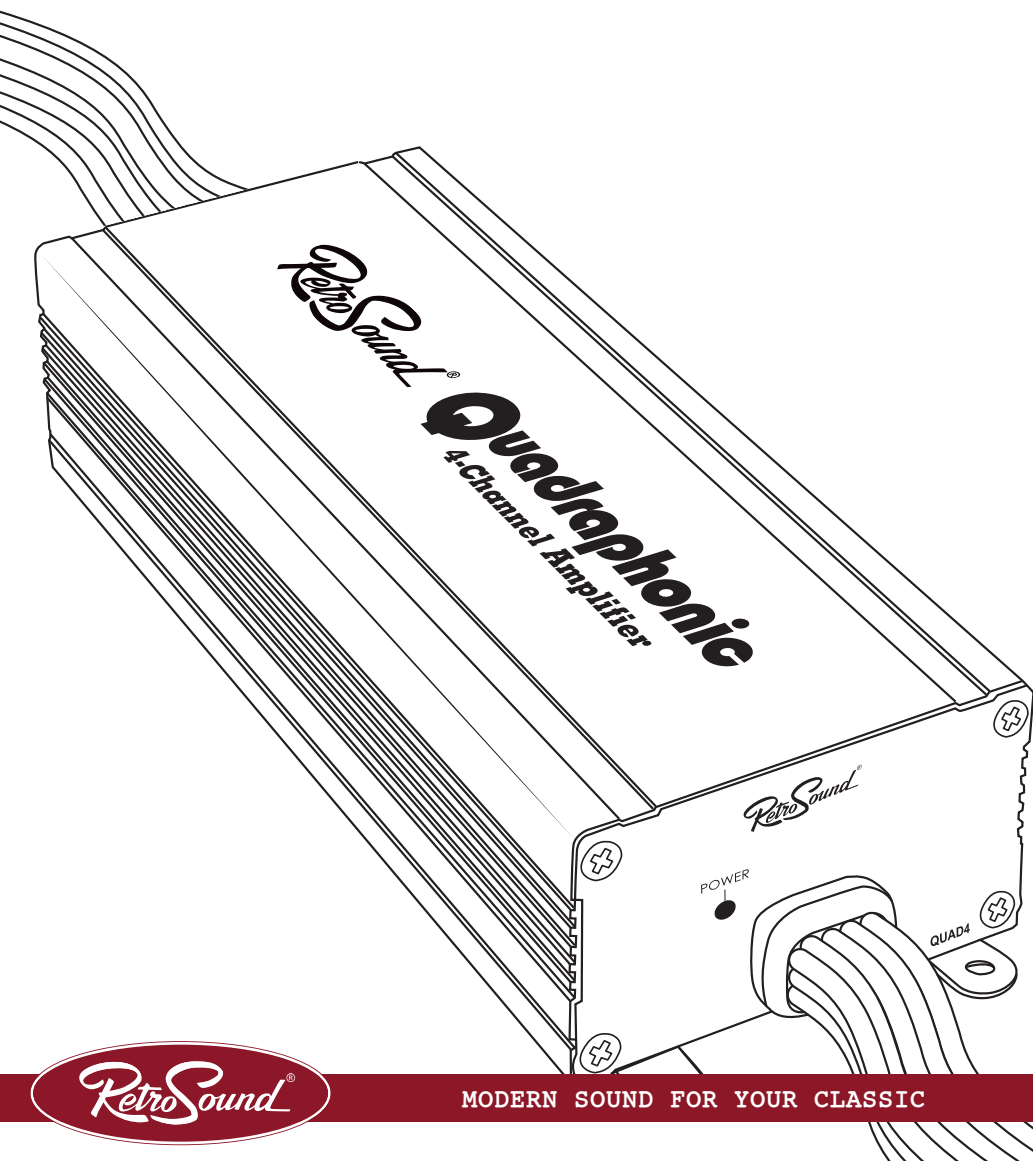


Quadraphonic

4-Channel Amplifier

USER'S MANUAL



MODERN SOUND FOR YOUR CLASSIC

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Welcome

Thank you for purchasing a RetroSound® Quadraphonic 4-channel amplifier.

