

Quadraphonic

4-Channel 45 Watt x 4 Power Amplifier

User's Manual

Model: QUAD4



MODERN SOUND FOR YOUR CLASSIC

Version 8

www.retromanufacturing.com

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Thank you for purchasing a RetroSound® Quadraphonic power amplifier. This full-range Class D digital amplifier is the result of extensive engineering and testing. Its diminutive size enables a wide variety of installation applications in which space is a premium. The amplifier's RF shielding allows it to be mounted behind the dash. It has direct-connect compatibility with all RetroSound® radios, and it may also be used with any after-market car audio receiver.

Features:

- 45 watts x 4 channels RMS
- Full-range Class D digital circuitry
- RF shielding
- Ultra-low current draw
- Advanced protection circuitry
- Built-in high pass crossover
- Direct connection to all RetroSound® radios

NOTES:

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The information enclosed in this user's manual is to be used as a guide to assist you in the operation and installation of your amplifier. This guide does not cover every installation possibility, every 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.

Visit our website for the latest updates: www.retromanufacturing.com.

WHAT'S IN THE BOX

Quadraphonic Amplifier



Four Mounting Screws



This owner's manual provides general installation and operating instructions. It does not cover every possible installation application. If you have any reservations about installing the amplifier, contact an authorized RetroSound® dealer, or contact technical support at tech@retromanufacturing.com.

IMPORTANT: This amplifier is designed for operation in vehicles with 12 volt negative ground systems only.

PREPARING FOR INSTALLATION

The tools listed below may be required for basic installation:

- Electric drill with bits
- Phillips screwdriver
- Standard screwdriver
- Wire strippers
- Wire crimpers
- Utility knife
- Digital multi-meter

PRECAUTIONS

- Turn off all stereo devices before you begin.
- Disconnect the negative (-) battery terminal from your vehicle's battery.

NOTE: check your vehicle's owner's manual before disconnecting the battery. On some newer vehicles, disconnecting the battery may require entering an anti-theft code upon reconnecting the battery and/or may require resetting the vehicle's on-board computer. Check with your local dealership if you are uncertain.

- Check for fuel lines, brake lines, oil lines and electrical cables when planning the installation.
- When choosing a mounting location, make sure there is adequate clearance around the amplifier's heat sinks for proper air flow. If you are mounting the amplifier near the radio, never mount it directly to the radio body, and always maintain at least 2 to 5 inches of clearance between the amplifier and radio body.
- Avoid sharp metal edges when running power cables. If necessary, use rubber grommets to protect cables from being frayed.
- Do not install in a place in which the amplifier could injure the driver or passengers if the vehicle suddenly stops.
- Do not mount the amplifier upside down. This will compromise heat dissipation through its heat sinks and engage its protection circuitry.

POWER AND GROUND CONNECTIONS

Quadraphonic is designed to work within a range of 12 volts to 14.5 volts DC. Before connecting any wiring, use a multi-meter to test the vehicle's electrical system for adequate power supply. First, check the voltage at the battery with the ignition in the off position. The multi-meter should read no less than 12 volts. Next, check voltage at the battery with the engine running. The multi-meter should show a reading between 12 and 14.5 volts. If your vehicle's electrical system does not fall within these parameters, consult an auto electrician before proceeding with the installation.

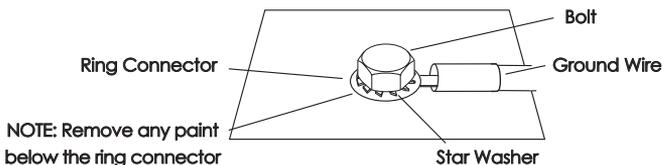
Quadraphonic utilizes a very efficient digital Class D design. For most installations 8 to 14 gauge power and ground primary wire is suitable. For longer runs, use thicker gauge wire.

Constant 12 volt (+) Yellow Wire

The constant 12 volt (+) yellow wire should be wired directly to the vehicle's positive (+) battery terminal using 8 to 14 gauge primary wire. Start at the vehicle's battery, and run the cable back to the amplifier. Avoid running the wire over engine components and heater cores. The use of an in-line fuse is recommended. Connect the fuse holder as close to the battery as possible (within 18-inches of the battery terminal). This fuse should be no greater than 15 amps. Leave the fuse out until final connections have been made.

