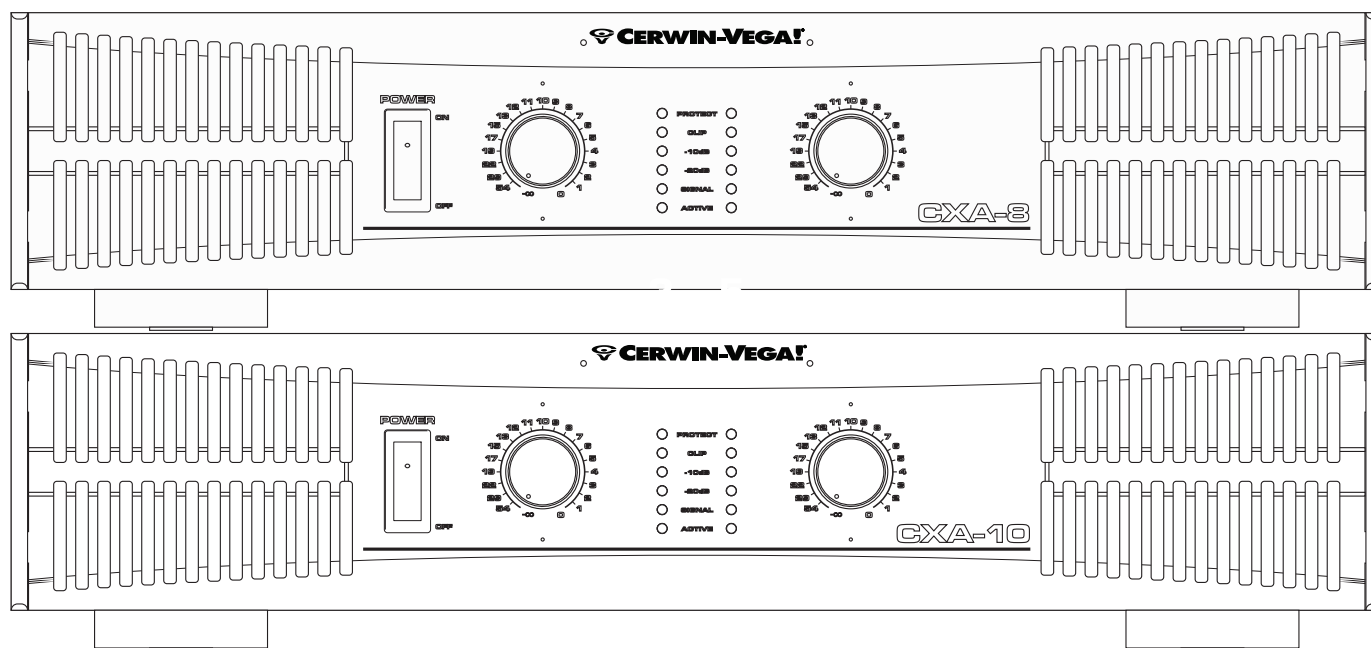




CXA - AMPLIFIER SERIES

OPERATION MANUAL



Cerwin-Vega! CXA - AMPLIFIER SERIES

1. **Read Instructions** – All the safety and operating instructions should be read before this product is operated.
2. **Retain Instructions** – The safety and operating instructions should be retained for future reference.
3. **Heed Warnings** – All warnings on the appliance and in the operating instructions should be adhered to.
4. **Follow Instructions** – All operating and use instructions should be followed.
5. **Water and Moisture** – The appliance should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, and the like.
6. **Heat** – Appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
7. **Power Sources** – This product should be operated only from the type of power source indicated on the rating label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company.
8. **Grounding or Polarization** – This product may be equipped with a polarized alternation-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
9. **Power-Cord Protection** – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to the cord in correspondence of plugs, convenience receptacles, and the point where they exit from the appliance.
10. **Cleaning** – The appliance should be cleaned only as recommended by the manufacturer. Clean by wiping with a cloth slightly damp with water. Avoid getting water inside the appliance.
11. **Non-use Periods** – The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
12. **Object and Liquid Entry** – Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
13. **Damage Requiring Service** – The appliance should be serviced by qualified service personnel when:
 - A. The power-supply cord or the plug has been damaged; or
 - B. Objects have fallen, or liquid has been spilled into the appliance; or
 - C. The appliance has been exposed to rain; or
 - D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
 - E. The appliance has been dropped, or the enclosure damaged.
14. **Servicing** – The user should not attempt any service to the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.
15. **Ventilation** – Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is the manufacturer's instructions have been adhered to.
16. **Attachments** – do not use attachments not recommended by the product manufacturer as they may cause hazards.
17. **Accessories** – Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.
18. **Replacement Parts** – When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
19. **Safety Check** – Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating conditions.
20. **This product is in compliance with EU WEEE regulations.** Disposal of end of life product should not be treated as municipal waste. Please refer to your local regulations for instructions on proper disposal of this product.
21. **Carts and Stands** – The appliance should be used only with a cart or stand that is recommended by the manufacturer. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.
22. The appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

WARNING

To reduce the risk of electric shock, do not expose this apparatus to rain or moisture. Ensure that the apparatus is not exposed to splashing and that no objects filled with liquids, such as vases, are placed on the apparatus.



