

PHOTOFACT[®] with

CIRCUITRACE[®]

TRADE NAME: Hallicrafters Model CB-5
SUPPLIER: The Hallicrafters Company
 4400 W. 54th St., Chicago 32, Illinois
TYPE SET: 3 Tube, 18 Transistor Transceiver
POWER SUPPLY: 110 - 120 Volts AC, 60 Cycles (or)
 12 Volt Storage Battery
RATING: 1.6 Amp. @ 12.6VDC (Transmit)
 3.2 Amp. @ 12.6VDC (Receiver)
TUNING RANGE: Any 6 CB Channels 1 thru 23



ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

A1 thru A6, A8, A9..... GENERAL CEMENT #5907, 8607, 8727
 WALSCO #2515
 A7, A10 thru A16..... GENERAL CEMENT #8606, 9295, 8282
 WALSCO #2526, 2543, 2544

RECEIVER ALIGNMENT

Set volume control at maximum. Set squelch control to maximum sensitivity position.
 Keep generator output level as low as possible consistent with a usable indication.
 Connect output meter across voice coil.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side thru .1mfd to base of X4 (2nd Mixer), low side to ground. Tune to 455KC (400v Mod.).	Any	A1 thru A6	Adjust for maximum output.
High side thru .1mfd to base of X2 (1st Mixer), low side to ground. Tune to 1650KC.	"	A7	"
Across antenna jack. Tune to channel frequency.	11 (27.085MC)	A8 thru A13	"

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 19, Subpart D, Section 19.71).

