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11-12-2006

#1

[cvjoint](#)

Member


 Join Date: Mar 2006
 Location: So. Cali./Bucharest
 Posts: 582

 Polk Momo 300.2 > Arc Audio 2500xxk

I know, the rational part of me still denies the above. I would have never thought THIS could happen, I even wanted to buy another 2500xxk without even trying out the amp, check sig.

The experiment: each amp bridged at 4 ohm driving IDMax 12 in sealed box. The **polk** rated at 550w, arc at 1050w. I tried each with my engine on and voltage no lower than 12. My alt. kept it about 12.5 which should be in favor of Arc since in can deliver full power even at 12.

Inside the cabin test didn't show any difference in cone control or overall sq. These amps sounded the same to me, even in later tests on seas mag cones. I seemed to get more output out of my **polk**, so I went outside and did the same tests with trunk lid open so I can see the signal clip leds. I noticed the arc was constantly clipping with the gains quarter way up. I lowered the gains until the clip light was off (minimum). By the way clipping is really bad with arc amps, it seems like it's about to rip my sub out, **polk** shut off until volume is low enough, a lot nicer imo.

Since I have two subs I set the gains on both amps with music blasting until the clip lights went in on both amps. The **polk** was beating the crap out of the IDMax near its limits, whereas the ARC was deff. giving out less output before clipping. Nevertheless both amps still sounded good near limits and deff. give out enough power for this sub. Cooling wise, on a plane surface the **polk** cooled off slightly better, another surprise. In order for the arc to cool of as well, I would have to lift it so the fan would be more efficient. **Polk** has no fan.

My ears (in cabin testing), eyes (out of car testing), and sense of touch(cooling) proved the **Polk** superior in every way.

Please explain what's going on.

2000 Accord Coupe
 Source: Alpine IVA-W200
 Processing: PXA-H701 active front, rear, sub stages
 Front stage: Lcy 108/BG Neo8PDR/Seas Excel W18EX/Peerless XLS 8"
 Rear stage: Dayton rs180s-4/Dayton PT2B-8
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 Amps: Polk Momo c400.4 (x3)/ Polk Momo c300.2 (x5)
 Electrical Upgrades: Big 3/Kinetik HC1400 (x2)/HO alternator/Cap.

Quote

11-12-2006

#2

[zfactor](#)

Ultimate Member

 Join Date: Oct 2005
 Posts: 2,493


 Re: Polk Momo 300.2 > Arc Audio 2500xxk

from the polk's ive used they are pretty nice amps... i dont know if i can say they are as good or better then xxk's... but ive used the xxk's and personally was never truly satisfied nor overly impressed as some are with them... dont get me wrong they were fantastic amps but i didnt think they were as good as maybe i was hoping for... now the arc se's are a whole nother ballgame... i got to play with a 2300 and let me say wow.... huge smile on my face after that one

saw this and had to put it here:
 you cant polish a turd, but you can always chrome it! -Nasser Abo Abdo, president of

audiobahn

--with enough hot glue you can install anything"



11-13-2006

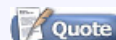
#3

[T3mpest](#)

Junior Member

Join Date: Dec 2005
Posts: 100 **Re: Polk Momo 300.2 > Arc Audio 2500xxk**

some things wrong with your arc? The arc puts out 2x the power assuming the **Polk** isn't totally underrated, so the arc has no reason to clip first, let alone with the gain all the way down. The fact that you were clipping with your gains at 1/4 raises a red flag in my mind. Even with a 8volt preout that shouldn't happen I wouldn't think. SQ wise I'm not surprised you don't hear a difference. You're just pushing a sub, so it's really hard to notice any real SQ differences with tones that low. However the clipping and apparent lack of power shouldn't happen.



11-13-2006

#4

[dual700](#)

Member

Join Date: Mar 2005
Location: Los Angeles
Posts: 580 **Re: Polk Momo 300.2 > Arc Audio 2500xxk**

Check your gain sensitivity on arc vs **polk**.
My Clarion apx1000.2 (same as your 2500xxk/cxl) was badly clipping/shuts off and turns on when I hook up PG Line Driver, the gain on the pg was maybe a hair and the amp will constantly clip, shuts off and turns on constantly.
Turns out that pg Id puts massive 6 V at that gain and Clarion only takes 2.5 V max..whoops...

