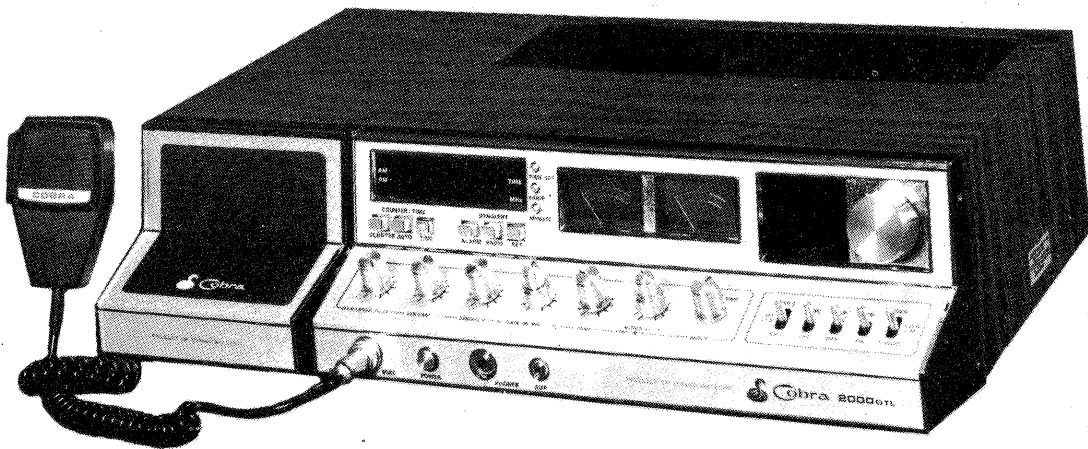




# **SERVICE MANUAL**

**2000GTL**

**CITIZEN'S BAND 2-WAY RADIO**



494-083-9-001

**DYNASCAN CORP.**  
**COBRA SERVICE DEPT.**  
2815 W. Irving Park Rd.  
Chicago, Illinois 60618

## SPECIFICATIONS

### GENERAL

Channels	40.
Frequency Range	26.965 to 27.405 MHz.
Frequency Control	Phase Locked Loop (PLL) synthesizer.
Frequency Tolerance	±130 Hz Typical.
Operating Temperature Range	-30°C to +50°C.
Microphone	Plug-in type; 600Ω dynamic.
Power Source	120V AC nominal. 13.8V DC nominal. (Positive or negative ground).
Power Consumption (120V AC)	<i>Transmit:</i> AM full mod., 65 watts. SSB 70 watts. <i>Receive:</i> Squelched, 30 watts. Full audio, 40 watts.
Current Drain (13.8V DC)	<i>Transmit:</i> AM and SSB., 2.2A DC (nominal). <i>Receive:</i> Full audio output, 1.1A DC (nominal). No signal, 0.65A DC (nominal).
Size	5"(H) x 15"(W) x 4-7/16"(D)
Weight	19½ pounds. (including speaker)
Antenna Connector	UHF, SO239.
Semiconductors	18 integrated circuits, 6 FETs, 76 transistors, 93 diodes, 12 LEDs and 1 SCR.
Meter 1	Illuminated; indicates relative power output and received signal strength.
Meter 2	Illuminated, indicates standing wave ratio and level of modulation.

### TRANSMITTER

Power Output	AM, 4 watts. SSB, 12 watts, PEP.
Modulation	AM, high-and low-level Class B.
Intermodulation Distortion	SSB: 3rd and 5th order, more than -25dB. 7th and 9th order, more than -35dB.
SSB Carrier Suppression	-55 dB Nominal.
Unwanted Sideband	-50 dB Nominal.
Frequency Response	AM and SSB: 300 to 2500 Hz.
Output Impedance	50 ohms, unbalanced.
SSB Filter	7.8 MHz, crystal lattice type;
Output Indicators	Meters show relative RF output power, percentage of modulation and SWR. "ON THE AIR" Transmit Indicator.

### RECEIVER

Sensitivity	SSB: 0.25 μV for 10 dB (S+N)/N at greater than ½-watt of audio output. AM: 0.3 μV for 10 dB (S+N)/ at greater than ½-watt of audio output.
Selectivity	AM: 6 dB @3 KHz, 50 dB @9 KHz. SSB: 6 dB @1.1 KHz, 60 dB @2.3 KHz.
Image Rejection	More than 65 dB.
IF Frequency	AM: 7.8 MHz 1st IF, 455 KHz 2nd IF SSB: 7.8 MHz
Adjacent-Channel Rejection	60 dB AM & 70 dB SSB.
AM and SSB RF Gain Control	40 dB adjustable for optimum signal reception.
Automatic Gain Control (AGC)	Less than 10 dB change in audio output for inputs from 10 to 100,000 microvolts.
Squelch	Adjustable; threshold less than 0.5 μV.
ANL	Switchable.
Noise Blanker	RF type, effective on AM and SSB.
Voice Lock Range	±1.5 KHz, coarse ±500 Hz fine.
RF Gain Control	Adjustable for optimum signal reception.
Audio Output Power	4 watts into 8 ohm.
Frequency Response	300 to 2500 Hz.
Distortion	Less than 10% at 3 watts output.
Separate Speaker	8 ohms.
External Speaker (not supplied)	4 ~ 8 ohms.
Indicators	"Receive" indicator. Meter shows receive signal strength.
Headphone Output	8 ohm impedance, 10 mW output.
Aux. Output	100K ohm impedance, approx. 300 mW output.

### PA SYSTEM

Power output	4 watts into external speaker.
External speaker for PA	4 ~ 8 ohms. (not supplied)

### CLOCK/COUNTER

Clock	Uses 60 Hz power line reference. May be used to sound alarm or turn on radio.
Counter	Displays transmit and receive frequency.

## ALIGNMENT INSTRUCTIONS

CAUTION: Use isolation transformer or observe polarity when connecting test equipment. Maintain line voltage at 120V AC. Allow a 15-minute warm-up period. Adjustments made with 13.8 volt DC input. Connect low sides of test equipment to ground unless specified otherwise. Connect 50-ohm dummy load or antenna before keying transmitter. Connect Microphone.

Suggested Alignment Tools:	GC ELECTRONICS:
L1, L2, L4 thru L10, L12, L14, L19 thru L23, L30, L31, L45 thru L48, L59, L501, L502.....	9440
L3, L13, L15.....	5000, 5009, 8276, 8728, 9089
L36, L38.....	8728, 9304, 9089
CT2, CT501.....	5000, 8276, 9089

## SYNTHESIZER ALIGNMENT

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of frequency counter to TP13 (IC1 Pin 8).	Ch. 19		Check for 10.240MHz.
Input of oscilloscope to TP10.	Ch. 19, AM	L21	Adjust for maximum RF RF (3.4V p-p typical) (See Figure 1).
Input of DC meter to TP9.	Ch. 40, AM	L19	Adjust for 3.00 volts. Check for approximate 2.00 volts on Channel 1
Input of oscilloscope to TP1.	Ch. 19, AM	L20	Adjust for maximum RF. (190mv p-p typical) (See Figure 2).

### SYNTHESIZER ALIGNMENT(Continued)

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of frequency counter to TP1.	Ch. 1, AM	L23	Adjust for 34.7650MHz +20Hz. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to TP1.	Ch. 1, USB	L59	Adjust for 34.7665MHz +20Hz. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to TP1.	Ch. 1, LSB	L22	Adjust for 34.7635MHz +20Hz. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to TP10.	Ch. 1, AM		Check for .790MHz. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to TP3.	Ch. 19, USB	CT2	Adjust for 7.8015MHz +5Hz, -0Hz.
Input of frequency counter to TP3.	Ch. 19, LSB	L30	Adjust for 7.7985MHz +0Hz, -5Hz.
Input of frequency counter to TP14 (IC3 Pin 7).	Ch. 19, AM XMT	L31	Adjust for 7.8000MHz +5Hz.
Input of frequency counter to To TP15 (FET 1 Gate 1).	Ch. 19, AM		Check for 7.3450MHz.
Input of frequency counter to antenna input.	Ch. 1, AM XMT	VR5	Adjust for 26.965MHz. Check all channels.

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### RECEIVER ALIGNMENT

Connect an AC VTVM or AF wattmeter across speaker voice coil. Adjust volume control to obtain a suitable indication. Set generator output low enough to prevent AGC limiting. Preset controls as follows unless otherwise noted:  
 RF Gain Maximum, Voicelock Midrange, Squelch MINIMUM, NB Off, ANL Off, Tone Maximum Clockwise

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to TP16 (TR15 Emitter). 7.8MHz, no modulation.	Ch. 19, USB	L14,L12,L10 L9,L8,L7	Adjust for maximum output.
Output of signal generator thru .01uF to TP15 (FET Gate 1). 455kHz,1000Hz @ 30% modulation.	Ch. 19, AM	L15,L13,L3	Adjust for maximum output.
Output of signal generator thru .01uF to antenna input. 27.185MHz,1000Hz @ 30% modulation.	Ch. 19, AM	L6,L5,L4	Adjust for maximum output. Readjust L7,L8,L9,L10,L3, L13 and L15 for maximum.
Output of signal generator thru .01uF to antenna input. 27.185MHz,1000Hz @ 30% modulation. Input of oscilloscope to TP17 (D2 cathode).	Ch. 19, AM	L1,L2	Set generator output for 10db signal to noise plus noise ratio of receiver. Inject a 100pps, 1uSec pulse width signal at antenna input. Switch NB on and adjust for maximum pulse amplitude. (8.2V peak typical) (See Figure 3).

## RECEIVER ADJUSTMENTS

Connect an AC VTVM or AF wattmeter across speaker voice coil.  
Adjust volume control to obtain a suitable indication.  
Preset controls as follows, unless otherwise noted:

RF Gain Maximum, Voicelock Midrange, Squelch MINIMUM, NB Off, ANL Off, Tone Maximum Clockwise.

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna input. 27.185MHz, 1000Hz @ 30% modulation. Output 1000uV.	Ch. 19, AM Squelch Maximum	VR3	SQUELCH RANGE Adjust so squelch just breaks.
Output of signal generator thru .01uF to antenna input. 27.185MHz, 1000Hz @ 30% modulation. Output 100uV.	Ch. 19, AM	VR1	AM SIGNAL METER Adjust for 9 on SIGNAL scale of meter.
Output of signal generator thru .01uF to antenna input. 27.186MHz, no modulation. Output 100uV.	Ch. 19, USB	VR2	SSB SIGNAL METER Adjust for 9 on SIGNAL scale of meter.

## TRANSMITTER ALIGNMENT

Connect a 25-watt dummy load to antenna connector.

NOTE: Be sure to check transmit frequency and power on all active channels after alignment of transmitter.

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Input of RF wattmeter to antenna input.	Ch. 19, AM	L47, L48, L46, L45, L38	Adjust for maximum RF output.
Input of spectrum analyzer or harmonic meter to antenna input.	Ch. 19, AM	L36	Adjust for MINIMUM at 54MHz (2nd harmonic).

## TRANSMITTER ADJUSTMENTS

Connect a 50-ohm, 25-watt dummy load to antenna connector.

NOTE: Be sure to check transmit frequency and power on all active channels after adjustment of transmitter.

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Input of RF wattmeter to antenna input. No modulation.	Ch. 19, USB Dynamike Plus MINIMUM	VR4	CARRIER BALANCE Adjust for MINIMUM RF output.
Input of RF wattmeter to antenna input. Insert a 0-500mA DC meter at TP3. No modulation.	Ch. 19, USB Dynamike Plus MINIMUM	VR9	DRIVER BIAS Adjust for 30mA idle current.
Input of RF wattmeter to antenna input. Insert a 0-500mA DC meter at TP7. No modulation.	Ch. 19, USB Dynamike Plus MINIMUM	VR8	FINAL BIAS Adjust for 60mA idle current.
Input of RF wattmeter to antenna input. Inject a two tone, 500mV audio signal at mic input.	Ch. 19, USB Dynamike Plus Maximum	VR11	SSB ALC Adjust for 11.0 watts PEP RF output maximum.
Input of oscilloscope or modulation meter to antenna input. Inject a 1000Hz, 20mV audio signal at mic input.	Ch. 19, AM Dynamike Plus Maximum	VR12	AM AMC Adjust for 100% modulation maximum. (See Figure 4).
Input of RF wattmeter to antenna input.	Ch. 19, AM Dynamike Plus MINIMUM	VR10	AM CARRIER POWER Adjust for 4.0 watts RF output maximum.
Input of oscilloscope or modulation meter to antenna input. Inject a 1000Hz audio signal at mic input. Set generator output to produce 100% mod.	Ch. 19, AM Dynamike Plus Maximum	VR7	MOD METER Adjust for 100% on MOD scale of meter.
Input of RF wattmeter to antenna input.	Ch. 19, AM Dynamike Plus MINIMUM	VR6	RF PWR METER At 4.0 watts RF output adjust so RF PWR METER agrees with RF wattmeter.



### FREQUENCY COUNTER ALIGNMENT

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of oscilloscope to TP504 (IC512 Pin 5).	Ch. 19, AM Voicelock Midrange Counter/Time Counter	L501	Adjust for maximum, then rotate core 1/2 turn clockwise.
Input of oscilloscope to TP502.	Ch. 19, USB Voicelock Midrange Counter/Time Counter	L502	Adjust for maximum RF.
	Ch. 19, AM Voicelock Midrange Counter/Time Counter	CT501	Adjust for 27.1850 on counter display.

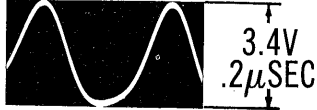


FIGURE 1



FIGURE 2



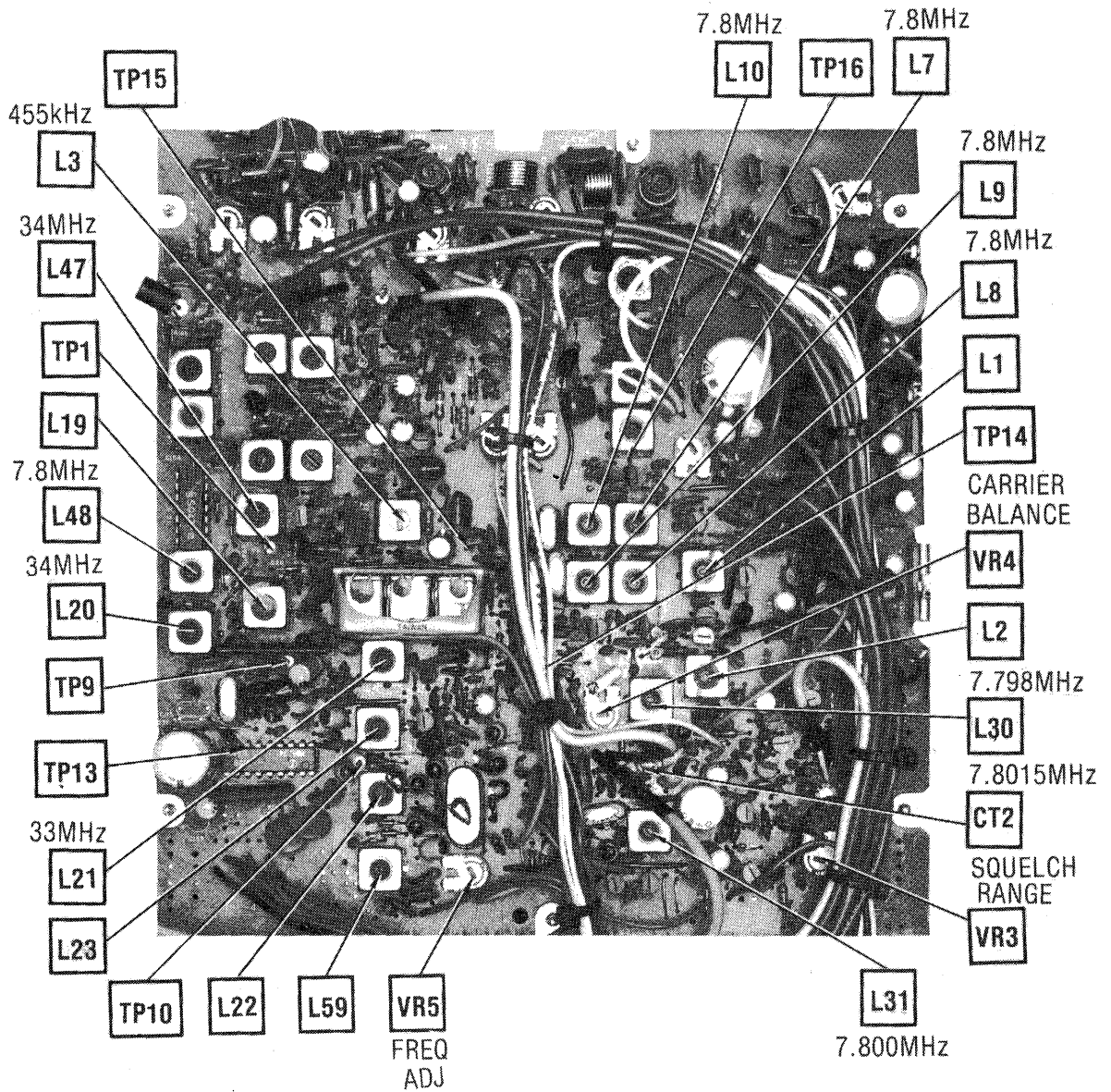
FIGURE 3



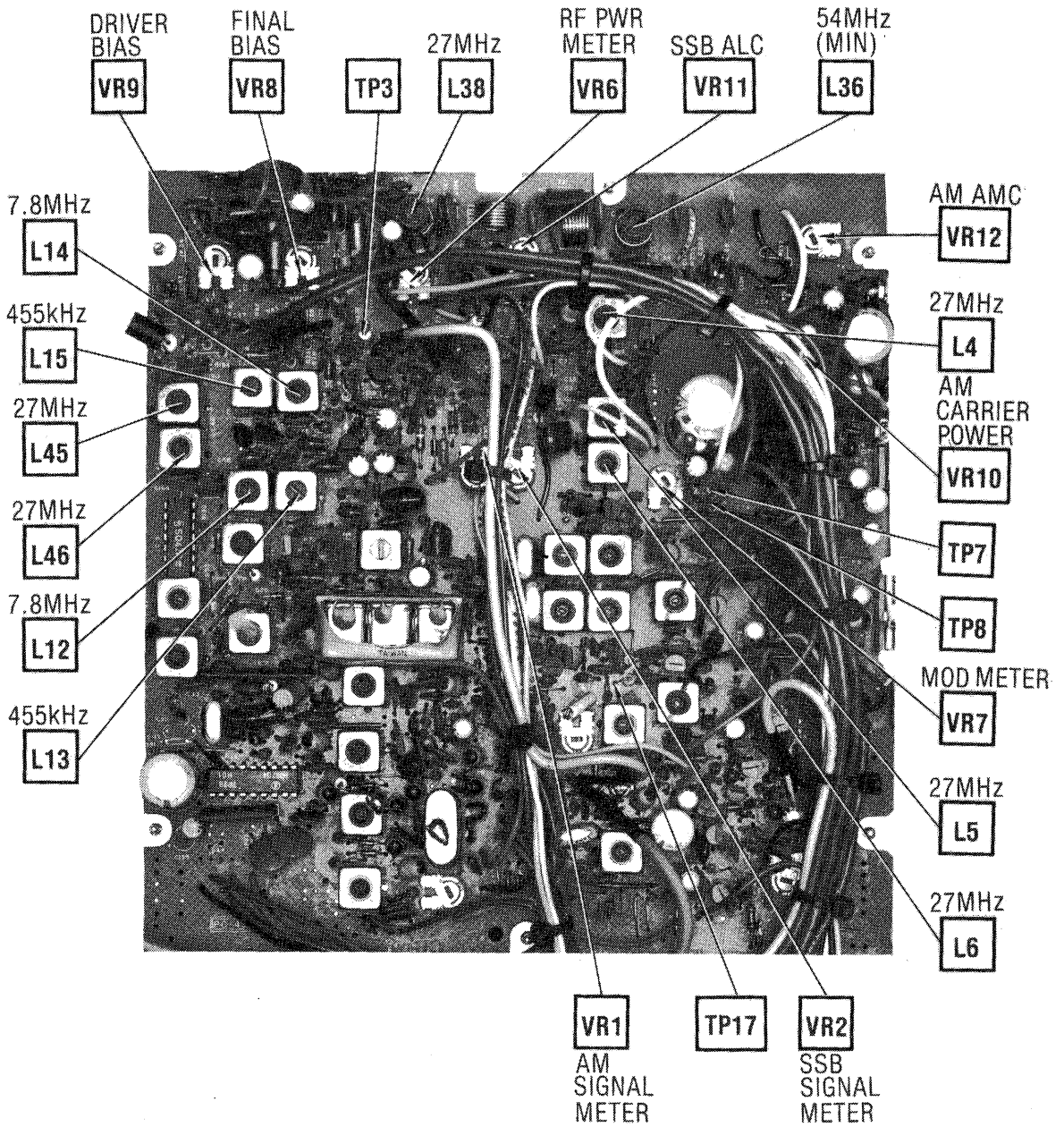
FIGURE 4

### TRUTH CHART

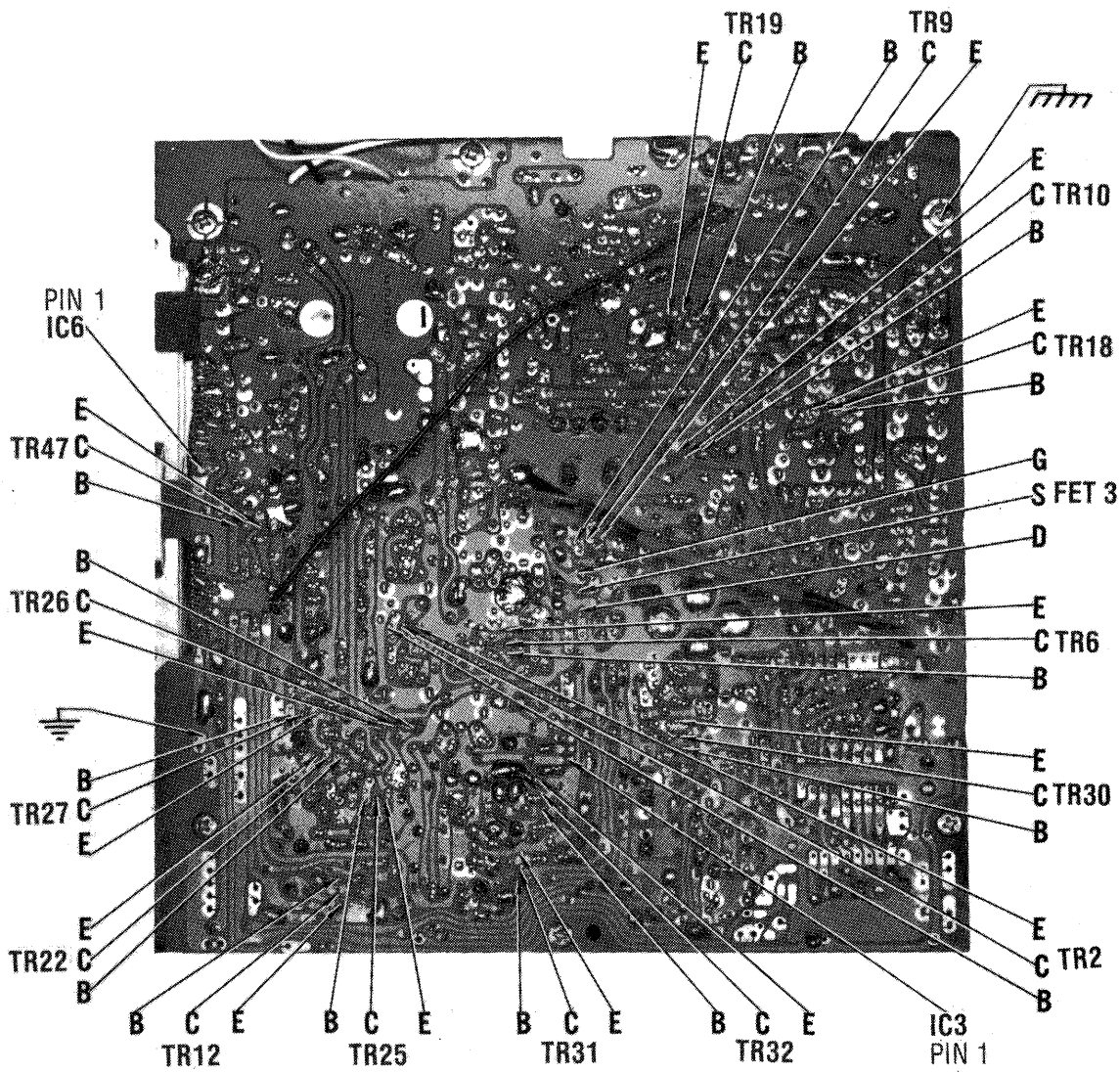
C H A N N E L	1 = 8.00 Volts    0 = 0 to .50 Volts							AM Rec & XMT SYNTH OUTPUT IN MHZ AT TP1	USB Rec & XMT SYNTH OUTPUT IN MHZ AT TP1	LSB Rec & XMT SYNTH OUTPUT IN MHZ AT TP1	DIVIDER INPUT IN MHZ AT TP10
	CHANNEL INPUT CODES										
	PINS										
	10	11	12	13	14	15	16				
1	1	0	0	1	1	1	1	34.7650	34.7665	34.7635	.790
2	1	0	1	0	0	0	0	34.7750	34.7765	34.7735	.800
3	1	0	1	0	0	0	1	34.7850	34.7865	34.7835	.810
4	1	0	1	0	0	1	1	34.8050	34.8065	34.8035	.830
5	1	0	1	0	1	0	0	34.8150	34.8165	34.8135	.840
6	1	0	1	0	1	0	1	34.8250	34.8265	34.8235	.850
7	1	0	1	0	1	1	0	34.8350	34.8365	34.8335	.860
8	1	0	1	1	0	0	0	34.8550	34.8565	34.8535	.880
9	1	0	1	1	0	0	1	34.8650	34.8665	34.8635	.890
10	1	0	1	1	0	1	0	34.8750	34.8765	34.8735	.900
11	1	0	1	1	0	1	1	34.8850	34.8865	34.8835	.910
12	1	0	1	1	1	0	1	34.9050	34.9065	34.9035	.930
13	1	0	1	1	1	1	0	34.9150	34.9165	34.9135	.940
14	1	0	1	1	1	1	1	34.9250	34.9265	34.9235	.950
15	1	1	0	0	0	0	0	34.9350	34.9365	34.9335	.960
16	1	1	0	0	0	1	0	34.9550	34.9565	34.9535	.980
17	1	1	0	0	0	1	1	34.9650	34.9665	34.9635	.990
18	1	1	0	0	1	0	0	34.9750	34.9765	34.9735	1.000
19	1	1	0	0	1	0	1	34.9850	34.9865	34.9835	1.010
20	1	1	0	0	1	1	1	35.0050	35.0065	35.0035	1.030
21	1	1	0	1	0	0	0	35.0150	35.0165	35.0135	1.040
22	1	1	0	1	0	0	1	35.0250	35.0265	35.0235	1.050
23	1	1	0	1	1	0	0	35.0550	35.0565	35.0535	1.080
24	1	1	0	1	0	1	0	35.0350	35.0365	35.0335	1.060
25	1	1	0	1	0	1	1	35.0450	35.0465	35.0435	1.070
26	1	1	0	1	1	0	1	35.0650	35.0665	35.0635	1.090
27	1	1	0	1	1	1	0	35.0750	35.0765	35.0735	1.100
28	1	1	0	1	1	1	1	35.0850	35.0865	35.0835	1.110
29	1	1	1	0	0	0	0	35.0950	35.0965	35.0935	1.120
30	1	1	1	0	0	0	1	35.1050	35.1065	35.1035	1.130
31	1	1	1	0	0	1	0	35.1150	35.1165	35.1135	1.140
32	1	1	1	0	0	1	1	35.1250	35.1265	35.1235	1.150
33	1	1	1	0	1	0	0	35.1350	35.1365	35.1335	1.160
34	1	1	1	0	1	0	1	35.1450	35.1465	35.1435	1.170
35	1	1	1	0	1	1	0	35.1550	35.1565	35.1535	1.180
36	1	1	1	0	1	1	1	35.1650	35.1665	35.1635	1.190
37	1	1	1	1	0	0	0	35.1750	35.1765	35.1735	1.200
38	1	1	1	1	0	0	1	35.1850	35.1865	35.1835	1.210
39	1	1	1	1	0	1	0	35.1950	35.1965	35.1935	1.220
40	1	1	1	1	0	1	1	35.2050	35.2065	35.2035	1.230



