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## CONVERGE® PA 460 and PA 4120 Professional Power Audio Amplifiers

### Quick-Start Guide



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## INTRODUCTION

CONVERGE PA amplifiers are 4 Channel x 60 Watts (PA 460) or 4 Channel x 120 Watts (PA 4120), high-efficiency, power audio amplifiers for reliable amplification with professional sound quality and advanced features. They both offer plug-and-play installation for conferencing, sound reinforcement, and audio distribution applications.

CONVERGE PA amplifiers are optimized to work with ClearOne's DSP mixers, and will also work with any third-party mixers.

## FEATURES

### Output

- 8 $\Omega$  speaker output
- 70V/100V constant voltage output

### Power

- Built-in AC power supply
- Back-up DC power option
- Auto-standby for efficient power consumption

### Advanced Control

- Input gain control per channel
- High pass filter per channel
- Protection for short-circuit, high-temperature, overload
- Standby mode when input signal not present per channel

### Amplifier Technology

- Class-D PA technology
- Switching power technology digital power amplifier

### Configuration

- Plug-and-play installation
- Software-free configuration
- Manual switches for settings

### Per Channel Indicators

- Input signal
- Output signal
- Protection
- Clip

# CONVERGE PA 460 AND PA 4120 AMPLIFIERS

## SAFETY INFORMATION

1. Read and follow all instructions.
2. Keep these instructions.
3. Install in accordance with the manufacturer's instructions.
4. Do not use this apparatus near water.
5. To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other devices (including amplifiers) that produce heat.
9. This appliance has a polarized plug (one blade is wider than the other). To reduce the risk of electric shock, this plug is intended to fit into a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician. Do not attempt to modify the plug in any way.
10. Protect the power cord from being walked on or pinched, particularly at the plugs and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Unplug this apparatus during lightning storms or when unused for long periods of time.
13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, including but not limited to when the power cord or plug is damaged, liquid has been spilled on or into the apparatus, objects have fallen into the apparatus, or when the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
14. Plug this apparatus to a proper AC outlet and make it easily accessible so that it can be unplugged as needed.
15. If you need to unplug the power supply, be sure to disconnect it completely.
16. Be sure to connect the apparatus to a three-prong, grounded AC outlet.

## SAFETY WARNING

### WARNING!

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT USE THE PLUG WITH AN EXTENSION CORD, RECEPTACLE, OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

TO PREVENT ELECTRICAL SHOCK, MATCH WIDE BLADE PLUG TO WIDE SLOT AND FULLY INSERT.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

#### CAUTION

RISK OF ELECTRIC SHOCK  
DO NOT OPEN

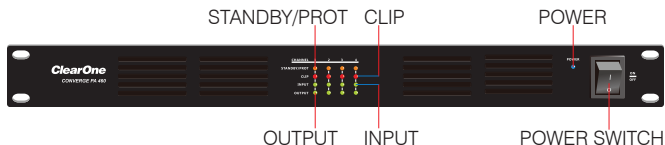
**WARNING:** TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

# CONVERGE PA 460 AND PA 4120 AMPLIFIERS

## FRONT PANEL



### 1. **STANDBY/PROT**

This light indicates either Standby or Protection mode.

- A solid orange light indicates that the amplifier is in Standby mode (which occurs when Standby has been turned on and no signal has been received for around a minute). Standby mode ends once an audio signal is received.
- A blinking orange light indicates that the amplifier is in Protection mode. Protection mode can result from a speaker line short circuit, a speaker line open circuit, amplifier overload, or an inner working temperature over 131°F (55°C). When in Protection mode, the channel is turned off (no audio signal is passed). The indicator light continues to blink until the problem is resolved.

There are Standby/Prot indicators for each of the four channels.

### 2. **CLIP**

Red clip indicator lights turn on when the input or output is too high. There are Clip indicators for each of the four channels.

### 3. INPUT

Green input indicator lights turn on when an input signal has been detected. There are Input indicators for each of the four channels.

### 4. OUTPUT

Green output indicator lights turn on when an output signal has been passed. There are Output indicators for each of the four channels.

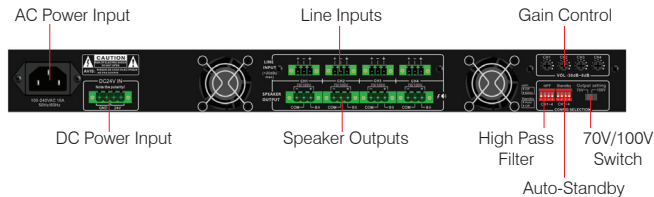
### 5. POWER

A blue power indicator light turns on when the unit is powered, whether by AC or DC power, and the Power switch is on.

