

### Eton Graphit 28 + Graphit 16: High-End Three-Way System Made in Germany



## 16 cm active speaker

► Eton's Graphit Series has reached its zenith with the arrival of the Graphit 80 midrange speaker. Here we test the three-way system consisting of the Graphit 16, Graphit 80 and Graphit 28.

Eton's new high-end Graphit Series was launched last year. The first to come were the outstanding subwoofers Graphit 8 and Graphit 10. It was already clear then that we were dealing with exceptional loudspeakers that would make the hearts of sound quality enthusiasts beat faster. All Graphit chassis are Made in Germany with an attractive finish, including the cones,

the highlight of the series. Here a new material has been employed, a carbon fiber sandwich, which is ultra-stable. That is always good for subwoofers, but a similar cone is also used in the cone speakers Graphit 16 and Graphit 80. This requires very careful design to prevent the cones developing an undue life of their own. It is not just the carbon fiber sandwich that contributes

to the stability of the Graphit cones, but also the geometry with its relatively acute cone angle and the hard aluminum dustcaps integrated into the design. The very nice and stable die-cast baskets of the woofer and mid-range speakers allow excellent ventilation of the chassis. The design is based on the Onyx Reference Series: the mid-range speaker even has a basket identical to that of the Onyx 80 right down to the tiny cosmetic details. The Graphit 16 had to have a new basket as, unlike the Onyx, it has a ferrite magnet drive, which is much wider. On the other hand, the Graphit 80 relies on the expensive neodymium for its ease of installation, as the Graphit baskets and cones are not exactly trimmed to be flat-panel speakers. Common to both is once again the outstanding finish with cleanly machined pole plates and great surfaces. Also there is no need at all for the tweeter to fear comparison: it is brilliantly engineered. In spite of its large 28-mm cone, it fits into the installation housing of a 25-mm dome, including its small rear resonance chamber. In addition Eton has served up a new grille design with the best acoustic transparency.

#### Measurements and Sound

The small rear chamber of the tweeter still achieves a resonance frequency of 1.1 kHz compared to the normal 1.6 kHz. Unfortunately the voice coil is not damped with ferrofluid and this causes a pronounced bump in the frequency response. If necessary the mid-range speaker is usable from 250 Hz and above, and delivers sound pressure far into the high frequency range so that you could almost consider it for wide-band use. Its inconspicuous cone resonance at 4.8 kHz allows us to choose a safe normal cut-off frequency that is comfortable for the mid-range speaker as well as for the tweeter. The Graphit 16 is naturally happy about the relief in the mid-range. It could even feel a little underchallenged over its operating range until 250 to 300 Hz. Levels are no problem for it, but it is really enormous what the mid-range speaker can do. Within its working range it delivers



The 16 does not skimp on installation depth: here the quality centering spider and the straight cone profile can be seen.

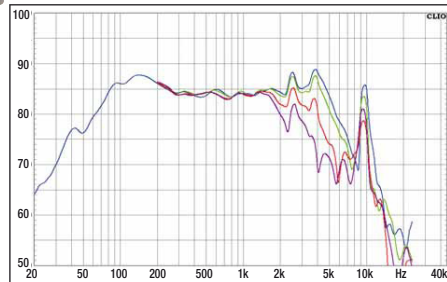


The Graphit 80 has a magnet drive that has been finely made with finely turned and lasered pole plates.

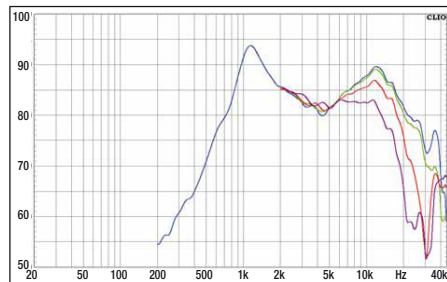
levels which we would usually measure for the 16-cm speaker – and without the onset of distortion. The tweeter is of a similar caliber: from 1.5 kHz it delivers very low distortion – and that without a crossover. The Graphit 16 is noticeable for its stubborn resonance at 10 kHz. It also produces a resonance peak at 2.5 kHz; however, we already got to grips with that during the 2-way test in issue 6/2023 and naturally it is not a problem here. In the listening test the Graphit three-way setup immediately shows the „Graphit qualities“, namely an impressive richness of detail and crystal clear reproduction. The new mid-range speaker does an outstanding job, delivering precision and punch, while also sounding very pleasant with highly authentic voices and instruments. In the bass region you have the impression that the system has gained in power and precision (in comparison with the 2-way test), giving a crisp bass that can also pack a punch. However, overall the Graphit sounds like a single music source and not three way, thereby allowing for relaxed enjoyment. This all takes place at the highest level. You could say the system sounds more expensive than it is.

