



# WALTx-2 Instruction Manual

## Weatherproof Volume Control



### Product Overview

The WALTx-2 Weatherproof Volume Control is designed to provide volume control for outdoor or wet locations and can be mounted on an exterior wall or hard, flat surface, as well as directly on a section of 3/4" PVC conduit. The WALTx-2 provides superior protection against moisture from rain, splash or sauna.

The WALTx-2 connects between the speaker outputs of an amplifier or receiver and a pair of speakers. The 1X setting allows the volume control to be used as a standard control. The 2X, 4X, and 8X settings allow it to be used as an UltraMatch™ control when more than one pair of speakers is connected to the same amplifier.

The UltraMatch™ volume control provides a method of matching the minimum output impedance of the amplifier or receiver, in addition to adjusting volume. It eliminates the need for a speaker selector or impedance matching equipment. The WALTx-2 adjusts volume level by attenuating the amplifier signal output of the WALTx-2 to the speakers.

All Russound Volume Controls are manufactured using a high-quality autoformer design which provides long life, excellent frequency response, no heat build-up, and maximum power transfer from the amplifier to the speakers.

All Russound WALTx-2 volume controls conform to UL Standard 1492 First Edition, and for Canada Certified to CSA Standard 22.2 No. 1-M94. This certification assures that your WALTx volume control has been designed and tested for safety.

### Determining the Proper Jumper Setting for Impedance Matching

The jumpers 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. The jumper setting can be determined using the following simple steps:

1. Determine the amplifier's minimum impedance. The amplifier's minimum impedance is usually found following Wattage and Frequency Response in the amplifier's specification page of the manual. It may also be listed on the back panel of the amplifier near the speaker terminals. AC impedance is measured in ohms.
2. From Fig. 1 identify the correct impedance-matching chart according to the amplifier's minimum impedance. There are two impedance matching charts, one for 8-ohm amplifiers and one for 4-ohm amplifiers. Choose the chart that describes your amplifier. If your amplifier is 6-ohm stable, use the 8 ohm chart.

3. Determine the impedance for each pair of speakers connected to the amplifier by referring to its manual.
4. Determine the total number of 4-ohm pairs of speakers. (Rows on charts)
5. Determine the total number of 8-ohm pairs of speakers. (Columns on charts)
6. Follow the appropriate row and column to determine jumper settings.

**Figure 1 Impedance Matching Charts For UltraMatch™**

Impedance Matching For 4 Ohm Amplifiers

		8 Ohm Pairs																
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
4 Ohm Pairs	0	-	1X	1X	2X	2X	4X	4X	4X	4X	8X	8X	8X	8X	8X	8X	8X	8X
	1	1X	2X	2X	4X	4X	4X	4X	8X	8X	8X	8X	8X	8X	8X	8X	8X	8X
	2	2X	4X	4X	4X	4X	8X	8X	8X	8X	8X	8X	8X	8X				
	3	4X	4X	4X	8X	8X	8X	8X	8X	8X	8X	8X						
	4	4X	8X	8X	8X	8X	8X	8X	8X	8X								
	5	8X	8X	8X	8X	8X	8X	8X										
	6	8X	8X	8X	8X	8X												
	7	8X	8X	8X														
	8	8X																

