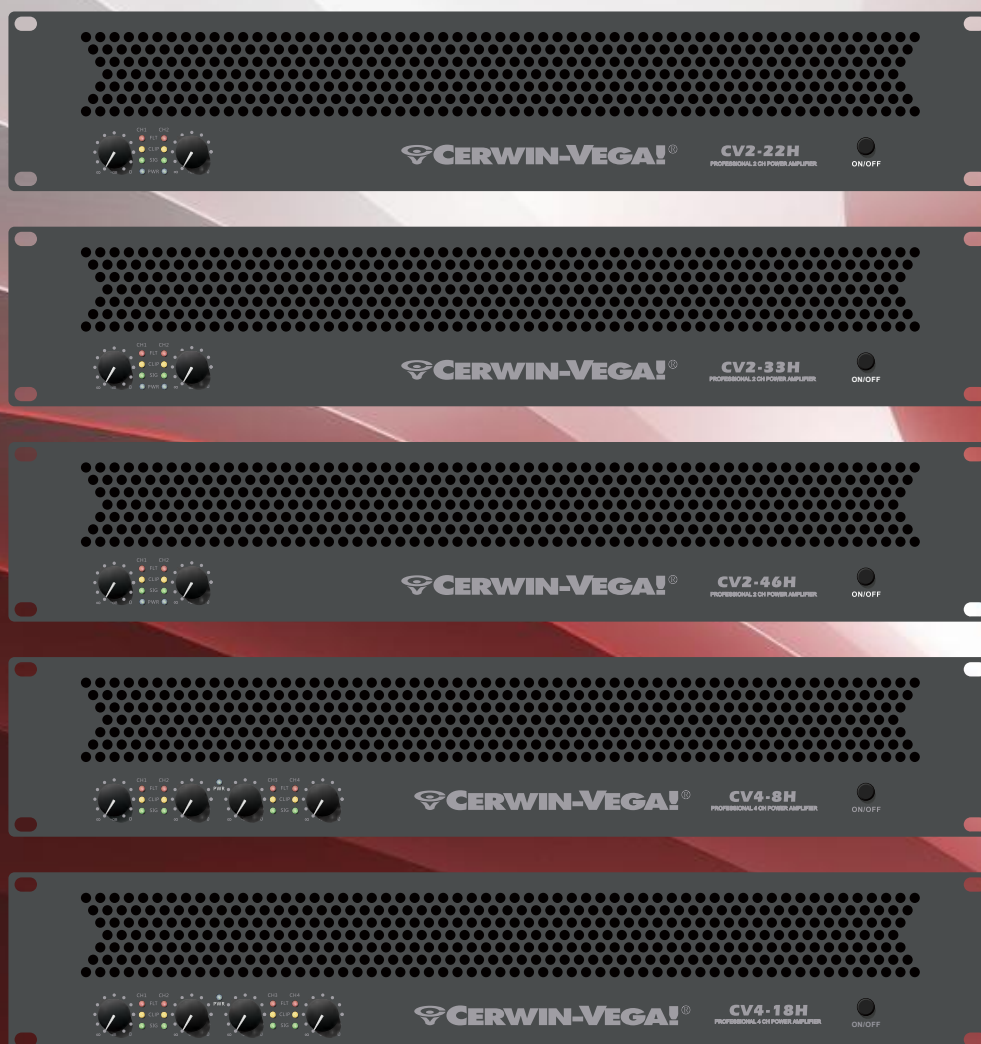




CV2-22H/CV2-33H/CV2-46H
CV4- 8H/CV4-18H

PROFESSIONAL POWER AMPLIFIER SERIES
HEAVY DUTY PROFESSIONAL AMPLIFIER





USER MANUAL

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IMPORTANT SAFETY INSTRUCTIONS

WARNING

1. Read these instructions - All the safety and operating instructions should be read before this product is operated.
2. Retain these instructions - The safety and operating instructions should be retained for future reference.
3. Heed all warnings - All warnings on the appliance and in the operating instructions should be adhered to.
4. Follow all instructions - All operating and use instructions should be followed.
5. Do not use this apparatus near water. The appliance should not be used near water or moisture, for example, in a wet basement or near a swimming pool, and the like.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding plug. A polarized plug has two blades, one of which is wider than the other. A grounding plug has two blades and a third grounding prong.
10. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
11. Protect the power cord from being walked on or pinched, particularly at the plugs, convenience receptacles, and the point where it exits the apparatus.
12. Only use attachments/accessories specified by the manufacturer. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When using a cart or rack, exercise caution when moving the cart/apparatus combination to prevent injury from tip-over. 
13. Unplug the apparatus during lightning storms or when it is unused for long periods.
14. Refer all servicing to qualified personnel. Servicing is required when the apparatus has been damaged in any way, such as when the power supply cord or plug is damaged, liquid has been spilled, objects have fallen into the apparatus, it has been exposed to rain or moisture, it does not operate normally, or it has been dropped.
15. Please keep the unit in a well-ventilated environment.
16. WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. The apparatus shall not be exposed to dripping or splashing, and no objects filled with liquids, such as vases, shall be placed on the apparatus.
17. WARNING: The mains plug or appliance inlet is used as a disconnect device; the disconnect device shall remain readily operable.
18. Power Sources - This product should be operated only from the type of power source indicated on the rating label. If you are unsure of the kind of power supply in your home, consult your product dealer or the local power company. For products intended to operate from battery power or other sources, refer to the operating instructions.
19. Safety Check - After completing any service or repair on this product, ask the service technician to perform a safety check to ensure the product is in proper operating condition.
20. Don't touch conductive parts of output terminals to prevent hazardous electrical shock. The external wiring connected to the terminals requires installation by a qualified person or the use of pre-made leads or cords.
21. This equipment is for commercial & professional use only.
22. This product complies with EU WEEE regulations. Disposal of end-of-life produce should not be treated as municipal waste. Please refer to your local regulations for instructions on the proper disposal of this product. 



