

Carvin

DCM301**DCM151**

Pro Line Professional Amplifiers

Please Read Before Operating Your Carvin Power Amplifier

UNPACKING

Carefully remove the amplifier by opening the carton and holding the carton flaps out. Turn the amp upside down and lift the carton off. Now turn the amp right-side up. In the event the amp is moved or re-shipped "ALWAYS" use the original carton and packing material. If not, structural damage could deface the unit where Carvin or the Shipping Co. will not be liable. A replacement carton is available for \$12 freight pre-paid. SAVE ALL PACKING MATERIALS!

INSPECTION

Inspect the unit for damage that may have occurred in transit. If damage is found, notify the transportation company immediately, and file a damage claim. The claim must be instituted by yourself, the consignee. Save all cartons for proof of damage. Please notify Carvin of any damage done.

AMP SET-UP — Do Not Turn On Yet!

The Carvin Power Amp is designed for "table top" or "rack mounting". The Four rubber feet may be removed if amps are to be stacked in a rack.

Sufficient airflow must be provided, since air is drawn through the rear and exhausted through the side vents. The rack must have an open back. Do Not Operate the amplifier with the cover off (this will defeat the cooling system).

AMP POWER-UP

Connect the required input and speaker cables. Use the Input Mode Switch chart on the next pages to determine the proper mode switch to select for the amps desired function. Turn the A & B GAIN Controls down. Turn the amp ON and listen for the speaker relay to click on. Now turn the Gain Controls up and you should be running.

- IMPORTANT**
- A. Do Not use Shielded or Coax cables for speakers.
 - B. Read paragraph 11 about Speaker Output Fusing.
 - C. Use your amplifier with common sense. This amp delivers enough power to harm any speaker.

AMP CIRCUIT DESCRIPTION

The Carvin Professional Series Amplifier is one the most advanced designs currently on the market.

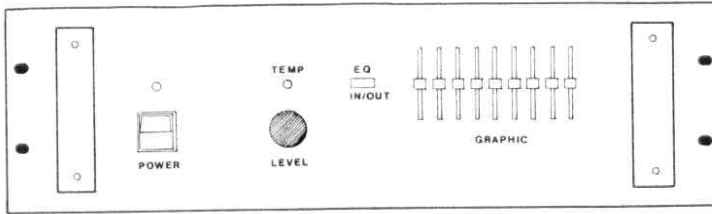
The output stages use the most advanced D.C. circuitry along with a darlington Op-Amp input, featuring a 50 volt/per micro-second slew rate, for a sound second-to-none leaving no coloration of its own. Also, this Op-Amp input holds the D.C. offset voltage with-in several micro-volts at all times to prevent small amounts of D.C. at the output which could affect the operation of your speakers.

The large geometry power base output transistor stage will drive Electrostatic speakers or other highly reactive speakers with no difficulties. An A.C. capacitor on the front end blocks any D.C. voltage that could cause damage to speakers.

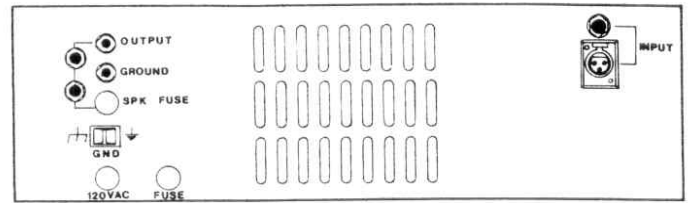
The mechanical design of your new amplifier is unlike ordinary amplifiers. The anodized heat-sinks and power transistors are modular designed to facilitate easy removal for servicing or exchange. Carefully thought-out wiring design incorporates military-type wire harnesses with Heavy-Duty pin connectors. All P.C. boards are ridged G10 fiberglass. The reinforced 16 guage steel chassis and anodized aluminum front panel offer exceptional structural reinforcement.

Your Carvin amp is designed to give years of trouble-free service. If you have further questions about your amp or need hook-up assistance, please call or write us.

Amplifier Operation



Front Panel



Rear Panel

FRONT PANEL

1. **POWER SWITCH** Push for ON.