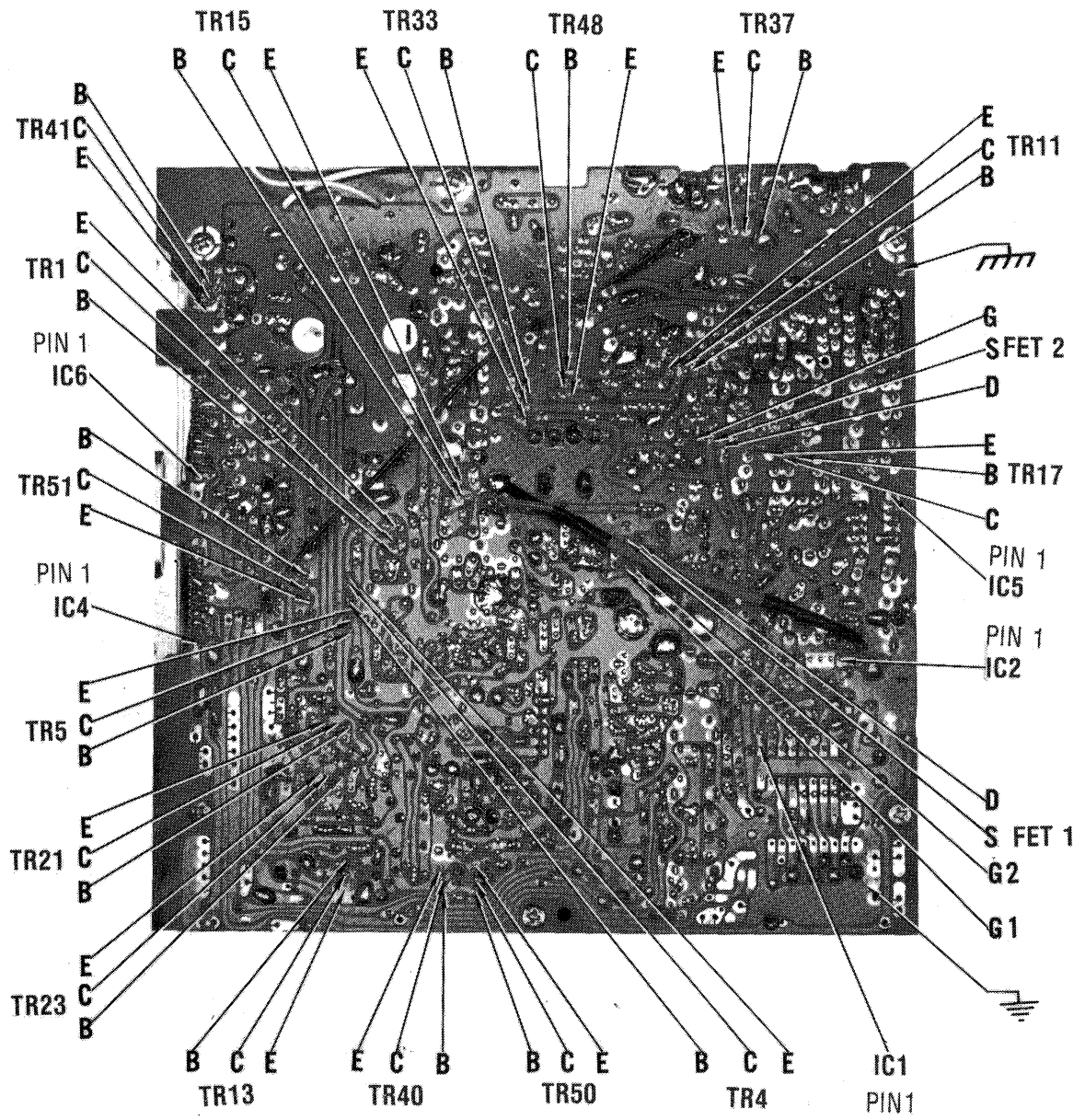
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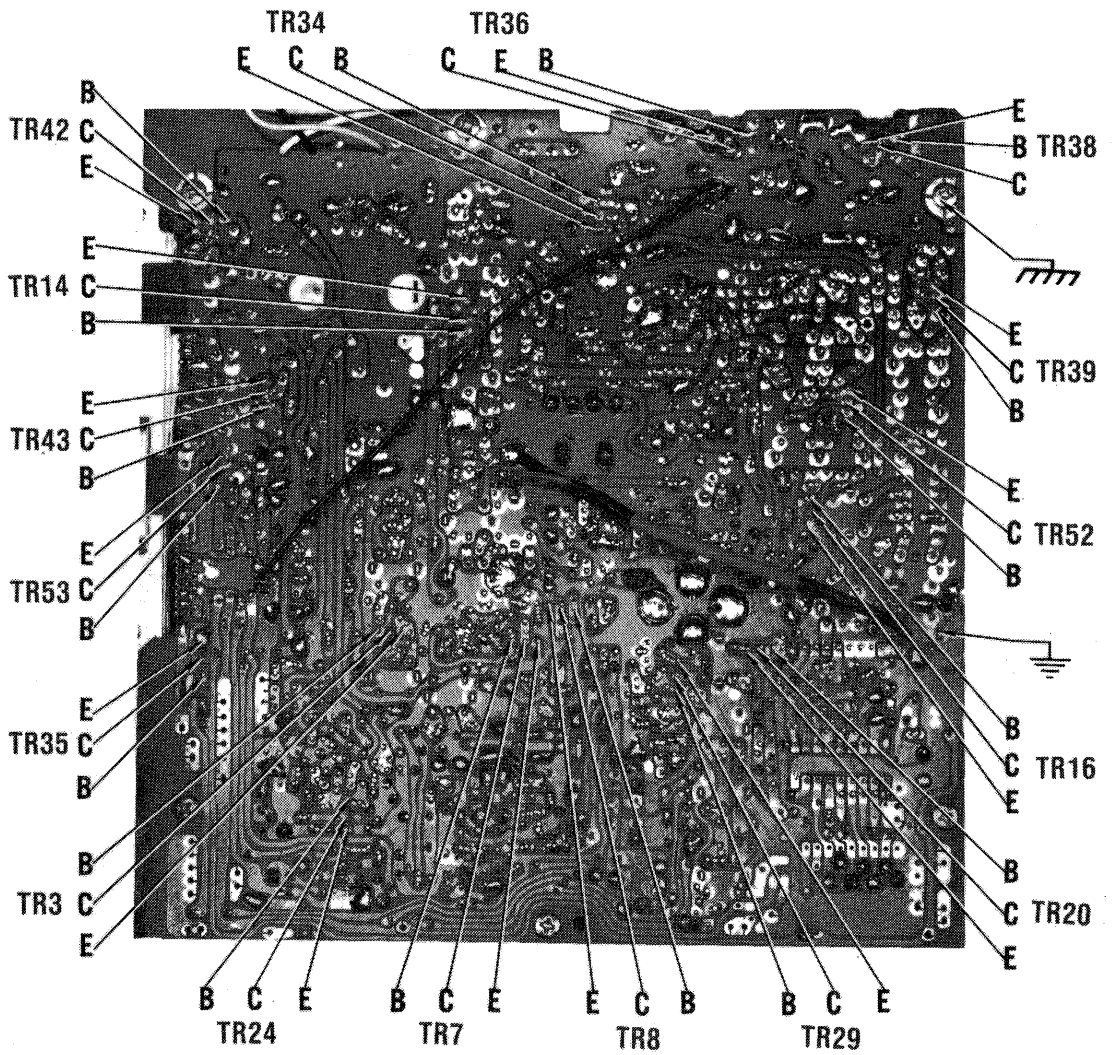
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MAIN BOARD

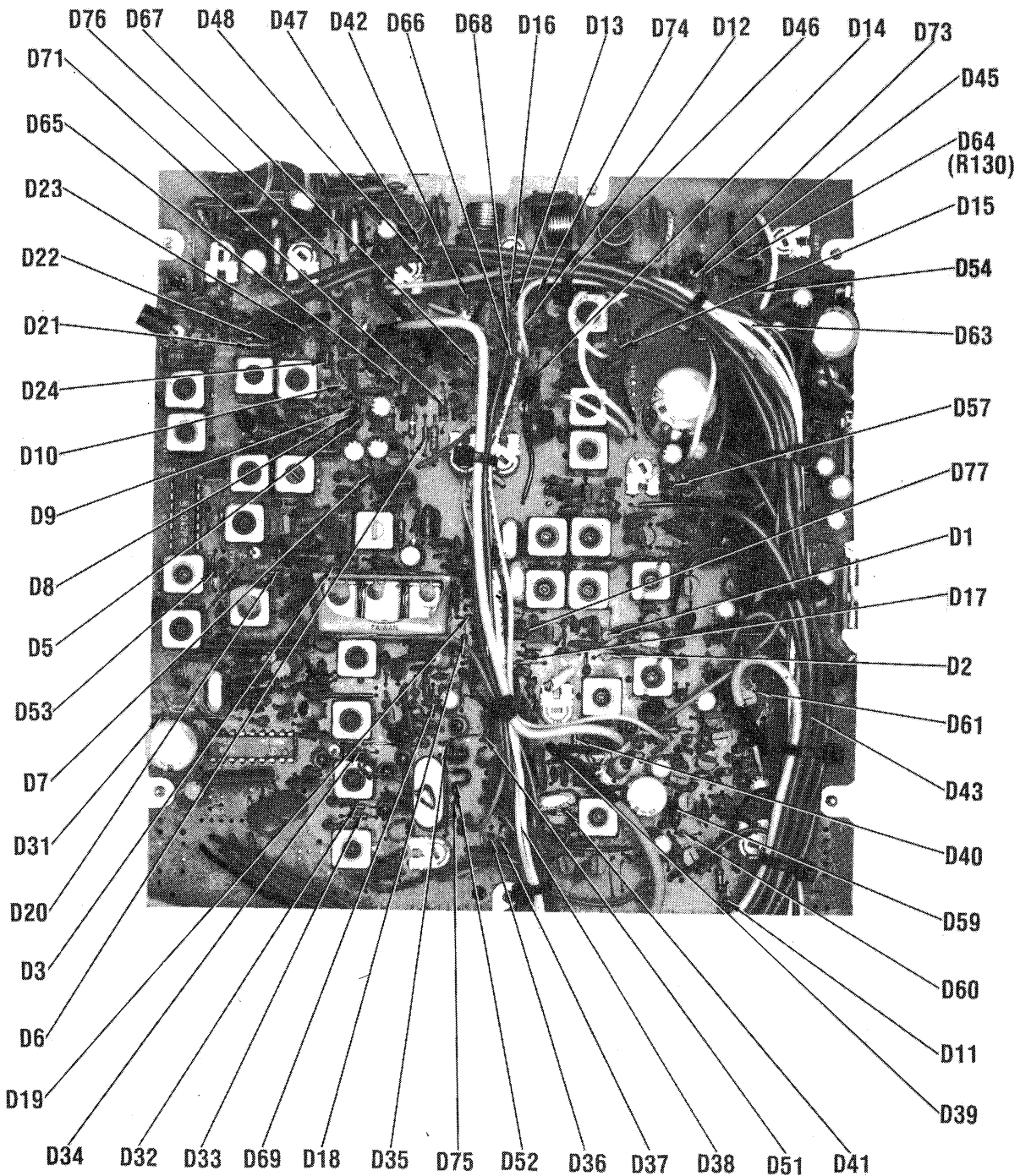


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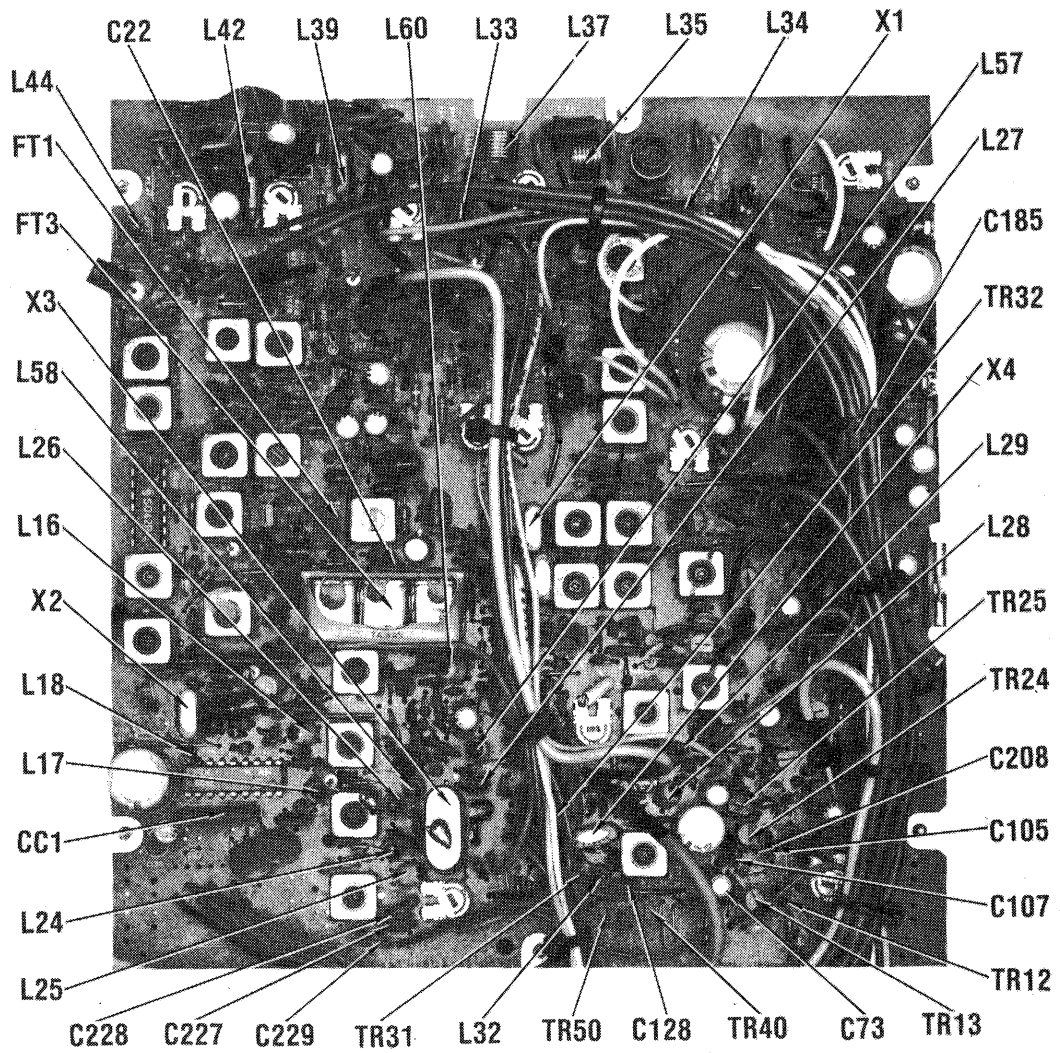


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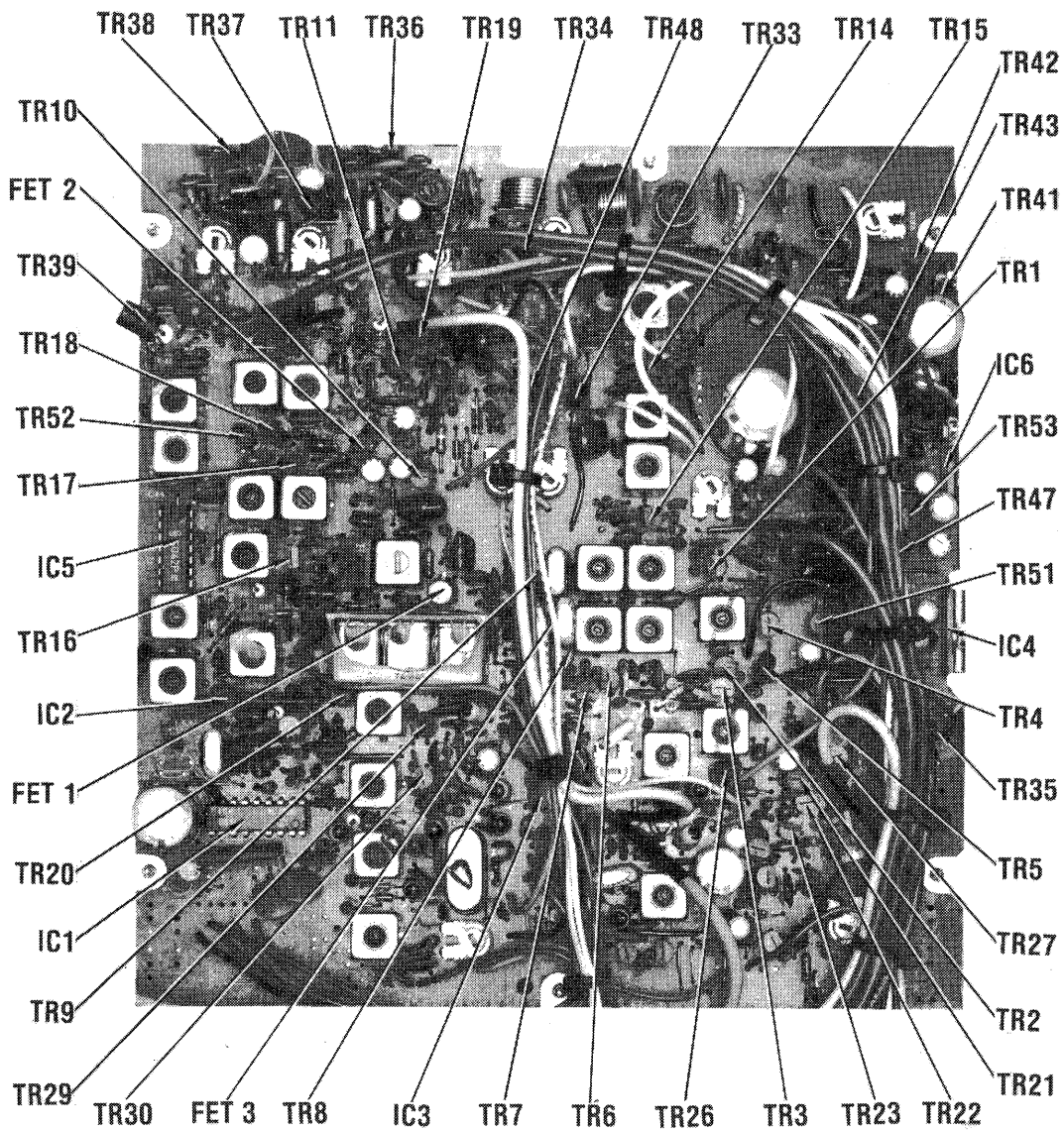


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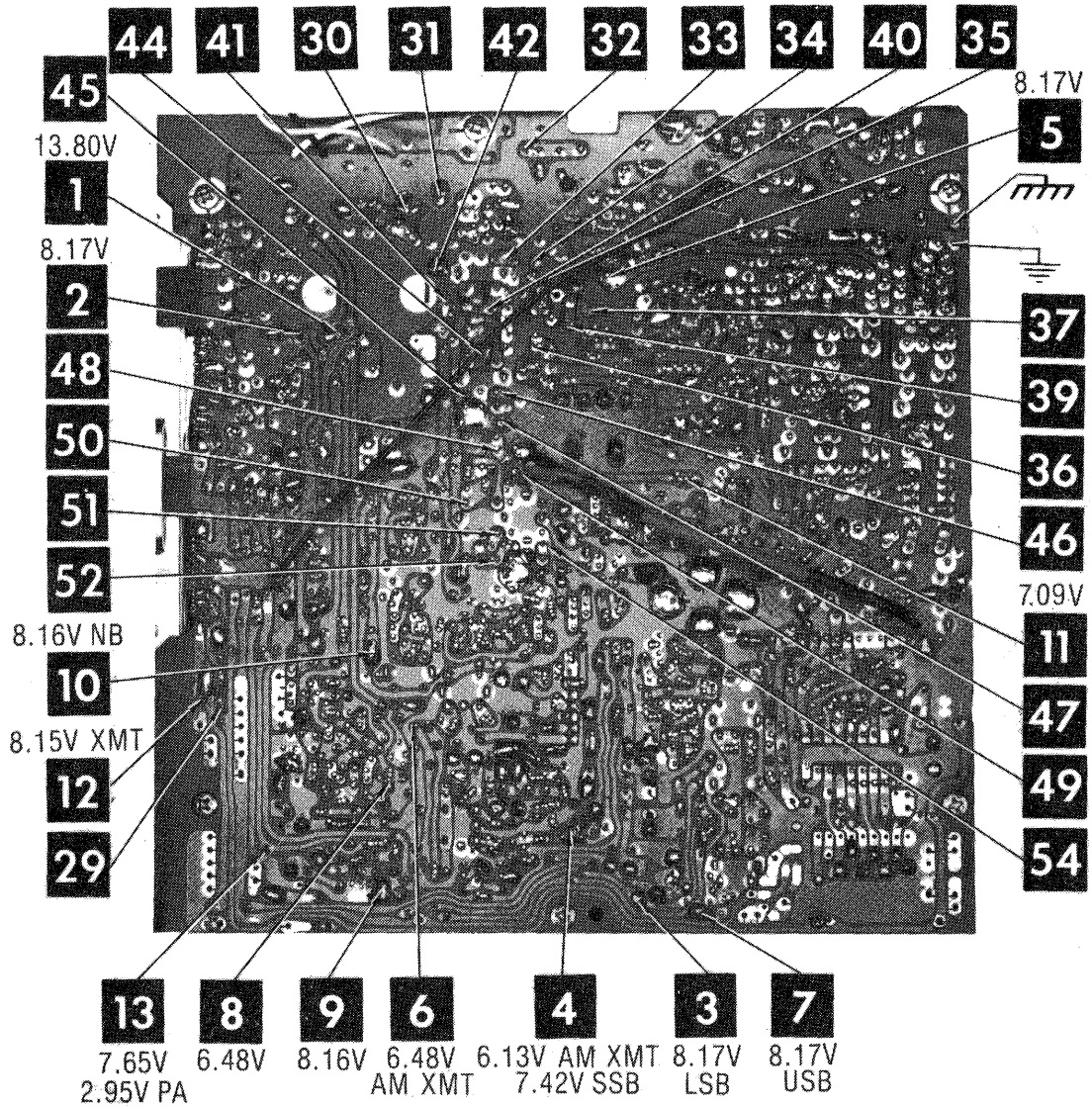


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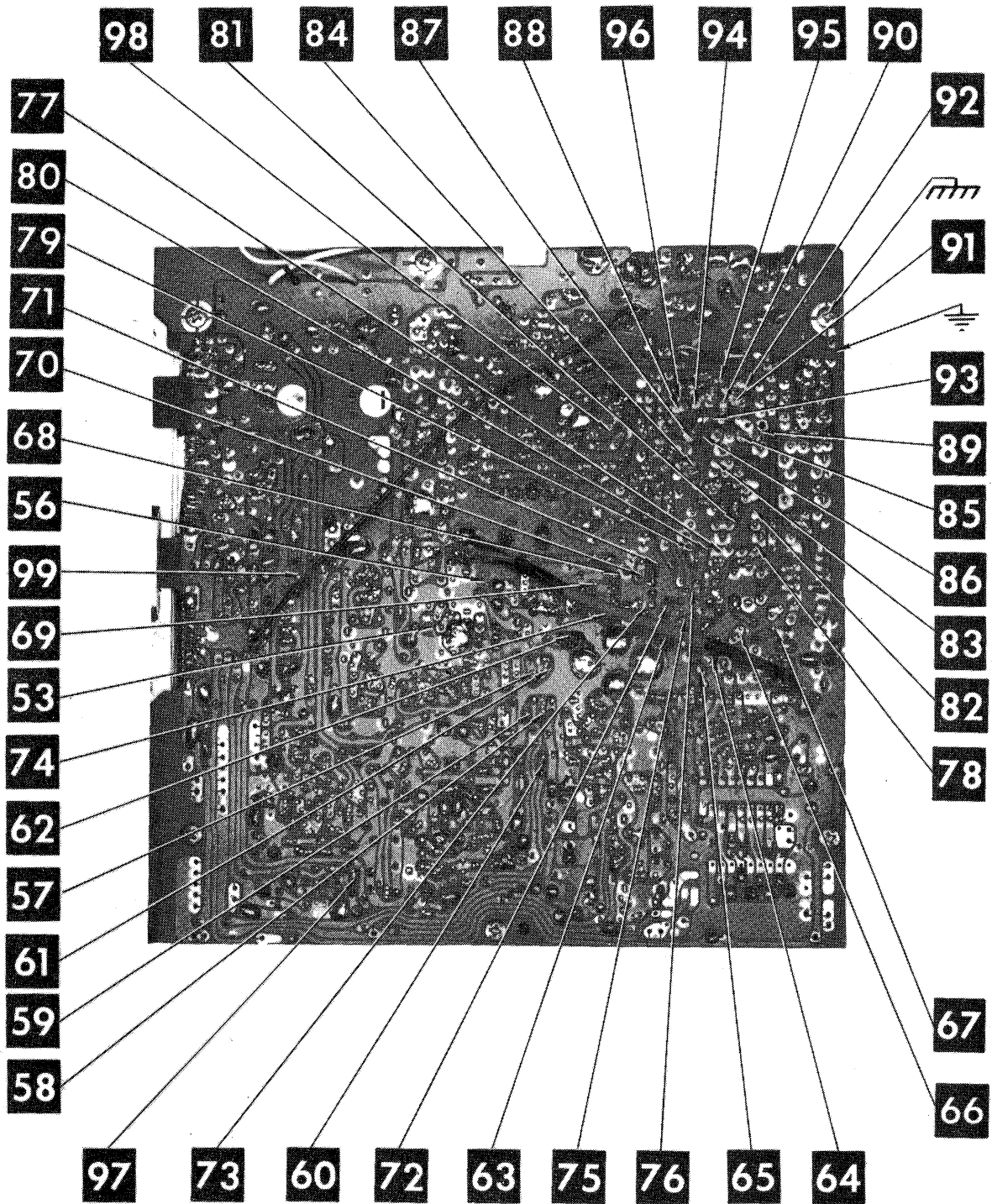




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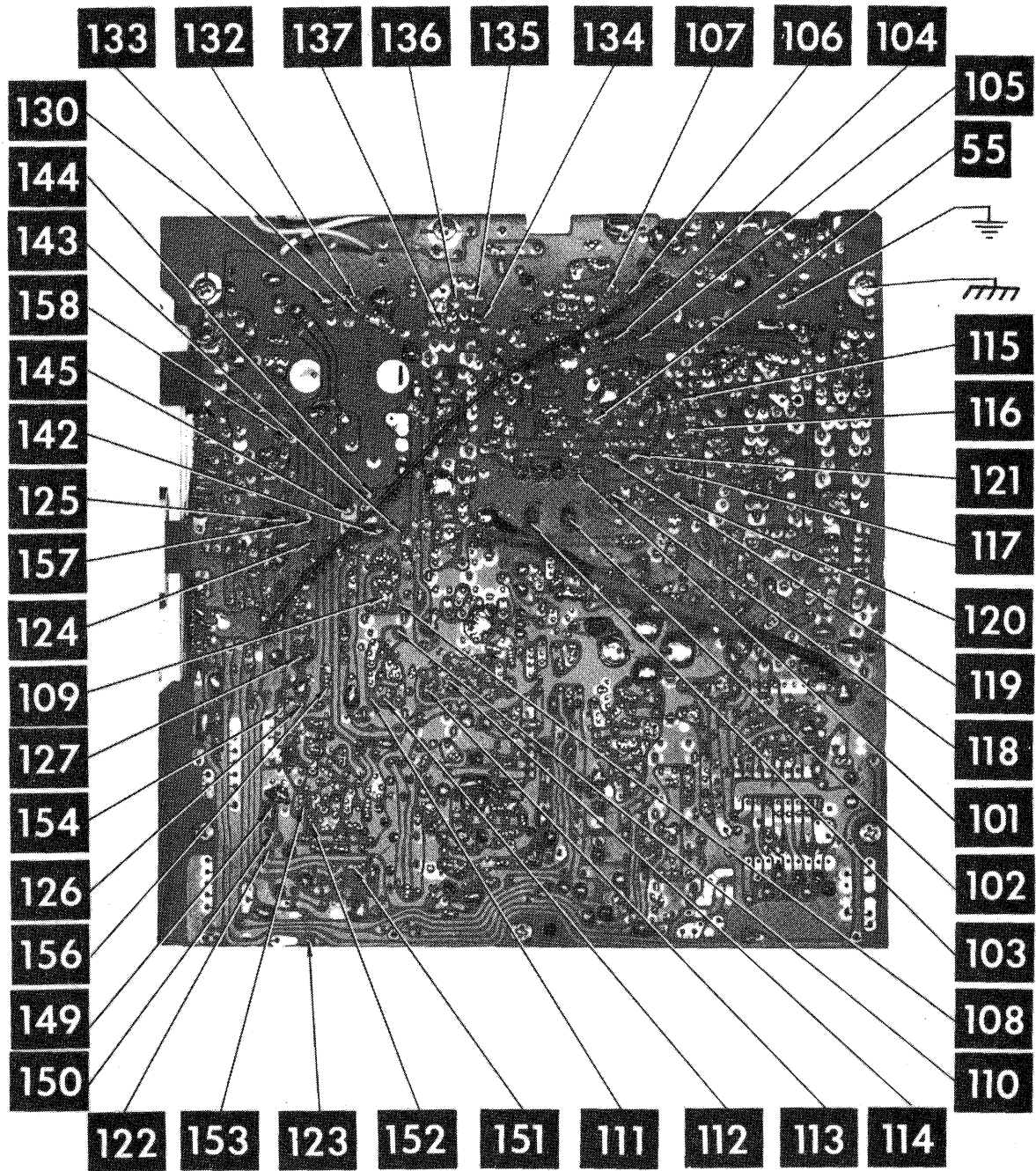


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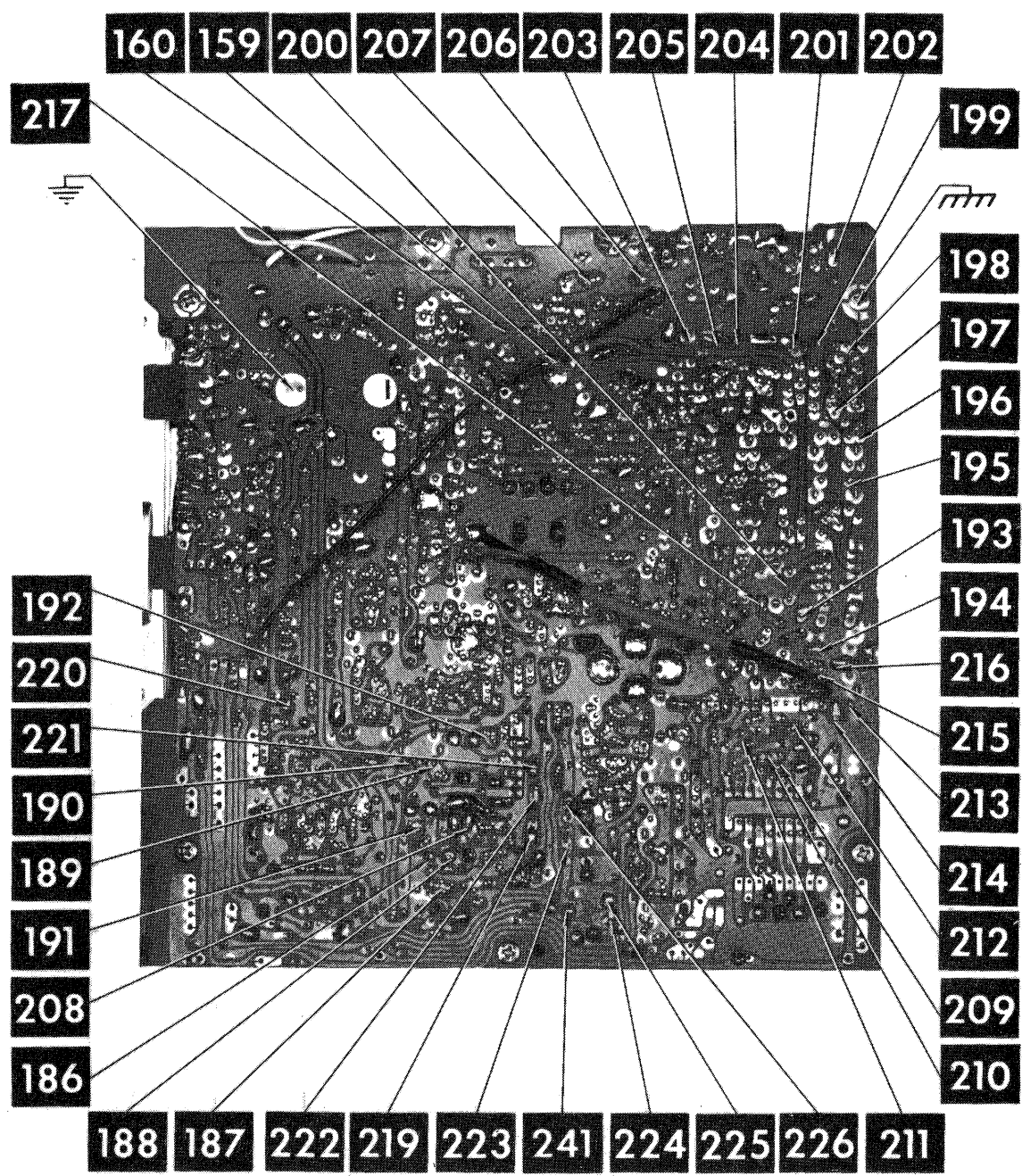
COBRA MODEL 2000GTL