CAUTION: Risk of burns. The surface may become hot during operation. Do not touch.



Protective earthing terminal. The apparatus should be connected to a mains socket outlet with a protective earthing connection.



This lightning flash is intended to alert the user to the presence of non-insulated "dangerous voltage" on the output terminals that may be of sufficient magnitude to constitute a risk of electric shock. The external wiring connected to the terminals requires installation by an instructed person or the use of ready-made leads or cords.



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



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



The lightning flash with arrowhead symbol within the 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.



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.



This equipment is not suitable for use in locations where children are likely to be present. Keep body parts away from fan blades.

INTRODUCTION

Thank you for your decision to purchase Cerwin-Vega's innovative new CV2 and CV4 Series professional power amplifier!

Engineered for superior sound reproduction, the CV2 and CV4 Series line of professional amplifiers deliver top quality audio at an affordable price. The CV2 and CV4 Series offers a standard of reliability and efficiency that makes them the perfect solution for every DJ, musician, and sound engineer.

Welcome to a new level of professional quality sound performance!

UNPACKING AND INSTALLATION

Although it is neither complicated to install nor difficult to operate your amplifier, a few minutes of your time is required to read this manual for a properly wired installation and to become familiar with the amp's features and how to use them.

Please take care in unpacking your amp and do not discard the carton and other packing materials. They may be needed when moving your amp, 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 damage to the amp and to guarantee it lives a long and reliable life. Connect your amp according to the description on the following pages.

FEATURES

The CV2 and CV4 series amplifiers deliver the following power ratings





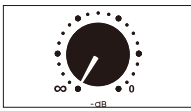
<i>Model</i>	<i>Series</i>	<i>Channels</i>	<i>Power (Per Channel @ 8)</i>	<i>Power (Per Channel @ 4)</i>	<i>Power (Bridged Mono @ 8)</i>
CV2-22H	CV2	2	2x670 Watts	2x1070 Watts	2260 Watts
CV2-33H	CV2	2	2x870 Watts	2x1370 Watts	2880Watts
CV2-46H	CV2	2	2x1240 Watts	2x1810 Watts	3820 Watts
CV4-8H	CV4	4	4x320 Watts	4x490 Watts	2x1420 Watts
CV4-18H	CV4	4	4x540 Watts	4x820 Watts	2x1820 Watts

Key Features & Technologies

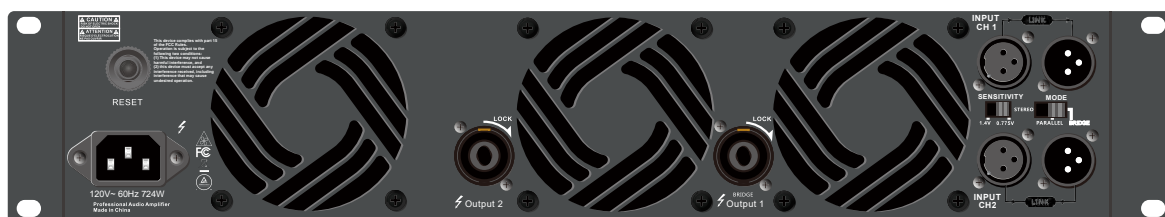
- ‘ **Advanced Thermal Management:** An efficient heat sink combined with a variable-speed cooling fan maintains optimal operating temperatures under all load conditions.
- ‘ **Comprehensive Protection Circuitry:** Equipped with a full suite of protective circuits, including signal limiting, soft-start/shut-down (anti-thump), DC fault protection, output short circuit protection, and thermal overload guarding.
- ‘ **Integrated Signal Limiter:** A built-in limiter automatically prevents clipping and protects connected loudspeakers from damaging audio spikes.
- ‘ **High-Fidelity Audio Performance:** Delivers superior signal fidelity, ensuring transparent and natural sound reproduction.
- ‘ **Per-Channel Status Indicators:** Each channel features dedicated Signal Present and Clip/Overload LED indicators for at-a-glance monitoring.
- ‘ **SMD Construction:** Utilizes state-of-the-art Surface Mount Device (SMD) technology for enhanced stability, reliability, and performance consistency.

FRONT PANEL CONTROLS



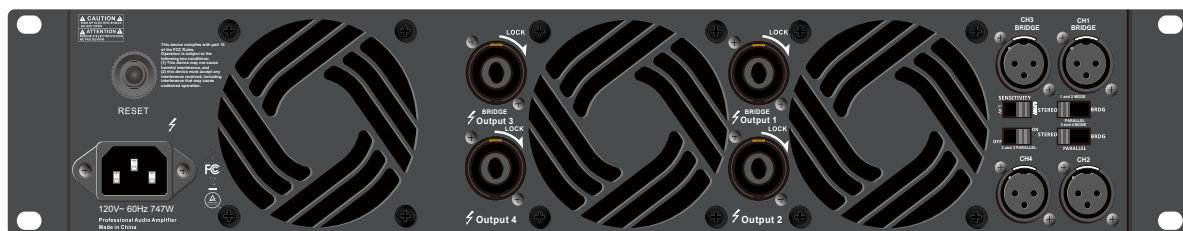
Items	Graphic	Function	Description
1		Power Switch	It turns the amplifier on or off. When you turn it on, the power LED lights up.
2		Fault LED	<ul style="list-style-type: none"> This light turns on when the amplifier is in circuit protection mode. This usually happens if the heatsink overheats or if DC voltage is detected. After you turn it on, the light will flash for three seconds, indicating that the amplifier is ready. Once the issue is resolved, the LED will turn off and the amplifier will resume normal operation.
3		Clip LED	This light turns on when the output signal distortion for a channel exceeds 1%. This usually indicates that the signal level is too high, causing the top of the waveform to be "clipped" and resulting in distortion.
4		Signal LED	<p>The Signal LED lights up when the amplifier receives an input signal.</p> <p>If the LED does not light up, please follow these steps to troubleshoot the issue:</p> <ul style="list-style-type: none"> Check the gain settings and increase the gain if necessary. Inspect the input connection and the audio source. If the Clip LED is lit or there is no signal, check if the output wire is short-circuited.
5		Gain Control	Used to adjust the "output signal level" of each channel. Please note that gain is not the same as volume.

