



# A 2312A

## 100W Impedance Matching Stereo Volume Attenuator

### Operating and Installation instructions

The "impedance matching volume control" is a new concept in self multi-room installation. It can be used either as a full range volume control, or as an Impedance matching unit that can be adjusted to meet the requirements of your installation. One simple adjustment can be made to accommodate addition to the installation at any time.

#### Features

- Can be used with any combination of 4 $\Omega$ , 8 $\Omega$  or 16 $\Omega$  speakers.
- Impedance adjusted by installing two shorting bars to appropriate terminal.
- 11 steps of attenuation: @ 3dB each, final 3 steps @ 6dB each. Total attenuation at 42dB and off.
- Frequency response: 35 - 20,000Hz (+0/ -2dB) @ rated power.
- Screw terminal connections
- Independent grounds for use with any amplifier
- Supplied with two faceplates to suit your decor

#### Installation considerations:

##### Type of speaker wire

For most applications, we recommend you use 16 or 18 gauge, standard copper speaker wire for the volume control connections.

For wiring runs longer than 24 metres (80 feet), 14 gauge wire is recommended.

##### Avoiding interference

Speaker wires can act as an "antenna" for electrical noise. Locating speaker wire too close to a light dimmer or switch may cause a "buzzing" or "popping" sound to be heard through the speakers.

If you must locate the volume control wiring near electrical devices, route the speaker wires several feet away from the electrical wiring.

##### Impedance correction

This process insures that the impedance load shown to the receiver or amplifier never goes below the rated capabilities of the receiver or amplifier.

See the table 1 for specific impedance loads that will be presented to your amplifier, depending on the number and specific impedance of the speakers that you are using.

#### Assembly Instructions

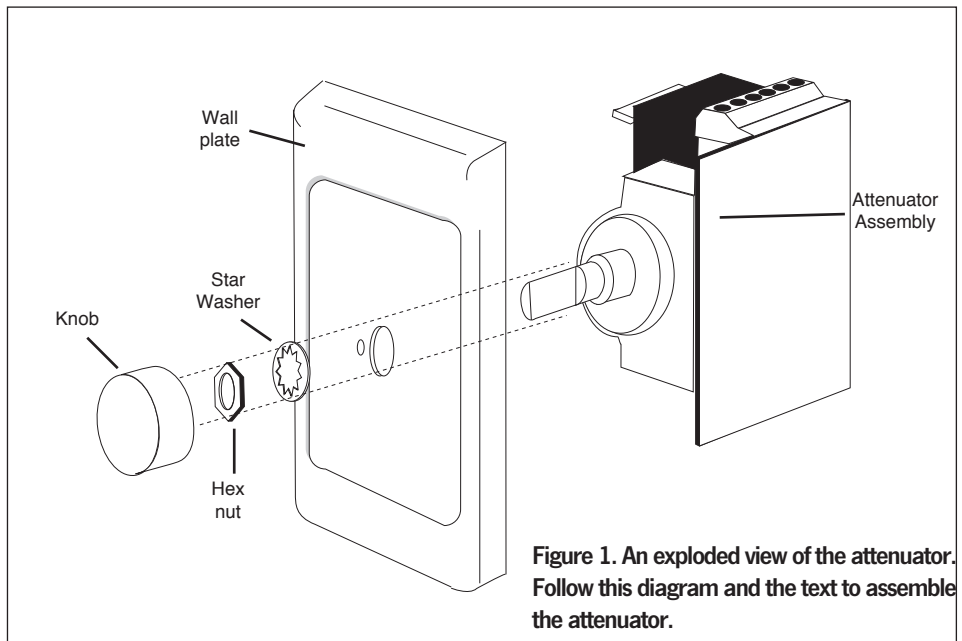
To assemble the unit follow the steps below.

1. Position the attenuator assembly with the terminals towards the top.
2. Screw the plate on the shaft checking that the locating pin is in the correct position.
3. Turn the rotary switch to the off position, i.e. all the way down. Place the knob on the shaft and secure the internal grubscrew.

#### Installation

1. Select a convenient mounting location for the volume control.
2. Run all the necessary wiring to the volume control. Label the wires for future reference.

3. Strip 3/8" of insulation from the end of each wire.
4. Tightly twist the end of each wire until there are no frayed ends.
5. Insert each wire into the appropriate hole on the removable connect terminal and screw - tightly.
6. Make certain that all connections between your amplifier, the volume control and each speaker are "phase correct". Positive to positive and negative to negative.
7. Power - on the amplifier. Turn the knob clockwise (step by step) to check the volume control action.



**Figure 1. An exploded view of the attenuator. Follow this diagram and the text to assemble the attenuator.**

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**Table 1 Impedance matching tabs**

**Amplifier Impedance**

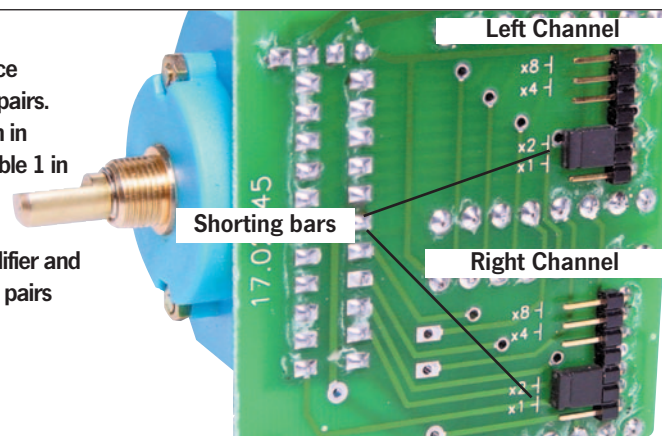
Speaker Z	2Ω		4Ω		8Ω	
	speaker pairs	shorting bars	speaker pairs	shorting bars	speaker pairs	shorting bars
4Ω	2	x 1	1	x 1	Na	x 1
	4	x 2	2	x 2	1	x 2
	8	x 4	4	x 4	2	x 4
	16	x 8	8	x 8	4	x 8
8Ω	4	x 1	2	x 1	1	x 1
	8	x 2	4	x 2	2	x 2
	16	x 4	8	x 4	4	x 4
	32	x 8	16	x 8	8	x 8
16Ω	8	x 1	4	x 1	2	x 1
	16	x 2	8	x 2	4	x 2
	32	x 4	16	x 4	8	x 4
	64	x 8	32	x 8	16	x 8

Table 1: Refer to this table when setting the impedance taps to suit the system and speaker impedances.

Note that both channels should be set to the same impedance setting.

**Figure 2:**

Terminal impedance matching shorting pairs. Follow this diagram in conjunction with table 1 in order to obtain the correct jumper setting for the amplifier and number of speaker pairs installed.



**Figure 3:**

Wiring diagram for the impedance matching attenuator. Follow this diagram and the text to wire up the unit to an amplifier and speaker.

