

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.



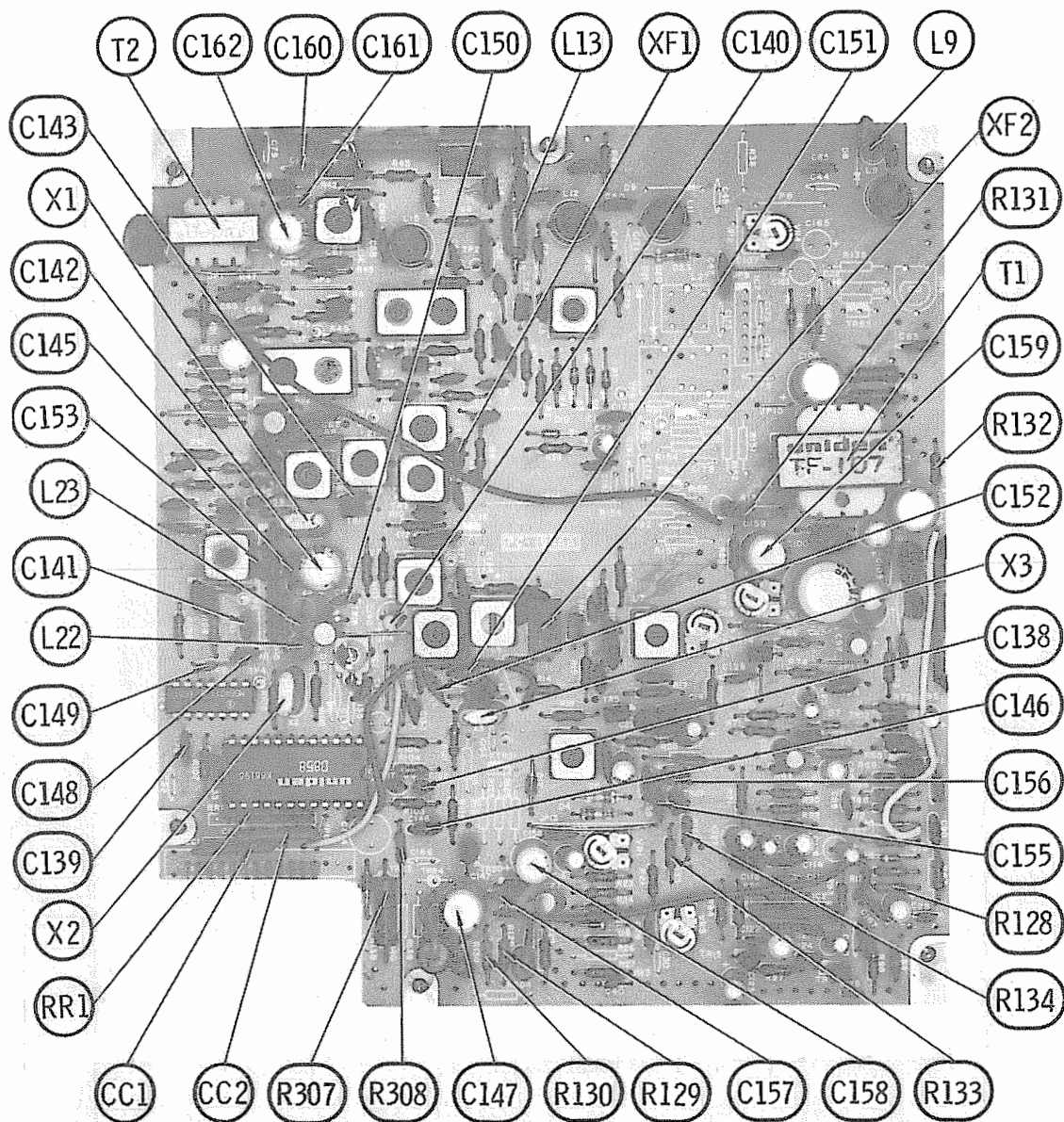
PRESIDENT MODEL ZACHARY T.

MODEL Zachary T.

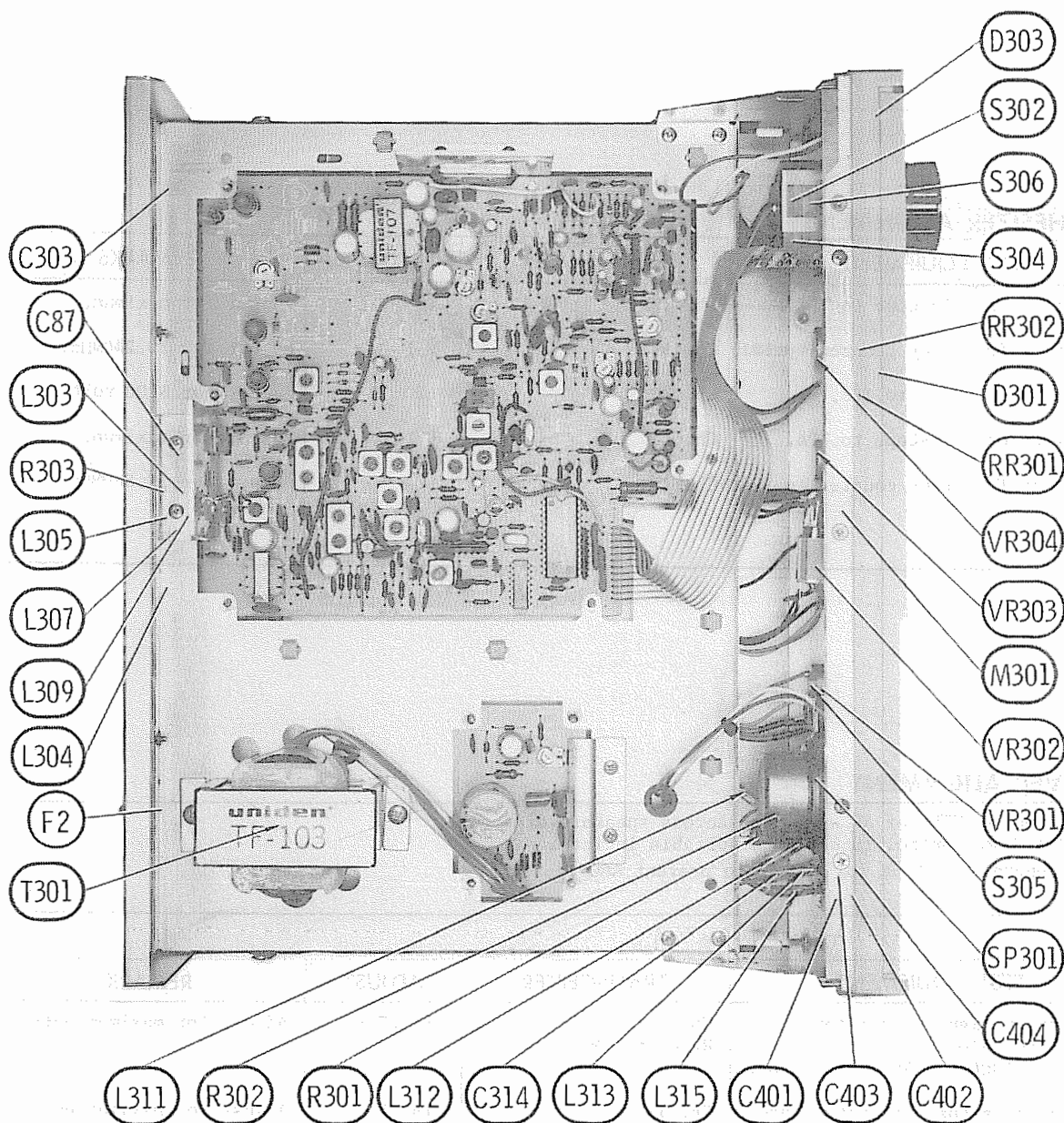
HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206

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MAIN BOARD



CHASSIS-TOP

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.
 Suggested Alignment Tools:

GC ELECTRONICS:

L6, L7, L8, L10, L11, L12, L15 5009
 L1, L2, L3, L4, L5, L16, L17, L18, L20, L21, L24 9440
 VC1 5000

SYNTHESIZER ALIGNMENT

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of oscilloscope to TP1.	Ch. 19	L5	Adjust for maximum.
Input of frequency counter to TP1.	Ch. 19	VC1	Adjust for 10.240MHz.
Input of DC meter to TP5.	Ch. 19	L20	Adjust for 3.00 volts.
Input of oscilloscope to TP6.	Ch. 19	L21	Adjust for maximum.
Input of frequency counter to TP6.	Ch. 19	L24	Adjust for 37.880MHz.

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 TP10. 455kHz, 1000Hz @ 30% modulation.	Ch. 19 RF Gain - Max.	L8, L7, L6	Adjust for maximum output.
Output of signal generator thru .01uF to TP11. 10.695, 1000Hz, @ 30% modulation.	Ch. 19	L4, L3	Adjust for maximum output.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation.	Ch. 19	L2, L1	Adjust for maximum output. Repeat above steps, if necessary.

RECEIVER ADJUSTMENTS

Connect an AC VTVM or AF wattmeter across speaker voice coil.
Adjust volume control to obtain a suitable indication.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz, @ 30% modulation. Output .9uV.	Ch. 19 RF Gain - Max Volume - Max	VR2	AGC Adjust VR2 for 2 volts audio.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation. Output 500uV.	Ch. 19	VR3	SQUELCH RANGE Set squelch control VR302 fully clockwise. Adjust VR3 so that squelch just breaks.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation. Output 100uV.	Ch. 19	VR1	S METER Adjust for 9 on scale of meter.

TRANSMITTER ADJUSTMENTS

Connect an RF wattmeter and 50-ohm, 25-watt dummy load to antenna connector.

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

See page 4 for channel frequencies.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of DC meter to TP12. Modulation meter to antenna jack. Inject a 1000Hz 10mv signal at Mike input.	Ch. 19 Mike Gain - Max	VR5	AMC Adjust VR5 for 95% modulation.
	Ch. 19 Mike Gain - Max	VR4	RF PANEL-METER Adjust VR4 so that RF Panel meter agrees with RF wattmeter.
	Ch. 19	VR201	VOLT REG Adjust VR201 for 13.8V DC. Voltage should not vary when keying transmitter.

TRANSMITTER ALIGNMENT

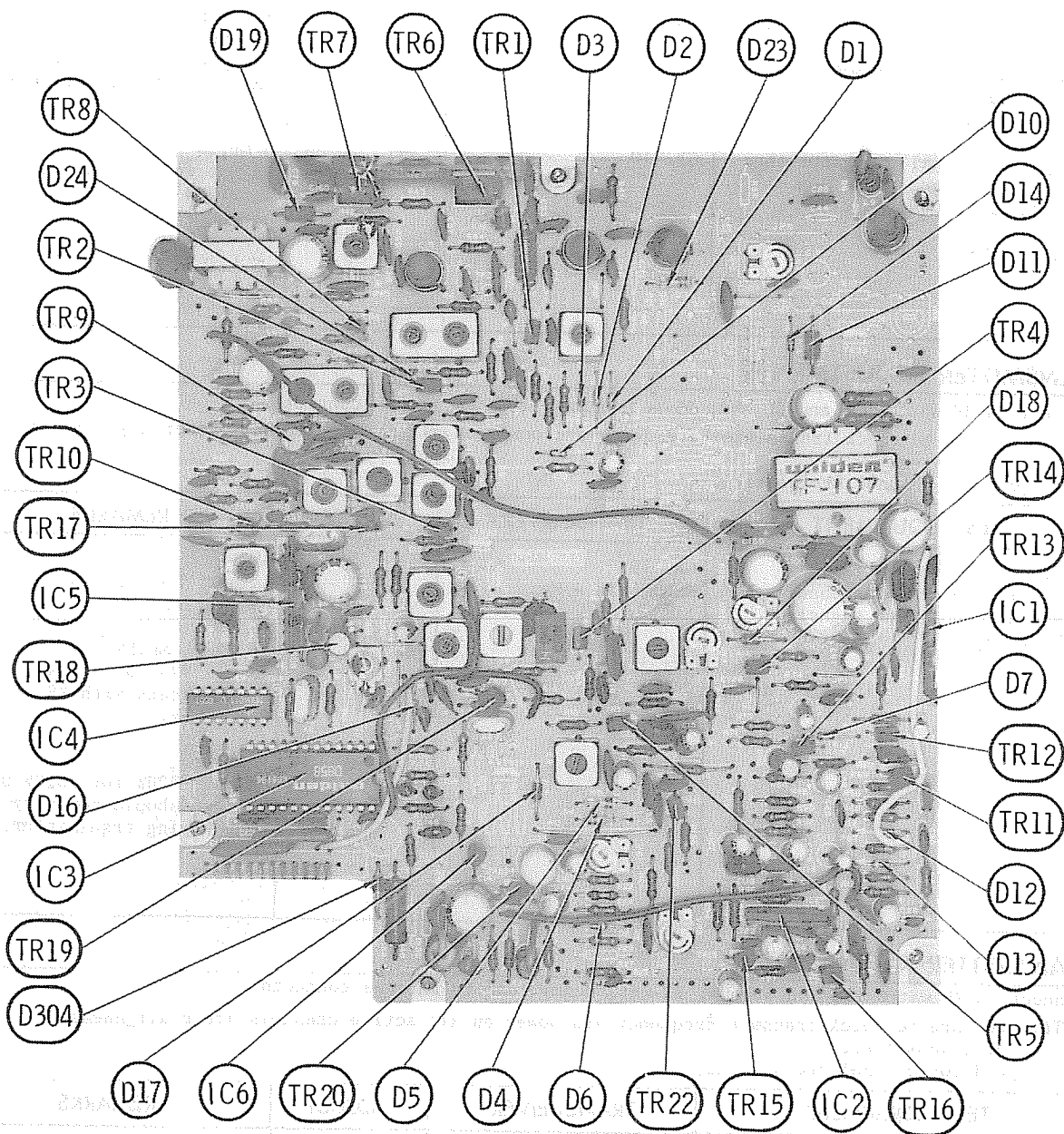
Connect an RF wattmeter and 50-ohm, 25-watt dummy load to antenna connector.