CV2 SERIES-REAR PANEL CONTROLS



Items	Graphic	Function	Description
1		Power Connection	This amplifier is designed for use with a 120V 60Hz power supply. Connecting it to any other voltage will cause damage. Please ensure your power outlet has a proper ground connection.
2		Signal Input	Connect the mixer's output directly to the CH1 and CH2 input terminals. Each input jack sends signal to its corresponding output channel (CH1 input to CH1 output).
3		Output Connection	The amplifier has two output channels, Ch1 and Ch2, which connect to your speakers using SPEAKON sockets.
4		Circuit Breaker	The Circuit Breaker protects the amplifier from overload issues like a short circuit or low speaker impedance. If the breaker trips, fix the problem and then reset the breaker to turn the amplifier back on.
5		Mode Switch	<p>STEREO mode: The two channels work independently. The CH1 input signal goes to the CH1 output, and the CH2 input goes to the CH2 output.</p> <p>BRIDGE mode: The CH1 input signal is routed to the BRIDGE output. You must use the CH1 volume control to adjust the volume.</p> <p>PARALLEL mode: The CH1 input signal is sent to both the CH1 and CH2 outputs. The CH2 input socket is disabled. You can adjust the volume of each channel independently.</p>
6		Sensitivity Mode	<p>This switch sets the input voltage level required for the amplifier to reach full power.</p> <p>0.775V: A common standard for professional audio equipment.</p> <p>1.4V: Use this setting if the signal from your mixer or source is very high (hot) to prevent input distortion.</p>

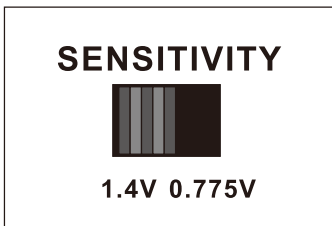
CV4 SERIES-REAR PANEL CONTROLS



Items	Graphic	Function	Description
1		Power Connection	This amplifier is designed for use with a 120V 60Hz power supply. Connecting it to any other voltage will cause damage. Please ensure your power outlet has a proper ground connection.
2		XLR Input	The XLR input accepts balanced audio signals from sources like a mixer. This helps reduce noise and distortion.
3		XLR Output	Use this XLR output to send a copy of the incoming signal to another device.
4		SPEAKON Output Connection	Use this connection to link the amplifier to your speakers that are equipped with a Speakon connector.
5		Circuit Breaker	The Circuit Breaker protects the amplifier from overload issues like a short circuit or low speaker impedance. If the breaker trips, fix the problem and then reset the breaker to turn the amplifier back on.
6		Mode Switch	<p>These switches independently set the operating mode for channel pairs 1-2 and 3-4.</p> <p>STEREO mode: Each channel operates independently. The CH1 input signal goes to the CH1 output, CH2 input to CH2 output, etc.</p> <p>BRIDGE mode: Combines the power of two channels into one. The CH1 input signal is routed to the bridged output (using the CH1 Speakon). Only the CH1 volume control is active.</p> <p>PARALLEL mode: The CH1 input signal is sent to both the CH1 and CH2 outputs. This allows one input signal to drive two separate speakers, with independent volume control for each.</p>
7		Sensitivity Mode	<p>This switch sets the input voltage level required for the amplifier to reach full power.</p> <p>0.775V: A common standard for professional audio equipment.</p> <p>1.4V: Use this setting if the signal from your mixer or source is very high (hot) to prevent input distortion.</p>

SETUP

Sensitivity Mode

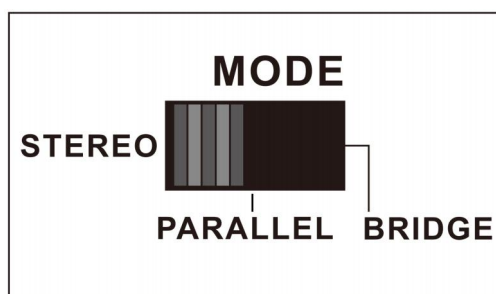


Feature	High Sensitivity Amplifier (e.g., 0.775V)	Low Sensitivity Amplifier (e.g., 1.4V)
Required Input Signal	Smaller	Larger
Reaching Rated Power	Achieved easily	Requires a larger signal
Main Advantage	Compatible with devices that have a weaker signal output	Better at handling large signals, providing a wider dynamic range
Main Disadvantage	More susceptible to noise, which can affect sound quality	Not suitable for use with devices that have a weak signal output
Best For	Connecting devices with weaker signals, such as some home audio systems	Professional settings with stronger signals, like live sound systems
Sound Performance	Lower signal-to-noise ratio, which may impact sound clarity	High signal-to-noise ratio; better sound quality at high volumes with less distortion

Note:

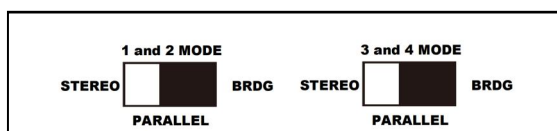
Choosing the right amplifier sensitivity is crucial and should be based on your specific needs and equipment compatibility. Also, be aware that speaker impedance affects how efficiently an amplifier can deliver power.

