

Carvin

MP 410 MIXING CONSOLE

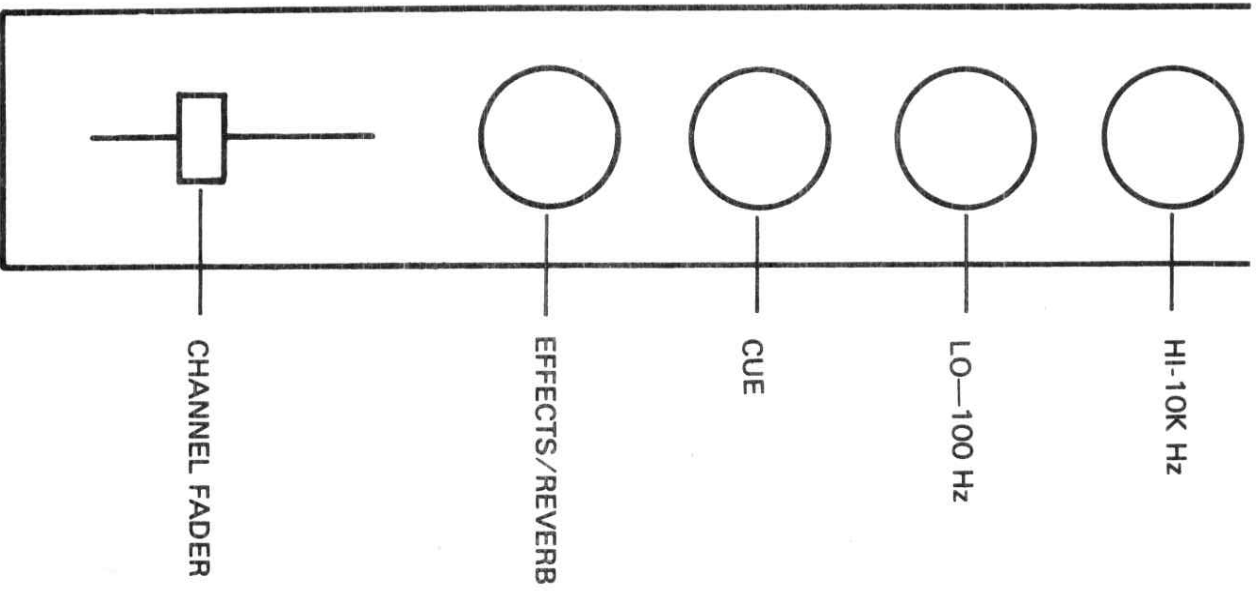
owner's manual

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SPECIFICATIONS

INPUTS.....4 Channels. $\frac{1}{4}$ " Phone Jacks to accept 150-600 Ohms low impedance balance and unbalanced inputs, and $\frac{1}{4}$ " Phone Jacks for line inputs.
CHANNEL EQUALIZATION.....Precision R/C shelving circuitry at 100 Hz and 10KHz \pm 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 10 K Ohms. Input is .775 VAC nominal.
CUE BUS.....Individual channel potentiometers for buss send to master cue.
CHANNEL FADERS.....Viscous-dampened slider potentiometers. Zero to Infinity 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. Standard $\frac{1}{4}$ " 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 .775 VAC.
MASTER REVERB.....Viscous-dampened rotary potentiometer.
HEADPHONE OUTPUT.....Headphone monitoring of Main Output. Standard $\frac{1}{4}$ " phone jack delivers monaural signal to either monaural or stereo headphones. Output impedance is 8 Ohms. Level control on front panel.
V.U. METER.....3" Expanded scale meter. precision d'arsonal movement. Fully illuminated.
GRAPHIC EQUALIZER.....Active, 7-band, one-octave filters.
HARMONIC DISTORTION.....Less than .05% at +15 dBm (4.5VAC).
INTERMODULATION DISTORTION.....Less than .05% at +15 dBm.
HUM AND NOISE.....-119 dBV equivalent input noise. 63 dB S/N ratio, master fader at nominal position.
VOLTAGE GAIN.....68 dB with 150 Ohm source.
POWER SUPPLY.....Self-contained and fully fused. Input is 110-120 VAC at 50-60 Hz. Lower voltage supply bipolar and fully regulated.
POWER AMPLIFIER.....Output: 160 watts RMS at 2 Ohms - 125 Watts RMS at 4 Ohms. THD IM: less than .1% at full power
S/N ratio: better than 80 dB. Speaker impedance: 2 - 16 Ohms.
Two standard speaker jacks are provided (wired in parallel).
Frequency response: 20-40K \pm 1 dB. Power Transistors: RCA
150 watt devices mounted on 320 square inches of finned Aluminum heat sinks.

