ClearOne

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

+ 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
+ Reduced footprint and power consumption

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

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

Applications

+ VoIP conferencing
+ PC-based conferencing & Unified Communications
+ Microsoft Skype for Business audio conferencing

Configuration & Management

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

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
128V

ClearOne

Mounting Rack Ears

USB-B for connecting to CONSOLE software

LEDs
1. Status
2. Location
3. Power

Mounting Rack Ears

Back Panel

3.81mm Mic/Line Audio Inputs

4 GPIO Ports for Control, Status, Variable Voltage Control

VoIP/Ethernet

RS-232 for serial commands

P-Link PoE

C-Link In

100 - 240VAC 2A 50Hz / 60Hz

Mic / Line Out

Mic / Line In

GPIO

USB-B for Audio

Ethernet

RS-232

P-Link PoE / P-Link Out

C-Link In / C-Link Out

100-240V AC, 50/60Hz Power

3.81mm Mic/Line Audio Outputs

USB-B for Audio

P-Link Out

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 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

VOIP

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

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

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
910-3200-005	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

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