

# EM·PHASER

Emphaser Upgrade • BMW 3 • Car&Hifi 2/2019

Smooth upgrade set for many BMWs

## BMW-Upgrade



### Emphaser EM-BMW3FR1 + EM-BMW3SUB, Emphaser EM-BMW3FR2 + EM-BMW3SUB

► Emphaser is admittedly not the first company to offer retrofit speakers specially for BMW, but the Swiss firm has done it really thoroughly. We will take a closer look at the sets EM-BMW3FR1, EMBMW3FR2 and EM-BMW3SUB.



Two adapter rings are included for mounting the tweeters; the larger plastic ring is fitted here

Three speaker sets for newer BMWs have been added very recently by Emphaser to its product range. First we have the FR1, a 10-cm component system for the front and rear doors. The second set FR2 fits in the same installation positions, but it is a 10-cm coaxial system that, at a price of just 115 euros, suggests itself to smart buyers or

for the not so important rear doors. In the third box are a pair of 20-cm underseat woofers that can be combined with either of the two mid-range sets; in general all three sets can be installed independently from each other. The FR1 component system is 200 euros; for the woofers 300 euros stays with the dealer so that the three-way set fits



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Emphaser even offer empty enclosures to put under the front seats. The EM-BMW3SBC are a little larger than the original and cost 100 euros as a pair

The FR2 koax-system also owns a very good tweeter with 19-mm dome design



seemlessly into the market at 500 euros. Very nicely made are the 20-cm underseat woofers: with their chromed driver and the fiber cone they already look impressive. The driver is located in front of the cone. Naturally for reasons of space it works with a neodymium ring and is held by a metal basket. The latter then also serves to protect the cone. At the rear we find a basket made from fiber-reinforced plastic that incorporates the centering. This slim construction gives the Emphaser an installation depth of only 41 millimeters so that it fits into the underseat enclosure without any problem. A perfect fit and Plug & Play connection is very important for Emphaser; this is what also impressed us about our 20-cm component with its perfectly seated basket and original BMW plug connector so that it is 1:1 interchangeable with the original. Emphaser even offer empty enclosures for the (rare) case when a vehicle only has one enclosure of its own, or if the original speaker is so stuck that it is no longer possible to remove without causing damage.

The mid-range speakers also score well with their faultless installability. The

10-cm mid-range chassis are equipped with universal plastic baskets, which have four screw threads for mounting the appropriate BMW adapter. Included with each set are two adapters for the different installation heights found, plus a whole range of seals. To bridge the distances at the front and rear there are seals of various thickness that can be combined as required so that all three BMW installation heights are covered. The compatibility list is correspondingly long, embracing the older E-code models as well as F and G BMWs, and some Minis. The tweeter of the FR1 component system is also provided for with a mounting cup for models that do not have the usual brackets. Located in the supply lead is the

only crossover for the whole system in the form of a capacitor, which relieves the 25-mm titanium dome of bass frequencies. The coaxial system is also equipped with a well made tweeter; here we find a 19-mm woven dome in the center of the mid-range cone. Like the mid-range component this is made from a fiber glass sandwich.

### Measurements and Sound

In the test lab the Emphaser components revealed no flaws. With its large 50-cm voice coil the underseat woofer achieves a high resilience and easily makes a lot of sound pressure thanks to the 2-ohm impedance. The result is an above average output at high level stability. The frequency response of the



Both systems come with comprehensive installation accessories so that they fit into almost all BMW models



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The 20-cm woofer fits perfectly into the underseat enclosure with an installation depth of just 31 mm

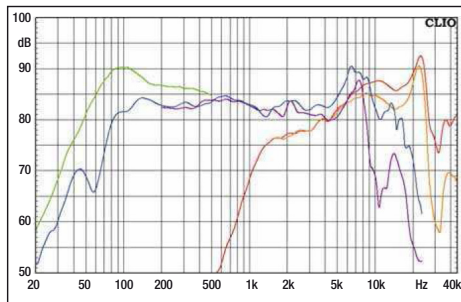


The FR1 component system comes with a 25-mm tweeter with titanium dome

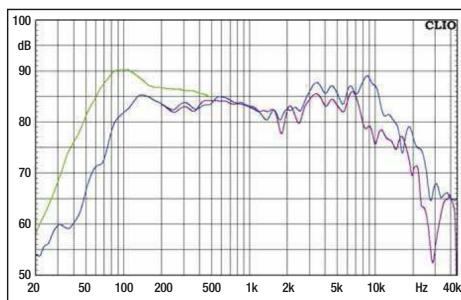
mid-range sets is rather unsettled due to there being no mid-range crossover, but remains benign. And not least the Emphaser components all work together really well so that the distortion we measured happily remained within limits.

