



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 1000MC

PAGE MODEL 1000MC

MANUFACTURER'S SPECIFICATIONS

GENERAL:

Channels	23 (AM, USB & LSB)
Operating Voltage	12 V DC $\pm$ ground
Frequency Range	26.965 to 27.255 MHz
Microphone	Low impedance, Dynamic
Speaker	3" - 8 Ω
Antenna Impedance	50 Ω
Size	7-1/2" X 2-1/4" X 10"
Weight	10 pounds (with accessories)

RECEIVER:

Sensitivity	1 μ V for 10 dB $\frac{s+n}{n}$ (AM)
	0.5 μ V for 10 dB $\frac{s+n}{n}$ (SSB)
Selectivity	$\pm$ 2.1 kHz @ -6 dB
	$\pm$ 10 kHz @ -40 dB
Clarifier	$\pm$ 500 Hz
Squelch Range	1-500 μ V
Audio Output	3 W

TRANSMITTER:

Compliance	Type Number 42417, Part 95
Power Output	4 W (AM)
	12 W P.E.P. (SSB)
Harmonic Suppression	50 dB minimum
Carrier Suppression	40 dB minimum (SSB)
Unwanted Sideband Suppression	40 dB minimum (SSB)
AM Modulation	High Level Class B
SSB Generation	Balanced Modulator/Crystal Lattice Filter

Courtesy of the Manufacturer

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

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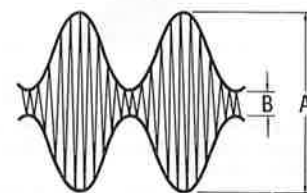
ALIGNMENT INSTRUCTIONS

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 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:

L3 thru L6, L601, T1, T102, T103, T104, T201, T202, T203, T301, T303 thru T308, T501.....9440
T101, L107.....8282, 9304, 8728, 8728A
L109, L112, T302.....9300, 9302, 9304
C101, C158, C152, C604.....5000, 8276



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

FIGURE 1

SYNTHESIZER ALIGNMENT

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Input of frequency counter to TP8 (PLL).	Ch. 19, AM Clarifier Midrange	L5	Preset R127, R128 and R130 to midrange. Adjust L5 for 10.000MHz. If necessary adjust R127 for correct frequency.
Input of frequency counter to TP8 (PLL).	Ch. 19, USB Clarifier Midrange	L6	Adjust for 9.9986955MHz.
Input of DC meter to TP6 (PLL).	Ch. 1, AM Clarifier Midrange	L3	Adjust for 3.00 volts. Check for approximate 1.90 volts on channel 40.
Input of frequency counter to TP9.	Ch. 1, AM	R127, R128, R130	Set Clarifier fully clockwise and adjust R130 for 19.1665MHz. Set Clarifier fully counterclockwise and adjust R128 for 19.1640MHz. Set Clarifier to midrange and adjust R127 for 19.1650MHz. Repeat until no further improvement is noted.
Input of oscilloscope to TP10 (Q6 gate 2).	Ch. 19, AM	T1	Adjust for maximum RF.
Input of frequency counter to TP10 (Q6 gate 2).	Ch. 19, AM		Check for 20.0000MHz.
Input of frequency counter to TP10 (Q6 gate 2).	Ch. 19, USB		Check for 19.99739MHz.
Input of frequency counter to TP7.	Ch. 1, AM		Check for .835MHz. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to TP7.	Ch. 1, LSB		Check for .83489MHz. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to TP7.	Ch. 1, USB		Check for .82989MHz. Check all channels. (See Truth Chart for correct frequencies.)
Input of oscilloscope to TP9.	Ch. 19, AM	L4	Adjust for maximum RF.

SYNTHESIZER ALIGNMENT (Continued)

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Input of frequency counter to TP9.	Ch. 1, AM		Check for 19.1650MHz. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to TP9.	Ch. 1, LSB		Check for 19.1625MHz. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to TP9.	Ch. 1, USB		Check for 19.1675MHz. Check all channels. See Truth Chart for correct frequencies.)
Input of oscilloscope to TP1 (Main Board).	Ch. 19, AM	T104	Adjust for maximum RF.
Input of frequency counter to TP5 (Main Board).	Ch. 19, LSB	C604	Adjust for 7.8025MHz.
Input of frequency counter to TP5 (Main Board).	Ch. 19, USB	L601	Adjust for 7.7975MHz.
Input of frequency counter to antenna input.	Ch. 19, AM XMT	R131	Adjust for 27.185MHz.

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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.
Clarifier Midrange, RF Gain Maximum, Squelch MINIMUM, NB Off.

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to TP14. 7.8MHz, 1000Hz @ 30% modulation.	Ch. 19, AM	T307, T306, T305, T308, T304, T303	Adjust for maximum output.
Output of signal generator thru .01uF to antenna input. 27.185MHz, 1000Hz @ 30% modulation.	Ch. 19, AM	T302, T301	Adjust for maximum output.
Output of signal generator thru .01uF to antenna input. 27.185MHz, 1000Hz @ 30% modulation. Input of oscilloscope to TP12 (Q17 base).	Ch. 19, AM	T201, T202, T203	Set generator output for 10db signal to noise plus noise level of receiver. Inject a 100pps, 1usec pulse width signal at antenna input. Switch Noise Blanker to on and adjust for maximum pulse amplitude.

RECEIVER ADJUSTMENTS

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

Clarifier Midrange, RF Gain Maximum, Squelch MINIMUM, NB Off.

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Input of DC meter to TP4. No signal input.	Ch. 19, AM	R338	AGC Adjust for 1.50 volts.
Output of signal generator thru .01uF to antenna input. 27.185MHz, 1000Hz @ 30% modulation. Output 500uV.	Ch. 19, AM Squelch Maximum	R701	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	R421	AM S METER Adjust for 9 on S scale of meter.
Output of signal generator thru .01uF to antenna input. 27.186MHz, no modulation. Output 100uV.	Ch. 19, USB	R420	SSB S METER Adjust for 9 on S scale of meter.
Input of DC meter to TP11 (Junction of T308 and R315). No signal input.	Ch. 19, AM NB On	R315	NOISE BLANKER SWITCH BIAS Adjust for 6.60 volts.

TRANSMITTER ALIGNMENT

Connect 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, AM	T103, T102, T101, L112	Adjust for maximum RF output.
Input of RF wattmeter to antenna input.	Ch. 19, AM	L109, L107	Adjust for 4.0 watts RF output maximum.
Input of RF wattmeter to antenna input. Inject a 1000Hz, 20mV signal at mic input.	Ch. 19, USB	T501	Adjust for maximum RF output.
Input of oscilloscope and output of signal generator to TP13 (Q4 collector). 15.600MHz, no modulation.	Off	C158	Adjust for MINIMUM at 15.600MHz.
Input of spectrum analyzer or harmonic meter to antenna input.	Ch. 19, AM	C101	Adjust for MINIMUM at 54MHz (2nd harmonic).

TRANSMITTER ADJUSTMENTS

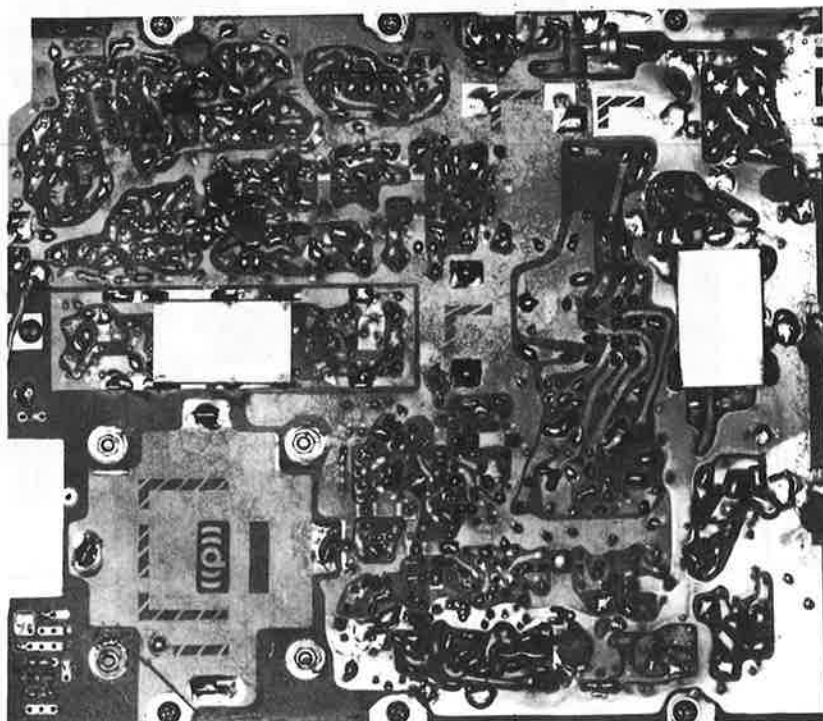
Connect 50-ohm, 25-watt dummy load to antenna connector.

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

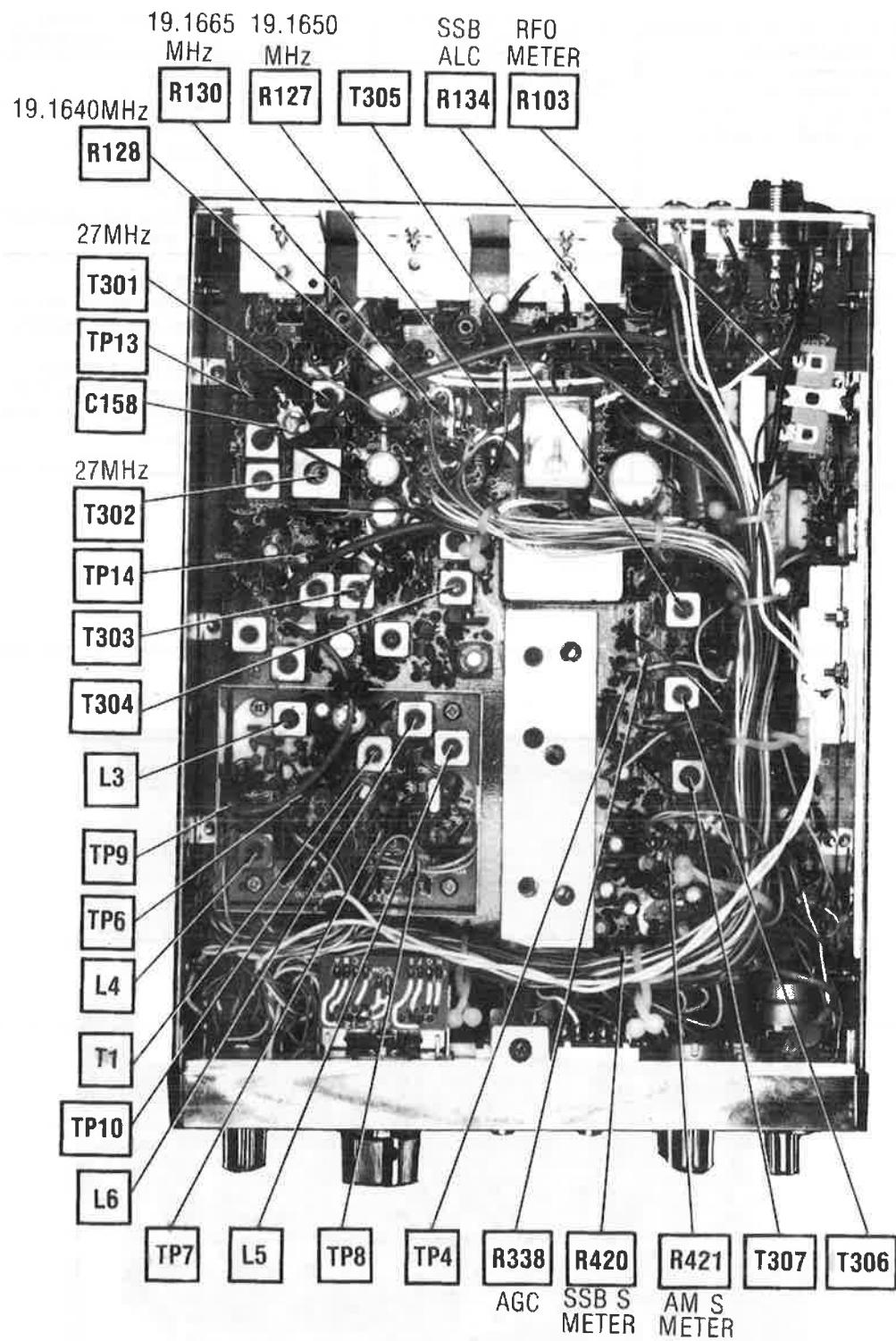
See page 4 for channel frequencies.

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Input of oscilloscope or modulation meter to antenna input. Inject a 1000Hz, 20mV signal at mic input.	Ch. 19, AM	R521	AM AMC Adjust for 100% modulation maximum. (See figure 1.)
Input of RF wattmeter to antenna input. Inject a 1000Hz, 20mV signal at mic input.	Ch. 19, USB	R134	SSB ALC Adjust for 12.0 watts peak RF output.
Input of RF wattmeter to antenna input.	Ch. 19, AM	R103	RFO METER Adjust so RF meter agrees with RF wattmeter.
Input of RF wattmeter to antenna input. No signal input.	Ch. 19, USB	R515,C512	CARRIER BALANCE Adjust for MINIMUM RF output with no modulation input.

