



Cade

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Thank you for purchasing a Cadence Ultra Drive Z series amplifier. Over the past years, the technology used to create audio amplifiers has grown by leaps and bounds. We have thousands of satisfied customers still using our first generation Ultra Drive amplifiers which are almost 10 years old. Our competition is satisfied with just continuing to build the same units year after year without thought for improvement, but not us. We consider it our mission to use our expertise in developing the latest technologies and to bring you the absolute best sounding, most powerful amplifiers on the market and of course at a reasonable price. We are very proud to introduce this sixth generation of Ultra Drive Z amplifiers featuring C-FORCE technology, "ARVA" and "ADR" circuitry. You will be amazed at the quality and power that these new amps offer. You will "Boom-Harder!" with Ultra Drive Z amplifiers.

We have spared no expense in designing these amplifiers, creating the most rugged, reliable, powerful and best performing amplifiers. In fact we are so sure of the quality we backup every Ultra Drive Z amplifier with our exclusive two-year warranty which exemplifies our commitment to excellence in car audio musical reproduction. (See enclosed warranty card for details.)

Please read this installation guide carefully for proper use of your Cadence power amplifier. Should you need technical assistance during or after your installation please call our technical-line between 9:30 am and 5:00 PM EST at 732/370-5400. Read this entire guide fully before attempting your installation.

**WARNING: BE AWARE!** Use of this amplifier at extreme high volumes for extended periods of time may cause hearing loss and or hearing damage. During periods of prolonged high volume levels it is recommended that you use ear safety devices. Playing Cadence amplifiers at high volume levels while driving will impair your ability to hear necessary traffic sounds. While driving always keep your sound volume at reasonable levels. We at Cadence want you listening for many years to come.

When installing the amplifier, secure it tightly. An unmounted amplifier in your car can cause serious injury to passengers and damage to your vehicle if it is set in motion by an abrupt driving maneuver or short stop.

**Boom  
Harder!**

## FEATURES:

### GOLD PLATED TERMINALS

All the terminals on the amplifier are solid brass and 14K Gold Plated for high conductivity and minimum impedance loss. The power and ground terminals are extra large and capable of accepting 2 gauge wire. The speaker terminals can accept 8 gauge wire. When wiring the amplifier, be sure to strip just enough wire that fits into the terminal so that bare wires do not touch each other, the amplifier chassis or the chrome mesh covers and cause a short circuit.

### POWER AND PROTECTION CIRCUITRY

Ultra Drive amplifiers feature our unique IC controlled protection circuitry. This sophisticated circuit constantly monitors the heatsink internal temperature and various voltages, adjusting the amp automatically and protecting it from dangerous conditions. The LED located on the input side of the amplifier is a dual filament LED and will light Green when the amplifier is receiving proper power, ground and remote voltages and the IC monitoring sequence indicates the amp is functional. In case the amplifier encounters a diagnostic condition as listed below, the power LED will turn RED indicating a Diagnostic condition. When a diagnostic condition is sensed the amplifier will then turn into a self preservation mode and if the cause of the diagnostic condition is not corrected will eventually shut off. There are certain critical diagnostic conditions which will turn the amplifier off immediately.

- 1. Speaker short circuit.**
- 2. Input Overload.**
- 3. Thermal overload.**
- 4. Reverse Polarity.**

*To reset the amplifier, you must first diagnose what caused the problem, correct the fault and restart the system. See the enclosed trouble shooting guide for further details.*

### STIFFENING CAPACITOR DIRECT CONNECTION.

A unique feature of the Cadence Ultra Drive amplifiers, is their direct capacitor connection to the amplifier's internal power supply. As you know, the speed in which the reserve capacity of any stiffening capacitors reaching the amplifier's power supply is critical. You want this reserve voltage to be immediately available upon your amps hitting a bass note. Our terminal connection puts the negative of the capacitor in direct line with the negative terminals of the power supply MosFET's and the positive of the capacitor with the center tap of the power supply transformer coil. In essence, it's like your amplifier having its own personal battery.

**Boom  
Harder!**

## MUTE CIRCUIT

The Ultra Drive amplifiers feature an anti-thump, mute and delay circuit. This eliminates irritating and speaker damaging turn-on and turn-off transients normally experienced with less expensive amplifiers.

## BASS DRIVE EQUALIZATION CIRCUITRY

A narrow "Q" shelving equalization circuit is included in the amplifiers. The equalization system allows you to choose the center frequency which you want to boost and also a separate adjustable boost control. This boost control allows you to add up to 18dB of Bass Drive effect. Utilize the Bass Drive to tailor your bass response to your systems needs. Please keep in mind that adding Bass Drive you are adding stress on your speakers. Make sure your speakers can handle the extra power output! It would be foolish to add 18dB of gain to low excursion 8" or 10" woofers.

**THE BASS DRIVE EQUALIZATION CIRCUIT ONLY AFFECTS LOW PASS CROSSOVER CHANNELS. IF YOUR AMP IS RUNNING FULL RANGE OR HIGH PASS, THE BASS DRIVE WILL HAVE NO EFFECT.**

## "ADR" - ACTIVE DYNAMIC REGULATION

Cadence Ultra Drive amplifiers feature our proprietary ADR, Active Dynamic Regulated power supplies. 100% HexFET devices are utilized in the power supply for high speed (100KHz) switching frequencies. The power supplies are capable of supplying the main amplifier with a considerable amount of reserve voltage for peak "high demand" situations. The ADR circuit provides full bandwidth power for authoritative bass response, high current output into low impedance loads and increased headroom. The ADR is supplied with power via a high speed, high temperature capacitance bank and 100% pure copper rails on the PCB enabling fast transient response to musical demands.

## DUAL ADR POWER SUPPLY

The Z1000, Z3000, Z4000, Z5000, Z7000, Z8000, Z9000 all feature fully independent dual power supplies including 2 isolated toroid transformer coils. Each power supply provides power for ½ the operation of the amplifier. The advantage of a dual power supply amplifier over single power supply amplifier is significant. The dual power supply eliminates power supply fluctuations between channels, eliminates cross channel modulations and reduces crosstalk significantly. The audio advantages will become obvious the minute you begin listening to the amplifier. The bass produced will be tight and booming, while the mids and highs will sound extremely crisp and clear.

## AUDIO STAGE PERFORMANCE

**Boom  
Harder!**

The output section of the Ultra Drive amplifiers feature studio grade, high-voltage, audiophile quality Bipolar transistors. This design contributes to ultra low distortion and extreme high power capabilities. The sound produced by Bipolar transistors is extremely warm in comparison to amplifiers using MosFETs in their audio section thus adding depth and clarity to the musical reproduction. Our experience has been that when listeners audition our Ultra Drive Bipolar designs against other famous makers MosFET audio section amplifiers, they agree that the Cadence amplifiers have more punch, kick & detail. YOU CAN HEAR THE DIFFERENCE!

#### **“ARVA” - AUTOMATIC RAIL VOLTAGE ADJUSTMENT CIRCUITRY.**

Cadence Ultra Drive amplifiers feature “ARVA” circuitry in their power supply. This circuit constantly monitors the output stage and under high current demands will adjust the power supply rail voltages so that enough power is available for peak situations. The “ARVA” also improves the damping factor of the amplifier when playing low impedance 2 ohm stereo or 4 ohm mono loads. Cadence Ultra Drive Z amplifiers have tighter sounding bass reproduction thanks to this unique circuitry.

#### **BATTERY VOLTAGE**

Cadence Ultra Drive amplifiers are rated and regulated to 13.8 volts and below. Increasing voltage to 14.4 volts will increase the power output of the amplifier in the same proportion. Maximum input voltage is 16 volts while the minimum voltage is 12 volts.