General Features

- 4-channel amplifier
- Full-range Class D digital circuitry
- 45-watt RMS x 4 channels full-range @ 4 ohms
- Built-in high pass filter
- Advanced circuitry and thermal protection
- Directly connects to your RetroSound radio
- Works with any aftermarket radio with low-level RCA outputs
- Optional wiring kit available for aftermarket radios
- Compact size fits almost anywhere
- Dimensions: 7.05 in x 3 in x 1.65 in (17.9 cm x 7.1 cm x 4.2 cm)

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

Retro Manufacturing, LLC, RetroSound®, or its subsidiaries assume no responsibility for any installation. Due to continuing improvements, features and specifications are subject to change without notice. This manual may be updated from time to time without notice.

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

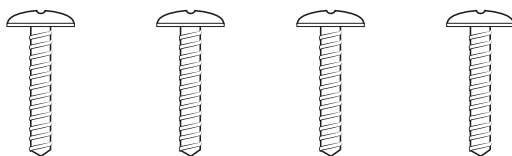
What's in the box

The items shown below are packaged with your Quadraphonic amplifier.

Quadraphonic Amplifier



Metal Screw (x4)



Precautions

PLEASE OBSERVE THESE PRECAUTIONS WHEN INSTALLING AND USING THIS UNIT:

This user's manual does not cover all possible installation scenarios. Please be sure to follow the instructions carefully while attempting installation. If you feel you cannot install this unit yourself, consult with a local car audio professional.

Retro Manufacturing, LLC is not liable for any problems resulting from improper installation of the unit.

If you have questions about installing your amplifier, contact us at **tech@retromanufacturing.com** or visit our help site at help.retromanufacturing.com

- **IMPORTANT:** This amplifier is designed for operation in vehicles with 12 volt DC negative ground systems only.
- Disconnect the negative (-) battery terminal from your vehicle's battery before installation.
- Ensure adequate clearance around the amplifier's heat sinks for proper air flow. If you're mounting the amplifier near the radio, always maintain at least 2 inches of clearance between the radio and amplifier.
- Never mount the amplifier directly to the radio body.
- Never install the unit in a location where it interferes with your field of vision.
- Never install the unit upside down. Mounting upside down will compromise heat dissipation and engage its protection circuitry.
- If the unit does not turn on, check all wiring first. Then check the fuse in your vehicle's fuse panel and the fuse on the +12 volt lead near the battery. If either fuse has failed, eliminate the cause of the failure, and replace the fuse with one prescribed for this unit.
- Do not disassemble or modify the unit or attempt to repair it yourself. If the unit needs to be repaired, consult your dealer or Retro Manufacturing, LLC.

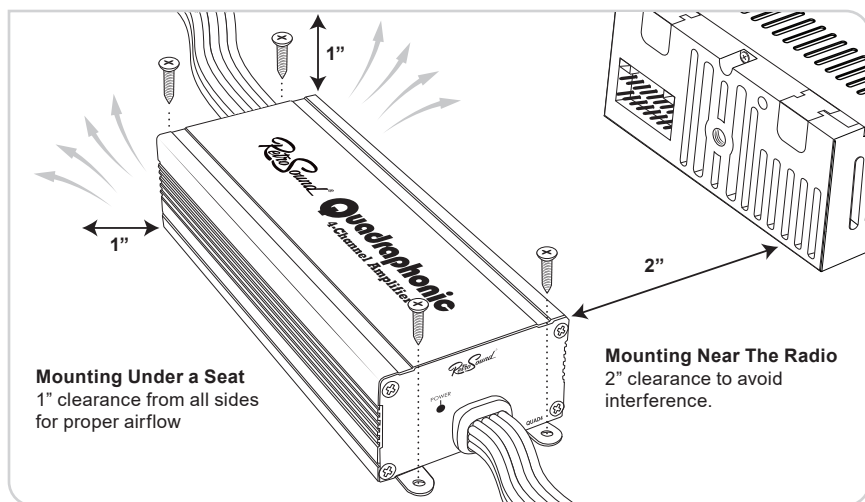
Precautions

- This unit is not designed for a marine environment. Please do not use the unit where it will be exposed to moisture or excessive dust. Exposure to moisture will damage the unit and void your warranty.
- Use caution when routing wires to prevent them from being caught in the vehicle's chassis. Screws and moving parts such as seat rails can cause damage to the wiring if improperly routed.
- Never splice into the power lead to supply other equipment with power.
- After installation and wiring, always check the normal operation of other electrical equipment.
- Make sure that no wires interfere with driving or getting in and out of the vehicle. Insulate all exposed wires to prevent short-circuiting or electric shock.
- Keep the volume of your radio at a level that allows you to hear outside noises, such as emergency sirens and train crossing warnings. Prolonged exposure to high volume levels may also result in hearing loss.

