

SAMS PHOTOFACT[®] CB RADIO SERIES



CB-12
12
JANUARY 1967



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HOWARD W. SAMS & CO., INC.

Indianapolis, Indiana



PHOTOFACT[®]

TRADE NAME: Hallicrafters Model CB-17
SUPPLIER: For Current Address, see Annual Index
TYPE SET: 7-Tube Transceiver
POWER SUPPLY: 110 - 120 Volts AC, 60 Cycles (or)
 12-Volt Storage Battery
RATING: 53 Watts, .5 Amp. @ 117VAC (Receive)
 58 Watts, .56 Amp. @ 117VAC (Transmit)
 4.2 Amp. @ 12.6VDC (Receive)
 4.6 Amp. @ 12.6VDC (Transmit)
TUNING RANGE: Any 6 CB Channels 1 thru 23



ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

A1 thru A6..... GENERAL CEMENT #8868, 8987, 9089..... WALSCO #2531-X, 2541, 2587
 A7, A8, A9..... GENERAL CEMENT #8606, 8869, 9302..... WALSCO #2511, 2543, 2588
 A10, A11..... GENERAL CEMENT #8284..... WALSCO #2584

RECEIVER ALIGNMENT

Connect an AC VTVM across Speaker Voice Coil. Turn Volume fully clockwise; turn Squelch Control to mid-range position.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side thru .01mfd to Pin 7 (Grid) of V2 (Conv.), low side to chassis. Tune to 1650KC (Unmod.)	Any	A1 thru A6	Adjust for maximum.
High side thru .01mfd to Antenna Receptacle, low side to chassis. Tune to 27.085MC (Channel 11, Unmod.).	11	A7, A8, A9	Adjust for maximum.

TRANSMITTER ALIGNMENT

ONLY THOSE PERSONS PROPERLY LICENSED ARE PERMITTED TO MAKE REPAIRS OR ADJUSTMENTS WHICH MAY RESULT IN ILLEGAL OPERATION. (REFER TO FCC RULES AND REGULATIONS PART 95, SUBPART D, SECTION 95.95).

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.

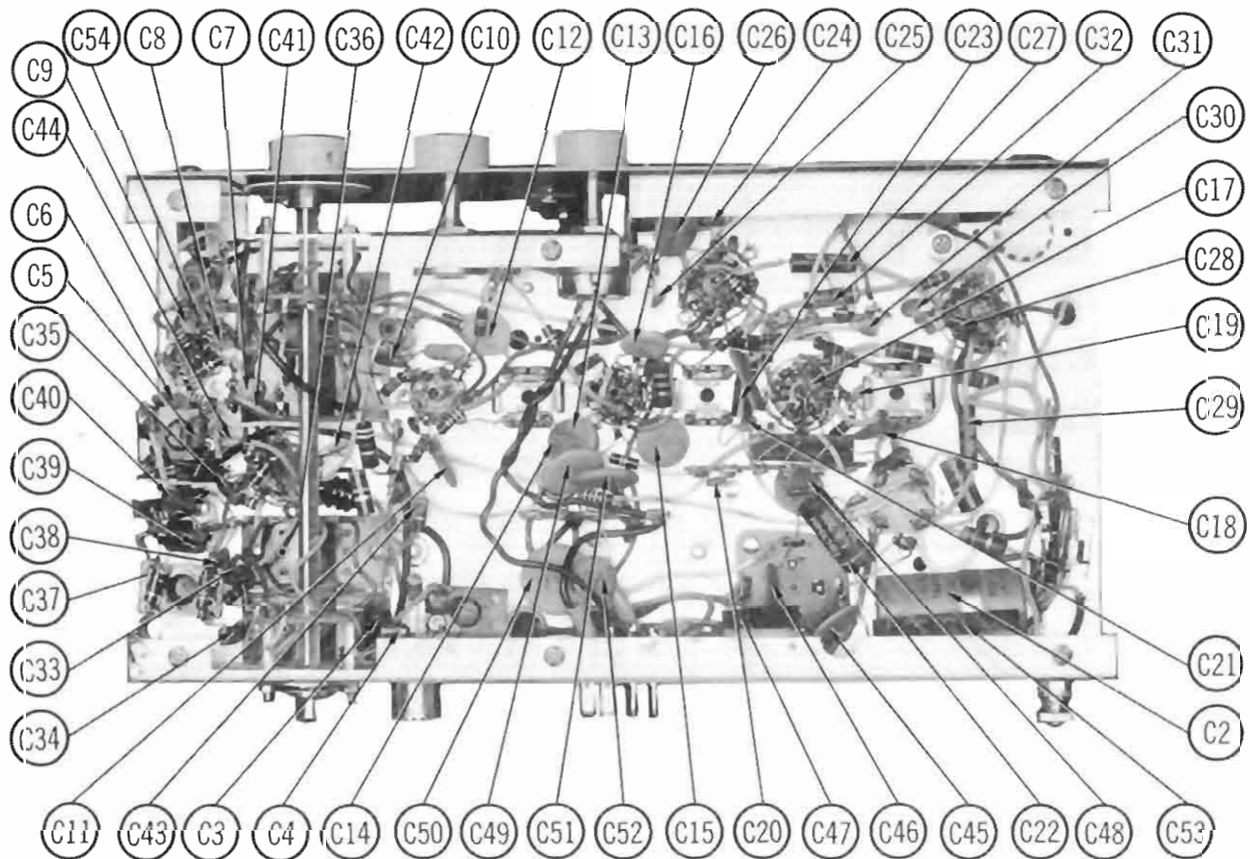
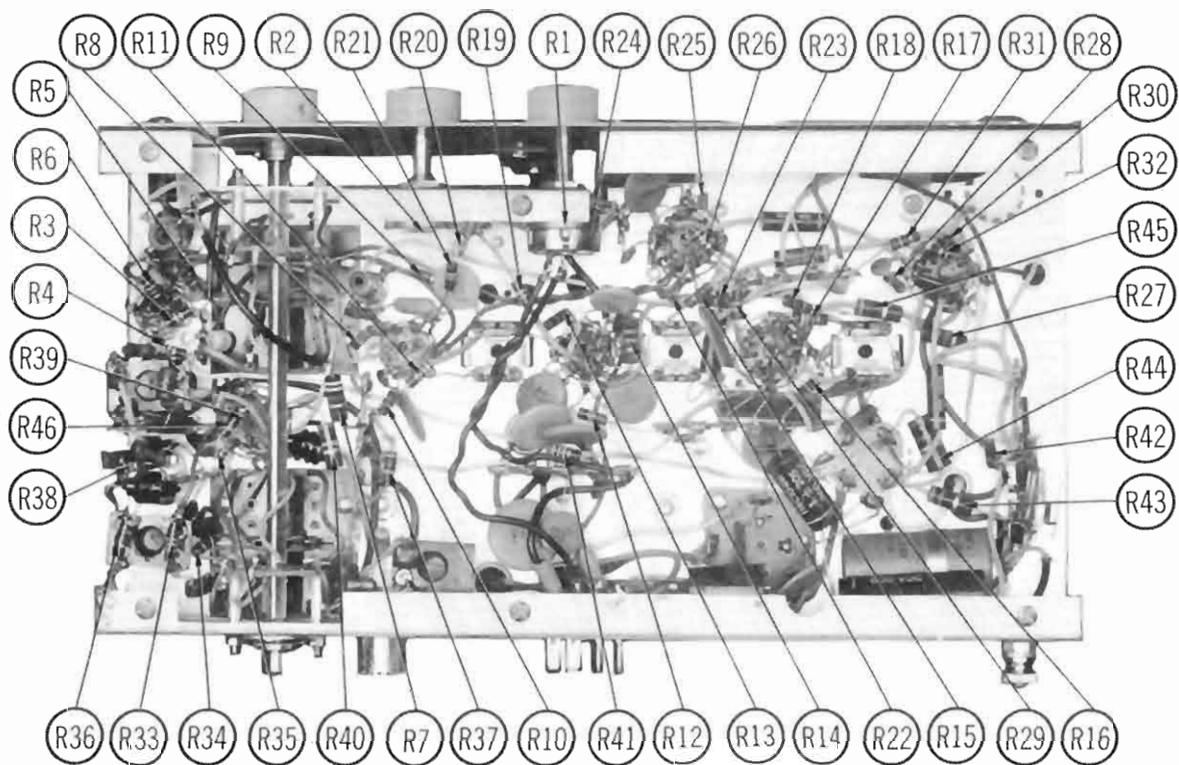
Connect either 50Ω dummy load or the normally used antenna system.

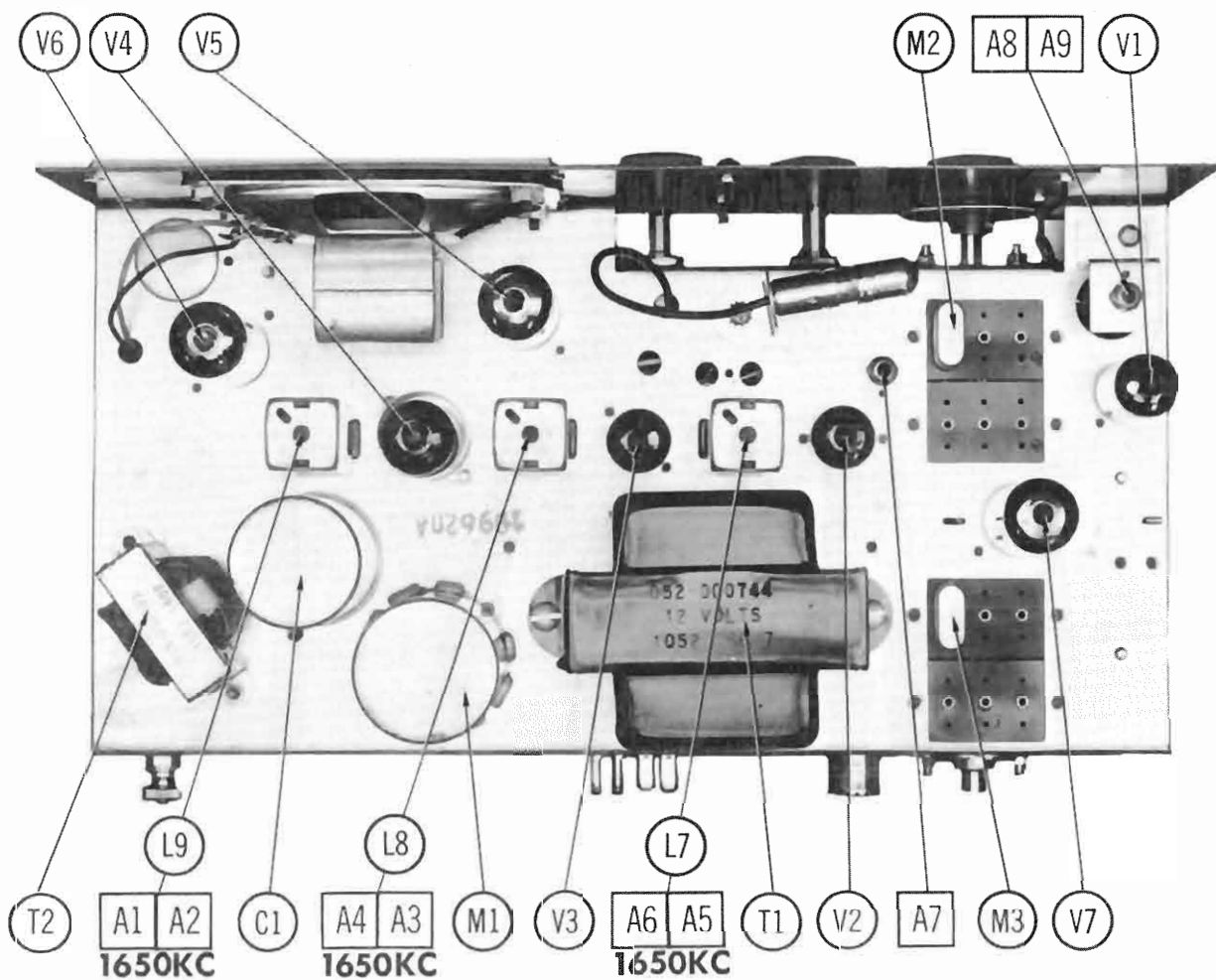
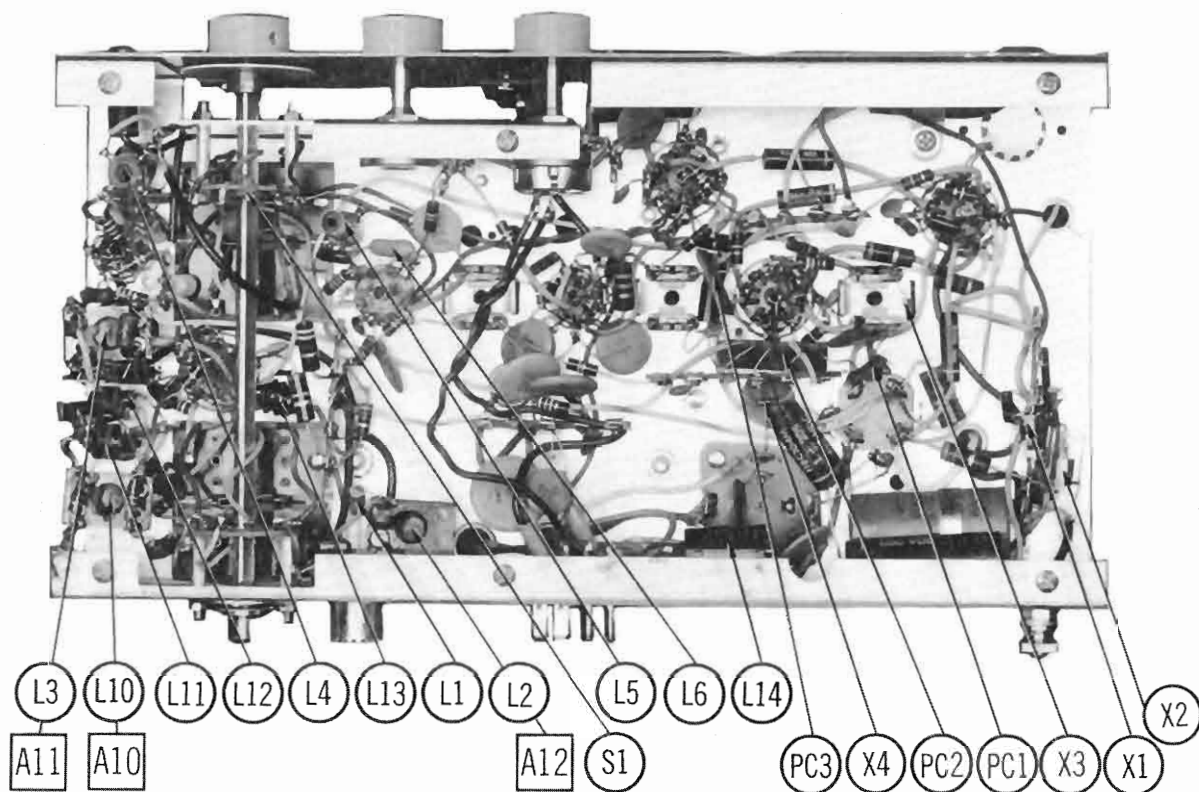
INDICATOR	ADJUST	REMARKS
Accurate Frequency Meter	A10	Adjust for correct Channel Frequency.
RF Wattmeter or Field Strength Meter	A11	Key Transmitter. Adjust for maximum. Adjust L3 Primary for maximum, and with no tendency to return to its original position.
Nearby TV Receiver	A12	Key Transmitter and adjust for MINIMUM.

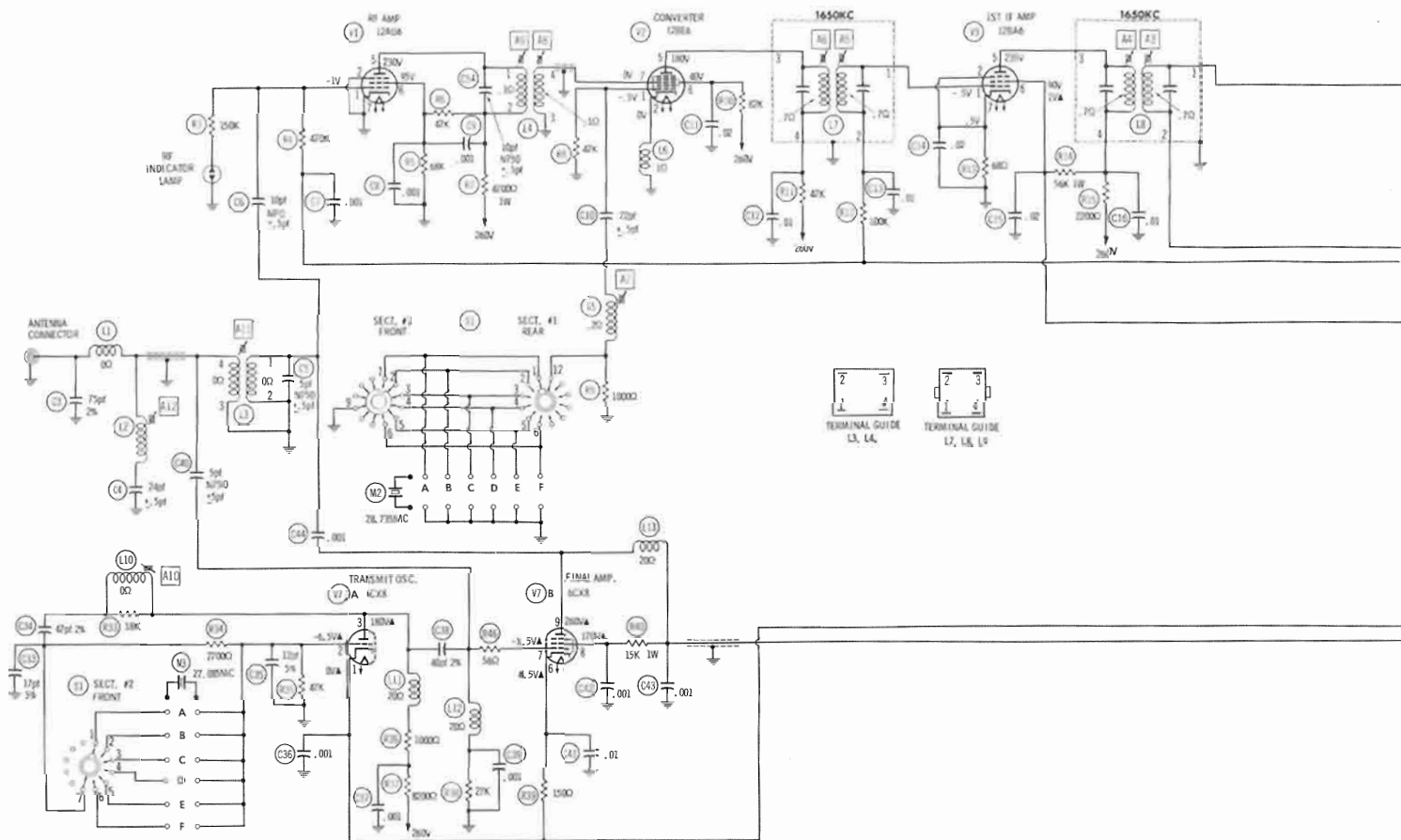
HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206

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HALLCRAFTERS MODEL CB-17







RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	12BA6	1.6meg	∞	FIL	FIL	51000†	47K†	∞		
V2	12BE6	47K	∞	FIL	FIL	40K†	10K†	.10		
V3	12BA6	2.3meg	680	FIL	FIL	33000†	50K†	680		
V4	6AR5	100K	68K	50K†	FIL	FIL	33000†	2500	∞	2.2meg
V5	6AR5	50K†	∞	1.1meg	FIL	FIL	1.7meg	47K†	8.2meg	∞
V6	6AR5	10meg	10000†	10000†	FIL	FIL	3300†	1000	68K	22K†
V7	6CK8	∞	47K	10K†	FIL	FIL	2500†	27K	15K†	3000†
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9

† MEASURED FROM OUTPUT OF X2.

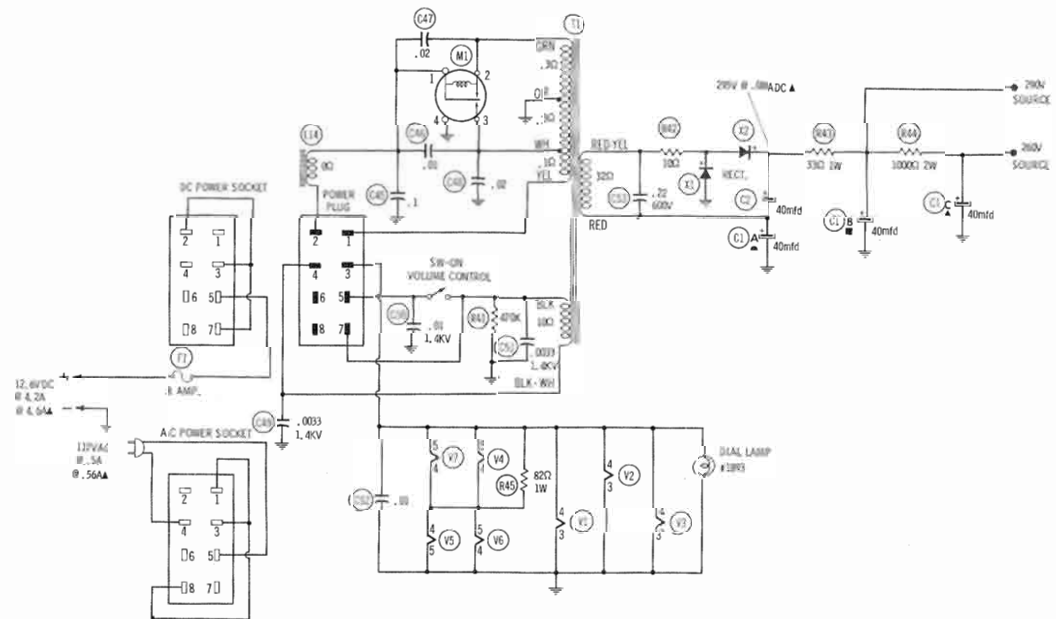
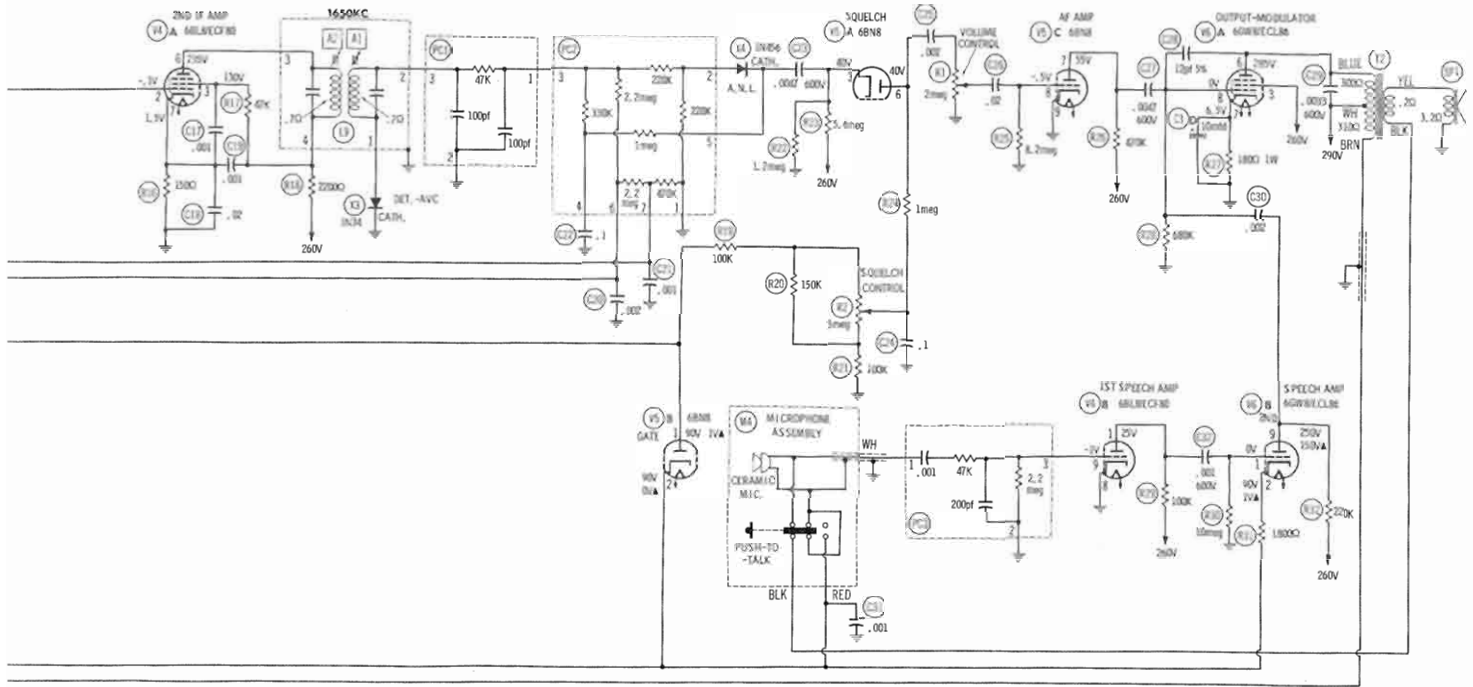
▲ MEASURED IN TRANSMIT POSITION.