#### **PROTECTION CIRCUITRY**

Cadence amplifiers incorporate many outstanding protection circuits to help protect the amplifier from being damaged during operating conditions.

**Thermal Protection:** When the amplifier reaches an unsafe operating temperature of 80 degrees Celsius the amplifier will turn off. Once the amplifier cools down, simply reset the amplifier by its Remote connection, (turn the amplifier off and then on again once you have given the amplifier a chance to cool down) and the amp will once again begin to play.

If you live in a hot climate we suggest installing additional cooling fans in your trunk to exhaust the hot air which can build up in the trunk this will help keep the ambient temperature in the trunk as low as possible so that your amps work flawlessly and without any musical interruption.

**Boom  
Harder!**

**Speaker Short Circuit Protection:** Should your speakers short circuit due to voice coil burn out, or should the amplifier sense an impedance too low to handle, the Protection LED will light, indicating a diagnostic condition. Turn off your system, disconnect one speaker at a time and try to determine which speaker might be faulty. Correct the condition and restart the amplifier. You must reset the amplifier by turning off and then on by the Remote power for proper operation after correcting a diagnostic condition.

Clipping or total shutdown may also be a result of a bad ground connection or loose ground. If you find that your speakers and speaker wires are not shorted, please check your ground connection.

**Input Overload Protection:** This circuit will either shutdown the amplifier completely or make the amplifier spurt on and off indicating that it is in a diagnostic condition. Turn the system off and reduce the gain on the amplifier or volume from your head unit, this should result in a corrected condition.

**DC Offset Protection:** Should any DC voltage try to enter the amplifier via the speaker terminals it will cause the amplifier to shut down and not operate until this condition is remedied. This circuit will also protect damaging high DC voltages from reaching your speakers should your amplifier ever miss-function.

### INDUCTION FAN COOLING

Due to extreme high power capabilities of these amplifiers they feature a built-in induction fan cooling system. The amplifiers draw in cool air through the side-input panel and exhaust warm air through the top of the amplifier shroud. It is important not to block either the input or exhaust ports. Some of our competitors are more interested in making a quick buck and will purposely leave the fan out of their amps and then charge you a hefty sum to buy and add the fan on later. At Cadence, if we feel that our amplifiers will work better with a fan then we install it at the factory and don't make it an expensive add on option.

### INSTALLATION

Before you begin with your installation disconnect the NEGATIVE (-) terminal from your car's battery. This safety precaution will avoid possible short circuits while wiring your amplifier. Cadence amplifiers operate on 12-volt negative ground systems only.

It is recommended that you layout your sound system design on paper first. This will help you during the installation so that you will have a wiring flow chart and not miss-wire any of your components.

Mount the amplifier in the trunk or hatch area of your vehicle. Never install an amplifier in the engine compartment or on the firewall. Please be sure to leave breathing room around the amplifier heatsink so that it can dissipate the heat it produces efficiently. The amplifier can be installed either horizontally or vertically.

When mounting the amplifier on the trunk floor, be sure to watch for your gas tank, gas lines and electrical lines. Do not drill or mount any screws where they might penetrate the gas tank of your car.

### POWER/GROUND WIRING

Though equipped with built-in fuses we suggest you construct a Red wiring harness with 2 additional fuses. One fuse should be located near the car battery. This fuse near the battery offers protection against damage from short circuits to the car chassis between the battery and the amplifier. A second fuse closer to the amplifier offers additional safety to the amplifier itself. This fused red power wire should be attached to the amplifier power terminal marked **12V+**.

The wire harness should be made of red primary cable of at least 4-8 gauge. The harness should terminate in a large ring terminal for connection directly to the positive terminal of the car battery. Use a spade plug to attach the wire, which connects to the amplifier location marked **12V+**.

A second black color wire of equal gauge should be used as a ground connection to a welded chassis member. When connecting the ground wire make sure that there is no paint or other insulator blocking a good ground connection. When installing multiple amplifiers, mount them in close proximity so that they can all share the same ground point. Attach the black ground wire to the amplifier screw terminal marked **Ground**.

Over the years we have received many an amp back to our service department with melted power/ground terminals. The cause of this is a bad ground connection. When there is a lack of good ground heat builds up at the weakest point which is the contact screw of the terminal. Over time the heat generated will begin to melt the terminal. It is a good practice to feel the power and ground wires with your hands, near their

**Boom  
Harder!**

amplifier connection after having played the amp for a while. If the wires feel hot to the touch you probably have a bad or loose connection. If you are sure of your connections and the wires still feel hot to the touch, you should upgrade the gauge of the wire to next heaviest gauge.

### REMOTE TURN ON CONNECTION

The remote turn on connection is located on the barrier strip next to the power and ground connections. This connection is responsible for turning the amplifier on and off with the rest of the system. A smaller gauge wire can be used to make this connection to your radio's power antenna lead. Should your system not have any turn on leads, you can wire the remote terminal to an accessory lead, which turns on, with your ignition.

### STIFFENING CAPACITOR DIRECT CONNECTION

The benefits of this feature have been described earlier on page 3. Connect the Positive terminal of the capacitor to the terminal marked (+) on the amp and the negative terminal of the capacitor to the terminal marked (-). Use the heaviest gauge wire available for this connection. We recommend using Cadence Extreme Series Power Capacitors due to their industry leading low ESR rating. Multiple capacitors can be connected via BUS BAR terminals for larger amplifier installations.

### PERFORMANCE INTO 2 OHMS

Standard Ultra Drive Z series amplifiers are designed to deliver their full rated power into 4-ohm speaker loads continuously, without current limiting. The speaker impedance's recommended for these amplifiers range from 2 - 4 Ohms in the stereo mode and 4 ohms in the bridged mode. A 2-ohm speaker load is the maximum per channel in the stereo mode while 4 ohm is the maximum on the bridged channel.

High Current models such as the Z1000 and Z5000 are mono blocks which will operate down to A 2 ohm mono load while the Z7000 will operate down to a 1 ohm mono load.

When using 4-ohm speakers you may install either one per channel or 2 speakers in parallel per channel, thus bringing the final impedance load per channel to 2 ohms. The use of dual voice coil 4 ohm drivers wired in parallel to 2 ohms per woofer and wired to each stereo channel will allow you to have maximum output in a 2 speaker system. (Stereo Mode Only!)

When using 8-ohm speakers you may wire 4 speakers in parallel per channel for a 2-ohm load or 2 speakers per channel for a 4-ohm load. Increasing the number of woofers per channel at low frequencies up to 100Hz produces an acoustic coupling effect when the woofers are in close proximity to each other. This acoustic coupling increases your power output by 3dB in the woofer frequency range below 100Hz.

There are two ways of utilizing dual voice coil 6-ohm woofers in a system. The first way is to wire each woofers voice coil in series, this will bring the impedance of each woofer up to 12 ohms. Now when wiring all three woofers in parallel you achieve a 4-ohm load which can be run off any bridged amplifier. (*See page 12 for wiring diagram.*)

If you wish to run one DVC 6 ohm woofer per amplifier channel then simply wire each woofers voice coils in parallel to a 3-ohm load and wire the woofers as standard stereo channels.