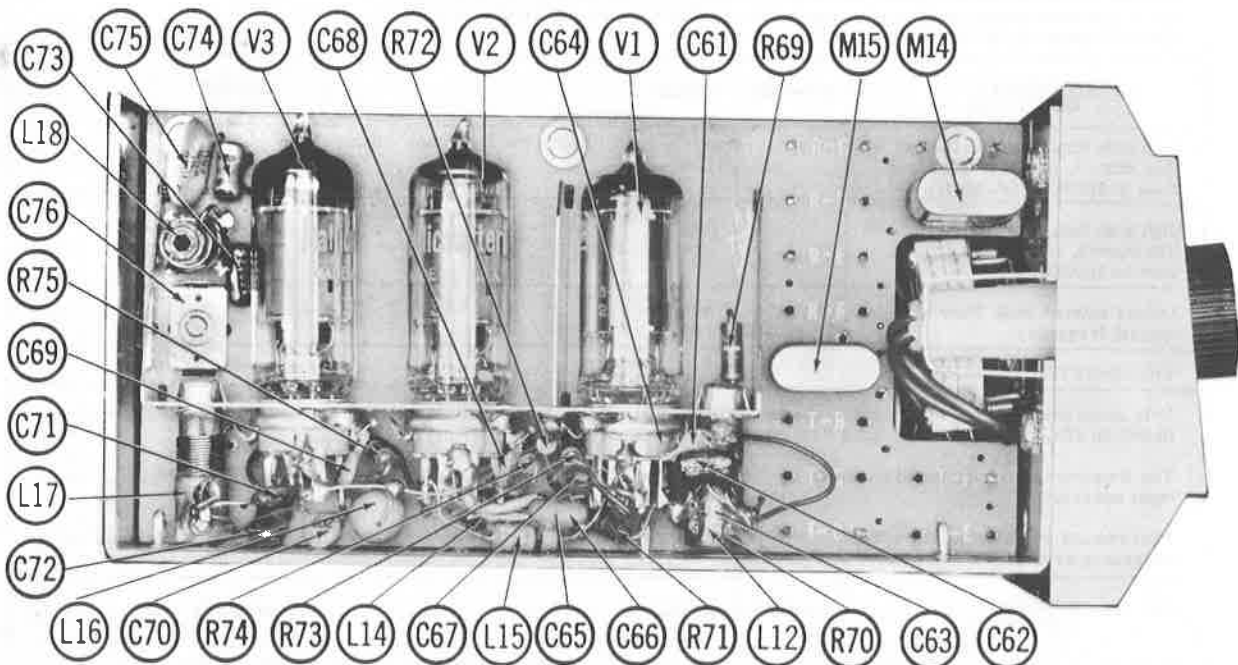
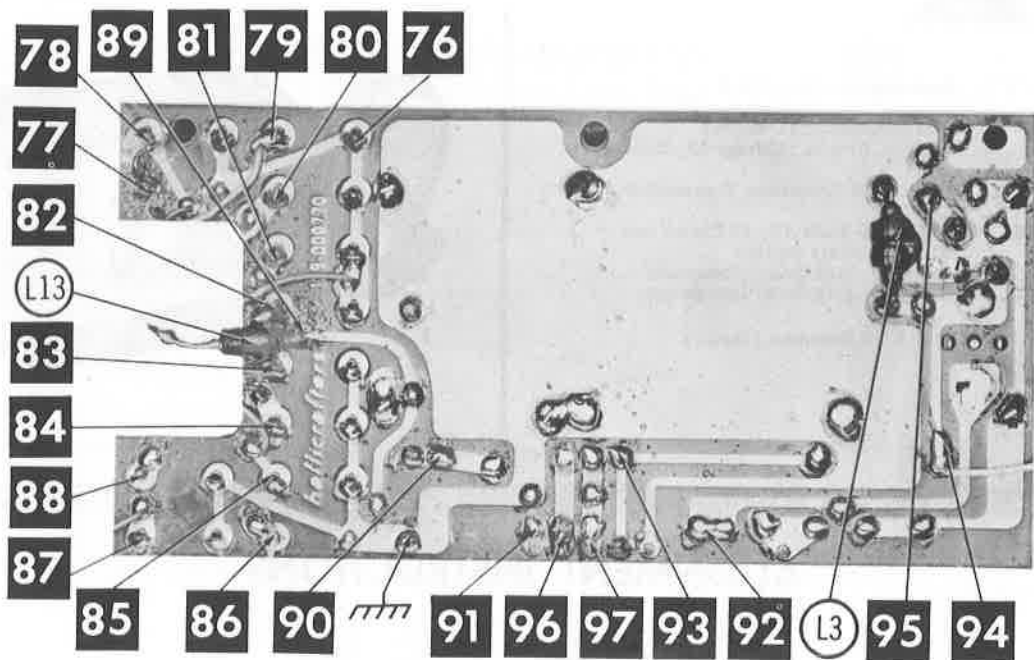
The frequency of the transmitter should be checked periodically with a secondary frequency standard to insure proper and legal operation.

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.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
Field strength meter or pilot light dummy load.	11 (27.085MC)	A14, A15	Adjust for maximum indication. Set A14 just below peak. Check all channels to be sure oscillator starts.
Any receiver tuned to 54MC	Any	A16	Adjust for MINIMUM interference on receiver.

