

EMPHASER

ECX-G4 G5 G6 • TEST REPORT CAR&HIFI 6/2024



Emphaser ECX-G4 + ECX-G5 + ECX-G6
- Coaxial speakers for the discerning

Premium Coaxials

► With the ECX series Emphaser proves that coaxial speakers are not just for the cost-conscious or as background sound. We take a look at the 10, 13 and 16 cm units.

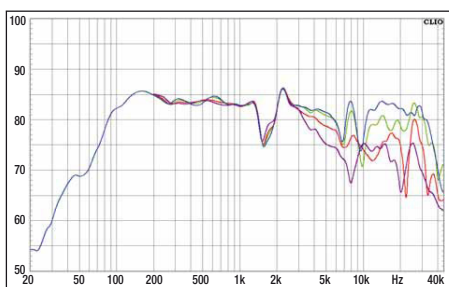
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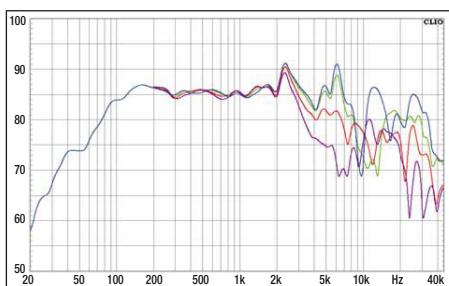


Excellent build quality, the ECX coaxials are a pure joy to behold. The mid-high range crossover is attached to a cable harness and so can be installed in the dashboard

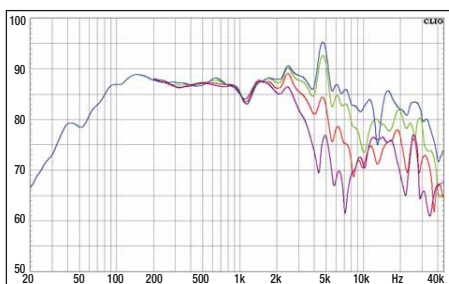
Coaxial speakers are highly praised in the home segment, but in the car they are frowned upon among sound freaks.



G4 has an even curve with acoustically harmless dip around 1.5 kHz



The G5 shows typical coax dips in the upper mid-range that shift at different angles



The G6 runs perfectly except for residual cone resonance of the woofer, evident at 4.7 kHz

That may also be because coaxials are normally positioned in the lower end of the market with a corresponding low-cost design. Emphaser has now decided to add coaxials alongside the component speaker systems of the ECP-G series. That makes sense since there is definitely a use for high quality coaxials. Be it in the living space of a camper or as rear door speakers that, thanks to similar cone technology, will sound coherent when the corresponding component speaker system is installed at the front. With Emphaser the ECP-G component speakers are the ideal partner as our ECX coaxials offer the same technology and features except for the tweeter and crossover. First of all there are the very nicely made baskets of die-cast aluminum that are very sturdy, and with their slender double spokes offer very little resistance to air movement. All the piece parts of the ECX are finely made: for example the pole plates are perfectly planned so that they abut firmly against the ferrite ring. Also pleasing to the eye are the gray-painted magnets and cleanly fitting cover plates on the lower pole plates that conceal the leads to the tweeter. The leads to the woofer coils are woven into the centering spiders and so cannot develop an undesirable life of their own. The cones are made of paper, which is characterized by good intrinsic damping. To improve the acoustic properties a mineral coating has been applied to the front of the cones. The tweeters are the critical part with coaxial speakers. Budget

models often feature plastic baskets that do not sound good enough to be convincing. Also the method of mounting the tweeters says something about the quality of the speaker. If you want to know how it should be done then look at the Emphaser ECX. Here the tweeters are mounted in place of a dustcap so that the centers of generation of the mid-bass and treble, namely the voice coils, are as close together as possible. The mid-bass and treble sound components there show no large time alignment differences — no disadvantage acoustically. The alternative of a tweeter assembly with column in front of the woofer cone has a poorer time alignment and hinders the sound radiation of the woofer. Emphaser has given the ECX tweeter fine woven fabric domes — really tiny with 13 mm voice coils that fit in the 25 mm voice coil formers of the woofers.