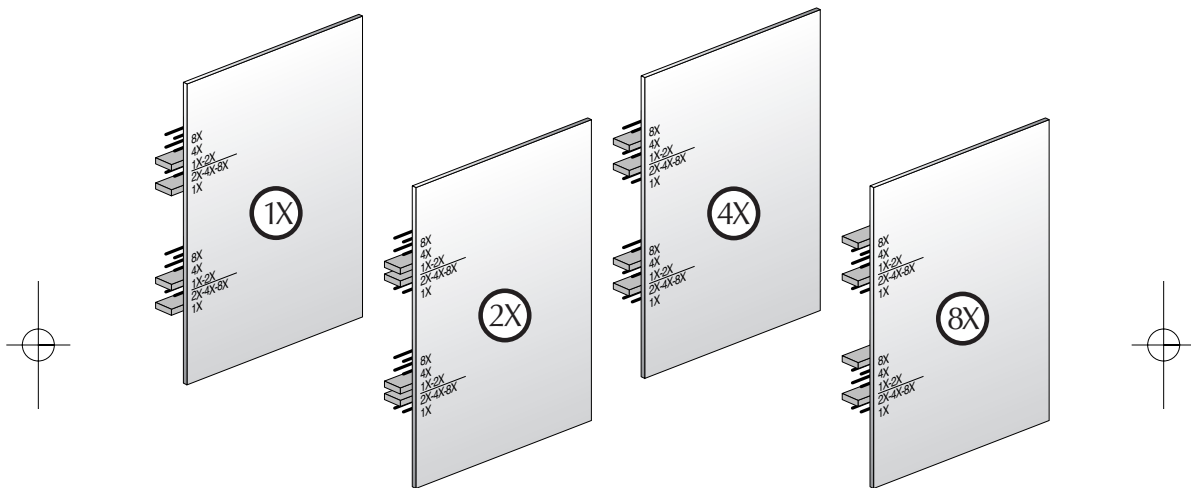
**Example:** The table to the right shows an 8-ohm minimum impedance amplifier with 1 pair of 4-ohm speakers and 3 pair of 8ohm speakers. The chart indicates the jumper setting should be set at 8X.

Impedance Matching For 8 Ohm Amplifiers

		8 Ohm Pairs								
		0	1	2	3	4	5	6	7	8
4 Ohm Pairs	0	-	1X	2X	4X	4X	8X	8X	8X	8X
	1	2X	4X	4X	8X	8X	8X	8X		
	2	4X	8X	8X	8X	8X				
	3	8X	8X	8X						
	4	8X								

Once the jumper setting has been determined, set the jumpers to the appropriate positions, either 2X, 4X, or 8X, as shown in Fig. 2.

**Figure 2 Jumper Settings On Circuit Boards**



### Considerations

1. Make sure that your amplifier has adequate wattage for the number of speakers. Watts per channel divided by the number of pairs should equal or exceed the individual speaker's minimum wattage requirements.
2. You must use an UltraMatch™ volume control for each pair of speakers.
3. Every jumper setting must be set on the same setting throughout the system.
4. A minimum speaker load of 4 ohms can be connected to the output of each UltraMatch™ volume control.

### EZB Connecting Blocks

The EZB-1 and EZB-2 connecting blocks are Russound accessories that simplify connections of multiple volume controls and speaker pairs. The EZB-1 is a neat, compact wiring device capable of connecting four volume controls to an amplifier's outputs. The EZB-2 expands the EZB-1 to another four volume controls. Multiple EZB-2's can be used to expand the system to sixteen volume controls (using a 4-ohm amp and 8-ohm speakers).

### Wiring Instructions

(Refer to Figure 3 on page 6)

