



PHOTOFACT[®] with

CIRCUITRACE[®]

For Supplier Address See PHOTOFACT Index

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.



MODEL 1002002, ZACHARY T.

MANUFACTURER'S SPECIFICATIONS

TRANSMITTER

Power Output:	4 watts.
Modulation:	100% capability.
Frequency Response:	300 to 2,500 Hz
Output Impedance:	50 ohms, unbalanced.

RECEIVER

Sensitivity:	Less than 0.5 μ V for 10 dB (S+N)/N.
Selectivity:	6 dB @7 KHz, 60 dB @10 KHz.
Image Rejection:	80 dB
I.F. Frequencies:	Double conversion; 1st: 10.695 MHz 2nd: 455 KHz.
Automatic Gain Control:	Less than 10 dB change in audio output for inputs from 10 to 50000 microvolts.
RF Gain Control:	Adjustable for optimum signal.
Squelch:	Adjustable; threshold less than 1 μ V.
Audio Output Power:	4 watts.
Frequency Response:	300 to 3,000 Hz.
Distortion	Less than 10% @3 watts @1000 Hz.
Built-in Speaker:	8 ohms, round.
External Speaker:	8 ohms. Disables internal speaker when connected.

Courtesy of the Manufacturer

PRESIDENT MODEL 1002002, ZACHARY T.

HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206

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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 volts at TP10 (TR201, Emitter). Connect low sides of test equipment to ground unless specified otherwise. Connect 50-ohm dummy load or antenna before keying transmitter. Connect microphone.

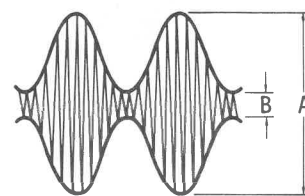
Suggested Alignment Tools:

GC ELECTRONICS

L6, L7, L85009, 8728-A, 8728

L10, L13, L16.9091, 8728-A, 8728

L1, L2, L3, L5, L17 thru L21, L23, L24, L25. . .9440



$$\text{Modulation Ratio} = \frac{A - B}{A + B} \times 100 (\%)$$

FIGURE 1

SYNTHESIZER ALIGNMENT

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of oscilloscope to TP6.	Ch. 19	L23	Adjust for maximum.
Input of frequency counter to TP6.	Ch. 19	L21	Adjust for 10.240MHz.
Input of DC meter to TP4.	Ch. 1	L20	Adjust for 1.25 volts. Check for approximately 2.1 volts on Ch. 40.
	Ch. 1, XMT		Check for 2.10 volts. Check for approximately 3.3 volts on Ch. 40.
Input of oscilloscope to TP11 (IC2, pin 4).	Ch. 19	L19	Adjust for maximum at 15.360MHz.
Input of oscilloscope to TP2.	Ch. 19	L18	Adjust for maximum.
Input of frequency counter to TP2.	Ch. 1		Check for 16.270MHz. Check all channels. (See Truth Chart for correct frequencies.)
	Ch. 1, XMT		Check for 16.725MHz. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to TP5.	Ch. 1		Check for .910MHz. Check all channels. (See Truth Chart for correct frequencies.)
	Ch. 1, XMT		Check for 1.365MHz. Check all channels. (See Truth Chart for correct frequencies.)

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.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to TP12 (TR4 gate). 455kHz, 1000Hz @ 30% modulation.	Ch. 19	L8,L7,L6	Adjust for maximum output.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation.	Ch. 19	L5,L3,L2,L1	Adjust for maximum output. If necessary readjust L6, L7, and L8.

RECEIVER ADJUSTMENTS

Connect an AC VTVM or AF wattmeter across speaker voice coil.
Adjust volume control to obtain a suitable indication.
Squelch MINIMUM, RF Gain Maximum, ANL Off

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation. Output .4uV.	Ch. 19 Volume Maximum	VR1	IF GAIN Adjust for 2 volts audio.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation. Output 1000uV.	Ch. 19 Squelch Maximum	VR3	SQUELCH RANGE Adjust so that squelch just breaks.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation. Output 100uV.	Ch. 19	VR2	S METER Adjust for 9 on S scale of meter.

TRANSMITTER ALIGNMENT

Connect an RF wattmeter and 50-ohm, 25-watt dummy load to antenna connector.
NOTE: Be sure to check transmit frequency and power on all active channels after alignment of transmitter.
See page 4 for channel frequencies.

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Input of RF wattmeter to antenna input.	Ch. 19	L24,L25,L17, L16,L13	Adjust for maximum.
Input of RF wattmeter to antenna input.	Ch. 19	L13	Adjust for 3.8 watts.
Input of spectrum analyzer or harmonic meter to antenna input.	Ch. 19	L10	Adjust for MINIMUM at 54MHz.

TRANSMITTER ADJUSTMENTS

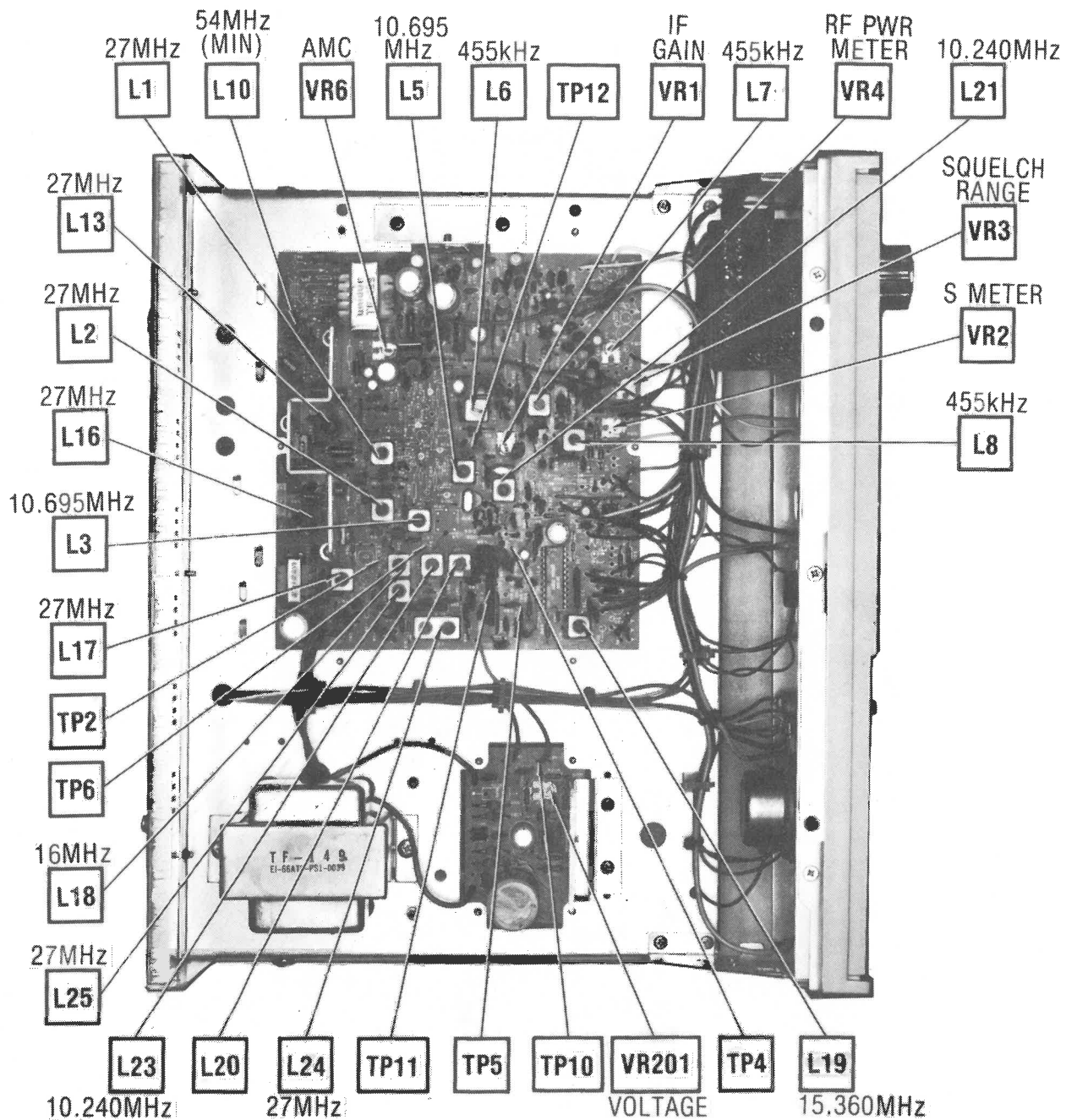
Connect an RF wattmeter and 50-ohm, 25-watt dummy load to antenna connector.
NOTE: Be sure to check transmit frequency and power on all active channels after adjustment of transmitter.

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Input of oscilloscope or modulation meter. Inject a 1000Hz, 100mV signal at MIC input.	Ch. 19 Mic Gain Maximum	VR6	AMC Adjust for 95% modulation. (See Figure 1)
Input of RF wattmeter to antenna input.	Ch. 19	VR4	RF PWR METER Adjust so that RF PWR meter agrees with RF wattmeter.

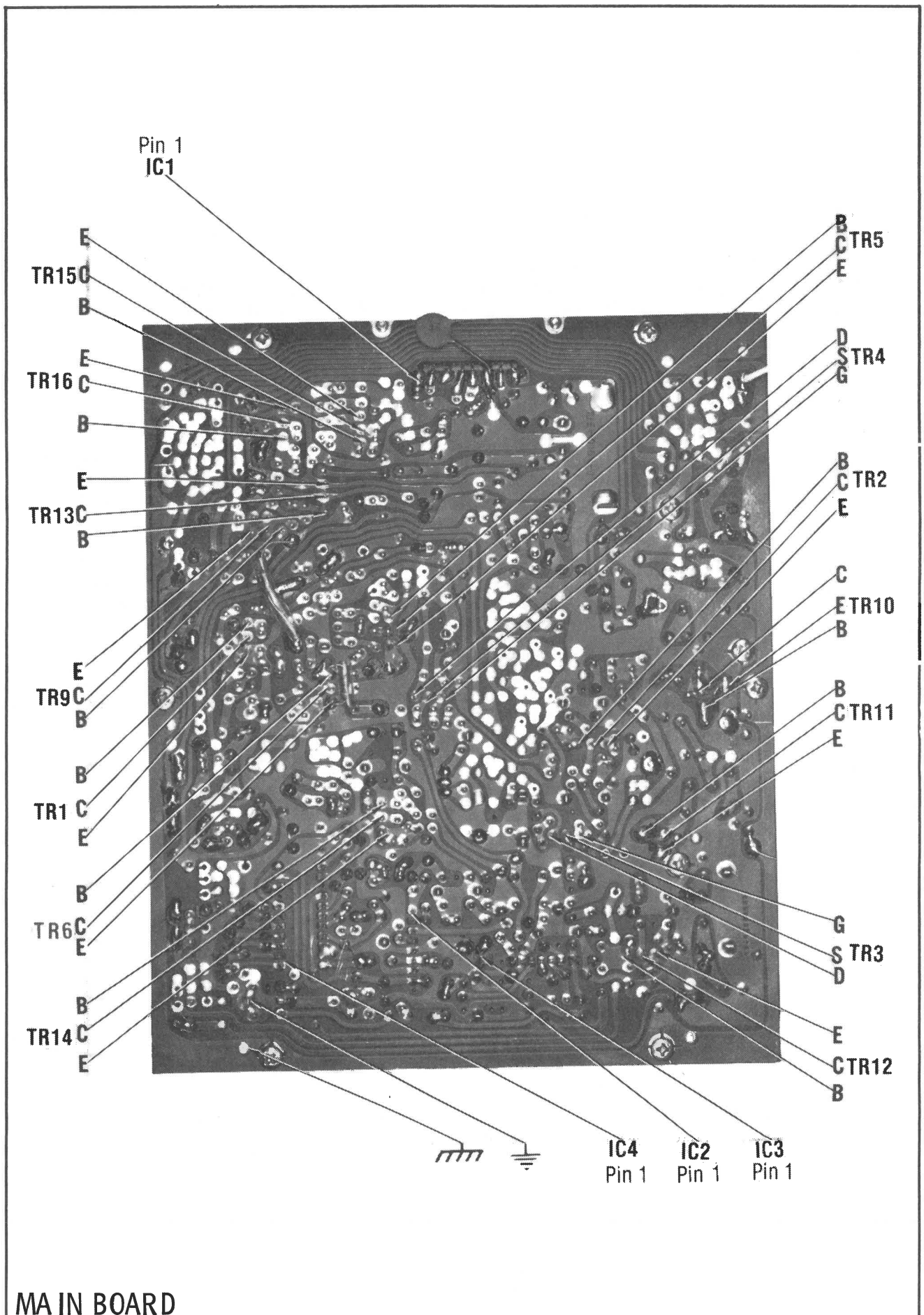
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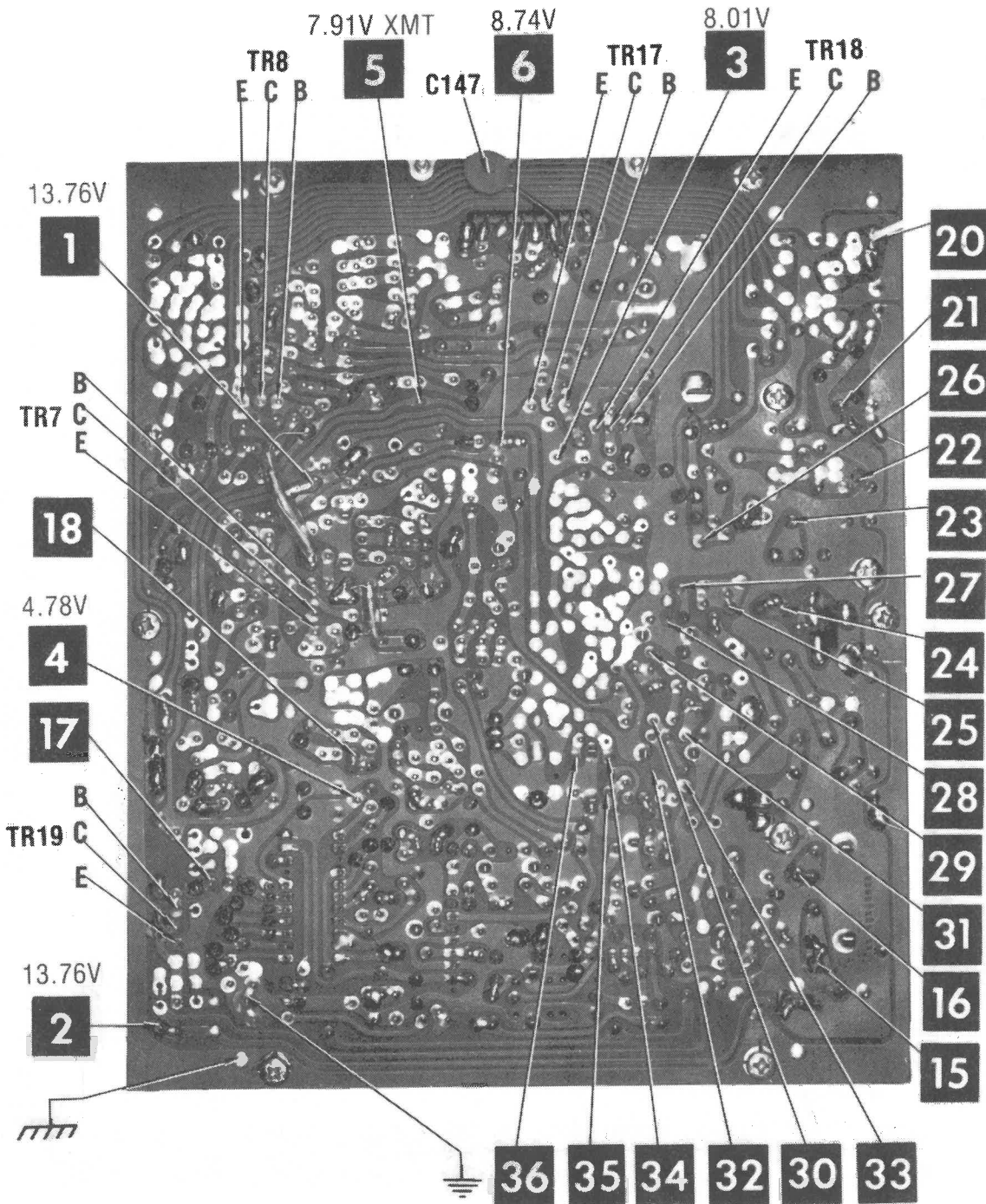
TRUTH CHART