MAIN BOARD



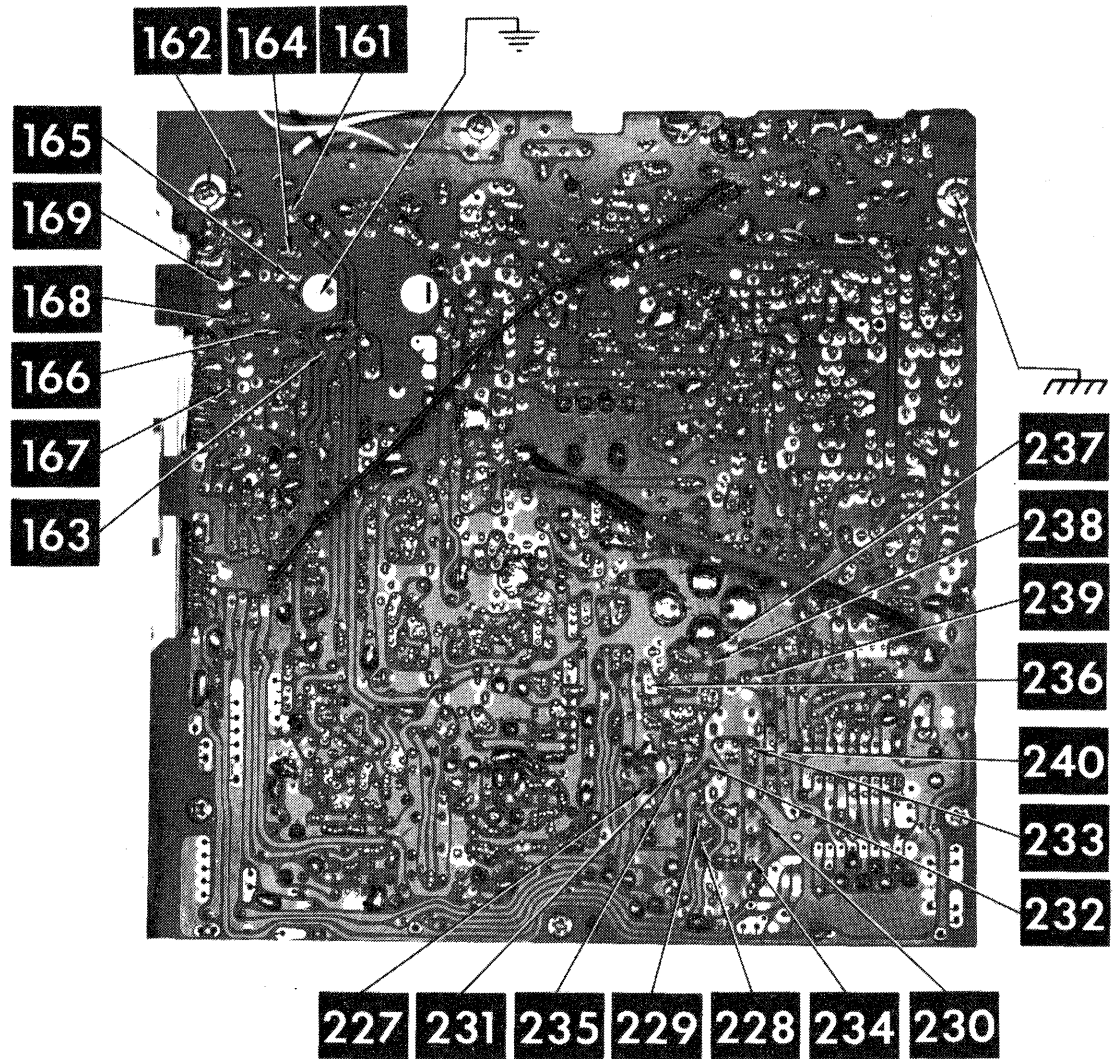
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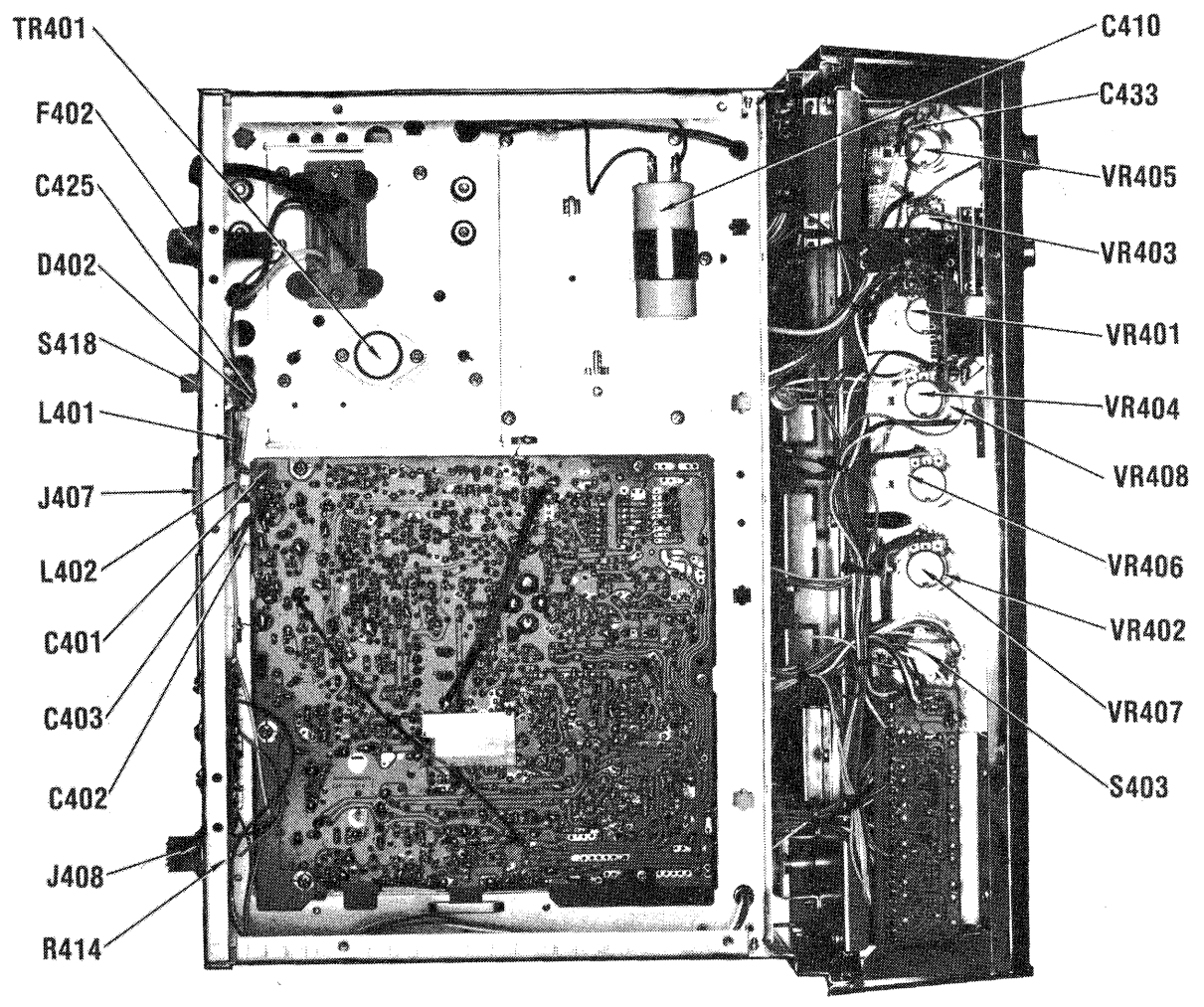


COBRA MODEL 2000GTL

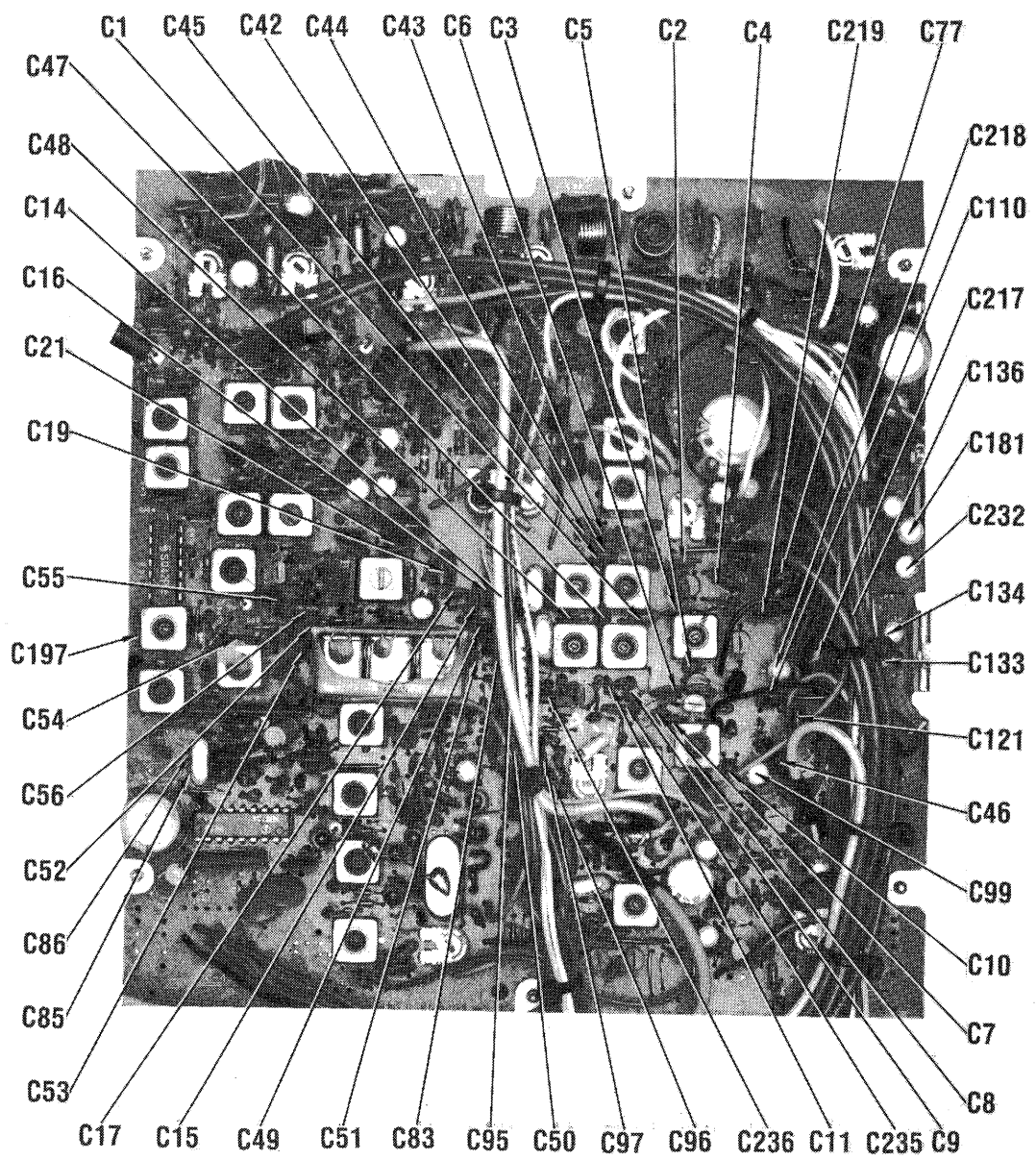
MAIN BOARD



MAIN BOARD

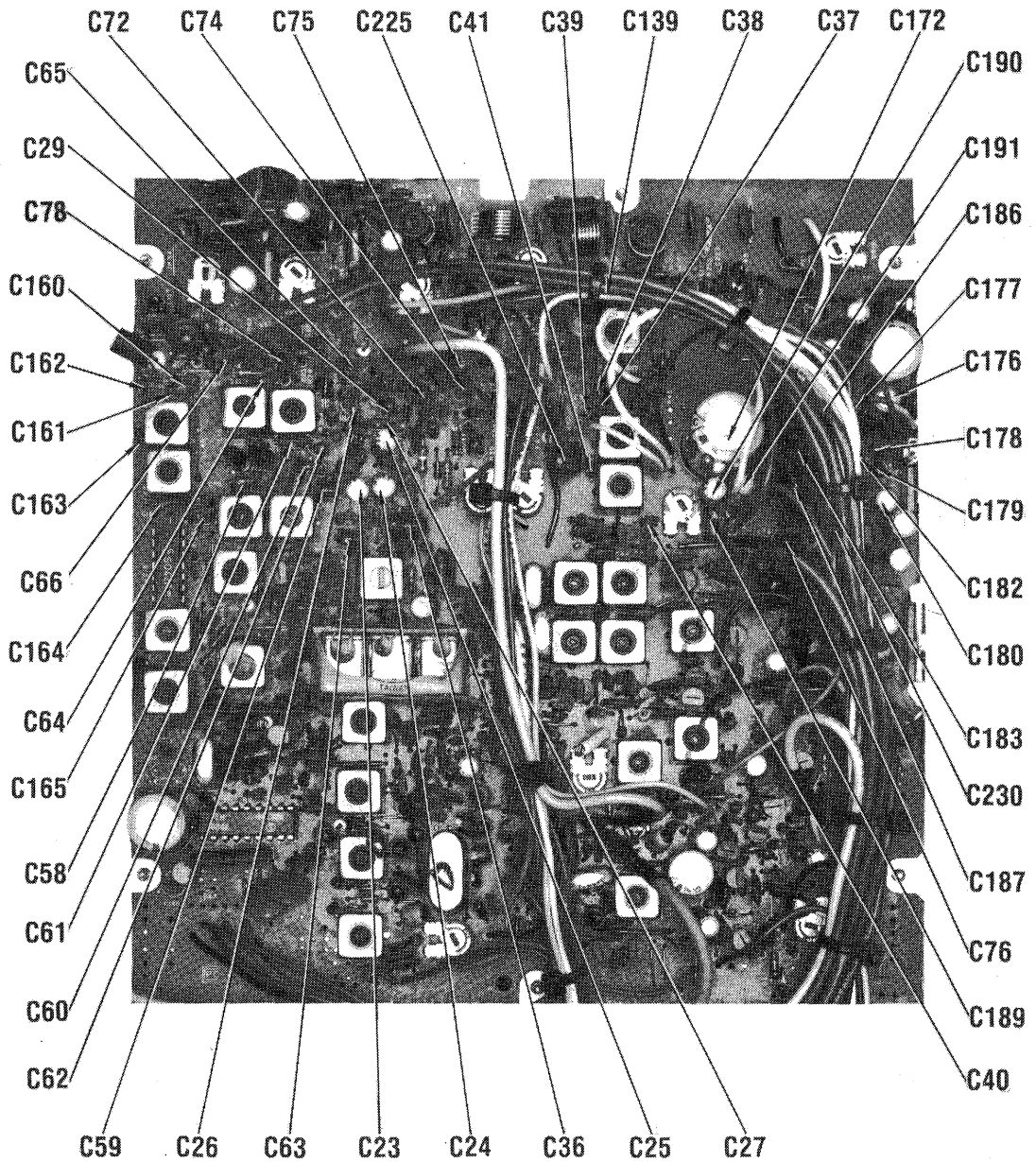


CHASSIS - BOTTOM

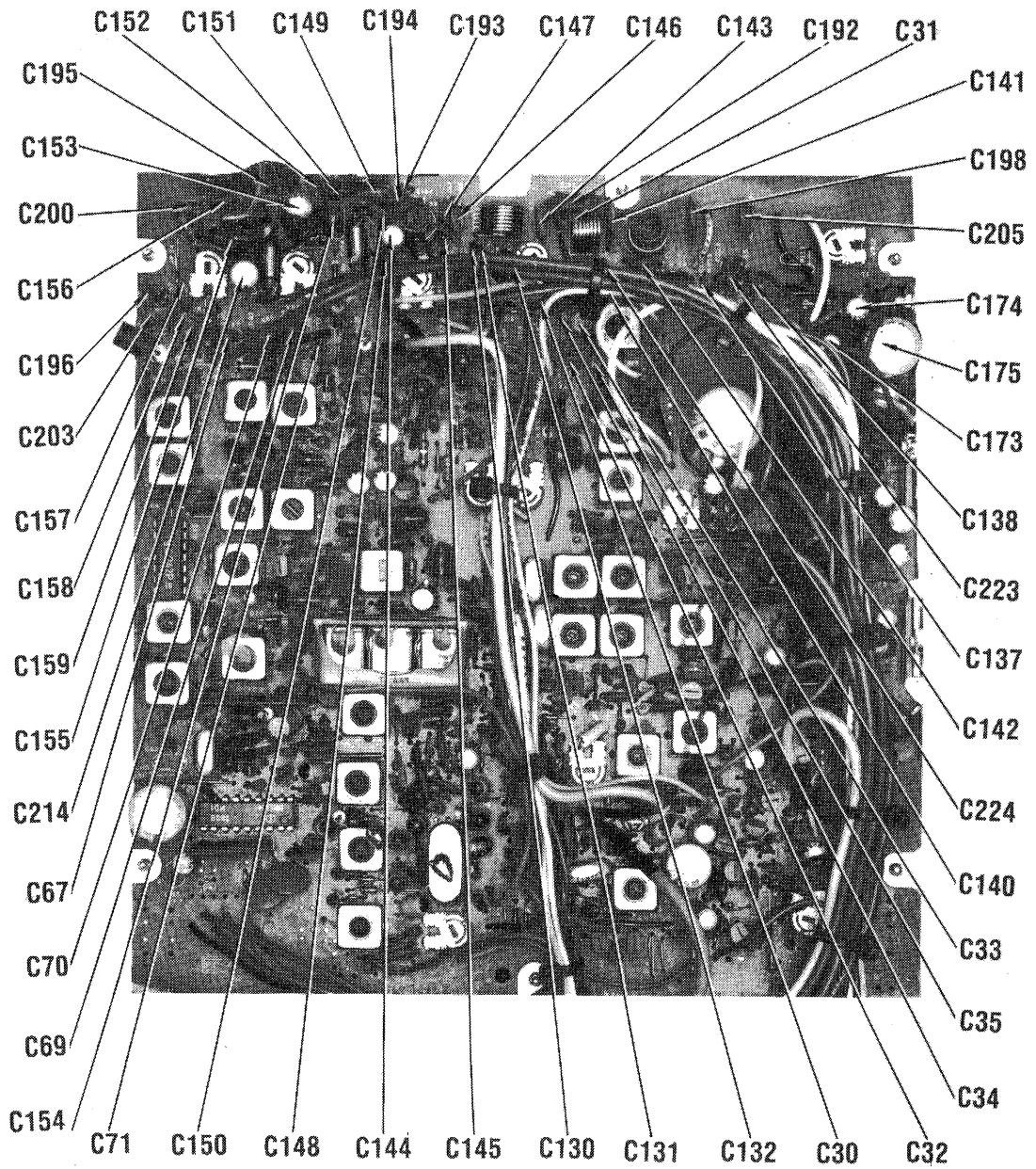


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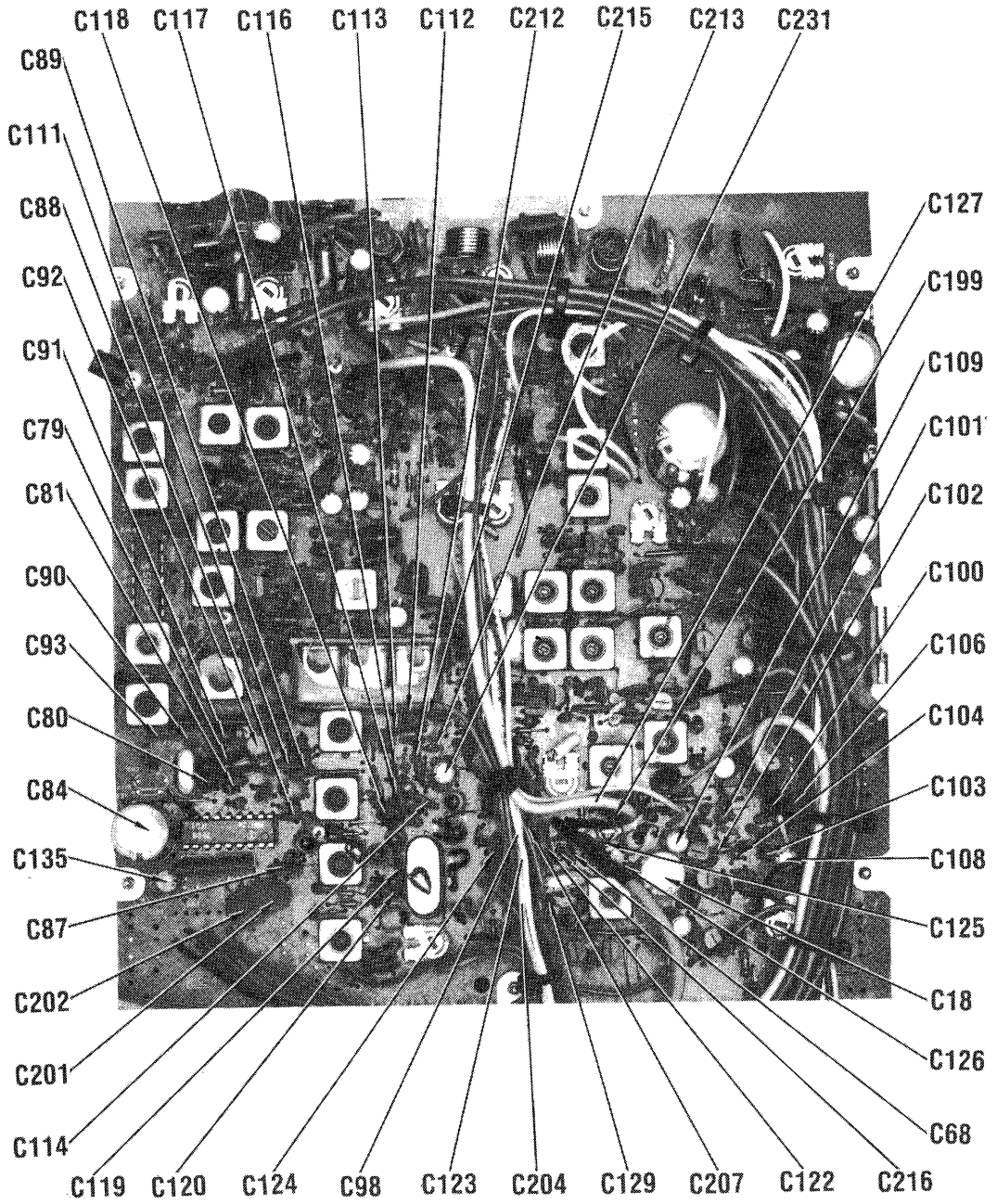




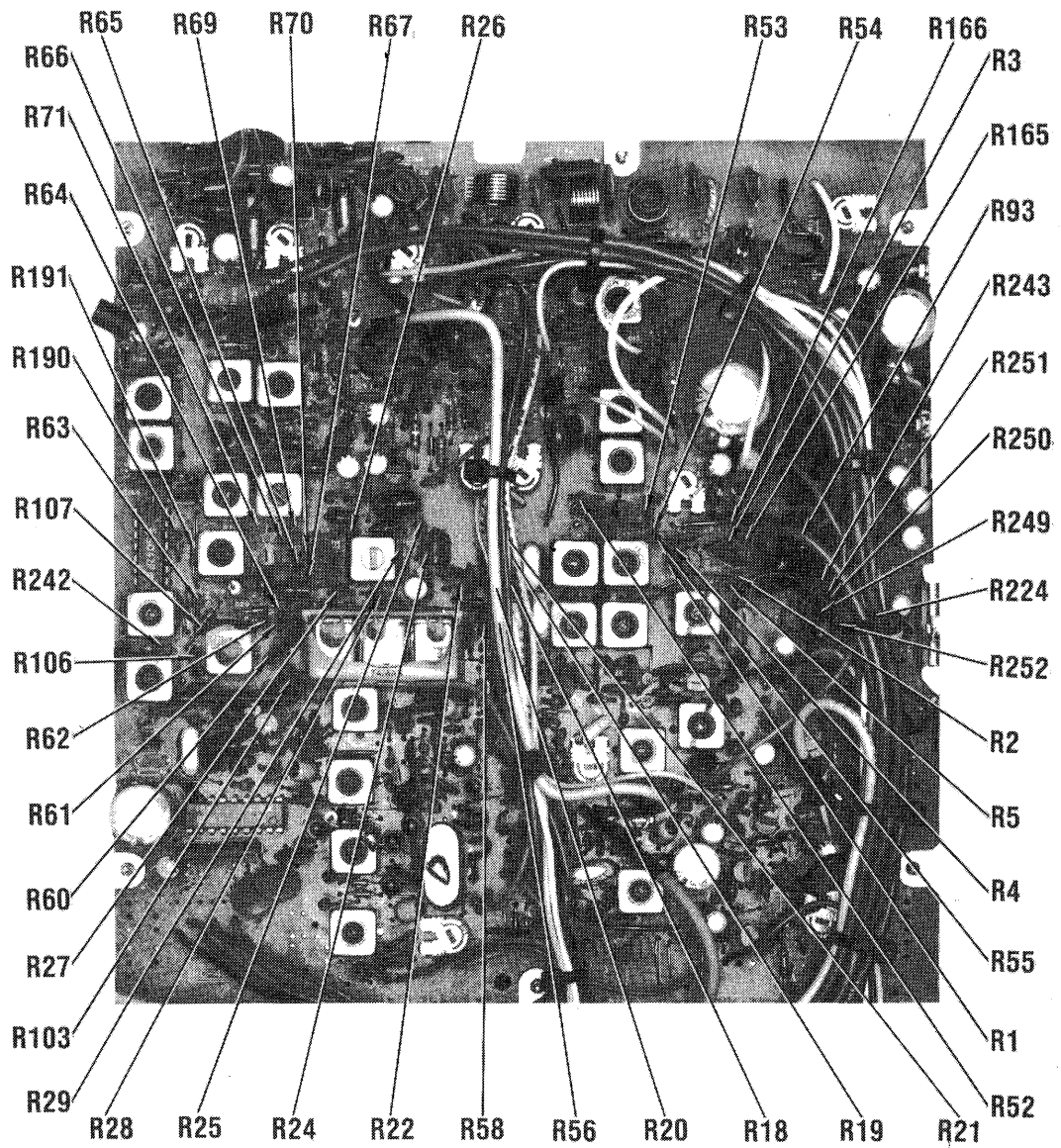
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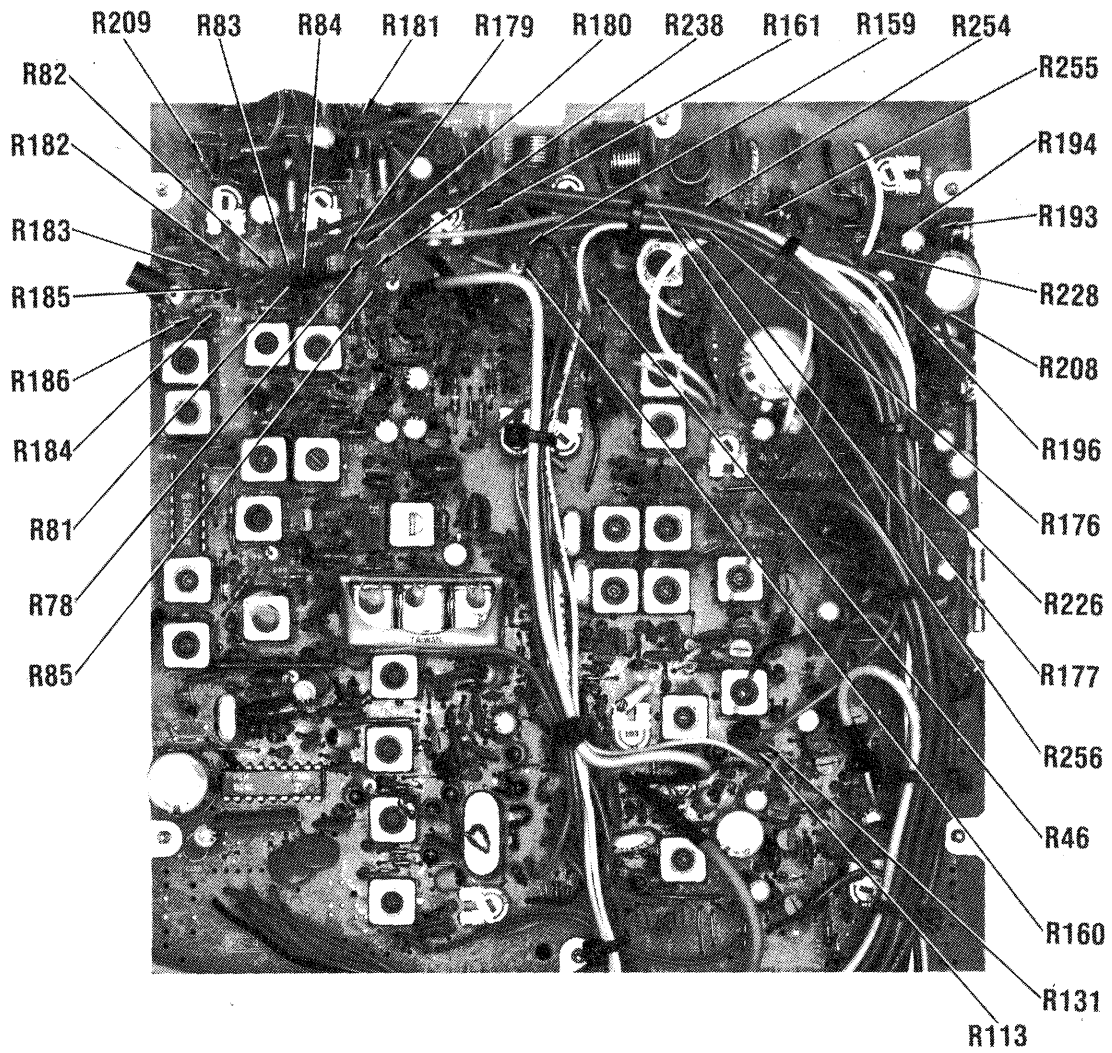
MAIN BOARD



