

 **ORION**™


HIGH PERFORMANCE CAR AUDIO



XTR275.2 XTR65.3
XTR35.2 XTR69.3
XTR40.2 XTR55.SC
XTR46.2 XTR65.SC
XTR52.2 XTR65.2SL
XTR57.2 XTR1.00TW

XTR SPEAKERS

proud to be LOUD!



Thank you for purchasing this Orion product. Orion products are specifically engineered and designed for the mobile audio environment. This manual contains important information about installation, set-up procedures and integrating your new Orion product into your vehicle. With proper care and installation, your new product will provide you with many years of high performance listening enjoyment. We recommend having an Authorized Orion Dealer install your new product for optimal performance. Before installing your new product, please read through the manual to fully understand the application.

Before making any electrical connections, make sure that you disconnect the battery's ground cable to prevent the possibility of short circuits or damage to your electronic equipment. If your vehicle's stereo (head unit) comes with an Anti-theft code, DO NOT disconnect the battery. If you have the access code for the stereo (head unit), please refer to the vehicle's owner's manual.

ATTENTION

**FOR ANY QUESTIONS,
ISSUES, RETURNS OR WARRANTY**

DO NOT contact the retailer, we recommend that you contact our service department for any and all assistance at support@orioncaraudio.com.

We will do our best to resolve any problem in a professional and timely manner.



WARNING: This product can expose you to chemicals including DEHP which is known to the State of California to cause cancer, birth defects or other reproduction harm. For more information go to www.P65warnings.ca.gov.

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WHAT'S IN THE BOX

XTR Coaxial Speakers / XTR Tweeters / Component Speakers

Grilles

(Models do not include grilles: XTR275.2, XTR35.2, XTR40.2, XTR46.2, XTR57.2)

2 x Mounting Screws

1 x Window Sticker

1 x Owners Manual

SPECIFICATIONS

Model:	XTR1.00TW	XTR275.2	XTR35.2
RMS Power	50W	30W	30W
Max Power	200W	90W	90W
Nom Impedance (Ohm)	4	3	3
Frequency Response (Hz)	1.5k - 20k	150 - 19k	100 - 20k
Sensitivity	90 dB	80 dB	80 dB
Mounting Depth	1" (25 mm)	1.25" (31.75mm)	1.54" (39.12mm)
Mounting Diameter	2"	2.75"	3.5"

Model:	XTR55.SC	XTR65.SC
RMS Power	65W	115W
Max Power	350W	450W
Nom Impedance (Ohm)	4	4
Frequency Response (Hz)	80 - 22k	75 - 22k
Sensitivity (2.83V @ 1M)	90 dB	93 dB
Mounting Depth	2.36" / 60mm	2.32" / 59mm
Mounting Diameter	4.61" / 117mm	5.67" / 144m

Model:	XTR65.2SL
RMS Power	125W
Max Power	500W
Nom Impedance	4
Frequency Response (Hz)	85 - 22k
Sensitivity (2.83V @ 1M)	89 dB

Model	XTR40.2	XTR46.2	XTR52.2	XTR57.2	XTR65.3
Nominal Impedance (Ohm)	4	4	4	4	4
RMS / Max Power	65W / 250W	65W / 250W	75W / 300W	75W / 300W	100W / 400W
Frequency Response (Hz)	120 - 22k	90 - 22k	85 - 22k	80 - 22k	85 - 22k
Sensitivity (dB)	87.5	88	89	91	91
Mounting Depth (inches)	1.89	2.01	2.36	2.17	2.32
Mounting Diameter (Inches)	4.06	3.90x6.02	4.61	4.96x7.17	5.67

FEATURES



**XTR40.2 | XTR46.2 | XTR52.2 | XTR57.2 | XTR65.3 | XTR68.2 | XTR69.3
XTR55.SC | XTR65.SC**

Cone	moisture and UV resistance paper cone
Surround	Butyl Rubber
Voice Coil	2 layer copper wire on a Kapton former
Tweeter	silk dome - Ferro Fluid
Spider	Nomex
Stamped steel baskets with Euro mounting configurations	
Swivel tweeter (on select models only)	

XTR1.00TW

Magnet:	Neodymium
Voice Coil	Copper Wire
Tweeter	Dome-Silk Ferro Fluid
Custom Crossover	with 12db high pass, tweeter level adjustments jumper, tweeter protection.
Custom Grilles	
Custom tweeter mounting kits including swivel	