▲ TRANSMIT POSITION

Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

1. Voltage measurements taken with vacuum tube voltmeter.
2. All controls set for normal operation, no signal applied.
3. Measured values are from socket pin or terminal to common ground.
4. All terminals viewed from bottom unless otherwise designated.
5. Numbers assigned to terminals may not be found on the unit.
6. Supply voltage maintained at rated value for voltage readings.

A PHOTOFAC STANDARD NOTATION SCHEMATIC
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HALLICRAFTERS MODEL CB-17

PARTS LIST AND DESCRIPTION

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

TUBES

♦ AMPEREX ♦			♦ GENERAL ELECTRIC ♦			♦ RCA ♦			♦ SYLVANIA ♦		
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	RF Amp.	12AU6	V5	Squelch - AF Amp.	6BN8	V6	2nd Speech Amp. -	6GW8/ECL86	V7	Trans. Osc. - Final Amp.	6CX8
V2	Conv.	12BE6									
V3	1st IF Amp.	12BA6									
V4	2nd IF Amp. -	6BL8/ECF80									
	1st Speech Amp.										

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS & DIODES		RECTIFIERS		
			GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.
X1	.086A	027-000296		SD600 or 5A6-D	1N1096 or 1N2071	SK-3016 or SK-3017	60C or F-6
X2	.086A	027-000296		SD600 or 5A6-D	1N1096 or 1N2071	SK-3016 or SK-3017	60C or F-6
X3		1N34A	1N34AS	1N34A			
X4		1N456					

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA					
	CAP.	VOLT.	Hallcrafters PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	40	350						
B	40	350	045-000632	AFH4-88-40	CCO350 & BBR10-50		FP420, 36A	TVLS-4624, 5*
C	40	200						
D	10	50						
C2	40	200	045-000633	PRS1580	BR40-250	QT1-14	TC58	TVA-1511

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

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C3	75 2%				CD10E750G500	DM-10-750G		
C4	24 ±.5pf	# 493-110240-331						
C5	5 N750 ±.5pf			TCN-5	CZ601U35R0D	DM-10-050J	CN7550	10TCU-V50
C6	10 NPO ±.5pf			TCZ-10	CZ601CG100J	DM-10-100J	CN0410	10TCC-Q10
C7	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C8	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C9	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C10	22 ±.5pf	# 493-110220-321						
C11	.02		BPD-02	DD-203	BYT601ZU203Z	CCD-203	GP120	10TS-S20
C12	.01		TTD-01	CK-103	HCZ3ROXR103P	CCD-103	TA110	TG-S10
C13	.01		TTD-01	CK-103	HCZ3ROXR103P	CCD-103	TA110	TG-S10
C14	.02		BPD-02	DD-203	BYT601ZU203Z	CCD-203	GP120	10TS-S20
C15	.02		BPD-02	DD-203	BYT601ZU203Z	CCD-203	GP120	10TS-S20
C16	.01		TTD-01	CK-103	HCZ3ROXR103P	CCD-103	TA110	TG-S10
C17	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C18	.02		BPD-02	DD-203	BYT601ZU203Z	CCD-203	GP120	10TS-S20
C19	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C20	.002		DI-2200	DD-222	JBS601YP222K	CCD-222	GP222	10TS-D22
C21	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C22	.1 200V		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C23	.0047 600V		DBE6D47	DD-472	DMF6D47	6DP-472	PVC6247	6PS-D47
C24	.1 400V		DBE4P1		DMF4P1	4DP-3-104	PVC601	4PS-P10
C25	.002		DI-2200	DD-222	JBS601YP222K	CCD-222	GP222	10TS-D22
C26	.02		BPD-02	DD-203	BYT601ZU203Z	CCD-203	GP120	10TS-S20
C27	.0047 600V		DBE6D47	DD-472	DMF6D47	6DP-472	PVC6247	6PS-D47
C28	12 5%		ADM-15-100					
C29	.0033 600V		DBE6D33	DD-332	DMF6D33	6DP-1-332	PVC6233	6PS-D33
C30	.002		DI-2200	DD-222	JBS601YP222K	CCD-222	GP222	10TS-D22
C31	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C32	.001 600V		DBE6D1	CPR-1000J	DMF6D1	6DP-1-102	PVC621	6PS-D12
C33	17 5%	# 493-110170-221						
C34	47 2%	# 493-110470-323						
C35	12 5%		ADM-15-120			DM-10-470G	SX412	MS-412
C36	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C37	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C38	40 2%				CD10E390G500	DM-10-390G		
C39	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C40	5 N750 ±.5pf			TCN-5	CZ601U35R0D	DM-10-050J	CN7550	10TCU-V50
C41	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C42	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C43	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C44	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C45	.1 50V		TTD-1	CK-104	HCZ3ROXR104P		TA010	TG-P10
C46	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C47	.02		BPD-.02	DD-203	BYT601ZU203Z	CCD-203	GP120	10TS-S20
C48	.02		BPD-.02	DD-203	BYT601ZU203Z	CCD-203	GP120	10TS-S20
C49	.0033 1400V		HVD-15-3300	DD30-332	HVX162ZU332P	CCD-332	2HV233	30GA-D33
C50	.01 1400V		DAC-27	DD16-103	HVT162ZV103P		UAC110	BL-S10
C51	.0033 1400V		HVD-15-3300	DD30-332	HVX162ZU332P	CCD-332	2HV233	30GA-D33
C52	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C53	.22 600V		DBE6P22		PM6P22	6DP-5-224	GEM6022	6PS-P22
C54	10 N750 ± 5pf			TCN-10	CZ601CG100J	DM-10-100J	CN7410	10TCU-Q10

Hallicrafters Part Number.

CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			Hallicrafters PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	2meg	025-002048	F2-2meg, SF102, KR-1	A47-2meg-Z, FS-3, SWE-12 or (NP-2meg-Z, UP-B-400, NWE-12)	Q13-139, 76-1, or (BUI, CF27, SS1, GC)*	UA26A, SL3500, US41 or (RU26A, SL38, SL3500, US41) or (U55, US26)
R2	Squelch	3meg	025-002047	F1-3meg, SF102	A47-3meg-S, FS-3 or (NP-3meg-S, UP-B-400)	Q11-140 or (BUI, CF21, SS1, DC1)*	UA36L, SL3500 or (RU36L, SL38, SL3500) or (U59)

* "SNAPTROL"

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				
		Hallicrafters PART No.	MEISSNER Part No.	MERIT PART No.	MILLER PART No.	WORKMAN PART No.
L1	RFC (.22uh)	053-000661	19-2003		4584	T-957
L2	54MC Trap	053-000564				
L3A	Ant. Input Link	050-001066				
L3B	Ant. Matching	050-001065				
L4	RF Plate	051-002791				
L5	Rec. Osc.	051-003319				
L6	RFC (27uh)	053-000647			74F275AI	T-360
L7	1st IF	050-300722			1732	
L8	2nd IF	010-300722			1732	
L9	3rd IF	050-300722			1732	
L10	Trans. Osc.	051-003312				
L11	RFC (500uh)	053-000537	19-1061		6174	T834
L12	RFC (500uh)	053-000537	19-1061		6174	T834
L13	RFC (500uh)	053-000537	19-1061		6174	T834
L14	Hash Filter (40uh)	051-002740				

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA					NOTES
				Hallicrafters	MERIT	STANCOR	THORDARSON	TRIAD	
	PRI. #1	SEC. 1	SEC. 2	PART No.	PART No.	PART No.	PART No.	PART No.	
T1	117VAC @ .57A▲	110VAC @ .091A ▲	12.6V @ 2.6A	052-000744					▲ Transmit
	PRI. #2	SEC. 4	SEC. 5						
	12.6V DC @ 2A								

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
			Hallicrafters PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC. #1	055-000433					
T2	8000Ω	3-4Ω						
		SEC. #2						
		310Ω Modulator Winding						

HALICRAFTERS MODEL CB-17

PARTS LIST AND DESCRIPTION (CONTINUED)

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

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		Hallicrafters PART No.	JENSEN PART No.	QUAM PART No.	
SP1	2 7/8"x 3 13/16" PM 3-4Ω	085-000233			

FUSE DEVICES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
F1	3AG	8A, 32V, S/B	039-000699	006-000883	313008	155020	MDL8	HHJ-B

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	Hallicrafters PART NO.	REPLACEMENT DATA
PC1	Det. RF Filter	47K, 100pf, 100pf	049-000244	Aerovox PA-97 Centralab PC-50 Sprague D-1
PC2	ANL-AVC Filter	220K, 470K, 2.2meg, 2.2meg, 220K, 330K, 1meg	049-000281	
PC3	Microphone Input	.001mfd, 47K, 200pf, 2.2meg	049-000282	

VIBRATOR

ITEM No.	TYPE	INPUT VOLTS	FRE-QUENCY	REPLACEMENT DATA			NOTES
				Hallicrafters PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	
M1	Interrupter	12, 6V	115%	027-000282	6371	G1601	

MISCELLANEOUS

ITEM No.	PART NAME	Hallicrafters PART No.	NOTES
M2	Receive Crystal	019-002819 ①	28.735MC ②
M3	Transmit Crystal	019-002820 ①	27.085MC ②
M4	Microphone Ass'y.	085-000234	Ceramic
S1	Switch, Receive	062-000215	Wafer (Section #1)
	Switch, Transmit	062-000216	Wafer (Section #2)

① Order by Part Number plus Frequency.

② Military Type CR-23/U, Third Overtone, Series - Resonate Crystal

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Knob, Selector	015-001915	Cover, Plate	063-005809
Knob, Volume, Squelch, Fine Tuning	015-001916	Grill, Speaker	007-000941
Cabinet Top Rivet Assembly	150-009899	Dial Assembly	150-006986
Cabinet Bottom Rivet Assembly	150-006988	Detent, Bandswitch	061-000053

WIRING DATA

General-use Hook-up Wire Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Antenna Lead Use BELDEN No. 8214 Lowest Loss (RG-8/U Type) 8237 Low Loss (RG-8/U) 8240 (Solid) Miniature (RG-58/U) 8259 (Stranded) Miniature (RG-58A/U)
Coiled Microphone Cable Use BELDEN No. 8497 3 Conductor- 1 Shielded for Press-to-Talk (Neoprene) 8496 3 Conductor- 1 Shielded for Press-to-Talk (Vinyl)
Ignition Noise Suppression Use BELDEN No. 7300-Series Spark-Plug Sets
Bonding Strap Use BELDEN No. 8661 (3/8 In.)



PHOTOFACT[®] with

CIRCUITRACE[®]

TRADE NAME : Citi-Fone Models CD11/6, CD11/12, 99/6, 99/12
SUPPLIER : For Current Address, see Annual Index
TYPE SET : 9-Tube, 1-Transistor Transceiver
POWER SUPPLY : 110 — 120 Volts AC, 60 Cycles (or)
 6 or 12 Volt Storage Battery
RATING : 52 Watts, .52 Amp. @ 117VAC (Receive)
 72 Watts, .67 Amp. @ 117VAC (Transmit)
 4 Amp. @ 12.6 VDC (Receive)
 4.7 Amp. @ 12.6VDC (Transmit)
TUNING RANGE : Any 8 CB Channels 1 thru 23



ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

A1 thru A6, A7..... GENERAL CEMENT #8606, 8869, 9302..... WALSCO #2511, 2543, 2588
 A8, A9..... GENERAL CEMENT #8867, 8867D.....WALSCO #2586, 2586D

RECEIVER ALIGNMENT

Connect an AC VTVM across Speaker Voice Coil Terminals. Turn Volume Control fully clockwise; turn squelch control to mid-range position.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side thru .01mfd to Pin 7 (grid) of V2 (Rec. Converter), low side to Chassis. Tune to 455KC (Mod.).	Any	A1 thru A6	Adjust for maximum.
High side thru .01mfd to Antenna Receptacle, low side to Chassis. Tune to 27.065MC (Channel 9).	9	A7	Adjust for maximum.

TRANSMITTER ALIGNMENT

ONLY THOSE PERSONS PROPERLY LICENSED ARE PERMITTED TO MAKE REPAIRS OR ADJUSTMENTS WHICH MAY RESULT IN ILLEGAL OPERATION. (REFER TO FCC RULES AND REGULATIONS PART 95, SUBPART D, SECTION 95.95).
 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.

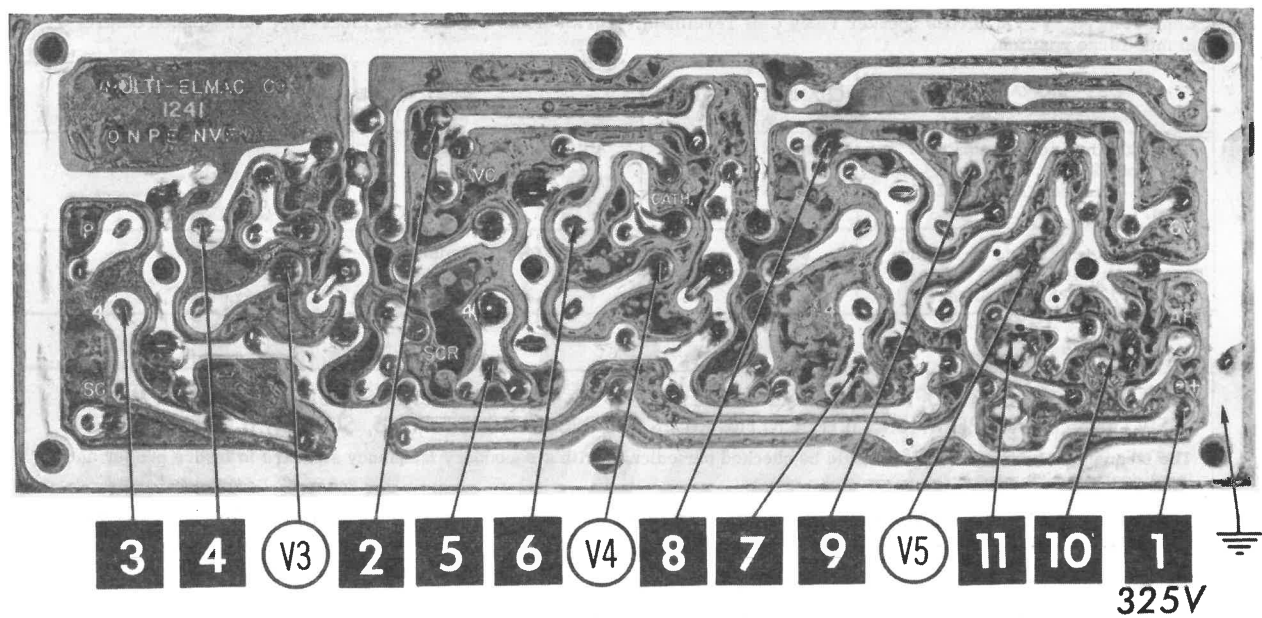
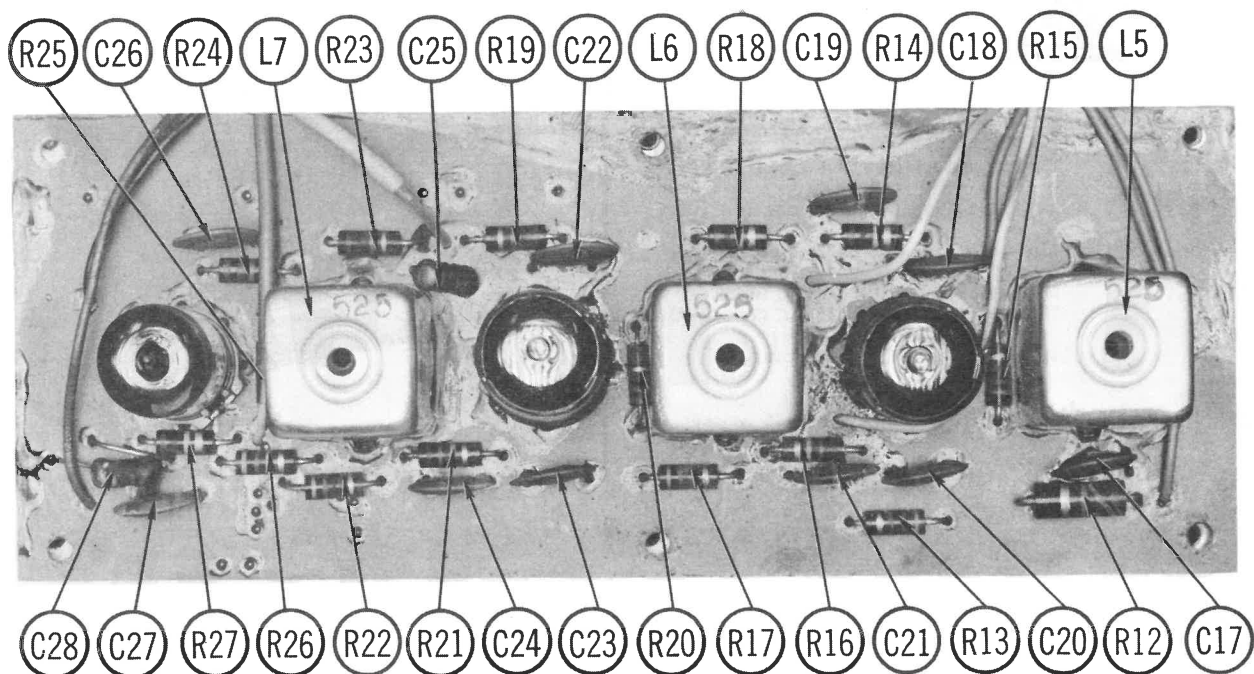
Connect either 50Ω dummy load or the normally used antenna system.

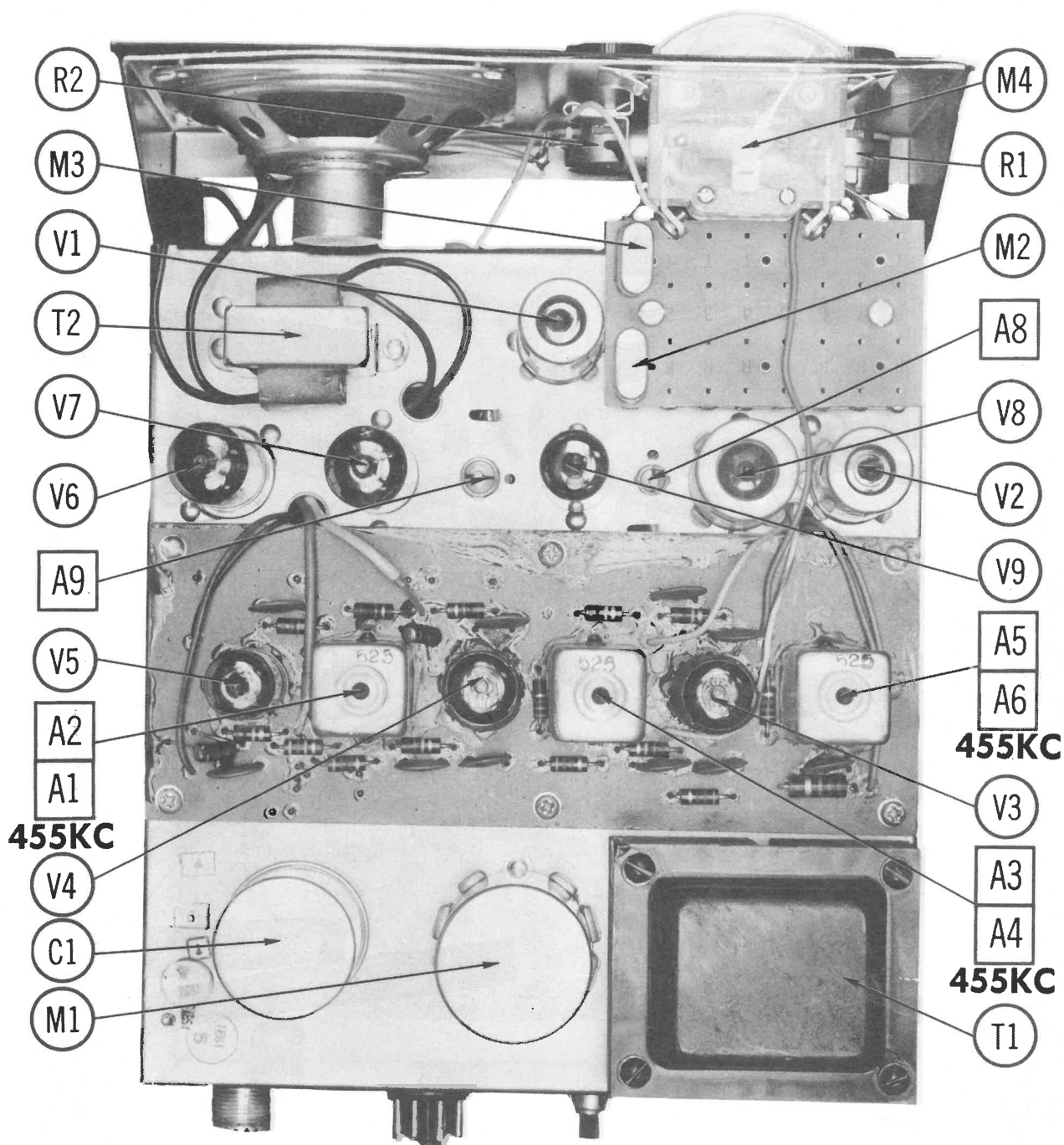
INDICATOR	ADJUST	REMARKS
Field Strength Meter, RF Watt-meter, or "S" Meter on front of Unit.	A8, A9	Adjust for maximum.

