



CONVERGE Pro 2 is the industry's most advanced professional audio DSP platform for conferencing and sound reinforcement applications. It outperforms in any size room, audio environment, and application.

The 48VTD model mixer has 4 inputs with AEC, 8 outputs, built-in VoIP/Skype for Business interface, Telco, Dante, USB audio; GPIO, RS232, IP control interfaces; P-Link and C-Link expansion buses; and Dante™ digital audio interfaces.

CONVERGE Pro 2 is optimized to work with the new Beamforming Mic Array 2 and DIALOG® 20 2-Channel Wireless Microphone System through its native connection.

Powerful Architecture

- + 12 Mic/Line inputs with AEC
- + Built-in VoIP: 5 lines
- + Built-in Skype for Business Client
- + Built-in Telco with ClearEffect™ processing
- + Separate ports for VoIP/Skype for Business and Ethernet
- + Built-in USB for PC-based conferencing
- + Built-in Dante™ for networked audio
- + Reduced footprint and power consumption

Scalable Connectivity

- + Standalone and daisy-chained system
- + Stack up units up to 144 Mic/Line inputs
- + Expansion bus "C-Link" with 64 channels
- + "P-Link" bus to connect peripheral devices

Configuration & Management

- + New CONSOLE® software
- + Auto-discovery of devices
- + MatrixView™ for entire system
- + FlowView™ for visualized audio signal paths
- + System monitoring and troubleshooting

Audio Signal Processing

- + ClearPath™ architecture for guided work-flow and processing
- + Next-gen Acoustic Echo Cancellation processing
- + Distributed Echo Cancellation® on every mic input
- + Noise Cancellation with Adaptive-Ambience
- + Acoustic Intelligence with faster convergence
- + DARE™ feedback elimination
- + Advanced microphone gating

Applications

- + POTS conferencing
- + VoIP conferencing
- + PC-based conferencing & Unified Communications
- + Microsoft Skype for Business audio conferencing
- + Dante™ for audio networking

Flexible Control Options

- + Dialer app for Windows, Mac, iOS, Android
- + Touch Panel Controller with tabletop and wall mount options
- + 3rd-party control modules



