

D250LS

2-Channel Power Amplifier with Local Source Switching
Installation Manual

SAFETY INSTRUCTIONS



 **WARNING:** TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

 **CAUTION:** TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

 The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

 The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Safety Instructions

1. Read Instructions - All the safety and operating instructions should be read before the appliance is operated.
2. Retain Instructions - The safety and operating instructions should be retained for future reference.
3. Heed Warnings - All warnings on the appliance in the operating instructions should be adhered to.
4. Follow Instructions - All operating and user instructions should be followed.
5. Water and Moisture - The appliance should not be used near water; for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool. The apparatus shall not be exposed to dripping or splashing liquids and no objects filled with liquids, such as vases, shall be placed on the apparatus. Do not touch the appliance with wet hands. Do not handle the appliance or power cord with wet or damp hands. If water or any other liquid enters the appliance cabinet, take it to qualified service personnel for inspection.
6. Cleaning - The appliance should be cleaned only as recommended by the manufacturer. From time to time you should wipe off the front and side panels and the cabinet with a soft cloth. Do not use rough material, thinners, alcohol or other chemical solvents or cloths since this may damage the finish or remove the panel lettering.
7. Ventilation - The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings, or placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings. Place the unit in a well-ventilated location, leaving at least 2 inches (5 cm) of clearance on all sides, top and rear of unit for air flow. If ventilation is blocked, the unit may overheat and malfunction.
8. Heat - The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
9. Grounding or Polarization - Precaution should be taken so that the grounding or polarization means of an appliance is not defeated.
10. Power Cord Protection - Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, receptacles, and the point where they exit from the appliance.
11. Power Sources - The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
12. Main Power Disconnect - The power switch is a single-pole switch. When the switch is in the "Off" position, the appliance is not completely disconnected from the main power. The main power plug is used as the disconnect device and shall remain readily operable. When installing the product, ensure that the plug is easily accessible.
13. Non-Use Periods - The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
14. Attachments - Only use attachments/accessories specified by the manufacturer.
15. Carts and Stands - The appliance should be used only with a cart or stand that is recommended by the manufacturer. An 

appliance and cart combination should be used with care. Quick stops, excessive force and uneven surfaces may cause the appliance and cart combination to overturn.

16. Wall or Ceiling Mounting - The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
17. Location of the Amplifier - Do not mount this unit under a kitchen cabinet. Do not expose the amplifier to direct sun light or heating units as the amplifier internal components' temperature may rise and shorten the life of the components. Avoid damp and dusty places.
18. Object and Liquid Entry - Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through the openings.
19. Servicing - The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.
20. Damage Requiring Service - The appliance should be serviced by qualified service personnel when: A. The power supply cord or the plug has been damaged; B. Objects have fallen, liquid has been spilled into the appliance; C. The appliance has been exposed to rain; or D. The appliance does not appear to operate normally; or E. The appliance has been dropped or the enclosure is damaged.



Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of or more of the following measures: reorient or relocate the receiving antenna; increase the separation between the equipment and receiver; connect the equipment into an outlet on a circuit different from that to which the receiver is connected, or consult the dealer or an experienced radio/TV technician for help.

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.



Ce symbole << éclair >> s'applique aux matériaux non isolés présents dans votre appareil et pouvant causer un choc électrique. Pour assurer la sécurité des membres de votre famille, veuillez ne pas enlever le couvercle de votre produit.



Les << points d'exclamation >> ont pour but d'attirer votre attention sur des caractéristiques à propos desquelles vous devez lire soigneusement la documentation accompagnant l'appareil afin d'éviter tout problème d'exploitation ou d'entretien.

Veuillez lire ces consignes avant de faire fonctionner cet appareil

1. Lire ces instructions.
2. Conserver ces instructions.
3. Obéir à tous les avertissements.
4. Suivre toutes les instructions.
5. Éviter d'utiliser cet appareil à proximité de l'eau.
6. Nettoyer à l'aide d'un linge sec seulement.
7. Ne pas boucher les orifices de ventilation. Effectuer l'installation selon les instructions du fabricant.
8. Ne pas installer l'appareil près d'une source de chaleur comme un radiateur, un registre de chaleur, une cuisinière ou tout autre appareil (y compris les amplificateurs) qui dégage de la chaleur.

