

ZLoc Volume Control User's Installation and Wiring Guide

High Quality Stereo Autoformer, Multiple Speaker Impedance Matching, 12 Step, Make Before Break Switching Volume Control

It is important to match your amplifier impedance to your speakers. With ZLoc volume controls by Current Audio, you now can make virtually any amp/speaker combination work well together. The ZLoc design uses an autoformer that multiplies the speaker impedance to present an optimum balanced load to the amplifier for maximum transfer of power with no signal loss.

As you turn down the volume level the impedance level goes down and the current capability goes up. This preserves low level details, tone and dynamic changes. Our design does not attenuate by wasting energy as heat.

There are 12 separate volume levels controlled by the quiet acting knob on the "decora" style plate. The lowest setting is OFF. At the maximum setting the load follows the amplifier signal. The volume is reduced in -3db steps by doubling the resistance of the load in each step from max to OFF.

Jumpers on the ZLoc circuit board allow the connection of up to 8 pairs of speakers to your amplifier to control all pairs simultaneously. Or connect one ZLoc to each pair of speakers for individual control.

Wire connection is made by two (2) locking detachable positive screw down terminals. The Input is for connection to the amplifier and the output terminal is for connection to the speakers. The terminals can accommodate up to 16 gauge wire. ZLoc fits a standard 18 cubic inch single gang electrical box or open back box.



| SPECIFICATIONS for ZLoc Volume Control | ZL45R | ZL60S |
|--|--------------------------------|-------------------------------|
| Plate Style | Decora | Decora |
| Control Switch Silent Step | 12 Step Rotary Knob | 12 Step Slide Switch |
| Frequency Response | 42Hz-20kHz | 40Hz-20kHz |
| Power Handling | 45 Watt RMS | 60 Watt RMS |
| Pairs of Speakers by Jumper Position | 1-2-4-8 | 1-2-4-8 |
| Depth Behind Plate X Height of Circuit Board | 2.688" (6.8cm) X 2.87" (7.3cm) | 2.688" (6.8cm) X 2.87"(7.3cm) |

| | |
|-------------|--|
| Part Number | 92034 ZL45RW; 92035 ZL60SW; |
| Manual URL | www.currentaudio.com |
| Accessories | Dual Gang, Triple Gang Decora Plate Volume Control Finishing Kit (Bone/Ivory/Black) |



ZL45R



ZL45R



ZL60S



ZL45R



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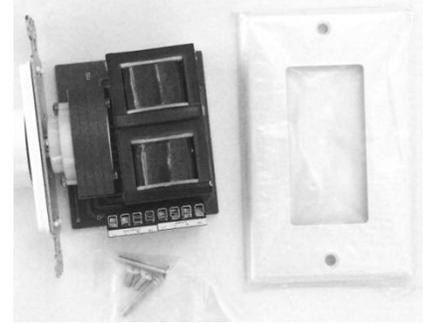
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Packaging and Enclosed Parts

Please inspect your pack for damaged or missing parts. Notify your supplier if any discrepancies occur. There are only three(3) parts in the package: (1) ZLoc Volume Control (1) Screw Pack and (1) decora cover plate. The volume controls are shipped in WHITE. Bone, Ivory or Black color kits are available.

Only simple hand tools are required for assembly and installation.

Required tools: Small blade flathead screwdriver for Terminal Strip. Regular size flathead screw driver for mounting ZLoc Volume Control to box and decora cover plate.



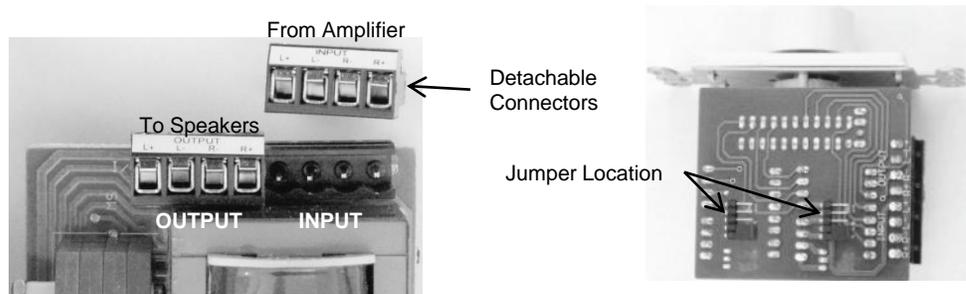
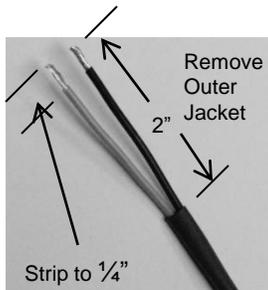
1 Preparation and Install

1. At the volume control location, carefully remove about 2" of the outer jacket of both the cable from the amplifier and that going to the speakers.
2. Then Strip back 1/4" of the insulation on the individual wires. Now twist the strands to prevent any whiskers that could cause shorts.
3. The wires from the amplifier will connect to the terminal strip labeled INPUT. Wires to the speakers will connect to the OUTPUT terminal.
4. Insert the RED (+) wire from the Right Speaker into the OUTPUT terminal R+ and The Black (-) wire into R-. Tighten screws with small blade flathead.
5. Insert the RED (+) wire from the Left Speaker into the OUTPUT terminal L+ and the Black (-) wire into L-. Tighten screws with small blade flathead.
6. Insert the RED (+) wire from the amp Right Channel into R+ of the INPUT terminal and the Black (-) wire to the R-. Tighten screws.
7. Insert the White (+) wire from the amp Left Channel into L+ of the INPUT terminal and the Green (-) wire into the L-. Tighten screws.

