LRR-Audio Mid-Side (LRMSMSLR) Eurorack Module Manual

Size	Width: 4 HP Depth: 54.5 mm
Power	0.38 W
+12 V	16 mA
-12 V	16 mA
Channel Definitions	
L<	Left in (L_{in})
R<	Right in (R_{in})
M>	Mid out (L_{in} + R_{in})/2
S>	Side out (L_{in}- R_{in})/2
M<	Mid in (M_{in})
S<	Side in (S_{in})
L>	Left out (M_{in} + S_{in})
R>	Right out (M_{in} - S_{in})

This Eurorack module enables mid side processing. The top portion of the module converts left and right stereo signals into mid and side components for filtering or other effects. The bottom portion of the module converts the mid and side signals back into left and right stereo components. Mid and Side out are internally connected to Mid and Side in respectively (normalized). These connections are severed if cables are connected to the Mid and Side inputs respectively. The module uses professional audio quality amplifiers which are both fast and have low noise insertion so the module imparts minimal color to the processed signals

Connecting

The module uses a standard 10 pin eurorack connector with polarity marked.

Filter ideas

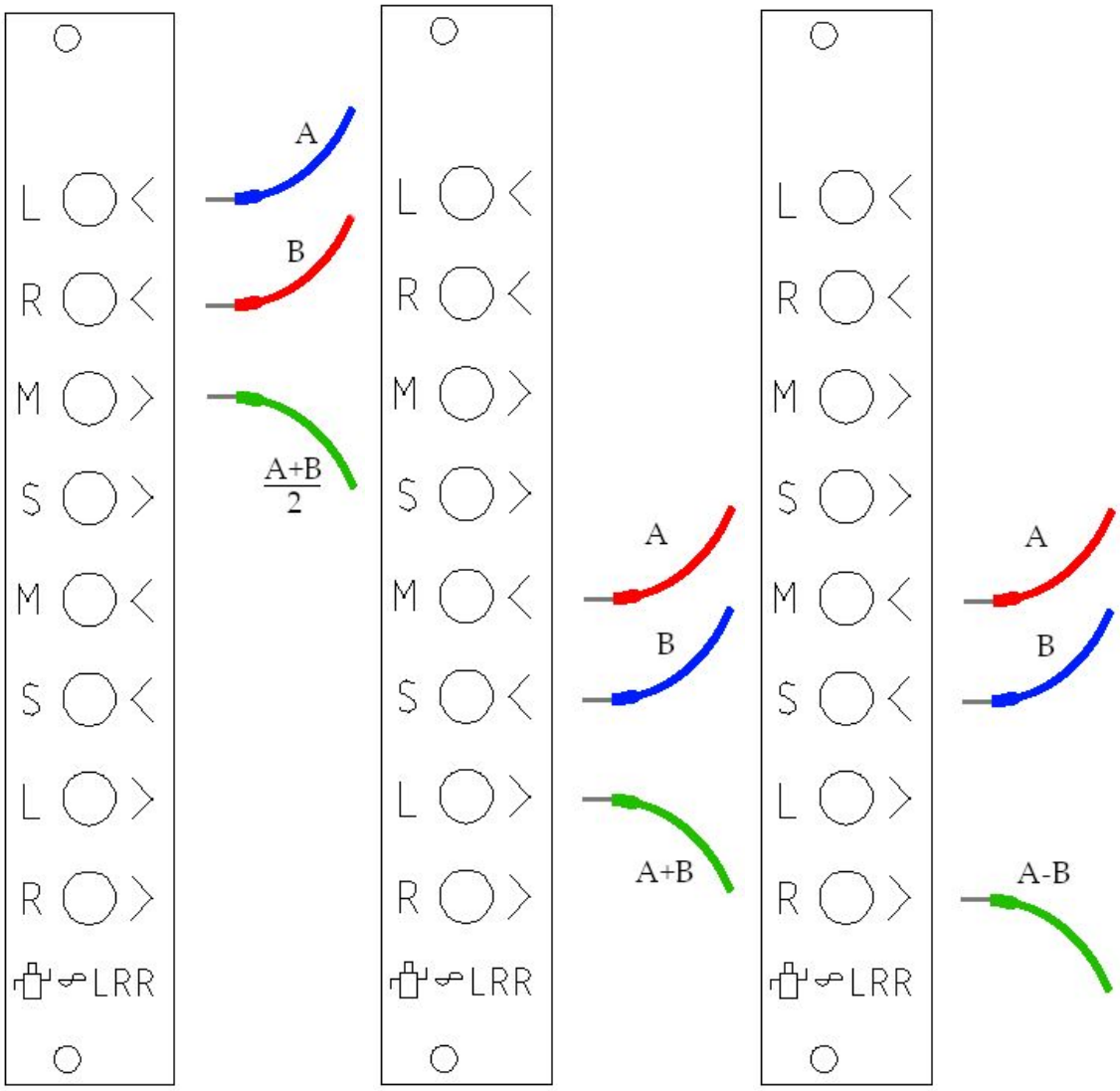
Uniform Filtering
Separate Mid and Side apply similar filters to both channels before remixing. This minimizes unwanted distortions in left and right channels from using filters that aren’t perfectly matched.