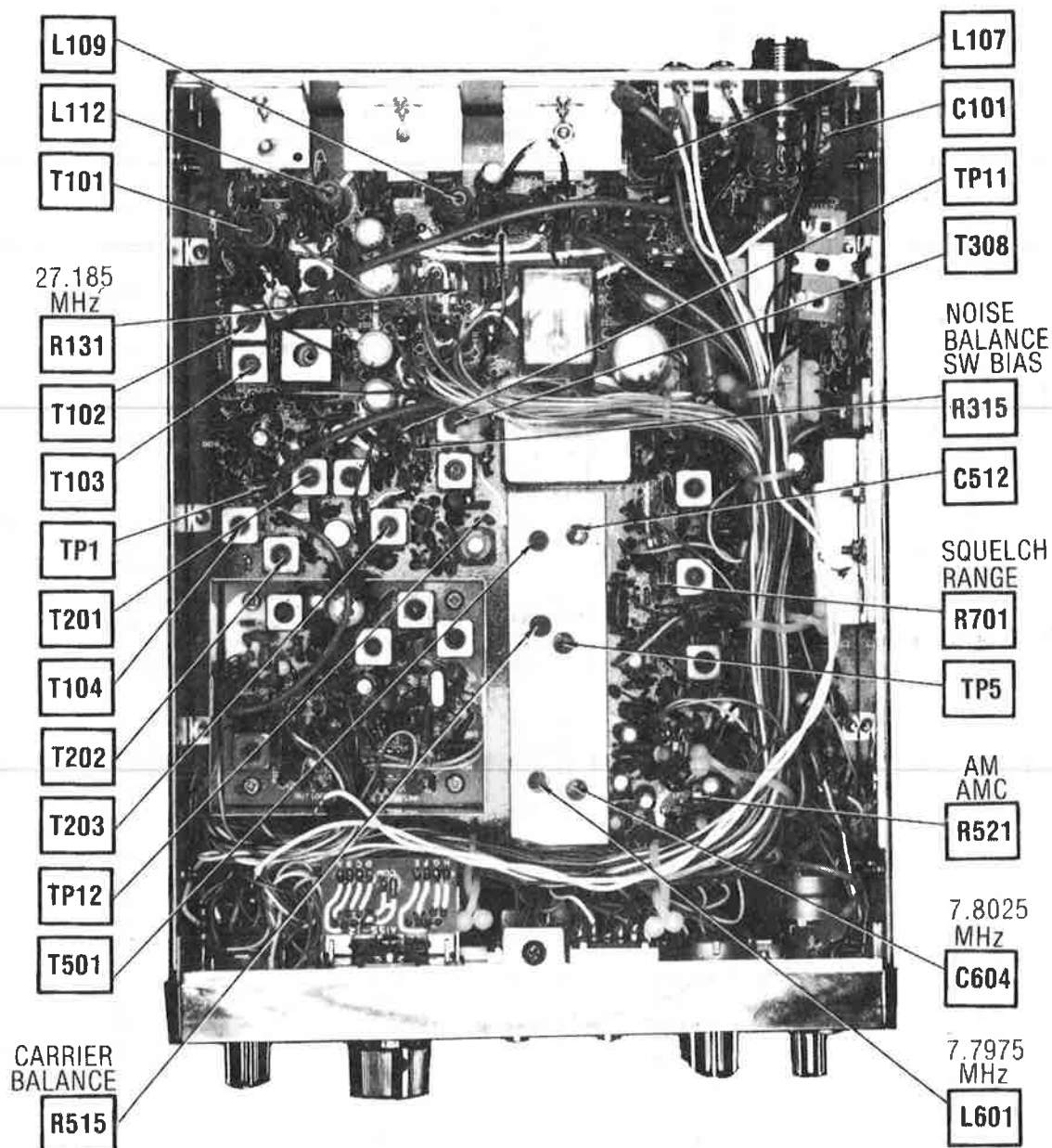
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SHIELD LOCATION



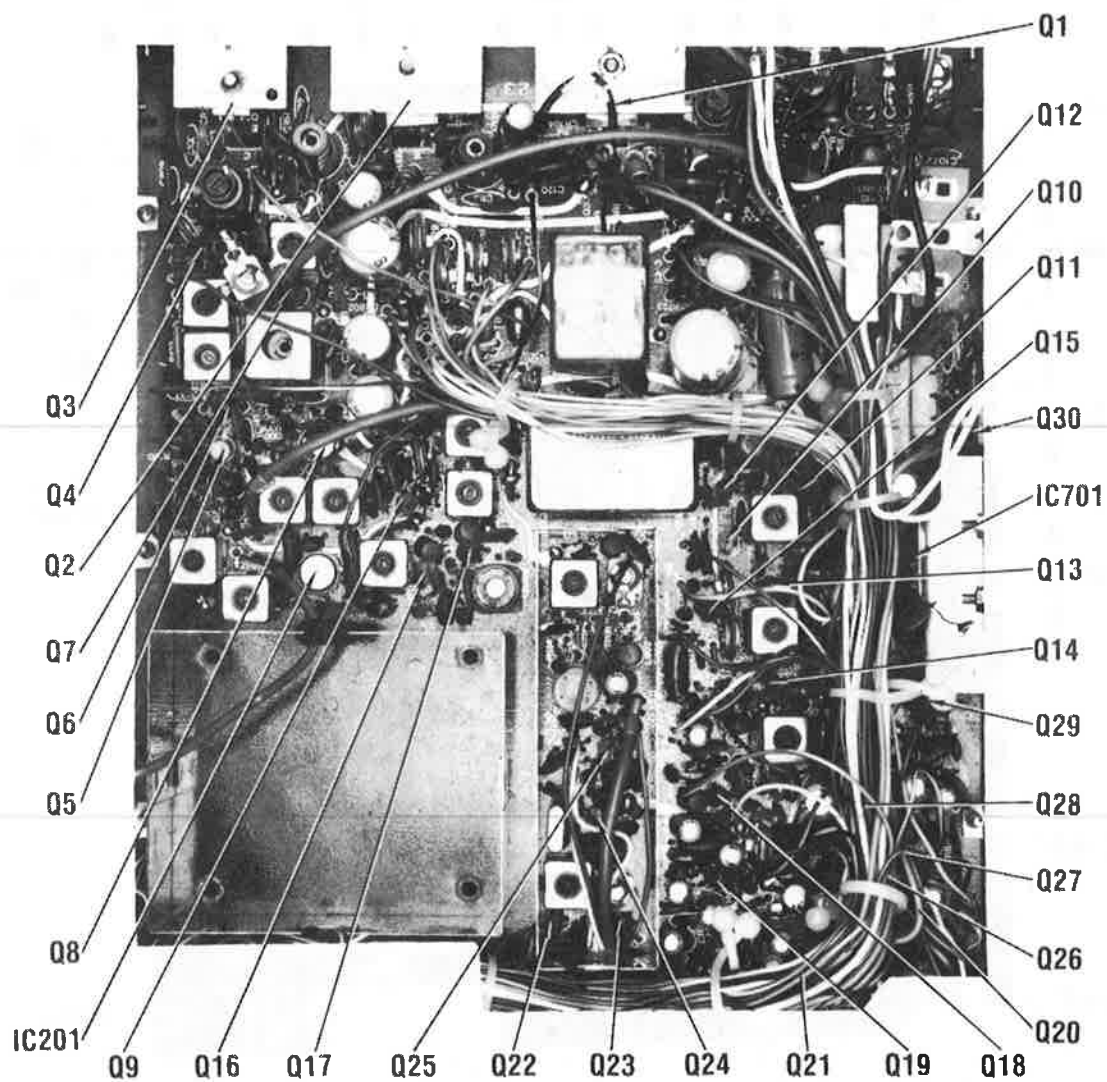
CHASSIS - BOTTOM



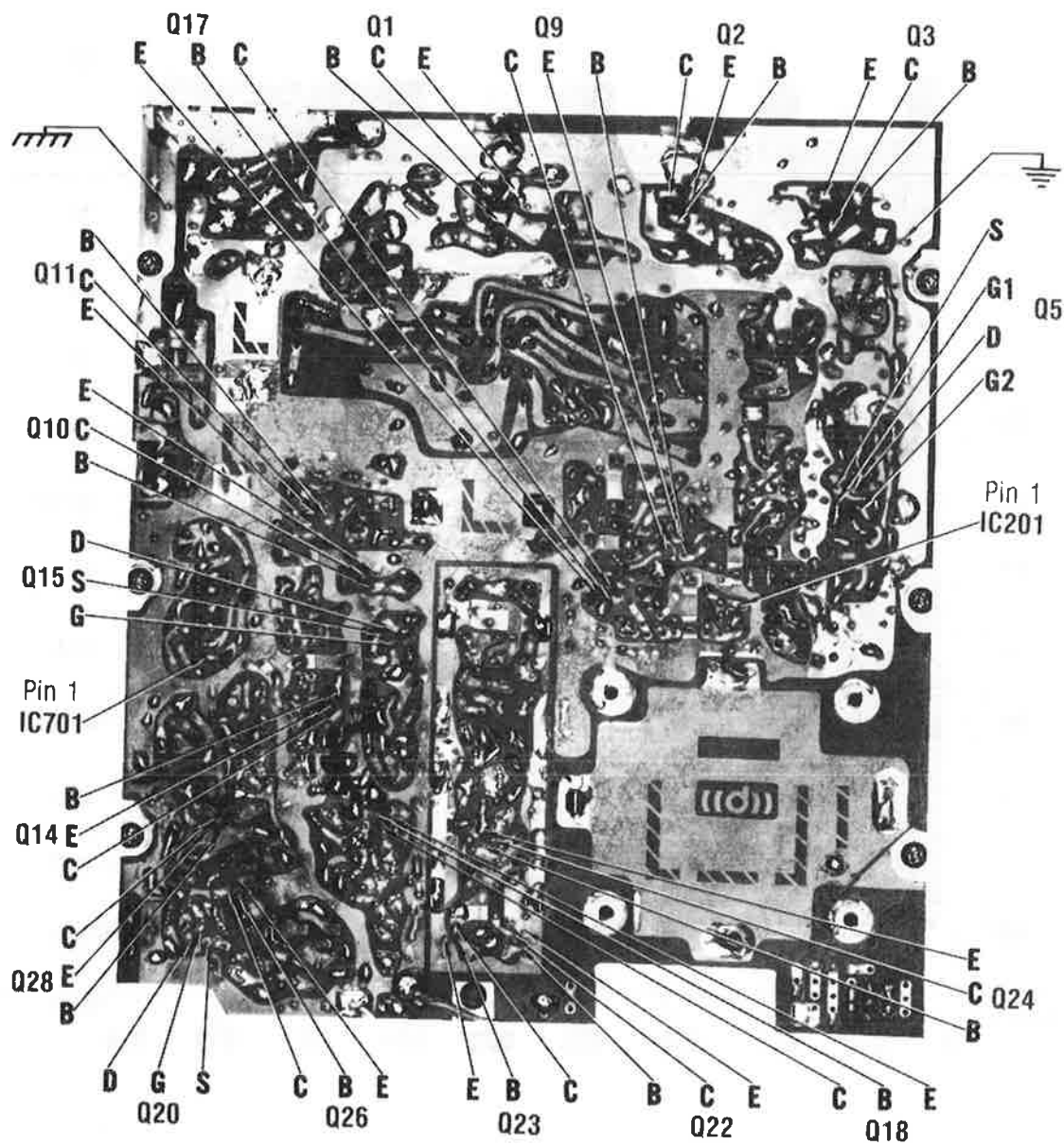
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TRUTH CHART

CHANNEL	1 = 5.03 Volts 0 = 0 Volts IC2 PROGRAM DIVIDER							TP9 (PLL) VCO OUTPUT IN MHz AM (XMT) LSB IN MHz AM (Rec)	TP9 (PLL) VCO OUTPUT IN MHz AM (XMT) LSB (Rec & XMT)	TP9 (PLL) VCO OUTPUT IN MHz USB (Rec & XMT)	AM DIVIDER INPUT IN MHz @ TP7 (PLL)	LSB DIVIDER INPUT IN MHz @ TP7 (PLL)	USB DIVIDER INPUT IN MHz @ TP7 (PLL)
	PINS												
	8	9	10	11	12	13	14						
1	1	0	1	0	0	1	1	19.165	19.1625	19.1675	.835	.83489	.82989
2	1	0	1	0	0	1	0	19.175	19.1725	19.1775	.825	.82489	.81989
3	1	0	1	0	0	0	1	19.185	19.1825	19.1875	.815	.81489	.80989
4	1	0	0	1	1	1	1	19.205	19.2025	19.2075	.795	.79489	.78989
5	1	0	0	1	1	1	0	19.215	19.2125	19.2175	.785	.78489	.77989
6	1	0	0	1	1	0	1	19.225	19.2225	19.2275	.775	.77489	.76989
7	1	0	0	1	1	0	0	19.235	19.2325	19.2375	.765	.76489	.75989
8	1	0	0	1	0	1	0	19.255	19.2525	19.2575	.745	.74489	.73989
9	1	0	0	1	0	0	1	19.265	19.2625	19.2675	.735	.73489	.72989
10	1	0	0	1	0	0	0	19.275	19.2725	19.2775	.725	.72489	.71989
11	1	0	0	0	1	1	1	19.285	19.2825	19.2875	.715	.71489	.70989
12	1	0	0	0	1	0	1	19.305	19.3025	19.3075	.695	.69489	.68989
13	1	0	0	0	1	0	0	19.315	19.3125	19.3175	.685	.68489	.67989
14	1	0	0	0	0	1	1	19.325	19.3225	19.3275	.675	.67489	.66989
15	1	0	0	0	0	1	0	19.335	19.3325	19.3375	.665	.66489	.65989
16	1	0	0	0	0	0	0	19.355	19.3525	19.3575	.645	.64489	.63989
17	0	1	1	1	1	1	1	19.365	19.3625	19.3675	.635	.63489	.62989
18	0	1	1	1	1	1	0	19.375	19.3725	19.3775	.625	.62489	.61989
19	0	1	1	1	1	0	1	19.385	19.3825	19.3875	.615	.61489	.60989
20	0	1	1	1	0	1	1	19.405	19.4025	19.4075	.595	.59489	.58989
21	0	1	1	1	0	1	0	19.415	19.4125	19.4175	.585	.58489	.57989
22	0	1	1	1	0	0	1	19.425	19.4225	19.4275	.575	.57489	.56989
23	0	1	1	0	1	1	0	19.455	19.4525	19.4575	.545	.54489	.53989
24	0	1	1	1	0	0	0	19.435	19.4325	19.4375	.565	.56489	.55989
25	0	1	1	0	1	1	1	19.445	19.4425	19.4475	.555	.55489	.54989
26	0	1	1	0	1	0	1	19.465	19.4625	19.4675	.535	.53489	.52989
27	0	1	1	0	1	0	0	19.475	19.4725	19.4775	.525	.52489	.51989
28	0	1	1	0	0	1	1	19.485	19.4825	19.4875	.515	.51489	.50989
29	0	1	1	0	0	1	0	19.495	19.4925	19.4975	.505	.50489	.49989
30	0	1	1	0	0	0	1	19.505	19.5025	19.5075	.495	.49489	.48989
31	0	1	1	0	0	0	0	19.515	19.5125	19.5175	.485	.48489	.47989
32	0	1	0	1	1	1	1	19.525	19.5225	19.5275	.475	.47489	.46989
33	0	1	0	1	1	1	0	19.535	19.5325	19.5375	.465	.46489	.45989
34	0	1	0	1	1	0	1	19.545	19.5425	19.5475	.455	.45489	.44989
35	0	1	0	1	1	0	0	19.555	19.5525	19.5575	.445	.44489	.43989
36	0	1	0	1	0	1	1	19.565	19.5625	19.5675	.435	.43489	.42989
37	0	1	0	1	0	1	0	19.575	19.5725	19.5775	.425	.42489	.41989
38	0	1	0	1	0	0	1	19.585	19.5825	19.5875	.415	.41489	.40989
39	0	1	0	1	0	0	0	19.595	19.5925	19.5975	.405	.40489	.39989
40	0	1	0	1	1	1	1	19.605	19.6025	19.6075	.395	.39489	.38989