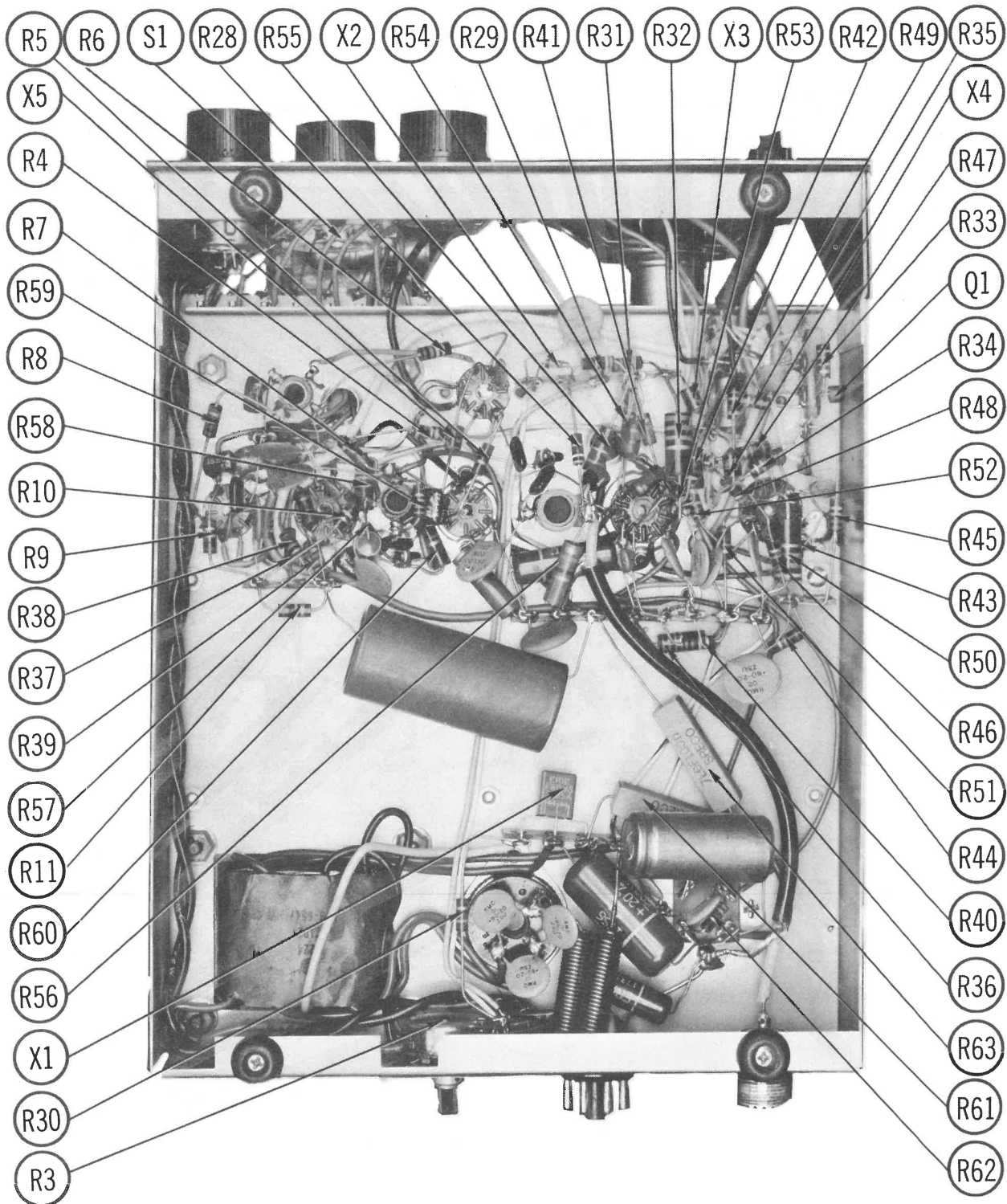
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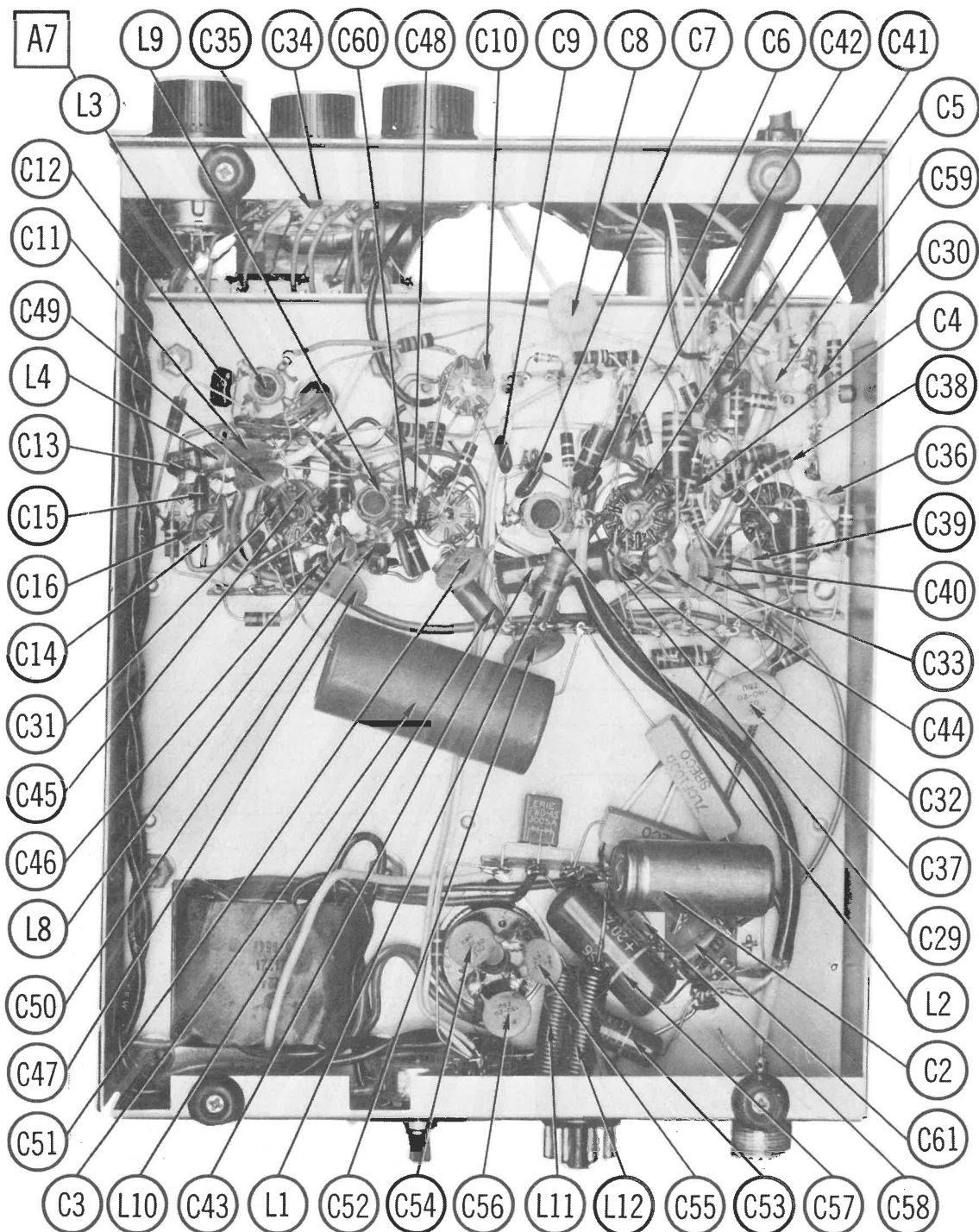
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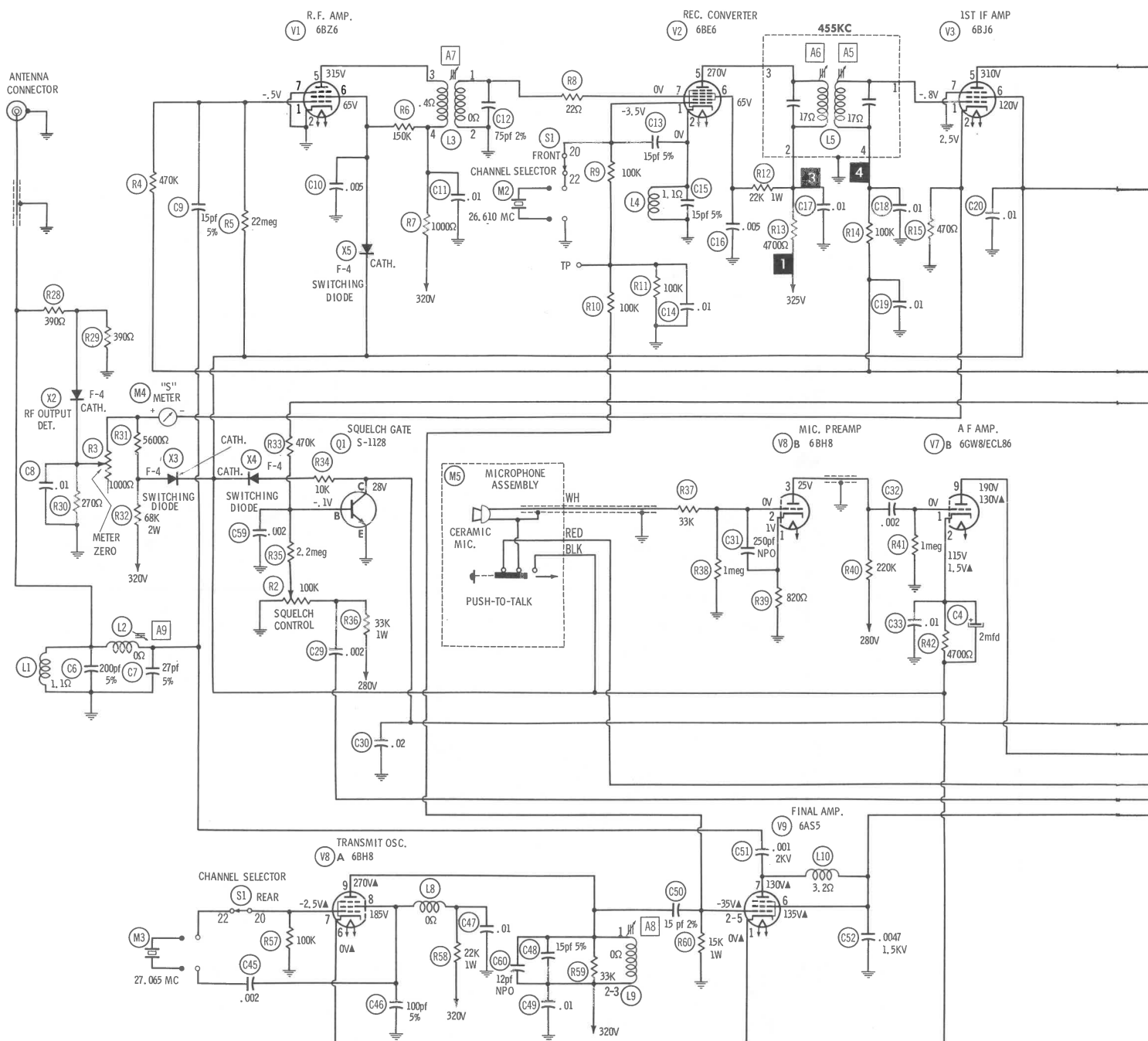
CITI-FONE MODELS CD11/6, CD11/12, 99/6, 99/12











RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6BZ6	1.9meg	0Ω	FIL	FIL	1200Ω†	110K†	0Ω		
V2	6BE6	150K	1.1Ω	FIL	FIL	4900Ω†	26K†	22Ω		
V3	6BJ6	1.5meg	390Ω	FIL	FIL	4900Ω†	150K†	0Ω		
V4	6BJ6	1.5meg	470Ω	FIL	FIL	4900Ω†	150K†	0Ω		
V5	6AL5	2.8meg	500K	FIL	FIL	0Ω	0Ω	400K		
V6	6EJ7 EF184	5500Ω	4.2meg	5500Ω	FIL	FIL	NC	805K†	1.2meg†	5500Ω
V7	6GW8 ECL86	1meg	180K 4700Ω▲	200Ω†	FIL	FIL	560Ω†	270Ω	1meg	330K†
V8	6BH8	820Ω	1meg	225K†	FIL	FIL	0Ω▲	100K	22K†	200Ω†
V9	6AS5	0Ω▲	15K	FIL	FIL	NC	2560Ω†	2560Ω†		
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9

† MEASURED FROM OUTPUT OF X1
▲ MEASURED IN TRANSMIT POSITION
NC NO CONNECTION

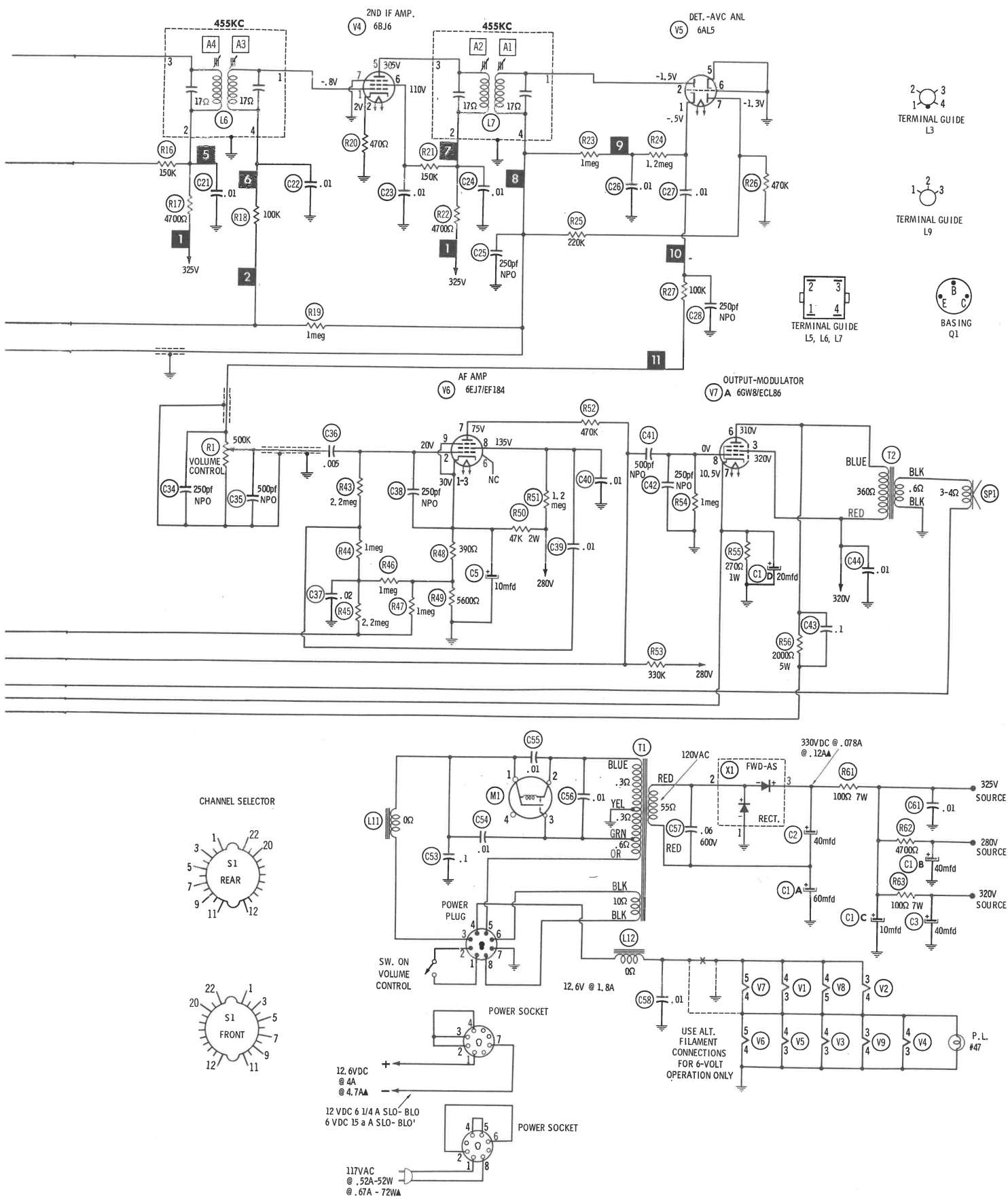
▲ TRANSMIT POSITION
NC NO CONNECTION
TP- TEST POINT

Resistors are 1/2 watt or less and rated
10% or 20% unless otherwise indicated.

1. Voltage measurements taken with vacuum tube voltmeter.
2. All controls set for normal operation, no signal applied.
3. Measured values are from socket pin or terminal to common ground.
4. All terminals viewed from bottom unless otherwise designated.
5. Numbers assigned to terminals may not be found on the unit.
6. Supply voltage maintained at rated value for voltage readings.

A PHOTOFACT STANDARD NOTATION SCHEMATIC
with CIRCUITRACE

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PARTS LIST AND DESCRIPTION

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

WIRING DATA

General-use Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Antenna Lead	Use BELDEN No. 8214 Lowest Loss (RG-8/U Type) 8237 Low Loss (RG-8/U) 8240 (Solid) Miniature (RG-58/U) 8259 (Stranded) Miniature (RG-58A/U)
Coiled Microphone Cable	Use BELDEN No. 8497 3 Conductor- 1 Shielded for Press-to-Talk (Neoprene) 8496 3 Conductor- 1 Shielded for Press-to-Talk (Vinyl)
Ignition Noise Suppression	Use BELDEN No. 7300-Series Spark-Plug Sets
Bonding Strap	Use BELDEN No. 8661 (3/8 In.)

TUBES

◆ AMPEREX ◆			◆ GENERAL ELECTRIC ◆			◆ RCA ◆			◆ SYLVANIA ◆		
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	RF Amp.	6BZ6	V6	AF Amp.	6EJ7/EF184	V7	Output-Modulator	6GW8/ECL86	V8	Transmit Osc.	6BH8
V2	Rec. Conv.	6BE6	V9	Final Amp.	6AS5						
V3	1st IF Amp.	6BJ6									
V4	2nd IF Amp.	6BJ6									
V5	Det. -AVC-ANL	6AL5									

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			Citi-Fone PART No.	NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.		
Q1		Squelch Gate				S-1128	NPN

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS & DIODES		RECTIFIERS		
			GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.
X1	.12ADC	FWD-AS		5A6-D ① or SD600 ①	VB500 ① or 1N1095	SK-3016 ① or SK-3017 ①	F-6 ① or 60C ①
X2		F-4		5A4-D or SD500	1N2070 or 1N540		F-1 or 40C
X3		F-4		5A4-D or SD500	1N2070 or 1N540		F-1 or 40C
X4		F-4		5A4-D or SD500	1N2070 or 1N540		F-1 or 40C
X5		F-4		5A4-D or SD500	1N2070 or 1N540		F-1 or 40C

① Two Required.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA					
	CAP.	VOLT.	Citi-Fone PART No.	AEROVOX PART No.	CORNELL- DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	▲ 60	400		AFH4-57-40	CCO365 & BR25-50	XC4-35	FP431.4B	TVL-4669
B	■ 40	200						
C	▲ 10	400						
D	20	25						
C2	40	200		PRS1580	BR40-250	QT1-14	TC58	TVA-1511
C3	40	450		PRS1750	BR40-450	QT1-14	TC78	TVA-1712
C4	2	70		CRE901A	NLW2-100	MT1-2	TT100X2	TE-1401
C5	10	70		CRE907A	NLW10-100	MT1-7	TT100X10	TE-1407

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL- DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C6	200 5%		ADM-15-201	CPR-200J	CD15E201J500	DM-15-201	SX320	MS-32
C7	27 5%		ADM-15-270	CPR-27J	CD15E270J500	DM-15-270	SX427	MS-427
C8	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C9	15 5%		ADM-15-150	TCZ-15	CD10C150J500	DM-15-150	SX415	MS-415
C10	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C11	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C12	75 2%		ADM-15-750	CPR-75J	CD15E750J500	DM-15-750	SX475	MS-475
C13	15 5%		ADM-15-150	TCZ-15	CD15C150J500	DM-15-150	SX415	MS-415
C14	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C15	15 5%		ADM-15-150	TCZ-15	CD15C150J500	DM-15-150	SX415	MS-415
C16	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C17	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C18	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C19	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C20	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C21	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C22	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C23	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C24	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C25	250 NPO			TCZ-240				10TCC-T27
C26	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C27	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C28	250 NPO			TCZ-240				10TCC-T27
C29	.002		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C30	.02		BPD-02	DD-203	BYT601ZU203Z	CCD-203	GP120	10TS-S20
C31	250 NPO			TCZ-240				10TCC-T27
C32	.002		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C33	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C34	250 NPO			TCZ-240				10TCC-T27
C35	500 NPO							
C36	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C37	.02		BPD-02	DD-203	BYT601ZU203Z	CCD-203	GP120	10TS-S20
C38	250 NPO			TCZ-240				10TCC-T27
C39	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C40	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C41	500 NPO							
C42	250 NPO							
C43	.1 100V		DBE2P1	TCZ-240	DMF2P1	2DP-3-104	PVC201	2PS-P10
C44	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C45	.002		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C46	100 5%		ADM-15-101	CPR-100J	CD15E101J500	DM-15-101	SX310	MS-31
C47	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C48	15 5%		ADM-15-150	TCZ-15	CD10C150J500	DM-15-150	SX415	MS-415
C49	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C50	15 5%		ADM-15-150	TCZ-15	CD10C150J500	DM-15-150	SX415	MS-415
C51	.001 2KV		HVD-30-1000	DD30-102	HVV202XP102M	3CD-102	2HV201	3GA-D10
C52	.0047 1.5KV		HVD-15-4700	DD30-472	HVV162ZU472P	3CD-502	2HV247	2PS-P10
C53	.1 100V		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C54	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C55	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C56	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C57	.06 600V		DBE6S6	DD-503	PKM4S66	4DP-3-563	PVC4056	4PS-S66
C58	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C59	.002		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C60	12 NPO			TCZ-12		CCD-120	CNO412	10TCC-Q12
C61	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10

CITI-FONE MODELS CD11/6, CD11/12, 99/6,99/12

CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	USE	RESIST- ANCE	REPLACEMENT DATA				
			Citi-Fone PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	500K	(1212)	F2-500K, SSK010, KR-1	A47-500K-Z, KSS-3, SWE-12 or (NP-500K-Z, UP-C-400, NWE-12)	Q13-133, 76-1 or (BU1, CF25, SS1, GC)*	UA55A, SK750, US41 or (RU55A, SL38, SK750, US41) or (U48, US26)
R2	Squelch	100K	(1222)	F1-100K, SSK010	A47-100K-S, KSS-3 or (NP-100K-S, UP-C-400)	Q11-128 or (BU1, CF13, SS6)*	UA15L, SK750, or (RU15L, SL38, SK750) or (U41)
R3	"S" Meter Adj.	1000Ω	(1220)	F1-1000, SNK012	A47-1000-S, KSS-3 or (NP-1000-S, UP-C-400)	B11-108, SK6, or (BU1, CF6, SS6)*	UA13L, SN1000 or (RU13L, SL38, SN1000) or (U4)

* "SNAPTROL"

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	Citi-Fone PART No.			IRC PART No.	WORKMAN PART No.	Citi-Fone PART No.
R56	2000Ω 5W	PW5-2000	5W-SQ-2K		R63	100Ω 7W	PW10-100	10W-SQ-100	
R61	100Ω 7W	PW10-100	10W-SQ-100						

PARTS LIST AND DESCRIPTION (CONTINUED)

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

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				
		Citi-Fone PART No.	MEISSNER Part No.	MERIT PART No.	MILLER PART No.	WORKMAN PART No.
L1	RFC (7.5uh)				74F826AP	T982
L2	Final Plate					
L3	RF Plate				74F826AP	T982
L4	RFC (7.5uh)					
L5	1st IF					
L6	2nd IF					
L7	3rd IF					
L8	RFC (.47uh)		19-2005	TV-239	4588 4403	T958
L9	Trans. Osc. Plate				72F185AP	
L10	RFC (18uh)				5220	
L11	Hash Choke (10uh)		19-4217	BC-537	5220	
L12	Hash Choke (10uh)		19-4217	BC-537	5220	

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA					NOTES
				Citi-Fone PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC. 1	SEC. 2						
T1	117VAC @ .67A	120VAC @ .12A DC		1224 ① 1243 ②					① 12VDC Version ② 6VDC Version
	PRI. 2	SEC. 4	SEC. 5						
	12.6VDC @ 4.7A								

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
			Citi-Fone PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC.						
T2	8500Ω	4Ω	(121-A6)					