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

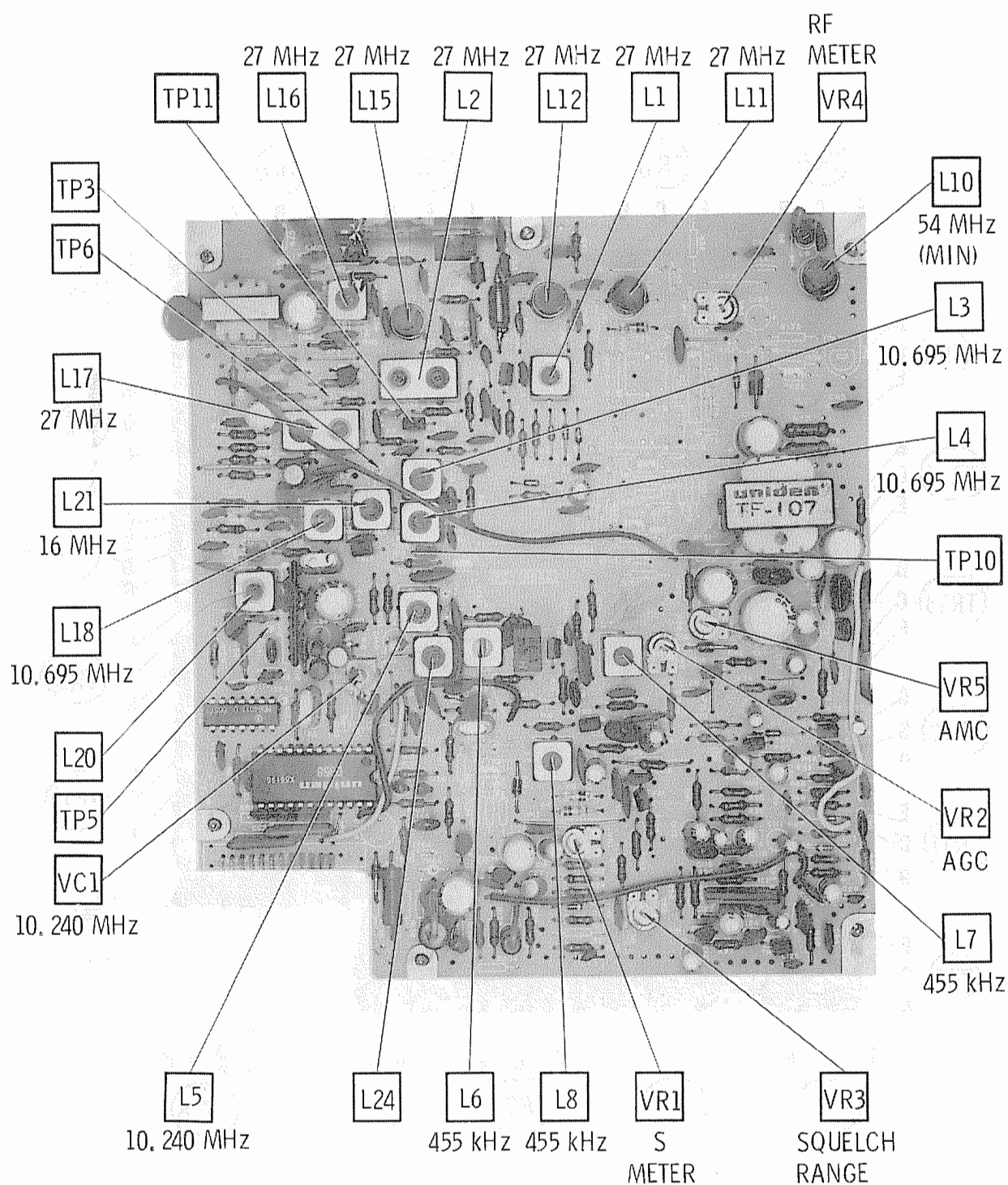
See page 4 for channel frequencies.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of oscilloscope to TP3.	Ch. 19	L18, L17	Adjust for maximum.
	Ch. 19	L16, L15, L12, L11	Adjust for maximum.
	Ch. 19	L12	Adjust for 3.8 watts.
Input of spectrum analyzer to antenna jack.	Ch. 19	L10	Adjust for MINIMUM at 54MHz.

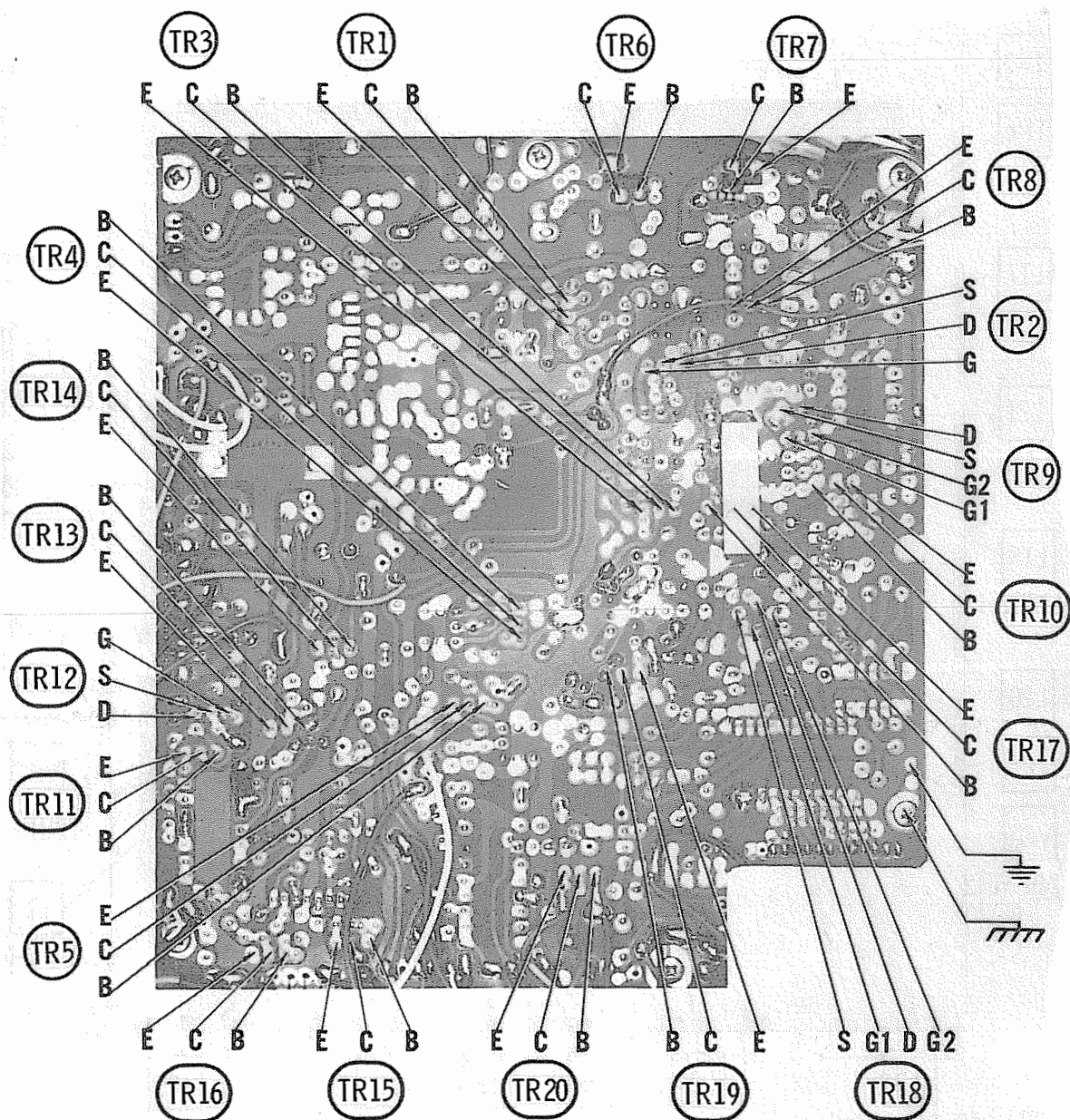
PRESIDENT MODEL ZACHARY T.