MAIN BOARD

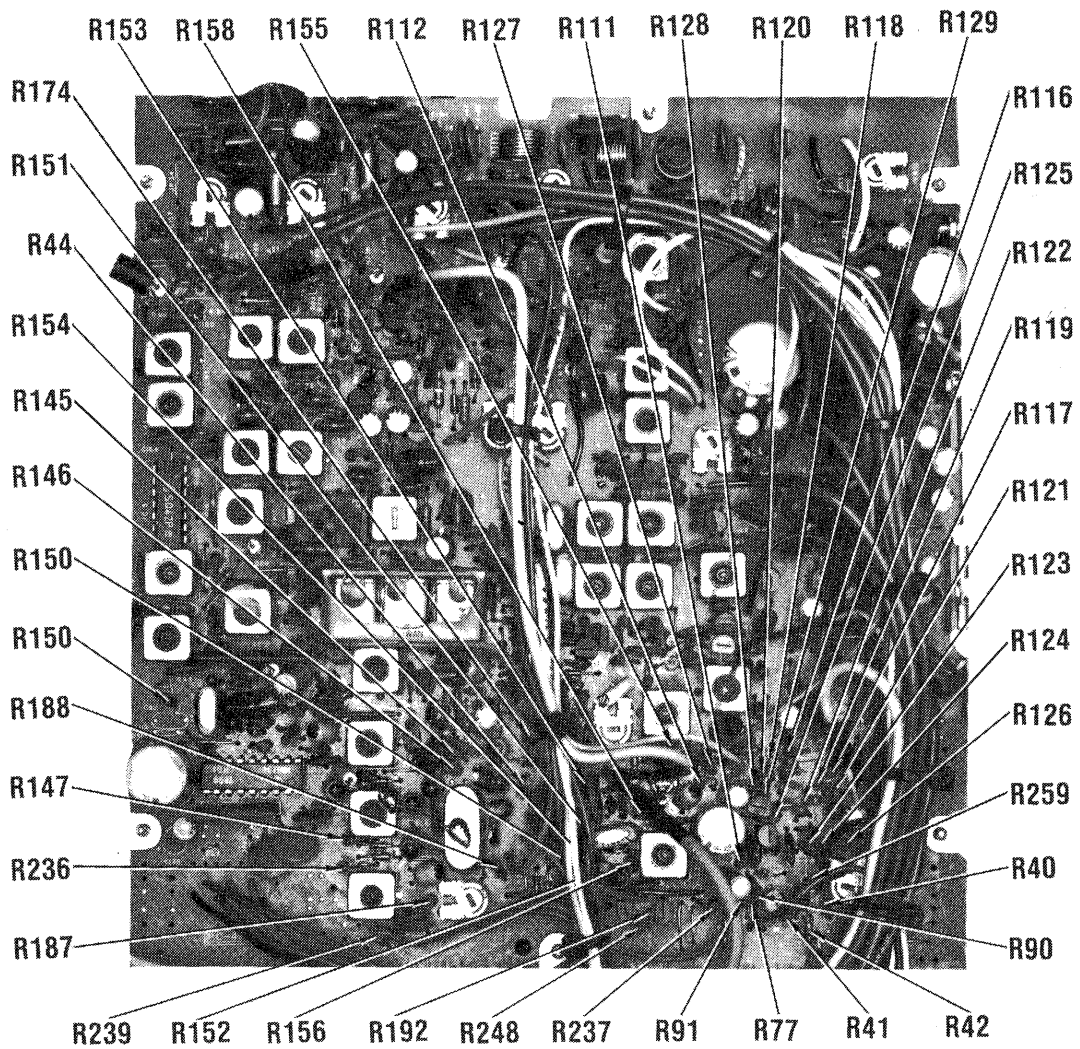


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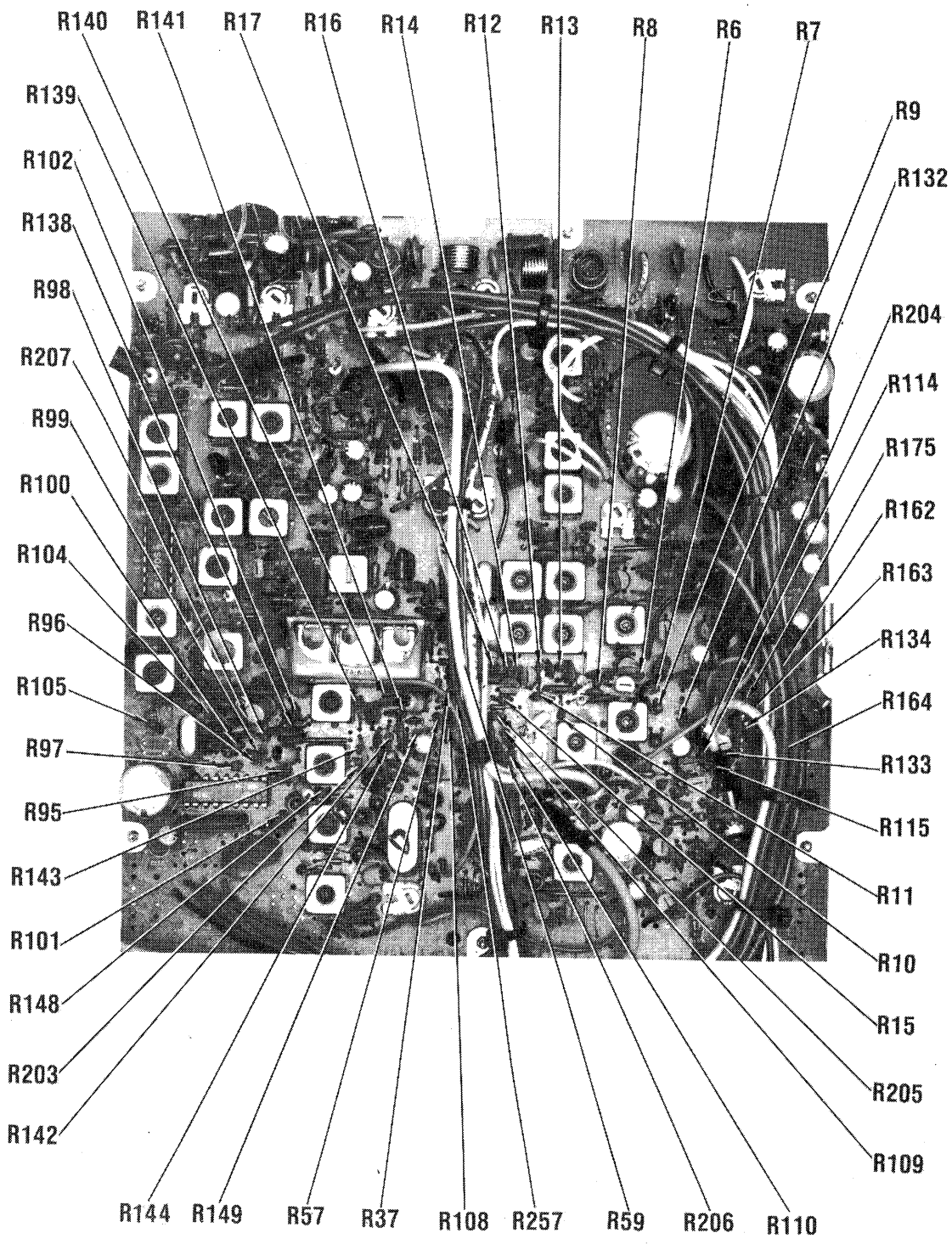


MA IN BOARD

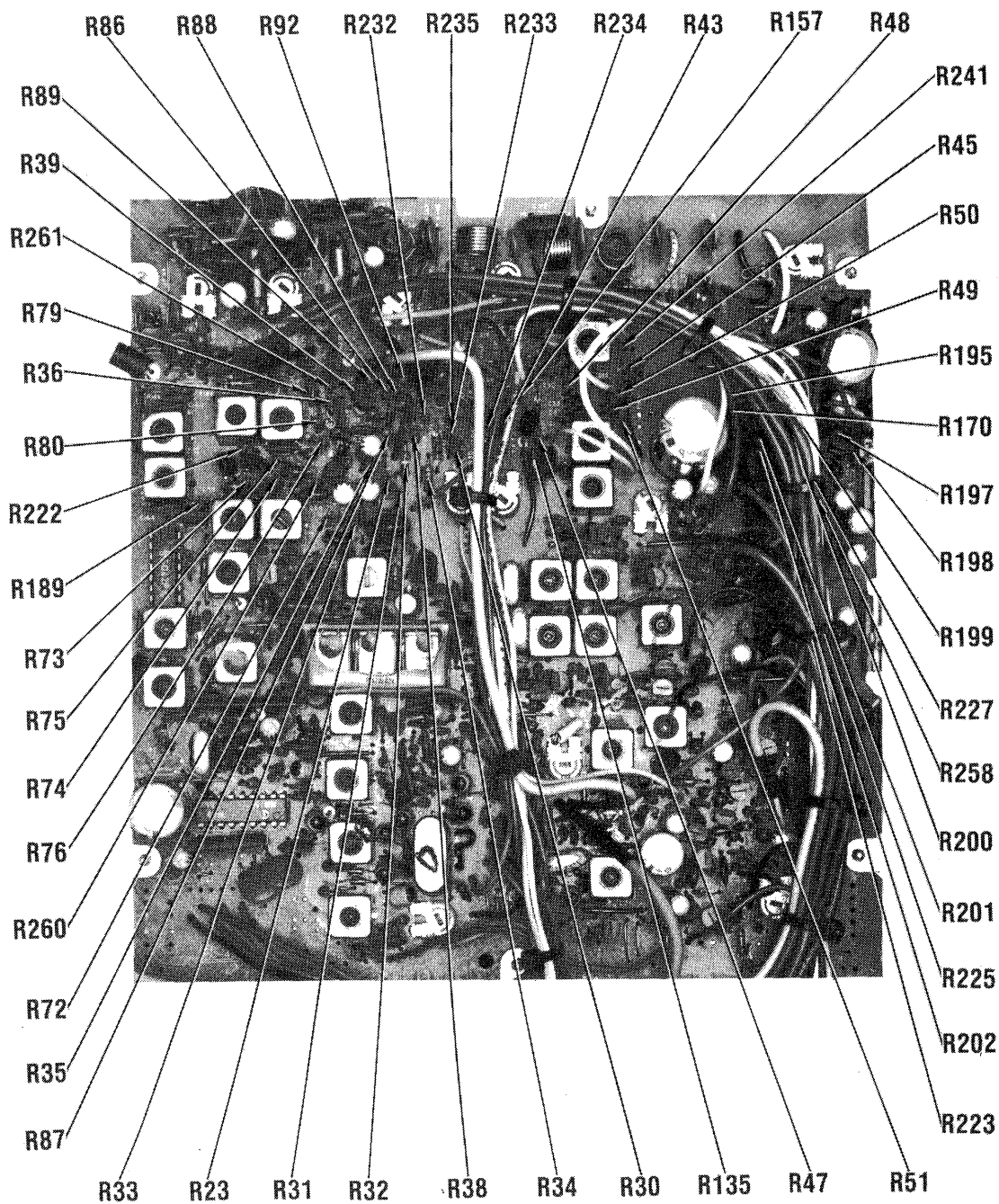




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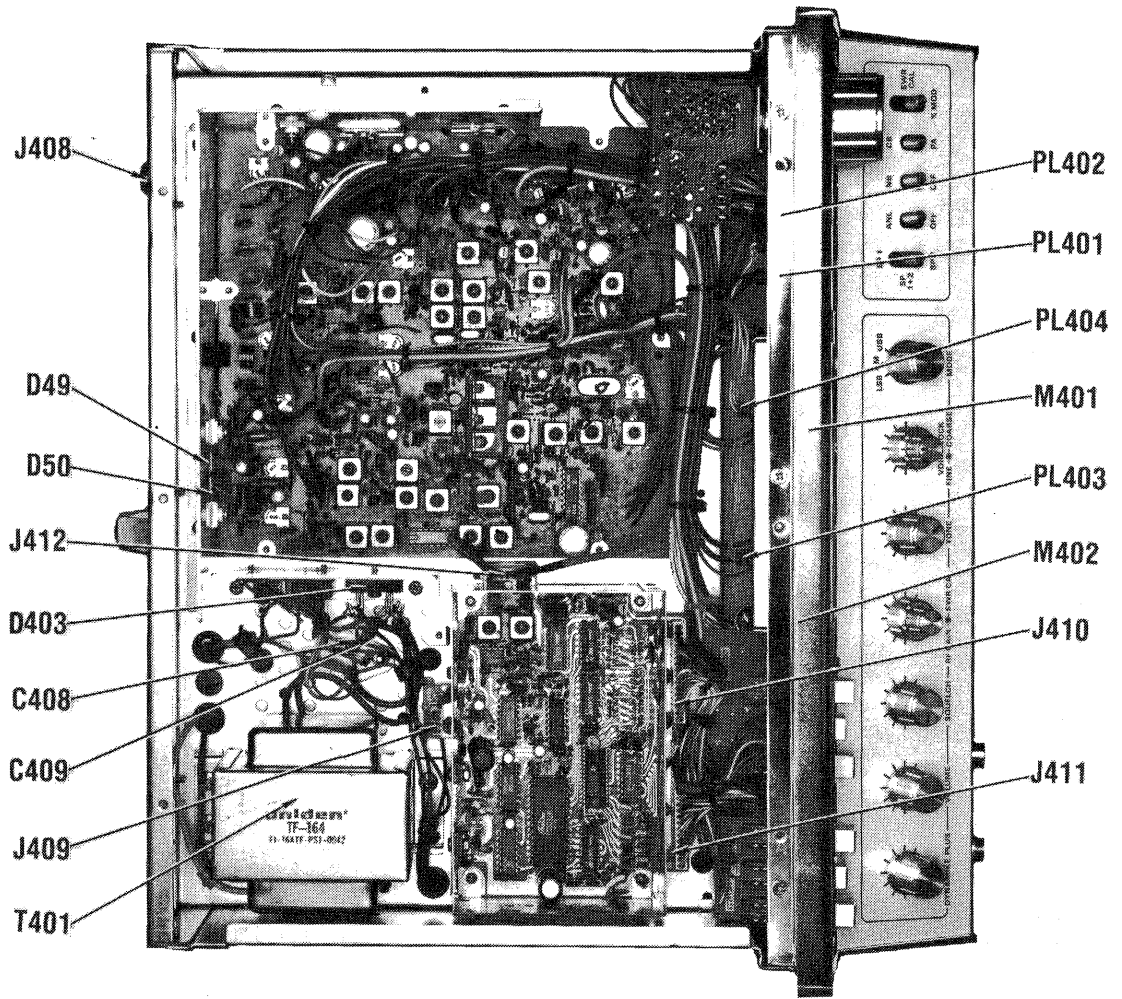


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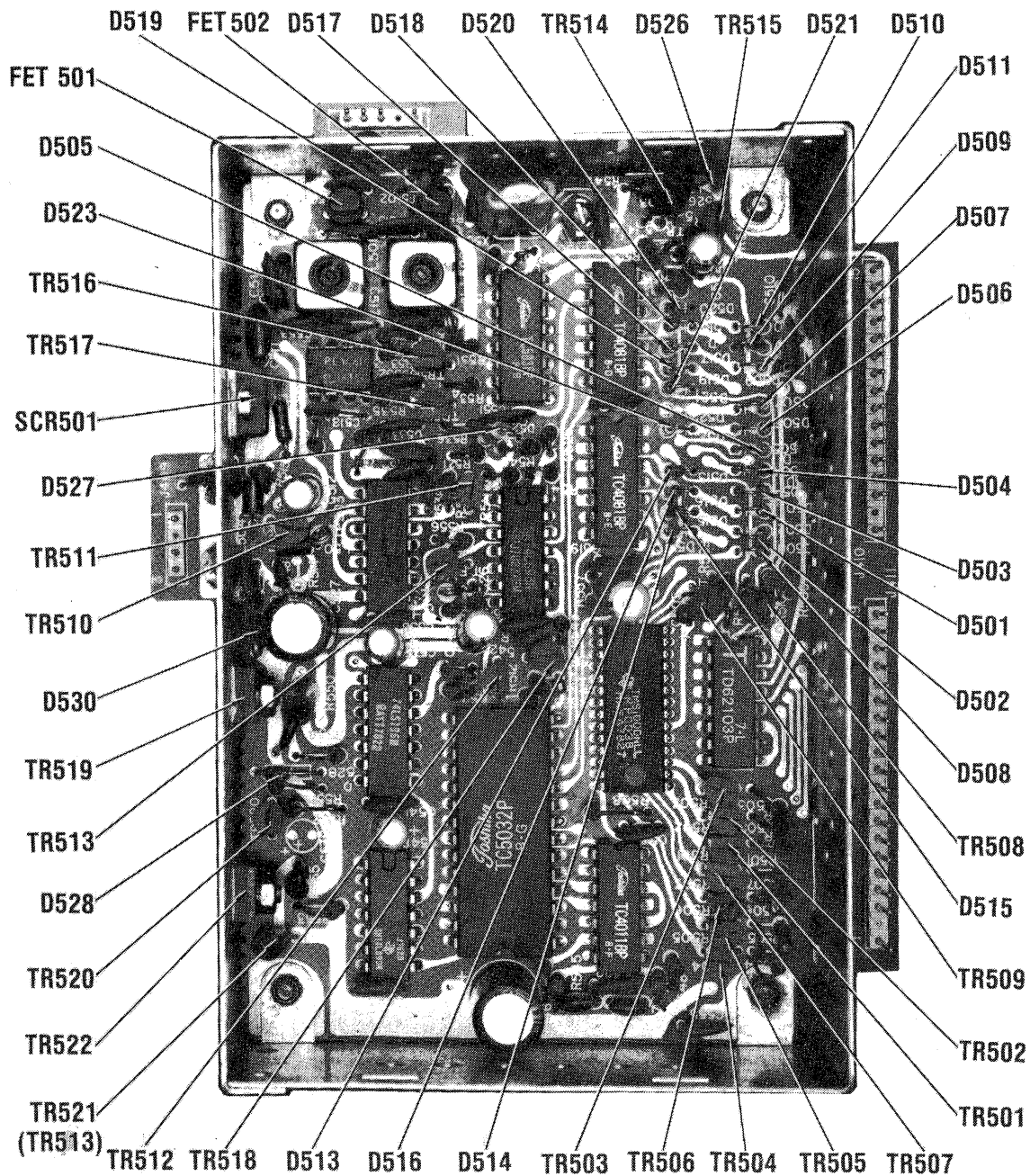


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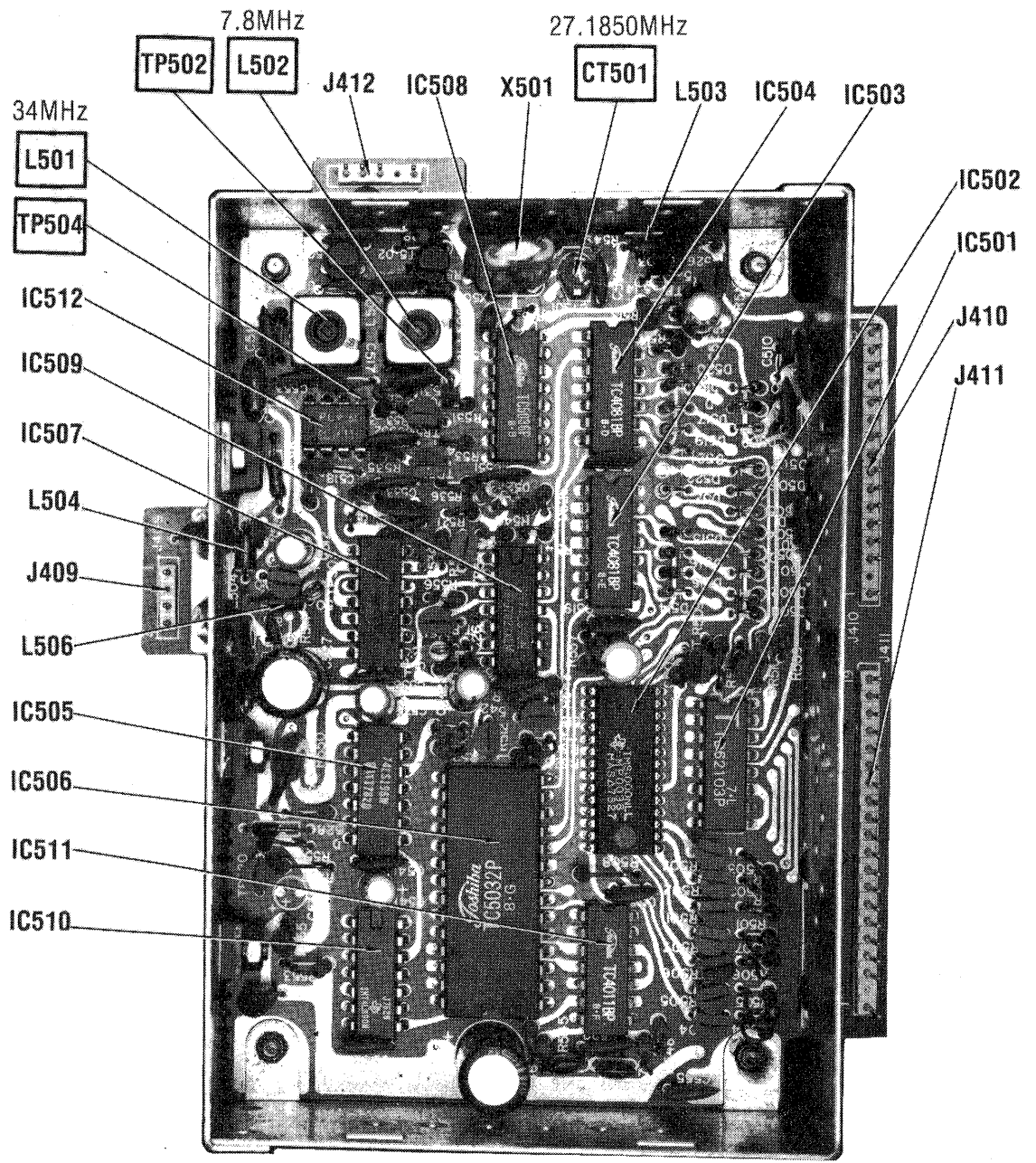