C H A N N E L	1 = 4.76 Volts 0 = 0 Volts IC4 PROGRAM DIVIDER							REC SYNTHESIZER OUTPUT IN MHz AT TP2	REC DIVIDER INPUT IN MHz AT TP5	XMT SYNTHESIZER OUTPUT IN MHz AT TP2	XMT DIVIDER INPUT IN MHz AT TP5	
	PINS											
			6	5	4	3	2					1
1			0	0	0	0	0	1	16.270	.910	16.725	1.365
2			0	0	0	0	1	0	16.280	.920	16.735	1.375
3			0	0	0	0	1	1	16.290	.930	16.745	1.385
4			0	0	0	1	0	0	16.310	.950	16.765	1.405
5			0	0	0	1	0	1	16.320	.960	16.775	1.415
6			0	0	0	1	1	0	16.330	.970	16.785	1.425
7			0	0	0	1	1	1	16.340	.980	16.795	1.435
8			0	0	1	0	0	0	16.360	1.000	16.815	1.455
9			0	0	1	0	0	1	16.370	1.010	16.825	1.465
10			0	1	0	0	0	0	16.380	1.020	16.835	1.475
11			0	1	0	0	0	1	16.390	1.030	16.845	1.485
12			0	1	0	0	1	0	16.410	1.050	16.865	1.505
13			0	1	0	0	1	1	16.420	1.060	16.875	1.515
14			0	1	0	1	0	0	16.430	1.070	16.885	1.525
15			0	1	0	1	0	1	16.440	1.080	16.895	1.535
16			0	1	0	1	1	0	16.460	1.100	16.915	1.555
17			0	1	0	1	1	1	16.470	1.110	16.925	1.565
18			0	1	1	0	0	0	16.480	1.120	16.935	1.575
19			0	1	1	0	0	1	16.490	1.130	16.945	1.585
20			1	0	0	0	0	0	16.510	1.150	16.965	1.605
21			1	0	0	0	0	1	16.520	1.160	16.975	1.615
22			1	0	0	0	1	0	16.530	1.170	16.985	1.625
23			1	0	0	0	1	1	16.560	1.200	17.015	1.655
24			1	0	0	1	0	0	16.540	1.180	16.995	1.635
25			1	0	0	1	0	1	16.550	1.190	17.005	1.645
26			1	0	0	1	1	0	16.570	1.210	17.025	1.665
27			1	0	0	1	1	1	16.580	1.220	17.035	1.675
28			1	0	1	0	0	0	16.590	1.230	17.045	1.685
29			1	0	1	0	0	1	16.600	1.240	17.055	1.695
30			1	1	0	0	0	0	16.610	1.250	17.065	1.705
31			1	1	0	0	0	1	16.620	1.260	17.075	1.715
32			1	1	0	0	1	0	16.630	1.270	17.085	1.725
33			1	1	0	0	1	1	16.640	1.280	17.095	1.735
34			1	1	0	1	0	0	16.650	1.290	17.105	1.745
35			1	1	0	1	0	1	16.660	1.300	17.115	1.755
36			1	1	0	1	1	0	16.670	1.310	17.125	1.765
37			1	1	0	1	1	1	16.680	1.320	17.135	1.775
38			1	1	1	0	0	0	16.690	1.330	17.145	1.785
39			1	1	1	0	0	1	16.700	1.340	17.155	1.795
40			0	0	0	0	0	0	16.710	1.350	17.165	1.805



