

Carvin

**M600
MIXING
CONSOLE**

owner's manual

- **INTRODUCTION**
- **WARRANTY**
- **SPECIFICATIONS**
- **CONTROLS**
- **CARE**
- **SERVICING**

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CARVIN MFG. CO.

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CONGRATULATIONS! You have just purchased a Carvin product, the best value on the market today. Before operating, we suggest you read this manual through completely, to acquaint yourself with all the functions and features at your disposal.

Your Carvin equipment has been carefully packed in rugged corrugated boxes with corner blocks to insure the best possible shipping conditions. Remove the equipment carefully from the packing container.

At this time, the equipment should be visually inspected for damage by shipping abuse. If any damage is located, the transportation company should be notified immediately, and a claim made against the damages. A copy should be sent to Carvin.

Your Carvin Product is one of the highest quality units available. With modest effort, it can be kept looking that way. A quick weekly cleaning is usually all that is required.

All vinyl surfaces can be kept in new condition by using one of the popular furniture polish/spray-wax products.

A new, inexpensive paint brush is an excellent investment for dusting the knobs and chassis as well as the heat-sinks or tubes.

The paint brush also does a fine job in cleaning the dust from gille cloth material.

Stubborn dirt may be removed with a tissue moistened in common rubbing alcohol.

Heavy vinyl covers are available for all Carvin equipment, and are strongly recommended for maximum protection against dirt, dust and abuse.

SETTING UP

Set all Faders (slider controls located along the bottom of the front panel) to the lowest position—"∞". Set the 10 sliders of the Graphic Equalizer to "0" (mid-position). Set the "HI 10K Hz" and "LO 100 Hz" controls on each channel to mid-position. Turn all remaining controls, fully counter-clockwise.

On the front panel, push the POWER rocker switch off. Plug power amplifier or tape system into MAIN OUTPUT (using either 1/4" phone jack or D3F connector). Alternatively, with the MP1000, speakers may be connected directly to the SPEAKER OUTPUT jack.

NOTE: DO NOT PLUG SPEAKERS INTO ANY JACK OTHER THAN THE SPEAKER OUTPUTS, OR DAMAGE WILL RESULT!

Plug the microphones or other input sources into either the D3F or 1/4" phone jack of the 10 Channel inputs.

Uncoil the AC line cord, and plug into a standard, 3-conductor grounded-type outlet. Push the white rocker POWER switch upward, and note that the V.U. Meters light up. The mixer is now ready for use.

SPECIFICATIONS

- INPUTS** 6 Channels. Switchcraft D3F Connectors to accept 150-600 Ohms Low Impedance Balance and Unbalanced Inputs. ¼" Phone Jacks for High-Impedance Inputs.
- CHANNEL ATTENUATION** Mic/Line Pad. Continuously variable from 0 to -35 dB attenuation. Will accept up to 4.5 VAC (+ 15 dBM). Accommodates high output tape recorders, synthesizers, etc. as well as instruments and misc.
- C.M.R.R.** Typically 75dB
- CHANNEL EQUALIZATION** Precision R/C shelving circuitry at 100 Hz and 10K Hz. ± 12 dB boost and cut. Center position "Flat"
- REVERB/EFFECTS BUS** Individual channel potentiometers for buss send to built-in Hammond Reverb System and Effects Out Jack. Effects output is .775 VAC nominal at 10K Ohms. Input is .775 VAC nominal.
- CUE BUS** Individual channel potentiometers for buss send to master cue.
- CHANNEL FADERS** Viscous-dampened slider potentiometers. "0 to ∞" reference guide. Log Taper for professional fades.
- MAIN OUTPUT** Viscous-dampened slider potentiometer. Log taper for professional fades. Nominal output is 4.5 VAC (+ 15 dBM) at 600 Ohms. Switchcraft D3F Connector and standard ¼" Phone Jack.
- CUE OUTPUT** Viscous-dampened slider potentiometer. Nominal output is 4.5 VAC (+ 15 dBM) at 600 Ohms.
- MASTER EFFECTS** Separate control of effects receive. Nominal input is .775VAC.

