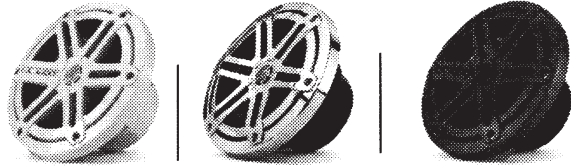


OWNER'S MANUAL



MX650-CCX-SG (LED)

Cockpit Coaxial Speaker Systems with Blue LED Illumination

Thank you for purchasing a JL Audio Marine Coaxial Speaker System.

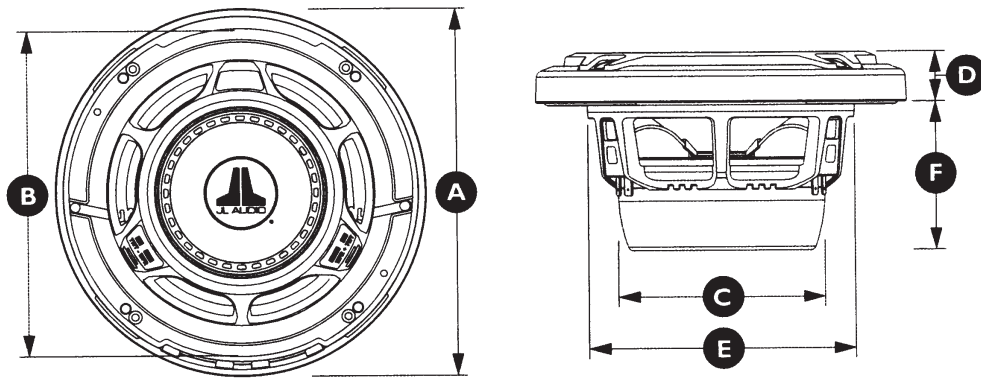
*With proper installation, your new speakers will deliver
years of listening pleasure.*

*We strongly recommend that you have your new marine speakers
installed by your authorized JL Audio dealer.*

*The installation professionals employed by your dealer have
the necessary tools and experience to properly install your new speakers.*

*If you prefer to perform your own installation,
please read this instruction manual completely before
beginning the process.*





Physical Specifications	MX650-CCX-SG (LED)
Nominal Diameter	6.5 in. / 165 mm
Grille Outer Diameter (A)	6.90 in. / 175 mm
Bolt Hole Circle (B)	6.125 in. / 156 mm
Motor Overmold Outer Diameter (C)	3.85 in. / 98 mm
Frontal Grille Protrusion* (D)	0.97 in. / 25 mm
Mounting Hole Diameter (E)	5.00 - 5.25 in. / 127-133 mm
Mounting Depth (F)	2.74 in. / 70 mm

Notes: *Frontal grille protrusion measured from mounting surface

Specifications	MX650-CCX-SG (LED)
Mounting Application	Cockpit (Infinite Baffle)
Continuous Power Handling (RMS Method)	60 Watts / channel
Frequency Response	55 Hz - 25 KHz (± 3 dB)
Efficiency @ 1W/1m	89.0 dB
Nominal Impedance	4 ohms

Due to ongoing product development, all specifications are subject to change without notice.

MARINE SPEAKER SPECIFICATIONS

Woofers: Injection-molded, mica-filled polypropylene cone bodies with UV inhibitors, 1.00-inch (25 mm) voice coils, low-profile/ progressive-roll spiders and synthetic rubber surrounds. DMA-optimized, long excursion design for enhanced output and bass response. UV-resistant polymer baskets and grilles

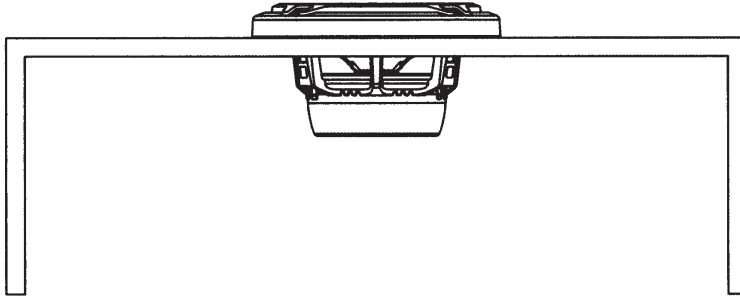
Tweeters: 0.75-inch (19 mm) treated silk dome tweeter, neodymium magnet, ferrofluid cooled and damped.

