



DCM1204

Pristine sound, brute power and no-fault reliability make the DCM amps the power amp of choice for pro audio. Designed for continuous operation. Massive Toroid power supplies with huge capacitors deliver the bass that kick drums demand -- you will feel the deep, resonating beat.

Mechanically the DCM's are more rugged than the import amps that are so prevalent today. Each DCM is hand built at our San Diego factory featuring all steel construction, recessed controls and heavy-duty power components. The rock-solid, efficient design with its superb, testimonial-proven sound, makes the USA built DCM an amp you'll own for years.

### PURE—TRANSPARENT SOUND

Carvin considers the sound of an amp equally important as its reliability. To insure pure, uncolored sound, we designed one of the fastest power stages on the market today. High slew rates of 50v/μs deliver superb transient response. High frequencies are transparent and open—even at extreme levels. Linear feedback circuits reduce distortion to near the theoretical zero limit, preventing any type of harshness which would lead to ear fatigue. The DCM Series amps deliver flat, transparent, unaltered sound—especially important to the studio user. And you can drive any type of reactive loads, including 70V transformer distribution systems. These amps are designed to deliver non-stop, continuous RMS power and are completely protected from heat and short circuits.

### ULTRA RUGGED FOR TOURING

Every chassis is made from heavy-duty 16 gauge steel that is plated before painted to prevent rust. All internal cabling is neatly tied and harnessed. Every circuit card is FR-4 MILITARY SPEC, double-sided, through-hole plated, fire retardant glass epoxy. This insures that the solder flows on the top, bottom and through each hole of every component, preventing components from shaking loose. Speakon™ connectors, heavy-duty power switches, recessed knobs, all give the DCM amps a "tank-like" ruggedness.

### TOROID POWER SUPPLY

Toroids deliver massive amounts of "on demand" current for continuous operation. This gives the power supply a solid foundation, yielding more headroom for the large subwoofer applications. Not only do toroids deliver high current, but they are known for reducing stray magnetic fields eliminating hum & noise. This is especially important for the recording industry.

### MODULAR CONSTRUCTION

With the DCM Series, Carvin brings you totally modular construction. If you ever need an I/O (input/output) connector card because a connector wore-out, just unplug it and re-install the replacement card in minutes. You don't have to de-solder anything. This applies to every aspect of the DCM Series amps including the power supply, power cards, heat sinks and fans. Everything is connected by heavy-duty AMP™ and MOLEX™ type connectors for easy replacement—even the Toroid transformer is a total plug-in.

### DISTORTION-FREE LIMITERS

The purpose of a limiter is to hold down peaks so the amp won't distort even with extra hot input signals (this protects your expensive speakers). In addition, a well designed limiter can increase your amp's average output as much as 3 db. Part of Carvin's design uses the more expensive, distortion-free linear "opto isolators". Unlike amps that use FET controlled limiters which can inject small amounts of distortion, the DCM Series limiters keep your sound pure and uncolored!

### FRONT PANELS & CONNECTING UP

The DCM Series feature front panel signal, peak and protect LEDs which let you monitor the status of the amp. All channels use precision level controls allow-

ing you to see your settings at a glance. Balanced 1/4" phone jacks are used to eliminate hum & noise. Speaker outputs feature 1/4" jacks and high-current Twist-Lok connectors.

The rear professional accessory group offers a GROUND switch to remove the chassis ground from the 1/4" input. Two Parallel input switches connect the inputs of channels together eliminating Y connectors allowing amp patching in multiple amp systems. The accessory group also features a bridge mode switch for delivering full power into a 70V distribution system and a limiter ON/OFF switch that gives you the choice of using the internal limiter circuitry.

### RECEIVING INSPECTION—read before getting started

INSPECT YOUR UNIT FOR ANY DAMAGE which may have occurred during shipping. If any damage is found, please notify the shipping company and CARVIN immediately.

SAVE THE CARTON & ALL PACKING MATERIALS. In the event you have to re-ship your unit, always use the original carton and packing material. This will provide the best possible protection during shipment. CARVIN and the shipping company are not liable for any damage caused by improper packing.

SAVE YOUR INVOICE. It will be required for warranty service if needed in the future.