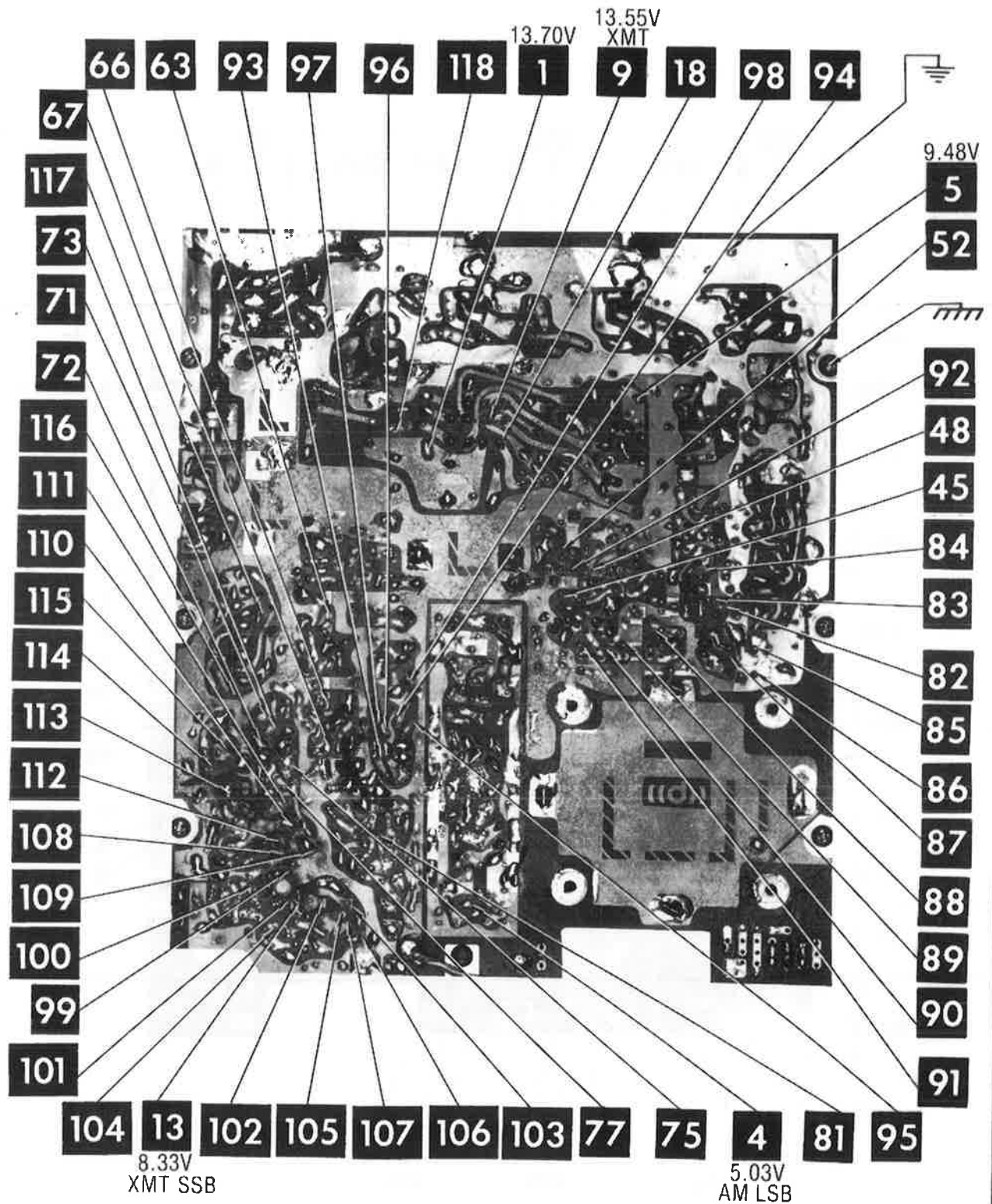


MA IN BOARD

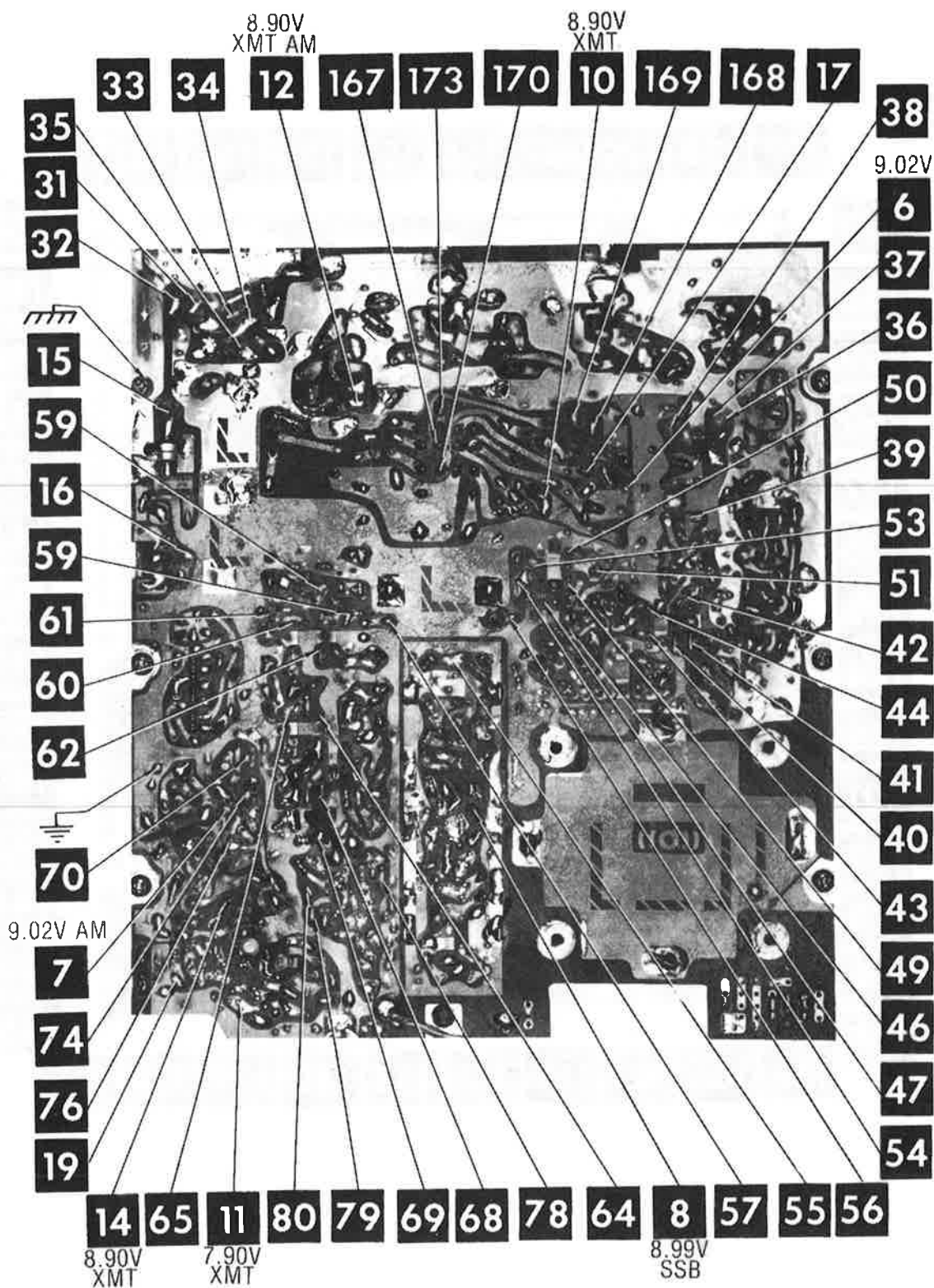


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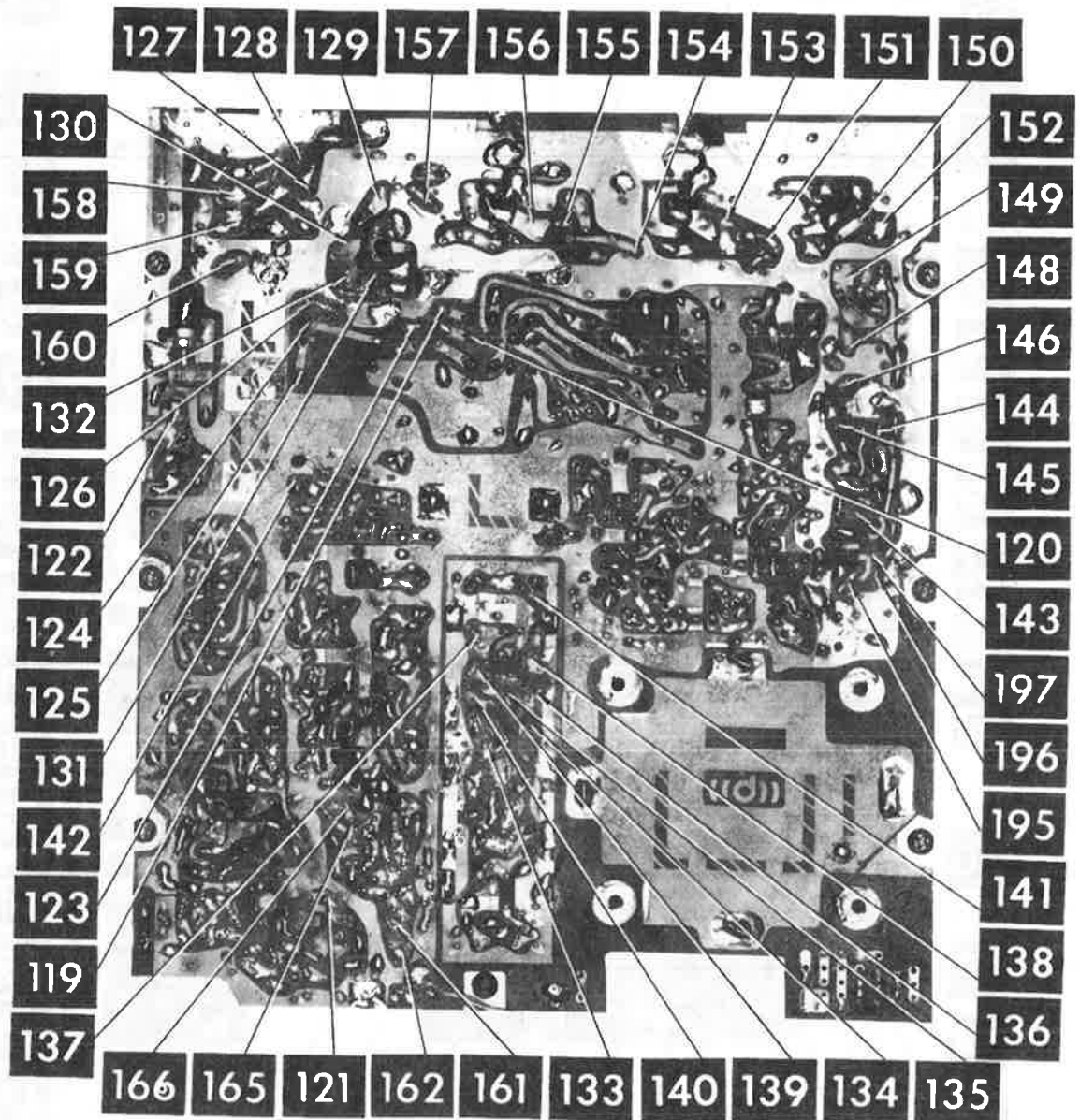


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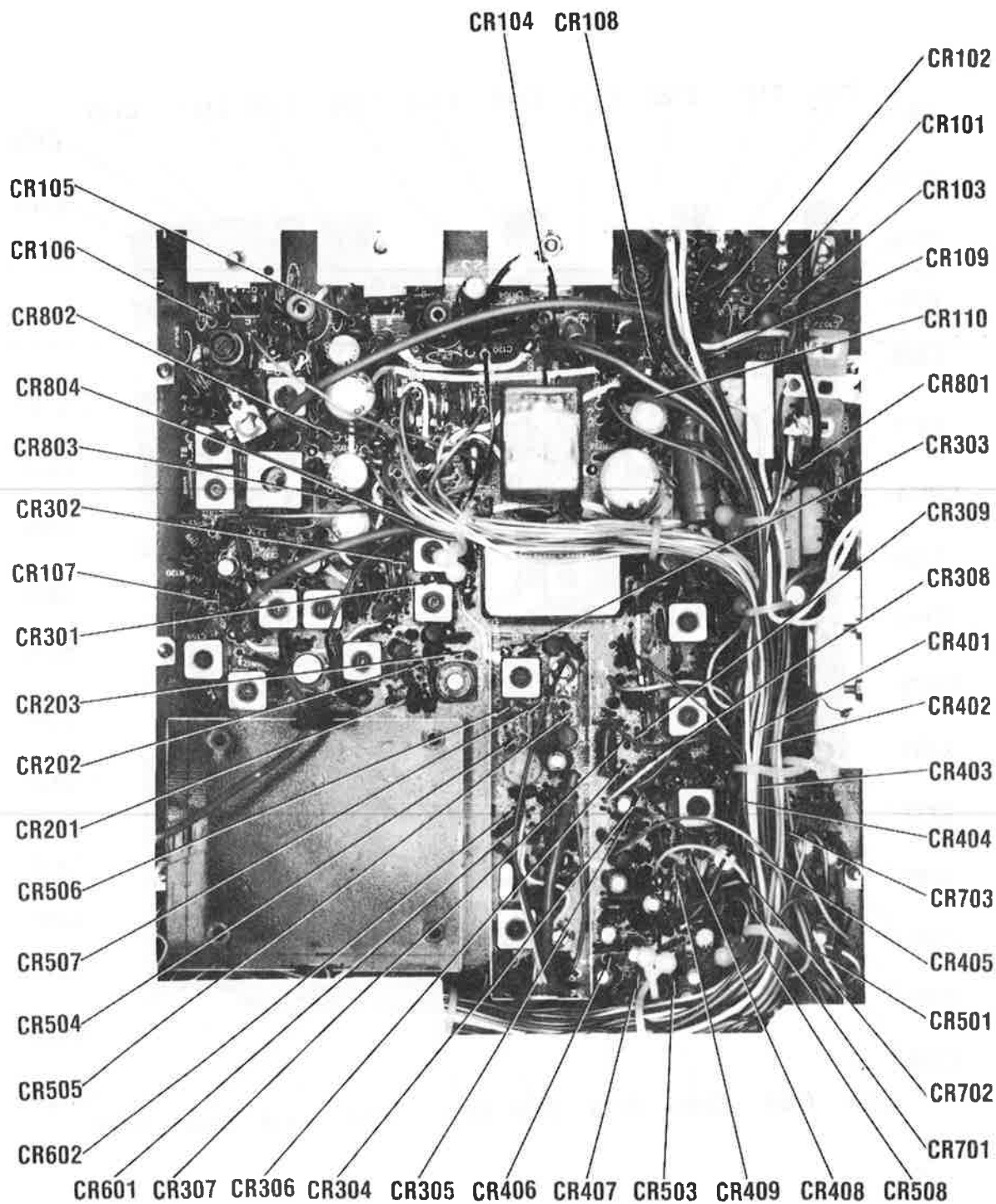


