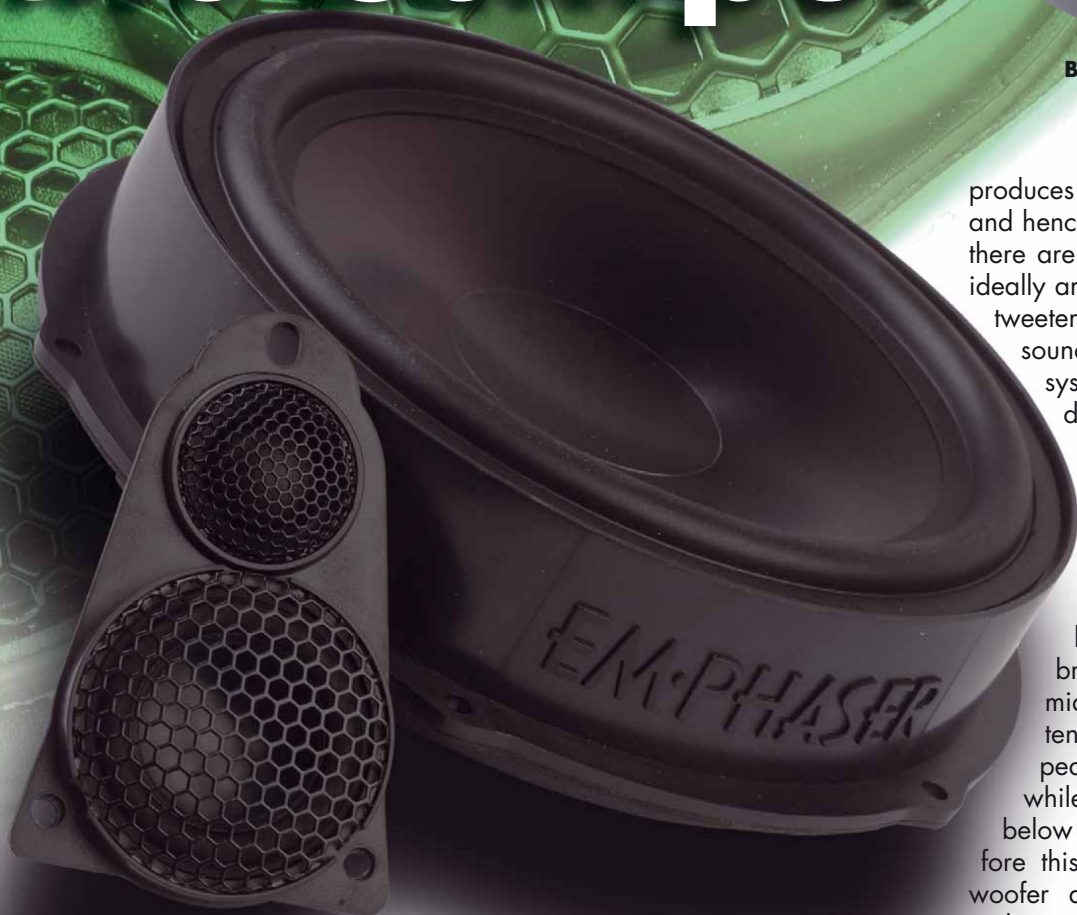


Emphaser EM-VWF3:
Plug & play speaker for the T5

Sound in the Camper



Basket and mounting ring form a single unit made of fiber reinforced plastic injection material

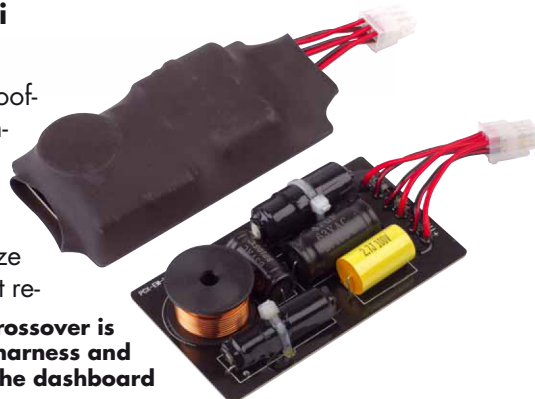


produces can reach into the mid-range and hence up to the tweeter. Naturally there are 20-cm two-way systems that ideally are configured with quite large tweeters, but a nice alternative that sounds good is a 20-cm three-way system. However the T5 Bulli does not have installation slots for a fully-fledged mid-range speaker. Emphaser has traditionally liked to rely on aluminum cones that promise a superb sound in the bass due to their high stability, but which also tend to break into resonances in the mid-range. These resonances often appear as slightly damped peaks in the frequency response, while the speaker runs perfectly below this critical frequency. Therefore this combination of a 200-mm woofer and a small, inconspicuous mid-range speaker makes a lot of sense. For the mid-range speaker in the VWF3 a 50-mm chassis with aluminum cone is therefore employed to make a single unit when combined with the

► Emphaser presents a whole range of Volkswagen speaker sets this season. In this issue we test the system for the Generation T5 Bulli which is also popular as a motor home.

