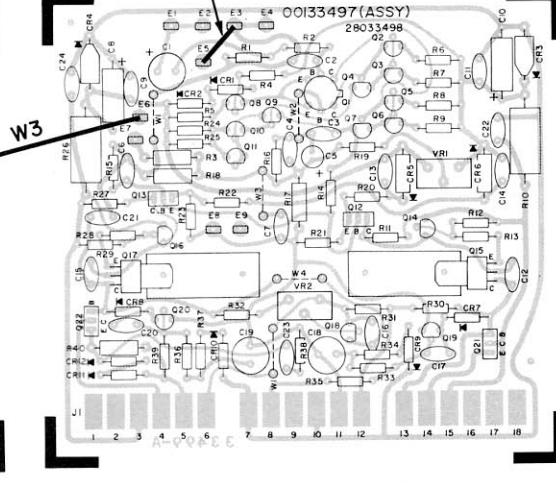
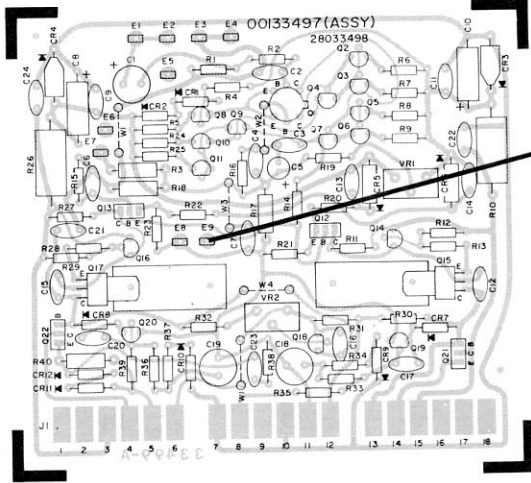


CHANNEL A

STEREO MODE

CHANNEL B



CHANNEL A

BRIDGE MODE

CHANNEL B

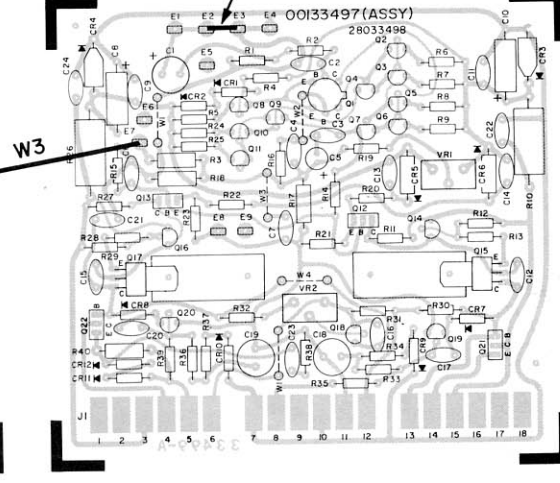
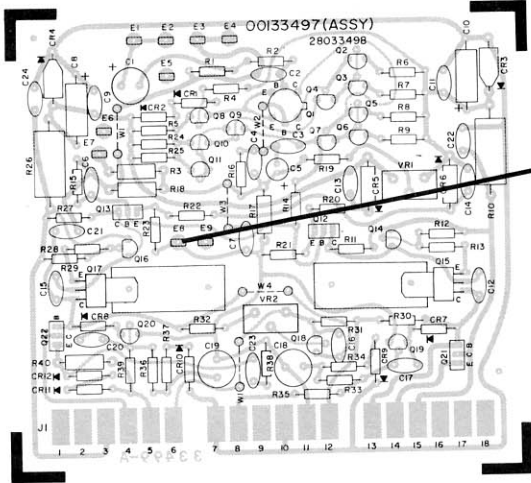


FIGURE I

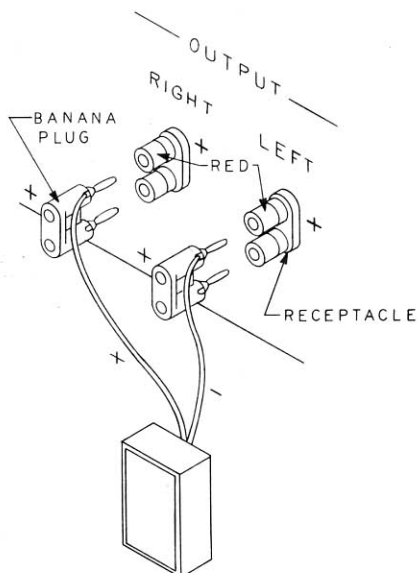
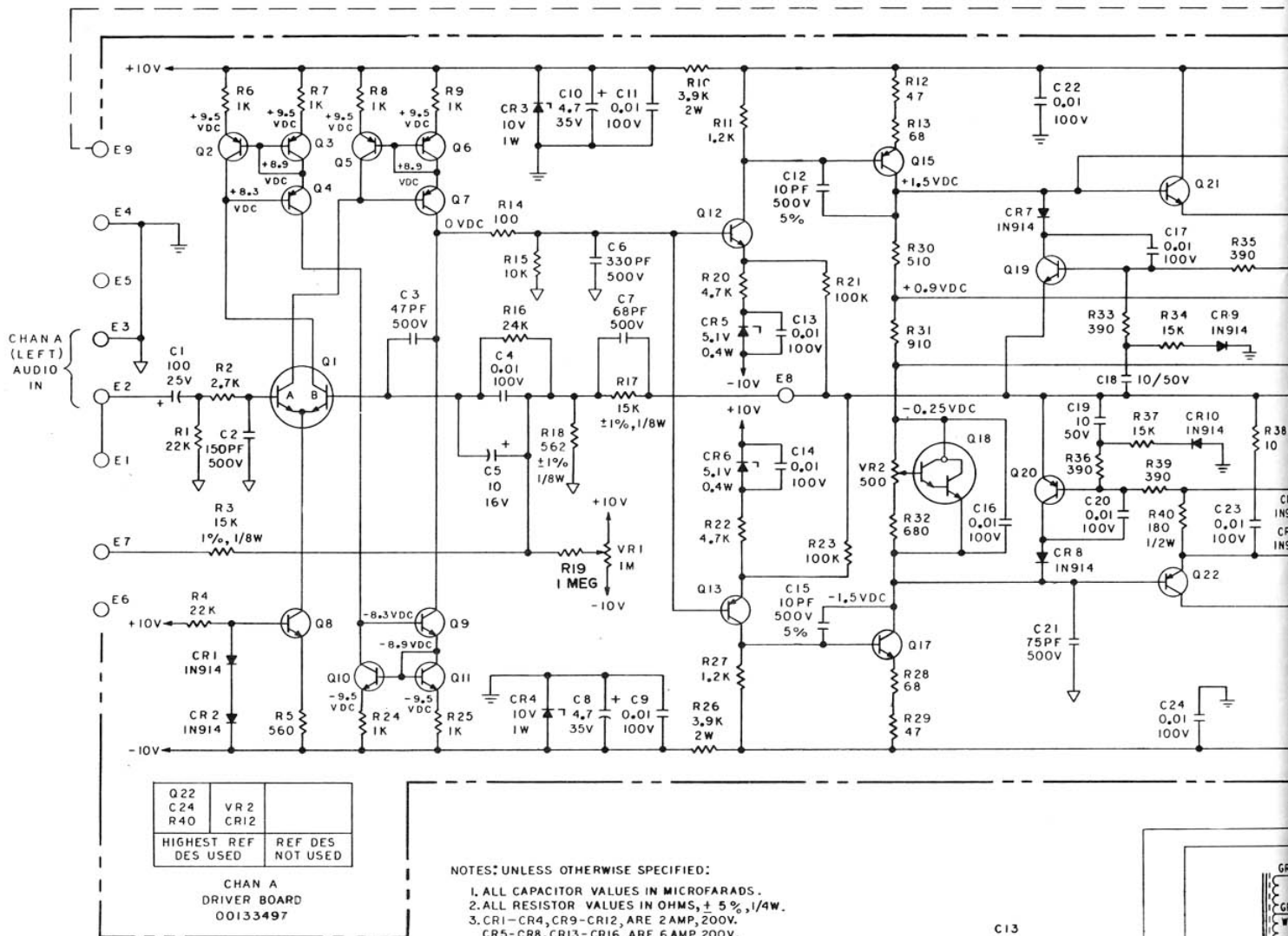


