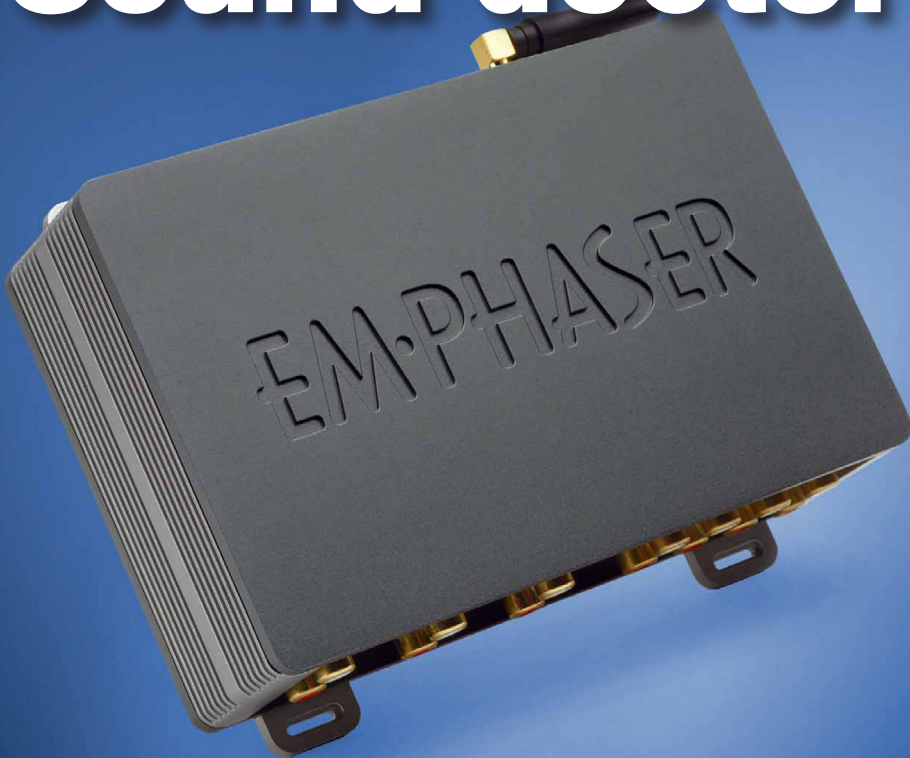




Emphaser EA-D8 ◦ DSP ◦ Car&HiFi 1/2019

Full-feature 8-channel DSP at a low price

Sound doctor



Emphaser EA-D8

► From Emphaser a lot of new products are currently expected, including a series with DSP. The first of these is the stand-alone processor EA-D8, which has just come into the editorial office.

After a long period of quiet in the Emphaser camp, a veritable wave of new products has been announced. Following the spare wheel active subwoofer we wrote about in the last issue, a product line is now due that will please many Car-HiFi fans. Of course it has to do with signal processors and just now Emphaser has three products in the pipeline. Two DSP power amps with 5 and 8 channels will shortly be ready, while the DSP is already on our test bench. The little box has turned out really attractive and sparkles with its high quality aluminum packaging in matt anodized Emphaser Green. The small antenna at the rear immediately indicates wireless communications, and one searches in vain for a USB port for connecting a PC. The E8 is

programmed with a smartphone app, which is available for both iOS and for Android devices. What is very nice is that Emphaser has really done a good job here, and also implemented music streaming with Bluetooth as well. In addition, the E8 manages eight output channels, and that for just 250 euros, which can only be described as very attractive.

The hardware makes a very good impression. Here we find a four-channel high-level input in the form of a system connector that connects to the ISO connectors in the vehicle via a Plug & Play cable. There are six of these so that the EA-D8 also harmonizes perfectly with retrofitted radios. You will search in vain for a digital input, and the same goes for trigger inputs for Aux sources,

but we cannot grumble for this price. But we applaud the Bluetooth streaming, during which the BT source is automatically switched on and off according to the signal input.

Inside everything is well arranged. The front third of the board is taken up with the analog signal conditioning, and the quality single-channel op amps for the inputs is admirable. The heart of the device is made up of two small ADAU1701 DSPs from Analog Devices with a 28-bit bus width. For an 8-channel processor one would have done, but the 1701 comes with two AD and four DA converters, which saves on external converters. A single stereo ADC is still necessary to digitize all six inputs. We found a nice PCM1802 from Burr-Brown here.