Crossover Networks: Natural woofer roll-off with 2nd order high-pass circuits. Polyswitch solid-state tweeter protection

Included Components and Parts:

- Two Coaxial Speaker Systems
- Two Polymer Woofer Grilles (attached to speaker) with integrated blue LED lighting
- Two 0.75-inch (19 mm) Tweeters (mounted to grilles)
- Two 2nd order high-pass filters (mounted to grilles)
- Twelve #8 x 1 1/8-inch (29 mm) phillips-head stainless-steel screws for speaker mounting
- Twelve #8 stainless-steel washers for speaker mounting
- Two 150mA fuses (type 3AG)
- Two in-line fuseholders (type 3AG)
- Mounting Template
- Logo Badges
 - One Pair Black (White & Titanium/Black & Chrome Models)
 - One Pair Red (White & Titanium/Black & Chrome Models)
 - One Pair Titanium (Titanium/Black Models Only)
 - One Pair White (White Models Only)
 - One Pair Blue (Chrome Models Only)

CCX models have woofers specifically designed for infinite-baffle applications. In plain english, this means that they are designed to operate without an enclosure behind them. The bass response of the speaker will suffer significantly if placed in a small enclosure.



!! CAUTION

While these speakers are designed to be water and spray resistant, they are not designed to be submerged or to withstand high-pressure water spray. Please exercise care when washing your boat to avoid damaging your speakers. Do not install on submersibles, personal watercraft or any other vessel likely to be under water at any time.

Prolonged exposure to sound pressure levels in excess of 100dB can cause permanent hearing loss. This high-performance speaker can exceed this level. Please exercise restraint in its operation in order to preserve your ability to enjoy its fidelity.

When installing speakers in your vessel, it is extremely important to secure them firmly. This applies not only to the speakers themselves, but also any structure they are mounted to. If not firmly attached, the speakers can become dangerous projectiles in a collision. Please review the mounting information carefully and use the supplied marine-grade hardware to mount this product.

!! WARNING

It is absolutely vital that your coaxial speaker system is connected as shown in this manual. 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!

!! WARNING

Do not attempt to remove the tweeter or lighting LEDs from the grille or the grille from the speaker! The tweeter and LEDs are permanently fixed to the grille and their wiring is permanently attached to the speaker frame. Attempting to remove the grille, tweeter or LEDs will damage the speaker and this damage will not be covered under warranty.

TWEETER PROTECTION

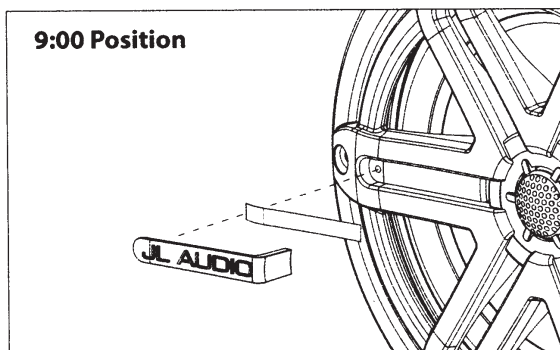
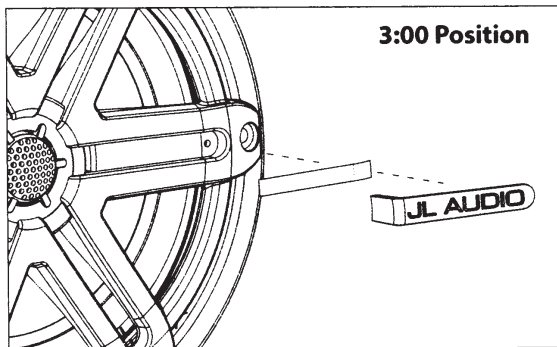
The crossover networks are equipped with an advanced electronic tweeter protection circuit designed to minimize the possibility of tweeter failure. This electronic device monitors current going to the tweeter and will disconnect the tweeter from the signal when it senses overload. Should this occur while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

INTERCHANGEABLE LOGO BADGE

Interchangeable Logo Badges for Sport Grille model coaxial speakers are included to further customize your installation. The design of the Sport Grille allows for the JL Audio logo to be added in your choice of included colors and oriented in the manner that best suits your installation.