CHASSIS - TOP

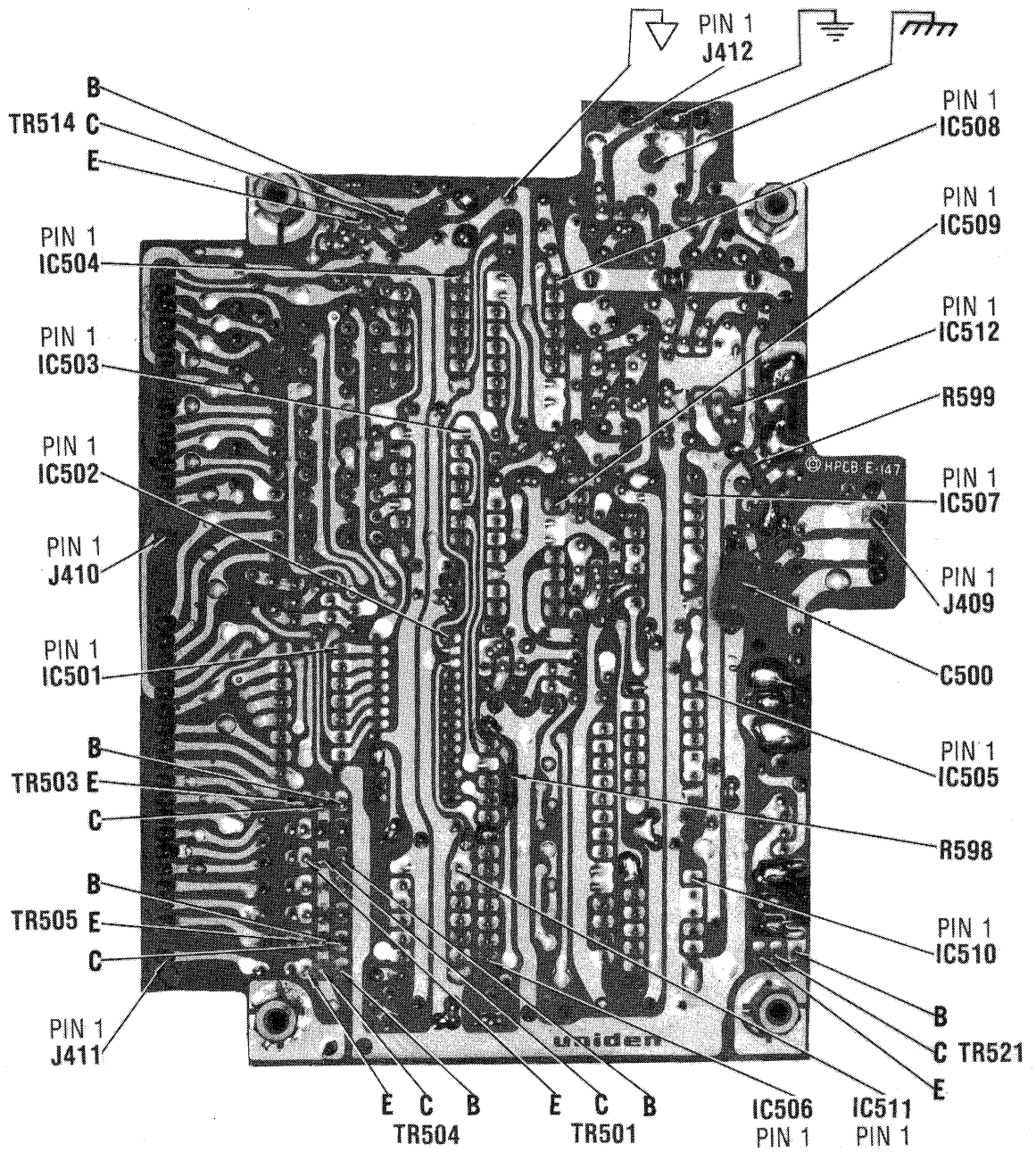


CLOCK & FREQ. COUNTER BOARD

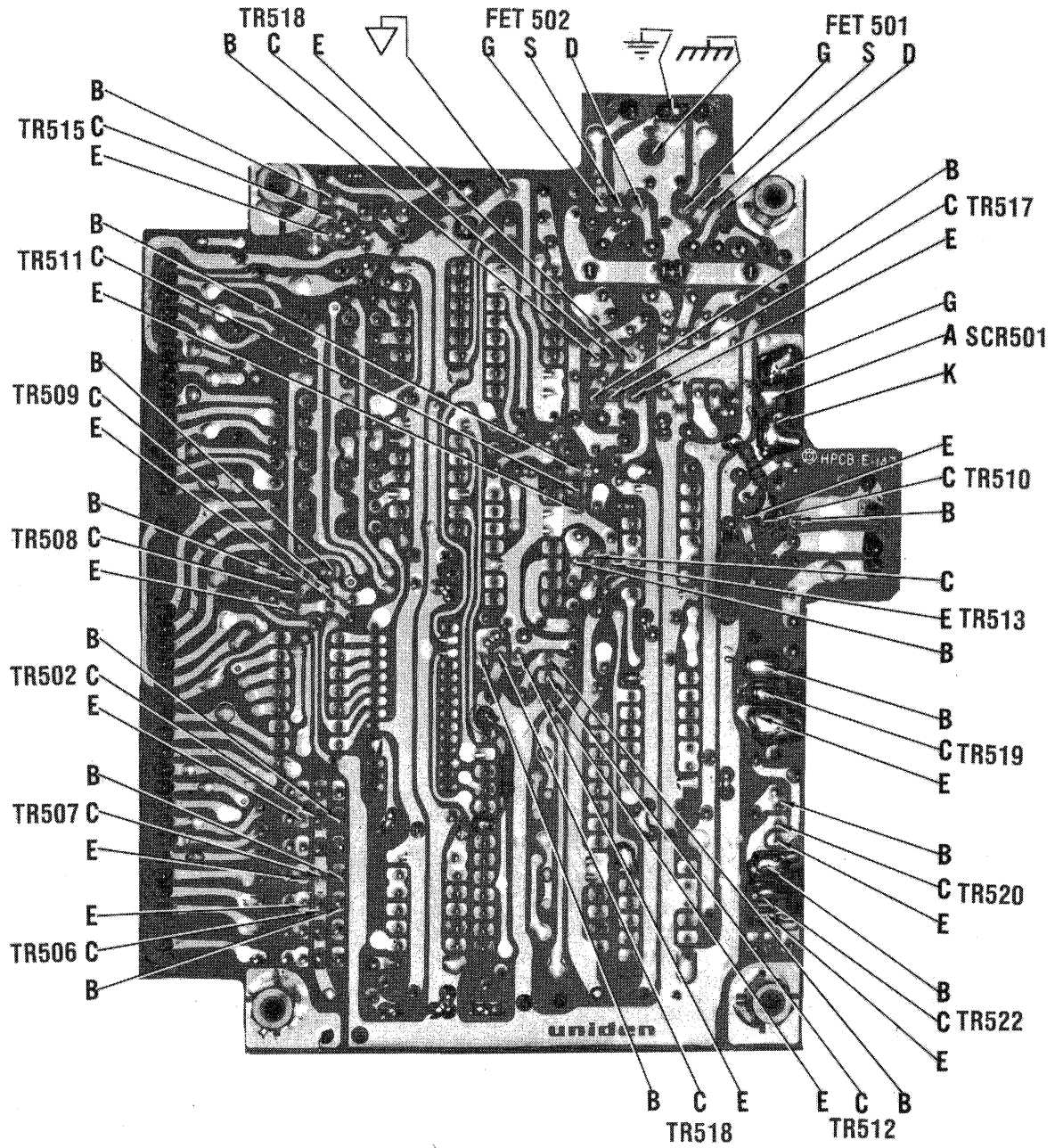


COBRA MODEL 2000GT1

CLOCK & FREQ. COUNTER BOARD

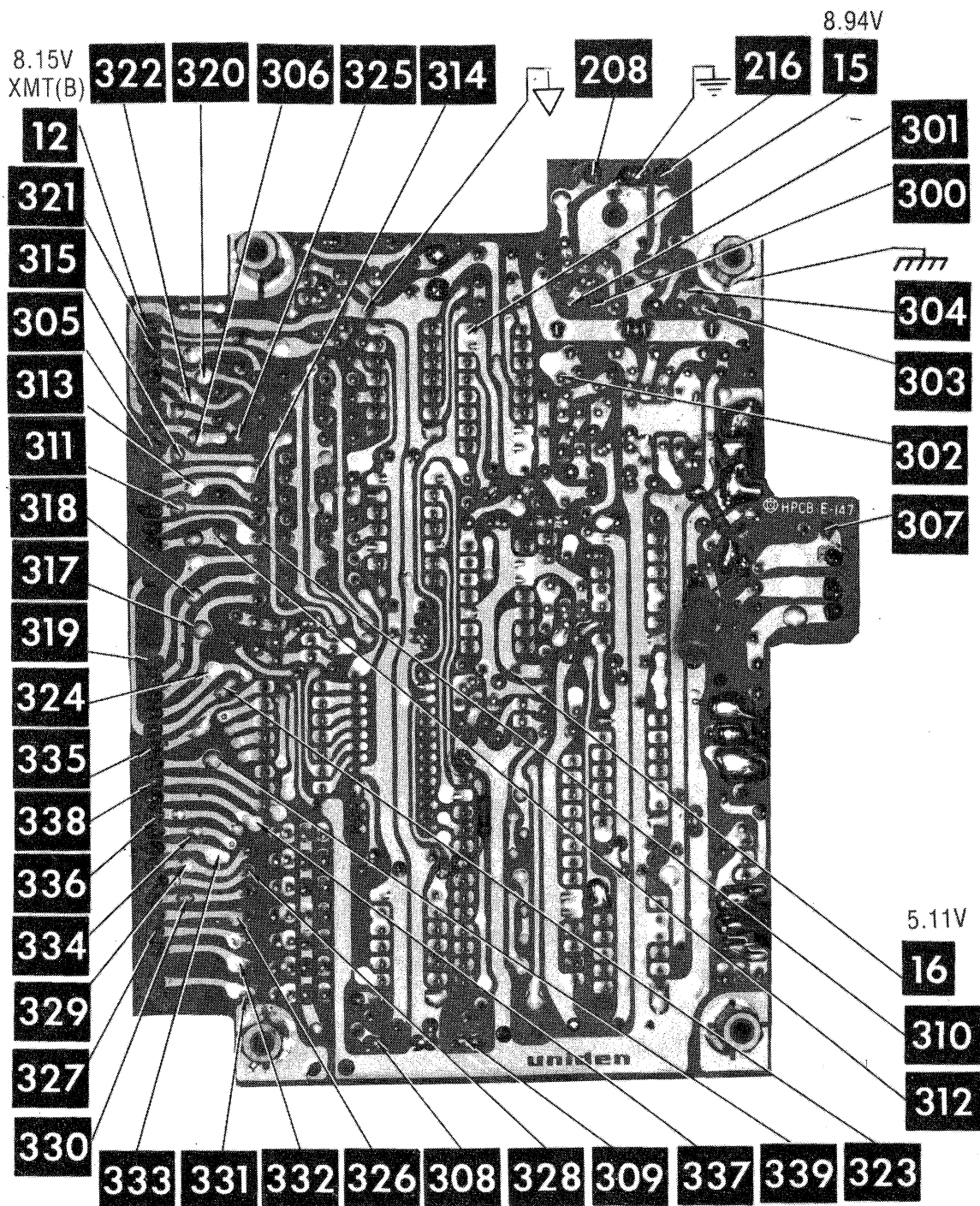


CLOCK & FREQ. COUNTER BOARD

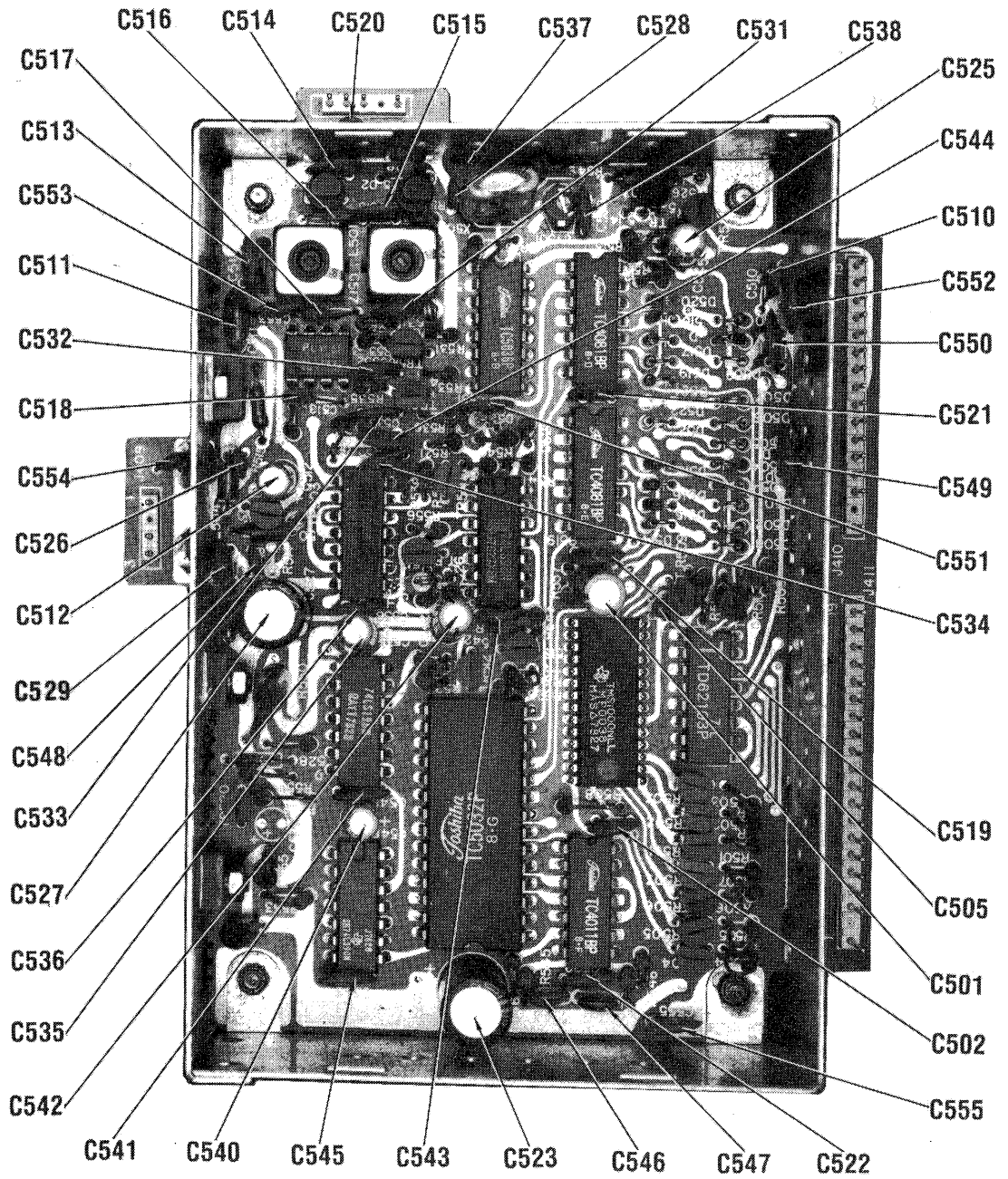


CLOCK & FREQ. COUNTER BOARD

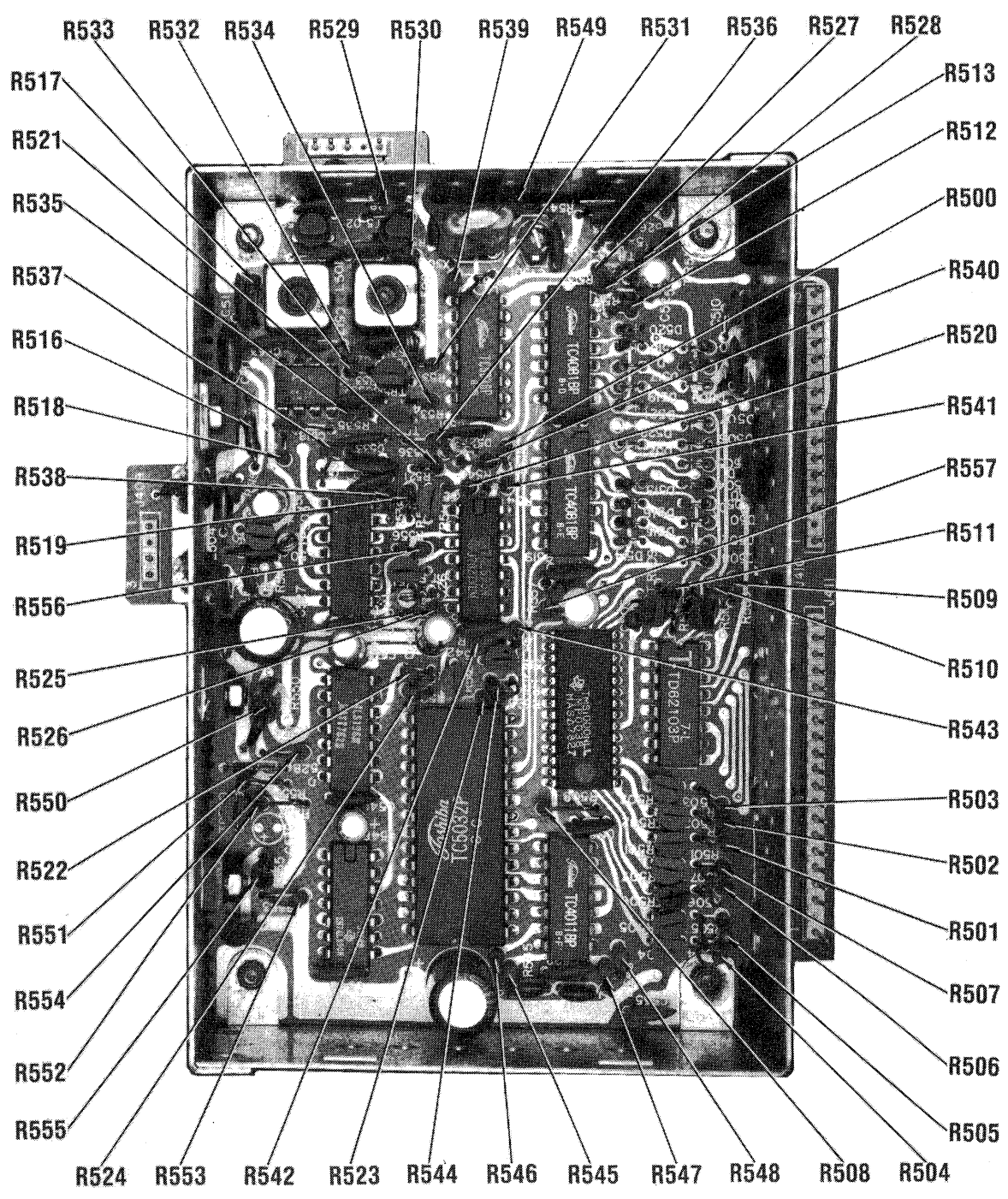




CLOCK & FREQ. COUNTER BOARD

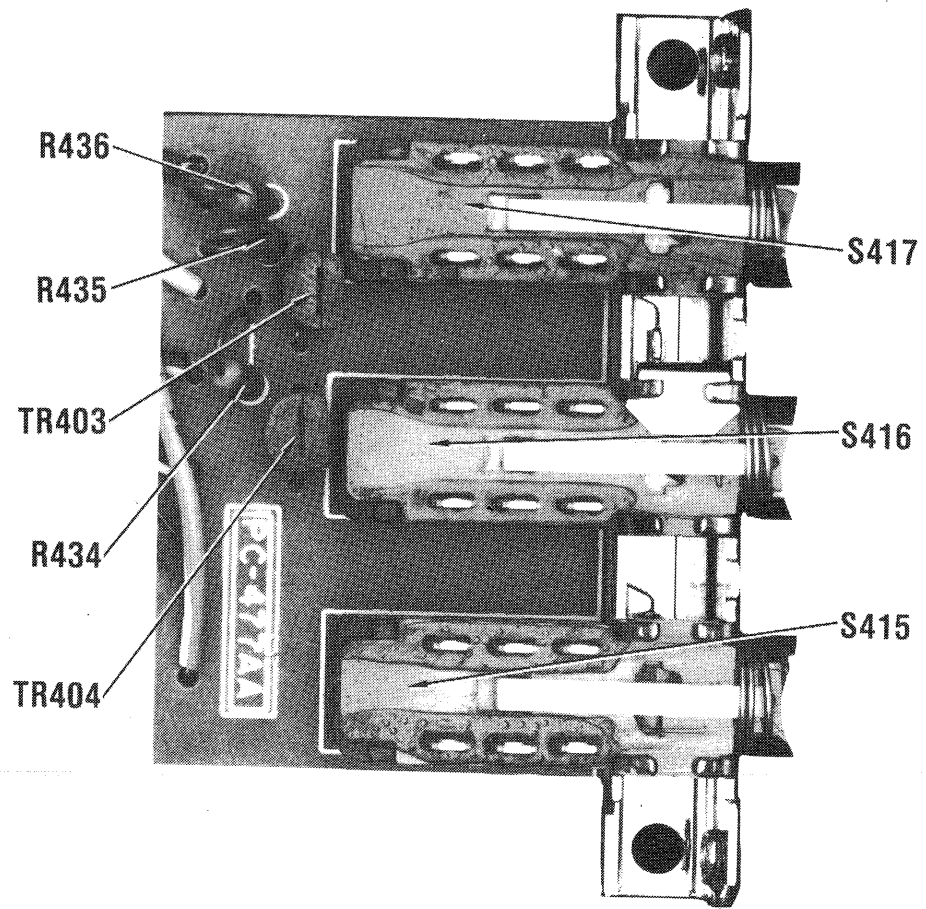
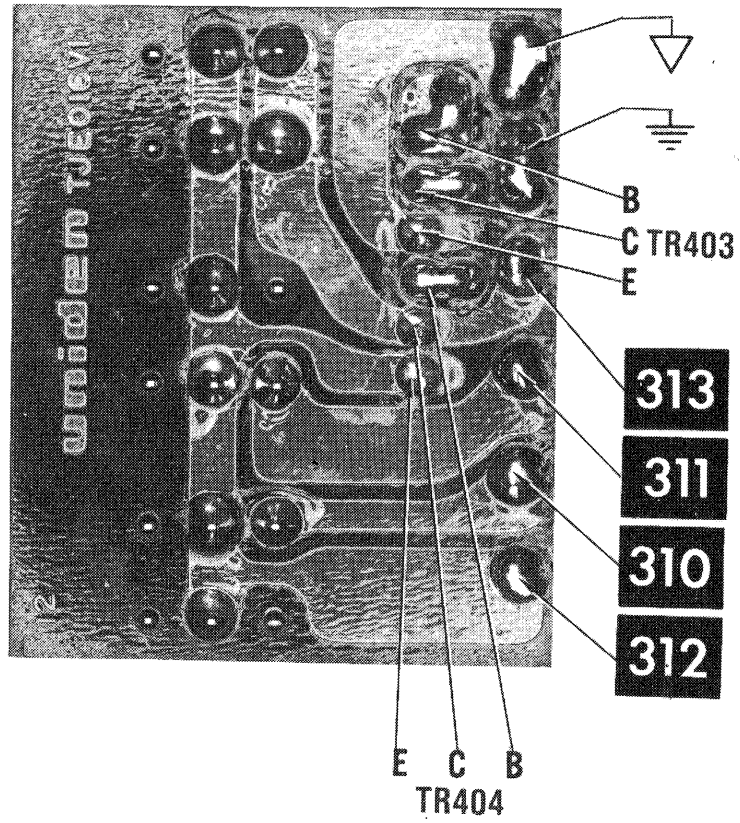