CAUTION
DO NOT OPEN
RISK OF ELECTRIC SHOCK



CAUTION: To reduce the risk of electric shock, do not remove any cover. No user serviceable parts inside. Refer servicing to qualified personnel only.



The lighting flash with arrowhead symbol within the equilateral triangle is intended to alert the user to the presence of un-insulated "dangerous voltage" within the product enclosure that may be significant enough to constitute a risk of electric shock.



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

CAUTION

To prevent electric shock, do not use this polarized plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.



Cerwin-Vega! CXA - AMPLIFIER SERIES

1. INTRODUCTION

Congratulations! Welcome to the Cerwin-Vega! family. You've joined a growing group of audio professionals who have turned to Cerwin-Vega! for the most advanced audio reproduction systems available. All Cerwin-Vega! systems are thoroughly tested to insure that they meet or exceed our performance specifications. Backed by the best service in the industry, Cerwin-Vega! is dedicated to quality and reliability. For a complete overview of Cerwin-Vega! products, accessories, and services, log onto www.cerwin-vega.com.

2. UNPACKING & INSTALLATION

Although it is neither complicated to install, nor difficult to operate your amplifier, a few minutes of your time are required to read this manual for a properly wired installation, and to become familiar with the unit's features. Please take great care in unpacking the unit and do not discard the carton and other packing materials. They may be needed when moving the unit and are required if it ever becomes necessary to return the unit for service. Never place the unit near a radiator, in front of heating vents, in direct sunlight, in excessive humidity, or dusty locations to avoid damages and to guaranty a long reliable use. Connect the unit with the system components according to the description on the following pages.

3. ABOUT THE CERWIN-VEGA! CXA AMPLIFIER SERIES

The Cerwin-Vega! CXA-Series high performance stereo and bridgeable power amplifiers are for those that want to sound like a pro! These home-use versions of the renowned Cerwin-Vega! Professional series amplifiers. The same capability for shock and awe, but with input/output connections and a form factor suited for performing at home versus on stage.

These workhorses have the muscle to accommodate the most demanding audio challenges. With power ratings of up to 1800 watts* (for the CXA 8) and 2800 watts* (for the CXA 10), exceptional THD (Total Harmonic Distortion) and Signal-to-Noise ratings, the CV Series power amps are the right choice for a wide range of music and home theater applications.

To ensure reliable operation the CXA amps include a highly efficient variable speed tunnel cooling system that dynamically follows amplifier output levels. When unneeded, the fans shut down entirely thereby reducing ambient noise. The 21-position detent level control knobs help you set and maintain volume settings. Signal and clip indicators provide a convenient way to monitor the amplifier's status. Proven professionally -- the CXA-Series Amps are right for the job -- even when the "job" is entertaining friends and family.