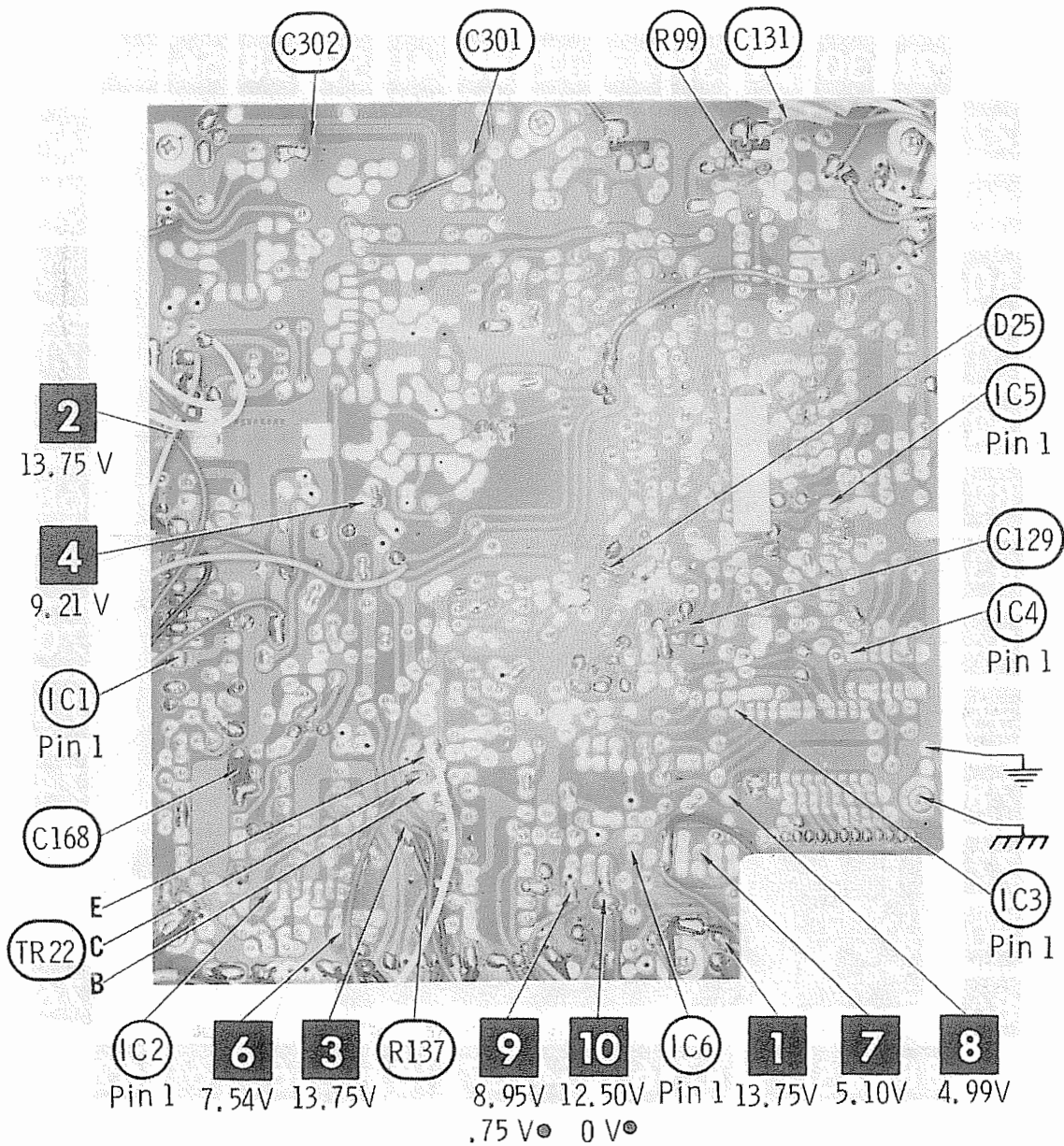
MAIN BOARD



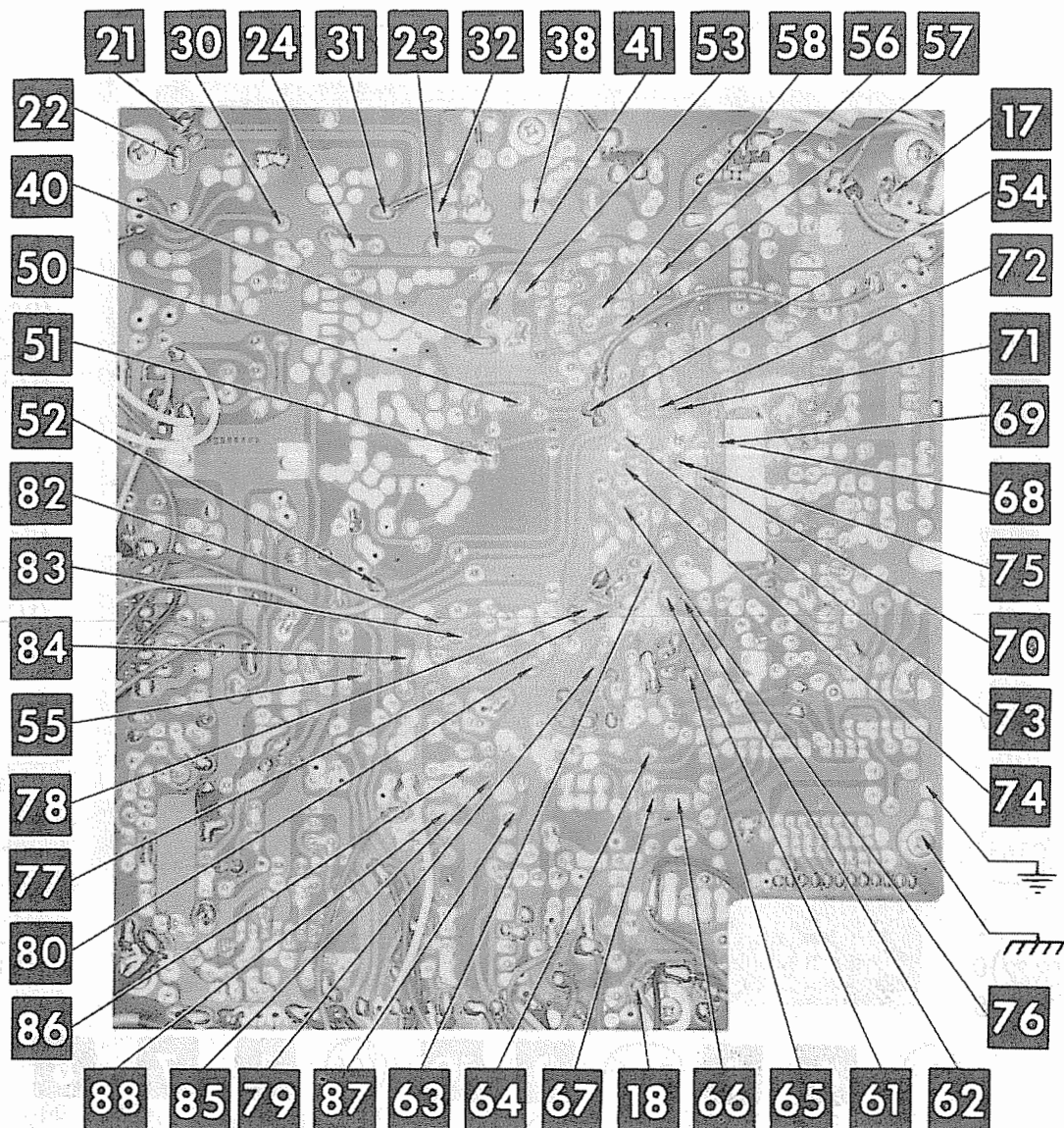
MAIN BOARD



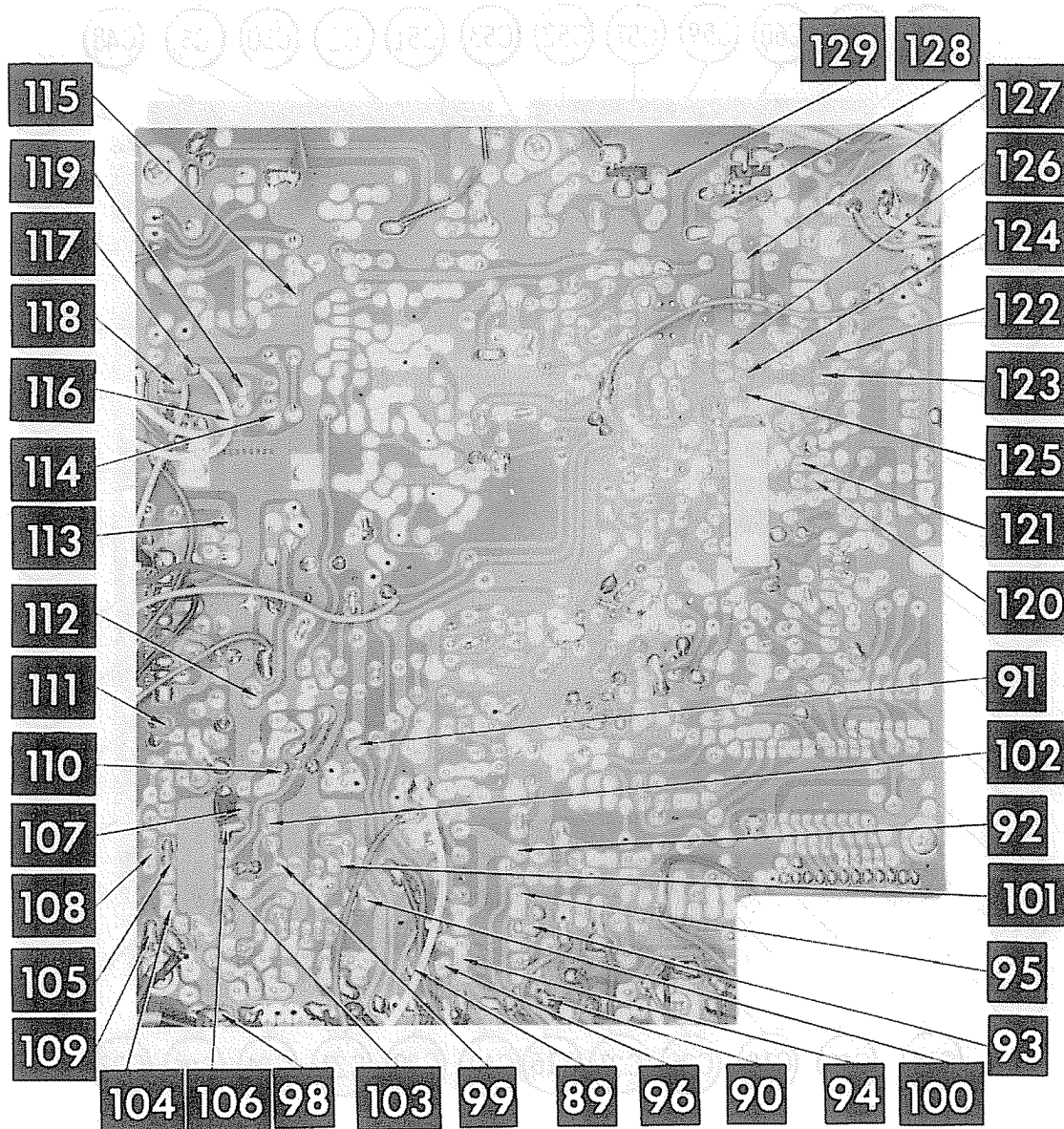
MAIN BOARD



MAIN BOARD

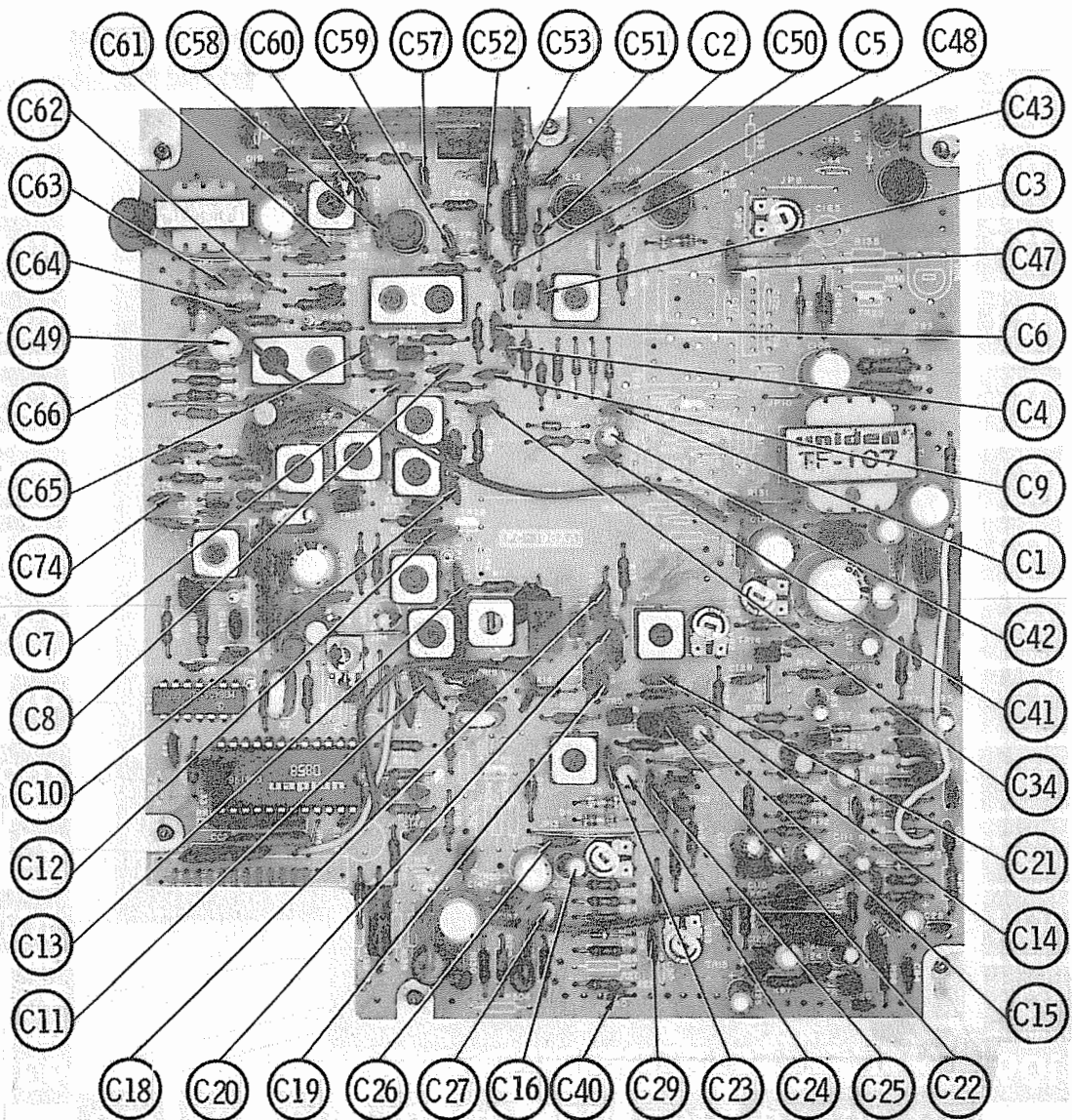


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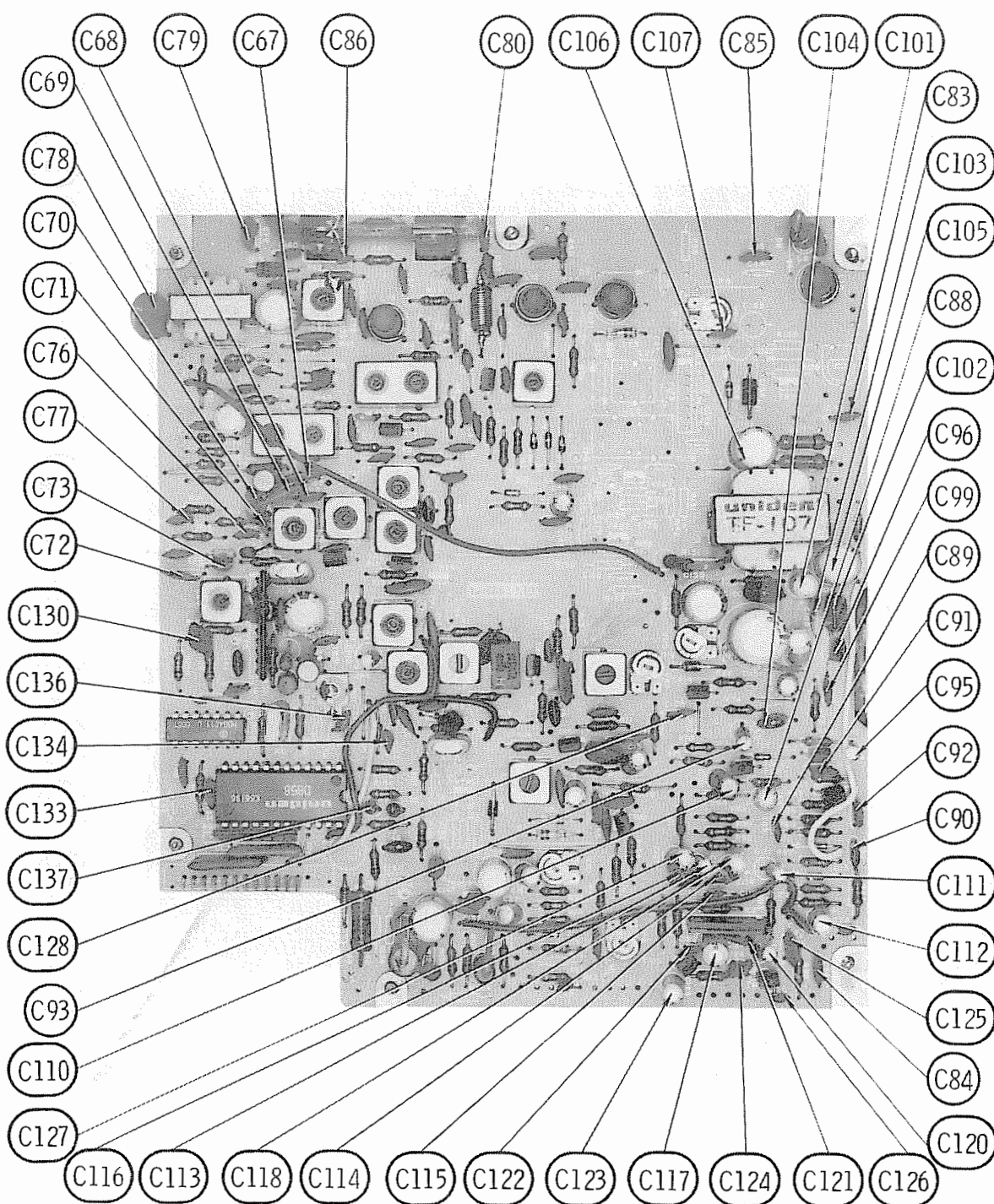


PRESIDENT MODEL ZACHARY T.

