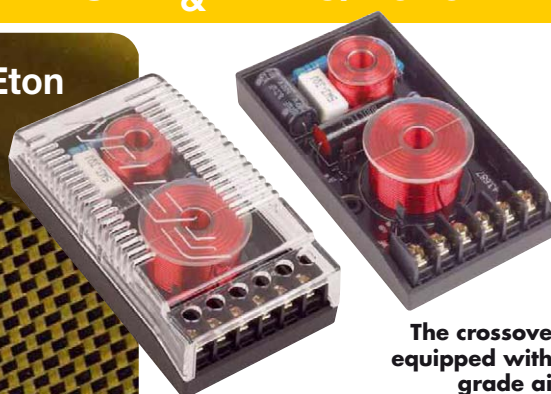


CSR 16: High-tech Component Speaker from Eton



The crossovers are equipped with high-grade air coils

the mid/woofer. Furthermore it is very well vented with large apertures, and there are also vent openings beneath the centering spider. The latter is woven from two different yarns, while the surround is made of rubber. The cone has a slight NAWI (non-developable) form, involving the use of a new material. This is a further development of the RSR cone that consists of a Rohacell core. The hard foam material provides stability and demonstrates outstanding damping properties. In the case of the CSR, resin impregnated fiber mats are added on both sides — carbon fiber on the front and glass fiber on the back. With this material mix the ETON developers have achieved outstanding stability without unwanted resonances. The aluminum dust cap glued directly to the voice coil former as for full-range speakers takes care of the ultimate kick. That brings a bit of extra sound pressure at the top end of the speaker frequency response. They have done an excellent job on the driver of the

High-tech-Sound

► From ETON we are of course used to speakers that are equipped with in-house high quality cone materials. Now with the CSR we have a fine example of a high-tech component speaker.

Actually ETON is already very well positioned among top range component systems. With the MAS 160, RSE 160 and RSR 160 there are three 16-cm compo speakers between 300 and 500 euros. But ETON has spared no effort in offering the CSR 16 system, which at 400 euros lies exactly in the middle. And it is not that the CSR has been put together using a modular parts kit: everything about it seems rather new. That goes for the highly robust and great-looking die-cast basket of



Finely made new die-cast basket and swish crafted drive system

16-cm speaker. We find a lavish 32-mm voice coil and a large pole piece vent that is good



The composite cone of the 16-cm speaker is kept in check by a centering spider of mixed fabric

for airflow. However, the tweeter also does things in style. In a typical pivoting enclosure, a hard diaphragm ceramic dome works in a soft suspension that we are familiar with from ETON's top systems. Only the dome of the CSR is based on aluminum and not magnesium, as with the Core. The aluminum is anodized in a special process in which it is given a ceramic coating that ensures a particularly high hardness and intrinsic sound velocity, while the aluminum takes on the damping role. The new thing about the CSR tweeter is the small rear coupling chamber. This serves to extend the area of application towards lower frequencies and in the case of the CSR tweeter hardly protrudes so that it remains great to install. Even the crossover is new. Here ETON has again made an improvement in using generous air coils with thick wire gauge as well as decent metal oxide resistors. You can tune the level of the tweeter, and select the slope of the woofer to be 6 or 12 dB/octave.

Measurements and Sound

Anyway, the small rear coupling chamber of the tweeter lowers its resonant frequency from the typical 1.7 kHz to 1.4 kHz so that it can be coupled a bit lower. The material resonance of the ceramic dome at 24 kHz is high and therefore outside the audible range, though it is distinctly evident. The midrange/woofer speaker is immediately pleasing thanks to its balanced set of parameters. The quality factor is a very practicable 0.65 and the resonant frequency at 71 Hz is not excessively low — an ideal prerequisite for a punchy bass. The amplitude frequency response of the 16-cm speaker is near perfect: over the entire working range there is no trace of resonance effects.

A small peak is noticeable at 10 kHz, which is presumably due to the aluminum dust cap — all totally harmless. The performance of the CSR was outstanding during the distortion measurements.

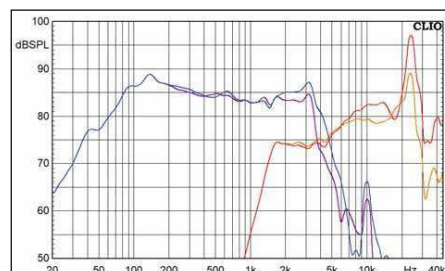
Both chassis are simply outstanding with virtually no distortion right up to high volume levels. Soundwise the CSR does credit to its fine choice of materials. It sounds highly precise, almost analytical, throughout the frequency range. The ceramic tweeter develops a mind-boggling spatial resolution, like its stablemates. A crystal clear soundstage builds up in front of the listener so that you can almost touch the music. The bass reproduction is as precise as the high end; the CSR produces a dry punchy kick – a delight for precision fanatics. In addition, the system produces a flawless, cleanly resolved vocal range so that you immediately feel tonally at home. A very high class performance!

Summary

The ETON CSR 16 has turned out to be a sound highlight. A fine example for quality speakers made in Germany.



The 25-mm tweeter radiates via an aluminum ceramic dome



Both chassis run perfectly in their working ranges. The tweeter cone resonance appears at 24 kHz

SOUND-TIPP
Top-Class
CAR & HiFi 5/2020



Eton CSR 16

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▶ Sound quality	55 %	1,1	■■■■■
Bass	11 %	1,0	■■■■■
Neutrality	11 %	1,5	■■■■■
Transparency	11 %	1,0	■■■■■
Soundstaging	11 %	1,0	■■■■■
Dynamics	11 %	1,0	■■■■■
▶ Lab	30 %	1,3	■■■■■
Frequency response	10 %	1,5	■■■■■
max. volume	10 %	1,5	■■■■■
Distortion	10 %	1,0	■■■■■
▶ Practice	15 %	1,3	■■■■■
Crossover	5 %	1,5	■■■■■
Workmanship	5 %	1,0	■■■■■

Technical Data

Chassis diameter	165 mm
Mounting diameter	77 mm
Mounting depth	146 mm
Magnet diameter	90 mm
TW dome diameter	25 mm
TW housing diameter	44 mm
Crossover slope L/H	6, 12/12 dB
Tweeter protection	-
Tweeter volume adjustment	+3, 0, -3 dB
Grille	-
Other	mounting adaptors
Nominal impedance	4 ohms
DC resistance R _{dc}	3,25 ohms
Coil inductivity L _e	0,43 mH
Coil diameter	32 mm
Cone surface S _d	137 cm ²
Resonance frequency F _s	71 Hz
Mechanical quality Q _{ms}	5,39
Electrical quality Q _{es}	0,74
Total quality Q _{ts}	0,65
Equivalent volume V _{as}	8,4 l
Moving mass M _{ms}	15,5 g
R _{ms}	1,29 kg/s
C _{ms}	0,32 mm/N
B ¹	5,54 Tm
Pressure 2 V, 1 m	86 dB
Power handling	30 – 150 W

Summary

Price	about 400 Euro
Sound quality	55 % 1,1 ■■■■■
Lab	30 % 1,3 ■■■■■
Practice	15 % 1,3 ■■■■■

Eton CSR 16

Ultimate-Class
Top-Class
Upper-Class
Middle-Class
Entry-Class

1,2

Price/performance:
excellent

CAR & HiFi

edition 5/2020

"Outstandingly made and great sounding system"