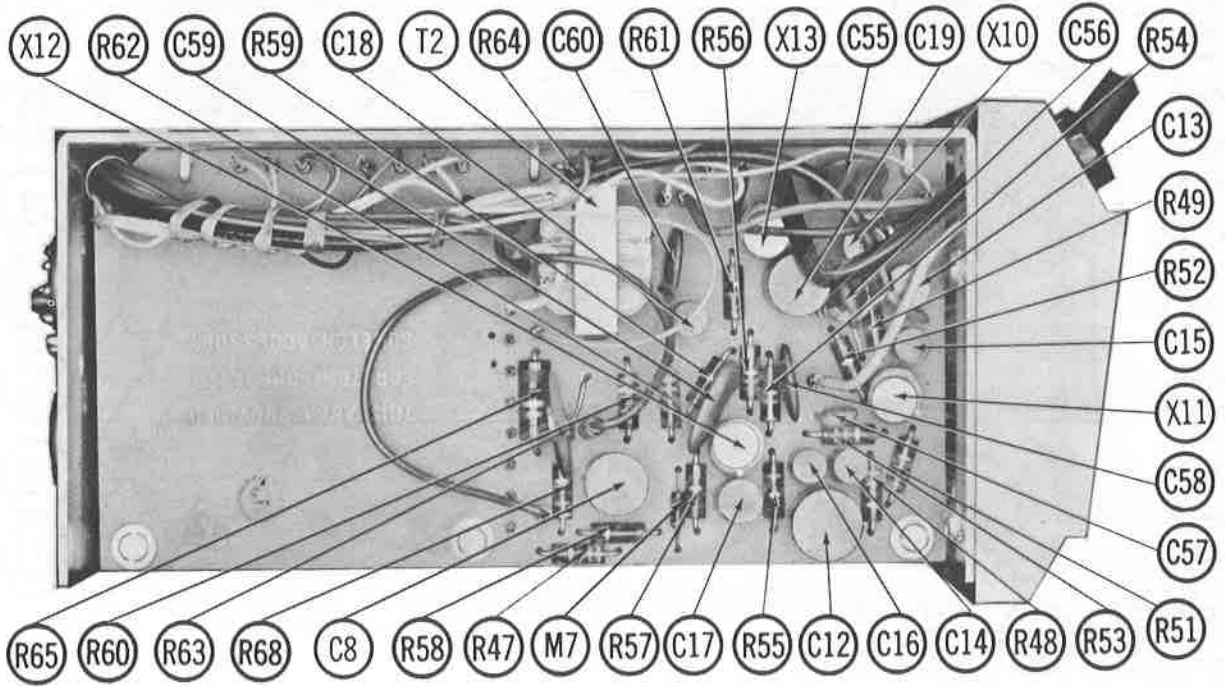
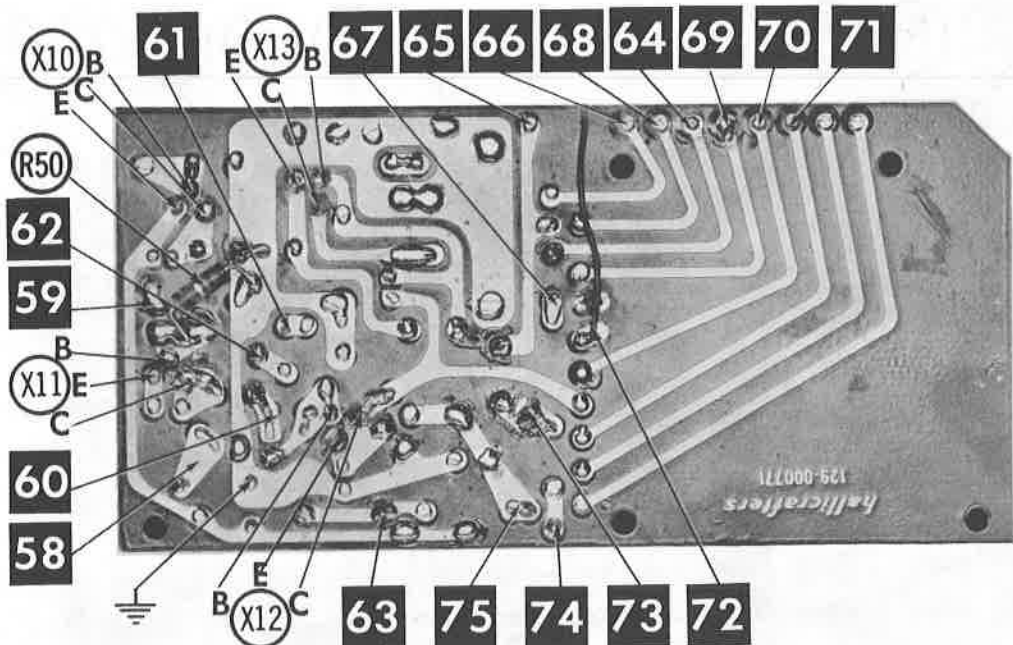
HALLICRAFTERS MODEL CB-5