If gains are all equal, I find it hard to believe your **Momo** > Arc 2500..

Npdang is a sexy mofo



11-13-2006

#5

[zfactor](#)

Ultimate Member

Join Date: Oct 2005
Posts: 2,493 **Re: Polk Momo 300.2 > Arc Audio 2500xxk**

just re-read your statement and realized the huge power difference i agree that with that kind of power difference there must be something wrong somewhere... for some reason the first time i thought you said 2050, which to me would explain the huge differences... but not the 2500...

saw this and had to put it here:
you cant polish a turd, but you can always chrome it! -Nasser Abo Abdo, president of audiobahn

--with enough hot glue you can install anything"



11-13-2006

#6

[3.5max6spd](#)

Member

Join Date: Jun 2005
Location: Jersey
Posts: 733 **Re: Polk Momo 300.2 > Arc Audio 2500xxk**

weird...never once had an XXK amp clip on me into protection, and i've owned several xxk2500's for various uses/impedances. If you are going by a flickering clipping indicator, that's no way to judge if it's really clipping as they are normally sensitive to dynamics- a lot of their amps /eqs with them will put on the light show but it doesn't mean it's truly clipping unless you have a solid red light or the amp shuts off.

I think your testing would be more accurate using some real measurements.

Also, I've used 180watt 2 ch amps bridged that provided more 'bassy' output to a sub than more higher powered ones- not speaking of VOLUME here, you should clearly be able to get louder with your music dynamically with the Arc and maintain precision in those frequencies- that would be the benefits of its headroom.

With all your comments concerning 'clipping', I wouldn't be surprised the difference in output that you are hearing is just higher distortion from the **Polk** pushing its limits.

As far as judging cooling of an amp by feeling it with your hands...lets remember its a 4

layer board, 105degree caps throughout-its made to last longer than most amps putting out that kind of heat. When i feel a heatsink and its hot, that tells me the heatsink is doing its job of transferring the heat away from the board. If an amp truly get too hot for its own good, it'll thermal and shut down. If you are using the amp within its safe impedances and have a proper setup gain structure- this should not ever happen.

Source: Panasonic CQ-TX5500 Vacuum Tube
Processors: PPI DCX-730
Amps: testing.....
Fronstage: Dynaudio System 362
Substage: Rainbow Profi Vanadium 12"



11-13-2006

#7

cvjoint

Member



Join Date: Mar 2006
Location: So. Cali./Bucharest
Posts: 582

Re: Polk Momo 300.2 > Arc Audio 2500xxk

3.5max6spd maybe you are right, maybe the ARC wasn't really into protection mode. I adjusted gains on both amps until the clip indicator started to come in and out. The ARC never shut down, either because it was hot or due to clipping. HOWEVER, when the ARC clip light would come in for just a fraction of a second it would send a nasty tone to my IDMax, proof that it was reaching limits. I would never run the 2500xxk with the light even close to coming on whether it shuts down or not because of subwoofer reliability issues. One more thing to add is that with the arc, my Id coil would start to smell during clipping, virtually nonexistent with the **polk** since this one would cut power off even with the slightest clip.

Talking about dynamics at or near limit, since an equal output is achieved with the **polk** gain way bellow clipping limit, it would send at least equal precision at that equal output.

My test, like all my other tests are done in a practical manner. If you guys want to bench these two and live close to me, or you want to design another experiment I am open to suggestions.

My take on this is not that the ARC is not up to par with its ratings, but simply that the **Polk** is better and rather uber underrated.

More on gain structure: **Polk** goes up to 8v in, ARC only up to 2.5v. My headunit is an Eclipse with 5 volt out. I don't find it hard to believe that the Arc clips with gains very low, in fact it makes sense. A friend of mine got the ARC 2050 to clip really fast with a 4 volt alpine (9833). I consider gain to be equal when both amps start clipping at the same time, not where the knob is turned at say a quarter on both. This would take care of inconsistencies in design, especially since the **polk** even has a "high-low" switch for gain matching. IMO this is a huge downside to ARC as well, I could not level match my 4way front stage using these amps, no enough leway in setting gains, espec. with a 5 v headunit.

