

ClearOne®

CONVERGE® Pro 2 GPIO Expander

A General Purpose Input and Output Expander unit for CONVERGE® Pro 2
Quick-Start Guide



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CONVERGE PRO 2 GPIO EXPANDER

Congratulations on purchasing your GPIO Expander.

The CP2 GPIO expander is a compact, flexible, easy-to-use GPIO unit that gives you an additional 12 inputs and 12 outputs for even greater control of microphones, and 3rd party systems and devices. It is designed specifically for CP2 DSP Mixers.

IMPORTANT: The CP2 GPIO expander can only be used only with CONVERGE Pro 2 systems. It is not compatible with first generation CONVERGE Pro.

UNPACKING

PARTS INCLUDED

The following items are included with the CP2 GPIO Expander:

- CP2 GPIO Expander Unit
- 1 Qty 3.81mm Terminal Block Connector, 3 Position (Orange) for RS-232 connection
- 8 Qty 3.81mm Terminal Block Connector, 5 Position (Green) for GPIO connection



Verify that all items have been received. If there is any issue, please contact your ClearOne representative.

PARTS NOT INCLUDED

NOTE: Installer is responsible for ensuring CP2 expander is firmly attached to sturdy support that holds the weight of the expander unit and mounting hardware.

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The following parts are not included with the CP2 GPIO Expander:



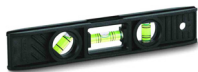
Wall fasteners appropriate to the wall/ceiling material

TOOLS REQUIRED

The following tools are required to install the GPIO expander:



#1 Phillips screwdriver



Level used to level the expander



T15 Torx screwdriver



Drywall saw for cutting hole in ceiling or wall for cable passage for above ceiling mounting



Drill bits appropriate to fastener type



Electric or portable drill

QUICK-START OVERVIEW

Perform these steps in the following order to use the GPIO Expander in your CP2 system:

1. Mount the GPIO Expander.
2. Connect the GPIO Expander.
3. Configure the GPIO Expander.

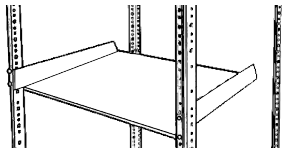
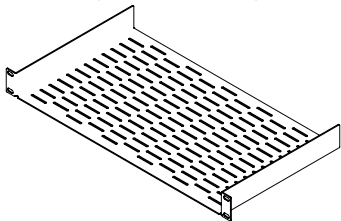
MOUNT THE GPIO EXPANDER

The GPIO expander can be mounted in 1) a rack shelf , 2) under the table, 3) on the wall, 4) above the ceiling. Each mounting type is explained below. Mounting hardware is not provided.

RACK SHELF MOUNTING

ClearOne offers a standard 1U rack shelf with 20lb (9kg) weight capacity.

ClearOne 1U Rack Shelf
(Part No. 910-6106-001)



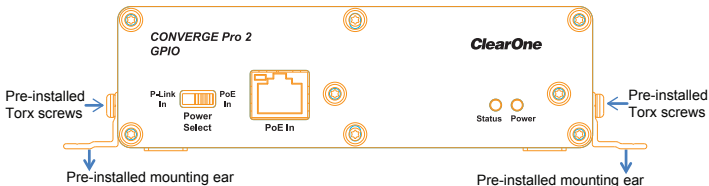
1. Determine location for rack shelf.
2. Align mounting holes on rack shelf mounting ears with holes on the rack (at determined location).
3. Insert the four #10-32 screws included with the ClearOne 1U rack shelf (or proper screws for your 3rd-party mount) and tighten.

NOTE: Remove pre-installed mounting ears on expander to fit up to 3 expander units side-by-side on a single ClearOne 1U rack shelf.

4. Torx drive screws secure the pre-installed mounting ears to the main body of the expander unit. Remove them with a Torx T15 screwdriver. (optional)

CONVERGE PRO 2 GPIO EXPANDER

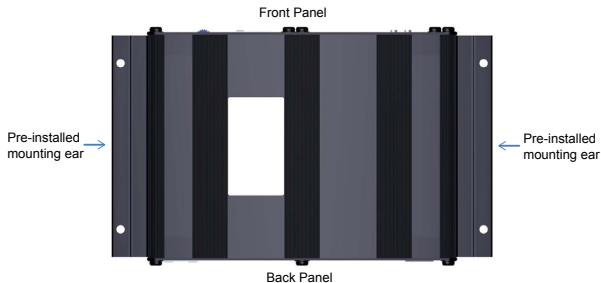
- Secure expander unit(s) to the rack shelf. You must supply your own hardware (four #6 or M3.5 screws) for securing the expander(s).



MOUNTING UNDER THE TABLE

Mounting hardware is not provided. Select your own hardware based on your specific installation needs.

- Determine location for the mount.
- Using expander as a guide (and level if needed), mark four mounting hole locations with a pencil.
- Determine proper depth and diameter, and drill four pilot holes for the #6 or M3.5 screws.



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4. Align mounting holes on expander mounting ears with pilot holes.
5. Insert four #6 or M3.5 screws and tighten.

MOUNTING ON THE WALL

Mounting hardware is not provided. Select your own hardware based on your specific installation needs.

1. Determine location for the mount.
2. Using expander as a guide (and level if needed), mark four mounting hole locations with a pencil.
3. Drill four pilot holes for fasteners/anchors using proper size drill bits.
4. Install fasteners/anchors.
5. Align mounting holes on expander mounting ears with pilot holes.
6. Insert four #6 or M3.5 screws and tighten.

NOTE: Anchors and screws used to mount the expander are not provided and must be selected by installer for the type of wall material supporting the expander. Take care while drilling and installing anchors so wall material does not tear out and weaken attachment.

