

Sonics and Imax Theatres Choose Bryston and PMC

Bryston is pleased to announce that Sonics/Imax has outfitted their studio's in Alabama with Bryston/PMC monitoring systems.

The systems consists of two 5.1 surround systems utilizing five TB2S loudspeakers and a single SB100 Subwoofer for the .1 channel.

Amplification is handled by a Bryston 9B ST Pro on the L.C.R

and Surround channels and a single 9B channel on the subwoofer.

The IMAX and Omnimax theatres have been using Bryston manufactured amplifiers for many years in all of their theatres around the world.

For those not familiar with IMAX Theatres the Cinespere in Ontario Place, Canada is an example of this kind of theatre. IMAX style theatres project the picture on to a curved screen while



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Two For One Subs

There seems to be a lot of interest lately in the marketplace regarding the use of multiple subwoofers in home theatre systems. The reasoning of course is that more must be better - right? I undertook a little experiment in the Bryston Home Theater Room which I would like to share.

The goal of course of the additional subwoofers is to provide smoother frequency response and lower distortion than 1 subwoofer.

It is hard to argue against the logic of more subwoofers as the level of distortion and the reduction of room modes (dips and peaks in the frequency response) should improve with more subs radiating into the room.

Putting a subwoofer in a corner is usually the recommended position in most 5.1 surround setups because the corner of the room allows the subwoofer to 'drive' the room from its' most efficient location. Because there are 3 walls (floor, left wall, right wall) the energy radiating into the room is reinforced by the boundaries by up to 6dB relative to placing the subwoofer out in the room with no boundary reinforcement. The downside of placing the sub in the corner is it will reinforce every standing wave in the room, which may cause boomy and ill-defined bass. Standing waves are severe dips and peaks in the frequency response of the

bass caused by the boundaries of the specific room.

By placing another subwoofer out in the room and away from the corners, so the theory goes, assists in reducing the standing waves severity because you are 'driving' the room from different locations and that tends to smooth the response in the room. Some people go as far as 3 or 4 subwoofers with the assumption that driving the room from multiple locations would



assists in flattening the frequency response even further. The power handling of the system will definitely improve with each additional subwoofer but the quality of bass may in fact suffer if you're not careful.

The experiment I ran utilized two identical subwoofers. I moved one subwoofer around the theatre room until I found the location in the room which produced the deepest/ flattest bass at the listening location. In this case it turned out to be halfway down the right wall at

Omnimax theatres employ a hemispherical shaped screen.

This style of theatre provides a complete three dimensional picture and sound experience using multiple projectors and surround decoders.

Each theatre requires 24 amplifiers and multiple loudspeakers.

It is gratifying to know that of all the amplifiers and loudspeakers available today Sonics/IMAX has chosen Bryston amplifiers and PMC Loudspeakers for their monitoring and recording playback systems.



floor level (fig 1). I then took a second identical subwoofer and placed it in different locations around the room as well. What I got in some locations was a real surprise.

As you can see from the graphs the single subwoofer (Figure 1) actually produced lower more accurate bass. The second subwoofer measured on its' own looked reasonable as well. So either subwoofer on its' own produced good response in the room. When we make both subwoofers active though the fact is the really low bass went down substantially in level with a big dip at 38 Hz. What occurred was the second woofer actually cancelled the very low frequencies at the listening location due to the phase cancellations between the 2 subwoofers and their different locations (Figure 2).

So, as you can see, caution is definitely in order. I am not saying multiple subwoofers will not work but it is obvious that without some way of measuring or assessing the additional subwoofers it can become a real hit-and-miss exercise. In fact in our room we ended up using 2 subs (because of lower distortion

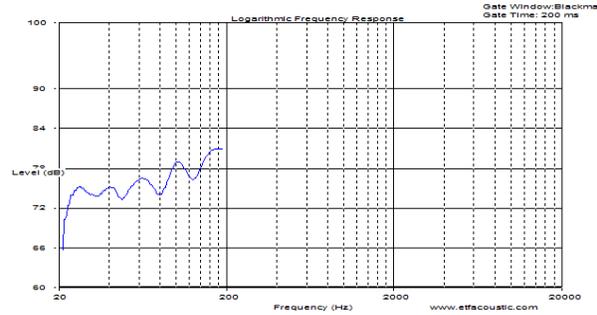


Figure 1

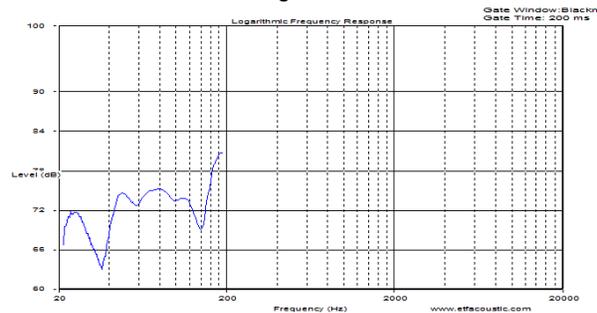


Figure 2

and power handling) but we stacked them one above the other in the best location in the room.



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