9. Ne pas contourner la mesure de sécurité de la fiche polarisée ou de mise à la terre. Une fiche polarisée est dotée de deux lames dont l'une est plus large que l'autre. Une fiche avec mise à la terre est dotée de deux lames auxquelles s'ajoute une troisième broche de mise à la terre. La lame large, la troisième broche, est fournie pour votre sécurité. Si la fiche fournie ne rentre pas dans votre prise secteur, consultez un électricien qui changera votre prise murale obsolète.
10. Protéger le cordon d'alimentation pour éviter que l'on marche dessus ou qu'il soit plié en particulier au niveau de la fiche, des prises de courant de commodité et à l'endroit où il sort de l'appareil.
11. Utiliser uniquement des équipements/accessoires spécifiés par le fabricant.
12. L'appareil ne doit être utilisé qu'avec le chariot, socle, trépied, support ou table trépied, support ou table spécifié par le fabricant ou vendu avec l'appareil. Un appareil utilisé en combinaison avec un chariot doit être déplacé avec soin afin d'éviter les risques de blessures occasionnées par le renversement de l'appareil. 
13. Débrancher cet appareil durant les orages électriques ou lorsqu'il n'est pas utilisé pour une période de temps prolongée.
14. L'entretien ou la réparation de l'appareil doit être effectué par du personnel qualifié uniquement. Il faut faire réparer l'appareil dès que celui-ci est endommagé d'une façon quelconque, qu'il s'agisse du cordon ou de la fiche d'alimentation, si du liquide a été renversé ou des objets sont tombés dans l'appareil, s'il a été exposé à la pluie ou à une humidité excessive, s'il ne fonctionne pas normalement ou s'il a subi un choc.
15. Avertissement : Afin de réduire les risques d'incendie ou de choc électrique, ne pas exposer cet appareil à la pluie ni à l'humidité et ne pas placer d'objets remplis de liquide, comme des vases, sur le dessus de l'appareil.

16. **AVERTISSEMENT:** Les appareils de CLASSE I doivent être raccordés à une prise électrique reliée à la terre.
17. La fiche ou un coupleur d'appareil est utilisé comme dispositif de déconnexion, ce dispositif doit rester facilement accessible.

PRODUCT OVERVIEW

Introduction

The Russound D250LS is a 2-channel power amplifier with automatic local source switching capability. The D250LS allows a local source (e.g., PC or TV in the bedroom) to automatically override the speakers in that particular zone of a distributed audio system. This can be accomplished with a variety of input/trigger options for versatility in many different applications.

The D250LS is rated at 50 watts per channel into 8 ohms and 75 watts per channel into 4 ohms. With the Stereo/Bridge Mono switch in the Bridge Mono position, both amplifier channels are combined for a higher powered mono output. In bridged mode the D250LS is rated at 150 watts of power into a single 8-ohm load. Each amplifier output channel incorporates robust protection circuitry for safety and reliability under extreme circumstances.