NOTE: The cable from the amp is normally a 4 conductor with Red, Black, White and Green conductors. If your wires are different follow the coding from the amp and make identical to the ZLoc volume control. Reversing polarity of speaker wires will cause canceling of frequencies and poor acoustics.

WARNING: Make sure there are no whiskers or wire strands from one terminal hole touching another.

Give a slight tug on each wire to insure proper locking tension from the screw. The wires should not come out of hole if tightened correctly.



2 Jumper Setting

In this step you will set the two (2) Jumpers on the circuit board to reflect the proper impedance for the number of speaker pairs on the system. Refer to the above picture. The following assumptions apply; your amplifier is an 8 ohm source and you are using 8 ohm speakers. If you are using a 4 ohm amplifier or if you are using 4 ohm speakers or a combination of 4 ohm and 8 ohm speakers then use the next higher Jumper setting. See Tables below. Do not install the Zloc volume control into the electrical box just yet. You want to test with the amp before final closure.

The ZL45R has 1-2-4-8 setting Jumpers and the ZL60S has jumpers for 2-4-8. These settings correspond to the maximum number of pairs of speakers you will connect to the amp or individual ZLoc volume control. **Note:** If using the ZL60 with only one pair of speakers use the X2 Jumper settings.

The ZLoc volume controls are usually shipped with the Jumpers in the highest settings. If you leave the Jumpers at this setting with only one or two pairs of speakers the volume level at each speaker will be greatly reduced. It is important to set the Jumpers for the correct balance ratio of speaker pairs to the output of the amplifier for maximum transfer of power without the necessity of increasing amplifier sound volume level to compensate.

Jumper Settings for 8 ohm Amplifier

Refer to the Table for Jumper Settings

With an 8 ohm amplifier if you have 2 pair of 8 ohm speakers then the correct setting for Jumpers is 2X. For 3 pair it would be 4X. 5 pair would be 8X.

If you have 4 ohm or a mixture of 4 and 8 ohm speakers then use the 4 ohm or Mixed Speaker Pairs column. In this case if you have a 2 pair mixture of 4 and 8 ohm speakers your setting would be 4X. 3 pair 8X.

| | | 8 ohm Speaker Pairs | | | | | | | | |
|--|---|---------------------|---|---|---|---|---|---|---|---|
| | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 4 ohm or Mixed Speaker Pairs | 0 | | | | | | | | | |
| | 1 | 2X | | | | | | | | |
| | 2 | 4X | | | | | | | | |
| | 3 | 8X | | | | | | | | |
| | 4 | 8X | | | | | | | | |

Specifications subject to change without notice.

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Jumper Settings for 4 ohm Amplifier

Refer to the Table for Jumper Settings

With a 4 ohm amplifier if you have 2 pair of 8 ohm speakers then the correct setting for Jumpers is 1X.
For 3 pair it would be 2X. 5 pair would be 4X.

If you have 4 ohm or a mixture of 4 and 8 ohm speakers then use the 4 ohm or Mixed Speaker Pairs column. In this case if you have a 2 pair mixture or 4 and 8 ohm speakers your setting would be 2X. 3 pair 4X. 5 pair 8X.

| | | 8 ohm Speaker Pairs | | | | | | | | | | | | | | | | |
|--|---|---------------------|-------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 8 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 4 ohm or Mixed Speaker Pairs | 0 | | 1X | 1X | 2X | 2X | 4X | 4X | 4X | 4X | 8X |
| | 1 | 1X | Jumper Positions | | | | | | | | | | | | | | | |
| | 2 | 2X | | | | | | | | | | | | | | | | |
| | 3 | 4X | | | | | | | | | | | | | | | | |
| | 4 | 4X | | | | | | | | | | | | | | | | |
| | 5 | 8X | | | | | | | | | | | | | | | | |
| | 6 | 8X | | | | | | | | | | | | | | | | |
| | 7 | 8X | | | | | | | | | | | | | | | | |
| | 8 | 8X | | | | | | | | | | | | | | | | |

3 Test

Initial test before flushing the ZLoc volume control into the wall and attaching the Decora cover plate.