Main Features:

- Power ratings up to 2800 watts – run in stereo or bridged
- Professional quality design and reliability
- Flow-through cooling design prevents overheating
- Defeatable limiter and high pass filter per channel
- Detented 21-position input level control knobs
- Front panel LED indication of power, clip protect and signal status

Cerwin-Vega! CXA - AMPLIFIER SERIES

CXA AMPLIFIER FRONT PANEL DESCRIPTION

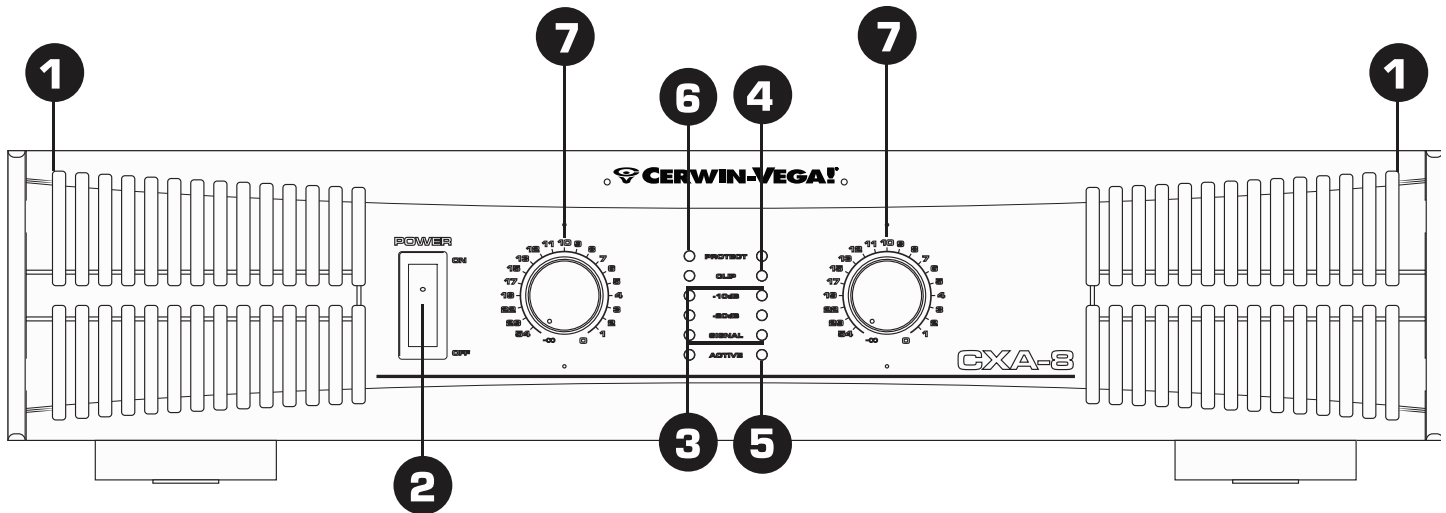


Figure 1.1

1. Fan Vent

The CV-Series amplifiers are cooled by two rear-mounted fans (except for CV-900 which is cooled by a single rear mounted fan). Cool air flows through the front fan filters, reducing the temperature of internal components while forcing the heat out the rear vents. Never block these vents and keep them clean at all times.

2. AC Power Switch

This switch powers the unit on and off.

3. Signal Indicators

These blue LED's will illuminate to indicate that a signal is present at the amplifier input, and that the signal is being amplified.

4. Clip Indicators

These red LED's will illuminate at the clipping threshold. These lights should not light up during normal use as they indicate signal outside of the amplification range of the amplifier. When a signal is "clipped" and the clip indicator illuminates, it means that the signal is being distorted at the output stage. Prolonged clipping can not only damage your amplifier, but also your speakers, so be careful to monitor the clip indicator during setup and use. If the clip indicator is illuminated then simply lower the channel gain or input signal until the indicator does not light.

5. Active Indicators

These blue LED's indicate that AC power is connected and the amplifier is turned on.

6. Protect Indicators

These red LED's indicate that the channel is in Protect mode. When the channel goes into protect mode all output for that channel will be muted. The protect LED's light when overheating or other severe problems occur. This is to protect any speakers connected to the channel. The LED's also light for approximately five seconds whenever the unit is powered on and fade slowly when the amplifier is powered off.

