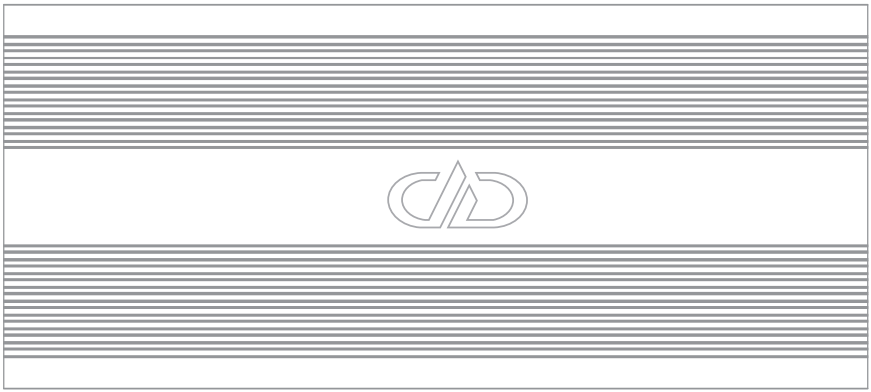
AUDIO®

CLASS D AMPLIFIER

D4.75, D4.100, D6.500, D5.1500

OWNER'S MANUAL

INTRODUCTION



Thank you for purchasing a DD Audio amplifier. DD Audio amplifiers are painstakingly designed to provide years of high-performance listening pleasure. To achieve optimum performance we suggest you have your amplifier installed by an Authorized DD Audio Dealer. It is also highly recommended that you read this Owner's Manual to familiarize yourself with the many features of your amplifier.

The D Series contains full range multi-channel amplifiers and hybrid amplifiers (full range multi-channel + monoblock) engineered for multiple applications. Designed with the goal of being the best amps on the market for the everyday enthusiast, the D Series will be the soul of your audio system delivering clean, powerful audio from a true stock electrical system. These amps feature compact chassis, strong power, logical controls and efficient design. No shortcuts were taken when deciding on the internal components and feature sets. Our engineers paid extremely close attention to every stage of the D Series circuit design; and utilized high speed controller chipsets, efficient power devices, precise thermal management and the latest in IC technology. We hope you enjoy using this DD Audio product, and if you have any questions regarding setup or installation, please contact the DD Audio technical support team.

WARNING

DD Audio amps are built to play at high volumes beyond what your ears can safely handle for extended periods of time. Prolonged exposure to excessively high volume can cause permanent damage to your hearing. In addition, operation of a motor vehicle while listening to audio equipment at high volume levels may impair your ability to hear external sounds such as: horns, warning signals, or emergency vehicles; thus, constituting to a potential traffic hazard. You may also find your state has laws governing the volume of an audio system in a car. Please be aware of all local and state laws in your area. So, be smart, and behave yourself… As much as possible.

D SERIES DESIGN FEATURES:

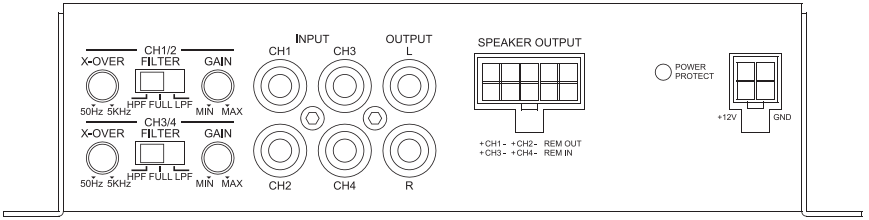
- **MOSFET POWER SUPPLY AMPLIFIER**
- **4 GAUGE SET SCREW POWER TERMINALS (D4.100, D6.500)**
- **0 GAUGE SET SCREW POWER TERMINALS (D5.1500)**
- **12 GAUGE SET SCREW SPEAKER TERMINALS (D4.100, D5.1500, D6.500)**
- **HEAVY DUTY PCB**
- **CONFORMAL COATED PCB (D4.75, D4.100, D5.1500, D6.500)**
- **VARIABLE 12dB/Oct and 24dB/Oct. CROSSOVERS**
- **REMOTE SUBWOOFER CONTROL (D5.1500)**
- **5-WAY PROTECTION: SPEAKER SHORT, THERMAL, OVERLOAD, HI/LOW VOLTAGE, DC OFFSET**

