ROCKVILLE

dB comp series

OWNER'S MANUAL for dBcomp4 and dBcomp5
CLASS D 1-OHM COMPETITION AMPLIFIERS

Amplifier Power Standard
CEA
CEA - 2006 Compliant

Introduction

Thank you for purchasing this Rockville dBcomp Series amplifier. Over the years, the technology used to create audio amplifiers has grown by leaps and bounds. Our competition is satisfied with just continuing to build the same units year after year without thought for improvement, but not Rockville. We consider it our mission to use our expertise in developing the latest technologies and to bring you the absolute best sounding amplifiers on the market and of course at a reasonable price. You will be amazed at the quality and power that these new amps offer.

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, that we backup every dBcomp Series amplifier with one year warranty which exemplifies our commitment to the end user. (See enclosed warranty card for details.)

Please read this installation guide carefully for proper use of your dBcomp Series amplifier. Read this entire guide fully before attempting your installation. Should you need technical assistance, please call our technical help line at 1-646-758-0144, Monday through Friday, 9am to 5pm EST.

IMPORTANT SAFETY INSTRUCTIONS

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. Your ability to hear necessary traffic sounds will be impaired. While driving always keep your sound volume at reasonable levels. We at Rockville 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.
- To reduce risk of electric shock, never open the unit. There are no user serviceable parts, refer service to an authorized Rockville service center.
- Do not expose this unit to any kind of moisture.
- Please ensure that the unit is situated in a properly ventilated area.

Installation

Installation Basics

Before you begin your installation, disconnect the NEGATIVE(-) terminal from your car's battery. This safety precaution will avoid possible short circuits while wiring your amplifier. Rockville 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.

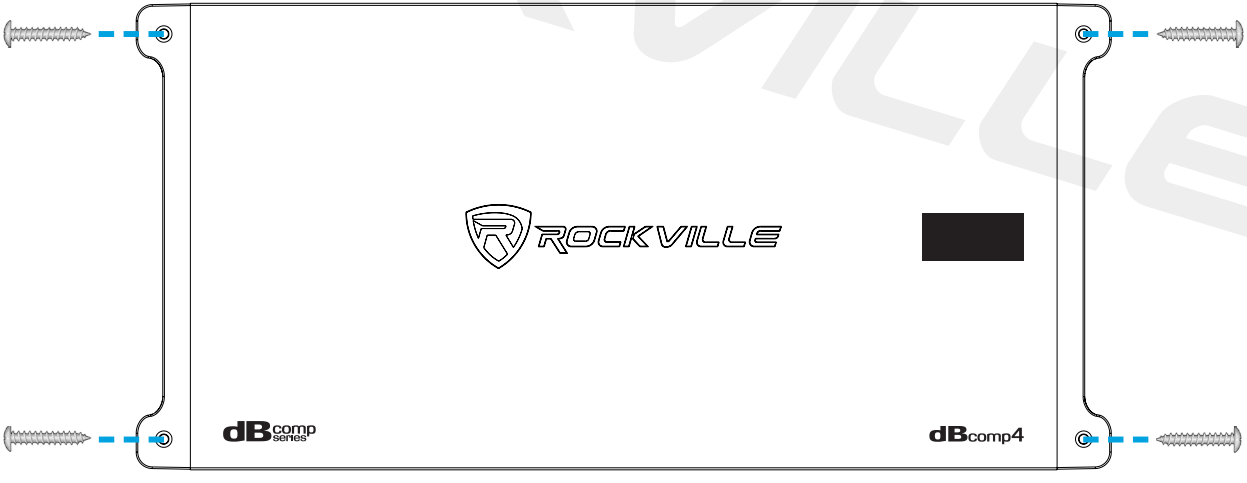
Mount the amplifier in the trunk or hatch area of your vehicle. Never install an amplifier in the engine compartment or on the firewall. Please be sure to leave breathing room around the amplifier heat sink so that it can dissipate the heat it produces efficiently. The amplifier can be installed either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

Mounting The Amplifier

The dBcomp Series amplifiers feature four mounting tabs located at the amplifiers four corners. Choose a convenient mounting location with unobstructed airflow. Lay down the amplifier and mark the location of the mounting holes. Remove the amplifier and drill pilot holes for the screws. Place the amplifier and secure it to the mounting surface using the supplied screws.

DO NOT OVER TIGHTEN THE SCREWS.



Wiring

1. Make sure to disconnect the **NEGATIVE (-)** terminal from your car's battery.

2. Attach an 8 gauge or heavier wire to the amplifier screw terminal marked **GND**. Connect the other end to the boat's house battery. The connection should be as close to the amp as possible (20 feet or less). For runs of 20 feet or more, you will need 4 gauge or heavier wire. 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.

3. Connect the remote terminal to the head unit's remote output using 18 gauge or heavier wire. This connection is responsible for turning the amplifier on and off with the rest of the system. If there is no dedicated remote output, make this connection to the power antenna lead. Should your head unit not have *any* turn on leads, you can wire the remote terminal to an accessory lead, which turns the amplifier on with your car's ignition.

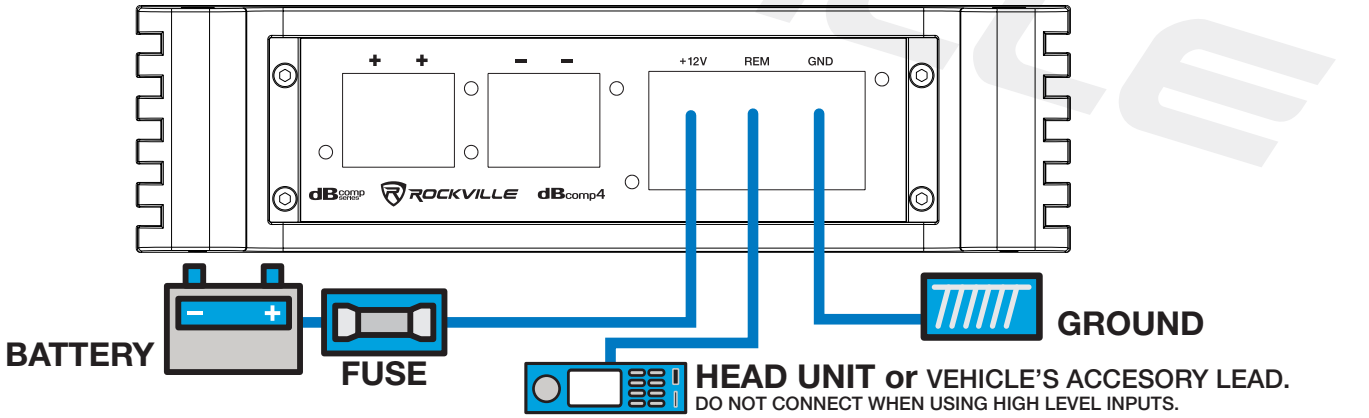
4. Use 0 gauge or heavier wire to connect the screw terminal marked **+12V** to the car battery's **POSITIVE (+)** terminal. In order to protect the battery and electrical systems of your vehicle, add an in-line fuse holder within 18˝ of the car battery. This in-line fuse offers protection against damage from short circuits. The power wire should terminate in a large ring terminal connected directly to the **POSITIVE (+)** terminal. An optional second fuse can be installed closer to the amplifier for additional protection to the amplifier itself. If installing multiple amplifiers, install a distribution block near their location and, using a 4 gauge wire, connect the block to the in-line holder that is connected to the battery.