CHANNEL IDENTIFICATION



CHANNEL EQUALIZATION

Each channel features two controls for Channel Equalization. Together, they provide tonal adjustment for the individual channels. The HI 10 KHZ control regulates the high-frequency (treble) content of the channel, while the LO 100 HZ control determines the low-frequency (bass) content. Each control provides up to 12 dB of boost (clockwise) or cut (counter-clockwise). Setting both controls at mid-position produces a flat response.

While the tonal requirements of each channel varies widely from job to job, it will be convenient to always start with the controls set at mid-position, for a flat response. Then adjust the two equalizers as necessary for the desired tonal response.

Whenever possible, it is suggested that the equalizers be set at 0 (center) or higher (clockwise). If both controls are rotated to the left of center, the overall signal level will be reduced, causing some reduction in the signal/noise ratio.

CUE

The CHANNEL CUE control provides a signal to the MASTER CUE output. The usual application is to drive stage monitor systems during live performances or for professional cueing of turntables and tape decks.

The CUE incorporates a "pre-fader buss", which refers to the fact that the signal is taken before it reaches the CHANNEL FADER. Thus, adjusting the CHANNEL FADER (even setting it to OFF) will have no effect on the CUE signal.

EFFECTS/REVERB

Each channel has an independent level control to regulate the amount of reverb as required. The reverb is provided by the large 4-C Hammond Reverb tank and associated circuitry. Other special effects may be combined with the reverb, as described later.

The EFFECTS/REVERB control is fed from the channel's output signal (after the CHANNEL-FADER) and is referred to as a "post-fader buss". This means that if the CHANNEL FADER is used to decrease the channel's volume, the reverb will also decrease. Thus, the original balance between the signal and its accompanying effect is maintained.

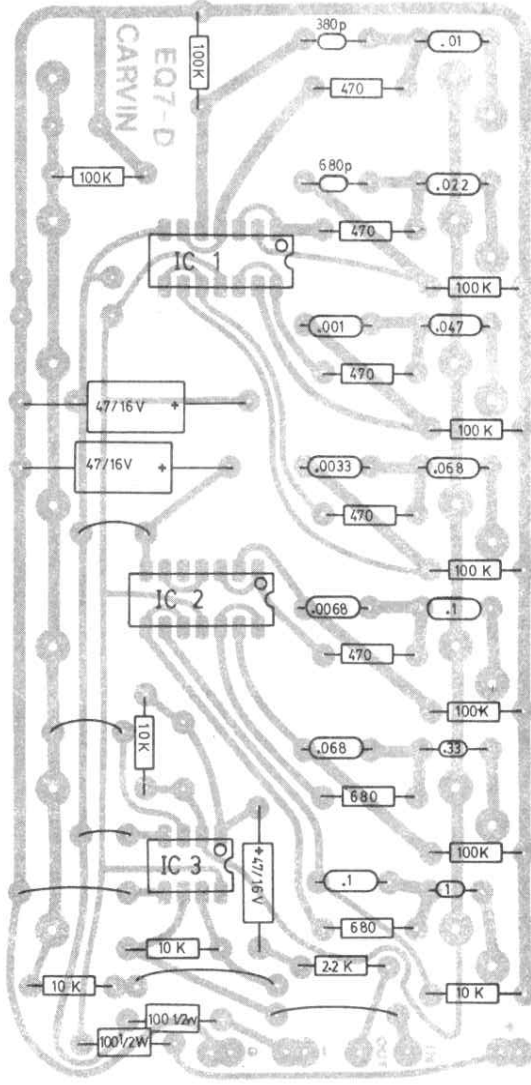
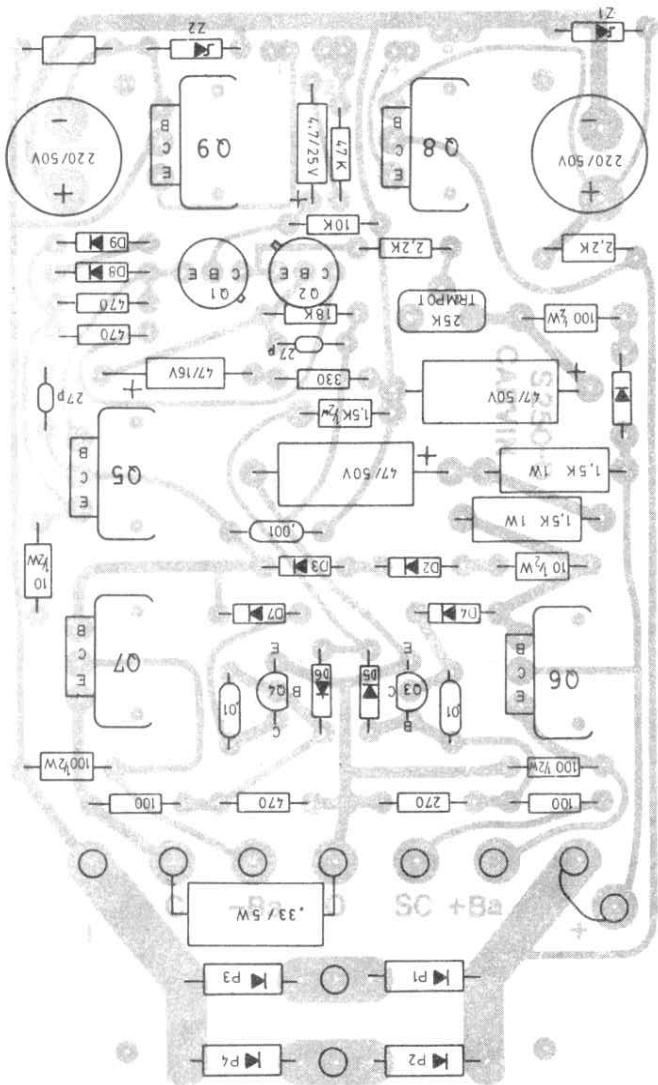
The amount of reverb (or other effect) required is largely a matter of experience. One guideline suggests that voices demand less reverb than instruments.

