

Technical Bulletin

No: 1101 – The Lattice Splitting Pad

The lattice splitting pad may be used to combine two audio sources into a single audio output or to derive two separate outputs from a single audio source. A characteristic of the lattice pad that makes it very desirable for audio work is the port to port isolation. When used as a splitter, output port to output port isolation is theoretically infinite if the pad resistor values match the input port source impedance. In combiner applications, input port to input port isolation is also theoretically infinite if the pad resistor values match the output port load impedance.

FIGURE 1

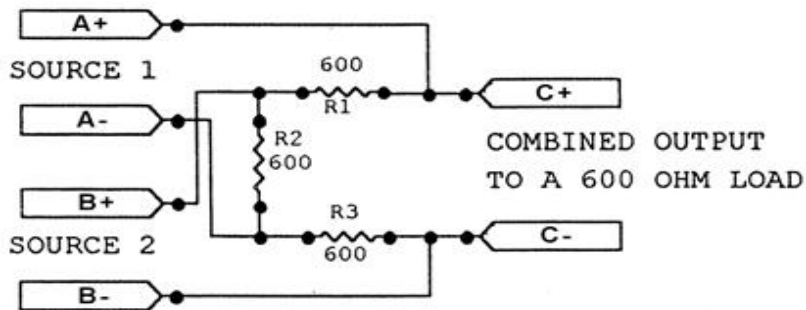


Figure 1 shows the pad being used to combine two audio sources into a single output. A typical application would be to sum the left and right outputs of a stereo source into a mono output. The pad has a loss of 6dB from either input port to the output port, but in this application because both sources are on simultaneously, the net output level is equal to either input level. (Two +4dBm inputs will produce a +4dBm output level.)

FIGURE 2

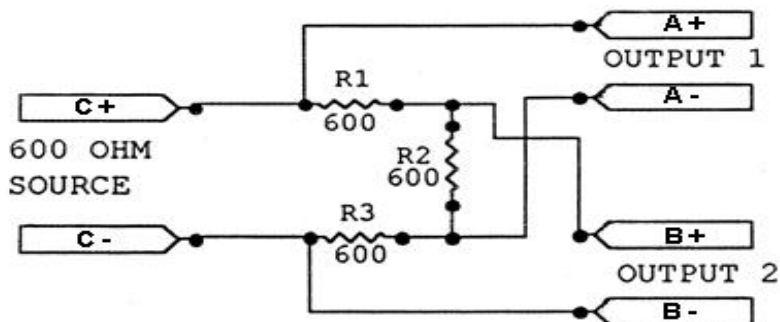


Figure 2 shows the pad being used to split a single source into two separate, isolated outputs. Again the pad has a 6dB loss from its input port to both output ports. (A +10dBm source would produce two +4dBm outputs.) A short or open on either output will have no effect on the other output.

This pad may be used with any impedance system as long as the pad resistor values equal the common port impedance. The 6dB loss through the pad holds true regardless of the impedance.

