



SDP-45 Surround Processor

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SYNTHESIS<sup>®</sup>

by HARMAN



## ULTIMATE PERFORMANCE, DEFINED

### The JBL Synthesis® SDP-45 Surround Processor

The JBL® name represents a long, proud history of invention and insight, and for setting one industry standard after another. For over 67 years, JBL has brought the joy of sound to settings around the globe, with products demanded by those seeking only the very best.

The expertise accumulated along the way is why JBL Synthesis gives your home theater the audio sophistication sought by directors, actors, recording artists, touring musicians, and others.

In a JBL Synthesis home theater, you will discover a showcase of audio perfection. Backed by decades of award-winning engineering innovation offering uncompromised, realistic sound that is revered by professionals and purists alike, JBL Synthesis systems deliver the ultimate in performance.

## OVERVIEW

The SDP-45 Sound Processor provides the perfect centerpiece for a reference quality JBL Synthesis home theater system. With sound quality rivaling the finest two-channel audio components, the JBL Synthesis SDP-45 makes both music and cinema come to life with stunning realism.

## FEATURES

The SDP-45 provides control and switching of eight channels of audio, as well as broadcast quality video. Independent zone monitoring provides control of source selection for two zones at a time. An HDMI interface enables the transmission of uncompressed digital audio and video signals through a single connector. The SDP-45 can pass digital video signals of up to 1080p, 12 bit and 3D, and multiple digital audio channels (7.1 channels) at sample rates of up to 192 kHz through the HDMI interface. The SDP-45 also supports the High-bandwidth Digital Content Protection (HDCP) technology that comprises data encryption and authentication of the partner equipment.

With two 32-bit floating-point TI DA710 digital signal processing (DSP) engines, the SDP-45 offers unparalleled processing power. This processing is available at digital input sample rates up to 192 kHz, with 24-bit resolution to retain top performance from all input sources and listening modes. High-precision 192kHz/24-bit A/D converters can be used to convert stereo analog audio input signals to digital signals, allowing the SDP-45 to provide the benefits of precise digital signal processing without sacrificing signal integrity. Additionally, all output D/A converters can operate at up to 192 kHz/24-bit and are completely asynchronous from input converters and all digital inputs, allowing the outputs to be completely buffered and internally clocked to a very stable crystal oscillator. This is particularly important in removing jitter from unstable sources, especially HDMI. This allows the SDP-45 to give the best possible signal output and maintain the highest possible resolution even on less than ideal sources.



## CONNECTIVITY

Beyond the HDMI connectors and standard 7.1-channel audio output connectors, the rear panel includes auxiliary or secondary subwoofer connectors to provide even greater flexibility. All Main Zone audio output connectors include 24-bit/192kHz D/A converters operating in dual differential mode. In addition, the SDP-45 includes balanced and unbalanced audio output connectors for all Main Zone channels. Two connectors are provided for external control: One RS-232 9-pin serial and one Ethernet 10BaseT which also acts as a web page server, user interface and firmware update tool.

## HIGHLIGHTS

- 192kHz sampling rate on all analog inputs
- Up-sampling to 192kHz on all digital audio inputs including HDMI
- Internally buffered and de-jittered D/A output stage
- Class A discrete audio circuits
- Analog bypass mode
- Separate digital and analog power supplies
- Dolby TrueHD decoding
- Dolby Digital Plus, Dolby Digital EX, Pro Logic IIx decoding
- DTS-HD Master Audio decoding
- DTS Neo6, DTS, DTS-ES decoding
- Support for all HDMI 1.4 video formats including 3D pass through of HDMI 1.4a mandatory 3D formats
- HDMI video 12 bit deep color and xvYCC (x.v.color) supported up to 1080p (225MHz equivalent)
- 4x pairs single ended unbalanced RCA inputs (BLURAY, SAT/CBL, GAME, MEDIA)
- 2x pairs single ended, unbalanced RCA loop-through (TV, Digital Video Recorder)
- 2x pairs of Balanced XLR (female) inputs (CD, Balanced 2)
- 4x coaxial inputs (RCA) 75 Ohms (SPDIF)
- 3x Optical inputs (TOSLINK)
- 2x AES/EBU inputs (XLR) 110 Ohms
- 1x USB 2.0 type B input
- 10x balanced XLR male main zone outputs
- 10x single ended (unbalanced) RCA main zone outputs
- 2x single ended (unbalanced) RCA zone 2 outputs
- 1x headphone output [Not available in all regions]
- 8x HDMI Inputs (Audio and Video)
- 2x HDMI outputs
- 1x TOSLINK optical output
- 1x USB (Type A) input for audio
- One 12V input and 3 programmable trigger outputs
- 1x Infra-red sensor; remote control receiver
- 1x mini (3mm) phone jack (2 conductor) for auxiliary infra-red control data input
- 1x Ethernet (RJ45 connector): bilateral data, software download, etc.
- 7.1, 6.1 and 5.1 channel surround sound
- Dolby® Volume to control listening level
- Second zone output via single ended pair, which allows for separate audio from another source
- RS-232 serial data port for remote control via Crestron, Savant, AMX or similar control systems
- Rack Mounted (19" standard), 3 RU high
- Texas Instruments DA710 dual DSP audio processing chipset
- 3 Year Warranty (U.S.A. Only)
- 100 hour burn-in process during manufacturing