5. Insert fuse(s) into the in-line fuse holder(s) and check that all connections are properly secured.

6. Before powering up the system, set all of the amplifier's level controls to minimum, the crossover/setting switches to the desired postion, and the head unit's volume to 75%.

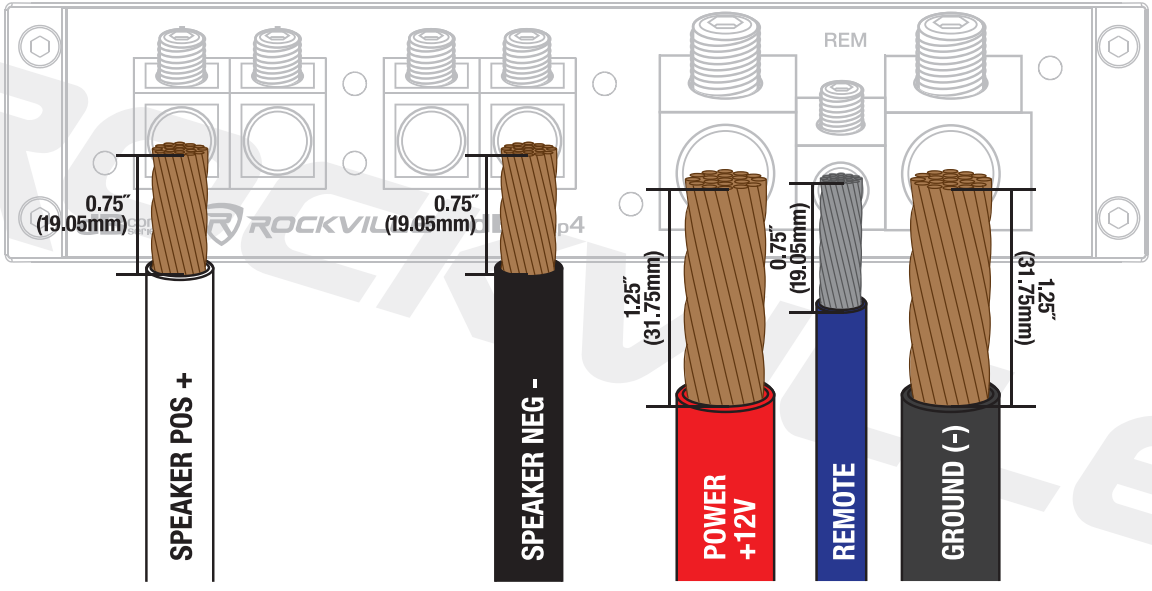
We have received amplifiers back to our service department with melted power/ground terminals caused by a bad ground connection. When there is a lack of good ground, heat builds up at the contact screws of the amplifier terminal. Over time the heat generated will begin to melt the terminal. It is a good practice to feel the power and ground wires near the amplifier after using the amp for a while. If the wires feel hot to the touch you probably have a bad or loose connection. If after adjusting your connections the wires still feel hot, you should upgrade to next heaviest gauge wire. As connections can work loose due to vehicle vibrations we recommend periodically tightening all power and ground connections.

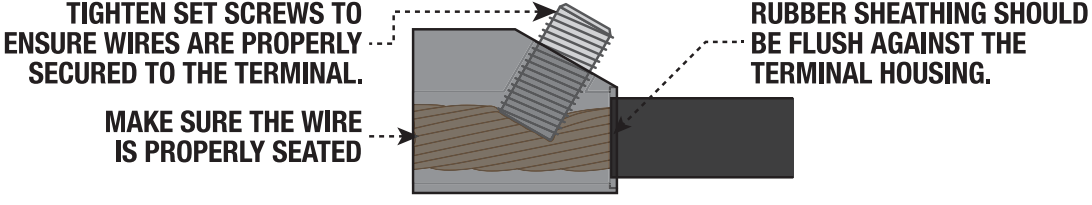
All dBcomp Series amplifers are supplied with external fuses. **Never replace the supplied external fuse with one of a larger value.**



⚠ ATTENTION ⚠

FOR BEST PERFORMANCE BE SURE TO STRIP YOUR WIRE, AT MINIMUM, AS PER THE DIAGRAM BELOW.





Settings

Adjusting The System

1. Once the system is operational, set all crossover points to approximate settings. In the case of the basic sub woofer system, set the Low Pass filter crossover at 100Hz or so. Set the bass equalizer controls to 0 dB. Turn the controls using a small flat head screwdriver. Do not apply any pressure while turning as this might break the control unit.

2. Now set the amplifier's Input Sensitivity adjustment. The control(s) accessible on the side of the amplifier marked LEVEL or INPUT LEVEL adjusts the input sensitivity. Turn it counter clock wise to the MIN position. Adjust your head unit's volume level to the maximum it can go before signal distorts or to the loudest level which is usually about 75-85% on most head units (you can also use an oscilloscope,or if you have a friend who has an oscilloscope, to see at what level your head unit distorts.). When you begin to hear 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 amplifier's level controls separately. Start off with the bass amplifier, then adjust the highs amplifier's level control to match. Please note that the level 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 level to maximum unless your input level requires it. Your system can also be extremely sensitive to noise when the LEVEL is set to maximum and does not match your input signal. These adjustments need to be made only once when first setting up the system.

3. Once you are satisfied with the level control settings, use any equalizer controls to adjust the system tonal level for personal preference. Keep in mind that after equalizing, you may have to go back and reset the amplifier's level controls.

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

Audio Preamp Input
The dBcomp Series amplifiers feature RCA pre amp inputs. Run RCA cables from your sound source to the amplifier inputs. We suggest you use high quality, shielded RCA patch cords to help reduce and eliminate unwanted electrical noise to your system. Use good quality RCA interconnect cables. Cheaper cables usually have poor shielding that can cause interference pickup.

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

Using The Built-In Low Pass Electronic Crossover
All dBcomp Series amplifiers feature 24dB per octave fully adjustable crossovers with differential circuitry.

The knob marked LOW PASS will control the low pass frequencies from 50Hz – 250Hz. A frequent error made is setting the low pass frequency too low, especially when using vented sub woofer enclosures. We recommend that for most installations you set the frequency knob between 80 – 150Hz depending on your preference and the rest of your audio system.

Using The Subsonic High Pass Filter
Subsonic frequencies are very low and can cause damage to your subwoofers. The Subsonic HPF is a high pass filter which will allow you to attenuate any frequencies below the set limit.