CHANNEL FADER

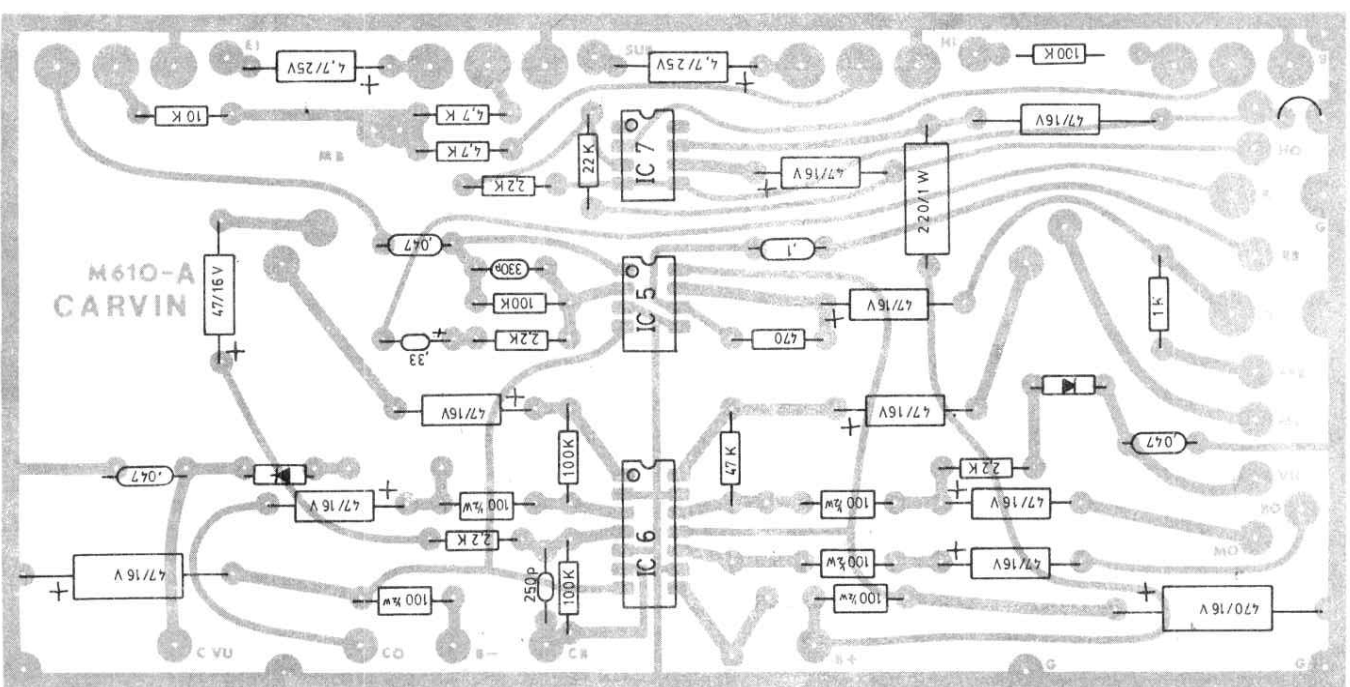
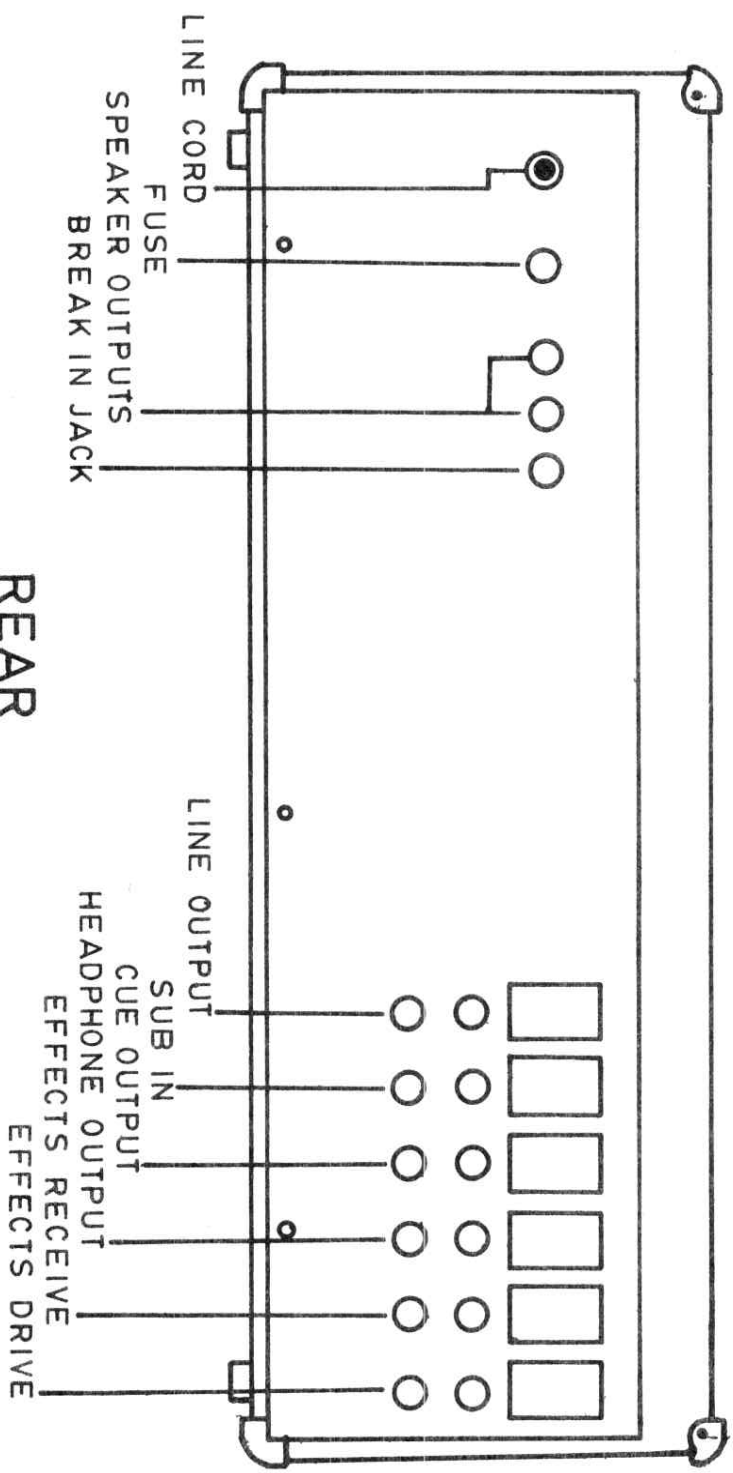
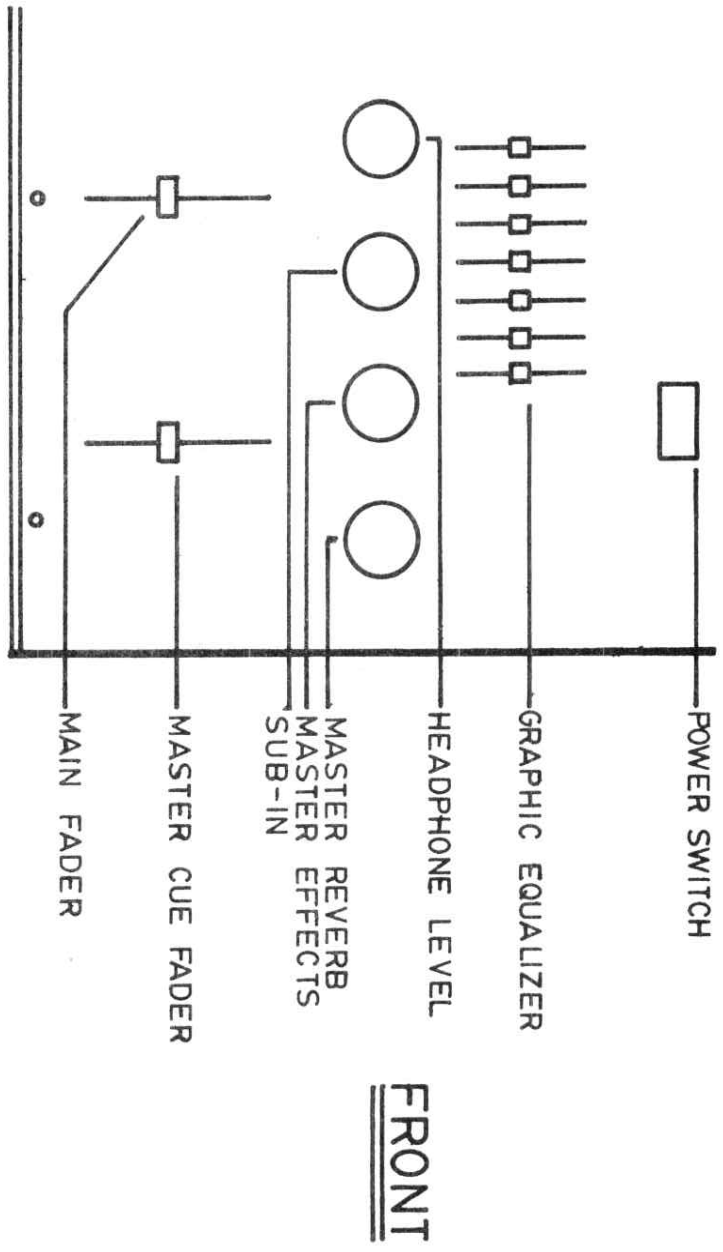
The FADER sets the channel volume, and is the final control for each channel. A slider potentiometer is used against a white grid to provide fast and accurate settings. The channel's volume will increase as the slider is moved upward.

