Subject: Re: Flanking Subs vs Helper Woofers
Posted by Wayne Parham on Fri, 28 Dec 2012 19:02:31 GMT
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Flanking subs and distributed multisubs are different animals. They have a similar purpose and correspondingly similar execution but have some specific differences because of the frequency ranges where they are intended to be most effective. Flanking subs are stereo subs that are relatively close to the mains and each is sent a low-passed copy of the main speaker they're flanking. Multisubs are placed further away, distributed throughout the room, and each is sent an LF signal that is summed from all channels. They can optionally incorporate decorrelation filters to increase their ability to smooth the LF modes, but they would still be sent a single, summed LF signal.

Flanking subs are stereo subs, each blended with the main speaker they're flanking. They're run high enough they would be localizable if they weren't physically close. But they're just far enough away from the mains in all three planes to provide smoothing of the response anomalies caused by self-interference from nearest boundaries. Their main purpose is to reduce the notches created from the reflection off the wall behind the speakers and from the floor. They also smooth the higher frequency room modes, between about 80Hz and the Schroeder frequency, around 200Hz to 250Hz.

Distributed multisubs are mono subs, each sent a low-passed signal that is summed from all channels. They are placed further away, and would be localizable if they weren't low-passed at a relatively low frequency, usually no higher than 80Hz to 100Hz. Use the LFE signal to drive the distributed subs. They are there to smooth room modes below 80Hz.
Room modes, multisubs and flanking subs