

# Re: Simple line mixer designs

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*Source:* <http://sci.tech-archive.net/Archive/sci.electronics.basics/2007-08/msg00147.html>

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- *From:* John Popelish <jpopelish@xxxxxxxx>
  - *Date:* Tue, 07 Aug 2007 14:10:48 -0400
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Jean-Yvan Fradet wrote:

BobG a écrit :

On Aug 6, 3:50 pm, Jean-Yvan Fradet <jyfra...@xxxxxxxx> wrote:

I am currently looking to build myself a passive simple line mixer.

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The 'mixing resistors' keep the low output impedance sources from 'loading down' the adjacent output channel. Usually a mixer has a volume control to be able to actually control the mix. Are you mixing mono or stereo sources? This design is a 'passive' mixer. Next level up would use opamps to make a lossless 'active' mixer with master output level controls and some gain.

The original design is mono. But I intend to double the design to make it stereo. I would simply double the channels and link all grounds together. Buttons and eventual potentiometers would be double-channel for that purpose.

Yes, I might add potentiometers before the R1 to R3 resistors to control input level. The design for a passive stereo mixer with pots would then look like the image at the following link :

<http://www.geocities.com/jyfradet/images/Mixer2.png>

Note that there is an error on this image. The potentiometers input connections should be on pin 3 and output on pin 2. Ground remains on pin 1.

Glad to hear it. i don't like volume controls that short the inputs to ground as you turn the volume down. This can alter the frequency response of the signal sources. But 1k resistors are pretty low resistance loads for many signal sources.

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Also, I put a resistor after the switches. It would probably be better to put only one resistor before the divide to each output selection buttons...

Yes.

Still, I need to know if I must add additional resistors or how this design would be safe.

By the way, if you have a simple design for a do it yourself mixer with opamps, I might as well go towards that solution.

The beauty of opamps is that they unload all sources and make that loading independent of settings.

But the idea behind my initial goal was to avoid adding power supplies in the first place. It's ok if I lose signal level a bit or if noise is generated from the resistors. The environment where the device will be used is noisy anyways...

Jean-Yvan