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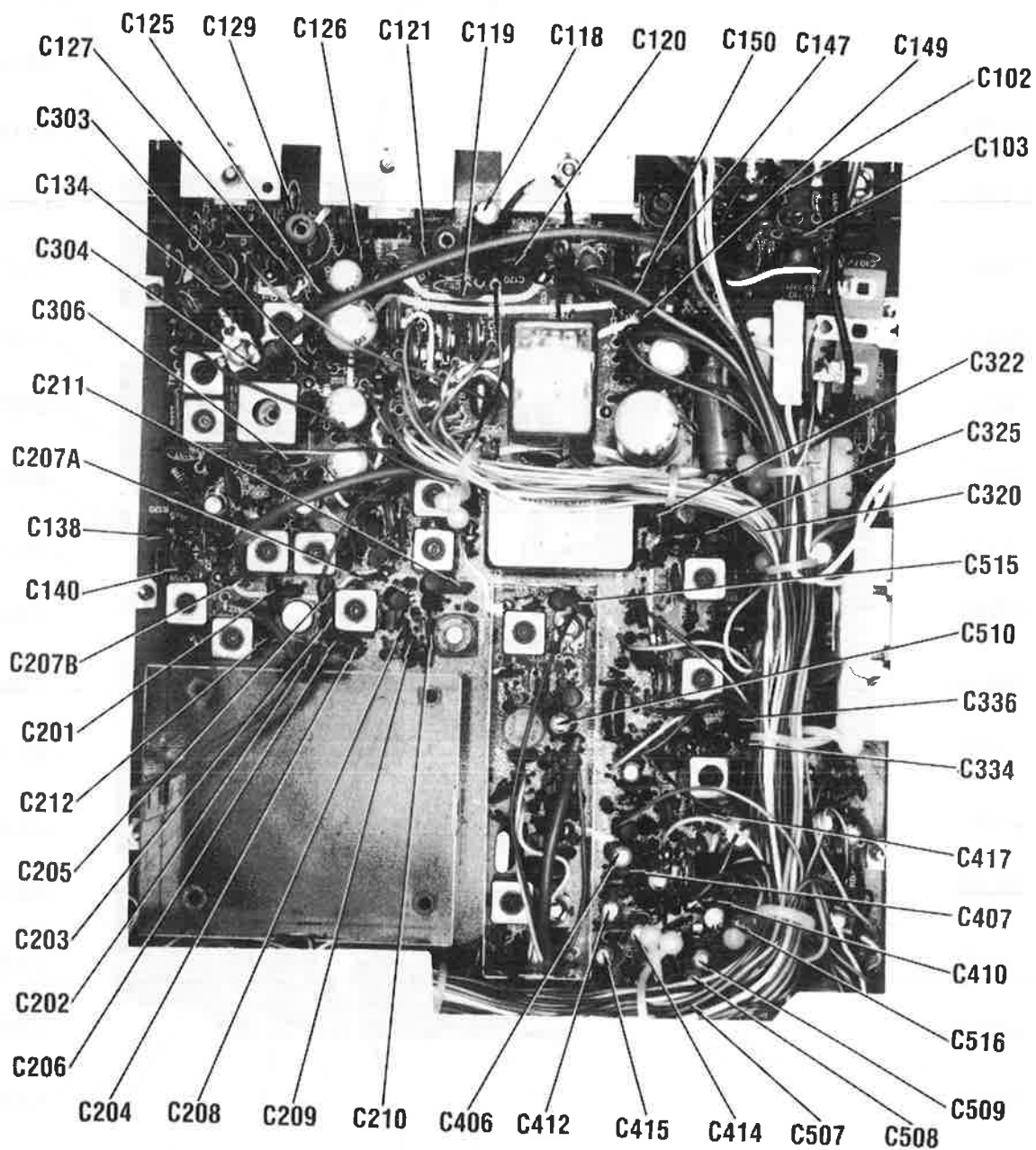


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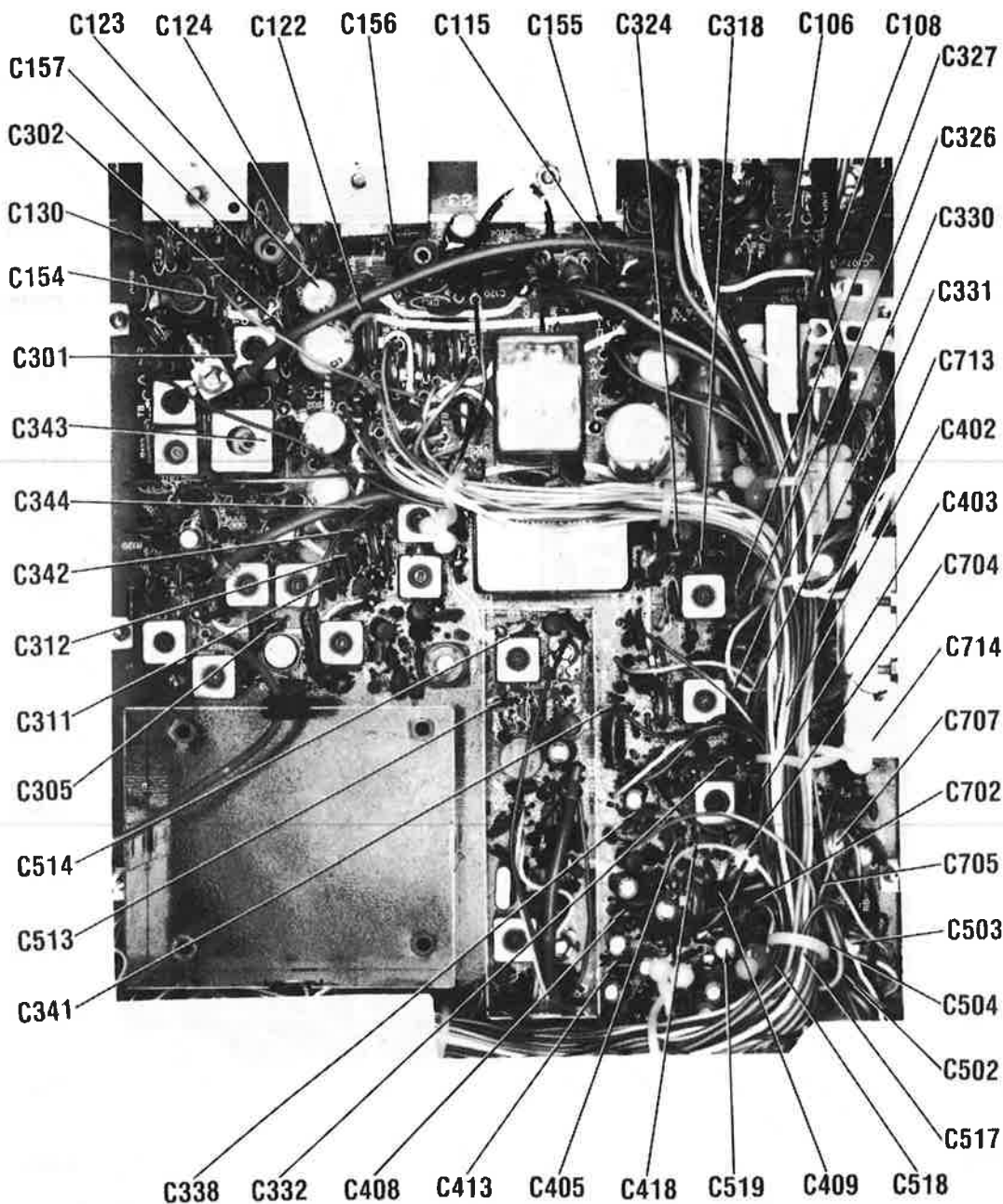


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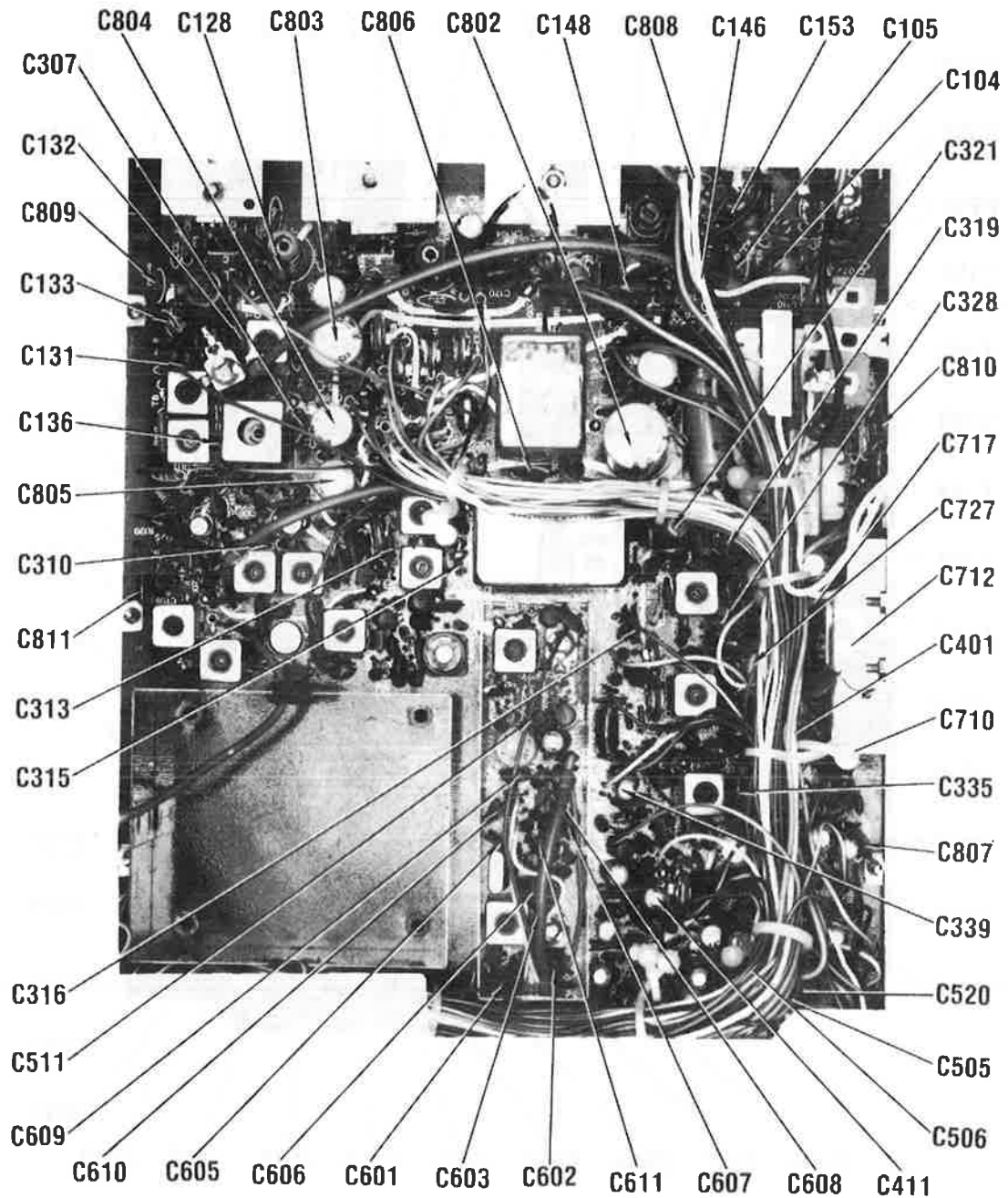
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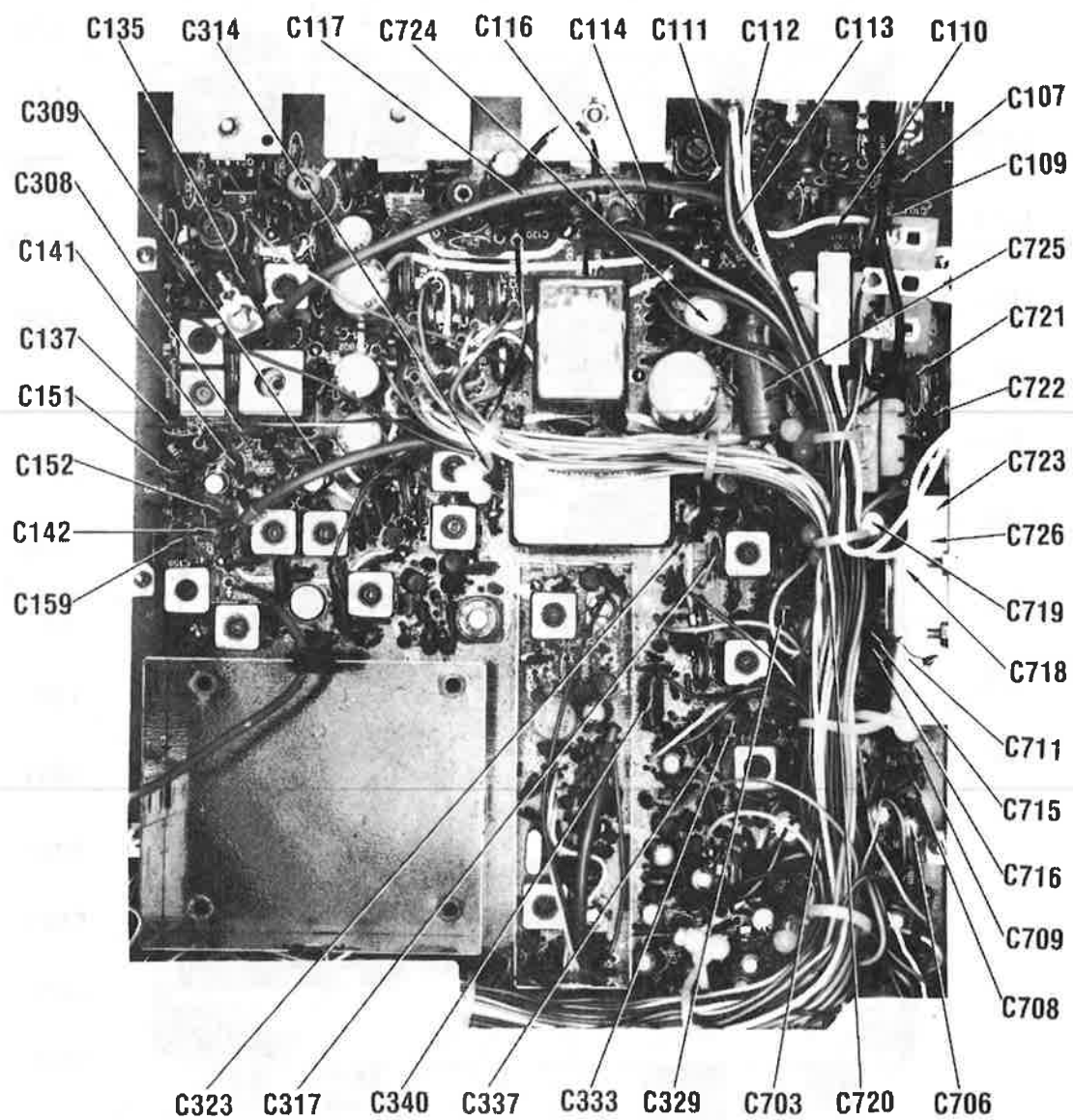
MAIN BOARD