SPEAKER

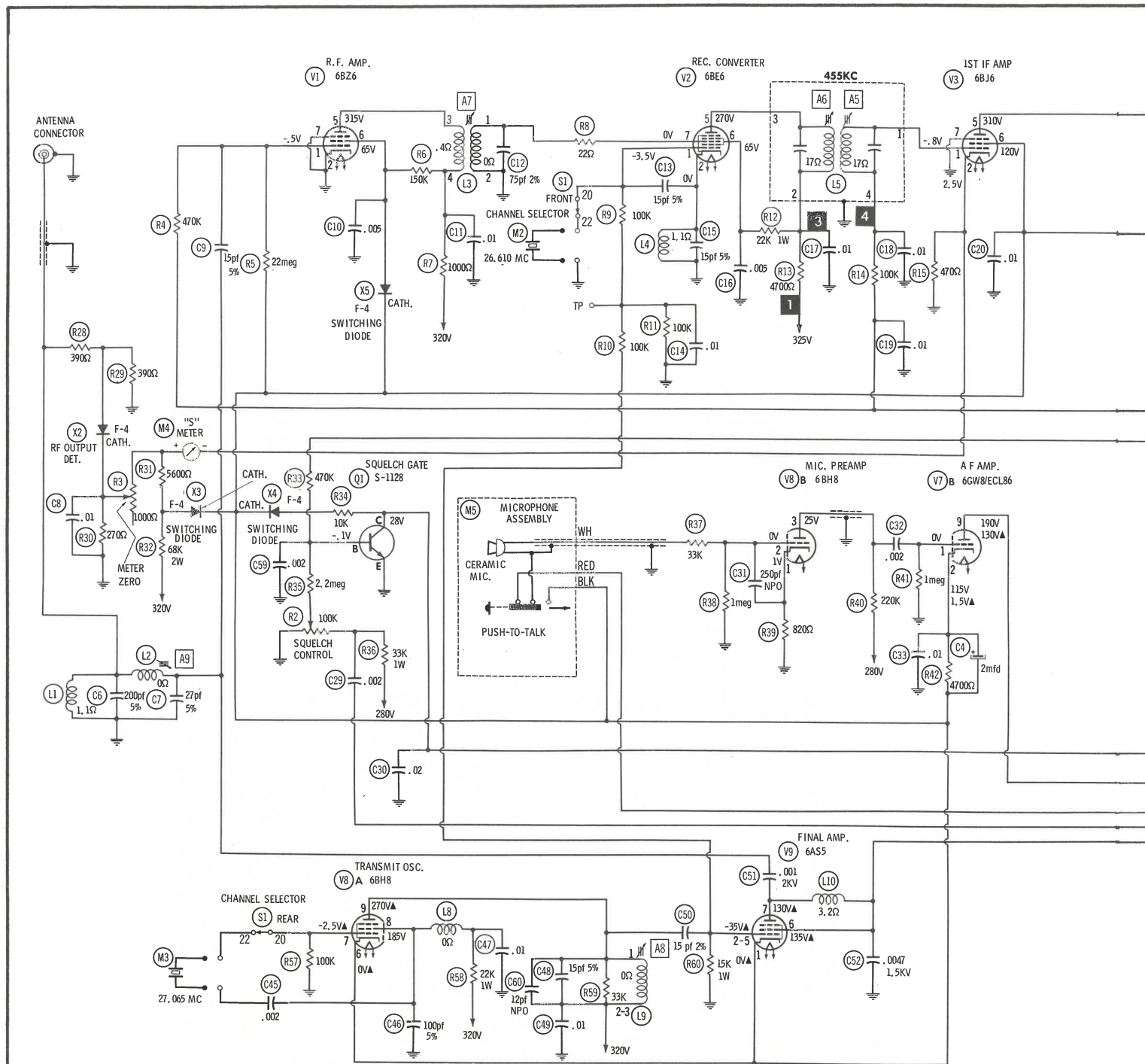
ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		Citi-Fone PART No.	JENSEN PART No.	QUAM PART No.	
SP1	3 1/2" PM 3-4Ω	(5531)	P35W3	3A05	

VIBRATOR

ITEM No.	TYPE	INPUT VOLTS	FRE-QUENCY	REPLACEMENT DATA			NOTES
				Citi-Fone PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	
M1	Interrupter	12.6V	115Ω	G1601 ① 1601 ②	6371	G1601	① 12VDC Version ② 6VDC Version

MISCELLANEOUS

ITEM No.	PART NAME	Citi-Fone PART No.	NOTES
M2	Receive Crystal		26.610MC
M3	Transmit Crystal		27.065MC
M4	"S" Meter		
M5	Microphone Ass'y.		Ceramic
S1	Channel Selector		Rotary



RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6BZ6	1.9meg	0Ω	FIL	FIL	1200Ω†	110K†	0Ω		
V2	6BE6	150K	1.1Ω	FIL	FIL	4900Ω†	26K†	22Ω		
V3	6BJ6	1.5meg	390Ω	FIL	FIL	4900Ω†	150K†	0Ω		
V4	6BJ6	1.5meg	470Ω	FIL	FIL	4900Ω†	150K†	0Ω		
V5	6AL5	2.8meg	500K	FIL	FIL	0Ω	0Ω	400K		
V6	6EJ7	5500Ω	4.2meg	5500Ω	FIL	FIL	NC	805K†	1.2meg†	5500Ω
V7	6GW8	1meg	180K	2000Ω†	FIL	FIL	560Ω†	270Ω	1meg	330K†
V8	6BH8	820Ω	1meg	225K†	FIL	FIL	0Ω	100K	22K†	200Ω†
V9	6AS5	0Ω	15K	FIL	FIL	NC	2560Ω†	2560Ω†		

† MEASURED FROM OUTPUT OF X1
 ▲ MEASURED IN TRANSMIT POSITION
 NC NO CONNECTION

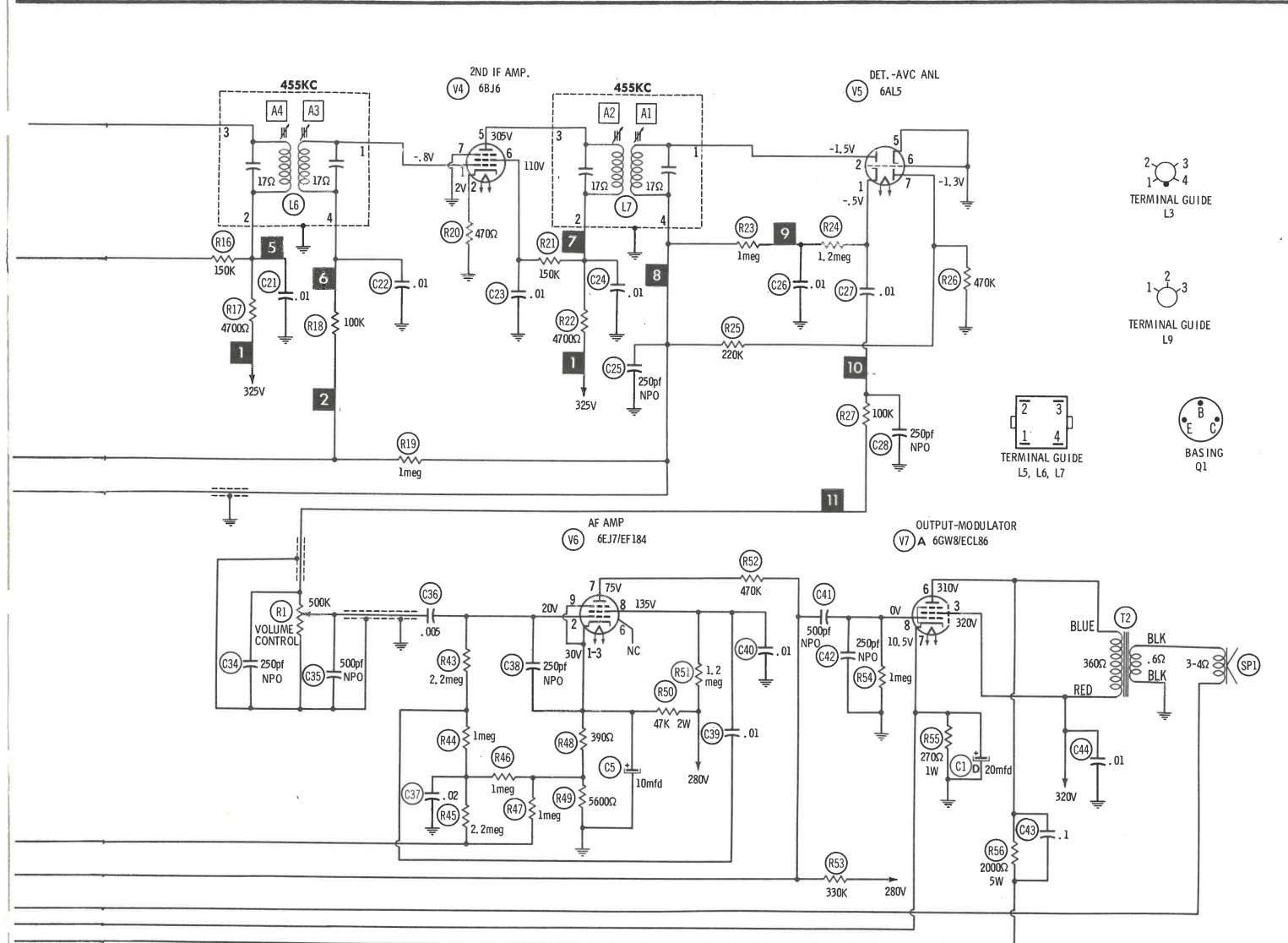
▲ TRANSMIT POSITION
 NC NO CONNECTION
 TP TEST POINT

Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

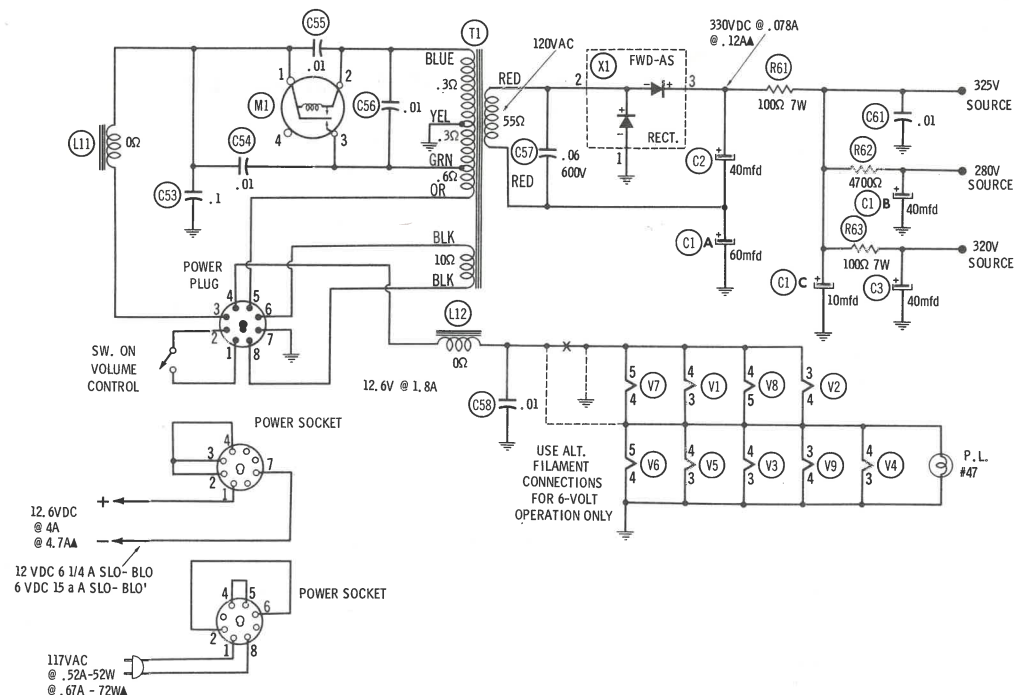
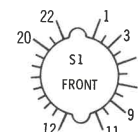
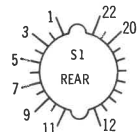
1. Voltage measurements taken with vacuum tube voltmeter.
2. All controls set for normal operation, no signal applied.
3. Measured values are from socket pin or terminal to common ground.
4. All terminals viewed from bottom unless otherwise designated.
5. Numbers assigned to terminals may not be found on the unit.
6. Supply voltage maintained at rated value for voltage readings.

A PHOTOFACT STANDARD NOTATION SCHEMATIC with CIRCUITTRACE

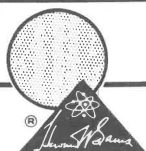
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CHANNEL SELECTOR



CITI-FONE MODELS CD11/6, CD11/12, 99/6, 99/12



PHOTOFACT[®] with

CIRCUITRACE[®]

TRADE NAME : Pace Model 5000

SUPPLIER : For Current Address, see Annual Index

TYPE SET : 18-Transistor Transceiver

POWER SUPPLY : 12-Volt Storage Battery

RATING : .25 Amp. @ 12.6VDC (Receive)
1.2 Amp. @ 12.6VDC (Transmit)

TUNING RANGE : Any 6 CB Channels 1 thru 23



ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

A1 thru A7, A10..... GENERAL CEMENT #8868, 8987, 9089..... WALSCO #2531-X, 2541, 2587
A8, A9, A11 thru A17. GENERAL CEMENT #8606L, Fabricate Tool

RECEIVER ALIGNMENT

Connect an AC VTVM across Speaker Voice Coil Terminals. Turn Volume Control fully clockwise; turn Squelch Control to approximately mid-range Position.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side thru .01mfd to Base of Q3 (2nd Rec. Mixer), low side to Chassis. Tune to 455KC (Mod.).	Any	A1 thru A7	Adjust for maximum.
High side thru .01mfd to Antenna Receptacle, low side to Chassis. Tune to 27.085MC (Channel 11) (Mod.).	11	A8, A9, A10, A11, A12	Adjust for maximum.

TRANSMITTER ALIGNMENT

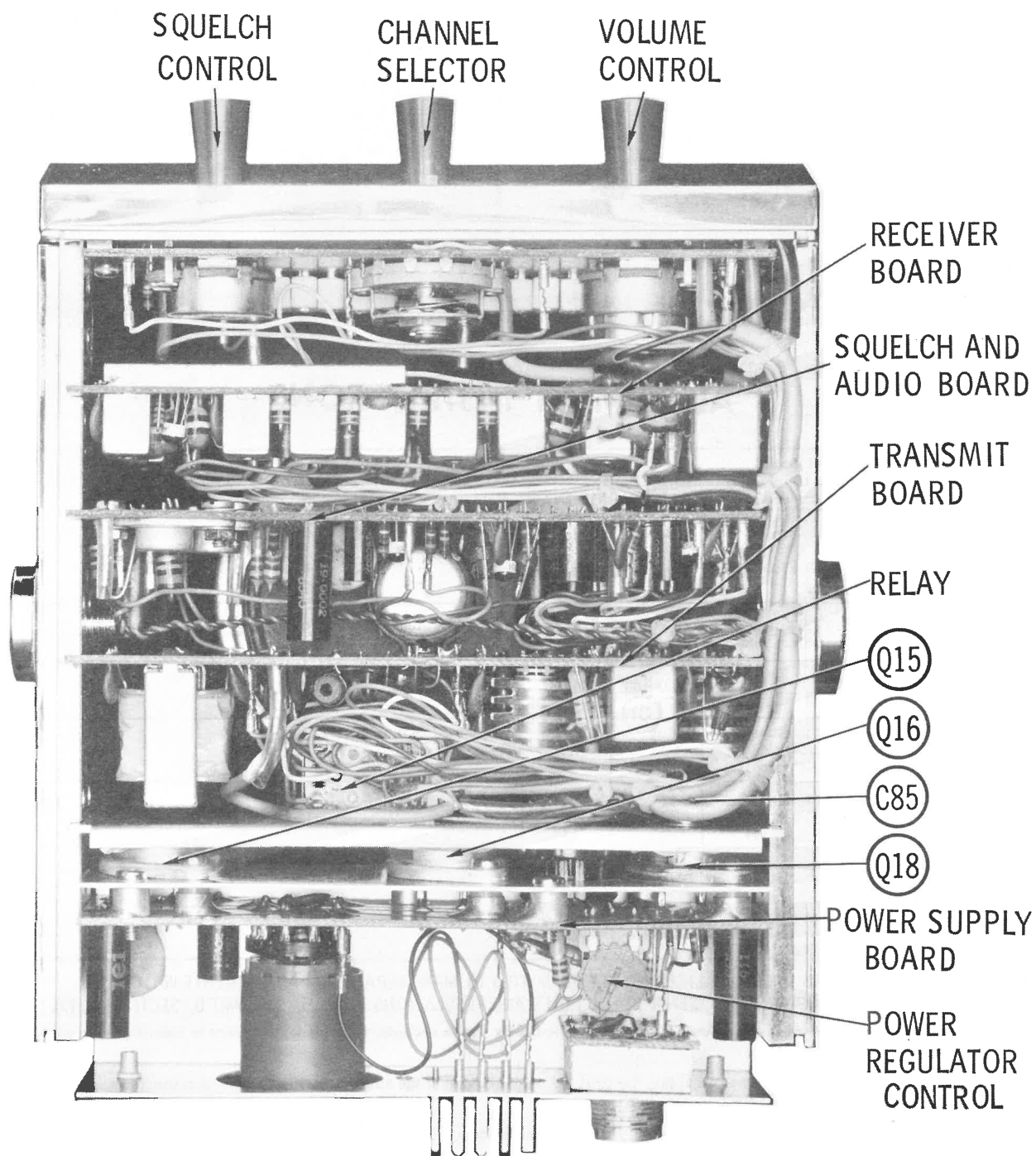
ONLY THOSE PERSONS PROPERLY LICENSED ARE PERMITTED TO MAKE REPAIRS OR ADJUSTMENTS WHICH MAY RESULT IN ILLEGAL OPERATION. (REFER TO FCC RULES AND REGULATIONS PART 95, SUBPART D, SECTION 95.95).

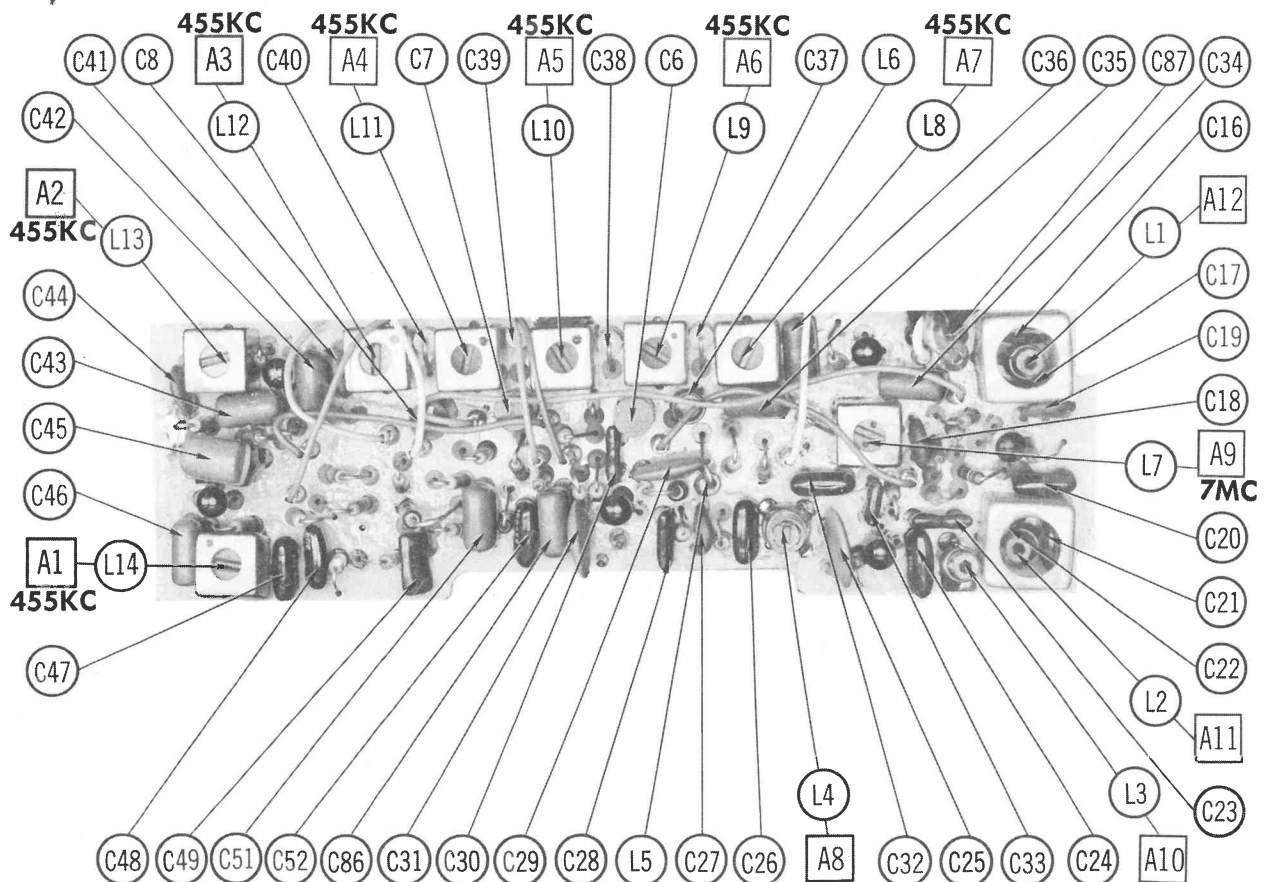
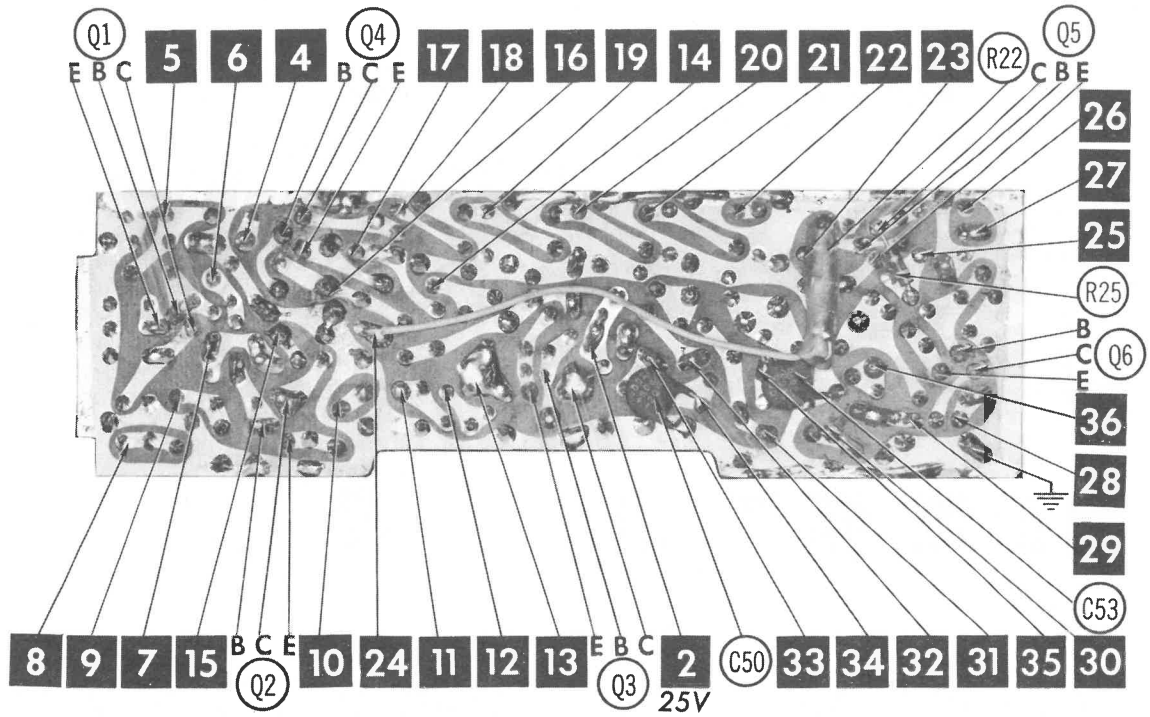
The frequency of the transmitter should be checked periodically with a secondary frequency standard to insure proper and legal operation.