SHIPMENT SHORTAGE. If you find items missing, they may have been shipped separately. Please allow several days for the rest of your order to arrive before inquiring.

RECORD THE SERIAL NUMBER on the enclosed warranty card for your records. Keep your portion of the card and return the portion with your name and comments to us.

USA customers register online at: [www.carvin.com/registration](http://www.carvin.com/registration)

All other countries register online at: [www.carvinworld.com/registration](http://www.carvinworld.com/registration)

### POWER AMP SPECIFICATIONS:

MODEL	DCM1204
<b>Both Channels RMS Continuous</b>	
4Ω (20-20k Hz, <1.0%)	300/300/300/300w
8Ω (20-20k Hz, <1.0%)	200/200/200/200w
<b>Bridged RMS Continuous (ch 2-3)</b>	
8Ω (20-20k Hz, <1.0%)	600w
<b>THD (Typical—1/2 power):</b>	0.03%
<b>Damping Factor:</b>	>350
<b>Slew Rate:</b> bridged mode	>50v/μs
<b>Sensitivity:</b> (4Ω, Vms)	1.0 V
<b>Signal to Noise Ratio:</b>	Above 100dB
<b>Frequency Response:</b>	±0.5 dB, 20 Hz to 20kHz (±1.5 dB, 10 Hz & 40 kHz)
<b>Input Impedance:</b>	>20K Ω, balanced
<b>Power Requirements:</b>	120VAC 15 Amp circuit minimum 240VAC 8 Amp circuit minimum

**Fuse Internal**-above AC cord : 25AMP slow blow

**Protection Circuits:** Short Circuit • No Load Protection • SpeakerGuard™ • Thermal Shut-Off • Mute On/Off

#### Control and Indicators:

**Front:** Power switch • Recessed attenuators • Signal LED • Clip LED • Protect LED • Power Indicator

**Rear:** Ground Lift (each channel) • Parallel Input Switches • Speaker Output Bridge Switch • Limiters IN/OUT Switch • Input Connectors: Four; Balanced 1/4" • Speaker Output Connectors: Three high-current Twist-Lok (one bridged) & four 1/4" connectors

**Dimensions:** 3 1/2" High x 19" Wide x 10" Depth (2-space)

**Net Weight:** 23 lbs.

# FRONT & REAR PANEL CONTROLS



## FRONT PANEL

### 1. MOUNTING

Sturdy one piece 12 gauge steel face plate accommodates standard 19" rack installation. The rack mounting holes are designed on ISO standard spacing. Four 10-32 x .5" phillips machine screws are normally used to secure the amp. Rear support brackets are not required.

### 2. POWER SWITCH

Check the power amp connections and verify the AC line power source before engaging the POWER switch. The yellow LED unmistakably indicates that all circuits are properly powered up. Yellow is used so the operator can see the red indicators (clipping or protect) from a distance.

### 3. CHANNEL LEVEL CONTROL

A precision input LEVEL attenuate is used to adjust the volume levels. To deliver the amps maximum power without reducing the headroom of the signal source, the level controls should be turned full on.

### 4. CHANNEL SIGNAL INDICATOR

The green SIGNAL LED indicators will flash when there is a signal passing to your speakers (-30dBu). This lets you know when the amp is passing a signal to your rear speaker connectors.

### 5. CHANNEL CLIP INDICATOR

The red CLIP LED indicators will flash when each channel has reached its maximum output. Occasional flashing caused by lower bass frequencies is OK. However, consistent flashing caused from higher frequencies may damage high frequency drivers (excessive distortion). This does not cause damage to the amp.

### 6. COOLING VENTS/FAN

Upon rack installation, the rear of the amp must be fully exposed to room temperature air. The surrounding air should not be warmer than 120° or the thermal protection could activate the PROTECT LED. The front cooling vents are not to be restricted from exhausting the warm air.

