

### Eton Graphit 28 + Graphit 16: Premium Speakers Made in Germany



## 16-cm top class speakers

► After launching the new Graphit Series of subwoofers in recent months, Eton now also has speakers out for the front system. Here we take a closer look at the Graphit 16 and the Graphit 28.

In contrast to the subwoofer segment, where a gap in the product range has now been closed thanks to the Graphit woofers, Eton has traditionally been very well positioned among the small speakers. In the range of 165-mm chassis and systems alone, there are 11 speakers to choose from while the Southern German company never tires of developing new series. Our Graphit 16 and Graphit 28 cost 350 and 200 euros respectively, and are made in Germany. They come as a pair for active systems. There are no component speakers with passive crossovers. But there will soon be a suitable mid-range speaker in the form of the Graphit 80.

The Graphit Series is already visually an absolute treat and lines up in the loudspeaker product range directly behind the high-end Onyx Series. The styling exactly matches the Graphit subwoofers, which we have tested in recent issues. It is characterized by the Graphit cone with its unmistakable exterior appearance, which stems from the carbon fibers used in the sandwich construction. The cone is quite thick and incred-

**The Graphit 16 has a driver that has been super cleanly made with finely turned and lasered pole plates**

ibly sturdy. It has an almost perfectly conical form putting it not among the NAWI cones, which flare out to the edge like a trumpet. The name means non-developable from the German "Nicht Abwickelbar". If a NAWI cone is cut open on the radius, it cannot be unrolled flat onto a plane. On the other hand, AWI cones as used on the Graphit are developable: you can cut them and roll them out flat on the table. The NAWI form normally has advantages in the mid-range because it oscillates more strongly in the inner region than in the outer, thereby reducing the effective cone surface area. The AWI shape should however oscillate like a piston without deforming in any way. To give the mid-range a strong sound pressure Eton came up with another idea, namely the aluminum dust cap, which is directly glued to the voice coil former and by this, firmly coupled mechanically. Unlike a soft protective dust cap it therefore contributes to the sound radiation. With a diameter of 38 mm the coil is in addition very generously dimensioned – good for resilience. The wonderfully made die-cast basket is similar to that of the Onyx 16, but is not identical. Common to both are the robust construction and the outstanding ventilation. And in contrast to the Onyx the Graphit 16 must manage with a ferrite drive magnet. However, it is also well dimensioned and finely made. Its counterpart in the high range is the Graphit 28, which operates with a 28-mm woven fabric dome. As with the CSX 28+ Eton has again managed to present a 28-mm dome with



## Graphite 16 + 28 • TESTREPORT CAR&HIFI 6/2023

the installation size of a 25-mm one. The Graphit 28 does however have a slightly different dome geometry to the coated woven dome. As a bonus it has got a small rear resonance chamber, which also fits completely into the 25-cm mounting cup so that the Graphit 28 can get the maximum performance out of its dimensions.

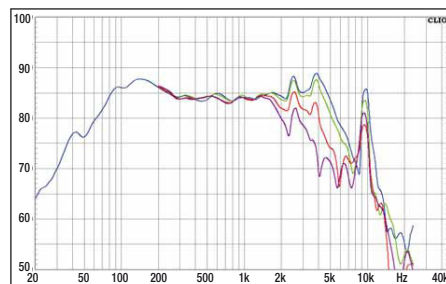
### Measurements and Sound

The rear resonance chamber lowers the resonance frequency of the tweeter to 1.1 kHz. At a rough estimate this allows operation above double that frequency. What is more our measurements show that even without a crossover (1) the distortion only exceeds the 1 % mark below 1.5 kHz. The Graphit 28 is thus excellently set up at low frequencies for its size. At the upper end of the frequency response, however, above 15 kHz it already starts losing sound pressure. This is not unusual with Eton, where it is not super important to have a straight line up to 40 kHz. The Graphit 16 revealed itself in front of the measurement microphone as a tough nut to crack. The carbon cone runs perfectly up to 2 kHz and emits usable sound pressure up to 5 kHz. The resonance at 10 kHz shows itself to be persistent. The little spike at 2.5 kHz also lies dangerously close to the transmission band. But the distortion measurements remain very clean up to high level, so there is nothing to complain about for now. Certain though is the fact that the Graphit 16 is a rather uncompromising design: with the hard cone and dust cap it is trimmed to either top or flop performance. Therefore it became exciting in the listening test as the Graphit speakers were allowed to warm up. The sound that then came over exceeded even our high expectations. With a clarity that can reveal any number of details the duo played across the whole frequency range. The high range sounds transparent, but super pleasant and suitable for long

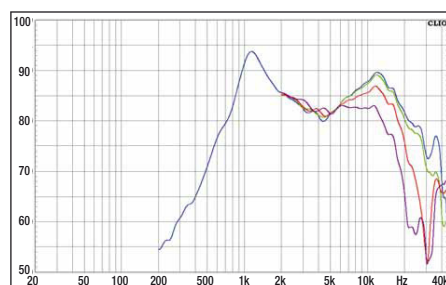
distance listening. What the vocal range brings out in precision is breathtaking: in the case of sonorous male voices you hear the whole volume of the chest. And naturally the cone has no problem in producing even thumping bass; here everything is spot on within the realm of possibilities of a 16-cm speaker. Overall though it does not sound dissecting and the Graphit duo is capable of also allowing the music to flow so that the sound appears coherent.

### Summary

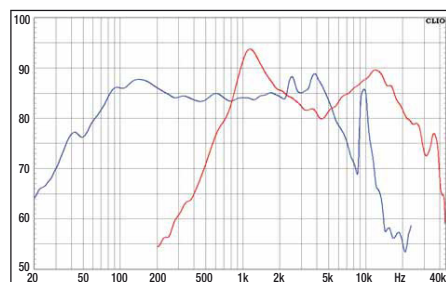
With the Graphit speakers Eton has enriched the field of sophisticated systems with an excellently made set that is sonically outstanding. Sound quality fans will find here a great series at a price that is still not too elevated.



**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 lowers the resonance frequency to 1.1 kHz, for a low applicability.**



**The woofer is to blame for the fairly narrow overlap of the two chassis, requiring careful tuning in the car.**



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

### Eton Graphit 16/28

Price	about 550 Euro
Distributor	ACR, CH-5330 Zurzach
Hotline	info@eton-caraudio.eu
Internet	www.eton-audio.com

### Summary

Sound quality	55 %	1,1	■■■■■
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 M/W	166 mm
Mounting diameter M/W	146 mm
Mounting depth M/W	69 mm
Manget diameter	100 mm
Tweeter dome diameter	28 mm
Tweeter housing diameter	44 mm
Max. cut-off frequency M/W	none
Tweeter protection tweeter	2,3 kHz
Tweeter volume adjustment	2,3 kHz
EQ while testing	-
Fits in here *	-
other	-
Nominal impedance	4 ohms
DC resistance Rdc	3,26 ohms
Coil inductivity Le	0,47 mH
Coil diameter	38 mm
Cone surface Sd	131 cm <sup>2</sup>
Resonance frequency Fs	70 Hz
Mechanical quality Qms	6,31
Electrical quality Qes	0,86
Total quality Qts	0,75
Equivalent volume Vas	7,7 l
Moving mass Mms	16,0 g
Rms	1,11 kg/s
Cms	0,32 mm/N
B*I	5,18 Tm
Pressure 2 V, 1 m	87 dB
Power handling	50 - 150 W

### Eton Graphit 16/28

**Absolute Top-Class 1,1**

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Price/performance: very good

"Premium speakers. Simply extraordinary."

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

