Subject: Wayne, check this out...
Posted by Adam on Tue, 07 May 2002 10:48:11 GMT
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Response of an Eminence PSD 3003 in a waveguide, not so hot... :/ Maybe you should reconsider your use of this driver for high frequency duty.Adam

Subject: Re: Wayne, check this out...
Posted by Adam on Tue, 07 May 2002 10:48:43 GMT
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Subject: Re: Wayne, check this out...
Posted by Wayne Parham on Tue, 07 May 2002 16:29:41 GMT
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I prefer to use 1" compression horns in two-way systems, because 2" exit devices don't have the top octave performance. They're just too big. Compensation helps a lot though.If you order a PSD3003 from Eminence right now, you'll find they're not in stock. Anything else will be at your door in days, but the PSD3003 and its diaphragms aren't available. I suspect they are preparing to supercede it with a replacement.

Subject: Re: Wayne, check this out...
Posted by Adam on Tue, 07 May 2002 19:41:39 GMT

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Yeah, the guy said they are working on improving the frequency response. He didn't need me to tell him it was pretty lame.Adam

Subject: Re: Wayne, check this out...
Posted by Wayne Parham on Tue, 07 May 2002 20:42:48 GMT
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Have you tried the JBL 2446 or 2450 2" exit compression drivers? They are much more expensive, but much more high quality too. And then there's the TAD 4001.Alternately, consider running a cone driver midrange. You can horn load them and crossover to 1" compression drivers, which perform much better at high frequency than the larger drivers with 2" throats.

Subject: Re: Wayne, check this out...
Posted by Adam on Wed, 08 May 2002 00:08:30 GMT
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Oh yeah I've been thinking about them, but I could buy a used car for what four of the friggin' things will cost me. That'll come to about three grand cdn man, I need four of them :(.I'm trying to keep the system to a 3-way design, and there aren't really any horns that will load from 200-2000 Hz effectively. perhaps that is my downfall, that I'm not willing to go 4-way. Perhaps I will consider it. 40-160, 160-800, 800-2500, 2500 and up?I don't know of any decent 8" drivers to load from 800-2500. All the Eminence ones are pretty high Q units... If I remember correctly. I'll have to take a second look. Any suggestions?Adam

Subject: Re: Wayne, check this out...

Posted by Adam on Wed, 08 May 2002 00:24:47 GMT
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Woo nevermind, Eminence Beta 8" is packin' a qts of .31 I think and an EBP of 160 or so. Perfect for horn loading!!!!I just hope it sounds decent... Any experience here Wayne?Adam

Subject: Re: Wayne, check this out...
Posted by mikebake on Wed, 08 May 2002 01:03:56 GMT
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Any use for this driver?Maximum Output Transducers: 2012H and 2020H

(Symmetrical Field Geometry) motor structures, the Maximum Output transducers employ a new magnetic structure with a copper sleeve symmetrically positioned on the polepiece above and below the top plate. This copper sleeve is located in a larger voice coil gap than is found in traditional designs, and provides significant reductions in both second and third order harmonic distortion with a single design element. Due to this innovative new magnet structure design, these transducers exhibit extremely low midband distortion and feature a very smooth, gradually rising response over the transducers' target operating ranges.A hallmark of these units is their enhanced dynamic compression characteristics. Power compression in all loudspeakers results from the increase in voice coil temperature and the consequent rise in dc resistance. Power compression at high operating levels can rob music of its essential dynamics. Professional users who are concerned with performance under long-term periods of continuous usage at or near rated power will find that these transducers exhibit approximately 3 dB of power compression at full rated power. ---------- 2012H 250mm (10 in) Midrange/Midbass Transducer 2012H Specification Sheet(Adobe Acrobat, 146kb) The 2012H Maximum Output transducer is specifically designed to provide smooth, low-distortion midrange output for the highest quality sound reinforcement applications. It is suitable for use in both direct radiator and horn-loaded applications, and can be mounted in small enclosures while maintaining smooth, peak-free response. 300 W AES continuous pink noise power capacity 8 ohm impedance 76 mm (3 in) edgewound aluminum ribbon voice coil 75 Hz-7 kHz response 100 dB sensitivity, 1 W, 1 m (3.3 ft) New magnet structure with enhanced distortion-reduction characteristics Net weight: 8.6 kg (19 lb.)

Specs for 2012 driver

Subject: Re: Wayne, check this out...
Posted by Wayne Parham on Wed, 08 May 2002 02:06:56 GMT
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Look at the JBL 2012 and the Eminence Delta 10. They're 10 inch drivers, not 8 inch, but I don't suspect that matters to you. I think you'll find they will serve you well for horn loaded midrange drivers. A three-way speaker is essentially a decade-split system, where each subsystem must cover a decade. A decade is about the bandwidth limit of a horn, so a three-way split can be a nice solution.Two-way speakers require five octaves from each subsystem, and their main advantage is that of simplicity. There is only one crossover point, so there is only one place to consider the effects of overlap. This option is made possible since most speaker motors cover five octaves adequately. However, no horns have this kind of bandwidth, so horn loading can only benefit a part of system response. Compensation must be used if horn are employed over three octaves, so it is a "must" in horn-loaded two-way speakers.

Subject: Re: Wayne, check this out...
Posted by Chris R. on Wed, 08 May 2002 02:18:37 GMT
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Hi Adam, The JBL tent sale has a batch of 2123J's for $130.These look flat as a board, 101dB, ~200Hz-> 5-6KHz.250watts. They are 16ohm drivers, though. Maybe thosewould fit the bill.Chris

Subject: Re: Wayne, check this out...
Posted by Adam on Wed, 08 May 2002 09:07:11 GMT
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Sounds cool, but I really don't have the cash right now... :(Adam

Subject: Re: Wayne, check this out...
Posted by Adam on Wed, 08 May 2002 09:16:47 GMT
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I looked at the JBL 2012 and it looks pretty good, but I'm concerned about the response on a steady climb as it goes to 2 kHz, then some major breakup modes just above that.This particular system is not a case where a 2-way is good, in this config anyway. With your designs, the horn only increases effeciency by 3 db, which lays in perfectly with the rising response of a lot of these woofers. My goal in horn loading the midranges is purely as an effeciency increasing device and will increase the sensitivity by around 10-12 decibels. This means that direct radiating cannot be utilized in a positive fashion because it will be considerably less amplified than the loaded bandwidth.Anyway, I'll keep the ideas swishing around, I'm open to new concepts, however I'd like to avoid direct radiating 2-way systems.Thanks for the input!Adam

Subject: Re: Wayne, check this out...
Posted by djstan on Wed, 08 May 2002 19:11:54 GMT
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i have been using the 6 inch audax PR series paper cone midranges although i have only used stock crossovers so have yet to get them to sound right. but they sure are powerful and well suited to the pro-eminence drivers. i believe yorkville uses them in one of their new high power series and not sure but think mackie uses them in their 3 way series. if anyone can incorporate those with the pi series, let me know.