The numbering system on the grid follows professional audio practice by referring to the amount of attenuation (signal loss) each setting provides. Thus, a zero setting indicates no loss, or maximum signal, while ∞ indicates infinite loss, or no signal.

For the very best noise and distortion performance, the CHANNEL FADERS should be generally set equal to or 1/3 greater than the MAIN FADER settings. Higher CHANNEL FADER settings may introduce significant distortion, while much lower settings tend to degrade the signal-to-noise relationship.



MASTER IDENTIFICATION



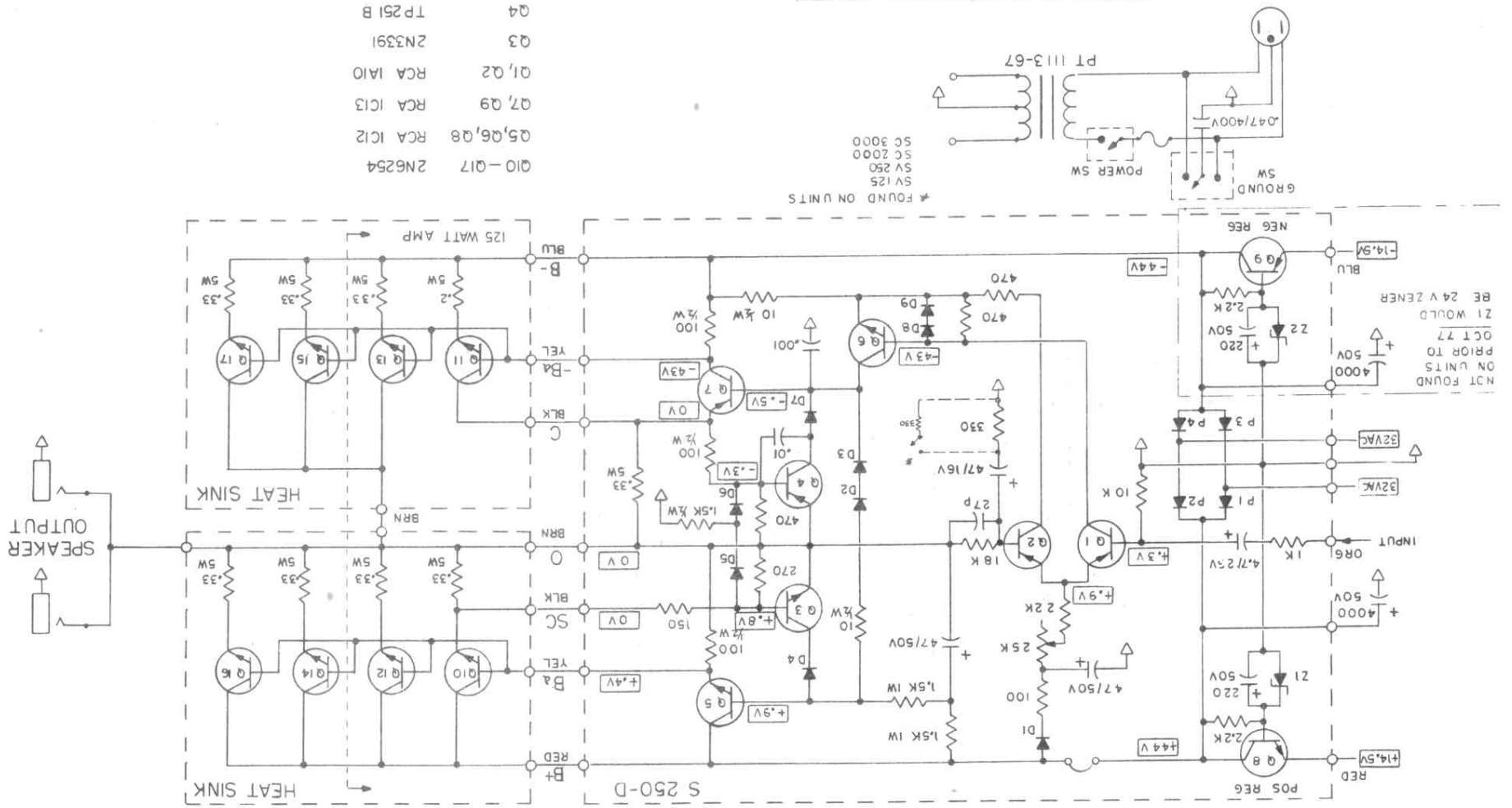
SERVICING SECTION

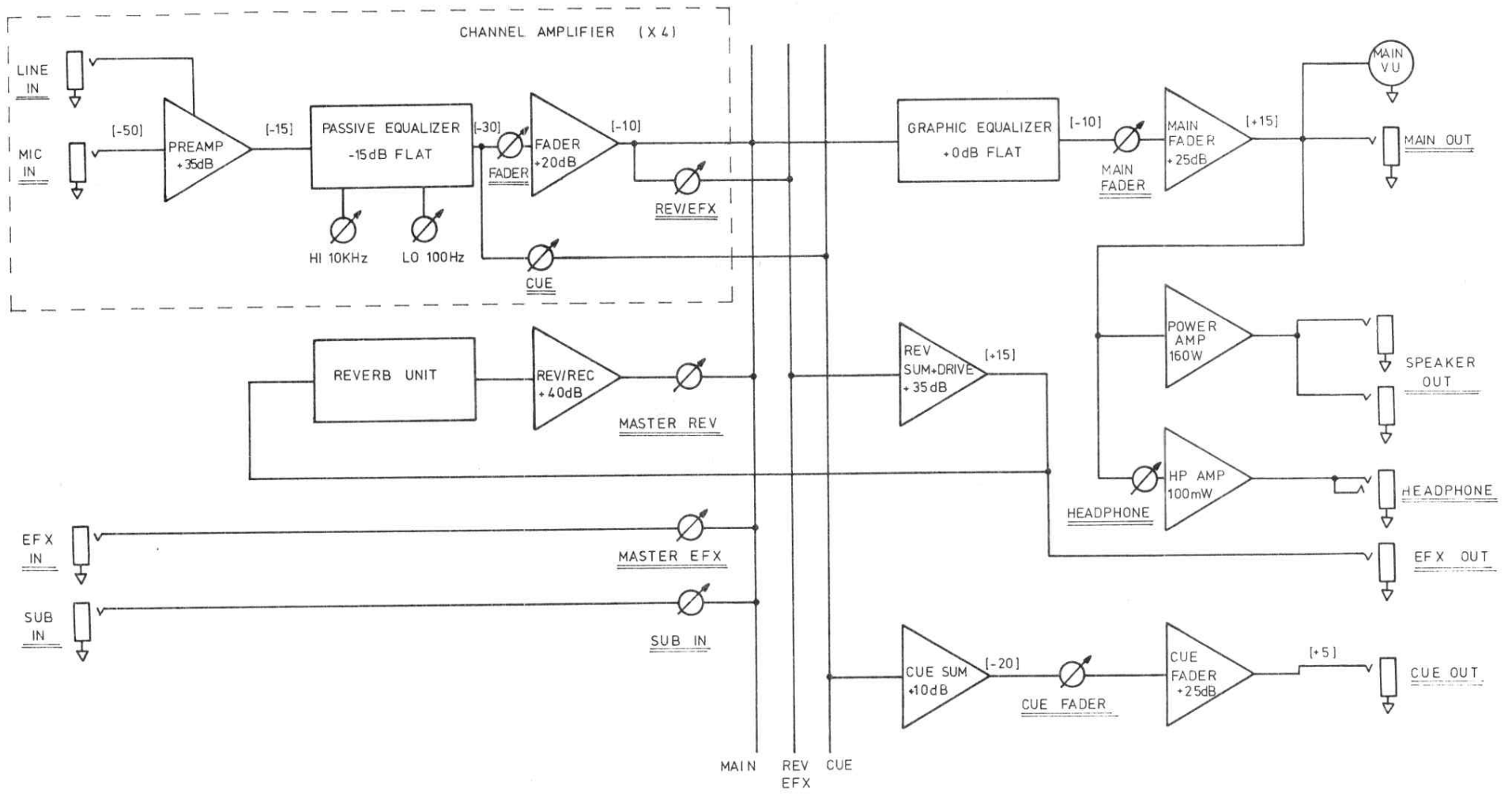
- BLOCK DIAGRAM
- SCHEMATICS
- PRINTED CIRCUIT LAYOUT

