

HELIX DSP PRO MK2

High Resolution audio at its best!

Thanks to numerous improvements, the new HELIX DSP PRO MK2 raises the bar to a new level, and not just in terms of sound quality.

Besides the extremely powerful 64 Bit Audio DSP, cutting-edge DA and AD converters, the incredible native resolution of 32 Bit will ensure unparalleled sound characteristics. The improved internal power supply as well as the increased maximum output voltage of 8 Volts contribute to the enhanced sound quality of this stunning processor.

Further innovations such as

- ADEP circuit (Advanced Diagnostics Error Protection) in the high level input for circumventing factory-made loudspeaker diagnostic systems,
- "Auto Remote" switch for activating / deactivating the automatic turn-on feature of the high level input
- A software-controlled switch between the optical and coaxial inputs have also been added.

Of course, the HELIX DSP PRO MK2 provides a HELIX Extension Card slot (HEC slot). This allows adding further interfaces, such as the Bluetooth® Audio Streaming module or the High Resolution Audio USB soundcard.

In terms of design, the DSP PRO MK2 shows up with the look and feel that are synonymous with HELIX, the clean form factor offers the perfect pre-requisites for a fast and simple integration.

Wait, there is more, not only has the hardware has been improved – the software as well has been completely revamped. To note but a few of the new features:

- All Pass filter option
- Increased adjustment range of the time alignment
- Switchable sound options of the DA converters

These are but a few examples. Despite its extended feature set, the configuration of the DSP could not be easier thanks to the new DSP PC-Tool V4, which leaves nothing to be desired due to its numerous sound optimization options.

No doubt - the HELIX DSP PRO MK2 will again make dreams of the most ambitious sound enthusiasts come true - that´s a safe bet!

Features

- Extremely powerful "fixed point" Audio DSP with 64 Bit resolution and 1.2 billion MAC operations per second

- AD and DA signal converters of the latest generation with a native resolution of 32 Bit
- High Resolution audio bandwidth up to more than 40 kHz for unrivalled sound quality
- HELIX Extension Card slot (HEC) for additional input / output modules like Bluetooth® Audio Streaming, High Resolution Audio Streaming via USB etc.
- Smart highlevel input with ADEP circuit (Advanced Diagnostics Error Protection)
- Start-Stop capability down to 6V supply voltage
- Freely definable signal routing with separate matrices for line, SPDIF and HEC/AUX
- "Ground lift" switch to avoid ground loops
- Control input for connecting remote controls and accessories
- Time alignment with up to 20 ms delay time per channel, additionally reverse time alignment for in-phase summation of the inputs
- Inputs: 8 x RCA/Cinch, 8 x Highlevel, 1 x optical SPDIF and 1 x coaxial SPDIF
- Outputs: 10 x RCA/Cinch with max. 8 Volts output voltage

Special features:

96 kHz sampling rate

The HELIX DSP PRO MK2 allows to handle all signals with the doubled sampling rate of 96 kHz. Thus the audio bandwidth is no longer limited to usual values like 22 kHz but allows an extended frequency response to more than 40 kHz. Doubling the sampling rate requires significantly higher DSP power as the number of possible arithmetic operations is halved. Only the implementation of the latest DSP chip generation allows raising the sampling rate to 96 kHz and adding new features plus additional channels at the same time.

Signal converters with a native resolution of 32 Bit

The HELIX DSP PRO MK2 uses high-class AD and DA converters of the latest generation with a native resolution of 32 Bit instead of the common 24 Bit. The result is an unprecedented precision in signal conversion that especially optimizes the sound quality at lower signal levels.

Smart highlevel input

The latest generation of OE car radios incorporates sophisticated possibilities of diagnosing the connected speakers. If a common signal processor will be hooked up failure messages and loss of specific features (e.g. fader function) quite often appears - but not with the DSP PRO MK2. The new ADEP circuit (Advanced Diagnostics Error Protection) avoids all these problems without loading the speaker outputs of the OE radio during high volumes unnecessarily.

Start-Stop capability

The switched power supply of the HELIX DSP PRO MK2 assures a constant internal supply voltage even if the battery's voltage drops to 6 Volts during engine crank.

Power Save Mode

The Power Save Mode is incorporated in the basic setup. It allows to significantly reduce the power consumption of the amplifiers that are connected to the HELIX DSP PRO MK2 once there's no input signal present for more than 60 seconds. Please note that in many up-to-date cars with "CAN" or any other internal bus structures it may happen that the radio remains "invisibly" turned on for up to 45 min. even after locking and leaving the car! Once the "Power Save Mode" is active the remote output and therefore the connected amplifiers will be turned off. The HELIX DSP PRO MK2 will reactivate the remote output within a second if a music signal is applied. It is possible to either modify the turn-off time of 60 sec. or completely deactivate the "Power Save Mode" via the DSP PC-Tool software.

Automatic Digital Signal Detection

Switching from analog input to one of the digital inputs is done automatically as soon as a signal is detected on the Optical Input or Coax Input. This feature can be deactivated in the DSP PC-Tool software. Alternatively you can use an optional remote control for manual switching between analog and digital inputs.

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