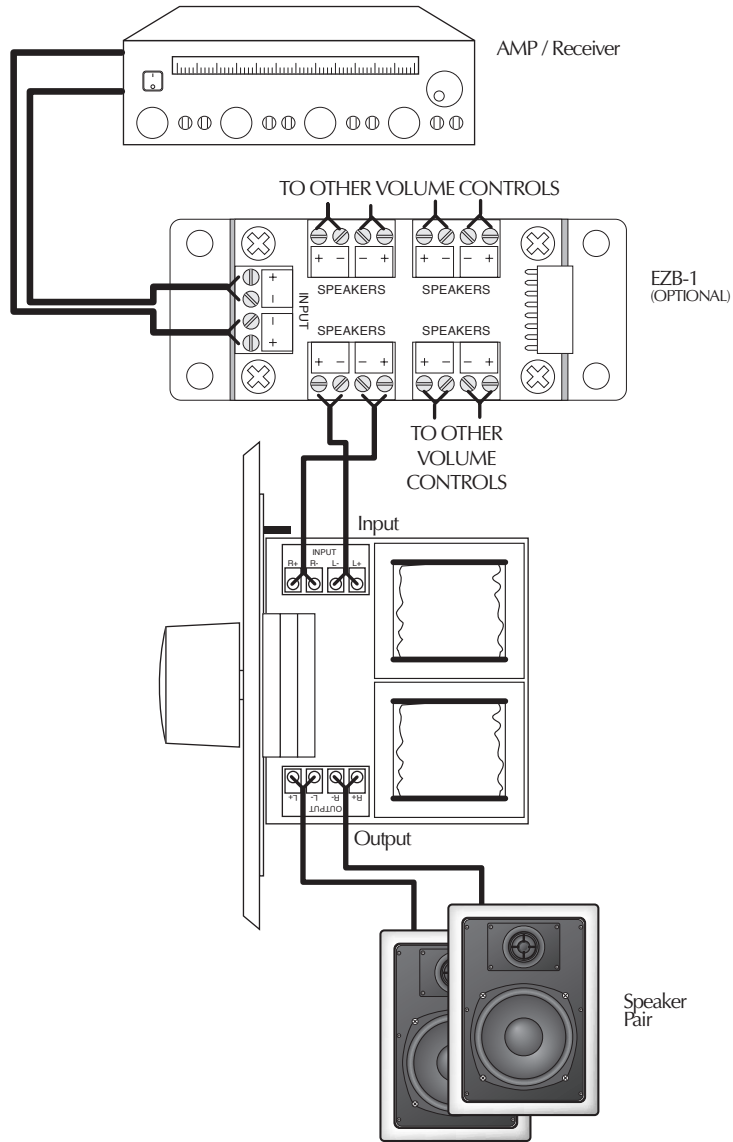
1. Connect the leads from the amplifier's outputs to the connector labeled input. The wires should stay consistent, left + of the amplifier to left + input of the volume control, observing polarity and identification.

#### **CAUTION: Do not reverse the input and output connections!!**

**CAUTION:** A majority of receivers are designed to operate at a rating of 8 ohms. On receivers that offer A and B speaker outputs, both A and B connections share the same amplifier. It is important to note, due to the way many receivers are wired, that when using impedance matching devices, such as UltraMatch™ volume controls, it is recommended to wire only to the A output. If you have any questions contact Russound directly.

2. As outlined in step #1, connect the speaker wires to the connector labeled output.
3. Install the completed assembly in an 18-ci single-gang junction box. Insert carefully to avoid excessive strain on the connector. Taking the time to feed the excess wire out the back of the junction box will help you with the final assembly.

Figure 3



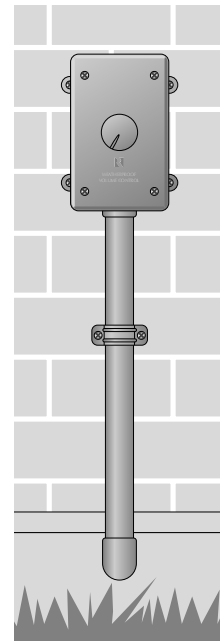
### Installation Instructions

1. Select a suitable location for the WALTx-2. The WALTx-2 can be mounted to a hard surface (Fig. 4) or can be placed directly onto 3/4" PVC conduit (Fig. 5). Do not permanently mount the WALTx-2 until you have completed installation steps 2 - 6. Make sure that the WALTx-2 can be accessed easily with the intended mounting position.
2. Run all outdoor wires through 3/4" PVC conduit. Wiring to the speakers can be made by branching off the volume control's conduit using T-junctions, or by running a separate line of conduit from the interior of the home. See Fig. 5 for typical system wiring.
3. Wire the WALTx-2 as described in the **Wiring Instructions** section.
4. Be sure to test the WALTx-2 and speaker operation before attempting to secure the PVC junctions (see **Operation Instructions**). Also be sure to test the integrity of your wire connections since all of the connections will be permanently sealed in the conduit.
5. Once the system has been tested and you are sure that the connections are secure, seal the conduit using PVC adhesive. Be sure that all PVC junctions and terminations are watertight. Blowing into the open end of the conduit is one way to help find possible leaks. If the conduit loses pressure, there is probably a leak.