MAIN BOARD

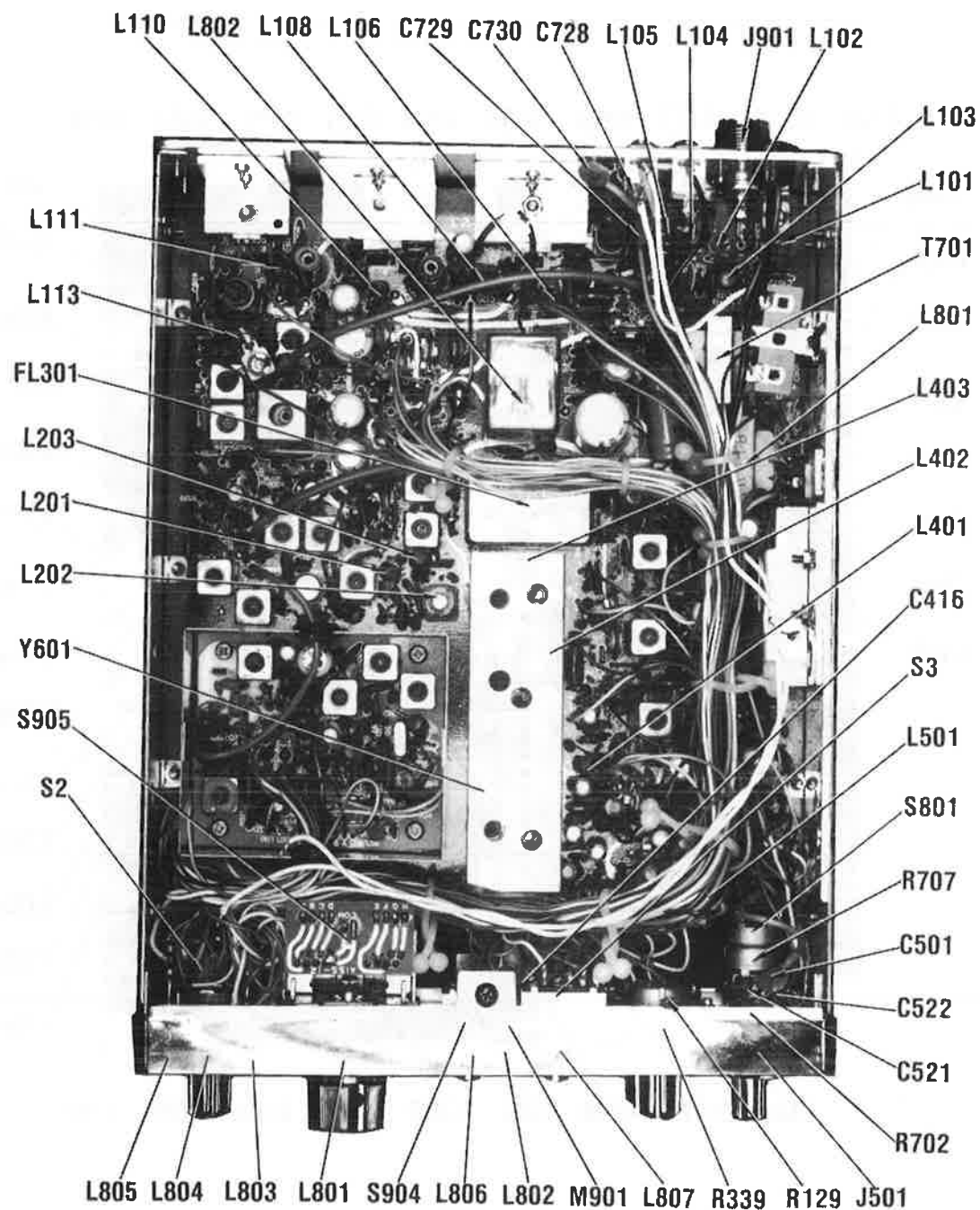


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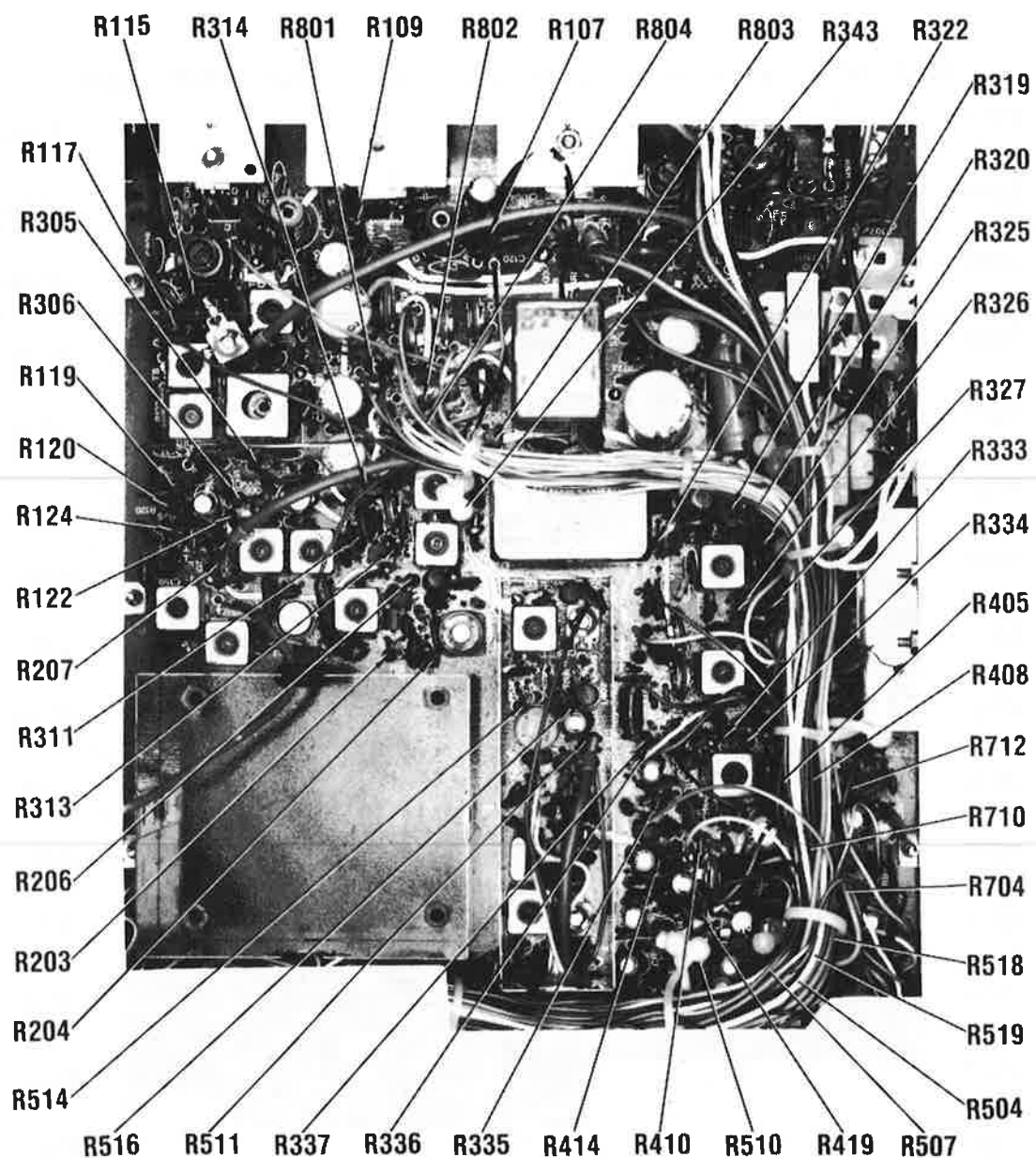