### Summary

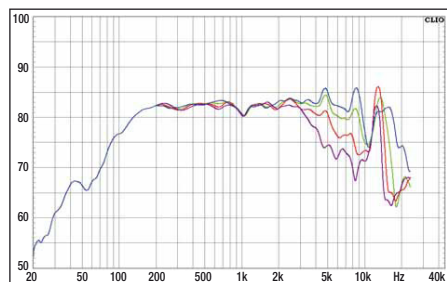
The mid-range speaker Graphit 80 and the three-way system make the series complete. With woofer, mid-range, tweeter and two subwoofer sizes there is now a modular set from which outstanding audio systems can be conjured up.



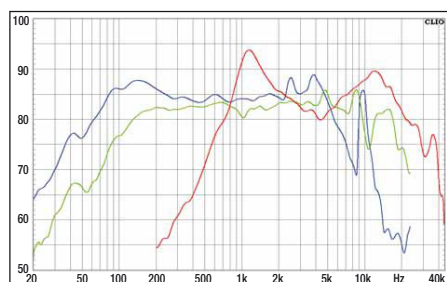
The behavior of the Graphit 16 is anything but docile. Small resonances begin at 2.5 kHz and at 10 kHz there is another sharp peak.



The small resonance chamber depresses the resonant frequency to 1.1 kHz for use at low frequencies.



The Graphit 80 runs on axis almost like a full-range speaker. For a hard cone its amplitude response is well balanced and wideband.



The mid-range speaker is only slightly less sensitive than the mid/woofer. Its wideband working range allows a lot of tuning flexibility.

The Graphit 28 may be identified by its protective grille, acoustically designed to be as sound transparent as possible.

**SOUND-TIP**  
Absolutely top-class  
**CAR & HiFi** 2/2024

### Eton Graphit 16/80/28

Price about 850 Euro  
Distributor ACR, CH-5330 Zurzach  
Hotline info@eton-caraudio.eu  
Internet www.eton-audio.com

### Summary

Sound quality	55 %	1,0	■■■■■
Bass	11 %	1,0	■■■■■
Neutrality	11 %	1,5	■■■■■
Transparency	11 %	1,5	■■■■■
Soundstaging	11 %	1,0	■■■■■
Dynamics	11 %	0,5	■■■■■
Lab	30 %	1,2	■■■■■
Frequency response	10 %	1,5	■■■■■
max. volume	10 %	1,5	■■■■■
Distortion	10 %	0,5	■■■■■
Workmanship	15 %	1,0	■■■■■

### Technical Data

Basket diameter W	166 mm
Mounting diameter W	146 mm
Mounting depth W	69 mm
Manget diameter W	100 mm
Basket diameter M	94 mm
Mounting depth M	40 mm
Tweeter dome diameter	28 mm
Tweeter housing diameter	44 mm
Max. cut-off frequency W/M	3/none kHz
Min. cut-off frequency M/W	300/2,3 kHz
Tweeter protection tweeter	2,3 kHz
Cut-off frequency while testing	400/3,5 kHz
EQ while testing	-
Fits in here *	-
other	-

Nominal impedance	4 ohms
DC resistance R <sub>dc</sub>	3,26 ohms
Coil inductivity L <sub>e</sub>	0,47 mH
Coil diameter	38 mm
Cone surface S <sub>d</sub>	131 cm <sup>2</sup>
Resonance frequency F <sub>s</sub>	70 Hz
Mechanical quality Q <sub>ms</sub>	6,31
Electrical quality Q <sub>es</sub>	0,86
Total quality Q <sub>ts</sub>	0,75
Equivalent volume V <sub>as</sub>	7,7 l
Moving mass M <sub>ms</sub>	16,0 g
R <sub>ms</sub>	1,11 kg/s
C <sub>ms</sub>	0,32 mm/N
B*l	5,18 Tm
Pressure 2 V, 1 m	87 dB
Power handling	50 – 150 W

### Eton Graphit 16/80/28

**Absolute Top-Class 1,1**

**CAR & HiFi** 2/24

Price/performance: excellent

“Great three-way system from high-quality components.”