CLOCK & FREQ. COUNTER BOARD

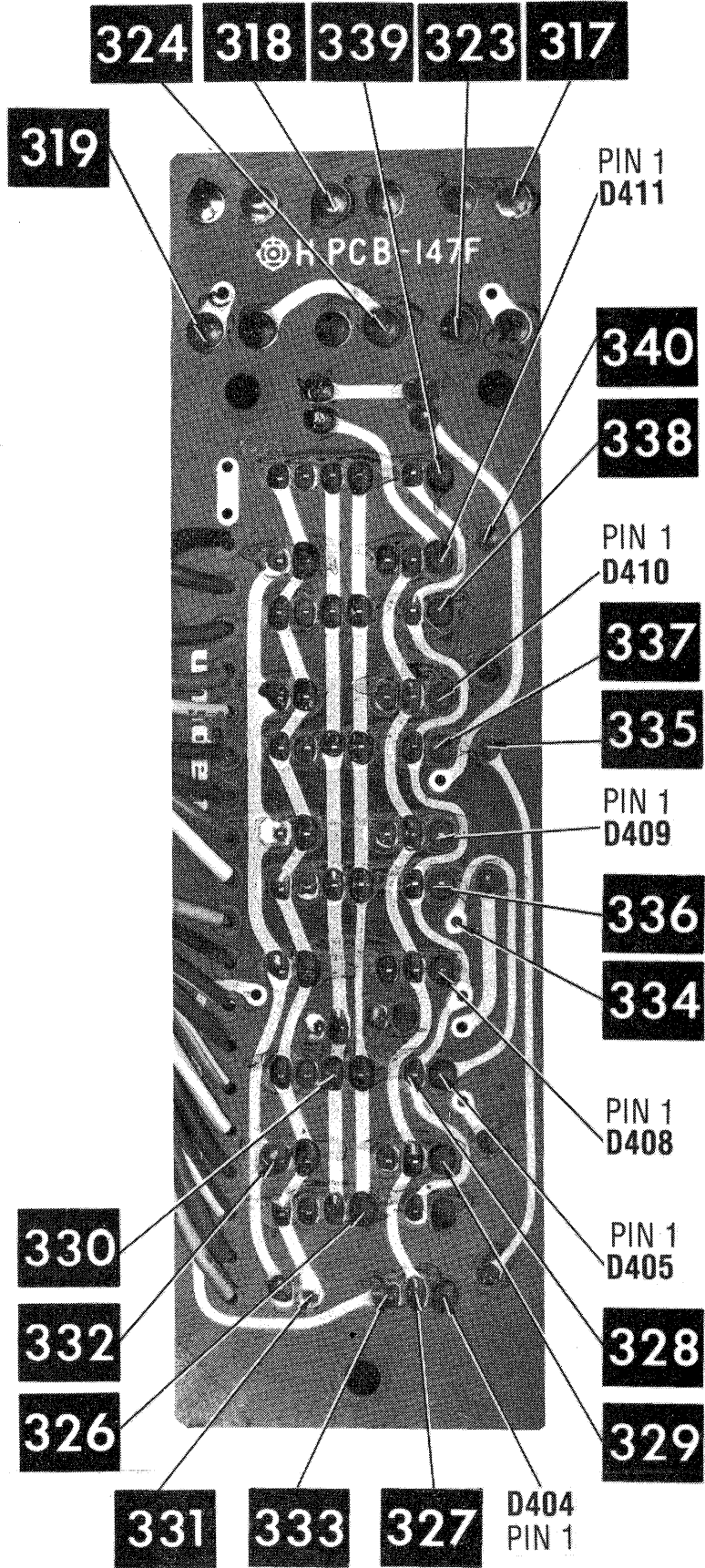


CLOCK & FREQ. COUNTER BOARD

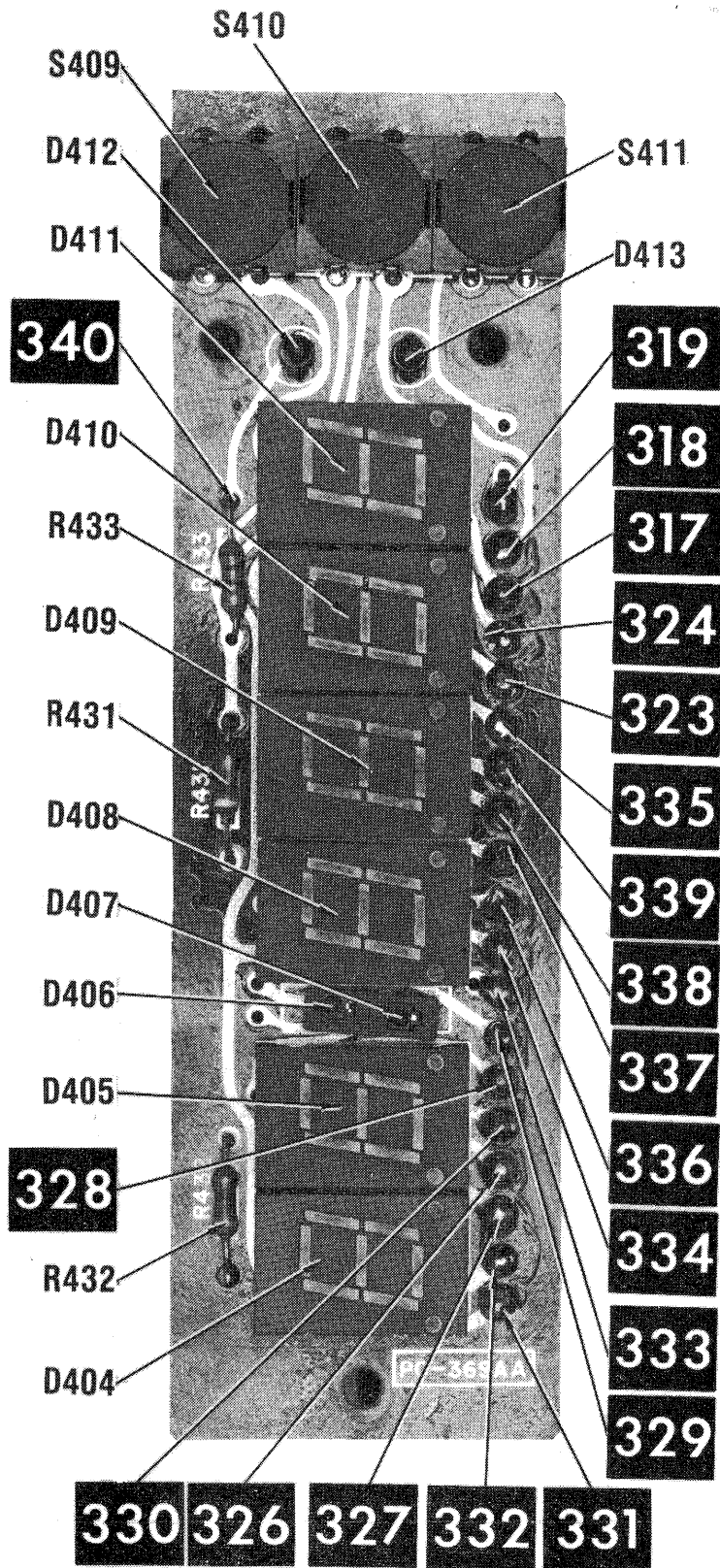




FREQ. COUNTER & TIME BOARD

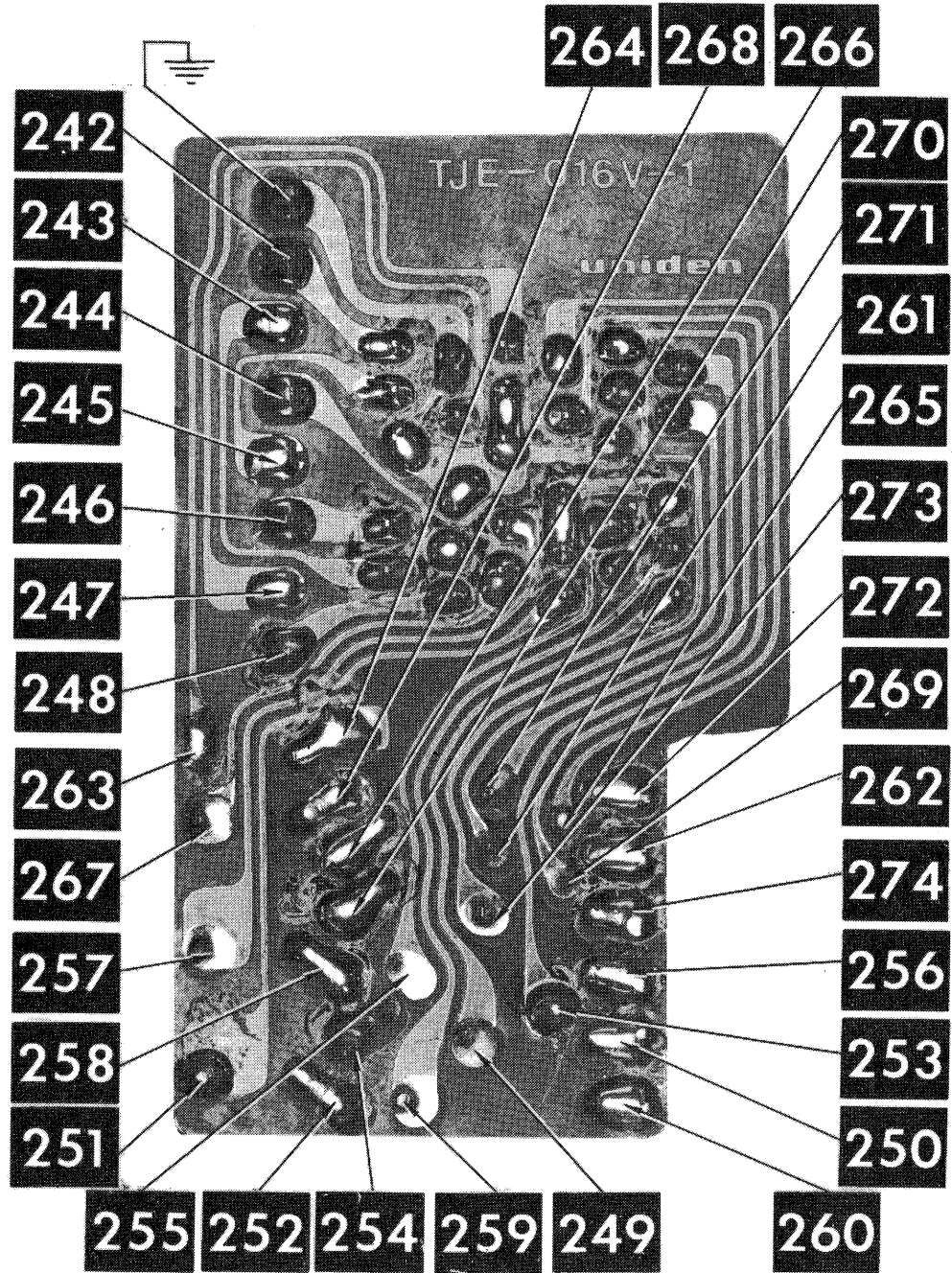


CLOCK & FREQ. DISPLAY BOARD

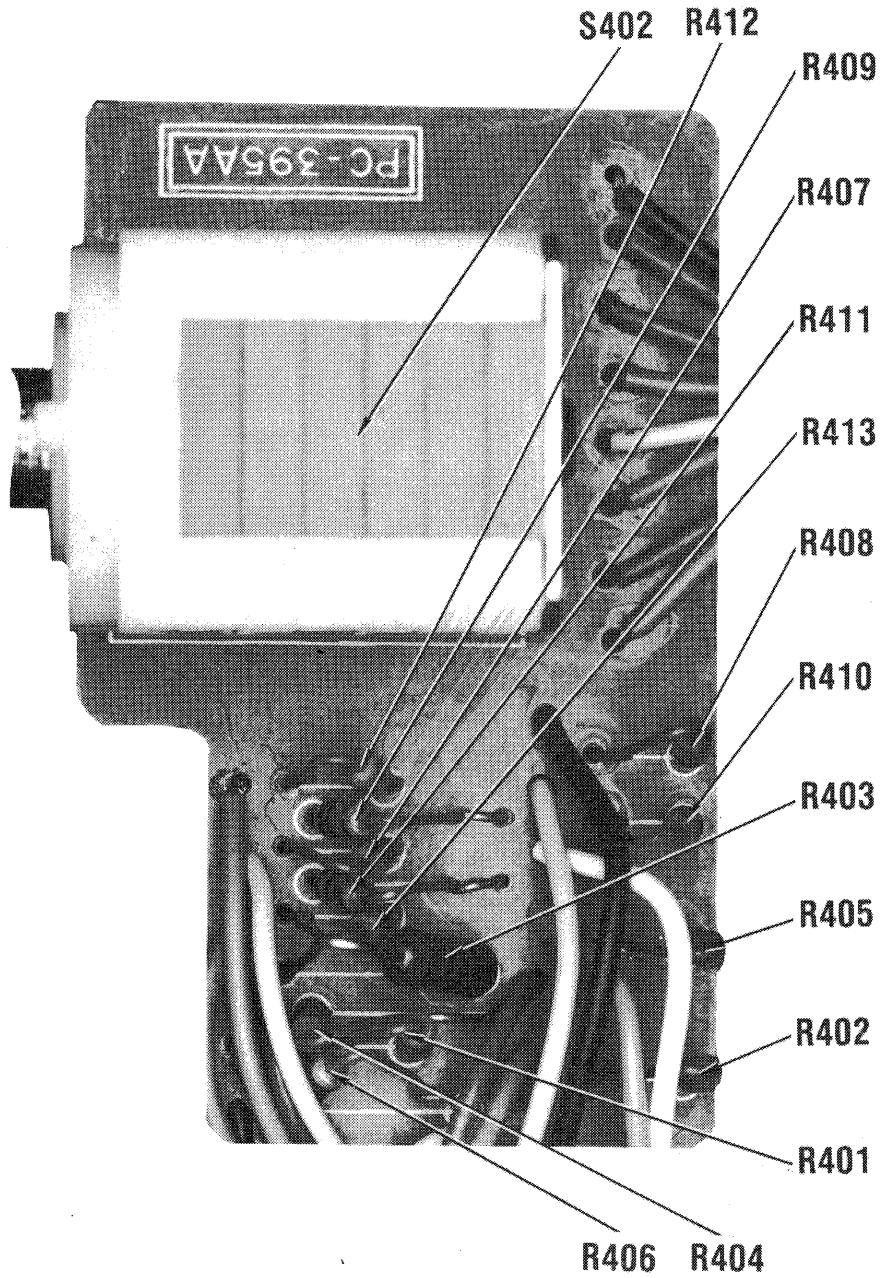


COBRA MODEL 2000GT1

CLOCK & FREQ. DISPLAY BOARD

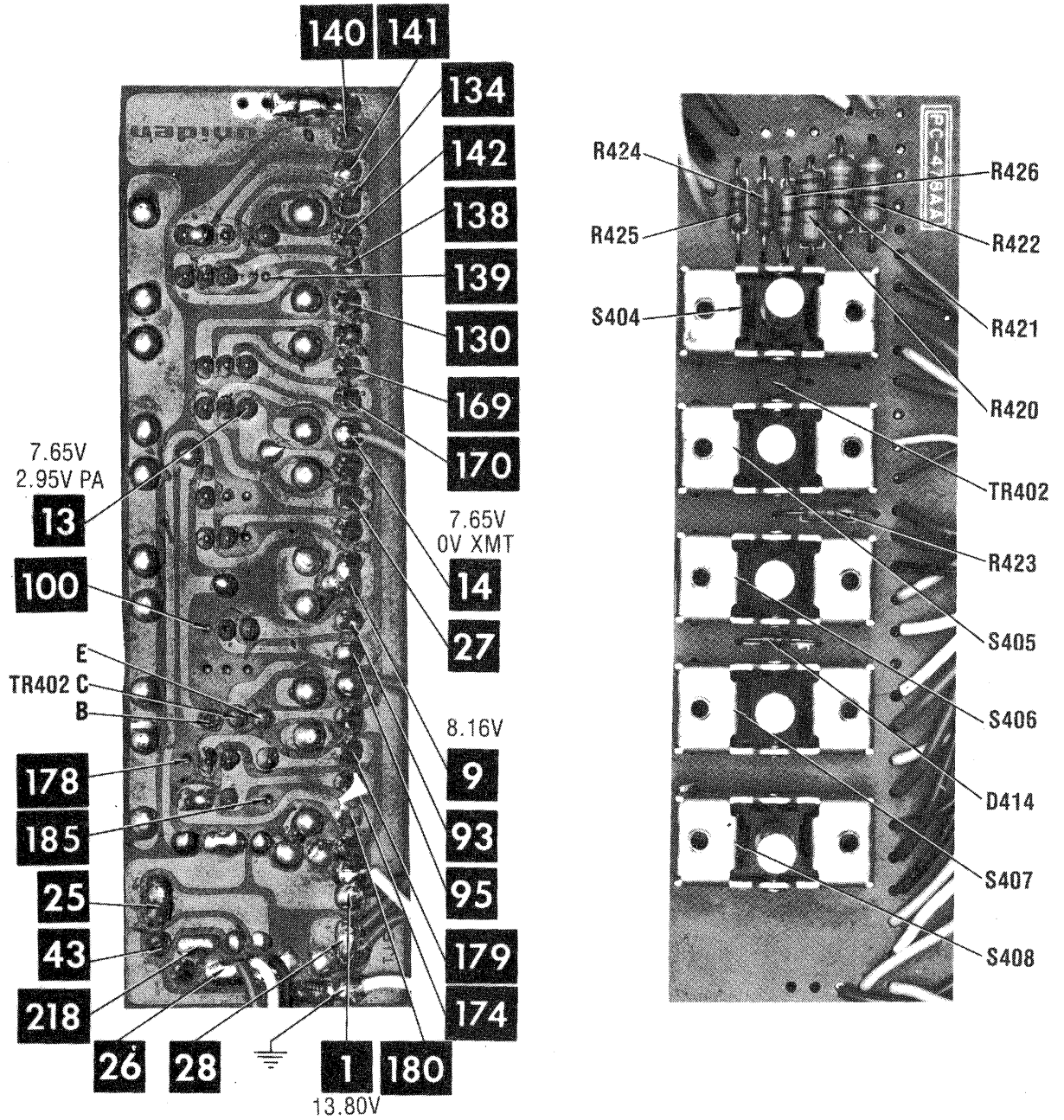


CH. SELECTOR BOARD

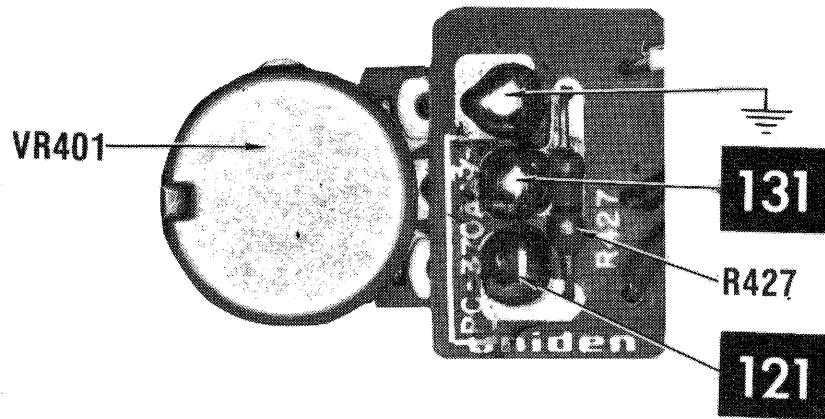


CH. SELECTOR BOARD

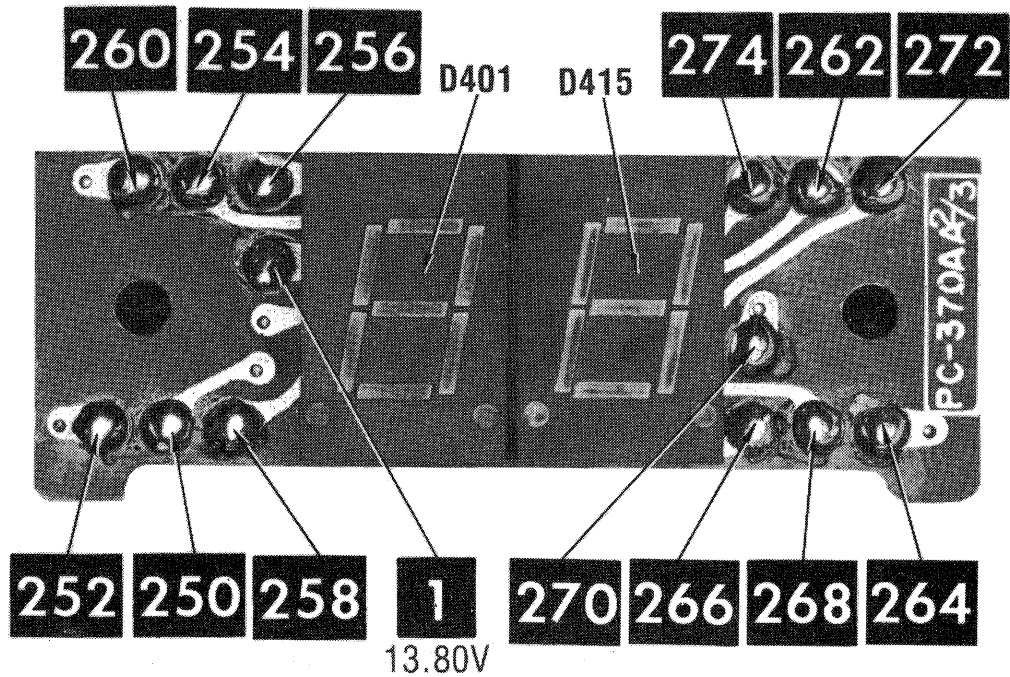




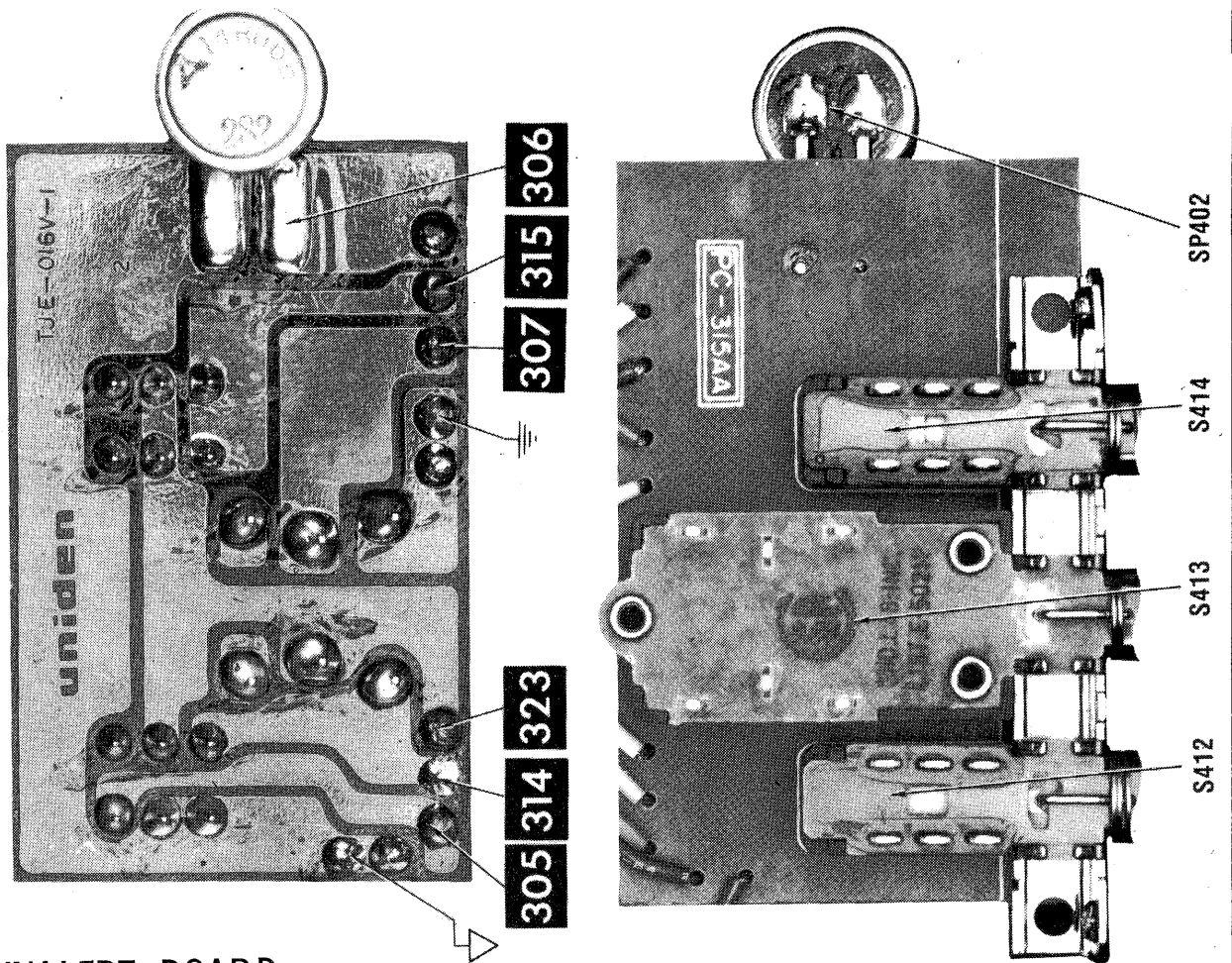
SLIDE SWITCH BOARD



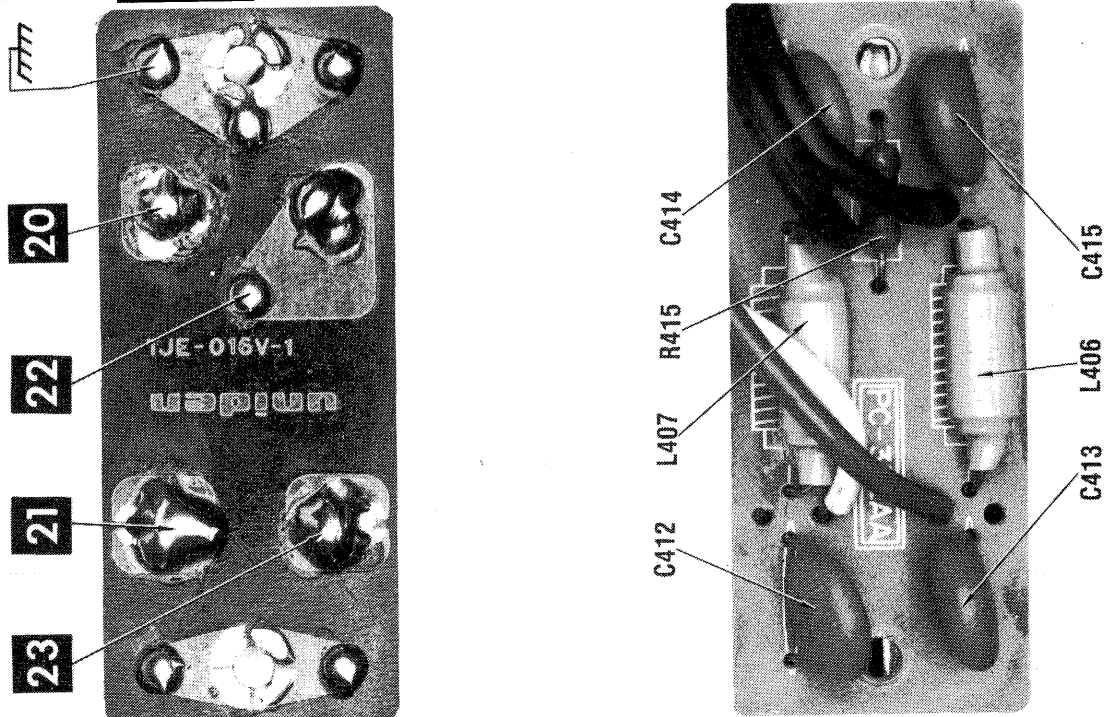
### SQUELCH CONTROL BOARD



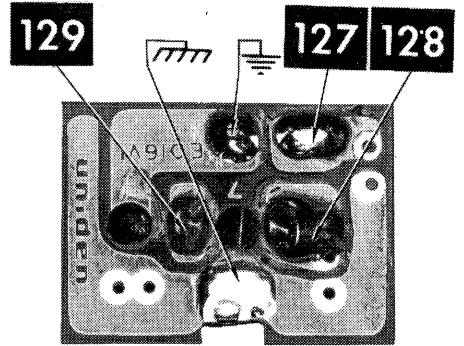
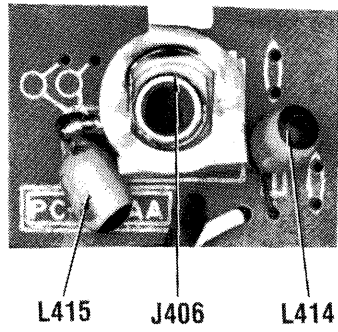
### LED READOUT BOARD



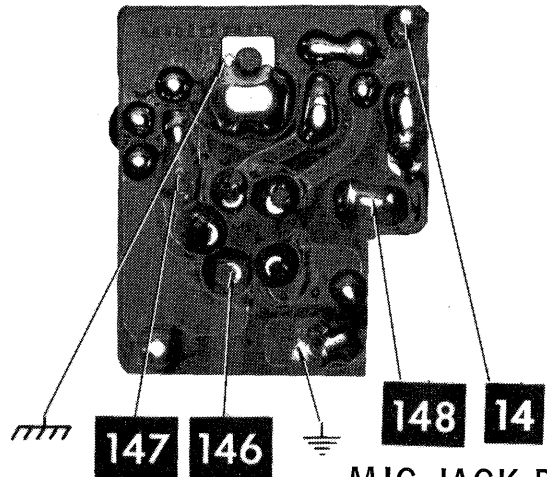
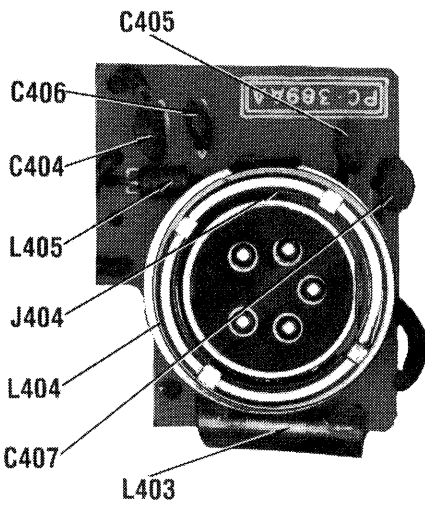
**DYNALERT BOARD**



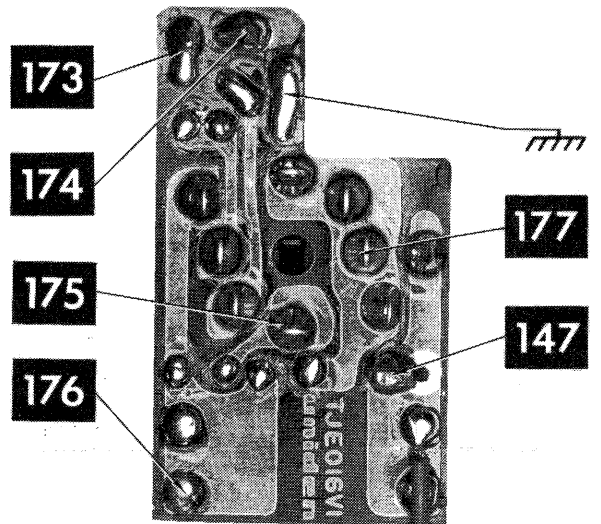
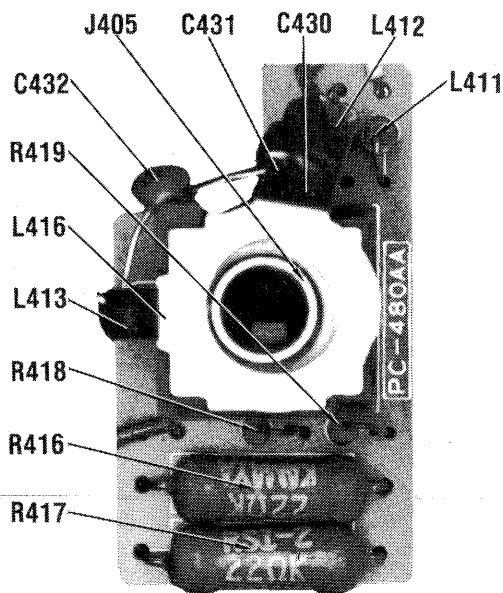
**LINE FILTER BOARD**



### AUX JACK BOARD

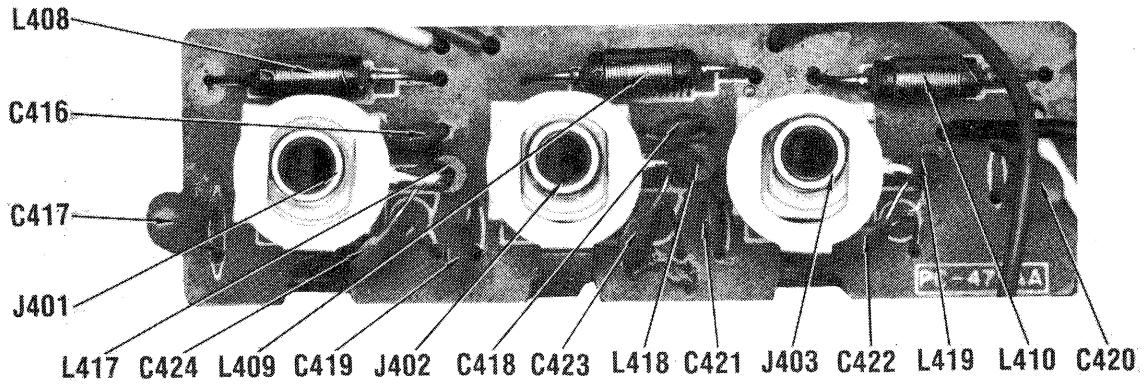
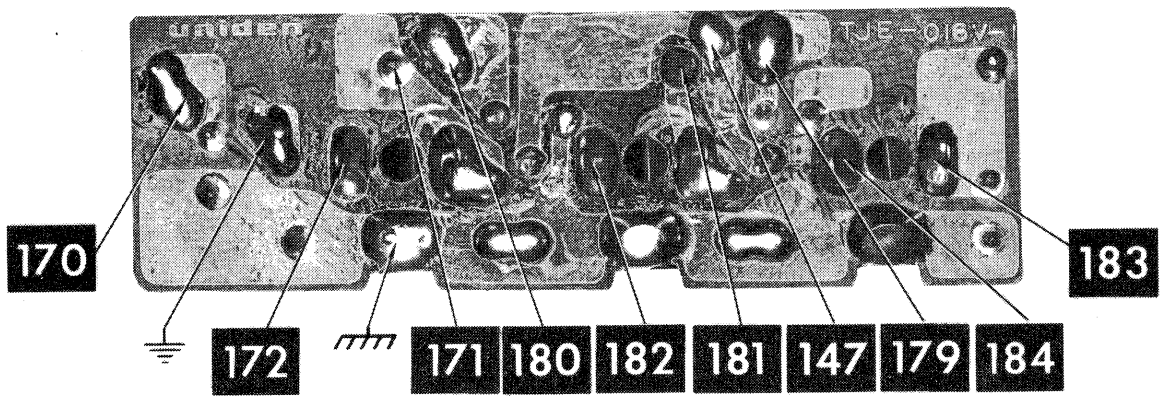


### MIC JACK BOARD

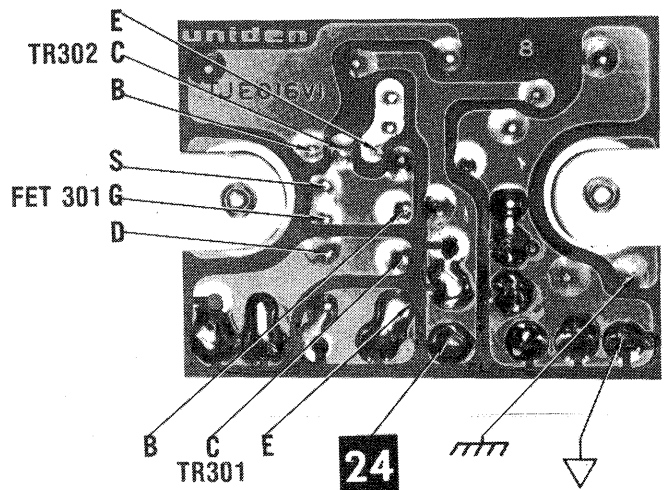
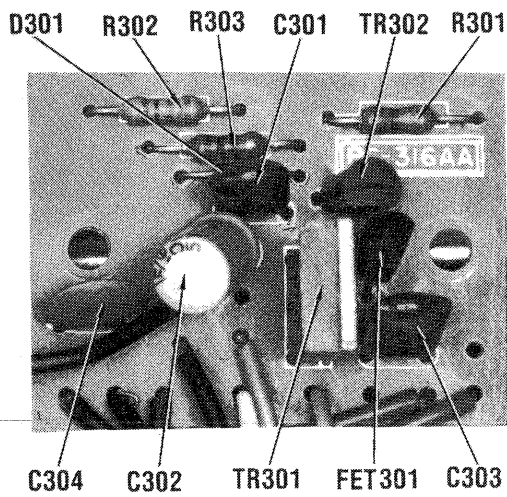


### PHONE JACK BOARD

COBRA MODEL 2000GT



### OUTPUT & JACK BOARD



### POWER SUPPLY BOARD



# PARTS LIST AND DESCRIPTION

## SEMICONDUCTORS

ITEM No.	TYPE No.	PART No.
D1	1N60P	150-006-9-001
D2	1N60P	150-006-9-001
D3	1S1588	151-051-9-001
D5	1S1588	151-051-9-001
D6	1S1588	151-051-9-001
D7	1S1588	151-051-9-001
D8	1S1588	151-051-9-001
D9	1S1588	151-051-9-001
D10	1N60P	150-006-9-001
D11	1S1588	151-051-9-001
D12	MC301	151-072-9-001
D13	MC301	151-072-9-001
D14	1S1588	151-051-9-001
D15	1S1588	151-051-9-001
D16	1S1588	151-051-9-001
D17	1S1588	151-051-9-001
D18	1S1588	151-051-9-001
D19	1S1588	151-051-9-001
D20	1S1588	151-051-9-001
D21	1N60P	150-006-9-001
D22	1N60P	150-006-9-001
D23	1S1588	151-051-9-001
D24	1S1588	151-051-9-001
D31	1S1588	151-051-9-001
D32	1S1588	151-051-9-001
D33	1S1588	151-051-9-001
D34	1S1588	151-051-9-001
D35	1S2687	153-008-9-001

## SEMICONDUCTORS

ITEM No.	TYPE No.	PART No.
D36	1S2687D	153-008-9-001
D37	1S1588	151-051-9-001
D38	1S1588	151-051-9-001
D39	1S1588	151-051-9-001
D40	1S1588	151-051-9-001
D41	1S1588	151-051-9-001
D42	1S1588	151-051-9-001
D43	1S1588	151-051-9-001
D45	1N60P	150-006-9-001
D46	1N60P	150-006-9-001
D47	1S1588	151-051-9-001
D48	1S1588	151-051-9-001
D49	MV-13YH	153-011-9-001
D50	MV-1Y	004-175-9-001
D51	1S1588	151-051-9-001
D52	KB262	151-032-9-004
D53	1S1588	151-051-9-001
D54	1N60P	150-006-9-001
D57	1S1588	151-051-9-001
D59	1S1588	151-051-9-001
D60	1S1588	151-051-9-001
D61	1S1588	151-051-9-001
D63	1S1588	151-051-9-001
D65	1S1588	151-051-9-001
D66	1S1588	151-051-9-001
D67	1S1588	151-051-9-001
D68	1S1588	151-051-9-001
D69	1S2687D	153-008-9-001
D71	1N60P	150-006-9-001
D73	1N60P	150-006-9-001

## SEMICONDUCTORS

ITEM No.	TYPE No.	PART No.
D74	1N60	150-006-9-001
D75	KB262	151-032-9-004
D76	1S1588	151-051-9-001
D301	XZ062	152-094-9-001
D402	SRIK-2	151-045-9-001
D403	S10VB10	151-081-9-001
D414	1S1588	151-051-9-001
D501	1S1588	151-051-9-001
D502	1S1588	151-051-9-001
D503	1S1588	151-051-9-001
D504	1S1588	151-051-9-001
D505	1S1588	151-051-9-001
D506	1S1588	151-051-9-001
D507	1S1588	151-051-9-001
D508	1S1588	151-051-9-001
D509	1S1588	151-051-9-001
D510	1S1588	151-051-9-001
D511	1S1588	151-051-9-001
D513	1S1588	151-051-9-001
D514	1S1588	151-051-9-001
D516	1S1588	151-051-9-001
D517	1S1588	151-051-9-001
D518	1S1588	151-051-9-001
D519	1S1588	151-051-9-001
D520	1S1588	151-051-9-001
D521	1S1588	151-051-9-001
D523	1S1588	151-051-9-001
D525	1S1588	151-051-9-001

## SEMICONDUCTORS

ITEM No.	TYPE No.	PART No.
D526	1S1588	151-051-9-001
D527	1N60P	150-006-9-001
D528	XZ057	
D530	SRIK-2	151-045-9-001
FET-1	3SK45B	182-038-9-001
FET-2	2SK19-BL	182-056-9-001
FET-3	2SK19-GR	182-021-9-001
FET301	2SK68AM	182-044-9-001
FET501	2SK19-GR	182-021-9-001
FET502	2SK19-GR	182-021-9-001
IC1	MB8734	307-152-9-001
IC2	UHC-007	307-143-9-001
IC3	AN612	307-143-9-002
IC4	MB3756	307-133-9-005
IC5	SO42P	307-143-9-004
IC6	TA7222P	307-143-9-003
IC501	TD62103P	307-152-9-002
IC502	TMS100Q11	
IC503	TMS1000	307-152-9-003
IC504	TC4081BP	307-152-9-004
IC505	74LS196	307-152-9-004
IC506	DM74LS196	307-152-9-006
IC507	TC5032P	
IC508	74LS00N	307-152-9-007
IC509	74LS00	
IC510	SN74LS00N	
IC511	74LS00	
IC512	DM74LS00N	
IC513	74LS00	
IC514	TC5036P	307-152-9-008
IC515	SN74LS93N	307-152-9-009
IC516	SN74LS93	
IC517	74LS93	
IC518	FC74LS93	
IC519	SN74LS90N	307-152-9-010
IC520	SN74LS90	
IC521	74LS90	
IC522	FC74LS90	
IC523	7C4011BP	
IC524	TC4011P	307-152-9-012
IC525	MB84011U	
IC526	UPD4011C	
IC527	TP4011BN	
IC528	4011FC	
IC529	MC14011CD	
IC530	SL1611C	
IC531	SL1611	
IC532	SL1611C/DP	307-152-9-011
IC533	5P-05M	181-005-9-001
IC534	2SC1675	
IC535	2SC1675L	176-065-9-001
IC536	2SC460	
IC537	2SC839	
IC538	2SC1674	
IC539	2SC1730	
IC540	2SC1675	
IC541	2SC1675L	176-065-9-001
IC542	2SC460	
IC543	2SC839	
IC544	2SC1674	
IC545	2SC1730	
IC546	2SC1730L	
IC547	2SC1675	
IC548	2SC1674	
IC549	2SC460	
IC550	2SC839	
IC551	2SC945A	
IC552	2SC945AQ	176-062-9-001
IC553	2SC945	
IC554	2SC458	
IC555	2SC372	
IC556	2SC900	
IC557	2SC828	
IC558	2SC1740	
IC559	2SC945A	
IC560	2SC945AQ	176-062-9-001
IC561	2SC945	
IC562	2SC458	
IC563	2SC372	
IC564	2SC900	
IC565	2SC828	
IC566	2SC1740	
IC567	2SC945A	
IC568	2SC945AQ	176-062-9-001
IC569	2SC945	
IC570	2SC458	
IC571	2SC372	
IC572	2SC900	
IC573	2SC828	
IC574	2SC1740	