PACE MODEL 1000MC

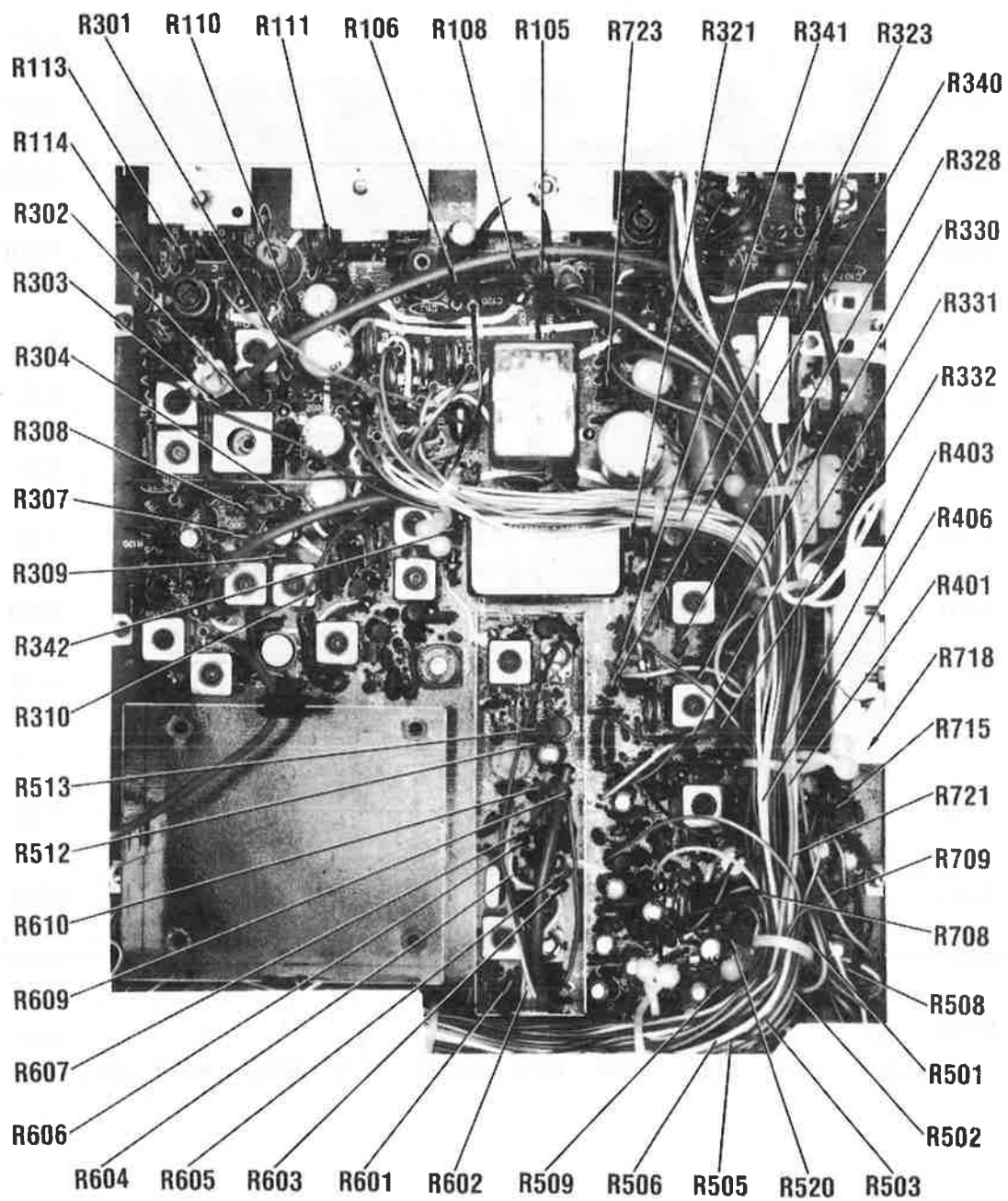
MA IN BOARD



CHASSIS-BOTTOM

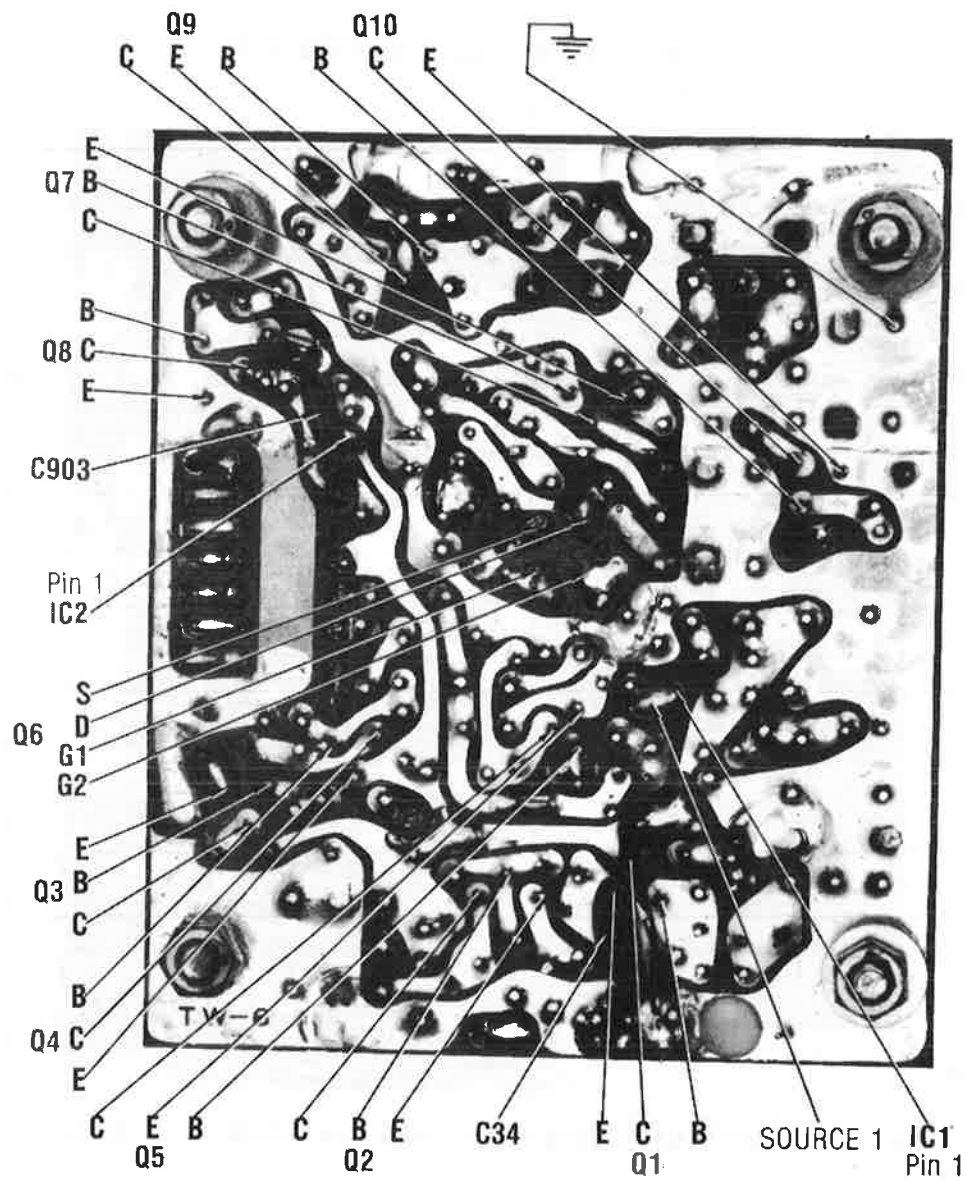


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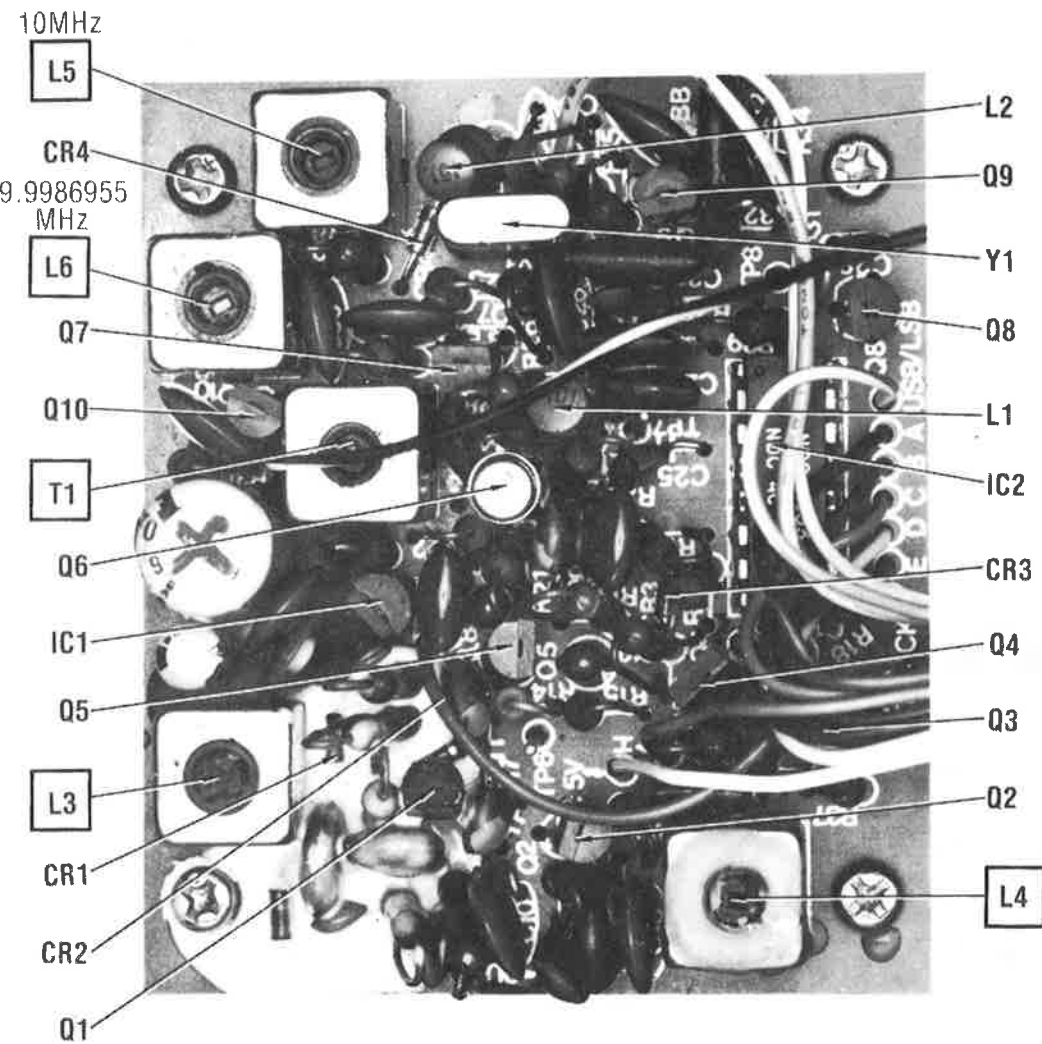


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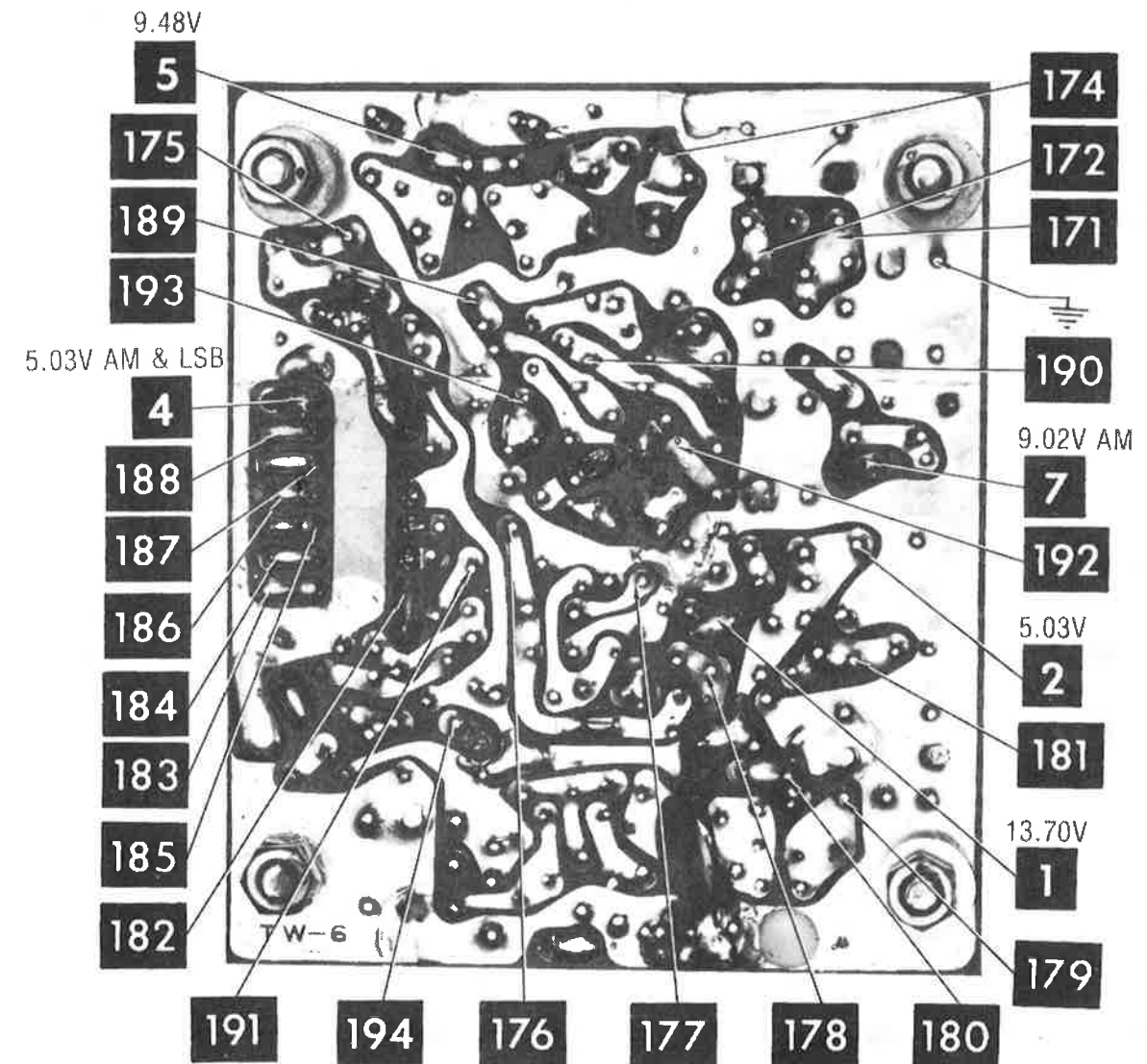