### 6. POWER SWITCH

The power switch is used to turn the amplifier on or off.

## BACK PANEL



### 1. AC POWER INPUT

Input for the AC Power Adapter, which can be 110V or 230V. The Power Adapter itself is auto-switching.

# **CONVERGE PA 460 AND PA 4120 AMPLIFIERS**

## **2. DC POWER INPUT**

This input is used for a 24V battery backup power supply, which will automatically switch on if the AC power supply fails.

## **3. LINE INPUTS**

The Phoenix Euroblock line inputs support both balanced or unbalanced input. There are four line input channels.

Each input channel corresponds to its equivalent output channel (the audio signal from Input Channel 1 is sent to Output Channel 1, etc.)

## **4. SPEAKER OUTPUTS**

The Phoenix Euroblock speaker outputs can be connected to 70V/100V speakers or 8 $\Omega$  line loudspeakers.

- When connecting 70V/100V speakers, connect the positive speaker wire to the positive output connector and the negative speaker wire to the negative output connector. Choose a voltage from the 70V/100V switch.
- When connecting 8 $\Omega$  line speakers, connect the positive speaker wire to the positive output connector and the negative speaker wire to the COM output connector.

There are four output channels, each of which can be used for either high-voltage speakers (70V or 100V) or for 8 $\Omega$  speakers, depending on which wires you connect.

Each output channel corresponds to its equivalent input channel (Output Channel 1 outputs the audio signal from Input Channel 1, etc.).

## QUICK-START GUIDE

**WARNING:** Never connect the negative terminal to the positive terminal. Doing so can trigger the short circuit protection.

**WARNING:** The speakers connected to a particular channel must be of the same type. Do not mix 8Ω and 70V/100V speakers on the same output channel.

**WARNING:** Never connect 8Ω speakers to the 70V/100V connectors. Doing so will produce heavy distortion and may damage the speakers.

### 5. GAIN CONTROL

The gain control can be used to adjust the input gain for each channel, from -30dB to 0dB.

### 6. HIGH PASS FILTER

The 80Hz high pass filter function can be enabled or disabled using a switch for each channel.

There are four separate high pass filter switches, one for each channel.

### 7. AUTO-STANDBY

The Auto standby function can be enabled or disabled using a switch for each channel. The auto-standby function turns off the channel if no input has been detected for around one minute to save electric power consumption by the amplifier. The channel is turned on automatically once an input signal is detected.

There are four separate auto-standby switches, one for each channel.

### 8. 70V/100V SWITCH

Use this switch to set the output voltage for all four output channels when connecting speakers to the high-voltage, 70V/100V connectors (the positive and negative connectors).

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### SPEAKER CONNECTION SCENARIOS

#### 8Ω Speakers

When connecting conventional 8Ω speakers, connect the speaker's positive wire to the positive connector and connect the speaker's negative wire to the COM connector.

The diagram below shows an 8Ω speaker connection.

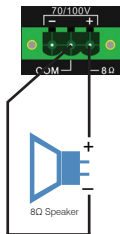
#### 70V/100V Speakers

When connecting high voltage speakers (70V/100V), connect the speaker's positive wire to the positive connector and connect the speaker's negative wire to the negative connector.

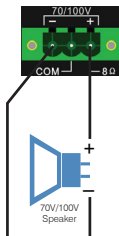
Note: Whether the connection provides 70V or 100V of power depends on whether the 70V/100V switch on the back panel is set to 70V or 100V.

The diagram below shows a 70V/100V speaker connection.

#### 8Ω Speaker Configuration:



#### 70V/100V Speaker Configuration:



**Warning: Never put 8Ω speakers and 70V/100V speakers on the same channel. Doing so could damage your speakers.**

## AMPLIFIERS COMPARISON

Feature	PA 460	PA 4120
Input Channels	4	4
Output Channels	4	4
Output Power Per Channel	60 Watts	120 Watts
Output Mode (low impedance)	8 ohms	8 ohms
Output Mode (high impedance)	70V/100V	70V/100V
Form Factor	1 RU	1 RU
LED Indicators (front panel)	Yes	Yes
Input Gain Control Per Channel	Yes	Yes
High Pass Filter Per Channel	Yes	Yes
Protection Per Channel	Yes	Yes
Auto-Standby Per Channel	Yes	Yes
Backup Power Option	Yes	Yes
Software-free Configuration	Yes	Yes
Power Consumption	300W	600W
Works with ClearOne DSP Mixers	Yes	Yes
Works with Third-party DSP Mixers	Yes	Yes

# CONVERGE PA 460 AND PA 4120 AMPLIFIERS

## CLEARONE CONTACTS

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