FIGURE II

REGULAR VOLTAGE SCHEMATIC DIAGRAM



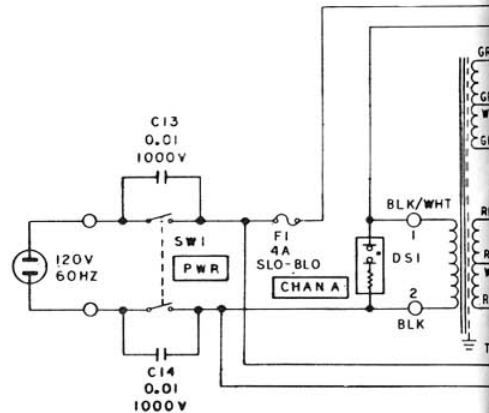
CHASSIS COMPONENTS	
HIGHEST REF DES USED	REF DES NOT USED
F6 L2 SW3 DS2 T2 CR16 C14 R16	Q14, Q16 R3, R9

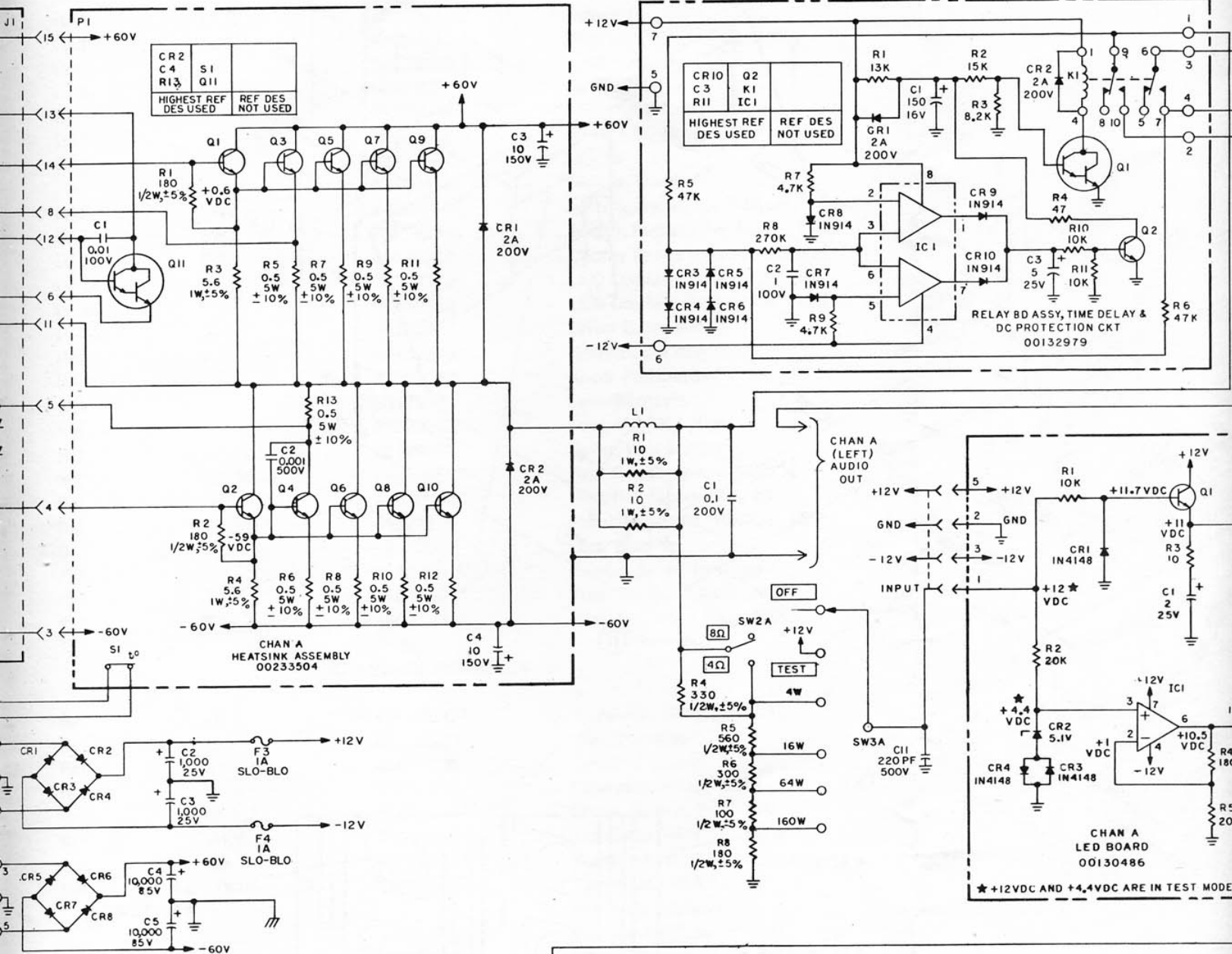
NOTES: UNLESS OTHERWISE SPECIFIED:

1. ALL CAPACITOR VALUES IN MICROFARADS.
2. ALL RESISTOR VALUES IN OHMS, $\pm 5\%$, 1/4W.
3. CR1-CR4, CR9-CR12, ARE 2AMP, 200V.
CR5-CR8, CR13-CR16, ARE 6AMP, 200V.
4. UNIT IS NORMALLY WIRED IN STEREO
MODE. TO PUT UNIT IN BRIDGE MODE
THE FOLLOWING JUMPERS ARE
AFFECTED W2 & W3. SEE TABLE I.

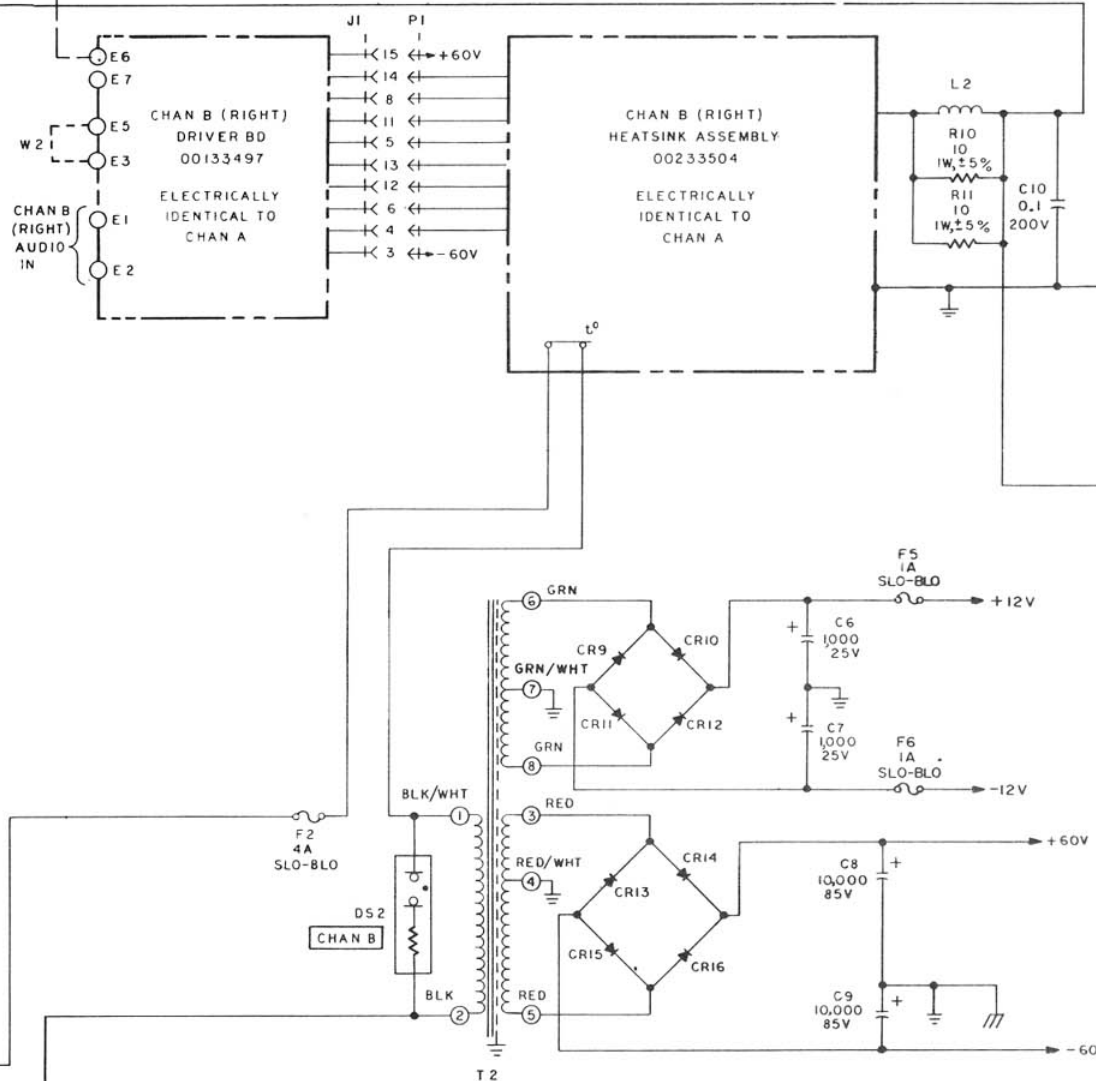
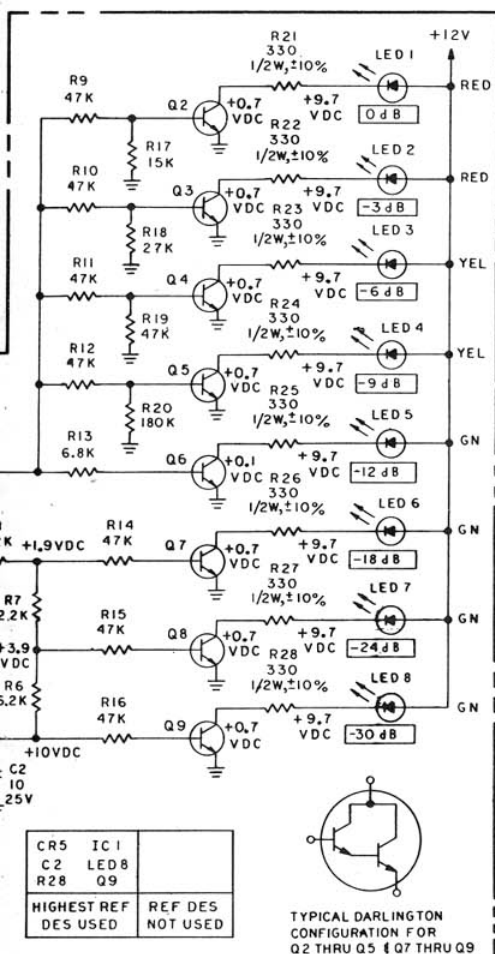
MODE	FROM		TO		JUMPER DESIG
	CHAN A	CHAN B	CHAN A	CHAN B	
STEREO		E3		E5	W2
	E9			E6	W3
BRIDGE		E3		E2	W2
	E8			E7	W3