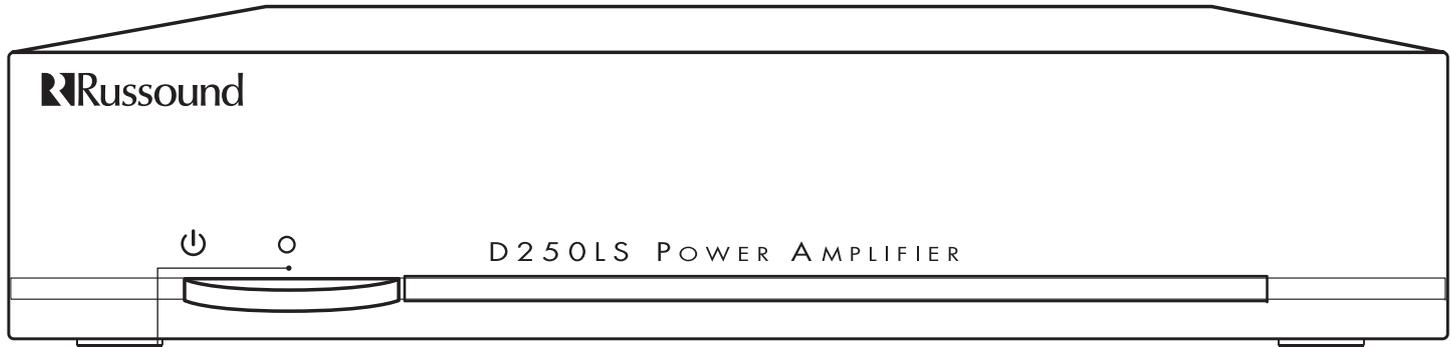
Thermal Protection

All Russound amplifiers are designed with special circuitry to safeguard the amplifier under a thermal overload condition. Thermal protection mode can only engage when the unit has been run at high volume for extended periods of time without adequate ventilation and/or when speaker impedances are below the minimum levels for the amplifier. If this fault occurs, turn off the amplifier, and check that the speaker impedance rating is above the minimum rating. Also check for adequate ventilation around the amplifier and make adjustments if necessary.

Once the unit has cooled to safe operating temperatures, the amplifier may be powered back on.

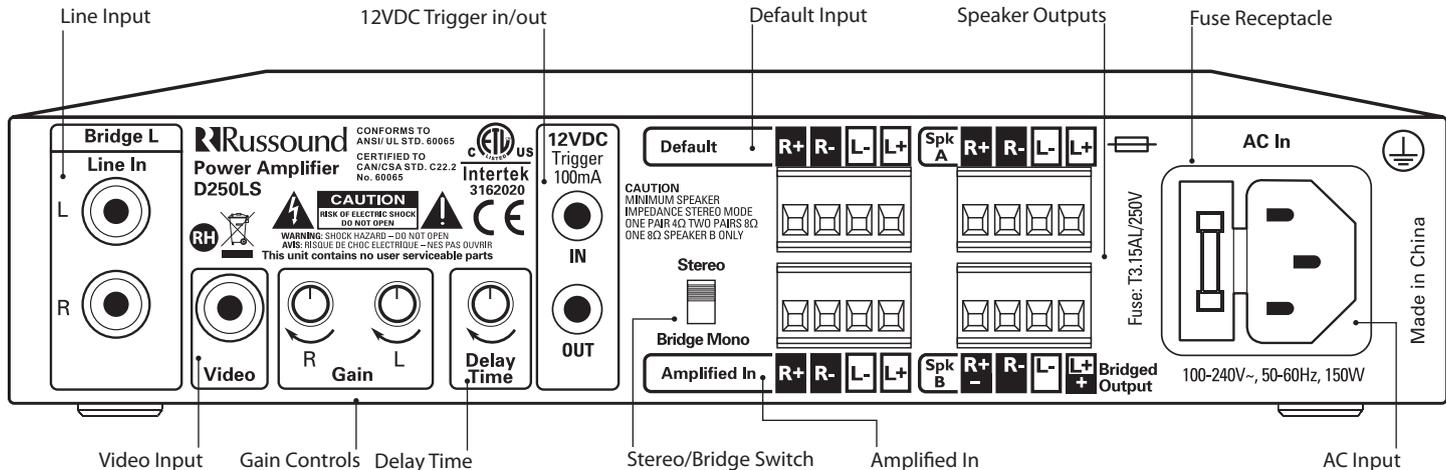
Protection Circuitry

All Russound amplifiers are designed with special circuitry to safeguard the amplifier under a short-circuit condition. A faulty speaker can also cause a short circuit condition. If this fault condition occurs, turn off the amplifier and check speakers for short circuit conditions when appropriate.



Power Switch / LED

D250LS Front Panel



D250LS Rear Panel

FRONT AND BACK PANEL FEATURES

Power LED

On start-up, the first LED lights red to show power on. When the amplifier goes into standby, the LED will light amber.

Power Switch

Turns the amplifier on/off. This switch does not disconnect the main power feed from the amplifier; this requires that the power cord be unplugged from the outlet.

Line Input

The Line audio input is a sensing input that will activate the amplifier when an audio signal from a source is present. Only the Left input is used for bridged mode operation.

Video Input

The Video Input is a sensing input that activates the D250LS when a video signal is present.

Gain Controls

Left and Right gain controls independently adjust the sound level for each channel. When used in the bridged mode only the Left control is used.

Delay Time

Muting delay can be adjusted from about 5 seconds to 4.5 minutes. When an audio signal is not present, this delay setting will automatically switch the amp to the Default input mode after the preset period of time.

12VDC Trigger In/Out

The 12V Trigger In controls the amplifier switching from the default input (distributed audio system) to a local source. The Trigger Out provides 100mA 12V max. This can be used to drive other 12V triggered devices. The delay and audio sensing are bypassed when the 12V trigger input is used.

