



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 TELSAT 1140 (99-33581)

MANUFACTURER'S SPECIFICATIONS

GENERAL

CIRCUITRY	Digital Phase Lock Loop Synthesizer
CHANNELS	40 channels in 27 MHz CB Band
MODE OF OPERATION	AM
POWER SOURCE	117 V, 50/60 Hz AC or 13.8 V DC

RECEIVER SECTION

CIRCUIT TYPE	Dual conversion superheterodyne with RF stage and 455 kHz ceramic filter.
SENSITIVITY	0.7 μ V for 10 dB S/N.
SELECTIVITY	45 dB down at ± 10 kHz.
IMAGE REJECTION	40 dB.
SPURIOUS REJECTION	50 dB.
DELTA TUNE RANGE	Approx ± 1.2 kHz.
AGC RANGE [for 10 dB level change]	80 dB.
AUDIO OUTPUT POWER	3 Watts into EXT SPKR jack [at 8 ohms].
SQUELCH RANGE	0.7 μ V to 500 μ V.
IF FREQUENCIES	1st: 10.695 MHz 2nd: 455 kHz

TRANSMITTER SECTION

RF POWER OUTPUT	4 watts, FCC max, at 117 V AC or 13.8 V DC
EMISSION	6A3
HARMONIC AND SPURIOUS SUPPRESSION	Exceeds FCC requirements
MODULATION	AM, 90% typical with Range Boost.

Courtesy of the Manufacturer

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

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LAFAYETTE MODEL TELSAT 1140

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.
Before adjustment or alignment, adjust RV1a for 13.8-volts at Pin 3 of power supply board.
Suggested Alignment Tools: GC ELECTRONICS:
L14, T7 thru T10..... 5009, 8728A, 8728
L7, L11, L12..... 9304, 9300, 9302
L1, L2, L5, T1 thru T6..... 9440
CT1..... 5000, 8276

SYNTHESIZER ALIGNMENT

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of frequency counter to TP1 (Q1, Emitter).	Ch. 19 Delta Tune 0	CT1	Adjust for 10.240MHz $\pm$ 50Hz.
Input of RF VTVM to TP2 (T1, Secondary).	Ch. 19 Delta Tune 0	T1	Adjust for maximum.
Input of DC meter to TP8.	Ch. 1	L1	Adjust for 3.60V $\pm$.1V.
Input of RF VTVM to TP4 (IC3, Pin 4).	Ch. 19	L2, T2	Adjust for maximum.
Input of frequency counter to TP4 (IC3, Pin 4).	Ch. 1		Check for 37.660MHz. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to TP3 (IC3, Pin 1).	Ch. 19, XMT		Check for 10.695MHz.

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.
Delta Tune 0, Squelch MINIMUM, RF Gain Maximum, ANL Switch Off, NB Switch Off.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to TP10. 455kHz, 1000Hz @ 30% modulation.	Ch. 19	T10, T9, T8	Adjust for maximum output.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation	Ch. 19	T7, L14, T6, T5	Adjust for maximum output. If necessary, readjust T8, T9 and T10.

RECEIVER ADJUSTMENTS

Connect an AC VTVM or AF wattmeter across speaker voice coil.
Adjust volume control to obtain a suitable indication.
Delta Tune 0, RF Gain Maximum, ANL Switch Off, NB Switch Off.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation Output 1000uV.	Ch. 19	RV1b	SQUELCH RANGE Set squelch control VR2 fully clockwise. Adjust RV1b so that squelch just breaks.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation Output 100uV	Ch. 19	RV3	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	TRANSCEIVER	ADJUST	REMARKS
	Ch. 19	L5,T3,T4, L7,L11,L12	Adjust for maximum.
	Ch. 19	L7	Adjust for 3.8 watts maximum.

TRANSMITTER ADJUSTMENTS

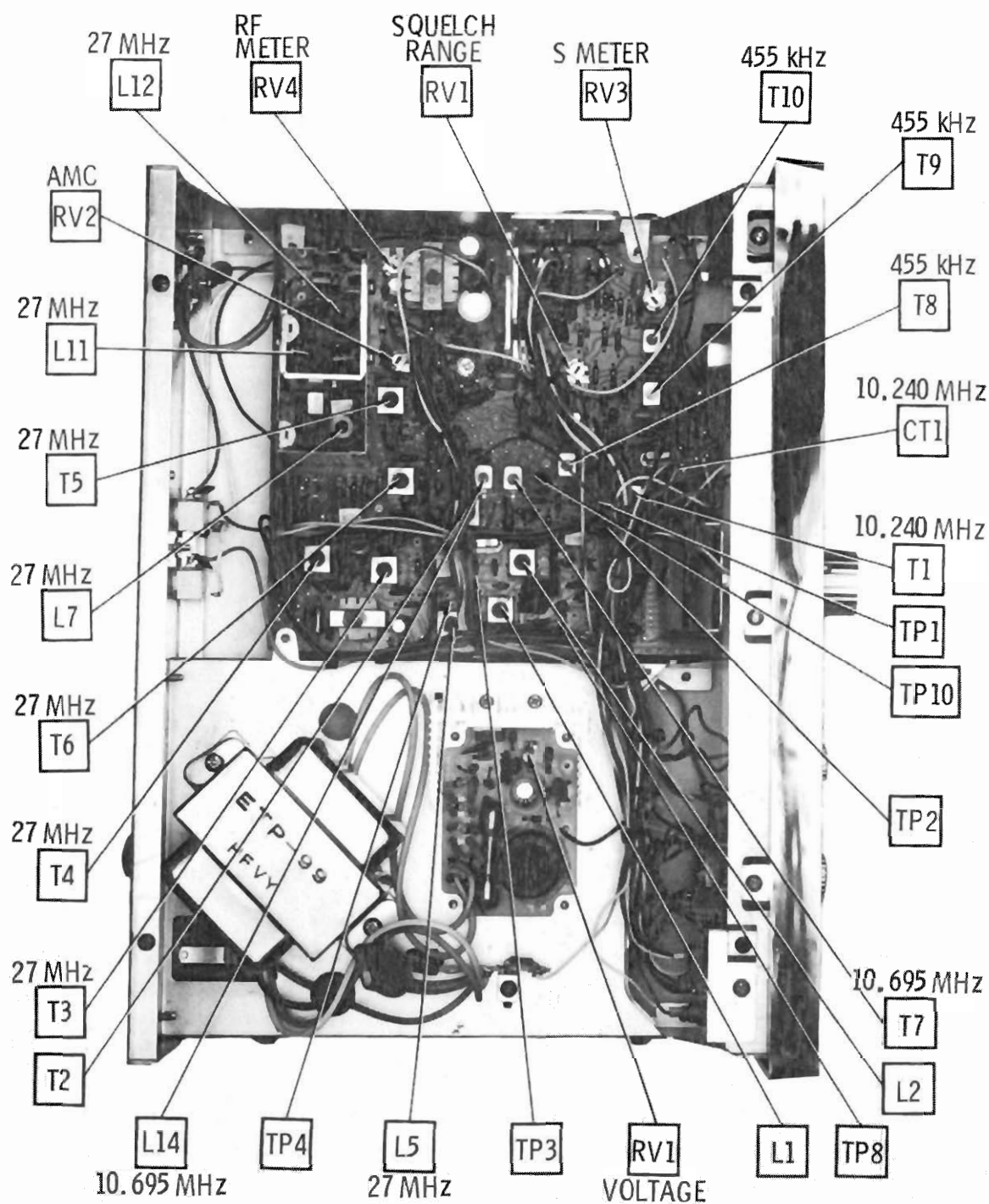
Connect an RF wattmeter and 50-ohm, 25-watt dummy load to antenna connector.
NOTE: Be sure to check transmit frequency and power on all active channels after adjustments of transmitter.
See page 4 for channel frequencies.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of DC meter to 3.	Ch. 19	RV1a	VOLT REG Adjust RV1a for 13.8 volts.
Modulation meter to antenna jack. Inject a 10mV, 1000Hz signal at Mic input.	Ch. 19	RV2	AMC Adjust for 80% modulation.
Connect an RF wattmeter and 50-ohm, 25 watt dummy load to antenna connector	Ch. 19	RV4	RF PANEL METER Adjust RV4 so that RF meter agrees with RF wattmeter.

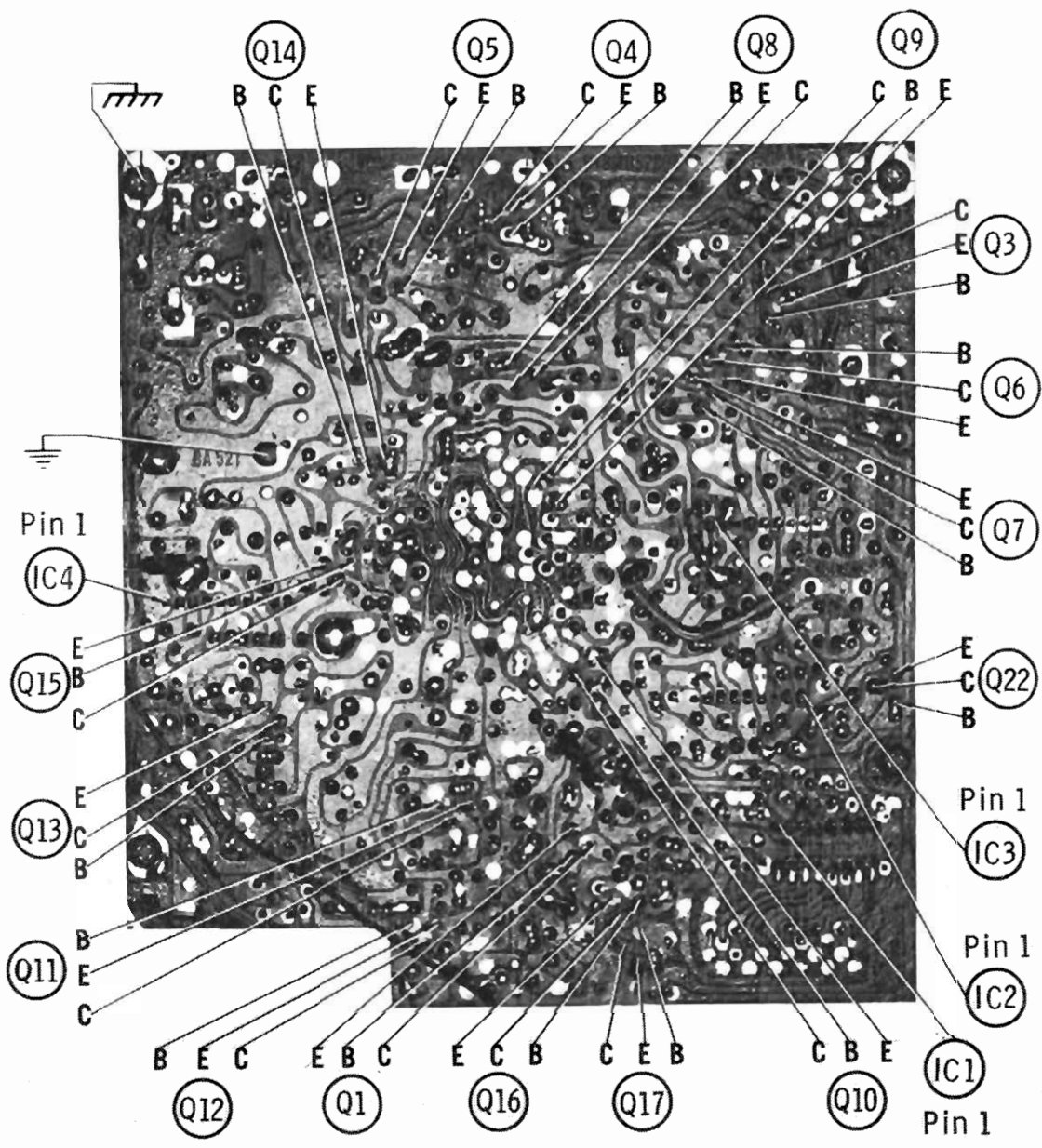
TRUTH CHART

1 = <u>5.33</u> Volts 0 = <u>0</u> Volts								
C H A N N E L	IC1 PROGRAM DIVIDER							REC & XMIT VCO OUTPUT IN MHz AT TP4
	PINS							
	9	10	11	12	13	14	15	
1	1	0	0	1	0	1	0	37.660
2	1	0	0	1	0	0	1	37.670
3	1	0	0	1	0	0	0	37.680
4	1	0	0	0	1	1	0	37.700
5	1	0	0	0	1	0	1	37.710
6	1	0	0	0	1	0	0	37.720
7	1	0	0	0	0	1	1	37.730
8	1	0	0	0	0	0	1	37.750
9	1	0	0	0	0	0	0	37.760
10	0	1	1	1	1	1	1	37.770
11	0	1	1	1	1	1	0	37.780
12	0	1	1	1	1	0	0	37.800
13	0	1	1	1	0	1	1	37.810
14	0	1	1	1	0	1	0	37.820
15	0	1	1	1	0	0	1	37.830
16	0	1	1	0	1	1	1	37.850
17	0	1	1	0	1	1	0	37.860
18	0	1	1	0	1	0	1	37.870
19	0	1	1	0	1	0	0	37.880
20	0	1	1	0	0	1	0	37.900

