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Subject: Questions on the 12 and 3 pi subs  
Posted by [Pfenning](#) on Sun, 26 Apr 2009 21:08:18 GMT  
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First off can I get plans for both? I am looking into these for some buddies of mine that have a band. They really need to fill in the bottom end with some good bass. I purchased a pair of stage 4's from you years ago, and haven't been in the mood for new speakers since. They are awesome, and when my buddies were talking about a sub, you were the first guy I thought of. Here's my questions. What material do you recommend the sub boxes be built out of? Would a single 12 pi sub driven with 800 mono watts be better than 2- 3 pi subs driven with 400 watts each? Is the bass from the 12 pi directional, like a typical horn is? Is the heat exchanger required, and can it be added later? Do you have people using 12's and 3's in bands now? How much does the 12 wieght? It looks huge? Thanks

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Subject: Re: Questions on the 12 and 3 pi subs  
Posted by [Wayne Parham](#) on Sun, 26 Apr 2009 22:50:37 GMT  
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Check your mail - I've sent plans. When using subs for prosound, use baltic birch. It's much more

have lots of both models of subs in the field, and the lines are very clearly drawn about who uses make sense for small and medium size rooms. The intended environments are outdoors or very in homes. I have a few being used by DJ's and bands that do events in local clubs and other subs than it is to have one or two horns. With multiple subs, you can smooth room modes, so

back on its wheels which fit perfectly on truck ramps of everything from 24' rentals to the biggest

basshorn directional at the top end of the passband, but down low it is acoustically small. That's why a single horn has approximately 6dB rising response through its passband. However, when used in small groups, the frontal area is large enough to provide directivity through the whole passband, and there no longer is rising response. You can see the difference even when just using a pair of horns, and by four, response is a straight flat line. Tons of power too, by the way. You can build the horn without the heat exchanger, but I wouldn't recommend it. I've already done all the hard work, so to ignore it just doesn't make sense. We have the PI-12 woofers, already machined and ready to accept the cooling plugs. We keep them in stock, as well as the plugs and plates. I'm not sure if you read the write-ups of test results, but the improvement made by the plugs is incredible. Running the horn without the cooling plugs is like running a car without

a radiator. Sure, it will start and run but it won't produce as much power and it won't last as long. Heat exchanger effectiveness

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Subject: Re: Questions on the 12 and 3 pi subs  
Posted by [OneBean](#) on Mon, 27 Apr 2009 03:14:33 GMT  
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Wayne, thanks for the advise and the plans. As far as powering the pi 3's, what should I plan on. We have a large pro audio Altec amp that is advertised as 400 x 400. I'm not sure if it's 2 ohm stable. Are the 3's 8 ohm or 4 ohm? Sounds like 3's are the way to go with most of the gigs being in small bars. Is that what your recommending? OneBean

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Subject: Re: Questions on the 12 and 3 pi subs  
Posted by [Wayne Parham](#) on Mon, 27 Apr 2009 05:49:14 GMT  
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Yeah, in small bars, I'd rather use a multisub approach. It's also pretty easy to transport and carry

four in series/parallel and bridge the amp. Don't skimp here, I'd use at least two for each of your mains and it wouldn't be out of the question to go for a ratio of 3-to-1 or even 4-to-1. Indoors, the more you have the better, and scatter them all around for best results. That is exactly the opposite thing you would want to do outdoors or in a very large room. Outdoors, you want to group the subs together, close to the mains if you can. For coverage, most times they're grouped on each

least as close as possible. Many people think this applies indoors too, but it doesn't. Indoors,

the source. This self-interference causes deep notches at certain bass frequencies in various places throughout the room. By using several subs placed around the room, holes from self-interference from one sub will be filled by another. That's why it is good to spread them around spacially. It tends to average out the sound field and make bass response smooth and uniform throughout the room. The moral of the story is to use as many subs as you can afford, and spread them around. Space them apart in all three dimensions, several feet apart. Put a few across the stage, put a couple up off the ground, put some at the front of the stage and some further back. Using several subs will help give you enough SPL in the bass range and it will also smooth the sound field. Where indoors bass is concerned, using the multi-sub concept, you can't have too many subs because you can always turn the power down. The more positions you have subs placed, the smoother and fuller it sounds.

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