Sealed Enclosures: Sealed boxes are tuned by enclosure volume; larger enclosures tune lower, smaller enclosures tune higher. Subsonic frequencies can cause damage to your woofer as they cause it to play below the enclosure's tuning, forcing it to the limits of its excursion and making it expend a lot of energy. To avoid damage to your woofer set the Subsonic HPF to 25 – 35Hz.

Ported Enclosures: The enclosure's port should be tuned to a certain frequency so that the enclosure is capable of playing all frequencies above that tuning. The enclosure can play below that frequency, but only half and octave before the cone starts to over-extend. Hence, set the Subsonic HPF to 1/2 an octave below the tuned frequency.

Here is a simple formula to help you figure out the proper Subsonic HPF setting for your particular ported enclosure. Keep in mind that one octave up is double the frequency and one octave down is half the frequency:

1. Divide the tuning frequency of your port by two. This is one octave lower than your tuning frequency.

2. Divide the quotient (answer) of step 1 by two: This is half an octave lower.

3. Now subtract the quotient (answer) of step 2 from the port's tuning frequency.

Example:

Port tuning frequency is 46Hz

1. 46Hz ÷ 2 = 23Hz (one octave lower)

2. 23Hz ÷ 2 = 11.5Hz (half an octave lower)

3. 46 - 11.5 = 34.5Hz (round up to 35Hz)

So, you would set your Subsonic HPF to 35Hz.

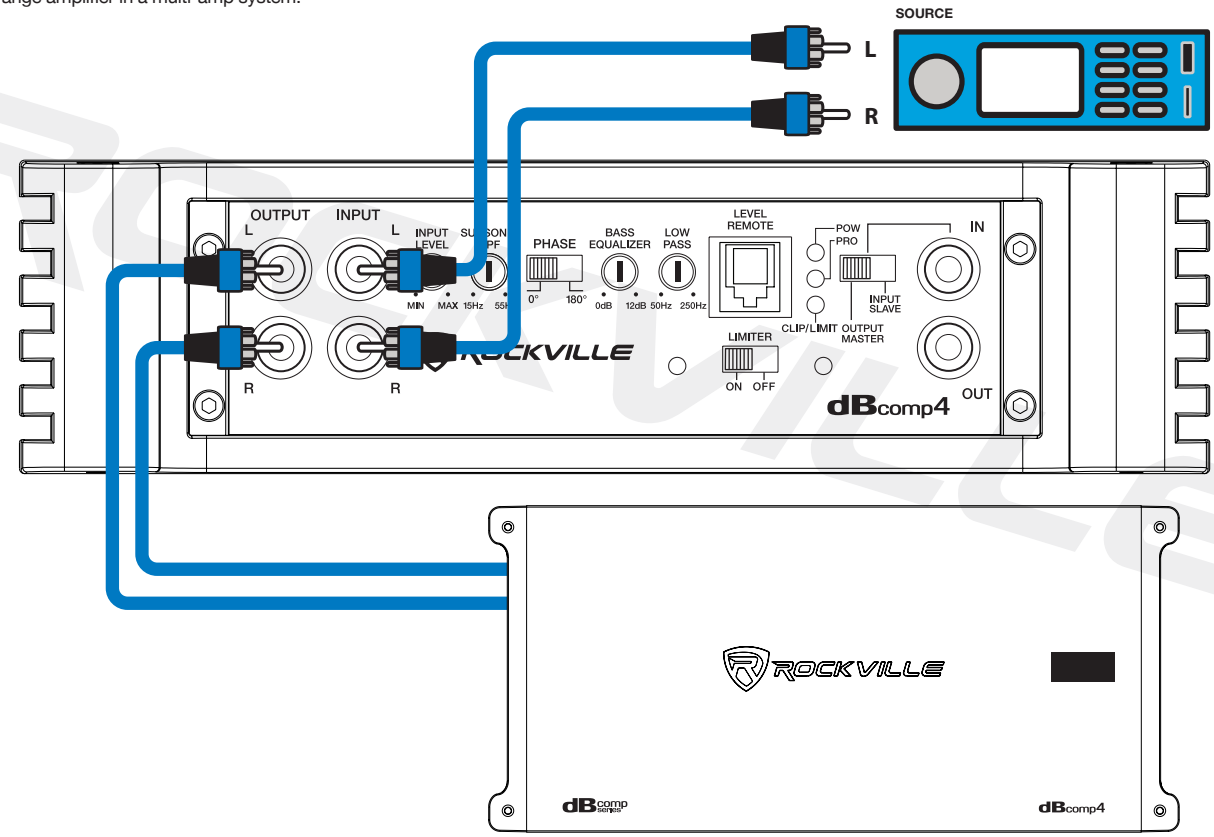
Please note: The subsonic filter is **NOT** a cut-off. It has a roll-off slope that will attenuate the frequency it is set to. Attenuation will increase as the frequencies get lower, meaning the power to the woofer decreases at the filtered frequencies which reduces excursion and the potential for damage.

Subsonic filters have steep slopes such as 3rd or 4th order (18 or 24dB/Oct) so it can be set as close to your ½ octave frequency as possible, or 25 – 35Hz sealed, without losing power in the surrounding frequencies.