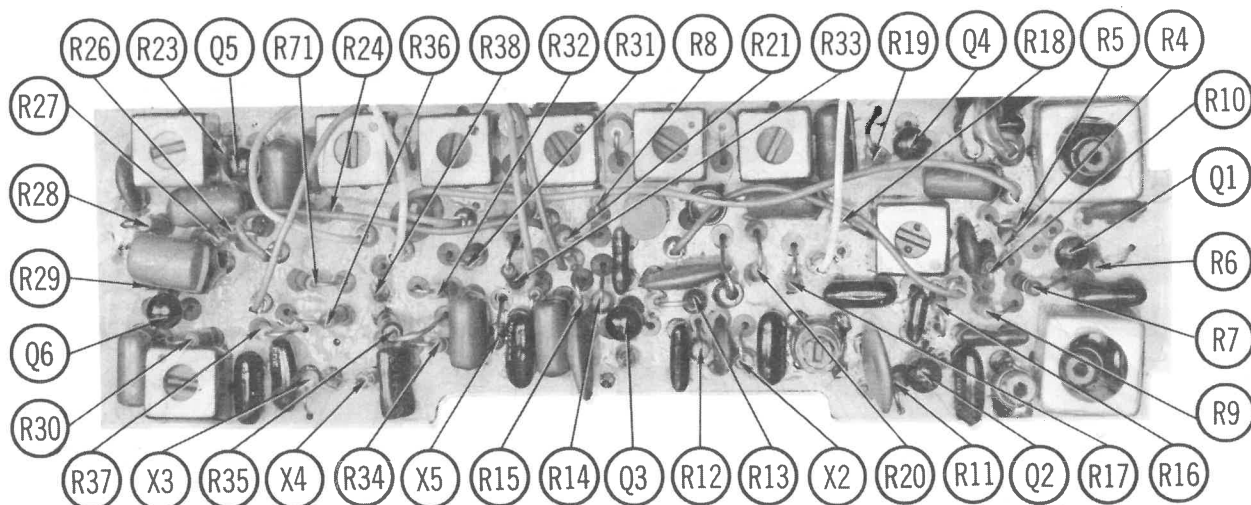
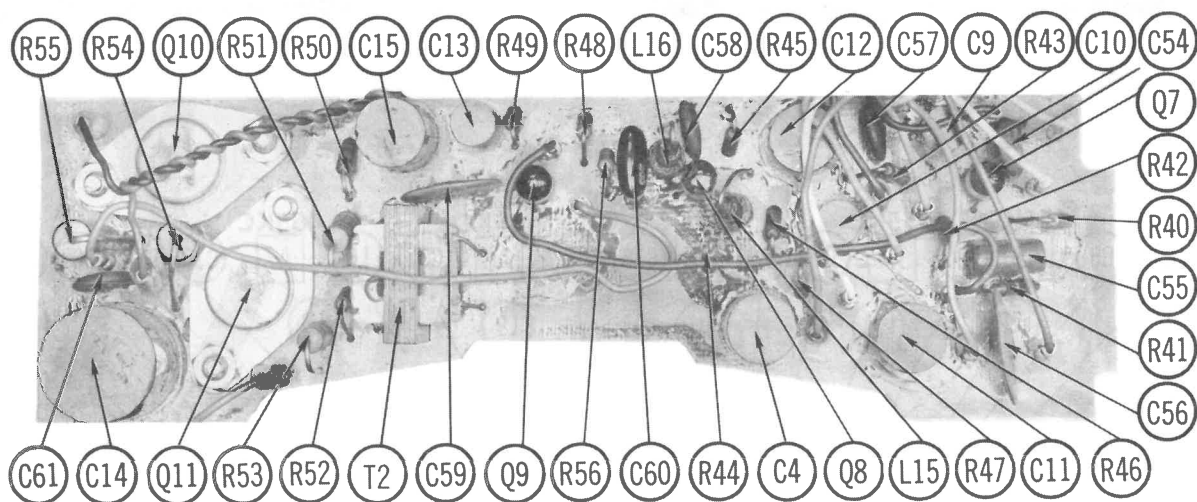
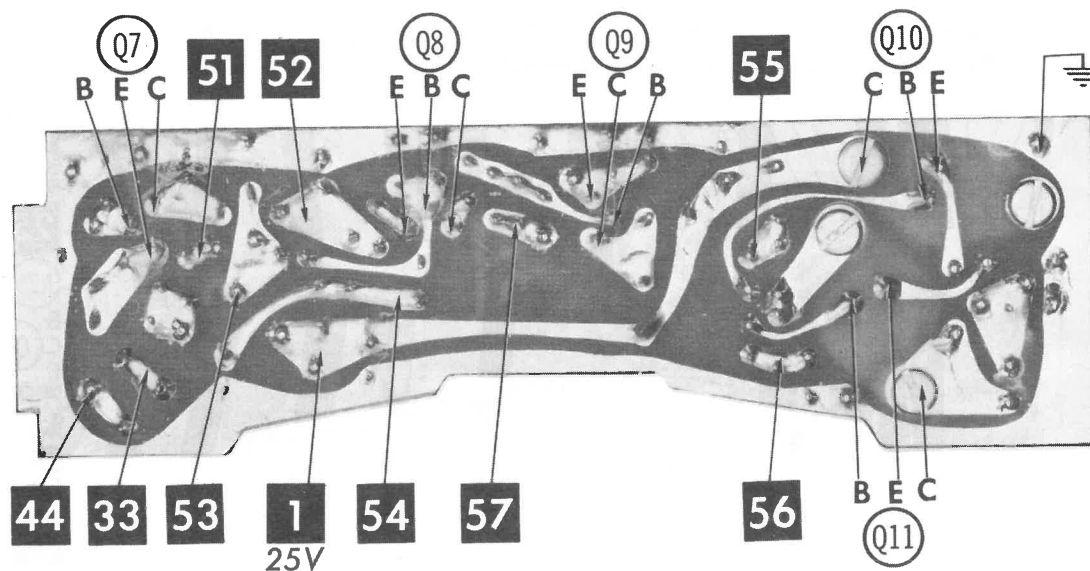
Best results will be obtained when adjusting the final RF output circuit if the antenna normally used is connected and the chassis is as nearly in the cabinet as possible.

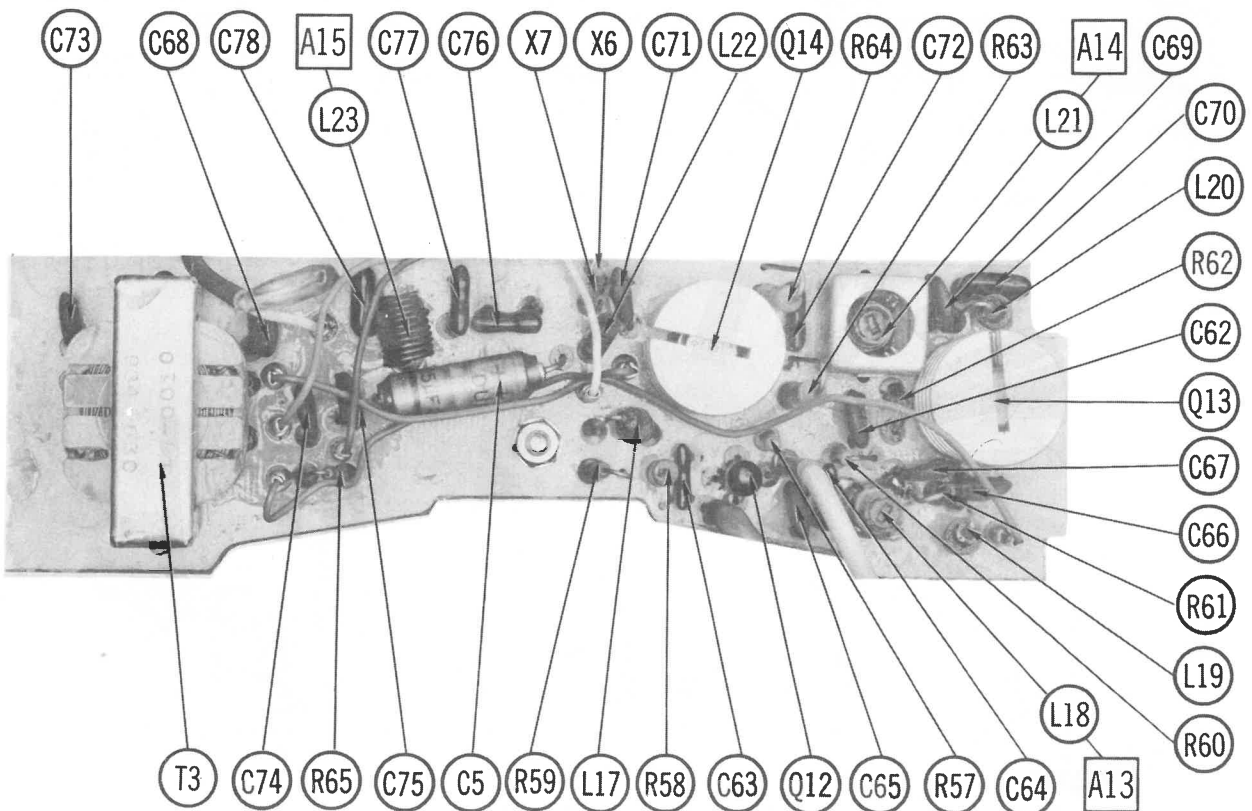
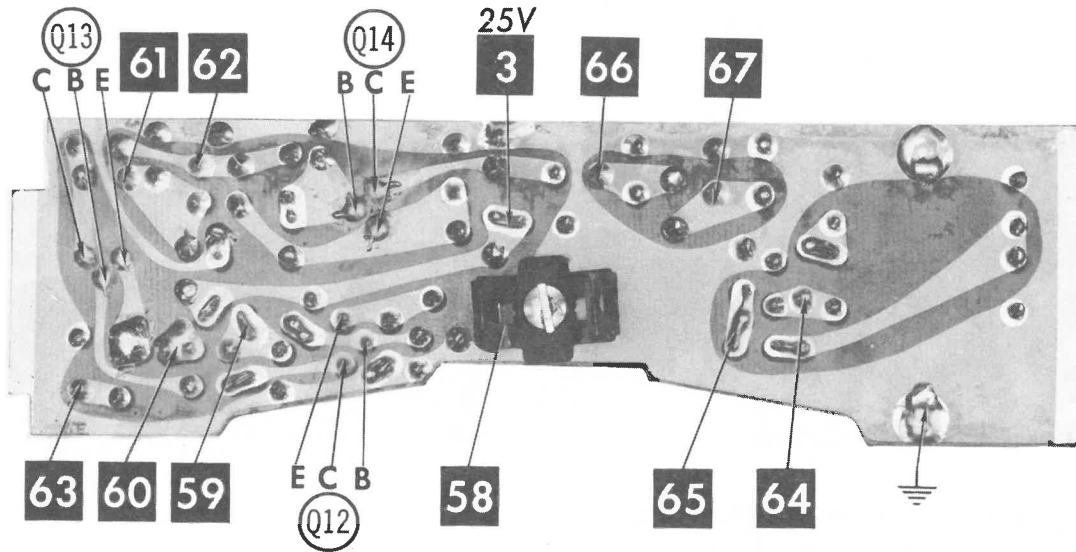
Connect either 50Ω dummy load or the normally used antenna system.

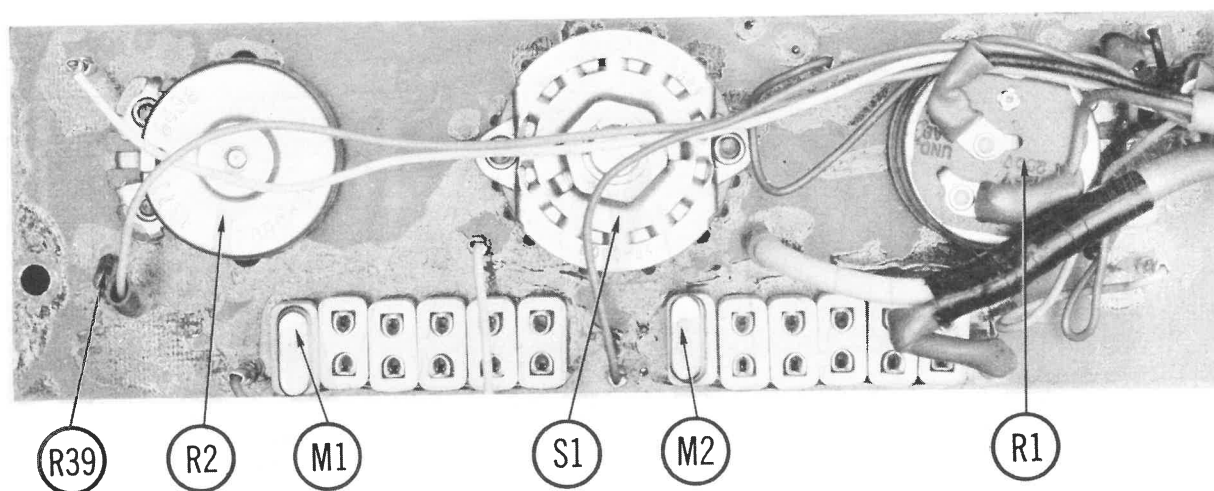
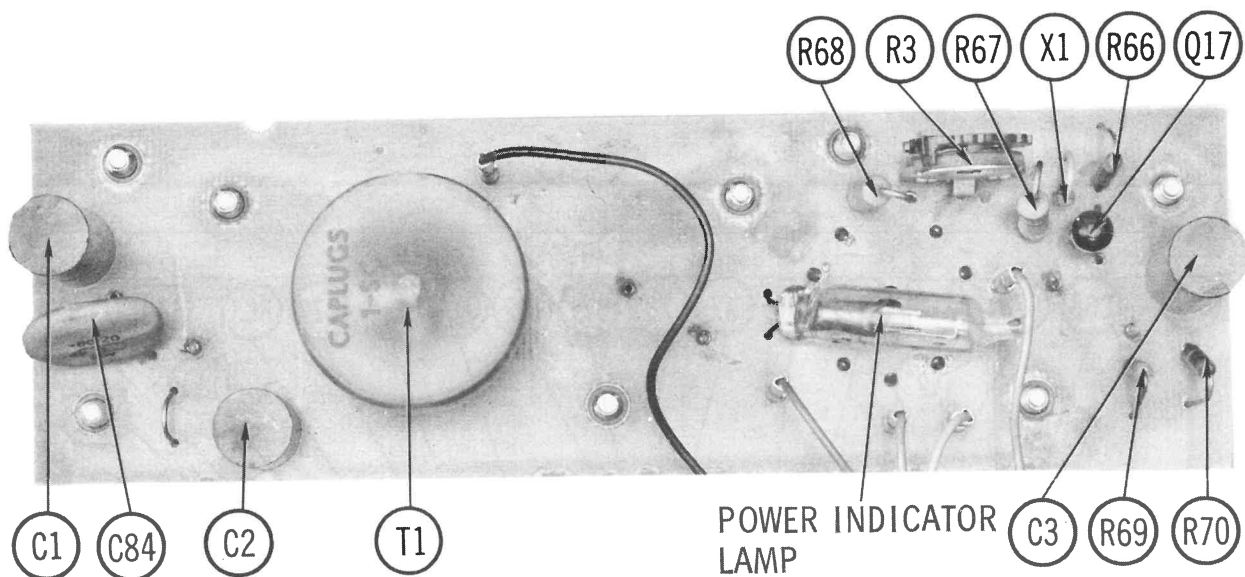
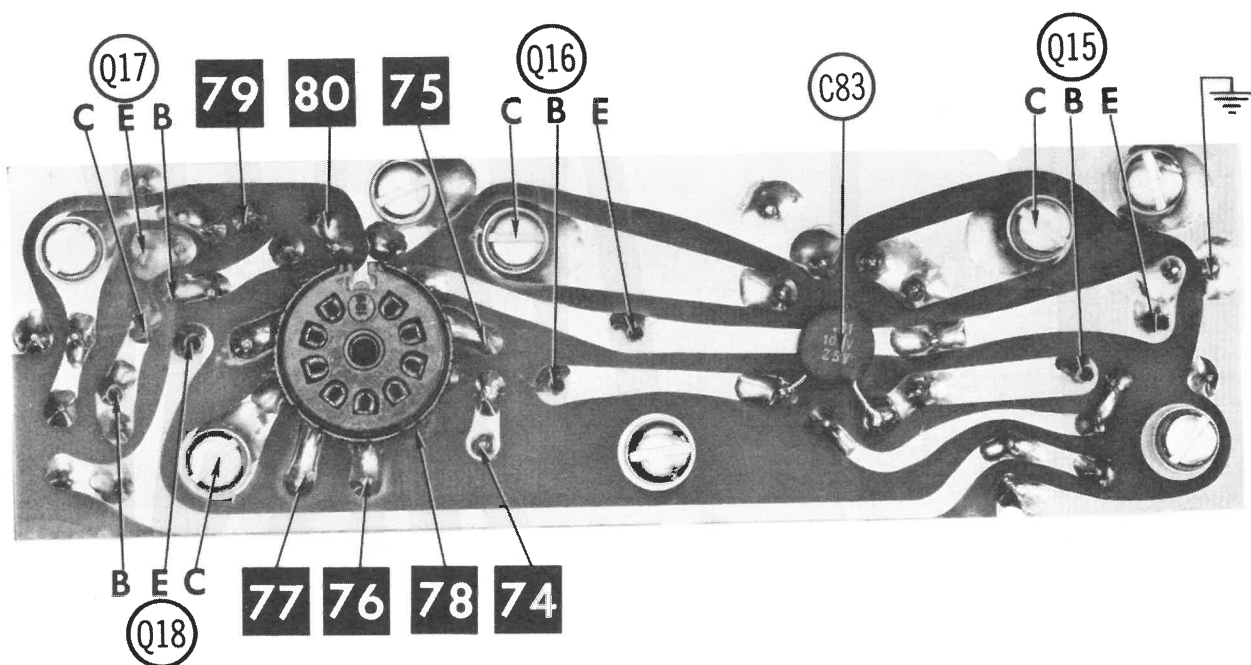
INDICATOR	ADJUST	REMARKS
Field Strength Meter or RF Wattmeter and "S" Meter on Front Panel.	A13 thru A17	Key Transmitter several times to ensure Oscillator starting. Connect Ammeter in Series with Collector of Q16 (Final Amp.). Adjust for maximum output and MINIMUM Current.

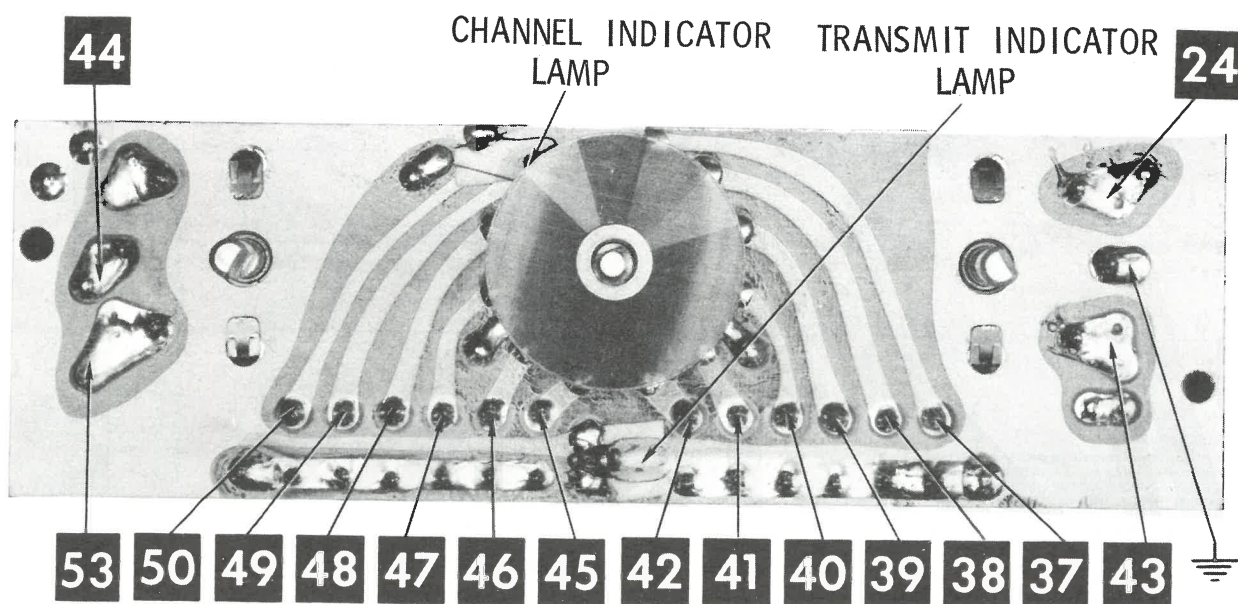
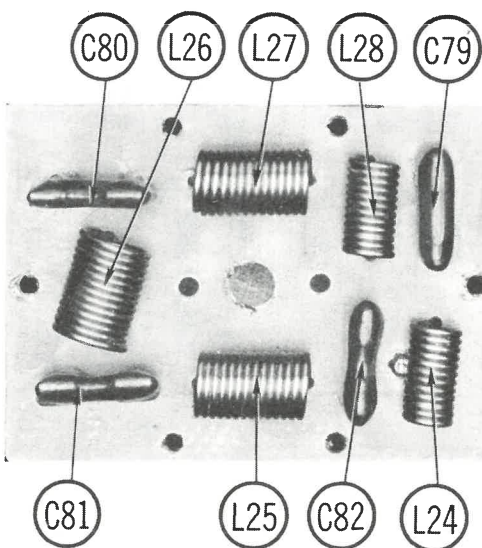
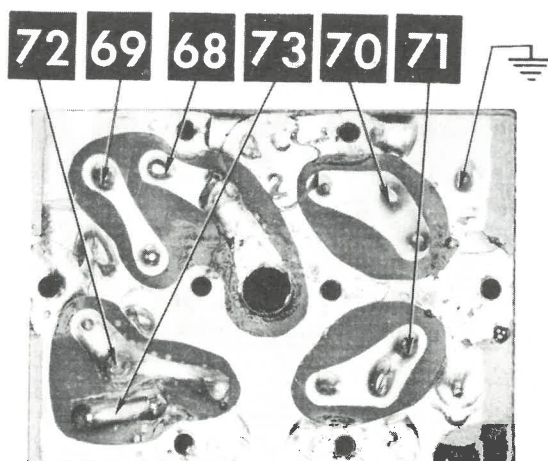












PARTS LIST AND DESCRIPTION

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

WIRING DATA

General-use Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors
	8524 (Stranded) Available in 12 Colors
Shielded Antenna Lead	Use BELDEN No. 8214 Lowest Loss (RG-8/U Type)
	8237 Low Loss (RG-8/U)
	8240 (Solid) Miniature (RG-58/U)
	8259 (Stranded) Miniature (RG-58A/U)
Coiled Microphone Cable	Use BELDEN No. 8497 3 Conductor- 1 Shielded for Press-to-Talk (Neoprene)
	8496 3 Conductor- 1 Shielded for Press-to-Talk (Vinyl)
Ignition Noise Suppression	Use BELDEN No. 7300-Series Spark-Plug Sets
Bonding Strap	Use BELDEN No. 8661 (3/8 In.)