Stereo/Bridge Mono Switch

Sets the pair of amplifier channels for stereo or bridged mono operation.

Default Input

Default Input is a pass-through input for the whole-house system. If no signal is input to the "Line In" or the "Amplified In," the Default input will be connected directly to the A and B speaker output.

Amplified In

The amplified In is a sensing input that is used to amplify a high-level signal from a small amplifier or TV.

Speaker A/B Outputs

The A and B speaker outputs are in parallel to the amplifier output. The minimum load in stereo mode is 4 ohms. This can be used to drive up to 2 pairs of 8-ohm speakers or 1 pair of 4-ohm speakers. The minimum load impedance for bridged mode operation is 8 ohms, Speaker B only.

Fuse Receptacle

Holds a replaceable fuse for AC power input connection. Fuse rating for North America and for Europe is T3.15AL 250V.

AC Input

The autoswitching AC voltage input for the North American model is 100-125 VAC at 60Hz (European model, 220-240VAC at 50Hz). This receptacle accepts a 3-prong IEC 320 type connector. A detachable 3-terminal power cord is included.

The D250LS amplifier can be set on a tabletop or wall-mounted with screws or hook and loop tape. Rack-mounting ears are included to install either one D250LS in a 1U space or two units in a 1U space.

Wall Mounting

The amplifier comes with two wall mounting brackets and attachment screws. There are two attachment locations on each side of the amplifier for more mounting options. Hook and loop tape can be used as well.

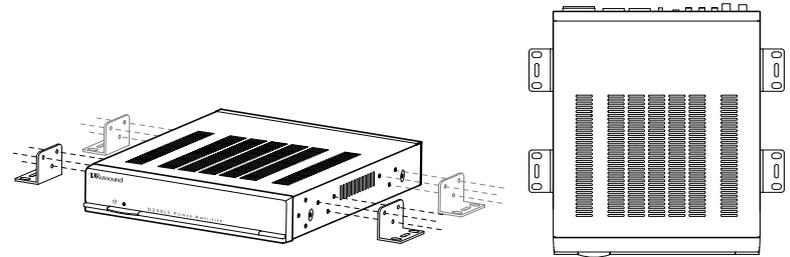
Rack Mounting

The rack mounting ears support either one or two amps in a single rack space.

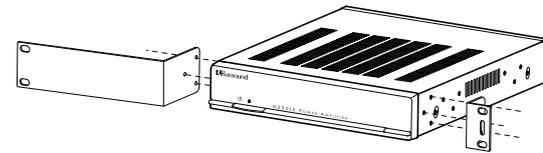
To install one amplifier in a rack space, use the long ear and one of the wall-mount brackets. The unit can be mounted either to the left or right side of the rack space.

For two units in one rack space, use the flat plate to support and connect them, and use one wall-mount bracket on each outer side of the units.

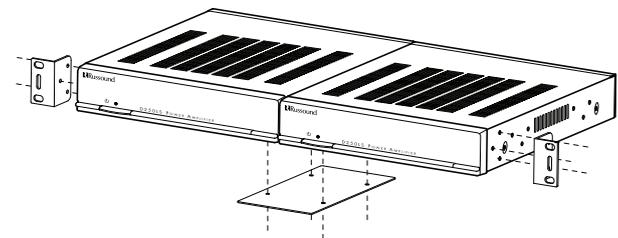
When using the two-unit mounting option, the small side ventilation slots on the amps will be next to one another in the middle of the rack space. To avoid overheating situations, make sure the copious top panel ventilation holes are not blocked.