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PARTS LIST AND DESCRIPTION (CONTINUED)

SEMICONDUCTORS

ITEM No.	TYPE No.	PART No.
TR7	2SA733P 2SA733 2SA495 2SA564	
TR8	2SC945AQ 2SC945A 2SC945 2SC458 2SC372 2SC900 2SC828 2SC1740 2SC1675L	176-062-9-001
TR9	2SC1675 2SC460 2SC828 2SC1674 2SC1730	176-065-9-001
TR10	2SC945AQ 2SC945A 2SC458 2SC372 2SC900 2SC828 2SC1740	176-062-9-001
TR11	2SC1675L 2SC1675 2SC460 2SC839 2SC1674 2SC1730	176-065-9-001
TR12	2SC945AQ 2SC945A 2SC458 2SC372 2SC900 2SC828 2SC1740	176-062-9-001
TR13	2SA733P 2SA733 2SA495 2SA564	177-020-9-001
TR14	2SC1674L 2SC1674 2SC1675 2SC1730 2SC1342 2SC1856 2SC710 2SC930	176-065-9-001
TR15	2SC1675L 2SC1675 2SC460 2SC839 2SC1674 2SC1730	176-065-9-001
TR16	2SC1675L 2SC1675 2SC460 2SC839 2SC1674 2SC1730	176-065-9-001
TR17	2SC1675L 2SC1675 2SC460 2SC839 2SC1674 2SC1730	176-065-9-001
TR18	2SC1730L 2SC1730 2SC1675 2SC1674 2SC460 2SC839	176-073-9-001
TR19	2SC945AQ 2SC945A 2SC458 2SC372 2SC900 2SC828 2SC1740	176-062-9
TR20	2SC1675L 2SC1675 2SC460 2SC839 2SC1674 2SC1730	176-065-9-001
TR21	2SC945AQ 2SC945A 2SC458 2SC572 2SC900 2SC828	176-062-9-001
TR22	2SC1740 2SC945AQ 2SC945A 2SC458 2SC372 2SC900 2SC828	176-062-9-001

SEMICONDUCTORS

ITEM No.	TYPE No.	PART No.
TR23	2SC1740 2SC945AQ 2SC945A 2SC458 2SC372 2SC900 2SC828 2SC1740	176-062-9-001
TR24	2SC945AQ 2SC945A 2SC458 2SC372 2SC900 2SC828 2SC1740	176-062-9-001
TR25	2SA733P 2SA733 2SA495 2SA564	177-020-9-001
TR26	2SC945AQ 2SC945A 2SC458 2SC372 2SC900 2SC828 2SC1740	176-02-9-001
TR27	2SA733P 2SA733 2SA495 2SA564	177-020-9-001
TR29	2SC1675L 2SC1675 2SC460 2SC839 2SC1674 2SC1730	176-065-9-001
TR30	2SC1675L 2SC1675 2SC460 2SC839 2SC1674 2SC1730	176-065-9-001
TR31	2SC945AQ 2SC945A 2SC458 2SC372 2SC900 2SC828	176-062-9-001
TR32	2SC1675L 2SC1675 2SC460 2SC839 2SC1674 2SC1730	176-065-9-001
TR33	2SC945AQ 2SC945A 2SC458 2SC372 2SC900 2SC828 2SC1740	176-062-9-001
TR34	2SC1675L 2SC1675 2SC460 2SC839 2SC1674 2SC1730	176-065-9-001
TR35	2SC945AQ 2SC945 2SC458 2SC372 2SC900 2SC828 2SC1740	176-062-9-001
TR36	2SC1969 2SC1969B 2SC496-0	176-087-9-002
TR37	2SC496 2SC1846 2SD471	
TR38	2SC1306 2SC2020 2SC2184 2SC2166	172-024-9-002
TR39	2SC1973	176-073-9-003
TR40	2SC945AQ 2SC945A 2SC458 2SC372 2SC900 2SC828 2SC1740	176-062-9-001
TR41	2SC1740 2SC1419C 2SC1419 2SD325 2SC1096 2SD235	176-055-9-004
TR42	2SC945AQ 2SC945A 2SC458	176-062-9-001

SEMICONDUCTORS

ITEM No.	TYPE No.	PART No.
TR43	2SC372 2SC900 2SC828 2SC1740 2SC458C 2SC458 2SC945 2SC900 2SC828 2SC372 2SC1740	176-048-9-001
TR47	2SA733P 2SA733 2SA495 2SA564	177-020-9-001
TR48	2SA733P 2SA733 2SA495 2SA564	177-020-9-001
TR50	2SC945AQ 2SC945A 2SC458 2SC372 2SC900 2SC828 2SC1740	176-062-9-001
TR51	2SC945AQ 2SC945A 2SC458 2SC372	176-062-9-001
TR52	2SC945AQ 2SC945A 2SC458 2SC372 2SC900 2SC828 2SC1740	176-062-9-001
TR53	2SC945AQ 2SC945A 2SC458 2SC372 2SC900 2SC828 2SC1740	176-062-9-001
TR301	2SC1419C 2SC1419 2SD325 2SD1096 2SD235	176-055-9-004
TR302	2SC945AQ 2SC945 2SC458 2SC372 2SC900 2SC828 2SC1740	176-062-9-001
TR401	2SD188M 2SD618 2SD188	172-040-9-001
TR402	2SC945AQ 2SC945A 2SC458 2SC372 2SC900 2SC828 2SC1740	176-062-9-001
TR403	2SC945AQ 2SC945A 2SC458 2SC372 2SC900 2SC828 2SC1740	176-062-9-001
TR404	2SA733A 2SA733 2SA495 2SA564	177-020-9-001
TR501	2SC945AQ 2SC945A 2SC458 2SC372 2SC900 2SC828 2SC1740	176-062-9-001
TR502	2SC945AQ 2SC945A 2SC458 2SC372 2SC900 2SC828 2SC1740	176-062-9-001
TR503	2SC945AQ 2SC945A 2SC458 2SC372 2SC900 2SC828 2SC1740	176-065-9-001
TR504	2SC945AQ 2SC945A 2SC458	176-065-9-001

SEMICONDUCTORS

ITEM No.	TYPE No.	PART No.
TR505	2SC945A 2SC458 2SC372 2SC900 2SC828 2SC1740 2SC945AQ 2SC945A 2SC458 2SC372 2SC900 2SC828 2SC1740	176-062-9-001
TR506	2SC945AQ 2SC945A 2SC458 2SC372 2SC900 2SC828 2SC1740	176-062-9-001
TR507	2SC945AQ 2SC945A 2SC458 2SC372 2SC900 2SC828 2SC1740	176-062-9-001
TR508	2SA733A 2SA733 2SA495 2SA564	177-020-9-001
TR509	2SA733A 2SA733 2SA495 2SA564	
TR510	2SC945AQ 2SC945 2SC458 2SC372 2SC900 2SC828 2SC1740	176-062-9-001
TR511	2SC945AQ 2SC945A 2SC458 2SC372 2SC900 2SC828 2SC1740	176-062-9-001
TR512	2SC1675L 2SC1675 2SC460 2SC839 2SC1674 2SC1730	176-065-9-001
TR513	2SC945AQ 2SC945A 2SC458 2SC372 2SC900 2SC828 2SC1740	176-062-9-001
TR514	2SC945AQ 2SC945A 2SC458 2SC372 2SC900 2SC828 2SC1740	176-062-9-001
TR515	2SC945AQ 2SC945 2SC458 2SC372 2SC900 2SC828 2SC1740	176-062-9-001
TR516	2SC1675L 2SC1675 2SC460 2SC839 2SC1674 2SC1730	176-065-9-001
TR517	2SC1675L 2SC1675 2SC460 2SC839 2SC1674 2SC1730	176-065-9-001
TR518	2SC945AQ 2SC945A 2SC458 2SC372 2SC900 2SC828 2SC1740	176-062-9-001
TR519	2SC1846Q 2SC1846 2SC945AQ 2SC945A	
TR520	2SC945A	176-062-9-001

# PARTS LIST AND DESCRIPTION (CONTINUED)

## SEMICONDUCTORS

ITEM No.	TYPE No.	PART No.
TR521	2SC458	176-062-9-001
	2SC372	
	2SC900	
	2SC828	
	2SC1740	
	2SC945AQ	
	2SC945A	
	2SC458	
	2SC372	
	2SC900	
TR522	2SC828	176-062-9-001
	2SC1740	
	2SC1846Q	
	2SC1846	

## CAPACITORS

ITEM No.	RATING	PART No.
C91	.047 50V 10%	025-121-9-006
C93	.01 50V	020-204-9-019
C94	.047 50V	
C96	.01 50V	020-204-9-019
C97	.01 50V	020-204-9-019
C98	7 NPO 50V	025-225-9-006
C102	.0047 50V 10%	025-126-9-001
C105	.0022 50V 10%	030-141-9-003
C106	.01 50V	020-204-9-019
C107	.01 50V 10%	025-121-9-002
C110	.01 50V 10%	025-121-9-002
C111	.01 50V	020-204-9-019
C112	.01 50V	020-204-9-019
C113	.01 50V	020-204-9-019
C114	.01 50V	020-204-9-019
C115	.0047 50V	020-204-9-018
C116	18 NPO 50V 10%	020-225-9-010
C117	470 N750 50V 5%	020-204-9-015
C118	.01 50V 10%	025-121-9-002
C119	.01 50V	020-204-9-019
C120	.01 50V	020-204-9-019
C121	.047 50V 10%	025-121-9-006
C122	100 NPO 50V 5%	020-181-9-011
C123	220 N750 10%	020-205-9-008
C124	.022 50V	020-204-9-020
C125	5 NPO 50V	020-225-9-005
C126	.01 50V	020-204-9-019
C127	180 N750 50V 10%	020-225-9-013
C128	47 NPO 50V 10%	020-180-9-006
C129	.01 50V	020-204-9-019
C130	1 NPO 50V	020-225-9-001
C131	10 NPO 50V	020-225-9-007
C132	.0047 50V	020-204-9-018
C136	.047 50V 10%	025-121-9-006
C137	.5 50V	020-218-9-001
C138	.0047 50V	020-204-9-018
C139	.5 50V	020-218-9-001
C140	.0047 50V	020-204-9-018
C141	82 NPO 50V 10%	020-180-9-007
C142	27 NPO 50V 10%	020-225-9-011
C143	180 N750 50V 10%	020-225-9-013
C145	3 NPO 50V	020-225-9-003
C146	390 N750 50V 10%	020-204-9-014
C147	47 NPO 50V 10%	020-180-9-006
C148	.1 50V 10%	025-121-9-001
C149	120 N220 50V 10%	020-212-9-001
C150	330 N750 50V 10%	020-204-9-013
C151	.0047 50V	020-204-9-018
C152	470 N750 50V 10%	020-204-9-015
C154	.047 50V 10%	025-121-9-006
C155	.1 50V 10%	025-121-9-001
C156	.022 50V	020-205-9-008
C157	.0047 50V	020-204-9-018
C158	.0047 50V	020-204-9-018
C159	.0047 50V	020-204-9-018
C160	.0047 50V	020-204-9-018
C161	330 N220 50V 5%	020-204-9-013
C162	47 NPO 50V 10%	020-180-9-006
C163	2 NPO 50V	020-225-9-002
C164	.01 50V	020-204-9-018
C165	.0047 50V	020-204-9-018
C177	.1 50V 10%	025-121-9-001
C178	.001 50V 10%	025-074-9-003
C182	.022 50V 10%	025-121-9-003
C183	.1 50V 10%	025-121-9-001
C185	.001 50V	020-204-9-017
C187	.1 50V 10%	025-121-9-001
C189	.001 50V	020-204-9-017
C192	.1 25V	020-225-9-014
C193	.001 50V	020-204-9-017
C194	.022 50V	020-204-9-020
C195	.1 25V	020-225-9-014
C196	.0047 50V	020-204-9-018
C197	.02 50V	020-204-9-020
C198	.01 50V	020-204-9-019
C199	.01 50V	020-204-9-019
C200	.0047 50V	020-204-9-018
C201	.01 50V	020-204-9-019
C202	.01 50V	020-204-9-019
C203	33 NPO 50V 5%	020-205-9-001
C204	.022 50V	020-204-9-020
C205	.0047 50V	020-204-9-018
C207	47 NPO 50V 10%	020-180-9-006
C208	.001 50V	020-204-9-017
C212	470 N750 50V 5%	020-204-9-015
C213	10 N750 50V	020-221-9-003
C215	.022 50V	020-204-9-020
C216	.01 50V 10%	025-121-9-002
C219	.0047 50V	020-204-9-018
C223	.0047 50V	020-204-9-018
C224	.0047 50V	020-204-9-018
C225	.047 50V 10%	025-121-9-006
C227	.022 50V	020-204-9-020
C228	.022 50V	020-204-9-020
C229	.022 50V	020-204-9-020
C235	330 50V	020-181-9-008
C236	330 50V	020-181-9-008
C301	.022 50V 10%	025-121-9-003

## CAPACITORS

ITEM No.	RATING	PART No.
C303	.022 50V 10%	025-121-9-003
C304	.022 50V 10%	020-204-9-020
C401	.1 25V	020-225-9-014
C402	.001 50V	020-204-9-017
C403	.1 25V	020-225-9-014
C404	.001 50V	020-204-9-017
C405	.001 50V	020-204-9-017
C406	.001 50V	020-204-9-017
C407	.001 50V	020-204-9-017
C408	.01 50V	020-204-9-019
C409	.01 50V	020-204-9-019
C412	.001 125V	020-225-9-015
C413	.001 125V	020-225-9-015
C414	.001 125V	020-225-9-015
C415	.001 125V	020-225-9-015
C416	.001 50V	020-204-9-017
C417	.001 50V	020-204-9-017
C418	.001 50V	020-204-9-017
C419	.001 50V	020-204-9-017
C420	.001 50V	020-204-9-017
C421	.001 50V	020-204-9-017
C422	.001 50V	020-204-9-017
C423	.001 50V	020-204-9-017
C424	.001 50V	020-204-9-017
C425	.047 50V	020-204-9-021
C426	.001 50V	020-204-9-017
C428	.001 50V	020-204-9-017
C429	.001 50V	020-204-9-017
C430	.001 50V	020-204-9-017
C431	.001 50V	020-204-9-017
C432	.001 50V	020-204-9-017
C433	.001 50V	020-204-9-017
C434	330 50V	
C502	33 NPO 50V 10%	020-205-9-001
C510	.001 50V	020-204-9-017
C511	.047 50V 10%	025-121-9-006
C513	.022 50V	020-204-9-020
C514	.022 50V	020-204-9-020
C515	.022 50V	020-204-9-020
C516	.001 50V	020-204-9-017
C517	.001 50V	020-204-9-017
C518	.001 50V	020-204-9-017
C519	.022 50V	020-204-9-020
C520	.001 50V	020-204-9-017
C521	.022 50V	020-204-9-020
C522	.022 50V	020-204-9-020
C526	.001 50V	020-204-9-017
C528	.001 50V	020-204-9-017
C529	.022 50V	020-204-9-020
C531	.022 50V	020-204-9-020
C532	.02 50V	
C533	.022 50V	020-204-9-020
C534	.022 50V	020-204-9-020
C536	.022 50V	020-204-9-020
C537	56 NPO 50V 5%	020-180-9-002
C538	47 50V	
C539	47 NPO 50V 10%	020-180-9-006
C541	.022 50V	020-204-9-020
C543	.02 50V	
C544	.022 50V	
C545	.02 50V	020-204-9-020
C546	.01 50V 10%	025-121-9-002
C547	.01 50V 10%	025-121-9-002
C548B	.001 50V	020-204-9-017
C549	470 N750 50V 10%	020-204-9-015
C550	470 N750 50V 10%	020-204-9-015
C551	.022 50V	020-204-9-020
C552	470 N750 50V 10%	020-204-9-015
C553	.022 50V	020-204-9-020
C554	.001 50V	020-204-9-017
C555	.022 50V	020-204-9-020
CC1	Capacitor Array	527-077-9-002(1)
CT2	20	028-051-9-001
CT501	20	028-051-9-001

(1) Consists of (4) four 87pF Caps.

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING	PART No.
C10	.22 25V	027-040-9-001
C18	330 10V	022-183-9-001
C23	.47 50V	022-157-9-001
C24	4.7 25V	022-157-9-001
C25	.47 50V	022-157-9-001
C29	.47 25V	027-040-9-002
C33	1 50V	022-157-9-002
C62	1 25V	027-035-9-003
C67	1 25V	027-035-9-003
C72	33 10V	027-040-9-004
C73	22 10V	022-163-9-001
C74	47 6.3	027-040-9-003
C80	2.2 25V	027-031-9-001

COBRA MODEL 2000GTL

# PARTS LIST AND DESCRIPTION (CONTINUED)

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING	PART No.
C81	2.2 25V	027-031-9-001
C84	1000 10V	022-171-9-003
C90	.47 25V	027-040-9-002
C92	4.7 25V	022-157-9-003
C95	47 10V	022-160-9-002
C99	2.2 25V	022-158-9-002
C100	22 6V	027-035-9-004
C101	.1 35V	027-035-9-001
C103	10 10V	027-036-9-001
C104	.47 25V	027-040-9-002
C108	.47 50V	022-157-9-001
C109	10 16V	022-157-9-004
C133	10 16V	022-157-9-004
C134	10 16V	022-157-9-004
C135	.47 50V	022-157-9-001
C144	1 50V	022-157-9-002
C153	47 10V	022-160-9-002
C172	1000 25V	022-171-9-004
C173	10 16V	022-157-9-004
C174	1 50V	022-157-9-002
C175	470 10V	022-160-9-001
C176	47 10V	022-160-9-002
C179	22 6.3V	027-035-9-004
C180	4.7 25V	022-157-9-003
C181	10 25V	022-171-9-001
C186	220 10V	022-171-9-002
C190	.47 50V	022-157-9-001
C191	1 50V	022-157-9-002
C214	47 10V	022-160-9-002
C217	10 16V	022-157-9-004
C218	1 50V	022-157-9-002
C230	.47 50V	022-157-9-001
C231	.47 50V	022-157-9-001
C232	2.2 25V	022-158-9-002
C302	10 25V	022-171-9-001
C410	4700 35V	022-185-9-001
C500	1 50V	022-157-9-002
C501	22 16V	022-157-9-005
C505	.47 35V	027-040-9-002
C512	4.7 25V	022-157-9-003
C523	470 10V	022-192-9-001
C525	1 50V	022-157-9-002
C527	220 16V	022-163-9-003
C535	22 10V	022-163-9-001
C542	22 10V	022-163-9-001
C548A	22 10V	022-163-9-001

## COILS (RF-IF)

ITEM No.	FUNCTION	PART No.
L39	RF Choke	044-053-9-003
L42	RF Choke	044-053-9-003
L44	RF Choke	044-053-9-002
L45	Predriver (27MHz)	060-030-9-008
L46	Mixer (27MHz)	060-030-9-006
L47	VCO (34MHz)	060-025-9-008
L48	Mixer (7.8MHz)	060-030-9-005
L57	RF Choke (470uH)	041-088-9-004
L58	RF Choke (470uH)	041-088-9-004
L59	RF Choke	046-028-9-002
L60	RF Choke (470uH)	041-088-9-004
L401	RF Choke	044-043-9-002
L402	RF Choke	044-043-9-002
L403	RF Choke	044-048-9-002
L406	RF Choke	041-069-9-005
L407	RF Choke	041-069-9-005
L408	RF Choke	044-048-9-002
L409	RF Choke	044-048-9-002
L410	RF Choke	044-048-9-002
L413	RF Choke	044-048-9-002
L414	RF Choke (470uH)	041-088-9-004
L415	RF Choke (470uH)	041-088-9-004
L501	Buffer (34MHz)	060-030-9-001
L502	Buffer (7.8MHz)	060-018-9-001

## TRANSFORMER (Power)

ITEM No.	RATING		PART No.
	PRI.	SEC. 1	
T401	120V AC @ .65A AC	15.50V @ 3A DC	065-147-9-001 TF-164 (1)
	SEC. 2	SEC. 3	

(1) Number on unit.

## COILS (RF-IF)

ITEM No.	FUNCTION	PART No.
L1	NB Amp	060-018-9-001
L2	NB Amp	060-025-9-010
L3	IF (455kHz)	060-022-9-001
L4	Antenna Matching (27MHz)	060-030-9-015
L5	RF Amp (27MHz)	060-030-9-014
L6	RF Amp (27MHz)	060-030-9-013
L7	Mixer (7.8MHz)	060-030-9-012
L8	Mixer (7.8MHz)	060-030-9-011
L9	Mixer (7.8MHz)	060-031-9-005
L10	Mixer (7.8MHz)	060-031-9-006
L12	IF (7.8MHz)	060-031-9-007
L13	IF (455kHz)	060-031-9-009
L14	IF (7.8MHz)	060-031-9-008
L15	IF (455kHz)	060-031-9-001
L16	Loop Mixer (100uH)	041-087-9-002
L17	RF Choke (470uH)	041-088-9-004
L19	VCO	060-030-9-002
L20	VCO (34MHz)	060-030-9-001
L21	Tripler (33MHz)	060-030-9-010
L22	RF Choke	046-028-9-001
L23	RF Choke	046-028-9-003
L24	RF Choke (220uH)	041-109-9-001
L25	RF Choke (220uH)	041-109-9-001
L26	RF Choke (220uH)	041-109-9-001
L27	RF Choke (470uH)	041-088-9-004
L28	RF Choke (470uH)	041-088-9-004
L29	RF Choke (470uH)	041-088-9-004
L30	Carrier Oscillator (7.798MHz)	060-031-9-003
L31	Carrier Oscillator (7.800MHz)	060-031-9-002
L32	RF Choke (470uH)	041-088-9-004
L33	ALC Amp (100uH)	041-087-9-002
L35	RF Choke	044-043-9-008
L36	TVI Trap (54MHz)	041-088-9-001
L37	PI Filter	044-043-9-008
L38	Final (27MHz)	041-088-9-001

## CONTROLS

ITEM No.	FUNCTION	RESISTANCE	
VR1	AM Signal Meter	3000	008-323-9-001
VR2	SSB Signal Meter	3000	008-323-9-001
VR3	Squelch Range	1000	008-334-9-001
VR4	Carrier Balance	10K	008-342-9-002
VR5	Frequency Adjust	3000	008-323-9-001
VR6	RF PWR Meter	100K	008-316-9-001
VR7	Mod Meter	50K	008-316-9-002
VR8	Final Bias	5000	008-316-9-004
VR9	Driver Bias	500	008-342-9-001
VR10	AM Carrier Power	5000	008-316-9-004
VR11	SSB ALC	10K	008-342-9-002
VR12	AM ALC	500	008-342-9-001
VR401	Squelch	100K	008-346-9-005
VR402	Coarse Voice Lock	20K	008-357-9-001 (18)
VR407	Fine Voice Lock		
VR403	Volume	10K	008-346-9-002
VR404	RF Gain	1000	008-357-9-002 (19)
VR408	SWR CAL	5000	
VR405	Dynamike Plus	1000	008-349-9-002
VR406	Tone	5000	008-350-9-002

(18) Includes VR402 and VR407.

(19) Includes VR404 and VR408.

## FUSE DEVICES

ITEM No.	DESCRIPTION	PART No.	
		DEVICE	HOLDER
F401	4A Quick Acting	194-005-9-001	FG-002
F402	4A Quick Acting	194-005-9-001	FH-002

## PARTS LIST AND DESCRIPTION (CONTINUED)

### MISCELLANEOUS

ITEM No.	PART NAME	PART No.
D401	LED	158-026-9-001
D404	LED	158-026-9-002
D405	LED	158-026-9-002
D406	LED	158-026-9-003
D407	LED	158-026-9-003
D408	LED	158-026-9-002
D409	LED	158-026-9-002
D410	LED	158-026-9-002
D411	LED	158-026-9-002
D412	LED	158-026-9-004
D413	LED	158-026-9-004
D415	LED	158-026-9-001
FT1	Filter	143-005-9-002
FT2	Filter	143-006-9-002
FT3	Filter	143-010-9-001
J401	Jack	772-025-9-001
J402	Jack	772-025-9-001
J403	Jack	772-025-9-001
J404	Jack	773-092-9-001
J405	Jack	773-094-9-001
J406	Jack	772-025-9-001
J407	Jack	762-020-9-001
J408	Jack	772-036-9-001
L18	Ferrite Bead	763-084-9-001
L34	Ferrite Bead	044-043-9-006
L40	Ferrite Bead	044-048-9-003
L41	Ferrite Bead	044-053-9-004
L43	Ferrite Bead	044-048-9-003
L51	Ferrite Bead	763-084-9-001
L404	Ferrite Bead	763-084-9-001
L405	Ferrite Bead	763-084-9-001
L411	Ferrite Bead	044-048-9-003
L412	Ferrite Bead	044-048-9-003
L416	Ferrite Bead	044-048-9-003
L417	Ferrite Bead	044-048-9-003
L418	Ferrite Bead	044-048-9-003
L419	Ferrite Bead	044-048-9-003
L503	Ferrite Bead	044-048-9-003
L504	Ferrite Bead	044-048-9-003
L506	Ferrite Bead	044-048-9-003
M401	Meter	320-105-9-001
M402	Meter	320-106-9-001
PG401	Plug	420-027-9-001
PG402	Plug	426-042-9-001
PG403	Plug	775-034-9-001
PL401	Lamp	400-060-9-001
PL402	Lamp	400-060-9-002
PL403	Lamp	400-060-9-003
PL404	Lamp	400-060-9-003
PL405	Lamp	400-060-9-004
PL406	Lamp	400-056-9-001
PL407	Lamp	400-060-9-005
P404	Plug	
SP402	Buzzer	
S401	Switch	088-051-9-004
S402	Switch	083-241-9-002
S403	Switch	083-249-9-001
S404	Switch	080-010-9-001
S405	Switch	080-010-9-002
S406	Switch	080-010-9-002
S407	Switch	080-010-9-002
S408	Switch	080-010-9-001
S409	Switch	088-051-9-001
S410	Switch	088-051-9-001
S411	Switch	088-051-9-001
S412	Switch	088-051-9-003
S413	Switch	088-051-9-003
S415	Switch	088-051-9-002
S416	Switch	088-051-9-002
S417	Switch	088-051-9-002
S418	Switch	084-065-9-003
X1	Crystal	135-026-9-002
X2	Crystal	133-014-9-001
X3	Crystal	135-027-9-003

### MISCELLANEOUS

ITEM No.	PART NAME	PART No.
X4	Crystal	135-026-9-001
X501	Crystal	135-028-9-007
	Cable	426-045-9-002
	Cable	426-045-9-003
	Microphone	562-024-9-001
	P.C. Board, Channel LED	302-384-9-001
	P.C. Board, Channel Switch	302-323-9-001
	P.C. Board, Counter	302-383-9-001
	P.C. Board, Filter	302-375-9-001
	P.C. Board, LED	302-374-9-001
	P.C. Board, Main	302-381-9-001
	P.C. Board, Mic Jack	302-312-9-001
	P.C. Board, Phone	302-379-9-001
	Jack	
	P.C. Board, Power Supply	302-373-9-001
	P.C. Board, Record	302-380-9-001
	Jack	
	P.C. Board, Speaker	302-378-9-001
	Jack	
	P.C. Board, Squelch	302-385-9-001
	Volume	
	P.C. Board, Switch	302-372-9-001
	P.C. Board, Switch	302-376-9-001
	P.C. Board, Switch	302-377-9-001
	P.C. Board, Switch	302-382-9-001

### SPEAKER

ITEM No.	TYPE	PART No.
SP401	4" PM 8 Ohms	580-013-9-001
		580-030-9-001 (1)

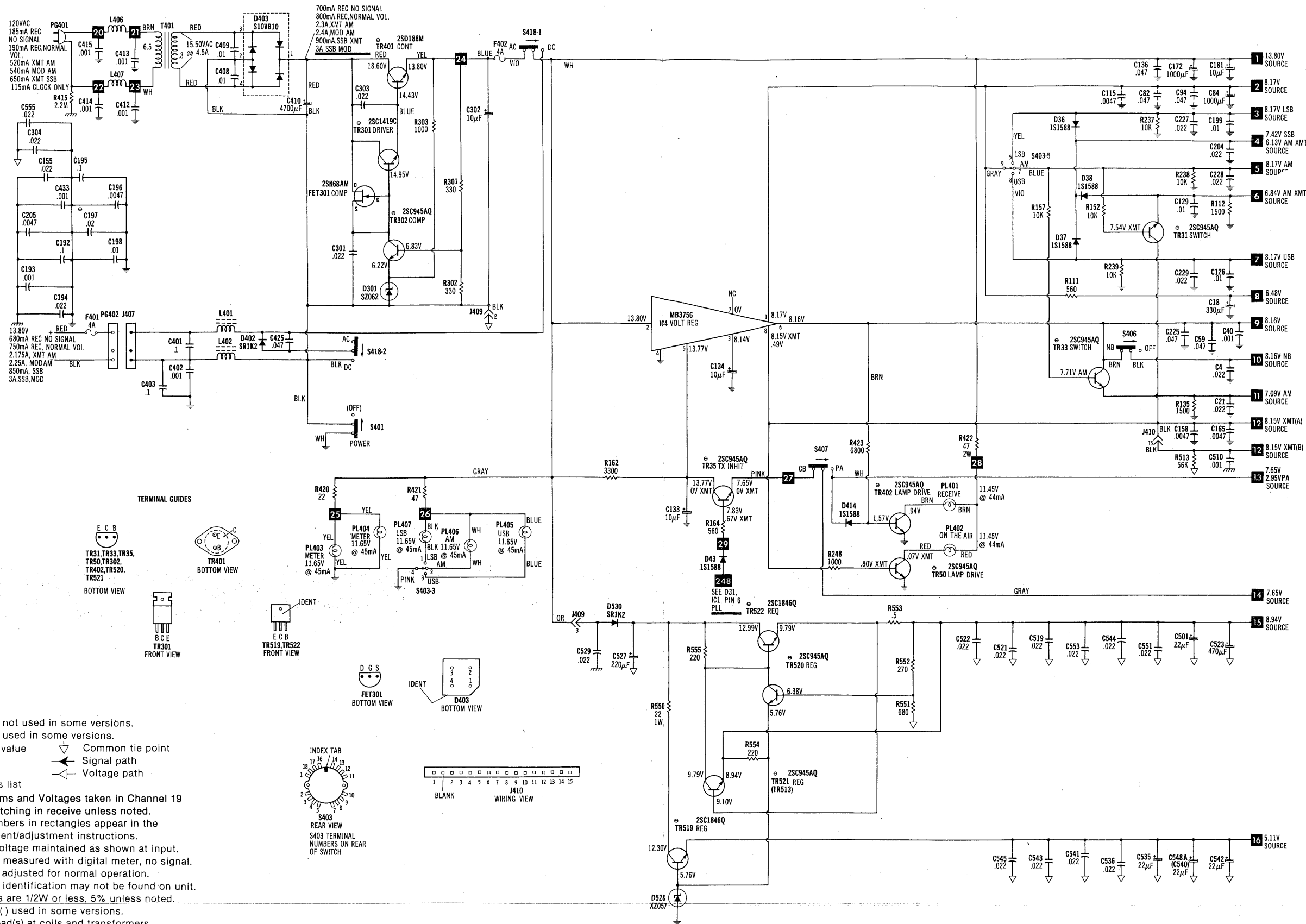
(1) Used in some versions.

