INTRODUCTION
The VC60RIM and VC60SIM are impedance-multiplying stereo volume controls that feature 12 control positions, soft-touch action and silent switching capability. The VC60RIM incorporates a rotary control, the VC60SIM incorporates a slider control. Both volume controls can be safely used with amplifiers that deliver up to 60 watts RMS per channel.

When properly implemented, Sonance VC60RIM and VC60SIM allow the safe use of multiple pairs of speakers with amplifiers not specifically designed to run the low-impedance loads presented by multiple speakers. Adjustable impedance jumpers allow as many as 8 pairs of 8-ohm speakers (or 4 pairs of 4-ohm speakers) to be driven by a single 8-ohm capable amplifier.

APPLICATIONS
The VC60RIM and VC60SIM are designed to have a single pair of speakers connected to a single volume control. Their impedance-multiplying feature allows multiple volume control/speaker sets to be safely used with a single amplifier. The included adjustable impedance jumpers can be set to accommodate different total numbers of speaker/volume control sets.

Important Note: These volume controls are intended for use primarily in background music systems. The impedance jumpers increase the impedance seen by the amplifier, which reduces the amount of power reaching each pair of speakers, reducing the speaker's overall output capability. The more speakers being driven by a single amplifier through VC60RIM/SIM controls, the higher the impedance jumpers must be set and the lower the amount of power that will reach each speaker. Operating multiple sets of speakers through VC60RIM/SIM controls with jumpers set lower than recommended in order to increase the system's output capability can severely damage the amplifier.

If the system will include a pair of speakers intended for dedicated higher-volume music listening, we strongly recommend that those speakers be powered directly by a dedicated amplifier through a VC60R or VC60S standard volume control.

CONNECTIONS
WARNING: Turn the amplifier’s power OFF until you have completed all of the connections and have determined that they are correct. (If the amp’s AC plug is accessible we recommend that you unplug it from the wall outlet to avoid accidental turn-on and possible damage to the amplifier or speakers.)

The VC60RIM and VC60SIM have removable 4-pin screw connectors that simplify connecting the speakers and amplifier.

1. Bring the wires from the speakers and amp through a backless J-box.
2. Insert the speaker wires as shown into the holes in the 4-pin screw connectors. Make sure to insert the '+' and '-' leads into the correct holes (see illustration, below).
3. Using a small flat-blade screwdriver, tighten the screws to secure the wires in the connector.
4. Press the 4-pin screw connectors into the corresponding speaker terminals on the volume control until they lock into place.

5. Connect only 1 pair of speakers to each volume control. Connect multiple volume controls to the amplifier’s speaker terminals in parallel (see illustration, below). VC60RIM shown.

MOUNTING
WARNING: Do NOT install the volume control in the same electrical box as AC house wiring, a light switch or any other high-voltage device or control. The volume control can share gang boxes with other low-voltage controls such as A/B speaker switches, infrared receivers, and line-level audio or video devices if those other devices are rated as Class 2 devices according to the National Electrical Code.

Use the included hardware to mount the volume control in a single or double J-box as shown below. (Do not overtighten the screws.) Attach your choice of the included Decora® (VC60RIM/S) or standard (VC60RIM only) hardware.

Note: If you are installing the volume control into a typical plastic J-box you will have to remove the J-box’s back panel to accommodate the control.


**SETTING THE IMPEDANCE JUMPERS 1:**

Typical Installations (Speakers with Identical Impedance)

The VC60RIM/VC60SIM impedance adjustments protect the power amplifier by maintaining an overall impedance that’s high enough for the amplifier to operate safely into.

The impedance jumper position indicates how much the speaker’s original impedance is increased by the volume control. (The X2 position increases the speaker’s impedance 2 times, the X4 position increases a speaker’s impedance 4 times, etc.)

For example, a single 8-ohm speaker connected to an amplifier through a VC60RIM with the jumpers set as the X4 position would present a 32-ohm load to the amplifier. If four pairs of 8-ohm speakers were connected to an amplifier in parallel through four VC60RIM/VC60SIMs set to the X4 position, the amplifier would see a safe overall impedance of 8 ohms (8 x 4 = 32, 1/4 of 8).

1. Count the total number of speaker pairs the amplifier will be driving, and note their nominal impedance according to their manufacturer.
2. Set the impedance jumpers (right) according to the tables below by dipping the jumper blocks over the appropriate pair of blades. (Be sure to set both jumpers.)

**OPERATION:**

Setting the Maximum System Volume

Previous page: After you have set the impedance jumpers as shown on the page, you must set the maximum system volume before operating the system.

1. If the system has speaker/volume control combinations in more than one room, determine which room will be played the loudest.
2. Turn the amplifier’s volume control all the way down.
3. Feed the system a strong music signal.
4. Turn the volume control in the “loudest” room all the way up.
5. Gradually advance the amplifier’s volume control until the sound in the room is as loud as you’re likely to ever want it.
6. Bring the volume control in each room up to the loudest listening level for that room.

**WARNING:** Operating the system at a volume that causes amplifier clipping will — besides producing inferior sound quality — saturate the volume control transformers and can damage the volume controls, the amplifier and the speakers. If you hear audible distortion, lower the amplifier’s volume until the distortion disappears.

If the system produces inadequate volume with the amplifier’s volume set to just below clipping, remove some of the speaker/volume control combinations from that amplifier and add an additional amplifier(s) to the system to power them.

**WARNING:** Operating multiple sets of speakers through VC60RIM/SIM volume controls with impedance jumpers set to lower values than recommended in order to increase the system’s volume capability can damage the volume controls and amplifier. If the system produces inadequate volume with the jumpers set properly, remove some of the speaker/volume control combinations from that amplifier and add an additional amplifier(s) to the system to power them.