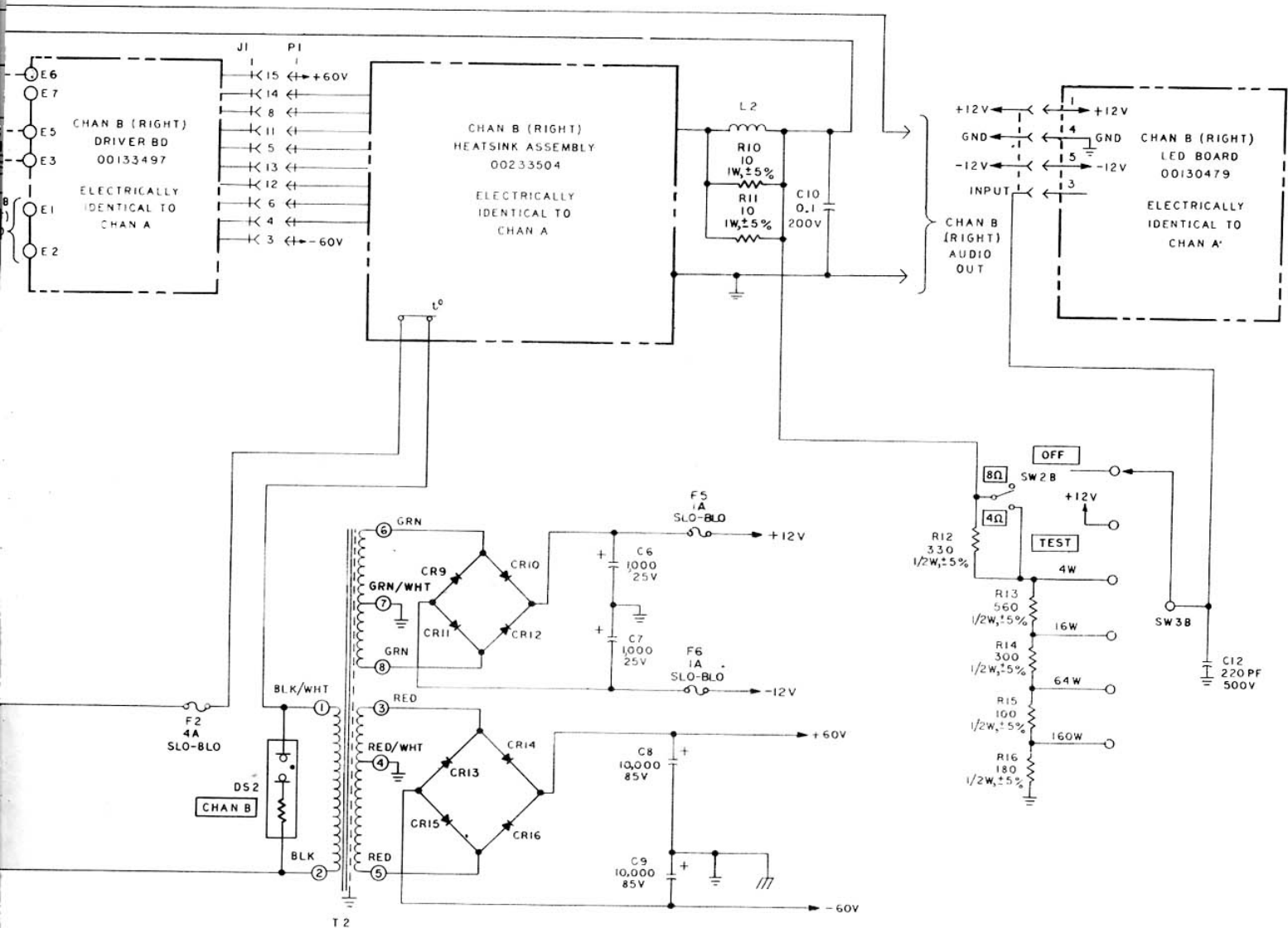
5. D.C. VOLTAGES ON LED BOARD ARE SHOWN WITH SW3 IN TEST POSITION.