NOTE: A left and a right badge of each color is included. These two different orientations ensure the “JL Audio” Logo will read correctly wherever positioned (most commonly the 3:00 or 9:00 position).

Remove the adhesive backing from the badge and affix the badge to the grille using the small positioning hole as a guide. See diagram below.



BEFORE YOU BEGIN INSTALLING

- Check with your local waterway authority for any regulations regarding the use of accent/speaker lighting on your vessel.
- Turn off the audio system. It is also advisable to disconnect your battery system 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 wiring harnesses, fuel lines, hydraulic lines, etc. Check both sides of the vessel before cutting any holes.
- If you are running cables through bulkheads, drill holes for the cable and use a urethane or plastic grommet to protect the wire from chafing in the hole. Make sure that the cables will clear any mechanical devices in the boat and secure them with wire ties.
- Wear protective eyewear at all times and a dust mask and gloves when drilling or cutting.

If you have any questions about the installation or setup of your coaxial speaker system not covered in this manual, please contact your dealer or technical support.

JL Audio Technical Support:

(954) 443-1100

9:00 AM – 5:30 PM (Eastern Time Zone)

Monday - Friday

LED WIRING CONSIDERATIONS

- Do not connect the speakers' LED lights to the vessel's navigational lighting circuits.
- For short-circuit protection, install a supplied fuseholder onto EACH speaker's BLUE (+12V) LED power connection lead.
- Connect all BLUE (+12V) leads together (parallel) and connect to a switched +12V supply. Connect all YELLOW (GND) leads together and connect to negative ground or to the NEGATIVE battery post. See LED Wiring on page 7.
- We recommend activating the speakers' LEDs thru a cabin/interior lighting circuit that supplies +12V via an existing switch. If an existing switched circuit is not available, you may install a dedicated toggle/rocker style switch that will supply positive (+12V) power. Fuse this connection according to how many LED circuits you have (LED circuits x 150 mA).
- We recommend a minimum of 16AWG wire size for each speaker's LED connection circuits.

INSTALLING THE SPEAKERS

Once mounting locations have been established, run speaker cables from the amplifier outputs to the mounting locations. Now is also a good time to run wires to each speaker location for LED activation.