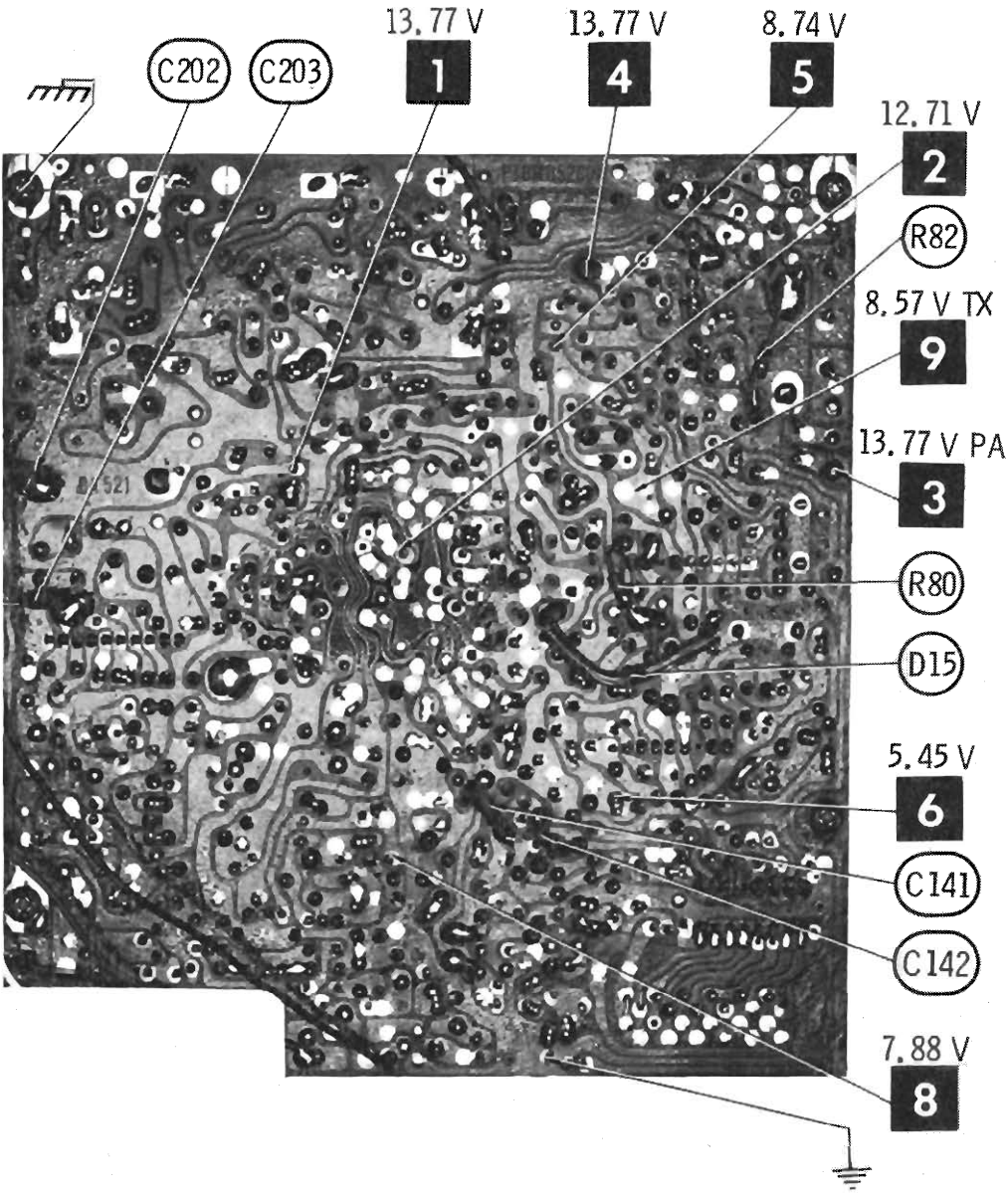
1 = <u>5.33</u> Volts 0 = <u>0</u> Volts								
C H A N N E L	IC1 PROGRAM DIVIDER							REC & XMIT VCO OUTPUT IN MHz AT TP4
	PINS							
	9	10	11	12	13	14	15	
21	0	1	1	0	0	0	1	37.910
22	0	1	1	0	0	0	0	37.920
23	0	1	0	1	1	0	1	37.950
24	0	1	0	1	1	1	1	37.930
25	0	1	0	1	1	1	0	37.940
26	0	1	0	1	1	0	0	37.960
27	0	1	0	1	0	1	1	37.970
28	0	1	0	1	0	1	0	37.980
29	0	1	0	1	0	0	1	37.990
30	0	1	0	1	0	0	0	38.000
31	0	1	0	0	1	1	1	38.010
32	0	1	0	0	1	1	0	38.020
33	0	1	0	0	1	0	1	38.030
34	0	1	0	0	1	0	0	38.040
35	0	1	0	0	0	1	1	38.050
36	0	1	0	0	0	1	0	38.060
37	0	1	0	0	0	0	1	38.070
38	0	1	0	0	0	0	0	38.080
39	0	0	1	1	1	1	1	38.090
40	0	0	1	1	1	1	0	38.100