APPLICATIONS

Boardrooms

Conference Rooms

Huddle Rooms

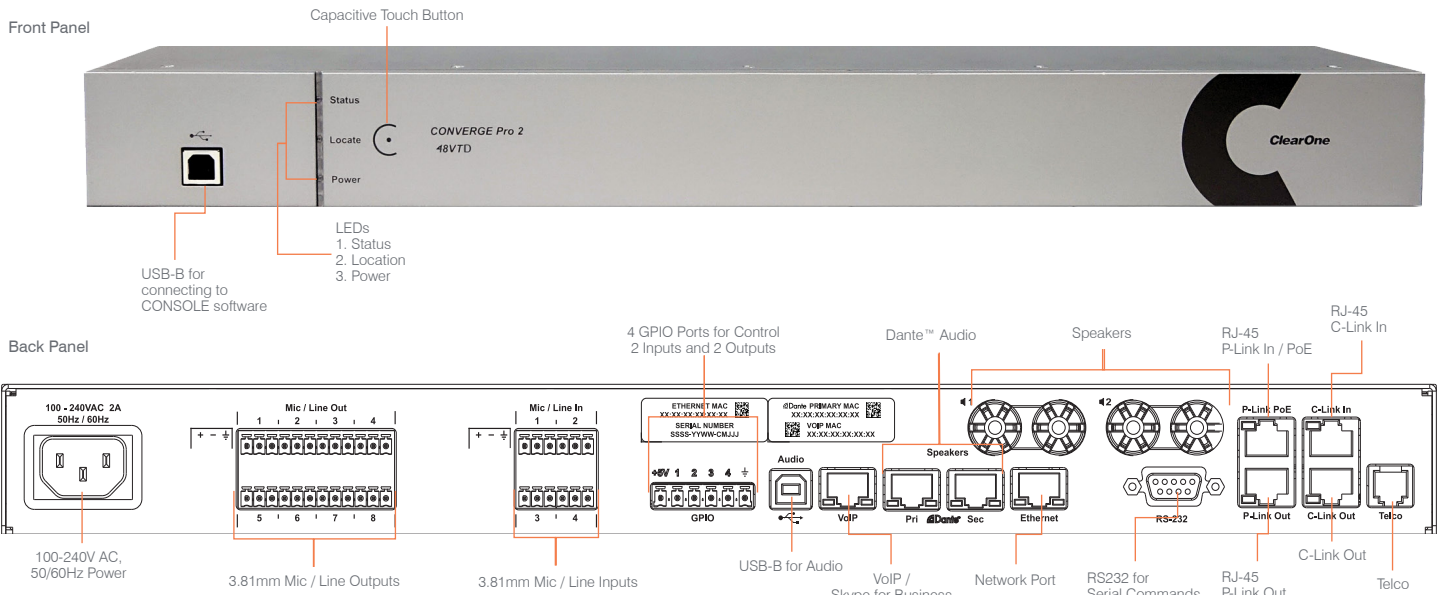
Training Rooms

Lecture Halls

Courtrooms

Auditoriums

Telemedicine Facilities



Conferencing

CONVERGE Pro 2	128	128D	128T	128TD	128V	128VD	128VT	128VTD	48T	48V	48VT	48VTD	120	012	128SR	128SRD
System																
Mic/Line inputs	12	12	12	12	12	12	12	12	4	4	4	4	12	X	12	12
Mic/Line outputs	8	8	8	8	8	8	8	8	8	8	8	8	X	12	8	8
AEC	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	X	X
C-link expansion bus	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
P-link peripheral bus	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
USB audio interface	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ethernet, RS-232, GPIO interface	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Applications																
Built-in USB for PC-based conferencing	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	X
Built-in Telco for teleconferencing	X	X	✓	✓	X	X	✓	✓	✓	X	✓	✓	X	X	X	X
Built-in VoIP for VoIP conferencing	X	X	X	X	✓	✓	✓	✓	X	✓	✓	✓	X	X	X	X
Microsoft Skype for Business audio conferencing	X	X	X	X	✓	✓	✓	✓	X	✓	✓	✓	X	X	X	X
Sound Reinforcement applications	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Built-in Dante for audio networking	X	✓	X	✓	X	✓	X	✓	X	X	X	✓	X	X	X	✓
Peripheral Devices																
Beamforming Mic Array 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	X	X
DIALOG® 20 - Wireless Mic System	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
GPIO Expander	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
USB Expander	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Configuration, Management & Control																
New CONSOLE® software	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Dialer app - Win, Mac, iOS, Android	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Touch Panel Controller	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Third-party control modules	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

PRODUCT SPECIFICATIONS

Unless otherwise specified, all measurements are performed with a 20Hz to 22kHz BW (no-weighting).

MIC/LINE INPUTS & OUTPUTS

Inputs: Balanced audio inputs, 3.81mm Orange color Phoenix/Euroblock type male header, Push-on mini-terminal block
Outputs: Balanced audio outputs, 3.81mm Black color Phoenix/Euroblock type male header, Push-on mini-terminal block

Frequency Response:

20Hz – 22kHz @ +4dBu, +/- 0.5dBu

EIN (Equivalent Input Noise):

20kHz BW, max gain, Rs = 150Ω, -126dBu

THD + N (Total Harmonic Distortion + Noise):

- 20Hz – 22kHz @ +4dBu, line level, 0.006%
- 20Hz – 22kHz @ -56dBu, mic level, <0.04%

Dynamic Range:

20Hz – 20kHz @ 0dB, >105dB

Crosstalk (Mic/Line):

Channel to Channel, stimulus at 20dBu to receptor at -56dBu, 1kHz, < -98dB

Input Impedance:

Balanced (line to ground), 2.2kΩ, 1%

Nominal Input Level:

