

Graphit 8-2 + 8-4 – New Eton Subwoofer Top Models

High-end subwoofers



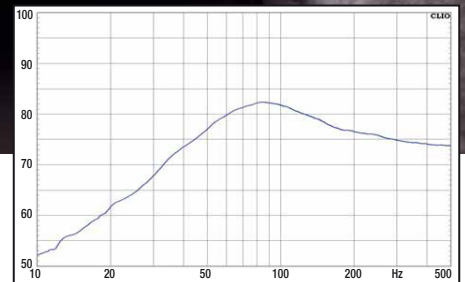
► Although Eton has respectable subwoofers in its product range with the Force woofers, in the high-end SQ area there has been nothing from the long-established manufacturer in Neu-Ulm for some time. But that is now over, for here come the Graphit subwoofers!

The older ones among us will surely remember the time when subwoofers with the best sound quality came from Eton. Equipped with the legendary Hexacone diaphragm they were pure high-end back in the day. Gradually cheaper priced offshoots also then appeared until these wonderful, albeit elaborate, chassis were quietly taken off the market. But now, after a

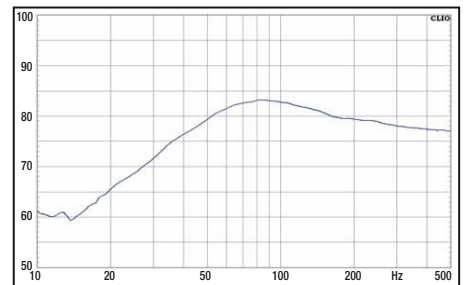
lengthy development period, Eton (we were to receive the woofers for test back last fall, but they were still not perfect enough for the development department) has launched a new subwoofer series that has got what it takes to nail the throne of SQ subwoofers. We are talking here about the brand new Graphit subwoofers. For the moment the 8 and 10-inch models have been unveiled. With 2 x 2 and 2 x 4 ohm dual voice coils respectively, the 20-cm Graphit 8-2 and Graphit 8-4 are both with us in the editorial office. All Graphit woofers are Made in Germany, on which Eton continues to place much importance. They have a solid feel and are a joy to look at: driver basket, cone – everything of top quality. So at long



The basket design has been chosen to match the top Onyx and Core speakers, whose companion was to be the Graphit woofers



The Graphit 8-2 like the 8-4 exhibits an amplitude response that does not seem to have much deep bass, but it works in the car



The Graphit 8-4 operates very harmoniously with a gently falling deep bass slope, though it achieves 83 dB

last the high-end speaker series Core and Onyx get a matching companion in the subwoofer range – and high time too. This can be seen in the basket design of the Graphit woofers which is based on the baskets of the Core and Onyx, the classic and highly robust die-cast baskets with excellent ventilation

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The aluminum dust cap sits directly on the coil former and acts as a heat sink



The ferrite driver works with massive pole plates

and slender triple struts being distinctive features. The Graphit basket is fairly compact, hence the use of a pot spider to extend the mechanical freedom of movement of the moving assembly to 25 mm – enough for an 8" subwoofer. The voice coil overhang, and so the linear stroke, is estimated to be 13 mm, which is quite a lot for such a small chassis. Eton is absolutely serious about the driver of the Graphit 8-2 and 8-4. The pole plates are unusually massive, and the cooling has been very carefully solved by means of rear vent openings in the basket, a pole-piece hole and a ring of holes around the voice coil space. There is also another trick: the dust cap is made of aluminum and is directly glued to the aluminum coil former thereby acting as an additional heat sink. And then this cone ... absolute high tech with an irregular front that makes each woofer unique. The cone is quite thick, though not so thick as air-dried paper usual in a subwoofer. Here we have a sandwich construction with carbon fiber at the front and fiber glass at the rear. This is a superb, very stiff construction, making it a capable lightweight successor to the Hexacone cone.

Measurements and Sound

After the first electrical measurements we were amazed how much driver energy the Graphit woofer has to offer with just a single ferrite ring – that must be an extremely high quality ferrite magnet in combination with a tight air gap. The low Q-factors of around 0.39 clearly suggest bass reflex enclosures, although Eton also recommends the Graphit 8 for enclosed boxes. One can try as the resonant frequencies in free air are around the 30 Hz mark, which is super low for 8-inch subs. And lo and behold: We arranged for an 11.5 liter closed volume with an installed resonance of 45 Hz and Q of 0.64 – perfect for an 8" sub, and with super clean tuning. With two or three liters less would still have worked. The bass that then reaches the ear in the sound check leaves you speechless and listening in rapt attention. True, the bodywork doesn't shake nor does the rear-view mirror fall off, but boy, what sound! Awesomely clean, articulated bass kicks that are one hundred per cent spot on. In many passages it is hard to tell that a subwoofer is there, for example with a bowed double base. Exceptionally, this is intended as a compliment as the bass blends in seamlessly. Turning up the volume modestly also gives real bass pressure, at any rate for a 20-cm sub in an enclosure. Here most users would install at least two Graphits in any case. What never spoils the musical enjoyment was the feeling of lack of depth: the little sub makes real bass, much more than you would expect from an 8-inch unit. Then again play complex passages with fast phrases and the Graphit shows breath-taking dynamic characteristics – big cinema with a small woofer.

Summary

What Eton has served up with these new subwoofers is an absolute attention grabber. The Graphit 8-2 and 8-4 are outstanding woofers and we are looking forward to the 10-cm version.



Subwoofer	Eton Graphit 8-2	Eton Graphit 8-4
Price	about 450 Euro	about 450 Euro
Distributor	ACR	ACR
Hotline	CH-5330 Zurzach	CH-5330 Zurzach
Internet	info@eton-caraudio.eu eton-audio.com	info@eton-caraudio.eu eton-audio.com
Summary		
▶ Sound quality	50 % 1,0	1,0
Bass foundation	12,5 % 1,5	1,5
Pressure	12,5 % 1,5	1,5
Clearance	12,5 % 0,5	0,5
Dynamics	12,5 % 0,5	0,5
▶ Lab	30 % 1,8	1,8
Frequency response	10 % 1,0	1,0
Efficiency	10 % 3,0	3,0
max. volume	10 % 1,5	1,5
▶ Workmanship	20 % 0,5	0,5

Technical data

	Eton Graphit 8-2	Eton Graphit 8-4
Diameter	21,5 cm	21,5 cm
Mounting diameter	18,6 cm	18,6 cm
Mounting depth	9,9 cm	9,9 cm
Magnet diameter	13,4 cm	13,4 cm
Weight	4,3 kg	4,3 kg
Nominal impedance	2 x 2 ohms	2 x 4 ohms
DC resistance Rdc	3,88 ohms	1,70 ohms
Coil inductivity Le	3,05 mH	1,09 mH
Coil diameter	50 mm	50 mm
Cone surface Sd	196 cm ²	196 cm ²
Resonance frequency fs	27 Hz	31 Hz
Mechanical quality Qms	3,90	4,09
Electrical quality Qes	0,43	0,44
Total quality Qts	0,38	0,39
Equivalent volume Vas	18,7 l	18,4 l
Moving mass Mms	96 g	78 g
Rms	4,26 kg/s	3,70 kg/s
Cms	0,35 mm/N	0,34 mm/N
B*1	12,30 Tm	7,69 Tm
Pressure 1 W, 1 m	82 dB	83 dB
Power handling	200 – 400 W	200 – 400 W
Test chamber	closed 11,5 l	closed 11,5 l
Port (d x l)	-	-

