

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.



LAFAYETTE MODEL COM-PHONE 23A

MODEL Com-Phone 23A (99-33342W)

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

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7CY568

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:

L112, T106 thru T109	5009
L103, L104, T101 thru T105, T111	9440
L106, L109, L110	9304
C119	5000

SYNTHESIZER ALIGNMENT

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of frequency counter to TP10.	Ch. 1		Check for 10.2392MHz $\pm$ 120Hz.
Input of DC meter to TP8.	Ch. 1	T101	Adjust for 1.5V $\pm$.1V.
Input of frequency counter to TP11.	Ch. 1	C119	Adjust for 37.6592MHz $\pm$ 380Hz.
Input of RF VTVM to TP12.	Ch. 13	T111	Adjust for maximum.
Input of frequency counter to TP14.	Ch. 1, Xmit		Check for 10.6942MHz $\pm$ 120Hz.

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 TP13. 455kHz, 1000Hz @ 30% modulation.	Ch. 13	T109, T108, T107	Adjust for maximum output.
Output of signal generator thru .01uF to TP12. 10.695MHz, 1000Hz @ 30% modulation.	Ch. 13	T106, L112	Adjust for maximum output.
Output of signal generator thru .01uF to antenna jack. 27.115MHz, 1000Hz, @ 30% modulation.	Ch. 13	T105, T104	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	TRANSCIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna jack. 27.115MHz, 1000Hz, @ 30% modulation. Output 500uV.	Ch. 13	RV101	SQUELCH RANGE Set squelch control R2 to maximum. Adjust RV101 so that squelch just breaks.
Output of signal generator thru .01uF to antenna jack. 27.115MHz, 1000Hz, @ 30% modulation. Output 100uV.	Ch. 13	RV103	S METER Adjust RV103 for 9 on S scale of meter.

TRANSMITTER ALIGNMENT

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

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

See page 4 for channel frequencies.

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
	Ch. 13	L103, L104, T102, T103, L106, L109, L110	Adjust for maximum.
	Ch. 13	L110	Adjust for 3.8 watts.

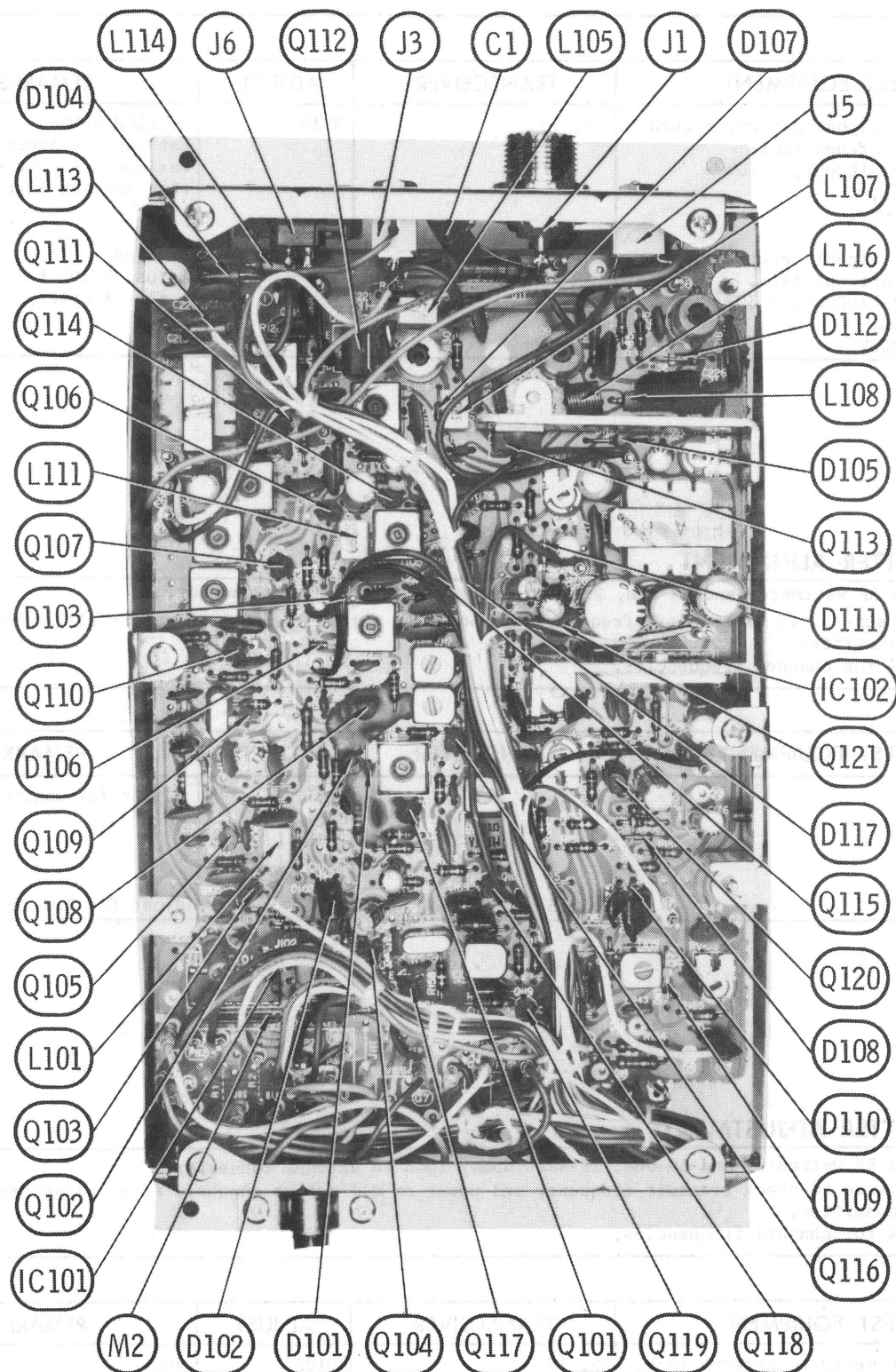
TRANSMITTER ADJUSTMENTS

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

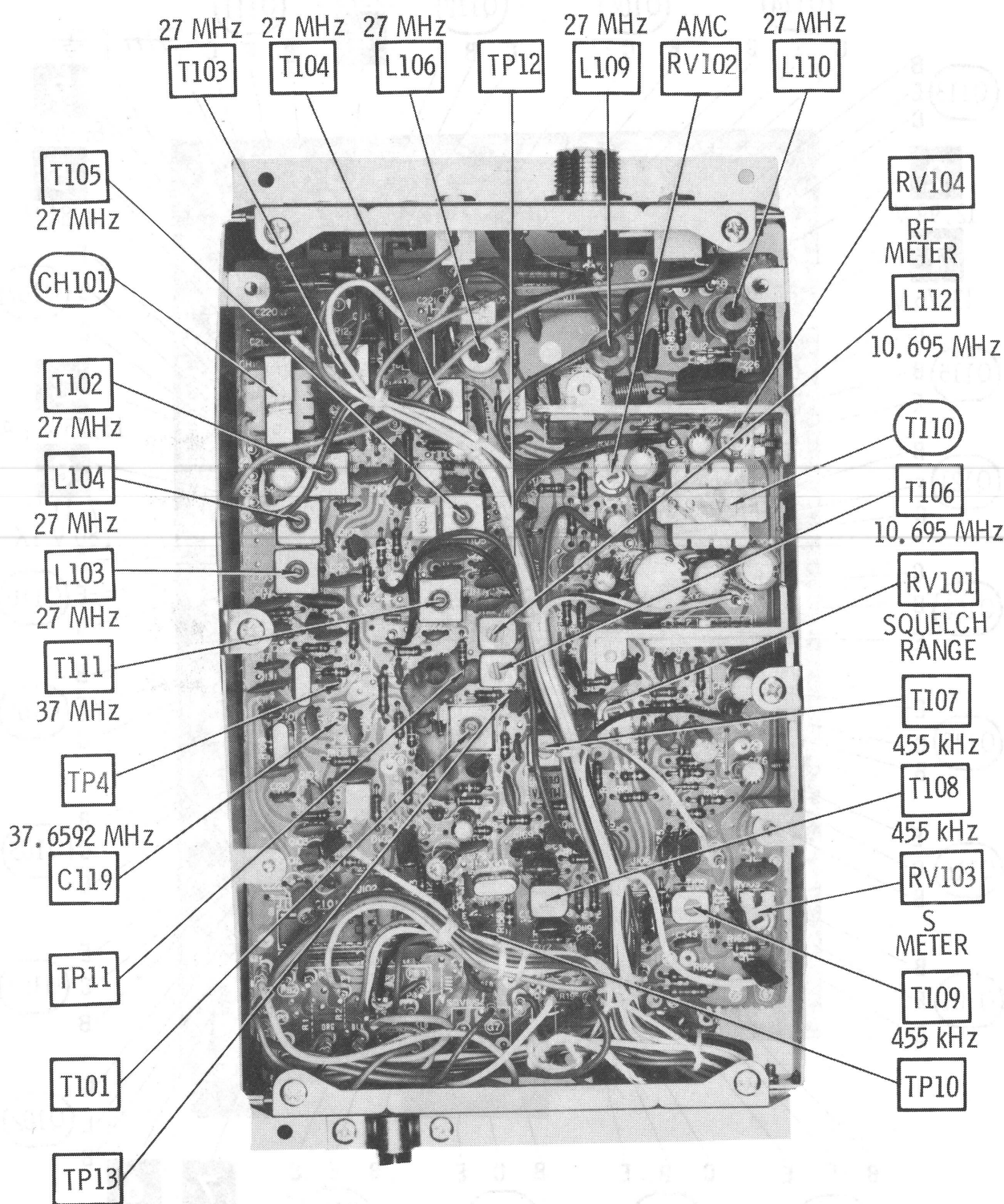
NOTE: Be sure to check transmit frequency and power on all active channels after adjustments of transmitter.

