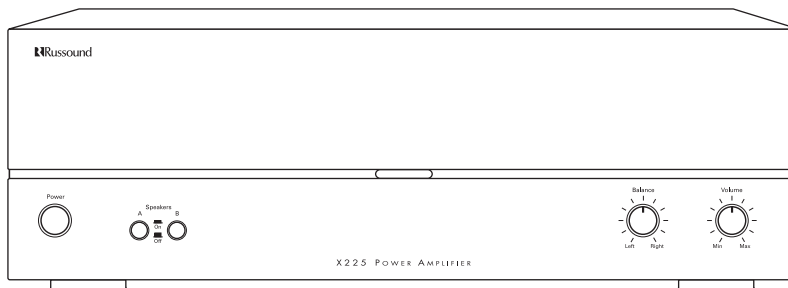
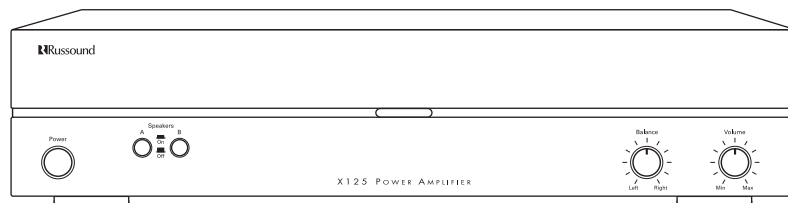


# Russound®



## X125 - X225 Dual Source Power Amplifiers 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.
6. 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 moved with care. Quick stops, excessive force and uneven surfaces may cause the appliance and cart combination to overturn.
7. 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.
8. 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.
9. Heat - The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
10. 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.
11. Grounding or Polarization - Precaution should be taken so that the grounding or polarization means of an appliance is not defeated.
12. 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.



13. 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.
14. Cleaning - The appliance should be cleaned only as recommended by the manufacturer.
15. Non-Use Periods - The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time. To remove all power (supply mains) from the appliance, remove the plug from the wall outlet.
16. 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.
17. 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.
18. 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.



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## PRODUCT OVERVIEW

### Introduction

The Russound X125 and X225 are 2-channel dual source power amplifiers with auto-source switching. Each features Primary and Secondary audio line inputs with a loop out to another zone, receiver, or device from the secondary source. A speaker-level input can be connected and assigned as either the primary or secondary source. This amplifier can be used for power upgrades in zones for large speaker selector or volume control systems.

The X125 is rated at 125 watts per channel into 4 ohms, and 80 watts into 8 ohms. The X225 is rated at 225 watts per channel into 4 ohms, and 150 watts into 8 ohms. Each amplifier output channel incorporates robust protection circuitry for reliability and safety under extreme circumstances.

With the Stereo/Bridge Mono switch in the Bridge Mono position, both amplifier channels are combined for a higher powered mono output. In Bridge mode the X125 is rated at 250 watts of power into a single 8 ohm load, and the X225 is rated at 470 watts of power into a single 8 ohm load.

The 12V Trigger In/Out allows each amplifier to be activated by other devices or to activate other electronics via a 3.5 mm mini phone plug cable, with 100mA current capability.

### Thermal Protection

All X Series amplifiers are designed with special circuitry to safeguard the amplifier under a thermal overload condition. Thermal protection mode will 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. In thermal protection mode the amplifier will automatically stop output. 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

Special circuitry has been designed into the amplifier to safeguard 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. The amplifier power must be cycled for the unit to return to normal operation.

### Installation

The amplifiers can be placed on a shelf in an equipment rack or on a table or cabinet. Be sure to leave at least 2 inches of space around each side of the amplifier to allow for ventilation and heat dissipation.

### Front Panel Controls

On the front panel of the X125 and X225 amplifiers are the power button plus speaker selector, balance and volume adjustment.

**Power** - the front panel switch will manually switch the power on or off.

**Speaker selector** - select speaker pair A (main) or speaker pair B (auxiliary) for audio output. You can use speakers A and B together, as long as the speakers are at a minimum 8-ohm impedance.

**Balance** - adjust speaker output balance between right and left channels. The default setting is at center.

**Volume** - adjust the speaker output volume. If using Bridged mode, set the volume at minimum, then adjust to the desired level.