2. **The TEMPERATURE INDICATOR**, when lighted, indicates overheating. The thermostatic sensor will turn the amp off. In about 30 sec. to 3 min. the sensors will automatically reset, and the amp is ready to use again. If the sensors trip again, this may indicate A) Speaker loads below rated speaker impedance of amp. B) Shielded or incorrect size speaker cables being used. C) Inadequate ventilation around the amp. Note: On hot day, do not use the amp in direct sunlight. Always place in the shade.

3. **THE GAIN CONTROL** allows the operator to adjust the sensitivity of the power amp to match the mixer output levels. This Gain control does not limit the amps output. Maximum output can be easily obtained at settings less than Full On. To properly adjust the Gain control: set amplifier Gain to zero, set mixer or pre-amp master volume at mid position and raise amplifier Gain for maximum volume desired. After adjustment, use mixer or pre-amp master volume control to control the power amplifier. Note: This usually gives the best signal-to-noise ratio.

4. **EQUALIZER DEFEAT SWITCH** To use the equalizer, push the switch to the "In" position. If the equalizer is not used, set the switch to the "Out" position. Once the switch is selected for the "Out" position, the equalizer is removed electrically from the amps circuit to give the amp a flat response. This switch also allows for good comparisons between equalized settings and the natural flat response of your program material.

5. **GRAPHIC EQUALIZER** A 9 Band Graphic Equalizer has been optimized for sound reinforcement which includes the tuning of all frequencies from 30Hz to 20K Hz. Precise 1 octave bands are set at 60, 125, 250, 500, 1K, 2K, 4K, 8K, and 16K Hz. Boost and Cut is set at a maximum of 15dB which is more than enough for average adjustments.

Operation: When all slider knobs are centered along the "zero line", the equalizer has no effect. By raising any slider off the zero line, that portion of the audio spectrum (1 octave wide) is boosted. Likewise, lowering the slider from the zero line reduces the power in that particular band. The left hand sliders control the lower frequencies (bass) and the right sliders control the high frequencies (treble). The middle sliders control the mid-frequencies.

REAR PANEL

6. **LINE CORD** All Carvin equipment is supplied with 3-conductor line cords, ending in grounding type plugs. This arrangement will greatly reduce the possibility of electrical shock when used with proper 3-conductor outlets.

7. **The GROUND SWITCH** enables the operator to remove the A.C. Line ground off the chassis. This totally isolates the amps ground system. Select this switch for the most quiet hum position.

8. **PRIMARY FUSE.** All Carvin Professional amplifiers are wired for 120 VAC and are fused at 5 amps.

9. **FAN** A computer-grade fan is incorporated in your amplifier to allow running at maximum power output in a rack cabinet without thermal shut-down. Note: After a period of time, the fan bearings may loosen up, yielding slightly more fan noise. This is normal.

10. **SPEAKER OUTPUT** The amplifier's output has two Phone Jacks (wired in parallel) along with a Dual 25 amp Banana plug. Red denotes Positive and Black denotes negative speaker outputs.

11. **OUTPUT FUSE** An output fuse is offered for added speaker protection. However, the 10AGC fuse supplied with your amp is too large to protect any speaker. This large value is supplied because some speaker systems like Carvin have their own protection. If you wish protection, remove the 10AGC and install the following suggested fuse values.

- A. $\frac{3}{4}$ AGC Fuse for Horn Drivers up to 50 Watts (Bi-Amped).
- B. 1AGC Fuse for Horn Drivers up to 50 Watts using a Passive Crossover.
- C. $2\frac{1}{2}$ AGC Fuse for Woofer rated between 100 and 150 Watts.
- D. $2\frac{1}{2}$ AGC Fuse for 2 or 3 Way speaker system rated at 100 Watts.

These approximate fuse values are for 8 Ohm speakers. Double all fuse values when paralleling speakers together.

CAUTION This amplifier is powerful enough to damage any speaker. The above fuse recommendations can only be used as a guide. Your requirements may be different.

PROCEED WITH CAUTION: WE ASSUME NO RESPONSIBILITY FOR ANY DAMAGE DONE TO SPEAKERS REGARDLESS OF CIRCUMSTANCE.

12. **INPUT** Your amplifier will accept either a Balanced Line through the D3F connector or an Unbalanced Line through the Phone Jack. The D3F Connector Wiring: Pin 1 is Ground, Pin 2 is Negative Bal., Pin 3 is Positive Bal. The Balanced circuit features a transformerless Differential Amplifier designed for balanced lines down to 150 Ohms. Impedances as high as 50,000 ohms can also be used but with some loss of high frequencies. The transformerless design incorporated offers superior THD and Frequency Response over conventional inputs.

