

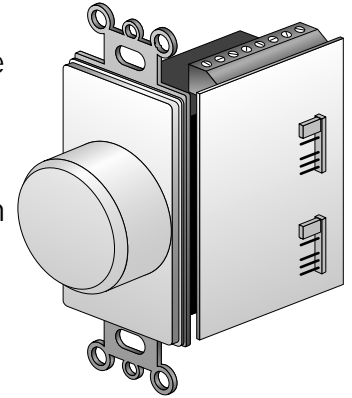
## **XLT Wall Mount Volume Control**

# **Instruction Manual**

## 1. Introduction

The XLT Stereo Volume Control is a wall-mount, Decora®-style, stereo speaker volume control with built-in impedance-matching capabilities. It connects between the speaker-level output of an amplifier or receiver, speaker selector, etc. and a pair of speakers. The application of the XLT is to adjust the volume of the connected speakers.

The XLT adjusts the volume of the speakers connected to it by adjusting the signal from the amplifier to the speakers. All Russound volume controls are manufactured using a high-quality autotransformer design. Autotransformers provide excellent frequency response and efficient use of amplifier power.



## 2. P-Ring and Electrical Boxes

The depth of the volume control is 2 3/4". A minimum 20 cubic inch junction box, or backless junction box (P-ring) is required for mounting. Some building codes require that all low voltage devices be enclosed in electrical boxes. Check your local building code.

## 3. Type of Speaker Wire

For most applications, we recommend you use 16 or 14 gauge, stranded copper speaker wire for the XLT volume control. For wire runs longer than 100 feet, 14 gauge wire is recommended. Do not use wire that is larger than 14 gauge, as it may not fit into the junction box and it will not fit the connector on the XLT control. Never use solid or aluminum electrical wire. When running speaker wires inside the walls, most states and municipalities in the U.S. specify that you must use a speaker cable with a minimum fire rating of "CL-2" or "CL-3". Consult your Russound dealer or electrician. Russound offers "CL-3" rated speaker cable which is multi-stranded and enclosed in temperature resistant PVC jackets specifically designed for this application.

**ELECTRICAL CAUTION!** Do not install your volume control in the same junction box with any electrical device. Check the National Electric Code for minimum distance required for low voltage devices.

## 4. XLT Stereo Wall Mount Volume Control Operation

The Russound XLT volume control is a combination of a standard and impedance-matching control. When used with an impedance-matching speaker selector, the XLT volume control should be set in the X1 jumper position. In this position, the speaker selector is providing the impedance matching and protection. When there is no impedance-matching speaker selector in the system, the jumper on the volume control must be set in a position that correctly multiplies the impedance of the system to a level that is equal to or greater than the impedance of the amplifier. This will protect the amplifier from damage, and the jumper setting can be determined using the following simple steps.

**Step #1** - Determine the minimum impedance capability of the amplifier. Normally, this information can be found near the speaker output terminals on the back of the amplifier. (Look for a measurement in OHMS.)

WRITE THE MINIMUM IMPEDANCE HERE: \_\_\_\_\_

**Step #2** - Determine the impedance of the speakers. Most speakers have this information printed on the back near the speaker terminals. Most speakers are 4Ω or 8Ω.

WRITE THE IMPEDANCE HERE: \_\_\_\_\_

\* If you are using speakers of different impedances, you need to determine the average or common impedance. For example, a pair of 4Ω speakers can be considered 2 pair of 8Ω speakers.

**Step #3** - Count the number of pairs of speakers connected to the amplifier.

WRITE THE NUMBER OF PAIRS HERE: \_\_\_\_\_

**Step #4** - By dividing the impedance of the speakers ( step #2) by the number of pairs of speakers (step #3), you can determine the system impedance.

**EXAMPLE:** 8 ohm speakers ÷ 4 pair of speakers = 2 ohm system impedance.

**Step #5** - Determine the proper jumper setting by dividing the amplifier impedance (step1) by the system impedance (step 4). Note: if the resulting number is between 2 and 4, use 4X; if it is between 4 and 8, use 8X; if it is greater than 8, reduce the number of pairs of speakers.

