ControlSpace EX-1280
digital signal processor

BOSE

PROFESSIONAL

Dante®

Product Overview

A flexible DSP platform for scalable systems, ControlSpace EX-1280 processors have the features to support projects of various sizes and the flexibility to meet future needs. With an open-architecture, single-rack-unit design, the ControlSpace EX-1280 is a robust digital signal processor equipped for general-purpose audio processing applications. Twelve mic/line analog inputs, eight analog outputs, AmpLink output, and 64 x 64 Dante® connectivity allow for flexible configuration and high-quality sound system control. ControlSpace Designer software simplifies the setup process with drag-and-drop programming, making configuration quick and easy.

Applications

Performance venues

Stadiums and arenas

Places of worship

Resorts and Hospitality Venues

Multipurpose spaces

Key Features

Open-architecture, 1RU design built for general-purpose and PA applications

High-quality analog I/O with advanced digital signal processing supports 48 kHz sample rate/24-bit conversion, uses a floating-point open architecture DSP, and operates at low latencies for sound system precision

Dante audio networking supports 64 x 64 audio channels for connection to other Dante-enabled products, including native Dante-integrated microphones, amplifiers, mixers, and endpoints

USB connection facilitates easy integration with PC audio devices for playback and recording

AmpLink output provides 8 channels of uncompressed, low-latency digital audio to AmpLink-equipped Bose Professional amplifiers

A variety of control options — compatible with the programmable Bose Professional CC-64 and CC-16 controllers, ControlCenter digital zone controllers, and ControlSpace Remote clients. Supports industry-standard control systems through onboard RS-232 and Ethernet ports, with available drivers for AMX and Crestron-based systems

Front-panel interface features a large OLED display and rotary encoder for setting network parameters and monitoring channel activity

GPIO (5 in/5 out) and Serial for interfacing with external devices and control systems

Bose Professional ControlSpace Designer software enables a large set of signal processing modules, such as automatic mic mixing, multiband graphic and parametric EQs, Bose Professional loudspeaker libraries, signal generators, routers, mixers, AGCs, duckers, gates, compressors, source selectors, delays, logic, and advanced Dante device control

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Technical Specifications

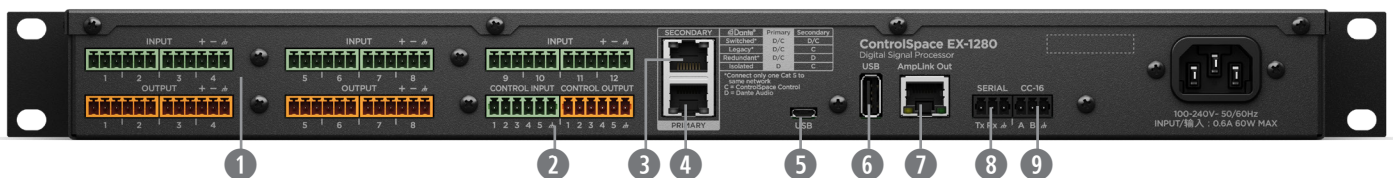| INTEGRATED DSP	
Signal Processor/CPU	32-bit fixed/floating-point DSP 456 MHz/ARM Cortex-A8 600 MHz
Maximum Calculation	3.6 GIPS / 2.7 GFLOPS
Delay	43 s
Audio Latency	1.05 ms (analog in to analog out)
A/D and D/A Converters	24-bit
Sample Rate	48 kHz
ANALOG AUDIO INPUTS	
Input Channels	12 balanced, mic/line level
Connectors, Input	3.81 mm detachable Euroblock, 6-pin
Input Impedance	12 kΩ @ 1 kHz (with or without phantom power active)
Maximum Input Level	+24 dBu
Equivalent Input Noise	-118 dB at 44 dB gain setting
Phantom Power	+48 VDC, 10 mA, software selectable per input
Gain Settings	0 / +14 / +24 / +32 / +44 / +54 / +64 dB
ANALOG AUDIO OUTPUTS	
Output Channels	8 balanced, line level
Connectors	3.81 mm Euroblock, 6-pin
Output Impedance	200 Ω
Maximum Output Level	+24 dBu
AUDIO PERFORMANCE SPECIFICATIONS	
Frequency Response	18 Hz to 20 kHz (+0.8 dB/-0.2 dB ref 1 kHz)
THD+N	< 0.003% @ +4 dBu (A-weighted/20 Hz to 18 kHz) < 0.01% @ +44 dBu (A-weighted/20 Hz to 18 kHz)
Channel Separation (Crosstalk)	< -105 dB at +4 dBu 1 kHz input signal
Dynamic Range	> 115 dB, A-weighted 20 Hz – 20 kHz, analog input to analog output
AUDIO OVER IP	
Dante	64 × 64, primary/secondary
DIGITAL AUDIO PORTS	
AmpLink (output only)	8 low latency (< 21µs), 48 kHz. Requires shielded Cat 5/6
USB Device	Micro-B type, stereo in/out
USB Host	Type A. For future use
CONTROL INPUTS	
Inputs (Control)	5 analog or digital inputs, 2 kΩ internal pull-up resistor to 5 V, 3.81 mm detachable Euroblock, 6-pin
Analog Input Voltage Range	0 V to 3.3 V (maximum 5 V)
Digital Input Voltage Range	0 V to 3.3 V (threshold voltage = 1.6 V)
CONTROL OUTPUTS	
Outputs (Control)	5 digital outputs, 3.81 mm detachable Euroblock, 6-pin
Output Voltage	High: 8 V (open circuit), 2.5 V @ 10 mA Low: < 1 V @ 100 mA, push-pull
INDICATORS AND CONTROLS	
Display	256 x 64 OLED with rotary encoder
LED Status Indicators	Power/Status
Audio Signal Indication	On Display