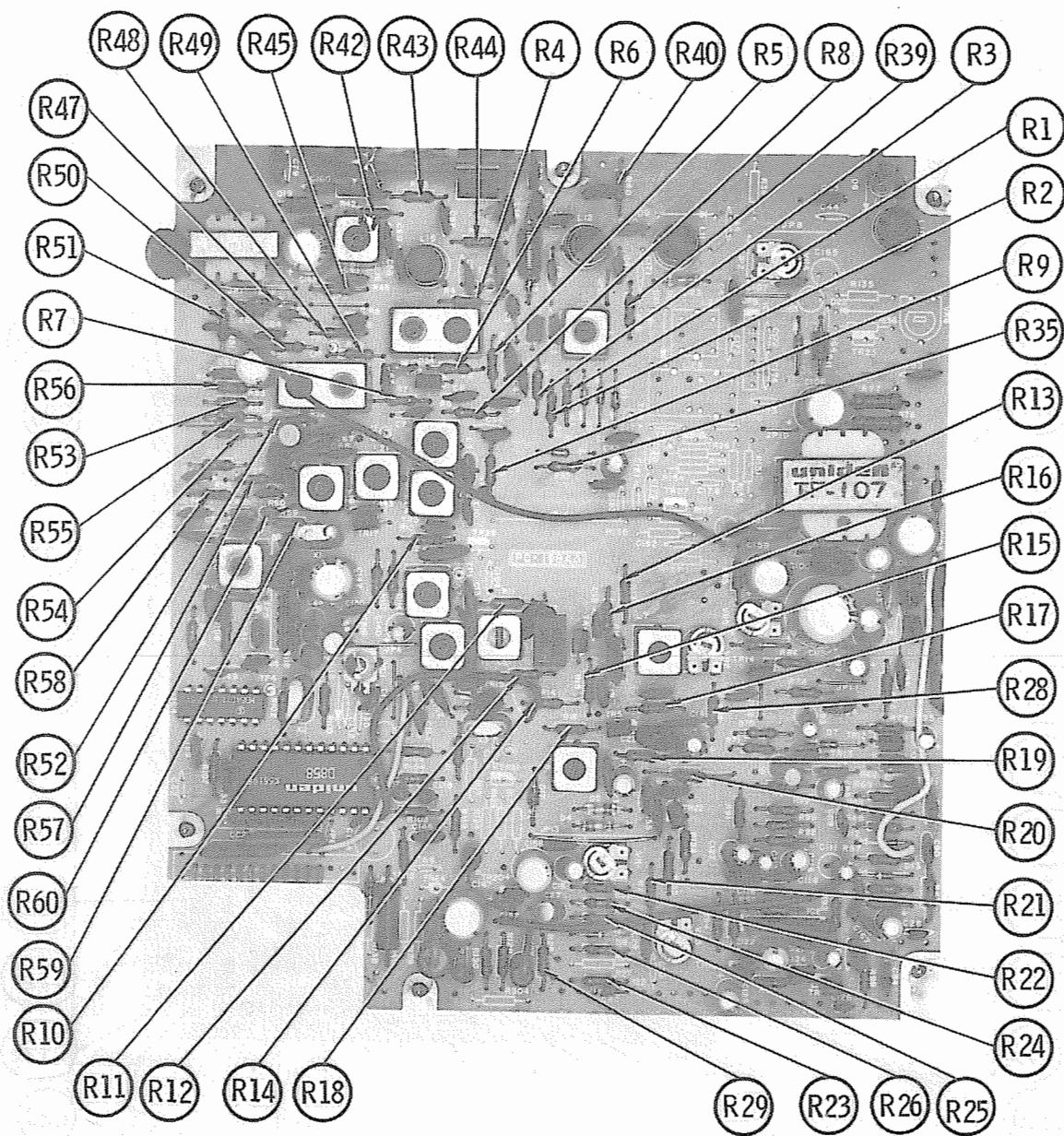
MAIN BOARD



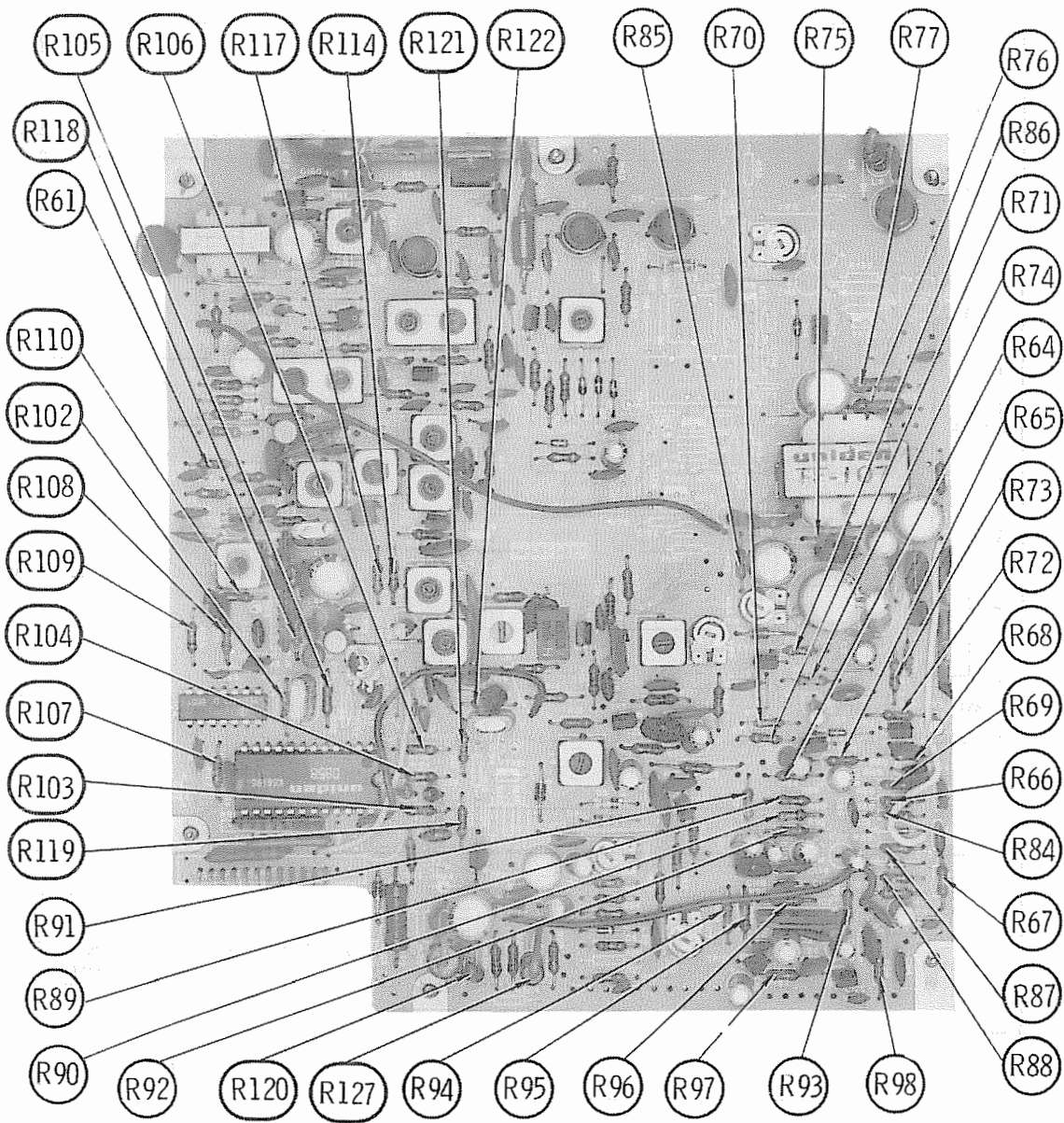
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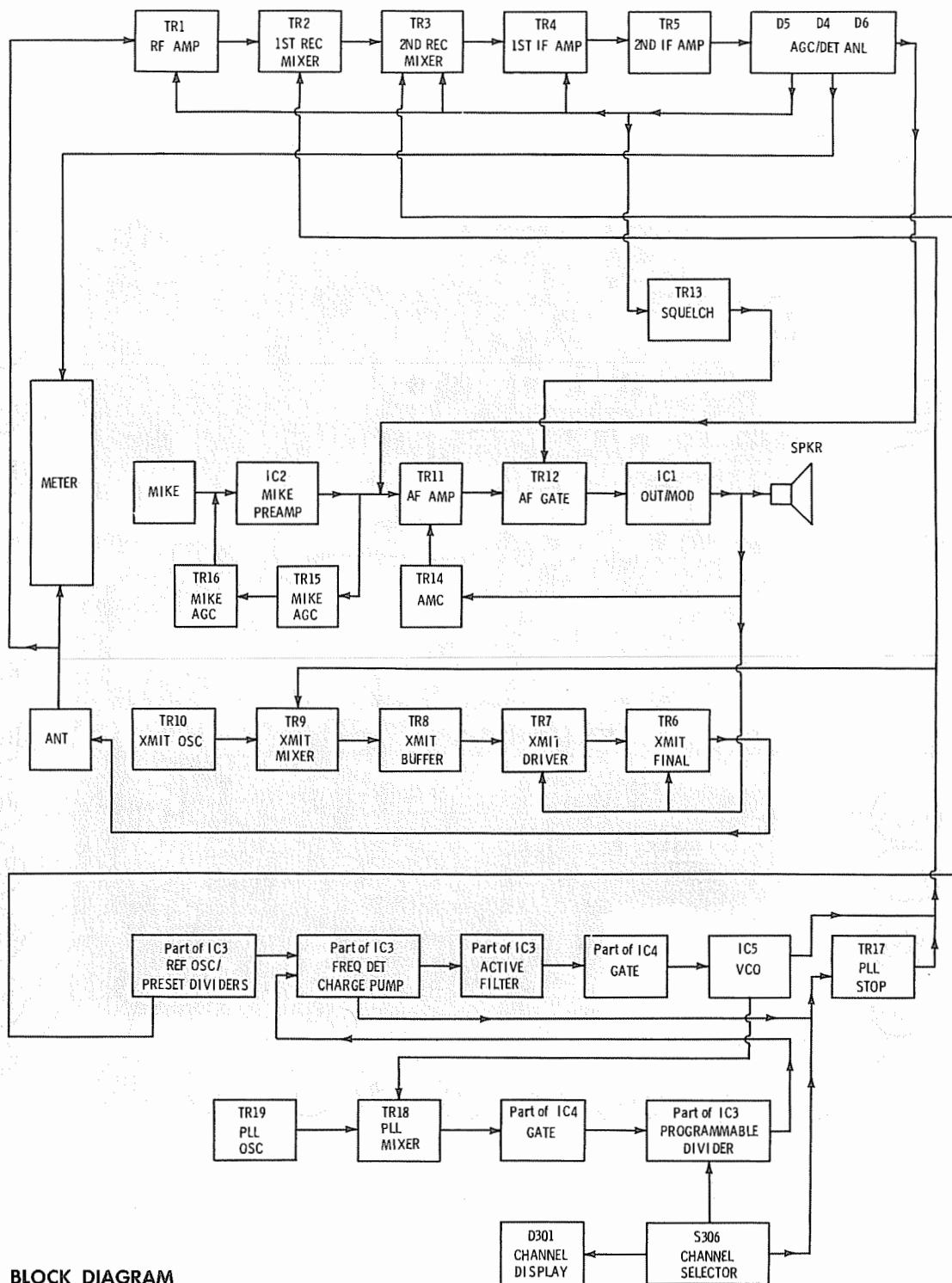
MAIN BOARD

