
Subject: 2pi tower crossover: mono or biwiring?
Posted by [Jump](#) on Thu, 16 May 2013 17:49:15 GMT
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Hi Wayne, Hi everybody,

I am close to finish the cabinets of my 2pi tower, the next few days I will start the crossovers.

So I would like to know if it would be possible to make the crossover biwiring instead monowiring ... and if so, how should I do it.

I think, in this way, I could drive tweeters and woofers with 2 different amps, in the future.

What do you think?

Regards
Giampiero - Italy

Subject: Re: 2pi tower crossover: mono or biwiring?
Posted by [Wayne Parham](#) on Thu, 16 May 2013 18:40:55 GMT
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Sure - biwire is easy - You just run two sets of terminals on the input, one to the woofer and the other to the tweeter. When running a single amp, jumper the two inputs together. When biamping, separate them.

The tweeter circuit is just a capacitor, so it would serve as a useful protection cap when biamping. But the coil in series with the woofer provides low-pass that you won't need if running an active crossover. So you might provide a switch on the back that shorts the coil when running a biamp setup. That coil won't hurt much - the DC resistance is low - but if you're biamping anyway and have a low-pass in an active crossover, it just isn't needed.

Subject: Re: 2pi tower crossover: mono or biwiring?
Posted by [Jump](#) on Fri, 17 May 2013 09:05:16 GMT
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Hi,

thanks Wayne!

This is in the case of active biamping with 2 different amps, as I could do in future, maybe a SET for tweeter and a push pull or mosfet for woofer.

But if I run with 2 identical amps in passive biamping... could I let pass the signal for the woofer through the coil?

Regards
Giampiero - Italy

Subject: Re: 2pi tower crossover: mono or biwiring?
Posted by [Wayne Parham](#) on Fri, 17 May 2013 13:20:32 GMT
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You could, but please understand that without a crossover ahead of the amps, there is no benefit in doing this. The whole point of biamplification is to reduce the bandwidth required of the amps.

Subject: Re: 2pi tower crossover: mono or biwiring?
Posted by [Jump](#) on Fri, 17 May 2013 15:41:26 GMT
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Hi,

Thank you very much Wayne for your advices... sorry but I'm not very good in electronics!

Regards
Giampiero - Italy

Subject: Re: 2pi tower crossover: mono or biwiring?
Posted by [Wayne Parham](#) on Fri, 17 May 2013 17:06:39 GMT
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No problem, that's what we're here for. Let me give you some visual aids so you can understand what is gained by reducing amplifier bandwidth.

First, let's look at two signals. One is bass:

The other is treble:

When you put them together, as all music content does, the resulting signal looks like this:

That's fine, and it is what we want. As long as the amplifier has enough voltage swing capacity, it can do everything we need. But you'll notice the treble sort of rides on top of the bass. So if the amplifier doesn't have quite enough voltage capacity, it may clip, like this:

If you separate the bass from the treble ahead of the amps, then each amp will have less peak voltage requirement.

File Attachments

- 1) [low_frequency.gif](#), downloaded 4874 times
 - 2) [high_frequency.gif](#), downloaded 4834 times
 - 3) [combined_without_clipping.gif](#), downloaded 4854 times
 - 4) [combined_with_clipping.gif](#), downloaded 4885 times
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Subject: Re: 2pi tower crossover: mono or biwiring?

Posted by [Jump](#) on Sat, 18 May 2013 09:13:11 GMT

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Hi Wayne,

many thanks for the explanation, you were very clear!

I must say that it is a real pleasure for me to attend this forum, the dialogues are calm and cheerful, and this contributes greatly to learn new things.

Plus you never fail to give explanations to those who, like me, they need it.

My only regret is that, cause of the language, I can not always understand everything at the first reading, and I can not always express perfectly what I mean ... but google translate helps me a lot!

I only ask you to be patient if sometimes I make some mistakes in language ... Thank you.

Regards

Giampiero - Italy

Subject: Re: 2pi tower crossover: mono or biwiring?

Posted by [Jump](#) on Fri, 24 May 2013 17:24:22 GMT

Hello Wayne, hello guys,

these days I have to put the insulation inside the speakers.

I have read that you advices white glue ... but what do you mean about white glue, the white vinyl glue for wood and paper?

Another question, could I remove the sponge on the outer edge of the Alpha 10?

I would replace it with an aluminium ring, or maybe put the aluminum ring above it, like Zu Audio style...

Regards
Giampiero - Italy

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- 1) [zu-audio-druid.jpg](#), downloaded 4619 times
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Subject: Re: 2pi tower crossover: mono or biwiring?
Posted by [Wayne Parham](#) on Fri, 24 May 2013 17:31:00 GMT
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White (and yellow) glue is a water-based glue commonly used by woodworkers. It's not really all that important what adhesive you use, 'cause you're really just tacking it in there. Doesn't need much hold strenth.

The front gasket on the driver can be removed, but be careful. And I would suggest de-laminating the paper, and leaving a thin layer of the gasket attached. You'll see what I mean when you start pulling it off.

The surround is glued to the frame and the gasket is glued onto that, so you don't want to damage the surround in the process of trying to remove the gasket. The adhesive will have been absorbed into the gasket, and so a very thin portion of it will be hardened and I would suggest leaving that in place. Simply put your aluminum ring over that. Should look really cool.

Subject: Re: 2pi tower crossover: mono or biwiring?

Posted by [Jump](#) on Fri, 24 May 2013 18:02:35 GMT

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Thank you very much Wayne, you're always quick to give advice ...

Regards

Giampiero - Italy