MOUNTING ABOVE THE CEILING

Mounting hardware is not provided. Select your own hardware based on your specific installation needs.

NOTE: It is the installer's responsibility to ensure that the installation and cable routing complies with local safety codes.

1. Determine location for the mount, and where to route cables.

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Mark location where you want to route cables through with a pencil (on finished side of the ceiling tile) if you need to cut a hole.

2. Remove affected ceiling tile and adjacent tiles required for access.
3. Install fasteners/anchors.
4. Install expander unit at determined location.
5. Use drywall saw to cut hole into finished side of ceiling tile at marked location.
6. Route the cables through the hole.

NOTE: Carefully run connected cables so they do not block the cooling vents or put strain on the connectors.

NOTE: Anchors and screws used to mount the expander are not provided and must be selected by installer for the type of ceiling material supporting the expander. Take care while drilling and installing anchors so ceiling material does not tear out and weaken attachment.

CONNECTIONS

Connect the GPIO expander to:

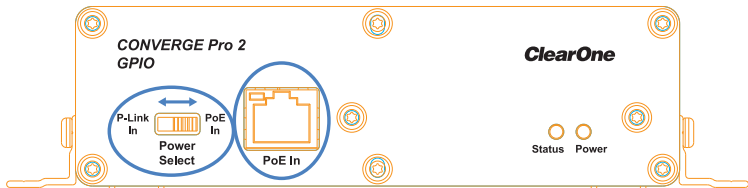
- Peripheral Link (P-Link) or Power-over-Ethernet (PoE) power injector with a CAT5e or CAT6 cable,
 - Third-party systems and devices with GPIO inputs and outputs via the 5 Position Terminal Block Plug 3.81mm GN connectors,
 - A remote control serial device (such as ClearOne's Touch Panel Controller, or any 3rd-party controller) with the RS232 port via the 3 Position Terminal Block Plug 3.81mm GY connector.
- 6

QUICK-START GUIDE

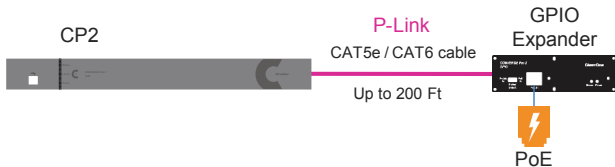
The CP2 GPIO Expander can be powered by a standard PoE injector, or a P-Link connection.

P-Link In and Out ports enable you to connect with a CP2 unit or other P-Link devices. P-Link connections also carry power and control through CAT5e or CAT6 cable. When not supplying power to an expander via a P-Link connection, power an expander via PoE by connecting a PoE Power Injector to the PoE In port.

Set the Power Select switch towards P-Link In or PoE In based on the power source.

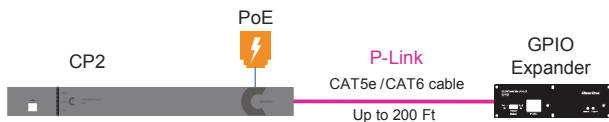


GPIO Expander Powered by PoE



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GPIO Expander Powered by P-Link



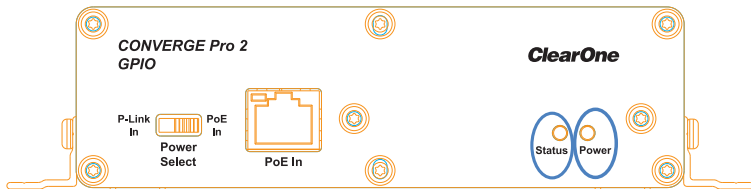
Front Panel LEDs

Power LED

Off - not powered
Solid Blue - powered

Status LED

Off - No P-Link plugged in
Solid Blue - P-Link plugged in and system working normally
Flashing Blue - Locate mode initiated from CP2 CONSOLE Software
Red - Error condition



Detailed instructions on using the Locate function in the CP2 CONSOLE software can be found in the CONVERGE Pro 2 CONSOLE User Manual at: http://www.clearone.com/resources#professional_audio

CONFIGURE THE GPIO EXPANDER

CONVERGE Pro 2 CONSOLE software is required for configuring the CP2 and expander units.

The CP2 CONSOLE uses auto-discovery when in online mode to help identify and list the expanders under the P-Link Devices section. GPIO expander pins respond and function exactly as the pins directly on the main CP2 unit, except that main CP2 unit pins are flexible pins that can be configured for either input or output.

Phases of the software setup include:

- Create a new or open an existing project
- Add a CP2 and peripheral devices to a project
- Configure device/stack settings
- Configure and manage Room (Space) settings
 - Add GPIO to rooms where necessary
- Creating and managing Room Partition settings
 - Configure GPIO pins input (triggers) and output (actions) pins
- Configure gating settings for microphones
- View project file status
- Send configurations

These processes are detailed in the CONVERGE Pro 2 CONSOLE User Manual at: http://www.clearone.com/resources#professional_audio

CONVERGE PRO 2 GPIO EXPANDER

PART NUMBERS

910-3200-301	CONVERGE Pro 2 GPIO Expander
910-3200-302	CONVERGE Pro 2 USB Expander
910-3200-202	PoE+ Power Supply Kit for 3 devices
910-001-004	PoE Power Supply for 1 device
910-6106-001	1U Universal Rack-Shelf
910-3200-204-50	50 Ft RJ45 CAT6 Cable
910-3200-204-100	100 Ft RJ45 CAT6 Cable
910-3200-204-150	150 Ft RJ45 CAT6 Cable
910-3200-204-200	200 Ft RJ45 CAT6 Cable

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