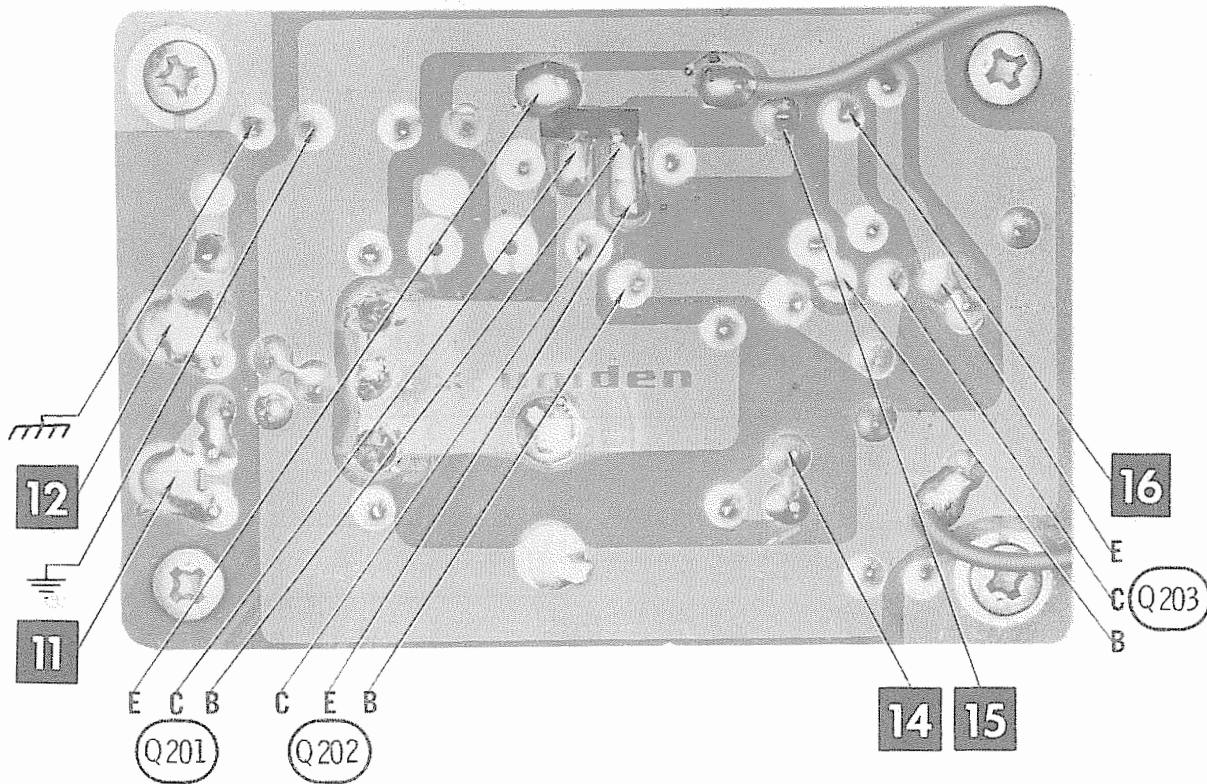


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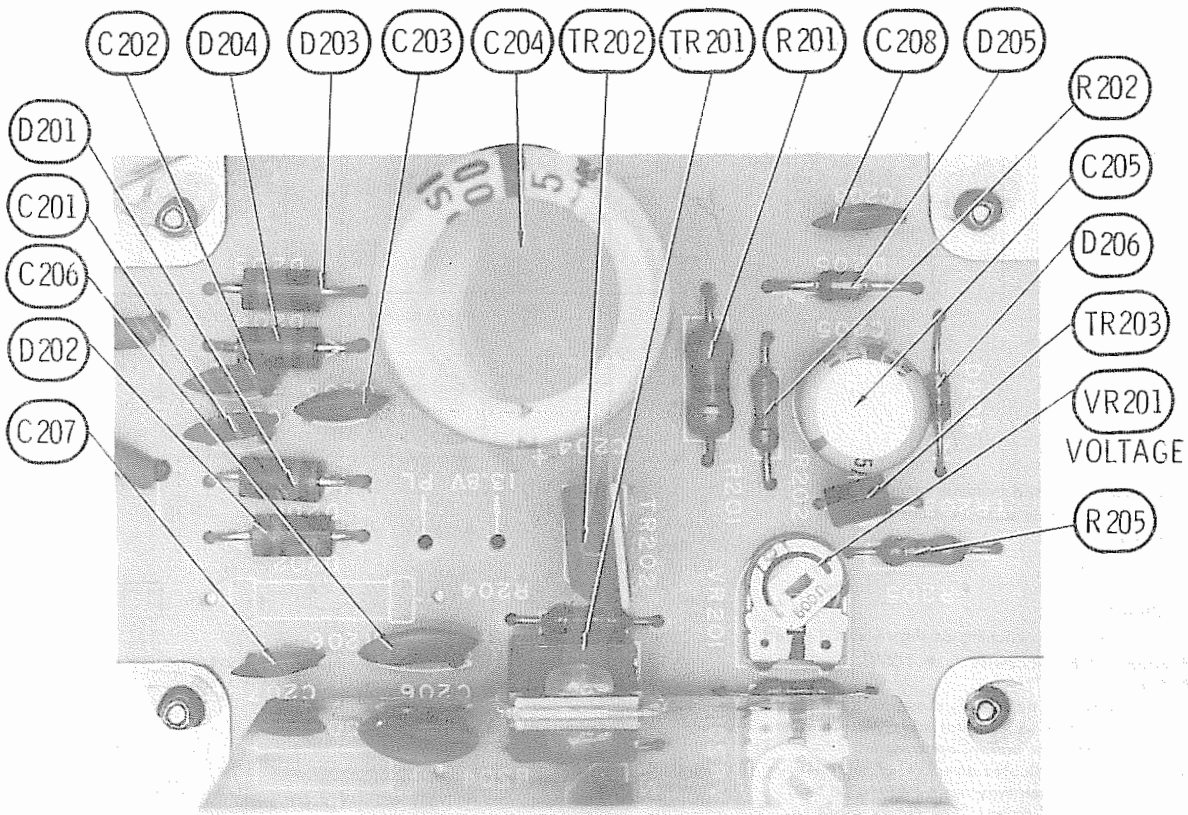


MAIN BOARD

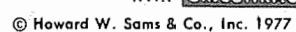
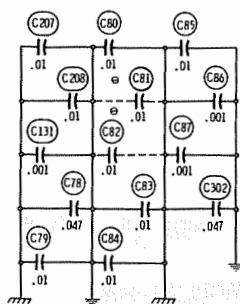