TECHNICAL SPECIFICATIONS

	D4.75	D4.100	D5.1500	D6.500
Test Voltage 14.4V				
Channels	4	4	5	6
Watts RMS				
4Ohm	75x4 / 180x2	100x4 / 300x2	(CH1~4) 125x4 (CH5) 680x1	(CH1~4) 100x4 / 320x2 (CH5~6) 200x2 / 560x1
2Ohm	90x4	150x4	(CH1~4) 180x4 (CH5) 1000x1	(CH1~4) 160x4 (CH5~6) 280x2
1Ohm			(CH5) 1500x1	
Max Current Draw	40A	60A	220A	120A
Frequency Response	10Hz-27KHz	10Hz-27KHz	10Hz~21KHz	10Hz~25KHz
S/N Ratio	>90dB	>90dB	>90dB	>90dB
Damping Factor	>100	>100	>100	>100
THD	<0.2%	<0.2%	<0.2%	<0.2%
Input Voltage Sensitivity	6V ~ 0.2V	6V ~ 0.2V	6V ~ 0.2V	6V ~ 0.2V
Hi-Pass Filter	50Hz-5KHz	20Hz-5KHz	(CH1~4) 20Hz-5KHz (CH5) 10Hz-50Hz	(CH1~4) 50Hz-5KHz (CH5~6) 20Hz-200Hz
Low Pass Filter	50Hz-5KHz	50Hz-5KHz	(CH3~4) 50Hz-5KHz (CH5) 50Hz-250Hz	(CH5~6) 80Hz or 250Hz
Remote Subwoofer Control	No	No	Yes	No
Power Wire Gauge In	2x18	4	0	4
Speaker Wire Gauge Out	18	12	12	12
Dimensions: in	6.2x3.9x1.7	9x4.9x1.8	17.7x6.8x2.1	13.7x4.9x1.8
Dimensions: mm	160x100x45	230x125x47	450x175x55	350x125x47

CONTROL AND CONNECTION FOR FULL RANGE MULTI CHANNEL AMPLIFIERS (D4.75)

CONTROL PANEL



X-OVER:
Controls the crossover frequency cutoff point for the speaker outputs. Set the X-Over FILTER switch to HPF/FULL/LPF to select the desired crossover type.

HPF:
Controls the high frequency pass cutoff point for the speaker outputs. Attenuates low frequencies.

FULL:
Does not affect the audio signal allowing full range audio to pass to the speaker outputs.

LPF:
Controls the low frequency pass cutoff point for the speaker outputs. Attenuates high frequencies.

GAIN:
Matches the output voltage of the source signal to the amplifier's input section.

INPUT (CH1~CH4):
Used for connecting RCA preamp signal cables from the source unit to the amplifier.

OUTPUT (L-R):
Used for connecting RCA preamp signal cables to the RCA inputs of another amplifier.

SPEAKER OUTPUT:
Connect to the speaker's + and - terminals. Minimum suggested speaker cable size is 16 gauge. The D4.75 is bridgeable to 2ch @ 4Ohm. To bridge the outputs use CH1+ with CH2- and CH3+ with CH4-.

REM OUT (blue):
Provides a switched +12V output for connecting to the REM IN of another amplifier.

REM IN (red):
Connect to a switched +12V cable.

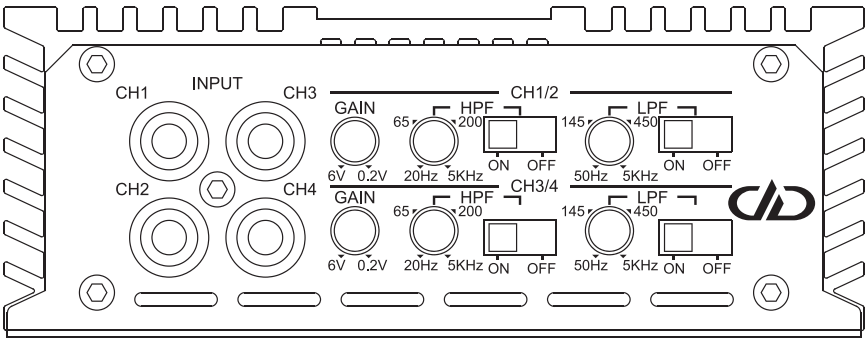
POWER / PROTECT LED:
When illuminated green indicates the amplifier is grounded, and receiving +12V and REM power. When illuminated red indicates a general malfunction due to speaker short, faulty connection or thermal protection.

+12V (yellow):
Connect both yellow wires to a single fused positive cable (+12V) from the battery. Minimum power cable size is 10 gauge.