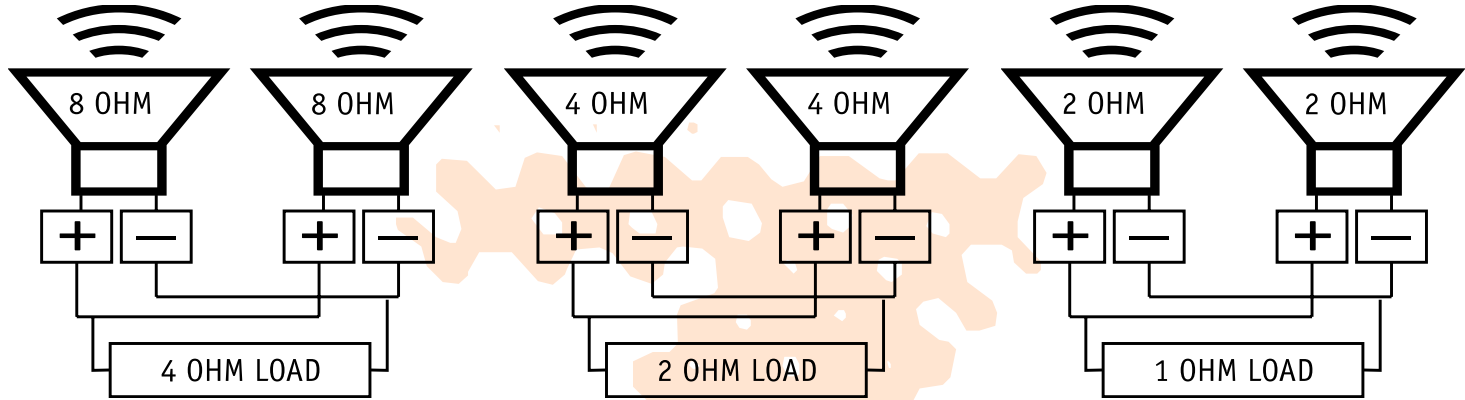
When operating at 2 ohms, the amplifier increases power output by approximately 50-75 percent. The current draw of the amplifiers will also increase by about the same amount. Be sure to have enough current to run the amplifiers into a 2-ohm load otherwise distorted music will be reproduced.

The fuses that are supplied with the amplifier are there to protect the amplifier from overload conditions and to protect your car from an electrical fire should a major short circuit occur. Never bypass the fuse! Installation of larger than recommended fuses will void your warranty. Under very extreme low impedance loads, if the amplifier fuse keeps popping, please check to make sure that you are using a heavy enough gauge of power wire and that your ground connection is secure.

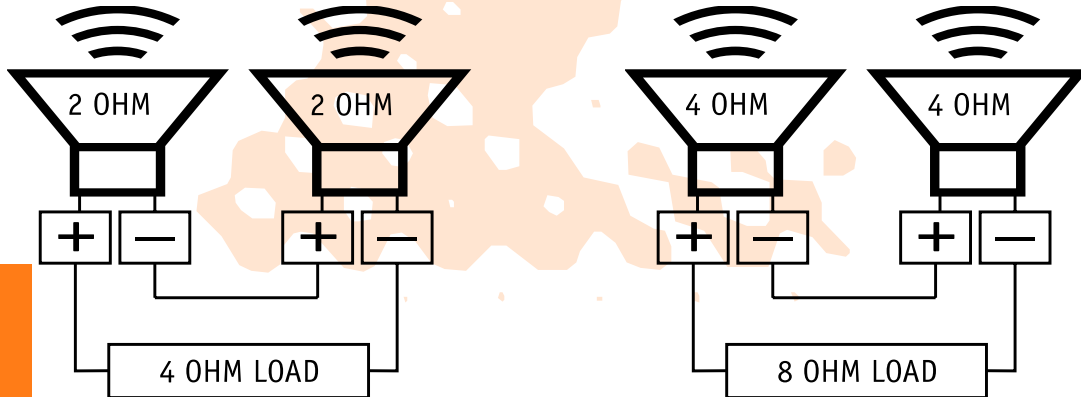
When using two channels of the amplifier in a three-channel configuration, make sure that by adding the third channel you do not exceed the maximum impedance of 2 ohms for the amplifier in that particular frequency range. We recommend using one 4-ohm speaker per channel for the two stereo channels and an 8-ohm speaker for the third bridged channel. The addition of passive crossovers will further insure the quality of your mixed mono installation. (*See page 21 for wiring diagram.*)

Operation of the amplifiers below the recommended impedances will damage both your amplifier and speakers and will void your warranty.

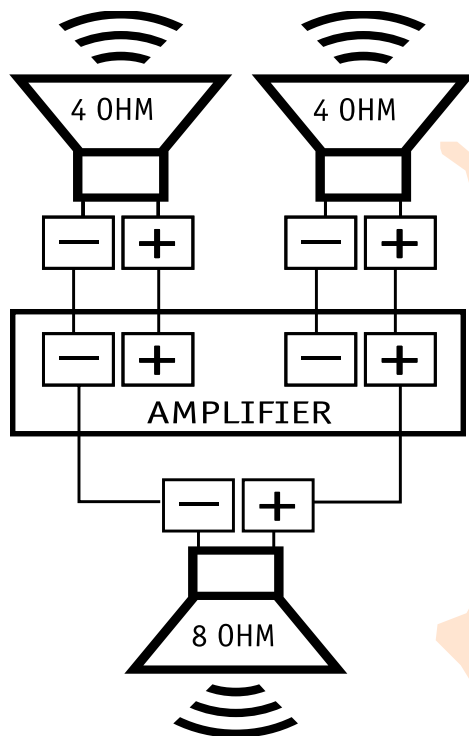
## PARALLEL WIRING DIAGRAMS FOR VARIOUS IMPEDANCE LOADS



## SERIES WIRING DIAGRAMS FOR VARIOUS IMPEDANCE LOADS



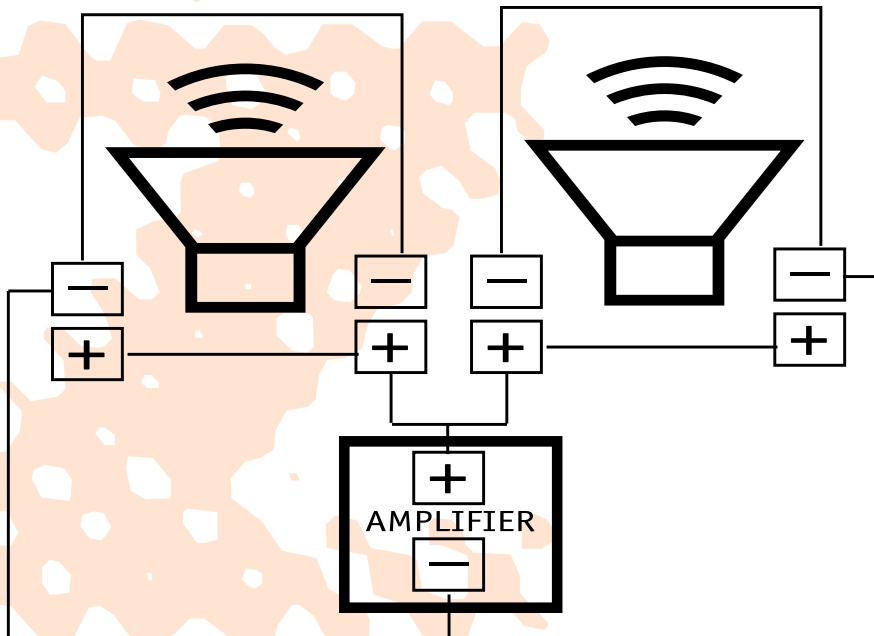
## SIMULTANEOUS MIXED MONO SPEAKER WIRING.