## SPECIFICATIONS

GENERAL	
A/D Conversion	24-Bit, 192 kHz Delta-Sigma
D/A Conversion	24-Bit, up to 192 kHz Delta-Sigma
DSP Engine	Dual TI DA710
Power Supply	Separate off-line standby PSU & main linear power supply with toroidal power transformer

HDMI INPUT & OUTPUT CONNECTORS AND PERFORMANCE	
HDMI Inputs	8 HDMI Type A (19-pin) connectors
HDMI Output	2 x HDMI Type A (19-pin) connectors
Video Resolutions	Full support for HDMI v1.4 including 3D pass-through and all mandatory video resolutions  12 bit deep color and xvYCC (x.v.Color) supported up to 1080p (225 MHz equivalent)  Full HDCP compliant
Audio Resolutions	Up to 7.1 channels and up to 192kHz sample rate at 24 bits bit depth  Internal Decoding of all HDMI 1.4 audio formats including:  Dolby TrueHD, Dolby Digital Plus  DTS-HD Master Audio

AUDIO INPUT & OUTPUT CONNECTORS	
Analog Audio Inputs	4x stereo single-ended/unbalanced pairs (CD, GAME, SAT/CBL, BLU-RAY)  2x pairs single ended, unbalanced TV inputs (RCA)  2x pairs of balanced XLR (female) inputs
Digital Audio Inputs	8x HDMI  4x coaxial (RCA) 75 Ohms (SPDIF)  3x optical (TOSLINK)  2x AES/EBU inputs (XLR) 110 Ohms  1x USB 2.0 type B Analog Audio
Analog Outputs	10 balanced XLR male: Left, Center, Right, Left Surround, Right Surround, Left Back, Right Back, Left Auxiliary, Right Auxiliary and Subwoofer  16 single-ended (unbalanced) RCA: Left, Center, Right, Left Surround, Right Surround, Left Back, Right Back, Left Auxiliary, Right Auxiliary & Subwoofer, 4 TV outputs, 2 Zone Two outputs.
Digital Outputs	2x HDMI  1x TOSLINK optical

DATA AND CONTROL PORTS	
Trigger Inputs/Outputs	One 12V input and 3 programmable trigger outputs
IR Remote Control	Front Panel IR Sensor  1x mini (3mm) phone jack (2 conductor) for auxiliary Infra-red control data input
Ethernet	1x Ethernet (RJ45 connector): bilateral data, software download, etc.
RS232	1x 9-pin DB9 Female; for control and system feedback

PHYSICAL SPECIFICATIONS	
Dimensions	19" (48.3cm) W x 14.3" (36.3cm) D (not including knobs & connectors or rack ears) x 5.3" (13.3cm) H (not including rubber feet)  19" (48.3cm)W x 15.4" (39.1cm) D (including knobs & connectors) x 6.3" (16.0cm) H (including rubber feet)
Rack Mount	19" (48.3cm) W standard rack mount width  3RU high without rubber feet
Weight	Gross 26.7 lbs. (26.7kg) Net 20.0 lbs. (9.1kg)
Environmental	50 deg. Celsius max  Relative Humidity: 95% maximum without condensation

ELECTRICAL SPECIFICATIONS	
Power	120VAC & 230VAC models
Maximum power consumption	65 Watts
Standby power consumption	<0.5 watts (Ethernet OFF in standby) 1.5 watts (Ethernet ON in standby).



SYNTHESIS<sup>®</sup>  
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