CLASS D
MONOBLOCK AMPLIFIERS

M2000, M4000, M8000

OWNER'S MANUAL

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.

M SERIES DESIGN FEATURES:

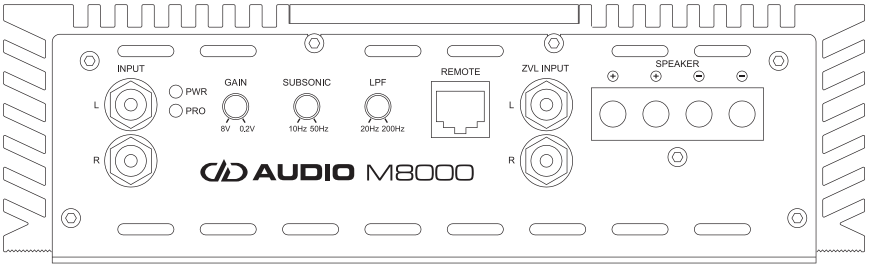
- **0 GAUGE POWER TERMINALS**
- **10 GAUGE SPEAKER TERMINALS**
- **3 OZ. HEAVY DUTY DOUBLE SIDED PCB**
- **VARIABLE 24D/OCT. CROSSOVERS**
- **ZVL INPUT FOR LINKING AND STRAPPING MULTIPLE AMPLIFIERS WITH OPTIONAL ZVL MODULE**
- **CUSTOM VANITY PLATE READY**
- **REMOTE SUBWOOFER CONTROL: LEVEL CONTROL, VOLTAGE DISPLAY, CLIPPING INDICATOR**
- **5-WAY PROTECTION: SPEAKER SHORT, THERMAL OVERLOAD, HI/LOW VOLTAGE, DC OFFSET**

TECHNICAL SPECIFICATIONS

	M2000	M4000	M8000
Operating Voltage	9V-16V	9V-16V	9V-16V
Test Voltage	14.4V	14.4V	14.4V
Channels	1	1	1
Cont Wattage 4 Ohm	1000	1400	3000
Cont Wattage 2 Ohm	1300	2500	5000
Cont Wattage 1 Ohm	2000	4000	8000
Dynamic Wattage 1 Ohm	4000	6000	10,500
Max Current Draw	400	600	1050
RCA Input Voltage Sensitivity	8V-0.2V	8V-0.2V	8V-0.2V
Frequency Response	10Hz-200Hz	10Hz-200Hz	10Hz-200Hz
S/N Ratio	>97dB	>95dB	>92dB
Damping Factor	>400	>400	>400
High Pass Filter	10Hz - 50Hz	10Hz - 50Hz	10Hz - 50Hz
Low Pass Filter	20Hz - 200Hz	20Hz - 200Hz	20Hz - 200Hz
Remote Subwoofer Control	Yes	Yes	Yes
Power Wire Gauge In	1x0	2x0	3x0
Speaker Wire Gauge Out	10	10	10
Dimensions: in	9.5 X 9 X 2.6	13 X 9 X 2.6	17.75 X 9 X 2.6
Dimensions: mm	240 x 230 x 66	330 x 230 x 66	450 x 230 x 66

CONTROL AND CONNECTION FOR M SERIES AMPLIFIERS

PRE-AMP PANEL



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

PWR LED:
Indicates when the amplifier is on and the output is active.

PRO LED:
Indicates a general malfunction due to speaker short, thermal limits, power amp overload, out of operating voltage range, or DC offset.

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

SUBSONIC:
Controls the high pass cutoff point for the speaker outputs by attenuating frequencies below the selected frequency. This helps to eliminate extremely low frequencies that can waste amplifier power and cause damage to your subwoofers.

LPF:
Controls the low pass cutoff point for the speaker outputs by attenuating frequencies above the selected frequency.

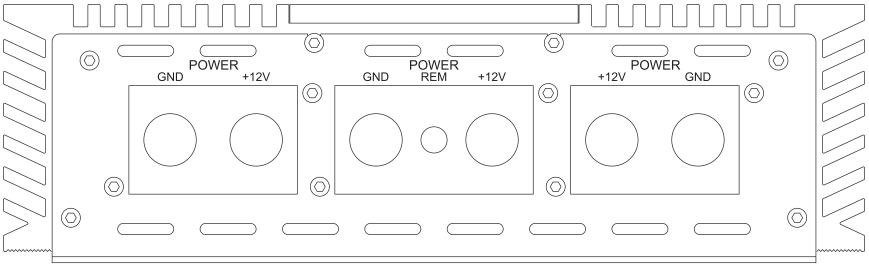
REMOTE:
This port is for connecting the included remote control.

ZVL INPUT:
Used when the amplifier is installed in conjunction with a ZVL module. The ZVL module will allow you to link or strap multiple amplifiers while synching their preamps. When using the ZVL INPUT the amplifier's gain control and crossovers will have no effect on the audio.These functions will be controlled by the ZVL module's settings. **Do not simultaneously connect signals to the INPUT and the ZVL INPUT**.

SPEAKER:
Connect to the speaker's + and - leads. Minimum suggested speaker cable size is 12~10 gauge. M Series amplifiers have two + and two - terminals for easier connection of multiple speaker cables. **Minimum connected impedance is 1 Ohm**.