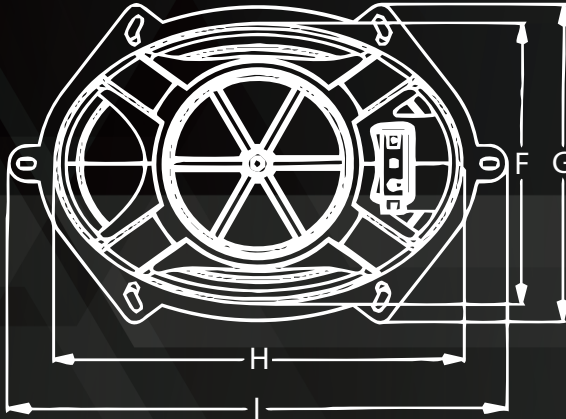
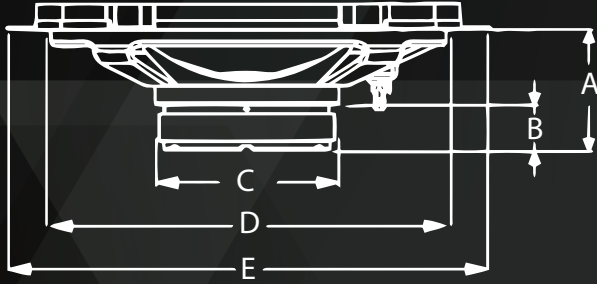
XTR275.2 | XTR35.2

Oversized Poly-Cotton Spider and bottomless Motor Geometry
High-Gauge Steel Frame
Black Anodized Aluminum Voice Coil Former
Integrated Crossover
Polypropylene Injected Cone
Butyl Rubber Surround

XTR65.2SL

1" High Temperature Voice Coil
20mm Neodymium Silk Done Tweeter
36 Oz Strontium Ferrite Magnet Structure

FEATURES



	XTR40.2	XTR46.2	XTR52.2	XTR57.2	XTR65.2SL	XTR65.3	XTR69.3	XTR55.SC	XTR65.SC
Dimensions inches/mm									
A	1.89 / 48	2.01 / 51	2.36 / 60	2.17 / 55	1.69/43	2.32 / 59	3.31 / 84	2.36 / 60	2.32 / 59
B	0.79 / 20	0.79 / 20	0.91 / 23	0.79 / 20	0.79/20	0.79 / 20	1.18 / 30	0.91 / 23	0.79 / 20
C	2.76 / 70	2.56 / 65	2.76 / 70	3.15 / 80	3.15/80	3.15 / 80	3.94 / 100	2.76 / 70	3.15 / 80
D	4.06 / 102		4.61 / 117		5.28/134	5.67 / 144		4.61 / 117	5.67 / 144
E	5.12 / 130		5.91 / 150		6.42/1.63	6.54 / 166		5.91 / 150	6.54 / 166
F		3.90 / 99		4.96 / 126			5.87 / 149		
G		4.06 / 103		5.52 / 140			6.77 / 172		
H		6.02 / 153		7.17 / 182			8.39 / 213		
I		6.18 / 157		8.67 / 220			9.57 / 243		

CHOOSING A LOCATION



INSTALLATION

The performance of the XTR Component tweeters is directly proportional to the quality of installation. Care taken during the installation process will be rewarded with years of satisfying performance. If you are unsure about your installation capabilities, please refer to your local Authorized Orion Dealer for technical assistance. Orion dealers are trained professionals dedicated to extracting the maximum performance out of your Orion system. If you decide to install this speaker system yourself, please read the entire installation section before starting your installation.

FINDING SPEAKER MOUNTING LOCATIONS

Choosing the correct speaker locations will have the greatest effect on the sound quality of the system. Different considerations are needed when choosing the locations that best suit your needs. The locations must be large enough for the speakers to fit. Care is needed to ensure that the location you have chosen will not affect any of the mechanical or electrical operations of the vehicle. Determining the best location for the speakers will depend on your cosmetic needs and your vehicle's interior. If minimal intrusion in your vehicle is desired, factory speaker locations may be the ticket for you. Placing the speaker in the factory location can often give very desirable results.

DOOR MOUNTING

When checking for possible tweeter locations in the doors, check the operation of the window and all assemblies. There is also a stabilizer stop bar in between the door and the door jamb. This bar prevents the door from opening too far. Many shade tree installers overlook this and check for clearance only when the door is fully open.

