Subject: Re: you wanted the short reply? too bad!
Posted by Adrian Mack on Sun, 06 Jul 2003 04:08:52 GMT
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Hey Thomas,

The Eminence Delta sounds like it could perform pretty well then. I noticed on the Pi Speakers website, it says max SPL of 126db from the Theater 4pi series that use the Delta 15. When I do a T/S simulation, it shows about 114db SPL in a PiAligned cabinet before it runs out of its 2.7mm excursion. Then again, thats only the length - gap height/2 way for xmax, and it might go further than that without objectionable distortion (low distortion is a major goal of mine though). I didn't think it could hit 126db anyway, or am I missing something?

Your right about the breaking in thing! On my 18LW1400 with double spiders, I had to break that thing in like hell before it 'loosened up. More than any other sub I've used. But after it was done, it sounds awesome.

Eighteen Sound has heaps of 15" models. It seems like the ones that dont have the two copper rings also dont have double spiders either. So thats a shame because I'd like to have the copper rings. There is one particular model that doesn't have what they call DSS, the Double Silicone Spider, but rather what they call a "Twin Spider" and is the only model that they have that has it like this (model 15LW1300). It has an Mms of 99g, which is a lot lower than the 15LW1401 - it has maximum reccomended frequnecy of 1KHz. My compression drivers have output to below 1KHz according to the graph on the website, and reccomend xover of 1KHz. On the compression driver itself is a piece of metal with a graph printed on it which shows what I call a "spastic" graph, dropping off at 2Khz or so, so I guess the one printed on the compression driver itself is probably wrong, because the website states 1Khz xover and the graph on website showing output flat to 1KHz and a bit below that too.

I actually have the Eighteen Sound catalogue here, and it has heaps of info and a few graphs on each driver, with pic. Below is a picture of what the 15LW1401 looks like. Its a pretty poor picture cuz its actually a digital photo i took of the magazine, but nonetheless:

http://members.wasp.net.au/~macky888/18Sound/15xxxxxx/Jam001.jpg

Here is a graph of the 15LW1401 in a 125L box with Fb=50Hz. The pic is taken on a bit of an angle but it shows flat to 2Khz despite 800Hz rec. freq:

http://members.wasp.net.au/~macky888/18Sound/15xxxxxx/Jam002.jpg

The 15LW1401 has a cardboard, straight-ribbed corrugated cone, but its carbon fibre reinforced as well for strength.

The 15LW1300 which is the one with TwinSpiders (not DSS) but I guess its still double spiders, with max recc freq. of 1Khz and the specs are:

Fs=46Hz
Re=5.5ohm

Qms=4.9
Qes=0.39
Qts=0.36
Vas=138L
Mms=99g
Sd=900cm^2
BL=20.2
Le=1.55mH
Xmax=3mm

It looks the same physically as the 15LW1401. Here is a graph of 15LW1300 in the same box as above:

http://members.wasp.net.au/~macky888/18Sound/15xxxxxx/Jam003.jpg

As can be seen it has a pretty strong rise in high frequency response. So hmmmm.

Another interesting one is the 15W1200 which does have DSS and DDR, but maximum reccomended frequency of 1.8KHz. Its got smaller xmax though. Specs are:

Fs=45Hz
Re=5.5ohm
Qms=4.1
Qes=0.27
Qts=0.25
Vas=134L
Mms=108g
Sd=900cm^2
BL=25
Le=1.7mH
Xmax=3mm

Picture of 15W1200 below:

http://members.wasp.net.au/~macky888/18Sound/15xxxxxx/Jam007.jpg

And its graph:

http://members.wasp.net.au/~macky888/18Sound/15xxxxxx/Jam008.jpg

This graphs a bit hard to see, but it goes flat to 1.5KHz, and up about 3db at 2Khz, then falls rapidly.

Theres also the 15W700 which has a lower Fs of 38Hz and lighter moving mass, but has no faraday rings so I wont mention the specs here. But it also doesn't have double spiders.

So what I am thinking the 15W1200 with 1.8Khz maximum reccomended crossover frequency is the best bet. The 15LW1401 shows good response above 800Hz, but nonetheless, they must

reccomend 800Hz for a reason. And thet 15LW1300 shows the rising response which I dont want, but a different box could probably tame this. Out of these, the 15W1200 I think is the least expensive, and 15LW1401 the most expensive. Any thoughts on these drivers?

> You must admit they have insanely well behaved frequency response in the crossover area compared to just about anything else period.

Now thats something I've heard a lot of - why do people say period?! What does it mean!

Thanks!

Adrian