The following tools may be required for your installation:

- Electric Drill with Bits
- Phillips Screwdriver
- Standard Screwdriver
- Wire Strippers
- Wire Crimper
- Utility Knife
- Digital Multi-Meter

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 one inch of space from all sides of the amplifier to allow for proper ventilation. If installing the amplifier behind the dash, make sure it has at least two inches of clearance to avoid interference.

Power and Ground Connections

Electrical System Test

The Quadraphonic amplifier is designed to work within a range of 12 volts to 14.4 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 multimeter should show a reading between 12 and 14.4 volts. If your vehicle's electrical system does not fall within these parameters, consult an auto electrician before proceeding with the installation.

The 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.

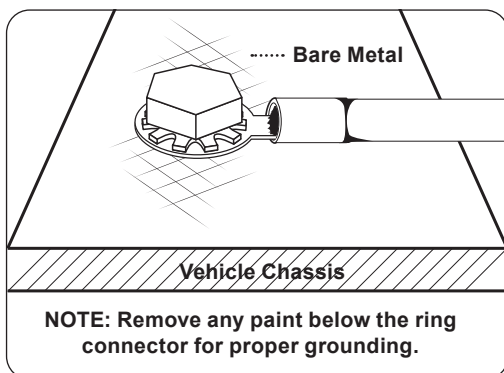
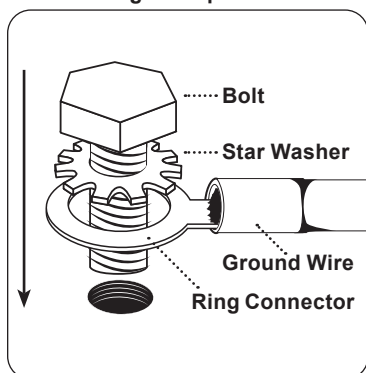
Constant 12 volt(+) Yellow Wire

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 the included in-line fuse is required at the positive (+) battery terminal. Connect the fuse holder as close to the battery as possible (within 6-8 inches of the positive (+) battery terminal). This fuse should be no greater than 15 amps. Leave the fuse out until the final connections have been made.

Ground (-) Black Wire

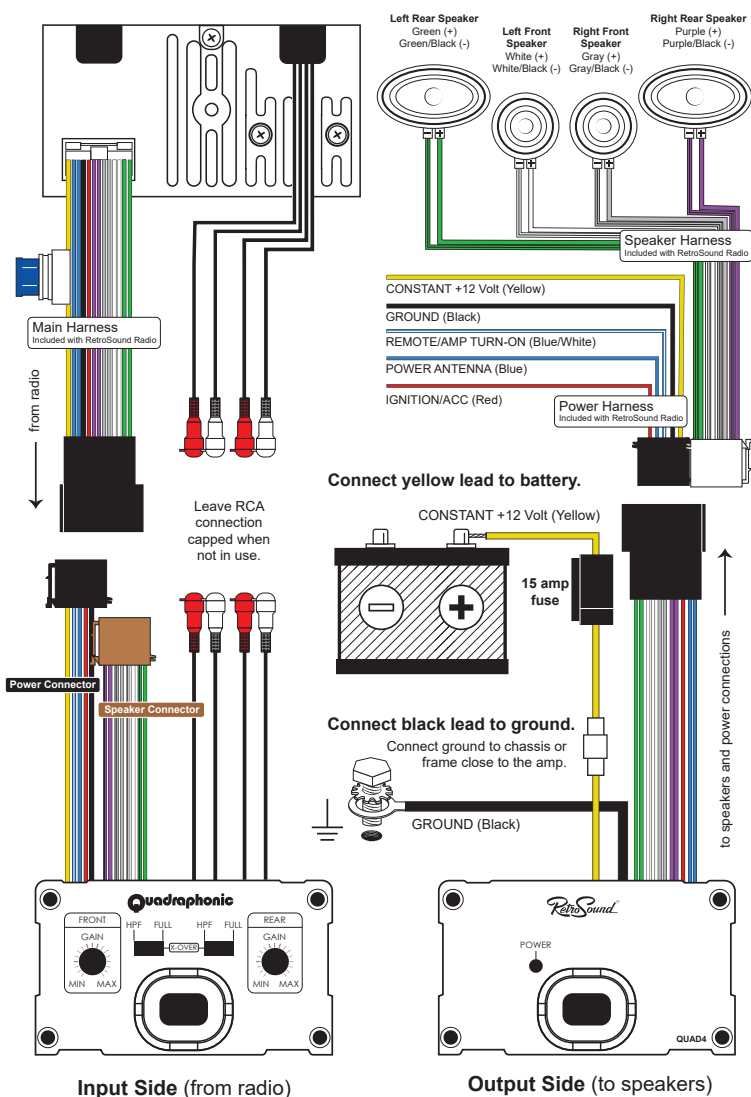
Locate a metal area as close to the amplifier as possible (preferably the floor pan or vehicle chassis). Use a wire brush or sandpaper to eliminate any paint for a better ground connection. Secure the ground wire to the vehicle using a bolt, star washer and nut. See diagram below for close-up of correct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