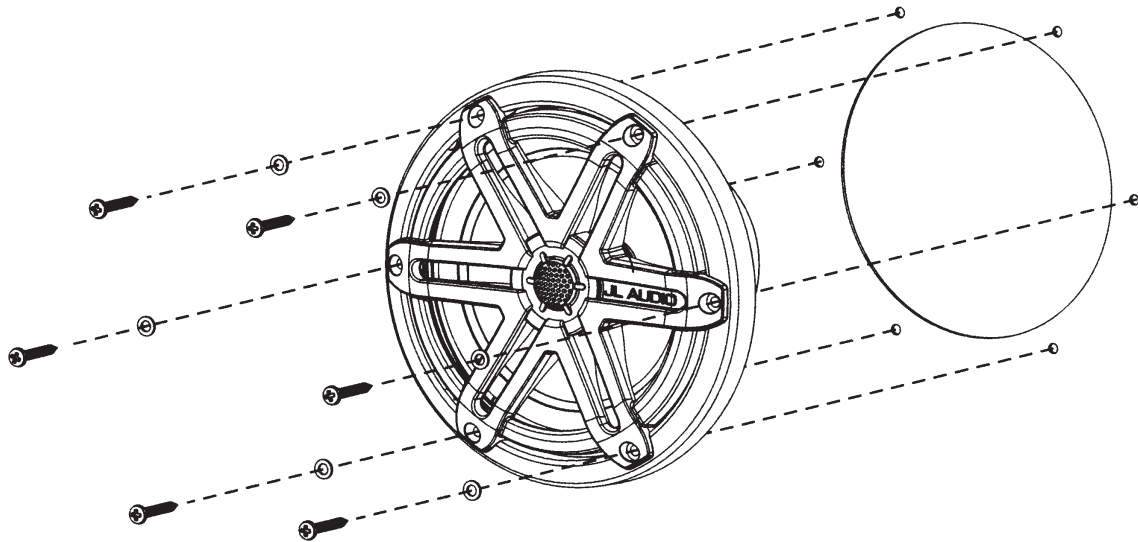
COAXIAL INSTALLATION PROCEDURE

Diagram A (page 6) shows typical installation procedures into a fiberglass panel, using the supplied hardware. Always follow proper safety procedures. Use eye-protection at all times and a dust mask and gloves when cutting.

- 1) Choose a flat mounting surface that has sufficient depth and air space behind it to accept the speaker.
- 2) Using a hole saw or jigsaw, cut a mounting hole for your respective speaker model (see "Mounting Hole Diameter (E)" specifications, page 2). If using a jigsaw, tracing the supplied mounting template will provide you with an accurate line on which to cut.
- 3) Place the speaker in the hole (or use the mounting template) and mark the screw hole locations using a sharp, pointed tool.