GND (black):
Connect both black wires to a single ground wire going directly to the chassis of your vehicle. Minimum cable size is 10 gauge.

CONTROL AND CONNECTION FOR FULL RANGE MULTI CHANNEL AMPLIFIERS (D4.100)

CONTROL PANEL



INPUT (CH1~CH4):
Used for connecting RCA preamp signal cables from the source unit to the amplifier.

GAIN:
Matches the output voltage of the source signal to the amplifier's input section.

HPF:
Controls the high frequency pass cutoff point for the speaker outputs. Attenuates low frequencies.

The HPF selector switch determines whether HPF is ON or OFF. In the ON position, it will only allow the frequencies above the setting on HPF to play. In the OFF position, the HPF will have no effect.

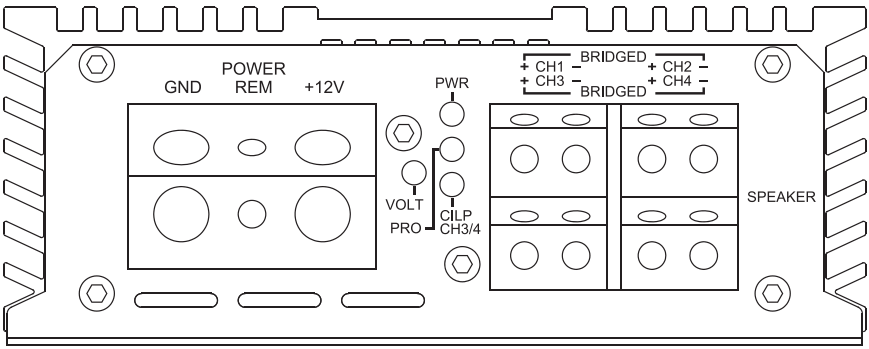
LPF:
Controls the low frequency pass cutoff point for the speaker outputs. Attenuates high frequencies.

The LPF selector switch determines whether the LPF is ON or OFF. In the ON position, it will only allow the frequencies below the setting on LPF to play. In the OFF position, the LPF will have no effect.

BPF:
If both the HPF and LPF are set to the ON position you will be able to set up a bandpass filter.

CONTROL AND CONNECTION FOR FULL RANGE MULTI CHANNEL AMPLIFIERS (D4.100)

POWER PANEL



GND:
Connect to a ground wire going directly to the chassis of your vehicle. Minimum cable size is 4 gauge.

REM:
Connect to a switched +12V cable.

+12V:
Connect to a fused positive cable (+12V) from the battery. Minimum power cable size is 4 gauge.

VOLT LED:
When flashing indicates the amplifier is not receiving the proper power supply voltage level. Operating the amplifier while the VOLT indicator is illuminated could result in reduced system performance, damage to the amplifier or damage to the connected speakers.

PWR LED:
Indicates the amplifier is grounded, and receiving +12V and REM power.

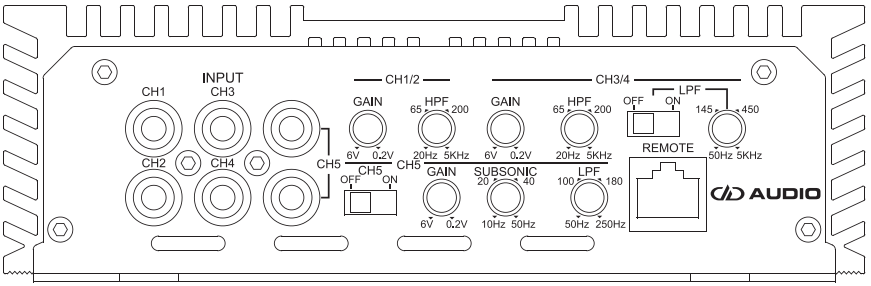
PRO LED:
Indicates a general malfunction due to speaker short, faulty connection or thermal protection.

CLIP LED:
When flashing indicates clipping on CH3/4 is present while playing source material. At this point it is suggested to adjust the amplifier's gain level until the CLIP LED is only flashing on peak notes.

SPEAKER OUTPUT TERMINALS:
Connect to the speaker's + and - terminals. Minimum suggested speaker cable size is 12 gauge. The D4.100 is bridgeable to 2ch @ 4 Ohm. To bridge the outputs use CH1+ with CH2- and CH3+ with CH4- as indicated on the end panel.

CONTROL AND CONNECTION FOR FULL RANGE MULTI CHANNEL AMPLIFIERS (D5.1500)

CONTROL PANEL



INPUT (CH1~CH5):
Used for connecting RCA preamp signal cables from the source unit to the amplifier.