REAR DECK MOUNTING

In rear deck installations, check the operation of the trunk suspension springs or tension bars. These tension bars move in the opening and closing of the trunk. You cannot be too cautious during this part of the installation. In addition, do not locate the tweeters too close to the back of the rear deck. Installing the far screws will only be possible with the removal of the rear window.

INSTALLATION

INSTALLING THE TWEETERS

SURFACE MOUNTING

Step 1: Determine the tweeter mounting location, then route the wires from the crossover to the tweeter location.

Step 2: Place the provided template or tweeter cup against the panel and mark the two holes at the rear of the housing.

Step 3: Drill the smaller holes using a 1/8" drill bit. These are the mounting screw holes.

WARNING: Check for clearance of window mechanisms and electrical wires BEFORE you drill.

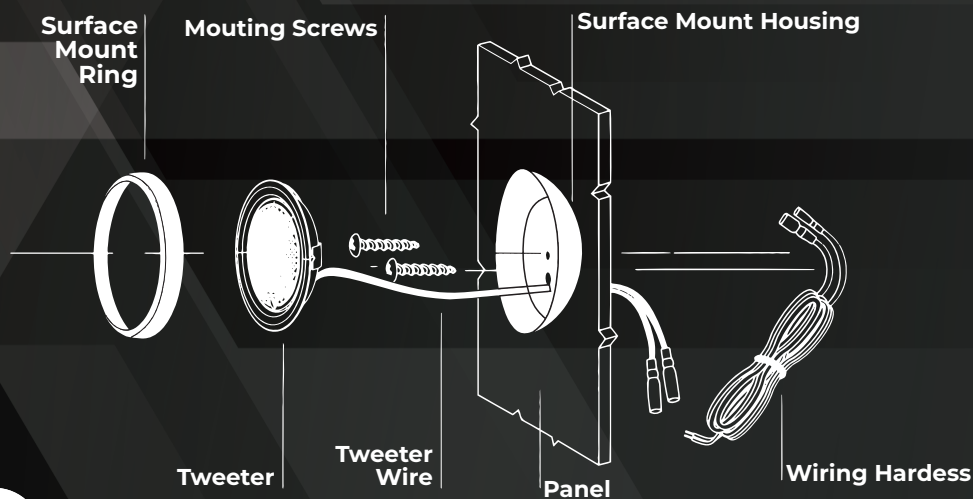
Step 4: Drill the larger off-center hole using a 3/8" drill bit, insert a grommet and route the speaker wire from the crossover through the grommet.

Step 5: After removing the surface mount tweeter assembly trim ring, route the tweeter wires through the larger hole in the housing and connect to the speaker wires from the crossover.

Step 6: Insert the excess speaker wire into the hole and position the housing so the housing will not pinch the wires after final mounting.

Step 7: Attach the housing using the supplied screws of the correct length for a solid mount.

Step 8: Insert the tweeter into the housing and attach the surface mount trim ring.



INSTALLATION



FULL FLUSH MOUNTING

Step 1: Determine where the tweeter will be mounted. Make sure there is a flat area large enough for the tweeter and no obstructions behind the area.

Step 2: Using supplied template mark with a pen the hole needed for the tweeter.

Step 3: Be sure the hole is large enough for the tweeter housing.

Step 4: Cut the hole for the tweeter. When using factory locations, this step can be skipped. A hole can be cut either with a pair of metal tin snips or a 2" hole saw for soft materials or 2-1/8" hole saw for hard materials.

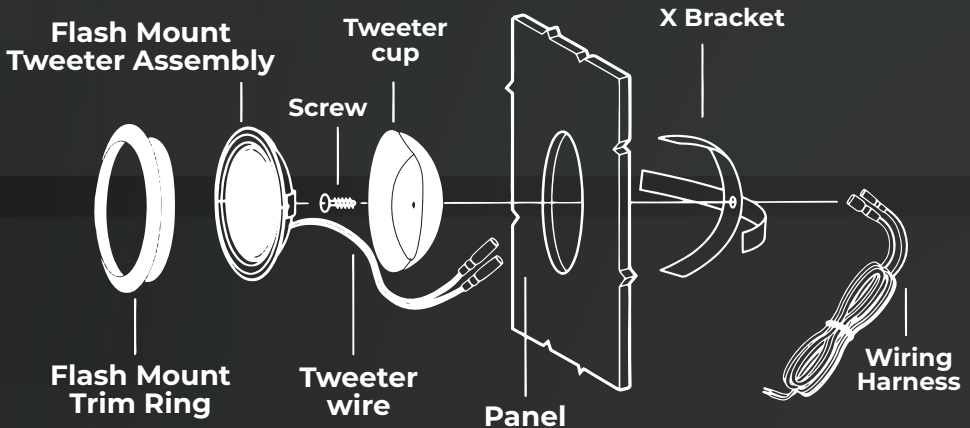
WARNING: Check for clearance of window mechanisms and electrical wires **BEFORE** you drill.