Mode Select-CV2 SERIES



Mode	Function	Notes
Stereo	Each channel works independently. The signal from INPUT CH1 goes to OUTPUT1, and the signal from INPUT CH2 goes to OUTPUT2.	You can adjust the volume of each channel separately.
Parallel	The signal from INPUT CH1 is sent to both OUTPUT1 and OUTPUT2. The INPUT CH2 port is disabled in this mode.	You can adjust the volume of each channel separately.
Bridge	The signal enters through INPUT CH1 and is output through OUTPUT1. This mode combines both channels for a single, more powerful mono output.	You must use the CH1 volume control to adjust the volume.

Mode Select-CV4 SERIES



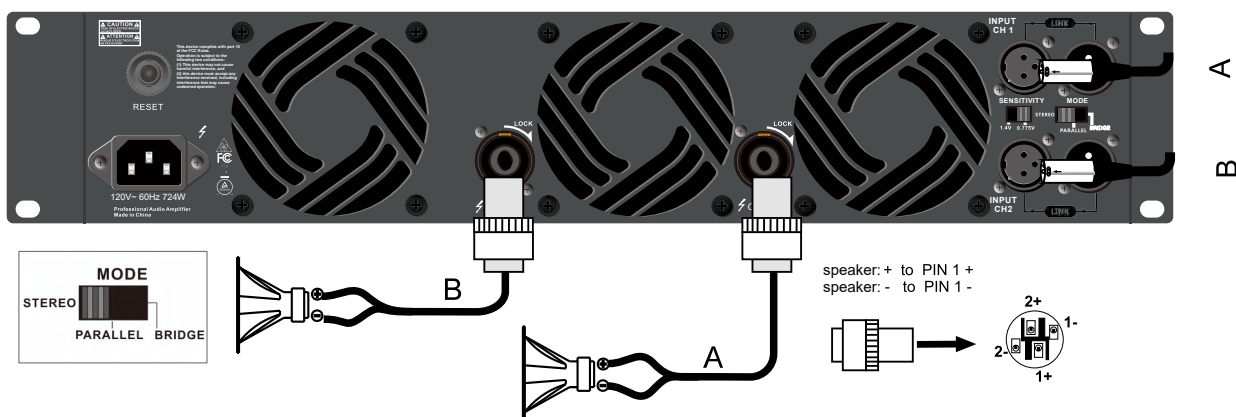
Mode	Description	Volume Control
Stereo	Each channel operates independently. The input signal for each channel is output through its corresponding output (INPUT-CH1 to OUTPUT1, INPUT-CH2 to OUTPUT2, INPUT-CH3 to OUTPUT3, INPUT-CH4 to OUTPUT4).	You can adjust the volume of each channel separately.
Parallel	The input signal from INPUT-CH1 is split and sent to both OUTPUT1 and OUTPUT2. Similarly, the input signal from INPUT-CH3 is split and sent to both OUTPUT3 and OUTPUT4.	You can adjust the volume of each channel separately.
Bridge	The amplifier combines the channels in each pair for a higher-power output. The signal path is from the input of channel 1 to the bridged output of channel 1, and from the input of channel 3 to the bridged output of channel 3.	Use the volume controls for CH1 and CH3 to adjust the volume for their respective bridged outputs.

Note:

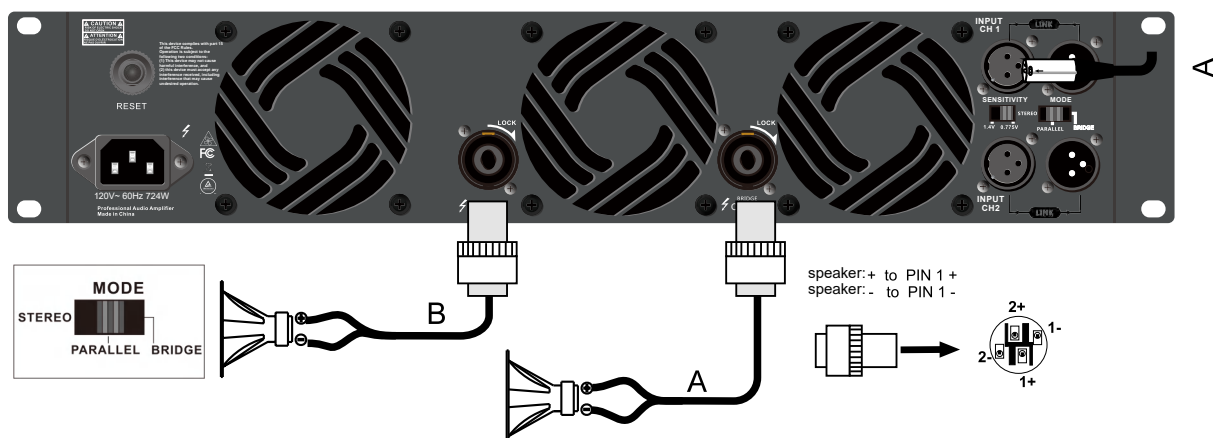
Bridge mode requires a speaker load of 4 or 8 ohms. Lower impedance loads can cause damage due to overheating and current limiting. Never ground either side of the speaker cable when in Bridge Mode.