CHASSIS - TOP

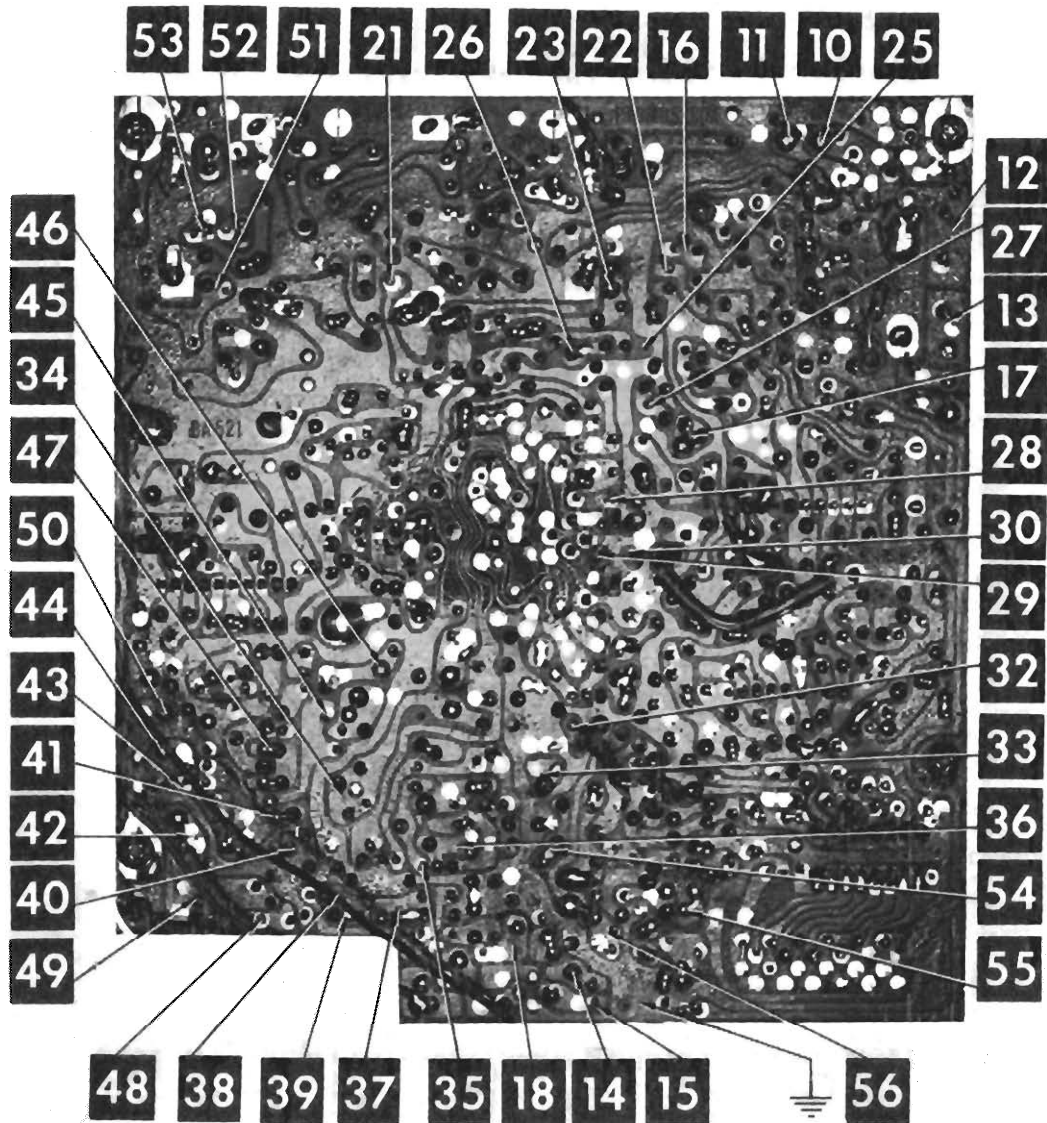


MAIN BOARD

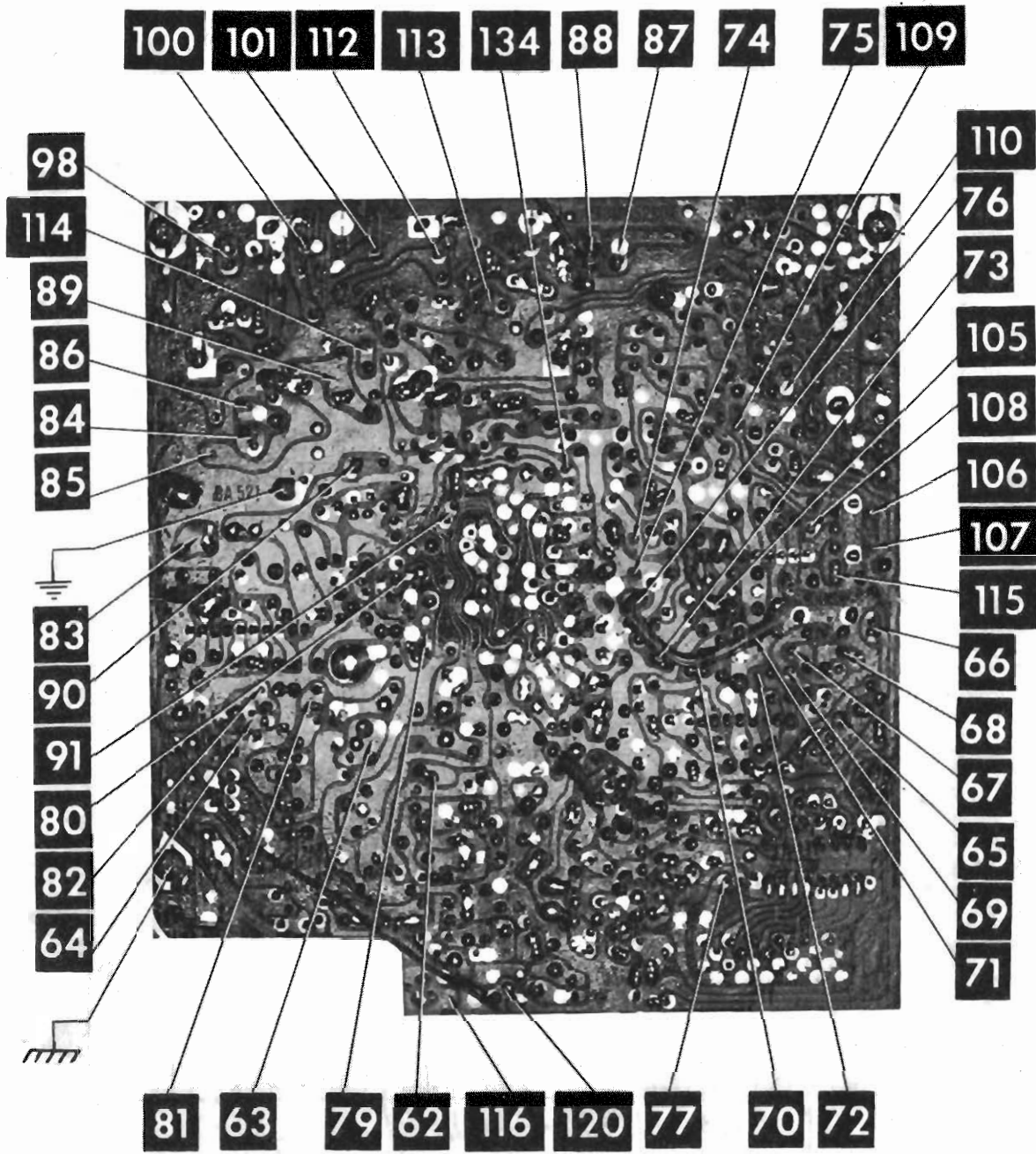


LAFAYETTE MODEL TELSAT 1140

MAIN BOARD

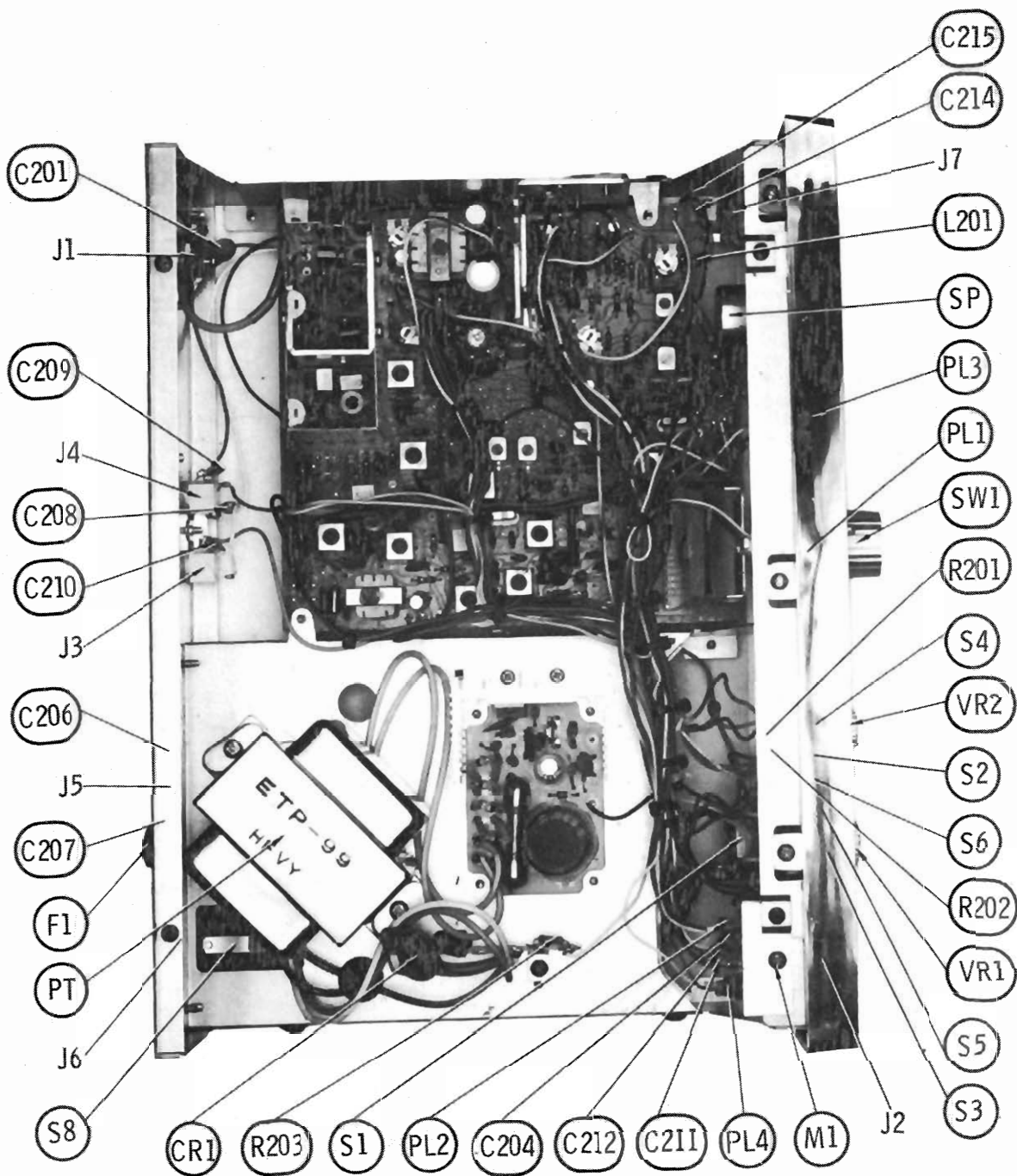


MAIN BOARD

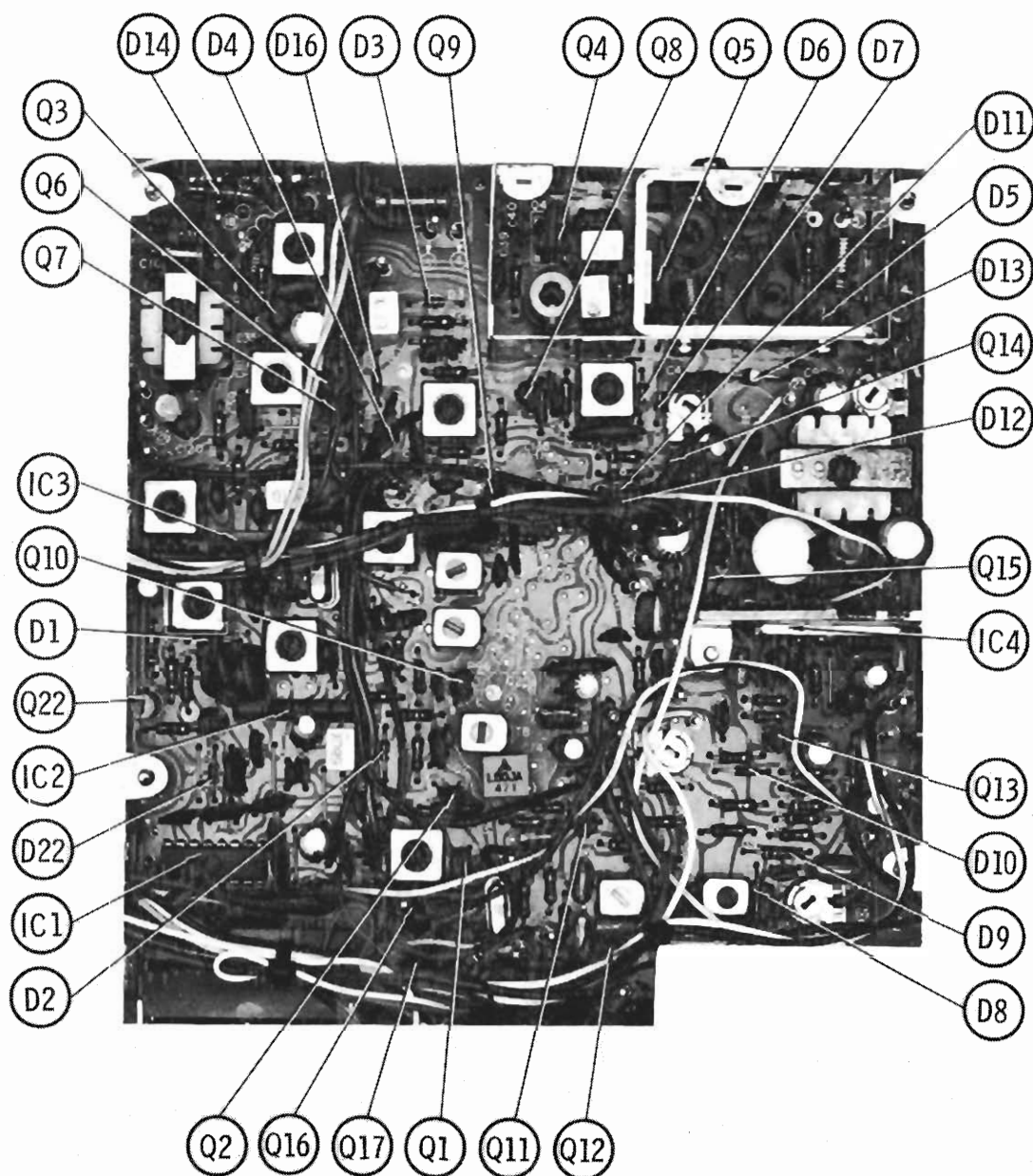