POWER AMPLIFIER POWER OUTPUT: 160 Watts RMS minimum
(MP600 only) at 2 Ohms — 125 Watts RMS minimum at 4 Ohms. HARMONIC and INTERMODULATION DISTORTION: Less than .1% at Full Power. S/N RATIO: Better than 80 dB SPEAKER OUTPUT IMPEDANCE: 2 thru 16 Ohms. Two Standard Speaker Jacks are provided (Wired in Parallel). FREQUENCY RESPONSE: 20 Hz to 40,000 Hz \pm 1 dB. POWER TRANSISTORS: 4 Premium RCA 150 Watt devices mounted on 320 square inches of finned Aluminum Heat Sinks.

SIZE 23"W \times 20½"D \times 11"H.

LED OVERLOAD INDICATOR..... set for 100 mv signal at low impedance (D-3F) input.

CHANNEL IDENTIFICATION

INPUTS (Rear Panel)

150-600 OHMS INPUT

A Switchcraft D3F Connector is located on the rear panel to accept both balanced and unbalanced sources of impedances ranging from 150 Ohms to 600 Ohms. Most moderate and expensive microphones are low-impedance types, and should be used with this input. Studio lines rated at 600 Ohms may also be used.

Carvin's unique input preamplifier presents a true balanced load to the input source device-microphone, low impedance tape deck lines, etc. Typical Common Rejection Ratios of 72 dB insure that any hum induced in microphone "snakes" or cables in excess of 100 feet will be reduced to inaudibility. Ground loop problems should be non-existent when proper care is taken to connect all low impedance microphones correctly (follow manufacturers instructions).

HIGH IMPEDANCE INPUT

This ¼" phone jack is found directly below the D3F Connector. All medium and high-impedance sources will use this input. Such sources include tape decks, electric guitars, organs and high-impedance microphones.

CONTROLS (Front Panel)

MIC/LINE PAD

The top control of each channel is an input attenuator which allows both small and large input signals at either of the two inputs. Through proper use of this feature, any voltage source from 1 mv to over 4 Volts can be accommodated without distortion.

The input pad controls the amount of the original signal that is presented to the input stage. Normally, this control should be left at 0 dB (fully counter-clockwise) so as to pass the full signal. However, when using sources that produce high voltages, the input stage will be overdriven and will cause distortion. Such high voltages are produced by guitars, organs and synthesizers, tape decks, and condenser microphones. If distortion occurs, try reducing the CHANNEL FADER. If the distortion is not eliminated, then the input stage is being overloaded, and the MIC/LINE PAD must be utilized. (Note: This test is valid assuming that the original source itself is not distorted. Naturally, no manipulation of the mixer will eliminate distortion inherent in the input signal.)

For stage work and live performances, rotate the MIC/LINE PAD clockwise until the distortion is no longer audible. For more critical applications such as recording, advance the control at least 5 dB more; this will allow some headroom for peaks. Bear in mind that advancing the PAD more than necessary will begin to degrade the signal-to-noise ratio.

LED OVERLOAD INDICATOR

Each channel incorporates a led overload indicator designed to indicate an over of each input preamplifier. The L.E.D. will light when the low impedance input is greater than 100 mv R.M.S. (A very high microphone level.)