Grounding Example



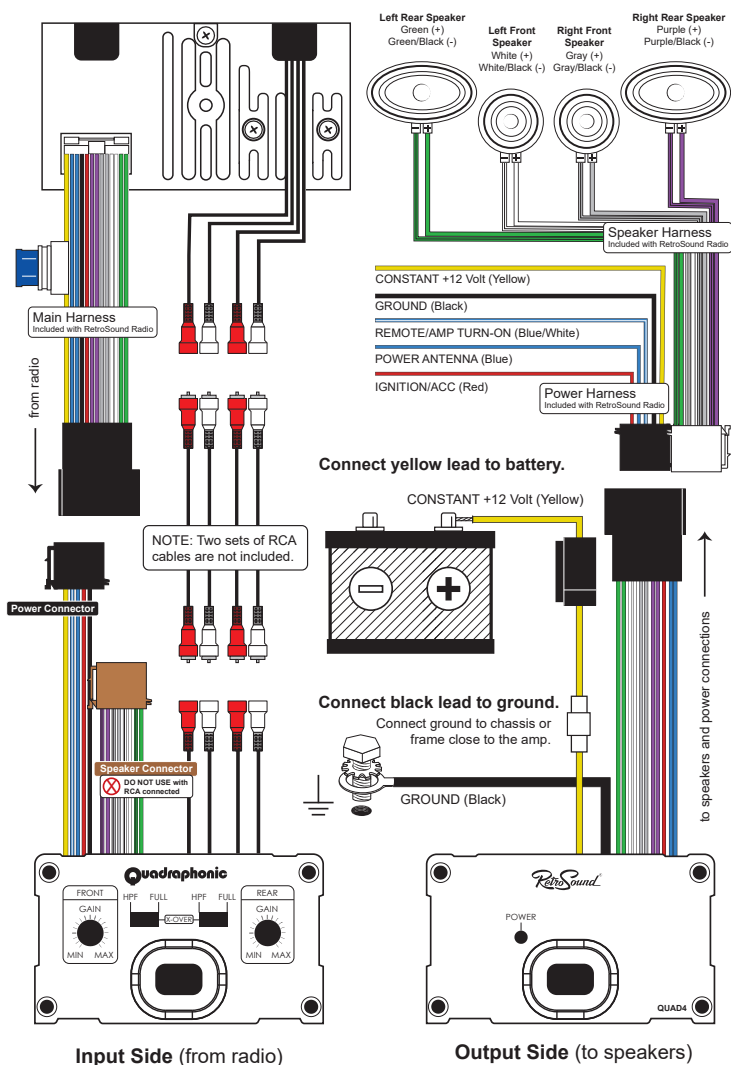
Wiring: RetroSound Radio® | Direct Connection

Connect the Quadraphonic amplifier directly to your RetroSound® radio by connecting the power connector (black) and speaker connector (brown) from the amplifier to the Main Harness. Next, connect the black GROUND lead to a suitable grounding point and the yellow CONSTANT lead to the vehicle's battery (see page 6). Connect the front & rear speakers to the output side of the amplifier using the Speaker Harness supplied with your RetroSound Radio. Refer to the Installation and Assembly Manual for instructions on how to connect the Power Harness. This amplifier is NOT bridgeable.