See page 4 for channel frequencies.

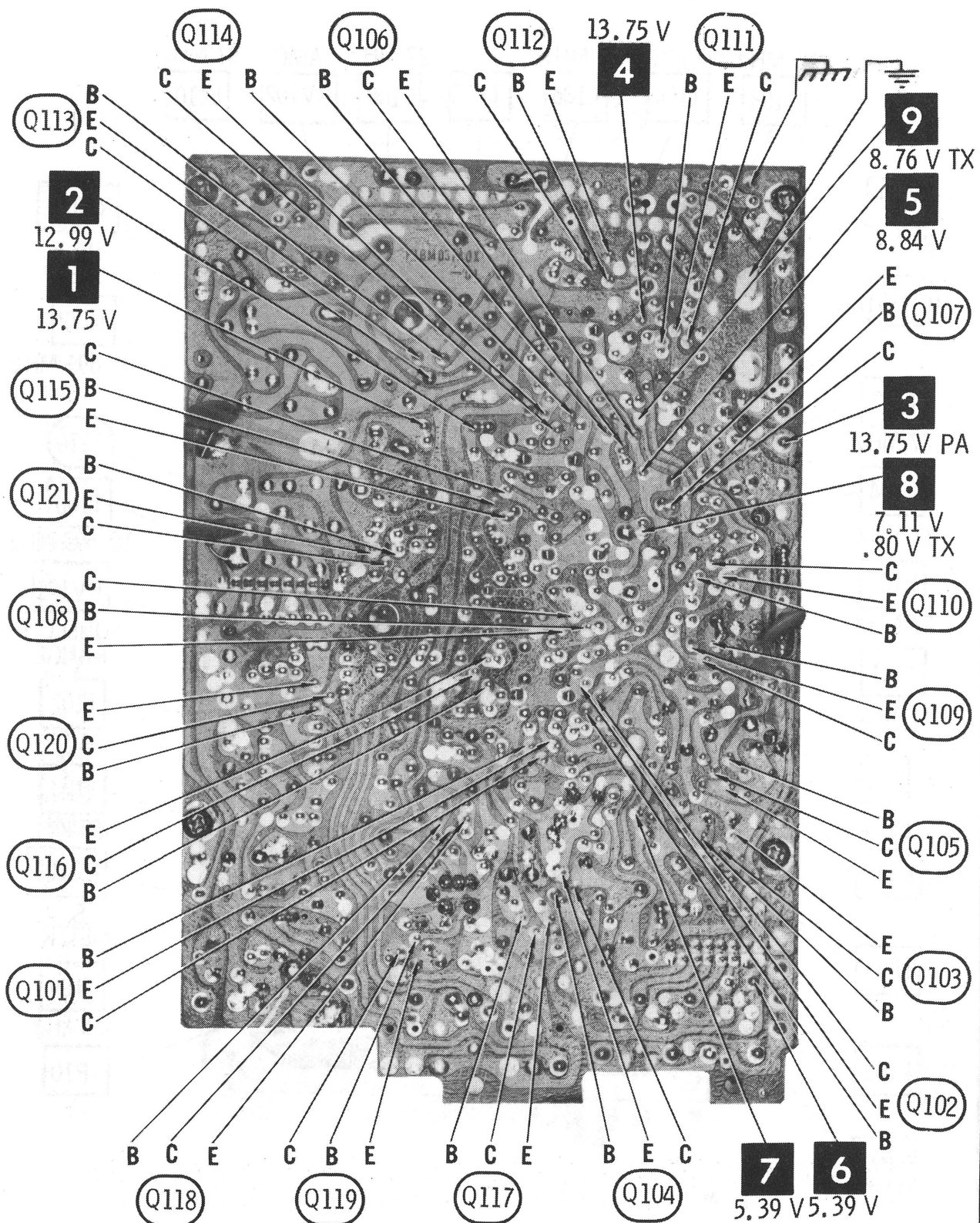
TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Modulation meter to antenna jack. Inject a 1000Hz, 20m volt signal to Mic input.	Ch. 13	RV102	AMC Adjust RV102 for 90% modulation.
	Ch. 13	RV104	RF PANEL METER Adjust RV104 so that RF panel meter agrees with RF wattmeter.