SERVICING SECTION

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POWER AMPLIFIER

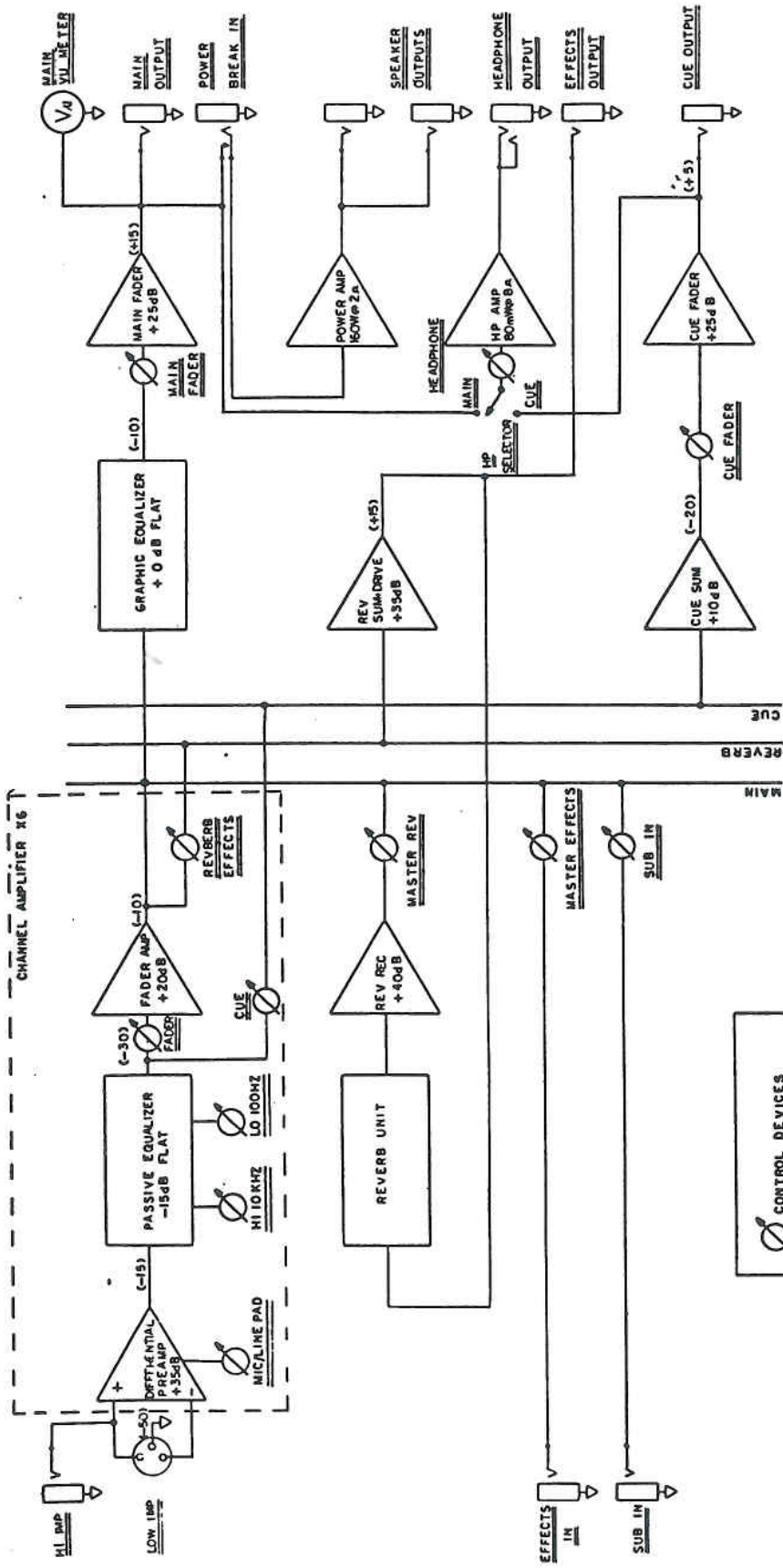
The power amplifier uses "state of the art" output devices in a quasi-complementary configuration. The differential pair consisting of Q1 and Q2 provides first stage amplification and establishes the D.C. offset. Q3 and Q4 are current sensing devices that continuously sample the output drive current at the collector of Q11 and the emitter of Q10 and conduct when this current exceeds a prescribed limit. When the transistors conduct, they instantly reduce the drive to Q6 and Q7 thus reducing the output power to proper levels. Massive heat sinking keeps the premium silicon power transistors well within heat and dissipation limits.