Class D Monoblock 1 Ohm Amp Configurations

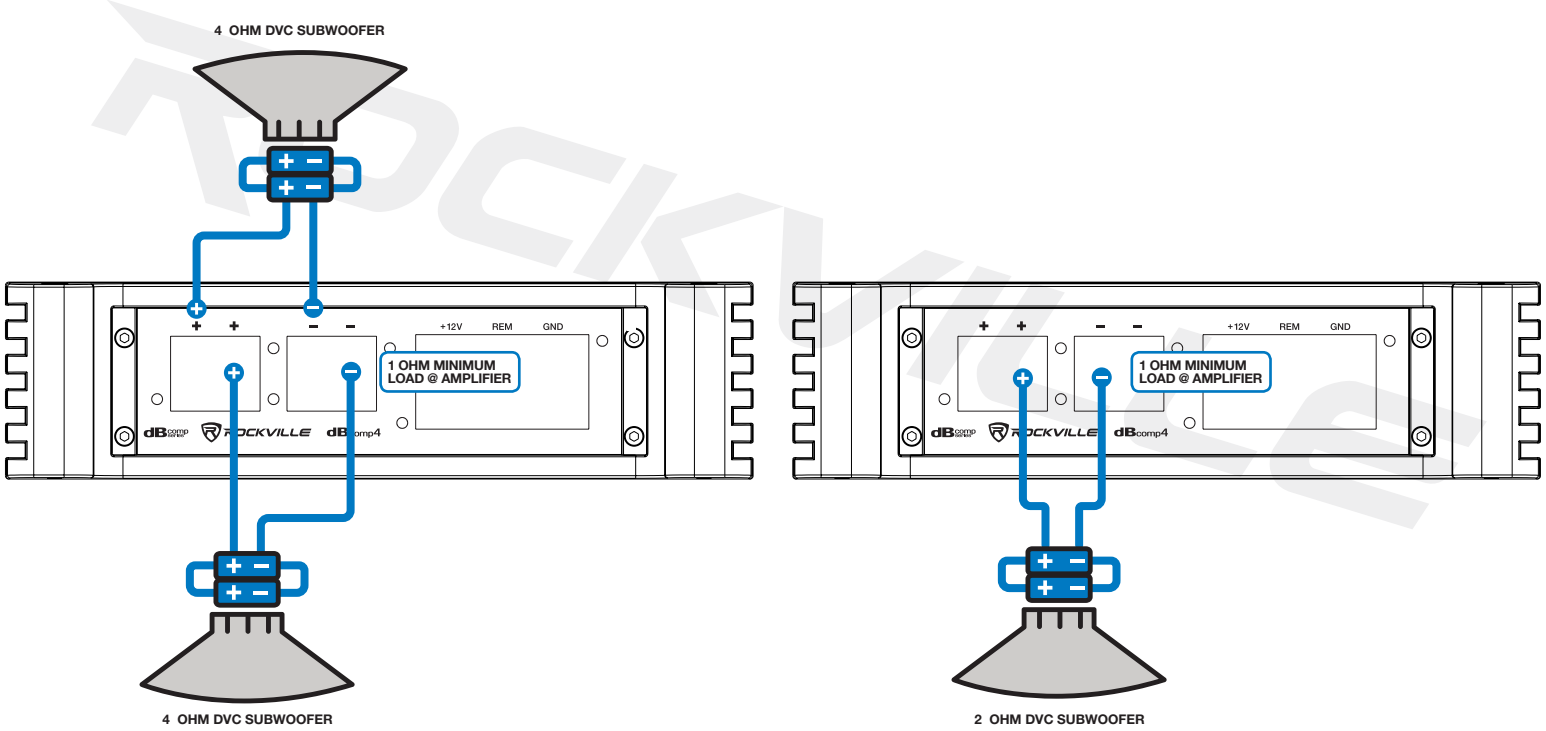
Class D Monoblock Amp Input

Connect your head unit's RCA outputs to the amplifiers Left and Right RCA input jacks. All dB series monoblock amplifiers feature RCA pre-amp line outputs for feeding of a pass-through signal to a secondary full-range amplifier in a multi-amp system.



The dBcomp4 and dBcomp5 are 1 ohm stable monoblock amplifiers. No matter how many woofers you choose to wire up to these models, **the final impedance should not fall below 1 ohm.** Please see page 16 and 17 for various speaker impedance configurations.

The dual positive and negative terminals are connected in parallel inside the amplifier. Connecting two speakers, each to one set of positive and negative terminals, will result in a parallel speaker connection. If only connecting one pair of speaker wires, it is not necessary to use both sets of connections.



Twin Amp Bridging

Both dBcomp amplifiers can be bridged together for double the power output into a single 2-ohm load. Remember, when bridging amplifiers you must bridge them to a 2-ohm load.

Input the head unit signal into the MASTER amplifier and set the Bridged Mode switch to Output Master. Use a MONO RCA to RCA cable to send the fully processed signal from the MASTER amplifier to the secondary SLAVE amplifier and set the Bridged Mode switch to Input Slave. Do not input any RCA signals into the Slave amplifier left and right inputs. All crossover controls, Bass Drive, frequency settings, and subsonic filter settings will be controlled by the Master Amplifier including input gain levels. There is no need to gain match the two amplifiers, it will occur automatically. The remote dash bass control should be plugged in to the Master amplifier and it will control both amplifiers.

This same input/control system can be utilized when daisy chaining two amplifiers to two independent 1 ohm woofers as long as you don't bridge the two amplifiers outputs together.

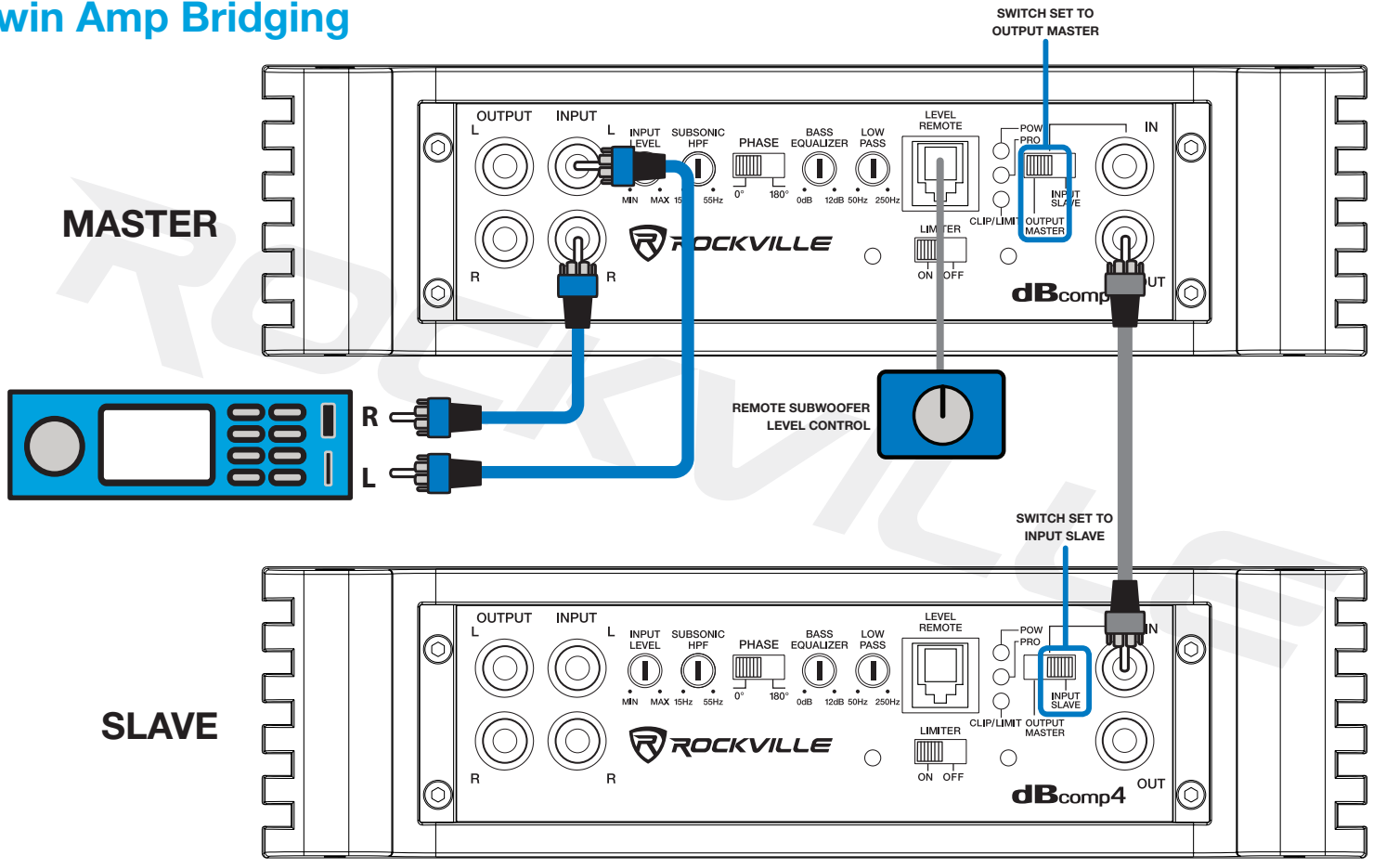
You can only bridge 2 of the same amplifiers together. DO NOT bridge different models together.