Step 5: Install tweeter in flush mount housing.

Step 6: Connect the speaker wires observing the correct polarity.

Step 7: Install tweeter and housing in the hole cut for mounting, so that the trim ring is flat with the front of the surface.

Step 8: Use the supplied x bracket to secure the housing to the surface.



INSTALLATION

INSTALLING THE MID/WOOFERS

Step 1: Determine where the speakers will be mounted. Make sure there is a flat area large enough for the speakers to fit properly. An uneven mounting surface can damage the driver.

Step 2: Check to make sure the space you have chosen for the speakers will not interfere with the operation of the vehicle.

Step 3: Using the supplied template guide, mark the mounting hole and mounting screw hole locations with a pen for each speaker.

Step 4: Cut the holes for the speaker. When using correctly sized factory locations, this step can be passed. A hole can be cut either with a pair of metal tin snips, an air or jig saw, or with a hole saw corresponding to the size of the midrange listed below.

- 4-5/8" Hole Saw {5-1/4" woofer installation)
- 5-3/4" Hole Saw {6-1/2" woofer installation)

WARNING: Check for clearance of window mechanisms and electrical wires **BEFORE** you drill.

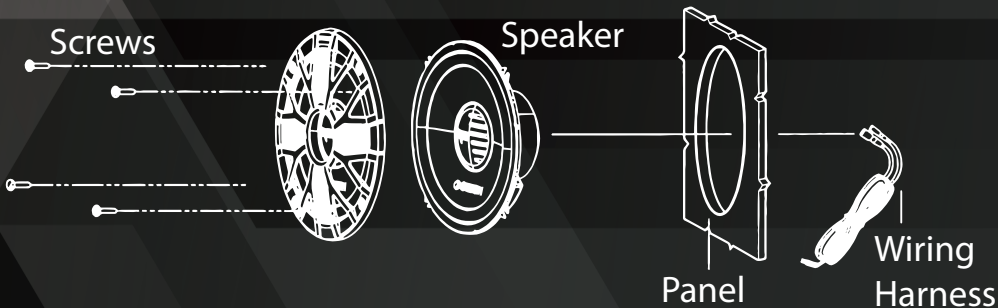
Step 5: Run the speaker wire to the speakers. Make sure to keep wires away from sharp metal or other edges. When passing through metal, use a protective grommet.

Step 6: Pre-drill mounting screw holes using a 1/8" drill bit.

WARNING: Check for clearance of window mechanisms and electrical wires **BEFORE** you drill.

Step 7: Pull the wire through the speaker opening and connect to the speaker. Be sure to observe proper mid/woofer polarity during this process.

Step 8: Mount the speaker- Place the speaker and the grille in the installation hole. Align the mounting screw holes and drive in the four mounting screws.



