
Subject: Questions on Sub

Posted by [GarMan](#) on Wed, 25 Feb 2004 20:55:38 GMT

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Have a few questions about reproducing subbass, in the form of a subwoofer and/or LF Woofer in 3way config.1) At what point in the frequency spectrum does the signal become non-directional? Many believe that even though subbass is non-directional, two subs are still better than one.2) Low-pass filter is always used to cross a sub with main speakers. Is there a need to apply a high-pass on the main speakers for better integration control or just rely on natural roll off?3) What is the best way to cross a midrange with a woofer in a 3-way? Control with box (vented or closed)? or high pass?4) Is there (and should there be) any difference between crossing a woofer in a 3way vs crossing a sub with main speakers, other than the crossover point?5) Does quality of amplification matter below certain frequencies so long as the juice is delivered? For example, at 100Hz, 75Hz, or 50Hz, are there still sonic differences between SS, tube, class A/AB/B, SET, PP, etc? Can I get away with a bargain basement Class D amp?thanks,Gar.

Subject: Re: Questions on Sub

Posted by [Bill Martinelli](#) on Thu, 26 Feb 2004 15:57:19 GMT

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From my experience this is what I can recommend1)at 60hz 4th order you can put the sub anywhere in the room (where you get the best room gain vs roll off of the particular sub) at 80hz the sub should be at the least in the same area as the main speakers. at 100hz stereo subs would be a must. So dependant on the output of your main speakers would make this determination. Small cubes would require a stereo sub. something larger like a 4pi looking for help 50hz and bellow, a single sub is just fine. 2)again this depends on the frequency point. Generally a sub is augmentation so there is no need for a hi pass on the mains because they have no output at the subs performance levels. If however, your trying make your sub part of an integrated system where the main speaker would actually have significant output, such as running a sub up to 100hz and your mains will put out well into the upper 40's your going to need to hi pass the mains or your going to have very bad room mode and peaks around 80-120. which will then sound like a passing car. The best situation is to only run the sub as high as needed and no more. your best sound will come from the stereo mains. If you can cross your sub at 50hz even with 4th order you'll get roll off into 80's. This will be a most favorable situation and one sub placed where it either fits best, or performs best with a low pass only will be the most cost saving arrangement.3) you need a band pass filter. this is both a low pass and a hi pass. be warned it does strange things to the woofer low pass and the tweeters hi pass. all 4 sub systems of the 3 way crossover need to work together and each effects the other. active crossover and another amp ! simple, clean, better, but not convenient. 4)yes, again if your making your sub into part of the integrated system. your going to need a high pass. your woofer is not the woofer any more. It just became the mid-bass or mid. I run a 5 way active system. it's really a 4 way and a sub. 5) For a true sub a plate amp is just dandy. get one with low distortion and No built in EQ. Parts express has a nice one for 125 which is 250 watt. Bellow 50hz I cant hear a difference between a plate amp and a class AB. Class A for the 100 or so watts you would need for minimum headroom for a sub would

be a nice heater in the winter but you might need an extra tonn of A/C in the summer months.SET
watts. If your really into tube's and have the spare amps, then pentode in PP would give you the
headroom and power your going to want to try and push 30hz through a cone. Have fun!Bill
