

PRORECK



PR-1500.1M

Introduction

Thank you for purchasing this PR-1500.1M amplifier.

We hope that these amplifier will bring you years of performance and reliability. Please read this manual carefully for proper use of your PR-1500.1M amplifier. Should you need technical assistance, please contact us via email sales-1@proreck.com.

Important safety instructions

1. Read the instructions carefully before use and keep the manual for further use.
2. Follow all instructions. Improper use may cause damage to the unit.
3. Do not expose the unit to rain or moisture.
4. Do not block any ventilation opening. Install in accordance with the manufacturer's instructions.
5. Do not install near any heat sources, such as radiators, heat sources, stoves, or other units that produce heat.
6. Clean only with a dry cloth.
7. Refer all servicing to qualified service personnel. Servicing is required when the unit has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the unit, the unit has been exposed to rain or moisture, operate abnormally.
8. This unit shall not be exposed to dripping or splashing.
9. 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.

Specifications

- 4-Ohm Mono-Block Class A/B
- High Speed MosFET Power Supply with 50V Rail
- Bi Polar Audio Transistor Output Section
- RCA Line Input
- RCA Line Output - Full Range
- High Level Speaker Line Input
- OEM Integration Logic-Start Turn-On Circuitry
- Fully Adjustable Low Pass Crossover: 50Hz -250Hz
- Fully Adjustable Subsonic Filter: 10Hz-50Hz
- Fully Adjustable ± 12 dB Narrow Q Bass Equalizer @ 45Hz
- Subwoofer ON/Full Range Control Switch
- Damping Factor > 200 @100Hz
- Input Gain Control: 6V -0.2 Volt. Power and Diagnostic LED Indicators
- Computerized IC Control, Thermal, Speaker Short, Overload and DC Protection Circuitry

- Mute & Delay Turn On Circuit
- Auto Thermal Control Circuitry - At cool down amplifier restarts with no user intervention necessary
- Dashboard Bass Remote Control with Cable
- Power Output: 200 Watts RMS Mono-block at 4 Ohms and 1% THD+N
- Signal to Noise Ratio: 97 dB
- Dynamic Power: 400 Watts @ 2 Ohms Real Power: 1200 Watts
- Dimensions: 10.8 x9x 1.8 inches (L x W x H)
- Frequency Response: 15Hz - 20KHz
- Sensitivity: 103dB @ 1w/1m

Features

MUTE CIRCUIT:

The PR-1500.1M amplifier features an anti-thump, mute and delay circuit. This eliminates the noise generated when the power amplifier is turned on and off.

BASS EQUALIZATION CIRCUITRY:

A narrow "Q" shelving equalization circuit is included in the amplifier. The equalization system is preset at 45Hz. The boost control allows you to add up to +12dB of Bass EQ effect. Utilize the Bass EQ to tailor your bass response to your systems needs. Please keep in mind that by adding Bass EQ you are adding stress on your speakers. Make sure your speakers can handle the extra power output. Adding 12 dB gain to subwoofers with low excursion of 8" and 10" or mid ranges and tweeters is not acceptable. This will blow up your speakers.

HIGH LEVEL INPUT:

If your head unit does not have RCA outputs, use the speaker outputs for the audio source.

RCA INPUT / OUTPUT:

It is recommended to use RCA line input to introduce audio signal into amplifier. The amplifier has RCA line input and full range RCA line output. RCA line output allows you to send a full range signal to another amplifier.

SUBSONIC ADJUSTABLE FILTER:

This control will allow you to filter out low frequency noise and rumble. This is useful for vented enclosures where the port tuning frequency falls below the sub woofer tuning frequency to protect against sub woofer unloading.

LOGIC-START TURN ON CIRCUITRY:

The amplifier will turn on automatically as soon as it senses a signal from your headunit.

BASS CONTROL KNOB:

Included with this amplifier is a dashboard bass remote control.

PROTECTION CIRCUITRY:

The PR-1500.1M features 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. This amplifier features Auto Thermal Control Circuitry - At cool down amplifier will restart with no user intervention necessary.

1. Thermal Protection:

When the amplifier reaches an unsafe operating temperature of 80 degrees celsius the amplifier will turn off.

2. 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 connection.

3. 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.