REVISIONS	DATE	8-24-77	CARVIN MUSIC CO
DRAWN BY	W. Fluty		POWER AMPLIFIER DRIVER BOARD S250-D HEAT SINKS

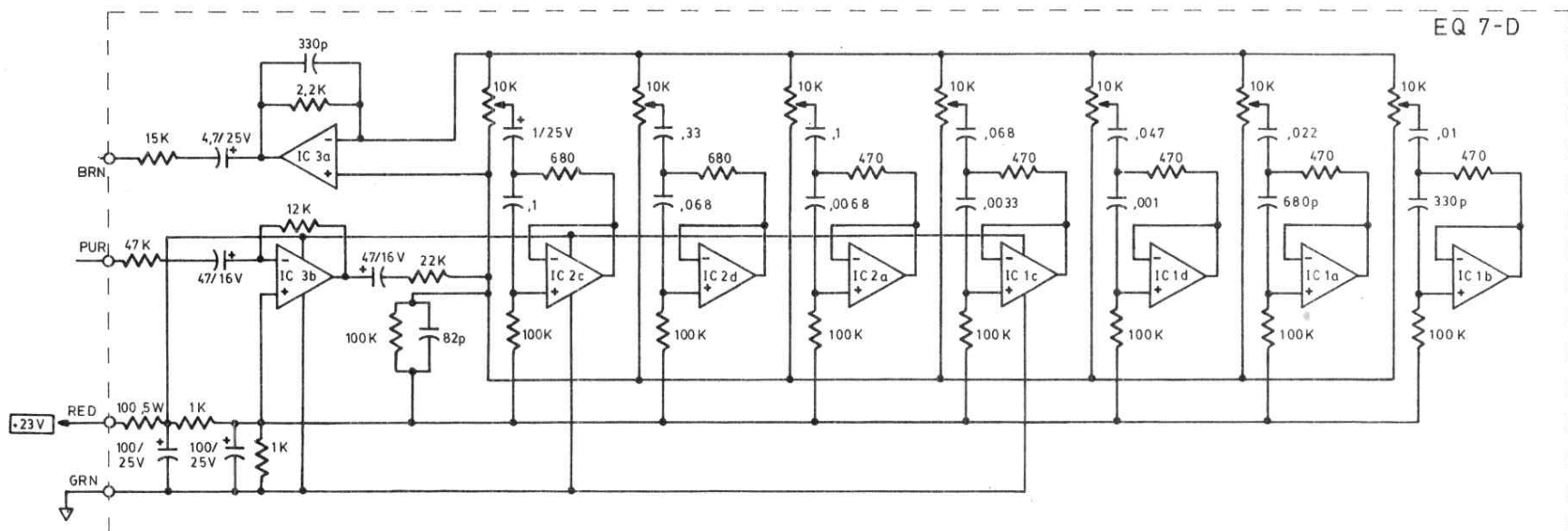
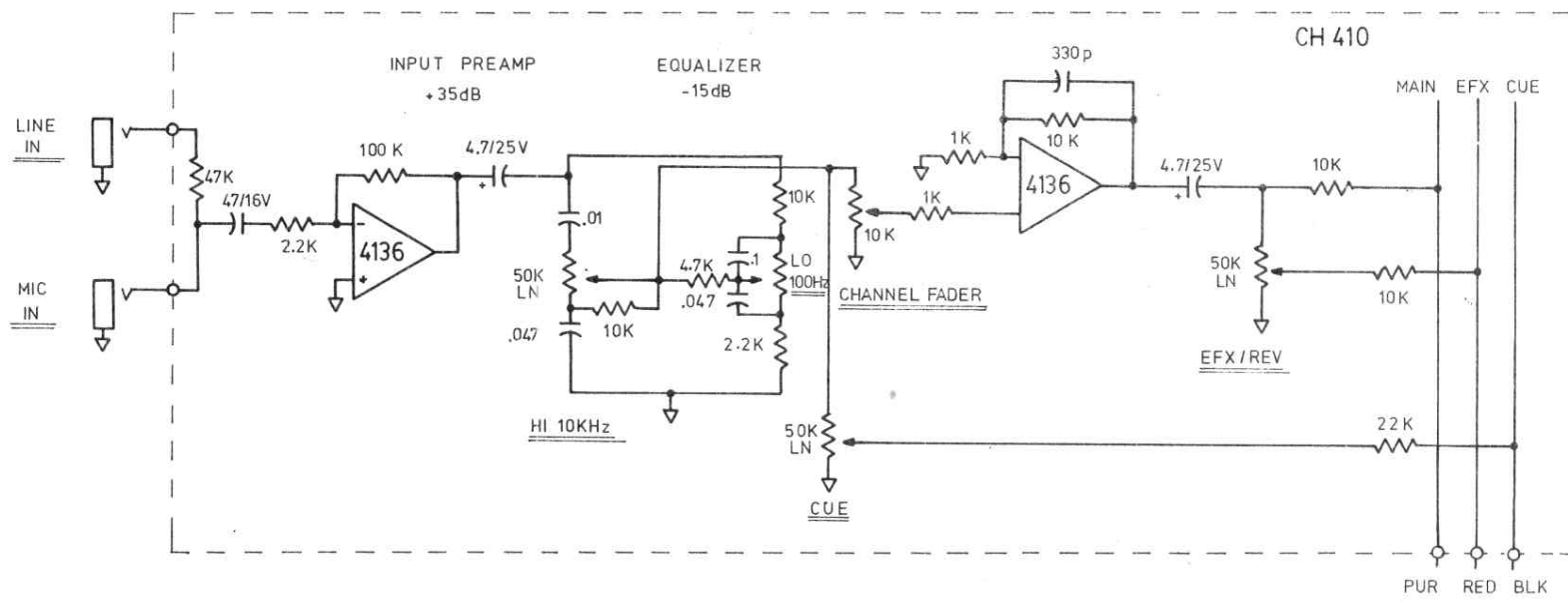
DI-D9	IN5392
PI-P4	CR3 020 or MR 752
Z1, Z2	C 12 15B
Q4	TP251 B
Q3	2N3391
Q1, Q2	RCA 1A10
Q7, Q9	RCA 1C13
Q5, Q6, Q8	RCA 1C12
Q10-Q17	2N6254

125 WATT AMP	Q10-Q17	PT 1150-64
250 WATT AMP	Q10-Q17	PT 1113-67
	PI-P4	CR3 020
	PI-P4	MR 752





REVISIONS	DATE	CARVIN MUSIC CO
	12-28-77	
	DRAWN BY <i>W. Flauty</i>	MP410 MIXER BLOCK DIAGRAM



IC1, IC2 4136
IC3 1458

REVISIONS	DATE	CARVIN MUSIC CO
	12 29 77	
	DRAWN BY <i>W. Flauty</i>	MP410 MIXER INPUT CH 410 EQUALIZER EQ 7-D