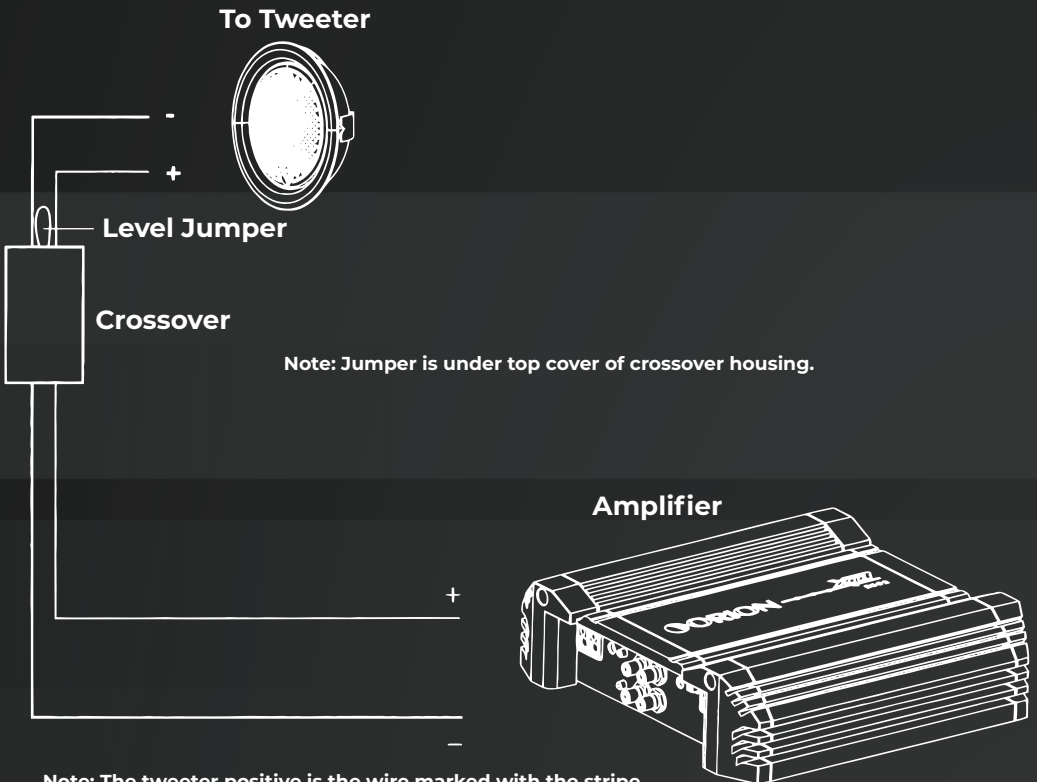
INSTALLATION



INSTALLING THE CROSSOVER

There is a tweeter level jumper for adjusting the tweeter. Cutting this jumper will change the output gain of the tweeter. Where the adjustment should be depends on the location of the tweeter and your preference. Adjustments can be made from 0dB to -3dB by cutting the “level jumper”. Tweeter phase can be changed by reversing the polarity of the amplifier output wire connections to the crossover. If the tweeter is within 6” of the woofer center the tweeter should be in phase with the woofer. If the tweeter is further than 6” from the center of the woofer, both in phase and out of phase should be tried to see which is best.

Use wire tie or screws to secure crossover housing in place.



INSTALLATION

STEP BY STEP INSTALLATION

Step 1: Determine where the speaker will be mounted. Make sure there is a flat area large enough for the speaker to fit properly. An uneven mounting surface can damage the driver.

Step 2: Check to make sure the space you have chosen for the speaker will not interfere with the operation of the vehicle.

Step 3: Using a template, mark the speaker hole with a pen.

Step 4: Cut the hole for the speaker. When using factory locations, this step can be passed. A hole can be cut either with a pair of metal tin snips or a hole saw corresponding to the size of the speaker listed below.

Step 5: Run the speaker wire to the speakers. Make sure to keep wires away from sharp metal or other edges. When passing through metal, use a protective grommet.

• 4 1/8" (105mm) hole saw (4" Coaxial installation)

• 4 5/8" (117mm) hole saw (5.25" Coaxial installation)

• 5 3/4" (146mm) hole saw (6" & 6.5" Coaxial installation)

Step 6: Using the template, mark the mounting holes with a pen.

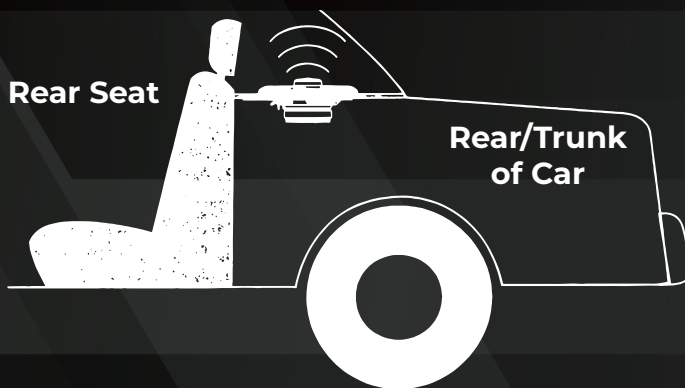
Step 7: Pre-drill mounting holes using a 1/8" drill bit.

Step 8: Pull the wire through the speaker opening and connect to the speaker.