Adjustable -56dB to 0dB, 7dB step coarse gain

Maximum Input Level:

-65dBu to 20dBu

Phantom Power:

48V, Impedance 6.81kΩ

Output Impedance:

Balanced (line to ground), 95Ω, 1%

Output Level:

0dBu (Nominal), 20dBu (Max), -40dBu (Selectable)

USB AUDIO

Port Type: USB-B connector

Audio: Digital Audio, 2 x 2 bidirectional channels

Sample Rate: 48kHz

Sample Bit Depth: 24-Bit

Compatible:

- USB 2.0
- USB 3.0

DANTE™ AUDIO

Port Type: RJ-45 Gigabit Ethernet connectors for Primary and Secondary Ports

Audio: Digital Audio, 16 x 16 bidirectional channels

Sample Rate: 48kHz / 96kHz

Sample Bit Depth: 24-Bit

TELEPHONE

Port Type: RJ11

Frequency Response:

- Mic/Line Input to Telephone Out: 250Hz – 3.4kHz, +/- 2dB, 4dBu
- Telephone In to Mic/Line Out: 250Hz – 3.4kHz, +/- 2dB, -15dBu

THD + N:

- Mic/Line Input to Telephone Out: <0.1% @ 4dBu
- Telephone In to Mic/Line Out: <0.3% @ -15dBu

Dynamic Range:

- Mic/Line Input to Telephone Out: >67dBu
- Telephone In to Mic/Line Out: >87dBu

REN: Ringer Equivalent Number 0.2

Transhybrid Balance: 30dB (1kHz, all AC terminations)

VOIP

Port Type:

RJ-45, 10/100Mbps Ethernet Network, Auto Negotiation

Audio:

5 Lines

Number of Lines	Maximum Number of Calls/Line
1	5
2	5
3	4
4	3
5	2

Codec:

- G.711 uLaw
- G.711 ALaw
- G.722

Skype for Business (S4B):

- Microsoft Skype for Business support (1 client)
- Choose either regular VoIP or S4B through configuration

ETHERNET

Port Type:

RJ-45, 10/100Mbps Ethernet Network, Auto Negotiation

IP address: IPv4 (IPv6 upgradeable through future s/w, f/w upgrade)

AMPLIFIER OUTPUT

Speaker Output Port: Dual binding posts

Audio: 2 Channels

Output Power: 10W Max, 8Ω load

Frequency Response:

20Hz – 22kHz @ +10dBu, +/- 0.5dBu

THD + N: 20Hz – 22kHz @ +10dBu, 1W, <0.3%

Dynamic Range:

20Hz – 22kHz @ 20dB, >102dB, with 20kHz digital low pass filter

Crosstalk:

Channel to Channel, stimulus at 20dBu, 10W output to receptor 8Ω load, 20Hz – 22kHz, < -70dB

C-LINK EXPANSION BUS

Ports Type: RJ-45 (Cat5e or Cat6)

C-Link In & Out: Proprietary Expansion Bus

Audio: 64 Expansion channels

Cable: Solid core, factory terminated Cat 5e or 6 cable

Distance: Up to 150' (45M)

P-LINK PERIPHERAL BUS

Ports Type: RJ-45 (Cat5e or Cat6)

P-Link In & Out: Proprietary Peripheral Bus

PoE In:

- P-Link In Port
- PoE 802.3af Mode B, Midspan
- Power on "spare pairs" 4,5 and 7,8
- Input voltage range: 48V to 56V

Audio: Up to 3 Beamforming Microphone Array 2 units + up to 3 DIALOG 20 Wireless Receiver units + Up to 3 USB Expander units + Up to 3 GPIO Expander units

Cable: Solid core, factory terminated Cat 5e or 6 cable

Distance: Up to 200' (60M)

Long Distance P-Link:

- Increases P-Link distance from 200 Ft to 650 Ft
- 650 Ft (200M) maximum cable distance between any two units
- Cat6, 550 MHz, 23 AWG, solid conductor cable
- Do not use Copper Clad Aluminum (CCA) cable
- Available only for BFM2 peripheral units
- 48V PoE Midspan Mode B power injector for 1 BFM2 unit
- 56V PoE Midspan Mode B power injector for 3 BFM2 units

