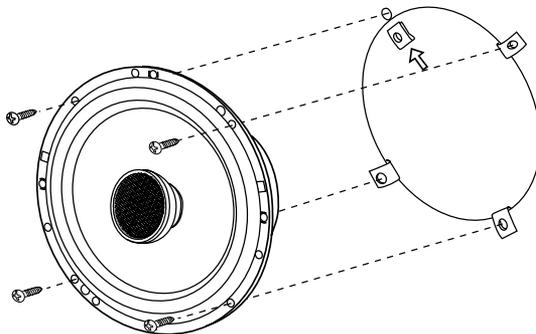
Run the supplied speaker wires to the desired mounting location. If you are running wires into a door, use existing factory wiring boots whenever possible. If you are drilling new holes, file their edges and install rubber grommets into each hole. Then, cover the wires with a protective PVC sleeve and 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.

Your new speakers have been designed to install, without modifications, into most vehicles that accept a 6.50-inch (160 mm) speaker. Most factory 6.50-inch speakers use four mounting screws which will line up with the mounting holes on your woofers. Multiple sets of mounting holes are available to accommodate different vehicles' factory hole patterns/orientations.

Connect the speaker wires to both sets of terminals on each speaker, observing correct polarity and making sure that the tweeter and woofer wires correspond to the correct terminals on both the speaker and crossover.

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 no air leaks around the mounting flange. Air leaks will cause a severe degradation in sound quality. Seal any air leaks with silicone, rope caulk or similar sealant material.

Install as shown in the diagram below. Use the supplied mounting clips unless the factory holes already feature threaded inserts. Hand-tighten the screws evenly to avoid bending the speaker frame!



INSTALLING YOUR XR650-CXi COAXIALS IN CUSTOM LOCATIONS:

Run the supplied speaker wires 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.

Double check the clearance for both speakers before proceeding.

Use the template supplied in the product packaging to mark the desired mounting location. Be aware that two different templates are supplied: one for the XR525-CXi 5.25-inch (130 mm) coaxial and one for the XR650-CXi 6.5-inch (160 mm) coaxial. Use only the appropriate template! Mark the center and the outline of the mounting hole as well as the mounting screw positions. Before drilling or cutting, 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 four 1/8" (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, hole saw or nibbler, make the circular cut out for the speaker. File any rough edges.

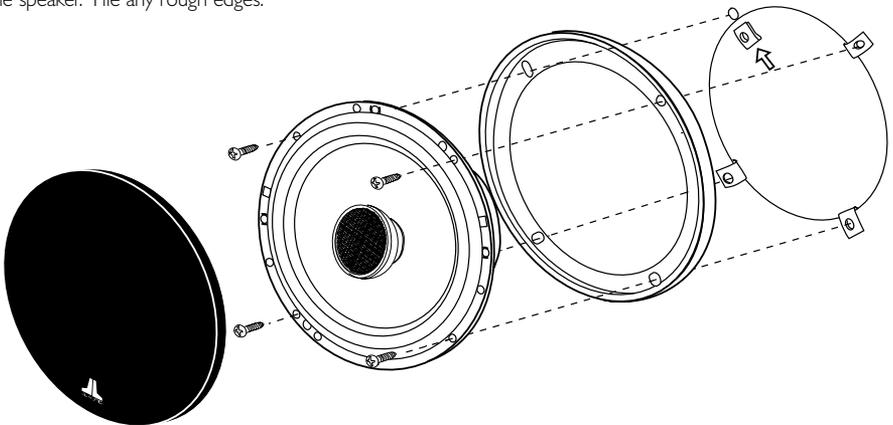
Insert the mounting clips with the flat side towards the speaker as shown in the diagram.

Connect the speaker wires to both sets of terminals on each speaker, observing correct polarity and making sure that the tweeter and woofer wires correspond to the correct terminals on both the speaker and crossover. Install the speaker and grille tray as shown in the diagram 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 no air leaks around the mounting flange. Air leaks will cause a severe degradation in sound quality. Seal any air leaks with silicone, rope caulk or similar sealant material.

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.



CROSSOVER NETWORK

INSTALLATION:

The crossover networks supplied with your XR650-CXi System should be installed in a dry location of your vehicle. **DO NOT INSTALL**

CROSSOVERS INSIDE OF A DOOR!

Doors often get wet on the inside, which can damage your crossover networks and could potentially damage your entire sound system.

The crossovers can be screwed into a solid surface via two holes located under the protective cover of the case. To access these holes, simply squeeze the sides of the cover while gently pulling the cover away from the base. Make sure that your mounting location will not cause damage to wiring, fuel lines, brake lines or any other vital component of your vehicle. Once you have screwed the case in, snap the protective cover back into place.

If screwing the crossovers networks in is not possible, you can also run the supplied nylon wire ties through the mounting holes to attach the crossovers to a structure in your car. To do so, take the covers off, attach the wire ties, and then snap the covers back into place, lining the wire ties up with the slots on the sides of the protective cover. Make sure that you do not attach the crossovers to a moving part or to any part that may interfere with pedal operation, gear shift operation, steering, or airbag deployment.

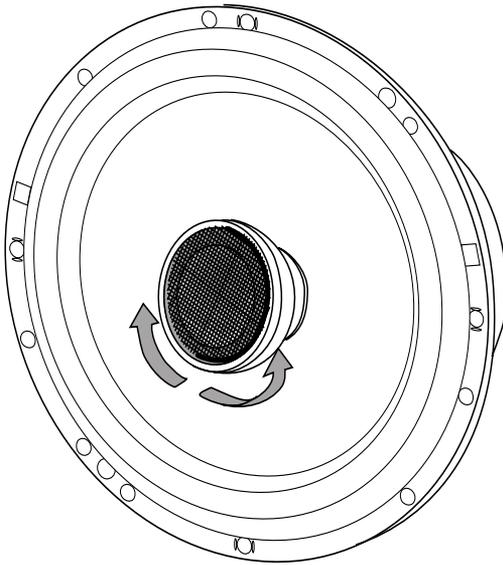
For crossover network wiring instructions, refer to the diagram on pages 2 & 3 of this manual.

ADJUSTING THE TWEETER ANGLE:

The tweeters of your XR coaxials feature adjustable aiming via a rotating tweeter bezel. This allows you to optimize tweeter dispersion in your vehicle after installation of your speakers. To adjust the dispersion of the tweeters, simply rotate the tweeter bezel clockwise or counter-clockwise.

WARNING!

The tweeter will rotate 45 degrees to either side of the center position. Do not force the tweeter beyond this limit of rotation or you may damage its wiring.



JL AUDIO LIMITED WARRANTY (USA)

Evolution Speaker Systems

JL AUDIO warrants these speakers (and crossover networks, where applicable) to be free of defects in materials and workmanship for a period of **ninety (90) days** from the original date of purchase. The warranty term is extended to **one (1) year** if installation is performed or approved by an authorized JL AUDIO dealer (proof of installation or approval required on purchase receipt).

This warranty is not transferrable and applies only to the original purchaser from an authorized JL AUDIO dealer. 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.

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.

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. If one speaker fails in a system, return only that speaker component, not the entire system. 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.

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 Pkwy.
Miramar, FL 33025

(do not send product for repair to this address)

International Warranties:

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