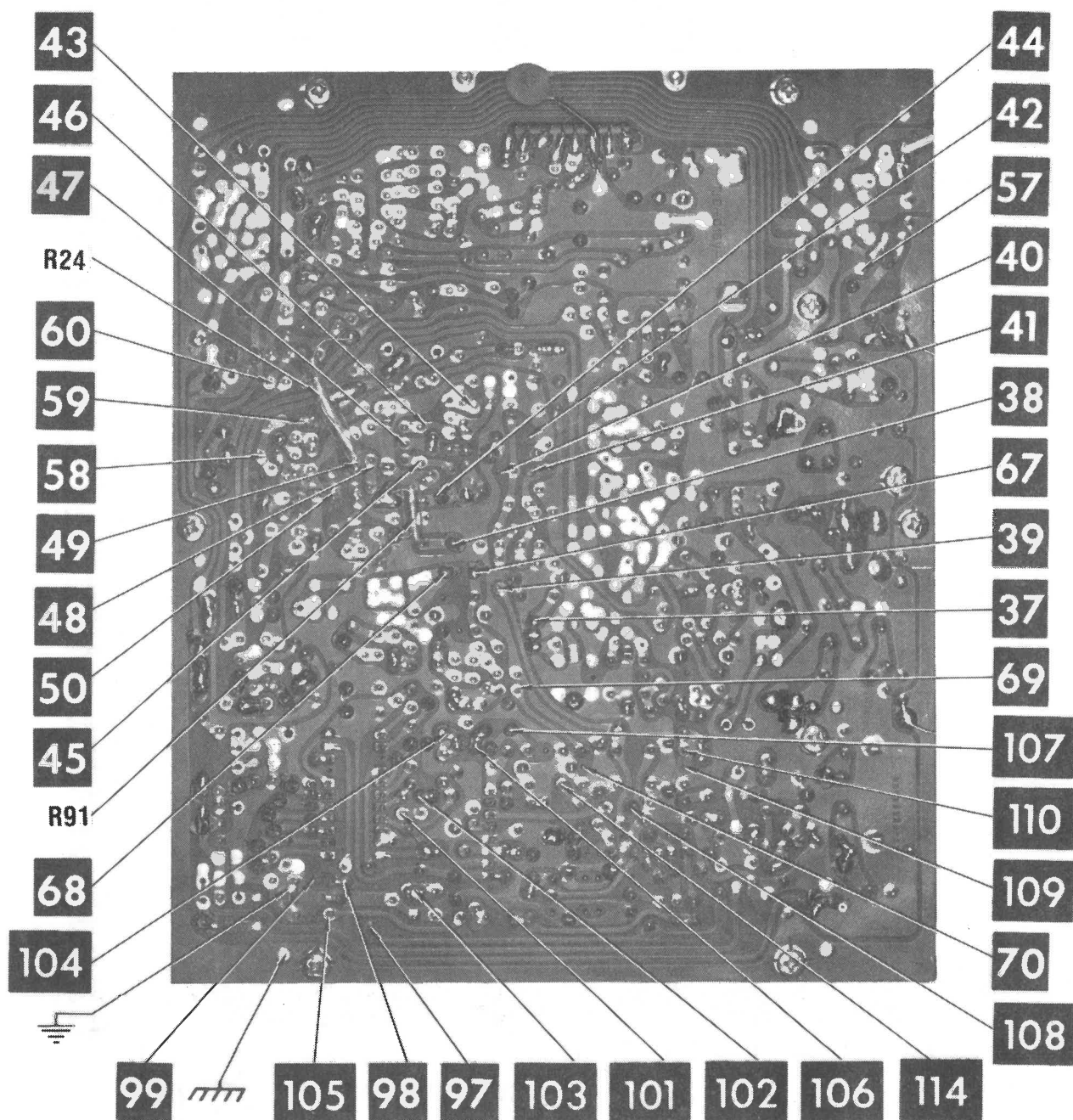
CHASSIS-TOP



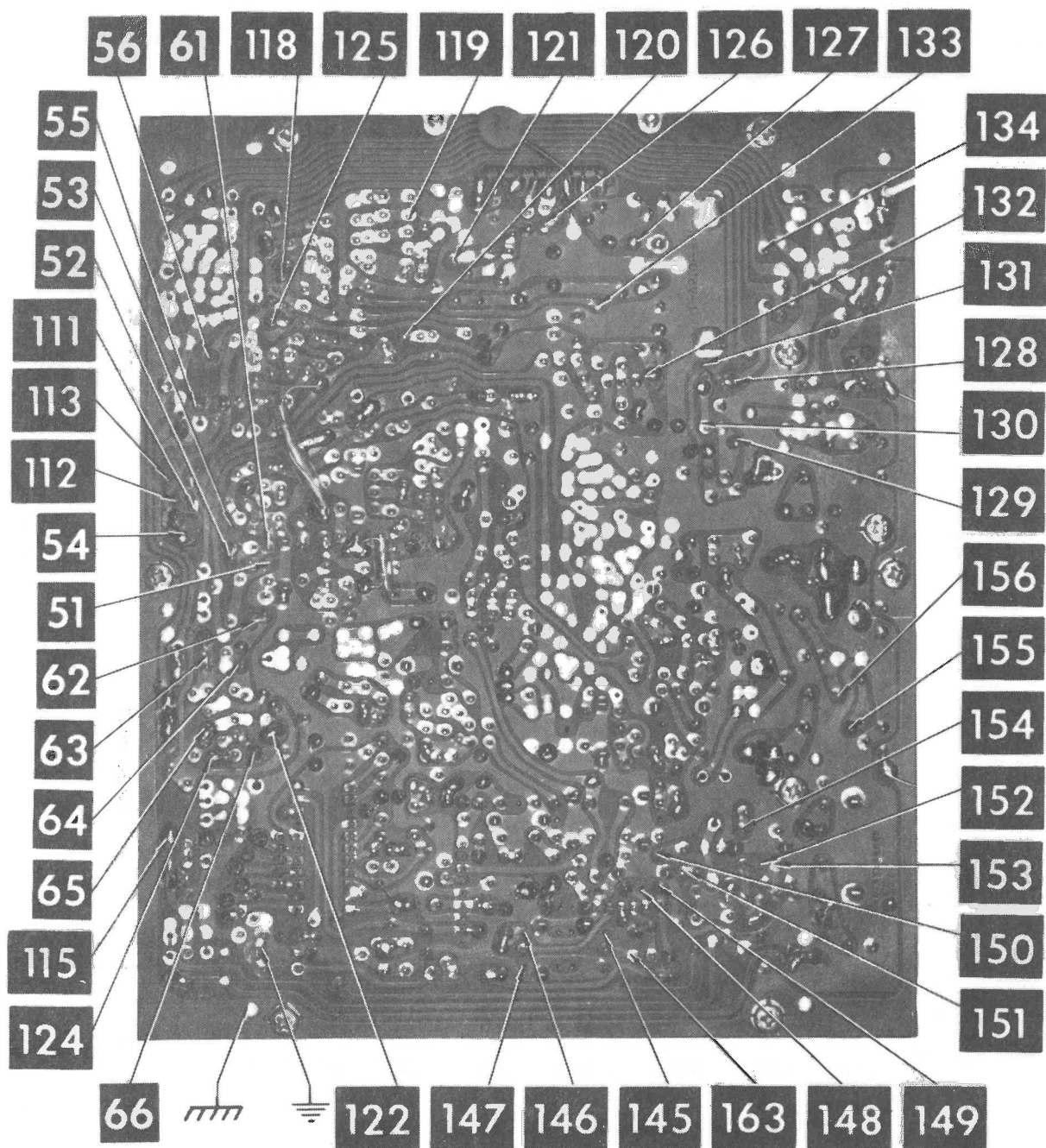


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MAIN BOARD

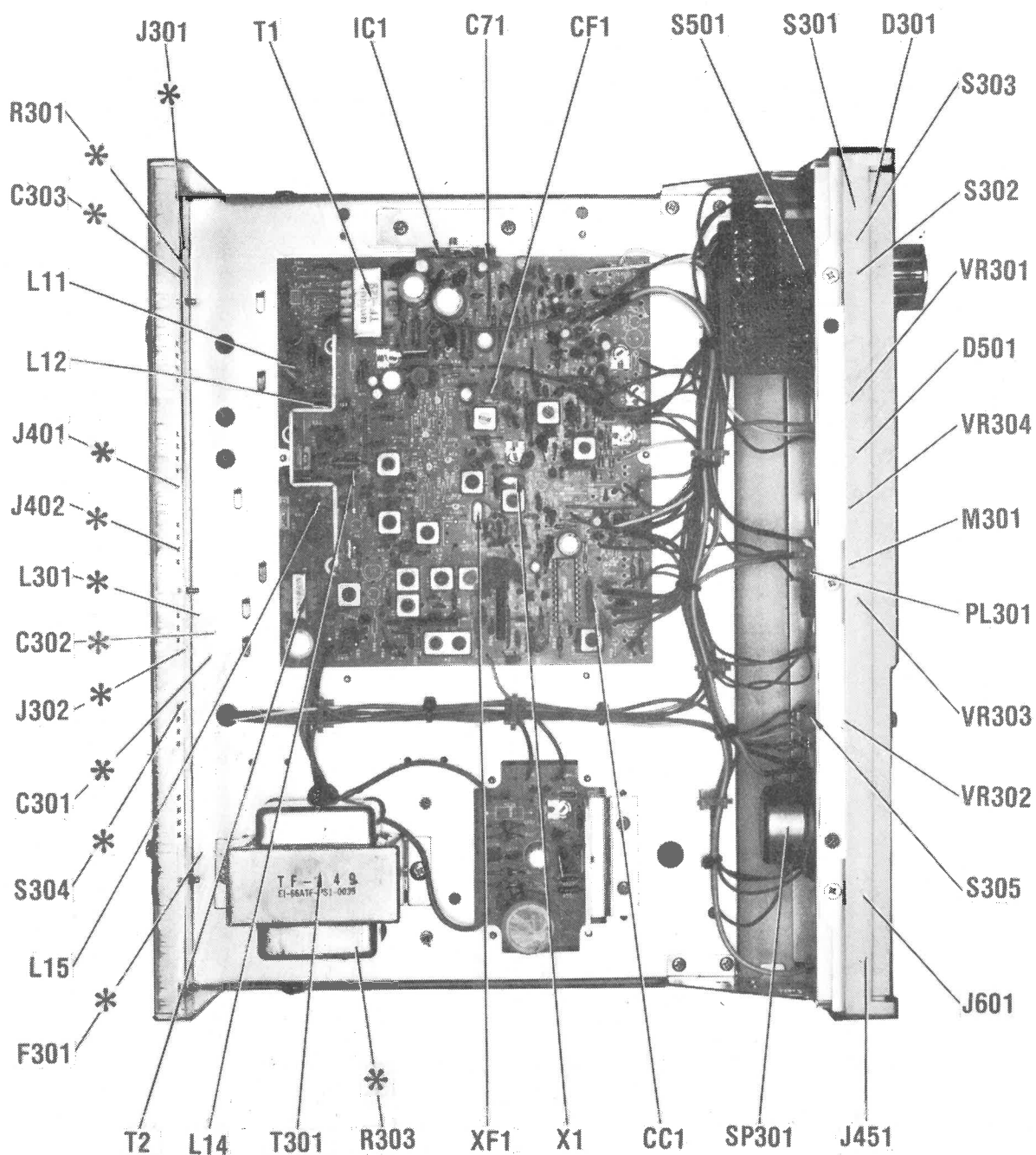


MAIN BOARD



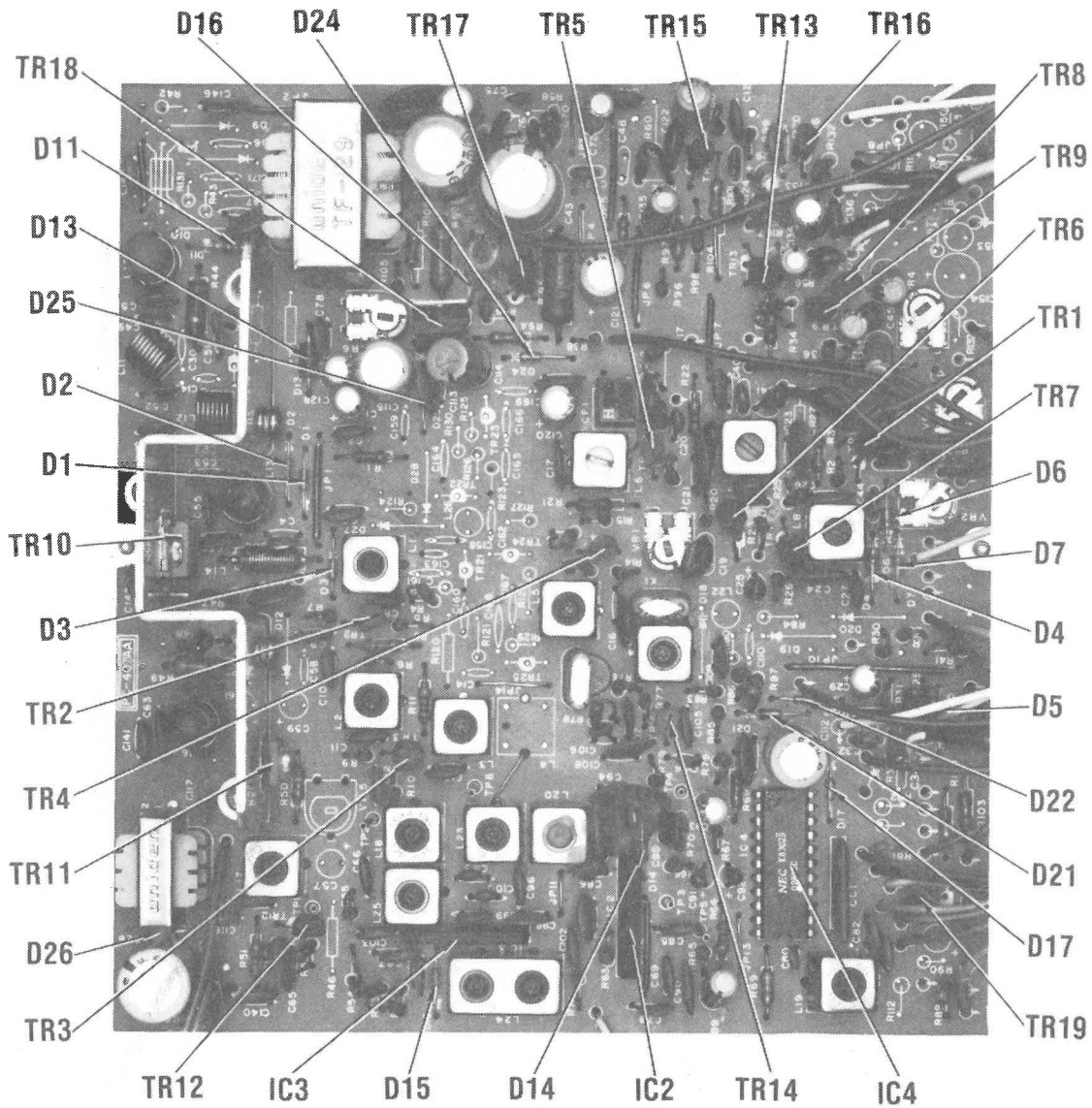
PRESIDENT MODEL 1002002, ZACHARY T.