### CABINETS & CABINET PARTS

ITEM	PART No.
Case, Bottom	253-068-9-002
Case, Top (Wood)	253-073-9-001
Cover, Bottom, Speaker	252-026-9-001
Cover, Side, Right	263-009-9-001
Cover, Side, Left	263-009-9-002
Cover, Top, Speaker (Wood)	290-004-9-002
Knob, Channel (Complete)	751-168-9-001
Knob, Inner (Complete)	751-172-9-004
Knob, Outer (Complete)	751-172-9-001
Knob, Push-Button (Complete)	751-168-9-007
Optical Filter, Clock	380-316-9-001
Optical Filter	380-316-9-002
Optical Filter	763-115-9-003
Optical Filter	763-115-9-004
Optical Filter, Display	763-115-9-005
Panel, Front	255-180-9-001
Panel, Front Display	260-178-9-001
Panel, Front Speaker	255-174-9-002
Panel, Rear	262-022-9-001
Panel, Rear Speaker	253-068-9-003
Push-Button (Power)	284-028-9-001
Speaker Grille (A)	261-076-9-001
Speaker Grille (B)	261-076-9-002

COBRA MODEL 2000GTL

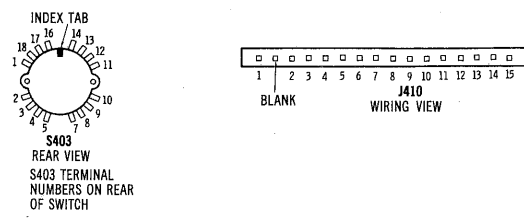
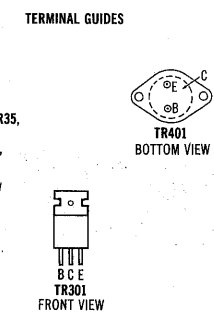




✕ Circuitry not used in some versions.  
 - - - Circuitry used in some versions.  
 ✱ Nominal value    ▽ Common tie point  
 ⊕ Ground            ↗ Signal path  
 ⏏ Chassis            ↖ Voltage path  
 ⊕ See parts list

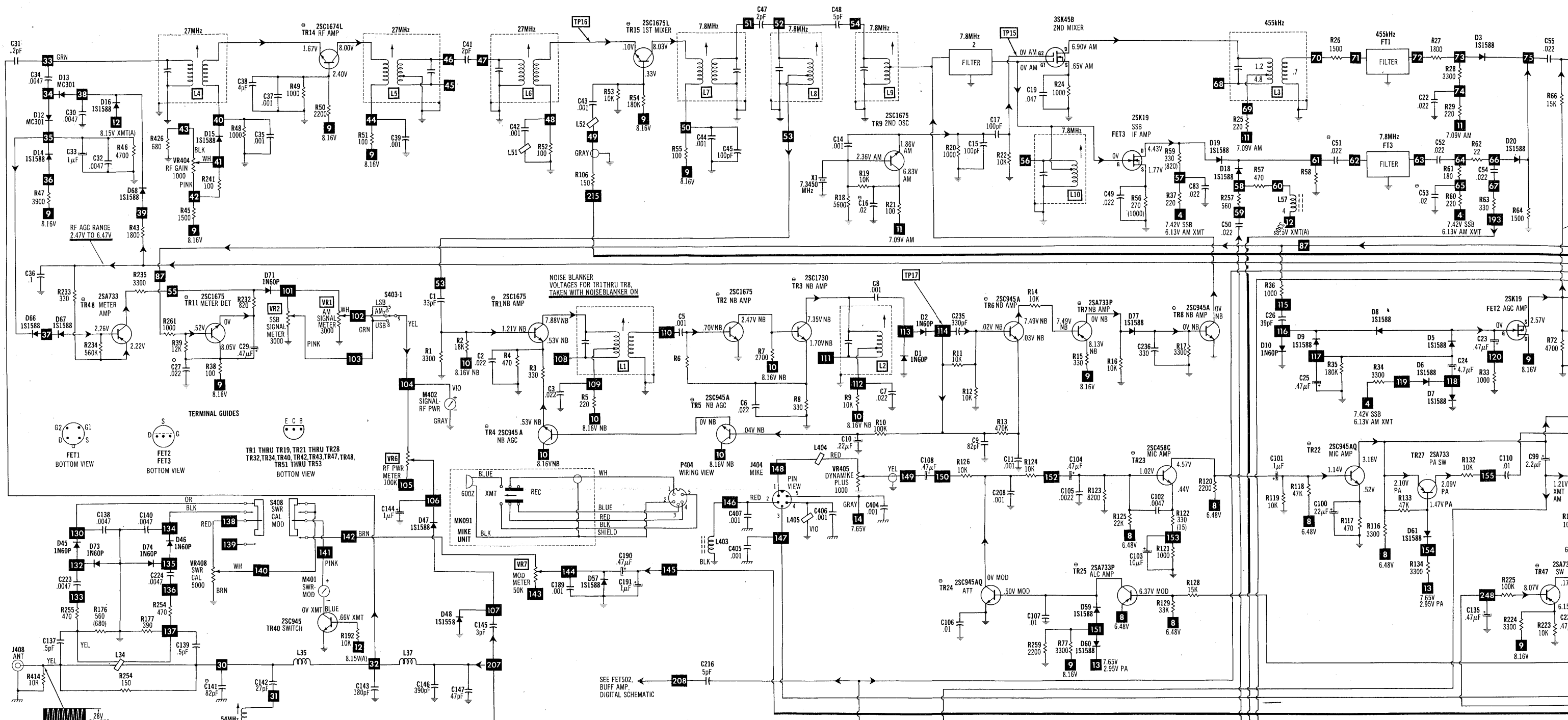
**Waveforms and Voltages taken in Channel 19 with switching in receive unless noted. Item numbers in rectangles appear in the alignment/adjustment instructions. Supply voltage maintained as shown at input. Voltages measured with digital meter, no signal. Controls adjusted for normal operation. Terminal identification may not be found on unit. Resistors are 1/2W or less, 5% unless noted. Value in ( ) used in some versions. Arrow head(s) at coils and transformers indicates accessibility of tuning slug(s).**

**A PHOTOFAC STANDARD NOTATION SCHEMATIC**  
 WITH **CIRCUITRACE®**  
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# POWER SUPPLY SCHEMATIC

**COBRA MODEL 200GTL**



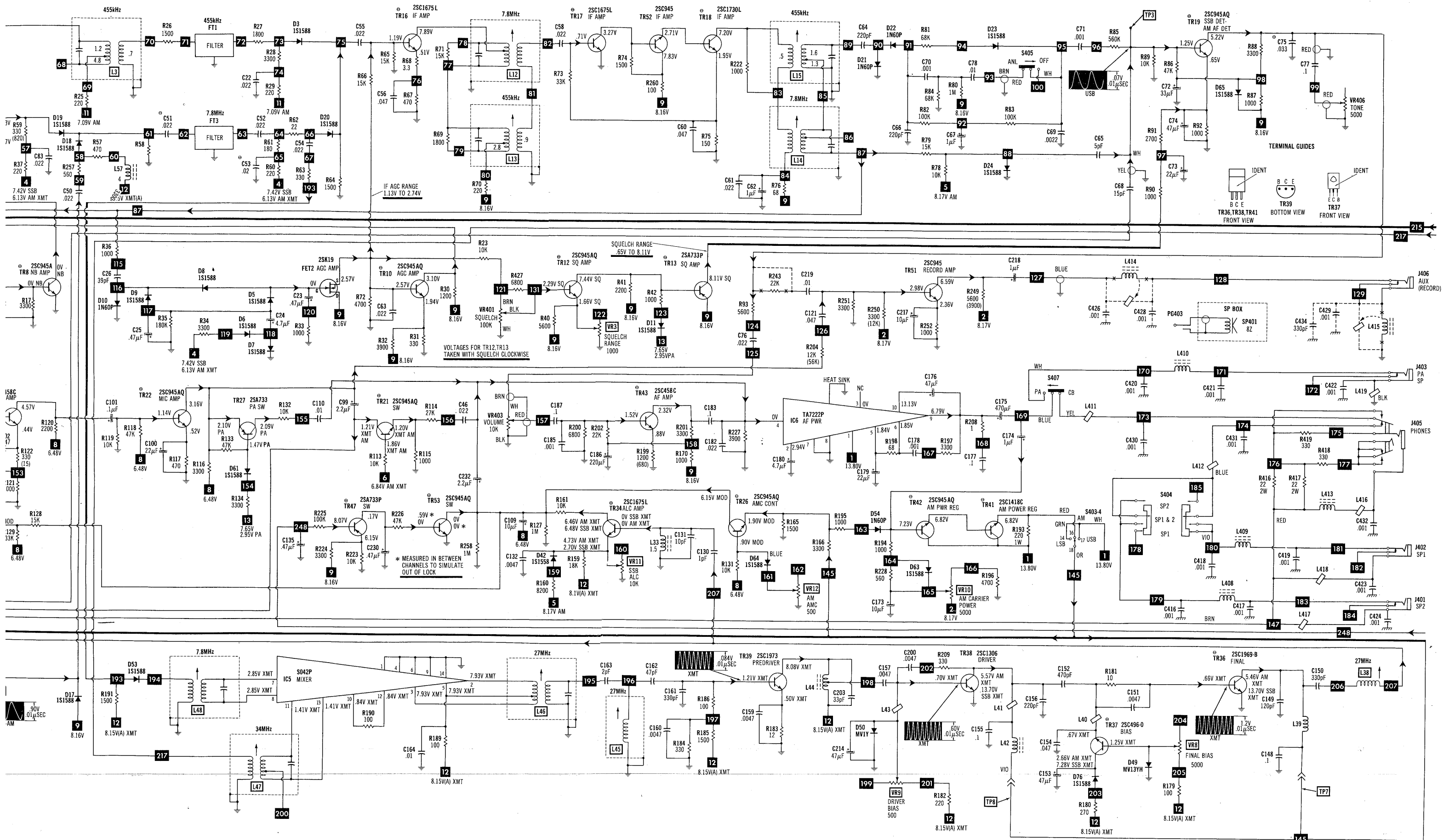
- ✕ Circuitry not used in some versions.
- Circuitry used in some versions.
- ⊗ Nominal value
- ⊕ Common tie-point
- ⊖ Ground
- ⊕ Chassis
- ⊙ See parts list
- ⊖ Signal path
- ⊕ Voltage path

Waveforms and Voltages taken in Channel 19 with switching in receive unless noted.  
 A PHOTOFACIT STANDARD NOTATION SCHEMATIC

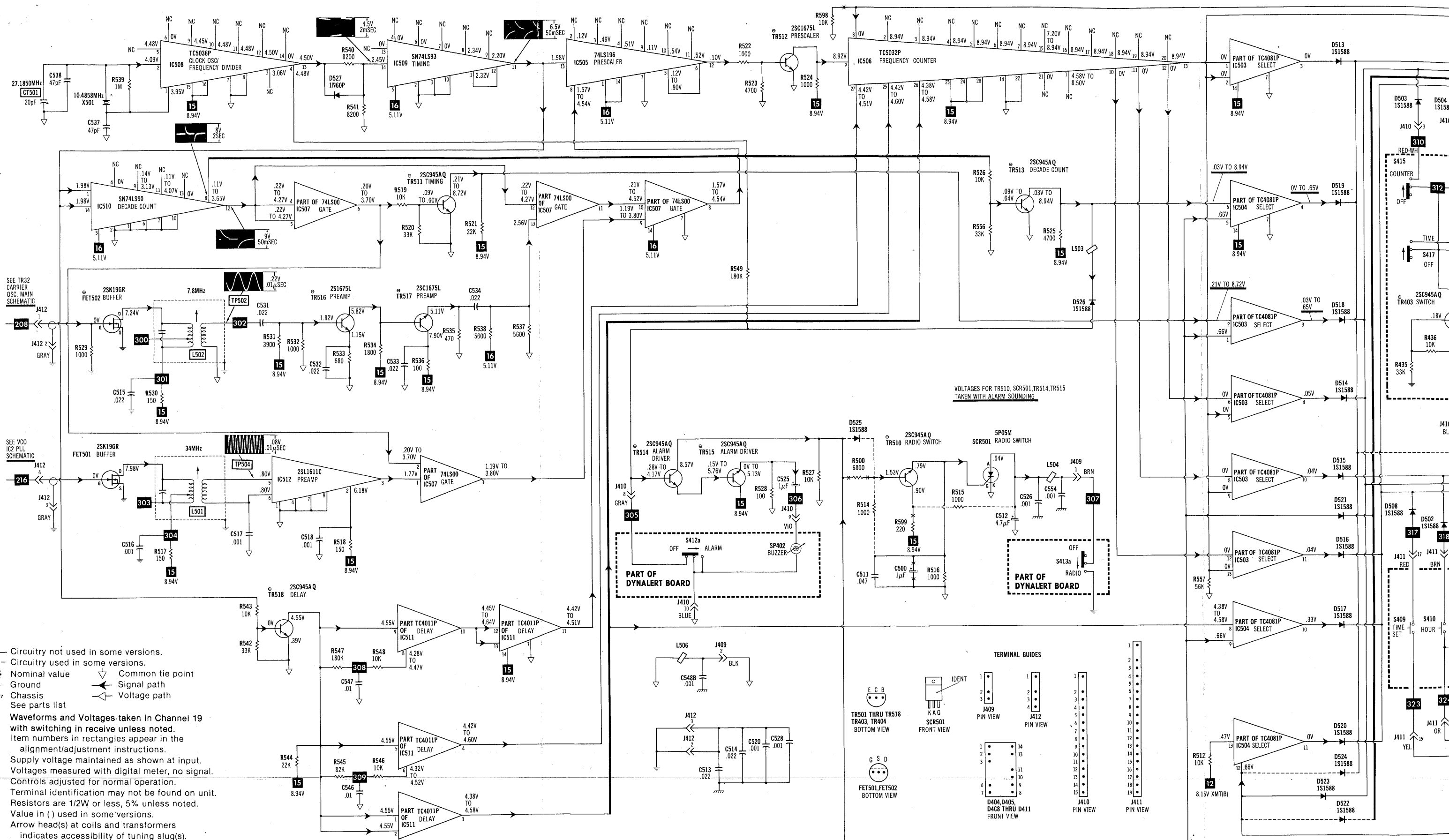
Item numbers in rectangles appear in the alignment/adjustment instructions. Supply voltage maintained as shown at input. Voltages measured with digital meter, no signal. Controls adjusted for normal operation. Terminal identification may not be found on unit. Resistors are 1/2W or less, 5% unless noted. Value in ( ) used in some versions. Arrow head(s) at coils and transformers indicates accessibility of tuning slug(s).

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MAIN S



MA IN SCHEMATIC



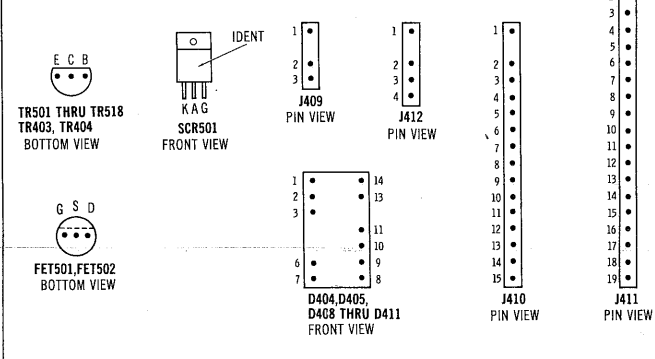
- ✖ Circuitry not used in some versions.
- Circuitry used in some versions.
- ⊛ Nominal value
- ⊕ Ground
- ⊞ Chassis
- ⊙ See parts list
- ⊕ Common tie point
- ⊞ Signal path
- ⊞ Voltage path

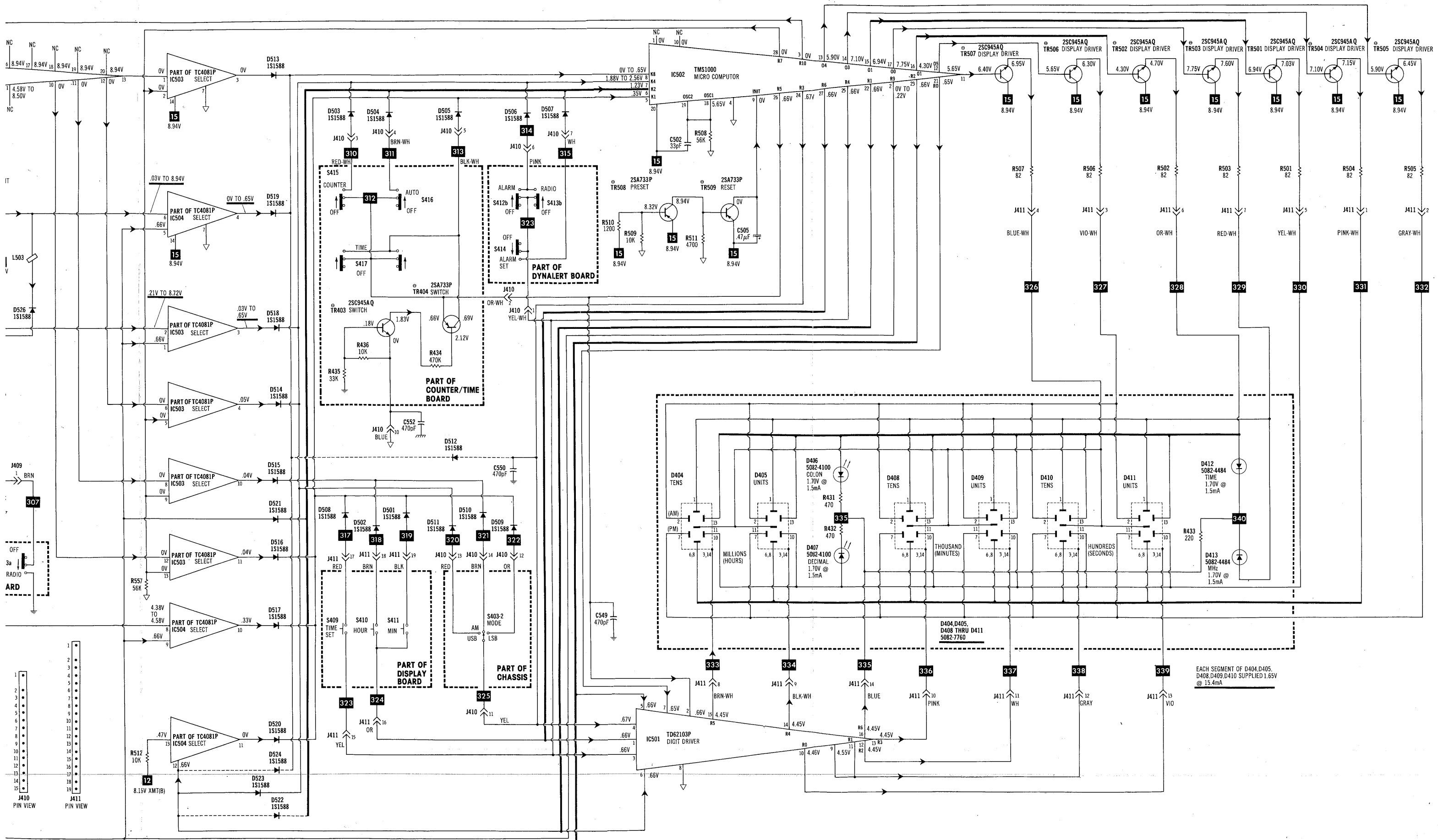
Waveforms and Voltages taken in Channel 19 with switching in receive unless noted. Item numbers in rectangles appear in the alignment/adjustment instructions. Supply voltage maintained as shown at input. Voltages measured with digital meter, no signal. Controls adjusted for normal operation. Terminal identification may not be found on unit. Resistors are 1/2W or less, 5% unless noted. Value in ( ) used in some versions. Arrow head(s) at coils and transformers indicates accessibility of tuning slug(s).

A PHOTOFAC STANDARD NOTATION SCHEMATIC WITH **CIRCUITRACE**  
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VOLTAGES FOR TR510, SCR501, TR514, TR515 TAKEN WITH ALARM SOUNDING

TERMINAL GUIDES

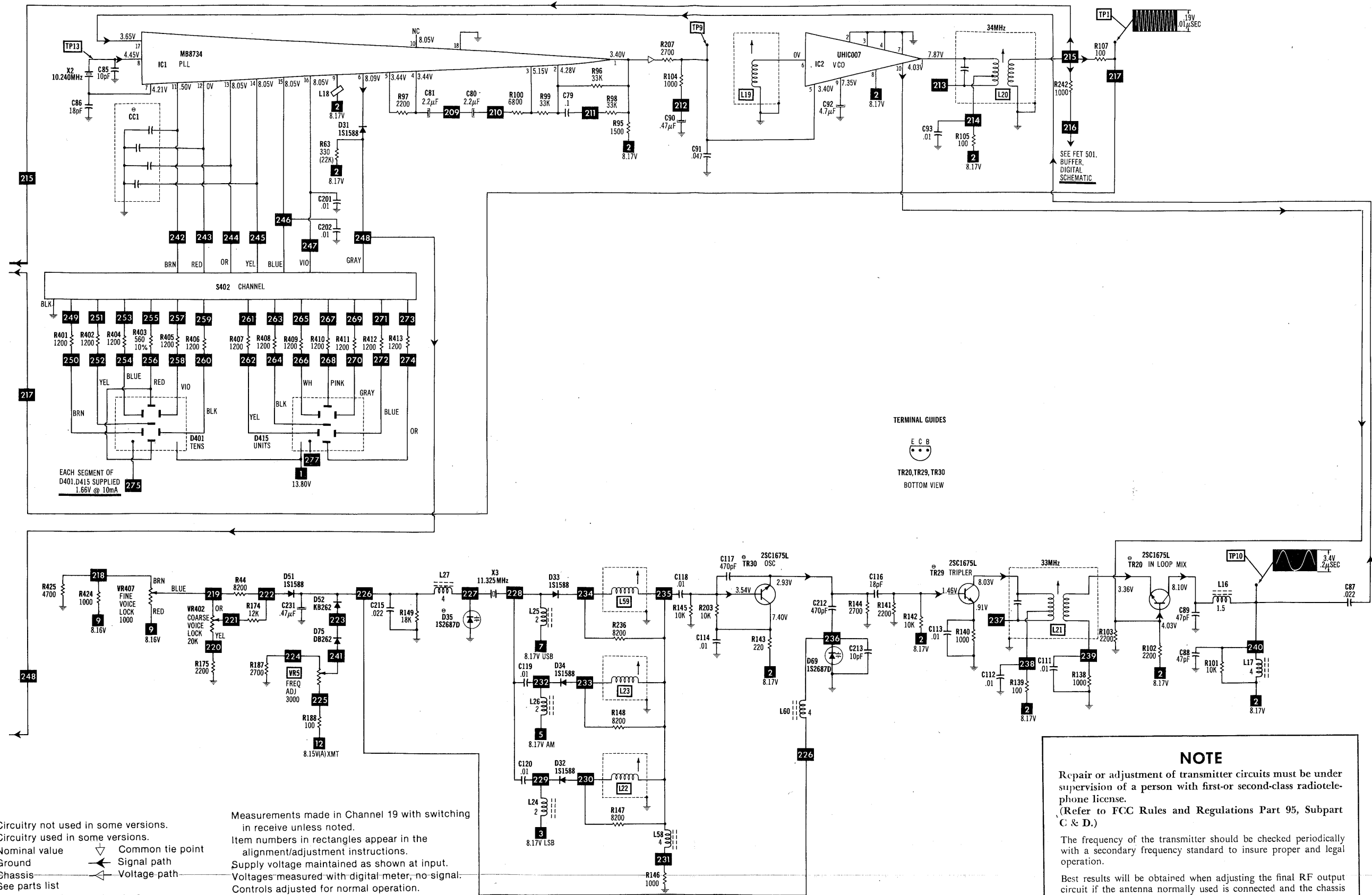




CLOCK & FREQ. SCHEMATIC

COBRA MODEL 2006GTL





- ✖ Circuitry not used in some versions.
- Circuitry used in some versions.
- ⊕ Nominal value
- ⊕ Ground
- ⊕ Chassis
- ⊕ See parts list
- ⊕ Common tie point
- ⊕ Signal path
- ⊕ Voltage path

Waveforms and Voltages taken in Channel 19 with switching in receive unless noted. A PHOTOFACT STANDARD NOTATION SCHEMATIC WITH **CIRCUITRACE**®

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Measurements made in Channel 19 with switching in receive unless noted. Item numbers in rectangles appear in the alignment/adjustment instructions. Supply voltage maintained as shown at input. Voltages measured with digital meter, no signal. Controls adjusted for normal operation. Terminal identification may not be found on unit. Resistors are 1/2W or less, 5% unless noted. Value in ( ) used in some versions. Arrow head(s) at coils and transformers indicates accessibility of tuning slug(s).

**NOTE**

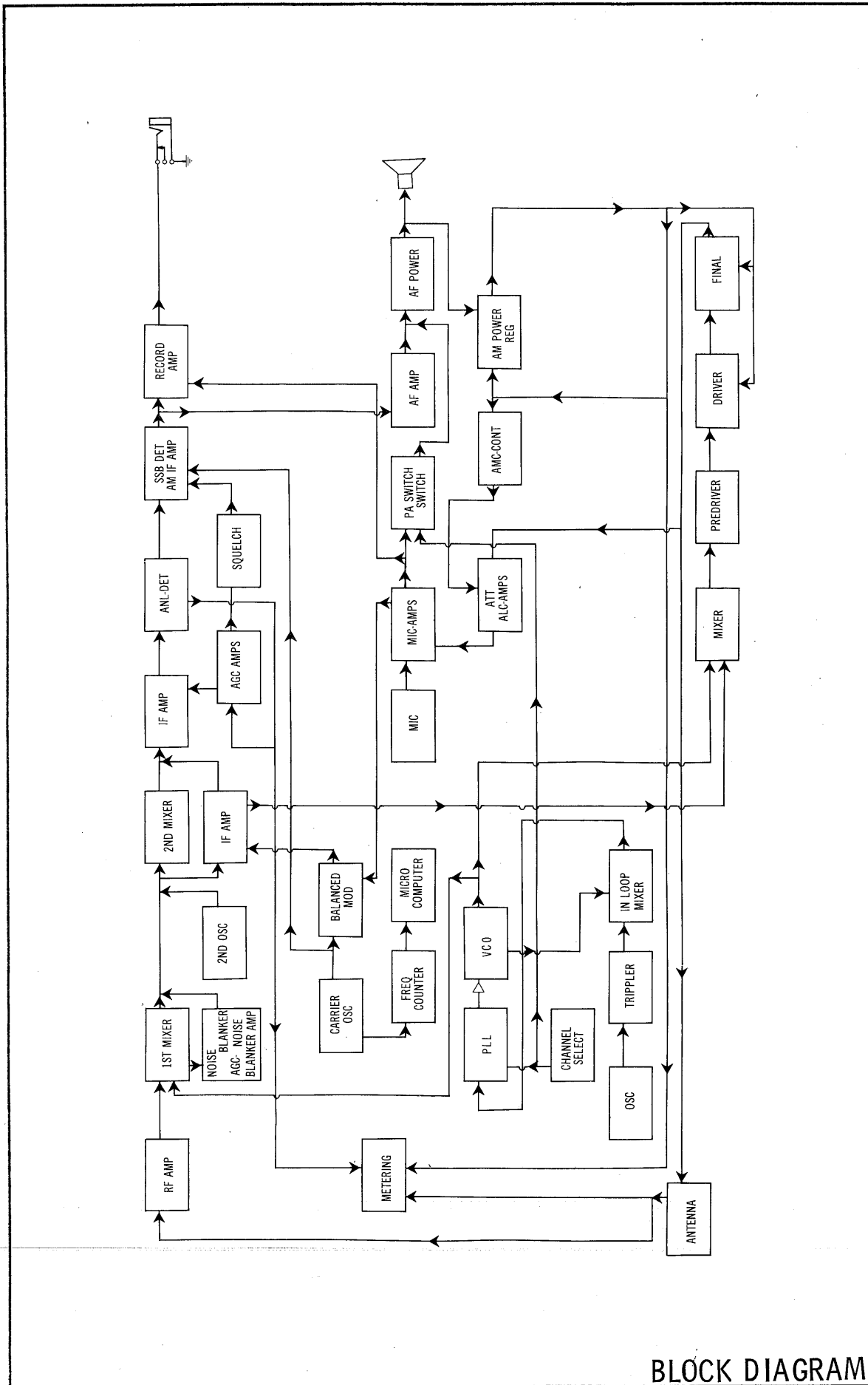
Repair or adjustment of transmitter circuits must be under supervision of a person with first- or second-class radiotelephone license. (Refer to FCC Rules and Regulations Part 95, Subpart C & D.)

The frequency of the transmitter should be checked periodically with a secondary frequency standard to insure proper and legal operation.

Best results will be obtained when adjusting the final RF output circuit if the antenna normally used is connected and the chassis is as nearly in the cabinet as possible.

Connect either 50-ohm dummy load or the normally used antenna system.

PLL SCHEMATIC



COBRA MODEL 2000GT1

BLOCK DIAGRAM