Subject: Yamaha SP1 - Digital Array for HT
Posted by GarMan on Fri, 15 Apr 2005 17:01:25 GMT
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I don't know whether I should post this in Home Theater, Digital Audio, or here. Oh well. If this works as described, it should be pretty cool.Didn't I read somewhere that horizontal arrays are bad?
Yamaha SP1

Subject: Re: Yamaha SP1 - Digital Array for HT
Posted by Jim Griffin on Sat, 16 Apr 2005 01:12:06 GMT
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GarMan,Yes, horizontal line arrays are an issue if you maintain a coherent wavefrom. The radiated sound would be the same as a vertical line array except rotated to the horizontal plane. The sound would be limited primarily to the length of the array and such. Now the Yamaha array operates differently in that each driver haws a specific delay or phase so that it can recreate a home theater experience in a normal listening room. The multiple channels for HT are determined by reflecting the sound from various drivers off the walls of the room. I haven't heard the Yammie array but I suspect by its design that it would be dependent on room reflectivity and layout. What would sound great in a moderate sized room would perhaps present an issue in either smaller or larger rooms. Still you can see that this design has merit within it potential limitations as to room dependencies.Jim

Subject: Beam Steering
Posted by Wayne Parham on Sat, 16 Apr 2005 15:50:18 GMT
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I think the Yamaha array is sort of a direct/reflecting thing, one that is designed to generate a sound field with very complex, dense interference patterns. It's made to be very ambient. But when I think of horizontal arrays, I like to think about the prospects of beam steeeing.Check out the link in the post called "Phasing and subsystem delay." The thread was actually about the pattern formed when using speakers with dissimilar group delay, and the links are about horizontal coverage and beam steering.The Meyer paper shows successful beam steering, but it also illustrates the complications. With audio, there isn't a single frequency to be dealt with, like would be the case with RF antenna arrays. Kinda hard to get beam steering over a 10 octave range. You can do it in one frequency range, but not throughout the entire audio band. But I still think it is an interesting technique.

Subject: Re: Yamaha SP1 - Digital Array for HT
Posted by Jim Griffin on Mon, 18 Apr 2005 00:03:25 GMT
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For what it is worth, Sound and Vision has an review article on the Yamaha SP! in their may 2005 issue.
Sound and Vision Magazine