

# bit

## bit One HD

High Definition  
Signal Processor



POWER SUPPLY	
Voltage	11÷15 VDC
Operating power supply voltage	7.5 ÷ 14.4VDC
Idling current	0.75 A
Switched off without DRC MP	2 mA
Switched off with DRC MP	5 mA
Remote IN voltage	6.5 ÷ 15 VDC (1mA)
Remote OUT voltage	10 ÷ 15 VDC (130 mA)
ART (Automatic Remote Turn ON)	4÷7 VDC
Fuse	2 A
SIGNAL STAGE	
Distortion - THD @ 1 kHz, 1 VRMS Output	0.004 %
Bandwidth @ -3 dB	4.5 Hz ÷ 32 kHz
S/N ratio @ A weighted, 4 V Output , 2 V MASTER input	100 dBA
S/N ratio @ A weighted, 4 V Output , 2 V AUX input	98 dBA
S/N ratio @ A weighted, 4 V Output , OPTICAL IN1/IN2 input	110 dBA
Channel Separation @ 1 kHz	77 dBA
Input sensitivity PRE / MASTER	1.3 ÷ 9 VRMS
Input sensitivity Speaker / Master	3 ÷ 22 VRMS
Input sensitivity AUX Master	0.3 ÷ 5 VRMS
Input impedance Pre In / Speaker In / AUX	15 kΩ
Max Output Level (RMS) @ 0.1% THD	4 V
INPUT STAGE	
Low level (Pre)	Ch1÷Ch6, AUX L/R
High Level (Speaker In)	Ch1÷Ch12
Digital	2 x Optical (S/PDIF; Max 192 kHz/24 bit)
OUTPUT STAGE	
Low level (Pre)	Ch1÷Ch13
Digital AD Link 1	Ch1÷Ch8; FIR firmware Ch1÷Ch8
Digital AD Link 2	Ch9÷Ch13; FIR firmware Ch9 only
CONNECTION	
From / To Personal Computer	1 x micro USB
To Audison Amplifiers	2 x (AC Link/AD LINK) control bus
To Audison DRC MP	1 x AC Link

CROSSOVER	
Filter type	Full / High-Pass / Low-Pass / Band-Pass
Filter mode and slope	Linkwitz @ 12 / 24 / 36 / 48 dB
	Butterworth @ 6 / 12 / 18 / 24 / 30 / 36 / 42 / 48 dB
	Bessel @ 6 / 12 / 18 / 24 / 30 / 36 dB
	FIR mode (alternative firmware version) @ 6 / 12 / 18 / 24 / 30 / 36 / 42 / 48 dB
Crossover Frequency	70 steps @ 10 ÷ 20k Hz
Phase control	0° / 180°
EQUALIZER (20 ÷ 20K Hz)	
High Level Inputs (Speaker In)	Automatic De-Equalization and Delay compensation
AUX Input	Parametric Equalizer: ±12 dB; 5 poles FIR type
OPTICAL IN1/IN 2 Inputs	Parametric Equalizer: ±12 dB; 5 poles FIR type
	N.13 Parametric Equalizers: ±12 dB; 11 poles IIR type
OUTPUTS	
	N.9 Parametric Equalizers: ±12 dB; 5 poles FIR type (alternative FIR firmware release)
MAIN EQ	Parametric Equalizer: ±12 dB;5 poles FIR type
Dynamic Equalization	Self-adjusting System between low and high listening levels
Bass Boost	Adjustable parametric pole (±12 dB; 10 ÷ 500 Hz)
TIME ALIGNMENT	
Distance	1.4 ÷ 756 cm / 0.6 ÷ 297.7 inches
Delay	0 ÷ 22 ms
Step	0.04 ms, 1.4 cm, 0.6 inch
GENERAL REQUIREMENTS	
PC connections	USB 1.1 / 2.0 / 3.0 Compatible
Software/PC requirements	Microsoft Windows (32/64 bit): XP, Vista, Windows 7, Windows 8, Windows 10
Video Resolution with screen resize	min. 800 x 600
Ambient operating temperature range	0 °C to 55 °C (32°F to 131°F)
SIZE	
W (Width) x H (Height) x D (Depth) mm/inch	148 x 43.6 x 233 / 5.82" x 1.7" x 9.17"
Weight kg/lb	1.775 / 3.9

