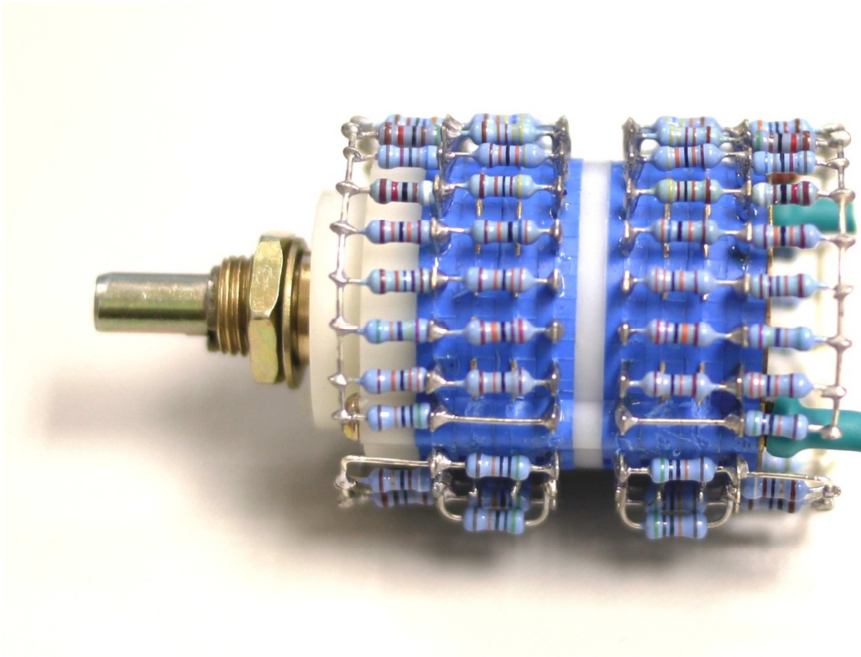


24 Step Ladder-Type Attenuator User Manual

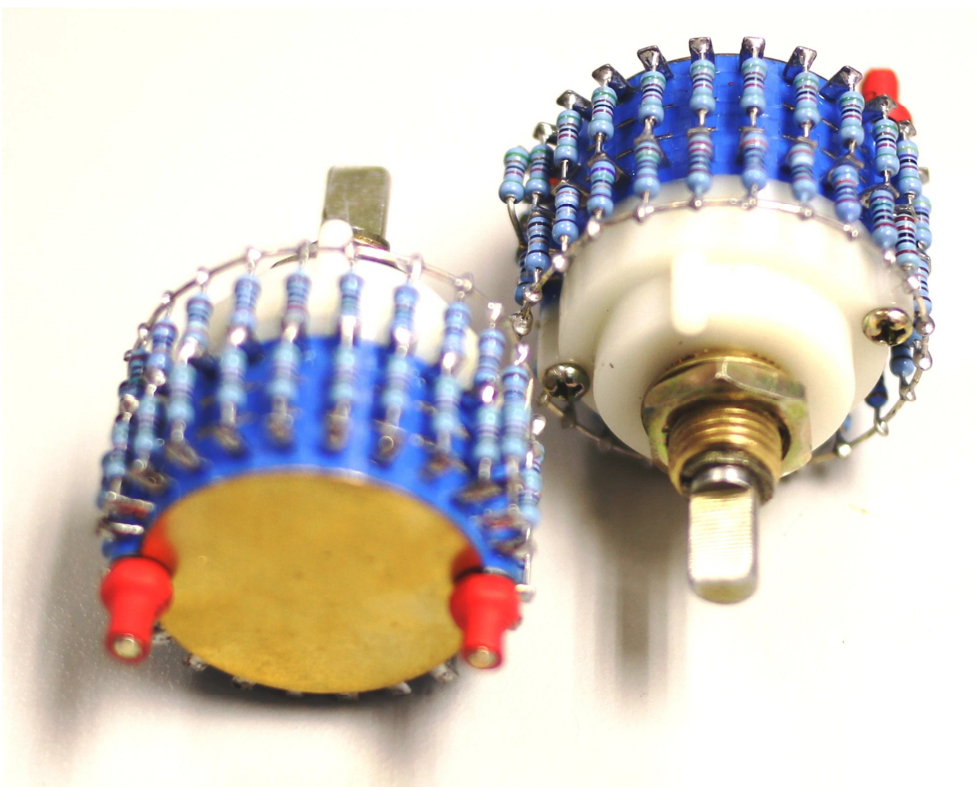
Analog Metric

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24 Step Ladder-type Attenuator (Stereo)



24 Step Ladder-type Attenuator (a Mono Pair)

INTRODUCTION

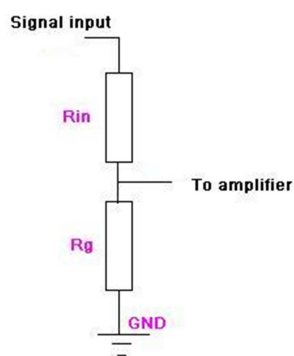
No volume control has perfect matching between two or more audio channels which are always exhibiting some discrepancies in the resistances. Even well-trained ears are only sensitive enough to notice a subtle difference of about 1dB; though, for the normal person, the minimum audible difference is more likely to be 3dB. Therefore, a step attenuator is often employed in high-end audio products in an attempt to match two channels precisely.

