



Mark audio Alpair 10 - a short report

Sunday, 12 April 2009 around 11:52 clock of [data sheets - chassis generally](#)

Email: [\[Products\]](#)

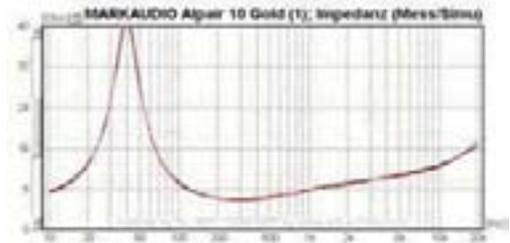
User evaluation: ★★★★☆ /16

Weakly 0 0 0 0 0 Perfectly 16 FUNDATION

We spent our time looking at broad-band drivers shortly after our [visit with the Prolight & sound](#) at [BluePlanet Acoustic](#). Owner Nick Baur kindly packed a pair of Markaudio drivers into the trunk. Our curiosity was high as the largest of Markaudio chassis, the Alpair 10 just fitted our TSP measuring equipment. Thomas Ahlersmeyer, our measurement specialist was so enthusiastic by the positive test results so that he could not wait to publish this short report. Up to the final processing of the data, this short report suggest this Alpair 10 is good. With the [Mark audio Alpair 10](#) Mark of Fenlon, the designer has succeeded in producing a large throw broad driver.

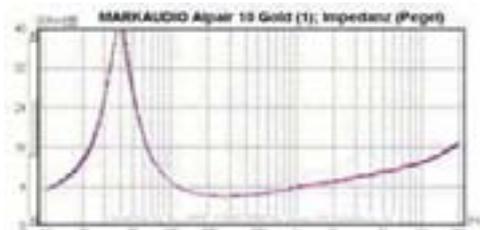
From TSP measurements with additional mass (Average and dispersion of 2 chassis, the excitation -12 dB):

Resonant frequency f_{res}	39,69 cycles per second (+-0,6%)
DC-resistance R_{DC}	5,46 ohms (+-0,3%)
Mechanical quality Q_{ms}	2,340 (+-1,4%)
Electrical quality Q_{es}	0,363 (+-1,0%)
Total quality Q_{ts}	0,307 (+-1,2%)
Effective moved mass M_{ms}	8,64 gr (+-1,7%)
Equivalent air volume V_{as}	20,85 DM ³ (+-0,8%)
Strength factor BL	5,64 N/A (+-1,2%)
Efficiency η_{ts} (1m, 2.83V, semi-infinite space)	89,26 collays (+-0,07)



Systemname	Beschreibung
041003_1_016	Markaudio Alpair 10 Gold, 8 Ohm-2L, Impedanz (12 dB)
041003_2_016	Markaudio Alpair 10 Gold, 8 Ohm-2L, Impedanz (12 dB)

f_{res} = 39,69 Hz, Q_{ms} = 2,340, Q_{es} = 0,363, Q_{ts} = 0,307, M_{ms} = 8,64 gr, V_{as} = 20,85 DM³, BL = 5,64 N/A, η_{ts} = 89,26 collays
 041003_1_016: f_{res} = 39,69 Hz, Q_{ms} = 2,340, Q_{es} = 0,363, Q_{ts} = 0,307, M_{ms} = 8,64 gr, V_{as} = 20,85 DM³, BL = 5,64 N/A, η_{ts} = 89,26 collays
 041003_2_016: f_{res} = 39,69 Hz, Q_{ms} = 2,340, Q_{es} = 0,363, Q_{ts} = 0,307, M_{ms} = 8,64 gr, V_{as} = 20,85 DM³, BL = 5,64 N/A, η_{ts} = 89,26 collays



Systemname	Beschreibung
041003_1_016	Markaudio Alpair 10 Gold, 8 Ohm-2L, Impedanz (12 dB)
041003_2_016	Markaudio Alpair 10 Gold, 8 Ohm-2L, Impedanz (12 dB)

f_{res} = 39,69 Hz, Q_{ms} = 2,340, Q_{es} = 0,363, Q_{ts} = 0,307, M_{ms} = 8,64 gr, V_{as} = 20,85 DM³, BL = 5,64 N/A, η_{ts} = 89,26 collays
 041003_1_016: f_{res} = 39,69 Hz, Q_{ms} = 2,340, Q_{es} = 0,363, Q_{ts} = 0,307, M_{ms} = 8,64 gr, V_{as} = 20,85 DM³, BL = 5,64 N/A, η_{ts} = 89,26 collays
 041003_2_016: f_{res} = 39,69 Hz, Q_{ms} = 2,340, Q_{es} = 0,363, Q_{ts} = 0,307, M_{ms} = 8,64 gr, V_{as} = 20,85 DM³, BL = 5,64 N/A, η_{ts} = 89,26 collays



Systemname	Beschreibung
041003_1_016	Markaudio Alpair 10 Gold, 8 Ohm-2L, Impedanz (12 dB)
041003_2_016	Markaudio Alpair 10 Gold, 8 Ohm-2L, Impedanz (12 dB)

f_{res} = 39,69 Hz, Q_{ms} = 2,340, Q_{es} = 0,363, Q_{ts} = 0,307, M_{ms} = 8,64 gr, V_{as} = 20,85 DM³, BL = 5,64 N/A, η_{ts} = 89,26 collays
 041003_1_016: f_{res} = 39,69 Hz, Q_{ms} = 2,340, Q_{es} = 0,363, Q_{ts} = 0,307, M_{ms} = 8,64 gr, V_{as} = 20,85 DM³, BL = 5,64 N/A, η_{ts} = 89,26 collays
 041003_2_016: f_{res} = 39,69 Hz, Q_{ms} = 2,340, Q_{es} = 0,363, Q_{ts} = 0,307, M_{ms} = 8,64 gr, V_{as} = 20,85 DM³, BL = 5,64 N/A, η_{ts} = 89,26 collays