CV2 SERIES-CONNECTIONS

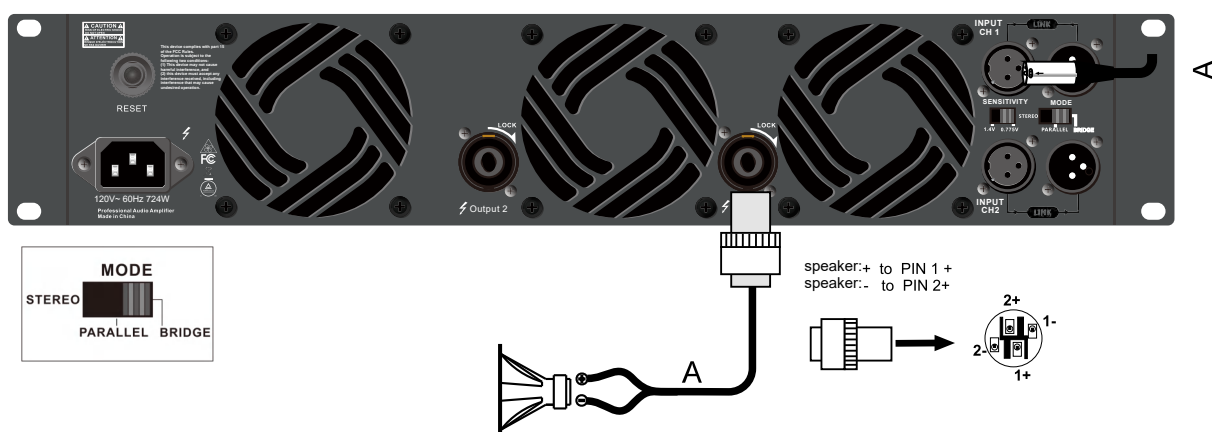
- Stereo Connection:** Connect the positive speaker wire to the PIN 1+ terminal of the SPEAKON connector, and the negative speaker wire to the PIN 1- terminal.



- Parallel Connection:** Connect the positive speaker wire to the PIN 1+ terminal of the SPEAKON connector, and the negative speaker wire to the PIN 1- terminal.

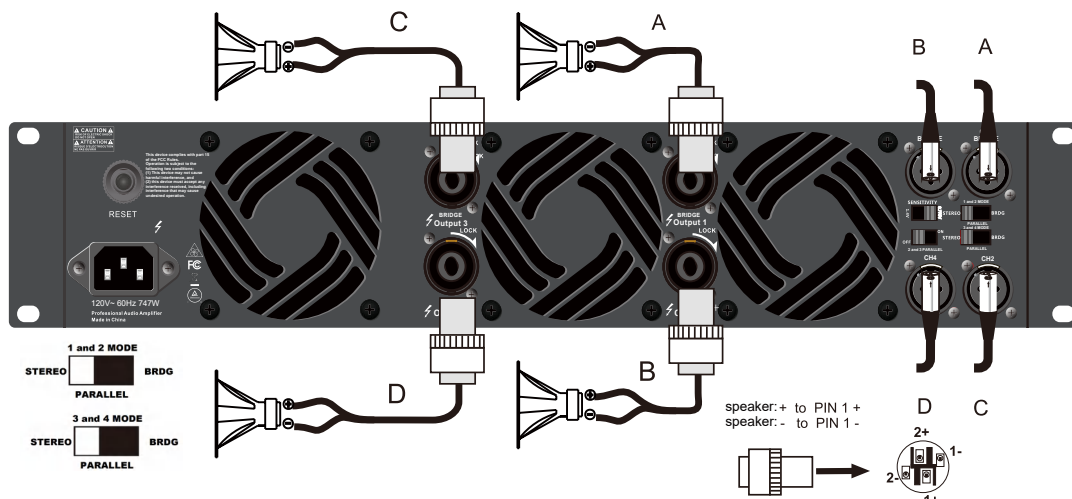


- Bridge Connection:** Connect the positive speaker wire to the PIN 1+ terminal of the SPEAKON connector, and the negative speaker wire to the PIN 2+ terminal.