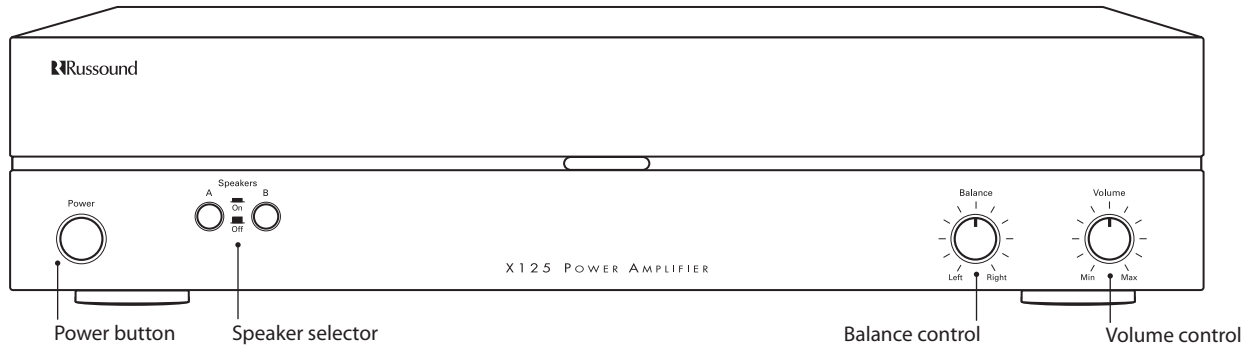
### Power On - Manual, Auto, Remote

The X125 and X225 amplifiers can be turned on manually or automatically by setting a switch on the rear panel. For manual power on or off, set the switch to Normal and press the Power button on the front panel. For automatic power on, set the switch to Auto On. When music is sensed on any input, the amplifier's signal sensing sends a command for it to power on. Once the signal ends, the amplifier turns off in about 4 minutes. To turn the amplifier on remotely, set the switch to Trigger and connect a 3.5mm phone plug remote triggering wire from the device to the 12V Trigger In on the amplifier.

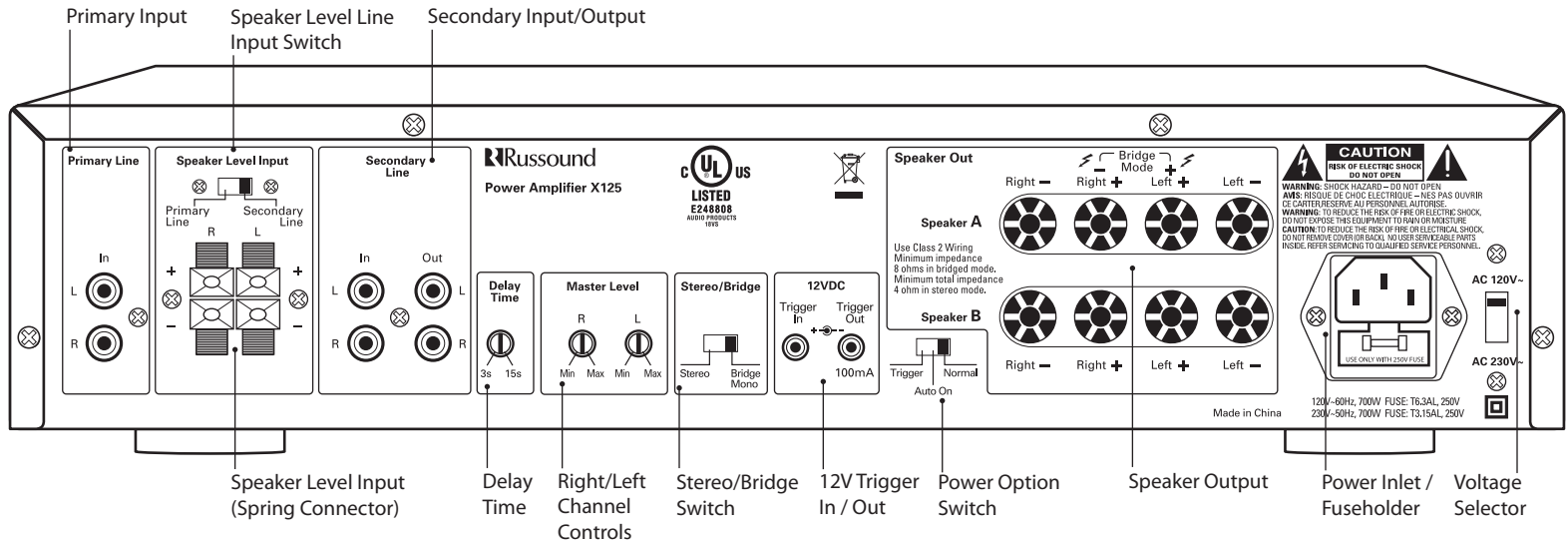
NOTE: The front panel Power button must be in the "On" position for the 12V trigger and Auto On features to work.