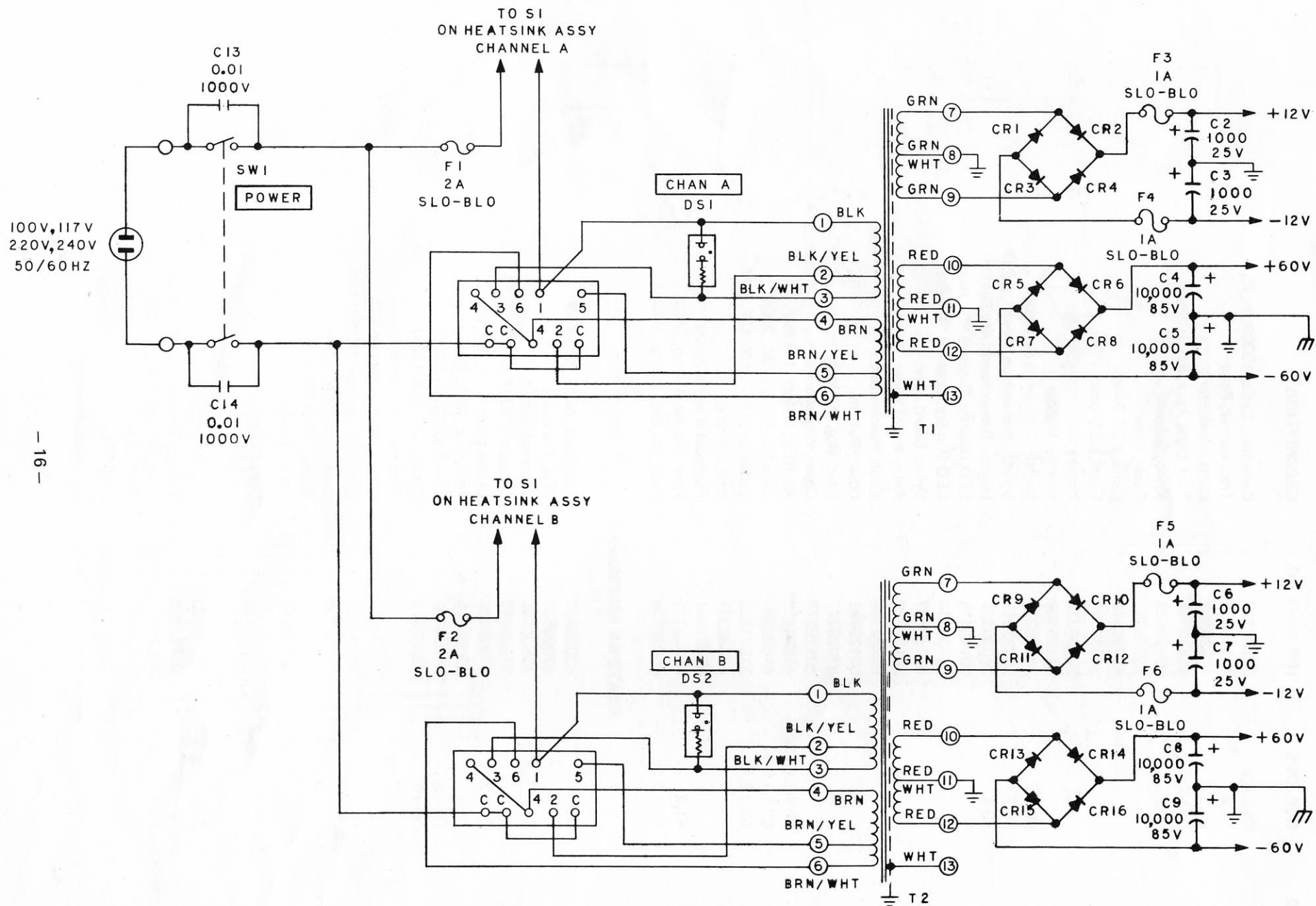




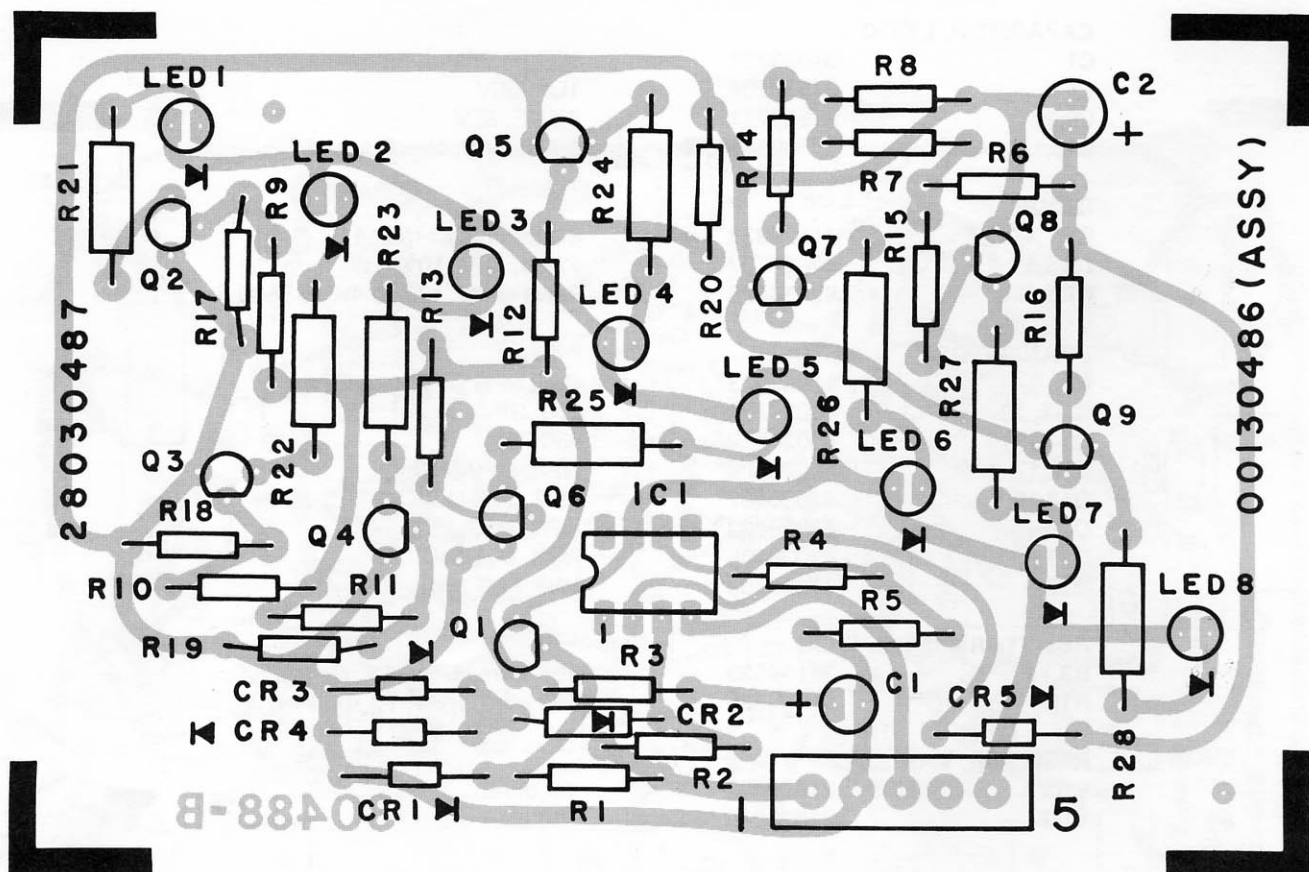
*+12VDC AND +4.4VDC ARE IN TEST MODE







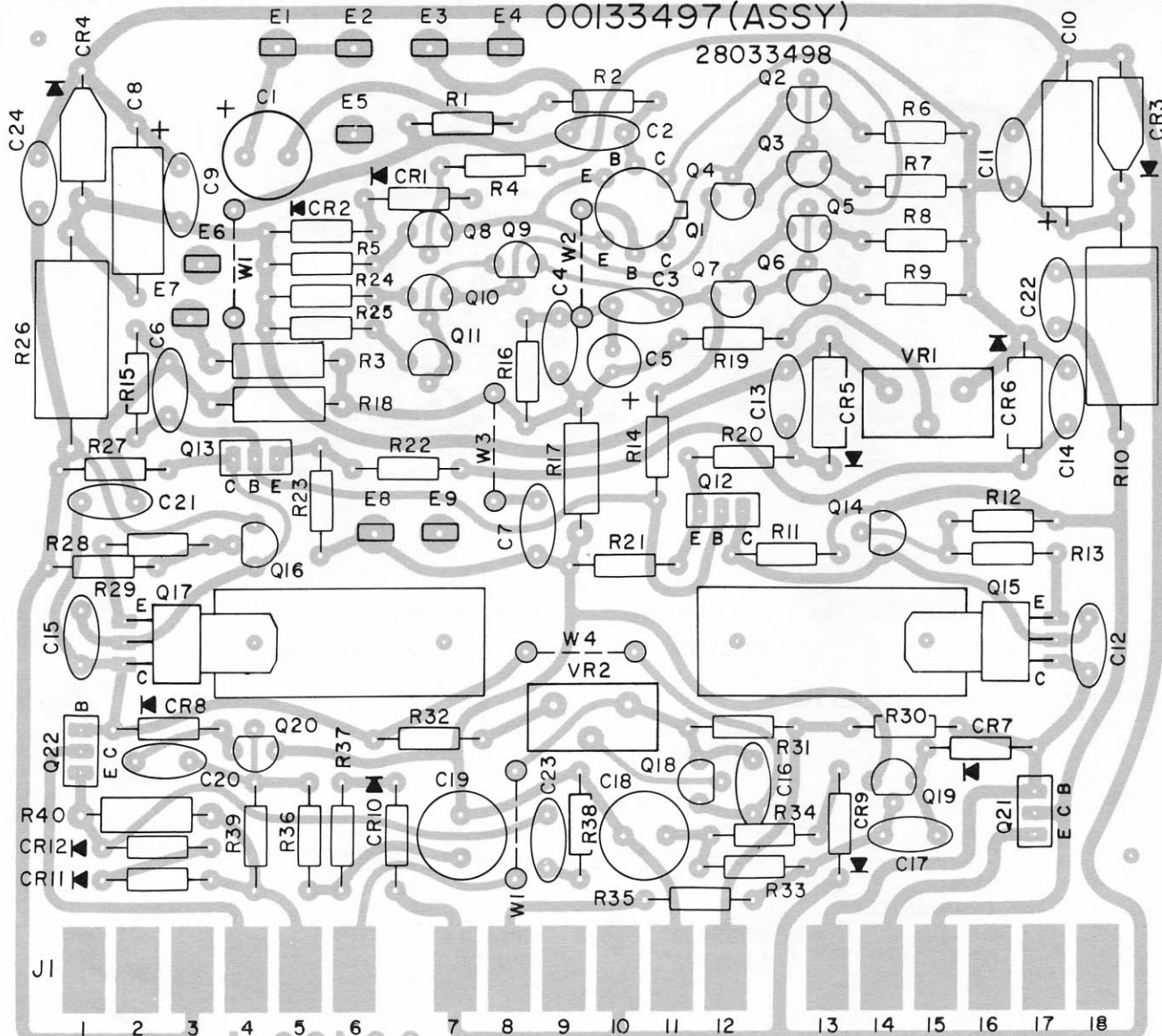
LED BOARD CHANNEL A



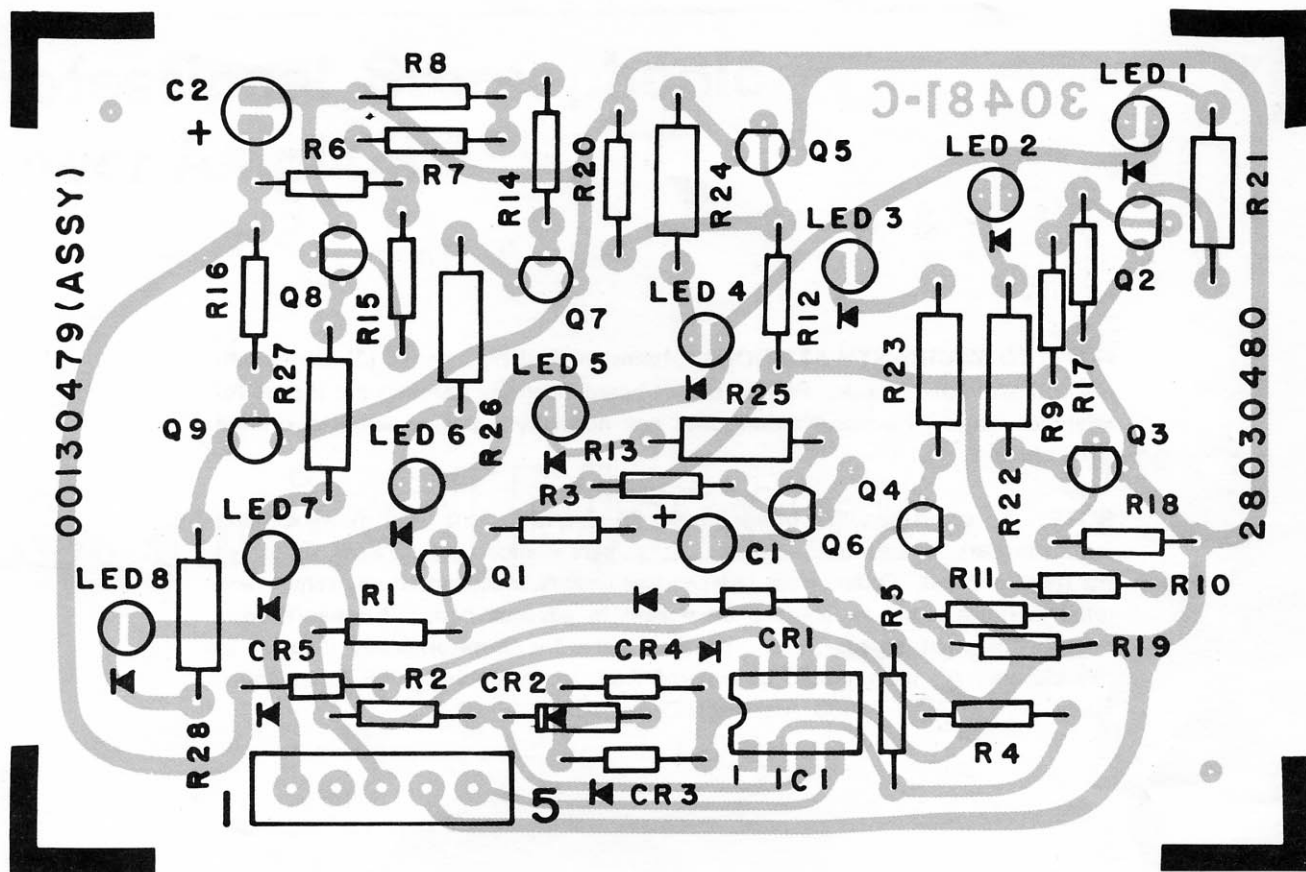
CIRCUIT REF. NO.	H/K PART NO.	DESCRIPTION
	00130486	P.C. Board Assy., Led Display Chan. "A"
CAPACITOR, LYTIC		
C1	31827111	2UF, 35V
C2	31819176	10UF, 25V
DIODE		
CR1,3,4,5	41629897*	IN4148
CR2	42030498*	Zener 5.1V, 0.4W, 10% MOT MZ500-9
INTEGRATED CIRCUIT		
IC1	43130636*	Operational Ampl. MC1741C
TRANSISTOR		
Q1,6	43025972*	NPN GP
Q2-5,7,8,9	43029832*	MPS-A13
LAMP SOLID STATE		
LED1,2	46730574*	LED, Red
LED3,4	46730575*	LED, Yellow
LED5-8	46730576*	LED, Green