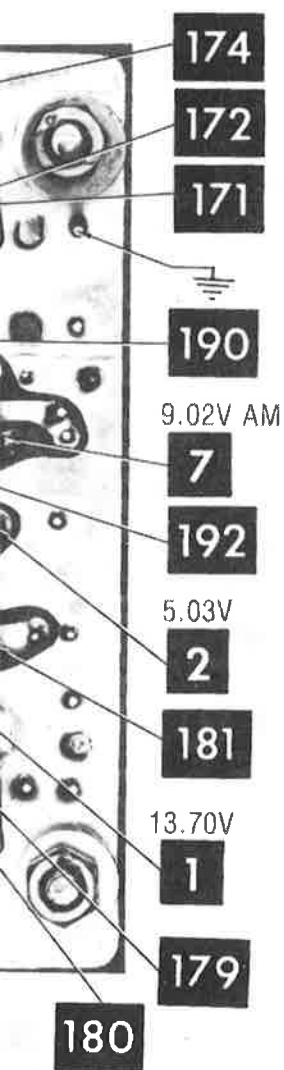
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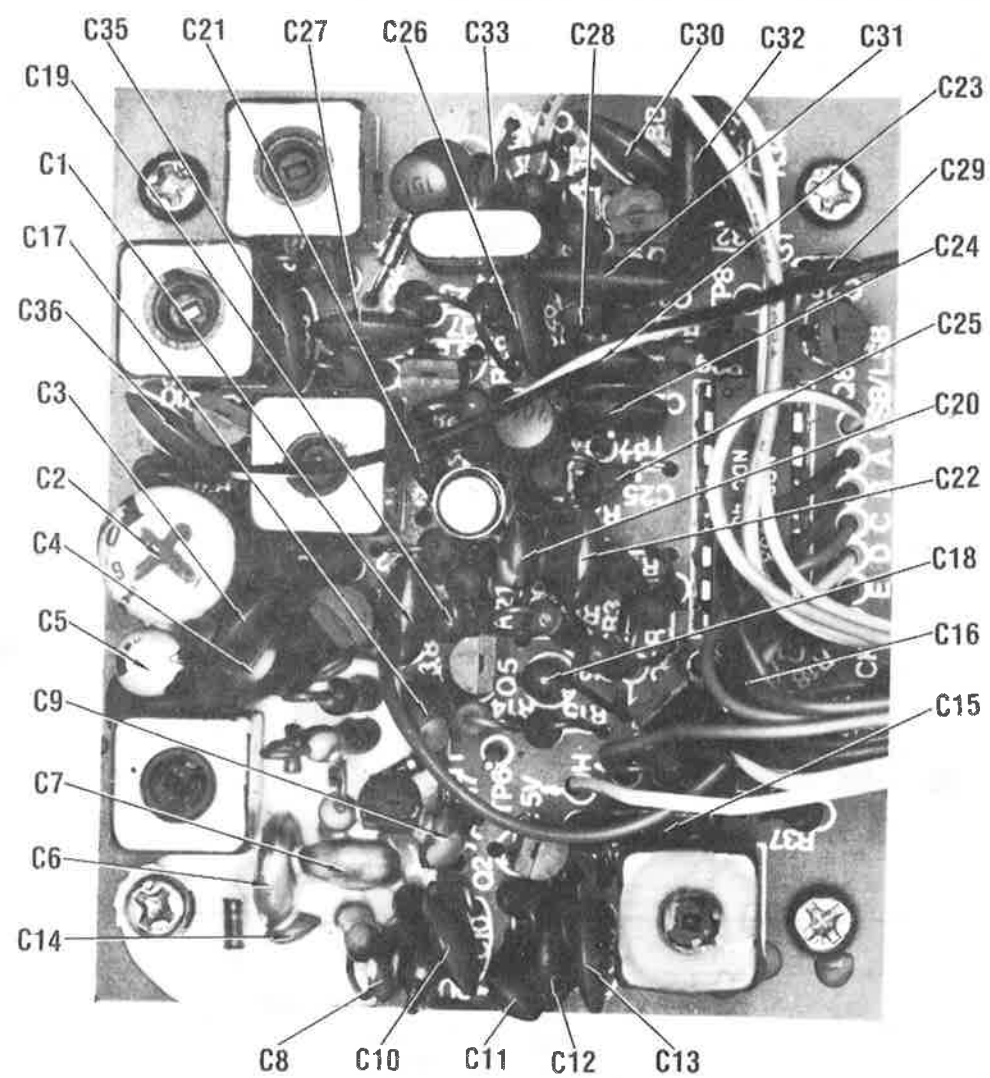
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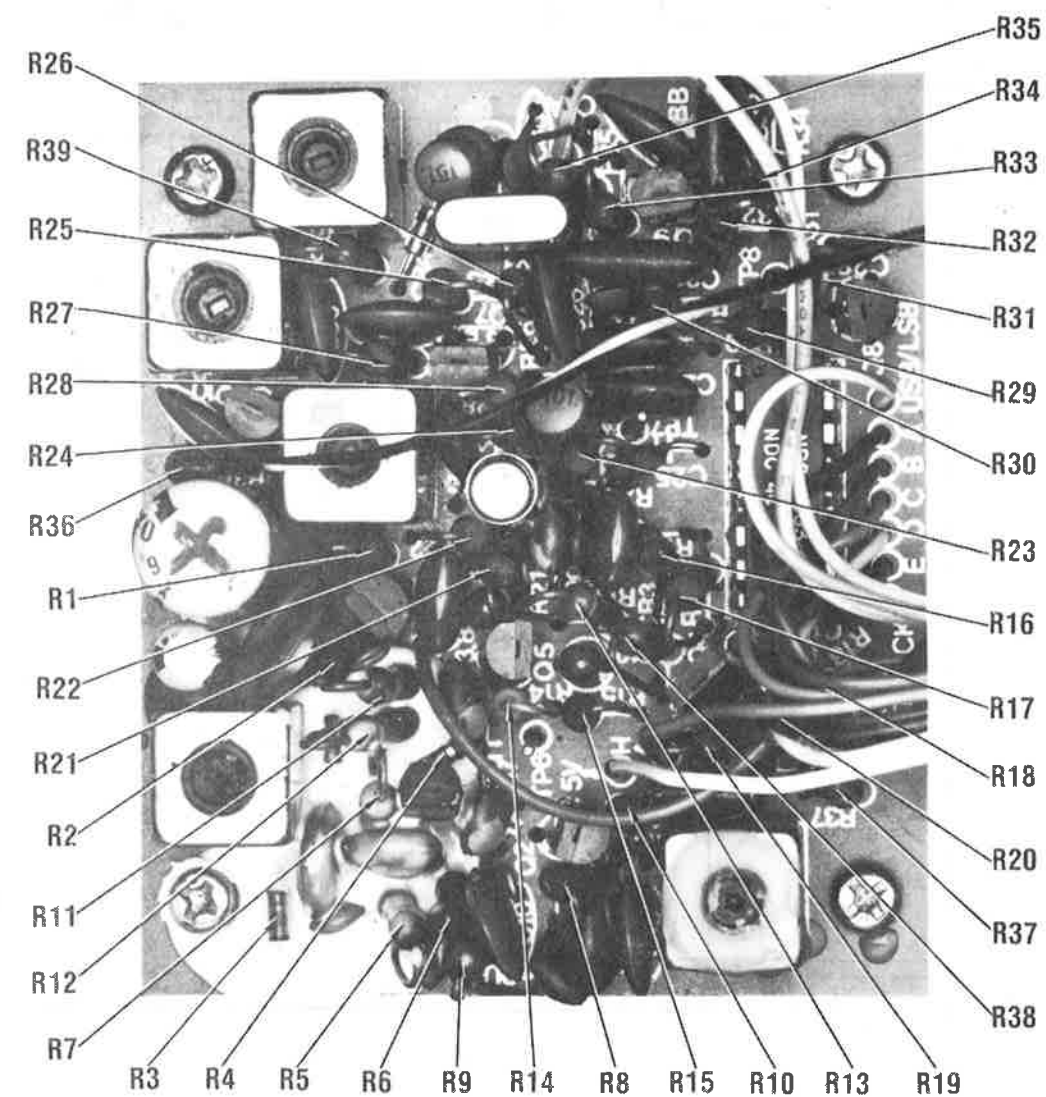
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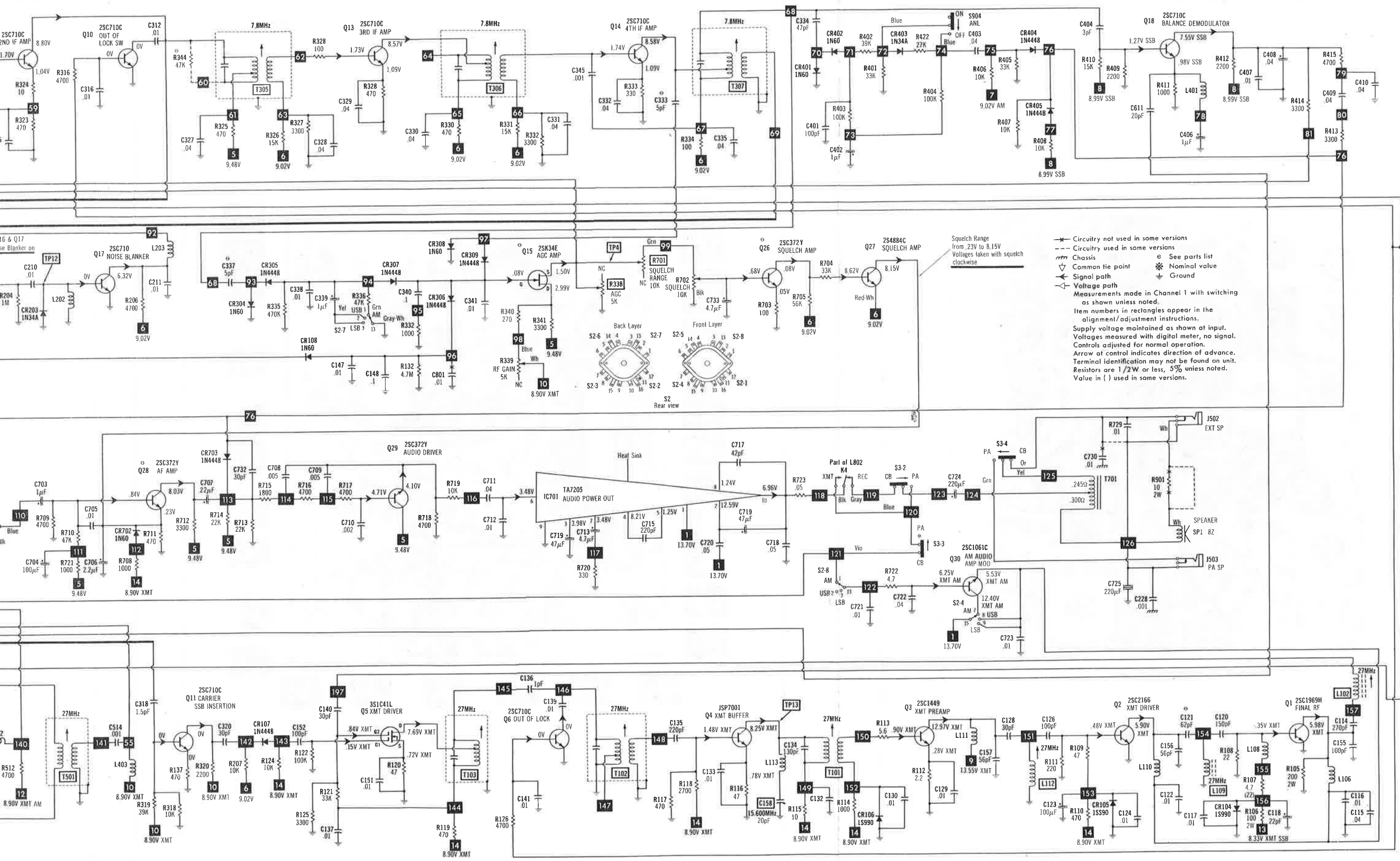
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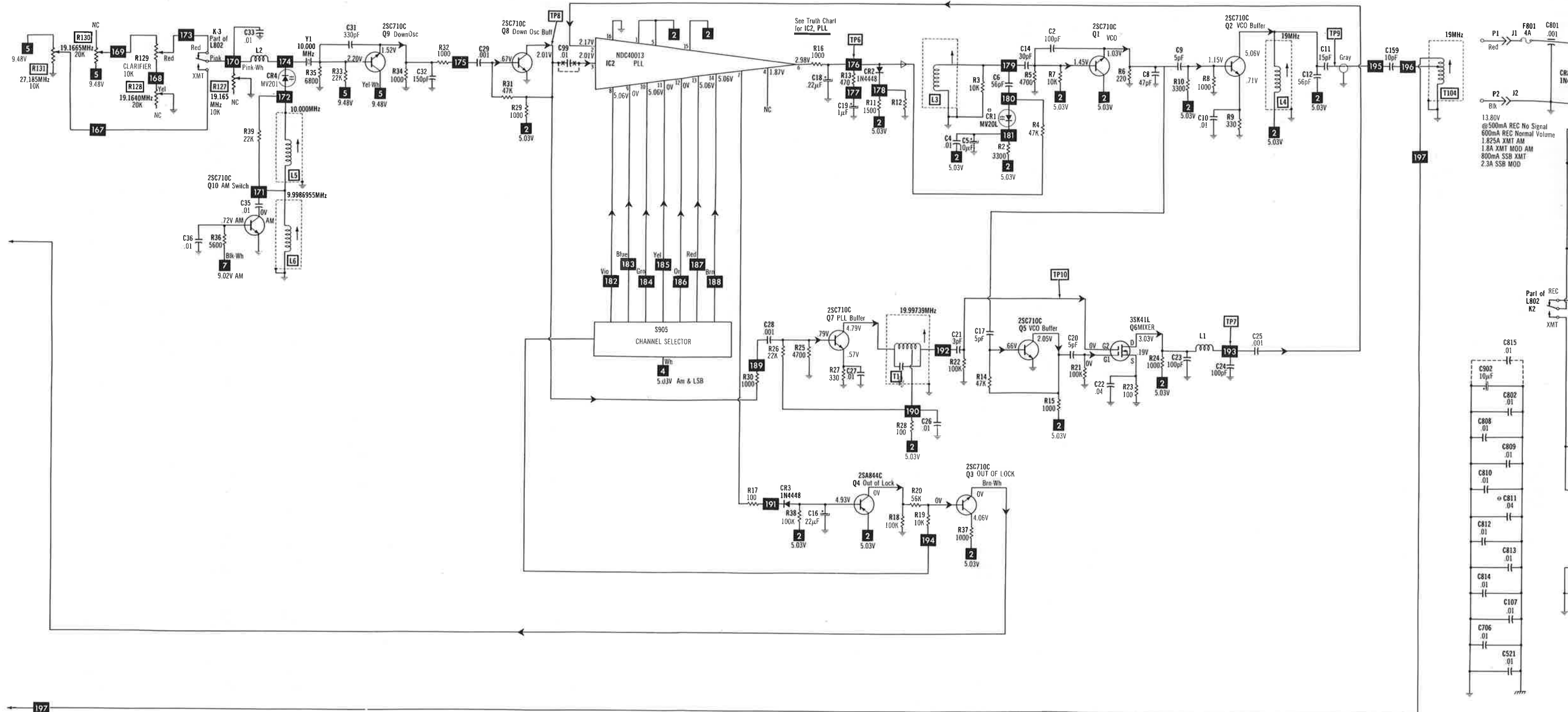


PLL BOARD



PLL BOARD





* Circuitry not used in some versions
 --- Circuitry used in some versions
 See parts list
 * Nominal value
 Ground
 Chassis
 A PHOTOFACT STANDARD NOTATION SCHEMATIC
 WITH **CIRCUITRACE**
 © Howard W. Sams & Co., Inc. 1978

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.

PLL SCHEMATIC



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)	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)	BELDEN No. 8415 (6')
	(9') BELDEN No. 17109	5-conductor (1 shielded)	BELDEN No. 9467 (6')
			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.
MAIN BOARD												
CR101	10D4	IP20-0022	GE-504A	PTC201	HEPR0053	REN 116	SK3312	RT-214	ECG116	TM116	WEP157	212-76-02
CR102	10D4	IP20-0022	GE-504A	PTC201	HEPR0053	REN 116	SK3312	RT-214	ECG116	TM116	WEP157	212-76-02
CR103	1N60	IP20-0060	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
CR104	1S990	IP20-0018	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
CR105	1S990	IP20-0018	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
CR106	1S990	IP20-0018	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
CR107	1N4448	IP20-0216	GE-514	PTC214	HEPR9137	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
CR108	1N60	IP20-0060	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
CR109	1N60	IP20-0060	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
CR110	1N4448	IP20-0216	GE-514	PTC214	HEPR9137	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
CR201	1N60	IP20-0060	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
CR202	1N60	IP20-0060	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
CR203	1N34A	IP20-0015	1N34AS	PTC207	HEPR9134A	REN 109	SK3087	RT-200	ECG109	TM109/**	WEP134	103-29001
CR301	1N60P	IP20-0016	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
CR302	1N60P	IP20-0016	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
CR303	1N60P	IP20-0016	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
CR304	1N60	IP20-0060	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
CR305	1N4448	IP20-0216	GE-514	PTC214	HEPR9137	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
CR306	1N4448	IP20-0216	GE-514	PTC214	HEPR9137	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
CR307	1N4448	IP20-0216	GE-514	PTC214	HEPR9137	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
CR308	1N60	IP20-0060	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
CR309	1N4448	IP20-0216	GE-514	PTC214	HEPR9137	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
CR401	1N60	IP20-0060	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
CR402	1N60	IP20-0060	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
CR403	1N34A	IP20-0015	1N34AS	PTC207	HEPR9134A	REN 109	SK3087	RT-200	ECG109	TM109/**	WEP134	103-29001
CR404	1N4448	IP20-0216	GE-514	PTC214	HEPR9137	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
CR405	1N4448	IP20-0216	GE-514	PTC214	HEPR9137	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
CR406	1N60	IP20-0060	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
CR407	1N60	IP20-0060	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
CR408	1N60	IP20-0060	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
CR409	1N60	IP20-0060	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
CR501	1N60	IP20-0060	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
CR503	1N4448	IP20-0216	GE-514	PTC214	HEPR9137	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
CR504	1N60P	IP20-0016	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
CR506	1N60P	IP20-0016	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
CR507	1N60P	IP20-0016	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
CR508	1N60	IP20-0060	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
CR601	1N4448	IP20-0216	GE-514	PTC214	HEPR9137	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
CR602	1N4448	IP20-0216	GE-514	PTC214	HEPR9137	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
CR701	1N4448	IP20-0216	GE-514	PTC214	HEPR9137	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
CR702	1N60	IP20-0060	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
CR703	1N4448	IP20-0216	GE-514	PTC214	HEPR9137	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
CR801	1N4004	IP20-0025	GE-504A	PTC214	HEPR0053	REN 116	SK3312	RT-214	ECG116	TM116/**	WEP157	212-76-02
CR802	BZ090	IP20-0019	GEZD-9-1	ZB9-1B		REN 139	SK3060	RT-240	ECG139A	TM139/**	WEP1109	103-272
CR803	BZ090	IP20-0019	GEZD-9-1	ZB9-1B		REN 139	SK3060	RT-240	ECG139A	TM139/**	WEP1109	103-272
CR804	BZ090	IP20-0019	GEZD-9-1	ZB9-1B		REN 139	SK3060	RT-240	ECG139A	TM139/**	WEP1109	103-272
IC201	UA703	IP20-0174	GE1C-12	PTC743	HEPC6001	REN 703A	SK3157	TVCM-44	ECG703A	TM703A	WEP500	221-32
IC701	TA7205P	IP20-0161	GE1C-179	PTC780		REN 1155	SK3231	TVCM-81	ECG1155	TM1155	WEP949	
	2SC1969H		GE-216	PTC186		REN 236	SK3197	RT-158	ECG236	TM236	WEP840	121-29040
Q1	2SC1969	IP20-0262	GE-216	PTC186		REN 236	SK3197	RT-158	ECG236	TM236	WEP840	121-29040
Q2	2SC2166	IP20-2063	GE-215	PTC186		REN 235	SK3197	RT-146	ECG235	TM235	WEP736*	121-29039
Q3	2SC1449	IP20-0156	GE-270	PTC180		REN 295	SK3253	RT-162	ECG295	TM295	WEP701	121-880
Q4	JSP7001	IP20-0306	GE-20	PTC136	HEPS0033	REN 123A	SK3444	RT-308	ECG123A	TM123A	WEP736	121-29000A
Q5	3SK41L	IP20-0218	GE-FET-4	PTC182	HEPF2007	REN 222	SK3065	RT-181	ECG222	TM222	WEP905	121-826
Q6	2SC710C	IP20-0002	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
Q7	2SC710B	IP20-0001	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
Q8	3SK45B	IP20-0157	GE-FET-4	PTC182	HEPF2007	REN 222	SK3065	RT-181	ECG222	TM222	WEP905	121-826
	3SK45		GE-FET-4	PTC182	HEPF2007	REN 222	SK3065	RT-181	ECG222	TM222	WEP905	121-826
Q9	2SC710C	IP20-0002	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
Q10	2SC710C	IP20-0002	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
Q11	2SC710C	IP20-0002	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
Q12	2SC710C	IP20-0002	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
Q13	2SC710C	IP20-0002	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
Q14	2SC710C	IP20-0002	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
Q15	2SK34E		GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312	TM312	WEP920	121-756
Q16	2SK196R	IP20-0012	GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312	TM312	WEP920	121-756
Q17	2SK458	IP20-0264	GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312	TM312	WEP920	121-756
Q18	2SC710	IP20-0029	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
Q19	2SC710C	IP20-0002	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
Q20	2SC710C	IP20-0002	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
	2SK30AY	IP20-0078	GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312	TM312	WEP920	121-756
	2SK68L		GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312	TM312	WEP920	121-756
	2SK40C		GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312	TM312	WEP920	121-756
Q21	2SD30		GE-59	PTC134	HEPG6011	REN 103A	SK3010	RT-119	ECG103A	TM103A/**	WEP641B	121-29015
	2SD187	IP20-0160	GE-59	PTC134	HEPG6011	REN 103A	SK3010	RT-119	ECG103A	TM103A/**	WEP641B	121-29015
Q22	2SC710C	IP20-0002	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
Q23	2SC710C	IP20-0002	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
Q24	2SC710C	IP20-0002	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
Q25	2SC710C	IP20-0002	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-2