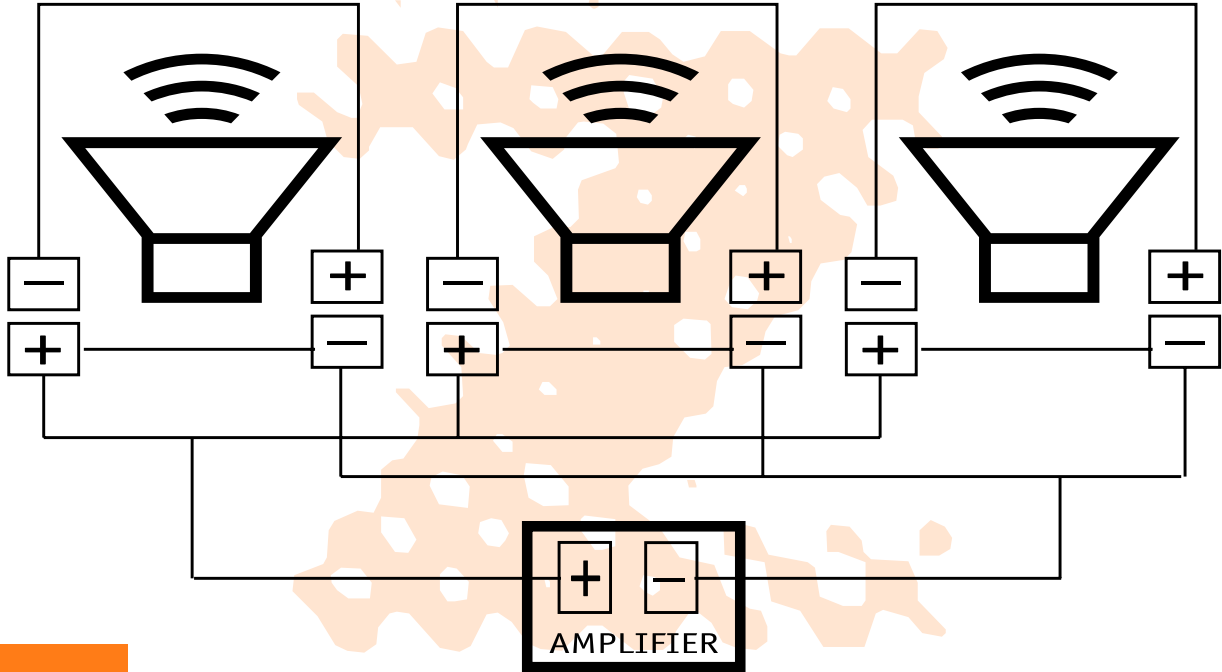
*This wiring method is for stereo amplifiers only. Do not attempt this with mono block amplifiers.*

## DUAL VOICE COIL WIRING SCHEMATIC.

- DVC 8 OHM IN PARALLEL = 4 OHM LOAD
- DVC 6 OHM IN PARALLEL = 3 OHM LOAD
- DVC 4 OHM IN PARALLEL = 2 OHM LOAD
- DVC 2 OHM IN PARALLEL = 1 OHM LOAD



DUAL 6 OHM WOOFERS WITH EACH WOOFER WIRED IN SERIES TO 12 OHMS  
AND THEN WIRED IN PARALLEL TO A 4 OHM MONO LOAD.



### AUDIO PREAMP INPUT

The Ultra Drive Z amplifiers feature RCA preamp inputs. Run RCA cables from your sound source to the inputs of the amplifier. We suggest the use of high quality shielded RCA patch cords to help reduce and eliminate unwanted electrical noise from your system.

Be sure to run the RCA cables on the opposite side of the vehicle that you used to carry the power and ground leads of the amplifier.

### AUDIO PREAMP OUTPUT

The Ultra Drive Z amplifiers feature RCA preamp outputs which can be used to signal feed secondary amplifiers in your system without the use and expense of "Y" adaptors. The Preamp output can be programmed via the State-Variable Crossover to feed either a full range, low pass or high pass signal.

### USING THE BUILT-IN STATE VARIABLE ELECTRONIC CROSSOVERS.

All the Ultra Drive amplifiers feature 18dB per octave fully adjustable variable state crossovers.

Set the AMP X-OVER FILTER switch to LOW PASS, HIGH PASS or FULL RANGE position depending on your system. Set the frequency adjustment knob marked X-OVER FREQUENCY to adjust the filter frequencies. By setting the selector to FULL RANGE, no crossover frequencies will affect the output.

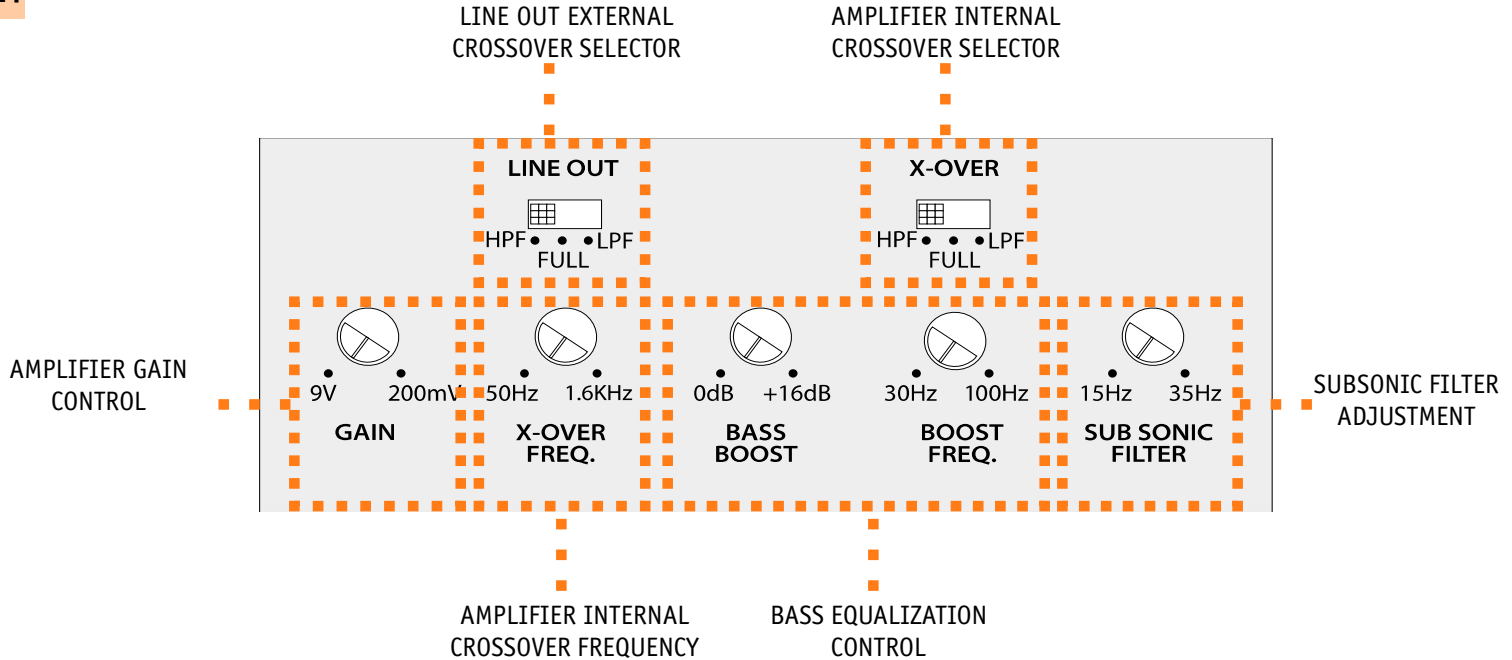
The variable state frequency control allows the identical frequencies to be set for the RCA preamp line out as the internal amp circuit. Therefore if the internal amp is set for LOW PASS at 100Hz you can now program the RCA preamp line out to HIGH PASS, which it will also filter at 100Hz.