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
Q1	2N3563-1	RF Amp.	DS-81	GE-11	SK-3017	NPN
Q2	ME1001	1st Rec. Mixer	DS-81	GE-11	SK-3018	NPN
Q3	ME1001	Rec. Osc.	DS-81	GE-11	SK-3018	NPN
Q4	ME1001	2nd Rec. Mixer	DS-81	GE-11	SK-3018	NPN
Q5	ME1001	1st IF Amp.	DS-81	GE-11	SK-3018	NPN
Q6	ME1002	2nd IF Amp.	DS-81	GE-11	SK-3018	NPN
Q7	ME4001	Squelch Amp.	DS-66	GE-10	SK-3020	NPN
Q8	ME0404	AF Amp.				PNP
Q9	ME4001	Driver	DS-66	GE-10	SK-3020	NPN
Q10	40250	Output - Modulator				NPN
Q11	40250	Output - Modulator				NPN
Q12	ME1001	Trans. Osc.	DS-81	GE-11	SK-3018	NPN
Q13		Trans. Buffer				NPN
Q14		Trans. Final Amp.				NPN
Q15	GC4125	Power Osc.				PNP
Q16	GC4125	Power Osc.				PNP
Q17	ME1001	Power Regulator	DS-81	GE-11	SK-3018	NPN
Q18	DTG-110	Power Regulator				PNP

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS & DIODES		RECTIFIERS		
			GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.
X1							
X2		1N295	1N295	1N295			
X3		1N295	1N295	1N295			
X4		1N295	1N295	1N295			
X5							
X6							
X7							

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		PACE PART No.	REPLACEMENT DATA				
	CAP.	VOLT.		AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	60	30		CRE767A	NLW50-50	MT1-17	PET1980	TE-1307
C2	5	50		BCD5005	NLW5-50	MT1-6	TT50X5	VL-1304
C3	60	30		CRE767A	NLW50-50	MT1-17	PET1980	TE-1307
C4	60	30		CRE767A	NLW50-50	MT1-17	PET1980	TE-1307
C5	25	25		CRE612A	NLW25-25	MT1-11	TT25X25	TE-1207
C6	8	10		BCD12008	NLW8-10	MT1-5	TT12X8	VL-1126
C7	1	10			TAN26BN010SN3			
C8	8	10		BCD12008	NLW8-10	MT1-5	TT12X8	VL-1126
C9	8	10		BCD12008	NLW8-10	MT1-5	TT12X8	VL-1126
C10	8	10		BCD12008	NLW8-10	MT1-5	TT12X8	VL-1126
C11	60	12		CRE418A	NLW50-15	MT1-19	PET1575	VL-1134
C12	60	12		CRE418A	NLW50-15	MT1-19	PET1575	VL-1134
C13	8	10		BCD12008	NLW8-10	MT1-5	TT12X8	VL-1126
C14	450	12		BCD12500				
C15	60	30		CRE767A	NLW50-50	MT1-17	PET1980	TE-1307

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL- DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C16	39		ADM-15-390	CPR-39J	CDE390J500	DM-15-390	SX439	MS-439
C17	15		ADM-15-150		CD10C150J500	DM-15-150	SX415	MS-415
C18	.002		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C19	.002		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C20	100 5%		ADM-15-101	CPR-100J	CD10E101J500	DM-15-101	SX310	MS-31
C21	160		ADM-15-161	CPR-160J	CD10E161J500	DM-15-161	SX316	MS-316
C22	2							
C23	91		ADM-15-910	CRP-91J	CD10E910J500	DM-15-910	SX491	MS-491
C24	160		ADM-15-161	CPR-160J	CD10E161J500	DM-15-161	SX316	MS-316
C25	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C26	100 5%		ADM-15-101	CPR-100J	CD10E101J500	DM-15-101	SX310	MS-31
C27	.001		DI-1000	DM-102	JBS601YP102K	CCD-102	SM210	5GAB-D10
C28	150 5%		ADM-15-151	CPR-150J	CD10E151J500	DM-15-151	SX315	MS-315
C29	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C30	51 5%		ADM-15-510		CD10E510J500	DM-15-510		MS-451
C31	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C32	100 5%		ADM-15-101	CPR-100J	CD10E101J500	DM-15-101	SX310	MS-31
C33	33 5%		ADM-15-330	CPR-33J	CD10E330J500	DM-15-330	SX433	MS-433
C34	.1 200V		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C35	.1 200V		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C36	.1 200V		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C37	2			DTZ-2R2	CZ601CJ2R2D	CCTO-2R2	CNO522	10TCC-V22
C38	2			DTZ-2R2	CZ601CJ2R2D	CCTO-2R2	CNO522	10TCC-V22
C39	2			DTZ-2R2	CZ601CJ2R2D	CCTO-2R2	CNO522	10TCC-V22
C40	2			DTZ-2R2	CZ601CJ2R2D	CCTO-2R2	CNO522	10TCC-V22
C41	.002	(56pF) †	DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C42	.1 200V		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C43	.1 200V		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C44	.002		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C45	.22 200V		DBE4P22		DMF4P22	4DP-5-224	PVC4022	4PS-P22
C46	.1 200V		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C47	100 5%		ADM-15-101	CPR-100J	CD10E101J500	DM-15-101	SX310	MS-31
C48	250		ADM-15-251		CD10E251J500	DM-15-251		MS-325
C49	620		ADM-15-621	CPR-620J	CD19F621J500	DM-15-621	SX362	MS-362
C50	.002		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C51	.1 200V		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C52	100 5%		ADM-15-101	CPR-100J	CD10E101J500	DM-15-101	SX310	MS-31
C53	.002		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C54	.002		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C55	.1 200V		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C56	.05		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C57	.002		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C58	.002		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C59	.02		TTD-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C60	39		ADM-15-390	CPR-39J	CD10E390J500	DM-15-390	SX439	MS-439
C61	.002		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C62	.002		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C63	91		ADM-15-910	CPR-91J	CD10E910J500	DM-15-910	SX491	MS-491
C64	56 5%		ADM-15-560	CPR-56J	CD10E560J500	DM-15-560	SX456	MS-456
C65	.002		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C66	.002		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C67	.002		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C68	.002		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C69	.002		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C70	27		ADM-15-270	CPR-27J	CD10E270J500	DM-15-270	SX427	MS-427
C71	.002		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C72	68		ADM-15-680	CPR-68J	CD10E680J500	DM-15-680	SX468	MS-468
C73	.002		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C74	.002		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C75	.002		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C76	620		ADM-15-621	CPR-620J	CD19F621J500	DM-1-621	SX362	MS-362
C77	56 5%		ADM-15-560	CPR-56J	CD10E560J500	DM-15-560	SX456	MS-456
C78	100 5%		ADM-15-101	CPR-100J	CD10E101J500	DM-15-101	SX310	MS-31
C79	51 5%		ADM-15-510		CD10E510J500	DM-15-510		MS-451
C80	150 5%		ADM-15-151	CPR-150J	CD15F151J500	DM-15-151	SX315	MS-315
C81	150 5%		ADM-15-151	CPR-150J	CD15F151J500	DM-15-151	SX315	MS-315
C82	51 5%		ADM-15-510		CD10E510J500	DM-15-510		MS-451
C83	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C84	.1 50V		TTD-1	CK-104	HOV101ZV104Z		TA010	TG-P10
C85	33	(47) †	ADM-15-330	CPR-33J	CD10E330J500	DM-15-330	SX433	MS-433
C86	.1 200V		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C87	22		ADM-15-220	CPR-22J	CD10E220J500	DM-15-220	SX422	MS-422

† Alternate Value

PAGE MODEL 5000

CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	USE	RESIST- ANCE	REPLACEMENT DATA				
			PAGE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	10K	15-0001			B13-116, TM8, 76-1 or (BU11, CF61, SS4, GC)*	RUI4A, SL37, SD3500, US41
R2	Squelch	35K	15-0002				
R3	Regulator Adjust	5000Ω	14-0007			X201R502B	MTC53L1

* "SNAPTROL"

PARTS LIST AND DESCRIPTION (CONTINUED)

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

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				
		PACE PART No.	MEISSNER Part No.	MERIT PART No.	MILLER PART No.	WORKMAN PART No.
L1	RF Input (6 1/2 Turns)					
L2	RF Amp.					
L3	RF Filter					
L4	Osc. Injection					
L5	RFC (6.5uh)					
L6	RFC (4 Turns)					
L7	1st Rec. Mixer	16-0007				
L8	2nd Rec. Mixer	16-0005				
L9	IF Filter	16-0003				
L10	IF Filter	16-0003				
L11	IF Filter	16-0003				
L12	IF Output	16-0006				
L13	1st IF	16-0004				
L14	2nd IF	16-0013				
L15	RFC (22uh)				72F225AP	
L16	RFC (22uh)				72F225AP	
L17	RFC (22uh)				72F225AP	
L18	Trans. Osc.					
L19	RFC (22uh)				72F225AP	
L20	RFC (22uh)				72F225AP	
L21	Trans. Interstage					
L22	RFC (7.5uh)					
L23	Pi Network					
L24	Pi Network (12 Turns)					
L25	Pi Network (14 Turns)					
L26	Pi Network (13 Turns)					
L27	Pi Network (14 Turns)					
L28	Pi Network (12 Turns)					

TRANSFORMER (POWER OSC)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
			PACE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	2	1						

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO			REPLACEMENT DATA					NOTES
				PACE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	5	1	1	16-0009					

TRANSFORMER (MOD)

ITEM No.	TURNS RATIO			REPLACEMENT DATA					NOTES
				PACE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T3	1,3	1		16-0010					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		PACE PART No.	JENSEN PART No.	QUAM PART No.	
SP1	3 1/2" PM 20-25Ω	22-0001-D		3A05RZ25	

MISCELLANEOUS

ITEM No.	PART NAME	PACE PART No.	NOTES
K1	Relay		Transmit & Receive
M1	Receive Crystal		27.085MC (Channel 11)
M2	Transmit Crystal		27.085MC (Channel 11)
M3	Microphone Ass'y.		Ceramic
S1	Channel Selector		Rotary



PHOTOFACT[®] with

CIRCUITRACE[®]

TRADE NAME: Midland Model 13-132
SUPPLIER: For Current Address, see Annual Index
TYPE SET: 16-Transistor Transceiver
POWER SUPPLY: 12 Volts DC
RATING: .020 Amp. @ 12VDC (Receive)
.12 Amp. @ 12VDC (Transmit)
TUNING RANGE: Any 2 CB Channels 1 thru 23



ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

A1 thru A9.....GENERAL CEMENT #8868, 8987, 9089....WALSCO #2531-X, 2541, 2587

RECEIVER ALIGNMENT

Connect an AC VTVM across Speaker Voice Coil. Turn Volume Control fully clockwise; turn Squelch Control to Midrange Position.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side thru .01mfd to Base of Q2 (Rec. Mixer), low side to Chassis. Tune to 455KC (Mod.).	Any	A1, A2, A3	Adjust for maximum.
High side thru .01mfd to Antenna Receptacle, low side to Chassis. Tune to 27.085MC (Mod.). (Channel 11)	11	A4, A5, A6	Adjust for maximum.

TRANSMITTER ALIGNMENT

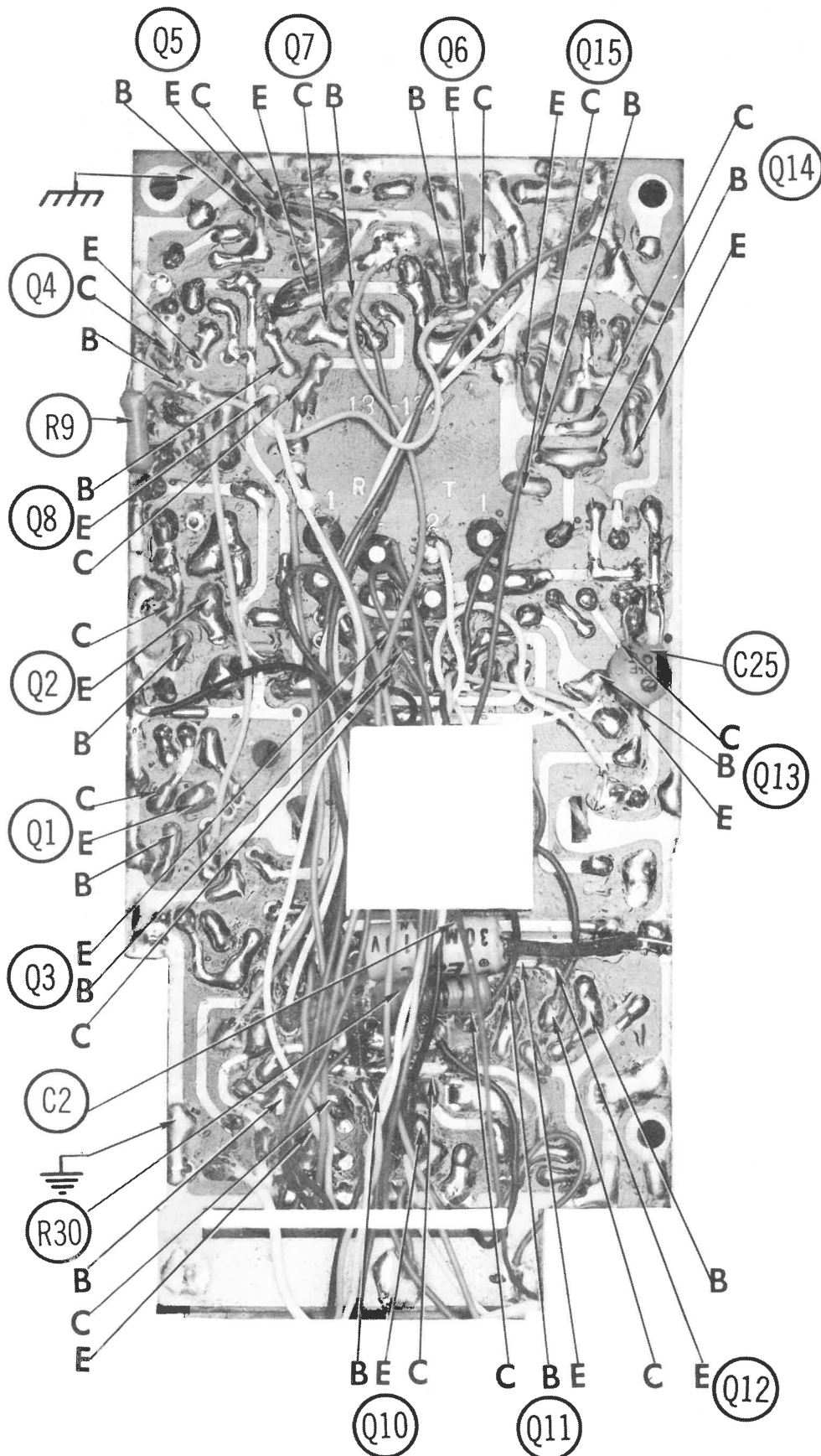
ONLY THOSE PERSONS PROPERLY LICENSED ARE PERMITTED TO MAKE REPAIRS OR ADJUSTMENTS WHICH MAY RESULT IN ILLEGAL OPERATION. (REFER TO FCC RULES AND REGULATIONS PART 95, SUBPART D, SECTION 95.95).

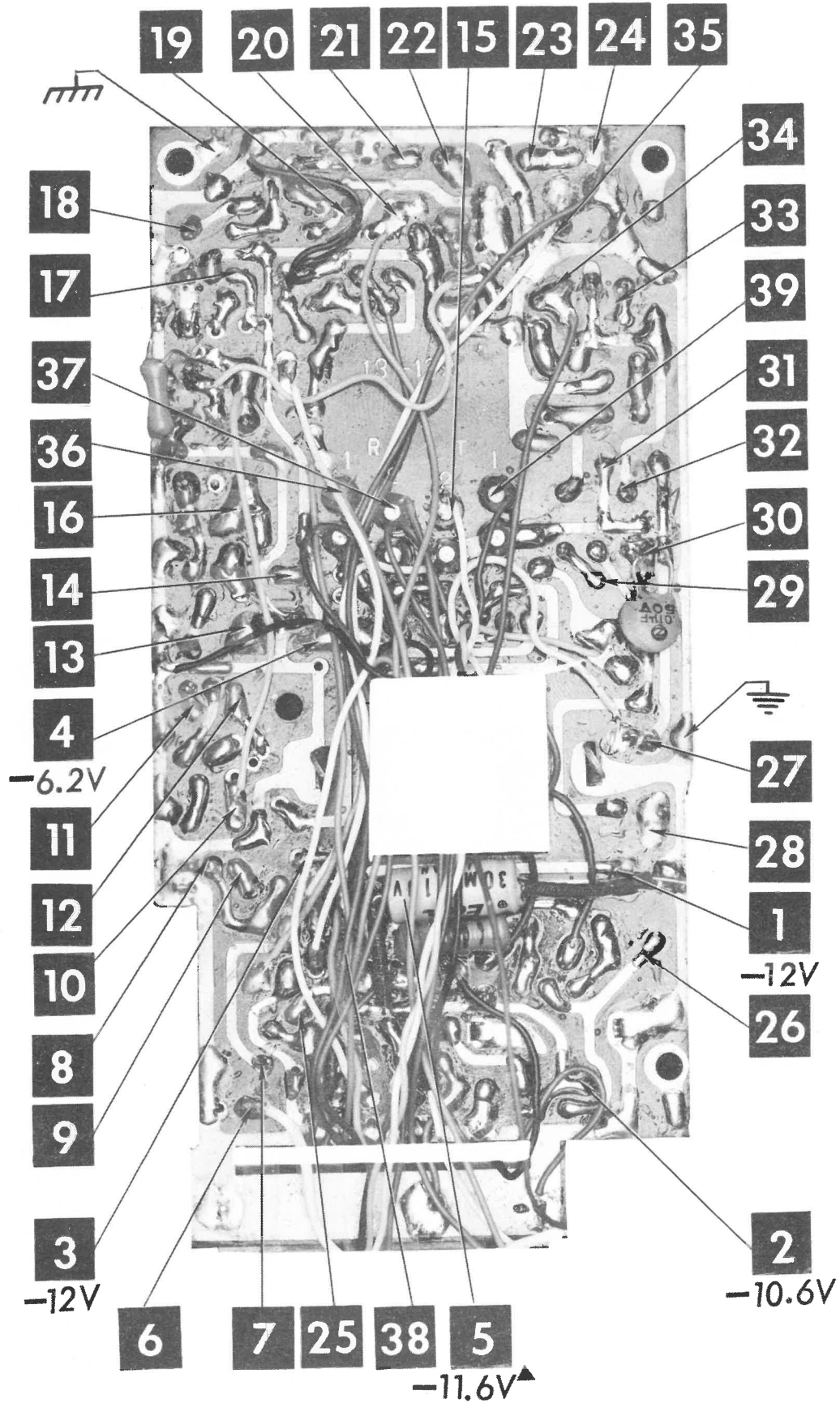
The frequency of the transmitter should be checked periodically with a secondary frequency standard to insure proper and legal operation.

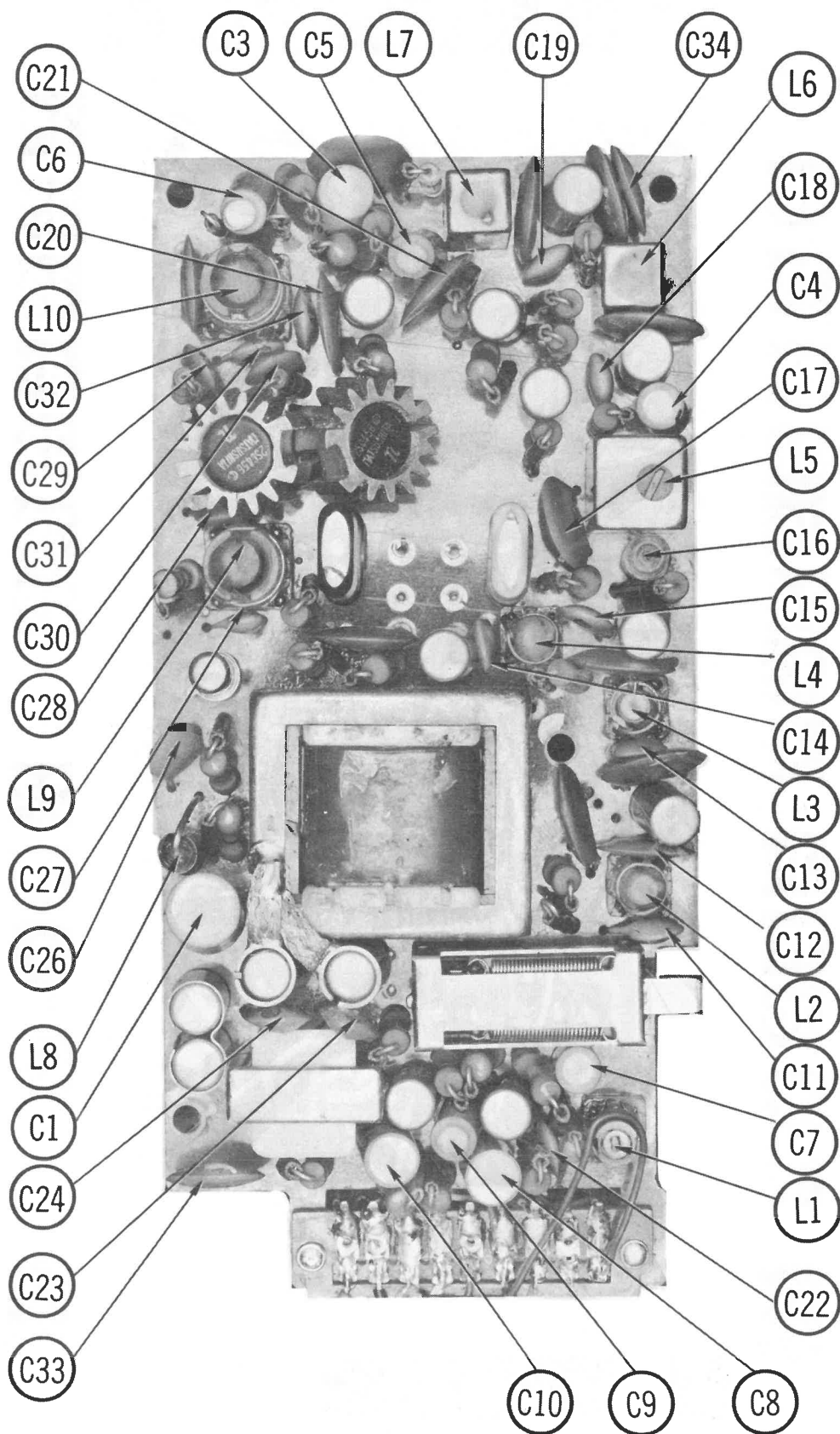
Best results will be obtained when adjusting the final RF output circuit if the antenna normally used is connected and the chassis is as nearly in the cabinet as possible.