When bridging two amplifiers together, the final impedance load of the bridged amplifiers should be no lower than 2-ohms. Double power will occur at 2-ohms. Master amplifiers positive (+) speaker terminal should be wired to the positive terminal of the subwoofer.

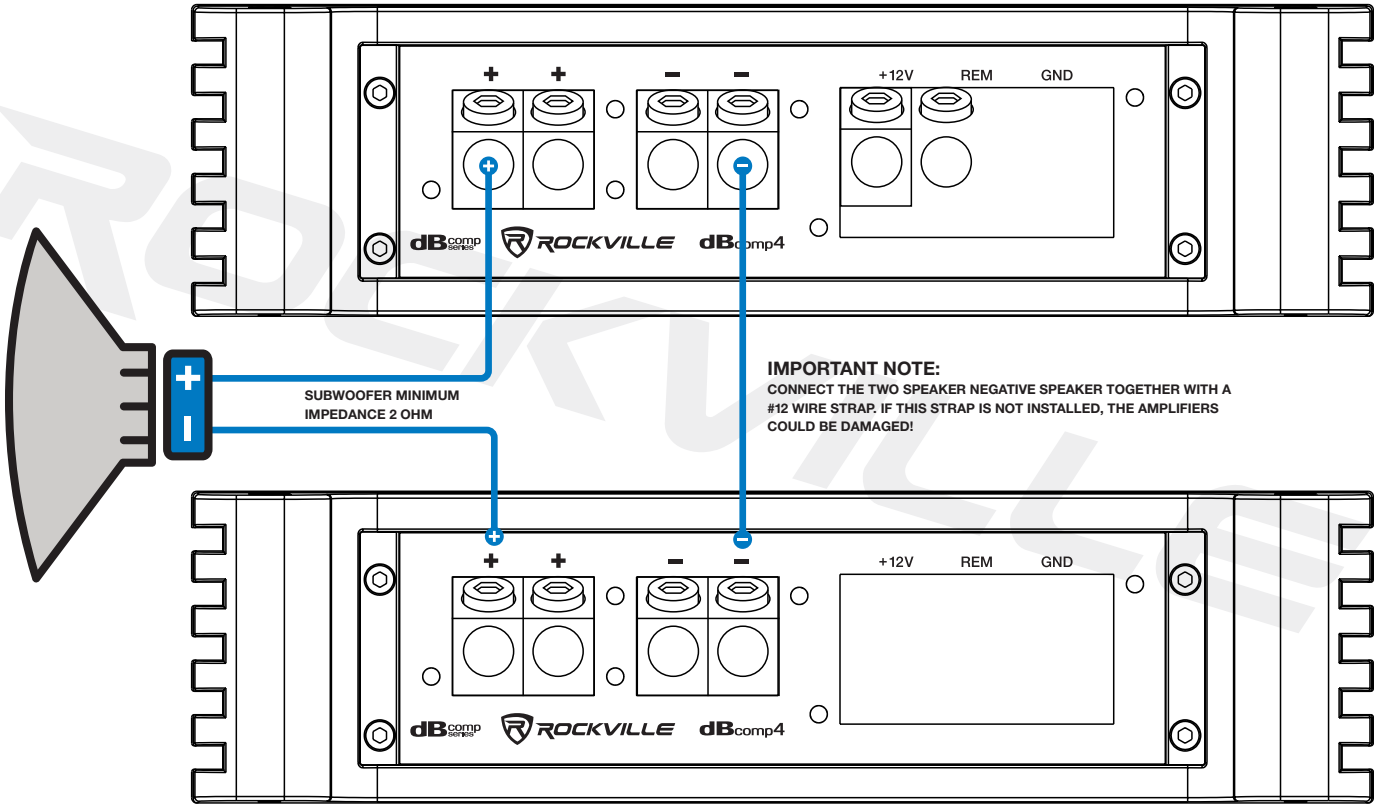
Slave amplifiers positive (+) speaker terminal should be wired to negative terminal of the subwoofer. Connect a heavy gauge wire (12 Gauge) between the negative (-) terminal of the Master amplifier and the Negative (-) terminal of the Slave amplifier.

When daisy chaining two amplifiers for independent woofers, wire up the woofers as you would typically wire them when installing individual systems, even down to 1-ohm. By using the Master/Slave input configuration you gain the advantage of having one amplifier's preamp section control both amplifiers, eliminating the need to gain match and crossover match your system between amplifiers.

Twin Amp Bridging



Twin Amp Bridging



Features

Bass Equalization Circuitry

A narrow “Q” peaking equalization circuit is included in the amplifiers. The equalization system is preset at 45Hz. The equalizer control allows you to add up to 12dB of bass boost. Utilize the bass equalizer to tailor your bass response to your systems needs. Make sure your speakers can handle the extra power output! It would be foolish to add 12dB of gain to low excursion 8˝ and 10˝ Sub woofers or mid ranges and tweeters. It’s a sure way to blow your speakers.

Audio Output Section

The audio output sections of the Class D dBcomp Series amplifiers feature rugged, fast switching MOSFETs.

Power And Protection Circuitry

dBcomp Series amplifiers feature our unique IC controlled protection circuitry. This sophisticated circuit constantly monitors the heat sink internal temperature and various voltages, adjusting the amp automatically and protecting it from dangerous conditions. The 2 LED’s located on the side of the amplifier provide indication of the amplifier status, the Power LED will light 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 second LED will light 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 down. There are certain critical diagnostic conditions which will turn the amplifier off immediately.

Thermal Protection: When the amplifier reaches an unsafe operating temperature of 80 degrees Celsius the amplifier will turn off.
Once the amplifier cools down to a safe temperature, it will automatically turn on again.

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.

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 it OFF and then ON again by the Remote power connection after correcting a diagnostic condition. (Turn your radio off and then on again.)

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 and power connections.

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 malfunction.

You must reset amplifier by turning it OFF and then ON again after correcting a diagnostic condition (turn your radio off and then on again). If the amplifier stays in protection after a reset, it is most likely faulty.

To reset the amplifier, you must first diagnose what caused the problem, correct the fault and restart the system.