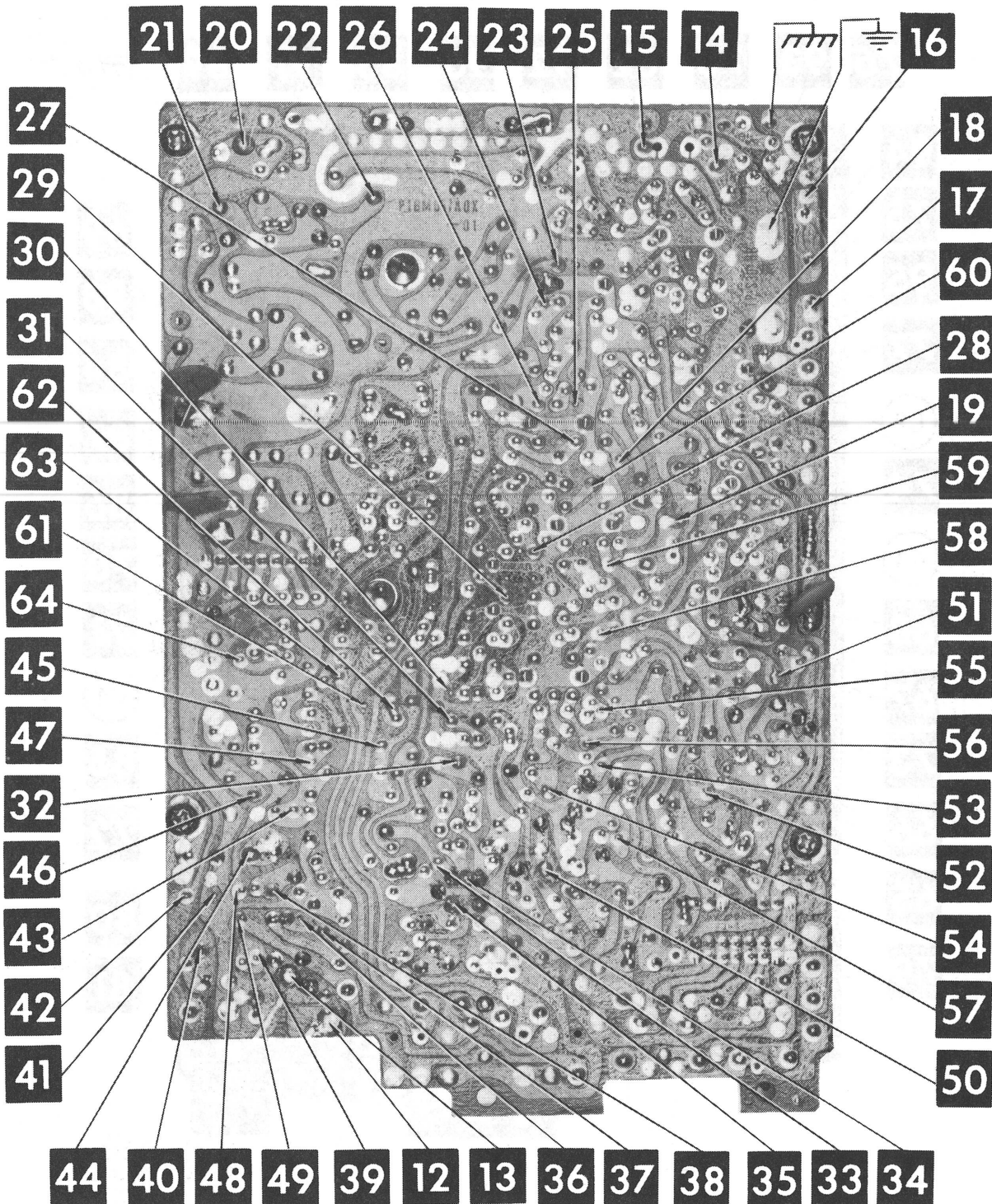
MAIN BOARD



CHASSIS-BOTTOM

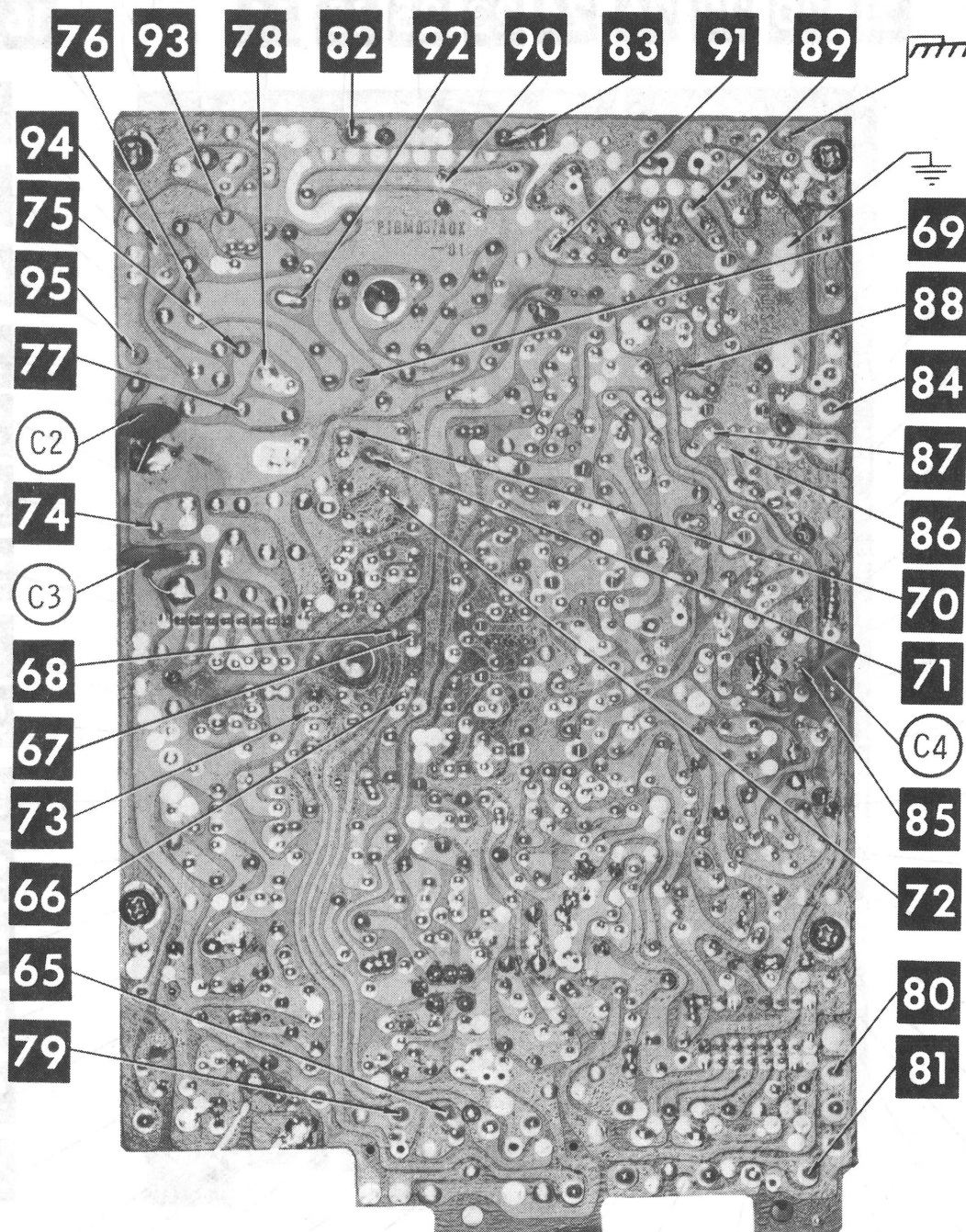


MAIN BOARD



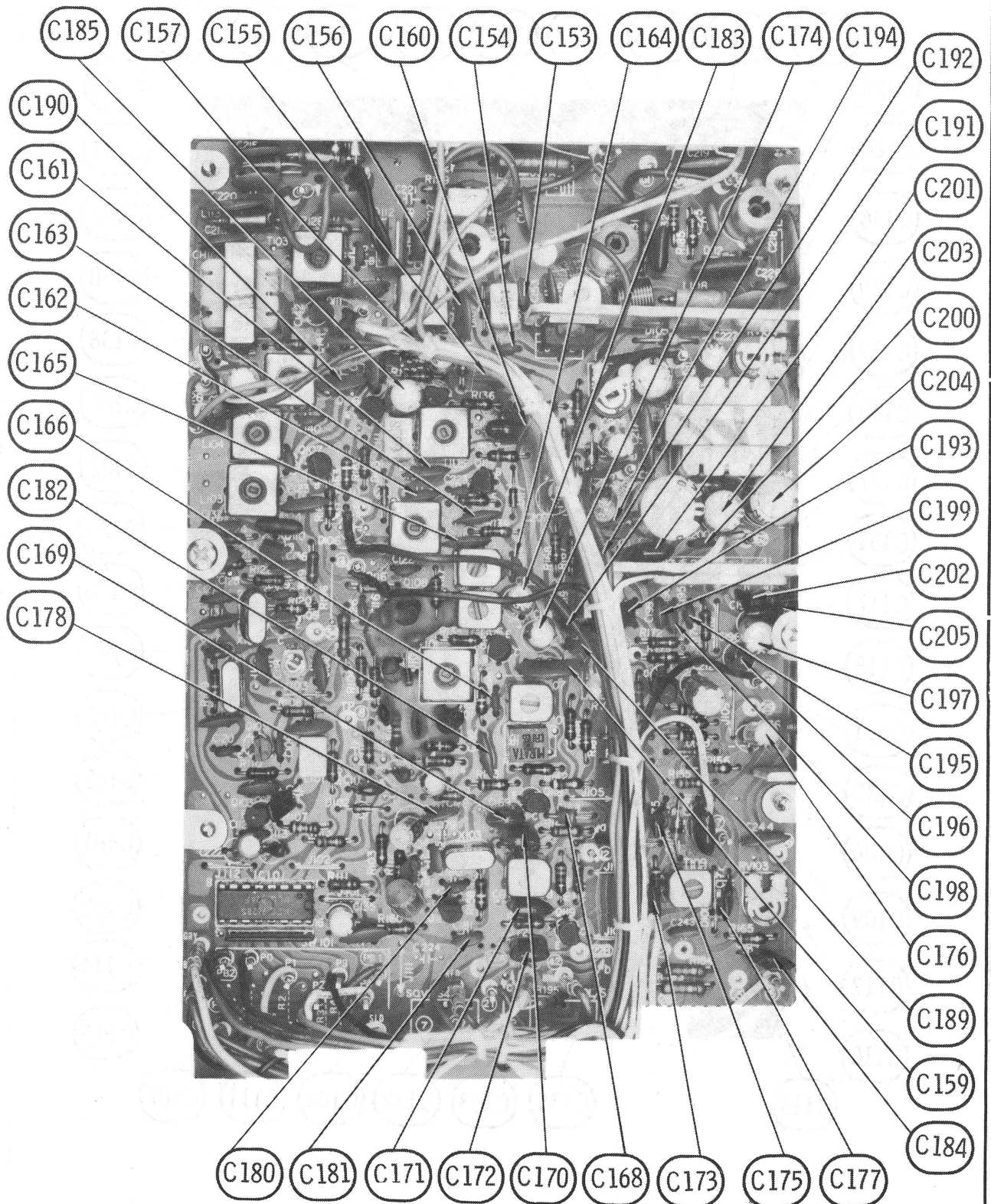
LAFAYETTE MODEL COM-PHONE 23A

MAIN BOARD

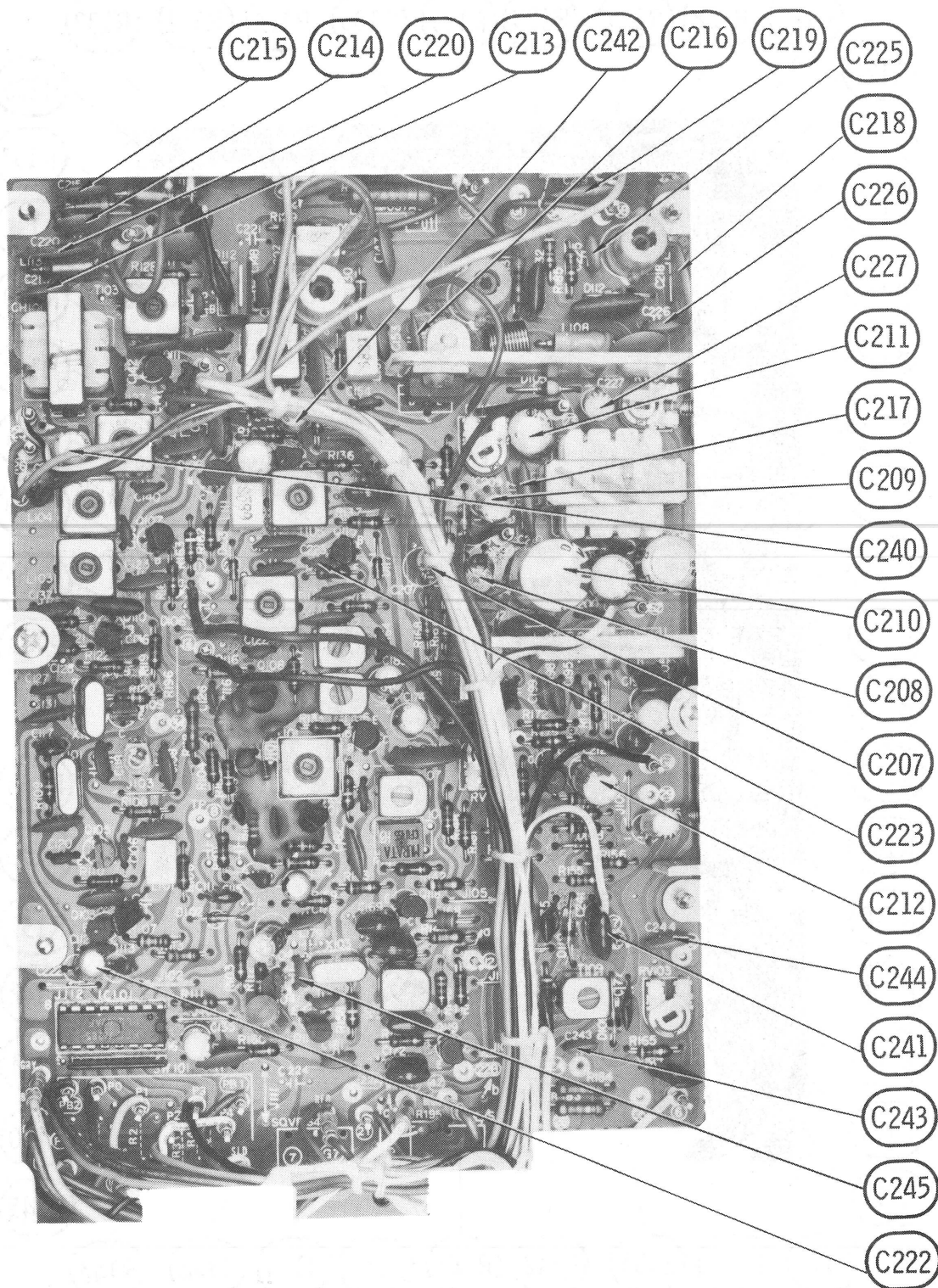


MAIN BOARD

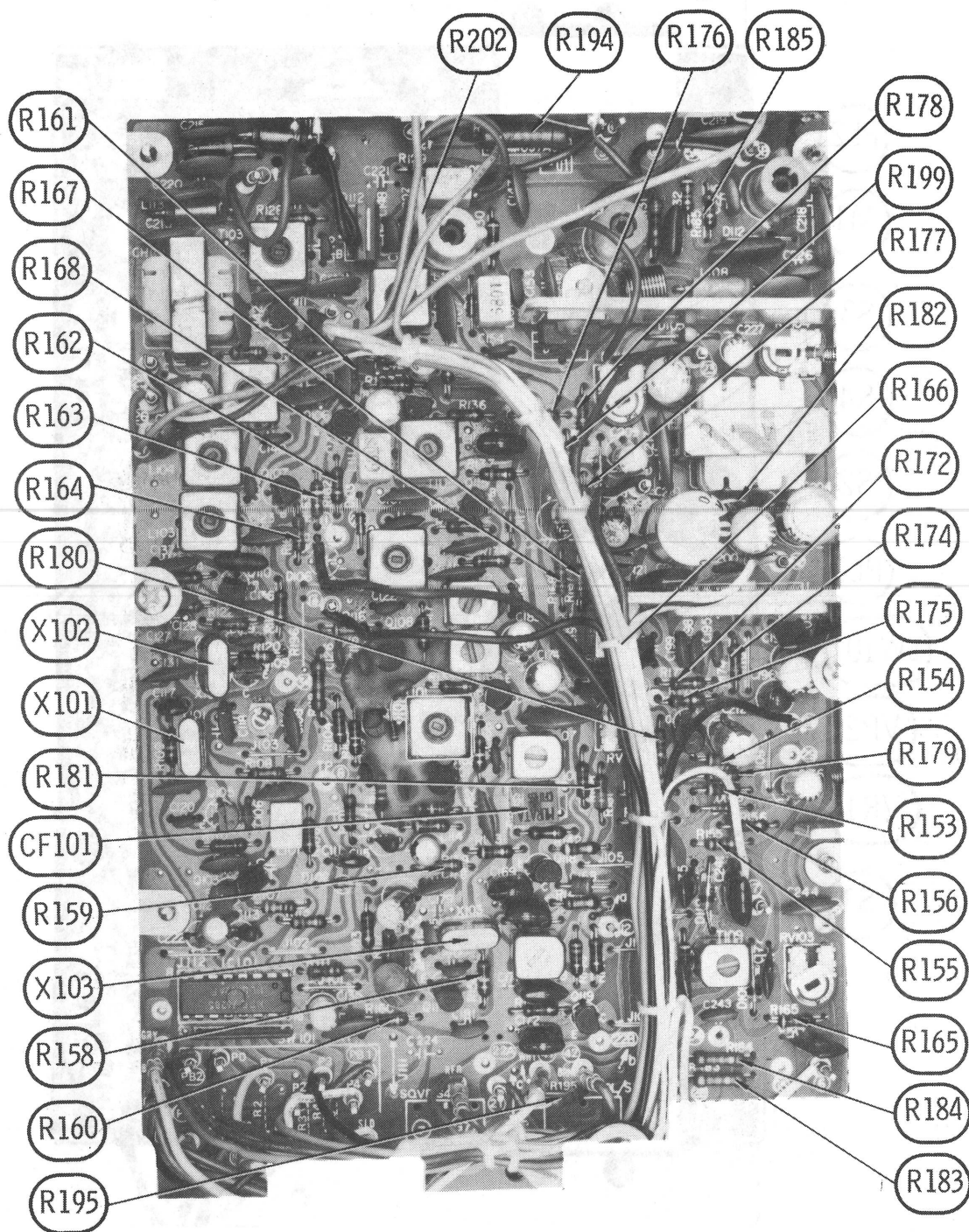




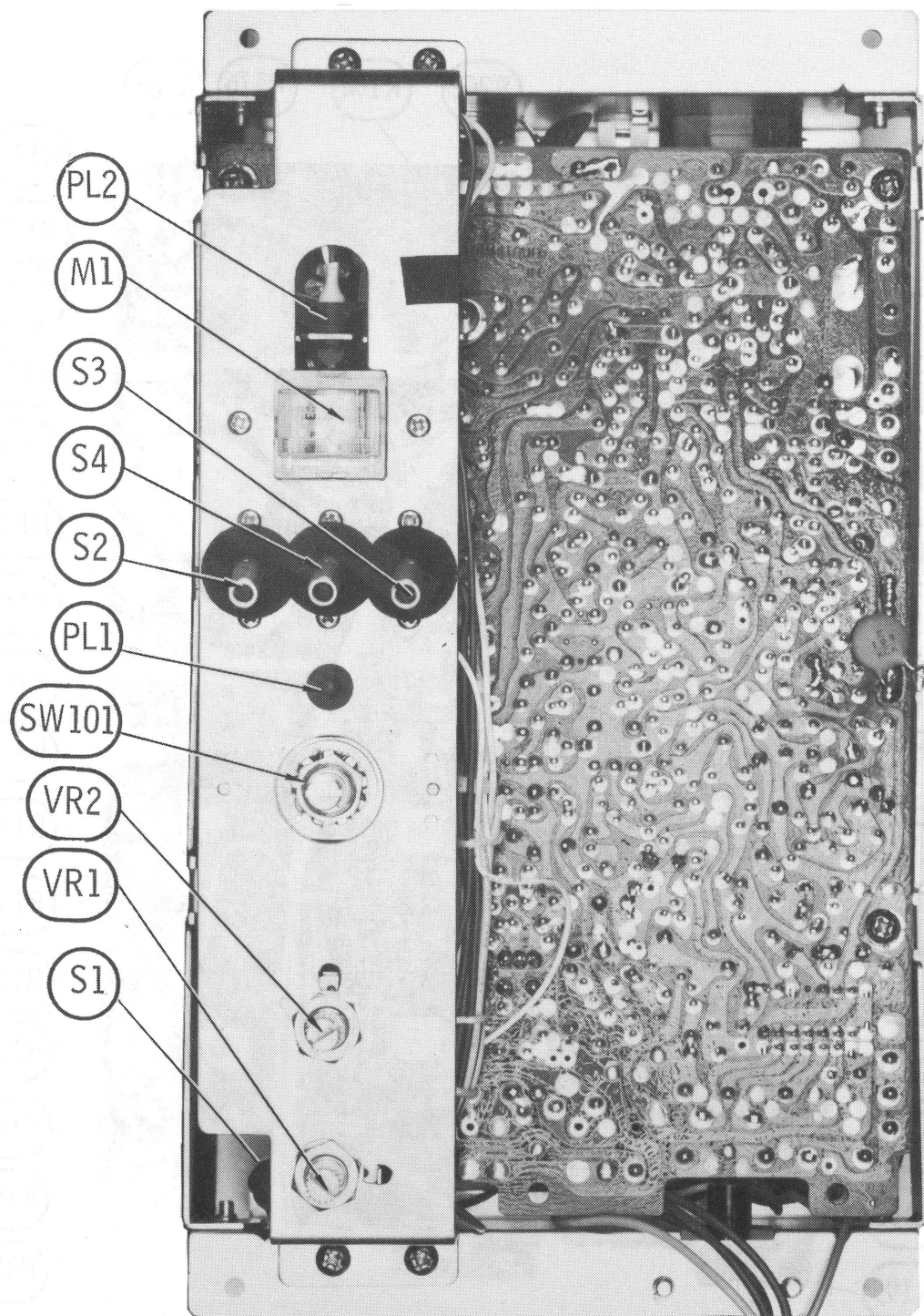
MAIN BOARD



MAIN BOARD



MAIN BOARD



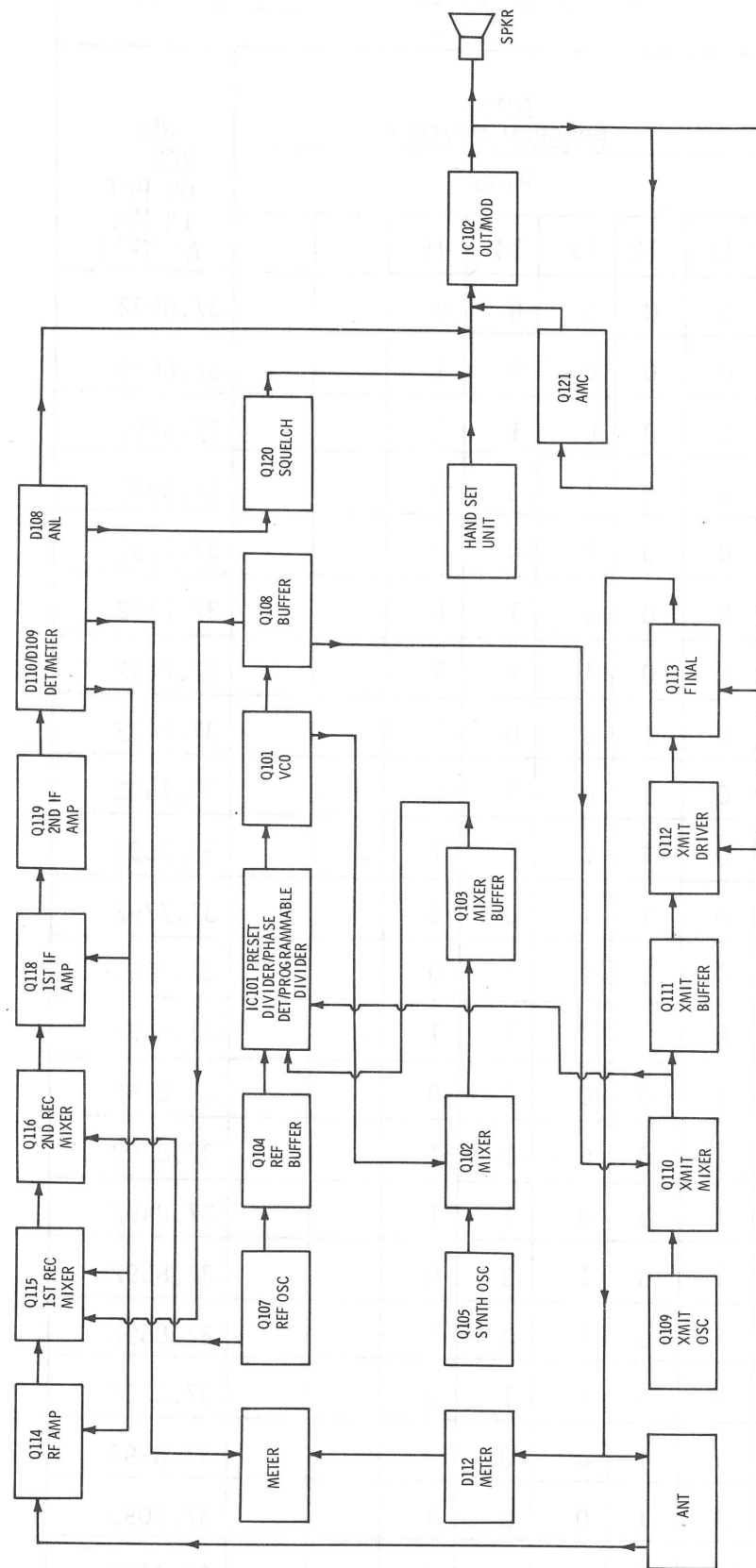
CHASSIS-TOP

TRUTH CHART

