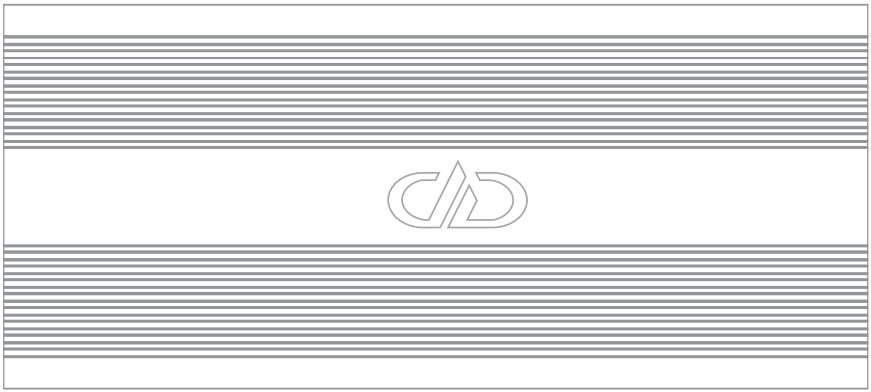
AUDIO®

FULL RANGE CLASS AB AMPLIFIERS

C2.100, C2.150, C4.60, C4.100

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 **C Series** contains full range Class AB multi-channel amplifiers. These amps are engineered for multiple applications: including, low frequency and full range car audio reinforcement. Designed with the goal of being the best amps on the market for the everyday enthusiast, the **C 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 **C Series** circuit design; and utilized efficient power devices, precise thermal management and superior quality components such as high end capacitors and op amps. 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.

C SERIES DESIGN FEATURES:

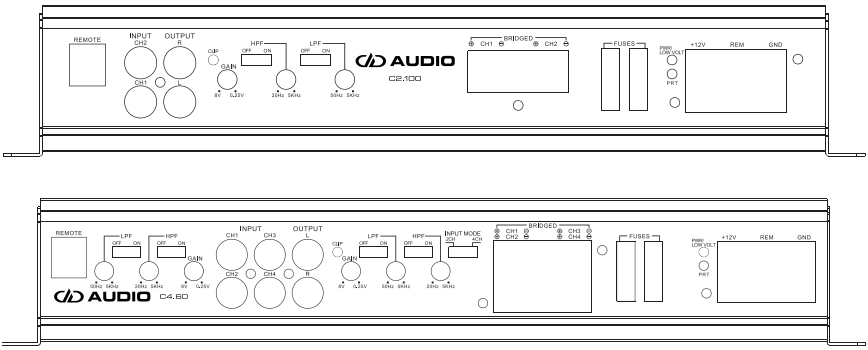
- **MOSFET POWER SUPPLY AMPLIFIER**
- **4 GAUGE POWER TERMINALS**
- **DOUBLE SIDED THROUGH HOLE PCB**
- **CONFORMAL COATED PCB**
- **VARIABLE 12dB/Oct HPF and 18dB/Oct LPF CROSSOVERS**
- **PASS-THROUGH OUTPUT**
- **REMOTE SUBWOOFER CONTROL**
- **INPUT MODE SWITCH (C4.60, C4.100)**
- **4-WAY PROTECTION: Over Voltage, Short Circuit, Thermal, DC Offset**

TECHNICAL SPECIFICATIONS

	C2.100	C2.150	C4.60	C4.100
Test Voltage 14.4V				
Channels	2	2	4	4
Continuous Wattage				
4Ohm	100x2 / 350x1	150x2 / 480x1	60x4 / 180x2	100x4 / 300x2
2Ohm	175x2	240x2	90x4	150x4
1Ohm	NA	NA	NA	NA
Max Current Draw	40A	50A	40A	65A
Frequency Response	20Hz~25kHz	20Hz~25kHz	20Hz-25kHz	20Hz-25kHz
S/N Ratio	86dB	86dB	86dB	86dB
THD	<0.18%	<0.18%	<0.20%	<0.20%
RCA Input Voltage Sensitivity	.25V~8V	.25V~8V	.25V~8V	.25V~8V
Pass-Through Preamp Output	Yes	Yes	Yes	Yes
Remote Subwoofer Control	Yes	Yes	Yes	Yes
Power Wire Gauge In	4	4	4	4
Speaker Wire Gauge Out	12	12	12	12
Dimensions: in	12x7x2	14x7x2	12.5x7x2	14.5x7x2in
Dimensions: mm	308x175x54	348x175x54	318x175x54	368x175x54m

CONTROL AND CONNECTION FOR FULL RANGE MULTI CHANNEL AMPLIFIERS

CONTROL PANEL



REMOTE:
This port is for connecting the remote gain control (sold separately). The Remote feature only works when the HPF and LPF crossovers are set to bandpass mode (both crossovers on). The Remote feature only works for Ch 3&4 on 4ch models.

INPUT:
Used for connecting RCA preamp signal cables from the source unit to the amplifier.

OUTPUT:
Used for connecting RCA preamp signal cables to the RCA inputs of another amplifier.

CLIP:
This LED indicates when clipping is present while playing source material. If the CLIP LED is flashing it also indicates clip limiter is engaging. At this point it is suggested to adjust the amplifier's gain level until the CLIP LED is only flashing on peak bass notes. The clip limiter can be overdriven resulting in possible damage to your speakers and/or the amplifier.

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

HPF (12dB/Oct):
Controls the high pass cutoff point for the speaker outputs.

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

LPF (18dB/Oct):
Controls the low pass point for the speaker outputs.

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.

CONTROL AND CONNECTION FOR FULL RANGE MULTI CHANNEL AMPLIFIERS (*continued*)

INPUT MODE (C4.60,C4.100):
Switches low-level RCA inputs to match the number of source signal outputs available. When switched to 2CH mode all output channels will be powered with only 2 channels of signal. When switched to 4CH mode all low-level inputs will be independent.

SPEAKER OUTPUT:
Connect to the speaker's + and - terminals. Minimum suggested speaker cable size is 16 gauge. Minimum bridged impedance is 4 Ohms.

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

PWR/PRT LED:
When illuminated White indicates the amplifier is grounded and receiving +12V and REM power. When illuminated Red indicates a general malfunction due to Over Voltage, Short Circuit, Thermal, DC Offset or a faulty connection.

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

REM:
Connect to a switched +12V cable.

GND:
Connect to a ground wire going directly to the chassis of your vehicle. Minimum cable size is 4 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, Master/Slave Switch)

PROTECTION

- Possible causes Overheat(thermal), Over Voltage (above 16V), Short Circuit in connected cables, DC Offset, Faulty Wiring.
- If the amplifier shuts down due to overheating, it will automatically return to normal. Operation once the amplifier temperature drops below the thermal shutoff temperature. Make sure there is proper airflow with no obstructions around the amplifier to avoid further.
- Thermal protection. In some cases an external fan may be required to keep the amplifier temperature below the thermal protect level.
- The C Series working voltage is 9V - 15V. When voltage is lower than 8.5V or higher than 16V the amplifiers will not operate correctly.

DISTORTION

- Check speaker cables for reverse polarity of one channel.

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**.

TRUE TO THE SOURCE

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