00133497 (ASSY)

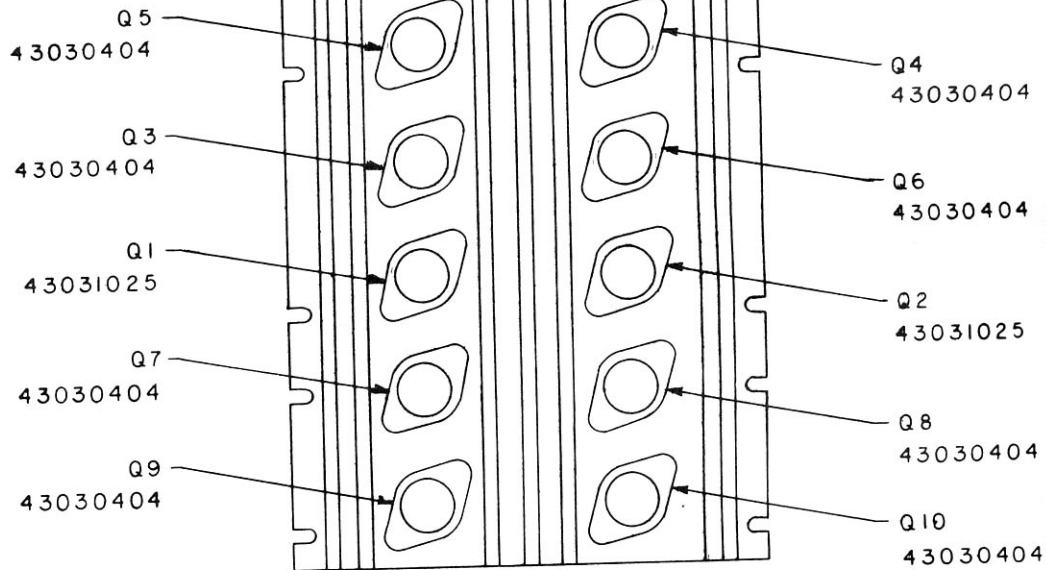
28033498



A-99433



CIRCUIT REF. NO.	H/K PART NO.	DESCRIPTION
	00130479	P.C. Board Assy., Led Display Chan. "B"
CAPACITOR, LYTIC		
C1	31827111	2UF, 35V
C2	31819176	10UF, 25V
DIODE		
CR1,3,4,5	41629897*	IN4148
CR2	42030498*	Zener 5.1V, 0.4W, 10% MOT MZ500-9
INTEGRATED CIRCUIT		
IC1	43130636*	Operational Ampl. MC1741C
TRANSISTOR		
Q1,6	43025972*	NPN GP
Q2-5,7,8,9	43029832*	MPS-A13
LAMP SOLID STATE		
LED1,2	46730574*	LED, Red
LED3,4	46730575*	LED, Yellow
LED5-8	46730576*	LED, Green



CITATION SIXTEEN SPECIFICATIONS

Power Output: 150 watts min. rms per channel,
Both channels driven into 8 ohms
from 20Hz to 20kHz, with less
than 0.05% THD

Power Bandwidth: From 5Hz to 45kHz at less than
0.05% THD into 8 ohms, both channels
driven simultaneously at 75 watts
per channel

Frequency Response: From 4Hz to 120kHz, +0dB -3dB,
both channels driven simultaneously
at 1 watt per channel, into 8 ohms

Square Wave Rise Time: Better than 3 microseconds

Slew Rate: Greater than 30V/ μ sec

Total Harmonic Distortion: Less than 0.05% from 1 watt to 150
watts RMS, both channels driven
simultaneously into 8 ohms from 0.5Hz
to 20kHz

Intermodulation Distortion: Less than 0.05% at from 0.015 watts
to 150 watts

Hum and Noise: Better than 100dB below 150 watts

Damping Factor: 300:1

Input Impedance: 22k ohms

Input Sensitivity: 1.25 volts for 150 watts

Phase Shift: Less than 0.5 degrees at 20Hz, less than
12 degrees at 20kHz

Inputs: One RCA type input terminal per channel

Outputs: Instrument type binding posts.
Accepts speakers from 4 to 16 ohms

Dimensions: 9 1/8" H x 19 1/8" W x 13 9/16" D
(complete with metal cage)
(23.2 cm H x 48.6 cm W x 34.4 cm D)

Weight: 55 pounds (24.9Kg)

