HELIX

DSP PRO
MK2

DIN EN ISO 9001:2008
ZERTIFIZIERTES UNTERNEHMEN
MADE IN GERMANY

Digital High-Res 10-channel signal processor with 96 kHz / 32 Bit signal path

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
- 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

HELIX DSP PRO MK2 vs. HELIX DSP PRO

HARDWARE	DSP PRO MK2	DSP PRO
Output voltage	8 Volts	6 Volts
Signal converters	A/D: 32 Bit Asahi Kasei	A/D: 24 Bit Asahi Kasei
	D/A: 32 Bit Asahi Kasei	D/A: 24 Bit Analog Devices
Signal-to-noise ratio	116 dB (digital input)	116 dB (digital input)
(A-weighted)	110 dB (analog input)	108 dB (analog input)
Distortion (THD+N)	< 0.0005 % (digital input)	< 0.0006 % (digital input)
	< 0.001 % (analog input)	< 0.001 % (analog input)
IM distortion (IMD)	< 0.002 % (digital input)	< 0.002 % (digital input)
	< 0.004 % (analog input)	< 0.006 % (analog input)
ADEP circuit (Advanced Diagnostics Error Protection)	Yes	-
Auto Remote switch	Yes	-
Optical / Coax input switch	Via DSP PC-Tool software or DIRECTOR	Hardware switch on sidepanel

SOFTWARE	DSP PRO MK2	DSP PRO
Input EQs	5 band parametric / Shelf / allpass	5 band parametric
Input reverse time alignment	5 ms per channel	-
Signal detections	3 (main, HEC/AUX, optical)	2 (HEC/AUX, digital)
Time alignment	20.8 ms per channel	15.6 ms per channel
Phase control	11.25° steps	11.25° steps
Allpass filter	Yes	Not yet
Automatic output limiter	Yes	Yes

The new software features of the DPS PRO MK2 will be added to the DSP PRO at a later time with the compatibility update to DSP PC-Tool V4.

Major selling points

- **High Resolution Audio signal processing with 96 kHz / 32 Bit signal path**
- **Last generation of 32 Bit A/D and 32 Bit D/A converters for highest signal resolution and dynamic range**
- **All necessary inputs for modern car integration incl. ADEP circuit and Auto Remote switch**
- **Optical and coaxial input can now be switched via DSP PC-Tool or DIRECTOR**
- **New DSP PC-Tool V4 software**

Technical data

Inputs	8 x RCA / Cinch	Signal-to-noise ratio	116 dB (digital input)
	8 x Highlevel speaker input	(A-weighted)	110 dB (analog input)
	1 x Optical SPDIF (12 – 96 kHz)		
	1 x Coax SPDIF (12 - 192 kHz)		
	1 x Remote In		
Input sensitivity	RCA / Cinch 2 - 4 Volts	Distortion (THD+N)	< 0.0005 % (digital input)
	Highlevel 5 - 10 Volts or 10 - 20 Volts		< 0.001 % (analog input)
Outputs	10 x RCA / Cinch	IM distortion (IMD)	< 0.002 % (digital input)
	1 x Remote Out		< 0.004 % (analog input)
Output voltage	8 Volts	Crosstalk	> 90 dB
Frequency response	10 - 44,000 Hz	Operating voltage	9.6 - 18 Volts (max. 5 sec. down to 6 Volts)
DSP resolution	64 Bit	Current draw	510 mA
Sampling rate	96 kHz	Max. remote output current	500 mA
DSP power	295 MHz	Additional features	HEC slot, Ground lift switch, Control Input,
	1.2 billion MAC operations/sec.		ADEP circuit, Auto Remote switch
Signal converters	A/D: Asahi Kasei 32 Bit	Dimensions	40 x 177 x 150 mm /
	D/A: Asahi Kasei 32 Bit	(H x W x D)	1.58 x 6.97 x 5.91”

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