4. DC Offset Protection:

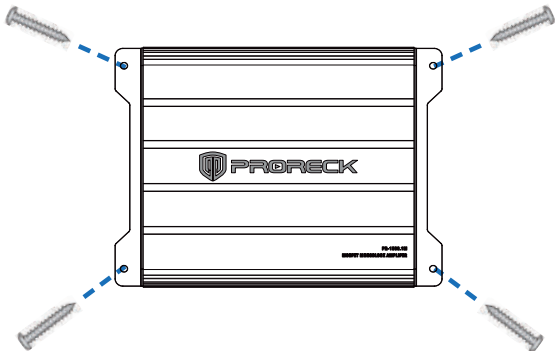
Should any DC voltage try to enter the amplifier via the speaker terminals it will cause the amplifier to shut down and not operate until this condition is remedied. This circuit will also protect damaging high DC voltages from reaching your speakers should your amplifier ever malfunction.

Mounting and Wiring

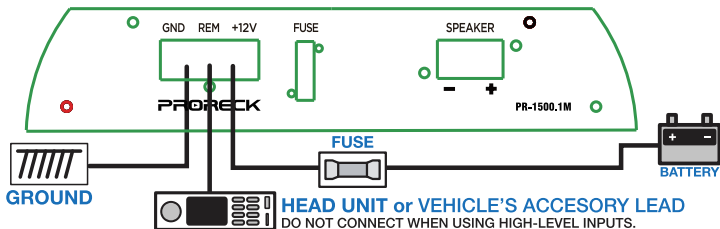
Before you begin with your installation, disconnect the NEGATIVE (-) terminal from your car's battery. This safety precaution will avoid possible short circuits while wiring your amplifier. Amplifier operate on 12-volt negative ground systems only. Mount the amplifier in the trunk or hatch area of your vehicle. Never install an amplifier in the engine compartment or on the fire wall. Please be sure to leave breathing room around the amplifier heat sink so that it can dissipate the heat it produces efficiently. 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:

Choose a convenient mounting location with unobstructed airflow. Using the supplied screws and grommets, gently mount the amplifier into position.



WIRING THE AMPLIFIER:

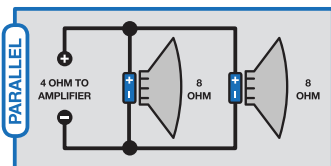
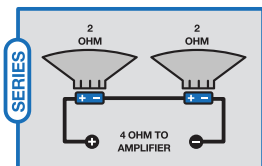
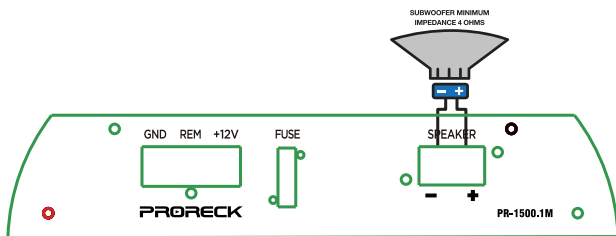


1. The PR-1500.1M amplifier is supplied with a built-in fuse, never replace the fuse that the amp came with, with one of a larger value. We suggest you construct a Red wiring harness with 2 additional fuses. One fuse should be located near the car battery. This fuse near the battery offers protection 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 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+.

2. 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.

3. 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 cars ignition. When using the headunit's remote turn on the amplifier's Logic circuit must be switched to the Radio Remote position.

Woofer configuration



The PR-1500.1M is a 4 ohm mono block Class A/B amplifier, The final impedance load should not fall below 4 ohm. Multiple woofers can be wired to this amplifier as long as the final impedance is no lower than 4 ohms.

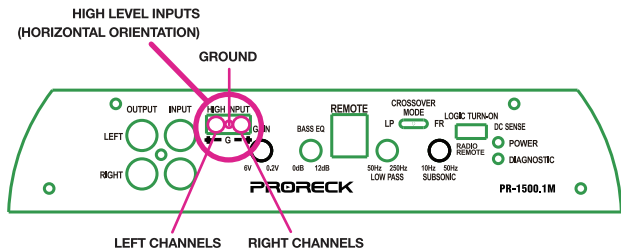
SETTING

1.AUDIO PREAMP INPUT

The PR-1500.1M features 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 to your system.

2.High Level Input

Many factory radios do not have preamp RCA outputs thus the RVA600.1 features High Level inputs. High Level inputs, also referred to as speaker level inputs, allow you to connect to the factory speaker wires. They are called High Level inputs because they convert the high voltage running through factory speaker wires to one the amplifier can handle. These inputs will provide the end user with clean, well defined sound for optimal musical enjoyment.



