

BRAX MX4 PRO

Features

- Two digital stereo digital inputs in SPDIF format (optical and electrical) with a sampling rate up to 192 kHz
- DiSAC (Digital Signal Analog Controlled) volume control for the digital signal inputs, controllable via BRAX DSP
- Optimized quad-layer PCB design for maximized power and signal flow and increased output power
- Lossless switching of the input signals via relays with gold-plated contacts
- Best possible impulse response due to abstinence of coupling capacitors in the signal path
- Incredible damping factor of more than 1,400 @ 4 Ohms for perfect speaker control
- Maximized signal-to-noise ratio due to power supply synchronization
- Extremely complex and regulated switch-mode power supply
- Eightfold-contacted capacitors with a total capacitance of 40,000 μ F and lowest possible ESR as well as a 300 A suppressor choke coil to smooth power supply peak currents
- Separate connector for BRAX power stabilizer
- Loudspeaker protection circuit via sophisticated high current power relays
- Specially designed toroidal transformers made of high permeability core materials for highest possible saturation currents
- 32 hand-selected high-end MOSFET transistors for lowest tolerances and outstanding measurement data
- Engraved serial number on a stainless steel plate
- Impedance independent output power of 300 Watts RMS per channel
- 4, 2 and 1 Ohms stable
- Processor and temperature controlled fan in bottom plate
- Massive heat sink made of a special aluminum alloy for optimum cooling of all power transistors

Special features:

DiSAC (Digital Signal Analog Controlled) volume control in combination with the BRAX DSP

In a car audio system there are typically two possibilities to control the playback volume.

a) The volume will be adjusted in the signal source (e.g. the car radio / head unit):

This is the predominant method, but it has a disadvantage as soon as there is an additional digital signal processor in the audio path. The full resolution of the DSP can only be

exploited when the volume of the source is set to full-scale output. Otherwise audio bits get “lost” so that at very low volume levels the sound lacks of precision. But this loss can also happen if no DSP is in the signal path between head unit and amplifier as most of the radios today incorporate a digital volume control which also has a negative effect on the signal resolution at low volume levels.

b) The volume will be adjusted in the digital signal processor (DSP):

In this case the signal source delivers a full-scale signal so that a DSP in the signal path can operate under best possible conditions without truncating any bits, e.g. during AD conversion process. A remote control connected to the DSP will then be responsible for adjusting the volume inside the signal processor in the digital domain, but this also has a slight impact on sound quality.

The perfect solution:

The MX4 PRO in combination with the BRAX DSP follows a different, yet the most consequent and extensive approach in order to avoid any degradation of sound quality. Audiotec Fischers exclusive and proprietary “DiSAC” technology operates perfectly if either the audio source does not incorporate any volume adjustment or the source always delivers a high signal level. In that case the audio processing inside the BRAX DSP is done without reducing the audio resolution at any time. For adjusting the playback volume either the cable remote URC.3 or the display remote DIRECTOR can be chosen.

The speciality lies in the fact that the volume information from the remote will be encoded inside the BRAX DSP and embedded into the digital audio data stream of the SPDIF outputs and thus transferred to the MX4 PRO.

The MX4 PRO itself is able to extract and decode the volume information from the digital data stream, using this to adjust the lossless analog volume controllers (PGA's) after the DA converters. This simply means that the volume control takes place in the signal path where it does not have any negative impact on sound quality, actually just before the output stages that drive the loudspeakers.

This type of volume control is truly an uniqueness in the car audio segment and proves once again that Audiotec Fischer didn't spare any effort to redefine the pinnacle of sound quality once again.