All specifications subject to change without notice\_17.B

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<b>Audio DSP and converters</b>	Analog Devices DSP (ADSP-21489), 32 bit floating-point Sharc series (450 MHz clock). Cirrus Logic (CS5368 8ch and CS4365 6ch) A/D and D/A converters (24 bit/192 kHz) providing very high level performance
<b>Inputs</b>	12 independent high-level channels (signal-summing) or 6 independent analog low-level channels 2 analog low-level stereo auxiliary inputs 2 optical digital inputs (TOSLINK)
<b>Memory</b>	8 Preset separately managed and recalled from the DRC MP
<b>Outputs</b>	13 IIR or 9 FIR independent low-level analog channels and 2 AD Link outputs. 13 IIR or 9 FIR independent digital audio channels to be connected through two CAT 5.S LAN cables for use with AD Link provided amplifiers
<b>Turn on Controls</b>	ART™, Automatic Remote turn On/Off for high level inputs through the DRC MP
<b>Configuration</b>	Guided procedure for the calibration and "signal routing" of the input channels to the output channels based on type and number of inputs, loudspeakers and amplifiers, for the system setup to be developed
<b>Signal summing, De-Equalization and Delay compensation</b>	Automatic algorithms dedicated to the reconstruction of a stereo signal from a multi-channel signal and to fine-tune the signal in advanced OEM systems: time delay compensation (De-Ta); sum of multi-amplified and limited bandwidth signals; signal de-equalization (De-Eq)
<b>In/Out Volume</b>	Input sensitivity automatically adjusted for the main inputs (Wizard with CD and DVD Test) Manual input sensitivity adjustment for auxiliary inputs (SW) Independent level control for each output channel for system fine-tuning (-40 ÷ 0 dB)
<b>Dynamic Equalizer</b>	Automatic system for the dynamic equalization between low and high listening levels, to be selected by the user via DRC MP
<b>Equalizers</b>	Four 5-poles parametric FIR type equalizers, one for each source Thirteen 11-poles IIR equalizers / Nine 5-poles FIR equalizers (alternative FIR firmware), one for each output channel 5-poles parametric FIR type main equalizer
<b>Bass Boost</b>	Low frequencies enhancement based on parametric equalizer, bound to the Woofer and Sub sections, to be set up by the user and selectable via DRC MP
<b>Crossover filter</b>	Filter type: Hi-Pass, Lo-Pass, Band-Pass, Full Range Cut-off frequency: 70 steps available from 10 ÷ 20 kHz Cut-off slope: 6 ÷ 48 dB Oct.; Bessel 6 ÷ 36 dB Oct. Alignments: Linkwitz, Butterworth, Bessel, FIR mode (alternative firmware version) Mute/Solo: for each output (On/Off) Phase: for each output (0°/180°)
<b>Time alignment</b>	Procedure to set up the time delays on the real distances between the loudspeakers and the listening point (0÷22 ms max). The system also provides for a manual fine-tuning in steps of 0.01 ms
<b>Auto restart</b>	Auto restart in case of DSP fault
<b>DRC MP</b>	Control: Master Volume (-60 ÷ 0 dB), Subwoofer Volume (MUTE, - 11,5 ÷ 0 dB), Balance, Fader; Inputs selection; Management of the pre-sets stored; Bass Boost function turn on/off
<b>PC Connection</b>	1 micro USB connector (1.1/2.0/ 3.0 compatible) to connect to the PC
<b>bit One HD software</b>	Windows-based software (32/64 bit): Windows XP, Vista, 7, 8, 8.1, 10 available in "Standard" or "Expert" mode Minimum resolution: 800 x 600

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