### SUBSONIC FILTERING.

Your Ultra Drive amplifier is capable of subsonic filtering. This feature is useful for today's popular bandpass subwoofer enclosures and for improving the stage of door mounted components and coaxial's. The subsonic filter acts as a High Pass crossover blocking the unwanted signals from reaching specific speakers. For example if you have a pair of component speakers installed up front, you would want to limit the amount of

**Boom  
Harder!**

## TWO CHANNEL MODEL CROSSOVER SECTION



low bass reaching these speakers. Setting the Filter Selector to 35Hz will block all bass signals below 35Hz from reaching these particular speakers. In the case of a vented or bandpass enclosure, you may choose to set the subsonic filter to the tuning frequency of the woofer to avoid “woofer unloading” in boxes whose vent frequency falls below the woofers actual tuning frequency.

Should you not want to use the subsonic filter, simply adjust the frequency control to 15Hz which is the minimum setting and it will have no effect on your system..

**Boom  
Harder!**

## AMPLIFIER BRIDGING.

The Ultra Drive amplifiers are bridged by wiring your speakers to the Positive of the LEFT channel to the Negative of the RIGHT channel. When wiring mixed mono applications, the center bridged channel should be wired, utilizing an 8 ohm driver when using 4 ohm stereo drivers.

## MINIMUM IMPEDANCE LEVELS

Z1000 MONO BLOCK AMPLIFIER

2 OHM PER AMPLIFIER.

Z3000 2 CHANNEL STEREO AMPLIFIER

2 OHM STEREO PER CHANNEL OR 4 OHM ON THE MONO BRIDGED CHANNEL.

Z4000 4 CHANNEL STEREO AMPLIFIER

2 OHM STEREO PER CHANNEL OR 4 OHM ON THE MONO BRIDGED CHANNELS.

Z5000 MONO BLOCK AMPLIFIER

2 OHM PER AMPLIFIER.

Z7000 MONO BLOCK AMPLIFIER

1 OHM PER AMPLIFIER.

Z8000 2 CHANNEL STEREO AMPLIFIER

2 OHM STEREO PER CHANNEL OR 4 OHM ON THE MONO BRIDGED CHANNEL.

Z9000 2 CHANNEL STEREO AMPLIFIER

2 OHM STEREO PER CHANNEL OR 4 OHM ON THE MONO BRIDGED CHANNEL.

## ADJUSTING THE SYSTEM

Once the system is operational you should set the amplifiers GAIN adjustment. The slotted shaft accessible on the top of the amplifier marked GAIN adjusts the input sensitivity from 200mV to 9Volts.

To adjust the input sensitivity, turn the control using a small flat head screwdriver fully counter clock wise to the 9volt minimum position. Do not apply any pressure while turning as this might break the control unit. Adjust your radio volume level to maximum volume. Now turn the GAIN control on the amplifier clockwise towards 200mV marking and until audible distortion occurs. When you begin to hear any distortion in the sound back down one notch and your amp is set. It is helpful to have a second person to help you set the gain. When setting up a multi-amp system, set each amplifiers gain separately.

**The gain control of any car amplifier should not be mistaken for a volume control. It is a sophisticated device designed to match the output level of your source unit to the input level of the amplifier. Do not adjust the amplifier gain to maximum unless your input level requires it.**

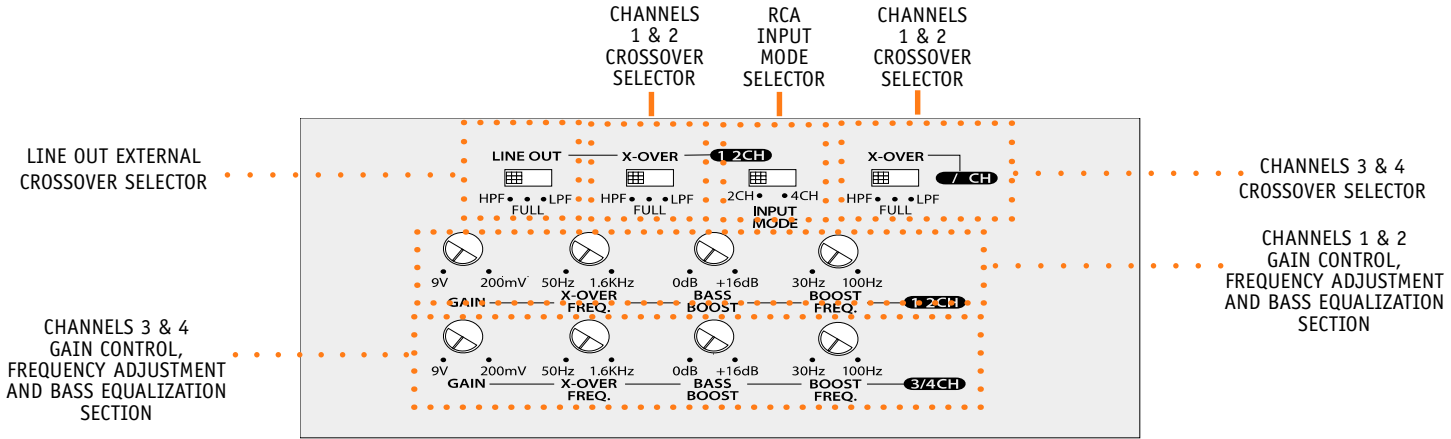
**Boom  
Harder!**

If your unit has been professionally installed please do not change the gain settings set by the installer, he is the professional!

Your system can also be extremely sensitive to noise when the GAIN is set to maximum and does not match your input signal. The gain adjustments need to be made only once when first setting up the system.

## Z4000 FOUR CHANNEL CONFIGURATION.

### FOUR CHANNEL MODEL CROSSOVER SECTION



The Z4000 is a full-featured 4-channel power amplifier, which can be configured in multiple layouts. The Z4000 has two fully Independent State Variable crossovers.

### RCA INPUT MODE SELECTOR

An important feature of the Z4000 is the **RCA INPUT MODE SELECTOR**. If your head unit has only 2 RCA preamp output jacks, you can feed all 4 channels of the Z4000 by inputting the RCA signals into channels 1 & 2 while setting the mode switch to the **2 CH** position. This will feed the signal from channels 1 & 2 to channels 3 & 4 without the use of external “Y” adaptors. If your receiver has 4 preamp RCA output jacks, set the **RCA INPUT MODE SELECTOR** to the **4 CH** position. This will allow you to fade and balance between all 4 channels.

**Boom  
Harder!**

**IMPORTANT:** When bridging the Z4000 to 2 channel, the optional dashboard bass remote control will affect channels 3 & 4 only!

The RCA preamp output receives its State-Variable Crossover signal from channels 1 & 2 only.

### **Z3000 - "SRS" SOUND RETRIEVAL CIRCUITRY**

The Z3000 features patented SRS sound technology. When the SRS is switched on the entire sound stage will rise and a quasi surround sound system will take effect. The SRS will simulate a stereophonic surround effect without the need for multiple satellite speakers. The SRS is extremely useful in both small systems that will benefit from the openness and airiness the system creates and in large multi amp systems where the front sound stage is so important.

The SRS circuitry is used in many award winning vehicles as a spatial restorer especially in installations where the front speakers are set very low in the door or dash. By enabling the circuit, you will feel the sound stage rise from the interior's depths and play at dashboard level. The circuit is especially useful in large SUV's and pickup trucks.