7. Channel input level control

These two 21-position detented potentiometers adjust input level for their respective amplifier channels. In Bridged Mono Mode, only channel 1 level control is used to adjust signal level. In Parallel Mode, both input level control are used to adjust signal level for their respective amplifier channels. At their fully counter-clockwise position, the signal is attenuated by more than 80dB. At their fully clockwise position, the signal is at maximum gain. When 0 dBu of signal arrives at the input jacks and the Channel input level controls are set to their fully clockwise position, the unit delivers full power output.

Cerwin-Vega! CXA - AMPLIFIER SERIES

CXA AMPLIFIER REAR PANEL DESCRIPTION

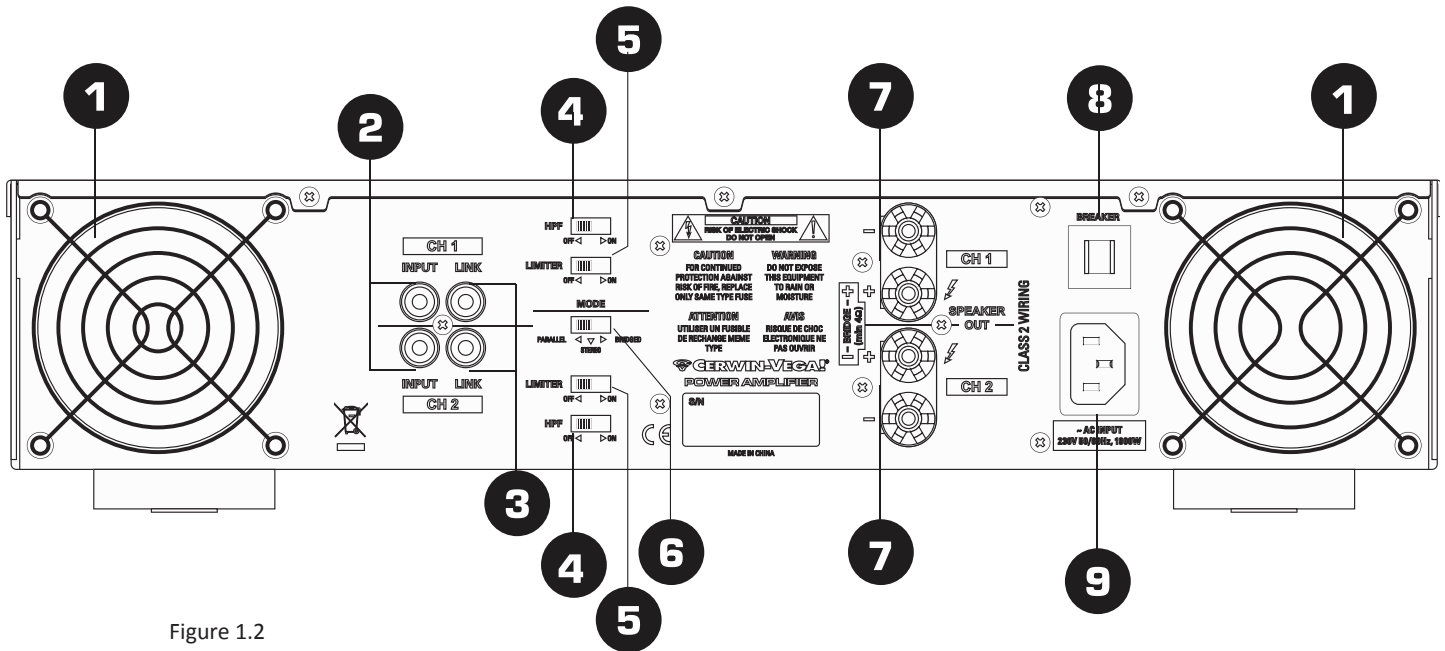


Figure 1.2

1. Fan

This is a variable speed cooling fan. Cool air enters the amplifier through the fan filters located on the front of the amplifier. Be sure not to block these ports when installing the amplifier or other equipment.