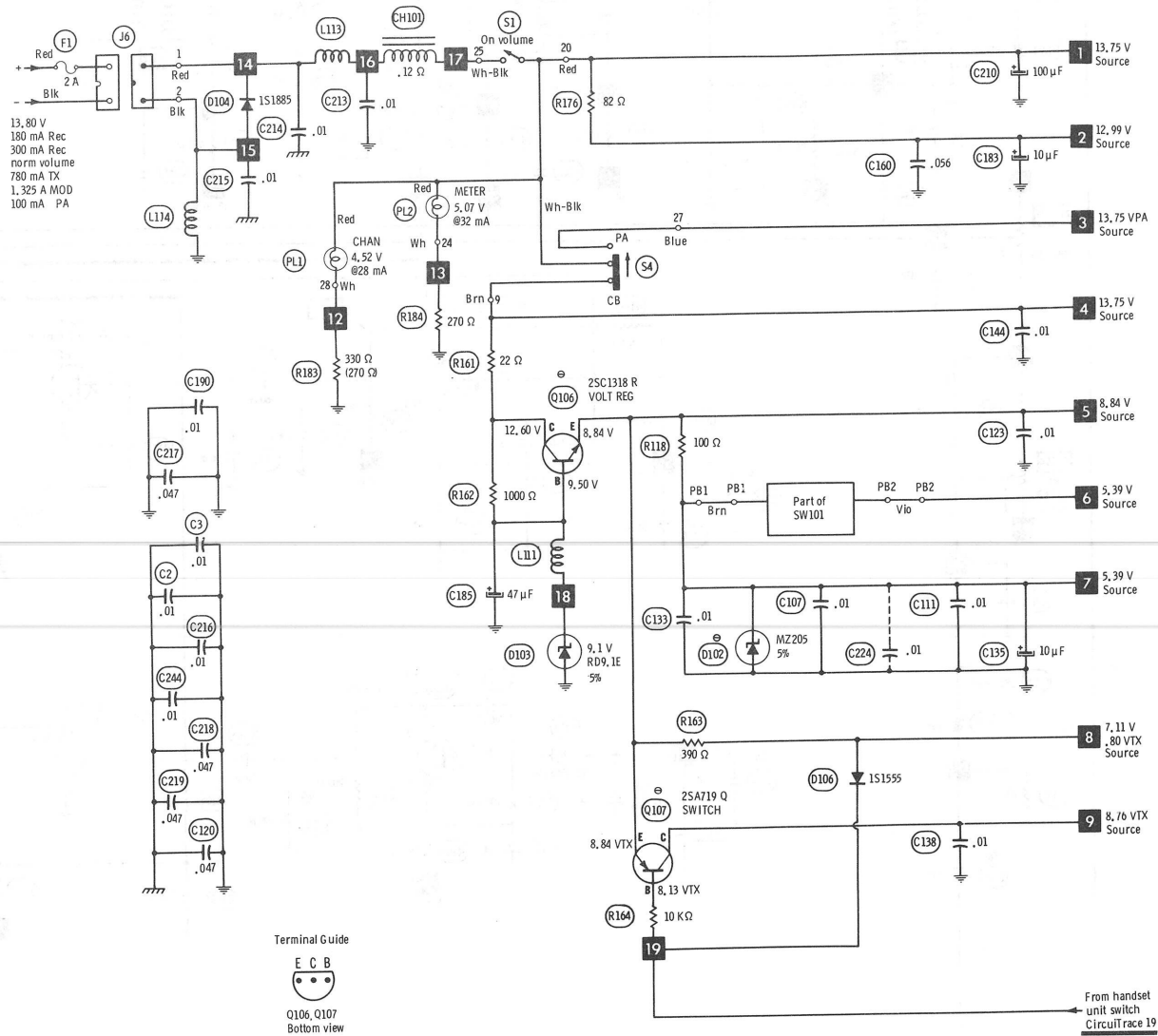
1 = 5.39 Volts 0 = 0 Volts

CHANNEL	IC101 PROGRAM DIVIDER							REC VCO OUTPUT IN MHz AT TP11
	PINS							
	11	12	13	14	15			
1	0	0	0	0	0			37.6592
2	0	0	0	0	1			37.6692
3	0	0	0	1	0			37.6792
4	0	0	1	0	0			37.6992
5	0	0	1	0	1			37.7092
6	0	0	1	1	0			37.7192
7	0	0	1	1	1			37.7292
8	0	1	0	0	1			37.7492
9	0	1	0	1	0			37.7592
10	0	1	0	1	1			37.7692
11	0	1	1	0	0			37.7792
12	0	1	1	1	0			37.7992
13	0	1	1	1	1			37.8092
14	1	0	0	0	0			37.8192
15	1	0	0	0	1			37.8292
16	1	0	0	1	1			37.8492
17	1	0	1	0	0			37.8592
18	1	0	1	0	1			37.8692
19	1	0	1	1	0			37.8792
20	1	1	0	0	0			37.8992
21	1	1	0	0	1			37.9092
22	1	1	0	1	0			37.9192
23	1	1	1	0	1			37.9492

LAFAYETTE MODEL COM-PHONE 23A



BLOCK DIAGRAM



—*— Circuitry not used in some versions

--- Circuitry used in some versions

⊙ See parts list

✱ Nominal value

⊥ Ground

Chassis

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.