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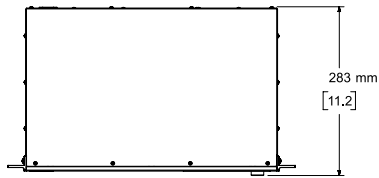| ELECTRICAL SPECIFICATIONS	
Mains Voltage	85 VAC-264 VAC 50/60 Hz
AC Power Consumption	35 W typical at 40 °C (104 °F) ambient
Mains Connector	IEC 60320-C14 (Inlet)
Power Dissipation	60 W (205 BTU, 52 kcal)
PHYSICAL	
Dimensions (H × W × D)	44 × 483 × 282 mm (1.7 × 19.0 × 11.1 in)
Net Weight	3.2 kg (7.1 lb)
Operating Temperature	0°C - 40°C (32°F - 104°F)
Cooling System	2 variable-speed fans, side venting
GENERAL	
PC Configuration Software	ControlSpace Designer software version 5.5 or later
Network Control	Ethernet (RJ-45), 1 Gbps
RS-232/485 ports	RS-232 (DTE) and Bose CC-16 (RS-485 master) 3.81 mm detachable Euroblock, 3-pin
COMPLIANCE	
Safety	UL60065 (8th edition), CAN/CSA-C22.2 No.60065 (8th edition), IEC/EN60065 (8th edition) UL62368-1 (2nd edition), CAN/CSA C22.2 No. 62368-1-14 (2nd edition), IEC/EN 62368-1 (2nd edition)
EMC	EN 55032:2015, EN 61000-3-2:2014, EN 61000-3-3:2013, EN 55035:2017 FCC Part 15B Class A, AS/NZS CISPR 32:2015, ICES-003 Class A, CISPR13

1 Front-panel OLED Display and Encoder – 256 x 64 display for metering and network info. Rotary/press knob for IP setup
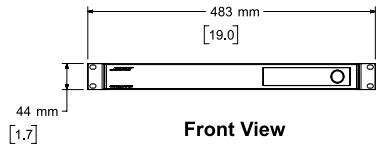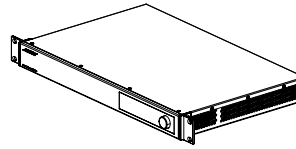

1 Balanced Analog I/O – 12 inputs, 8 outputs

2 GPIO – 5 x 5 general-purpose control

3 ControlSpace Network Port – ControlSpace/Dante secondary when configured for redundant mode

4 Dante Network Port – ControlSpace/Dante Primary by default

5 USB Port – Micro-B USB for PC with stereo input and output

6 USB Port – Future use

7 AmpLink – 8-channel uncompressed, low-latency digital audio output

8 Serial Port – 3-wire RS-232C (DTE) serial interface connection

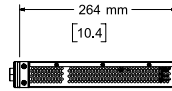**9 CC-16** – Supports Bose Professional CC-16 user controls

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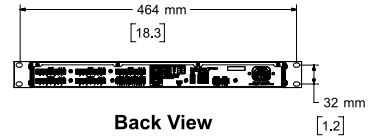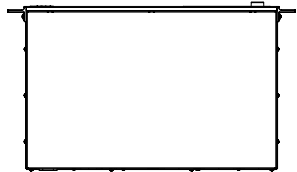## digital signal processor

Top View

Front View

483 mm [19.0]

44 mm [1.7]

Right View
DIMENSIONS APPLY TO BOTH SIDES

264 mm [10.4]

Back View

464 mm [18.3]

32 mm [1.2]

283 mm [11.2]

Bottom View

NOTES:
1. DIMENSIONS ARE IN MILLIMETERS OVER INCHES

Product Codes

ControlSpace EX-1280 digital signal processor

US-120V	834317-1110
EU-230V	834317-2110
JP-100V	834317-3110
UK-230V	834317-4110
AU-240V	834317-5110

Accessories

ControlSpace EX-UH USB/Headset Dante endpoint	771784-0110
ControlSpace EX-4ML 4-ch mic/GPIO Dante endpoint	771783-0110
ControlSpace EX-8ML 8-ch mic/GPIO Dante endpoint	772045-0110