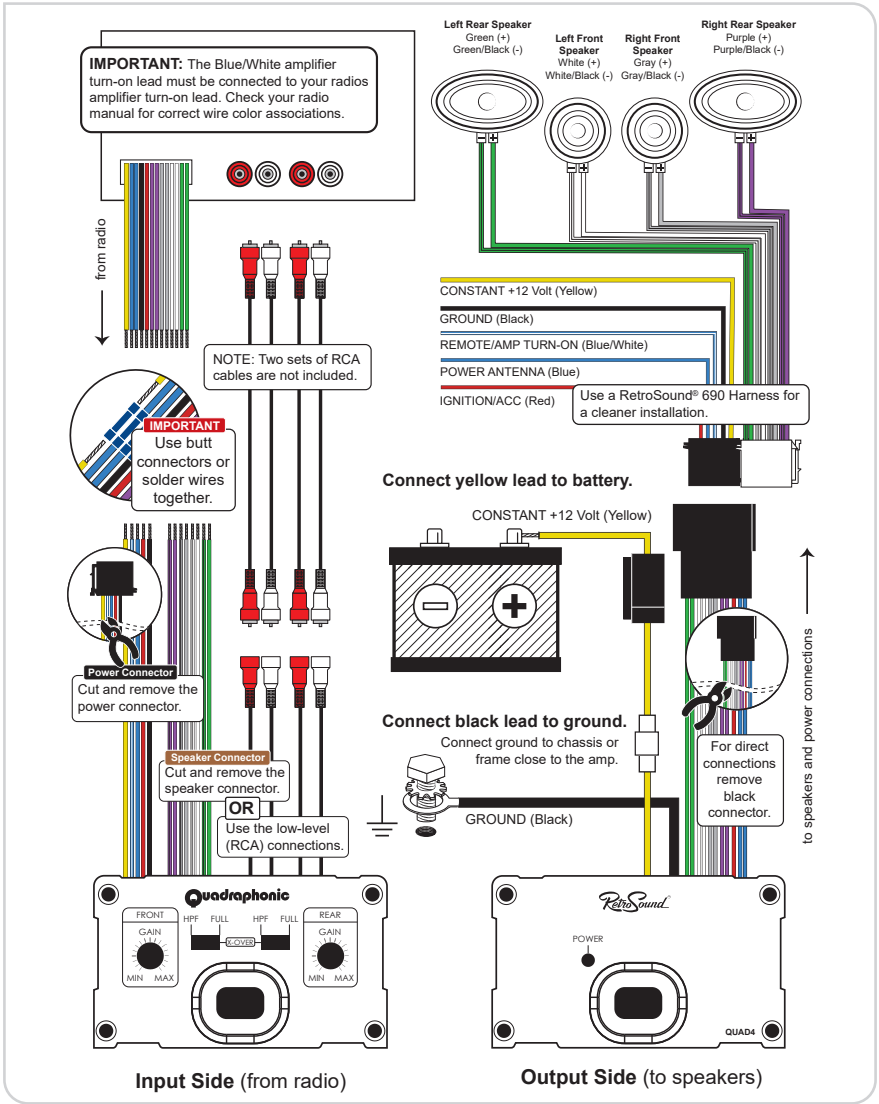
Wiring: RetroSound Radio® | RCA Connection

Connect the Quadraphonic amplifier to your RetroSound® radio's wiring harness by connecting the power connector (black) and RCA cables to the input side of the amplifier. When using RCA connections, the brown speaker connector is not needed. Next, connect the black GROUND lead to a suitable grounding point and the yellow CONSTANT lead to the vehicle's battery (see page 6). Connect the front & rear speakers to the output side of the amplifier using the Speaker Harness supplied with your RetroSound Radio. Refer to the Installation and Assembly Manual for instructions on how to connect the Power Harness. This amplifier is NOT bridgeable.