Specifications

DCM301 OUTPUT POWER (Monaural)

- 8 Ohms: 100W RMS Continuous @ .05% THD
125W RMS Continuous @ .25%
4 Ohms: 150W RMS Continuous @ .05% THD
180W RMS Continuous @ .25%
2 Ohms: 275W RMS Continuous @ .09% THD
300W RMS Continuous @ .25%

DCM151 OUTPUT POWER (Monaural)

- 8 Ohms: 70W RMS Continuous @ .05% THD
80W RMS Continuous @ .25%
4 Ohms: 100W RMS Continuous @ .05% THD
125W RMS Continuous @ .25%
2 Ohms: 140W RMS Continuous @ .09% THD
160W RMS Continuous @ .25%

FREQUENCY RESPONSE: At Full Power; 20Hz to 20K Hz +0 -1 dB
At ½ Power; 5Hz to 50K Hz +0 -1 dB

SLEW RATE: 25 Volts per micro-second

HUM and NOISE: 100 dB below rated output

INPUT SENSITIVITY: 2.1 volts for maximum power output

OUTPUT IMPEDANCE: Especially designed for impedances down to 2 Ohms for adding up four 8 ohms Monitors per amp.

DAMPING FACTOR: Greater than 10K Ohms

POWER REQUIREMENTS: 120 Volts A.C. 50-60 Hz

DIMENSIONS: 5¼ inch by 19 inch standard rack front panel by 12 inches deep

WEIGHT: DCM301 30 lbs.
DCM151 26 lbs.

LIMITED WARRANTY

Your Carvin Professional Series Product is protected against failure for 1 YEAR. Carvin will service the unit, supply all parts, and pay the RETURN shipping charges at no charge to the customer providing the unit is under warranty. At no time will Carvin pay for Servicing or Parts except our own.

This warranty is extended to the original purchaser only (not transferable) and does not cover failures by incorrect use, inadequate care of unit, or natural disasters.

Carvin takes no responsibility for any horn driver or speaker damaged by this unit.

This warranty is in lieu of all other warranties, expressed or implied, and no representative or person is authorized to represent or assume for Carvin any liability in connection with the sale or servicing of Carvin products.

FACTORY SERVICING

We highly recommend utilizing our specialized servicing staff to bring your unit up to factory specifications. For Factory servicing "In" or "Out" of Warranty follow these requirements:

1. Call us TOLL-FREE 800-854-2235 for a return authorization number. Write this number on the shipping carton.
2. Inclose a full description of the malfunction. State whether or not the unit is under warranty.
3. Return the amp in its original carton. Neither Carvin nor the Shipping Co. is liable for damage caused by improper packing. Ship by United Parcel Service if possible. The shipment must be pre-paid by the customer.
4. Allow 5 working days for servicing plus shipping time to and from destination.
5. Carvin will pre-pay the shipping (by United Parcel) back to you providing the unit is under warranty. If you wish return shipment by AIR, you will be required to pay the difference COD.
6. If your unit is out of warranty, you will be charged a modest fee (generally lower than repair shops). You will also be required to pay the return shipping charges. These charges will be collected COD.

