

Ultra-Thin
DASH SPEAKERS
USER'S MANUAL



MODERN SOUND FOR YOUR CLASSIC

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The information enclosed in this manual is to be used as a guide to assist you with installation and operation of your speakers. This guide does not cover every installation possibility, vehicle, or every aspect of the installation process.

Retro Manufacturing, LLC, or its subsidiaries, assume no responsibility for any installation. This manual may be updated from time to time.

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Thank you for purchasing a RetroSound® R-Series Ultra-thin Dash Speaker.

RetroSound® Ultra-thin Dash Speakers

- Dual tweeter dual voice coil design for stereo mix from single speaker location
- Neodymium magnet structure for ultra-thin design
- Santoprene® surround for smooth, natural sound
- Mylar® tweeters for crisp, clear highs
- Pulp composite cone for accurate mid-bass
- Dip-cut back plate for extended pole piece excursion

RetroSound® ultra-thin dash speakers offer outstanding sound quality combined with an ultra-thin mounting depth. These speakers feature a dual tweeter dual voice coil design to deliver a stereo mix from the single speaker location in your dash, rear package tray or rear seat. A neodymium magnet structure ensures high power handling capability and excellent bass response in a slim design, making these speakers an ideal solution for installations in which space is a premium. They use Santoprene® surrounds – the best surround material available – for a smooth, natural mid-bass response and exceptional durability in the automotive environment. Mylar® tweeters product crisp, clear, natural high frequencies. The back plate is dip-cut, which enables extended pole piece excursion for high output.

PRECAUTIONS

Precautions

It is best to consult a professional installation specialist to help with your installation.

Prior to installation always follow these rules:

- Carefully read and understand the instructions before attempting installation.
- Always disconnect the negative (-) battery terminal. Failure to do so may result in damage to the unit, fire, injury or death.
- Use high quality connectors to prevent fire or damage to the unit.
- Check the installation area before drilling. Make sure you won't drill into the gas tank, fuel lines, brake lines, hydraulic lines, vacuum lines or electrical wiring.
- Never run wires underneath the vehicle.
- Avoid running wires over sharp edges. Use rubber grommets to protect any wires routed through metal.

INSTALLATION INSTRUCTIONS

The following tools may be needed for installation of your RetroSound® speakers

- #2 Phillips screwdriver
- Battery post wrench
- Hand held drill with assorted bits
- Wire strippers
- Wire crimpers
- Wire cutters

Included in your box are speaker wires, mounting screws, and one speaker.

Before installation, disconnect the negative (-) battery terminal to prevent damage to your system.

Mounting

1. Run speaker wires before installing your speakers. Avoid sharp edges that could fray or cut the wiring. Use rubber grommets to protect any wires that need to be routed through metal. Use high quality connectors to minimize signal loss. Never run wires outside the vehicle.
2. Determine the area where the speakers are to be mounted. Ensure that the area is large enough to accommodate the entire speaker diameter and that there is enough mounting depth for the speaker magnet. If you are mounting your speakers in the doors, check all door functions (windows, door locks, etc) through their entire range of motion to ensure the speaker will not obstruct them.

INSTALLATION INSTRUCTIONS

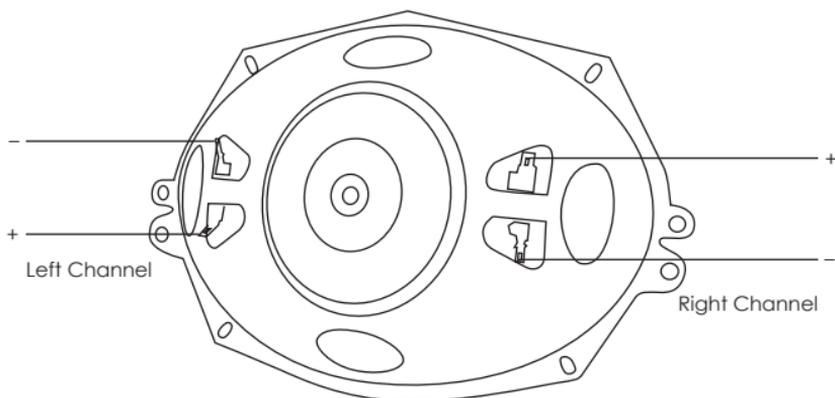
3. If you are cutting speaker holes, refer to the specification chart to determine the nominal mounting diameter.
4. Using the speaker grille as a template, mark the locations for the speaker mounting screws. Drill the holes with a 1/8-inch drill bit.
5. Feed the speaker wires through the opening and connect to the speaker terminals. Take care to connect the negative wire to the negative (-) speaker terminal, and positive to the positive (+) speaker terminal.
6. Fit the speaker into the cutout. Fit the grille over the speaker. Mount them using the enclosed screws. Tighten until the speaker is snug and in place to prevent rattling. Do not overtighten screws.