LAFAYETTE MODEL TELSAT 1140

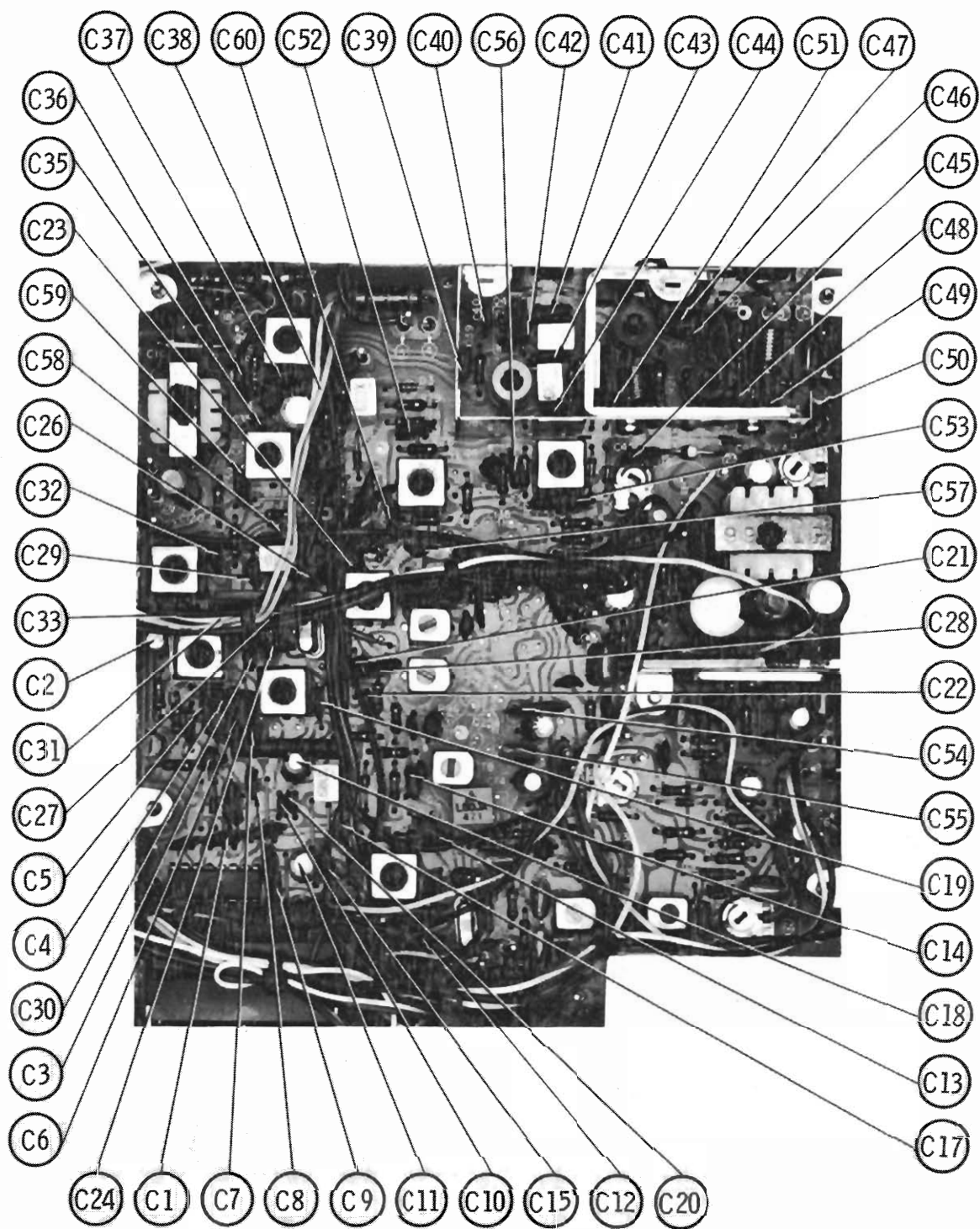
MAIN BOARD



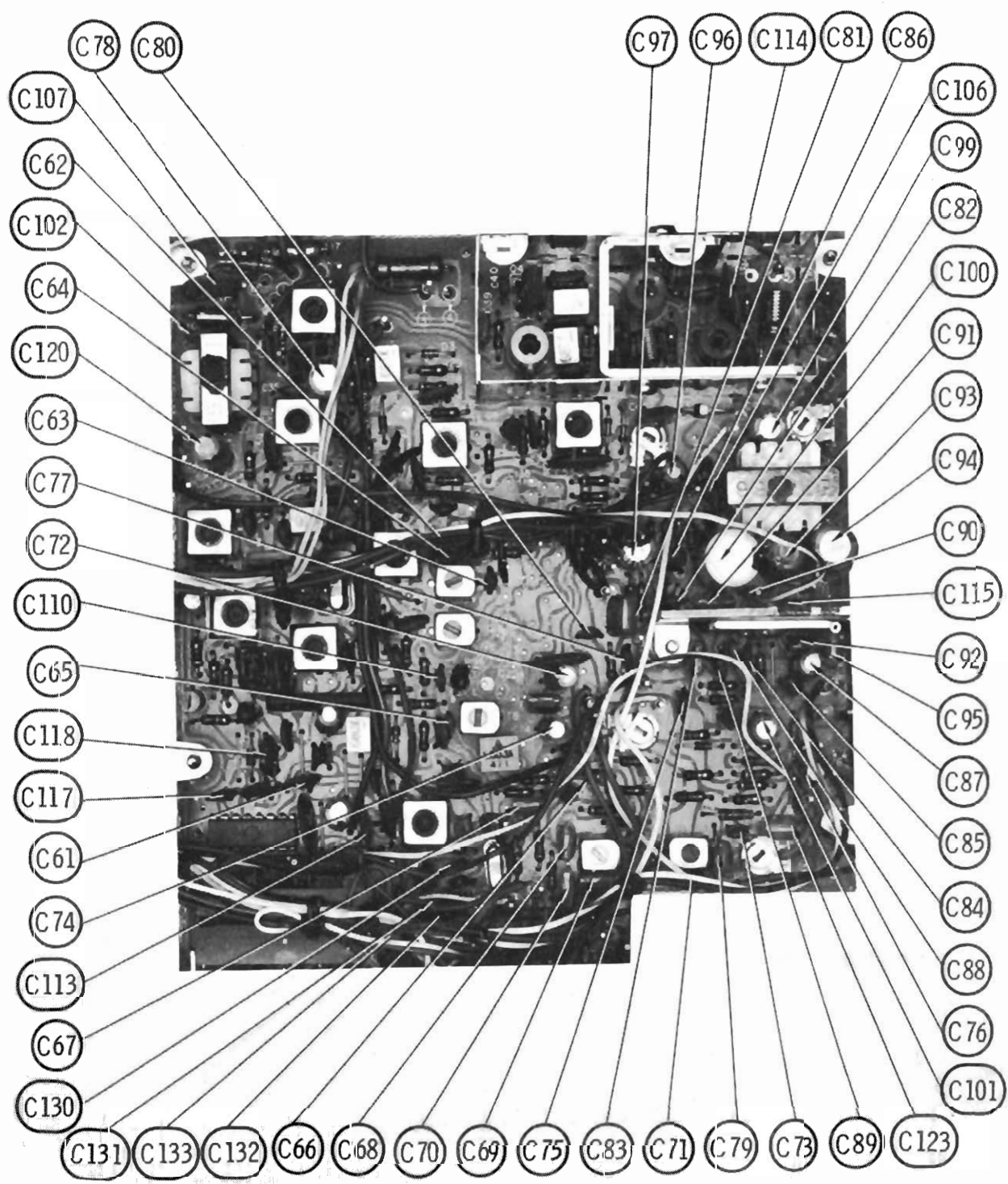
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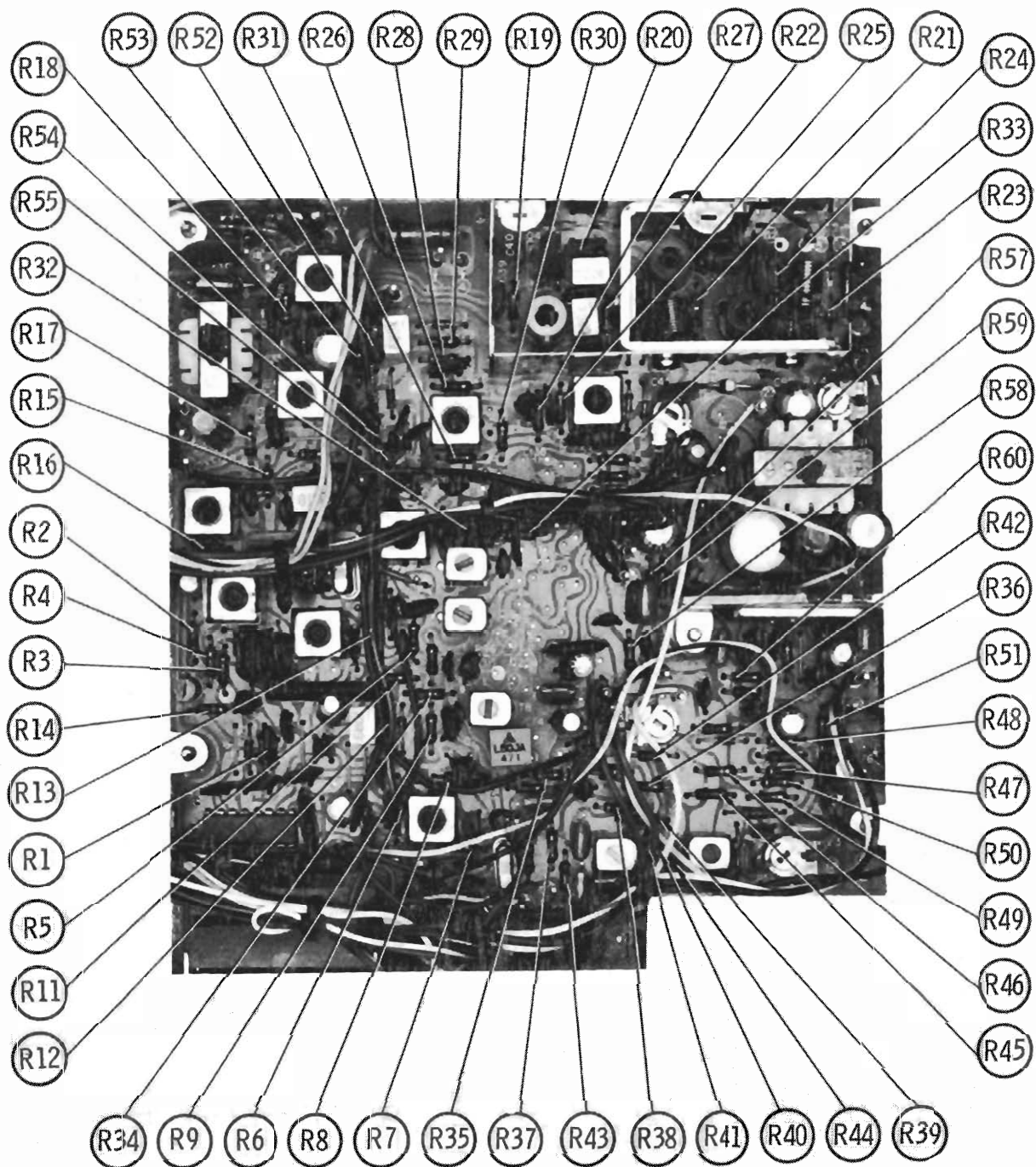