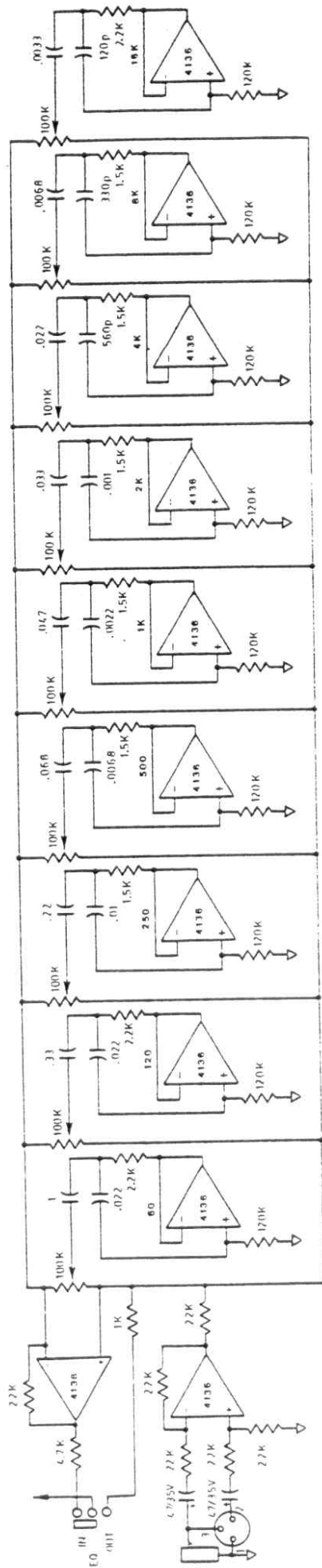
SERVICING IN YOUR AREA

You may select your own service center or have your qualified technician work on the unit at your own expense. This will not void the warranty for future repairs by us unless damage was done because of improper servicing or components. If damage was done, a normal fee for parts and servicing will be charged.

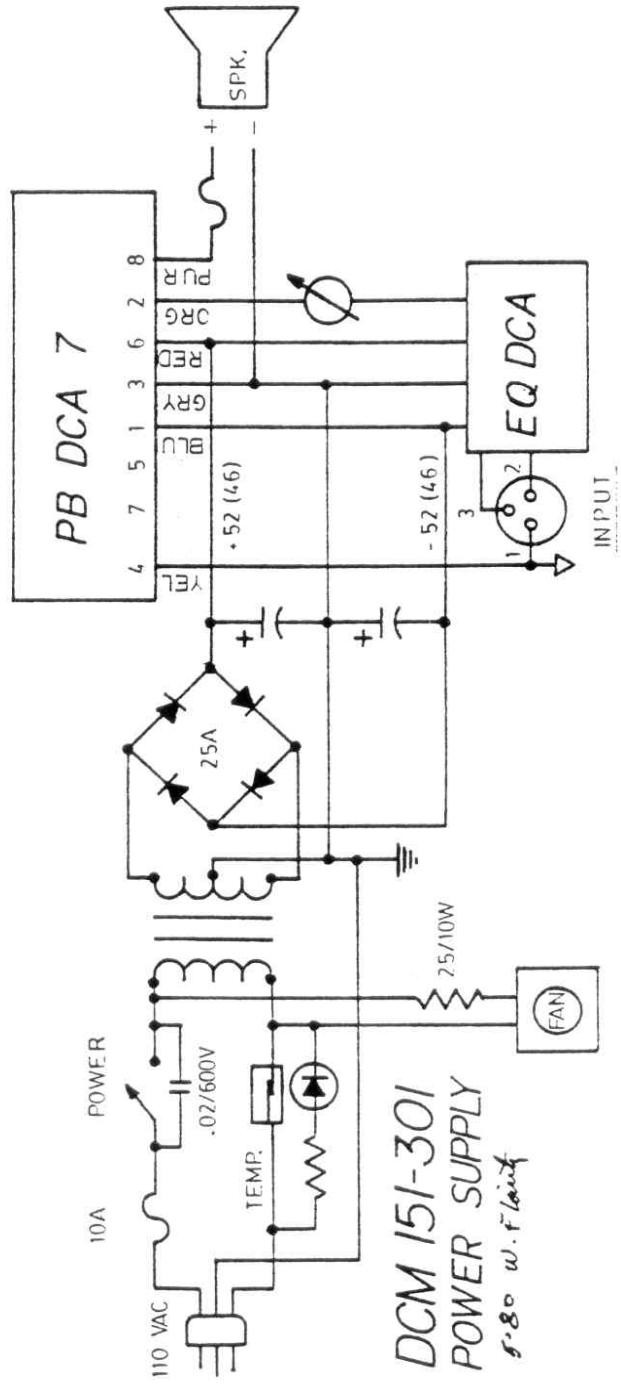
Under the 1 Year Warranty, Carvin will ship parts pre-paid to you or your technician providing the defective part(s) are returned first for our inspection.

If you do not have a qualified service person, we ask that you don't involve yourself in servicing the unit. By sending the unit back to us, you may save time and money in the long run, plus your unit will be factory serviced.