The times when all installed Volkswagen door speakers were 130 or 165 mm as standard are long since gone. Eventually someone came along with the idea of equipping the Passat with 200-mm woofers, and for some time all vehicles have had special mountings that cannot be used without speaker rings. A peculiarity here is exhibited by the T5 Generation VW Bus: not only

has it got an extra large door woofer, but has also been given a compact upper mid-range unit that is not otherwise found. There are very good acoustic engineering reasons for this: the greater the size of the woofer the less the sounds it re-



The mid-high crossover is attached to a wiring harness and so can be installed in the dashboard

EM-VWF3 • TEST REPORT CAR&HIFI 5/2024

tweeter. A small tweeter with a 19-mm cone can then be used, which makes for a very promising combination. In addition, our EM-VWF3 is perfectly finished and a joy to look at, everything making for a very high-quality impression. That includes the crossover, which for a three-way system is naturally more complex than for a two-way set. And as always with Emphaser they have very carefully made this crossover too. The woofer branch sits directly on the plastic injection basket of the door woofer in the form of a second-order low pass filter. The mid-high crossover is housed on a circuit board that disappears into the dashboard during installation and is connected to the vehicle and to the mid-range driver and tweeter with pre-assembled cables. The circuit is again not an economy version and offers a 12/12 dB bandpass on the mid-range and a 12 dB high-pass on the tweeter, all with sensibly selected components.

Measurements and Sound

In the test lab the 200-mm woofer shows itself to be extremely suitable for the large-volume door. With a resonant frequency of 49 Hz and a Q factor of 0.77 it should be a very good match for the bass. The fairly resilient 32-mm voice coil with a 3-ohm impedance and the good characteristic sound pressure at a lush 90 dB promise punchy levels. The amplitude frequency response shows that the crossover rigorously cuts off the 200-mm unit at no later than 1 kHz. Furthermore, the mid-range driver looks rather quiet in the frequency response curve. This is due to the fact

The upper mid-range unit is equipped with a wiring harness of the requisite length ready for installation in the T5

that we do measurements in the acoustic baffle, whereas the EM-VWF3 was developed for the acoustics in the vehicle. In the sound check it sounds extremely crisp and dynamic. These speakers are not short on listening enjoyment. Beautifully precise, hard bass pleases with the right mix of pressure and depth. At the top end, the small dome provides the ears with plenty of the finest musical details, but without being annoying, so that the system is also suitable for listening to music for longer periods. With quite spectacular staging and very suitable crisp mid-range tuning, the EM-VWF3 makes sure that it is never boring.

Summary

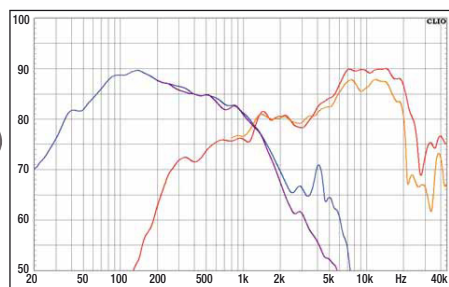
With the EM-VWF3 Emphaser presents a really well made set for the T5. For the money it has a top-class finish, is a flawless piece of engineering and will bring a lot of listening pleasure. What more could you ask for?



Practical:
Woofer branch of crossover on basket with voice coil and capacitor



19-mm woven fabric dome and mid-range driver with aluminum cone



Here the woofer shines with its efficiency, whereas the small mid-range driver clearly delivers too little level. However, this adjustment was made in the vehicle, and can look strange under our measurement conditions



BEST PRODUCT
VW-Loudspeaker
CAR&HIFI 5/2024

Emphaser EM-VWF3

| | |
|-------------|----------------------|
| Price | about 350 Euro |
| Distributor | ACR, CH-5330 Zurzach |
| Hotline | info@acr.eu |
| Internet | www.emphaser.com |

Summary

| | | | |
|--------------------|------|-----|-------|
| Sound quality | 55 % | 1,1 | ■■■■■ |
| Bass | 11 % | 1,0 | ■■■■■ |
| Neutrality | 11 % | 1,5 | ■■■■■ |
| Transparency | 11 % | 1,5 | ■■■■■ |
| Soundstaging | 11 % | 0,5 | ■■■■■ |
| Dynamics | 11 % | 1,0 | ■■■■■ |
| Lab | 30 % | 1,3 | ■■■■■ |
| Frequency response | 10 % | 1,5 | ■■■■■ |
| Max. SPL | 10 % | 1,0 | ■■■■■ |
| Distortion | 10 % | 1,5 | ■■■■■ |
| Practice | 15 % | 1,2 | ■■■■■ |
| Installation | 5 % | 1,0 | ■■■■■ |
| Crossover | 5 % | 1,0 | ■■■■■ |
| Workmanship | 5 % | 1,5 | ■■■■■ |

Technical Data

| | |
|---------------------------|---------------------|
| Nominal diameter W | 200 mm |
| Mounting depth W | 35 mm |
| Nominal diameter M | 50 mm |
| Mounting depth M | 15 mm |
| Tweeter dome diameter | 19 mm |
| Tweeter housing diameter | - |
| Slope W/M/T | 12/12, 12/12 dB |
| Tweeter protection | - |
| Tweeter volume adjustment | - |
| Fits in here * | T5 |
| other | - |
| Nominal impedance | 3 ohms |
| DC resistance Rdc | 2,99 ohms |
| Coil inductivity Le | 1,07 mH |
| Coil diameter | 32 mm |
| Cone surface Sd | 214 cm ² |
| Resonance frequency Fs | 49 Hz |
| Mechanical quality Qms | 6,64 |
| Electrical quality Qes | 0,86 |
| Total quality Qts | 0,77 |
| Equivalent volume Vas | 28,2 l |
| Moving mass Mms | 23,4 g |
| Rms | 1,10 kg/s |
| Cms | 0,44 mm/N |
| B*I | 5,58 Tm |
| Pressure 2 V, 1 m | 90 dB |
| Power handling | 50 - 150 W |

Emphaser EM-VWF3

VW-loudspeaker 1,2

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Price/performance: very good

"Top system for the T5."