Wall mounting option



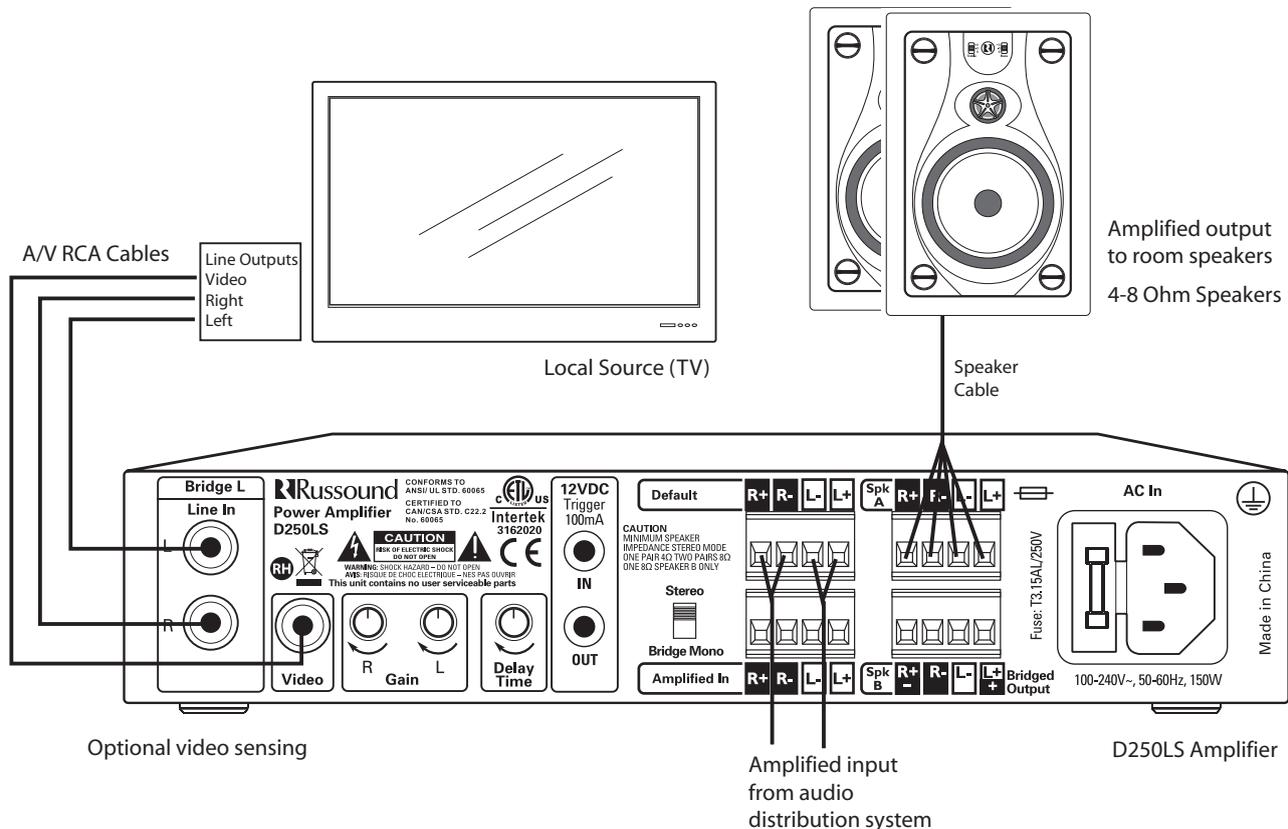
Single unit rack mounting option



Dual unit rack mounting option

LOCAL SOURCE SYSTEM CONFIGURATION

The D250LS can be used as a single-source two-channel zone amplifier, or as a local-source amplifier that automatically switches between a default source (e.g., a whole-house audio distribution system) and a local source (e.g., a television set in the bedroom or a PC in the office).