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

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SUE PART No.	
	GENERAL LINE
	1FT-S47
	MWA-560
	MWA-101
	10TCU-Q47
	MWA-050
	MWA-150
	MWA-560
	10TCU-033

PACE MODEL 1000MC

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

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ITEM No.	RATING	MFG. PART No.	REPLACEMENT DATA						
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.			
						Q-LINE	GENERAL LINE		
C315	.001	IP22-0155	DD-102		GP210		10TS-D10		
C316	.01		UK50-103		MAG5011				
C317	.01		UK50-103		MAG5011				
C318	1.5 50V								
C319	.01		UK50-103		MAG5011				
C320	.30			CD15ED300J03	SX430	QW1-14	MWA-300		
C322	.04 10%			DPMS2S47	EW1A147	QFT2-171	1FT-S47		
C323	.001		DD-102		GP210		10TS-D10		
C324	.04 10%			DPMS2S47	EW1A147	QFT2-171	1FT-S47		
C325	.01		UK50-103		MAG5011				
C326	.04 10%			DPMS2S47	EW1A147	QFT2-171	1FT-S47		
C327	.04 10%			DPMS2S47	EW1A147	QFT2-171	1FT-S47		
C328	.04 10%			DPMS2S47	EW1A147	QFT2-171	1FT-S47		
C329	.04 10%			DPMS2S47	EW1A147	QFT2-171	1FT-S47		
C330	.04 10%			DPMS2S47	EW1A147	QFT2-171	1FT-S47		
C331	.04 10%			DPMS2S47	EW1A147	QFT2-171	1FT-S47		
C332	.04 10%			DPMS2S47	EW1A147	QFT2-171	1FT-S47		
C333	.56			CD15ED560J03	SX456	QW1-21	MWA-560		
	47			CD15CD050D03		QW1-2	MWA-050		
C334	.5			CD15ED470J03	SX447	QW1-19	MWA-470		
C335	.04 10%			DPMS2S47	EW1A147	QFT2-171	1FT-S47		
C336	.04 10%			DPMS2S47	EW1A147	QFT2-171	1FT-S47		
C337	.5			CD15CD050D03		QW1-2	MWA-050		
C338	.01		UK50-103		MAG5011				
C340	.1 10%			WMF05P1	EW05010	QFT2-215	1FT-P10		
C341	.01		UK50-103		MAG5011				
C342	.01		UK50-103		MAG5011				
C343	.85								
C345	.001		IP22-0045	DD-102		GP210		10TS-D10	
C401	100 10%				CD15FD101J03	SX310	QW1-27	MWA-101	
C403	.04 10%				DPMS2S47	EW1A147	QFT2-171	1FT-S47	
C404	.3				CD15CD050D03		QW1-2	MWA-050	
C405	.01			UK50-103		MAG5011			
C407	.01			UK50-103		MAG5011			
C408	.04 10%				DPMS2S47	EW1A147	QFT2-171	1FT-S47	
C409	.04 10%			DPMS2S47	EW1A147	QFT2-171	1FT-S47		
C410	.04 10%			DPMS2S47	EW1A147	QFT2-171	1FT-S47		
C413	.01	UK50-103			MAG5011				
C417	.04 10%			DPMS2S47	EW1A147	QFT2-171	1FT-S47		
C418	.001	DD-102			GP210		10TS-D10		
C501	.01	UK50-103			MAG5011				
C502	.01	UK50-103			MAG5011				
C504	.01	UK50-103			MAG5011				
C511	.01	UK50-103			MAG5011				
C512	.10	IP22-0045		DTZ-25	NP025	CN0425		10TCC-Q25	
C513	24 NPO			DD-102		GP210		10TS-D10	
C514	.001			UK50-103		MAG5011			
C515	.01					MAG5011			
C517	.04 10%				DPMS2S47	EW1A147	QFT2-171	1FT-S47	
C520	.04 10%				DPMS2S47	EW1A147	QFT2-171	1FT-S47	
C521	.01			UK50-103		MAG5011			
C522	.01			UK50-103		MAG5011			
C601	.01			UK50-103		MAG5011			
C602	.01			UK50-103		MAG5011			
C603	.5 NPO			DTZ-6R8	NP06P8	CN0568		10TCC-V68	
C604	.10			IP22-0045	UK50-103		MAG5011		
C605	.01					CD15FD511J03	SX351	QW1-43	MWA-511
C606	.510 10%					CD15FD151J03	SX315	QW1-31	MWA-151
C607	.150 10%					CD15CD150J03		QW1-8	MWA-150
C608	.15					CD15FD101J03	SX310	QW1-27	MWA-101
C609	.100 10%				UK50-103		MAG5011		
C610	.01					CD15ED200J03	SX420	QW1-10	MWA-200
C611	.20				UK50-103		MAG5011		
C705	.01				WMF1D56	M192P5629R8	QFT2-67	1FT-D56	
C708	.005 10%				WMF1D56	M192P5629R8	QFT2-67	1FT-D56	
C709	.005 10%				DPMS6P22	M192P2229R8	QFT2-27	1FT-D22	
C710	.002				DPMS2S47	EW1A147	QFT2-171	1FT-S47	
C711	.04 10%		UK50-103			MAG5011			
C712	.01		UK50-103		CD15FD221J03	SX322	QW1-35	MWA-221	
C715	.220 10%		UK50-103		CD15ED470J03	SX447	QW1-19	MWA-470	
C716	.01				WMF1S56	EW1A156	QFT2-185	1FT-S56	
C717	.47				WMF1S56	EW1A156	QFT2-185	1FT-S56	
C718	.05 10%		UK50-103			MAG5011			
C720	.05		UK50-103		DPMS2S47	EW1A147	QFT2-171	1FT-S47	
C721	.01		UK50-103			MAG5011			
C722	.04 10%		UK50-103			MAG5011			
C723	.01		UK50-103			MAG5011			
C726	.01		DD-102			GP210		10TS-D10	
C728	.001		UK50-103			MAG5011			
C729	.01	UK50-103			MAG5011				
C730	.01	UK50-103			MAG5011				
C731	.01	UK50-103			MAG5011				
C732	.30	IP22-0149	CD15ED300J03		SX430	QW1-14	MWA-300		
C801	.001		UK50-103			MAG5011			
C806	.01		UK50-103			MAG5011			
C807	.01		UK50-103			MAG5011			
C808	.01		UK50-103			MAG5011			
C809	.01		UK50-103			MAG5011			
C810	.01		UK50-103			MAG5011			
C811	.04 10%				DPMS2S47	EW1A147	QFT2-171	1FT-S47	
C812	.01		UK50-103		MAG5011				
C813	.01		UK50-103		MAG5011				
C814	.01		UK50-103		MAG5011				
C815	.01		UK50-103		MAG5011				
C901	.01		UK50-103		MAG5011				
C903	.01		UK50-103		MAG5011				

PARTS LIST AND DESCRIPTION (CONTINUED)

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

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

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA			
			MFGR. PART No.	CENTRALAB PART No.	MALLORY PART No.	TRW PART No.
R103	RFO Meter	100K	IP24-0002	T-100K(2)	MTC15L1(2)	X201R104B(2)
R127	19.1665MHz	10K	IP24-0005	T-10K(2)	MTC14L1(2)	X201R103B(2)
R128	19.1640MHz	20K	IP24-0004			X260R253B(2)
R129	Clarifier	10K	IP24-0042			
R130	19.1665MHz	20K	IP24-0004			X260R253B(2)
R131	27.185MHz	10K	IP24-0003	T-10K	MTC14L1	X201R103B
R134	SSB ALC	10K	IP24-0003	T-10K	MTC14L1	X201R103B
R315	Noise Blanking Switch Bias	5000				X260R162B(2)
R338	AGC	5000	IP24-0035	T-5000(2)	MTC53L1(2)	X201R502B(2)
R339	RF Gain	5000	IP24-0036			
R420	SSB S Meter	50K	IP24-0015	T-50K(2)	MTC54L1(2)	X201R503B(2)
R421	AM S Meter	10K	IP24-0005	T-10K(2)	MTC14L1(2)	X201R103B(2)
R515	Carrier Balance	100	IP24-0061			
R521	AM AMC	1000				
	AM AMC	500	IP24-0068			
R701	Squelch Range	10K	IP24-0005	T-10K(2)	MTC14L1(2)	X201R103B(2)
R702	Squelch	10K	IP24-0017			
R707	Volume/Power Switch	10K				

(2) Cut off one of the end terminals and bend to fit PC board.

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.
R723	.5 Ohm, 1W		IP23-0014	R902	ARRAY		IP23-0054
R901	ARRAY 220 Ohm		IP23-0054		220 Ohm		

COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L1	Lowpass Filter (100uH)	IP21-0290		9250-104	
L2	RF Choke (150uH)	IP21-0074			
L3	VCO	IP21-0353	Z368N		
L4	VCO Buffer (19MHz)	IP21-0282	C354N		
L5	AM Switch (10.000MHz)	IP21-0354	Y385N		
L6	AM Switch (9.9986955MHz)	IP21-0406	Y387N		
L101	TVI Trap (54MHz)	IP21-0099		4594	
L102	RF Choke (.22uH)	IP21-0098		4584	
L103	RF Choke (150uH)	IP21-0074			
L104	RF Choke (150uH)	IP21-0074			
L105	Pi Filter	IP21-0206			
L106	RF Choke (.22uH)	IP21-0098		4584	
L107	Final (27MHz)	IP21-0095		CB140	
L108	RF Choke (1.2uH)	IP21-0179			
L109	XMT Driver (27MHz)	IP21-0025			
L110	RF Choke (.65MHz)	IP21-0071			
L111	RF Choke	IP21-0071			
L112	XMT Preamp (27MHz)	IP21-0181			
L113	RF Choke (5.5uH)	IP21-0391			
L201	RF Choke (470uH)	IP21-0195			
L202	RF Choke	IP21-0351	K69		
L203	RF Choke (470uH)	IP21-0195			
L401	RF Choke (150uH)	IP21-0074		9330-32	
L402	RF Choke (22uH)	IP21-0072			
L403	RF Choke (150uH)	IP21-0074		9330-32	
L501	RF Choke (22uH)	IP21-0072			
L601	USB Frequency Adjust	IP21-0352	Y372NT		
T1	PLL Buffer (19.99739MHz)	IP21-0079	Z177Z	CB5133-TC	
T101	XMT Buffer (27MHz)	IP21-0093			
T102	Out Of Lock (27MHz)	IP21-0084		CB5706-TC	
T103	XMT Mixer (27MHz)	IP21-0083	C1812M	CB5706-TC	
T104	VCO Buffer (19MHz)	IP21-0079	Z177ZT	CB5133-TC	
T201	Noise Amp (7.8MHz)	IP21-0085	S183AT	CB5516-7TC	
T202	Noise Amp (7.8MHz)	IP21-0085	S183AT	CB5516-7TC	
T203	Noise Amp (7.8MHz)	IP21-0085	S183AT	CB5516-7TC	
T301	RF (27MHz)	IP21-0091	C200ZM	CB5707-TC	
T302	RF Amp (27MHz)	IP21-0212			
T303	Mixer (7.8MHz)	IP21-0085	S183AT	CB5516-7TC	
T304	IF Amp (7.8MHz)	IP21-0389			
T305	IF Amp (7.8MHz)	IP21-0085	S183AT	CB5516-7TC	
T306	IF Amp (7.8MHz)	IP21-0085	S183AT	CB5516-7TC	
T307	IF Amp (7.8MHz)	IP21-0089	S190AM	CB5517-7TC	
T308	IF Amp (7.8MHz)	IP21-0389	S391N		
T501	Carrier Oscillator Buffer (27MHz)	IP21-0092	S111DM	CB5771	

PAGE MODEL 1000MC

PARTS LIST AND DESCRIPTION (CONTINUED)

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

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.	
L801	2.3A	.2A	1.98mH	IP21-0112 K-18 (1)			(1) Number on unit.

CHOKE (Audio Output)

ITEM No.	INDUCTANCE	REPLACEMENT DATA			NOTES
		MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T701	14mH	IP21-0349 L-71 (1)			(1) Number on unit.

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP	3" PM, 2W 8 Ohms	IP29-0017	30A05Z8R	

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
F801	4A Quick Acting	IP36-0001		AGC4	HRK	312004	150145	

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	IP29-0016	18-032	18-034	18-010	18-092	1	2	4	NC	NC	2

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
FL301	Filter	IP31-0047	FX07800
J501	Jack	IP26-0014	Microphone
J502	Jack	IP26-0005	External Speaker
J503	Jack	IP26-0005	PA Speaker
J901	Jack	IP26-0013	Antenna
L802	Relay	IP32-0005	
M901	Meter	IP27-0007	S/RFO
PL1	Lamp	IP28-0009	Channel (13.70V @ 75mA)
PL2	Lamp	IP28-0009	Meter (13.70V @ 270mA)
PL3	Lamp	IP28-0009	LSB (13.70V @ 75mA)
PL4	Lamp	IP28-0009	USB (13.70V @ 75mA)
PL5	Lamp	IP28-0009	AM (13.70V @ 75mA)
PL6	Lamp	IP28-0009	Receive (13.70V @ 75mA)
PL7	Lamp	IP28-0009	XMT (13.55V @ 34mA)
P501	Plug	IP29-0016	Microphone Assembly w/Cord & Plug
S2	Switch	IP25-0038	LSB/USB/AM
S3	Switch	IP25-0034	PA/CB
S904	Switch	IP25-0036	ANL On/Off
S905	Switch	IP25-0085	Channel Selector (40 Positions)
Y1	Crystal	IP31-0102	10.000MHz
Y601	Crystal	IP31-0103	7.8015MHz
	Printed Circuit Board	IP37-0028	Switch Assembly
	Printed Circuit Board	IP37-0017	Synthesizer Assembly

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

ITEM	PART No.	ITEM	PART No.
Cabinet, Bottom	IP30-0121	Lens, Amber (USB)	IP30-0126
Cabinet, Top	IP30-0120	Lens, Blue (AM)	IP30-0125
Knob, Channel Selector (w/ Dial)	IP30-0379	Lens, Green (RX)	IP30-0124
Knobs, Control	IP30-0094	Lens, Red (TX)	IP30-0123
Knob, Squelch	IP30-0093	Lens, White (LSB)	IP30-0127
Knob, Volume	IP30-0092		