



DCM1001

The DCM1001 professional Dual Graphic amp was designed utilizing Carvin's 37 years of experience in power amp & equalizer technology. The DCM1001 is ideal for monitor set-ups because its small size, light weight, high power, and EQ capabilities allow you to use only one piece of gear in place of two or three. This saves you work, rack space, and money. The thick steel face plates, large recessed knobs, and heavy-duty steel chassis reflect the manufacturing quality within. All models carry the CE approval for world-wide use.

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 responding power amps on the market today. High slew rates greater than 45v/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 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 galvanized before being painted to prevent rust. All internal cabling is neatly tied and harnessed. Every circuit card is MIL SPEC, double-sided, through-hole plated, fire retardant FR-4 glass epoxy. This insures that the solder flows on the top, bottom and through each hole of every component, preventing components from shaking loose—even through constant tour use. Heavy-duty XLR connectors, power switches, recessed knobs, steel front panels all give the DCM amps a "tank-like" ability to handle rough, touring transport.

TOTALLY MODULAR

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.

HEAVY-DUTY COOLING

Carvin offers up to 30% more cooling than comparable amps rated at the same wattage. This means that the DCM Series are thermally "over-engineered" to be sure heat will never be a concern. Even outdoor concerts in direct sunlight will not cause thermal shut down. Carvin uses precision 6063 T-5 aluminum high ratio heat sinks that are extruded for massive amounts of cooling. High efficiency, multi-speed fans cool your amp quietly.

LOSE THE WEIGHT...NOT THE PERFORMANCE

For some companies weight reduction means cost reduction. Carvin however, uses expensive TOROID transformers to reduce weight. Toroids deliver massive amounts of "on demand" current for continuous 2 ohm operation. This gives the power supply a solid foundation, yielding more headroom for the largest subwoofer application. 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.

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 or below on this manual 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

All other countries register online at: www.carvinworld.com/registration

DISTORTION-FREE LIMITERS

While most amps do not offer built-in limiters, this is an important feature to look for. 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 PANEL & CONNECTING UP

The DCM Series feature front panel signal, peak and protect LEDs which let you monitor the status of the amp. Both channels use precision level controls allowing you to see your settings at a glance. Balanced 1/4 phone & XLR input jacks are used to eliminate hum & noise. Speaker outputs feature 1/4" jacks, high current Twist-Lock & heavy-duty binding posts that accept up to a 50 amp #7 speaker wire.

The rear professional accessory group offers a GROUND switch to remove the chassis ground from the XLR input, a Parallel input switch connects the inputs of both channels together eliminating Y connectors and 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.

DCM1001 POWER AMP SPECIFICATIONS:

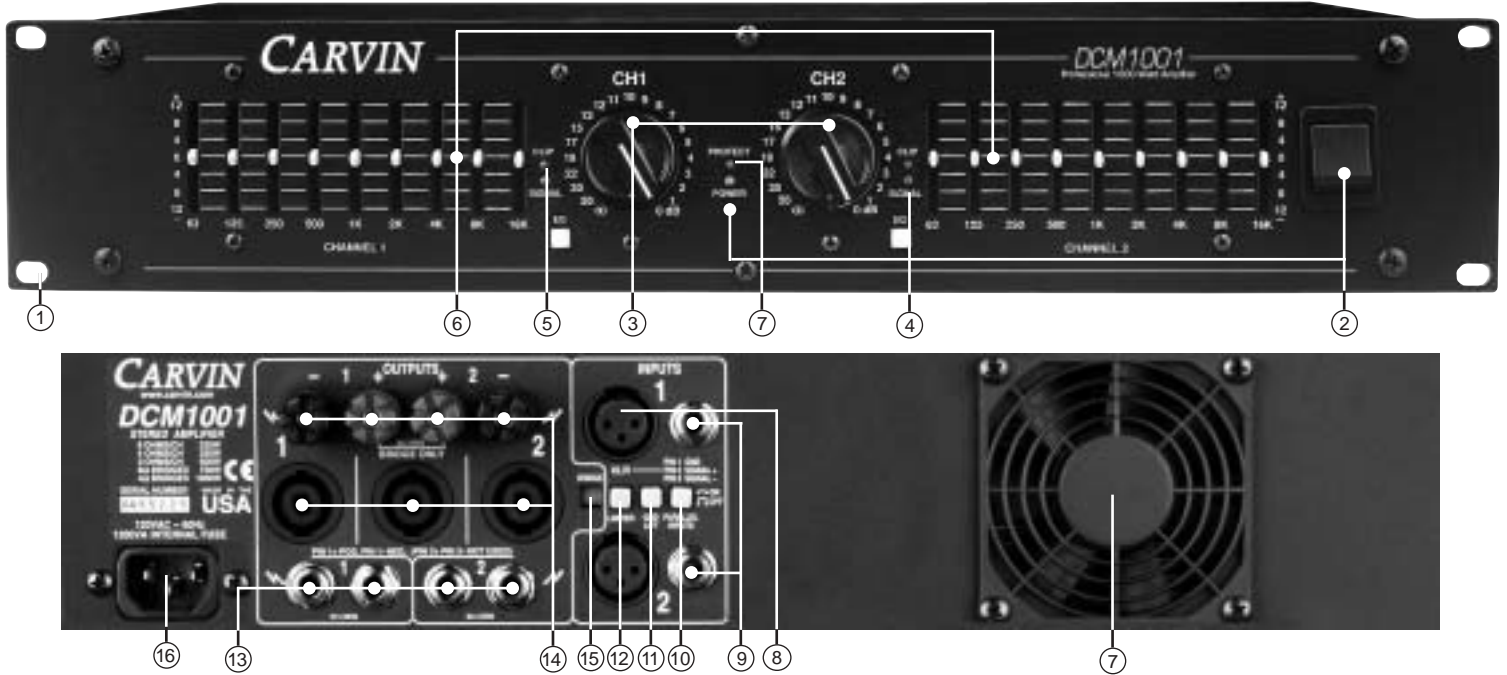
MODEL	DCM1001
Bridged RMS Continuous 4Ω (20-20k Hz, <0.4%)	1000w
Both Channels RMS Continuous 2Ω (20-20k Hz, <0.2%)	500/500w
4Ω (20-20k Hz, <0.2%)	350/350w
8Ω (20-20k Hz, <0.2%)	225/225w
THD (Typical):	0.03%
Damping Factor:	>400
Slew Rate: bridged mode	>45v/μs
Sensitivity: (4Ω, Vms)	1.0 V
Signal to Noise Ratio:	Above 100 dB
Frequency Response:	±0.5 dB, 20 Hz to 20kHz (±1.5 dB, 10 Hz & 40 kHz)
Input Impedance:	>20K Ω, balanced
Dual 9 band EQ's	±12 dB @ 63, 125, 250,000 1k, 2k, 4k, 8k & 16kHz
Protection Circuits:	• Short Circuit • No Load Protection • SpeakerGuard™ • Thermal Shut-Off • Mute On/Off
Control and Indicators:	
Front:	• Power switch • Recessed detent attenuators • Signal LED • Clip LED • Protect LED • Power Indicator
Rear:	• Ground Lift • Parallel Input Switch • Speaker Output Bridge Switch • Limiters IN/OUT Sw • Input Connectors: Two each: Balanced XLR & 1/4" • Speaker Output Connectors: Dual heavy-duty binding posts, four 1/4" phone jacks, and three Twist-Lock connectors.
Dimensions:	3 1/2" High x 10" Depth x 19" Wide (2-space)
Net Weight:	25 lbs.

For your records, you may wish to record the following information.

Serial No. _____ Invoice Date _____



FRONT & REAR PANEL CONTROLS



FRONT PANEL

1. MOUNTING

A sturdy one piece 12 gauge steel face plate accommodates easy transporting along with facilitating 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/INDICATOR/FUSE

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. If the yellow power LED does not light up, remove the lid and replace the fuse located in the back corner where the AC cord connects to the circuit board. (DCM1001: 25AMP slow blow)

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 start to flash when there is a signal passing to your speakers (-30dBm). 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 start to 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. DUAL 9-BAND GRAPHIC EQUALIZERS

Controlling feed-back in a monitor system and fine tuning your sound are easy with the DCM1001's two on-board EQ's. For feed-back, find the offending frequency and push the slider down to cut the level of that frequency, thus allowing more gain (volume) before feed-back. For tone control, move the sliders up or down from their center detent positions to suit your taste. USE THE IN/OUT SWITCHES TO BYPASS THE EQ'S.

