



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

**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

- + 4 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
- + 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

## Flexible Control Options

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



## APPLICATIONS

Boardrooms

Conference Rooms

Huddle Rooms

Training Rooms

Lecture Halls

Courtrooms

Auditoriums

Telemedicine Facilities



Front Panel

Capacitive Touch Button

Status

Locate

Power

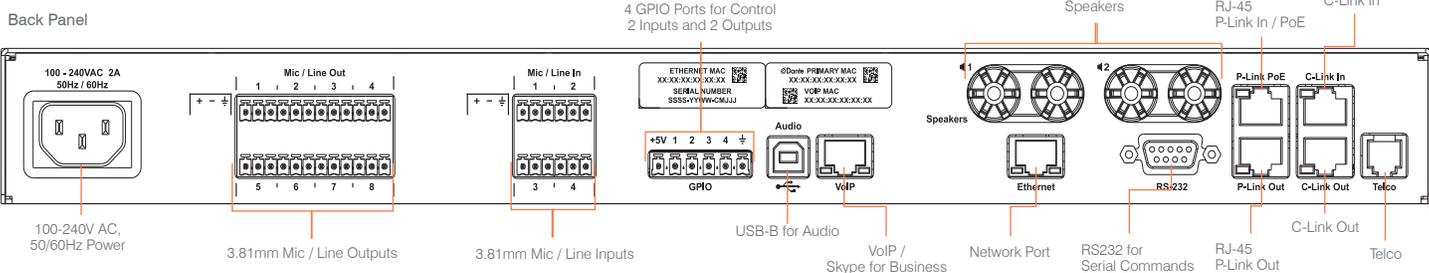
CONVERGE Pro 2 48VT

ClearOne

LEDs

1. Status
2. Location
3. Power

USB-B for connecting to CONSOLE software



## Conferencing

CONVERGE Pro 2	128	128D	128T	128TD	128V	128VD	128VT	128VTD	48T	48V	48VT	48VTD	120	012	Sound Reinforcement	
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,  $R_s = 150\Omega$ , -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), 2.2k $\Omega$ , 1%

#### Nominal Input Level:

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

#### Maximum Input Level:

-65dBu to 20dBu

#### Phantom Power:

48V, Impedance 6.81k $\Omega$

#### Output Impedance:

Balanced (line to ground), 95 $\Omega$ , 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

### 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, 8 $\Omega$  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 8 $\Omega$  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: 40.2k $\Omega$  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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