2. Input connectors

Connect the input source to the unbalanced RCA connectors using standard RCA cables.

3. Link connectors

These jacks are used to send a parallel signal to another device or amplifier.

4. High Pass Filter (HPF) switch.

These switches are used to activate the built-in High Pass Filter. The HPF rolls off signals below 40Hz. This improves bass performance by limiting sub-audio cone motion, making more power available for the speaker's rated frequency range. When the filter is turned off, a 5 Hz roll off protects against DC or deep sub-audio inputs.

5. Limiter switch

When the input signal connected to your amplifier is too high, you end up with a distorted output signal. To prevent this, both channels feature a clip limiter that can be engaged or disengaged selectively.

6. Bridge / Stereo / Parallel switch

This switch changes the amplifier operating mode between stereo, mono bridged, and parallel.

7. 5-way Binding Post

Connect each channel of the unit to your speakers. Binding posts are provided for each channel as so that paralleling of speakers is possible. Connection to the binding posts can be made with bare wire, banana plugs, or spade lug terminations. Make connections to both the Channel 1 and Channel 2 terminals for Stereo or Parallel Mode, or a single connection across the red terminals only of Channel 1 and Channel 2 for Bridged Mono Mode.

8. Circuit breaker

The breaker acts in place of common disposable fuses. This circuit breaker will trip if there is a fault with the main voltage or if maximum output is exceeded. Simply depress the circuit breaker and power up the unit again.

9. AC input

IEC connector for AC power cable. Connect the supplied heavy-gauge 3-pin IEC power cable.

PROTECTION

Every model in the CV-Series incorporates protection features. The front panel Protection LED indicates the activity of the speaker connection relay circuitry in each channel. When the protection LED turns on, this circuitry is active, and all connected speakers are muted.

Initial power-up : For approximately five seconds after initial power-up, the protection circuitry is activated and the speaker outputs are muted. If everything is operating normally, you will hear an audible click at the conclusion of this brief period, as the protection circuitry is deactivated and the unit begins delivering signal to the connected speakers. It is normal for the Protection LED to fade gradually after the amplifier is powered off.

Thermal Protection : Abnormally high heat sink temperatures will engage the protection circuitry for the overheating channel only. An output relay disconnects the speakers until normal temperature range is restored. The Protect indicator will light to show the protection circuit is active. To guard against this problem, make sure the unit receives adequate ventilation on all sides and that both the front and rear panels are unobstructed. If the power transformer gets too hot, its thermal switch will disconnect all of the secondary power and disconnect both channel outputs.

Short circuit : If output is shorted due to faulty wiring, the thermal circuitry will automatically protect the amplifier. If this occurs, the load will be disconnected by the thermal protection circuitry.

DC Voltage Protection : If an amplifier channel detects DC voltage at the speaker output, the output relay will immediately open to prevent speaker damage.

Subsonic Frequency Protection : The built-in High Pass Filter provides subsonic frequency protection for each channel.

Current limiting Protection : At the amplifier's full power limit, or clipping point, the limiter circuitry will be activated. This is indicated by illumination of the Clip LED. The channel gain is automatically reduced, protecting the speakers from high power. Uncontrolled feedback, oscillations, or improper equipment gain setting may activate this circuitry, which is virtually transparent in operation as full signal bandwidth is maintained.

There is reason to be concerned any time the Protection LED lights up (except for initial power-up during approximately five seconds). If this occurs, turn the amplifier off immediately and check all wiring and external equipment carefully in order to locate and correct the condition.

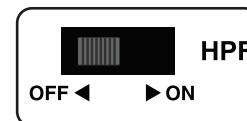
SETUP

Clip limiter



Clipping is the result of an amplifier running into power supply limitation. The maximum output voltage that any amplifier can produce is limited by its power supply. Attempting to output a voltage (or current) level that exceeds the power supply limit will result in a flattening effect on the signal. A clipped waveform exhibits extreme harmonic distortion, making it sound harsh or dissonant. The clip limiter detects this and reduces the gain to minimize the amount of overdrive. To preserve as much of the program dynamics as possible, limiting reduces the average program level until peaks barely clip. Each channel has its own clip limiter, which can be switched on or off. When driving full-range speakers, clip limiting reduces high frequency distortion caused by bass overload. It also protects higher frequency drivers from excess overdrive and harsh clipping harmonics.