MAIN BOARD

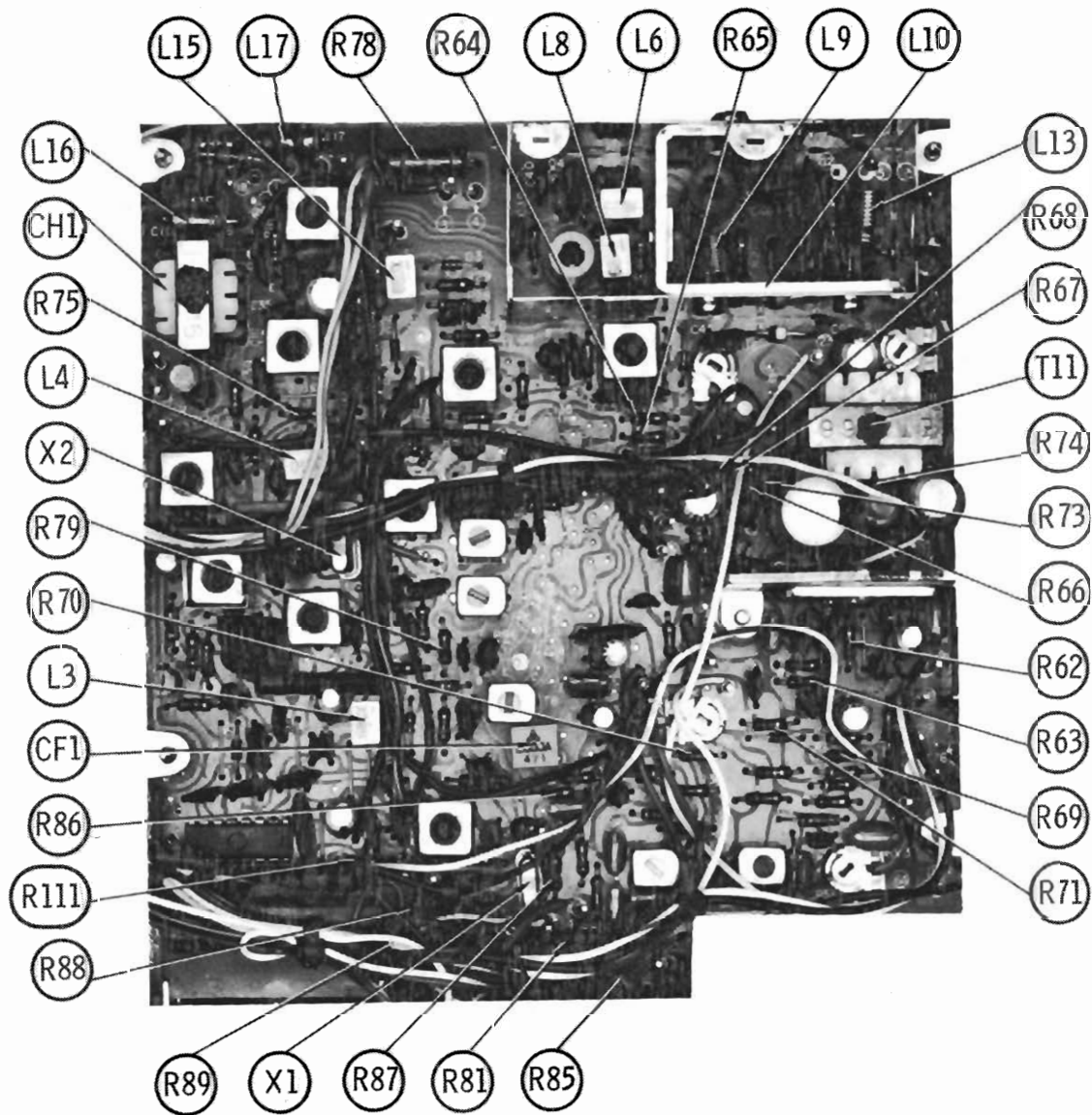


MAIN BOARD

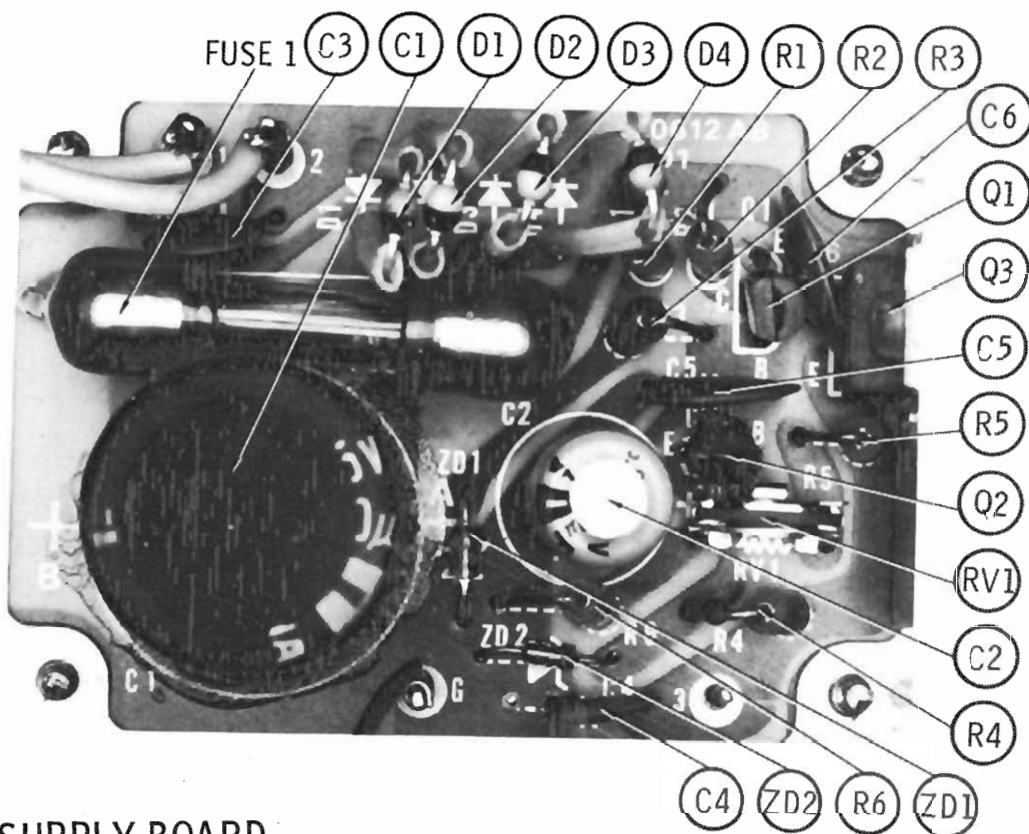
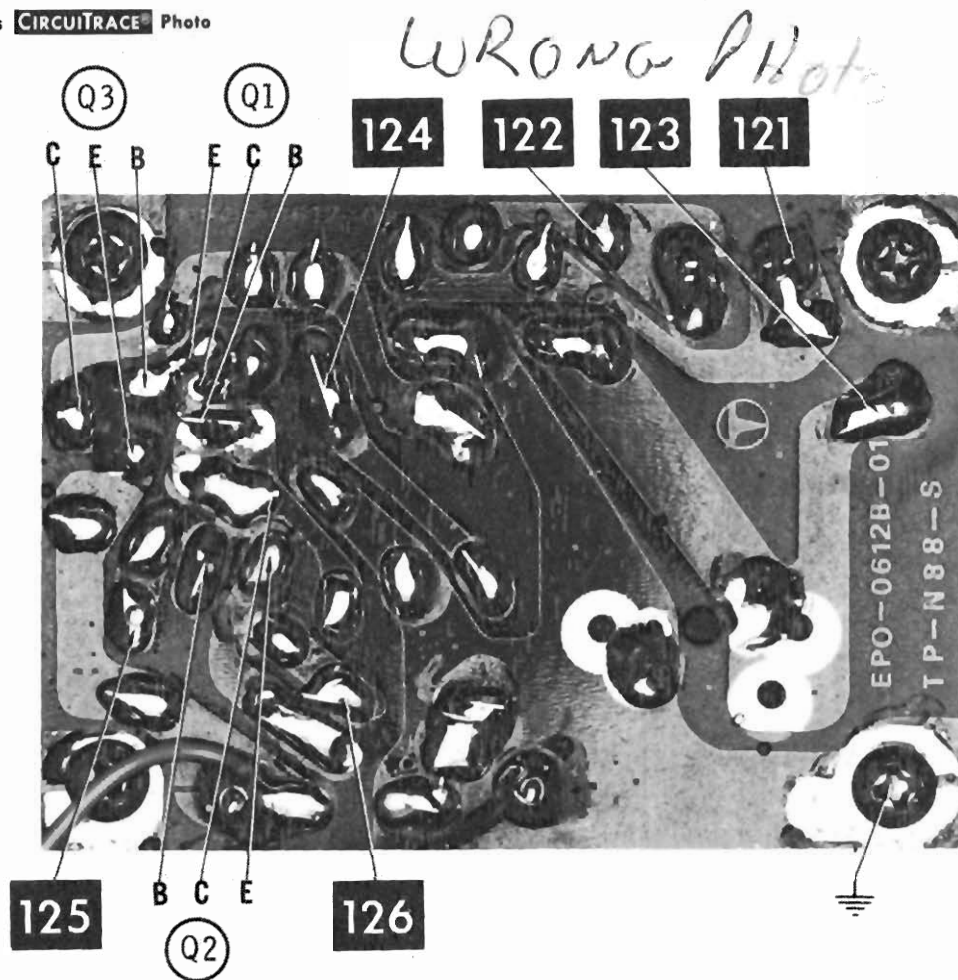




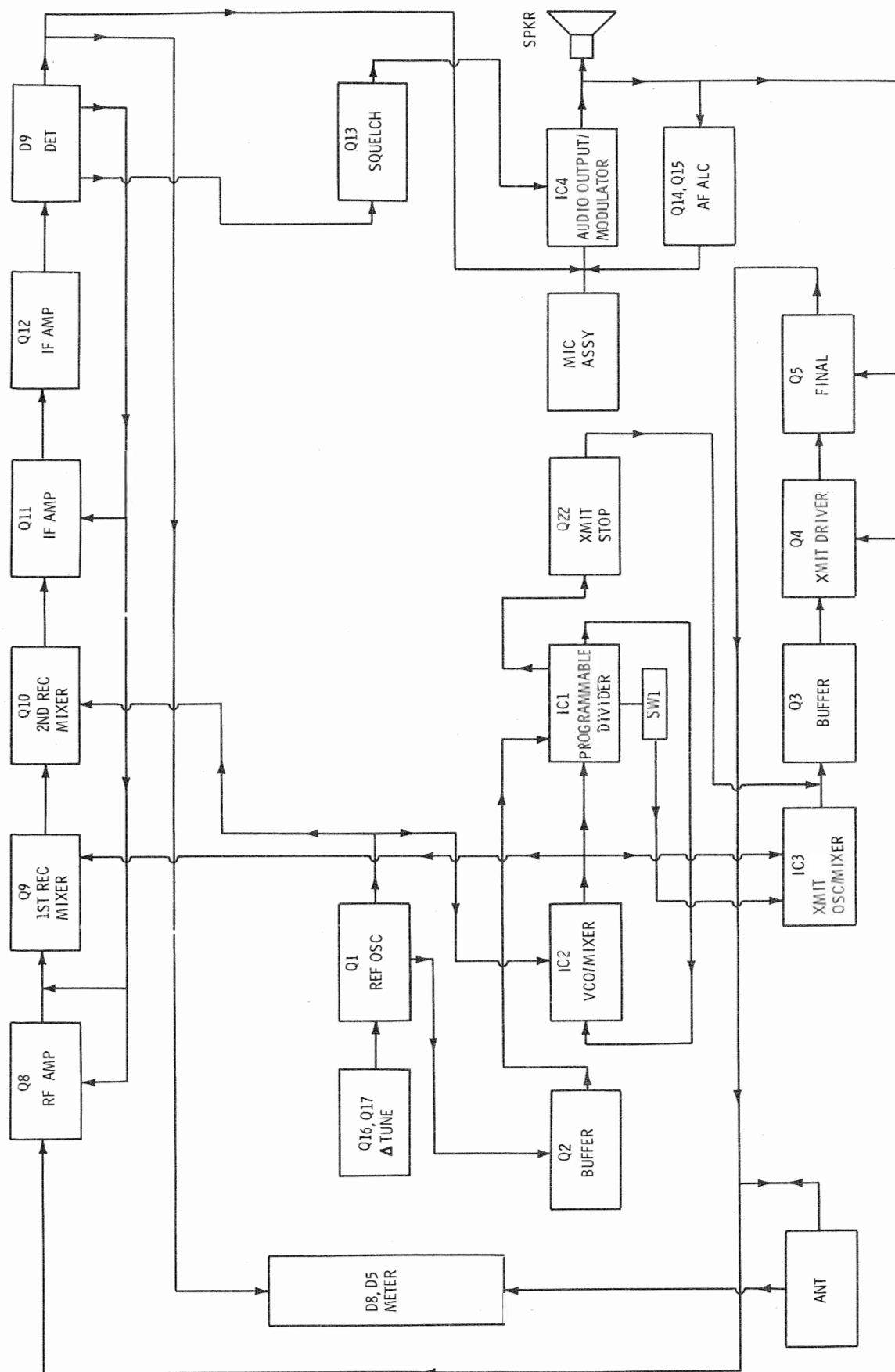
MAIN BOARD



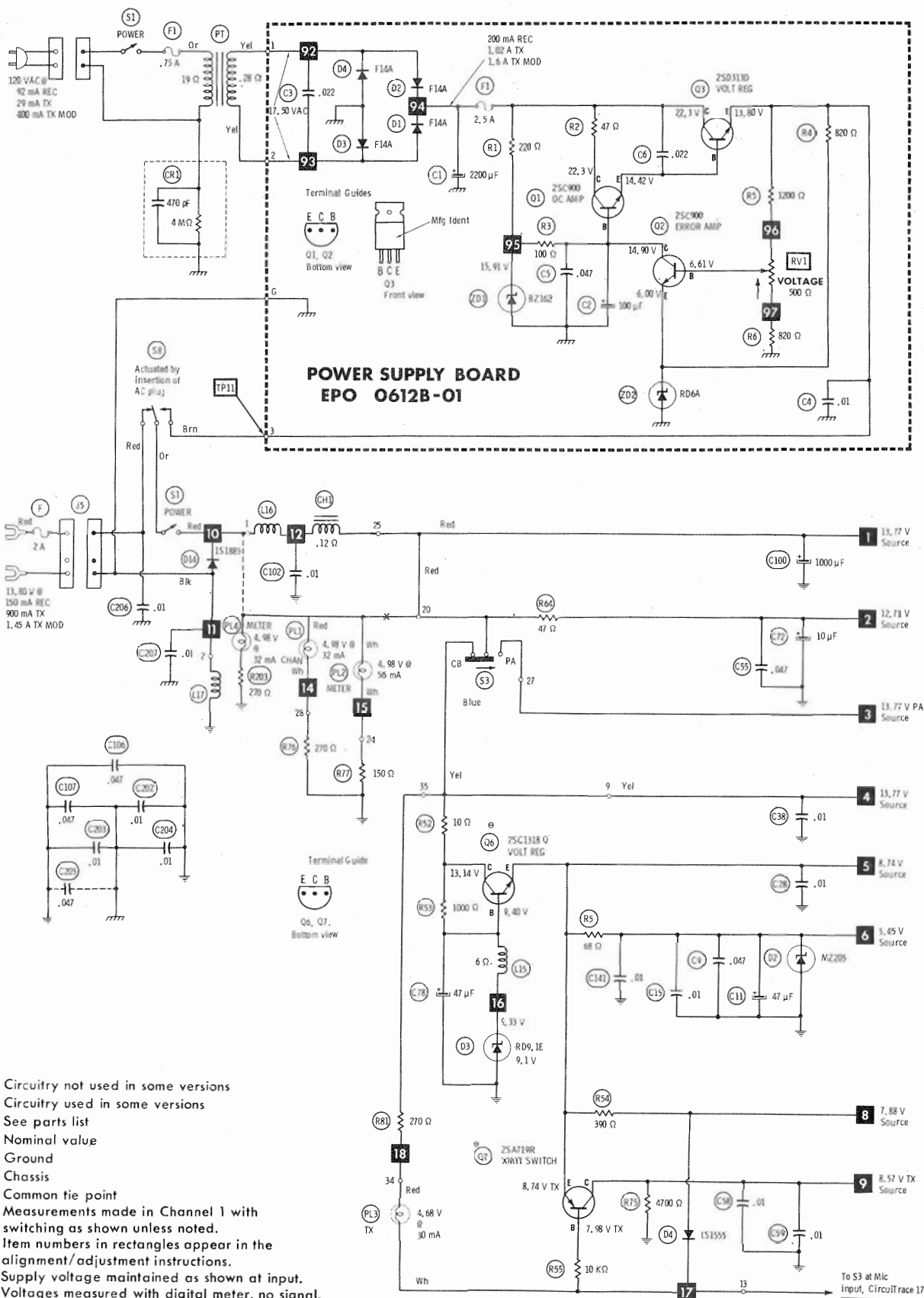
MAIN BOARD



POWER SUPPLY BOARD



BLOCK DIAGRAM



— Circuitry not used in some versions

--- Circuitry used in some versions

⊙ See parts list

⊙ Nominal value

⊙ Ground

⊙ Chassis

⊙ Common tie point

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 **CIRCUITTRACE**

PARTS LIST AND DESCRIPTION

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

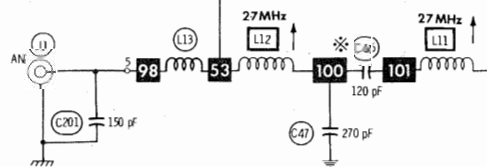
WIRING DATA

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

SEMICONDUCTORS (Select replacement transistor for best results)