INSTALLATION INSTRUCTIONS

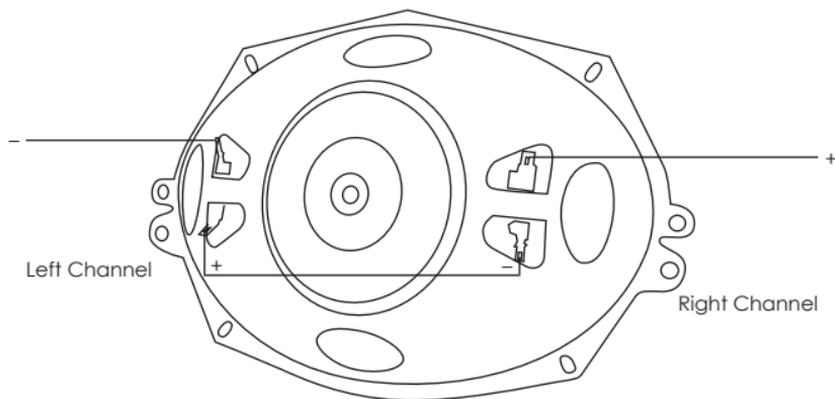
RetroSound® dash speakers allow you to connect both the left and right stereo channels to the single speaker, offering a stereo mix from your single dash, rear seat or rear package tray speaker location.

Wiring our RetroSound® dash speakers for two channel operation:

Large terminals = positive (+)
Small terminals = negative (-)



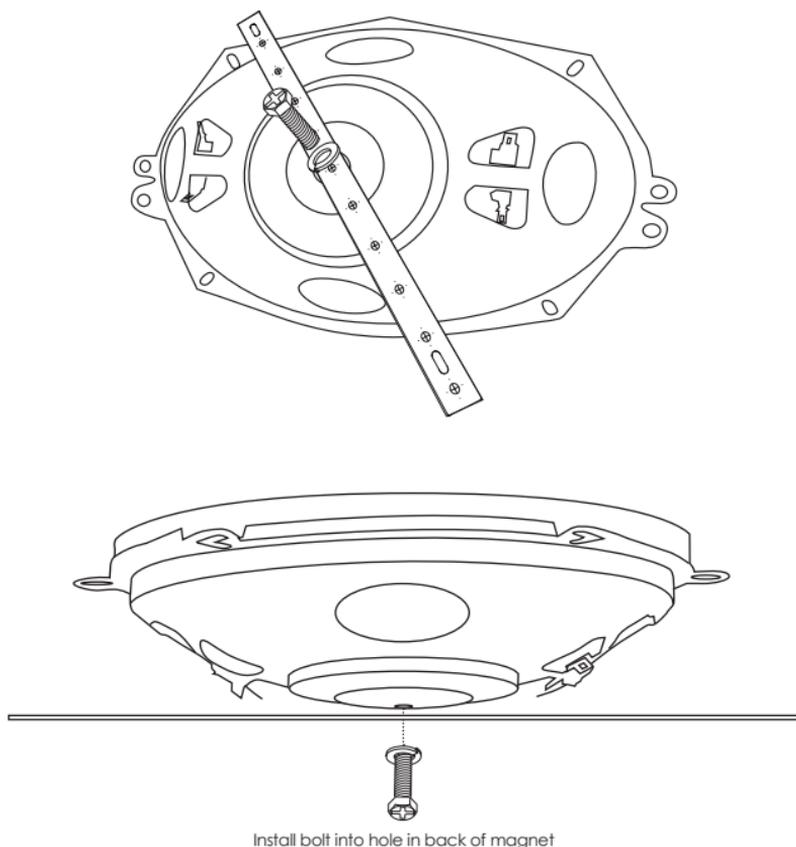
Wiring our RetroSound® dash speakers in series so the amplifier sees an 8 ohm load:



INSTALLATION INSTRUCTIONS

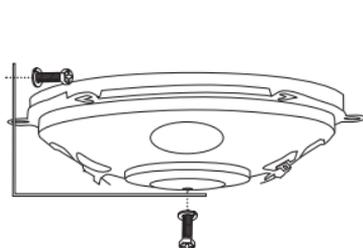
Universal Speaker Bracket RS-UB1KT (sold separately)

This 14-inch bracket, when installed in the threaded mounting point at the rear of our dash speakers, allows you to make your own custom speaker bracket. You can modify the bracket to solve challenging installations where no other options are available.