HPF (Hi-Pass Filter)

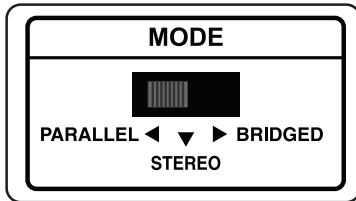


Also known as a low-cut filter, a High Pass Filter rolls off signals below 40Hz. The reproduction of the signal's bass portion is thus optimized, since ultra-low, distracting frequencies are eliminated, and more power is available for the reproduction of the wanted segment of the signal.

You should set up the filters so they best suit the frequency response of your speakers, since some speakers are particularly sensitive to over-exursion. The 40Hz filter works well with most compact full-range speakers.

SETUP (CONTINUED)

Mode Select



Stereo Mode

In stereo mode, both channels operate independently with individual input gain controls. Signal at channel 1's input produces output at channel 1, while signal at channel 2's input produces output at channel 2's output. Recommended minimum nominal load impedance for stereo operation is 2 ohms per channel.

Parallel Mode

When set to Parallel mode, a signal applied to channel 1's input will be amplified and appear at outputs for both channel 1 & 2. The parallel mode is well suited for applications in which driving two speakers with the same signal but with separate amplification. The 'Channel 1' and 'Channel 2' input gain controls individually control the output level on channels 1 and 2.

Bridged Mono Mode

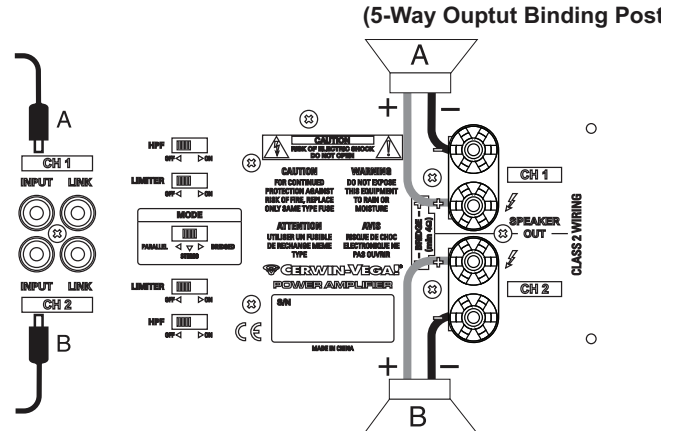
Bridged mono mode straps both amplifier channels together to make a very powerful, single-channel monaural amplifier. One channel "pushes" and the other channel "pulls" equally, doubling the power over that of either channel alone. Therefore the voltage is doubled, the peak power is quadrupled, and program power is roughly three times as high as that of the individual channel. Signal is applied to the channel 1 input only and channel 1 input gain control is used to adjust signal level. The input gain control belonging to channel 2 are not used.



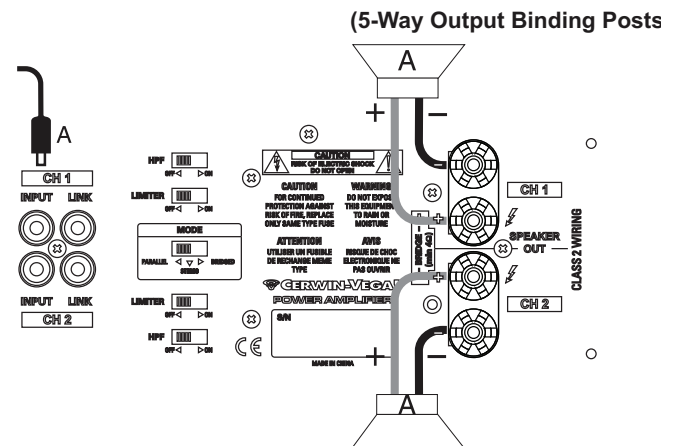
Note : Bridged mono mode is to be used only when the CV-Series is connected to a 4 or 8 ohms speaker load. Use of Bridged mode with speaker loads of less than 4 ohms can result in severe damage to the unit due to excessive heat and current limiting. Use extreme caution when operating the amplifier in Bridged Mono Mode. Never ground either side of the speaker cable; the speaker load must "float" away from the amplifier chassis.