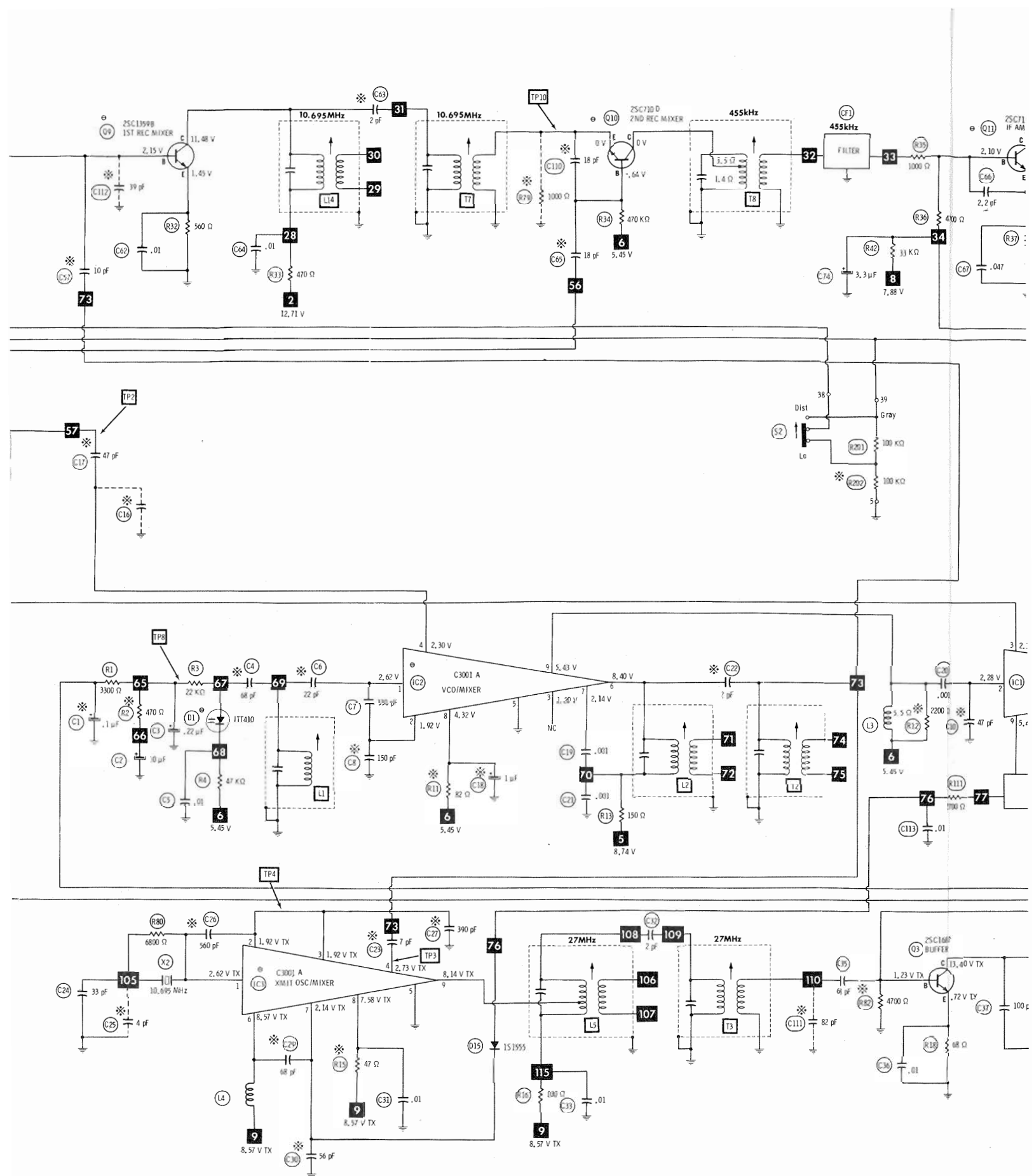
			REPLACEMENT DATA									
ITEM No.	TYPE No.	MFR. PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.	THORDARSON PART No.	WORKMAN PART No.	ZENITH PART No.
MAIN BOARD												
D1	1T1410 BB122 MV201	256717			HEPR2502 HEPR2502 HEPR2502	REN 612 REN 612 REN 612			ECG612 ECG612 ECG612			ZEN-452 ZEN-452 ZEN-452
D2	MZ205	256817	GEZD-5.1	ZM5.1B		REN 139	SK3056	RT-235	ECG5010	1N4733A	WEP1411	103-279-10
D3	R09.1E	245217	GEZD-9.1	ZB9.1B		REN 177	SK3100	RT-240	ECG139A	1N4739A	WEP1109	103-272
D4	1S1555	193717	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
D5	1N60	218017	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D6	1S1555	193717	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
D7	1S1555	193717	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
D8	1N60	218017	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D9	1N60	218017	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D10	1S1555	193717	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
D11	1S1555	193717	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
D12	1S1555	193717	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
D14	V05C	194917	GE-504A	PTC201	HEPR0602	REN 116	SK3030	RT-213	ECG116	1N4004	WEP156	212-76-02
D15	1S1555	193717	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
D16	1S1555	193717	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
D22	1S1555	193717	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
IC1	PL102A PL102	106525				REN 1167			ECG1167			
IC2	C3001A C3001	107225				REN 1192	SK3445		ECG1192			
IC3	TA7310P C3001A C3001	107225				REN 1192	SK3445		ECG1192			
IC4	BA521 BA521A	106625	GEIC-282 GEIC-282			REN 1166	SK3445		ECG1166		WEP2003	
Q1	25C710 25C710D,E	227517	GE-211* GE-211*	PTC132 PTC132	HEPS0016* HEPS0016*	REN 123A* REN 123A*	SK3444 SK3444	RT-308* RT-308*	ECG123A* ECG123A*	25C710 25C710	WEP710 WEP710	121-29000* 121-29000*
Q2	25C710D,E	227517	GE-211* GE-211*	PTC132 PTC132	HEPS0016* HEPS0016*	REN 123A* REN 123A*	SK3444 SK3444	RT-308* RT-308*	ECG123A* ECG123A*	25C710 25C710	WEP710 WEP710	121-29000* 121-29000*
Q3	25C1687 25C1846	261317	GE-265 GE-336	PTC121* PTC904	HEPS0015* HEPS0015*	REN 123A* REN 295	SK3018* SK3253	RT-107A* RT-107A*	ECG229* ECG295	25C372* 25C496	WEP736* WEP913	121-29000* 800-767
Q4	25C1846Q, R,S	261317	GE-336 GE-336	PTC904 PTC904		REN 295 REN 295	SK3253 SK3518		ECG295 ECG306	25C496 25C1018	WEP913 WEP771	800-767
Q5	25C1750 25C2036 25C1306	256317	GE-215 GE-215	PTC186 PTC186		REN 235 REN 235	SK3197 SK3197	RT-146 RT-146	ECG235 ECG235	25C1306 25C1306	WEP785 WEP785	
Q6	25C1678 25C1974 25C2075	256317	GE-322 GE-337	PTC186 PTC186		REN 235 REN 235	SK3197 SK3197	RT-146 RT-146	ECG235 ECG235	25C1306 25C1306	WEP785 WEP785	
Q7	25C1318 25C1318Q,R	231017	GE-210* GE-210*	PTC123 PTC123	HEPS0015* HEPS0015*	REN 128 REN 128	SK3122 SK3122	RT-302 RT-302	ECG297 ECG297		WEP59* WEP59*	121-722 121-722
Q8	25C719Q, P,R	256317	GE-269 GE-269	PTC103* PTC103*	HEPS0019* HEPS0019*	REN 290 REN 290	SK3114 SK3114	RT-305 RT-305	ECG290 ECG290	25A562 25A562	WEP911 WEP911	121-879 121-879
Q9	25C719 25C720 25C1047C	246917	GE-60* GE-60*	PTC132* PTC132*	HEPS0016* HEPS0016*	REN 229* REN 229*	SK3018* SK3018*	RT-107 RT-107	ECG229* ECG229*	25C535 25C535	WEP63* WEP63*	ZEN-109 ZEN-109
Q10	25C1047 25C710D,E	246917	GE-61* GE-61*	PTC136* PTC121*	HEPS0014* HEPS0014*	REN 107 REN 199	SK3122 SK3122	RT-134 RT-308	ECG107 ECG229*	25C460 25C930	WEP460 WEP66	121-722 121-29000
Q11	25C1360 25C1359B 25C1359C	246917	GE-212 GE-212	PTC121* PTC121*	HEPS0014* HEPS0014*	REN 199 REN 199	SK3122 SK3122	RT-308 RT-308	ECG229* ECG229*	25C930 25C930	WEP66 WEP66	121-29000 121-29000
Q12	25C710D,E	227517	GE-211* GE-211*	PTC132 PTC132	HEPS0016* HEPS0016*	REN 123A* REN 123A*	SK3444 SK3444	RT-308* RT-308*	ECG123A* ECG123A*	25C710 25C710	WEP710 WEP710	121-29000* 121-29000*
Q13	25C710D,E	227517	GE-211* GE-211*	PTC132 PTC132	HEPS0016* HEPS0016*	REN 123A* REN 123A*	SK3444 SK3444	RT-308* RT-308*	ECG123A* ECG123A*	25C710 25C710	WEP710 WEP710	121-29000* 121-29000*
Q14	25C829 25C829B,C	229117	GE-20* GE-20*	PTC139* PTC139*	HEPS0015* HEPS0015*	REN 123A REN 123A	SK3444 SK3444	RT-308 RT-308	ECG229* ECG229*	25C829 25C829	WEP829 WEP829	121-29000 121-29000
Q15	25C829 25C829B,C	229117	GE-20* GE-20*	PTC139* PTC139*	HEPS0015* HEPS0015*	REN 123A REN 123A	SK3444 SK3444	RT-308 RT-308	ECG229* ECG229*	25C829 25C829	WEP829 WEP829	121-29000 121-29000
Q16	25C710D,E	227517	GE-211* GE-211*	PTC132 PTC132	HEPS0016* HEPS0016*	REN 123A* REN 123A*	SK3444 SK3444	RT-308* RT-308*	ECG123A* ECG123A*	25C710 25C710	WEP710 WEP710	121-29000* 121-29000*
Q17	25C829B,C	229117	GE-20* GE-20*	PTC139* PTC139*	HEPS0015* HEPS0015*	REN 123A REN 123A	SK3444 SK3444	RT-308 RT-308	ECG229* ECG229*	25C829 25C829	WEP829 WEP829	121-29000 121-29000
Q18	25C829B,C	229117	GE-20* GE-20*	PTC139* PTC139*	HEPS0015* HEPS0015*	REN 123A REN 123A	SK3444 SK3444	RT-308 RT-308	ECG229* ECG229*	25C829 25C829	WEP829 WEP829	121-29000 121-29000
Q19	25C710D,E	227517	GE-211* GE-211*	PTC132 PTC132	HEPS0016* HEPS0016*	REN 123A* REN 123A*	SK3444 SK3444	RT-308* RT-308*	ECG123A* ECG123A*	25C710 25C710	WEP710 WEP710	121-29000* 121-29000*
Q20	25C828P 25C828	202617	GE-61* GE-61*	PTC139* PTC139*	HEPS0015* HEPS0015*	REN 199 REN 199	SK3444 SK3444	RT-302 RT-302	ECG199 ECG199	25C828 25C828	WEP828 WEP828	ZEN-119 ZEN-119
Q21	25C945 25C772	223817	GE-212 GE-61*	PTC121* PTC121*	HEPS0015* HEPS0015*	REN 199 REN 199	SK3124 SK3124	RT-107A RT-107A	ECG199 ECG199	25C945 25C372	WEP1945 WEP372	121-29000* 121-29000*
Q22	25C945L, P,Q	223817	GE-212 GE-212	PTC121* PTC121*	HEPS0015* HEPS0015*	REN 199 REN 199	SK3124 SK3124	RT-107A RT-107A	ECG199 ECG199	25C945 25C945	WEP1945 WEP1945	121-29000 121-29000
Q23	25A719Q 25A719P,R	256317	GE-269 GE-269	PTC103* PTC103*	HEPS0019* HEPS0019*	REN 290 REN 290	SK3114 SK3114	RT-305 RT-305	ECG290 ECG290	25A562 25A562	WEP911 WEP911	121-879 121-879
Q24	25A719 25A720	256317	GE-65 GE-65	PTC103* PTC103*	HEPS0019* HEPS0019*	REN 290 REN 234	SK3114 SK3114	RT-305 RT-305	ECG290 ECG234	25A562 25A564	WEP911 WEP564	121-879 121-879
Q25	25A564 25C945L	223817	GE-65 GE-212	PTC103* PTC121*	HEPS0019* HEPS0015*	REN 234 REN 199	SK3114 SK3124	RT-303 RT-107A	ECG234 ECG199	25A564 25C945	WEP564 WEP1945	121-879 121-29000
Q26	25C945 25C945P,Q	223817	GE-212 GE-212	PTC121* PTC121*	HEPS0015* HEPS0015*	REN 199 REN 199	SK3124 SK3124	RT-107A RT-107A	ECG199 ECG199	25C945 25C945	WEP1945 WEP1945	121-29000 121-29000