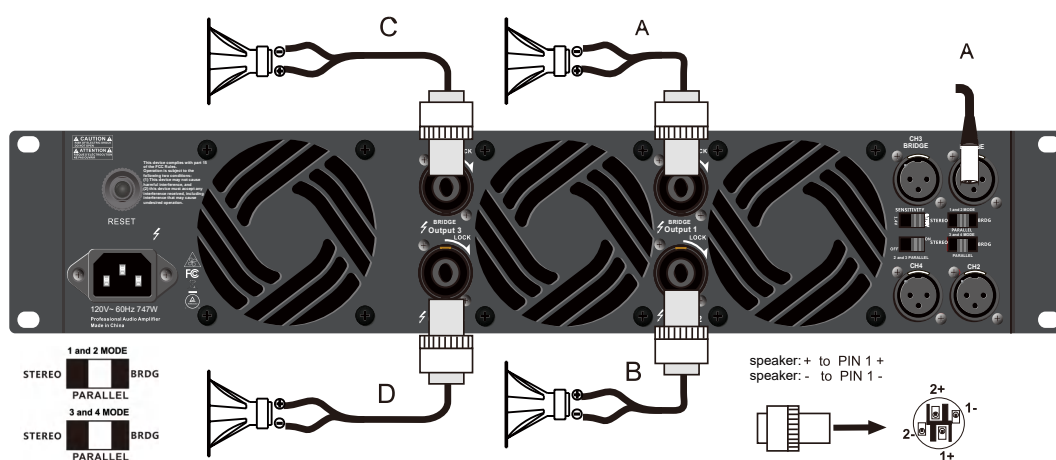


CV4 SERIES-CONNECTIONS

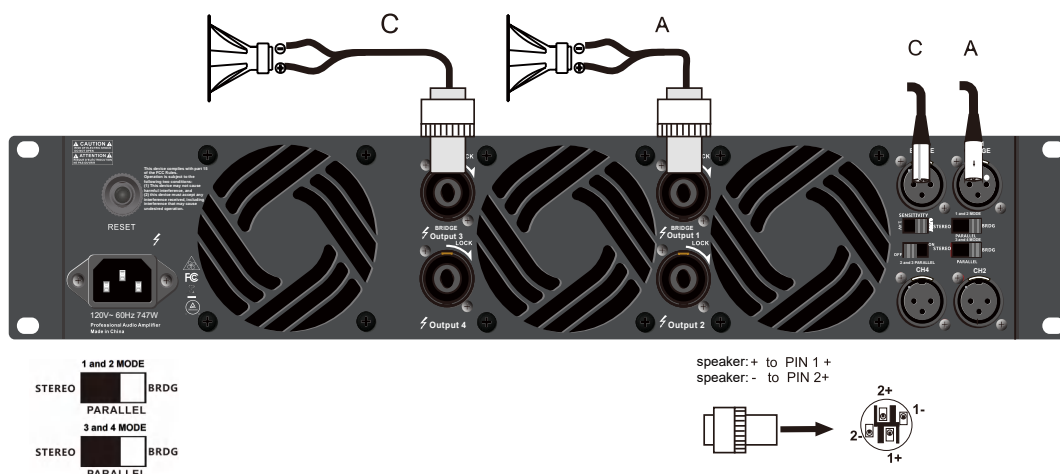
- Stereo Connection:** Connect the positive speaker wire to the PIN 1+ terminal of the SPEAKON connector, and the negative speaker wire to the PIN 1- terminal.



- Parallel Connection:** Connect the positive speaker wire to the PIN 1+ terminal of the SPEAKON connector, and the negative speaker wire to the PIN 1- terminal.

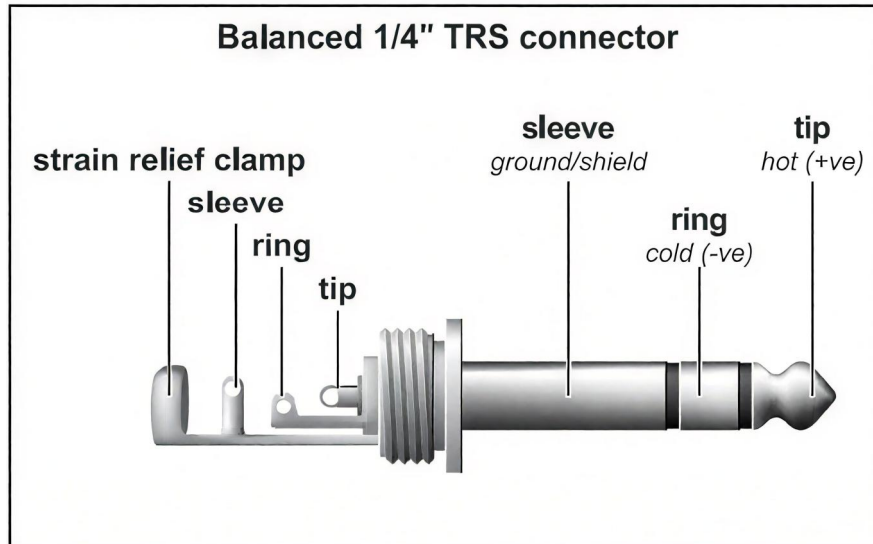


- Bridge Connection:** Connect the positive speaker wire to the PIN 1+ terminal of the SPEAKON connector, and the negative speaker wire to the PIN 2+ terminal.



WIRING

These are several ways to interface the CV2 and CV4 series to support a variety of applications. The CV2 and CV4 series features balanced inputs and outputs, so connecting balanced and unbalanced signals is possible.



For connection of balanced and unbalanced plugs, the ring and sleeve have to be bridged at the stereo plug.

A TRS (Tip-Ring-Sleeve) connector is used for two main purposes:

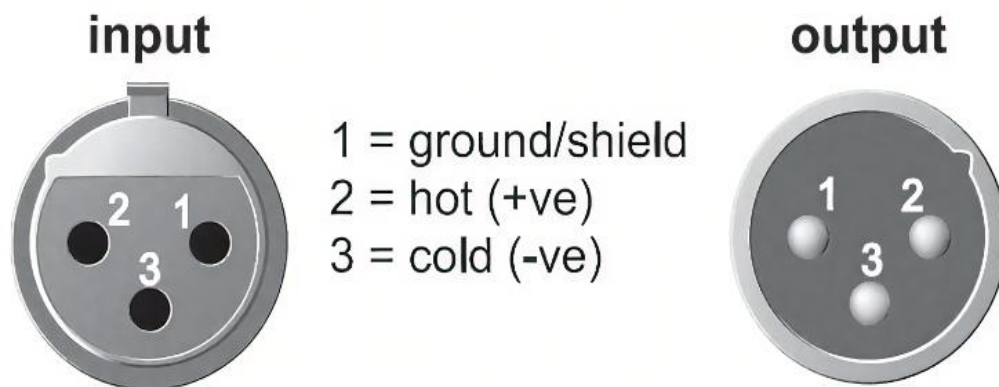
For Balanced Mono Signals (e.g., connecting a microphone or mixer):