### Speaker Cable

When connecting speakers to the amplifiers, use a minimum 16 gauge and maximum 12 gauge stranded copper cable. Avoid leaving stray strands and keep polarity consistent.



X125 Front Panel



X125 Rear Panel

## SYSTEM CONFIGURATION - STEREO MODE

### Stereo Mode (Single Source)

The X125 and X225 can be configured as a power upgrade for specific zones, for use with large speaker selectors, and for long parallel speaker runs (outdoor zones). For a single source connection:

1. Unplug the amplifier.
2. Set the Stereo/Bridge switch to Stereo.
3. Connect the audio line output from a stereo preamplifier or source to the left and right Secondary input jacks of the amplifier. If the output is only available as speaker level see "Speaker Level Signal" section below.
4. Connect your speakers to the terminals, observing proper polarity.
5. Restore power to the amplifier. Both channel levels can be adjusted with the corresponding channel level adjustments.

### Dual source connections

The X125 and X225 have dual source capability. If two sources are used, connect the source you want to take temporary priority to the Primary input and the other constant source to the Secondary input.

Whenever the primary source becomes active, that signal will take priority over the distributed audio signal on the secondary line. The signal is still active on the secondary line but will not be heard, and once the primary audio signal is muted or turned off the amplifier will automatically switch back to the secondary audio signal. For dual source connections:

1. Connect the source audio outputs to both Primary and Secondary inputs as instructed above.
2. Set the switching delay with the Delay Time knob. This adjustment determines the length of time it takes to switch back to the secondary signal. For example, if the primary source is a CD changer, increasing the delay time will prevent a switch back to the secondary source while the disc is changing.