- 4) Remove the speaker and drill a pilot hole (see Pilot Hole Recommendation chart on page 6) in each of the screw locations. It is also advisable to use a hand-driven countersink tool on each hole to further inhibit gel-coat cracking of fiberglass panels.
- 5) Connect the speaker wires from the amplifier to the woofer connections. See Speaker Wiring Diagram on page 7.
- 6) Connect the LED activation wires to the LED circuit leads. See LED Wiring on page 7.
- 8) Place the speaker into the opening.
- 9) While holding the speaker firmly in its mounting location, place the #8 x 1 1/8-inch Phillips pan-head mounting screws (with washers) and snug in a criss-cross pattern, then tighten with a hand screwdriver in a criss-cross pattern.

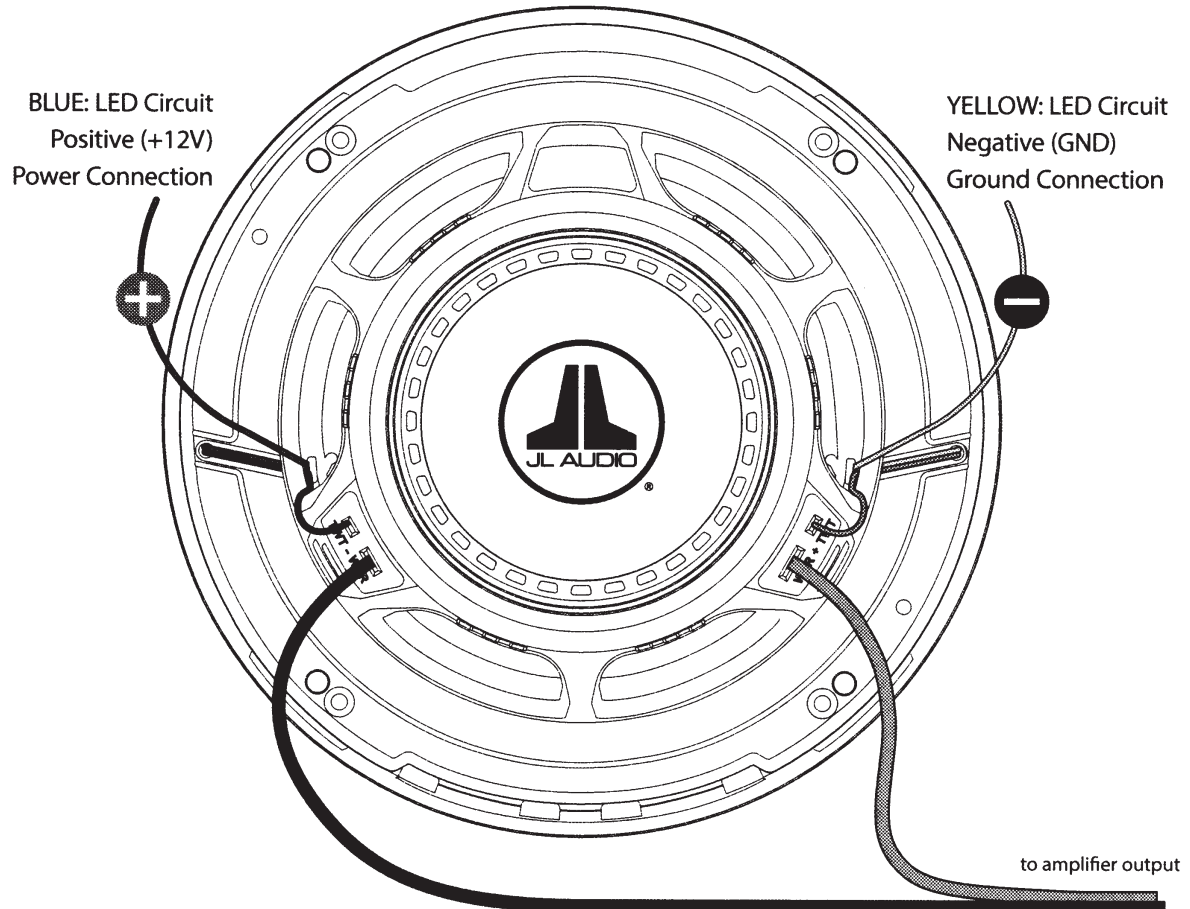
Non-standard installations may require different hardware. Always use marine-grade, stainless-steel fasteners to ensure a secure, reliable installation.