Wiring: Other Radios

Connect the RCA cables from the radio to the Quadraphonic amplifier, or cut and remove the speaker connector (brown) from the input side of the amplifier and connect the leads directly. Cut and remove the power connector (black) from the input side of the Quadraphonic and connect the leads to the output source. Always use butt connectors or solder when making direct connections. Next, connect the black GROUND lead to a suitable grounding point and the yellow CONSTANT lead to the vehicle's battery (see page 6). Connect the front & rear speakers to the output side of the amplifier. This amplifier is NOT bridgeable.



Controls

A. Front and Rear HPF/FULL Electronic Filter

These switches activate the built-in electronic filter. When set to HPF (High Pass Filter), the filter 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.

B. Front and Rear Gain Control

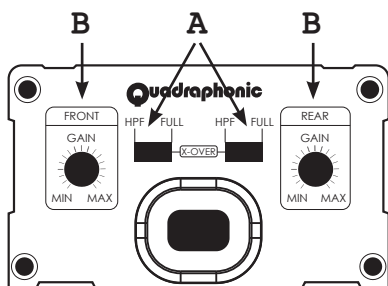
This control is used to match the input sensitivity of the amplifier to the radio. The Gain Control is not a volume control. Use the source unit to control system volume. Use these steps to set the Gain Control:

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

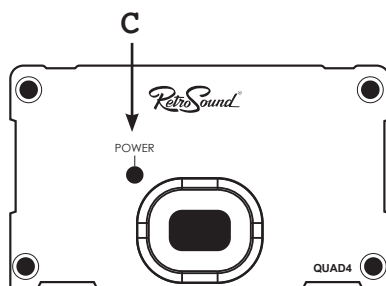
Failure to follow these steps could result in damaged speakers and/or amplifier.

C. Power

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



Input Side (from radio)



Output Side (to speakers)

Troubleshooting

Problem	Solution
Power LED does not turn on	<ul style="list-style-type: none">• Check to ensure that the yellow constant wire has 12 to 14.4 volts.• Check to ensure 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 Gain 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 14.4 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 Gain Control.
Poor bass response	<ul style="list-style-type: none">• Speakers are out of phase. Ensure that positive and negative speaker terminals are wired correctly.

Specifications

Amplifier

Output Power	45 Watts x 4 channels RMS @ 4 ohms
Peak Output	55 watts x 4 channels
Signal to Noise Ratio	>90dB
Input Sensitivity	200 mV-6.0 volts
Frequency Response.....	28Hz-28KHz
Total Harmonic Distortion.....	<0.2% @ 45 watts x 4 RMS

Filters

High Pass Filter/Slope	12dB/octave
Filter Frequency	100Hz

Other Specifications

Fuse	15-amp ATC Style (x1)
Size (L x W x H)	7.05 in x 3 in x 1.65 in (17.9 cm x 7.1 cm x 4.2 cm)

NOTE: All specifications are subject to change without notice.

Warranty

Your unit comes with a manufacturer's warranty covering any defects in materials and workmanship. Retro Manufacturing, LLC (collectively referred to as "the warranter"), at its option, will either (a) repair your unit with new or refurbished parts or (b) replace it with a new or refurbished unit. The warranty period starts from the original purchase date and is valid for the length of time indicated in the chart below. The decision to repair or replace will be made by the warranter.

ITEM	WARRANTY
QUADRAPHONIC	One (1) Year

During the "Parts" warranty period, there will be no charge for parts. You must mail in your unit during the warranty period at your expense. This warranty only applies to products purchased directly from Retro Manufacturing or an authorized dealer. This warranty is extended only to the original purchaser of a new product that 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 go to www.retromanufacturing.com/returns-center and fill out the Returns Form to receive a Return Authorization (RA) number. A RA number must accompany all returns and warranty issues. 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 and workmanship and DOES NOT COVER normal wear and tear or cosmetic damage. The warranty ALSO DOES NOT COVER damages that occurred during shipment, failures which are caused by products not supplied by the warranter, failures that result from accident, misuse, abuse, neglect, bug infestation, mishandling, misapplication, alteration, faulty installation, set-up adjustment, maladjustment of consumer control, improper maintenance, improper antenna, inadequate signal reception or pickup, power line 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, the 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.



7470 Commercial Way | Henderson, NV 89011
help.retromanufacturing.com

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