CONTROL AND CONNECTION FOR M SERIES AMPLIFIERS

POWER PANEL



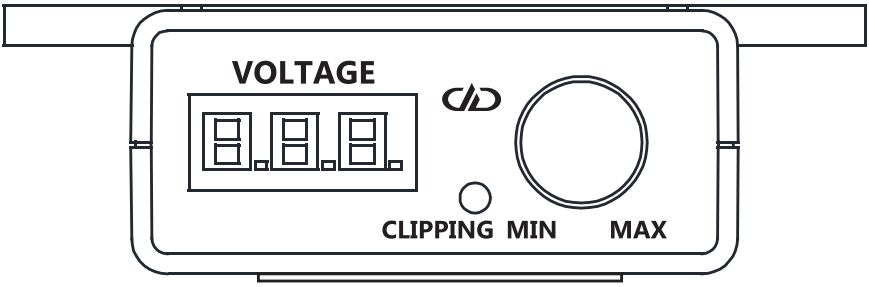
GND:
Connect to a ground wire going directly to the chassis of your vehicle. Minimum cable size is 0 gauge.

REM:
Connect to a switched +12V cable.

+12V:
Connect to a fused cable from the positive terminal of your battery. Minimum power cable size is 0 gauge. Refer to the technical specifications for the usable voltage range and maximum current draw for your model of amplifier.

NOTE: It is required to run separate 0 gauge power cables to each power terminal. Not doing so will result in decreased performance and possible damage to the amplifier.

REMOTE CONTROL



Connect the remote control to the REMOTE port on the amplifier with the supplied 8-pin patch cable.

VOLTAGE:
Displays the charging system voltage being delivered to the amplifier.

The voltage display will need to be calibrated after installation using the following steps.

1. With the amplifier turned on use a multimeter set to DC Voltage to determine the resting voltage at the amplifier's power terminals.
2. Use the provided remote adjustment screwdriver to rotate the adjustment screw on the topside of the remote to adjust the displayed voltage up or down until it matches the voltage reading on your multimeter.

CLIPPING LED:
Illuminates red when the amplifier is being overdriven. When illuminated the user should decrease the volume to avoid damage to the speakers and/or amplifier. The CLIPPING indicator is calibrated to be as precise as an oscilloscope allowing for easy amplifier setup and real time clip monitoring.

MIN/MAX:
Controls the amplifier's output level. MAX level will be determined by the gain setting on the amplifier or ZVL module.

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

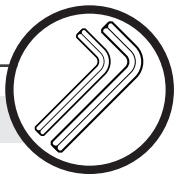
1. Disconnect the negative cable from the car battery.
2. Due to the power requirements of any aftermarket amplifier, the +12V connection should be made directly to the positive (+) terminal of the battery. For safety measures, install an in-line fuse (not included) as close to the battery's positive (+) 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's mounting location. To avoid a potential short to the body and a possible fire, this cable should never be run 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 a ground wire directly to the chassis of your vehicle. The grounding location should be made on metal as close to the amplifier as possible and should be no longer than 3 feet from your amplifier's mounting location. 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. Determine the proper turn on/off method for your installation. For some amplifiers REM will be the only option.
   - REM: If there is a Turn On Mode selector set it to REM then run an 18 gauge wire from an ignition controlled +12V source. This will be connected to the REM terminal on the amplifier and used to turn "ON/Off" the amplifier remotely. Generally this will connect to the REM output of your source unit.
   - DC Offset: Set the amplifier Turn on Mode to DC and proceed to step 5.
   - Signal Sense: Set the amplifier Turn On Mode to SE and proceed to step 5.
5. Run RCA signal cables from your signal source.
6. Run the speaker wire from the speakers to be powered to the amplifier's mounting location. It is advised that you leave some extra length of wire at this point to ensure there is enough wire to easily make your connections once the amp is mounted. You can "clean it up" later.
7. Connect the power and ground wires 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.

INSTALLATION *(continued)*

8. Connect the remote wire to the amplifier. At this time you should turn on the amp and make sure it turns on properly.
9. Turn the amplifier off and connect the speaker wires 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 signal cables.
11. Double check the amplifier's crossover controls to verify they are roughly set for your system application. E.g. subwoofer, tweeters, midrange.
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%. While playing a musical track, similar to the content that will most commonly be played on the system, turn the GAIN or SENS up until you see the corresponding clipping indicator on the amplifier or the remote gain knob begin to flash on the music.
13. 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. Low battery voltage can affect the way the amplifier performs.
14. If installing the amplifier with new speakers you may notice a slight change in your sound due to the natural breaking in of your speakers. At this time you may want to do some slight re-tuning to optimize your systems performance.

TROUBLESHOOTING:



NO POWER

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

NO SOUND (NO OUTPUT)

- Check the signal cables and speaker outputs with a test tone, 50Hz (sub amps) or 1kHz (full range), and AC Voltmeter to see if there is voltage present at the output of the signal cables.
- Check all cable routing for shorts or faulty connections.
- Check speakers to verify they are in proper operating condition.

PROTECTION (MOST COMMON CAUSES)

- 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 protection level.
- OVERLOAD: The connected speaker/s has too low of an impedance.

HI/LOW VOLTAGE: The power input voltage has gone outside the voltage range of 9V-16V.

- DC Offset: There is a damaged transistor in the output section.

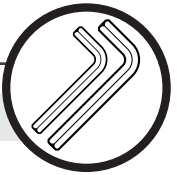
DISTORTION

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

POOR BASS RESPONSE

- Check the crossover sections for incorrect settings and check the speaker cables for reversed polarity connections.

TROUBLESHOOTING *(continued)*:



BUZZING SOUND

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

ALTERNATOR / ENGINE NOISE

- This type of noise is caused by grounding issues. This can be related to the amplifier, source unit, signal processor, 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 can feed a signal into the amp from an external source unit and the noise is not present the sound is not being generated by your amplifier.

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**.

AUDIO TRUE TO THE SOURCE®

4025 NW 36th St., Oklahoma City, OK 73112 • (405) 239-2800

DDAUDIO.COM | YouTube |