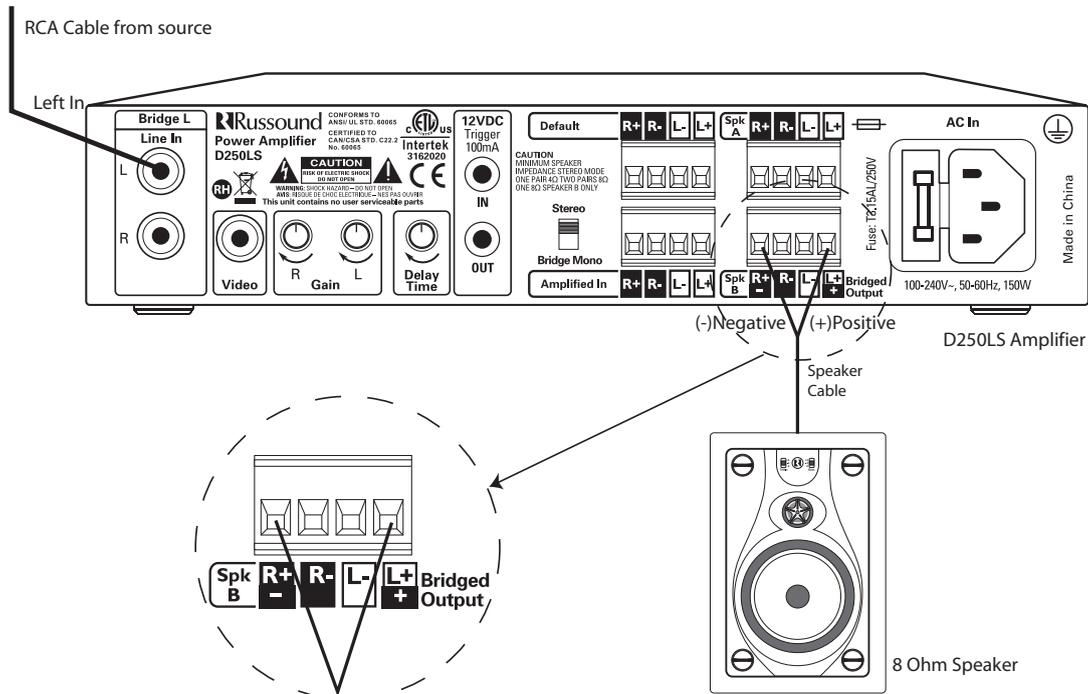


Connections for local source override of whole-house system

When the amplifier is in bridged mode operation, both the left and right channels are combined for a higher powered mono output.

For bridged amplifier operation, turn off the power to the amplifier and connect an 8-ohm minimum load to the Speaker B output.

Following the Bridge Mode markings in red on the back of the amplifier: Connect the negative lead (-) of the speaker cable to the R+ terminal. Connect the positive lead (+) of the speaker cable to the L+ terminal. Set the Stereo/Bridge Mono switch to Bridge Mono, connect the Line In feed from a source to the Left Line In connection only and restore power to the amplifier.