3.SUBSONIC FILTERING

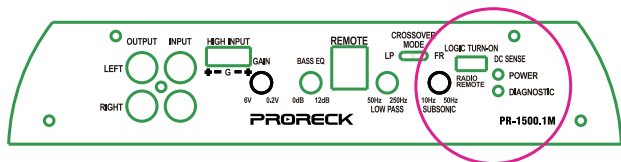
This unit comes with a built in subsonic filter that ranges from 10Hz to 50Hz. For sub woofer installations with a passive LP crossover you can set the amplifier's CROSSOVER MODE selector to Full Range while setting the SUBSONIC KNOB to 30Hz, this will filter all signals below 30Hz.

4.AJUSTING THE SYSTEM

Once the system is operational, the first thing to do, is set all crossover points to approximate settings. In the case of the basic sub woofer system Low Pass filter crossover at 100Hz or so. Set the Bass Equalizer controls to 0dB (Flat Switch Position.) Now you should set the amplifiers input sensitivity adjustment. The knob accessible on the side of the amplifier marked GAIN adjusts the input sensitivity from 6 Volts to 0.2 Volts. To adjust the input sensitivity, turn the control using a small flat head screwdriver fully counter clock wise to the 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 level control on the amplifier clockwise towards the Maximum marking until audible distortion occurs. When you begin to hear any distortion in the sound, back down one notch and your amp is set.

5.Logic Turn On Circuitry

The Logic Turn On feature allows the amplifier to automatically start when ever it sense current or sound signal. Use the DC sense settings when using the High Level input. The DC setting will power up the amplifier when high current signal is sensed. It is intended for high powered after market / stock head units. Use the Radio Remote Line In setting when using the RCA inputs.



Trouble shooting

problem	Cause/solution
Amp goes into protect mode	<ol style="list-style-type: none"> 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 multimeter 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 multimeter 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. 4. Wrong speaker impedance - Replace the speaker(s) with one of the proper impedance. 5. 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 into protect mode. Check all speaker connections to ensure that the wires are not touching. 6. Reverse polarity protection - Reverse polarity means the positive and negative power wires are backward. Connect the speaker wires to the correct terminals. 7. 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. 8. 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.
Amp won't power on	<ol style="list-style-type: none"> 11. 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's 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. Power or ground wire became loose. Check all connections and make sure they are 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 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 gets 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 the amplifier. Connect the power wire to the +12V terminal of the amp.

<p>Amp keeps blowing fuses</p>	<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>
<p>Power but no sound</p>	<ol style="list-style-type: none"> 1. Check if any protection lights are on. If protection lights are on, please refer to the "Amp goes into protect mode" section. 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 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. 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. 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 pre-amp 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 fader/balance and find the setting, then make sure you enable front, rear, and sub pre-amp outputs. Sometimes the head unit will allow you only to 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

	<p>issue with new speaker wire and see if that solves your issue. You can also visually inspect your current speaker wire.</p> <p>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.</p>
Amp is clipping	<ol style="list-style-type: none"> 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. 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. 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. 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 one or two of those devices to stop the amp from clipping.
Distortion, background noise, crackling, or hissing in the speakers	<ol style="list-style-type: none"> 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 pre-amp voltage of a head unit. It is important to properly set your gain when you buy a new amp. 5. Noise can be picked up due to bad RCA cables. Specially the super cheap ones.

	<p>We recommend doing a test with different RCA cables. Replace the RCA cables if needed.</p> <p>6.Low-quality speaker wires will also cause noise. Were commend you buy high-quality insulated speaker wire made for marine applications.</p>
<p>Sound is too low</p>	<ol style="list-style-type: none"> 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 it's 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 pre-amp 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.
<p>Amp gets very hot</p>	<ol style="list-style-type: none"> 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 cannot give the proper current fast enough, it can cause the amp to get hot as well. Make sure the amp is running at the proper impedance, or use subwoofers that are compatible with the amp. Make sure the wiring is 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 sure it is in a spot where it will receive proper ventilation.
<p>Amp or powered sub does not turn off when you turn off the vehicle</p>	<ol style="list-style-type: none"> 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's wire harness. Pull out your receiver and plug the amplifier's remote turn-on wire into the proper remote turn-on terminal of your receiver's 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.
<p>One channel on the amp isn't working</p>	<ol style="list-style-type: none"> 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 pre-amp 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 fader/balance and find the setting, then make sure you enable front, rear, and sub pre-amp outputs. Sometimes the head unit will allow you only to 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.

Contact Informaton

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