Center the base
Separate mid and side, then apply a high pass filter to the side channel before remixing to left and right.

Add space
Separate Mid and Side, then apply reverb to the side channel, before remixing to left and right

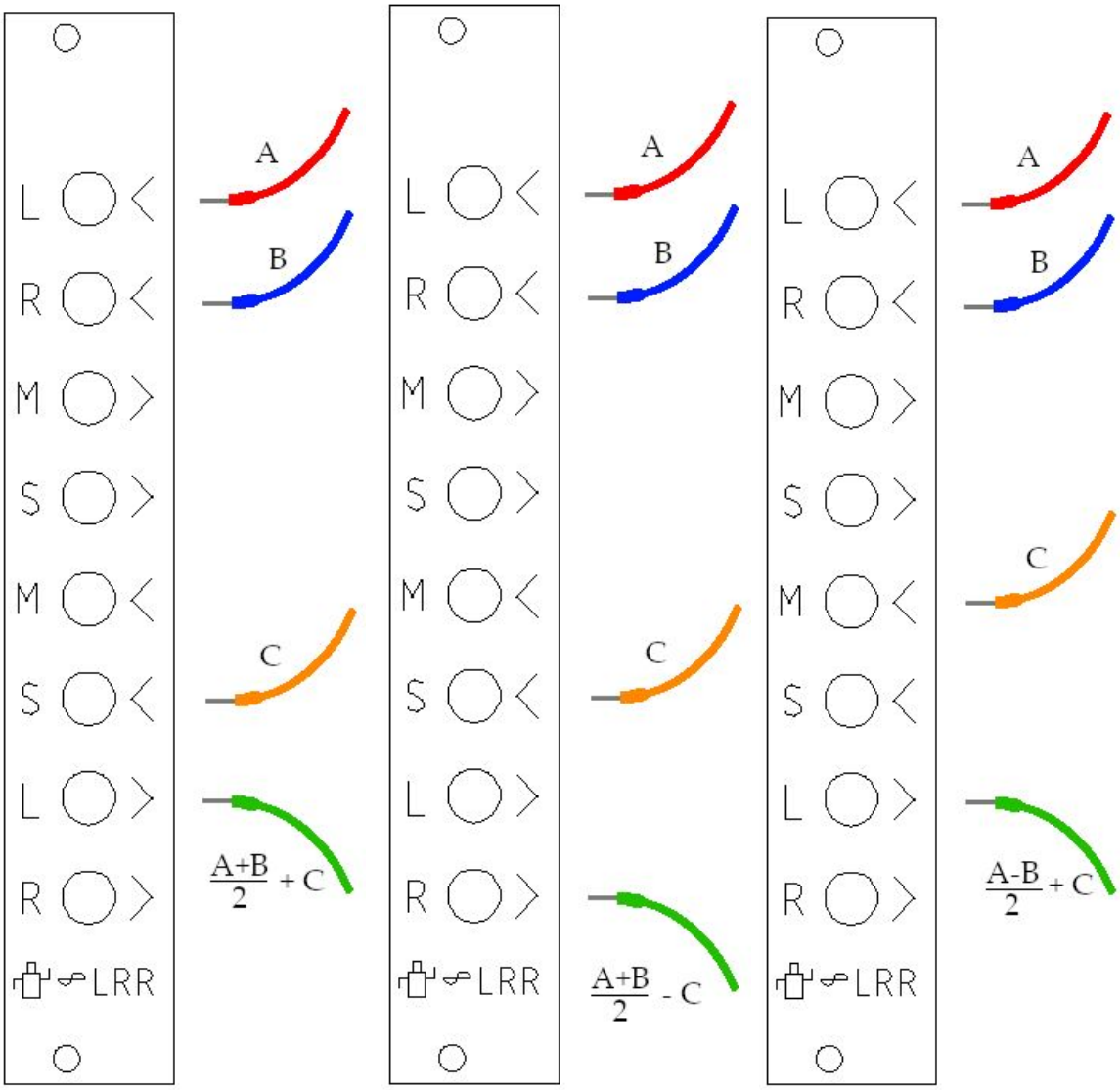
Control Voltage Mixing

The module can also be used to combine control voltages for feeding into other modules. A few ideas for Control Voltage mixing are shown in the diagrams below. Red and blue cables are inputs. Green cable is output.



Average Sum Difference

More complex three signal blending can be performed using the module's normalized Mid and Side inputs.



Average+ Average- Half Differential+