Features

Limiter Circuit

The dBcomp series features a built-in limiter circuit with an On/Off switch. When the circuit is turned on, it will automatically limit input signals that may cause clipping, thus preventing damage to your subs. For competition purposes, the limiter circuit can be turned off so as to allow you to “burp” your sub. The term burping refers to playing a specific frequency through your sub for 3 to 4 seconds. This allows for maximum wattage without damage to your amp or sub.

Please note: Clipping occurs when an amplifier is not able to generate enough voltage to reproduce the input signal. Continous or long-term clipping can cause serious damage to your amp and subwoofers. If you are experiencing clipping, it is recommended that you adjust your gain settings and your head unit’s volume levels. Refer to “Adjusting the System” in the Settings section on page 6 for detailed instructions on how to properly set your dBcomp amplifier’s gain levels.

Mute Circuit

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

Bass Remote

The dash-mounted bass remote allows you to control the amplifier’s bass level from the comfort of the driver’s seat. It features power, protect, and clipping indicator LEDs.

- The power LED indicates the unit is receiving power and operating nominally.
- The protect LED will light up when the amp enters protection mode. Refer to “Power and Protection Circuitry” on page 13 for detailed information.
- The clipping LED will light up if the limiter circuit is turned on and limiting is taking place. If the circuit is off, the LED will light when clipping occurs. Please see “Limiter Circuit” section above for more information.

Battery Voltage

Rockville dBcomp Series amplifiers feature a convenient LED readout which displays the current voltage input while the amp is in use. The amp will go into protect mode when the voltage goes below 10 volts or above 16 volts.

Specifications

dBcomp4

CEA Compliant Power Output:
1 Ohm: 3000 Watts x 1 Channel <1% THD+N at 14.4 volts (93% efficiency)
2 Ohm: 2000 Watts x 1 Channel <1% THD+N at 14.4 volts (88% efficiency)

- Minimum THD at Rated Power: < 0.1%
- Frequency Response: 15Hz - 250Hz
- S / N Ratio: >90dB
- Damping Factor: > 150 @ 100Hz
- Under Voltage Protection at 10V
- Over Voltage Protection at 16V
- 400 Amp External Fuse
- Dimensions: (W x H x L) 9˝ x 2.4˝ x 21.8˝

- Digital Voltage Display on Amp
- High-Speed MOSFET Power Supply
- Optical Coupler Class “D” Technology
- Fully Adjustable 24dB/Octave Crossover with Differential Circuitry
- Low Pass Filter: 50Hz – 250Hz
- Subsonic Filter: 15Hz – 55Hz
- Fully Adjustable 12dB Bass Equalizer
- Phase Control Switch
- Limiter with ON/OFF Switch
- RCA Preamp Line Out
- Mute and Delay Soft Start System
- Full IC-Controlled Protection Circuitry
- Status Mode LED Indicator
- 8 Volt Preamp Circuitry
- Dashboard Mounted Subwoofer Remote Control with Status Mode LED Indicator

dBcomp5

- CEA Compliant Power Output:
  1 Ohm: 3500 Watts x 1 Channel <1% THD+N at 14.4 volts (90% efficiency)
  2 Ohm: 2200 Watts x 1 Channel <1% THD+N at 14.4 volts (85% efficiency)
- Minimum THD at Rated Power: < 0.1%
- Frequency Response: 15Hz - 250Hz
- S / N Ratio: >90dB
- Damping Factor: > 150 @ 100Hz
- Under Voltage Protection at 10V
- Over Voltage Protection at 16V
- 450 Amp External Fuse
- Dimensions: (W x H x L) 9˝ x 2.4˝ x 23.7˝

- Digital Voltage Display on Amp
- High-Speed MOSFET Power Supply
- Optical Coupler Class “D” Technology
- Fully Adjustable 24dB/Octave Crossover with Differential Circuitry
- Low Pass Filter: 50Hz – 250Hz
- Subsonic Filter: 15Hz – 55Hz
- Fully Adjustable 12dB Bass Equalizer
- Phase Control Switch
- Limiter with ON/OFF Switch
- RCA Preamp Line Out
- Mute and Delay Soft Start System
- Full IC-Controlled Protection Circuitry
- Status Mode LED Indicator
- 8 Volt Preamp Circuitry
- Dashboard Mounted Subwoofer Remote Control with Status Mode LED Indicator

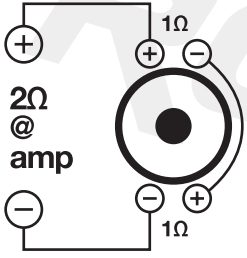
Woofer Wiring Configurations

Please note that the minimum impedance load for single dBcomp Series amps is 1 ohm. If 2 amplifiers are bridged together then the combined output of both amplifiers will be a minimum 2 ohm load. Lower impedance loads will cause overheating and may damage the amplifiers.

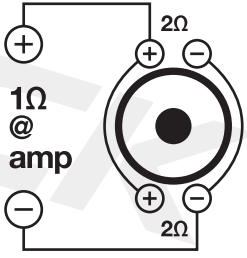
Dual Voice Coil subwoofers have multiple wiring options that are available to you. You can create a final impedance load to match the final impedance load of your amplifier.

Do not mix different impedance speakers in series and/or parallel combinations, as unequal power sharing and acoustic outputs will result.