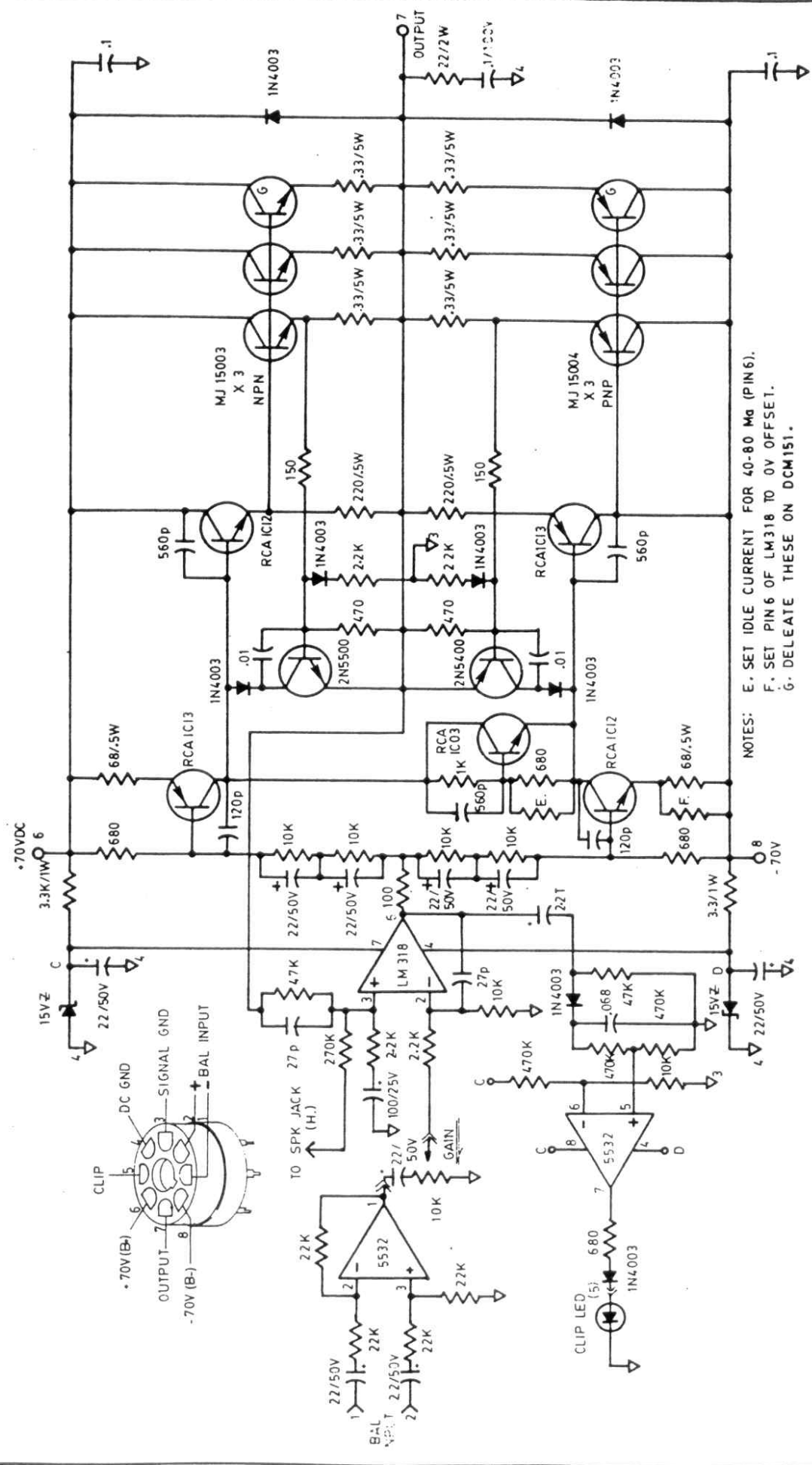
Reminder: Carvin Does Not Pay for other Servicing or Parts except our own — No Exceptions. If you elect to have your own servicing done, these bills must be paid by you.