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) Both 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 (2 ohms is the minimum per ch or 4 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 2 ohms per ch or 4 ohms BRIDGED)

REAR PANEL

8. XLR CHANNEL INPUTS

For most professional applications, use the XLR balanced inputs. This will help to reduce hum and allow of longer cable runs from your signal source (mixer, etc). Because this is a balanced input, the gain will be 6 dB higher than using the 1/4" input jack with non balanced lines. XLR pin configuration: Pin 1: Grounded through the GROUND LIFT switch, Pin 2: positive Balanced signal and Pin 3: negative Balanced signal.

9. 1/4" CHANNEL INPUTS

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

10. PARALLEL OR "Y" INPUTS

The rear PARALLEL switch allows you to drive both channels from either input. All signals entering any input will be available on both channels. This eliminates Y adapter cables. This feature is used to "daisy chain" one piece of equipment to another. Just plug into the unused INPUT (1/4" or XLR) and it will become an output for other equipment.

11. INPUT GROUND LIFT

Many times sound systems are connected in such a manner to cause a grounded loop with the inputs that result in audible hum. The input GND LIFT (1/4" & XLR) switch on the rear panel will help eliminate this problem. If not, another way to eliminate ground loops is to install a "line matching" transformer between the amplifier input and the signal source and cut the ground wire to PIN 1.

12. LIMITERS

To activate the LIMITERS, engage the rear limiter switch. The built-in professional limiters are recommended to hold down peaks that could cause early distortion. Limiters will help to raise 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!

13. SPEAKER OUTPUTS

The standard 1/4" SPEAKER jacks are used for lower power applications. The Twist-Lok connections are used for higher power and bridged applications. 12 Gauge Twist-Lok speaker cables are an industry standard for high powered connections. Turn the amp off before connecting your speakers.

14. TWIST-LOCK & BINDING POSTS SPEAKER OUTPUTS

Use the rear BINDING POSTS or TWIST-LOCKS as an alternate high powered connection. Wire sizes up to 7 gauge (50 amps) can be inserted into the binding post "side holes". Larger cable can be used with "banana" plugs which plug into the end of the binding posts (remove red caps). Binding posts are spaced on ISO standards. Use the two center RED binding posts for BRIDGE speaker connections (see 15 BRIDGE MODE). Use 12 GA cable for Twist-Lok connection. Insert cable and twist to lock into place. Use center Twist-Lok connector for BRIDGING speaker connections. **NOTE: REMEMBER TO PUSH IN "BRIDGE" BUTTON WHEN BRIDGING.**

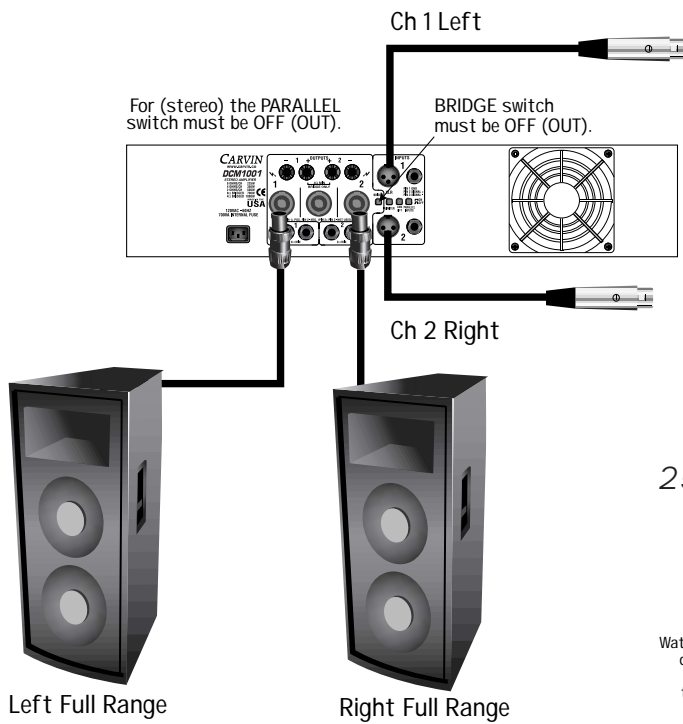
15. BRIDGE MODE—25V/70V DISTRIBUTION SYSTEMS

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. Use the center Twist-Lok speaker output or make your speaker connections to the center RED binding posts (ch 1 is + and ch 2 is -). No other speaker connectors or binding posts can to be used at the same time!". The INPUT and LEVEL is handled by channel 1. Channel 2 is non-operational. The minimum speaker impedance is 4 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.