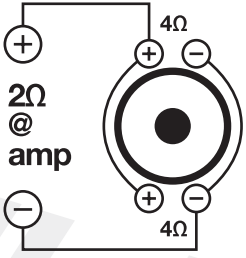
ONE 1Ω DVC WOOFER = 2Ω LOAD



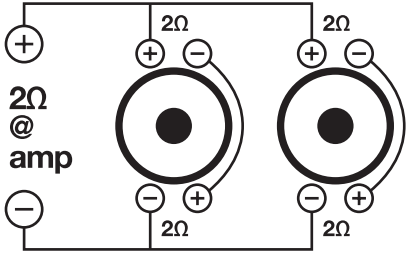
ONE 2Ω DVC WOOFER = 1Ω LOAD



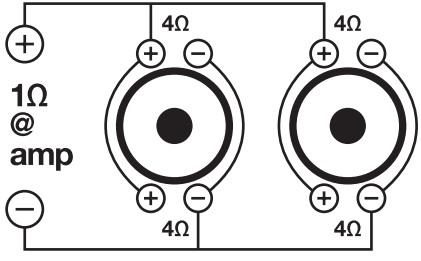
ONE 4Ω DVC WOOFER = 2Ω LOAD



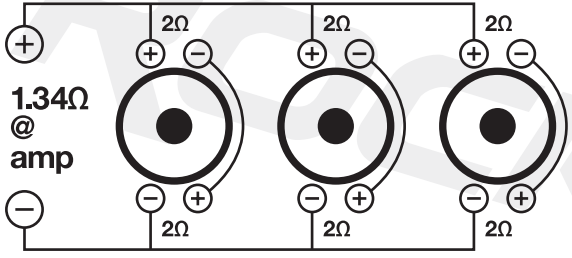
TWO 2Ω DVC WOOFERS = 2Ω LOAD



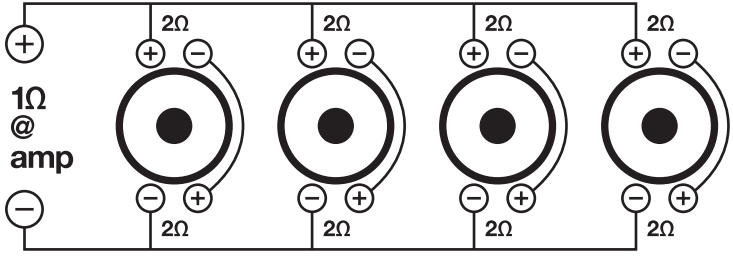
TWO 4Ω DVC WOOFERS = 1Ω LOAD



THREE 2Ω DVC WOOFERS = 1.34Ω LOAD



FOUR 2Ω DVC WOOFERS = 1Ω LOAD



Troubleshooting

PROBLEM	CAUSE/SOLUTION
Amp goes into protect mode	1. **Short circuit protection** - Caused by the power or ground wire not being fastened tightly. Disconnect the speakers from the amp. If the amp is still in protect mode, you now know the issue is somewhere with the power, ground, or remote wire. You should check and make sure the ground is tight. You should check the power wire terminals. Make sure the positive is going to the positive, and the negative is going to the negative. If all this is secure, you can use a multi meter and make sure you are getting 12 – 14.4 volts coming from your power wire. If this is all checking out properly, then you should check that the remote wire is properly connected to the remote wire on your receiver. Many times people mistakenly connect it to the antenna wire instead. If this is correct, you should also use a multi meter and make sure your remote wire is getting 5 volts. 2. **Thermal protection** - This happens when the amplifier overheats. Check that your subwoofers are compatible with your amp and that they are wired correctly. 3. **Blown speaker** - To check for a blown speaker, disconnect all the speakers from the amplifier. If the amp goes out of protect mode, then the problem is indeed a blown speaker. Find which speaker is blown and replace it. **Wrong speaker impedance** - Replace the speaker(s) with one of the proper impedance. 4. **Speaker wires touching** - If the positive and negative speaker wires that run from your speakers to your amplifier touch each other either by the speaker terminals or by the amplifier terminals, the amp will go to protect mode. Check all speaker connections to ensure that the wires are not touching. 5. **Reverse Polarity protection** - Reverse polarity means the positive and negative power wires are backwards. Connect the speaker wires to the correct terminals. 6. **Power wire gauge** - If your power and ground wire are not thick enough the amp will go into protect mode to protect itself from unsafe signals. Be sure to use the proper gauge wires. 7. **RCA Cables** - RCA patch cables that are grounded out or otherwise faulty can also cause the protect light to come on. To check this, you can simply hook up a set of known good RCA cables to your head unit and amp. If that causes the light to turn off, replacing the RCA cables will fix the problem.

PROBLEM	CAUSE/SOLUTION
Amp won't power on	1. The external fuse is not properly secured to the power wire or is not making proper contact to the wire. Ensure the fuse is properly seated and making contact. 2. Your external fuse (inside the fuse holder) is blown. Replace the fuse. Never replace the supplied external fuse with one of a larger value 3. Amplifier internal fuse is blown (the fuse on the side of the amp). Replace the fuse. Never replace the built in fuse with one of a larger value 4. Check the ground wire. Make sure the connection is 100% secure and tight. 5. Power wire is not connected properly to the ring terminal or it has acid corrosion on it. Check the connection to the ring terminal and use a wire brush to clean any corrosion off of the ring. 6. Check the power wire. Make sure the positive is wired to the positive, and the negative is going to the negative. Make sure the power wire is secure. 7. Check the remote turn on wire. Make sure that this wire is connected securely to the amplifier on one end, and make sure the other end is connected to the remote turn on of the receiver. A common error we see is the remote turn on get connected to the antenna wire instead of the remote turn on wire of the head unit. Please note the remote turn-on wire is a required wire. The amp will not work if this is not connected. It is also possible the remote terminal is loose and fell out. 8. Power wire is connected to the ground terminal of amplifier. Connect the power wire to the +12V terminal of the amp 9. Power or ground wire became loose. Check all connections and make sure the are tight.
Power but no sound	1. Check if any protection lights are on. If protection lights are on, please refer to the "Amp goes into protect mode" section on page 14. 2. Make sure the RCA cable that is plugged into your amplifier is plugged into the RCA input. If you have it plugged into the RCA output then the amplifier will not get any sound. 3. Check is the RCA cable that is going from the amplifier to the receiver. We recommend having a spare RCA cable to test with. Many times RCA cables go bad since they are thin cables. You can also test you

PROBLEM	CAUSE/SOLUTION
Power but no sound	RCA signal using a multimeter. 4. The next thing to check is the speaker wire that is going from the amp to the speakers. If the amplifier is in bridged mode, then be sure you connected the speaker wire to the proper terminals. You want to check that the 5. Check your gain – on the amp and/or on your bass remote. If it is on 0 then turn it up slowly. 6. Check the RCA cable that is plugged into your receiver. Make sure you plugged the amplifier into the preamp output that is red and white. In many cases we have seen customers plug the RCA into the RCA video of their receiver which is yellow. If this is the case, just plug the RCA into the proper connections and your problem will be solved. 7. There is a setting on your receiver that can disable your RCA outputs. The setting is under fader/ balance control. On your receiver navigate to balance/fader and find the setting and make sure you enable front, rear, and sub preamp outputs. Sometimes the head unit will allow you to only enable front and rear which would cause the amp to have no sound. 8. Speaker wire is not making a good contact on the speaker output of the amp or on the speaker terminal. You need to make sure the speaker wire is securely tightened into the speaker terminal and the amplifier terminal. 9. A pinched or cut speaker wire that is now not running a signal. Speaker wire is very thin and can rip or tear easily. If you have spare speaker wire, then you can test this issue with new speaker wire and see if that solves your issue. You can also visually inspect your current speaker wire. 10. Make sure the positive and negative speaker wire are running to the positive and negative speaker terminal of the amp. If they are reversed then the speaker will play no sound or very little sound.
Amp is clipping	1. Speakers/subs are too powerful for the amplifier you are using. Check the compatibility of your speakers/subs. Replace incompatible speakers/subs with compatible ones. 2. If the speakers/subs are wired at a lower impedance (ohms) than the amp is supposed to be playing this can cause the amp to clip. Wire the speakers/subs at the proper impedance.

