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Subject: RCA line level crossover

Posted by [johnnycamp5](#) on Sat, 02 Jul 2016 01:17:16 GMT

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Does anyone think this cheesy little crossover might work for incorporating a pair of 3pi (flanking) subs?

<http://www.ebay.com/itm/Car-Home-RCA-Adjust-Line-Level-Volume-Amplifier-Subwoofer-Equalizer-Crossover-/390595886970?hash=item5af1543f7a:g:nCMAAOxybi9ReMwR>

Its line level, so clearly, one would need to hook this up after the source/before the amp, with typical rca jacks.

It would save the trouble of wiring up an attenuator as it has its own gain control, and also has an adjustable 40hz-150hz low pass (vs. seperate ones) .

I like that its not active, but it seems awful cheap.

I always thought passive crossovers were typically MORE expensive than active ones?

Also very tiny.

Makes you wonder if its really stereo, or the manufacturer mono wired the inside, which would suck for flanking subs.

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Subject: Re: RCA line level crossover

Posted by [Wayne Parham](#) on Sat, 02 Jul 2016 20:35:01 GMT

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That's a great find. Thanks for posting it!

I'm going to order one and evaluate it. It may very well be perfect for flanking subs.

What I find is often times, cheap little crossovers like that are perfect, because they're not steep filters - which is exactly what we want. The problem sometimes is cheap components. But those can be replaced. So look inside and see if there are cheap electrolytics in the signal path. If you find them, replace them if space permits.

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Subject: Re: RCA line level crossover

Posted by [johnnycamp5](#) on Sat, 02 Jul 2016 21:27:38 GMT

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Hey Wayne.

I will definitely check it out inside.

With how small it is, I would be happy to find two separate circuit paths showing it is indeed stereo, and that they did not just sum (and re-split) the signals.

This would not surprise me, especially with car audio.

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Subject: Re: RCA line level crossover

Posted by [Wayne Parham](#) on Sun, 03 Jul 2016 17:12:40 GMT

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Let us know what you learn please.

I ordered one too, but I seem to always have about ten times more stuff going on than I have time for. So you may be faster on the draw than me. But I'll let you know what I learn too, as time permits.

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Subject: Re: RCA line level crossover

Posted by [johnnycamp5](#) on Mon, 04 Jul 2016 13:19:00 GMT

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Will do.

I have the same tendency.

Always trying to fit 10 pounds of material into a 5 pound sack

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Subject: Re: RCA line level crossover

Posted by [johnnycamp5](#) on Wed, 13 Jul 2016 23:40:54 GMT

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I attached pics, I'm sorry they are so huge.

I got to opening up this little passive crossover, I received it in the mail the other day. By following the traces on the circuit board, it does seem to be true stereo, yet I have not confirmed this thru testing yet.

I'm not sure what to make of the components.

I see six tiny resistors and four square ones?

Perhaps Wayne can comment on the quality when he gets around to opening his.

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I'm off to do some testing now.

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### File Attachments

- 1) [image.jpeg](#), downloaded 1668 times
  - 2) [image.jpeg](#), downloaded 1666 times
  - 3) [image.jpeg](#), downloaded 1613 times
  - 4) [image.jpeg](#), downloaded 1671 times
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Subject: Re: RCA line level crossover

Posted by [Wayne Parham](#) on Thu, 14 Jul 2016 15:58:07 GMT

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Those square devices are 0.1uF capacitors. They look like polyester film parts, and if so, you want to replace them with polypropylene capacitors. I'd probably choose Panasonic or some other brand that I trust. See the link below for information about capacitors: Measured Differences Between Capacitors for Audio Applications Beyond that, since it's purely passive there will be some insertion loss. Generally we need more gain for the subs, because they are usually about 10dB less sensitive than the mains. This device will put us probably anywhere from 3dB to 20dB below that. So make sure you can dial down the mains to compensate.

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Subject: Re: RCA line level crossover

Posted by [johnnycamp5](#) on Fri, 15 Jul 2016 20:13:32 GMT

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Wayne,

Thanks for that link.

I considered those little squares might be low value caps.

I could replace them with better ones.

Reading that link, it sounds like someone can choose a capacitor which sounds best "to them", which is subjective/opinion.

Although, it seems clear that polyester caps seem to be pretty bad in general.

Insertion loss with a passive device like this has been on my mind, like you mentioned.

I have an old Adcom 555 which I will try to use for the subs.

It is rated at 200 watts per channel at 8 ohms, or 325 at 4 ohms.

I think the lab 12's are a 6 ohm load, so I figure roughly 260 watts per channel.

I'm hoping this will provide enough power to match an 8.5 watt s.e.t. amp I use for the mains.

Actually, I felt the -12db on this little device might not be enough attenuation to match the mains, but like you say, sensitivity is almost 10db down on these subs.

Regards!

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Subject: Re: RCA line level crossover

Posted by [Wayne Parham](#) on Fri, 15 Jul 2016 22:10:40 GMT

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I'm not worried about your amplifier's abilities with respect to power. In fact, I'm not worried about anything - you'll be able to dial these in, I'm sure. But what I'm saying is the overall gain of the amps for the subs will need to be higher than the gain of the mains. The subs will need about 10dB more gain.

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Subject: Re: RCA line level crossover

Posted by [johnnycamp5](#) on Sat, 16 Jul 2016 19:46:39 GMT

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Wayne Parham wrote on Fri, 15 July 2016 18:10

I'm not worried about your amplifier's abilities with respect to power. In fact, I'm not worried about anything - you'll be able to dial these in, I'm sure. But what I'm saying is the overall gain of the amps for the subs will need to be higher than the gain of the mains. The subs will need about 10dB more gain.

Got it.

Thank you!