RS232

Port Type: DB9 Female

Settings: 9600/19200/38400/57600/115200 Baud; Serial Echo; Flow Control

Support: Serial commands

GPIO

Port Type:

5.08mm Green color Phoenix/Euroblock type male header

Support: Control, Status, Variable Voltage Control

Power Pin: 5V DC @ 350mA Power Source

Pin 1 to 4:

- Open Collector Outputs: 40VDC @ 250mA
- Active Outputs (Source/Sink): 5VDC @ 25mA
- Logic Inputs: 40.2kΩ pull up
- Variable Voltage Control Inputs: 5VDC max

Ground Pin: GND

USB CONTROL

Port Type: USB-B connector

Location: Front Panel

Compatible:

- USB 2.0
- USB 3.0

LEDs

Location: Front Panel

Status LED:

- Off: Unit still initializing
- Blue - Fast Blinking: Stack Syncing in progress
- Blue - Slow Blinking: Unit not configured
- Blue - Solid: Configured unit
- Red - Fast Blinking: Stack Sync error

Locate LED:

Blue - Blinking: Unit "Locate" command received

Power LED:

Blue - Solid: Unit is powered on

TOUCH SENSOR

Sensor Type: Capacitive Touch Button

Location: Front Panel

POWER & THERMAL

Port Type: AC Inlet

Mains Voltage: 100-240V AC, 50/60Hz

Power Consumption: 50 Watts Typical

Thermal: 170 BTU/Hr Typical

Operating Temperature:

14°F (-10°C) to 104°F (40°C) Ambient Temperature

DIMENSION & WEIGHT

RU size: 1 RU

Width x Depth x Height:

1. Without rack-ears: 17"W x 10.73"D x 1.72"H (43.2cmW x 27.3cmD x 4.4cmH)
2. With rack-ears: 19"W x 10.73"D x 1.72"H (48.3cmW x 27.3cmD x 4.4cmH)

Unit Weight: 9.3 lbs (4.2 kg) (Approximately)

Shipping Weight: 13.8 lbs (6.3 kg) (Approximately)

PACKAGE

Power Cord: 6' (1.8M), Grounded, Qty 1

Input Connectors:

Terminal Block Connector, 3 Position (Orange), Qty 12

Output Connectors:

Terminal Block Connector, 3 Position (Black), Qty 8

GPIO Connector:

Terminal Block Connector, 6 Position (Green), Qty 1

C-Link Cable:

RJ-45 To RJ-45 Cable, 18" (45.7cm), Qty 1

VoIP Cable: RJ-45 To RJ-45, 7' (2M), Qty 1

USB Cable: USB Type A to Type B, 6' (1.8M), Qty 1

Rack Ears: Pre-installed, Qty 2

Screw/Washer Kit: Rack Decor, Qty 4

PART NUMBERS

Part Number	Product
910-3200-001	CONVERGE Pro 2 128
910-3200-001-D	CONVERGE Pro 2 128D
910-3200-002	CONVERGE Pro 2 128T
910-3200-002-D	CONVERGE Pro 2 128TD
910-3200-003	CONVERGE Pro 2 128V
910-3200-003-D	CONVERGE Pro 2 128VD
910-3200-009	CONVERGE Pro 2 128VT
910-3200-009-D	CONVERGE Pro 2 128VTD
910-3200-005	CONVERGE Pro 2 48T
910-3200-006	CONVERGE Pro 2 48V
910-3200-008	CONVERGE Pro 2 48VT
910-3200-008-D	CONVERGE Pro 2 48VTD
910-3200-004	CONVERGE Pro 2 120
910-3200-007	CONVERGE Pro 2 012
910-3200-101	CONVERGE Pro 2 128SR
910-3200-101-D	CONVERGE Pro 2 128SRD

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