DIAGRAM A

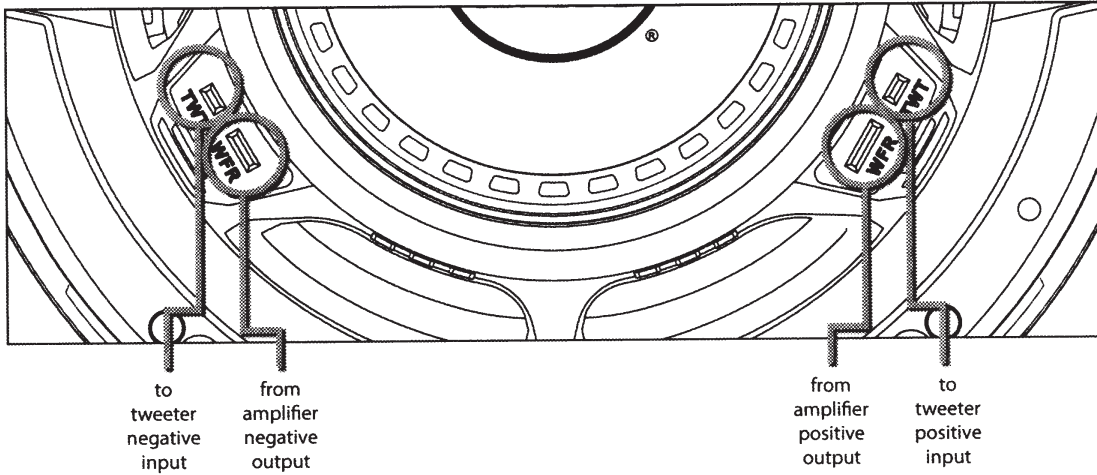


#8 SCREW: PILOT HOLE RECOMMENDATIONS

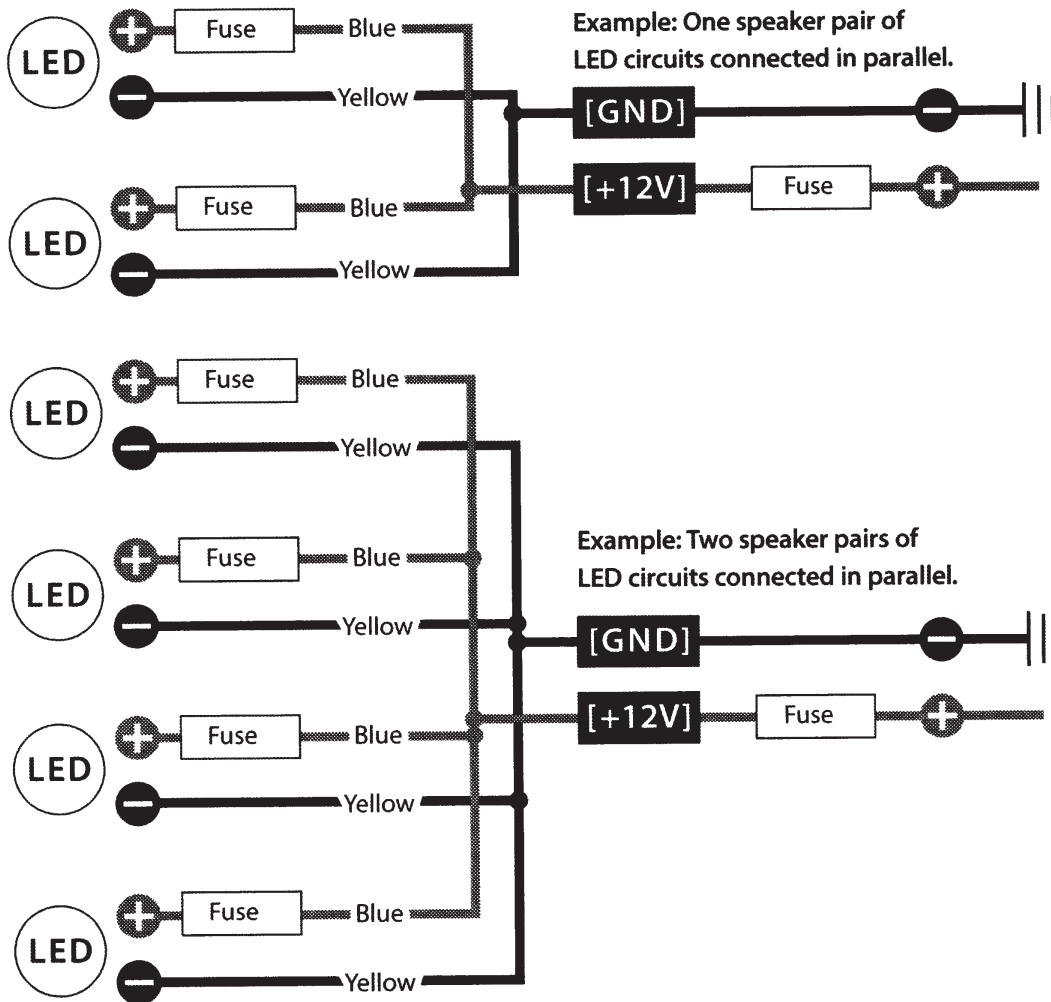
Fiberglass Thickness	Recommended Pilot Hole Drill Size
0.312 in. (7.92 mm) or less	1/8 in. (3.18 mm) pilot hole
foam core / fiberglass sandwich	1/8 in. (3.18 mm) pilot hole
larger than 0.312 in. (7.92 mm)	9/64 in. (3.57 mm) pilot hole



SPEAKER WIRING DIAGRAM:



LED WIRING:



Individually fuse each BLUE (+12V) lead and wire together (parallel) to a fused, switched +12V activation circuit.

Wire all YELLOW (GND) leads together (parallel) and connect to negative ground or to the NEGATIVE battery post.

We recommend fusing the +12V connection point according to how many LED circuits you have (LED circuit quantity x 150 mA).

LIMITED WARRANTY - MARINE SPEAKER SYSTEMS (USA)

JL AUDIO warrants this product to be free of defects in materials and workmanship for a period of two (2) years from the original date of purchase.

This warranty is not transferable 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.

Warranty is void if the product's serial number has been removed or defaced.

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

9:00 AM – 5:30 PM (Eastern Time Zone)

JL Audio, Inc

10369 North Commerce Pkwy.

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.