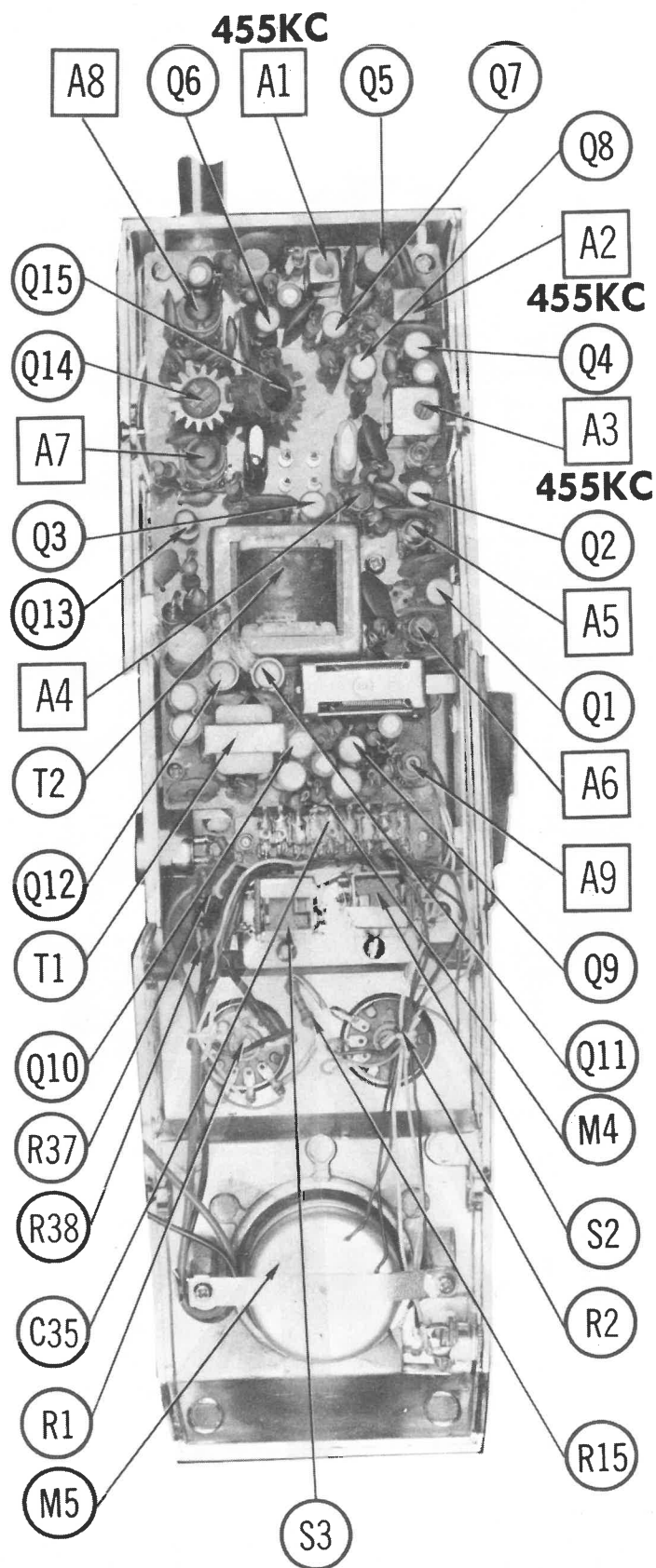
Connect either 50Ω dummy load or the normally used antenna system.

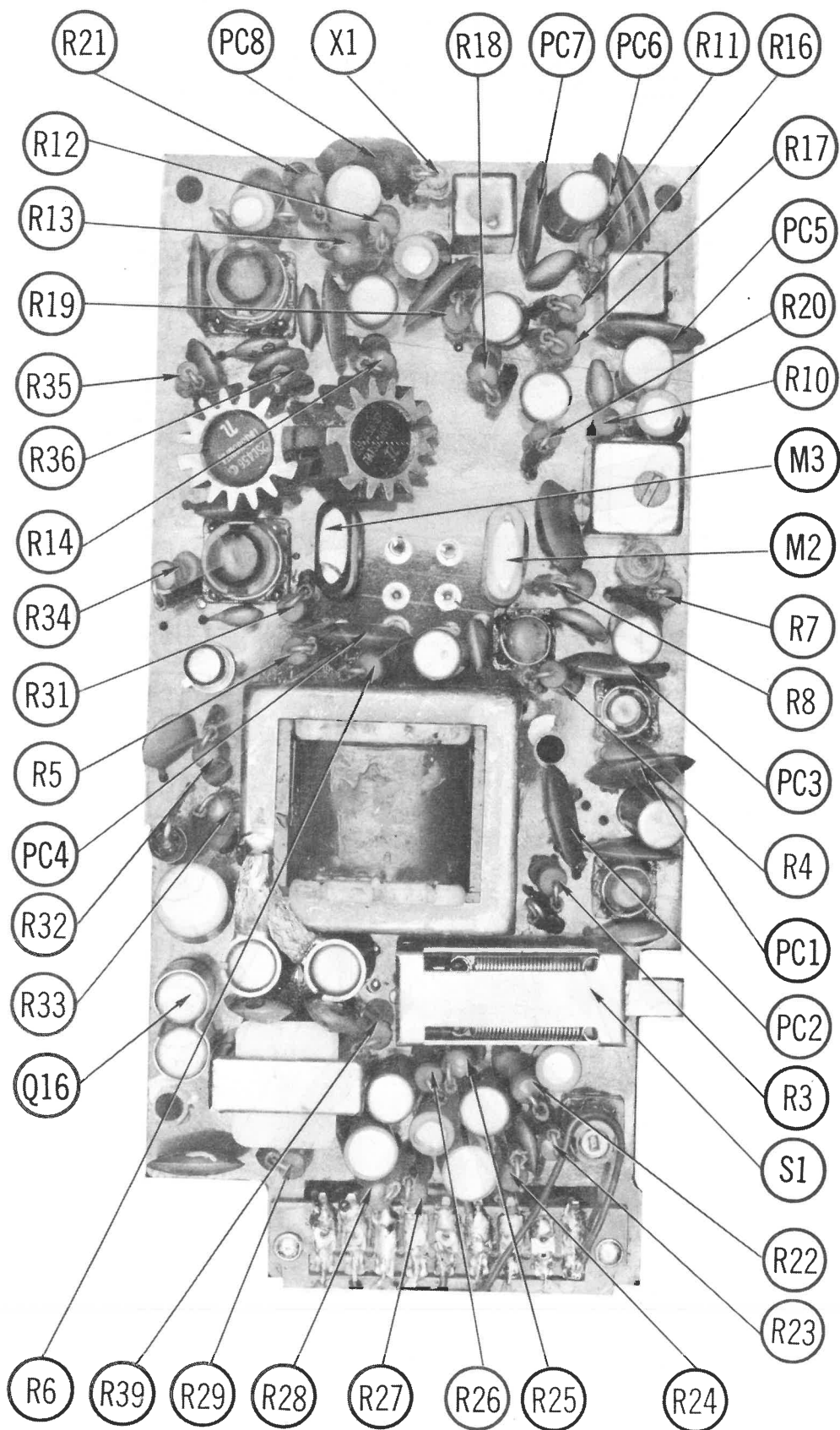
INDICATOR	ADJUST	REMARKS
RF Wattmeter or Signal Strength Meter	A7, A8, A9	Key Transmitter. Adjust for maximum.











PARTS LIST AND DESCRIPTION

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

WIRING DATA

General-use Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors
	8524 (Stranded) Available in 12 Colors)
Shielded Antenna Lead	Use BELDEN No. 8214 Lowest Loss (RG-8/U Type)
	8237 Low Loss (RG-8/U)
	8240 (Solid) Miniature (RG-58/U)
	8259 (Stranded) Miniature (RG-58A/U)
Coiled Microphone Cable	Use BELDEN No. 8499 Single Conductor Shielded (Neoprene)
	8498 Single Conductor Shielded (Vinyl)
Ignition Noise Suppression	Use BELDEN No. 7300-Series Spark-Plug Sets
Bonding Strap	Use BELDEN No. 8661 (3/8 In.)

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
Q1	2SA350	RF Amp.	DS-41		SK-3007	PNP
Q2	2SA350	Rec. Mixer	DS-41		SK-3007	PNP
Q3	2SA350	Rec. Osc.	DS-41		SK-3007	PNP
Q4	2SA12	1st IF Amp.	DS-25	GE-9	SK-3005	PNP
Q5	2SA12	2nd IF Amp.	DS-25	GE-9	SK-3005	PNP
Q6	2SB75	AGC Amp.	DS-26	GE-2	SK-3003	PNP
Q7	2SB75	Squelch Gate	DS-26	GE-2	SK-3003	PNP
Q8	2SB75	Squelch Amp.	DS-26	GE-2	SK-3003	PNP
Q9	2SB75	AF Amp.	DS-26	GE-2	SK-3003	PNP
Q10	2SB77	AF Driver	DS-26	GE-2	SK-3003	PNP
Q11	2SB370	Audio Output - Modulator	DS-26	GE-2	SK-3004	PNP
Q12	2SB370	Audio Output - Modulator	DS-26	GE-2	SK-3004	PNP
Q13	2SC478	Trans. Osc.				NPN
Q14	2SC456	Final Amp.				NPN
Q15	2SC456	Final Amp.				NPN
Q16	HV17B	AF Bias				PNP

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS & DIODES		RECTIFIERS		
			GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.
X1		1N60	1N60A	1N60			

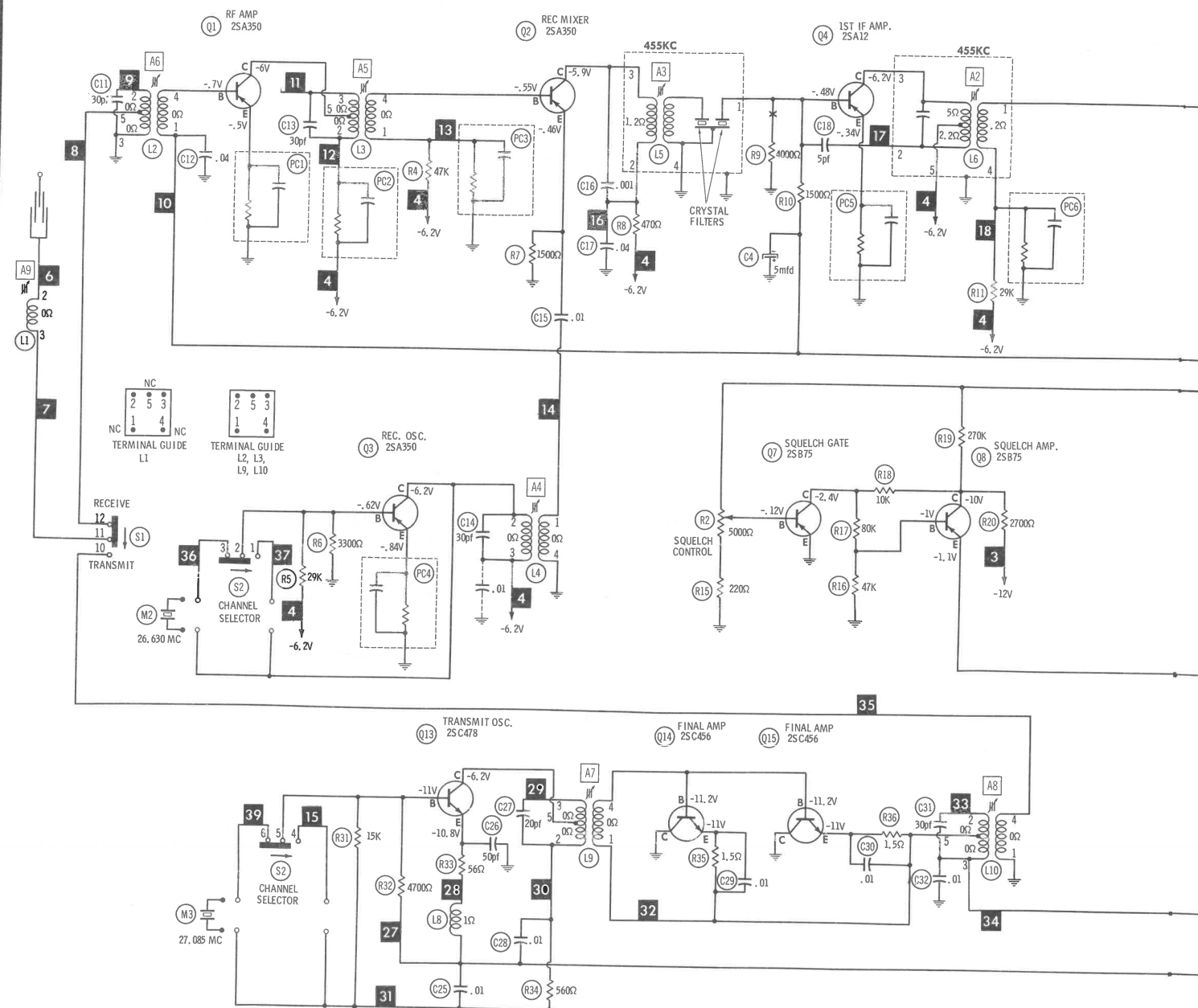
ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA					
	CAP.	VOLT.	MIDLAND PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	50	12		BCD12050	NLW50-15	MT1-16	PET1575	VL-1134
C2	30	10		CRE413A	NLW30-15	MT1-10	TT10X30	TE-1131
C3	30	10		BCD10025	NLW30-15	MT1-10	TT10X30	VL-1130
C4	5	6		BCD6005	NLW5-15	MT1-3	PET1210	VL-1084
C5	10	6		BCD6010	NLW10-6	MT1-5	PET1340	VL-1087
C6	5	6		BCD6005	NLW5-15	MT1-3	PET1210	VL-1084
C7	1	6		BCD6001	NLW1-6	MT1-1	TT6X1	VL-1080
C8	30	6		BCD6025	NLW30-6	MT1-13	TT6X30	VL-1090
C9	10	6		BCD6010	NLW10-6	MT1-5	PET1340	VL-1087
C10	30	6		BCD6025	NLW30-6	MT1-13	TT6X30	VL-1090

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMenco PART No.	MALLORY PART No.	SPRAGUE PART No.
C11	30		DI-30	DD-300	CD10E300J500	CCD-300	GP430	5GA-Q30
C12	.04			DD-403		CCD-403	GP140	5GA-S40
C13	30		DI-30	DD-300	CD10E300J500	CCD-300	GP430	5GA-Q30
C14	30		DI-30	DD-300	CD10E300J500	CCD-300	GP430	5GA-Q30
C15	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C16	.001			CPR-1000J	CD19F102J500	DM-19-102	SX210	MS-210
C17	.04		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C18	5		NPO-DI 5.0	DTZ-4R7	CZ60ICH5R0D	CCTO-050	CNO547	10TCC-V50
C19	5		NPO-DI 5.0	DTZ-4R7	CZ60ICH5R0D	CCTO-050	CNO547	10TCC-V50
C20	.04		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C21	.04		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C22	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C23	.005		TTD-005	CK-502	HOY101ZV502P	CCD-502	TA250	TG-D50
C24	.005		TTD-005	CK-502	HOY101ZV502P	CCD-502	TA250	TG-D50
C25	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C26	50		DI-50	DD-500	JBZ601YP500K	CCD-500	GP450	10TS-Q50
C27	20		DI-20	DD-200	CD10E200J500	CCD-200	GP420	5GA-Q20
C28	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C29	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C30	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C31	30		DI-30	DD-300	CD10E300J500	CCD-300	GP430	5GA-Q30
C32	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C33	.04		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C34	.04		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C35	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10

(CONTINUED ON PAGE 82)



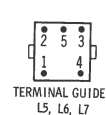
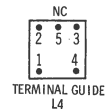
▲ TRANSMIT POSITION

Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

1. Voltage measurements taken with vacuum tube voltmeter.
2. All controls set for normal operation, no signal applied.
3. Measured values are from socket pin or terminal to common ground.
4. All terminals viewed from bottom unless otherwise designated.
5. Numbers assigned to terminals may not be found on the unit.
6. Supply voltage maintained at rated value for voltage readings.
7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

A PHOTOFACIT STANDARD NOTATION SCHEMATIC
with **CIRCUITRACE**

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PARTS LIST AND DESCRIPTION (CONTINUED)

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

CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			MIDLAND PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch Squelch	5000Ω					
R2		5000Ω					

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				
		MIDLAND PART No.	MEISSNER Part No.	MERIT PART No.	MILLER PART No.	WORKMAN PART No.
L1	Ant. Loading					
L2	RF Input					
L3	RF Amp.					
L4	Rec. Osc.					
L5	1st IF					
L6	2nd IF					
L7	3rd IF				8811	
L8	RFC (3.5uh)				8812	
L9	Trans. Osc.				74F336AP	
L10	Final Output					TA815

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
			MIDLAND PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC.						
T1	1.25	1						

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
			MIDLAND PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC. 1						
T2	128Ω CT	8Ω						
		SEC. 2						
		3.2Ω CT Modulator Winding						

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		MIDLAND PART No.	JENSEN PART No.	QUAM PART No.	
SP1	2 1/2" PM 6-8Ω				

COMPONENT COMBINATIONS

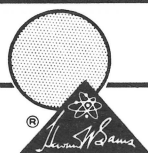
ITEM No.	USE	DESCRIPTION	MIDLAND PART NO.	REPLACEMENT DATA
PC1	RF Amp. Emitter Bias		(2PL14102)	
PC2	RF Amp. Collector Bias		(2SL16471)	
PC3	Rec. Mixer Base Bias		(2PL14472)	
PC4	Rec. Osc. Emitter Bias		(2PL14102)	
PC5	1st IF Emitter Bias		(2PL14102)	
PC6	2nd IF Base Bias		(2PL14472)	
PC7	2nd IF Emitter Bias		(2PL14102)	
PC8	Detector Bias		(3HL05471)	

BATTERIES

ITEM No.	VOLTAGE	MIDLAND PART No.	REPLACEMENT DATA			NOTES
			BURGESS	EVEREADY	MALLORY	
M1	12V		930 or AL9 or Hg9	1015 or E91 or E9	M15R or MN1500 or ZM9	8 Required

MISCELLANEOUS

ITEM No.	PART NAME	MIDLAND PART No.	NOTES
M2	Rec. Crystal		26.630 MC
M3	Trans. Crystal		27.085 MC
M4	Power & Battery Indicator		
M5	Microphone		Dynamic
S1	Switch, Rec - Trans.		4PDT
S2	Switch, Selector		DPDT
S3	Battery Level AC Adapter	18-140	DPDT



PHOTOFACT®

TRADE NAME : Lafayette Model Comstat -23 (99-3054WX)

SUPPLIER : For Current Address, see Annual Index

TYPE SET : 10-Tube, 2-Transistor Transceiver

POWER SUPPLY : 110 - 120 Volts AC, 60 Cycles (or)
12-Volt Storage Battery

RATING :
63 Watts, .62 Amp. @ 117VAC (Receive)
74 Watts, .7 Amp. @ 117VAC (Transmit)
5.2 Amp. @ 12.6VDC (Receive)
5.5 Amp. @ 12.6VDC (Transmit)

TUNING RANGE : All 23 CB Channels



ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

A1 thru A13, A16, A17.... GENERAL CEMENT #8606, 8869, 9302..... WALSCO #2511, 2543, 2588
A14, A15, A18..... GENERAL CEMENT #8868, 8987, 9089..... WALSCO #2531-X, 2541, 2587

RECEIVER ALIGNMENT

Connect an AC VTVM across Speaker Terminals. Turn Volume fully clockwise; Squelch Control fully counterclockwise .
Turn Fine Tuning (C16) to midrange.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side thru .01mfd to Pin 8 (Grid) of V3 (2nd Rec. Mixer), low side to chassis. Tune to 455KC (Mod.).	Any	A1 thru A6	Adjust for maximum.
High side thru .01mfd to Pin 2 (Grid) of V1B (1st Rec. Mixer), low side to Chassis. Tune to 455KC (Mod.).	Any	A7, A8	Adjust for maximum.
High side thru .01mfd to Antenna Receptacle, low side to Chassis. Tune to 27.085MC (Channel 11) (Mod.).	11	A9, A10, A11, A12	Adjust for maximum. Check all Channels for equal output.

TRANSMITTER ALIGNMENT

ONLY THOSE PERSONS PROPERLY LICENSED ARE PERMITTED TO MAKE REPAIRS OR ADJUSTMENTS WHICH MAY RESULT IN ILLEGAL OPERATION. (REFER TO FCC RULES AND REGULATIONS PART 95, SUBPART D, SECTION 95.95).

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.

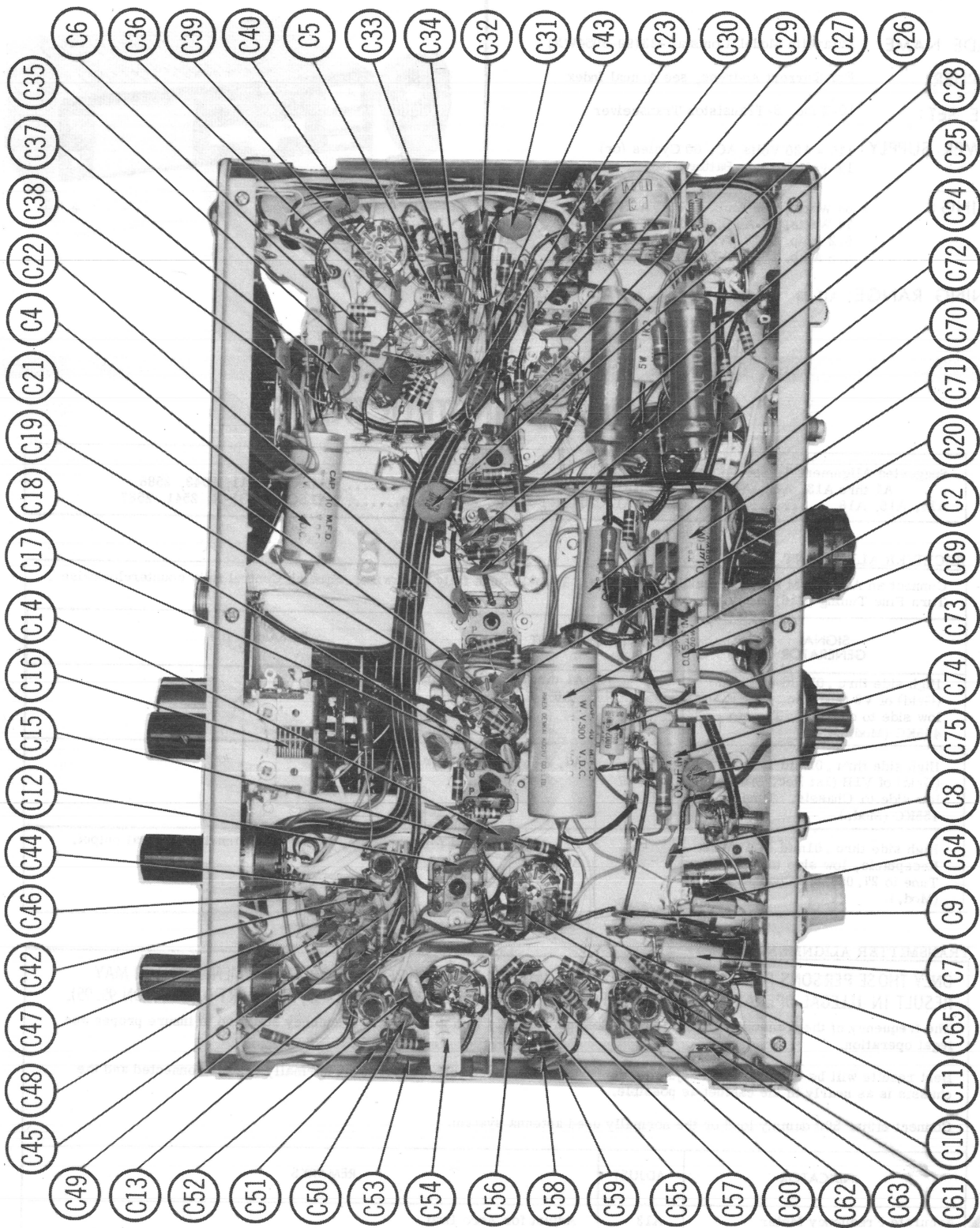
Connect either 50Ω dummy load or the normally used antenna system.

INDICATOR	ADJUST	REMARKS
Accurate Frequency Meter	A13	Adjust for Zero Beat
Field Strength Meter or RF Wattmeter.	A14 thru A17	Key Transmitter several times to ensure Oscillator starting. Adjust for maximum.
Nearby TV Receiver.	A18	Adjust for MINIMUM.