PROBLEM	CAUSE/SOLUTION
Amp is clipping	3. If the gain setting is too high, this can cause the amp to clip. The proper way to set your gain is to turn your receiver volume to 75% of the max, and then slowly turn your gain up. The second you hear any slight distortion, turn it down one notch and leave it at that setting. Amps are not meant to be played with the gain up to the max. If this is the case, lower your gain slowly until you hear the amplifier stop clipping. 4. A poor ground cable connection can cause your amp to clip because improper power is getting to the amp. Check your ground connection and make sure that the cable is securely tightened. 5. A very common cause of amplifier clipping is power and ground wire that is too thin of a gauge size for the amplifier. Determine the proper wire gauge necessary and replace existing wires. 6. If using multiple devices that all have a volume control (such as an equalizer or processor, receiver, and the amp) then you would need to lower 1 or 2 of those devices to stop the amp from clipping.
Distortion, background noise, crackling, or hissing in the speakers	1. First check to see how your wires are run. If your RCA cables and speaker wire are run alongside your power cables they will pick up feedback. If this is the case, you will need to run the RCA cable on the other side separate from your power cable. 2. A poor ground cable connection can cause your amp to clip because improper power is getting to the amp. Check your ground connection and make sure that the cable is securely tightened. 3. Engine noise – You will know it is engine noise if every time you rev your engine the noise gets louder. You can install a ground loop isolator on the receiver's power lead to cut down on signal pollution. Most often, however, engine noise comes from a loose or intermittent ground connection. Make sure your ground connection is tight and that you are using the proper gauge cable. 4. If your gain on your amp is set to the max, and your receiver has a high preamp voltage it will cause some unwanted noise. To properly set your gain, play a CD or other music. Now put the receiver volume to 75 – 80% of the max. Then slowly turn the gain of the amp to a setting where you do not hear a loud hiss. A low hiss is acceptable as with music playing you will never hear it. Please note the amp gain is not a volume control. It is meant to be matched to the preamp voltage of a head unit. It is important to properly set your gain when you buy a new amp.

PROBLEM	CAUSE/SOLUTION
Distortion, background noise, crackling, or hissing in the speakers	5. Noise can be picked up due to bad RCA cables. Specially the super cheap ones. We recommend doing a test with different RCA cables. Replace the RCA cables if needed. 6. Low quality speaker wires will also cause noise. We recommend you buy high quality insulated speaker wire made for marine applications.
Sound is too low	1. This can be caused by wiring at too high of an impedance (ohms) and the amp puts out low power at 4 or 8 ohms for example. To resolve this you will have to properly wire your speakers/subs to the amplifier. 2. Check the gain level on the amp. You may need to turn it up. 3. Power and ground wire that are too thin of a gauge size for the amplifier may cause low sound. Determine the proper wire gauge necessary and replace existing wires. 4. Make sure your positive and negative speaker wires are not reversed, as this would cause the sub to move but not make much noise. 5. Check your crossover setting on your amplifier. You may need to filter out more high frequencies which your sub is not meant to play. So make sure its on low pass mode and then you also should try lowering the frequency of that low pass crossover and see if that helps. 6. On your receiver it is very common to have a volume level control for the pre-amp outputs (separate from your master volume control). To fix this, you can navigate to the audio settings, and search for subwoofer level controls, as well as front and rear preamp output controls. Crank up the level on this setting and you will be back in business. 7. Amplifier may not be powerful enough. If this is the case, we recommend upgrading to a more powerful amplifier.
Amp keeps blowing fuses	**Main Fuse** - If you determine that your main fuse is blowing, then you'll want to pay attention to when it blows. Try inserting a good, properly rated fuse with your head unit—and amplifier—turned off. If the fuse blows immediately, when everything is off, then you're probably dealing with some kind of short in the power cable between the main fuse and the distribution block, or between the main fuse and the amplifier if there is no distribution block in the system.

PROBLEM	CAUSE/SOLUTION
Amp keeps blowing fuses	**Distribution Block Amp Fuse** - If both sides of the main fuse have power, and one side of the distribution block has power, but the other side of that fuse is dead, then you're either dealing with a shorted power wire or an internal amplifier fault. There are a few ways to determine which one is the culprit, depending on how your amp is installed and where the wires are routed. 1. Check if you can see power wire that connects the distribution block to your amp. In an ideal situation, you'll be able to see the entire length of the wire. If that isn't possible, then the next best thing is to just disconnect the power wire from your amp, make sure that the loose end isn't in contact with ground, and check whether the fuse still blows. If it does, then the problem is in the power wire, and replacing it will almost certainly fix your problem. Of course, you'll have to take care when routing the new wire so that it doesn't end up shorting out as well. If the fuse doesn't blow with the power wire disconnected from your amp, then you have an internal amplifier problem. **Internal Amplifier Fuse** - If the fuse blows when the amp is turned up, then you likely have subwoofers that are either incompatible or that are wired at too low of an impedance. Rewire to achieve proper impedance or replace the subwoofers with compatible ones. Check and make sure the power and ground wires did not get crossed. Also, check and make sure your speaker wires are not crossed.
Amp gets very hot	1. The main reason amps overheat is if the impedance they are running at is very low, or if the subwoofer requires more power than the amp can give it. Also if the wiring can not give the proper current fast enough it can cause the amp to get hot as well. Make sure the amp is running a the proper impedance or use subwoofers that are compatible with the amp. Make sure the wiring s correct and you are using the proper wires for your system. 2. A poor ground cable connection can cause your amp to get very hot. Check your ground connection and make sure that the cable is securely tightened. 3. Check the location where your amp is mounted. Make usre it is in a spot where it will receive proper ventilation.

PROBLEM	CAUSE/SOLUTION
Amp or powered sub does not turn off when you turn off the vehicle	1. This situation happens when you connect the remote turn on wire to a constant 12V power wire (often this is a yellow wire) instead of to the remote turn on wire of your receiver wire harness. Pull out your receiver and plug the amplifier's remote turn-on wire into the proper remote turn-on terminal of your receivers wire harness. 2. In a rare situation the remote turn-on wire input is touching the power wire which can also cause this same issue. If this is what is happening, then simply take the remote turn-on wire out of the amplifier terminal and carefully put it back in so that it is not touching the power wire.
One channel on the amp isn't working	1. Check the RCA cable that is going from the amplifier to the receiver. We recommend having a spare RCA cable to test with. Many times RCA cables go bad since they are thin cables. You can also test your RCA signal using a multimeter. 2. Check the RCA cable that is plugged into your receiver. Make sure you plugged the amplifier into the preamp output that is red and white. In many cases we have seen customers plug the RCA into the RCA video of their receiver which is yellow. If this is the case, just plug the RCA into the proper connections and your problem will be solved. 3. There is a setting on your receiver that can disable your RCA outputs. The setting is under fader/ balance control. On your receiver navigate to balance/fader and find the setting and make sure you enable front, rear, and sub preamp outputs. Sometimes the head unit will allow you to only enable front and rear which would cause the amp to have no sound. 4. Speaker wire is not making a good contact on the speaker output of the amp or on the speaker terminal. You need to make sure the speaker wire is securely tightened into the speaker terminal and the amplifier terminal. 5. Make sure the positive speaker wire is connected to the positive terminal on the speaker and on the amp and make sure the negative is connected to the negative. 6. Each channel on your amplifier has a gain control. Make sure the gain on this channel of the amplifier is turned up.