In the event that servicing becomes necessary, repack the equipment as carefully as possible in the original shipping carton. (If this is no longer available, extra care should be used to provide maximum shipping protection). Include a note describing the nature of the malfunction in full detail. The note may be affixed to the unit with masking tape. Return the equipment via truck lines or other reputable shipping service.

Allow up to 5 days for factory servicing, and from 10-20 days shipping time.

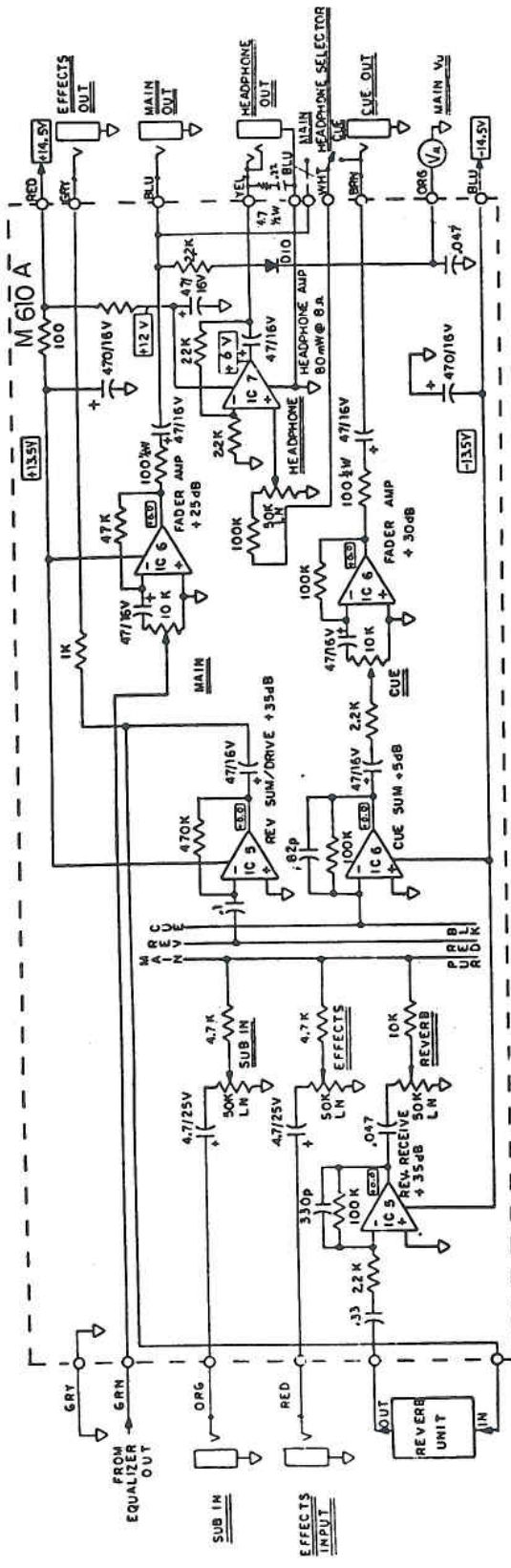
LED OVERLOAD INDICATORS

A single transistor switch is utilized on any channel. The output of the input preamplifier is reduced to the switching level of the led indicator driver. When a prescribed D.C. voltage is exceeded. The transistor switch conducts, pulling the cathode of the led toward ground and lighting the led.