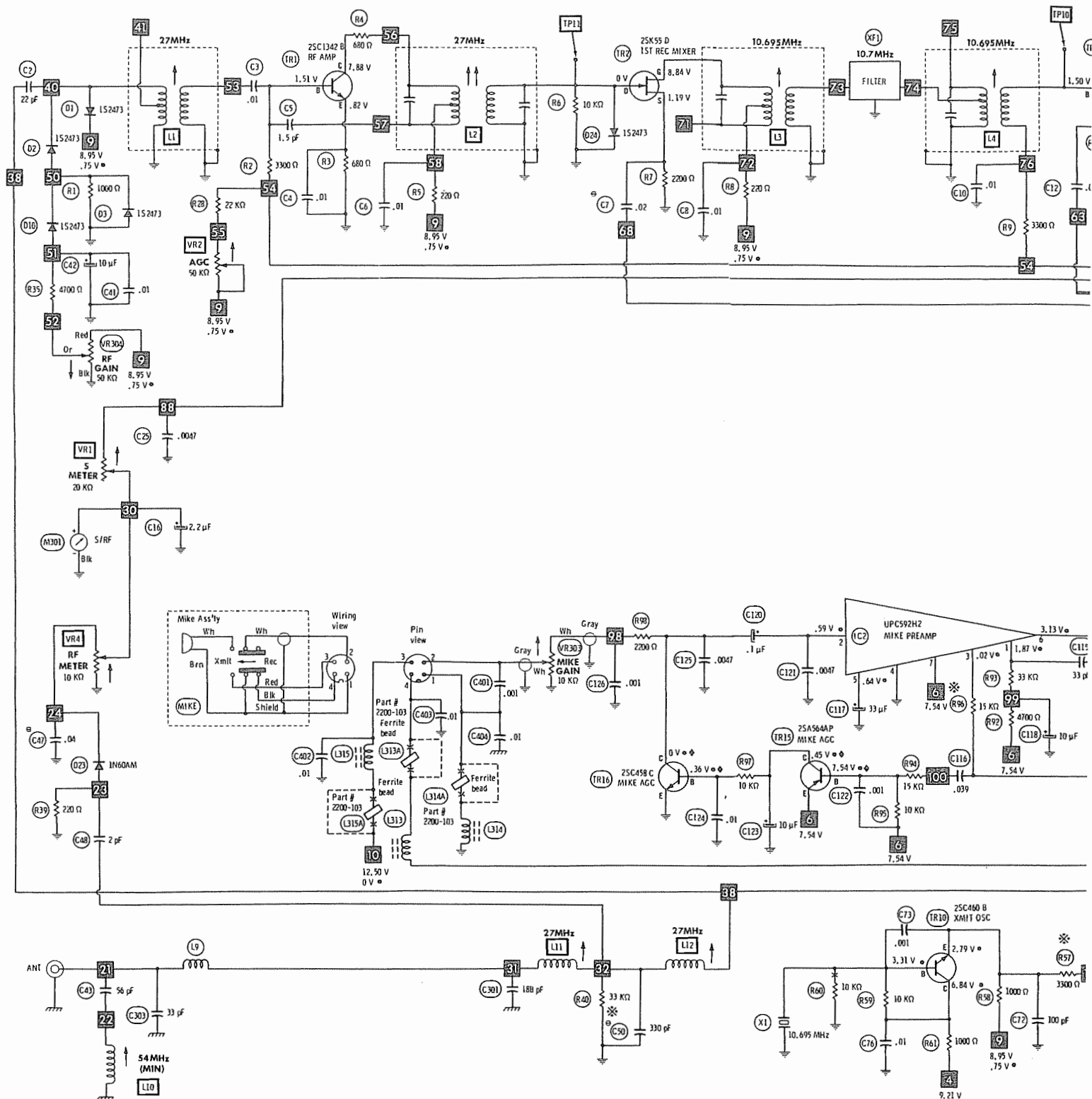


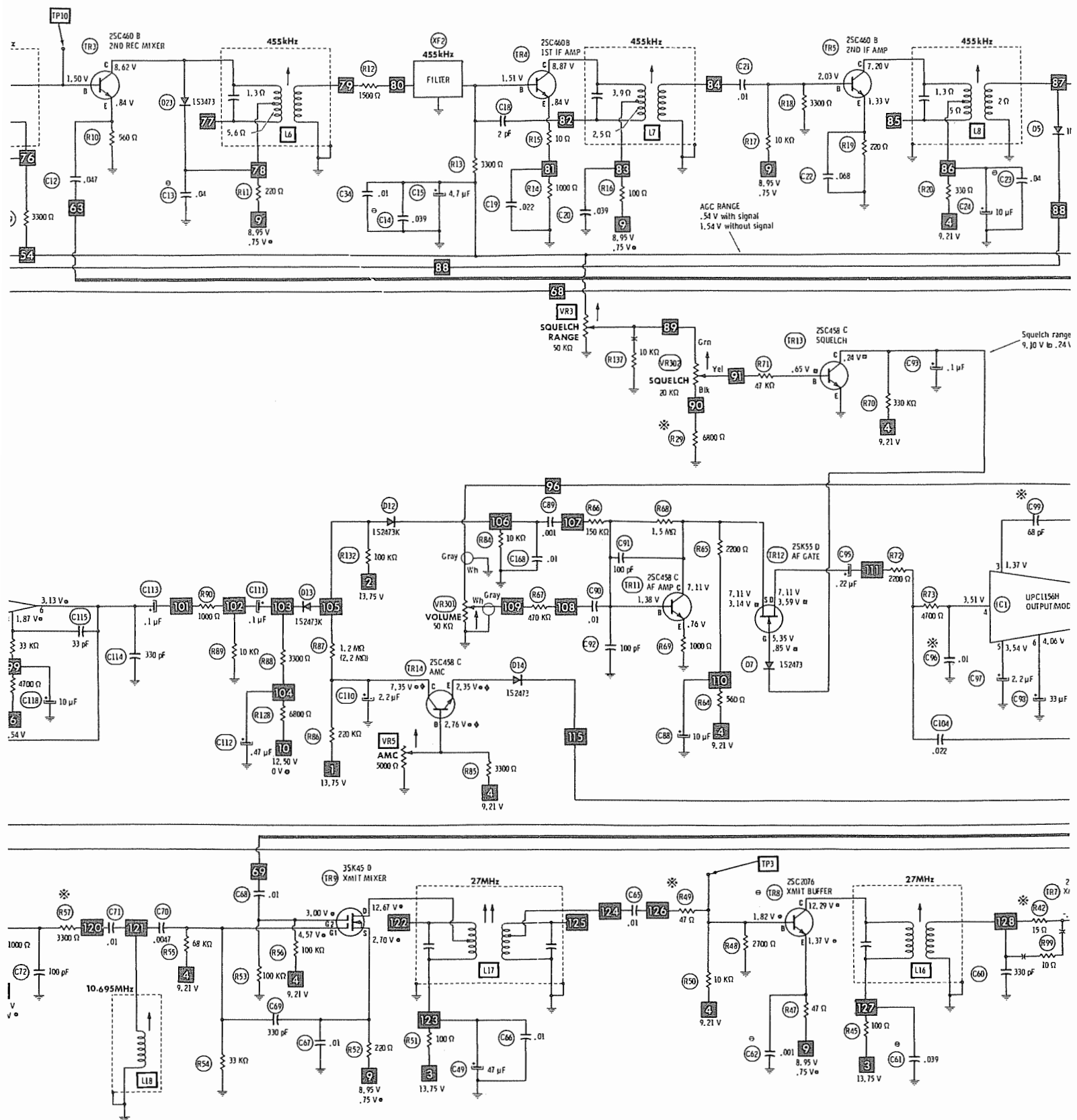
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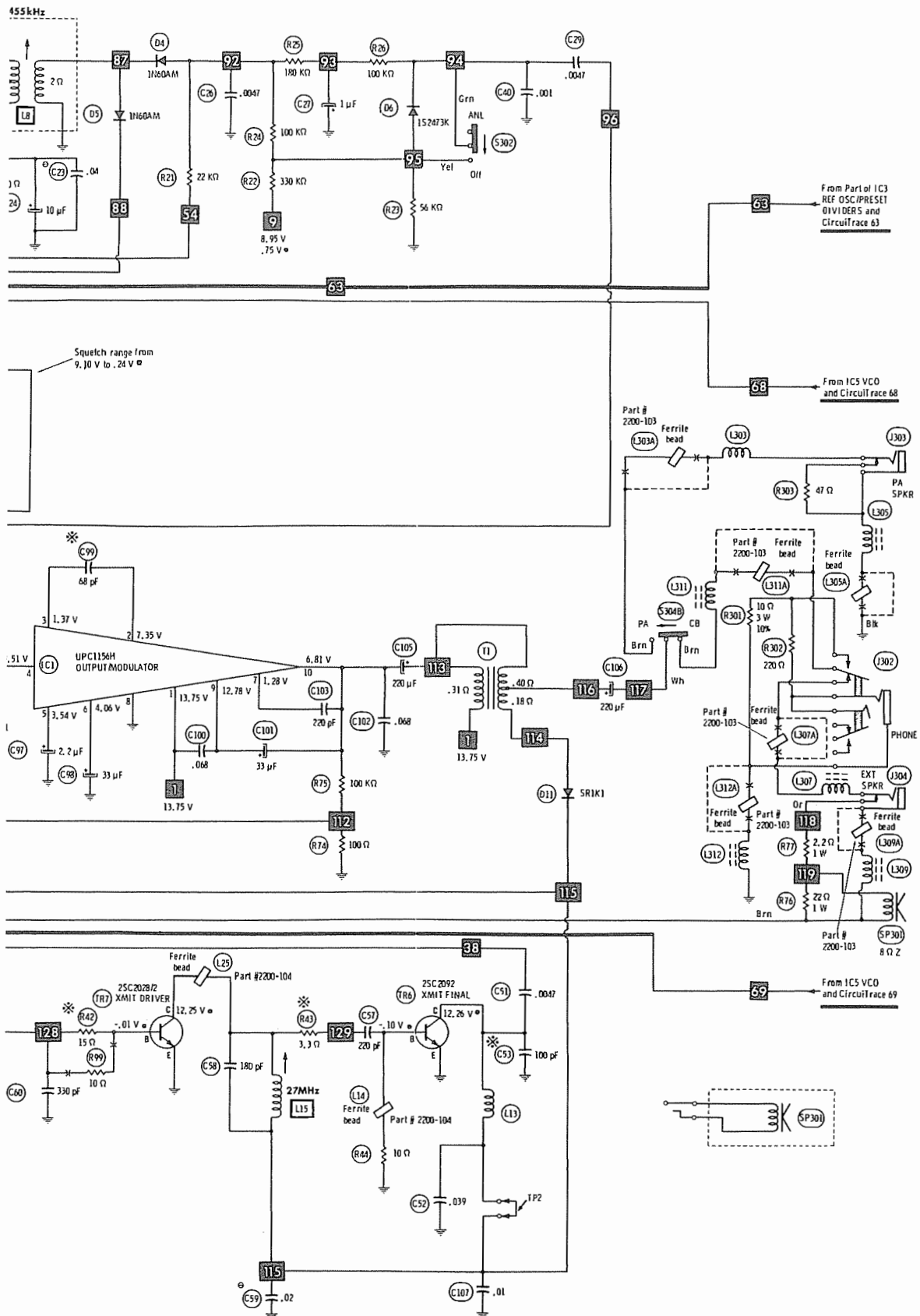


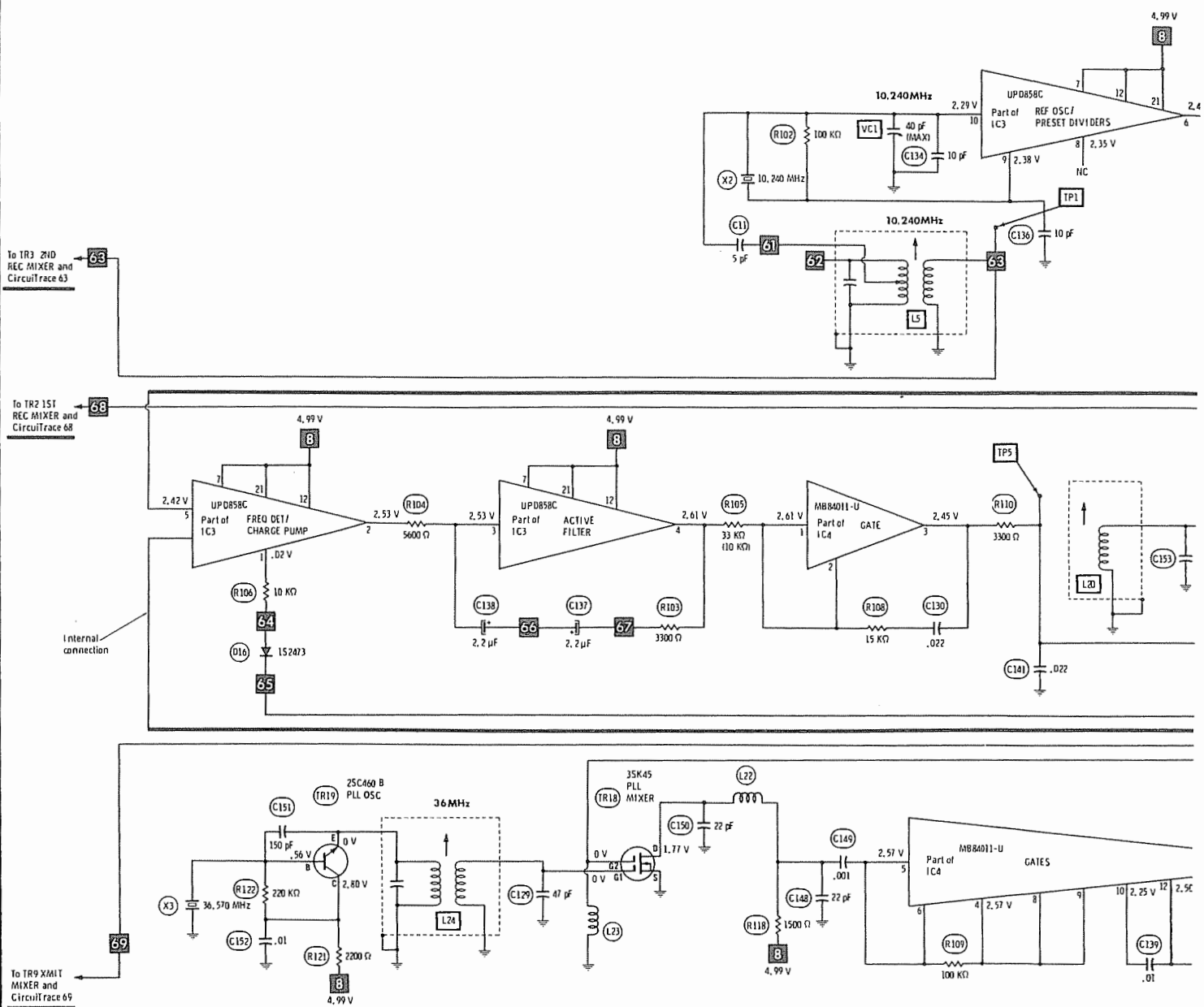
POWER SUPPLY BOARD







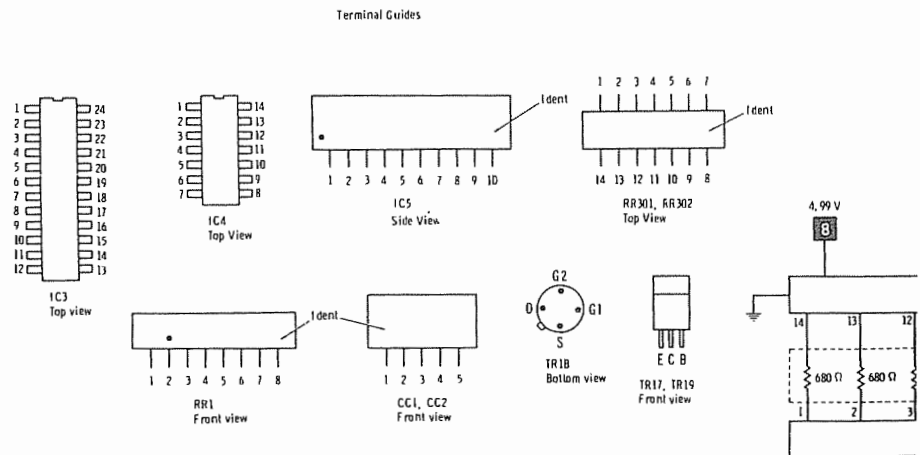


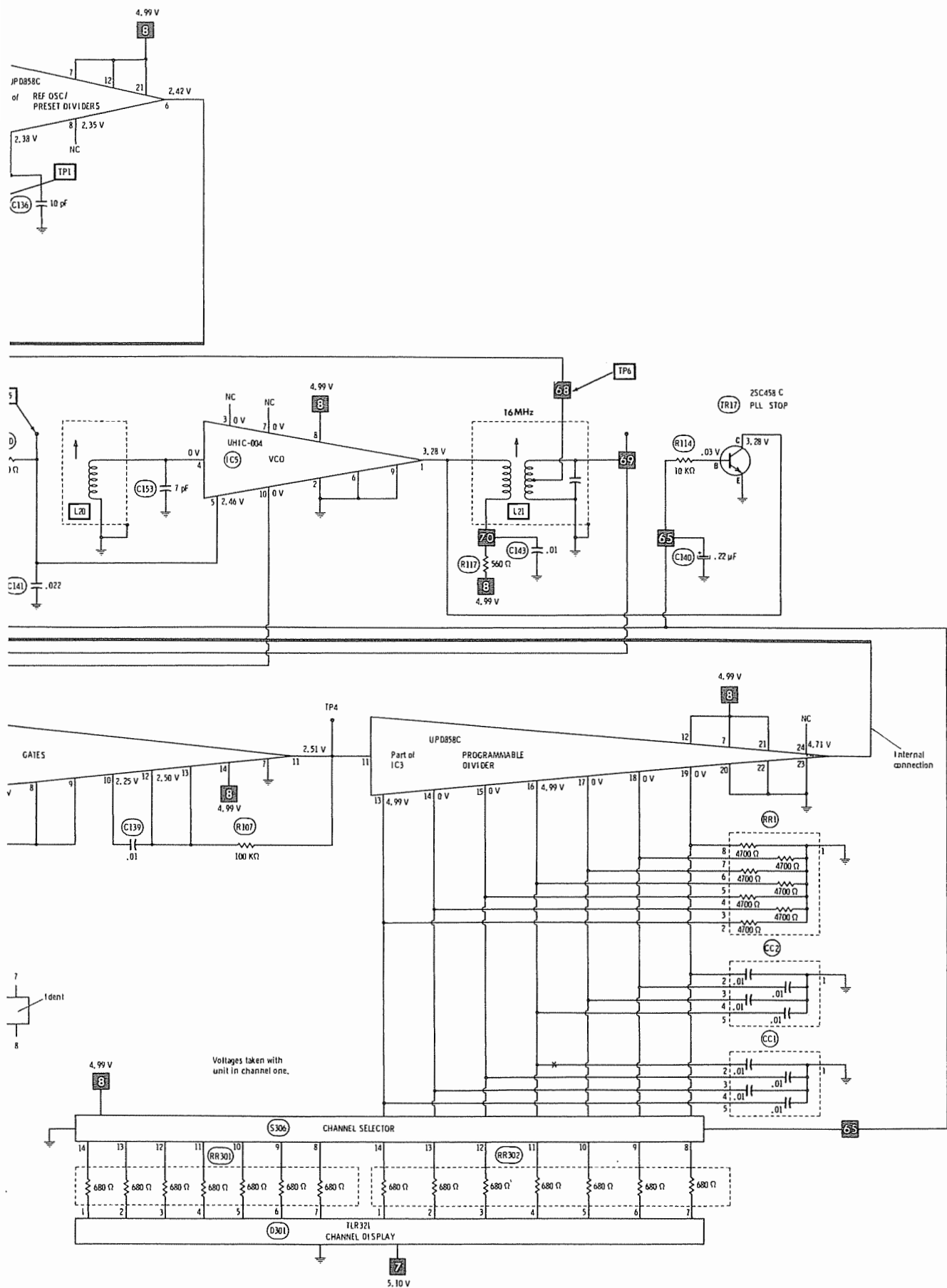


* Circuitry not used in some versions
 --- Circuitry used in some versions
 ⊕ See parts list
 ✱ Nominal value
 ⏏ Ground
 ⏏ Chassis

Measurements with switching as shown unless noted:
 ⊠ Squelch fully clockwise ⊠ 100% modulation
 ⊙ Transmit

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 PHOTOFACT STANDARD NOTATION SCHEMATIC
 WITH **CIRCUITRACE**
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PRESIDENT MODEL ZACHARY T.