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11-13-2006

#8

3.5max6spd

Member

Join Date: Jun 2005
Location: Jersey
Posts: 733



Re: Polk Momo 300.2 > Arc Audio 2500xxk

Just because the Arc can make full power @ 2.5v , does not mean it cannot accept higher voltage without clipping-it just calls for proper gain setting. It rates its sentivity at 2.5v @ 1khz test tone- you'll NEVER duplicate this with actual music, EVER. Many people do not understand this spec for what it actually implies.

BTW I ran Eclipse CD8443/CD8455 for well over 2 yrs to my XXK's. 8volt outputs. The only difference it made to send it this hot signal was that my gains were never past 1/4 way up keeping my noise floor down. And I couldn't get that clipping indicator to flicker until I was up the 70's on the radio.

If you smelled voice coil burning while turning the gain up...well guess what..thats what the raising the signal up 1kw+ pushing near clipping will do to a single subwoofer- compared to

say half the power.

I'm quite sure if you got in contact with any tech @ ID you'd find out the xxk2500 is actually one of their favorite amps, particularly to drive the Max. IMO I would not think the Idmax 'needs' a full 1kw+ in a 1.3cu/ft enclosure- this is another variable you are not taking into account. Perhaps for the alignment its simply too much power. Remember the Max can make great output with as little as 100rms. Doesnt mean that at 10times the power it will get exponentially louder.

Its fine that you come to your preferences based on your experiences. But take into account that you really have not come to that conclusion based on any conclusive, real world means. You certainly have to take everything into account and do a little more than just turn gains by eye/ear and watch for clipping indicator.

Source: Panasonic CQ-TX5500 Vacuum Tube
Processors: PPI DCX-730
Amps: testing.....
Fronstage: Dynaudio System 362
Substage: Rainbow Profi Vanadium 12"



11-13-2006

#9

3.5max6spd

Member

Join Date: Jun 2005
Location: Jersey
Posts: 733



Re: Polk Momo 300.2 > Arc Audio 2500xxk

BTW, i certainly hope that this testing of yours included the use of 4ga input wire (I'm sure the **Polk** requests 8ga at half the power rating) and a decent electrical system. That XXX2500 sure pulls alot more amps than that **Polk**. Again, more things to consider.

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Substage: Rainbow Profi Vanadium 12"



11-13-2006

#10

cvjoint

Member



Join Date: Mar 2006
Location: So. Cali./Bucharest
Posts: 582

Re: Polk Momo 300.2 > Arc Audio 2500xxk

Electrical system: dual power cable runs. My sub amps run on a dedicated 0 ga. cable split into 2 4 ga. cables; big 3 with 0 ga.; optima yellow 875 CCA. The engine was on so that the alt would help too. I did not use my HO alt because my stock Denso puts out more at idle and manages to maintain 12.5v.

My enclosure is actually a 1.3 gross volume. It is a temporary box 😊 My max is the updated version 3, they've said they fixed a lot of the power handling issues the previous subs had.

I haven't seen signs of strain from the max mechanically, and the **polk** was visibly and audibly pushing my Max more.

Voice coil burning might be occuring from other reasons as well. Due to the difference in clipping protection the **polk** will never send a clipped signal. It is easier to burn coils with a clipping amp rather than one that is running under the limit.

I can clip the arc with my cd7000 at 55 and sub level at 0 (or midway) with no Eq or bass boost, loudness, and the hedunit gain at max (did yours have one?, it is for matching source volume levels, maybe yours was set to -10 or something). ARC gain at 1/4.

Again, I don't know why my results are the way they are. I am willing to conduct anouther experiment this weekend although it is hard to do power testing without disturbing neighbors. This was a 4 hour ordeal and I even managed to get heard quarter mille away and turn on alarms on the other side of the street. I am getting my new HO alt in the mail too, 120amps at idle. I should be able to maintain 14 volts at idle with this one. Help me get this ARC to perform better than my **polk** and I will keep it. What should I do different?

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