EQ 9A GRAPHIC EQ 2/80 w. Flair



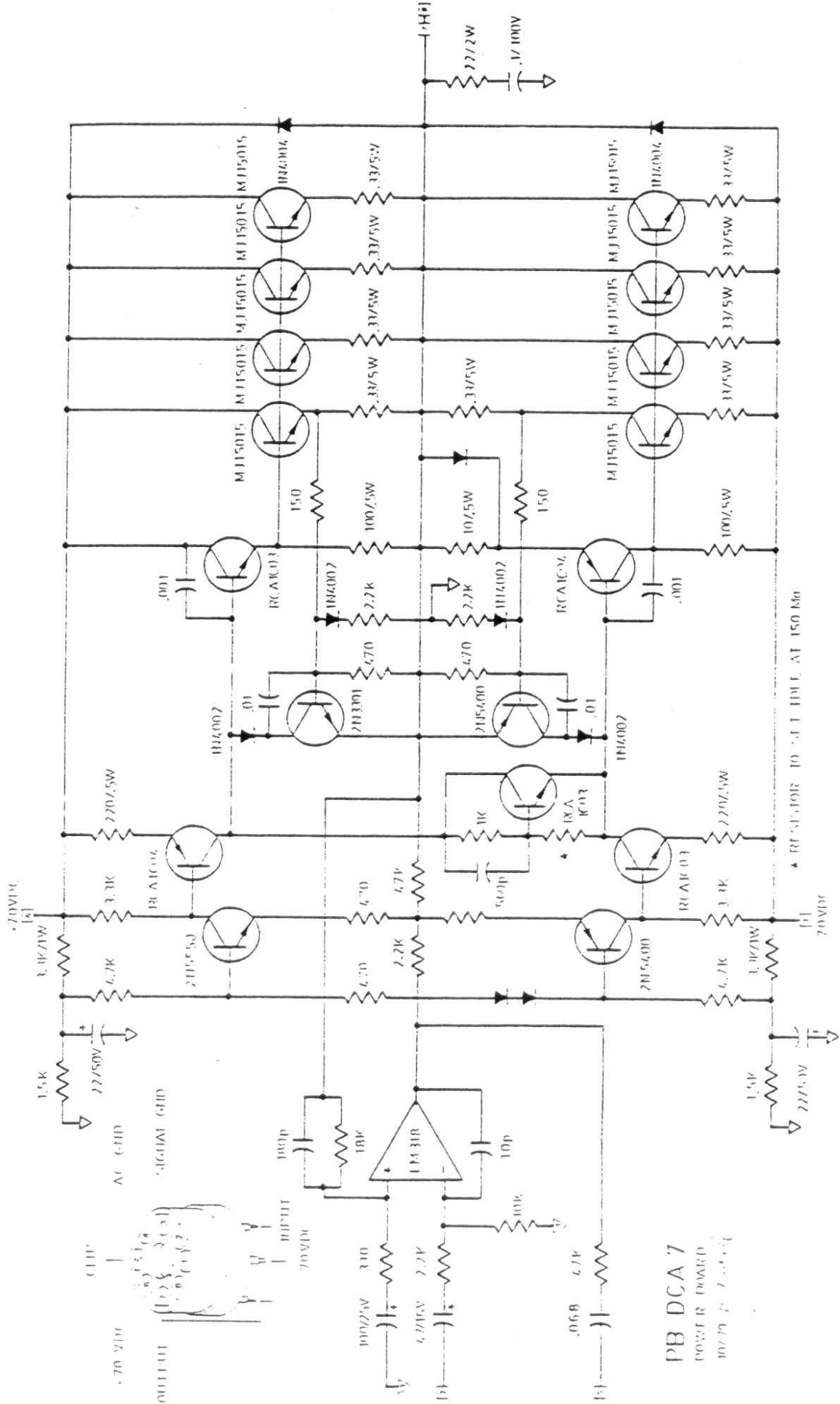
DCM 151-301 POWER SUPPLY 5-80 w. Flair



NOTES:
 E. SET IDLE CURRENT FOR 40-80 Ma (PIN 6).
 F. SET PIN 6 OF LM318 TO 0V OFFSET.
 G. DELETE THESE ON DCM151.

REVISIONS	DATE
	1-20-81
	DRAWN BY K. F. [Signature]

CARVIN CO
 MODULAR POWER AMP ASS'BY
 DCM151 DCM301
 PC BOARD # PB DCA 8



PB DCA 7
 POWER BOARD
 10/70 2/7 100/5W

* RESISTOR TO SET TIME AT 150 KHz

