

Musway D8 - 8-Channel-DSP-Amp For Factory Audio Systems



In the input mixer, all inputs can be assigned to all outputs. The proportions of mixed outputs can be adjusted individually

FOR ALL CASES...

► With the D8 Musway presents its second DSP power amp. With 8 amplifier channels and 10 DSP channels, it is predestined to power a complete car hifi system.

Already in the last edition of CAR & HIFI the brand Musway celebrated its debut with the 6-channel DSP amp M6 – now the second model is at the start. The D8 offers a much the same concept as the M6, expanded only by two channels. Technically, the two sisters, however, are less related than one might suppose at first glance, so it's worth taking a closer look. The common approach is currently kind of hip: Take an ultra-compact multi-channel chip amplifier, add a DSP and

and optimize for the operation with factory radios or factory sound packages. Also the D8 is ultra-compact, even smaller than the M6, and can be connected via space-saving Molex plugs

There are no controls except the remote switch. The remote control connection will be added in the serial production

with the factory radio (8-channel high-in) and speakers. There is, of course, an automatic turn-on via radio detection (DC offset) including error protection system for diagnostic functions of the radio, and apart from the associated switch, there is nothing to operate from the outside - unfortunately no gain pots for a hardware sensitivity adjustment of the inputs. Furthermore, we can also find the USB port for the PC control and another USB port for the optional Bluetooth function. There are even two BT dongles to choose from: The BTS can be used to apply audio streaming from a smartphone or tablet, while the BTA also offers app control for almost all DSP settings. Not available for our pre-production model, but promised for the series is a port for the display remote control DRC1, as it is known from the M6. Otherwise, there is an analog aux-in (RCA stereo) and two processed RCA outputs. The interior design of the D8 differs significantly from the M6, because the D8 uses the aluminum housing not really as a heat sink. Only half of the power supply transistors and diodes are under the board in contact with the housing. The rest gets a ribbed heat sink, which is free standing inside. This also applies to the amplifier chips, of which there are 4 pieces per 2 channels and which are also bridgeable. This means, you can bridge any of the 8 channels with any pair of channels for better performance, if not all 8 channels are needed.





Practical: The possible connections can be found on the bottom of the housing

The sound processor sits on its own board, and the 32-bit DSP chip comes from Texas Instruments like at the M6. The converter unit sits invisibly on the underside of the board, here we can only assume that because of the large number of channels two codecs are used, which are comparable to the good components of the M6.

Software and App

The PC software is closely related to the M6, it works just as well and is kept pretty slim. Of course, with 10 channels, the non-scalable window will be full and the runtime icon will disappear. However, the settings are presented very clearly and do not give up any puzzles, so that you can cope with it. In addition to the main window, there is a mixer window in which all 10 inputs can be routed to all 10 outputs. Our pre-production sample is missing the Bluetooth-Input, which may be fixed in the series. Also missing is an automatic mode to switch to the vehicle sounds of the factory radio, but here is help. The D8 has a reverse "remote cable", which does this switching to hear the PDC sounds while parking with engaged reverse gear.

The 4 power chips are located under the large heat sink, right next to it the power supply components are cooled



Specifications

Dimensions 205 x 138 x 39 mm

Inputs

- 8-channel High-Level with autosense
- 1 x Aux (RCA, Stereo)

Outputs

- 2-channel RCA (processed)
- Remote-out

DSP-Software (EV 1.07 Test) Equalizer

- full parametrical EQ on the outputs, 31 band per channel (channel 9+10: graphical)
- 20 – 20k Hz, 1-Hz steps
- +12 – -12 dB, Q 0,4 – 29 **Crossovers**
- 20 – 20k Hz, Butterworth, Bessel, Linkwitz, 1-Hz steps
- slope up to 48 dB/oct.

Time delay and Level

- Time correction (48 kHz), to 20,4 ms/ 692 cm, 0,02 ms/7-mm steps
- Phaseshift 0, 180°
- Level adjustment outputs 0,1-dB steps, mute function

Features

- Inputs and outputs arbitrarily routable
- Start-stop ability up to 7.3V
- EPS (Error Protection System) for diagnostic function

Optional accessories

- Bluetooth-Dongle BTA (Audio streaming)
- Bluetooth-Dongle BTA (Audio streaming and App control for all functions)
- Remote Controller DRC1 (Master level, bass level, sources, setups)
- Vehicle cable harnesses
- (Mercedes, BMW, Audi etc.)

There is also a small restriction to report: All channels have full 31 EQ bands, but at the processed outputs the EQ is not parametric, only gain can be set. A special feature of the Musways is the app control, which is introduced with the "big" Bluetooth dongle. The app can not only control the basic functions such as master and sublevel or presets, it gives access to (almost) all DSP settings, so that the Musway can be configured without a PC.