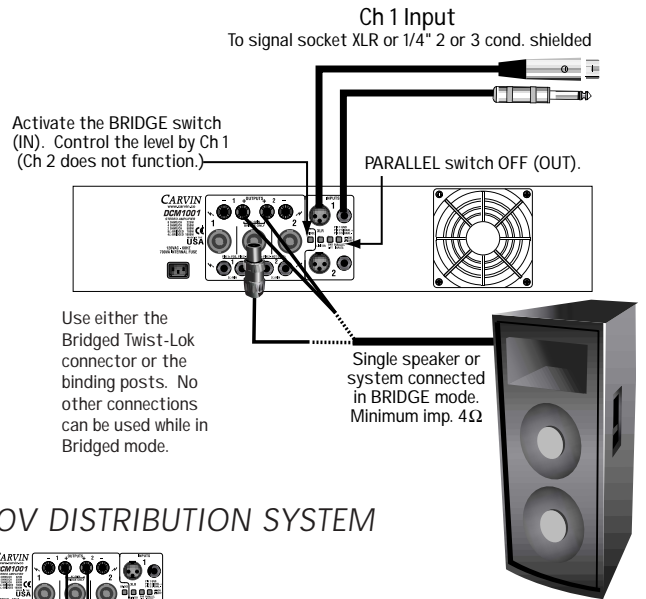
16. AC POWER

Your amp is designed to run on either 120V 60 Hz or 240V 50Hz depending on the model purchased. The voltage range for 120V model is 95V to 132V and for 240V model it is 195V to 253V. The rear heavy-duty AC receptacle will accept a standard grounded AC cord that is designed for 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.

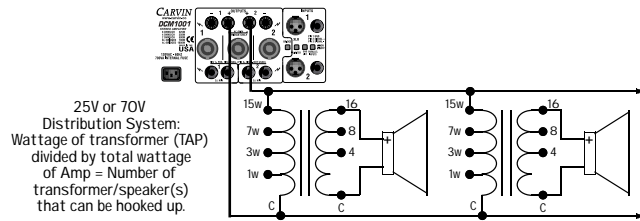
TYPICAL STEREO SETUP* (OR MONO BI-AMP)



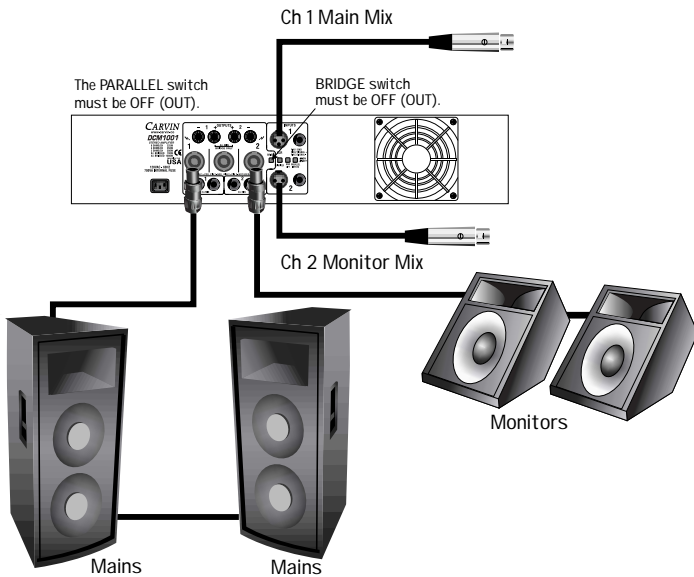
BRIDGE MONO



25V OR 70V DISTRIBUTION SYSTEM



MONO MAINS & MONITORS



TYPICAL DUAL MONITOR MIX SETUP

