

Summing Stereo-mono

Summing two audio signals

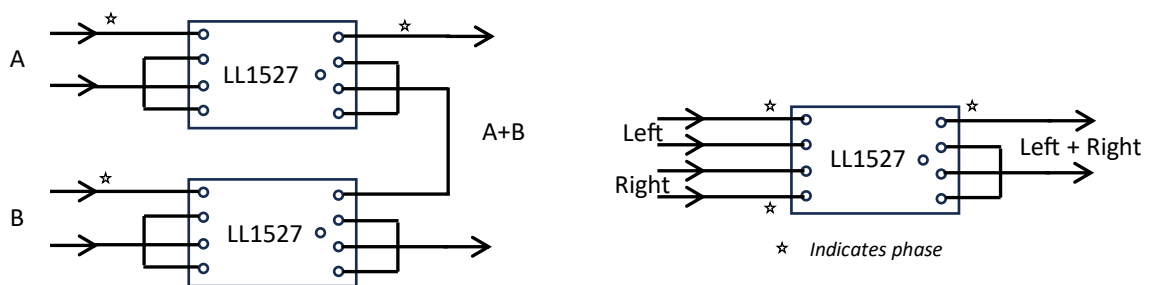
When you are using transformers for summing independent audio signals such as individual instruments in an orchestra, you need one transformer for each signal. You can for instance not on the same transformer feed one primary winding with a flute solo and another winding with a cello tune and expect good results. The two signals will cancel each other in unexpected and uncontrolled ways.

However, as always in audio, there are exceptions, for instance when you are using Lundahl Transformers for summing stereo signals to get a mono signal.

Audio transformers from Lundahl Transformers typically consists of a rectangular core (a C-core or a U lamination core) and dual coils, where each coil includes both primary and secondary winding sections. The magnetic coupling within a coil is very strong over the entire bandwidth, but the coupling between coils decreases with frequency. Electrically, this can be viewed as an inductance between the coils.

The weak coupling in our dual coil structure can be used as an advantage when summing stereo signals, as stereo signals (normally) have the same low frequency content but different mid-high frequency content.

Below are schematics showing how to use two LL1527 when summing two random signals, and how to use only one LL1527 when summing stereo signals.



The complete LL1527 data sheet can be found at https://www.lundahltransformers.com/wp-content/uploads/datasheets/1527_7xl.pdf