MA IN BOARD

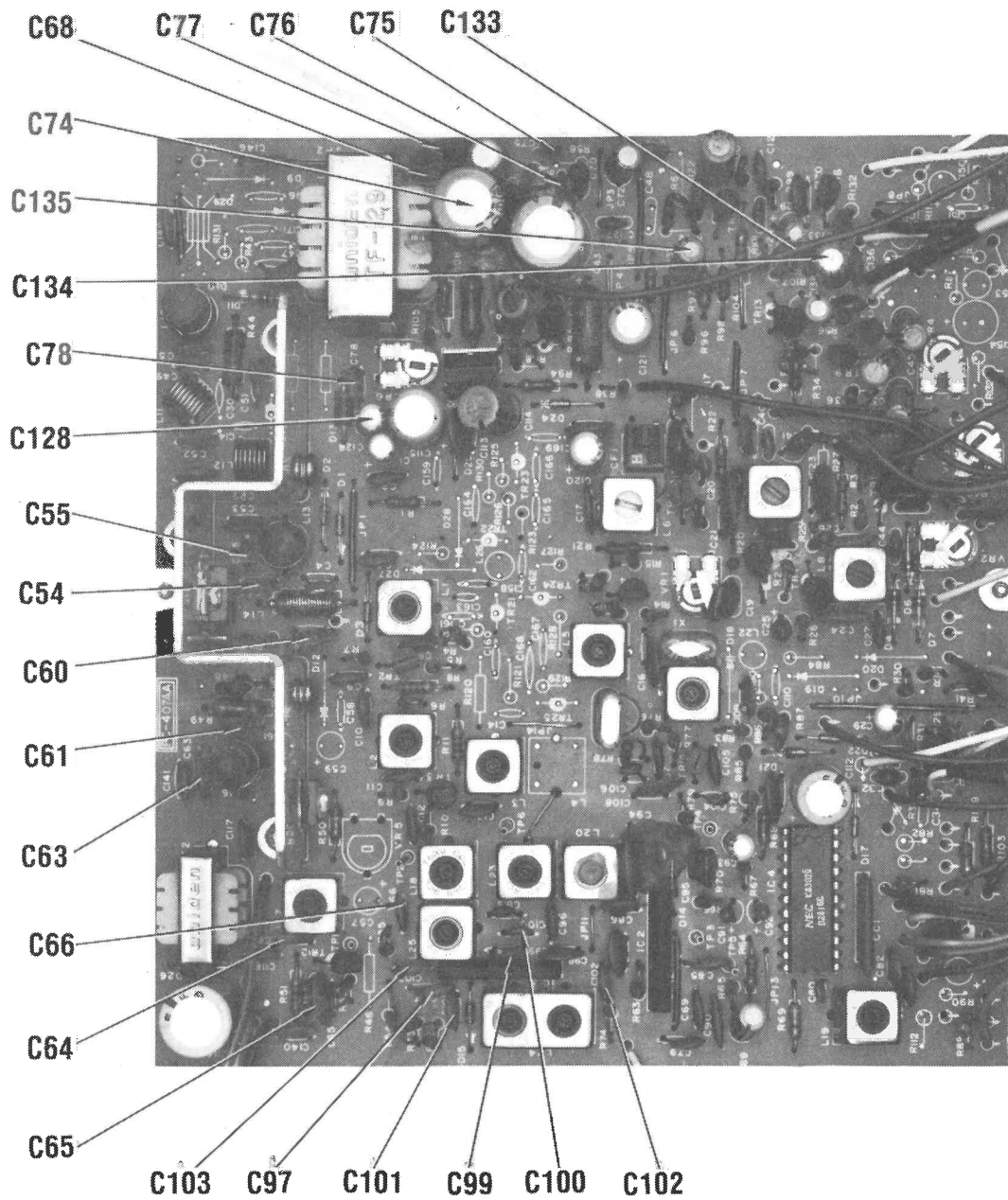


* Located on bottom of chassis

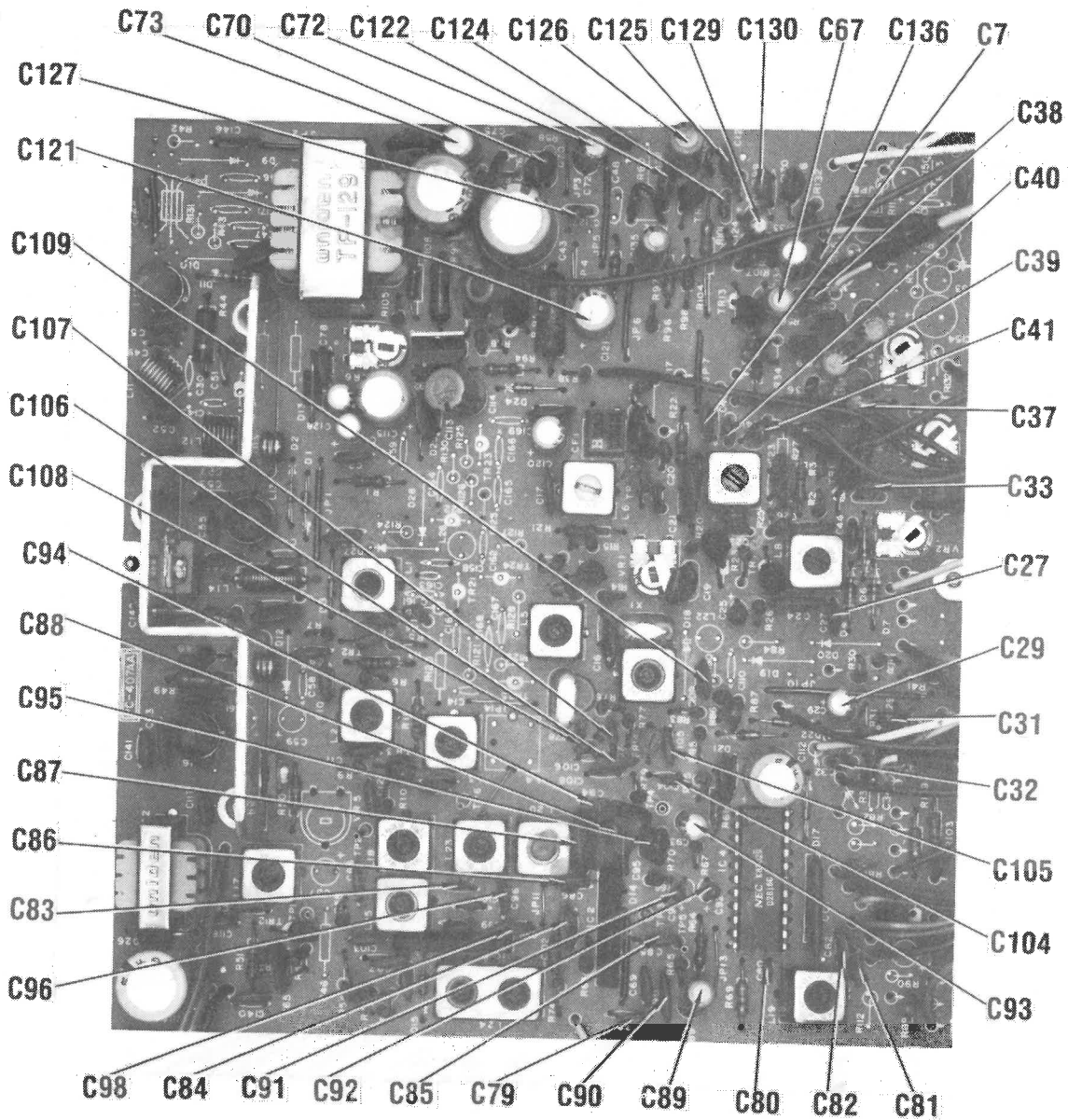
CHASSIS-TOP



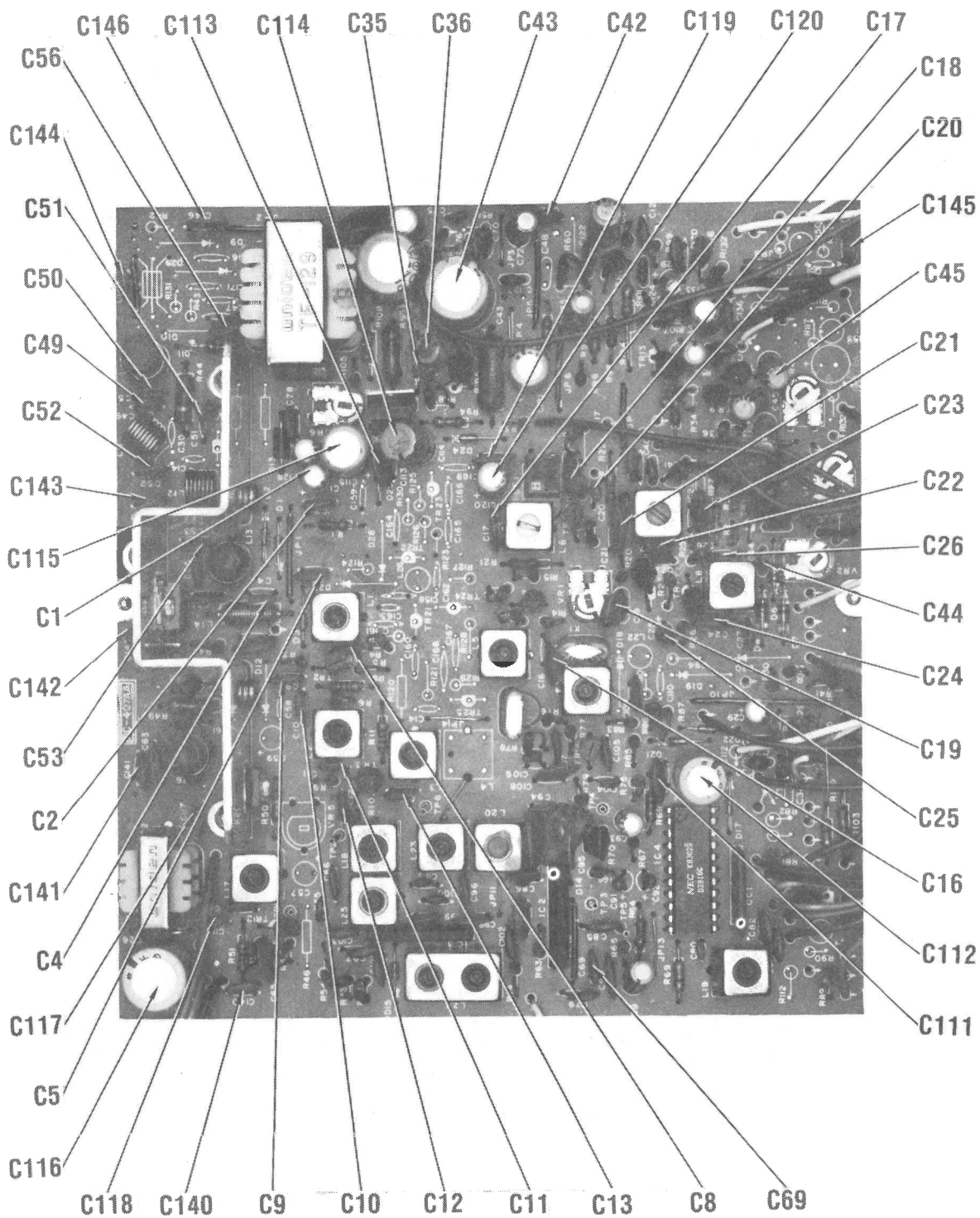
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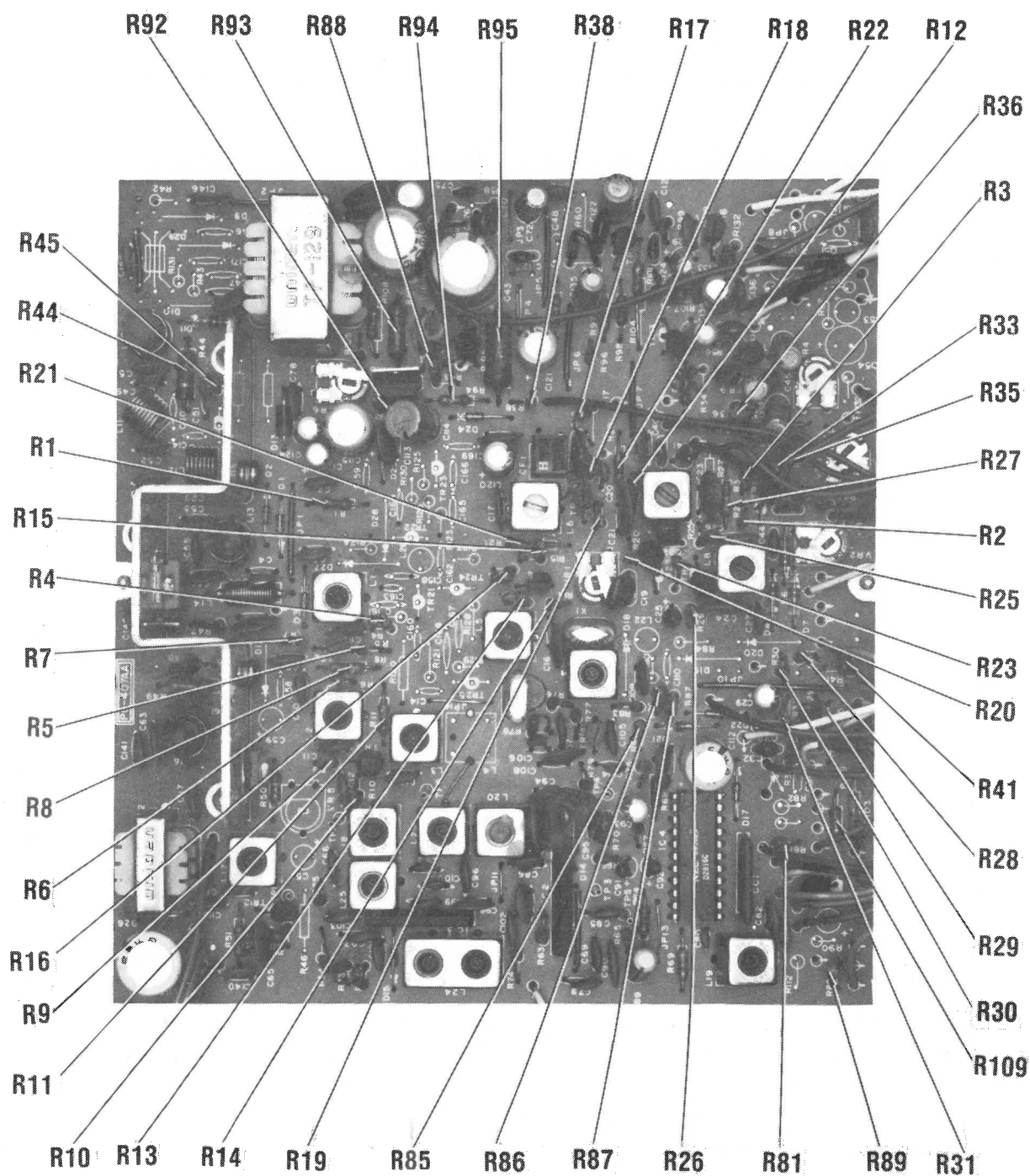
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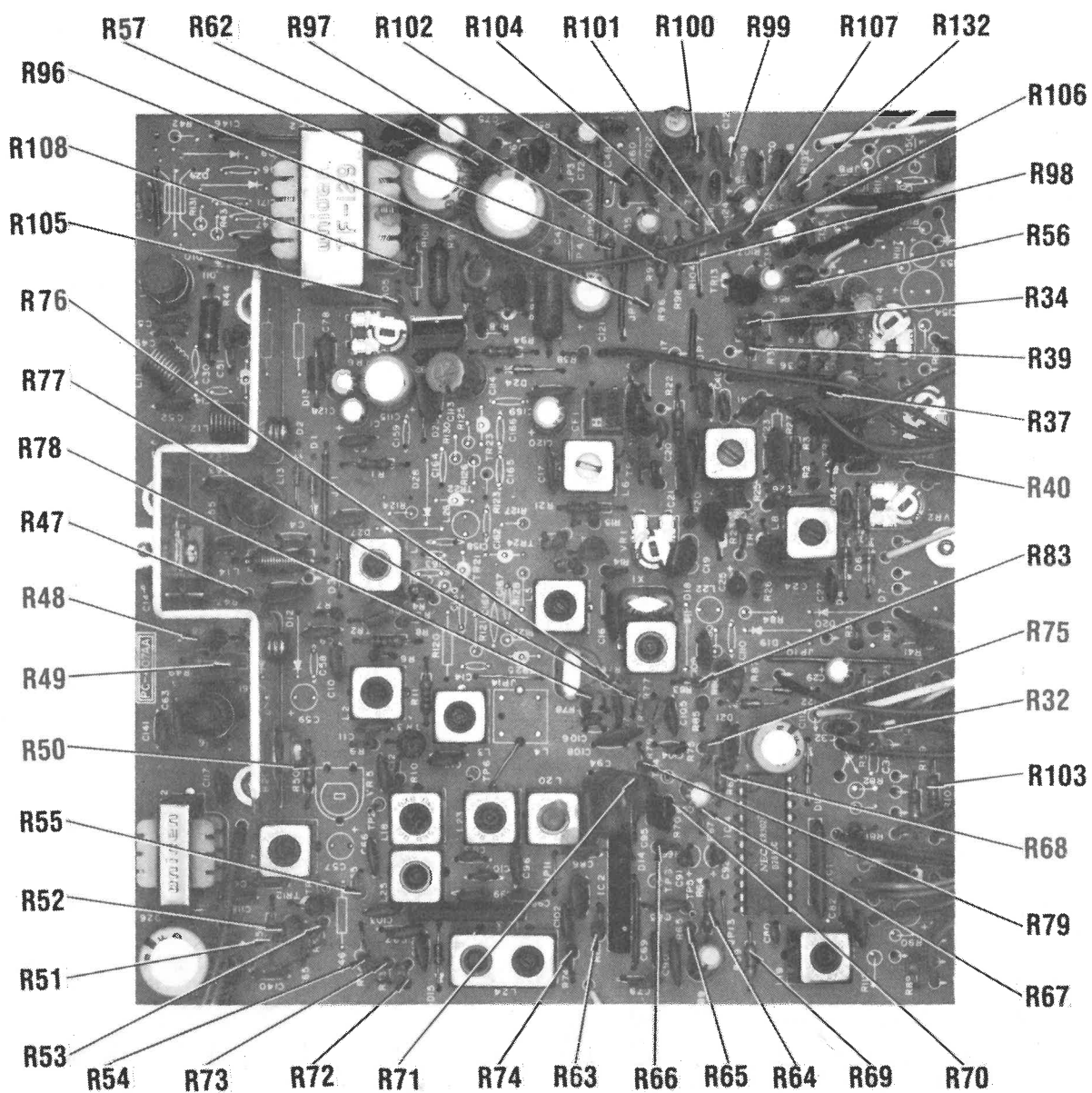
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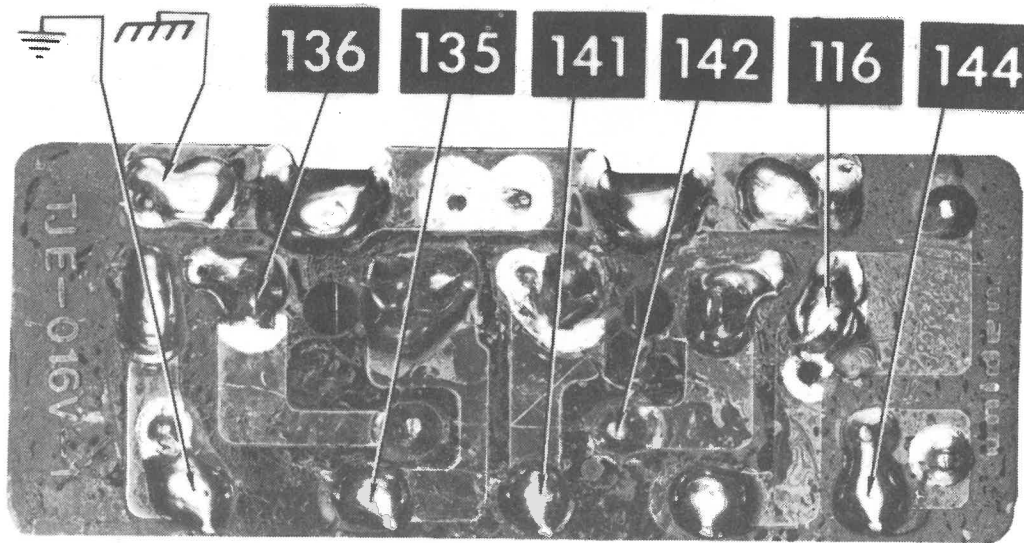
MAIN BOARD