### 7. PROTECT LED INDICATOR

The red PROTECT LED provides the operator with information about the status of the amplifier. The PROTECT LED can come on under 3 different conditions (when this happens both channels are muted by disconnecting the output speaker relays protecting your speakers):

- 1) During power-up, the amplifier stays in a muted state for approx. 3 sec until it determines that everything is functioning normally (no output shorts or over temp conditions).
- 2) All four channels are muted when the output load draws excessive current or a direct short is detected caused by a shorted speaker cable or speaker system. Reset this condition by turning the amp off for two seconds and then on again. Check for shorted cables and the total speaker system impedance connected to each channel (4 ohms is the minimum per ch or 8 ohms BRIDGED).
- 3) Overheating is usually determined when the amp stops in the middle of a performance and the PROTECT LED comes on. If this is the cause, leave the amp on for the fan to cool the amp down. The amp will automatically reset within 1 to 3 minutes and the PROTECT LED will turn off when ready. Check for the following conditions: a) The rear intake air is restricted, b) The intake air is extremely warm, c) The front exhaust vents are restricted, or d) Excessive speaker load (try other speakers or remove speakers if you have more than one connected to each channel). Again, the minimum impedance is 4 ohms per ch or 8 ohms BRIDGED)

## REAR PANEL

### 8. Balanced 1/4" PHONE JACK INPUTS

This stereo 1/4" phone jack is designed to receive either balanced or unbalanced input signals. Balanced signals coming into this jack should be wired with the connector's tip going to signal + and the connector's ring to signal -. The connector's sleeve is tied to ground through the GROUND LIFT switch.

### 9. PARALLEL OR "Y" INPUT SWITCHES 1-2, 3-4

The rear PARALLEL switches allow you to drive two channels from one input. All signals from ch 1 or ch 2 will be available on channels 1&2, likewise channels 3&4. This eliminates Y adapter. This feature is also used to "daisy chain" one piece of equipment to another. Just plug into the unused INPUT 1/4" and it will become an output for other equipment.

### 10. INPUT GROUND LIFT

Many times sound systems are connected in such a manner to cause a grounded loop with the inputs which result in audible hum. The input GND LIFT (1/4") switch on the rear panel will help eliminate this problem. If not, another way to eliminate ground loops is to install Carvin's MTF55 "Ground Lifter" between the amplifier input and the signal source. This isolates the input ground from the AC power ground.

### 11. LIMITERS

To activate the LIMITERS, engage the rear limiter switch. The built-in optio isolator limiters are recommended to hold down peaks that could cause early distortion. These limiters will help to rise the average power so that you can get more output from each channel. To check the effectiveness of the limiters when the channel starts to distort (under the amps full output), engage the limiters and hear the reduction of the distortion. If the distortion stops, you can turn the channel up for more power. The lower bass frequencies are most affected. **WARNING:** Do not check in an environment where the sound level could damage your ears!

### 12. SPEAKER 1/4" OUTPUTS

The standard 1/4" SPEAKER jacks are offered for lower power applications. Speakon™ connectors are provided for high power application. Secure the Speakon™ connection by turning to the right. The center Speakon™ is for Bridge only. Turn the amp off before connecting your speakers.

### 13. SPEAKER OUTPUTS SPEAKON™

Speakon™ connectors are provided for high power application. Secure the Speakon™ connection by turning to the right. The center Speakon™ is for Bridge only. The wiring of the three Speakon™ connectors are:

First connector from the left:	Channel 1 pin 1+ pos. Pin 1- neg. Channel 2 pin 2+ pos. Pin 2- neg.
Center connector: (for bridging only)	CH 2-3 bridge pin 1+ pos. Pin 1- neg. not used pin 2+ Pin 2-
Third connector from the left:	Channel 4 pin 1+ pos. Pin 1- neg. Channel 3 pin 2+ pos. Pin 2- neg.

This arrangement allows biamp connections with the out side Twist-Lokconnectors (see stereo biamping) and stereo plus a high power bridged subwoofer with all three Twist-Lok connectors (see stereo plus subwoofer).