Our opinion:

The Alpair 10 gold looks simply “more delicious” from all sides and 1st in detail, well finished! From the front naturally “golden” anodised diaphragm falls in the eye. From the rear one is astonished at the plastic frame. It is a complex webbed design which connects drive system with altogether 6 props to the 9-mm thick front plate. The magnetic system is conventionally implemented (ferrite) and appropriately dimensioned (diameter 90-mm, height of 20-mm). The usual characteristics “more modern” chassis like a rear-ventilated centring spider or a “classical” pole centre breathing hole looks can not be found on the Alpair 10. Although the chassis is new was custom designed, shouldn't these features be so important? More on this later. One more feature is the attachment of the cords, which are fastened to the moving coil tangentially, nice work.



The TSP:

The measured TSPs agrees VERY good with the manufacturer data ($F_s=40$ cycles per second, $V_{as} = 19,5$ l, $Q_{ts} = 0,33$). The extremely small dispersion of the TSP of the two measured chassis, which are very close, average of 1%, is still more amazing.

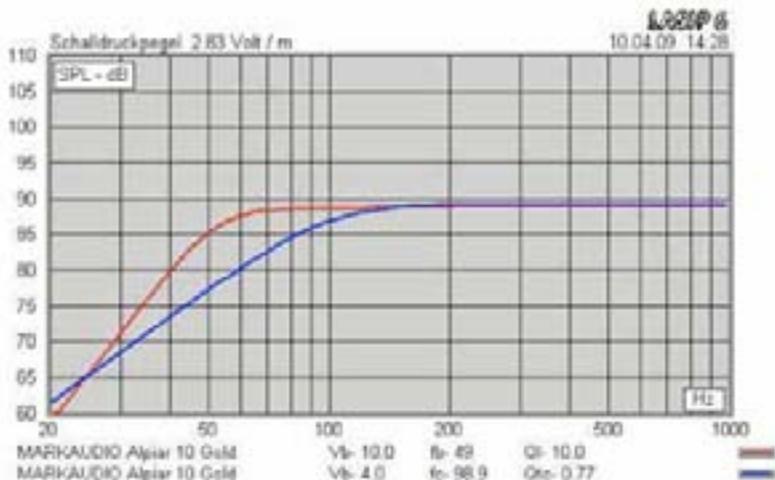
Despite change of the suggestion by 24 excitation (= 16-fache input voltage and/or 256-fache input wattage) the resonant frequency is reduced with the chassis 1 of 40.02 cycles per second (- 18 excitation) on only 38,34 cycles per second (of +6 excitation), thus only about 4% - we have not seen anything else so linear!! **This measurement in predicting that the Alpair 10 gold will be no sad child because even at higher volume levels, it still plays clean.** And thanks of its relatively high efficiency of well 89 dB/2.83V/m it is still content with moderate powered amplifiers.

And all this is done WITHOUT behind ventilation centring spider and WITHOUT a breathing hole in the pole section, 2 features some in the speaker industry says is essential for a linear performance on long throw. So, hat's off to Mr. Mark Fenlon!!

A resonant frequency by 39.7 cycles per second connected courage of a total quality of 0.31 promise in the bass reflex housing a lower critical frequency of something over 50 cycles per second. The volume amounts to acceptable 10 l, the co-ordination frequency lies with still practical 49 cycles per second:

A resonant frequency by 39.7 cycles per second connected courage of a total quality of 0.31 promise in the bass reflex housing a lower critical frequency of something over 50 cycles per second. The volume amounts to acceptable 10 l, the co-ordination frequency lies with still practical 49 cycles per second:

A resonant frequency by 39.7 cycles per second connected courage of a total quality of 0.31 promise in the bass reflex housing a lower critical frequency of something over 50 cycles per second. The volume amounts to acceptable 10 l, the co-ordination frequency lies with still practical 49 cycles per second:



Closed box, it is applicable into 3-4 liters as satellite loudspeakers up to 90 cycles per second. In addition, other housing concepts like a TQWT or a TML are conceivable e.g. owing to the practical TSPs. During the rendition of records with high sound pressure level then however a Subsonic filter is essential with "open" housings, because the indulgence of the restraint is quite high with 1.82 mm/N. In the impedance process the approach of two minimum diaphragm resonance points at 1200 and 1600 cycles per second of on times, then the frequency response settles. Otherwise the impedance process is however picture book perfect.

The preliminary conclusion after the impedance measurement is: We have a very promising broadband driver in our hands. The measurements indicate a good level linearity so the Alpair 10 despite its "size" alone should compete well with the competition. And thanks to its relatively high efficiency of 89 dB/2.83V/m is an ideal partner for some smaller fine amplifiers.

The final frequency response and dynamic measurements are our subscribers shortly in the section "Data / Broadband drivers" section.

The Jordan JX92 remains a very good driver but in comparison, the Alpair 10 gold with 130 € price is a veritable bargain.