- ┌ Tip: Hot (+)*
- ┌ Ring: Cold (-)*
- ┌ Sleeve: Ground / Shield*

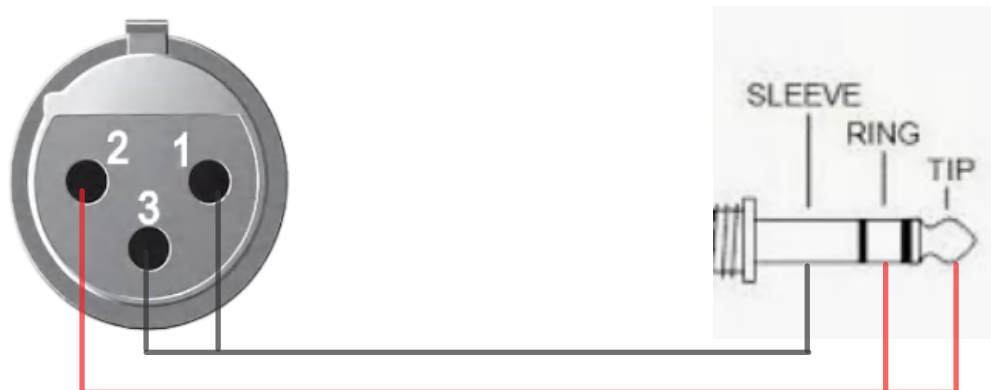
For Unbalanced Stereo Signals (e.g., headphones):

- ┌ Tip: Left Channel*
- ┌ Ring: Right Channel*
- ┌ Sleeve: Common Ground / Shield*

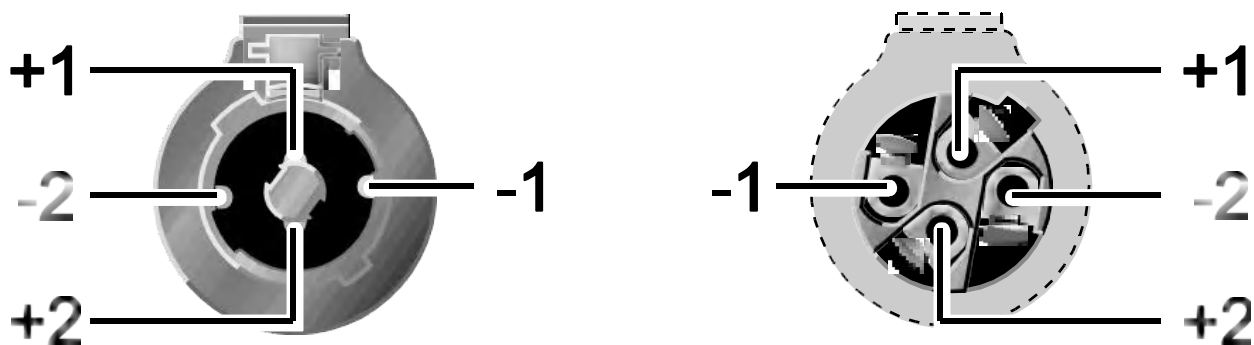
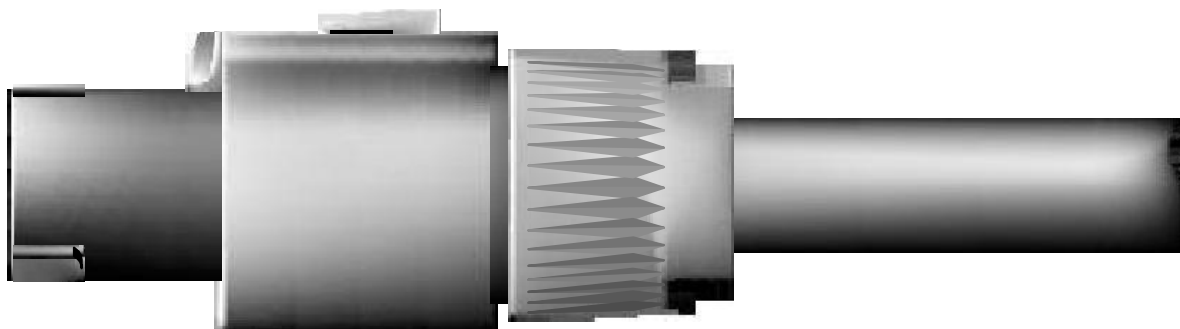
XLR BALANCED WIRING GUIDE