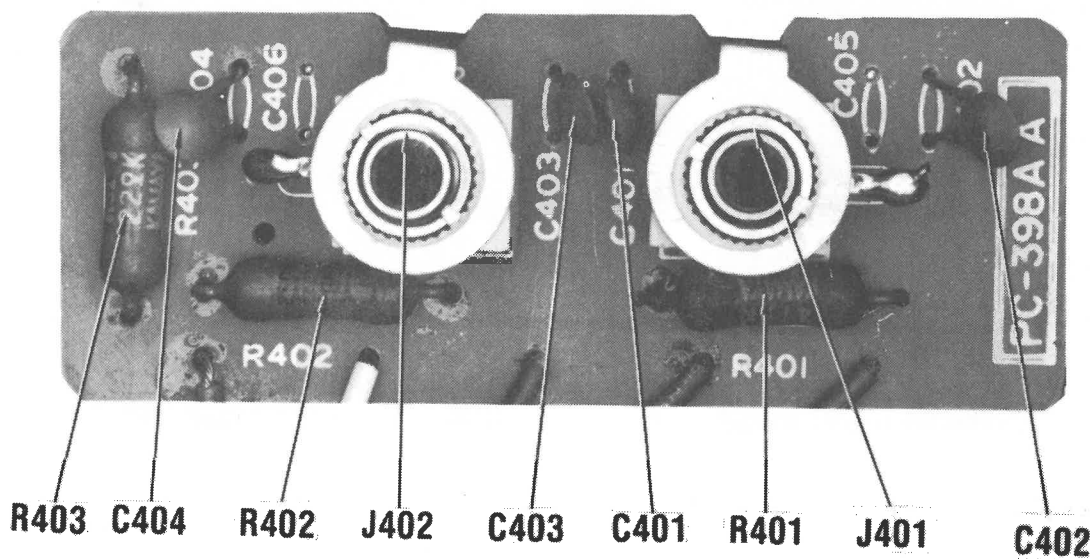
MAIN BOARD



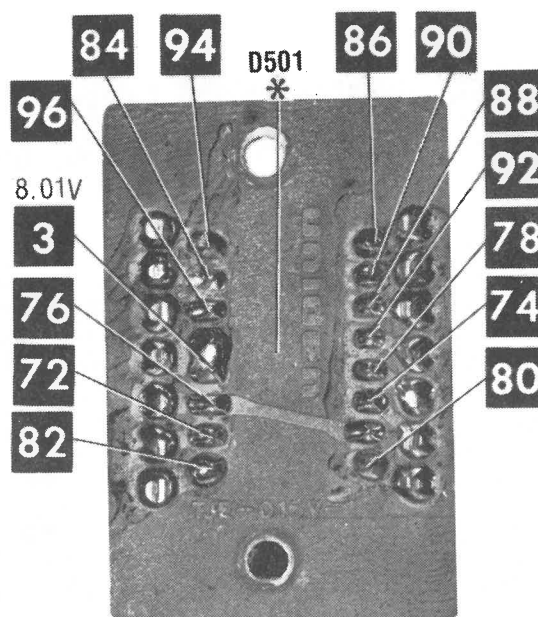
MAIN BOARD



PRESIDENT MODEL 1002002, ZACHARY T.



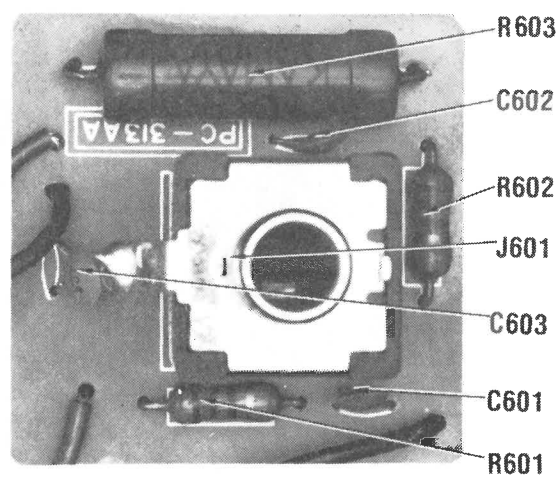
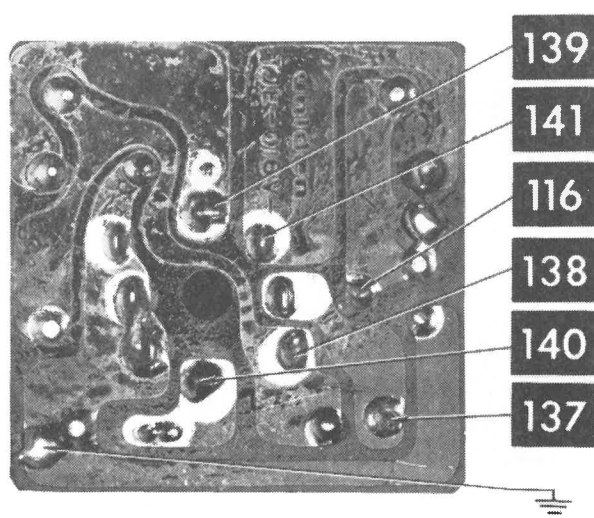
SPEAKER JACK BOARD