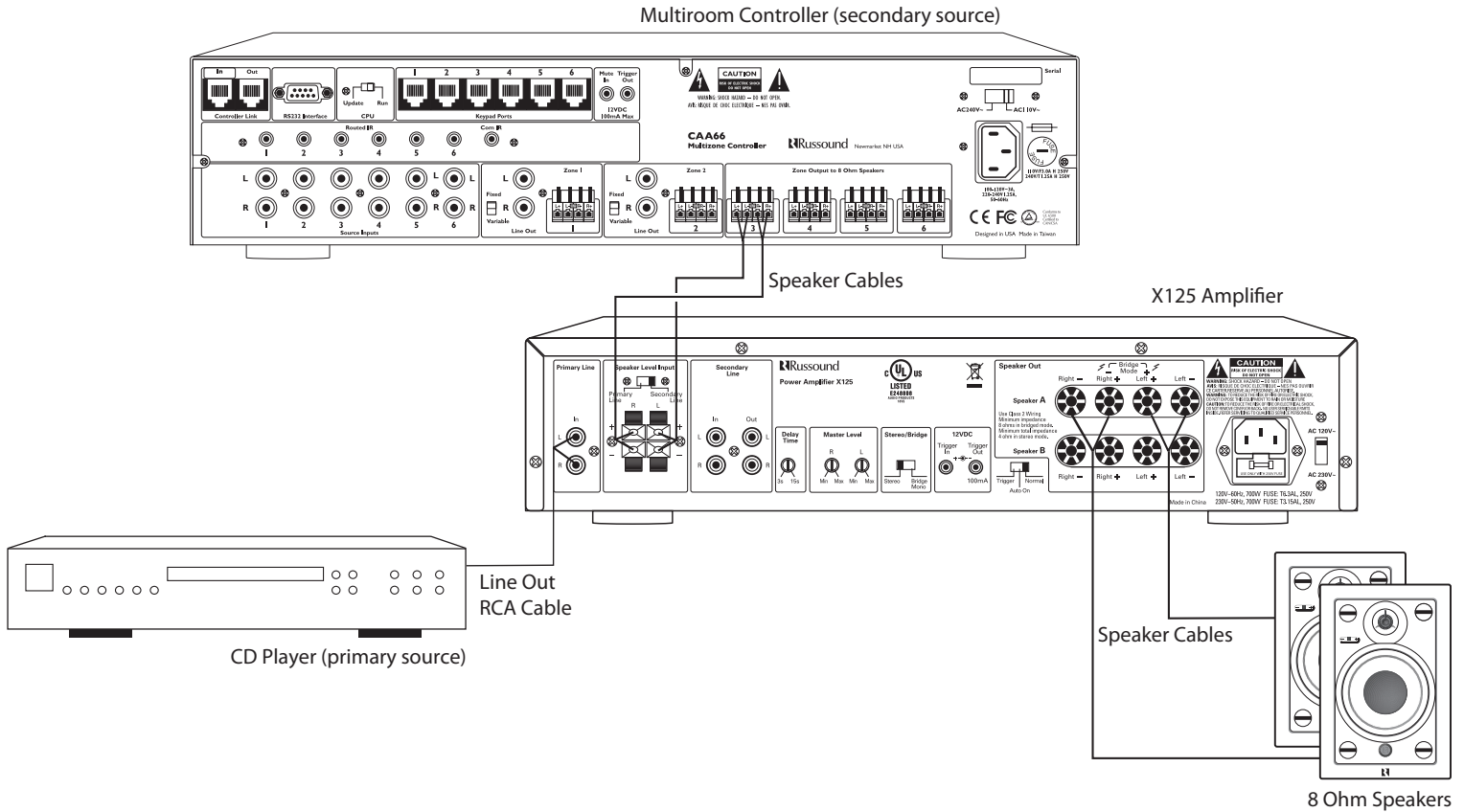
**Note:** This works with all incoming signals, line level or speaker level.

### Speaker Level Signal

If you have a source that is only available as a speaker level signal, connect it to the Speaker Level Input terminals, using the spring loaded terminal block and observing proper polarity. Only one set of speaker level inputs can be utilized and assigned by the selector switch.

Set the switch to Primary or Secondary. This forces the input to act as either the primary or secondary input.

Only one type of input (speaker or line) should be assigned to each input. When using the Speaker Level Input, and it is switched to the Secondary position, the high-level signal will not pass to the Secondary Line RCA output.



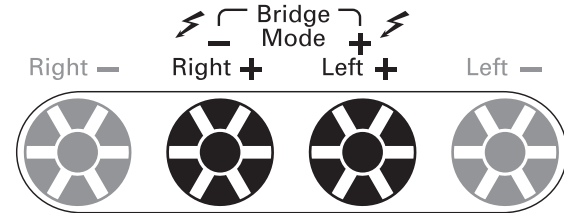
Stereo Mode Configuration with Dual Sources  
(CD player is primary source)