GAIN:
Matches the output voltage of the source signal to the amplifier's input section.

HPF:
Controls the high frequency pass cutoff point for the speaker outputs. Attenuates low frequencies.

LPF:
Controls the low frequency pass cutoff point for the speaker outputs. Attenuates high frequencies.

LPF OFF/ON SWITCH:
Used for setting up a Bandpass Filter on CH3/4. The LPF selector switch determines whether the LPF is OFF or ON. In the OFF position, the LPF will have no effect. In the ON position, it will only allow the frequencies below the setting on LPF to play.

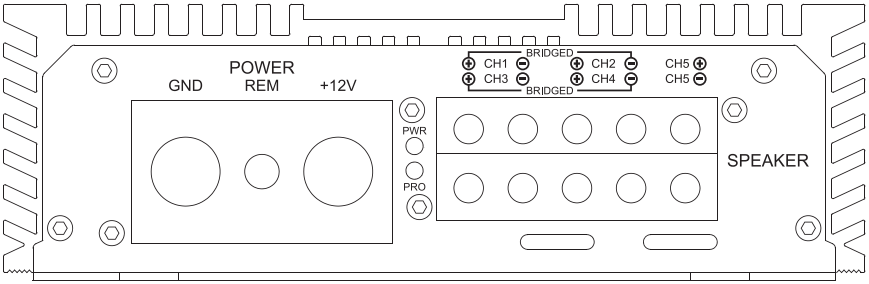
SUBSONIC:
Controls the high pass cutoff point for the speaker outputs to eliminate extremely low frequencies that can waste amplifier power and cause damage to your subwoofers.

CH5 OFF/ON SWITCH:
Set the switch position to OFF when only using CH1~CH4 RCA INPUTS. This will to send audio signal to the CH5 speaker outputs. Set the switch position to ON position when using CH1~4+CH5 RCA INPUTS.

REMOTE:
This port is for connecting the remote subwoofer control. The DMC-RMT that is supplied with the D5.1500 will control fine gain adjustment and monitor output clipping on CH5. It will also monitor the amplifiers power supply voltage. When the CLIP LED is flashing it indicates clipping on CH5 is present while playing source material. At this point it is suggested to adjust the amplifier's remote gain knob level until the CLIP LED is only flashing on peak notes. When the LO-VOLT LED is flashing it indicates if the amplifier is not receiving the proper power supply voltage level. Operating the amplifier while the LO-VOLT indicator is illuminated could result in reduced system performance, damage to the amplifier or damage to the connected speakers.

CONTROL AND CONNECTION FOR FULL RANGE MULTI CHANNEL AMPLIFIERS (D5.1500)

POWER PANEL



GND:
Connect to a ground wire going directly to the chassis of your vehicle. Minimum cable size is 0 gauge.

REM:
Connect to a switched +12V cable.

+12V:
Connect to a fused positive cable (+12V) from the battery. Minimum power cable size is 0 gauge.

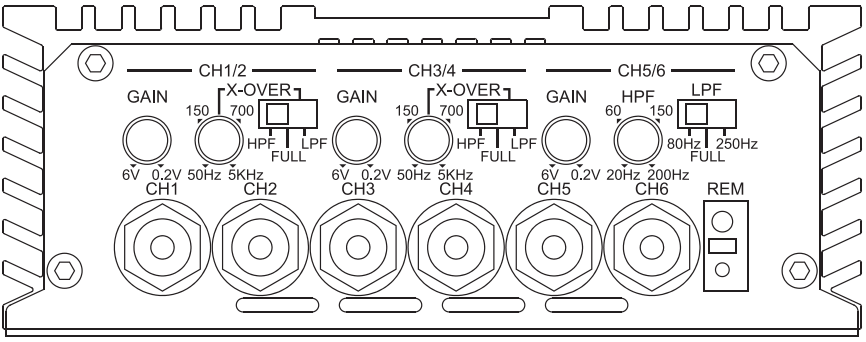
PWR LED:
Indicates the amplifier is grounded, and receiving +12V and REM power.

PRO LED:
Indicates a general malfunction due to speaker short, faulty connection or thermal protection.

SPEAKER OUTPUT TERMINALS:
Connect to the speaker's + and - terminals. Minimum suggested speaker cable size is 16 gauge (CH1~CH4) and 12 gauge (CH5).