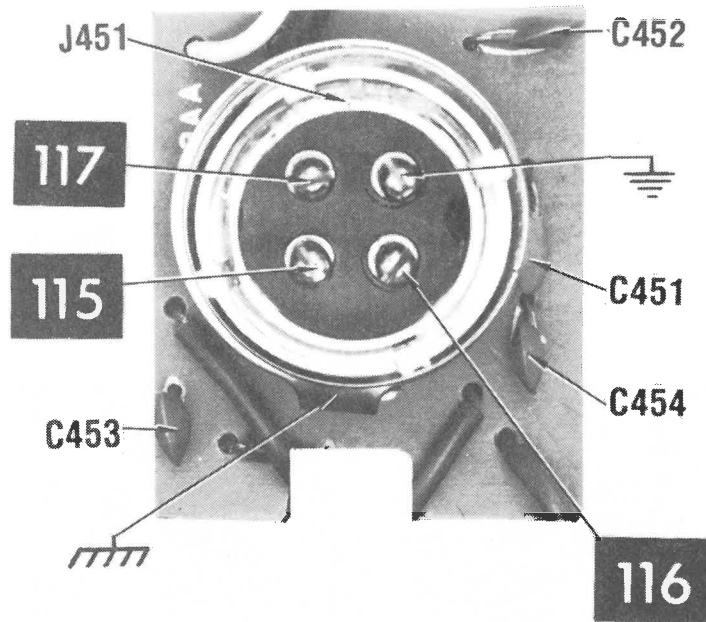
* on top of board

LED BOARD

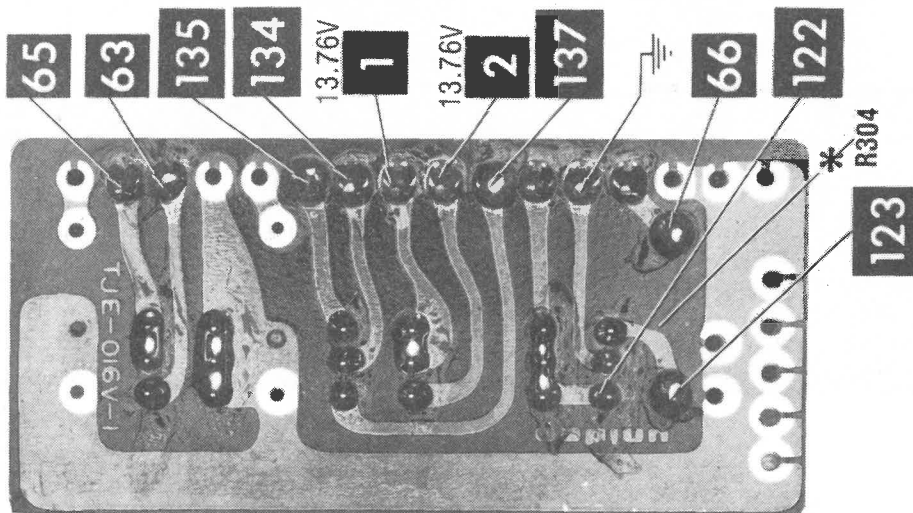
A Howard W. Sams CIRCUITRACE® Photo



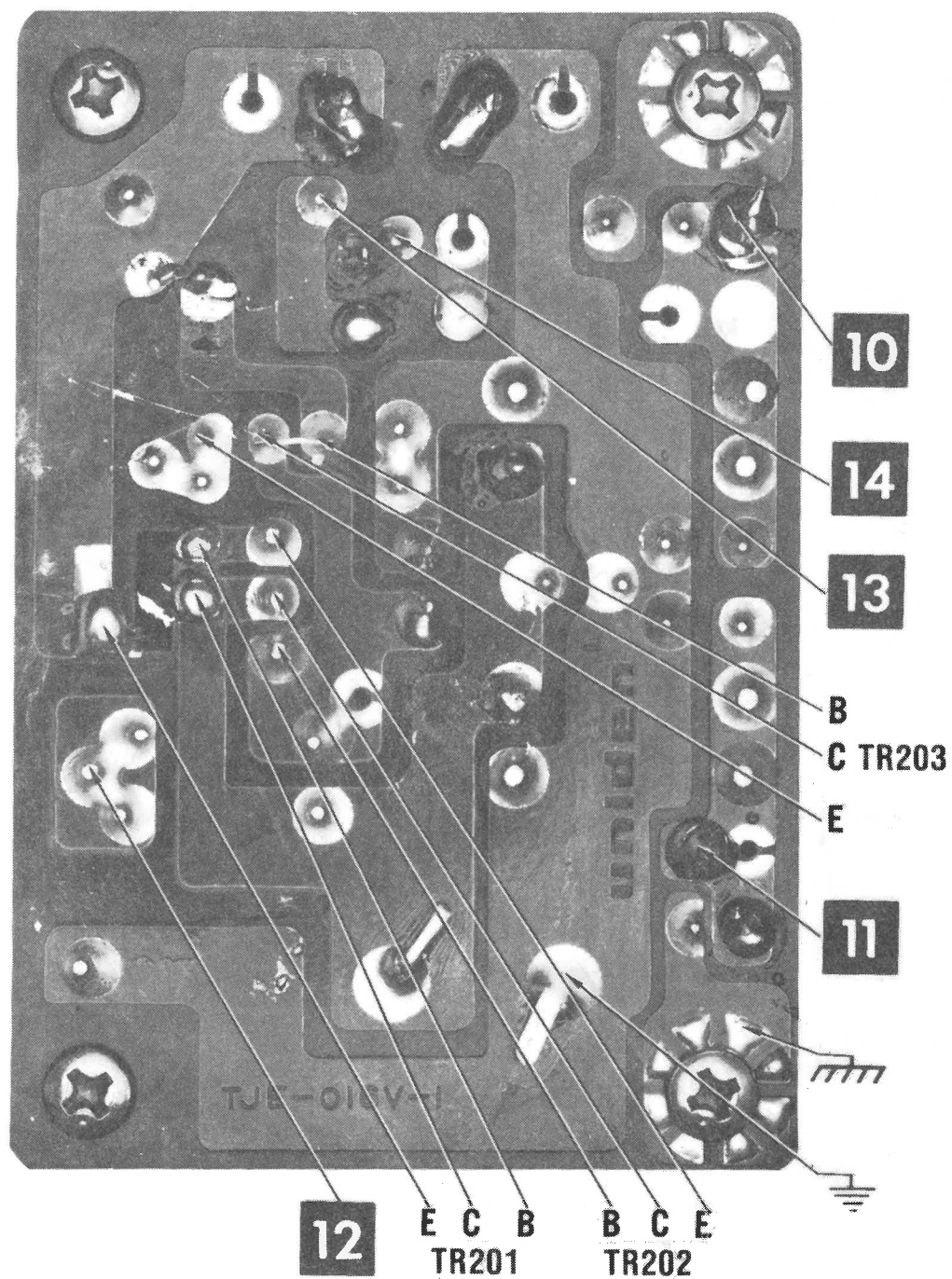
PHONE JACK BOARD



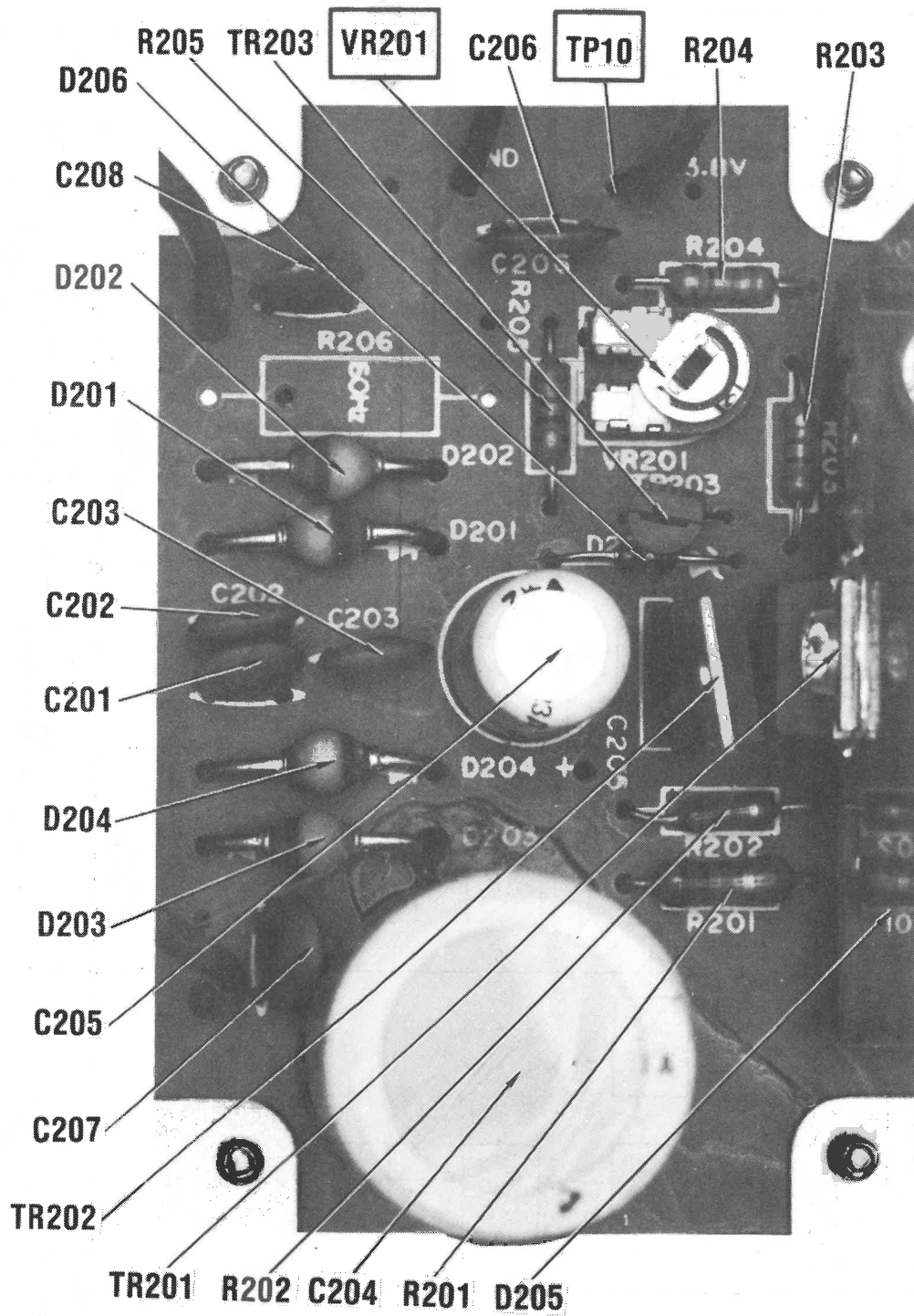
MIC JACK BOARD



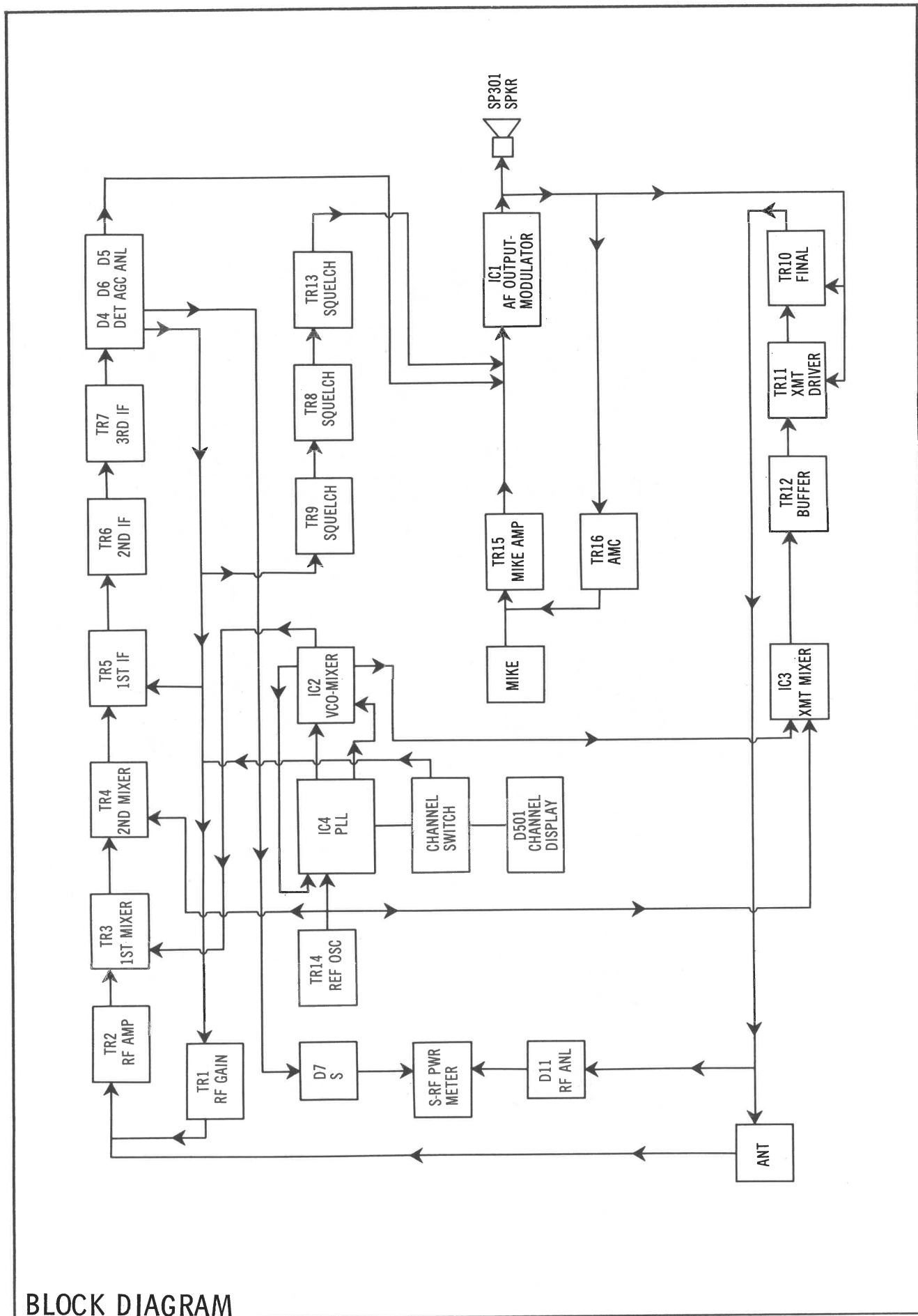
SWITCH BOARD

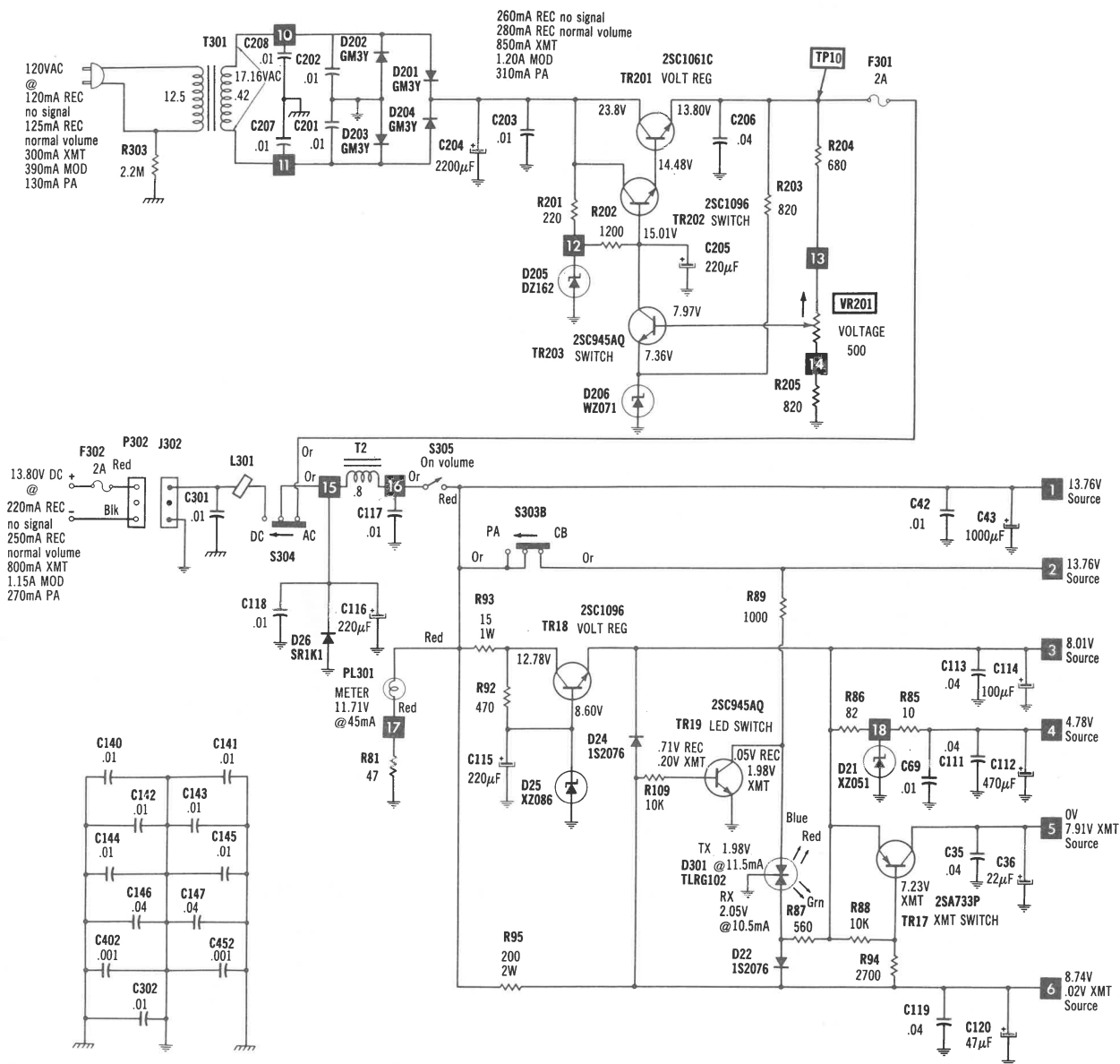


POWER SUPPLY BOARD



POWER SUPPLY BOARD





✖ Circuitry not used in some versions

--- Circuitry used in some versions

⊕ See parts list

✱ Nominal value

⊥ Ground

Chassis

▽ Common tie point

→ Signal path

↗ Voltage path

Measurements made in Channel 1 with switching as shown 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.