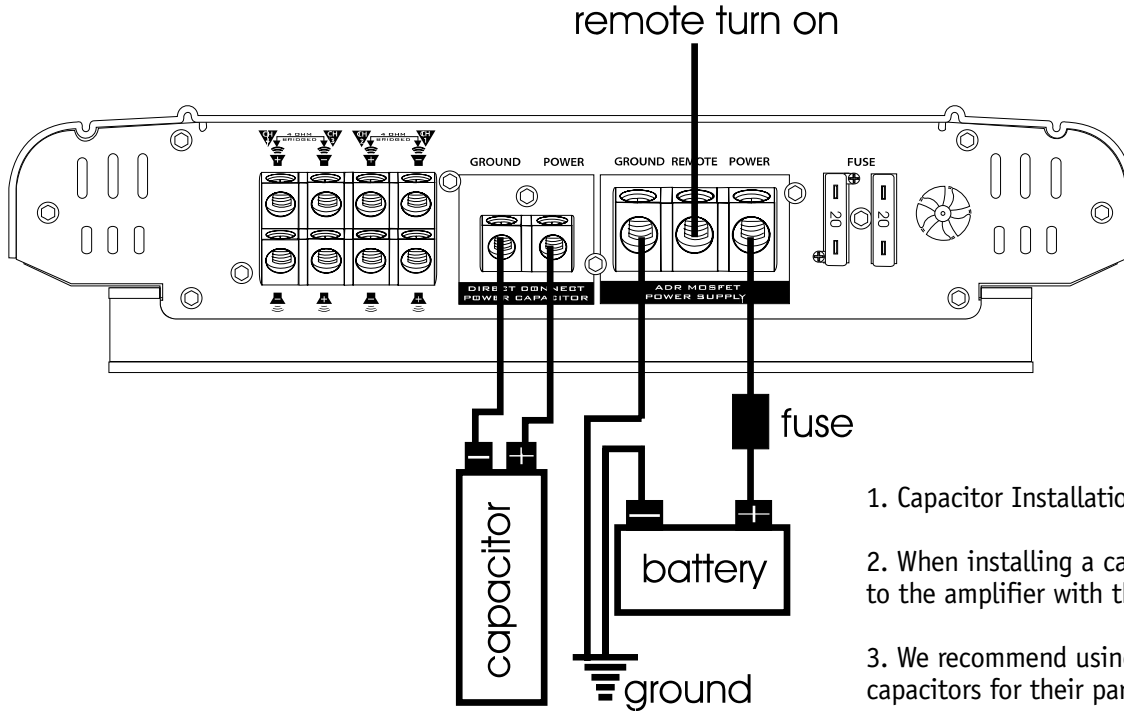
### **DASHBOARD REMOTE CONTROL**

The optional dashboard remote control comes with a special phone cable. Please do not attempt to use a standard phone cable to replace the cable which came with the unit. Should you need a new cable please make sure you get an original equipment replacement directly from our service department.

When installing the cable, do not run the cable on the same side as your power or ground cables. On model Z4000 the dash board bass remote will only affect channels 3 & 4 even if the amplifier is bridged to two channel mono operation.

**YOU CAN DAMAGE YOUR SPEAKERS IF YOU SET THE REMOTE TO MAXIMUM AND THE AMP BEGINS TO CLIP.**

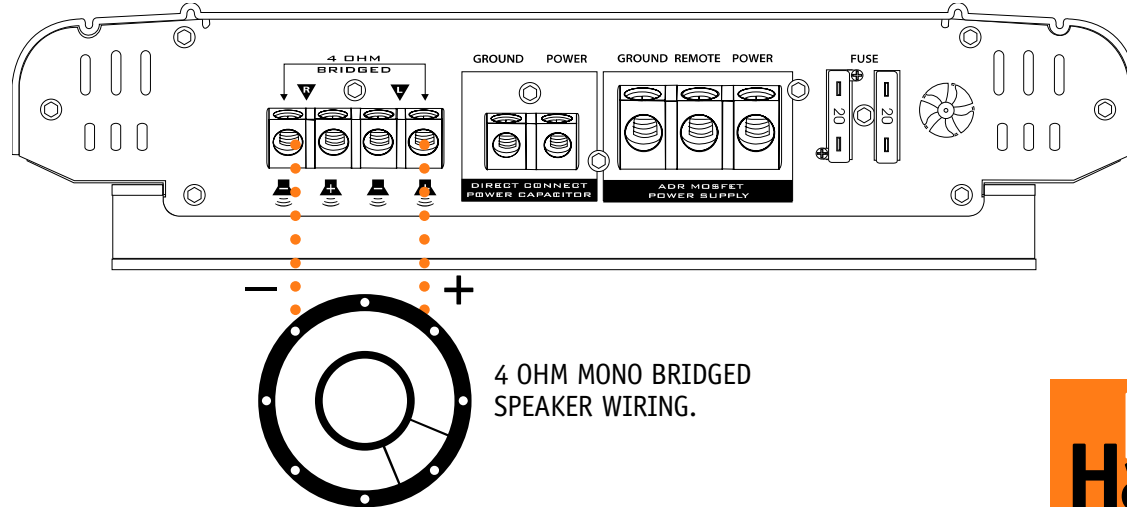
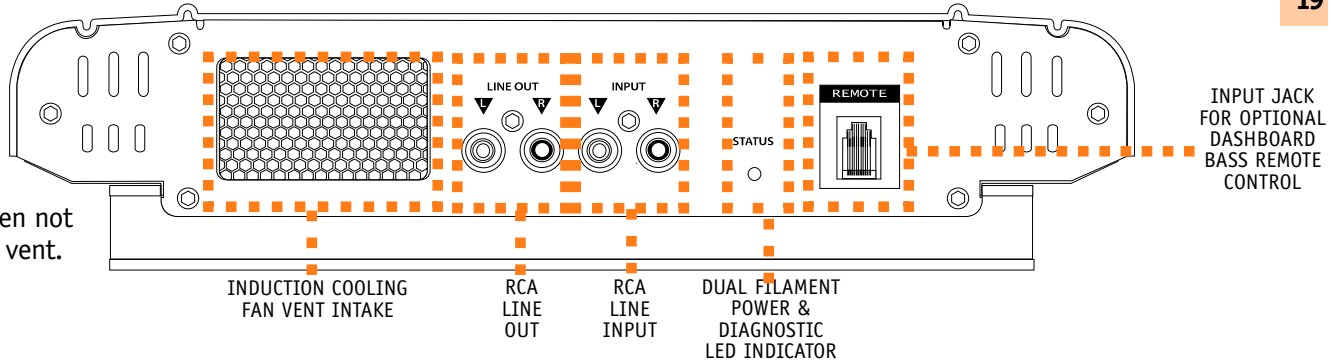
## POWER/GROUND/REMOTE & CAPACITOR CONNECTION DIAGRAM



1. Capacitor Installation is optional.
2. When installing a capacitor, install it as close as possible to the amplifier with the heaviest gauge wire available.
3. We recommend using the Cadence Extreme Series of capacitors for their particular low ESR rating.
4. Minimum capacitor size is 1/2 Farad, but 1 Farad is recommended for all bass systems.