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana



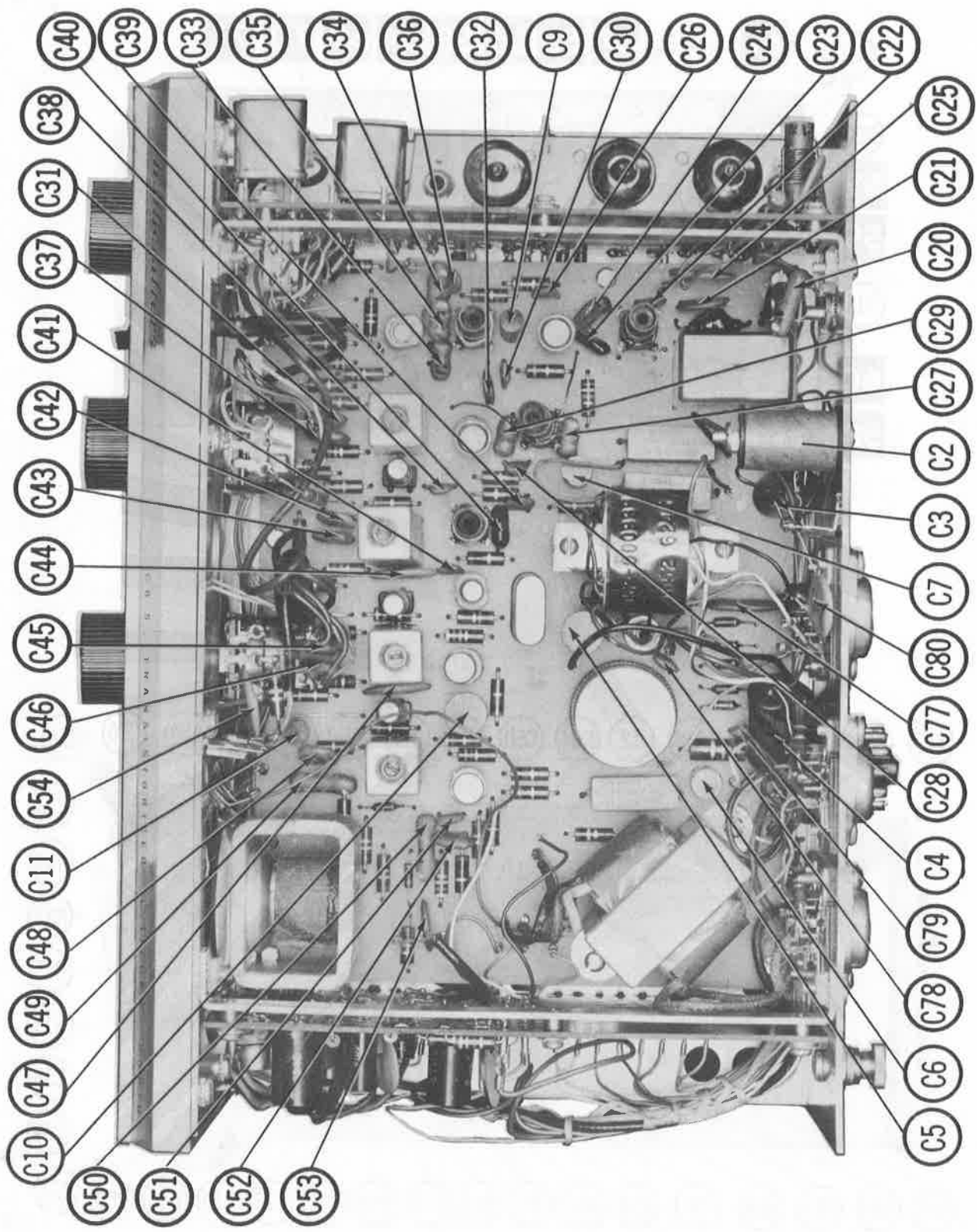
TRANSMITTER PRINTED BOARD