Ground (-) Black Wire

Locate a metal area as close to the amplifier as possible (preferably the floor pan or vehicle chassis). Use a wire brush or sandpaper to eliminate any paint for a better ground connection. Secure the ground wire to the vehicle using a bolt, star washer and nut. See diagram below for close-up of correct ground connection.



MOUNTING THE AMPLIFIER

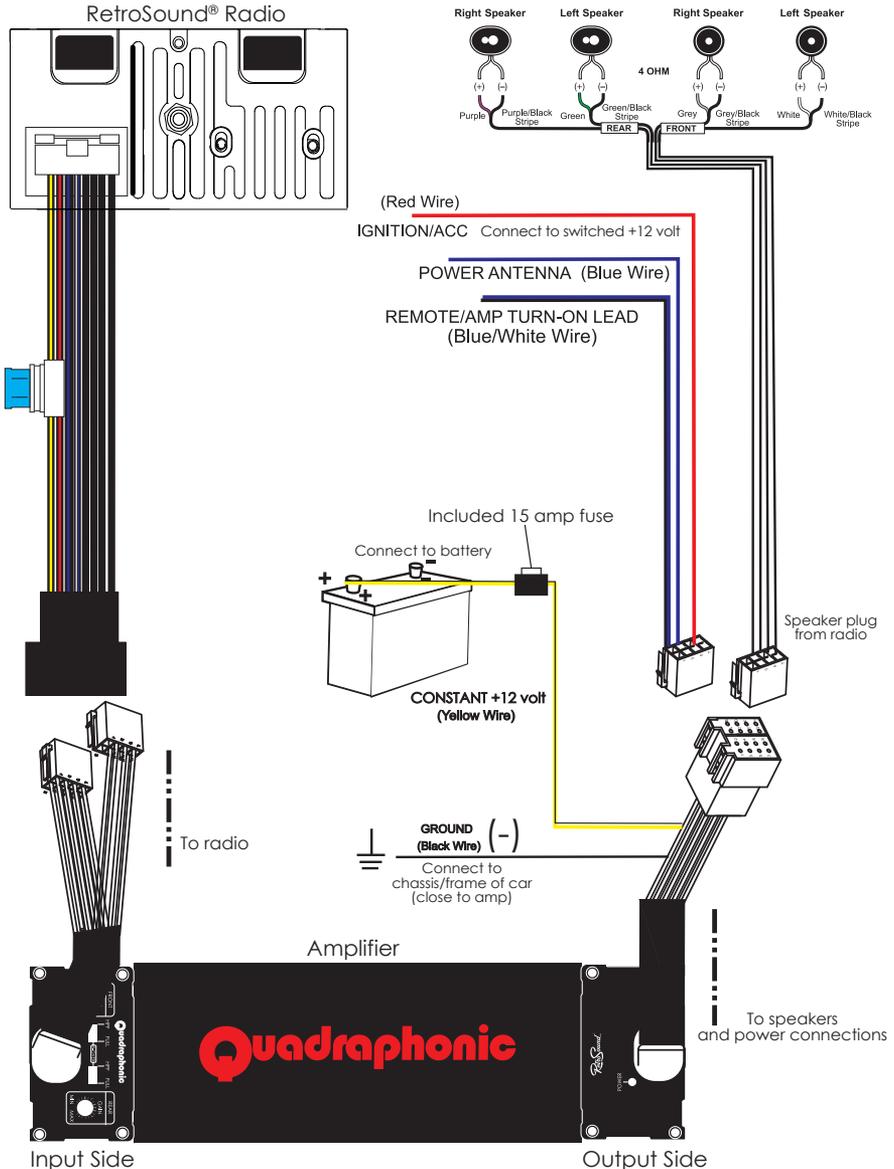


The compact size of the RetroSound® Quadraphonic amplifier enables considerable installation flexibility. For example, the amplifier may be placed behind the dash or under the seats. It is best to mount the amplifier in a location that allows air to freely circulate around it and allows access to the end panel controls for adjustments. Although both thermal and overload protection are built in, if the amplifier overheats it will reduce its power output to maintain operation.

Find a dry, clear and well-ventilated area in which to mount the amplifier. The area should be free of any obstructions that might block air flow to the amplifier. It should be protected from exposure to direct sunlight. You may use the amplifier as a template to mark the four screw locations with a felt-tip marker. Set the amplifier aside before drilling the mounting holes. Use caution to make certain there are no objects behind the installation area that may become damaged by drilling. If mounting beneath a seat, it is best if there is at least 1 inch of space above the amplifier to permit proper ventilation. If installing the amplifier behind the dash, make sure it has at least two to five inches of clearance.