CONTROL AND CONNECTION FOR FULL RANGE MULTI CHANNEL AMPLIFIERS (D6.500)

CONTROL PANEL



INPUT (CH1~CH6):
Used for connecting RCA preamp signal cables from the source unit to the amplifier.

GAIN:
Matches the output voltage of the source signal to the amplifier's input section.

X-OVER:
Controls the crossover frequency cutoff point for the speaker outputs. Set the X-Over switch to HPF/FULL/LPF to select the desired crossover type.

HPF:
Controls the high pass cutoff point for the speaker outputs. Attenuates low frequencies.

FULL:
Does not affect the audio signal allowing full range audio to pass to the speaker outputs.

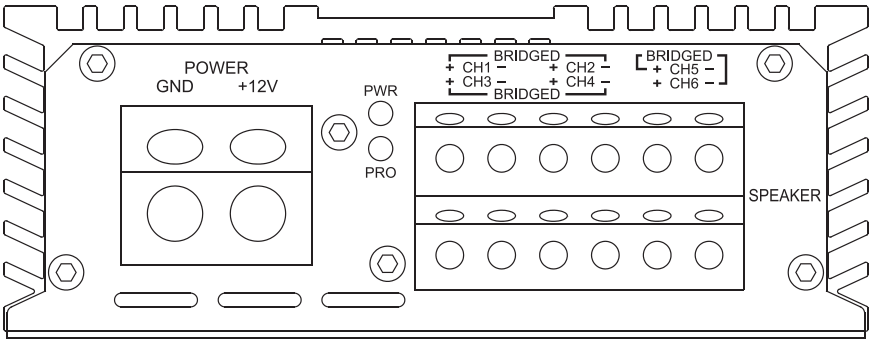
LPF:
Controls the low pass cutoff point for the speaker outputs. Attenuates high frequencies

CH5/6 LPF Switch:
Used for setting up a Bandpass Filter on CH5/6. Set the switch position to 80Hz for subwoofer applications. Set the switch position to FULL for Coaxial applications. Set the switch position to 250Hz for midbass driver applications.

REM:
Connect to a switched +12V cable. Push the tab in to allow the remote turn on wire to be inserted, and then release the tab to secure remote turn on wire.

CONTROL AND CONNECTION FOR FULL RANGE MULTI CHANNEL AMPLIFIERS (D6.500)

POWER PANEL



GND:
Connect to a ground wire going directly to the chassis of your vehicle. Minimum cable size is 4 gauge.

+12V:
Connect to a fused positive cable (+12V) from the battery. Minimum power cable size is 4 gauge.

PWR LED:
Indicates the amplifier is grounded, and receiving +12V and REM power.

PRO LED:
Indicates a general malfunction due to speaker short, faulty connection or thermal protection.

SPEAKER OUTPUT TERMINALS:
Connect to the speaker's + and - terminals. Minimum suggested speaker cable size is 16 gauge.

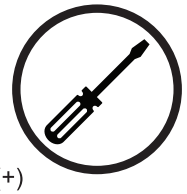
MOUNTING YOUR AMPLIFIER

- Mount your amplifier in a dry, well-ventilated environment.
- Before mounting the amplifier be sure the mounting location and screw placement will not present a hazard to any cables, wiring, fuel lines, fuel tanks, hydraulic lines or other vehicle systems or components.
- Securely mount the amplifier using appropriate hardware so that it does not come loose in the event of a collision or a sudden jolt to the vehicle.
- Do not mount the amplifier to any area that may have excessive vibration (like the subwoofer box).
- Take into consideration your vehicle's safety equipment (air bags, seat belt systems, ABS brake systems, etc.) and avoid interfering with such equipment.

POWERING YOUR AMPLIFIER

Make sure your vehicle's charging system is adequate for the amplifier you're installing. Amplifiers don't make power, they simply convert the current and voltage you give them into wattage. If your charging system is insufficient, your amp will not produce its full rated output. If the current or voltage supply drops too low, even for milliseconds, damage can be caused resulting in amplifier failure. This type of failure is not considered a manufacturer's defect. The addition of even a small amplifier will increase the demand on your charging system. If you are unsure or have questions about your charging system, have it tested by a professional technician to determine its capability.

INSTALLATION



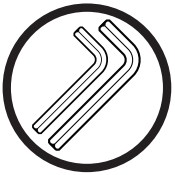
1. Disconnect the negative cable from the car battery.
2. Due to the power requirements of the Amplifier, the +12V connection should be made directly to the positive (+) terminal of battery. For safety measures, install an in-line fuse holder (not included) as close to the battery's positive (+) terminal as possible. The fuse ampere rating should not exceed the total value of the amplifier's rated maximum current draw. If the fuse is further than 18 inches (wire length) from the battery you should re-evaluate the wire and fuse placement.

