Subject: More on time alignment. Wayne?
Posted by Mr Vinyl on Thu, 31 Aug 2006 12:52:16 GMT
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Hi all,Please let me know if I am going to far on these subjects. If no one is interested just let me know. I found the following web site that discusses time alignment in speakers. It's pretty technical and beyond my comprehension at this point. But the author came to the conclusion below. He seems to think time alignment is worth while. What do you think of this article Wayne? "For what it's worth, I originally started this article not to praise, but to debunk the theory that time alignment is the only way a speaker should ever be designed. Having done the research, run tests, and written the article, I confess that I must agree with many (perhaps even most) of the points made by the time alignment proponents. Mind you, there is still a lot that you will hear and read that is either gross exaggeration or a downright lie, and it can be very difficult to tell the difference unless you know exactly what the real story is.

Subject: Re:Not That Can Of Worms Again?
Posted by Manualblock on Thu, 31 Aug 2006 13:20:19 GMT
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Long post on that a few months back. This should be interesting.

Subject: Re: More on time alignment. Wayne?
Posted by Wayne Parham on Thu, 31 Aug 2006 13:21:32 GMT
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On the other hand, to achieve true time alignment - zero phase offset - you couldn't have any reactive components in the system, the loudspeaker drivers and cabinet would have to provide a purely resistive acoustic load and the voice coils would have to be motionless. Clearly these are

goal.

Subject: Re: More on time alignment. Wayne?
Posted by akhilesh on Thu, 31 Aug 2006 13:49:30 GMT
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"Please let me know if I am going to far on these subjects. If no one is interested just let me know. "I think if no one is interested, then one gets no responses. If you get responses, then people are interested! -akhilesh

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Subject: Re: More on time alignment. Wayne?
Posted by Mr Vinyl on Thu, 31 Aug 2006 13:50:55 GMT
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So then you are saying that angling the speaker to "time align the drivers" such as Thiel does with their speakers, is not a marketing ploy or it is? Thanks for your time and response to my questions.

Subject: Does this count as a response? :-) NT
Posted by Mr Vinyl on Thu, 31 Aug 2006 13:51:46 GMT
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nt

Subject: Re: Does this count as a response? :-) NT
Posted by akhilesh on Thu, 31 Aug 2006 13:55:44 GMT
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I think Wayne has pretty much said the right thing, so there's not much I can add to it. -akhilesh

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Subject: Really, I didn't see it.
Posted by Mr Vinyl on Thu, 31 Aug 2006 14:06:52 GMT
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Doing a such for "time alignment" doesn't bring it up. I would like to read it. Can you show me where it is?Thanks

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Subject: That, of course, should have read "doing a search for it" NT
Posted by Mr Vinyl on Thu, 31 Aug 2006 14:09:25 GMT
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NT

Subject: Re: That, of course, should have read "doing a search for it" NT
Posted by Manualblock on Thu, 31 Aug 2006 15:00:28 GMT
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It's there a couple months ago. I think it became a little heated.

Subject: Re: More on time alignment. Wayne?
Posted by Wayne Parham on Thu, 31 Aug 2006 15:11:57 GMT
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I'm saying use of the phrase "time alignment" is a marketing ploy. It is not an accurate way to describe what is being accomplished with proper driver placement and crossover design. Baffle position is important, and tilting the baffle is one way to set position that can also be aesthetically pleasant. But the use of the phrase "time alignment" has always been marketing rhetoric.

Subject: Links to articles about phase related issues
Posted by Wayne Parham on Thu, 31 Aug 2006 15:56:57 GMT
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I did a few searches here and in the other speaker forums on ART for posts about "phase", "time alignment" and other related things. Here are a few of the threads I found:

several links to discussions about phase related issues
Time Alignment - Horn/Compression & Woofer, High-Efficiency Speaker forum thread about physical alignment
Can't reproduce a square wave, Speaker forum thread about what happens when a square wave is sent to a loudspeaker
Bandpass subs, High-Efficiency Speaker forum thread with references to transient response and group delay
Blind testing and what I would like to see done..., General forum thread with references to

phase-related issues

Subject: Thanks I will check them out. NT
Posted by Mr Vinyl on Thu, 31 Aug 2006 17:02:20 GMT
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NT

Subject: Re: More on time alignment. Wayne?
Posted by GarMan on Thu, 31 Aug 2006 20:24:11 GMT
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Wayne, I think one of the issues is that there are different people are using the term "time alignment" in different ways and nobody's bothering to ask what each other means.My take is that time alignment is possible WITHIN limited ranges of the frequency range and is neccessary for smooth FR. With current driver technology, time alignment is not possible throughout the entire FR.

Subject: Re: More on time alignment. Wayne?
Posted by Wayne Parham on Thu, 31 Aug 2006 22:47:50 GMT
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The thing is, the companies that boast loudly about "time alignment" usually use it as a way to set themselves apart and I think that's disingenuous. It has always appeared like sales rhetoric to me, since the companies that make an issue of it are doing nothing different than others

perhaps but certainly not a true zero phase alignment. So to use the term to set themselves apart smacks of marketing mumbo-jumbo to me. For decades, most every loudspeaker manufacturer has taken steps to match the subsystems for proper summing. Altec recommended a simple procedure to match the HF and LF drivers in the crossover region back in the 1960's and then revisited it with an application note (link below) in the 1980's. This phase matching is done for summing, to reduce the amount of destructive interference. The idea is to prevent two adjacent drivers from cancelling each other through their band of overlap, causing a spiked dip in response. A frequency response anomaly is what you'll hear if there is a problem with summing, not the time offset.
Altec Application Note AN-9