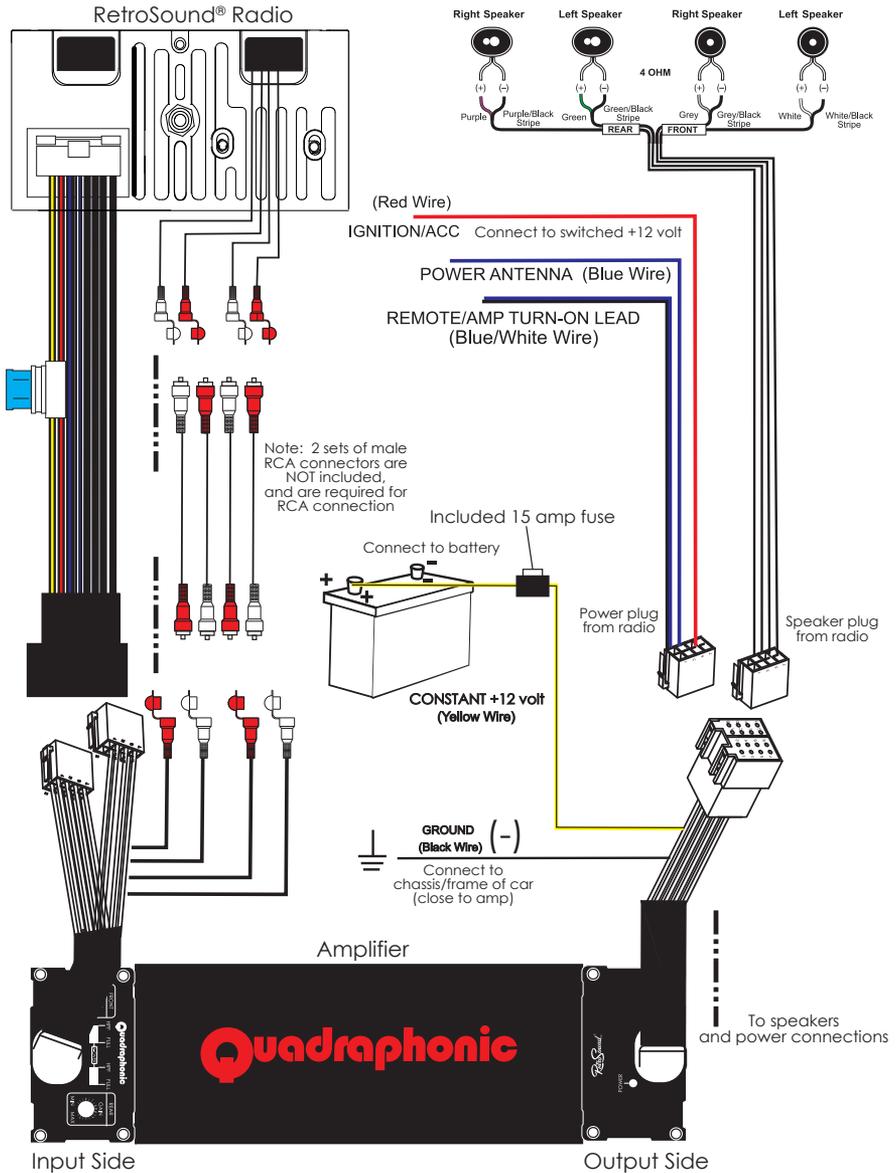
WIRING DIAGRAM (DIRECT CONNECTION)

This diagram illustrates the Quadraphonic amplifier connected directly to your RetroSound® radio using the standard plugs included. Please note that you will need to connect the constant +12 volt (yellow) lead to the battery, and the ground lead (black) to the chassis or floor pan of the car.



