ClearOne

CONVERGE® Pro 2 128VD
Professional Audio DSP Mixer

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 128VD model mixer has 12 inputs with AEC, 8 outputs, built-in VoIP/Skype for Business interface, 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
+ 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 150 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

+ 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

+ 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

Front Panel

Capacitive Touch Button

- Status
- Locate
- Power

CONVERGE PRO 2
128VD

ClearOne

Mounting Rack Ears

USB-B for connecting to CONSOLE software

LEDs
1. Status
2. Location
3. Power

Mounting Rack Ears

Back Panel

3.81 mm Mic/Line Audio Inputs

4 GPIO Ports for Control, Status, Variable Voltage Control

Primary RJ-45 for Dante™ Audio

RJ-45 Ethernet

RS-232 for serial commands

RJ-45 P-Link In

RJ-45 C-Link In

100-240 V AC, 50/60 Hz Power

3.81 mm Mic/Line Audio Outputs

USB-B for Audio

VoIP / Skype for Business

Secondary RJ-45 for Dante™ Audio

RJ-45 P-Link Out

RJ-45 C-Link Out

CONVERGE Pro 2	Conferencing										Sound Reinforcement	
	128	128D	128T	128TD	128V	**128VD**	48T	48V	120	012	128SR	128SRD
System												
Mic/Line inputs	12	12	12	12	12	**12**	4	4	12	✗	12	12
Mic/Line outputs	8	8	8	8	8	**8**	8	8	✗	12	8	8
AEC	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗
C-link expansion bus	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
P-link peripheral bus	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
USB audio interface	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ethernet, RS-232, GPIO interface	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Applications												
Built-in USB for PC-based conferencing	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗
Built-in Telco for teleconferencing	✗	✗	✓	✓	✗	✗	✓	✗	✗	✗	✗	✗
Built-in VoIP for VoIP conferencing	✗	✗	✗	✗	✓	✓	✗	✓	✗	✗	✗	✗
Microsoft Skype for Business audio conferencing	✗	✗	✗	✗	✓	✓	✗	✓	✗	✗	✗	✗
Sound Reinforcement applications	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Built-in Dante for audio networking	✗	✓	✗	✓	✗	✓	✗	✗	✗	✗	✗	✓
Peripheral Devices												
Beamforming Mic Array 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗
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 20 Hz to 22 kHz BW (no-weighting).

MIC/LINE INPUTS & OUTPUTS

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

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

Frequency Response:
20 Hz – 22 kHz @ +4 dBu, +/- 0.5 dBu

EIN (Equivalent Input Noise):
20 kHz BW, max gain, Rs = 150 Ω, -126 dBu

THD + N (Total Harmonic Distortion + Noise):
- 20 Hz – 22 kHz @ +4 dBu, line level, 0.006%
- 20 Hz – 22 kHz @ -56 dBu, mic level, < 0.04%

Dynamic Range:
20 Hz – 20 kHz @ 0 dB, >105 dB

Crosstalk (Mic/Line):
Channel to Channel, stimulus at 20 dBu to receptor at -56 dBu, 1 kHz, < -98 dB

Input Impedance:
Balanced (line to ground), 2.2 kΩ, 1%

Nominal Input Level:
Adjustable -56 dB to 0 dB, 7 dB step coarse gain

Maximum Input Level: -65 dBu to 20 dBu

Phantom Power: 48 V, Impedance 6.81 kΩ

Output Impedance:
Balanced (line to ground), 95 Ω, 1%

Output Level:
0 dBu (Nominal), 20 dBu (Max), -40 dBu (Selectable)

USB AUDIO

Port Type: USB-B connector

Audio: Digital Audio, 2 x 2 bidirectional channels

Sample Rate: 48 kHz

Sample Bit Depth: 24-Bit

Compatible:
- USB 2.0
- USB 3.0

VOIP

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

Audio:
5 Lines

Number of Lines	Maximum Number of Calls per 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, 10/100 Mbps Ethernet Network, Auto Negotiation

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

DANTE™ and AES67 AUDIO

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

Audio: Digital Audio, 16 x 16 bidirectional channels

Sample Rate: 48 kHz / 96 kHz

Sample Bit Depth: 24-Bit

AES67 Mode: Enabled through Dante controller software

C-LINK EXPANSION BUS

Ports Type: RJ-45 (Cat5e or Cat6)

C-LINK In & Out: Proprietary Expansion Bus

Audio: 150 Expansion channels

Cable: Solid core, factory terminated Cat5e or 6 cable

Distance: Up to 80 ft (24 m)

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: 48 V to 56 V

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 Cat5e or 6 cable

Distance: Up to 200 ft (60 m)

RS232

Port Type: DB9 Female

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

Support: Serial commands

GPIO

Port Type:
5.08 mm Green color Phoenix/Euroblock type male header

Support: Control, Status, Variable Voltage Control

Power Pin: 5 V DC @ 350 mA Power Source

Pin 1 to 4:
- Open Collector Outputs: 40 VDC @ 250 mA
- Active Outputs (Source/Sink): 5 VDC @25 mA
- Logic Inputs: 40.2 kΩ pull up
- Variable Voltage Control Inputs: 5 VDC 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: 100-240 V AC, 50/60 Hz

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 in W x 10.73 in D x 1.72 in H (43.2 cm W x 27.3 cm D x 4.4 cm H)
2. With rack-ears:
   19 in W x 10.73 in D x 1.72 in H (48.3 cm W x 27.3 cm D x 4.4 cm H)

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

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

PACKAGE

Power Cord: 6 ft (1.8 m), 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 in (45.7 cm), Qty 1

VoIP Cable: RJ-45 To RJ-45, 7 ft (2 m), Qty 1

USB Cable: USB Type A to Type B, 6 ft (1.8 m), 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**
910-3200-005	CONVERGE Pro 2 48T
910-3200-006	CONVERGE Pro 2 48V
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

SALES AND INQUIRIES

Headquarters

5225 Wiley Post Way,
Suite 500
Salt Lake City, UT 84116

US & Canada

Tel: +1.801.975.7200
Fax: 801.303.5711

International

Tel: +1.801.975.7200
global@clearone.com

Sales

Tel: 801.975.7200
sales@clearone.com

TechSupport

Tel: 801.974.3760
tech.support@clearone.com