# SYSTEM CONFIGURATION - BRIDGED MODE

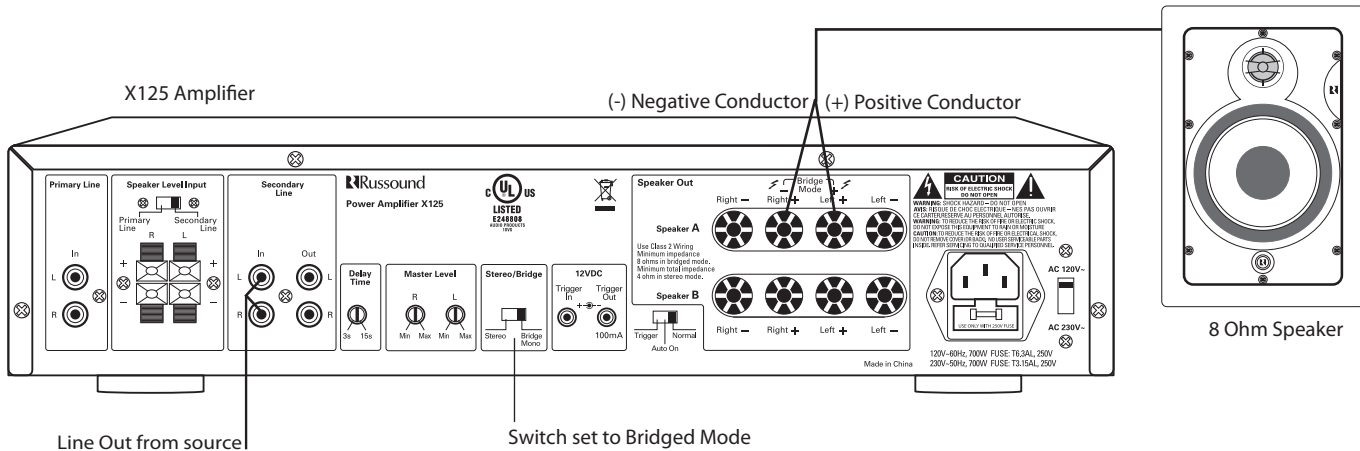
## Bridged Mode

In this mode both the left and right channels are combined for a higher power mono output. For proper operation, the Master Level left and right channel adjustment on the back panel should be set to the center position to start and then adjusted appropriately from there.

1. Unplug the amplifier.
2. Set the Stereo/Bridge switch to Bridge Mono.
3. Connect the line out from a preamplifier or source to the Left and Right Primary input jacks of the amplifier.
4. Connect the negative lead (-) of the speaker cable to the R(+) terminal. Connect the positive lead (+) of the speaker cable to the L(+) terminal. (See the markings above the terminals on the rear panel). An 8 Ohm minimum load is recommended.
5. Restore power to the amplifier.
6. Be sure to equally adjust the Master Level right and left.