   Run the power wire from the battery to the amplifier. To avoid a potential short to the body and a possible fire, this cable should never be ran outside of the vehicle. You will also need to make sure no trim screws or sharp body metal will penetrate the power cable shielding. Don't install the fuse yet. This will be the last thing you do.
3. Connect the ground wire directly to the chassis of your vehicle. The grounding location should be made on metal as close to the amplifier as possible. Remove all paint, sound deadener, etc. from the area of grounding connection. Do not use seat belt bolts for grounding. It is advisable to test the ground with an ohmmeter. Test between the grounding point and the negative battery cable to insure a good low resistance connection (<0.5 Ohm).
4. Run the REM Turn-On wire from the an ignition controlled +12V source. This will turn "ON" the amplifier remotely when the vehicle's stereo is turned "ON". NOTE IF YOUR RADIO DOES NOT HAVE A +12 VOLT OUTPUT LEAD WHEN THE RADIO IS TURNED ON, THE AMPLIFIER CAN BE CONNECTED TO AN ACCESSORY CIRCUIT IN THE VEHICLE THAT IS LIVE WHEN THE KEY IS "ON".
5. Run the RCA cables if they will be used for the application or make your high-level signal connections.
6. Run the speaker wire to the speakers. It is advised that you leave some extra wire at this point. You can "clean it up" later.
7. Connect the power and ground to the amplifier. Make sure the polarity (+ and -) is correct to avoid damaging the amplifier. Only after this step should you install the fuse at the battery.
8. Connect the remote wire from the head unit to the amplifier. At this time you should turn on the amp and make sure it turns on properly and does not go into protect.

INSTALLATION *(continued)*

9. Turn the amp off and connect the speaker wire to the amp. Pay attention to the polarity (+ and-). If hooked up incorrectly it can cause poor sound due to phasing issues.
10. Connect the RCA cables or high-level harness to the amp.
11. Double check the amplifier controls to verify they are set correctly for your system.
12. Now you can turn on the system and begin the fine tuning process. Turn the amp gain all the way down. Turn the head unit volume to somewhere around 75%.
13. Now you can tune the amp. Take your time and make only one adjustment at a time. It may take some time to get the system fully adjusted. During this time the amp is drawing current from the battery. You should check the battery voltage from time to time and re-charge it if it gets low. Battery voltage can affect the way the amplifier performs.
14. You may have to do some slight re-tuning at a later date if you are installing new speakers at the same time as the amp due to the speakers breaking in.

TROUBLESHOOTING:



NO POWER

- Check GND connection.
- Check voltage at the amplifier's +12V and REM terminals.
- Check fuses.

NO SOUND (NO OUTPUT)

- Check all cable routing for shorts or faulty connections,
- Check speakers to verify they are in proper operating condition.
- Check all amplifier controls to ensure they are set properly (Gain, Crossovers).

PROTECTION

- SPEAKER SHORT: A connected speaker has a shorted or damaged speaker lead or voice coil.
- THERMAL: The amplifier overheated. The amplifier will automatically return to normal operation once its temperature drops below the thermal shutoff temperature. Make sure there is proper airflow with no obstructions around the amplifier to avoid further issues. In some applications an external fan may be required to keep the amplifier temperature below the thermal protect level.
- OVERLOAD: The connected speaker or speakers have too low of an impedance.
- HI/LOW VOLTAGE: The power input voltage has gone outside the voltage range of 8.5V-16V

DISTORTION

- Make sure the input gain level is set appropriately. Also check the speaker quality when playing on another amplifier.

POOR BASS RESPONSE

- Check speaker cables for reverse polarity of one channel.

TROUBLESHOOTING *(continued)*:

BUZZING SOUND

- Check the amplifier and headunit ground connections.
- Check RCA cable connections and possibly replace RCA cables with better noise shielded cable or reroute RCA cables away from power cables.

WHINING NOISE

- Engine noise can be caused by poor grounding of amplifiers, headunits, signal processors, battery or alternator. If you can remove the signal cables from the amplifier and the noise goes away the sound is not being generated by your amplifier, but by an external grounding issue.

If you have any questions regarding setup, installation or warranty please contact the DD Audio technical support team by email at **service@ddaudio.com** or by phone at **(405) 239-2800**.

DD AUDIO TRUE TO THE SOURCE®

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