### 14. BRIDGE MODE—25V/70V DISTRIBUTION SYSTEMS

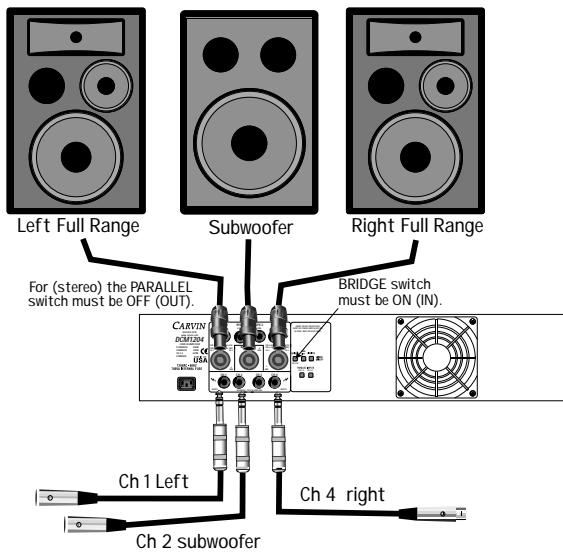
The "DCM" Series can be operated in bridge mode if you require a 25V / 70V distribution speaker system or a high powered mono (single channel) amp. With your amp off, push "IN" the rear (recessed) BRIDGE switch after you have made your connections with the bridge Speakon™. The 1/4" speaker jacks can not be used at the same time! Select carefully or damage may result to your speakers. This is why the switch has been recessed. The INPUT and LEVEL is handled by channel 2. Channel 3 is non-operational. The minimum speaker impedance is 8 ohms or a 25V distribution line. **CAUTION:** The power developed by bridging your amp can destroy most speaker systems! Make sure your speaker(s) are of the proper impedance and power handling.

### 15. AC POWER

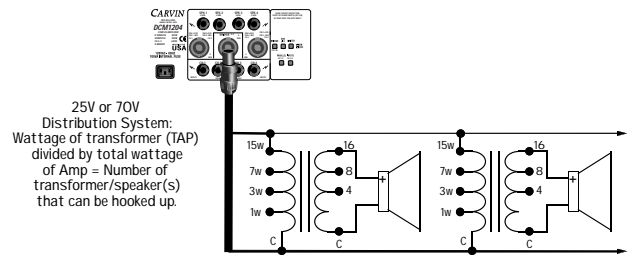
Your amp is designed to run on either 120V 60 Hz or 230V 50Hz depending on the model purchased. The voltage range for 120V model is 95V to 132V and for 230V model it is 195V to 253V. The rear heavy-duty AC receptacle will accept a standard grounded AC cord that is designed your country. Be sure to check your power source before plugging into a grounded (3 prong) outlet. Never defeat the grounded connection or electrocution may result! Firmly push the AC cord all the way into its receptacle. In the case of a blown fuse; unplug the amp, remove the lid and replace the 20 amp fuse located in the back corner above where the AC cord connects to the circuit board.

Note: Each amp will require a dedicated 20 amp circuit if you are driving the amp to its full output. There will be a sustained loss of power if the AC voltage is below the rated 120V or 230/240V so be sure you use a heavy gauge power cable (and source).

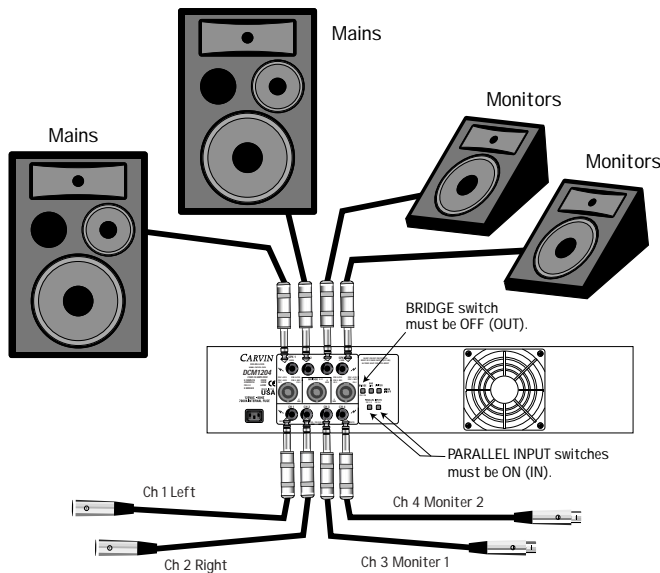
# TYPICAL STEREO SETUP WITH BRIDGED MONO SUBWOOFER