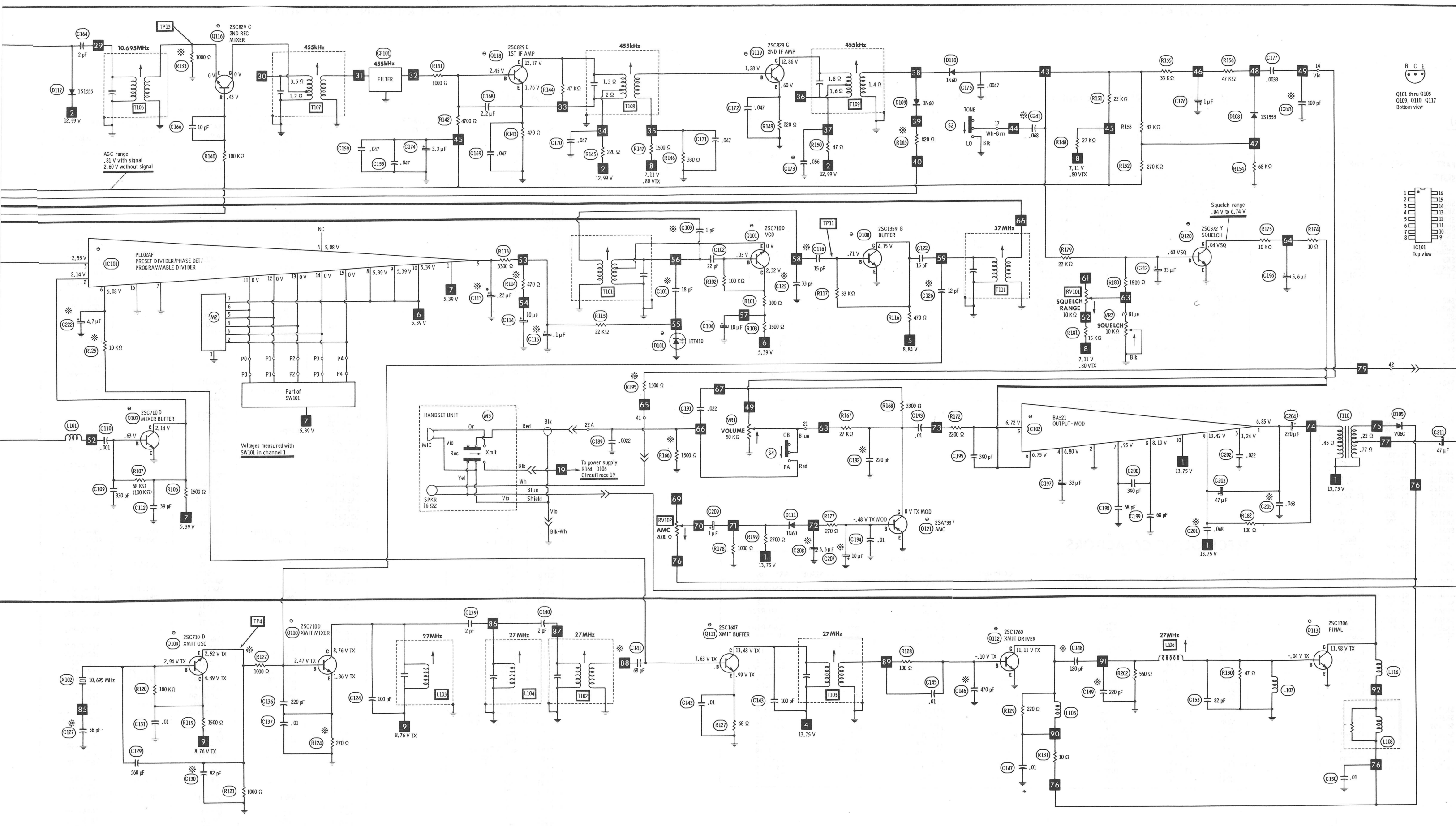
Resistors are 1/2W or less, 5% unless noted.

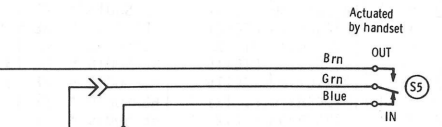
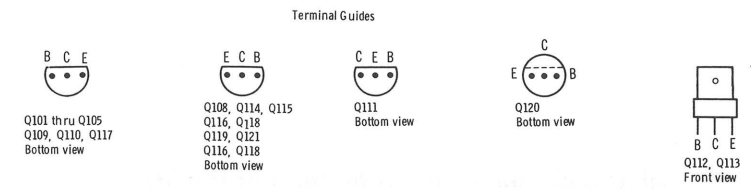
Value in () used in some versions.

A PHOTOFAC STANDARD NOTATION SCHEMATIC

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PARTS LIST AND DESCRIPTION
(When ordering parts, state Model, Part Number, and Description.)

SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFR. 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.
D101	ITT410	256717	GE-90	D201		HEPR2503	RE 195	SK3126	RT-262	ECG610
D102	MZ205	256817	GE-300	WEP602			RE 105			ECG135
D103	RD9.1E	245217	GEZD-9.1				RE 114			ECG139A
D104	1S1885	252817	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D105	V06C	194917	GE-504A	5A4D	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116
D106	1S1555	193719	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D107	1S1555	193719	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D108	1S1555	193719	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D109	1N60	218017	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D110	1N60	218017	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D111	1N60	218017	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D112	1N60	218017	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D117	1S1555	193717	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
IC101	PLL02A	106525								ECG167
IC102	BA521	106625								ECG166
Q101	2SC710D	227517	GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
Q102	2SC710(1)	227517	GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC710D		GE-220 *		PTC144 *	HEPS0026 *	RE 78 *	SK3040 *	RT-110 *	ECG194 *
	2SC710(1)		GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC829(1)		GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
Q103	2SC829C	228417(1)	GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
	2SC829D	256217(1)	GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
	2SC839(1)	227517	GE-61 *	(IR)2SC644	PTC132 *	HEPS0015 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC710D		GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
Q104	2SC710(1)	227517	GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC829(1)		GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
	2SC829C		GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
	2SC829D		GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
Q105	2SC839(1)	228417(1)	GE-61 *	(IR)2SC644	PTC132 *	HEPS0015 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC710D	227517	GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC710(1)	224817(1)	GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC829(1)		GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
Q106	2SC829C	256217(1)	GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
	2SC829D	231014(1)	GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
	2SC839(1)		GE-61 *	(IR)2SC644	PTC132 *	HEPS0015 *	RE 13 *	SK3018 *	RT-308	ECG123A *
	2SC1318R	256317	GE-210 *	TR-21 *	PTC178	HEPS0015 *	RE 17 *	SK3122	RT-302	ECG128 *
Q107	2SC1318Q		GE-210 *	TR-21 *	PTC178	HEPS0015 *	RE 17 *	SK3122	RT-302	ECG128 *
	2SCA719Q	256417	GE-269	TR-28 *	PTC103 *	HEPS0019 *	RE 26 *	SK3114	RT-305	ECG290
	2SA719(1)		GE-269	TR-28 *	PTC103 *	HEPS0019 *	RE 26 *	SK3114	RT-305	ECG290
Q108	2SC1359B	256417	GE-212	(IR)2SC380AQ	PTC121 *	HEPS0014 *	RE 192	SK3038 *	RT-308	ECG199
	2SC1359(1)		GE-212	(IR)2SC380AQ	PTC121 *	HEPS0014 *	RE 192	SK3038 *	RT-308	ECG199
	2SC1047(1)	256617(1)	GE-60 *	(IR)2SC829B	PTC132 *	HEPS0016 *	RE 28 *	SK3018 *	RT-107	ECG161 *
	2SC1047B		GE-60 *	(IR)2SC829B	PTC132 *	HEPS0016 *	RE 28 *	SK3018 *	RT-107	ECG161 *
Q109	2SC710D	227517	GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC710(1)	227517	GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC710D		GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC710(1)	256517(1)	GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
Q111	2SC1687	256517(1)	GE-20 *	TR-24 *	PTC121 *	HEPS0015 *	RE 13 *	SK3018 *	RT-107A *	ECG123A *
	2SC1687	256517(1)	GE-20 *	TR-24 *	PTC121 *	HEPS0015 *	RE 13 *	SK3018 *	RT-107A *	ECG123A *
	2SC1688(1)		GE-81 *	TR-24 *	PTC121 *	HEPS0027 *	RE 13 *	SK3137 *	RT-172 *	ECG123A *
	2SC1215(1)	245917(1)	GE-55		PTC163	HEPS5000	RE 40	ECG184	RT-194	ECG306
Q112	2SC1760	245917(1)	GE-276				RE 224	ECG306	RT-310	ECG306
	2SC1760/2	245917(1)	GE-276				RE 224	ECG306	RT-310	ECG306
	2SC1760/3	245917(1)	GE-276				RE 224	ECG306	RT-310	ECG306
	2SC1760/4	245917(1)	GE-276				RE 224	ECG306	RT-310	ECG306
Q113	2SC1846(1)	239917	GE-336	WEP913	PTC180	HEPS3044	RE 224	ECG306		ECG295
	2SC1957(1)		GE-270				RE 209	ECG295		
	2SC2074(1)	256617	GE-215	WEP1306	PTC186		RE 203	SK3197	RT-146	ECG235
	2SC1306		GE-322	WEP1678	PTC186		RE 203	SK3197	RT-146	ECG235
Q114	2SC1816(1)	256617	GE-216	WEP1306	PTC186		RE 203	SK3197	RT-146	ECG235
	2SC1047B		GE-60 *	(IR)2SC829B	PTC132 *	HEPS0016 *	RE 28 *	SK3018 *	RT-107	ECG161 *
	2SC1047(1)	256417(1)	GE-60 *	(IR)2SC829B	PTC132 *	HEPS0016 *	RE 28 *	SK3018 *	RT-107	ECG161 *
	2SC784(1)		GE-60 *	(IR)2SC380AQ	PTC132 *	HEPS0008 *	RE 28 *	SK3018 *	RT-187	ECG229 *

PARTS LIST AND DESCRIPTION (CONTINUED)
(When ordering parts, state Model, Part Number, and Description.)