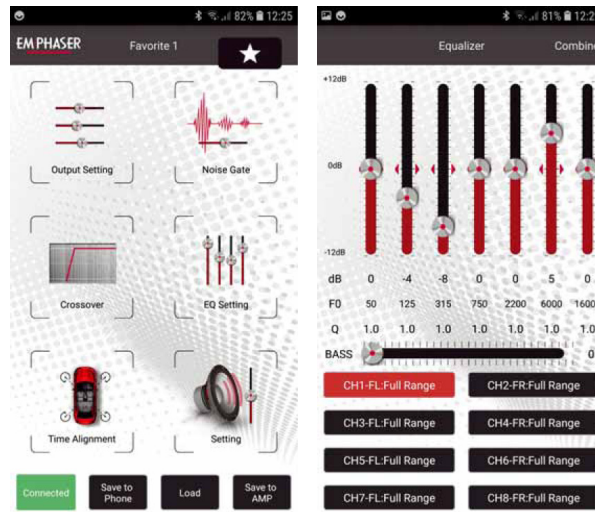
Located in a rear corner are the Bluetooth chips and both DSP cores



Emphaser EA-D8 • DSP • Car&Hifi 1/2019



The 6 inputs have one gain controller per pair; nearby are the 8 outputs



The equalizer offers 7 bands for each channel. Frequency and quality can be input as numerical values; the gain works as a slider

The Emphaser app greets users with the main menu; next to the subsections there are buttons for loading and saving setups

The DSP functions are controlled by an app which works quite fast and intuitively. Under Output Setting the mixing of all inputs to all outputs is continuously variable. Furthermore, for each channel there is a parametric 7-band EQ. The time alignment can be set with sufficient precision at 1 cm, and there is also little to fault with the crossovers. A slope of 6 to 24 dB will serve most purposes. The bass enhancer and the noise gate are two extras that we would like to take with us.

Altogether you have everything you need for driving a fully-fledged car audio system – also on a factory radio. Although one should not expect the D8 to match high-end processors on the market in processing power, setting accuracy, or vehicle integration, it

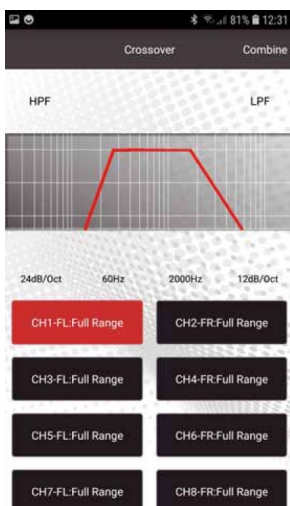
nevertheless represents an attractive package for the price.

Summary

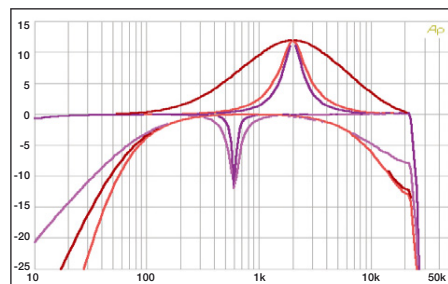
With the EA-D8 Emphaser presents a signal processor with a complete audio configuration and enough channels for a fully-fledged system that has turned out really well and costs little. There is extra praise for the integrated Bluetooth audio streaming and for the practical app control.



The high-level inputs are at the rear, where the Bluetooth antenna is also fitted



In the crossover menu a bandpass is available for each channel. High and low pass can be separately set as steep as 24 dB/octave



The Emphaser manages everything needed for setting an active system. As usual there is a sharp cut-off at 22 kHz



Emphaser EA-D8

Price	about 250 Euro
Distributor	ACR, CH-Zurzach
Hotline	info@acr.eu
Internet	www.acr.eu

Summary

Dimensions 165 x 126 x 48 mm

Input

- 4-channel high-level
- 6-channel RCA
- Bluetooth-audio-streaming

Output

- 8-channel RCA
- Remote-out

DSP-App (Android)

Equalizer

- full parametric EQ, 7 bands per channel, +12 – -12 dB
- 20 – 20k Hz, 1-Hz-stepping, Q 0,3 – 9,9 crossover
- each of the 8 channels are separately adjustable
- 20 – 20k Hz, 1-Hz-stepping
- Butterworth 6 dB/oct.

Time Alignment / Gain

- time alignment 48 kHz, 512 samples
- time alignment 0 – 420 cm (12,14 ms), 10-mm-stepping (0,028 ms)
- phase 0°, 180°

Features

- 8-channel DSP
- App-control (iOS and Android)
- 5 setups can be saved
- input and output routable
- Switch-on automatic (DC)
- Start-stop function up to 8,0 V
- Bluetooth-audio-streaming with automatic source selection
- Dynamic Bass, adjustable
- Noise gate, adjustable



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„Fully equipped 8 channel DSP at a low price“