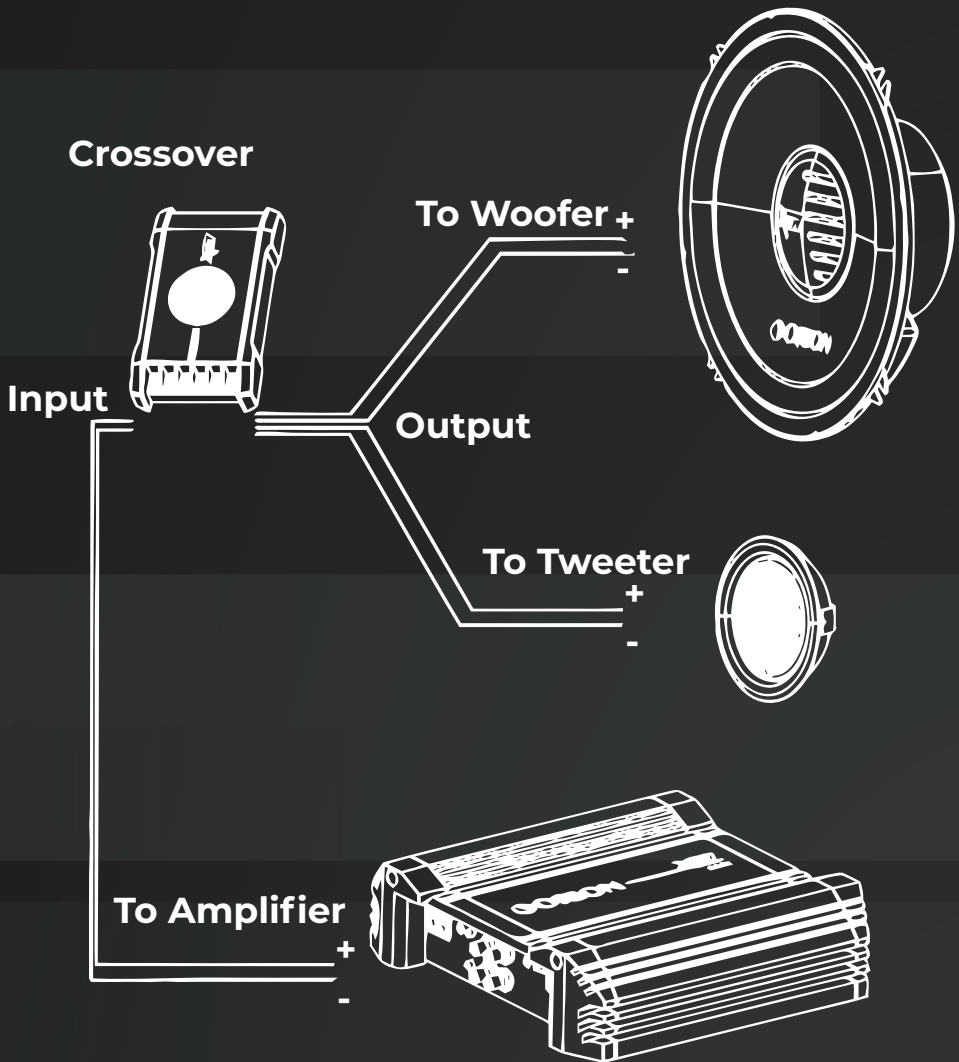
Step 9: Mount the speaker and grill in the hole using the same screws. Insert the screws through the grill and the mounting holes in the basket.

Step 10: Mount the speaker and grill in the hole using the same screws. Insert the screws through the grill and the mounting holes in the basket.

WARNING: Window mechanisms and electrical wires may be hidden from sight. CHECK FOR CLEARING BEFORE YOU DRILL!



WIRING DIAGRAM





WARNING & DISCLAIMER

Investigate the layout of your vehicle thoroughly before drilling or cutting. Take care when you work near the gas tank, gas lines, hydraulic lines, electrical components and electrical wiring. Do not use the equipment unmounted. Attach this system securely to prevent damage, particularly in the event of an accident or aggressive driving. Do not mount the system so that wire connections are unprotected or are subjected to pinching or damage from nearby objects. Before connecting or disconnecting power connections at the system power terminals, disconnect the +12V DC wire at the battery end. Confirm that your source unit and other equipment are turned off while connecting the input terminals. If you need to replace the power fuse, replace it only with a fuse identical to the amperage recommended. Using a fuse of different type or rating may result in damage to the system, which is not covered by the manufacturer's warranty. Do not install any product where it may be subjected to excessive heat, moisture and dust or where it may be repeatedly kicked, brushed or bumped. Make absolutely sure that the terminals for the products are connected to the proper inputs and outputs from the music source. Never run the wiring on the outside of the vehicle or under it where it can be damaged by road hazards or any moving parts of the vehicle. Use existing wire channels, sills, panels and molding strips inside the vehicle to hide the wiring for safety and a neat appearance.