## 2 CHANNEL INPUT/OUTPUT SIDE PANELS

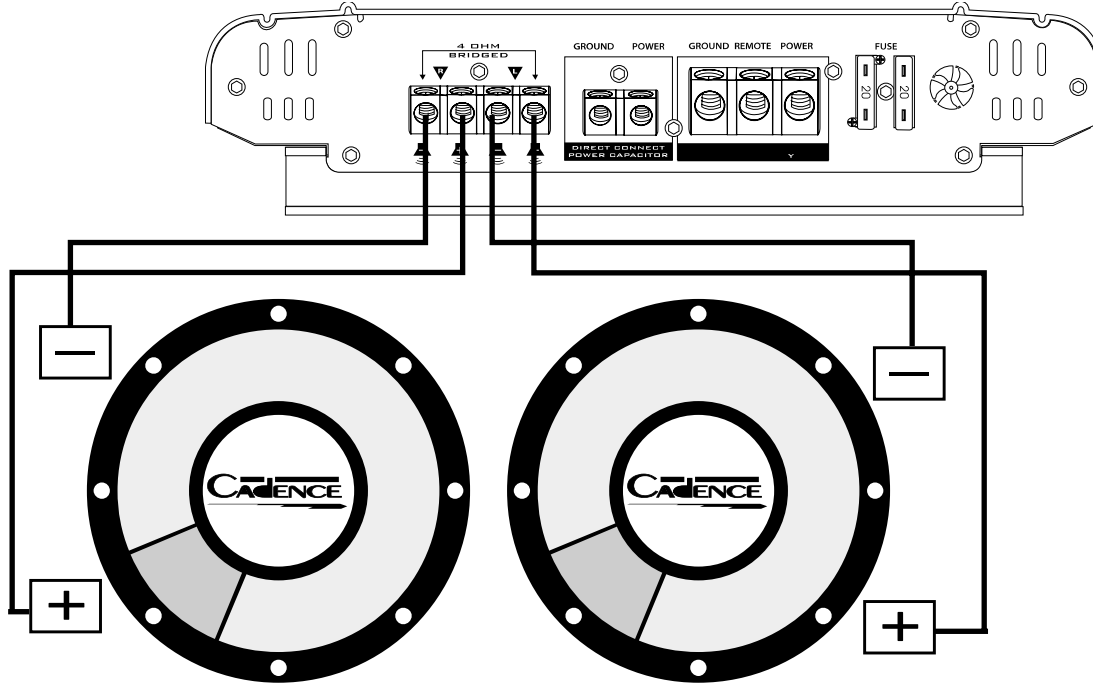
Care should be taken not to block air intake vent.



**Boom  
Harder!**

## 2 CHANNEL STEREO SPEAKER WIRING

21



2 OHM TO 8 OHM PER CHANNEL STEREO.

**Boom  
Harder!**

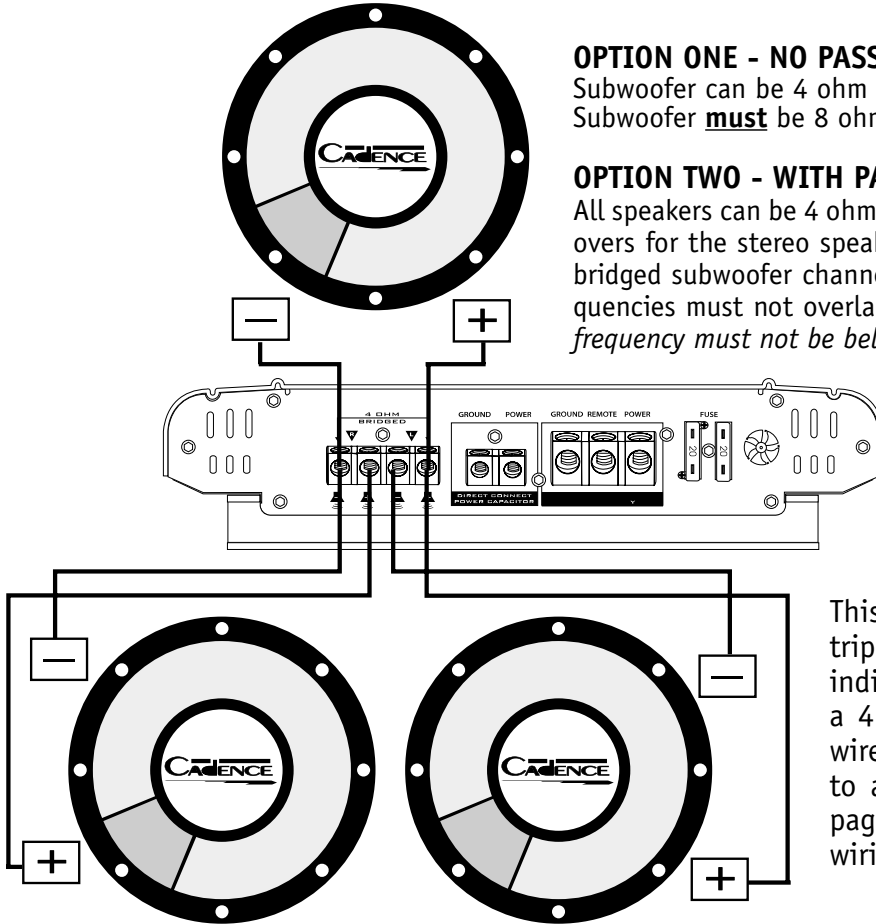
### 3 CHANNEL MIXED MONO SPEAKER WIRING

#### OPTION ONE - NO PASSIVE CROSSOVERS

Subwoofer can be 4 ohm when using 8 ohm stereo speakers.  
Subwoofer **must** be 8 ohm when using 4 ohm stereo speakers.

#### OPTION TWO - WITH PASSIVE CROSSOVERS

All speakers can be 4 ohm, but you must supply passive High Pass cross-overs for the stereo speakers and a passive Low Pass crossover for the bridged subwoofer channel. The High Pass and Low Pass crossover frequencies must not overlap. *(If your LP frequency is 50Hz then your HP frequency must not be below 50Hz.)*



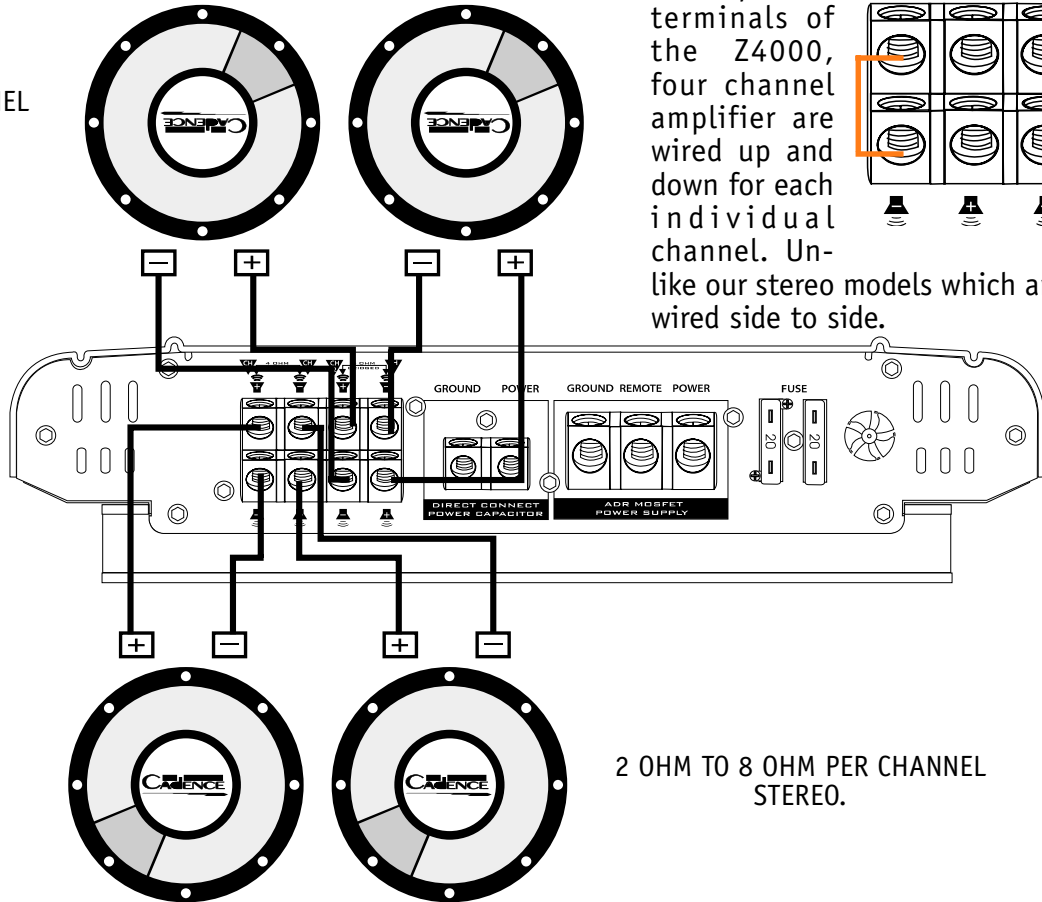
This wiring diagram is not to be confused with triple woofer box designs which are typically individual 12 ohm woofers wired in parallel to a 4 ohm mono load, or DVC 6 ohm woofers wired in series/parallel to a 4 ohm load. See page 12 for that type wiring diagram.