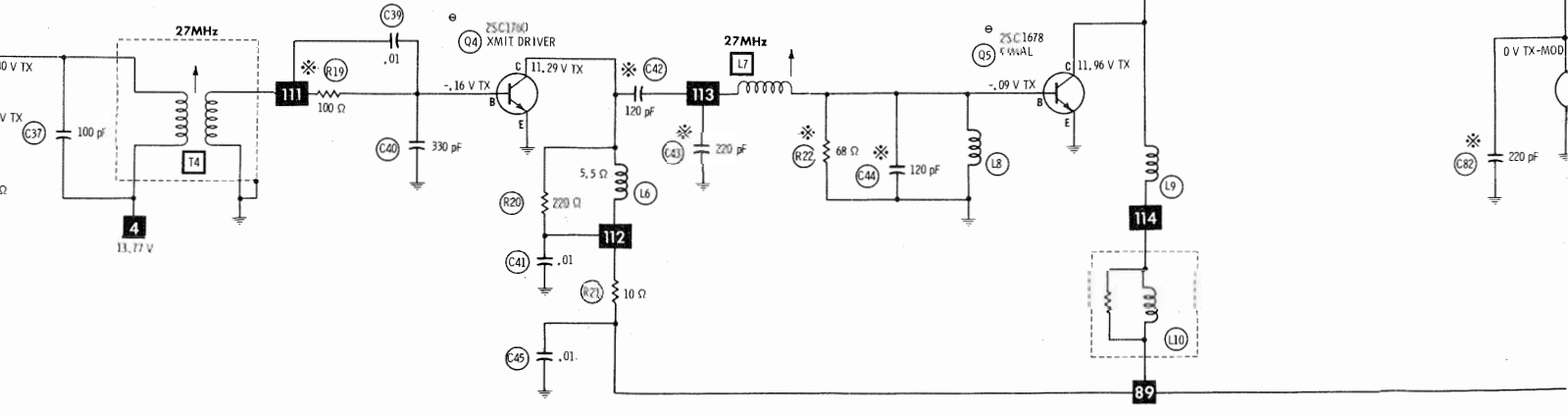
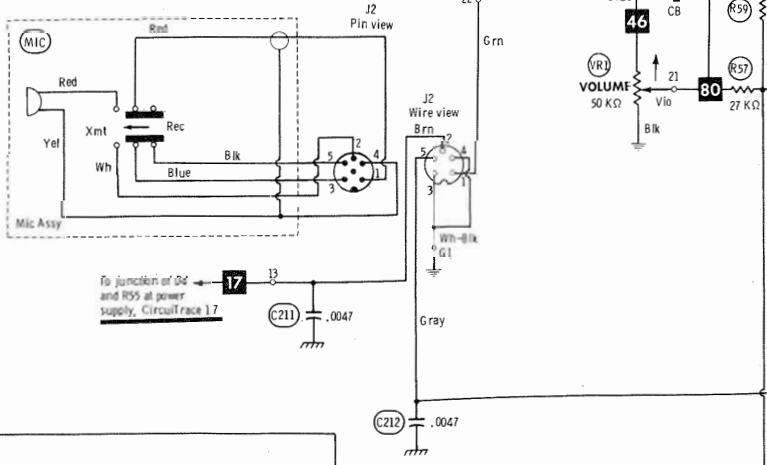
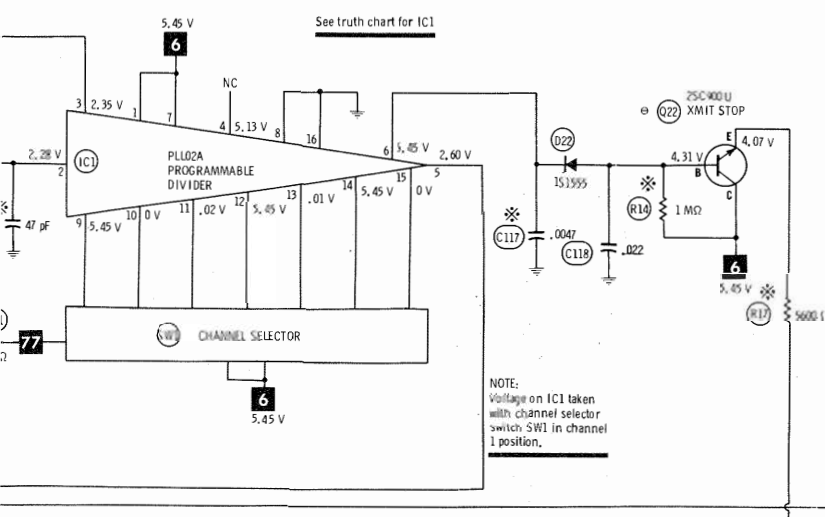
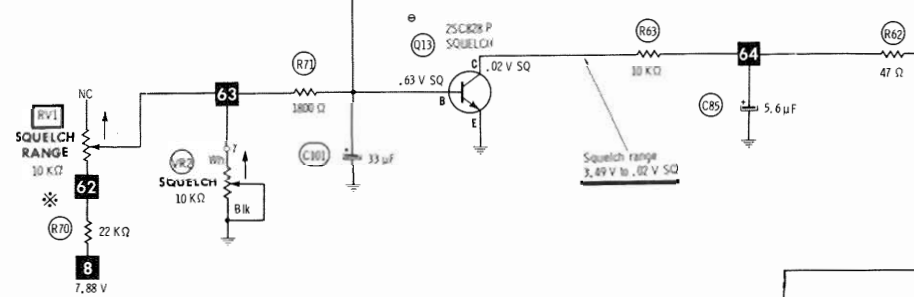
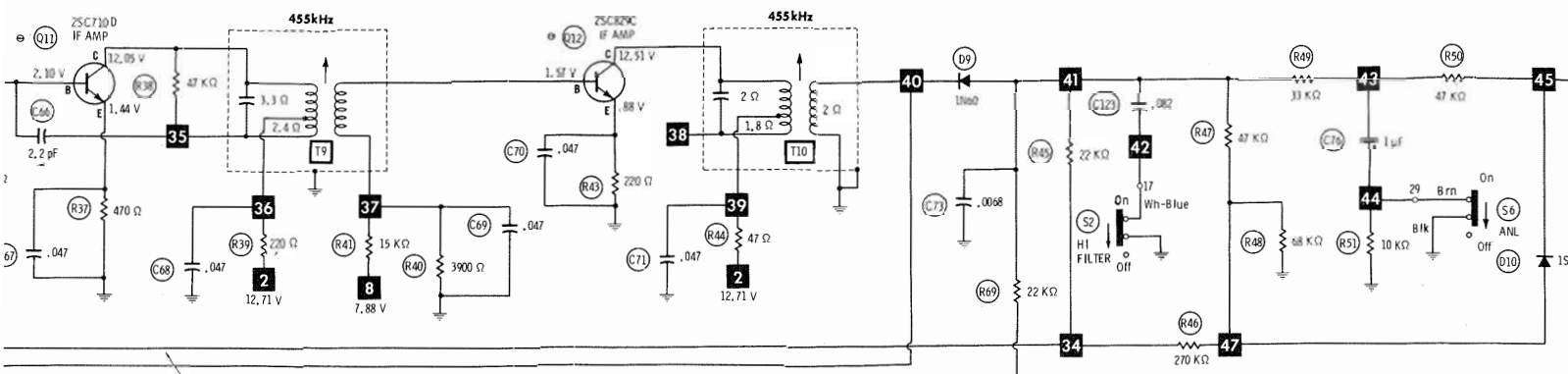
LAFAYETTE MODEL TELSAT 1140



- WITH **CIRCUITRACE[®]**

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PARTS LIST AND DESCRIPTION (CONTINUED)

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

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

			REPLACEMENT DATA									
ITEM No.	TYPE No.	MFR. PART No.	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.
Q16	25C900	213217	GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	25C900	WEP66	ZEN-119
	25C900F		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	25C900	WEP66	ZEN-119
	25C900UE		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	25C900	WEP66	ZEN-119
	25C710		GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	25C710	WEP710	121-29000*
Q17	25C710D,E	227517	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	25C710	WEP710	121-29000*
	25C829		GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	25C829	WEP829	121-29000*
	25C829B,C		GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	25C829	WEP829	121-29000*
	25C839		GE-61*	PTC132*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	25C839	WEP736*	121-29000*
Q22	25C710	227517	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	25C710	WEP710	121-29000*
	25C710D,E		GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	25C710	WEP710	121-29000*
	25C829		GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	25C829	WEP829	121-29000*
	25C829B,C		GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	25C829	WEP829	121-29000*
Q22	25C900U	231417	GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	25C900	WEP66	ZEN-119
	25C900E		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	25C900	WEP66	ZEN-119
	25C900F		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	25C900	WEP66	ZEN-119
	25C900F		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	25C900	WEP66	ZEN-119
POWER SUPPLY BOARD												
D1	V06C	194717	GE-504A	PTC201	HEPRO052	REN 116	SK3030	RT-213	ECG116	1N4004	WEP156	212-76-02
	F14A		GE-504A	PTC201	HEPRO052	REN 116	SK3030	RT-213	ECG116	1N4004	WEP156	212-76-02
D2	1S1885	252817	GE-504A	PTC201	HEPRO052	REN 116	SK3030	RT-213	ECG116	1N4004	WEP156	212-76-02
	V06C		GE-504A	PTC201	HEPRO052	REN 116	SK3030	RT-213	ECG116	1N4004	WEP156	212-76-02
D3	F14A	194717	GE-504A	PTC201	HEPRO052	REN 116	SK3030	RT-213	ECG116	1N4004	WEP156	212-76-02
	1S1885		GE-504A	PTC201	HEPRO052	REN 116	SK3030	RT-213	ECG116	1N4004	WEP156	212-76-02
D4	V06C	252817	GE-504A	PTC201	HEPRO052	REN 116	SK3030	RT-213	ECG116	1N4004	WEP156	212-76-02
	F14A		GE-504A	PTC201	HEPRO052	REN 116	SK3030	RT-213	ECG116	1N4004	WEP156	212-76-02
Q1	1S1885	252817	GE-504A	PTC201	HEPRO052	REN 116	SK3030	RT-213	ECG116	1N4004	WEP156	212-76-02
	25C900F		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	25C900	WEP66	ZEN-119
Q2	25C900UE	231417	GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	25C900	WEP66	ZEN-119
	25C900		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	25C900	WEP66	ZEN-119
Q3	25C900UE	231417	GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	25C900	WEP66	ZEN-119
	25C900		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	25C900	WEP66	ZEN-119
ZD1	2SD313	239517	GE-241	PTC154	HEPS0015*	REN 196	SK3054	RT-154	ECG196	25C1061	WEP756	ZEN-119
	BZ-162		GEZD-16	ZB16B	REN 5075		RT-246	ECG5075A	1N4745A	WEP1160	ZEN-119	
ZD2	RD6A	246017	GEZD-6.0			REN 5070			ECG5070		WEP1153	ZEN-119

* Lead configuration may vary from original.