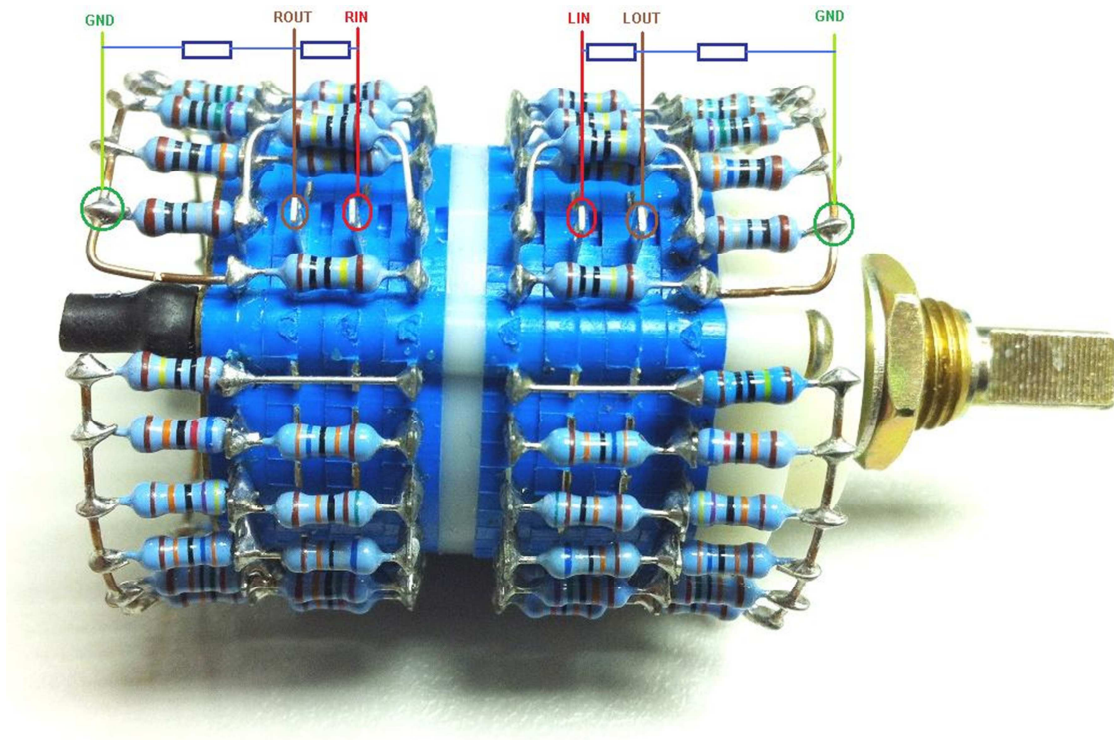
FEATURES

- 1/4 –metal-oxide film resistors with tolerance 1%.
- Ladder-type structure and total 24 positions.
- Logarithmic scale attenuation start from 75dB to 0dB (5dB/step for first three positions and 3dB/step for the remaining positions).
- The rotary transition is made-before-break
- The available values are 10k, 25k, 51k, 100k, 250k, 500K, 750k and 1M Ohms. Please contact to our sales for other customized values.

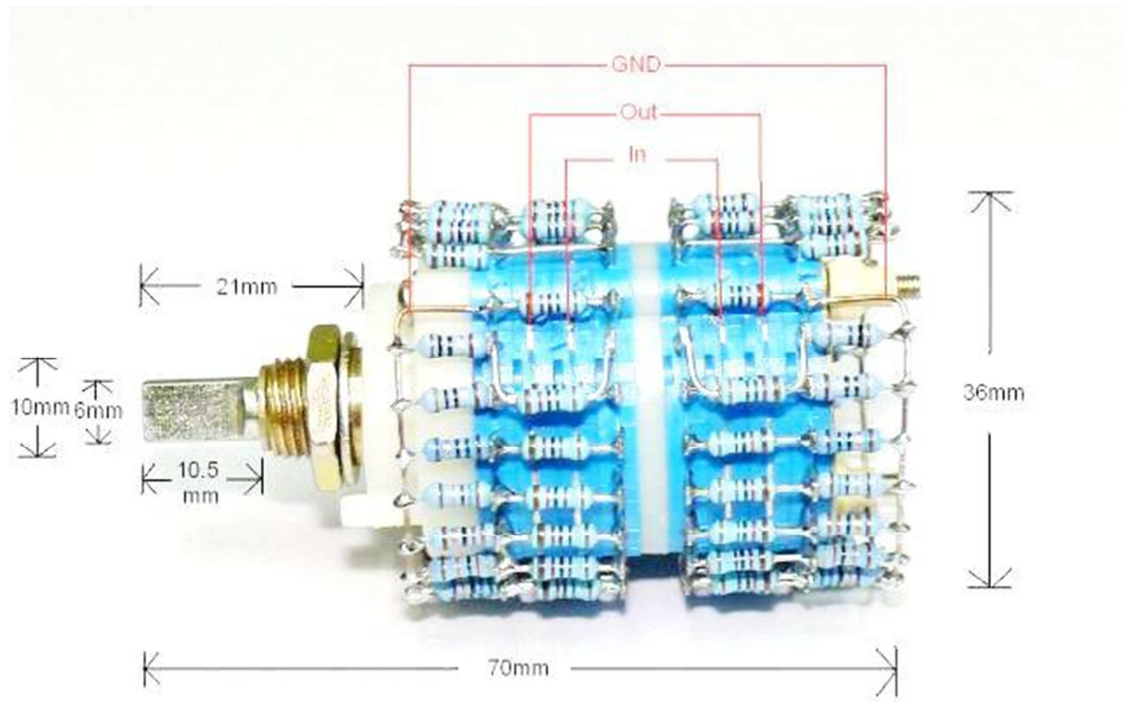
PROCEDURES

The circuit diagram of one step is shown in the following diagram. The ladder-type resistor network consists of resistors R_{in} and R_g that are connected in serial. For one channel, there are 24 pairs of R_{in} and R_g . Therefore, there are totally 96 resistors for a stereo. The total input resistance for each resistor pair is $R = R_{in} + R_g$ and this resistance is kept the same for different steps.





For a mono pair, it equals two half of a stereo one and the connections are the same.



The total length of a mono attenuator is 60mm instead of 70mm for a stereo one. The other dimensions are the same.

If you have any questions, please feel free to contact us by tech@analogmetric.com.