PARTS LIST AND DESCRIPTION

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

SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFG. PART No.	REPLACEMENT DATA							
			GENERAL ELECTRIC PART No.	IR WORKMAN PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
D1	1S2473	2000-302	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG519
D2	1S2473	2000-302	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG519
D3	1S2473	2000-302	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG519
D4	1N60AM	2000-301	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D5	1N60AM	2000-301	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D6	1S2473-K	2000-303	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG519
D7	1S2473	2000-302	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG519
D10	1S2473	2000-302	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG519
D11	SR1K-1	2000-304	GE-504A	5A40	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116
D12	1S2473-K	2000-303	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG519
D13	1S2473-K	2000-303	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG519
D14	1S2473	2000-302	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG519
D15	1S2339-G	2000-316	GE-90	D201	PTC214	HEPR2503	RE 195	SK3126	RT-262	ECG177
D16	1S2473	2000-302	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D17	CZ-092	2000-308	GEZD-9.1	Z1209	ZB9.1A	HEPZ0412	RE 114	SK3060	RT-240	ECG139
D18	CZ-092	2000-308	GEZD-9.1	Z1209	ZB9.1A	HEPZ0412	RE 114	SK3060	RT-240	ECG139
D19	SR1K-1	2000-304	GE-504A	5A40	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116
D23	1N60AM	2000-301	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D24	1S2473	2000-310	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG519
D25	1S2473	2000-310	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG519
D27			GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG519
D201	SR1K-1	2000-304	GE-504A	5A40	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116
D202	SR1K-1	2000-304	GE-504A	5A40	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116
D203	SR1K-1	2000-304	GE-504A	5A40	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116
D204	SR1K-1	2000-304	GE-504A	5A40	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116
D205	BZ-162	2000-312	GEZD-16	WE1214	ZB168	HEPR0052	RE 122	SK3030	RT-246	ECG5075
D206	WZ-071	2000-311	GEZD-7.5	Z1207	ZB7.5A	HEPZ0410	RE 111	SK3059	RT-239	ECG138
D304	BZ-052	2000-313	GEZD-5.1	Z1203		HEPZ0406		SK3056	RT-235	
IC1	UPC1156H	2000-005								
IC2	UPC592H2	2000-006								
IC3	UPD858C	2000-001								
IC4	MB84011-U	2000-002								
IC5	UHC-004									
	DE-087	2000-003(1)								
IC6	F78L05AV									
	NJN78L05A	2000-004 (1)								
TR1	2SC1342B	2000-205	GE-61 *	TR-24 *	PTC136 *	HEPS0014 *	RE 9 *	SK3018 *	RT-108A *	ECG977
TR2	2SK550	2000-201	GE-FET-2	FE-100	PTC161	HEPF0021	RE 45	SK3116	RT-175	ECG229 *
TR3	2SC460B	2000-204	GE-61 *	(IR)2SC460B	PTC136 *	HEPS0014 *	RE 9	SK3018 *	RT-134	ECG107
TR4	2SC460B	2000-204	GE-61 *	(IR)2SC460B	PTC136 *	HEPS0014 *	RE 9	SK3018 *	RT-134	ECG107
TR5	2SC460B	2000-204	GE-61 *	(IR)2SC460B	PTC136 *	HEPS0014 *	RE 9	SK3018 *	RT-134	ECG107
TR6	2SC2092	2000-208	GE-215	WEP1306	PTC186		RE 203	SK3197	RT-146	ECG235
TR7	2SC2028/2		GE-270	WEP913	PTC180		RE 209			ECG295
	2SC2091	2000-207(1)	GE-270	WEP913	PTC180		RE 209			ECG295
	2SC1760(1)		GE-276						RT-310	ECG306
	2SC1957(1)		GE-270	WEP913	PTC180		RE 209			ECG295
	2SC495T(1)		GE-270	WEP913	PTC180		RE 209		RT-162	ECG295
	2SC1846(1)		GE-336				RE 209			ECG306
	2SC1974(1)		GE-337	WEP1306	PTC186		RE 203	SK3197	RT-146	ECG235
TR8	2SC20760		GE-210	(IR)2SC829B	PTC121	HEPS0015	RE 13	SK3122	RT-308	ECG123A
	2SC2076CB	2000-206(1)	GE-210	(IR)2SC829B	PTC121	HEPS0015	RE 13	SK3122	RT-308	ECG123A
	2SC1364(1)		GE-210	(IR)2SC829B	PTC121	HEPS0015	RE 13	SK3122	RT-308	ECG123A
	2SC933 (1)		GE-210	(IR)2SC829B	PTC121	HEPS0015	RE 13	SK3122	RT-308	ECG123A
	2SC735 (1)		GE-210 *	TR-21 *	PTC123 *	HEPS0014 *	RE 13 *	SK3122	RT-308 *	ECG289
TR9	3SK458	2000-102	GE-FET-4	WEP905	PTC181	HEPF2004	RE 199	SK3050	RT-181	ECG222
TR10	2SC460B	2000-204	GE-61 *	(IR)2SC460B	PTC136 *	HEPS0014 *	RE 9	SK3018 *	RT-134	ECG107
TR11	2SC458C	2000-203	GE-210 *	(IR)2SC458B	PTC121 *	HEPS0009 *	RE 13 *	SK3124	RT-187	ECG123A *
TR12	2SK550	2000-201	GE-FET-2	FE-100	PTC161	HEPF0021	RE 45	SK3116	RT-175	ECG312
TR13	2SC458C	2000-203	GE-210 *	(IR)2SC458B	PTC121 *	HEPS0009 *	RE 13 *	SK3124	RT-187	ECG123A *
TR14	2SC458C	2000-203	GE-210 *	(IR)2SC458B	PTC121 *	HEPS0009 *	RE 13 *	SK3124	RT-187	ECG123A *
TR15	2SA564AP		GE-65	(IR)2SA564A	PTC103 *	HEPS0019 *	RE 193	SK3114	RT-303	ECG234
	2SA844C	2000-202(1)	GE-21	TR-54	PTC103	HEPS0019	RE 18	SK3114	RT-126A	ECG129
	2SA733 (1)		GE-65	TR-31	PTC103	HEPS5002	RE 26	SK3025	RT-303	ECG159
	2SA495 (1)		GE-221 *	(IR)2SA495	PTC103 *	HEPS0013 *	RE 26 *	SK3114	RT-303	ECG159 *
	2SA564 (1)		GE-65	(IR)2SA564A	PTC103 *	HEPS0019 *	RE 193	SK3114	RT-303	ECG234
	2SA659 (1)		GE-221	TR-88	PTC103	HEPS0019	RE 18	SK3025	RT-115	ECG129
TR16	2SC458C	2000-203	GE-210 *	(IR)2SC458B	PTC121 *	HEPS0009 *	RE 13 *	SK3124	RT-187	ECG123A *
TR17	2SC458C		GE-210 *	(IR)2SC458B	PTC121 *	HEPS0009 *	RE 13 *	SK3124	RT-187	ECG123A *
TR18	3SK45		GE-FET-4	WEP905	PTC181	HEPF2004	RE 199	SK3050	RT-181	ECG222
	3SK458-09	2000-103(1)	GE-FET-4	WEP905	PTC181	HEPF2004	RE 199	SK3050	RT-181	ECG222
	3SK41 (1)		GE-FET-4	WEP905	PTC181	HEPF2004	RE 199	SK3050	RT-181	ECG222
	3SK49 (1)		GE-FET-4	WEP905	PTC181	HEPF2004	RE 199	SK3050	RT-181	ECG222
TR19	2SC460B	2000-204	GE-61 *	(IR)2SC460B	PTC136 *	HEPS0014 *	RE 9	SK3018 *	RT-134	ECG107
TR20	2SA719		GE-21 *	TR-28 *	PTC103 *	HEPS0012	RE 197	SK3114	RT-305	ECG290
	2SA673-C	2000-201(1)	GE-269	TR-30 *	PTC103 *	HEPS5013 *	RE 26 *	SK3114	RT-126A *	ECG159 *
	2SA673 (1)		GE-269	TR-30 *	PTC103 *	HEPS5013 *	RE 26 *	SK3114	RT-126A *	ECG159 *
	2SA562 (1)		GE-82 *	TR-30 *	PTC103 *	HEPS0012 *	RE 197	SK3114	RT-106	ECG290
TR22	2SC458C		GE-210 *	(IR)2SC458B	PTC121 *	HEPS0009 *	RE 13 *	SK3124	RT-187	ECG123A *
TR201	2SC1061C		GE-66	TR-76	PTC154		RE 21	SK3054	RT-197	ECG152
	2SC1061	2000-219(1)	GE-66	TR-76	PTC154		RE 21	SK3054	RT-197	ECG152
	2SD235(1)		GE-66	TR-76	PTC110	HEPS5027	RE 21	SK3054	RT-197	ECG152
	2SD313(1)		GE-66	TR-76	PTC154	HEPS5027	RE 205	SK3054	RT-154	ECG196
TR202	2SC1096		GE-28	WEP1096	PTC110	HEPS5027	RE 42	SK3197	RT-166	ECG186A
	2SC1419C	2000-220(1)	GE-66	TR-76	PTC167	HEPS5027	RE 21	SK3054	RT-197	ECG152
	2SC1419	2000-220(1)	GE-66	TR-76	PTC167	HEPS5027	RE 21	SK3054	RT-197	ECG152
	2SC1173(1)		GE-215		PTC186		RE 201	SK3197	RT-160	ECG236
TR203	2SC458C	2000-220	GE-210 *	(IR)2SC458B	PTC121 *	HEPS0009 *	RE 13 *	SK3124	RT-187	ECG123A *

* Lead configuration may vary from original.

(1)Used in some versions.

PARTS LIST AND DESCRIPTION (CONTINUED)

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

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA				
		MFR. PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
					Q-LINE	GENERAL LINE
C15	4.7 25V	1800-317	PC5-50	VTT4R7A50	QV1-27	EV-1319
C24	10 16V	1800-306	PC10-25	VTT10A25	QV1-41	EV-1222
C27	1 50V	1800-302	PC1-50	VTT1B63	QV1-11	EV-1615
C42	10 16V	1800-306	PC10-25	VTT10A25	QV1-41	EV-1222
C49	47 16V	1800-315	PC50-16	VTT47016	QV1-73	EV-1222
C88	10 16V	1800-306	PC10-25	VTT10A25	QV1-41	EV-1222
C93	.1 10V	1800-504		TOC104M050EL	QDT1-2	S050-R109
C95	.22 10V	1800-505	NBR2000-50	TC50200A	QEI-648	TVA-1318.3
C97	2.2 25V	1800-303	PC2-100	VTT2R2A50	QV1-19	EV-1517
C98	33 16V	1800-307	PC30-25	VTT33025	QV1-63	EV-1325
C101	33 16V	1800-307	PC30-25	VTT33025	QV1-63	EV-1325
C105	220 16V	1800-308	PC250-25	VTT220616	QV1-117	EV-1240
C106	220 16V	1800-308	PC250-25	VTT220616	QV1-117	EV-1240
C110	2.2 25V	1800-303	PC2-100	VTT2R2A50	QV1-19	EV-1517
C111	.1 10V	1800-504		TOC104M050EL	QDT1-2	S050-R109
C112	.47 50V	1800-301	PC1-50	VTT47B63	QV1-3	EV-1610
C113	.1 10V	1800-504		TOC104M050EL	QDT1-2	S050-R109
C117	33 16V	1800-307	PC30-25	VTT33025	QV1-63	EV-1325
C118	10 16V	1800-306	PC10-25	VTT10A25	QV1-41	EV-1222
C119	470 16V	1800-309	PC500-16	VTT470J16	QV1-151	EV-1250
C120	.1 10V	1800-504		TOC104M050EL	QDT1-2	S050-R109
C123	10 16V	1800-306	PC10-25	VTT10A25	QV1-41	EV-1222
C127	10 10V	1800-315	PC10-25	VTT10A25	QV1-41	EV-1222
C137	2.2 16V	1800-601		TOC225M035FL		S035-2R29
C138	2.2 16V	1800-601		TOC225M035FL		S035-2R29
C140	.22 10V	1800-505		TOC224M050EL	QDT1-10	S050-R229
C142	470 6.3V	1800-311	PC500-16	VTT470J16	QV1-149	EV-1150
C147	220 16V	1800-308	PC250-25	VTT220616	QV1-117	EV-1240
C158	100 10V	1800-310	PC100-10	VTT100E10	QV1-93	EV-1130
C159	100 16V	1800-312	PC100-16	VTT100F16	QV1-95	EV-1230
C162	100 25V	1800-313	PC100-25	VTT100G25	QV1-97	EV-1330
C204	2200 25V	1800-318	NBR2000-25	TC2520A	QEI-645	TVA-1213.5
C205	220 16V	1800-308	PC250-25	VTT220616	QV1-117	EV-1240