MAIN CHASSIS PARTS LIST

FIG. NO.	REF. DES.	H/K PART NO.	DESCRIPTION
III-1	C4,5,8,9	31130322	Capacitor, Lytic, 10000UF, 85V
III-2	T1,2	10130339	Transformer, Power
III-4	L1,2	12030402	Output Inductor
IV-1	DS1,2	47626247	Pilot Light Assy, (Neon) Red
IV-2		00233528	Knob, Subassy
IV-3		6303305	Panel, Dress
IV-4		63033548	Panel, LED Dress
IV-5		63033549	Panel, LED Dress
IV-6		62130377	Handle
IV-7		62130466	Ferrule, Handle
IV-8	SW2	24030338	Switch, Impedance Selector
IV-9	SW1	25032217	Switch, Pushbutton, Power, DPST
IV-10	SW3	24030337	Display Range Sensitivity Switch
IV-11		00130479	LED Display, Channel "B" Assy,
IV-12		00130486	LED Display, Channel "A" Assy.
IV-13		00133497	Driver Board Assy.
IV-14		00132979	Relay Board Assy.
IV-15		63232189	Knob, Pushbutton
Ref.		60129981	Cover, Bottom
Ref.		62029267	Feet, Mtg, 3/4 High
Ref.		60129979	Cover, Wraparound
Ref.	CR-58,13-16	41630450*	Rectifier, Silicon, MR752
Ref.	CR1-4,9-12	41029089*	Rectifier, Silicon, 2A, 200V
Ref.	C2,3,6,7	31521625	Capacitor, Lytic, 1000UF, 25V
Ref.		65430392	Post, Binding
Ref.		65427001	Fuseholder w/Hardware
Ref.	F1,2	45023101*	Fuse, Slo Blo 4 Amp., MDX
Ref.	F3,4,5,6	45032236*	Fuse, Slo Blo, 1 Amp, MDL-1

HEATSINK ASSEMBLY

Ref.	Q11	43029832*	Transistor, NPN, MPS A13
Ref.		67029563	Clip, Transistor
Ref.	S1	45530336	Terminal Cutout
Ref.	C3,4	31530452	Capacitor, 10UF, 150V
Ref.	CR1,2	41029089*	Diode, Silicon, 2A, 200V
Ref.	Q1,2	43031025*	Transistor, NPN, Power
Ref.	Q3-10	43030404*	Transistor (RCA 1B05)
Ref.	Q3-10	43032928*	Transistor (RCA 1B04)
			Alternate Replacement
			Part for 43030404
Ref.		66030343	Socket, Transistor TO-3
Ref.		61632266	Cover, Insulating TO-3
Ref.		85520110	Washer, Mica TO-3
Ref.		60130413	Cover, Heatsink

MULTIVOLTAGE

III-2	T1,2	10130639	Transformer, Power
III-3		65427580	Voltage Selector Connector Set
Ref.	F1,2	45031093	Fuse, Slo Blo, 2 Amp, MDX
Ref.		65430519	Fuseholder

CIRCUIT REF. NO.	H/K PART NO.	DESCRIPTION
	00133497	P.C. Board Assy, Driver
CAPACITOR, LYTIC		
C1	31833231	100UF, 25V
C5	31833204	1UF, 50V
C8,10	31531721	4.7UF, 35V
C18,19	31833565	10UF, 50V, Non-Polar
DIODE		
CR1,2,7-12	41629338*	Silicon, Signal IN914
CR3,4	42020737*	Zener, 10V, 10%, 1W
CR5,6	42030498*	Zener 5.1V, 10%, 0.4W, MZ500-9
TRANSISTOR		
Q1	43034373*	Dual NPN Differential Pair
Q2-7, 20	43027722*	PNP GP
Q8-11, 19	43025972*	NPN GP
Q12,17	43030406*	NPN, MPS-U10
Q13,15	43030407*	PNP, MPS-U60
Q18	43029832*	NPN, MPS-A13
Q21	43030408*	NPN, MJE340
Q22	43030409*	PNP, MJE350
RESISTOR, METAL FILM		
R3,17	35111533	15K ohm, 1/8w, 1%, Dale M20P
R18	35130659	562 ohm, 1/8w, 1%, Dale M20P
RESISTOR, VARIABLE		
VR1	21630493	1M ohm
VR2	21629833	500 ohm

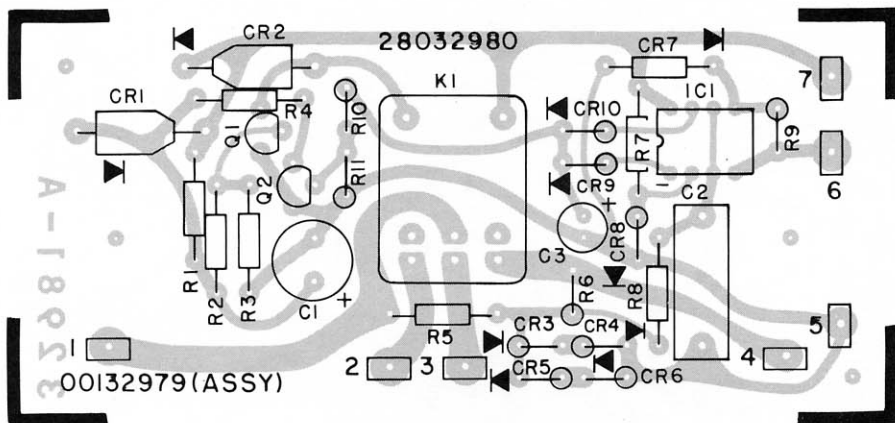
ALIGNMENT PROCEDURE ADJUSTMENTS

There are only two adjustments, the null pot VR1 and the idling current pot VR2. Both of these adjustments are to be made with no signals and no load. VR1 should be set so that the output of the amplifier is less than ± 10 millivolts D.C.

VR2 should be set for about 50 millivolts D.C. across one of the 0.5 ohm emitter resistors when the set is cold.

The easiest way to do this is to put one meter lead on the emitter of the upper left-hand output device on the heat sink and the other lead to the output terminal.

The 50 millivolt D.C. reading will change as the set heats up. Continue to readjust VR2 until the readings stabilize. This will be approximately 30 minutes. The heatsinks will now be at a temperature of approximately 60°C which is its quiescent value. At this time recheck the output of the amplifier and readjust VR1 if required.



CIRCUIT REF. NO.	H/K PART NO.	DESCRIPTION
	00131202	P.C. Board Assy. Relay Board
CAPACITOR, LYTIC		
C1	31840006	150UF, 16V
C3	31818905	4.7UF, 25V
DIODE		
CR1, 2	41029089*	Silicon Pwr. 2A 200V
CR3-10	41629338*	Signal, Silicon, 1N914
TRANSISTOR		
Q1	43029832*	MPS-A-13
Q2	43025972*	NPN, GP
RELAY		
K1	13031208	Potter Brumfield, R10-E2-W2-V185
INTEGRATED CIRCUIT		
IC1	43133061*	OP Amp, MC1458CP1