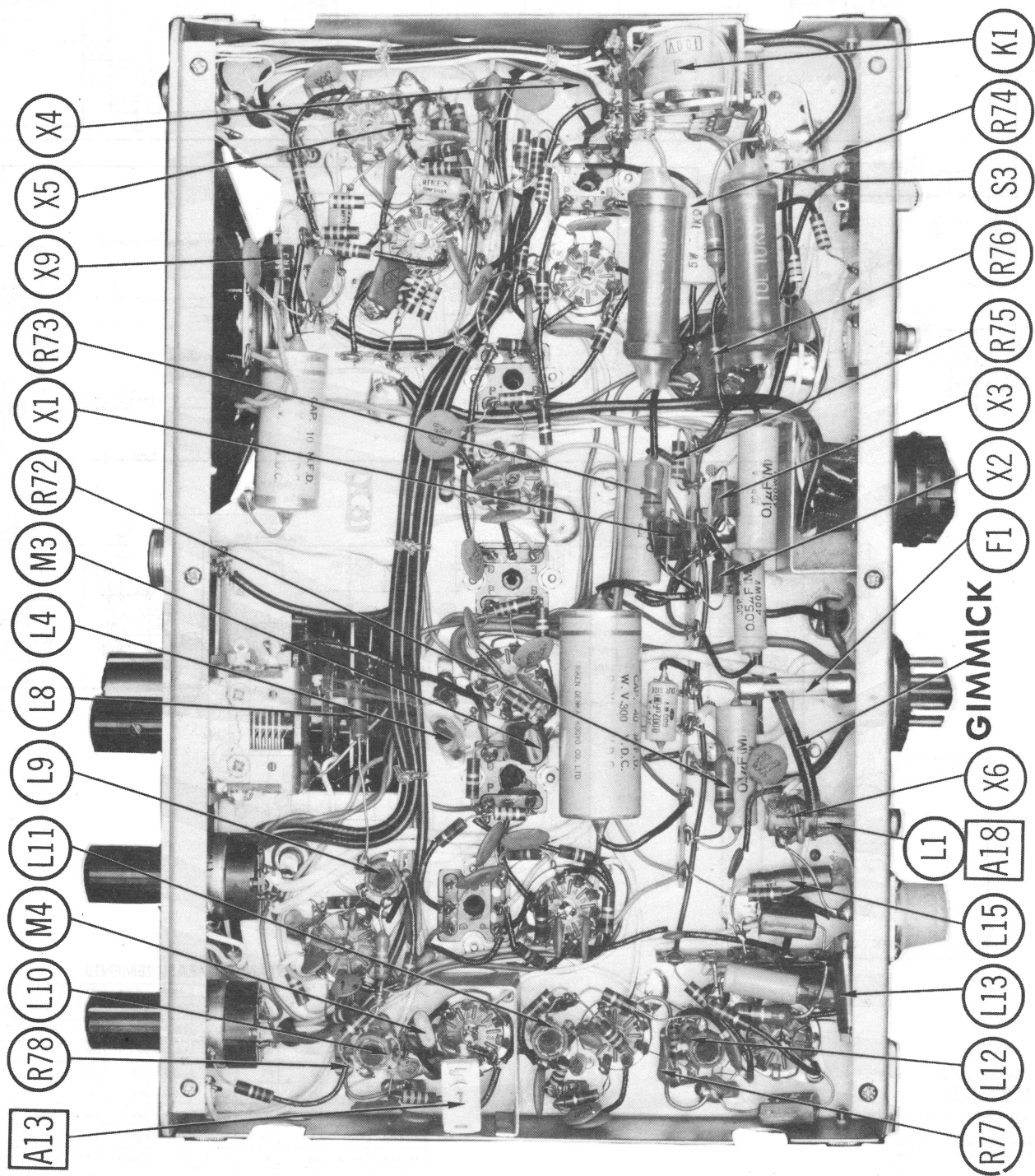
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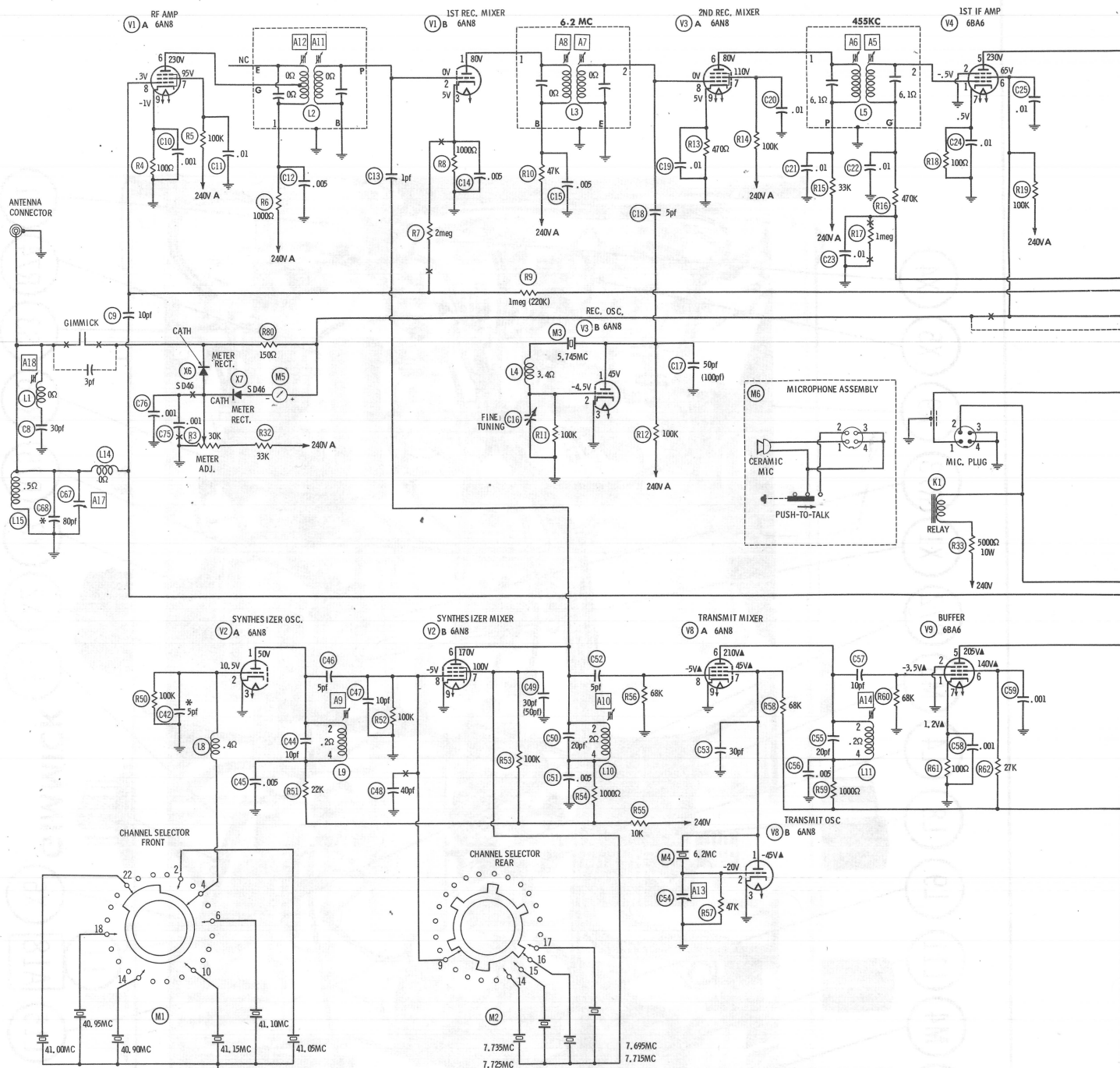
LAFAYETTE MODEL COMSTAT 23







LAFAYETTE MODEL COMSTAT 23



▲ TRANSMIT POSITION
 ▲ 100MW POSITION
 NC NO CONNECTION
 * VALUE VARIES, REPLACE WITH ORIGINAL VALUE

Resistors are 1/2 watt or less and rated
 10% or 20% unless otherwise indicated.

1. Voltage measurements taken with vacuum tube voltmeter.
2. All controls set for normal operation, no signal applied.
3. Measured values are from socket pin or terminal to common ground.
4. All terminals viewed from bottom unless otherwise designated.
5. Numbers assigned to terminals may not be found on the unit.
6. Supply voltage maintained at rated value for voltage readings.

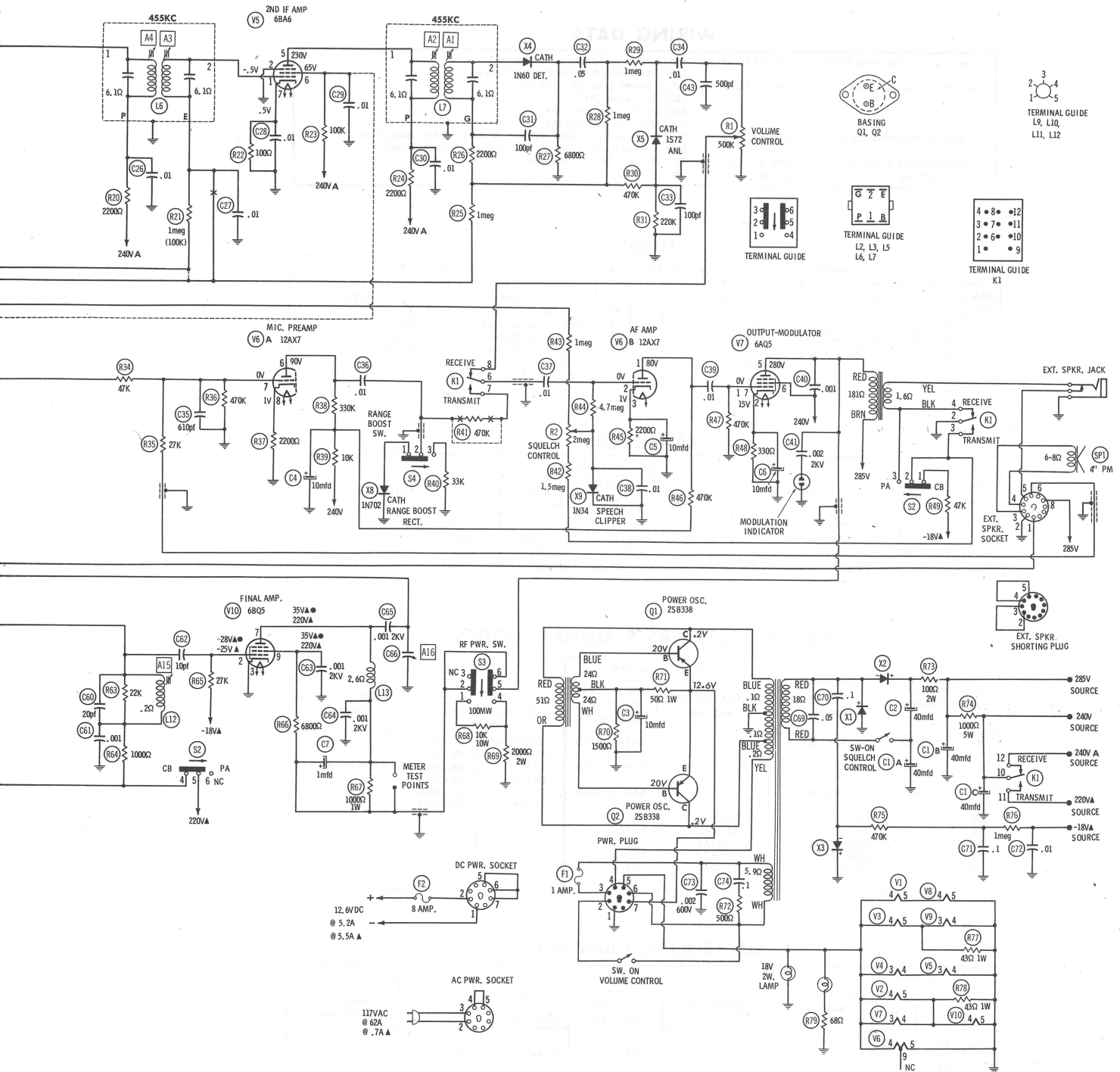
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RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6AN8	48K ↑	0Ω	900Ω	FIL	FIL	2100Ω ↑	101K ↑	1.1meg	100Ω
V2	6AN8	33K ↑	100K	0Ω	FIL	FIL	12K ↑	111K ↑	100K	0Ω
V3	6AN8	101K ↑	100K	0Ω	FIL	FIL	34K ↑	101K ↑	0Ω	470Ω
V4	6BA6	1.2meg	0Ω	FIL	FIL	3300Ω ↑	18K ↑	100Ω		
V5	6BA6	700K	0Ω	FIL	FIL	3300Ω	101K	100Ω		
V6	12AX7	480K ↑	5.9meg	2200Ω	FIL	FIL	340K ↑	460K	2200Ω	NC
V7	6AQ5	470K	330Ω	FIL	FIL	281Ω ↑	1100Ω	470K		
V8	6AN8	69K 1A	47K	0Ω	FIL	FIL	2100Ω 1A	69K 1A	68K	0Ω
V9	6BA6	68K	0Ω	FIL	FIL	2100Ω 1A	28K 1A	100Ω		
V10	68Q5	NC	80K A	0Ω	FIL	FIL	0Ω	0Ω	0Ω	● 16K ↑ ● 9900Ω ↑ ● 12800 ↑
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9

↑ MEASURED FROM OUTPUT OF X2
 ▲ MEASURED IN TRANSMIT POSITION
 NC NO CONNECTION

ALL MEASUREMENTS ARE TAKEN WITH RF POWER SWITCH IN 5-WATT POSITION UNLESS OTHERWISE NOTED.
 ● MEASURED IN 100MW POSITION



LAFAYETTE MODEL COMSTAT 23

PARTS LIST AND DESCRIPTION

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

WIRING DATA

General-use Hook-up Wire	Use BELDEN No.	8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Antenna Lead	Use BELDEN No.	8214 Lowest Loss (RG-8/U Type) 8237 Low Loss (RG-8/U) 8240 (Solid) Miniature (RG-58/U) 8259 (Stranded) Miniature (RG-58A/U)
Coiled Microphone Cable	Use BELDEN No.	8497 3 Conductor- 1 Shielded for Press-to-Talk (Neoprene) 8496 3 Conductor- 1 Shielded for Press-to-Talk (Vinyl)
Ignition Noise Suppression	Use BELDEN No.	7300-Series Spark-Plug Sets
Bonding Strap	Use BELDEN No.	8661 (3/8 In.)

TUBES

♦ AMPEREX ♦			♦ GENERAL ELECTRIC ♦			♦ RCA ♦			♦ SYLVANIA ♦		
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	RF Amp.-1st Rec. Mixer	6AN8	V6	Mic. Preamp.-AF Amp.	12AX7	V7	AF Output-Modulator	6AQ5	V8	Transmit Osc. & Mixer	6AN8
V2	Synthesizer Osc.-Mixer	6AN8	V9	Buffer	6BA6	V9	Buffer	6BA6	V10	RF Final Amp.	6BQ5
V3	2nd Rec. Mixer-Rec. Osc.	6AN8									
V4	1st IF Amp.	6BA6									
V5	2nd IF Amp.	6BA6									

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
Q1	2SB338	Power Osc.	DS-520	GE-3	SK-3009	PNP
Q2	2SB338	Power Osc.	DS-520	GE-3	SK-3009	PNP

When replacing, apply silicone grease to both sides of insulator. Tighten mounting screws securely.

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS & DIODES		RECTIFIERS		
			GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.
X1	.12ADC	5GJ (FR1M)		5A6 or SD600	1N2071 or 1N1096	SK-3016 or SK-3017	F-6 or 60C
X2	.12ADC	5GJ (FR1M)		5A6 or SD600	1N2071 or 1N1096	SK-3016 or SK-3017	F-6 or 60C
X3	.12ADC	5GJ (FR1M)		5A6 or SD600	1N2071 or 1N1096	SK-3016 or SK-3017	F-6 or 60C
X4		1N60	1N60	1N60			
X5		1S72	1N34AS	1N34A			
X6		SD46 (1N34)	1N34AS	1N34A			
X7		SD46 (1N34)	1N34AS	1N34A			
X8		1N702	1N34AS	1N34A			
X9		SD46 (1N34)					

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA					
	CAP.	VOLT.	Lafayette PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	40	350						
B	40	350						
C	40	350		AFH3-44	CCO355	XC3-40	FPF330.8A	TVL-3787
C2	40	300		PRS1670	BR40-350	QT1-14	TC67	TVA-1611
C3	10	50		CRE757A	NLW10-50	MT1-6	TT50X10	TE-1304
C4	10	350		PRS1620	BR10-450	QT1-6	TC62	TVA-1604
C5	10	15		PTT66	NLW10-15	MT1-5	TT15X10	TL-1155
C6	10	25		CRE607A	NLW10-25	MT1-5	TT25X10	TE-1204
C7	1	150		CRE950A	NLW1-150	MT1-2	TT150X1	TE-1500

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENDO PART No.	MALLORY PART No.	SPRAGUE PART No.
C8	30		DI-30	DD-300	CD10E300J500	CCD-300	GP430	5GA-Q30
C9	10		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10
C10	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C11	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C12	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C13	1		NPO-DI 1.0	TCZ-1			CNO510	10TCC-V10
C14	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C15	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C16								
C17	50	(100) †	DI-50	DD-500	JBZ601YP500K	CCD-500	GP450	10TS-Q50

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C18	5	① (50) †	NPO-DI 5.0	DTZ-4R7	CZ601CH5R0D	CCTO-050	CNO547	10TCC-V50
C19	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C20	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C21	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C22	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C23	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C24	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C25	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C26	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C27	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C28	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C29	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C30	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C31	100		NPO-DI 100	DTZ-100	CV601CG101K	CCTO-101	CNO310	10TCC-T10
C32	.05 50V		TTD-05	CK-503	HCZ3R0XR503P		TA150	TG-S50
C33	100		NPO-DI 100	DTZ-100	CV601CG101K	CCTO-101	CNO310	10TCC-T10
C34	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C35	610			DD-601			GP360	5GA-T60
C36	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C37	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C38	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C39	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C40	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C41	.002 2KV			DD30-202	IDRP20D2JF	VDM-20-202J	2HV222	30GA-D20
C42	5		NPO-DI 5.0	DTZ-4R7	CZ601CH5R0D	CCTO-050	CNO547	10TCC-V50
C43	500		DI-500	DD-501	JBZ601YP501K	CCD-501	GP350	10TS-T50
C44	10		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10
C45	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C46	5		NPO-DI 5.0	DTZ-4R7	CZ601CH5R0D	CCTO-050	CNO547	10TCC-V50
C47	10		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10
C48	40		DI-39	DD-390	CD10E390J500	CCD-390	GP439	5GA-Q39
C49	30		DI-30	DD-300	CD10E300J500	CCD-300	GP430	5GA-Q30
C50	20		DI-20	DD-200	CD10E200J500	CCD-200	GP420	5GA-Q20
C51	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C52	5		NPO-DI 5.0	DTZ-4R7	CZ601CH5R0D	CCTO-050	CNO547	10TCC-V50
C53	30		DI-30	DD-300	CD10E300J500	CCD-300	GP430	5GA-Q30
C54								
C55	20		DI-20	DD-200	CD10E200J500	CCD-200	GP420	5GA-Q20
C56	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C57	10		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10
C58	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C59	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C60	20		DI-20	DD-200	CD10E200J500	CCD-200	GP420	5GA-Q20
C61	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C62	10		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10
C63	.001 2KV			DD30-102	IDRP20D1JF	VDM-20-102J	2HV210	30GA-D10
C64	.001 2KV			DD30-102	IDRP20D1JF	VDM-20-102J	2HV210	30GA-D10
C65	.001 2KV			DD30-102	IDRP20D1JF	VDM-20-102J	2HV210	30GA-D10
C66								
C67								
C68	80							
C69	.05 400V		DBE6S5		DPMS6S5	6DP-3-503	PVC615	6PS-S50
C70	.1 400V		DBE4P1		DMF4P1	4DP-3-104	PVC601	4PS-P10
C71	.1 400V		DBE4P1		DMF4P1	4DP-3-104	PVC601	4PS-P10
C72	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C73	.002 600V		DBE6D2		DPMS6D2	6DP-1-202	PVC622	6PS-D20
C74	.1 400V		DBE4P1		DMF4P1	4DP-3-104	PVC601	4PS-P10
C75	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C76	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10

† Alternate Value

① Value varies. Replace with original Value.

CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			Lafayette PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Power Switch	500K		F2-500K, SS014, KR-1	A47-500K-Z, KSS-3, SWE-12, or (NP-500K-Z, UP-C-400, NWE-12)	Q13-133, 76-1, or (BU1, CF25, SS1, GC)	RU55A, SL36, SL3250, US41 or (UA55A, SK1000, US41) or (U48, US26)
R2	Squelch & Standby Switch	2meg		F1-2meg, SSK014, KR-1	A47-2meg-S, KSS-3, SWE-12, or (NP-2meg-S, UP-C-400, NWE-12)	Q11-139, 76-1 or (BU1, CF19, SS1, GC)*	RU26L, SL36, SL3250, US41 or (U56, US26) or (UA26L, SK1000, US41)
R3	"S" Meter Adj.	30K		F1-25K, SRS006	A47-30K-S, FKS-1/2 or (NP-30K-S, UP-A-400)	B11-121, SK2 or (BU1, CF11, SS2, DC1)*	RU34L, SL36, SK3250 or (U30) or (UA34L, SK750)

* "SNAPTROL"

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	Lafayette PART No.			IRC PART No.	WORKMAN PART No.	Lafayette PART No.
R33	5000Ω 10W				R74	1000Ω 5W			
R68	10K 10W	10W-5000	10W-SQ-5K				5W-1000	5W-SQ-1K	
		10W-10K	10W-SQ-10K						

PARTS LIST AND DESCRIPTION (CONTINUED)

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

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				
		Lafayette PART No.	MEISSNER Part No.	MERIT PART No.	MILLER PART No.	WORKMAN PART No.
L1	TVI Trap					
L2	RF Amp. Plate					
L3	Rec. Mixer Plate				72F275AP	T984
L4	RFC (29uh)					
L5	1st IF					
L6	2nd IF					
L7	3rd IF					
L8	RFC (1.1uh)		19-1000	BC-561	74F106AP	T805
L9	Synt. Osc. Plate		19-6817		4203	
L10	Synt. Mixer Plate		19-1816		4202	
L11	Trans. Mixer Plate		19-1816		4202	
L12	Buffer Plate		19-1816		4202	
L13	RFC (30uh)				RFC-28	T972
L14	PI Network					
L15	RFC (5.6uh)				4609	

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA					NOTES
	PRI. #1	SEC. 1	SEC. 2	Lafayette PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	117VAC @ .7A ▲	112VAC @ .12A DC ▲	12.6VAC @ 2.3A						▲ Transmit
	PRI. #2	SEC. 4	SEC. 5						
	12.6VDC @ 3.2A ▲								

TRANSFORMER (POWER OSC)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Lafayette PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	2	1						

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Lafayette PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T3	5900Ω	8Ω						

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		Lafayette PART No.	JENSEN PART No.	QUAM PART No.	
SP1	4" PM 6-8Ω		4A05Z8	C4T8	

FUSE DEVICES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
F1	AGC Pigtail	1A			318001		MDV 1 or GJV 1	
F2	AGC	8A			312008	155020	AGC 8	HHJ-B or HRJ

MISCELLANEOUS

ITEM No.	PART NAME	Lafayette PART No.	NOTES
M1	40.9MC Crystal		Transmit & Receive (Channels 1 thru 4)
	40.95MC Crystal		Transmit & Receive (Channels 5 thru 8)
	41.0MC Crystal		Transmit & Receive (Channels 9 thru 12)
	41.05MC Crystal		Transmit & Receive (Channels 13 thru 16)
	41.1MC Crystal		Transmit & Receive (Channels 17 thru 20)
	41.15MC Crystal		Transmit & Receive (Channels 21 thru 23)
M2	7.735MC Crystal		Transmit & Receive (Channels 1, 5, 9, 13, 17, 21)
	7.725MC Crystal		Transmit & Receive (Channels 2, 6, 10, 14, 18, 22)
	7.715MC Crystal		Transmit & Receive (Channels 3, 7, 11, 15, 19)
	7.695MC Crystal		Transmit & Receive (Channels 4, 8, 12, 16, 20, 23)
M3	5.745MC Crystal		Receive Osc.
M4	6.2MC Crystal		Transmit Osc.
M5	"S" Meter		
M6	Microphone Ass'y.		Ceramic
S1	Switch, Selector		Rotary
S2	Switch, PA-CB		DPDT
S3	Switch, Power Selector		DPDT (5-Watt -- 100MW)
S4	Switch, Range Boost		DPDT