## 4 CHANNEL STEREO SPEAKER WIRING

2 OHM TO 8 OHM PER CHANNEL STEREO.

You can configure a 3 channel system utilizing the Z4000 as follows. Wire channels 1 & 2 in stereo as per the drawing to the right and wire channels 3 & 4 in bridged mode to a 4 ohm load.



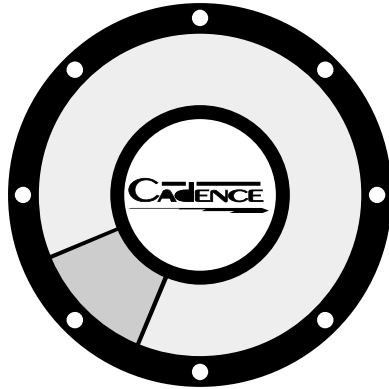
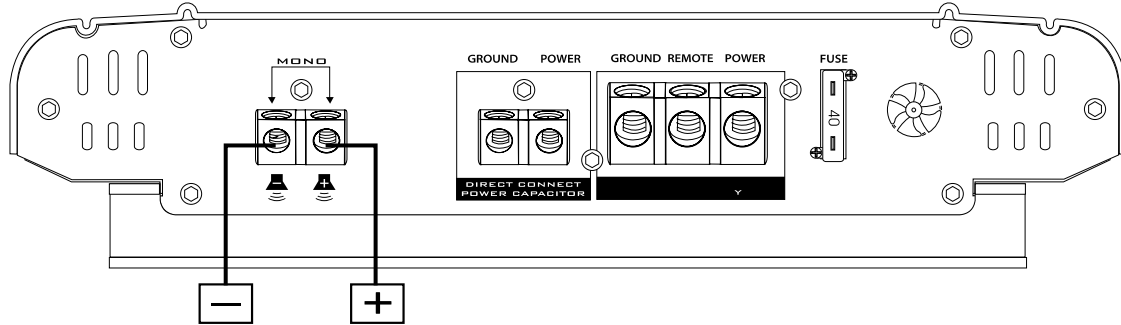
### PLEASE NOTE:

The speaker terminals of the Z4000, four channel amplifier are wired up and down for each individual channel. Unlike our stereo models which are wired side to side.

**Boom  
Harder!**

2 OHM TO 8 OHM PER CHANNEL STEREO.

# MONO BLOCK SPEAKER WIRING



MODELS Z1000 & Z5000 FINAL IMPEDANCE AT THE TERMINAL MUST NOT BE BELOW 2 OHMS.

MODEL Z7000 FINAL IMPEDANCE AT THE TERMINAL MUST NOT BE BELOW 1 OHM.

# Specifications

## MODEL Z1000 - MONO BLOCK HIGH CURRENT AMPLIFIER

4 Ohm Power	10 Watts Rated Power
2 Ohm Power	300 Watts
2 Ohm Mono Power	400 Watts
Frequency Response	10Hz - 40KHz
Signal/Noise Ratio	>100dB
Damping Factor	> 200 @ 100 Hz
Minimum THD	<0.044%
Channel Separation	>65dB
Dimensions	11.75" x 10.75" x 2.4" (LxWxH)

## MODEL Z4000 - 4 CHANNEL STEREO AMPLIFIER

4 Ohm Power	4 x 75 Watts
2 Ohm Power	4 x 150 Watts
4 Ohm Mono	2 x 300 Watts
Frequency Response	10Hz - 40KHz
Signal/Noise Ratio	>100dB
Damping Factor	> 200 @ 100 Hz
Minimum THD	<0.044%
Channel Separation	>65dB
Dimensions	15" x 10.75" x 2.4" (LxWxH)

## MODEL Z7000 - MONO BLOCK HIGH CURRENT AMPLIFIER

4 Ohm Power	50 Watts Rated Power
2 Ohm Power	750 Watts
1 Ohm Mono Power	1500 Watts
Frequency Response	10Hz - 40KHz
Signal/Noise Ratio	>100dB
Damping Factor	> 200 @ 100 Hz
Minimum THD	<0.044%
Channel Separation	>65dB
Dimensions	25" x 10.75" x 2.4" (LxWxH)

## MODEL Z3000 - STEREO "SRS" AMPLIFIER

4 Ohm Power	2 x 100 Watts
2 Ohm Power	2 x 150 Watts
4 Ohm Mono	1 x 300 Watts
Frequency Response	10Hz - 40KHz
Signal/Noise Ratio	>100dB
Damping Factor	> 200 @ 100 Hz
Minimum THD	<0.044%
Channel Separation	>65dB
Dimensions	11.75" x 10.75" x 2.4" (LxWxH)

## MODEL Z5000 - MONO BLOCK HIGH CURRENT AMP

4 Ohm Power	25 Watts Rated Power
2 Ohm Power	300 Watts
2 Ohm Mono Power	600 Watts
Frequency Response	10Hz - 40KHz
Signal/Noise Ratio	>100dB
Damping Factor	> 200 @ 100 Hz
Minimum THD	<0.044%
Channel Separation	>65dB
Dimensions	19" x 10.75" x 2.4" (LxWxH)

## MODEL Z8000 - STEREO HIGH POWER AMPLIFIER

4 Ohm Power	2 x 175 Watts
2 Ohm Power	2 x 250 Watts
4 Ohm Mono	1 x 500 Watts
Frequency Response	10Hz - 40KHz
Signal/Noise Ratio	>100dB
Damping Factor	> 200 @ 100 Hz
Minimum THD	<0.044%
Channel Separation	>65dB
Dimensions	15" x 10.75" x 2.4" (LxWxH)

## MODEL Z9000 - STEREO HIGH POWER AMPLIFIER

4 Ohm Power	2 x 300 Watts
2 Ohm Power	2 x 400 Watts
4 Ohm Mono	1 x 800 Watts
Frequency Response	10Hz - 40KHz
Signal/Noise Ratio	>100dB
Damping Factor	> 200 @ 100 Hz
Minimum THD	<0.044%
Channel Separation	>65dB
Dimensions	19" x 10.75" x 2.4" (LxWxH)

Due to constant product improvements, the specifications are subject to change without notice. High current rated powers are at amplifier minimum distortion and are for competition purposes. Not responsible for typographical errors.

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