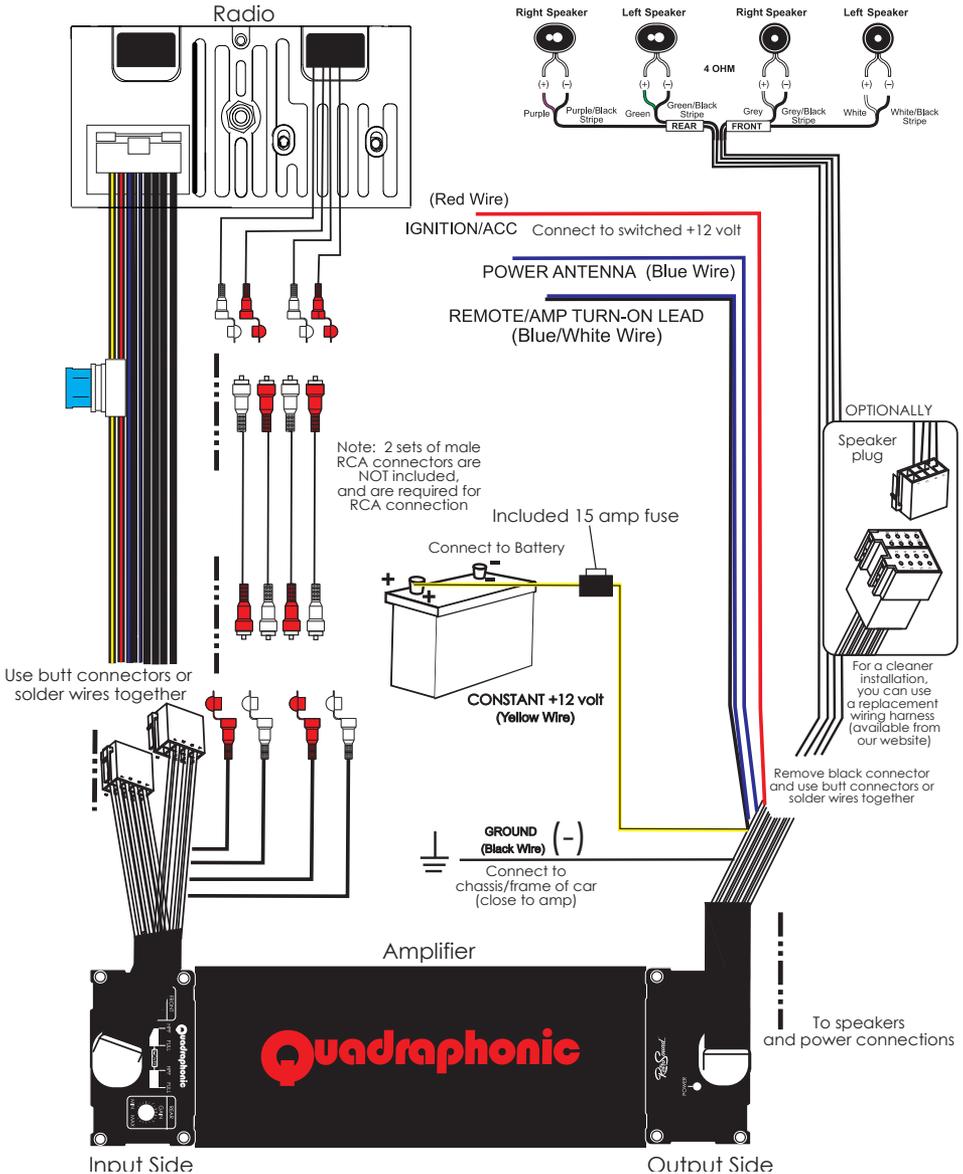
WIRING DIAGRAM (RCA CONNECTION)

This diagram illustrates the Quadraphonic amplifier connected directly to your RetroSound® radio using RCA low level pre-amp inputs. Please note that you will need to connect the constant +12 volt (yellow) lead to the battery, and the ground lead (black) to the chassis or floor pan of the car.



WIRING DIAGRAM (AFTER-MARKET RADIO CONNECTION)

This diagram illustrates the Quadraphonic amplifier connected directly to any aftermarket radio using the RCA low level pre-amp outputs of your radio.



CONTROL PANEL LAYOUT

1. Front and Rear HPF/FULL Electronic Crossover

These switches activate the built-in electronic crossover network. When set to HPF (High Pass Filter), the crossover limits bass frequencies, sending only those frequencies above 100Hz to the speakers. This is useful in a system in which a separate subwoofer is used to reproduce bass frequencies. When set to FULL, the full spectrum of music is sent to the connected speakers.