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

ITEM No.	TYPE No.	MFR. 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.
Q115	2SC710D	227517	GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC710(1)	256417(1)	GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC1359B		GE-212	(IR)2SC380AQ	PTC121 *	HEPS0014 *	RE 192	SK3038 *	RT-308	ECG199
	2SC1359(1)	228417	GE-212	(IR)2SC380AQ	PTC121 *	HEPS0014 *	RE 192	SK3038 *	RT-308	ECG199
Q116	2SC829C	256217(1)	GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
	2SC829D		GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
	2SC710D	227517(1)	GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC710(1)	228417	GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
Q117	2SC829C	256217(1)	GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
	2SC829D		GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
	2SC710D	227517	GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC710(1)	228417	GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
Q118	2SC829C	256217(1)	GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
	2SC829D		GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
	2SC710D	227517(1)	GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC710(1)	228417	GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
Q119	2SC829C	256217(1)	GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
	2SC829D		GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
	2SC710D	227517(1)	GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC710(1)	256917	GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
Q120	2SC839(1)	231517	GE-61 *	(IR)2SC644	PTC132 *	HEPS0015 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC372(1)		GE-61 *	(IR)2SC372	PTC121 *	HEPS0015 *	RE 13 *	SK3122	RT-308	ECG123A *
	2SC828(1)	256917	GE-61 *	(IR)2SC828A	PTC121 *	HEPS0015 *	RE 13 *	SK3122	RT-308	ECG123A *
	2SC945(1)		GE-61 *	(IR)2SC945	PTC121 *	HEPS0015 *	RE 13 *	SK3122	RT-308	ECG123A *
Q121	2SA733P	231517	GE-48	TR-31	PTC103 *	HEPS0019 *	RE 26 *	SK3138	RT-107A	ECG199
	2SA733(1)		GE-48	TR-31	PTC103 *	HEPS0019 *	RE 26 *	SK3138	RT-303	ECG294

(* Lead configuration may vary from original.
(1) Used in some versions.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA				
		MFRG. PART No.	CORNELL- DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
					Q-LINE	GENERAL LINE
C104	10 16V	104352	PC10-25	VTT10B25	QV1-41	EV-1222
C113	.22 50V			TDC224M050EL	QDT1-10	SD50-R229
C114	10 16V	104352	PC10-25	VTT10B25	QV1-41	EV-1222
C115	.1 50V	118652		TDC104M050EL	QDT1-2	SD50-R109
C135	10 16V	104352	PC10-25	VTT10B25	QV1-41	EV-1222
C174	3.3 25V	102652	PC5-50	VTT3R3A50	QV1-23	EV-1318
C176	1 50V	101552	PC1-50	VTT1A50	QV1-11	EV-1615
C183	10 16V	104352	PC10-25	VTT10B25	QV1-41	EV-1222
C196	5.6 25V			TAS565K035P0C		SD25-5R69
C197	33 6.3V	105652	PC30-25	VTT33B10	QV1-61	EV-1125
C203	47 16V	106352	PC50-16	VTT47D16	QV1-73	EV-1226
C204	220 16V	109452	PC250-25	VTT220H16	QV1-117	EV-1240
C207	10 16V	104352	PC10-25	VTT10B25	QV1-41	EV-1222
C208	3.3 25V	102652	PC5-50	VTT3R3A50	QV1-23	EV-1318
C209	1 50V	101552	PC1-50	VTT1A50	QV1-11	EV-1615
C210	1000 16V	111652	PC1000-16	VTT1000L16	QV1-183	EV-1260
C211	47 25V	106452	PC50-25	VTT47E25	QV1-75	EV-1326
C212	33 6.3V	105652	PC30-25	VTT33B10	QV1-61	EV-1125
C222	4.7 25V	103152	PC5-50	VTT4R7B50	QV1-27	EV-1319
C227	1 50V	101552	PC1-50	VTT1A50	QV1-11	EV-1615
C240	33 16V	105852	PC30-25	VTT33D25	QV1-63	EV-1325
C242	1 50V	101552	PC1-50	VTT1A50	QV1-11	EV-1615

PARTS LIST AND DESCRIPTION (CONTINUED)

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

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

ITEM No.	TYPE No.	MFR. 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.
Q115	2SC710D 2SC710(1) 2SC1359B 2SC1359(1)	227517 256417(1)	GE-211 * GE-211 * GE-212 GE-212	(IR)2SC710 (IR)2SC710 (IR)2SC380A (IR)2SC380A	PTC115 PTC115 PTC121 * PTC121 *	HEPS0016 * HEPS0016 * HEPS0014 * HEPS0014 *	RE 13 * RE 13 * RE 192 RE 192	SK3018 * SK3018 * SK3038 * SK3038 *	RT-308 * RT-308 * RT-308 RT-308	ECG123A * ECG123A * ECG199 ECG199
Q116	2SC829C 2SC829D 2SC710D 2SC710(1)	228417 256217(1) 227517(1)	GE-20 * GE-20 * GE-20 * GE-211 *	(IR)2SC829B (IR)2SC829B (IR)2SC710 (IR)2SC710	PTC121 * PTC121 * PTC121 * PTC115	HEPS0015 * HEPS0015 * HEPS0015 * HEPS0016 *	RE 9 * RE 9 * RE 9 * RE 13 *	SK3122 * SK3122 * SK3122 * SK3018 *	RT-308 RT-308 RT-308 RT-308	ECG229 * ECG229 * ECG229 * ECG123A *
Q117	2SC710D 2SC710(1)	227517	GE-211 * GE-211 *	(IR)2SC710 (IR)2SC710	PTC115 PTC115	HEPS0016 * HEPS0016 *	RE 13 * RE 13 *	SK3018 * SK3018 *	RT-308 * RT-308 *	ECG123A * ECG123A *
Q118	2SC829C 2SC829D 2SC829(1) 2SC839(1)	228417 256217(1)	GE-20 * GE-20 * GE-20 * GE-61 *	(IR)2SC829B (IR)2SC829B (IR)2SC829B (IR)2SC644	PTC121 * PTC121 * PTC121 * PTC132 *	HEPS0015 * HEPS0015 * HEPS0015 * HEPS0015 *	RE 9 * RE 9 * RE 9 * RE 13 *	SK3122 * SK3122 * SK3122 * SK3018 *	RT-308 RT-308 RT-308 RT-308	ECG229 * ECG229 * ECG229 * ECG123A *
Q119	2SC829C 2SC829D 2SC710D 2SC710(1)	228417 256217(1) 227517(1)	GE-20 * GE-20 * GE-211 * GE-211 *	(IR)2SC829B (IR)2SC829B (IR)2SC710 (IR)2SC710	PTC121 * PTC121 * PTC115 PTC115	HEPS0015 * HEPS0015 * HEPS0016 * HEPS0016 *	RE 9 * RE 9 * RE 13 * RE 13 *	SK3122 * SK3122 * SK3018 * SK3018 *	RT-308 RT-308 RT-308 RT-308	ECG229 * ECG229 * ECG123A * ECG123A *
Q120	2SC372Y 2SC372(1) 2SC828(1) 2SC945(1)	256917	GE-61 * GE-61 * GE-61 * GE-212	(IR)2SC372 (IR)2SC372 (IR)2SC828A (IR)2SC945	PTC121 * PTC121 * PTC121 * PTC121 *	HEPS0015 * HEPS0015 * HEPS0015 * HEPS0015 *	RE 13 * RE 13 * RE 13 * RE 192	SK3122 * SK3122 * SK3122 * SK3124	RT-308 RT-308 RT-302 RT-107A	ECG123A * ECG123A * ECG199 ECG294
Q121	2SA733P 2SA733(1)	231517	GE-48 GE-48	TR-31 TR-31	PTC103 * PTC103 *	HEPS0019 * HEPS0019 *	RE 26 * RE 26 *	SK3138 SK3138	RT-303 RT-303	ECG294

* Lead configuration may vary from original.
(1) Used in some versions.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA				
		MFR. PART No.	CORNELL- DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
					Q-LINE	GENERAL LINE
C104	10 16V	104352	PC10-25	VTT10B25	QV1-41	EV-1222
C113	.22 50V			TDC224M050EL	QDT1-10	SD50-R229
C114	10 16V	104352	PC10-25	VTT10B25	QV1-41	EV-1222
C115	.1 50V	118652		TDC104M050EL	QDT1-2	SD50-R109
C135	10 16V	104352	PC10-25	VTT10B25	QV1-41	EV-1222
C174	3.3 25V	102652	PC5-50	VTT3R3A50	QV1-23	EV-1318
C176	1 50V	101552	PC1-50	VTT1A50	QV1-11	EV-1615
C183	10 16V	104352	PC10-25	VTT10B25	QV1-41	EV-1222
C196	5.6 25V			TAS565K035POC		SD25-5R69
C197	33 6.3V	105652	PC30-25	VTT33B10	QV1-61	EV-1125
C203	47 16V	106352	PC50-16	VTT47D16	QV1-73	EV-1226
C204	220 16V	109452	PC250-25	VTT220H16	QV1-117	EV-1240
C207	10 16V	104352	PC10-25	VTT10B25	QV1-41	EV-1222
C208	3.3 25V	102652	PC5-50	VTT3R3A50	QV1-23	EV-1318
C209	1 50V	101552	PC1-50	VTT1A50	QV1-11	EV-1615
C210	1000 16V	111652	PC1000-16	VTT1000L16	QV1-183	EV-1260
C211	47 25V	106452	PC50-25	VTT47E25	QV1-75	EV-1326
C212	33 6.3V	105652	PC30-25	VTT33B10	QV1-61	EV-1125
C222	4.7 25V	103152	PC5-50	VTT4R7B50	QV1-27	EV-1319
C227	1 50V	101552	PC1-50	VTT1A50	QV1-11	EV-1615
C240	33 16V	105852	PC30-25	VTT33D25	QV1-63	EV-1325
C242	1 50V	101552	PC1-50	VTT1A50	QV1-11	EV-1615

PARTS LIST AND DESCRIPTION (CONTINUED)