Measurements and Sound

The little tweeter shines in front of the measurement microphone, delivering full sound pressure to over 30 kHz, showing the advantage of the small cone. On the other hand the amplitude responses of all three coaxials show a successful transition from woofer to tweeter because no cancellation is evident at the crossover frequency. The G4 has a dip in the frequency response around 1.5 kHz caused by the woofer, but with no negative effect on the sound. On the other hand the small dips at high frequencies are interfer-

Painted ferrite rings and cover caps under the pole core make for a neat appearance



ence points between woofer and tweeter components, indicated by the fact that they change when at an angle. In the case of the G6, at 4.7 kHz we see the cone resonance of the 16-cm unit. That certainly looks rather dangerous, whereas the bump at 2.2 kHz in the G4 is too small for a cone resonance. The distortion spectra of the three coaxials are decent, though G4 and G5 in particular are no star performers. In return all three have very high maximum levels for their cone sizes. In the sound check all three coaxials score with their brilliant, very well resolved treble and accurate spatial representation of the soundscape. The bass reproduction can also be pleasing, with all three delivering robust bass: the G5 crisp and balanced, and as you would expect the deepest coming from the G6. The mid-range offers enough corners and edges for brass or distinctive male voices not to sound softened. However there are speakers that are more fun. Instead music listening with the ECX is not tiring. It always sounds dynamic and thrilling.

Summary

With the ECX-G4, ECX-G5 and ECX-G6, Emphaser offers coaxial speakers that serve even the more discerning ear well. For around 200 euros you also get an excellent build quality and simply superbly made speakers.

Loudspeaker	Emphaser ECX-G4	Emphaser ECX-G5	Emphaser ECX-G6
Price	about 170 Euro	about 190 Euro	about 200 Euro
Distributor	ACR, CH-Zurzach	ACR, CH-Zurzach	ACR, CH-Zurzach
Hotline	info@acr.eu	info@acr.eu	info@acr.eu
Internet www	emphaser.com	emphaser.com	emphaser.com
Summary			
Sound quality	55 %	1,2	1,2
Bass foundation	11 %	1,0	1,0
Neutrality	11 %	2,0	2,0
Transparency	11 %	1,0	1,0
Spatiality	11 %	1,0	1,0
Dynamics	11 %	1,0	1,0
Lab	30 %	1,5	1,5
Frequency response	10 %	1,5	1,5
max. volume	10 %	1,0	1,0
Distortion	10 %	2,0	2,0
Practice	15 %	1,5	1,5
Crossover	10 %	2,0	2,0
Workmanship	5 %	0,5	0,5
Technical data			
Chassis diameter	104 mm	132 mm	165 mm
Mounting cutout	93 mm	120 mm	143 mm
Mounting depth	45 mm	57 mm	64 mm
Magnet diameter	70 mm	85 mm	85 mm
Tweeter dome diameter	13 mm	13 mm	13 mm
Tweeter housing diameter	-	-	-
Slope	-6 dB	-6 dB	-6 dB
Tweeter protection	-	-	-
Tweeter volume adjustment	-	-	-
Grill	-	-	-
Other	-	-	-
Nominal impedance	4 Ohm	4 Ohm	4 Ohm
DC resistance Rdc	3,31 Ohm	3,33 Ohm	3,31 Ohm
Coil inductivity Le	0,13 mH	0,18 mH	0,21 mH
Coil diameter	25 mm	25 mm	25 mm
Cone surface Sd	53 cm ²	85 cm ²	131 cm ²
Resonance frequency fs	109 Hz	77 Hz	57 Hz
Mechanical quality Qms	6,10	5,04	4,54
Electrical quality Qes	0,92	0,60	0,61
Total quality Qts	0,80	0,54	0,53
Equivalent volume Vas	1,5 l	4,8 l	15,6 l
Moving mass Mms	5,6 g	9,0 g	11,9 g
Rms	0,63 kg/s	0,86 kg/s	0,94 kg/s
Cms	0,38 mm/N	0,48 mm/N	0,65 mm/N
B*I	3,71 Tm	4,89 Tm	4,83 Tm
Pressure 1 W, 1 m	85 dB	86 dB	87 dB
Power handling	30 - 100 W	30 - 100 W	30 - 100 W

Upper-class 1,3

CAR & HIFI 6/24

Price/performance: very good

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"Exquisitely built and well made."