1. Turn the Zloc volume control to the full clockwise setting. (11 clicks CW from OFF)
2. Make sure the speaker wires on the amp are correct for phase and polarity with no cat whiskers that could cause shorts.
3. Turn the volume on the amp to zero or counter clockwise.
4. Turn on the amp and select a good source such as a CD player.
5. Now slowly turn up the amp to no more than 25% volume and listen for sound at your speaker zone.
6. If the sound appears to be acceptable then proceed step 7.
7. Next adjust the amplifier maximum volume level to the most comfortable listening for you zone.
8. If all is satisfactory, gently push the ZLoc volume control into the outlet box. Do Not force it or the Terminal block may dislodge.

NOTE: With the amplifier level set and the ZLoc volume control set to maximum your speakers should be protected and users will not be able to blast the sound in that zone. This technique should provide the best sound quality for your room.

Caution: The most typical error in Volume control installation is having the Jumper setting too high and having the volume control level too low then trying to overcompensate by increasing the volume of the amplifier. By doing this you put unnecessary strain on the amplifier. This could lead to overloading the amplifier causing clipping, amplifier shutting down and/or poor sound quality in the least.

4 Troubleshooting

If you vigilantly followed the Preparation and Installation steps you should have no problems.

If problems exist, pay particular attention to the wire strands that are not seated properly that could cause shorts or cross talk in the wiring at both the amp and the ZLoc volume control.

The next area of concern is the proper setting of the Impedance Matching Jumpers. Make sure both jumpers are set identical to each other and that they are set to the proper speaker pair according to the Matrix for your 4 or 8 ohm amp as shown in section 2.

The ZLoc has positive locking Terminal Blocks. Make sure they are both fully pushed down and seated in the correct positions. You will hear a snap. Verify the Block is in correct position by checking underside of circuit board.

| Trouble | Possible Cause | Possible Solution |
|---------------------------------------|------------------------------------|----------------------------------|
| Uneven Attenuation | Terminal Block Not Seated Properly | Install Terminal Block correctly |
| Amplifier Overloads and/or Shuts Down | Short in Wiring | Check for shorts at ZLoc and Amp |
| | Incorrect Jumper Setting | Set Jumpers Properly |
| No Audio from Speakers | Terminal Block Not Seated | Insert Terminal Block Completely |

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5 Considerations

- Do Not run speaker wires parallel to electrical wiring, including telephone, computer and intercom wires.
- All speaker wires should be at least 16" away from all electrical wiring.
- Route speaker wire in next stud bay over from volume control location then turn at 90 degrees to top of box.
- Do not install behind doors or other inconvenient locations. Next to light switches is customary.
- If local Code permits use a open back mud or P ring. This will provide the most ease and access for installation.
- 16 gauge stranded jacketed CL fire rated speaker wire is recommended.
- It is suggested that each 4 conductor amplifier wire be home run from ZLoc to amplifier location to aid in future troubleshooting.
- Do Not install in electrical boxes with 110VAC present.
- Speaker selector boxes are not necessary with the ZLoc.
- Chose an amplifier that can deliver the proper amount of watts for the number of speaker pairs in your application. A rule of thumb would be to divide the number of speaker pairs into the watts per channel of the amp.
- It is recommended to use one ZLoc volume control for each pair of speakers.
- Every ZLoc volume control in the system must have the exact same Jumper setting.
- The ZLoc should Not be connected to amplifiers with lower than a 4 ohm output load.
- Check for proper Phasing of your speakers. One easy way would be to connect a standard 1.5 Volt flashlight battery with the (+) of the battery to the (+) or RED of the speaker wire and the (-) of the battery to the (-) or BLACK of the speaker wire. This should cause the woofer cone to push out toward the grille. If it sucks in then you are out of phase.
- If only one speaker is out of phase it will cause an extreme loss of Bass and Low Mid frequencies to occur.
- Follow the speaker instructions for correct speaker placement.
- To properly hear Stereo the Sweet Spot distance should be the same distance to each speaker.

Limited Lifetime Warranty

Current Audio ZLoc Volume Controls are warranted to be free from defects in materials and or workmanship to the original retail purchaser provided the ZLoc Volume Control was purchased and installed from an Authorized Current Audio Dealer.

In the event of defective materials and or workmanship, Current Audio, LLC will, without charge, repair or replace, at its option, the defective product. In order to make claim under this Warranty and to obtain performance of any obligation under warranty, please contact Current Audio, LLC. Instructions will be given on how to return the defective product to Current Audio. Returned products must be shipped prepaid. Proof of purchase must be provided with the product.

The Warranty does not apply to damage not resulting from defective materials and or workmanship while in the possession of the original consumer or due to unreasonable use by the original consumer, which includes but not limited to improper installation, negligence, unauthorized repair or modification, and visual deterioration from the environment. Products purchased by unauthorized sources will void the warranty and not be honored. Damage due to applying excessive power to the volume control will void the warranty.

Current Audio, LLC is not liable for any property loss, economic damage, incidental or consequential damages. This warranty gives you specific legal rights, and you may have other rights, which vary from state to state within the United States, so the above limitations or inclusion may not apply to you.