For unbalanced use pin 1 and pin 3 have to be bridged



SPEAKON® OUTPUT CONNECTOR



Amplifier Output Jack

Cable Plug Terminals

SPECIFICATIONS

Series	CV2 Series			CV4 Series	
Specifications	CV2-22H	CV2-33H	CV2-46H	CV4-8H	CV4-18H
Rated Power (per Ch.)					
8 Stereo	2 x 670W	2 x 870W	2 x 1240W	4 x 320W	4 x 540W
4 Stereo	2 x 1070W	2 x 1370W	2 x 1810W	4 x 490W	4 x 820W
Bridge Mono Power	2260W	2880W	3820W	2 x 1420W	2 x 1820W
Performance					
Voltage Gain	35dB	36dB	38.3dB	33dB	33dB
Net Weight	9.5 kg/ 20.94 lbs.	9.5 kg / 20.94 lbs.	9.5 kg / 20.94 lbs.	8.0 kg / 17.64 lbs.	8.0 kg / 17.64 lbs.
Chassis Size (mm)	482 x 227 x 88	482 x 227 x 88	482 x 227 x 88	482 x 233 x 88	482 x 233 x 88
Common to all amplifiers					
Frequency Response	20Hz - 20kHz, +0/-1dB (at 1 Watt)				
Total Harmonic Distortion	<0.5%, 20Hz - 20kHz				
Intermodulation Distortion	<0.35% (60Hz & 7kHz at 4:1 from full output to -30dB)				
Slew Rate	>20V/ μ s				
Damping Factor	>200 (at 8 , 10Hz - 400Hz)				
Signal-to-Noise Ratio	>100dB (A-weighted)				
Crosstalk	-75dB at 1kHz, -58dB at 20kHz				
Input Sensitivity	0.775V or 1.4V				
Input Impedance	20k (Balanced), 10k (Unbalanced)				
Attribute					
Chassis Standard	E.I.A International Standard				
Rack Mountable	2U (Fits standard 19-inch racks)				
Chassis Height	88 mm (3.5 inches)				
Construction					
Protection	Short circuit, no-load, on/off muting, RF interference				
Cooling	Flow-through ventilation with forced air and thermal protection				
Power Cord	Plug: 10A, 120VAC / Wire: 3x1.0mm ²				

Note:

Use the front panel knobs to adjust volume; for long-term non-use, always turn the volume to minimum, power off the amplifier, and unplug all cables starting with the power cord first.

PROTECTION

CV2 and CV4 Series Amplifier Protection Features

Every model in the CV2 and CV4 Series incorporates protection features. The front panel Protection LED indicates the activity of the relay speaker connection 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 amplifier begins delivering a 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 a normal temperature range is restored. During this time, the Protect LED will light up. To guard against this problem, make sure the CV2 and CV4 series 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 both channel outputs.

*Short Circuit
If the 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 (the output relay also opens).*

DC Voltage Protection

If an amplifier channel detects DC voltage at the speaker output, the output relay immediately opens to prevent speaker damage.

Subsonic Frequency Protection

A 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 the illumination of the Clip LED. The channel gain is automatically reduced, protecting the speakers from damage. This circuitry may be activated by uncontrolled feedback, oscillations, or improper equipment gain settings. This circuitry is virtually transparent in operation, and full signal bandwidth is maintained.

Any time the Protection LED lights up (except for approximately 5 seconds during initial power-up), there is reason to be concerned. If this occurs, turn the amplifier off immediately and carefully check all wiring and external equipment to locate and correct the condition.

WARRANTY

WARRANTY

Warranty Registration

Mandatory Registration: You must register your product within 15 days of purchase to validate your warranty.

How to Register: Go to <https://cerwinvega.com/apps/product-registration> to sign in or create an account.

Important Notes

- *Original Purchaser Only:* This warranty is non-transferable.
- *Proof of Purchase:* Retain your proof of purchase (sales receipt) for all warranty claims.
- *Authorized Dealers:* The product must have been purchased from an authorized Cerwin-Vega dealer in the United States.

Warranty Coverage

Cerwin-Vega warrants that your new Professional Power Amplifier will be free from defects in materials and workmanship for a period of one (1) year from the original date of purchase.

If your product malfunctions during the warranty period due to a covered defect, Cerwin-Vega will, at its discretion, either repair the defect or replace the product with a new or factory-reconditioned unit. This warranty covers the cost of parts and labor for covered repairs performed by a Cerwin-Vega authorized service center.

Warranty Claims

To make a warranty claim, contact Cerwin-Vega customer service to receive further instructions:

- **Email:** hello@cerwinvega.com
- **Phone:** 1-844-844-1339

Once you have been issued an RMA by a Cerwin-Vega customer service representative, you will be responsible for shipping costs to the authorized service center.

Upon completion of covered repairs, the product will be shipped back to you free of charge.

Warranty Exclusions

This warranty is comprehensive but does not cover product failure or damage resulting from:

- ***Improper Installation and Operation:*** *Failure to follow the installation and operating instructions provided in this manual. This includes, but is not limited to:*
 - *Connecting the amplifier to an incorrect voltage or power source.*
 - *Blocking ventilation openings or operating the unit without adequate airflow, leading to overheating.*
 - *Connecting speaker loads with an impedance below the rated minimum for the selected operating mode (Stereo, Parallel, or Bridge).*
 - *Damage caused by faulty or short-circuited speaker wiring.*
- ***Abuse, Misuse, or Accident:***
 - *Damage caused by dropping, impact, improper transport, or other forms of physical abuse.*
 - *Exposure to water, liquids, excessive moisture, or rain.*
 - *Damage resulting from electrical power surges, lightning, or other acts of nature.*
 - *Sustained operation of the amplifier at levels that cause the "Clip" LED to be constantly illuminated, indicating severe overloading of the output stage.*
- ***Unauthorized Service or Modification:***
 - *Any product that has had its cover removed or has been otherwise altered, modified, or repaired by anyone other than an authorized Cerwin-Vega service technician.*
 - *Any product on which the serial numbers, product stickers, or manufacturer seals have been removed, defaced, or tampered with.*
- ***Normal Wear and Tear:***
 - *Cosmetic blemishes such as scratches or scuffs on the chassis, knobs, and connectors that do not affect the unit's electrical or mechanical performance.*
- ***Customer Satisfaction***
 - *Cerwin-Vega is dedicated to ensuring your satisfaction and stands behind the quality of its products. Please contact customer service with any questions or for warranty assistance.*

We reserve the right to change the products and specifications at any time without notice. Images may or may not include optional equipment.



Cerwin-Vega!

3761 South Hill St., Los Angeles CA 90007 USA

CerwinVega.com

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Features, specifications and appearance are subject to change without notice.