CONNECTIONS

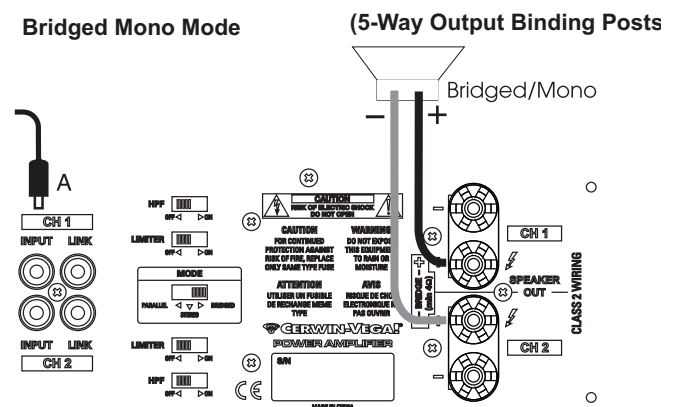
Stereo Mode



Parallel Mode



Bridged Mono Mode



Cerwin-Vega! CXA - AMPLIFIER SPECIFICATIONS

| | CXA-8 | CXA-10 |
|--|--|----------|
| Output Power (RMS) | Stereo Both Channels Driven | |
| 8 ohms | 400 W | 600 W |
| 4 ohms | 600 W | 900 W |
| 2 ohms | 900 W | 1400 W |
| Output Power (RMS) | Bridged Mono | |
| 8 ohms | 1200 W | 1800 W |
| 4 ohms | 1800 W | 2800 W |
| Signal to Noise Ratio (20 Hz - 20k Hz) | 102 dB | 104 dB |
| Distortion (SMPTE-IM) | 0.01% | 0.04% |
| Input Sensitivity @ 8 ohms | 4 dBu | 4 dBu |
| Voltage Gain | 33 dB | 35 dB |
| Output Circuitry | Class AB | Class H |
| Current Consumption | 240 Vac | |
| @ 1/8 power @ 4 ohms | 4.4 amps | 3.4 amps |
| @ 1/3 power @ 4 ohms | 6 amps | 8.3 amps |
| @ Full power @ 4 ohms | 9.5 amps | 16 amps |
| Distortion | | |
| 20 Hz - 20k Hz @ 1/2 Power | 0.01% | 0.03% |
| 1k Hz @ Full Power | 0.10% | 0.10% |
| FREQUENCY RESPONSE | | |
| +/- 0.5 dB | 20 Hz - 20 kHz | |
| +/- 3 dB | 5 Hz - 60 kHz | |
| Damping Factor (400 Hz) | 280 | 350 |
| Input Impedance | 15k ohm Un-balanced / 30k ohm balanced | |
| Input Clipping | 22 dBu (10 Vrms) | |
| Cooling | Continuously variable speed fan, front to rear | |
| CONNECTORS | | |
| Input | Unbalanced RCA input and link out | |
| Output | 5-way binding post | |
| CONTROLS | | |
| Front | AC power switch / Channel 1 & 2 volume | |
| Rear | HPF Switch / Limiter Switch / Mode Selector Switch | |
| Indicators | Power On: Light Blue / Signal: Dark Blue / Limit-Clip: Red | |
| Protection | Short Circuit / Thermal / Current Limit resetable breaker / DC offset / Current In-Rush / RF Protection / On-Off Mute | |
| Power Requirements | 240 Vac 50 Hz | |
| Dimensions | 482 mm X 88 mm X 420 mm | |
| Net Weight | 18 Kg | 20.7 Kg |



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