**NOTE:** *Insufficient sealing at any point of the conduit network may cause moisture to build up inside the WALTx-2 Volume Control. This may cause malfunction if corrosion occurs.*

6. If the WALTx-2 is to be mounted to a hard surface, such as an exterior wall, use four screws and appropriate mounting anchors to permanently mount it.

Figure 4



### Operation Instructions

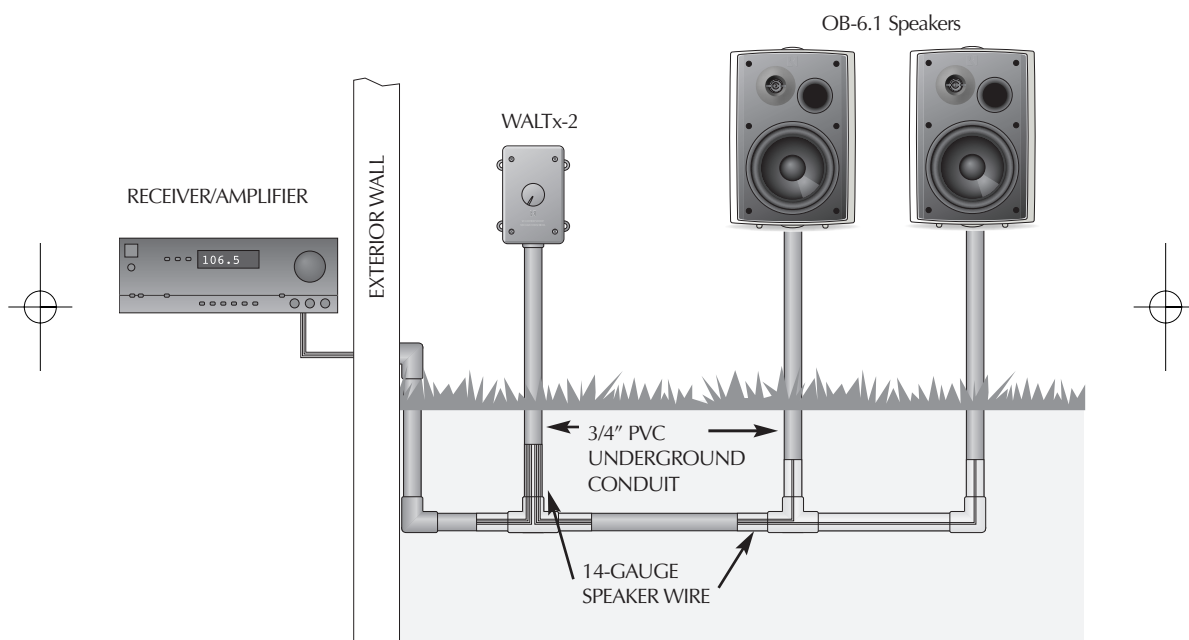
1. Make sure the amplifier/receiver is turned OFF and the volume is set to minimum.
2. If you are using a Russound speaker selector system, locate the ON/OFF button which corresponds to the speaker pair you wish to play. Set the button to the ON position.
3. Set the WALTx-2 volume to maximum (fully clockwise).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

**NOTE:** *If the volume control's autoformers get warm or vibrate, turn the amplifier/receiver down. If the amplifier is driven to this "clipping" state, it and/or the volume control may become damaged.*

6. You can turn OFF the speakers by turning the knob on the WALTx-2 fully counterclockwise, or by pressing the corresponding ON/OFF button on your speaker selector.



Figure 5



### Specifications

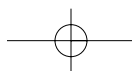
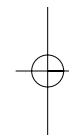
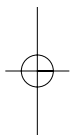
Power rating /channel: 126 watts power handling, 42 watts RMS continuous

Frequency Response: 20Hz - 20kHz, +1 / -0.5 dB at rated power

Attenuation: 12 steps, including "Off"  
43dB total attenuation

Wire Size: Maximum wire size of 12 AWG

Case: Weatherproof PVC plastic sealed case



## Warranty Repair

The Russound WALTx-2 Volume Control is covered by a Limited lifetime Warranty against 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, 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
- Products 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.

# Russound®

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