Soundwise it gets down to business straightaway, since the clean, really deep reaching bass is joined by a fresh, punchy overall sound, that is full of bounce. The coax system of the FR2 is beautifully harmonic and mellow, though it can show its teeth. The latter makes the FR1 component even more willing; its mid-range performance turns out almost a bit harsh. Voices and instruments sound dry rather than warm.

The tweeter does a very good job, indulging the ears with all sorts of details, and also makes for an above-average broad spatiality. Altogether the Emphaser components improves the sound tremendously with vibrancy and dynamic capacity. They are incomparable with the BMW speakers that they are intended to replace.



Emphaser EM-BMW3FR1 + EM-BMW3SUB: The FR1 component system is pleasing for its perfectly flat mid-range; only at the top end of the mid-range cone are some resonance spots evident



Emphaser EM-BMW3FR1 + EM-BMW3SUB: Overall, the FR2 coaxial system is well balanced with a slight accentuation in the presence range that should not have a negative effect in the door mounting

### Summary

The Emphaser BMW Series scores with exact Plug & Play installability and well devised accessories. In addition, these are properly made speakers that give the BMW sound a helping hand.

BMW-Loudspeaker	Emphaser EM-BMW3FR1 +EM-BMW3SUB	Emphaser EM-BMW3FR1 +EM-BMW3SUB
Distributor	ACR	ACR
Hotline	info@acr.eu	info@acr.eu
Internet www.	acr.eu	acr.eu
▶ Sound quality	55 % 1,2	1,3
Bass	11 % 1,0	1,0
Neutrality	11 % 1,5	1,5
Transparency	11 % 1,5	1,5
Soundstaging	11 % 1,0	1,5
Dynamics	11 % 1,0	1,0
▶ Lab	30 % 1,2	1,2
Frequency resp.	10 % 1,5	1,5
max. volume	10 % 1,0	1,0
Distortion	10 % 1,0	1,0
▶ Practice	15 % 1,3	1,3
Mounting quality	5 % 1,0	1,0
Crossover	5 % 2,0	2,0
Workmanship	5 % 1,0	1,0

### Technical data

Chassis diameter	200 mm	200 mm
Mounting cutout	31 mm	31 mm
Mounting depth	100 mm	100 mm
Magnet diameter	34 mm	34 mm
TW dome diameter	25 mm	19 mm
TW housing diameter	42 mm	-
Crossover slope	- / - / 6 dB	- / - / 6 dB
Tweeter protection	-	-
Volume adjustment TW	-	-
Compatible with	E-, F-, and G-modell Mini F and R	E-, F-, and G-modell Mini F and R
Accessories	2 pairs of adapters rings, gaskets, Plug&Play Cable	2 pairs of adapters rings, gaskets, Plug&Play Cable
Nominal impedance	2 Ohm	2 Ohm
DC resistance Rdc	1,79 Ohm	1,79 Ohm
Coil inductivity Le	0,30 mH	0,30 mH
Coil diameter	50 mm	50 mm
Cone surface Sd	255 cm <sup>2</sup>	255 cm <sup>2</sup>
Resonance frequency fs	62 Hz	62 Hz
Mechanical quality Qms	4,73	4,73
Electrical quality Qes	1,23	1,23
Total quality Qts	0,98	0,98
Equivalent volume Vas	15,2 l	15,2 l
Moving mass Mms	39,7 g	39,7 g
Rms	3,26 kg/s	3,26 kg/s
Cms	0,17 mm/N	0,17 mm/N
B*1	4,74 Tm	4,74 Tm
Pressure 2 V, 1 m	89 dB	89 dB
Power handling	80 – 300 W	80 – 300 W

### Summary

Price	500 Euro	415 Euro
Sound quality	55 % 1,2	1,3
Lab	30 % 1,2	1,2
Practice	15 % 1,3	1,3
Price/Performance	excellent	excellent

**CAR & HiFi**

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Mark

**BMW-Loudspeaker**

**1,2**

**BMW-Loudspeaker**

**1,3**

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