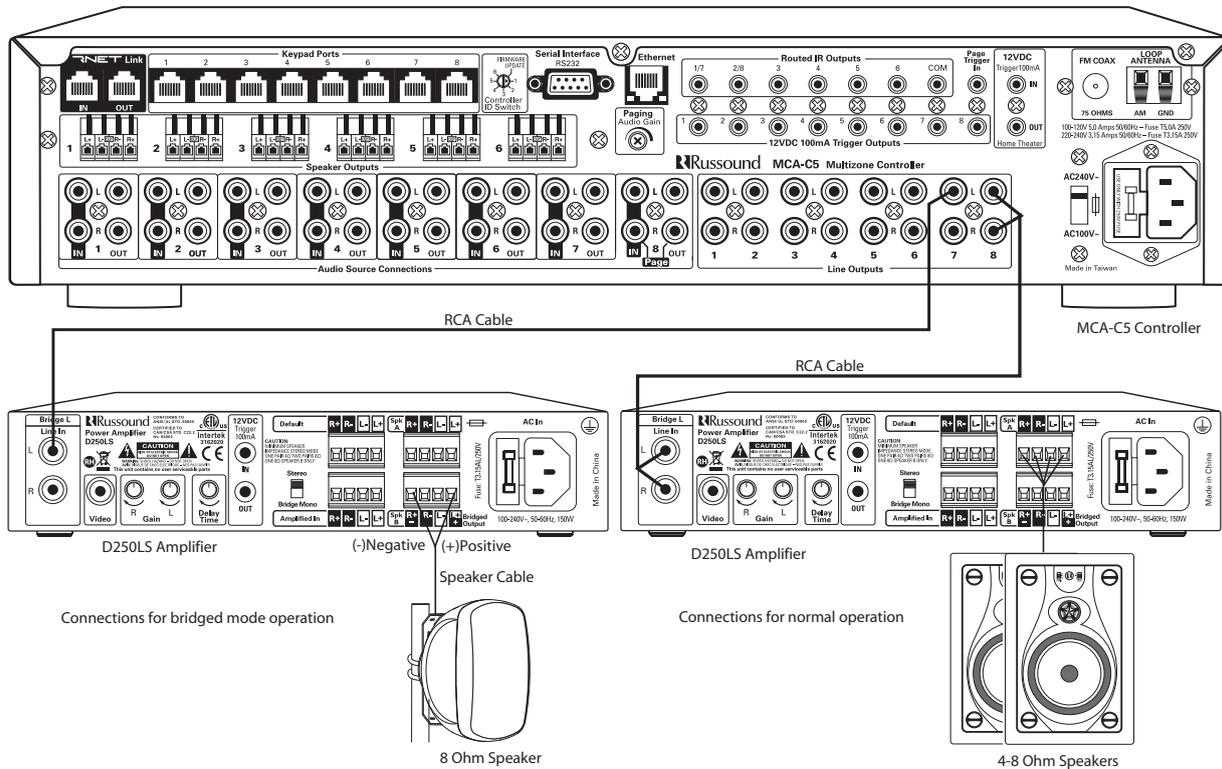


Connections for bridged mode operation

DUAL UNIT SETUP

The D250LS can be used in a side-by-side configuration using the optional rack mounting kit. This feature makes it easy to add amplification to two controllers or two zones (e.g., on the MCA-C5 controller).

The example shown features two D250LS amps connected to an MCA-C5, zones 7 and 8. One amp adds power through bridged mode for an outdoor zone. The other amp powers a pair of speakers in a zone for normal operation.



Configuration showing 2 D250LS Amplifiers using optional rack mount kit

D250LS Amplifier

Continuous Output Power:	50W per channel at 8 ohms (<0.3% THD+N) @ 1kHz
	75W per channel at 4 ohms 150W at 8 ohms, 2 channels bridged
Distortion THD+N:	<0.3% from 20Hz to 20kHz for 50W into 8 ohms <0.05% from 20Hz to 20kHz for 1W into 8 ohms
Signal-to-Noise Ratio:	>112dB A-weighted
Channel Separation:	>60dB @ 1 kHz
Frequency Response:	20Hz to 20KHz +/- 0.4dB
Input Sensitivity:	70mV for 1W at 8 ohms 550mV for 50W at 8 ohms
Input Impedance:	47kohms Line Input
Voltage Gain:	32dB
Delay Time:	5 seconds to 5 minutes
Input Trigger:	12VDC 10kohms
Output Trigger:	12VDC 100mA max
Power Requirements:	North American and European Models: 100VAC to 240VAC 50/60Hz 2.5A IEC 320 type connector with 3 terminal detachable power cord
Fuse Rating:	T3.15AL/250V
Standby Power:	≤0.5 Watts
Dimensions:	8.5" W x 10.5" D x 1.75" H (21.59 x 26.67 x 4.45 cm)
Weight:	4.65 lbs. (2.1 kg)

The D250LS Amplifier meets EU Standby Power Requirements

Warranty

The Russound D250LS Amplifier is fully guaranteed against all defects in materials and workmanship for two (2) years from the date of purchase. During this period, Russound will replace any defective parts and correct any defect in workmanship without charge for either parts or labor.

For this warranty to apply, the unit must be installed and used according to its written instructions. If service is necessary, it must be performed by Russound. The unit must be returned to Russound at the owner's expense and with prior written permission. Accidental damage and shipping damage are not considered defects, nor is damage resulting from abuse or from servicing by an agency or person not specifically authorized in writing by Russound.

This Warranty does not cover:

- Damage caused by abuse, accident, misuse, negligence, or improper installation or operation
- Power surges and lightning strikes
- Normal wear and maintenance
- Products that have been altered or modified
- Any product whose identifying number, decal, serial number, etc. has been altered, defaced or removed.

Russound sells products only through authorized Dealers and Distributors to ensure that customers obtain proper support and service. Any Russound product purchased from an unauthorized dealer or other source, including retailers, mail order sellers and online sellers will not be honored or serviced under existing Russound warranty policy. Any sale of products by an unauthorized source or other manner not authorized by Russound shall void the warranty on the applicable product.

Damage to or destruction of components due to application of excessive power voids the warranty on those parts. In these cases, repairs will be made on the basis of the retail value of the parts and labor. To return for repairs, the unit must be shipped to Russound at the owner's expense, along with a note explaining the nature of service required. Be sure to pack the unit in a corrugated container with at least three (3) inches of resilient material to protect the unit from damage in transit.

Before returning a unit for repair, call Russound at (603) 659-5170 for a Return Authorization number. Write this number on the shipping label and ship to: **Russound**, ATTN: Service, 5 Forbes Road, Newmarket, NH 03857

Due to continual efforts to improve product quality as new technology and techniques become available, Russound/FMP, Inc. reserves the right to revise system specifications without notice.



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