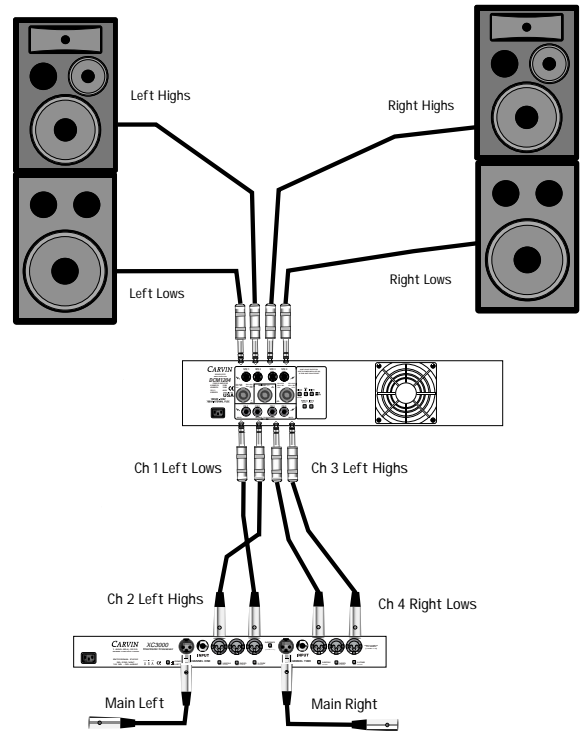
# 25V OR 70V DISTRIBUTION SYSTEM



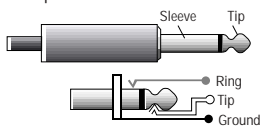
# STEREO MAINS & TWO MONITOR MIXES



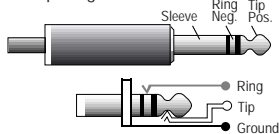
# STEREO BIAMPING



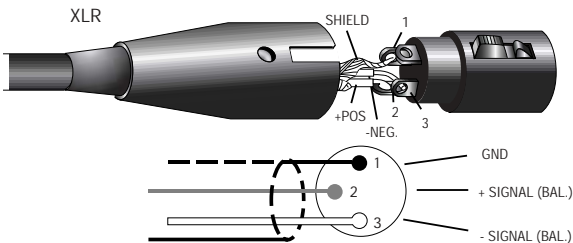
TS 1/4" Unbalanced Tip-Sleeve



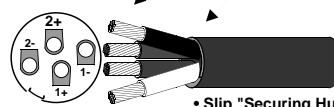
TRS 1/4" Balanced Tip-Ring-Sleeve



XLR

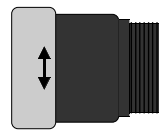


Solder tinned wires 1/4"  
Strip cable insulation back 3/4"

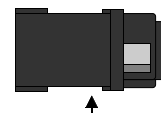


# Speakon™

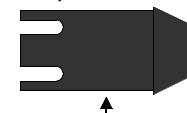
- Slip "Securing Hub" then "Cable Clamp" over cable before attaching wires.
- Connection Configuration:
  - Black (1+) / positive
  - White (1-) / negative } Channels 1-4
  - Red (2+) / positive
  - Green (2-) / negative } Channels 2-3
- Solder wires in contacts or use hex screws provided.



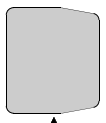
Twist-Lok Housing



Contact Insert



Cable Clamp



Securing Hub

# HELPFUL HINTS

- 1) NO SOUND FROM CH 3: The rear BRIDGE switch has been inadvertently pushed in.
- 2) STEREO CHANNELS SOUND THE SAME: The rear PARALLEL switch has been inadvertently pushed in.
- 3) NO HIGH FREQUENCIES: Tweeters or midrange drivers have been damaged or blown from feedback or overpowering.
- 4) SYSTEM HUM: Try switching the GND LIFT switch IN or OUT (depending on your use). If hum is not eliminated, then install Carvin's MTF55 "Ground Lifter" between the amplifier input and signal source. This isolates the input ground from the AC power ground.
- 5) POOR SOUND (BASS): The speaker systems are wired out of phase to each other. To correct, reverse the wires on one speaker connector only and your sound, especially bass response will improve.
- 6) Note: Each amp will require a dedicated 20 amp circuit if you are driving the amp to its full output. There will be a sustained loss of power if the AC voltage is below the rated 120V or 230/240V input.