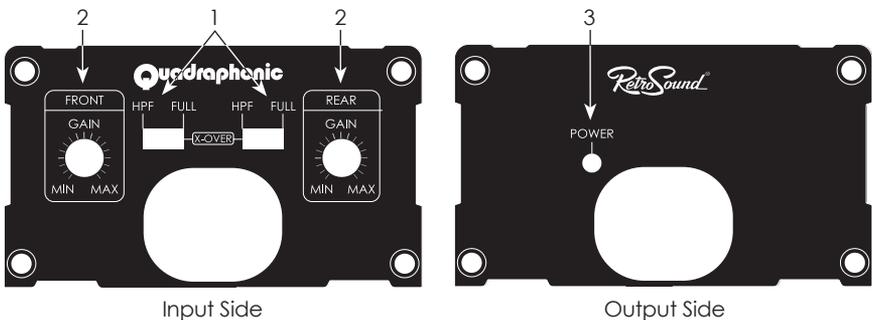
2. Front and Rear Gain Control

This control is used to match the input sensitivity of the amplifier to the radio. The Gain Control is not a volume control. Use the source unit to control system volume. Failure to follow the steps above could result in damaged speakers and/or amplifier. Use these steps to set the Gain Control:

- A. Set the Gain Control to minimum by turning the Level Control knobs completely counter clockwise.
- B. On the radio, set the Bass and Treble to zero, and adjust the volume to approximately 2/3 of maximum.
- C. Slowly increase the amplifier's Gain Control clockwise by turning the knob until the sound has just begun to distort. Then turn the Gain Control counterclockwise slightly to cut distortion. This will allow the amplifier to operate at maximum efficiency.

3. Power

When the power is on, the LED indicator will illuminate in blue.



TROUBLESHOOTING

PROBLEM	SOLUTION
Power LED does not turn on	<ul style="list-style-type: none">• Check to insure that the yellow constant wire has 12 to 14.4 volts.• Check to insure that the blue/white amplifier turn-on lead has 12 volts.
Power LED illuminates blue, but there is no power output	<ul style="list-style-type: none">• Advanced protection circuitry is engaged due to high internal temperature of the amplifier. The amplifier needs more clearance around the chassis. If this continues, choose a better ventilated mounting location.• High operating temperature can also be caused by an incorrect input sensitivity level. Reset the Level Control.
The amplifier becomes very hot and shuts down or plays at a very low volume	<ul style="list-style-type: none">• Thermal protection is engaged. Check for proper impedance at speaker terminals and air flow around the amplifier.• Voltage protection is engaged. Voltage to the amplifier is not within the 12 to 14.5 volt operating range. Inspect the charging system.• Short circuit protection is engaged.• Check for speaker wires shorted to each other or the vehicle chassis.
Alternator noise that varies with RPM	<ul style="list-style-type: none">• Check for damaged RCA cables.• Check the radio and amplifier ground.• Turn down the amplifier level setting.
Poor bass response	Speakers are out of phase. Ensure that positive and negative speaker terminals are wired correctly.

SPECIFICATIONS

QUADRAPHONIC	SPECIFICATIONS
Power Output	45 watts x 4 channels RMS @ 4 Ohms
Peak Output	55 watts x 4 channels
Total Harmonic Distortion	<0.2% @ 45 watts x 4 RMS
Frequency Response	28Hz - 28KHz
Signal to Noise Ration (EIA Rated)	>90dB
Input Sensitivity	200mV - 6.0 volts
Crossover Slope	12dB per octave
Crossover Frequency	100Hz
Fuse	15 amp ATC Style
Dimensions (inches)	7.16" W x 2.9" D x 1.78" H
Dimensions (mm)	179mm W x 71mm D x 44mm H

If your unit does not work properly because of defects in materials and workmanship, Retro Manufacturing, LLC (collectively referred to as "the warranter") will, for the length of the period indicated 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.

THE QUADRAPHONIC SERIES AMPLIFIER IS COVERED FOR: (1) YEAR.

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 an RA number will be refused.

LIMITED WARRANTY-LIMITS AND EXCLUSIONS

This warranty ONLY COVERS failures due to defects in materials and workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The 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, bug infestation, mishandling, misapplication, alteration, faulty installation, set-up adjustment, improper maintenance, power surge, improper voltage supply, lightning, modification, commercial use (such as use in hotels, offices, restaurants, or other business uses) 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 UNIT, 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, and loss of media, data or other memory contents. 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.



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