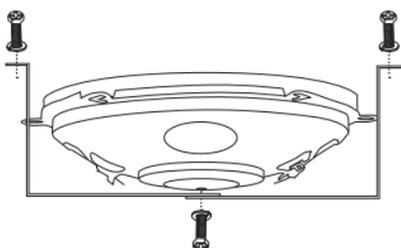


INSTALLATION INSTRUCTIONS

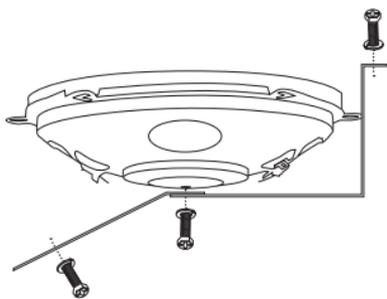
The bracket can be bent or trimmed to virtually any shape to accomplish your installation goals. Below are some examples of a few of the shapes to which you can bend the bracket, helping you to mount the speaker into the dash, rear seat or rear package tray.



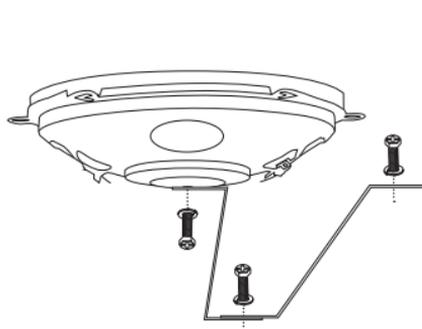
"L" Bracket Mount



Horizontal Mount



Rear Package Tray Mount



Custom Mount

SPECIFICATIONS

MODEL	R-48N	R-410N	R-57N
Nominal Diameter (inch)	4x8	4x10	5x7
Description	3-Way	3-Way	3-Way
Nominal Impedance	4+4ohm	4+4ohm	4+4ohm
Frequency Response	65Hz-21kHz	43Hz-21kHz	65Hz-21kHz
Sensitivity (SPL@1w/1m)	87dB	87dB	87dB
Power Handling (watts RMS/peak)	60/120	90/160	60/100
Speaker Grille	NO	NO	NO
Mounting Depth (inch)	1.7	1.7	1.7
Mounting Depth (mm)	44	44	44
MODEL	R-65N	R-69N	
Nominal Diameter (inch)	6.5	6x9	
Description	2-Way	3-Way	
Nominal Impedance	4+4ohm	4+4ohm	
Frequency Response	52Hz-21kHz	40Hz-21kHz	
Sensitivity (SPL@1w/1m)	87dB	90dB	
Power Handling (watts RMS/peak)	50/100	100/200	
Speaker Grille	NO	NO	
Mounting Depth (inch)	1.7	1.7	
Mounting Depth (mm)	44	44	

*The above specifications are subject to change without notice.

LIMITED WARRANTY

If your unit does not work properly because of defects in materials or workmanship, Retro Manufacturing, LLC (collectively referred to as "the warranter") will, for the length of the period indicated in the chart below, which starts with the date of original purchase ("warranty period"), at its option either (a) repair your unit with new or refurbished parts, or (b) replace it with a new or refurbished unit. The decision to repair or replace will be made by the warranter.

CATEGORIES	PARTS	LABOR
Speakers	One (1) Year	One (1) Year

During the "Labor" warranty period, there will be no charge for labor. During the "Parts" warranty period, there will be no charge for parts. You must mail in your unit prepaid during the warranty period. This warranty only applies to products purchased and serviced in the United States or Puerto Rico. This warranty is extended only to the original purchaser of a new product which was not sold "as is." A purchase receipt or other proof of the original purchase date is required for warranty service.

To handle a warranty issue, contact us at tech@retromanufacturing.com or 888.325.1555 for a Return Authorization number. All returns and warranty issues must be accompanied by a Return Authorization (RA) number. Any product received without a RA number will be refused.

LIMITED WARRANTY-LIMITS AND EXCLUSIONS

This warranty ONLY COVERS failures due to defects in materials or workmanship. This warranty ALSO DOES NOT COVER damages which occurred during shipment, failures which are caused by products not supplied by the warranter, failures which result from accident, misuse, abuse, neglect, pest infestation, mishandling, misapplication, alteration, faulty installation, set-up adjustment, improper voltage, lightning strikes, maladjustment of consumer control, improper maintenance, modification, commercial use or rental use of the product, or service by anyone other than Retro Manufacturing, LLC, or damage that is attributable to acts of God.

THERE ARE NO EXPRESS WARRANTIES EXCEPT AS LISTED UNDER "LIMITED WARRANTY". THE WARRANTER IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS SYSTEM, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. (As examples, this excludes damages for lost time, cost of having someone remove or re-install an installed unit if applicable, travel to and from the servicer. The items listed are not exclusive, but are for illustration only.) ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTY OF MERCHANTABILITY, ARE LIMITED TO THE PERIOD OF THE LIMITED WARRANTY.

Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the 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 a problem with this unit develops during or after the warranty period, you may contact your dealer or Retro Manufacturing, LLC. Warranty only valid in U.S.A. and Canada only.