Arrow at control indicates direction of advance.

Terminal identification may not be found on unit.

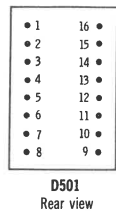
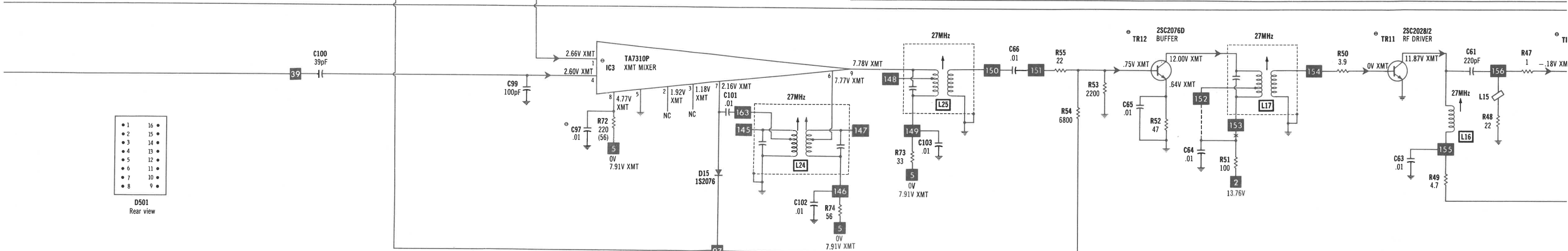
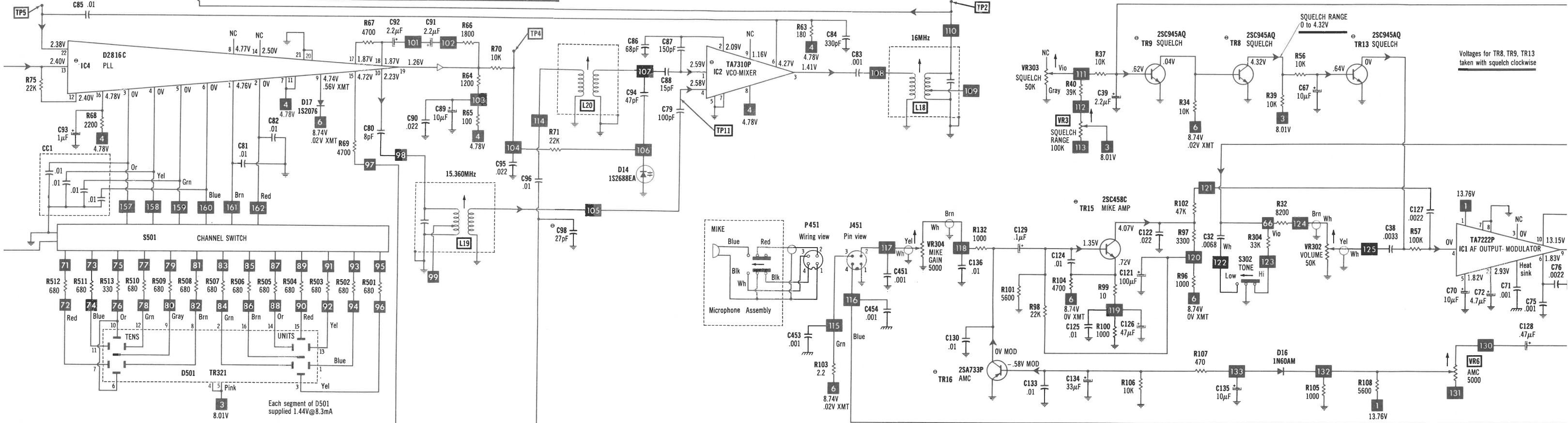
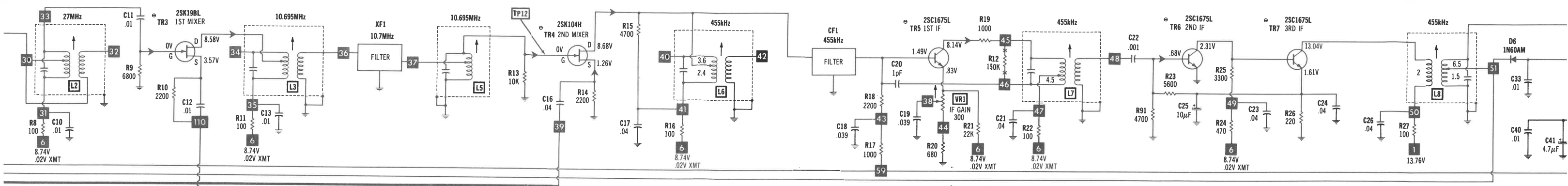
Resistors are 1/2W or less, 5% unless noted.

Value in () used in some versions.

A PHOTOFAC STANDARD NOTATION SCHEMATIC

WITH **CIRCUITRACE**

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PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, and Description.)

WIRING DATA

General-use Hook-up Wire (available in 5 colors)	BELDEN No. 8523	Coiled Microphone Cable	BELDEN No. 9471 (5')
Shielded Hook-up Wire (spiral wrapped)	BELDEN No. 8421	3-conductor (1 shielded) 23AWG	BELDEN No. 8497 (6')
(braided)	BELDEN No. 8401		BELDEN No. 9472 (7-1/2')
Speaker Cable (available in 4 colors)	BELDEN No. 8782	28AWG	BELDEN No. 9466 (6')
Bonding Strap	BELDEN No. 8672	31AWG	BELDEN No. 9468 (10')
AC Power Cord	BELDEN No. 17106	4-conductor (unshielded) 23AWG	BELDEN No. 8415 (6')
(6')		5-conductor (1 shielded) 28AWG	BELDEN No. 9467 (6')
(9')	BELDEN No. 17109		BELDEN No. 9465 (7-1/2')

SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFR. PART No.	REPLACEMENT DATA									
			GENERAL ELECTRIC PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.	THORDARSON PART No.	WORKMAN PART No.	ZENITH PART No.
D1	1S2076	2000-345	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	WG713		GE-300	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
	1S1588		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1N4448		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D2	1S2076	2000-345	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	WG713		GE-300	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
	1S1588		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1N4448		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D3	1S2076	2000-345	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	WG713		GE-300	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
	1S1588		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1N4448		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D4	1S34	2000-346	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2075K		GE-300	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
	1S2473K		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1N60AM		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1N60AM		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D6	1N60AM	2000-301	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1N60AM		GE-300	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1N60AM		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1N60AM		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1N60AM		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D11	1N60AM	2000-301	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1N60AM		GE-300	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1N60AM		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1N60AM		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1N60AM		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D13	SR1K1	2000-304	GE-504A	PTC201	HEPRO052	REN 116	SK3311	RT-213	ECG116	TM116	WEP156	212-76-02
	1001		GE-504A	PTC201	HEPRO052	REN 116	SK3311	RT-213	ECG116	TM116	WEP156	212-76-02
	1S2688EP		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2076		GE-300	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
	WG713		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D15	1S1588	2000-345	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1N4448		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1N60AM		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2076		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D16	1N60AM	2000-301	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2076		GE-300	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
	WG713		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S1588		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D17	1N4448	2000-345	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1N60AM		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2076		GE-300	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
	WG713		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S1588		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D21	1S2473	2000-333	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1N4448		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	XZ051		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2076		GE-300	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
	WG713		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D22	1S1588	2000-345	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1N4448		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2076		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	WG713		GE-300	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D24	1S1588	2000-345	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1N4448		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2076		GE-300	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
	WG713		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D25	1S1588	2000-334	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1N4448		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	XZ086		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	SR1K1		GE-504A	PTC201	HEPRO052	REN 116	SK3311	RT-213	ECG116	TM116	WEP156	212-76-02
D26	1001	2000-304	GE-504A	PTC201	HEPRO052	REN 116	SK3311	RT-213	ECG116	TM116	WEP156	212-76-02
	1N60AM		GE-512	PTC204	HEPRO098	REN 156	SK3051	RT-201	ECG156	TM156	WEP4008	103-29002
	GM3Y		GE-512	PTC204	HEPRO098	REN 156	SK3051	RT-201	ECG156	TM156	WEP4008	103-29002
	GM3Y		GE-512	PTC204	HEPRO098	REN 156	SK3051	RT-201	ECG156	TM156	WEP4008	103-29002
	GM3Y		GE-512	PTC204	HEPRO098	REN 156	SK3051	RT-201	ECG156	TM156	WEP4008	103-29002
D201	GM3Y	2000-312	GE-512	PTC204	HEPRO098	REN 156	SK3051	RT-201	ECG156	TM156	WEP4008	103-29002
	GM3Y		GE-512	PTC204	HEPRO098	REN 156	SK3051	RT-201	ECG156	TM156	WEP4008	103-29002
	GM3Y		GE-512	PTC204	HEPRO098	REN 156	SK3051	RT-201	ECG156	TM156	WEP4008	103-29002
	GM3Y		GE-512	PTC204	HEPRO098	REN 156	SK3051	RT-201	ECG156	TM156	WEP4008	103-29002
	GM3Y		GE-512	PTC204	HEPRO098	REN 156	SK3051	RT-201	ECG156	TM156	WEP4008	103-29002
D205	BZ162	2000-311	GE-512	PTC204	HEPRO098	REN 156	SK3051	RT-201	ECG156	TM156	WEP4008	103-29002
	WZ071		GE-216	PTC168	HEPRO098	REN 5075	SK3142	RT-246	ECG05075A	TM145A	WEP1160	103-29002
	TA7222P		GE-216	PTC168	HEPRO098	REN 5075	SK3142	RT-246	ECG05075A	TM145A	WEP1160	103-29002
	TA7310P		GE-216	PTC168	HEPRO098	REN 5075	SK3142	RT-246	ECG05075A	TM145A	WEP1160	103-29002
	AN103		GE-216	PTC168	HEPRO098	REN 5075	SK3142	RT-246	ECG05075A	TM145A	WEP1160	103-29002
IC1	TA7222P	2000-032	GE-216	PTC168	HEPRO098	REN 5075	SK3142	RT-246	ECG05075A	TM145A	WEP1160	103-29002
	TA7310P		GE-216	PTC168	HEPRO098	REN 5075	SK3142	RT-246	ECG05075A	TM145A	WEP1160	103-29002
	AN103		GE-216	PTC168	HEPRO098	REN 5075	SK3142	RT-246	ECG05075A	TM145A	WEP1160	103-29002
	AN103		GE-216	PTC168	HEPRO098	REN 5075	SK3142	RT-246	ECG05075A	TM145A	WEP1160	103-29002
	AN103		GE-216	PTC168	HEPRO098	REN 5075	SK3142	RT-246	ECG05075A	TM145A	WEP1160	103-29002
IC3	D2816C	2000-017	GE-216	PTC168	HEPRO098	REN 5075	SK3142	RT-246	ECG05075A	TM145A	WEP1160	103-29002
	UPD2816C		GE-216	PTC168	HEPRO098	REN 5075	SK3142	RT-246	ECG05075A	TM145A	WEP1160	103-29002
	25C945AQ		GE-216	PTC168	HEPRO098	REN 5075	SK3142	RT-246	ECG05075A	TM145A	WEP1160	103-29002
	25C945A		GE-216	PTC168	HEPRO098	REN 5075	SK3142	RT-246	ECG05075A	TM145A	WEP1160	103-29002
	25C945		GE-216	PTC168	HEPRO098	REN 5075	SK3142	RT-246	ECG05075A	TM145A	WEP1160	103-29002
TR1	25C945	2000-235	GE-216	PTC168	HEPRO098	REN 5075	SK3142	RT-246	ECG05075A	TM145A	WEP1160	103-29002
	25C945		GE-216	PTC168	HEPRO098	REN 5075	SK3142	RT-246	ECG05075A	TM145A	WEP1160	103-29002
	25C945		GE-216	PTC168	HEPRO098	REN 5075	SK3142	RT-246	ECG05075A	TM145A	WEP1160	103-29002
	25C945		GE-216	PTC168	HEPRO098	REN 5075	SK3142	RT-246	ECG05075A	TM145A	WEP1160	103-29002
	25C945		GE-216	PTC168	HEPRO098	REN 5075	SK3142	RT-246	ECG05075A	TM145A		

(When ordering parts, state Model, Part Number, and Description.)

