TECHNICAL DATA

ControlSpace EX-440C
conferencing processor

PROFESSIONAL

Dante®

Product Overview

With an open-architecture, all-in-one design, the ControlSpace EX-440C conferencing processor facilitates high-quality microphone integration and audio processing for small- to medium-size conference rooms. Various inputs and outputs allow for flexible configuration: four mic/line analog inputs, four analog outputs, onboard VoIP, PSTN, USB, Bose AmpLink output, eight-channel acoustic echo cancelling (AEC), and 16 x 16 Dante® connectivity. ControlSpace Designer software simplifies the setup process with drag-and-drop programming, making configuration quick and easy.

Applications

Small/Medium conference rooms

Courtrooms

Distance learning

Key Features

All-in-one design supports simultaneous VoIP, PSTN, and USB soft codecs in a single, 1RU model

8-channel advanced AEC with multiple references, routable to both analog and Dante inputs

Adaptable noise cancellation on each AEC channel; non-linear processing and comfort noise to enhance the clarity and intelligibility of meetings

Single-line VoIP with an internal web interface, allowing IT personnel to configure VoIP parameters without design file access or integrator involvement

PSTN connection (RJ-11) for worldwide POTS/analog telephone systems

USB connection facilitates easy integration with all soft codecs

Dante audio networking includes 16 x 16 audio channels for connection to other Dante-enabled products, including native Dante-integrated microphones and amplifiers

Bose AmpLink port provides 4 channels of uncompressed, low-latency digital audio to AmpLink-equipped Bose amplifiers

GPI and Serial for external connections, such as fire alarm triggers and interfacing with control systems

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

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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, without AEC)
A/D and D/A Converters	24-bit
Sample Rate	48 kHz
ANALOG AUDIO INPUTS	
Input Channels	4 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	4 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 – 18 kHz, analog input to analog output
ACOUSTIC ECHO CANCELLING	
Tail Length	480 ms
Noise Reduction	32 dB
Latency	50 ms
Channels	8
References	4
AUDIO OVER IP	
Dante	16 × 16, primary/secondary, routable to AEC
DIGITAL AUDIO OUTPUTS	
AmpLink (Output only)	4 low latency (< 21µs), 48 kHz. Requires shielded Cat 5/6
COMMUNICATION PORTS	
USB Device	Micro-B type, stereo in/out, HID Support
VoIP	RJ-45; 1 line
PSTN	RJ-11; 1 line, Tx/Rx
CONTROL INPUTS	
Inputs (Control)	1 analog or digital input, 2 kΩ internal pull-up resistor to 5 V, 3.81 mm detachable Euroblock, 2-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)

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INDICATORS AND CONTROLS	
Display	256 x 64 OLED with rotary encoder
LED Status Indicators	Power/Status
Audio Signal Indication	On Display
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) 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
TELECOM	
Country	**Standard**
Australia	AS/ACIF S002: 2010+Amendment 2012 NO.1 (2015) (only reports)
Canada	CS-03 Part I, Issue 9, Amendment 5, March 2016
EEA	ETSI ES 203 021-1 V2.1.1 (2005-08), 203 021-2 V2.1.2 (2006-01), 203 021-3 V2.1.2 (2006-01)
China	NAL: GB/T 15279-2002; YD/T 992-1998; YD/T 993-1998; YD/T 965-1998; YD/T 968-2002 (certification pending)
Hong Kong	HKTA 2011 ISSUE 6 MAY 2010
India	TEC: TEC-IR-TX-PST-01-02-MAR-15 (certification pending)
Japan	JATE, Ordinance concerning terminal facilities etc., MIC Notices NO. 99
Mexico	NOM-196-SCFI-2016 (IFT-004-2016)
New Zealand	PTC200-May 2006, PTC220-May 2008
UAE	TRA
USA	FCC Part68
Taiwan	NCC: PSTN01, EMI CNS13438, Safety: CNS14336

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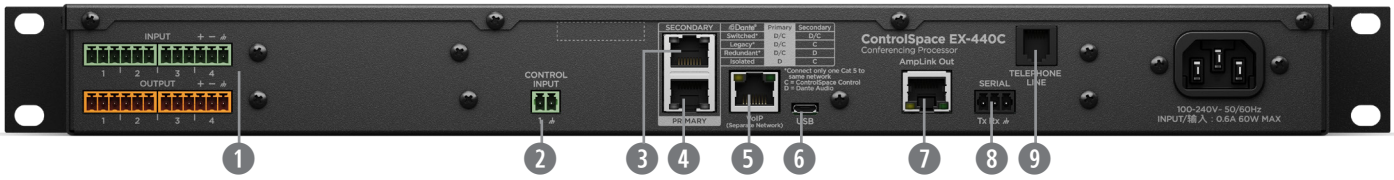
1 **Front-panel OLED Display and Encoder** – 256 x 64 display for metering and network info. Rotary/press knob for IP setup



1 **Balanced Analog I/O** – 4 inputs (routable to AEC), 4 outputs

2 **GPI** – 1 general-purpose input

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

4 **Dante Network Port** – ControlSpace/Dante Primary by default

5 **1-Line VoIP** – SIP 2.0-Compliant; web-page configurable

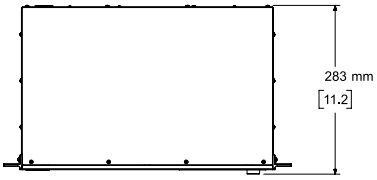
6 **USB Port** – Micro-B USB for PC soft codecs with stereo input and output

7 **Bose Amplink** – 4-channel uncompressed, low-latency digital audio output

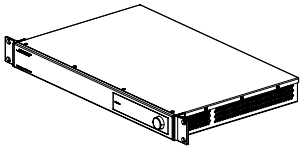
8 **Serial Port** – 3-wire RS-232C (DTE) serial interface connection

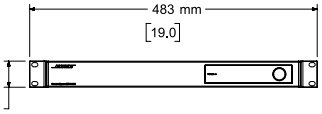
9 **PSTN (RJ-11)** – Supports worldwide analog telephone connections

Mechanical Diagrams

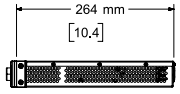


Top View

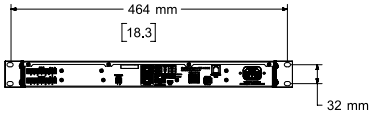




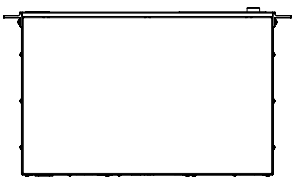
Front View



Right View
DIMENSIONS APPLY TO BOTH SIDES



Back View



Bottom View

NOTES:
1. DIMENSIONS ARE IN MILLIMETERS OVER INCHES

Product Codes

ControlSpace EX-440C conferencing processor

US-120V	834315-1110
EU-230V	834315-2110
JP-100V	834315-3110
UK-230V	834315-4110
AU-240V	834315-5110

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

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Specifications subject to change without notice. 07/2020