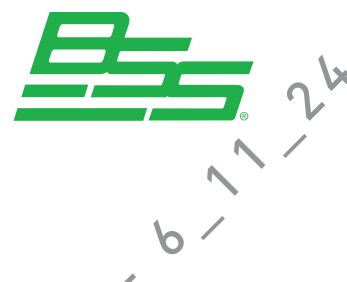# Soundweb™
OMNI

16e Open Architecture I/O Expander

Soundweb OMNI

The **BSS Soundweb OMNI 16e** Open Architecture I/O Expander offers the ability to onramp and offramp Analog/AES3 to/from Soundweb OMNI 512p and 256p Digital Signal Processors. The 16e converts these signals to and from Dante/AES67 for processing by Soundweb OMNI DSPs. The all-new design ensures the seamless handling of today's most complex installations to be future-ready to meet the evolving needs of tomorrow.

The 16e features 4x4x4 Analog or 8x8x8 AES3 audio channels; 16x16 Dante/AES67 networked audio output channels; 12 GPIO ports (fully flexible); enterprise-grade network security; studio quality 60dB microphone pre-amp on all inputs; high resolution DAC and ADC; primary and secondary Dante connections, redundant HControl ports; full-color, front panel LCD with metering; stereo AES3 on every audio connector; and more.

Each audio I/O port on Soundweb OMNI I/O Expanders is format configurable as either analog or stereo AES3 and four of the audio I/O ports are also configurable to be either inputs or outputs. All GPIO ports are configurable as either input or output ports, and their format can be either analog or digital.

With support for centralized or distributed DSP topologies, system integrators can add as many Soundweb OMNI processors to a single project file as needed, while still enjoying the simplicity of a single canvas for device configuration.

HARMAN's HControl protocol, a human-readable, standards-based, developer-friendly API is also supported. It offers an intuitive, flexible, and powerful alternative to other protocols to support developers working at any scale.

Soundweb OMNI systems are configured, controlled, and monitored with the AVX software suite through two user-friendly applications. AVX Architect is a desktop app for system diagramming, device configuration, network management, and custom UI design. An unlimited number of processors and expanders can be added to a single project file. AVX Control is a lightweight app offering easy access to custom UIs for controlling and monitoring Soundweb OMNI devices, via Windows, iOS, macOS, Android, and AMX Varia touch panels. These custom UIs also work with Crown DCi amplifiers and previous generation Soundweb London devices.

Built on decades of innovation, BSS Soundweb OMNI is a highly scalable and flexible DSP solution. Combining powerful hardware, intuitive software, and developer-friendly features, it effortlessly scales to meet the needs of any installed application. Experience BSS Soundweb OMNI, the new standard in open architecture DSP.

FEATURE HIGHLIGHTS

- 4x4x4 Analog/AES3 audio input, output, and flex channels
- 16x16 Dante/AES67 networked audio channels
- 12 GPIO ports (fully flexible)
- Studio-quality 60dB microphone pre-amp on all inputs
- High resolution DAC and ADC
- Primary and secondary Dante connections
- Redundant HControl ports
- Full-color, front panel LCD with metering
- Stereo AES3 on every audio connector
- Enterprise-grade network security support
- Choice of centralized or distributed DSP topologies
- Unlimited number of Soundweb OMNI Expanders can be added to a single project file
- Configurable, controllable and monitorable with AVX software suite
- HARMAN HControl protocol supported
- Private and Public Routing for Dante

Soundweb OMNI 16e

Open Architecture I/O Expander
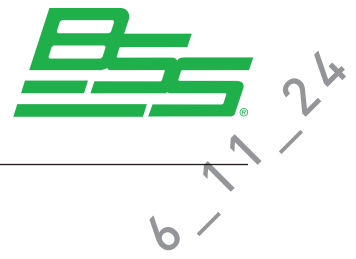
GENERAL SPECIFICATIONS

POWER	
Voltage Input	100 - 240
Power Input	200 Watts
Current Input	2.1A @ 120 VAC - 1.1A @ 240 VAC
Redundancy	None
THERMAL	
Operating Temp Range	0° - 45° C
Storage Temp	-20° - 60° C
Heat Output	< 415 BTU/Hr
AUDIO I/O	Analog = 4 in, 4 out, 4 flex, AES3 Digital = 8 in, 8 out, 8 flex
ANALOG INPUTS	
Mic/Line inputs	(1dB steps): 0-60dB
Input Impendence	2.4kohms (balanced)
Maximum Input Level	+27dBu
CMRR	> 75 dB @ 1kHz (typical)
Input Noise (E.I.N)	< -125dBu with 150ohm source (typical)
Phantom Power	+48VDC (current is TBD)
Latency (ADC) @48kHz/96kHz	TBD
ADC bit depth	24bits
DIGITAL INPUTS	
Input Impedance	110 ohms
Sample Rate	48/96kHz
Sample Rate Conversion	44.1/48/96kHz
THD+N	< -130dB
Latency	TBD
Frequency Response	20Hz to 20kHz
Dynamic Range	> 140dB
ANALOG OUTPUTS	
Maximum Output Level	+27dBu
Frequency Response	20Hz to 20kHz, +/- 0.5dB
THD	0dB gain, 10dBu input, < 0.001%
Dynamic Range	> 110dB
Crosstalk	TBD
Latency (DAC) @48kHz/96kHz	TBD
Bit Depth	24bits
Frequency Response	20Hz to 20kHz, +/- 0.5dB

Soundweb OMNI 16e

Open Architecture I/O Expander
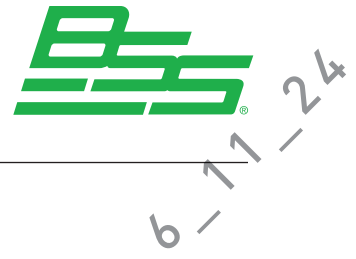
GENERAL SPECIFICATIONS (Cont.)

DIGITAL OUTPUTS	
Output Impedance	110ohms
Sample Rate	48/96kHz
Sample Rate Conversion	
THD+N	< -130dB
Latency	TBD

ACOUSTIC	
Fan Noise	30 dB SPL A-Weighted at max temperature 25 db SPL A-weighted at 25C

CONTROL PORTS	
Control Input Voltage	12 Volts Max
Control Input Impedance	32k Ohms
Logic Output Voltage	12 Volts Max
Logic Output Impedance	10 Ohms
Logic Output Current	60mA source, 20mA sink

CONTROL NETWORK	
Connectivity	2x RJ-45 Gigabit Ethernet (redundant)
Protocol	H-Control
Max Cable Length	328 Feet/ 100 Meters

AUDIO NETWORK	
Connectivity	2x RJ-45 Gigabit Ethernet (redundant)
Protocol	Dante/AES67
Capacity	16 channels
Latency	TBD

FRONT PANEL	
Main Operation	LCD Screen 135mmx25mm = 5.43" diagonal; LCD screen: 1200 x 221 pixel
Indicators	Dante Link, Hcontrol Link, activity, PSU Health
Locator	Front and Rear

MOUNTING	
Size	1 RU: 44mm X 483mm X 445mm (1.7 in X 19.0 in X 17.5 in)
Weight	13lb, 5.9 kg
Rack Type	19" per EIA-310 standard

REV: XXXXXXX