(When ordering parts, state Model, Part Number, and Description.)

SEMICONDUCTORS (select replacement: transistor, diode, etc.)

PRESIDENT MODEL 1002002, ZACHARY T.

SEMICONDUCTORS (Select replacement transistor for best results) (cont)

* Lead configuration may vary from original.
/** Also available as exact type replacement.

ELECTROLYTIC CAPACITORS

*Axial replacement for radial device.

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

CAPACITORS

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA				PART No.
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE Q-LINE	
C2	.01 50V	1800-007	UK50-103		MAG5011		10TCR-Q22
C4	22 N220 10% 50V				*		
C5	.01 50V		UK50-103		MAG5011		
C7	.01 50V		UK50-103		MAG5011		
C8	.01 50V		UK50-103		MAG5011		
C9	.01 50V		UK50-103		MAG5011		
C10	.01 50V		UK50-103		MAG5011		
C11	.01 50V		UK50-103		MAG5011		
C12	.01 50V		UK50-103		MAG5011		
C13	.01 50V		UK50-103		MAG5011		
C16	.04 50V		DD-403		MAG5011		
C17	.04 50V		DD-403				
C18	.039 50V			DPMS6S39	M192P3939R8	QFT2-159	
C19	.039 50V			DPMS6S39	M192P3939R8	QFT2-159	
C20	1 50V				CN0510		
C21	.04 50V		DD-403		GP210		
C22	.001 10% 50V		DD-102				
C23	.04 50V		DD-403				
C24	.04 50V		DD-403				
C26	.04 50V		DD-403				
C27	.0022 10% 50V				GP222		
C31	.0047 50V			WMF1D47	M192P4729R8	QFT2-63	
C32	.0068 50V			WMF1D68	M192P6829R8	QFT2-73	
C33	.01 10% 50V			WMF1S1	EW1A110	QFT2-91	
C35	.04 50V		DD-403				
C38	.0033 50V			WMF1D33	M192P3329R8	QFT2-43	
C40	.01 10% 50V			WMF1S1	EW1A110	QFT2-91	
C42	.01 50V		UK50-103		MAG5011		
C44	.01 10% 50V			WMF1S1	EW1A110	QFT2-91	
C49	56 50V	1800-008	DD-560		GP456		
C50	56 N220 5%				*		
C51	2 50V		DTZ-2R2	NPO2P2	CN0522		
C52	220 50V		DD-221		GP322		
C53	220 50V		DD-221		GP322		
C54	.0047 10% 50V		DD-472	GP4700	GP247		
C55	100 50V		DD-101	GP100	GP310		
C56	.04 50V		DD-403				
C60	.01 50V		UK50-103		MAG5011		
C61	220 50V		DD-221		GP322		
C63	.01 50V		UK50-103		MAG5011		
C64	.01 50V		UK50-103		MAG5011		
C65	.01 50V		UK50-103		MAG5011		
C66	.01 50V		UK50-103		MAG5011		
C68	.04 50V		DD-403				
C69	.01 50V		UK50-103		MAG5011		
C71	.001 50V		DD-102G	GP1000	GP210	QC2-81	
C75	.001 50V		DD-102G	GP1000	GP210	QC2-81	
C76	.0022 10% 50V			DPMS6D22	M192P2229R8	QFT2-27	
C77	.1 25V		UK25-104		MAG2501		
C78	.01 50V		UK50-103		MAG5011		
C79	100 50V		DD-101	GP100	GP310		
C80	8 50V				*		
C81	.01 50V		UK50-103		MAG5011		
C82	.01 50V		UK50-103		MAG5011		
C83	.001 50V		DD-102G	GP1000	GP210	QC2-81	
C84	330 50V		DD-331	GP330	GP333		
C85	.01 50V		UK50-103		MAG5011		
C86	68 N220 10%	1800-128			*		10TCR-Q68
C87	150 N220 10%				*		
C88	15 N220				*		
C90	.022 50V						
C94	47 N750 10% 50V	1800-006	DC-253	MGP025	TA125		10TCR-T15
C95	.022 10% 50V		DTN-47	N47	CN7447		
C96	.01 50V		UK50-103	DPMS2S22	M192P2239R8	QFT2-127	
C97	.01 50V		UK50-103		MAG5011		
C98	27 NPO 5%	1800-006			MAG5011		10TCU-Q47
	15 N220 50V				CN0427		
	100 50V		DD-101	GP100	GP310		
	39 50V				CN0439		
C100	39	1800-009			CN0439		10TCR-Q39
C101	.01 50V		UK50-103		MAG5011		
C102	.01 50V		UK50-103		MAG5011		
C103	.01 50V		UK50-103		MAG5011		
C104	10 NPO 50V		DTZ-10	NPO10	CN0410		10TCC-Q10
C105	.01 50V		UK50-103		MAG5011		
C106	10 NPO 50V		DTZ-10	NPO10	CN0410		
C107	220 50V		DD-221		GP322		
C108	100 N220 5% 50V				*		10TCC-Q10
C109	27 NPO 5% 50V				CN0427		
C111	.04 50V		DD-403				
C113	.04 50V		DD-403				
C117	.01 50V		UK50-103		MAG5011		10TCC-Q10
C118	.01 50V		UK50-103		MAG5011		
C119	.04 50V		DD-403				
C122	.022 10%			DPMS2S22	M192P2239R8	QFT2-127	
C124	.01 10% 50V			WMF1S1	EW1A110	QFT2-91	1FT-S22
C125	.01 50V		UK50-103		MAG5011		
C127	.0022 10% 50V			DPMS6D22	M192P2229R8	QFT2-27	
C130	.01 50V		UK50-103		MAG5011		
C133	.01 50V	1800-009	UK50-103		MAG5011		1FT-D10
C136	.01 50V		UK50-103		MAG5011		
C136	.01 50V		UK50-103		MAG5011		
C140	.01 50V		UK50-103		MAG5011		

PRESIDENT MODEL 1002002, ZACHARY T.

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

CAPACITORS (cont)

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA				
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
						Q-LINE	GENERAL LINE
C141	.01 50V		UK50-103		MAG5011		
C142	.01 50V		UK50-103		MAG5011		
C143	.01 50V		UK50-103		MAG5011		
C144	.01 50V		UK50-103		MAG5011		
C145	.01 50V		UK50-103		MAG5011		
C146	.04 50V		DD-403				5GA-S40
C147	.04 50V		DD-403				5GA-S40
C201	.01 50V		UK50-103		MAG5011		
C202	.01 50V		UK50-103		MAG5011		
C203	.01 50V		UK50-103		MAG5011		
C206	.04		DD-403				5GA-S40
C207	.01 50V		UK50-103		MAG5011		
C208	.01 50V		UK50-103		MAG5011		
C301	.01 50V		UK50-103		MAG5011		
C302	.01 50V		UK50-103		MAG5011		
C303	22 50V		DTZ-22	NP022	CN0422		10TCC-Q22
C401	.001 50V		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C402	.001 50V		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C403	.001 50V		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C404	.001 50V		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C451	.001 50V		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C452	.001 50V		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C453	.001 50V		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C454	.001 50V		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C601	.001 50V		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C602	.001 50V		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C603	.001 50V		DD-102G	GP1000	GP210	QC2-81	5GA-D10
CC1	(1)	1800-103					

(1) Consists of four .01uF capacitors.

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA			
			MFR. PART No.	CENTRALAB PART No.	MALLORY PART No.	TRW PART No.
VR1	Sensitivity	300	1900-206			U260R501B
VR2	S Meter	30K	1900-227			U260R503B
VR3	Squelch Range	100K	1900-211			U260R104B
VR4	RF Meter	20K	1900-204			U260R253B
VR6	AMC	5000	1900-201			U260R502B
VR201	DC Supply	500	1900-205			U260R501B
VR30	RF Gain	1000	1900-124	F1-1000(1) SSK012	RU13L,SL36,SL1500	BU1(1),CF6,SS1, DC1
VR302	Volume/Power Switch	50K	1900-128	F2-50K(1), SSK012,KR1	RU54A,SL36,SL1500, US41	BU1(1),CF63,SS1, GC
VR303	Squelch	50K	1900-140	F1-50K(1), SSK012	RU54L,SL36,SL1500	BU1(1),CF12,SS1, DC1
VR304	Mic Gain	5000	1900-131	F2-5000(1) SSK012	RU53A,SL36,SL1500	BU1(1),CF60,SS1, DC1

(1) Enlarge mounting hole.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFR. PART No.			WORKMAN PART No.	MFR. PART No.
R603	10 Ohms 3W		1900-308				

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L1	Antenna (27MHz)	2200-001	LA-029	CBS740-T	15.360MHz
L2	RF Amp (27MHz)	2200-082	LA-138		
L3	Mixer (10.695MHz)	2200-003	LA-180	CBS715-TC	
L5	Mixer (10.695MHz)	2200-090	LA-274		
L6	Mixer (455kHz)	2200-081	LA-106	8517	
L7	IF (455kHz)	2200-048	LA-204		
L8	IF (455kHz)	2200-091	LA-207		
L10	TVI Trap (54MHz)	2200-020	LC-018	CB304	
L11	RF Choke	2200-087	LE-089		
L12	Pi Filter	2200-088	LE-088		
L13	Loading Final (27MHz)	2200-034	LC-019	CB305	
L14	Final				
L15	Ferrite Bead	2200-052	LD-087		
L16	RF Driver (27MHz)	2200-020	LC-018	CB304	
L17	Buffer (27MHz)	2200-085	LA-208		
L18	VCO Mixer	2200-047	LA-201		
L19	Programmable Divider	2200-044	LA-166		
L20	XMT Mixer	2200-092	LA-275		
L21	REF Osc (10.240MHz)	2200-075	LA-217		
L23	REF Osc (10.240MHz)	2200-005	LA-182		
L24	XMT Mixer (27MHz)	2200-045	LA-198		
L25	XMT Mixer (27MHz)	2200-084	LA-088	CBS717-TC	
L301	Ferrite Bead	2200-101	LD-088		

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA			NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	1.15A	.8	.86mH	TF-083(1)	TR516		(1) Number on unit.

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA			NOTES
	PRI.	SEC.	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	18	8	TF-129(1)			(1) Number on unit.

TRANSFORMER (Power)

ITEM No.	RATING		REPLACEMENT DATA			NOTES
	PRI.	SEC. 1	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T301	120V AC @ 390mA AC	17.16V AC @ 2.67A AC	2600-009 TF-149(1)		PCB-2(2)	(1) Number on unit. (2) Clip yellow lead of secondary.

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP301	2 3/4" X 4" PM 8 Ohms	3100-002		

PRESIDENT MODEL 1002002, ZACHARY T.

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA						
		PART No.		BUSS PART No.		LITTELFUSE PART No.		WORKMAN PART No.
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	DEVICE
F302	2A Quick Acting		1100-816	AGC	HTA	312002	340-255	FG2-2

MICROPHONE

ITEM No.	REPLACEMENT DATA				CONNECTION DATA						
	MFGR. PART No.	GC PART No.	GC NOISE CANCEL	GC POWER	GC CONNECTOR	GC Red	GC Shield	GC Yellow	GC Blue	GC White	GC Black
MIC	3200-005	18-032	18-034	18-010	18-092	2	1	3	4	NC	1

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
CF1	Filter	2200-309	455kHz (FL009)
D301	LED	2000-343	TX/RX Indicator (TX 1.98V @ 11.5mA; RX 2.05 @ 10.5mA)(TLRG102)
D501	LED	2000-306	Tens/Units (TLR321)
J301	Connector	1100-002	Antenna
J302	Jack	1100-003	DC Power
J401	Jack	1100-001	PA Speaker
J402	Jack	1100-001	Ext. Speaker
J451	Connector	1100-004	Mic 4P Male
J601	Jack	1100-009	Phone
M301	Meter	2900-004	S/RF Power
P302	Plug	2700-001	DC Power
PL301	Lamp	2500-002	Meter Illumination(11.71V @ 45mA)(PL-065)
S301	Switch	3000-008	ANL On/Off (Ass'y-SW-144)
S302	Switch		Tone H1/Low,Part of S301 Assembly.
S303	Switch		PA/CB,Part of S301 Assembly.
S304	Switch	3000-012	DC/AC (SW099)
S305	Switch	3000-115	Power On/Off (Part of Volume Control)
X1	Crystal	2100-013	10.240MHz (QX-074)
XF1	Filter	2200-308	10.7MHz (FL055)
	Cord	2700-002	Assembly, AC Power

CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

ITEM	PART No.	ITEM	PART No.
Knob, Channel Selector	1300-004	LED Lens	3400-102
Knob, Control	1300-002	Metal Control Plate	1700-507
Knob, Push Switch	1300-003	Rubber Foot (Short)	1100-745
Display Window	3400-112	Rubber Foot (Long)	1100-744
Molded Front Panel (Plain)	3300-514	Top Cover	3300-124