CAPACITORS

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	
C1	.01 25V	1800-007	UK25-103	MGP01	MAG2511	QC2-141	TG-S10	
C2	22 5% N220				*		10TCR-Q22	
C3	.01 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10	
C4	.01 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10	
C5	1.5 NPO		0TZ-1R5	NP01P5	CN0515		10TCC-V15	
C6	.01 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10	
C7	.022 25V		UK25-223				HY-725	
C8	.01 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10	
C9	.01 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10	
C10	.01 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10	
C11	5		0TZ-4R7	NP04P7	CN0547		10TCC-V47	
C12	.047 25V	1800-034	UK25-503		MAG2515		HY-735	
C13	.04 25V							
C14	.04 25V							
C18	2 N220							
C19	.022	1800-034			M192P2239R8	QV1-127	1PB-S22	
C20	.04 25V							
C21	.01 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10	
C22	.068 10%			WMF1568	EWFA168	QF1-195	1PB-S68	
C23	.039 25V	1800-034						
C25	.0047 10% 25V	1800-014						
C26	.0047 10% 25V	1800-014						
C29	.0047 10% 25V	1800-014						
C34	.01 25V	1800-008	UK25-103	MGP01	MAG2511	QC2-141	TG-S10	
C40	.001		00-102		GP210		10TS-010	
C41	.01 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10	
C43	56 5% N220				*		10TCR-Q56	
C50	300		00-301	GP300	GP330		10TS-T30	
C51	.0047 10% 25V		1800-014					
C52	.04 25V		1800-034					
C53	100		1800-034	00-101	GP100	GP310		10TS-T10
C57	220			00-221		GP322		10TS-T22
C58	180			00-181		GP318		10TS-T18
C59	.022 25V	UK25-223					HY-725	
C60	330	00-331		GP330	GP333		10TS-T33	
C61	.04 25V	1800-034	00-102		GP210		10TS-010	
C62	.001 25V		00-103	MGP01	TA110	QC2-141	TG-S10	
	.01		(1)					
C63	.01 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10	
C64	.01 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10	
C65	.01 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10	
C66	.01 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10	
C67	.01 10% 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10	
C68	.01 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10	
C69	330 5% N220			*		10TCR-T33		
C70	.0047 10% 25V	1800-014						
C71	.01 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10	
C72	100 5% N220				*		10TCR-T10	
C73	.001 25V		00-102		GP210		10TS-010	
C74	.01 25V	UK25-103	MGP01	MAG2511	QC2-141	TG-S10		
C76	.01 25V	UK25-103	MGP01	MAG2511	QC2-141	TG-S10		
C77	.01 25V	UK25-103	MGP01	MAG2511	QC2-141	TG-S10		
C78	.047 25V	UK25-503		MAG2515		HY-735		
C79	.01 25V	UK25-103	MGP01	MAG2511	QC2-141	TG-S10		
C80	.01 25V	UK25-103	MGP01	MAG2511	QC2-141	TG-S10		
C81	.01 25V	(1)	UK25-103	MGP01	MAG2511	QC2-141	TG-S10	

PRESIDENT MODEL 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
C82	.01 25V	(1)	UK25-103	MGP01	MAG2511	QC2-141	TG-S10
C83	.01 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10
C84	.01 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10
C85	.01 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10
C86	.001 25V		DD-102		GP210		10TS-010
C87	.001 25V		DD-102		GP210		10TS-010
C89	.001 10%			DPM5601	EWFA1A210	QF1-91	1PB-S10
C90	.01 10%			WMF1S1	EWFA1A110	QF1-91	1PB-S10
C91	100		DD-101	GP100	GP310		10TS-T10
C92	100		DD-101	GP100	GP310		10TS-T10
C96	.01 10%			WMF1S1	EWFA1A110	QF1-91	1PB-S10
C99	68 5%		DTZ-68	NP068	CN0468		10TCC-Q68
C100	.068 10%			WMF1S68	EWFA1A168	QF1-195	1PB-S68
C102	.068 10%			WMF1S68	EWFA1A168	QF1-195	1PB-S68
C103	220		DD-221		GP322		10TS-T22
C104	.022				M192P2239R8	QF1-127	1PB-S22
C107	.01 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10
C114	330		DD-331	GP330	GP333		10TS-T33
C115	33		DTZ-33	NP033	CN0433		10TCC-Q33
C116	.039 10%				M192P3939R8	QF1-171	1PB-S47
C121	.0047 10% 25V	1800-014	DD-102		GP210		10TS-D10
C122	.001 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10
C124	.01 25V		DD-102		GP210		10TS-010
C125	.0047 10% 25V	1800-014	DD-102		GP210		10TS-010
C126	.001 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10
C128	.01 25V		DD-102		GP210		10TS-010
C129	47 10% N220	1800-001	UK25-103	MGP01	MAG2511	QC2-141	10TCR-Q47
C130	.022				M192P2239R8	QF1-127	1PB-S22
C131	.001		DD-102		GP210		10TS-010
C133	.01 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10
C134	10		DTZ-10	NP010	CN0410		10TCC-Q10
C136	10		DTZ-10	NP010	CN0410		10TCC-Q10
C139	.01		QC-103	MGP01	TA110	QC2-141	TG-S10
C141	.022				M192P2239R8	QF1-127	1PB-S22
C143	.01 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10
C145	.01 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10
C146	.022				M192P2239R8	QF1-127	1PB-S22
C148	22		DTZ-22	NP022	CN0422		10TCC-Q22
C149	.001 25V		DD-102		GP210		10TS-010
C150	22		DTZ-22	NP022	CN0422		10TCC-Q22
C151	150		DD-151		GP315		10TS-T15
C152	.01 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10
C153	7		DTZ-6R8	NP06P8	CN0568		10TCC-V68
C157	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C160	.01 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10
C161	.01 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10
C167	.01 25V	(1)	UK25-103	MGP01	MAG2511	QC2-141	TG-S10
C168	.01 10%			WMF1S1	EWFA1A110	QF1-91	1PB-S10
C201	.01 10% 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10
C202	.01 10% 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10
C203	.01 10% 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10
C206	.039 25V	1800-034					
C207	.01 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10
C208	.01 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10
C302	.047 25V		UK25-503		MAG2515		HY-735
C303	33		DTZ-33	NP033	CN0433		10TCC-Q33
C401	.001 25V		DD-102		GP210		10TS-010
C402	.01 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10
C403	.01 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10
C404	.01 25V		UK25-103	MGP01	MAG2511	QC2-141	TG-S10
CC1	.01	1800-103 (2)					
CC2	.01	1800-103 (2)					
VC1	40	1800-202					6K640000

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

(1) Used in some versions.

(2) Consists of four .01 capacitors.

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

ITEM No.	FUNCTION	RESISTANCE	REPLACEMENT DATA				
			MFR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	MALLORY PART No.	TRW PART No.
VR1	S Meter	20K	1900-204				
VR2	AGC	50K	1900-202				
VR3	Squelch Range	50K	1900-202				
VR4	RF Meter	10K	1900-203	T-10K (3)	C-103 (3)	MTC14L1 (3)	X201R103B (3)
VR5	AMC	5000	1900-201				
VR201	Voltage	500	1900-205				
VR301	Volume/Power Switch	50K	1900-104	F2-50K (1), SSK012, KR3	A47-50K-Z(1), KSS-3, SWE-13 or [NP-50K-Z(1), UP-C-400, NHE-13]	RU54A, SL35, SL35, SL1500 or [UA54A(1), SK750, US26]	BU1(1), CF63, SS1, 6C
VR302	Squelch	20K	1900-105, RV-049 (5)	F1-25K (1), SSK012	A47-20K-S (1), KSS-3 or [NP-20K-S(1), UP-C-400]	RU253L, SL35, SL1500 or [UA24L (1), SK750]	BU1(1), CF62, SS1, 0C1
VR303	Mike Gain	10K	1900-102, RV-055 (5)	F2-10K (1), SSK012	A47-10K-Z (1), KSS-3 or [NP-10K-Z (1), UP-C-400]	RU14A, SL35, SL1500 or [UA14A (1), SK750]	BU1(1), CF62, SS1, 0C1
VR304	RF Gain	50K	1900-113, RV-071 (5)	F1-25K(1), SSK012	A47-20K-S(1), KSS-3 or [NP-20K-S (1), UP-C-400]	RU253L, SL35, SL1500 or [UA24L (1), SK750]	BU1(1), CF62, SS1, 0C1

(1) Enlarge mounting hole.

(3) For horizontal mounting, bend the two outside terminals to fit PC board. Use jumper to connect center terminal to PC Board.

(5) Number on unit.

PARTS LIST AND DESCRIPTION (CONTINUED)

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

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFGR. PART No.			WORKMAN PART No.	MFGR. PART No.
RR1 RR301	4700 680		1900-401 (1) 1900-402 (2)	RR302	680		1900-402 (2)

(1) Consists of seven 4700-ohm resistors.

(2) Consists of seven 680-ohm resistors.

COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L1	Rec. Antenna (27MHz)	2200-001	LA-029-6824		
L2	Rec. RF (27MHz)	2200-014	LA-194-6014		
L3	Rec. Mixer (10.695MHz)	2200-003			
L4	Rec. Mixer (10.695MHz)	2200-004	LA-181-6914		
L5	Ref. Osc. (10.240MHz)	2200-005	LA-182-6924		
L6	IF (455kHz)	2200-002	LA-163-6015		
L7	IF (455kHz)	2200-006	LA-183-6925		
L8	IF (455kHz)	2200-007	LA-184-6925		
L9	RF Choke	2200-018			
L10	TVI Trap (54MHz)	2200-015			
L11	Antenna Match (27MHz)	2200-016			
L12	Final Amp (27MHz)	2200-020			
L13	RF Choke	2200-017			
L15	Xmit Driver (27MHz)	2200-015			
L16	Xmit Buffer (27MHz)	2200-012			
L17	Xmit Mixer (27MHz)	2200-008	LA-185-6934		
L18	Xmit Osc. (10.695MHz)	2200-013	LA-193-6914		
L20	VCO	2200-010			
L21	VCO (16MHz)	2200-011	LA-188-6924		
L22	RF Choke (100uH)	2200-204			
L23	RF Choke (1.5uH)	2200-201			
L24	PLL Osc. (36MHz)	2200-009	LA-186-6924		
L303	RF Choke	2200-019			
L304	RF Choke				
L305	RF Choke				
L307	RF Choke				
L309	RF Choke				
L311	RF Choke				
L312	RF Choke				
L313	RF Choke				
L314	RF Choke				
L315	RF Choke				

PRESIDENT MODEL ZACHARY T.

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	1.3A	.14	1.62mH	2300-002 TF-017 (1)	TR507	

(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	67	1 2 8 54	2600-001 TF-107 (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 @ 400mA AC	19.00V AC @ 2.48A AC	2600-002 TF-103 (1)			(1) Number on unit.

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP301	4" PM 8 ohms	3100-002		

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
F1	2A Fast Acting	1800-005		AGC2	150145	312002	HDJ	FG2-2
F2	1A Fast Acting	2800-002		AGC1	HKD	312001	341001AL	FG1-2

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
Mike	3200-001	18-032	18-034	18-010	18-092	2	1	3	4	NC	1

CRYSTALS

ITEM No.	CRYSTAL FREQUENCY IN MHz	MFGR. PART No.	CTS KNIGHTS PART No.	CHANNEL	ITEM No.	CRYSTAL FREQUENCY IN MHz	MFGR. PART No.	CTS KNIGHTS PART No.	CHANNEL
X1	10.695	2100-002	CC100W10695	Xmit Osc.	X3	36.570	2100-003		PLL Osc
X2	10.240	2100-001		Ref. Osc					

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
0301	LED	2000-306	Channel Display
0303	LED	2000-314	Transmit
M301	Meter	2900-004	S/R
S302	Switch	3000-002	ANL/Off
S304	Switch	3000-002	PA/CB
S305	Switch		Part of Volume Control (VR301)
S306	Switch	3000-101	Channel Selector
XF1	Filter	2200-304	10.7MHz
XF2	Filter	2200-302	455kHz
	Printed Circuit Board	3500-004	Main (PC-19BAA)
	Printed Circuit Board	3500-012	Power Supply (PC-191AA)
	Printed Circuit Board	3500-003	Mike Board (PC-181AA)
	Flexible Board	3500-011	Channel Selector (PC-210AA)

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

ITEM	PART No.	ITEM	PART No.
Panel, Front	3300-505	Knob, Channel Selector	1300-004
Chassis	3300-005	Push Knob	1300-003
Chassis, Front	3300-508	Knob, Volume/Squelch/Mike/RF	1300-002
Hanger, Microphone	3300-401	Digital Window	3400-102

WIRING DATA

General-use Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 13 Colors
	8524 (Stranded) Available in 13 Colors
Power Cord, 2-Wire	Use BELDEN No. 17106 (Plastic) -6 feet
Shielded Antenna Lead	Use BELDEN No. 8214 Lowest-loss (RG-8/U Type)
	8237 Low-loss (RG-8/U)
	8240 (Solid) Miniature (RG-58/U)
	8259 (Stranded) Miniature (RG-58A/U)
Coiled Microphone Cable	Use BELDEN No. 8497 3-Conductor (1 shielded for Press-to-Talk) Neoprene