ELECTROLYTIC CAPACITORS

ITEM No.		RATING	REPLACEMENT DATA				
			MFR. PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
MAIN BOARD						Q-LINE	GENERAL LINE
C1	.1	10V	119152	PC10-25	TDC104M050EL	QDT1-2	SD50-R109
C2	10	16V	104352		VTT10B25	QV1-41	EV-1222
C3	.22	10V	119252		TDC224M050EL	QDT1-10	SD50-R229
C11	.47	10V	106252		VTT47D16	QV1-73	EV-1226
C18	1	50V	101552	PC1-50	VTT1A50	QV1-11	EV-1615
C50	1	50V	101552	PC1-50	VTT1A50	QV1-11	EV-1615
C72	10	16V	104352	PC10-25	VTT10B25	QV1-41	EV-1222
C74	3.3	25V	102652	PC5-50	VTT3R3A50	QV1-23	EV-1318
C76	1	50V	101552	PC1-50	VTT1A50	QV1-11	EV-1615
C78	.47	16V	106352	PC50-16	VTT47D16	QV1-73	EV-1226
C85	5.6	25V	164458		TDC686M025FL	QDT1-51	SD25-SR69
C86	.47	10V	113352		TDC474M050EL	QDT1-19	SD50-R479
C87	33	6.3V	105652	PC30-25	VTT33B10	QV1-61	EV-1125
C93	.47	16V	106352	PC50-16	VTT47D16	QV1-73	EV-1226
C94	220	16V	109452	PC250-25	VTT220H16	QV1-117	EV-1240
C96	3.3	25V	102652	PC5-50	VTT3R3A50	QV1-23	EV-1318
C97	.47	10V	106252	PC50-16	VTT47D16	QV1-73	EV-1226
C99	.47	25V	106452	PC50-25	VTT47E25	QV1-75	EV-1326
C100	1000	16V	111652	PC1000-16	VTT1000L16	QV1-183	EV-1260
C101	33	6.3V	105652	PC30-25	VTT33B10	QV1-61	EV-1125
C120	33	16V	105852	PC30-25	VTT33D25	QV1-63	EV-1325
POWER SUPPLY BOARD							
C1	2200	25V	114952	WBR2000-25	TC2520A	QE1-645	TVA-1213.5
C2	100	25V	108152	PC100-25	VTT100G25	QV1-97	EV-1330

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
MAIN BOARD							
C1	.01		DC-103	MGP01	TA110	QC2-141	TJ-S10
C4	68 N150				*		10TCP-Q68
C5	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C6	22 N150				*		10TCP-Q22
C7	330		DD-331	GP330	GP333		10TS-T33
C8	150		DD-151		GP315		10TS-T15
C9	.047		DC-503	MGP05	TA150	QC2-207	TG-S50
C10	47		DTZ-47	NP047	CN0447		10TCC-Q47
C12	4 N150				*		10TCP-V39
C13	.001			DPMS6D1	EWFA210	QF1-1	1PB-D10
C14	68 N150				*		10TCP-Q68
C15	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C16	33		DTZ-33	NP033	CN0433		10TCC-Q33
C17	47 N150				*		10TCP-Q47
C19	.001			DPMS6D1	EWFA210	QF1-1	1PB-D10
C20	.001			DPMS6D1	EWFA210	QF1-1	1PB-D10
C21	.001			DPMS6D1	EWFA210	QF1-1	1PB-D10
C22	2		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C23	7		DTZ-6R8	NP06P8	CN0568		10TCC-V68

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS (cont)

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
C24	33 N150				*		10TCP-Q33
C25	4		DTZ-4R7	NP04P7	CN0547		10TCC-V47
C26	560		DD-561		GP356		10TS-T56
C27	390		DD-391	GP390	GP339		10TS-T39
C28	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C29	68		DD-680	GP68	GP468		10TS-Q68
C30	56		DD-560		GP456		10TS-Q56
C31	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C32	2		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C33	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C35	68		DD-680	GP68	GP468		10TS-Q68
C36	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C37	100 N150				*		10TCP-T10
C38	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C39	.01			WMF1S1	EWFA1A110	QF1-91	1PB-S10
C40	330		DD-331	GP330	GP333		10TS-T33
C41	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C42	120		DTZ-120		CN0312		10TCC-T12
C43	220		DD-221		GP322		10TS-T22
C44	120		DTZ-120		CN0312		10TCC-T12
C45	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C46	100		DD-101	GP100	GP310		10TS-T10
C47	270		DD-271	GP270	GP327		10TS-T27
C48	2		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C49	.0047		DD-472	GP4700	GP247		5GA-D47
C51	27				CN0427		10TCC-Q27
C52	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C53	.047		DC-503	MGP05	TA150	QC2-207	TG-S50
C54	.047		DC-503	MGP05	TA150	QC2-207	TG-S50
C55	.047			DPMS2S47	EWFA1A147	QF1-171	1PB-S47
C56	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C57	10		DTZ-10	NP010	CN0410		10TCC-Q10
C58	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C59	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C60	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C61	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C62	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C63	2		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C64	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C65	18 N150				*		10TCP-Q18
C66	2.2		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C67	.047			DPMS2S47	EWFA1A147	QF1-171	1PB-S47
C68	.047			DPMS2S47	EWFA1A147	QF1-171	1PB-S47
C69	.047			DPMS2S47	EWFA1A147	QF1-171	1PB-S47
C70	.047			DPMS2S47	EWFA1A147	QF1-171	1PB-S47
C71	.047			DPMS2S47	EWFA1A147	QF1-171	1PB-S47
C73	.0068			WMF1D68	EWFA1A268	QF1-73	1PB-D68
C75	.0047		DD-472	GP4700	GP247		5GA-D47
C77	100		DD-101	GP100	GP310		10TS-T10
C79	.022			DPMS2S22	EWFA1A122	QF1-127	1PB-S22
C80	.0022		DD-222		GP222	QC2-97	5GA-D22
C81	.022			DPMS2S22	EWFA1A122	QF1-127	1PB-S22
C82	220		DD-221		GP322		10TS-T22
C83	.01			WMF1S1	EWFA1A 10	QF1-91	1PB-S10
C84	390		DD-391	GP390	GP339		10TS-T39
C88	68		DD-680	GP68	GP468		10TS-Q68
C89	68		DD-680	GP68	GP468		10TS-Q68
C90	470		DD-471	GP470	GP347		10TS-T47
C91	.068			WMF1S68	EWFA1A168	QF1-195	1PB-S68
C92	.022			DPMS2S22	EWFA1A122	QF1-127	1PB-S22
C95	.068			WMF1S68	EWFA1A168	QF1-195	1PB-S68
C102	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C106	.047		DC-503	MGP05	TA150	QC2-207	TG-S50
C107	.047		DC-503	MGP05	TA150	QC2-207	TG-S50
C110	18				CN0418		10TCC-Q18
C111	82		DD-820		GP482		10TS-Q82
C112	39				CN0439		10TCC-Q39
C113	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C114	390		DD-391	GP390	GP339		10TS-T39
C115	18				CN0418		10TCC-Q18
C117	.0047		DD-472	GP4700	GP247		5GA-D47
C118	.022				GP120		5GA-S20
C123	.082			WMF1S82	EWFA1A182		1PB-S82
C130	.0022		DD-222		GP222	QC2-97	5GA-D22
C131	39 N150				*		10TCP-Q39
C132	15 N150				*		10TCP-Q15
C133	.0022		DD-222		GP222	QC2-97	5GA-D22
C141	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C142	100		DD-101	GP100	GP310		10TS-T10
C201	150		DD-151		GP315		10TS-T15
C202	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C203	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C204	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C205	.047		DC-503	MGP05	TA150	QC2-207	TG-S50
C206	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C207	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C208	.0047		DD-472	GP4700	GP247		5GA-D47

LAFAYETTE MODEL TELSAT 1140

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
C209	.0047	109957	DD-472	GP4700	GP247		5GA-D47
C210	.0047		DD-472	GP4700	GP247		5GA-D47
C211	.0047		DD-472	GP4700	GP247		5GA-D47
C212	.0047		DD-472	GP4700	GP247		5GA-D47
C214	.0047		DD-472	GP4700	GP247		5GA-D47
C215	.0047		DD-472	GP4700	GP247		5GA-D47
CT1	20						
POWER SUPPLY BOARD							
C3	.022				GP120		5GA-S20
C4	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C5	.047		DC-503	MGP05	TA150	QC2-207	TG-S50
C6	.022				GP120		5GA-S20

* 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.
MAIN BOARD						
RV1	Squelch Range	10K	271613	F2-50K(1), SSK100,KR2	RU54A,SL36,SL3250, US42	U260R103B
RV2	AMC	5000	292513			U260R502B
RV3	S Meter	20K	278013			U260R253B
RV4	RF Meter	50K	284813			U260R503B
VR1	Volume/Switch	50K	185111			BU1(1),CF63, SS1,Wf
VR2	Squelch	10K	184411			
POWER SUPPLY BOARD						
RV1	Voltage	500	294213			X260R501B

(1) Enlarge mounting hole.

COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L1	VCO (18MHz)	294623	TR-10DD003S	70F226A1	
L2	VCO Mixer (38MHz)	227924	TR-10MB003T		
L3	RF Choke (68uH)	287323	LF-680KD01N		
L4	RF Choke (1uH)	300023	LF-0R9KD01N		
L5	Xmt Osc (27MHz)	294823	TR-10CB002M		
L6	RF Choke (2.2uH)	287423	LF-2R2KD01N		
L7	Xmt Driver (27MHz)	226324	TR-A5CZ001M		
L8	RF Choke (68uH)	287323	LF-680KD01N		
L9	RF Choke (.55uH)	287623	LA-1KE1011A		
L10	RF Choke (1uH)	287523	LD-ADX3825M		
L11	Final (27MHz)	226424	TR-A5CZ002M		
L12	Pi Filter (27MHz)	226524	TR-A5CZ003M		
L13	RF Choke (.4uH)	294923	LA-1J61010A		
L14	IF (10.695MHz)	291423	TR-07MB008N		
L15	RF Choke (68uH)	287323	LF-680KD01N		
L16	RF Choke (.75uH)	251723	LD-ADB4024B		
L17	RF Choke (.75uH)	251723	LD-ADB4024B		
L201	RF Choke (1.95uH)	251223	LD-ADA3038J		
T1	Rec Osc (20.480MHz)	230024	TR-10DB002S		
T2	VCO Mixer (38MHz)	230124	TR-10MB005S		
T3	Xmt Mixer (27MHz)	291623	TR-10CB001S		
T4	Xmt Buffer (27MHz)	291723	TR-10CD005S		
T5	Rec Antenna (27MHz)	226624	TR-10MP003T		
T6	Rec RF (27MHz)	226724	TR-10CA003T		
T7	IF (10.695MHz)	291423	TR-07MB008N		
T8	IF (455kHz)	227024	TR-07LA004N		
T9	IF (455kHz)	227124	TR-07LA005N		
T10	IF (455kHz)	227824	TR-07LA023N		

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.	
CH1	1.3A	.116	.48mH	287223 ELA16(1)	TR523		(1) Number on unit.

PARTS LIST AND DESCRIPTION (CONTINUED)

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

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA			NOTES
	PRI.	SEC.	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T11	2.88	1 8 2 13.52	188015 ETA66(i)	TR723	MCB-16	(1) Number on unit.

TRANSFORMER (Power)

ITEM No.	RATING		REPLACEMENT DATA			NOTES
	PRI.	SEC. 1	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
PT	120V AC @ 360mA AC	17.50V AC @ 4.21A AC	189515 ETP-99(1)			(1) Number on unit.

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP	3" PM 8 Ohms	133536	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	
CHASSIS									
F	2A			AGC2		312002		150145	
F1	.75A	538920	192319	AGC3/4	H0J HKP	312.750		342001A	FG2-2
POWER SUPPLY BOARD									
F1	2.5A Pigtail	524420		GJV2 1/2		31802.5			

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	110334	18-032	18-034	18-010	18-105	1	4	2	5	NC	3	

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
CF1	Ceramic Filter	141135	455kHz
CR1	Component Combination	161558	AC Isolation
J1	Jack	221819	Antenna
J2	Jack	237419	Microphone
J3	Jack	206319	PA
J4	Jack	206319	External Speaker
J5	Jack	239119	DC Power
J6	Jack	219419	AC Power
J7	Jack	239019	Headphone
M1	Meter	124627	S/RF
PL1	Lamp	540320	Channel Indicator (4.98V @ 32mA)
PL2	Lamp	576520	Meter (4.98V @ 56mA)
PL3	Lamp	572620	TX (4.96V @ 30mA)
PL4	Lamp	576520	Meter (4.96V @ 32mA)
S1	Switch		Power (Part of Volume Control)
S2	Switch	223914	DIST/LO
S3	Switch	223914	CB/PA
S4	Switch	223314	Delta Tune
S5	Switch	223914	Tone
S6	Switch	223914	ANL
S8	Switch		AC/DC (Part of J6)
SW1	Switch	226614	Channel Selector
X1	Crystal	141135	10.240MHz
X2	Crystal	142035	10.695MHz
	Printed Circuit Board	194416	Main (PTBM052COX)
	Printed Circuit Board	185716	Power Supply (PTP0003COX)
	Power Cord	128738	AC
	Power Cord	135738	DC

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

ITEM	PART No.	ITEM	PART No.
Knob, Channel Selector	210418	Escutcheon	203580
Knob, Control	210518	Cabinet, Top	198280
Channel Indicator Disc	600220	Cabinet, Bottom	198380

LAFAYETTE MODEL TELSAT 1140