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

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	220 10%			CD15FD221J03	SX322	QW1-35	MWA-221
C2	.01				MAG5011		
C3	.01		UK50-103		MAG5011		
C4	.01		UK50-103		MAG5011		
C101	18 NPO 10%				CN0418		10TCC-Q18
C102	22		DTZ-22	NP022	CN0422		10TCC-Q22
C103	1 NPO				CN0510		10TCC-V10
C106	10		DTZ-10	NP010	CN0410		10TCC-Q10
C107	.01		UK50-103		MAG5011		
C108	330		DD-331	GP330	GP333		10TS-T33
C109	330		DD-331	GP330	GP333		10TS-T33
C110	.001			DPMS6D1	EWFI A210	QF1-1	1PB-D10
C111	.01 10%			WMF1S1	EWFI A110	QF1-91	1PB-S10
C112	39				CN0439		10TCC-Q39
C116	15		DTZ-15	NP015	CN0415		10TCC-Q15
C117	.01 10%			WMF1S1	EWFI A110	QF1-91	1PB-S10
C118	39 N150 10%				*		10TCP-Q39
C119	12				GP356		10TS-T56
C120	560		DD-561		GP310		10TS-T10
C121	100 10%		DD-101	GP100	GP310		10TS-T10
C122	15		DTZ-15	NP015	CN0415		10TCC-Q15
C123	.01		UK50-103		MAG5011		
C124	100 10%				SX310	QW1-27	MWA-101
C125	33		DTZ-33	CD15FD101J03	CN0433		10TCC-Q33
C126	12			NP033	CN0412		10TCC-Q12
C127	56 N150 10%				*		10TCP-Q56
C129	560		DD-561		GP356		10TS-T56
C130	82 N150 10%				*		10TCP-Q82
C131	.01		UK50-103		MAG5011		
C132	560 10%				SX356		MWC-561
C133	.01		UK50-103		MAG5011		
C136	220		DD-221		GP322		10TS-T22
C137	.01		UK50-103		MAG5011		
C138	.01		UK50-103		MAG5011		
C139	2		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C140	2		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C141	68		DD-680	GP68	GP468		10TS-Q68
C142	.01		UK50-103		MAG5011		
C143	100 N150 10%				*		10TCP-T10
C144	.01		UK50-103		MAG5011		
C145	.01		UK50-103		MAG5011		
C146	470		DD-471	GP470	GP347		10TS-T47
C147	.01		UK50-103		MAG5011		
C148	120		DTZ-120		CN0312		10TCC-T12
C149	220		DD-221		GP322		10TS-T22
C150	.01		UK50-103		MAG5011		
C151	100 10%				SX310	QW1-27	MWA-101
C152	270 10%				SX327	QW1-37	MWB-271
C153	82		DD-820		GP482		10TS-Q82
C154	27				CN0427		10TCC-Q27
C155	.047			DPMS2S47	EWFI A147	QF1-171	1PB-S47
C156	.01		UK50-103		MAG5011		
C157	.01		UK50-103		MAG5011		
C159	.047			DPMS2S47	EWFI A147	QF1-171	1PB-S47
C160	.056			WMF1S56	EWFI A156	QF1-185	1PB-S56
C161	.01		UK50-103		MAG5011		
C162	39 10%				CN0439		10TCC-Q39
C163	.01		UK50-103		MAG5011		
C164	2		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C165	.01		UK50-103		MAG5011		
C166	10		DTZ-10	NP010	CN0410		10TCC-Q10
C168	2.2		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C169	.047 10%			DPMS2S47	EWFI A147	QF1-171	1PB-S47
C170	.047 10%			DPMS2S47	EWFI A147	QF1-171	1PB-S47
C171	.047 10%			DPMS2S47	EWFI A147	QF1-171	1PB-S47
C172	.047 10%			DPMS2S47	EWFI A147	QF1-171	1PB-S47
C173	.056			WMF1S56	EWFI A156	QF1-185	1PB-S56
C175	.0047 10%			WMF1D47	EWFI A247	QF1-57	1PB-D47
C177	.0033 50V 10%				M192P3329R8		192P3329R8
C178	56 N150 10%				*		10TCP-Q56
C180	560		DD-561		GP356		10TS-T56
C181	100		DD-101	GP100	GP310		10TS-T10
C182	68 N150 10%				*		10TCP-Q68
C184	.022 10%				EWFI A122	QF1-127	1PB-S22
C189	.0022 10%				GP222		10TS-D22
C190	.01		UK50-103		MAG5011		
C191	.022 10%				EWFI A122	QF1-127	1PB-S22
C192	220		DD-221		GP322		10TS-T22
C193	.01			WMF1S1	EWFI A110	QF1-91	1PB-S10
C194	.01		UK50-103		MAG5011		
C195	390		DD-391	GP390	GP339		10TS-T39
C198	68		DD-680	GP68	GP468		10TS-Q68
C199	68		DD-680	GP68	GP468		10TS-Q68
C200	390		DD-391	GP390	GP339		10TS-T39

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
C201	.068 10%			WMF1S68	EWF1A168	QF1-195	1PB-S68
C202	.022 10%			DPMS2S22	EWF1A122	QF1-127	1PB-S22
C205	.068 10%			WMF1S68	EWF1A168	QF1-195	1PB-S68
C213	.01		UK50-103		MAG5011		
C214	.01		UK50-103		MAG5011		
C215	.01		UK50-103		MAG5011		
C216	.01		UK50-103		MAG5011		
C217	.047			DPMS2S47	EWF1A147	QF1-171	1PB-S47
C218	.047			DPMS2S47	EWF1A147	QF1-171	1PB-S47
C219	.047			DPMS2S47	EWF1A147	QF1-171	1PB-S47
C220	.047			DPMS2S47	EWF1A147	QF1-171	1PB-S47
C223	39				CN0439		10TCC-Q39
C225	3		DTZ-3R3	NP03P3	CN0533		10TCC-V33
C226	.0047		DD-472	GP4700	GP247		5GA-D47
C241	.068 10%			WMF1S68	EWF1A168	QF1-195	1PB-S68
C243	100		DD-101	GP100	GP310		10TS-T10
C244	.01		UK50-103		MAG5011		
C245	56		DD-560		GP456		10TS-Q56

*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	RESISTANCE	REPLACEMENT DATA				
			MFR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	MALLORY PART No.	TRW PART No.
RV101	Squelch Range	10K	271613				
RV102	AMC	2000	277913				
RV103	S Meter	20K	278013				
RV104	RF Meter	20K	278013				
VR1	Volume/Switch	50K	182411				
VR2	Squelch	10K	182511				

LAFAYETTE MODEL COM-PHONE 23A

COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L101	RF Choke	291023			
L103	Harmonic Suppressor (27MHz)	291123			
L104	Harmonic Suppressor (27MHz)	291223			
L105	RF Choke	287423			
L106	Xmit Driver (27MHz)	226324			
L107	RF Choke	287323			
L109	Final Amp (27MHz)	226424			
L110	Antenna Match(27MHz)	226524			
L111	RF Choke				
L112	Rec Mixer(10.695MHz)	291923			
L113	RF Choke	291723			
L114	RF Choke				
L116	RF Choke				
T101	VCO				
T102	Xmit Mixer (27MHz)				
T103	Xmit Buffer (27MHz)				
T104	Rec Antenna(27MHz)	226624			
T105	Rec RF (27MHz)	291823			
T106	Rec Mixer (10.695MHz)				
T107	IF (455kHz)	227624			
T108	IF (455kHz)	227124			
T109	IF (455kHz)	227824			
T111	Buffer (37MHz)	227924			

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.	
CH101	1.3A	.12	.48mH	287223 ELA-16 (1)	TR523		(1) Number on unit.

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE			REPLACEMENT DATA			NOTES
	PRI.	1 SEC.	2	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T110	2.9	8	13.5	188015 ETA-66 (1)	TR723	MCB-14	(1) Number on unit.

SPEAKER

ITEM No.	TYPE		REPLACEMENT DATA		NOTES
			MFGR. PART No.	QUAM PART No.	
SP1	2 3/4"	PM, 8 ohms	130336	27A05Z8	

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			AGC2	HDJ	312002	150145	FG2-2	

PARTS LIST AND DESCRIPTION (CONTINUED)

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

MICROPHONE

ITEM No.	REPLACEMENT DATA				CONNECTION DATA						
	MFGR. PART No.	GC PART No.	GC NOISE CANCEL	GC POWER	GC Lead Color →	Red	Shield	Yellow	Blue	White	Black
MIC	139331				Orig Color →						

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
X101	11.8066	141235	CC125W118066	11.806MHz Osc	X103	10.240	141435	CA60W10240	Ref Osc.
X102	10.695	141335	CB110W10695	Xmit Osc					

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
CF101	Ceramic Filter	141135	455kHz
J1	Jack	245219	Antenna
J3	Jack		Ext Speaker
J5	Jack		PA
J6	Jack	245319	Power
M1	Meter	125627	S/RF
PL1	Lamp	589520	Channel Select
PL2	Lamp	576520	Meter
S1	Switch		On/Off
S2	Switch	226114	Tone
S3	Switch		Handset/Speaker
S4	Switch	226114	CB/PA
S5	Switch	209114	in/out
SW101	Switch	226214	Channel Select
	Printed Circuit Board	192216	Main
	Printed Circuit Board	192316	Switch
	Cord Assembly	131138	DC

LAFAYETTE MODEL COM-PHONE 23A

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

ITEM	PART No.	ITEM	PART No.
Case, Top	147509	Channel Indicator	147609
Case, Bottom	201080	Plate, Channel Indicating	147807
Escutcheon	147709	Knob, Channel Select	200618
		Knob, Volume	213218

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		31AWG BELDEN No. 9468 (10')
	(9') BELDEN No. 17109	4-conductor (unshielded)	23AWG BELDEN No. 8415 (6')
		5-conductor (1 shielded)	28AWG BELDEN No. 9467 (6')
			BELDEN No. 9465 (7-1/2')