CONTROL DEVICES
 () DECIBEL (dB) LEVELS
 WITH CONTROLS FULL
 ON AND -50dB INPUT

REVISIONS	DATE	CARVIN MUSIC CO	
	8-26-77	MP600	
	DRAWN BY	BLOCK DIAGRAM	
		<i>W. Flinch</i>	



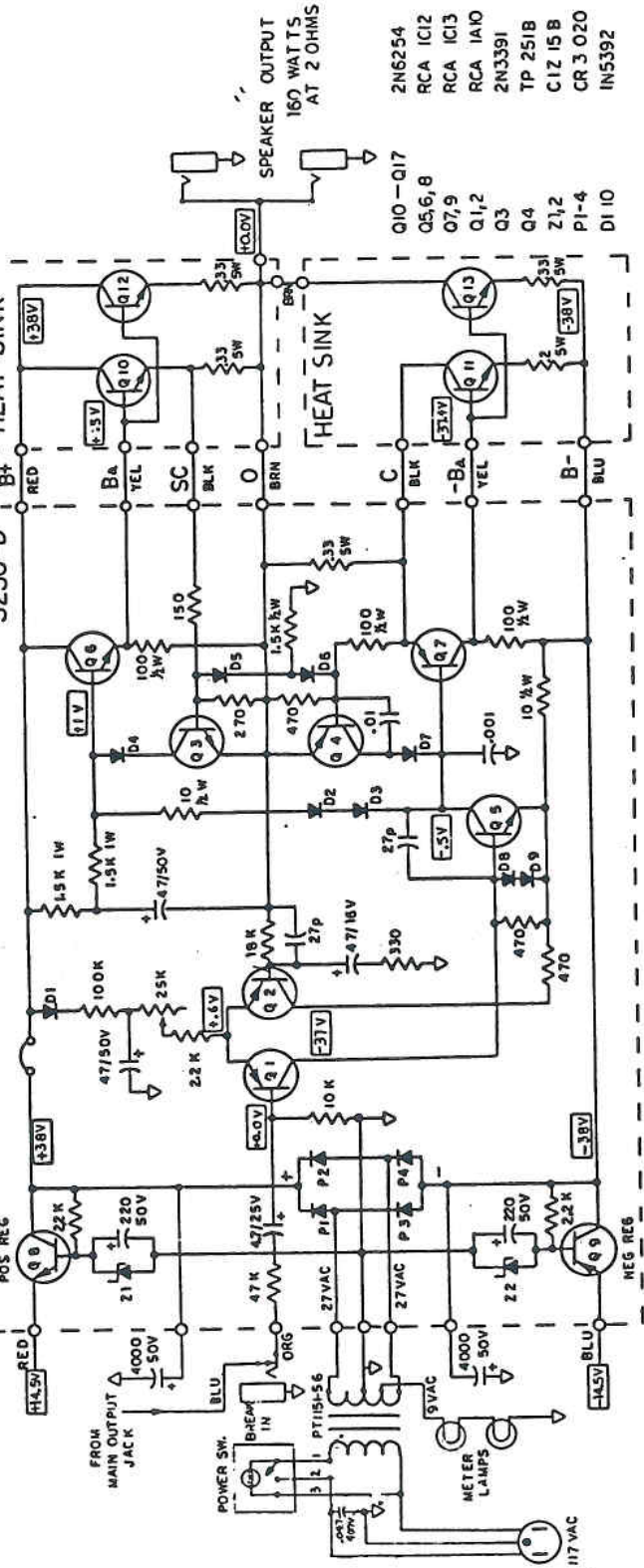
4136

IC 5,6,7

S250-D

HEAT SINK

HEAT SINK



- 2N6254
- RCA IC12
- RCA IC13
- RCA IA10
- 2N3391
- TP 251B
- C12 15 B
- CR 3 020
- IN5392

- Q10 - Q17
- Q5,6,8
- Q7,9
- Q1,2
- Q3
- Q4
- Q2
- Q11
- Q12
- Q13
- PI-4
- DI 10

REVISIONS	DATE	DRAWN BY <i>W. Flanery</i>	CARVIN MUSIC CO
	B-25-77		
		MP 600	MASTER DRIVER S250-D
		M610-A	