Bridged Mode Connection Detail



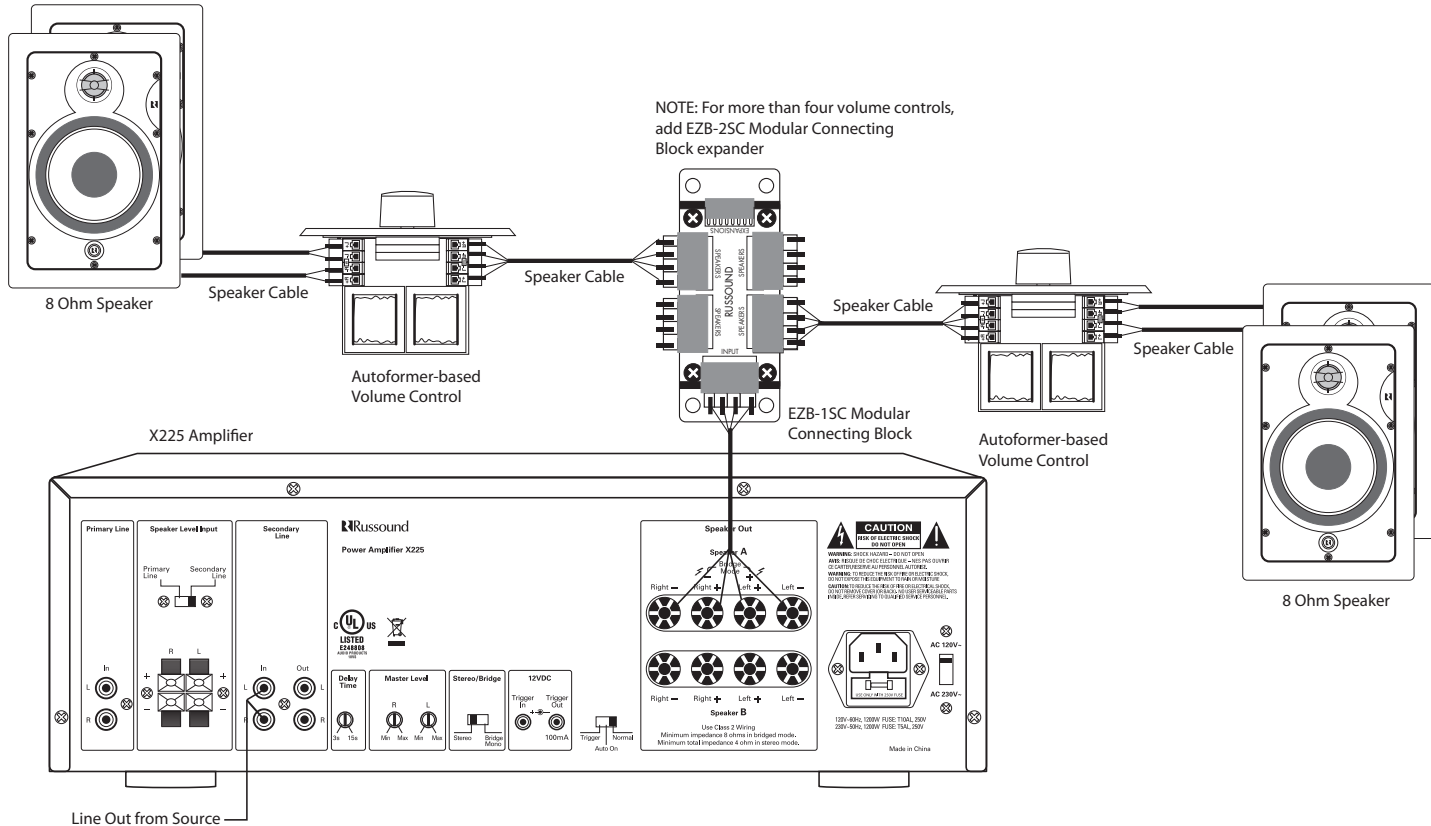
Bridged Mode Configuration



## System Configuration with External Volume Control

The X125 and X225 amplifiers can be configured for large autoformer-based volume control systems or speaker selectors. Connect up to eight (total) impedance matching volume controls to the amplifier on speaker A and B outputs (e.g., 8 on 'A' and none on 'B', 4 on 'A', 4 on 'B', etc.)

Each amplifier has a minimum 4-ohm load in stereo mode, and minimum 8-ohm load in bridged mode.



Configuration with Autoformer Volume Control

## TECHNICAL SPECIFICATIONS

### *X125 Amplifier*

<b>Continuous Output Power:</b>	80W per channel at 8 ohms ( $<0.2\%$ THD+N) 125W per channel at 4 ohms 250W bridged mono at 8 ohms
<b>Signal-to-Noise Ratio:</b>	$>93$ dB A-weighted
<b>Crosstalk:</b>	$>70$ dB @ 1 kHz, ref. to rated power @ 8 ohms
<b>Frequency Response:</b>	20Hz to 20kHz $+0.0$ dB/ $-0.5$ dB @ 8 ohms, 1W
<b>Input Sensitivity:</b>	500mV for 80W at 8 ohms
<b>Power Requirements:</b>	120VAC 60Hz 230VAC 50Hz IEC 320 type connector with 3 terminal detachable power cord.
<b>Dimensions:</b>	16.5"W x 13.75"D x 3.5"H (41.9 x 34.9 x 8.9 cm)
<b>Weight:</b>	25.6 lbs. (11.52 kg)

### *X225 Amplifier*

<b>Continuous Output Power:</b>	150W per channel at 8 ohms ( $<0.2\%$ THD+N) 225W per channel at 4 ohms 470W bridged mono at 8 ohms
<b>Signal-to-Noise Ratio:</b>	$>93$ dB A-weighted
<b>Crosstalk:</b>	$>70$ dB @ 1 kHz, ref. to rated power @ 8 ohms
<b>Frequency Response:</b>	20Hz to 20kHz $+0.0$ dB/ $-0.5$ dB @ 8 ohms, 1W
<b>Input Sensitivity:</b>	500mV for 150W at 8 ohms
<b>Power Requirements:</b>	120VAC 60Hz 10A 230VAC 50Hz 5.2A IEC 320 type connector with 3 terminal detachable power cord.
<b>Dimensions:</b>	16.5"W x 13.75"D x 5.25"H (41.9 x 34.9 x 13.3 cm)
<b>Weight:</b>	34.2 lbs. (15.4 kg)

**Warranty**

The Russound X125 and X225 Power Amplifiers are 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.



# **X125 - X225**

## **Dual Source Power Amplifiers**

### **Installation Manual**

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