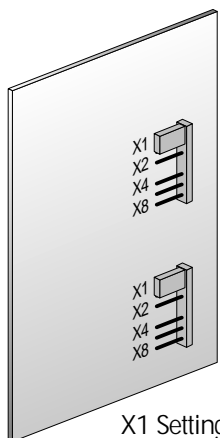
**EXAMPLE:** 8 ohm amplifier impedance ÷ 3 ohm system impedance = 2.7 jumper setting\*

\*because 2.7 is between 2 and 4, use the X4 jumper setting

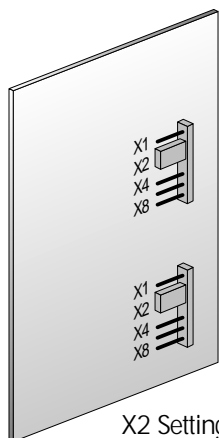
**X1 setting:** Use this setting only when the XLT volume control is used with an impedance-matching speaker selector.

The X2, X4 and X8 settings are used when you are not using an impedance-matching selector. Now that you have determined the proper jumper settings, set all the volume controls in the system to the same setting (see diagrams below). The XLT has jumper settings on one side of the circuit board: X1, X2, X4 and X8.

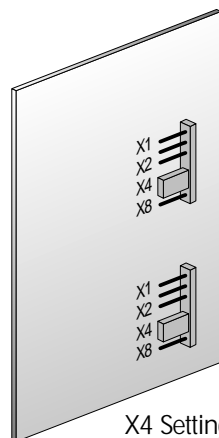
**IMPORTANT:** If you are unsure of any of the installation procedures, the volume control should be installed by a professional custom installer.



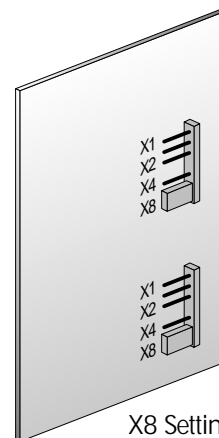
X1 Setting



X2 Setting



X4 Setting



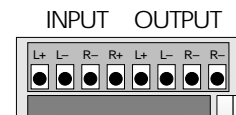
X8 Setting

## 5. Wiring Instructions

**Tools Needed:** 1/8" & 1/4" slotted screwdrivers. Wire stripper.

### Step #1

Strip 1/8" of insulation from the ends of all the wires that will be connected to the volume control. If necessary twist or solder the ends to keep from fraying and shorting to the other wires. CAUTION: Do not reverse the input and the output connections.



### Step #2

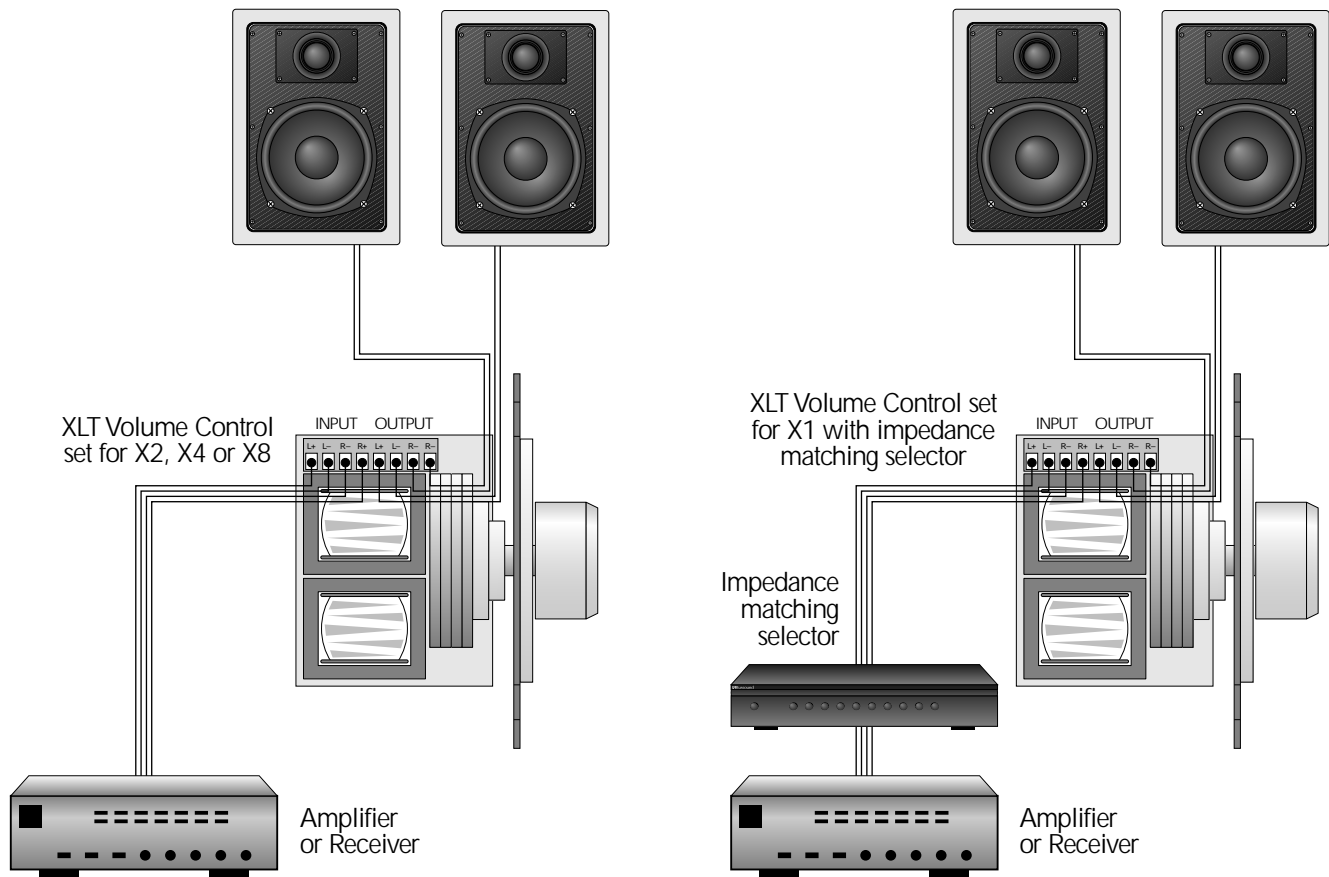
Connect the leads from the amplifier or speaker selector to the connector labeled "input". The wires should stay consistent, left+ of the amplifier to the left+ input of the volume control, observing polarity and identification.