The app offers almost full functionality, here with equalizers and frequency response



The main window is very full with 10 channels, the 10 x 10-channel mixer can be found in an extra window

Measurements and sound

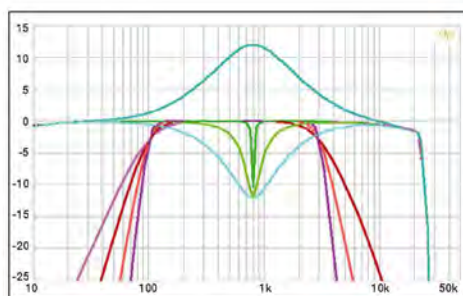
At the measuring station we were pleasantly surprised by the small Musway. Not only does it largely achieve the promised channel power of 50 watts per channel, it does so without too much distortion. Under half load consistently below 0.02%, the little amp does not have to hide. In bridge, there are even 140 watts, so that the power is enough for thick woofers. The DSP also works perfectly, it does exactly what it should, up to the usual 22 kHz, where it locks off the transmission. Matching to the 48 kHz sampling rate, there are also 0.02 ms or 0.7 cm steps for the time correction - absolutely okay. Sonically, we were also quite impressed with the performance. Despite "only" 50 watts, the Musway plays pretty strong and quite dynamic. Natural instruments are reproduced quite authentically and nobody will complain about a lack of details.

Once again we must take the hat off the quality of modern power amp chips, the Musway D8 can also be safely recommended to sound enthusiasts.

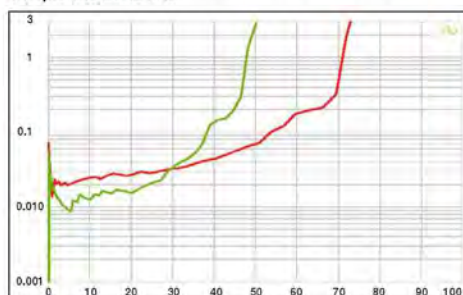
Conclusion

With its 8 channels, the D8 is a very flexible power amp. It works great with factory systems and offers unimagined sound possibilities thanks to DSP. A very successful package that is by no means too expensive for the offered.

Elmar Michels



All DSP settings are possible, the edge is due to the samplerate at 22 kHz



The promised 8 x 50 watts into 4 ohms are almost kept. The D8 shines through the extensive absence of distortion



The DSP board contains the large TI DSP, the controller and two memory chips

Musway D8

Distribution Audio Design, Kronau
Hotline 07253 9465-0
Internet www.audiodesign.de

Sound	40 %	1,3	■■■■■
Bass foundation	8 %	2,0	■■■■■
Neutrality	8 %	1,0	■■■■■
Transparency	8 %	1,0	■■■■■
Dimensionality	8 %	1,0	■■■■■
Dynamics	8 %	1,5	■■■■■

Sound laboratory	35 %	1,4	■■■■■
Power	20 %	1,5	■■■■■
Damping factor	-	-	-
Noise ratio	5 %	1,5	■■■■■
THD	10 %	1,0	■■■■■

In practice	25 %	0,9	■■■■■
Equipment	15 %	0,5	■■■■■
Electronic	5 %	1,5	■■■■■
Mechanics	5 %	1,5	■■■■■

Technical Specifications

Channels	8
Power 4 Ohms	8 x 48
Power 2 Ohms	8 x 71
Power 1 Ohm	0
Bridged Power 4 Ohms	4 x 142
Bridged Power 2 Ohms	0
Sensitivity max. mV	200
Sensitivity min. V	1,0
THD+N (<22 kHz) 5 W	0,012
THD+N (<22 kHz) half load	0,018
Signal-to noise ratio dB(A)	87
Damping factor 20 Hz	38
Damping factor 80 Hz	38
Damping factor 400 Hz	38
Damping factor 1 kHz	37
Damping factor 8 kHz	12
Damping factor 16 kHz	4

Features

Lowpass	20 - 20k Hz
Highpass	20 - 20k Hz
Bandpass	20 - 20k Hz
Bass boost	-12 - 12 dB/20 - 20k Hz
Subsonicfilter	via HP
Phaseshift	0, 180° (DSP)
High level inputs	• 6CH
Auto turn-on (auto sense)	• DC
RCA outputs	• 2CH
Start-stop ability	• 7,3 V
Dimensions (L x W x H in mm)	205 x 128 x 39
Misc	DSP, Aux-Eingang

Rating

Price	around 700 Euros
Sound	40 % 1,3 ■■■■■
Laboratory	35 % 1,4 ■■■■■
In practice	25 % 1+ ■■■■■

Musway D8

Absolute Top Class
Top Class
Upper Class
Lower Class

1,2
Price/Performance Ratio
very good

CAR & HiFi

Edition 4/2018

„Very flexible 8-channel package for factory sound systems.“