DISCLAIMER

IMPORTANT: Never cut any metal that is an integral part of the vehicle's safety or structural support system. If you are unsure, it is best to have the product professionally installed by an Authorized ORION Dealer. Never sacrifice your safety for sound.



In the event that your Orion speakers appear to require service, we ask that you first do a little troubleshooting to determine if the problem is actually the speaker or a problem located in a different part of the vehicle such as the amplifier, wiring, fusing or possibly the source unit.

If your Orion speakers have been installed professionally by an Authorized Orion Dealer, we recommend that you return to the Dealer and demonstrate the problem to a qualified installer or repair technician. If you have installed the speaker yourself, use the following guidelines to help find the problem:

1. **No Sound**

- Check the source unit or amplifier for power and be sure they are operating properly.
- Check all signal connections.
- Check for any wiring that may be shorting together or touching the metal chassis.
- Check all ground connections.

2. **Distorted Sound At All Volumes**

- Check for bad speaker connections.
- Check wiring for correct polarity.

3. **Distorted Sound At High Volume Only**

- Check for loose mounting of the speaker.
- Inspect the speaker for debris in the cone or other obstruction.

4. **Poor Bass Response**

- Check wiring for correct polarity.
- Check for unstable or loose mounting surface.
- Check Bass and Treble controls at the source unit or amplifier

5. **Poor High Frequency Response**

- Check wiring for correct polarity.
- Check Treble controls or EQ settings.



WARRANTY

Orion, warrants this product against all defects in material and workmanship for a period of one (1) year from the date of original purchase provided it was purchased from an Authorized Orion Dealer.

The conditions of this warranty and the extent of the responsibility of Orion, under this warranty are as follows:

1. DATED PROOF OF PURCHASE IS REQUIRED FOR WARRANTY SERVICE OF THIS PRODUCT. Information about Orion authorized warranty service may also be obtained at www.orioncaraudio.com or by emailing Orion at support@orioncaraudio.com.
2. This warranty will become void if service is performed by anyone other than an approved Orion Warranty Service Center.
3. This warranty does not apply to any product which has been subjected to misuse, neglect or accident, or which has had the warranty seal broken, serial number altered, defaced or removed, or which has been connected, installed adjusted or repaired other than in accordance with the instructions furnished by Orion.
4. This warranty does not cover car static, electrical interference, adjustments or labor costs for the removal or reinstallation of the unit for repair.
5. The sole responsibility of Orion under this warranty shall be limited to the repair or replacement thereof, at the sole discretion of Orion.

WARRANTY



6. If it becomes necessary to send the product or any defective part to Orion or an authorized service station, the product must be shipped in its original or equivalent carton, fully insured, with shipping charges prepaid. Orion will not assume any responsibility for any loss or damage incurred in shipping.
7. This warranty is not transferable and protects the original purchaser provided they reside and made their purchase in the United States. International consumers may contact their local retailer or distributor for warranty information.
8. ALL IMPLIED WARRANTIES, EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, SHALL HAVE NO GREATER DURATION THAN THE WARRANTY PERIOD SET FORTH ABOVE. UNDER NO CIRCUMSTANCES SHALL ORION BE LIABLE FOR ANY LOSS OR DAMAGE, DIRECT OR CONSEQUENTIAL, ARISING OUT OF THE USE OR INABILITY TO USE THE PRODUCT. BECAUSE SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS OR EXCLUSIONS OR LIMITATIONS OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU.
9. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS THAT VARY FROM STATE TO STATE.
10. Should you have any difficulties with the performance of this product during warranty or with any Orion authorized service center, you may contact Orion by emailing us at support@orioncaraudio.com.

NOTES



A series of horizontal white lines on a dark background, providing a space for writing notes. The lines are evenly spaced and extend across most of the page width.

ORION

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