### Step #3

As outlined in step #2, connect the speaker wires to the connector labeled "output".

## Operation

1. Make sure the amplifier or receiver is OFF and set the volume to minimum.
2. Set the XLT volume control to maximum (fully clockwise).
3. If you are using a Russound speaker selector system, locate the On / Off button which corresponds to the speaker pair you wish to play. Set it to the On position.
4. Turn on the amplifier or receiver and select a source such as a CD player.
5. Slowly turn up the amplifier or receiver volume and set it to a comfortable listening level. Be careful not to overdrive the amplifier. If the sound becomes distorted, you have reached the limit of the amplifier's volume capability and you should quickly reduce the volume to avoid damaging the amplifier. Note - 12 o'clock on most receivers is full volume.
6. Adjust the volume of the speakers to the desired listening level using the XLT volume control.



- You can turn off the speakers in each room by turning the knob on the XLT volume control completely counter-clockwise, or by pressing the corresponding On/Off button on your speaker selector.

## 6. Specifications

Power Handling: 75 Watts.

# of steps: 12 steps, including "Off".

Total Attenuation: 43dB

Impedance multiplier: X1, X2, X4 and X8.

Frequency response: 20-20kHz, +1.5/ -1.5dB at rated power.

Features: 2 channel stereo control.

Can be used with 4 ohm or 8 ohm speakers.

Up to 16 pairs of 8 ohm speakers can be connected to a 4 ohm amplifier.

Terminals: Accommodate up to 14 gauge wire.

Requires: single gang junction box at least 2 3/4" deep.

## 7. Limited Warranty

The Russound XLT Volume Control is fully guaranteed for Ten (10) years from the date of purchase against all defects in materials and workmanship. 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 under the terms of the warranty. Russound assumes no responsibility for defects resulting from abuse or servicing performed by an agency or person not specifically authorized in writing by Russound. Damage to or destruction of components due to improper use voids the warranty. In these cases the repair will be made at the owner's expense. To return for repairs, the unit must be shipped to Russound at the owner's expense, along with a note explaining the nature of the service required. Be sure to pack in a corrugated container with at least 3 inches of resilient material to protect the unit from damage in transit.

# Russound

A/V DISTRIBUTION & CONTROL SYSTEMS

5 Forbes Rd. Newmarket, NH 03857

☎ 603.659.5170 • Fax 603.659.5388

e-mail: [tech@russound.com](mailto:tech@russound.com)

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