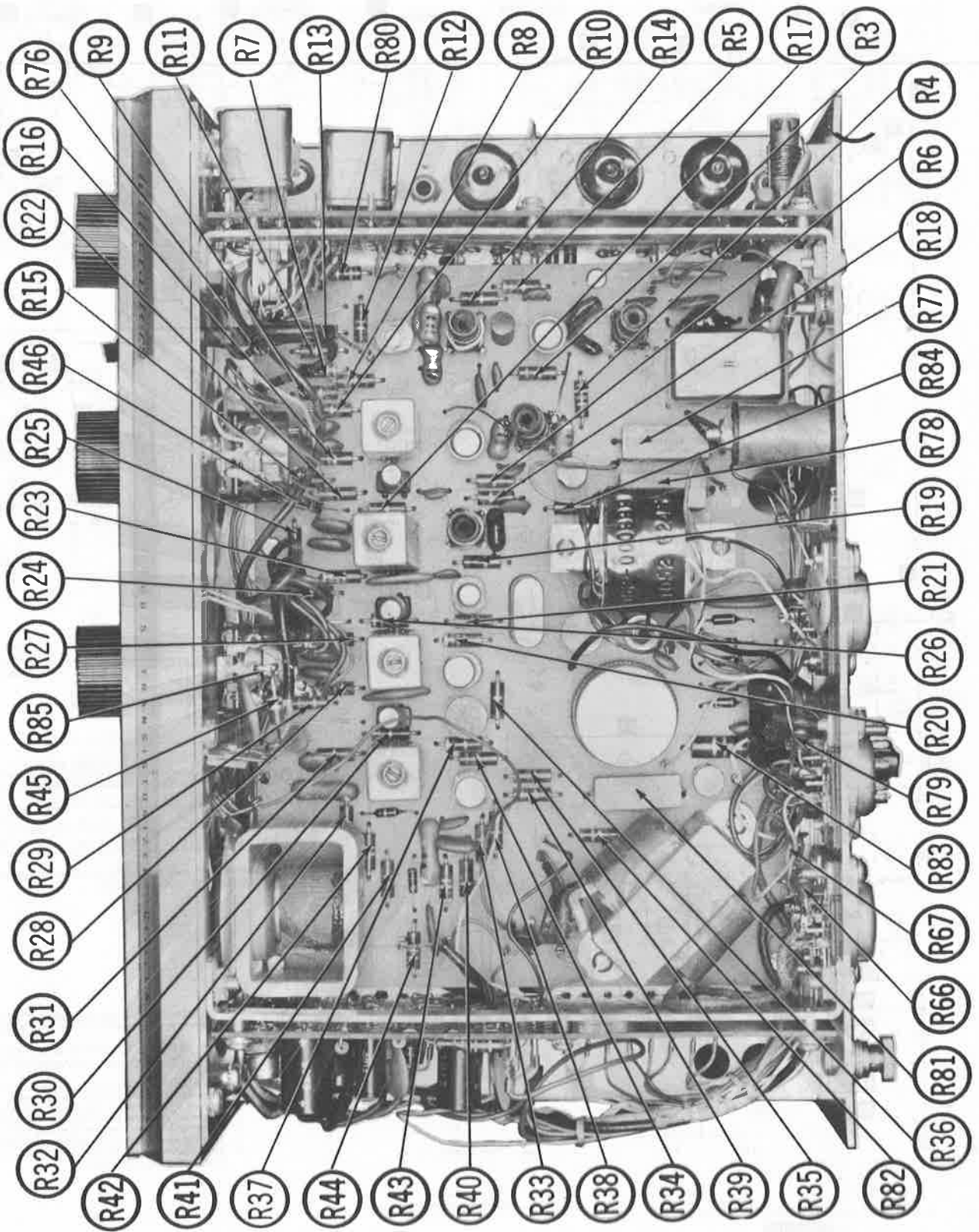
A Howard W. Sams **CIRCUITRACE** Photo



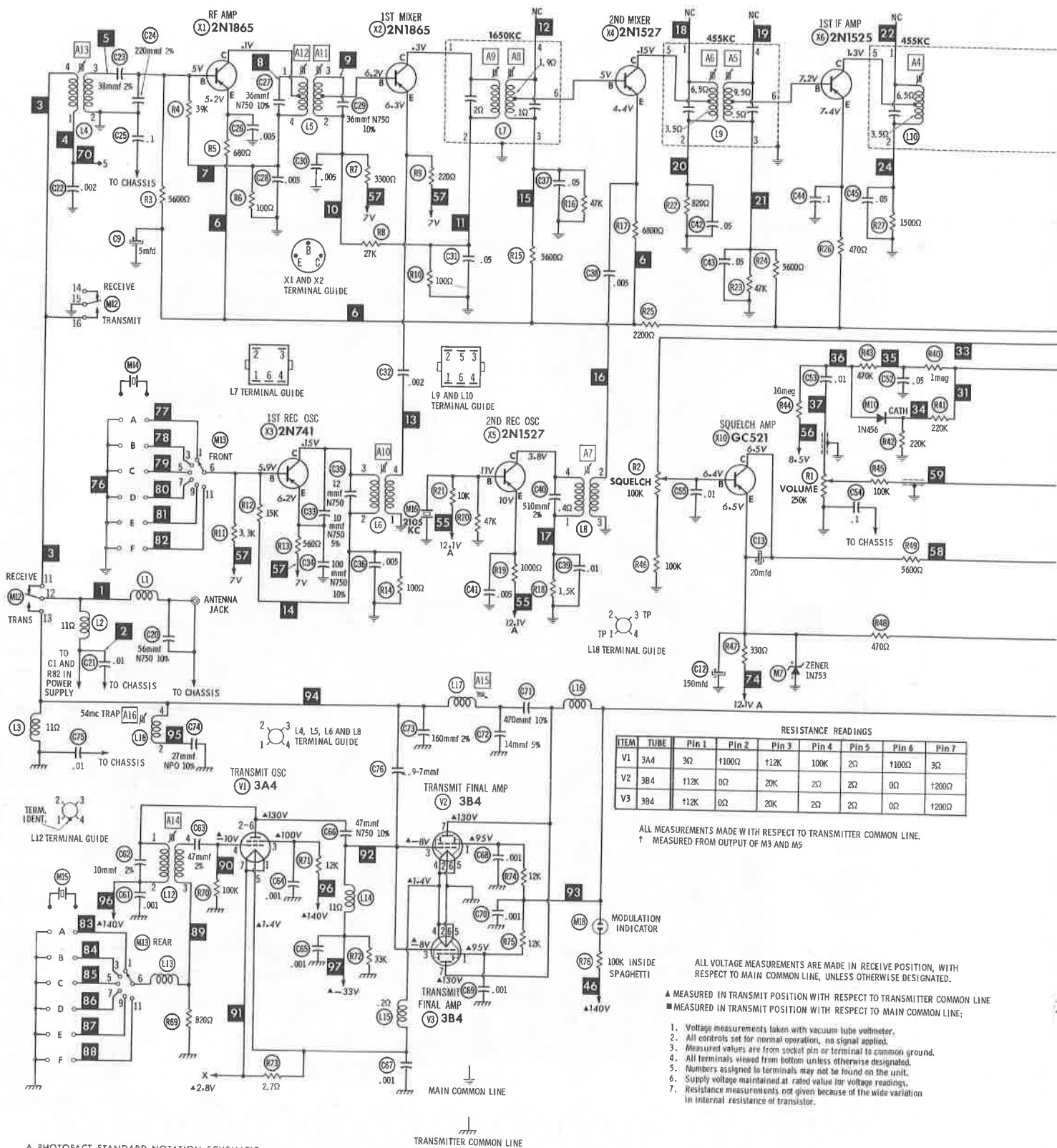
AUDIO PRINTED BOARD

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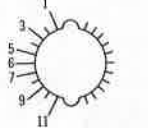
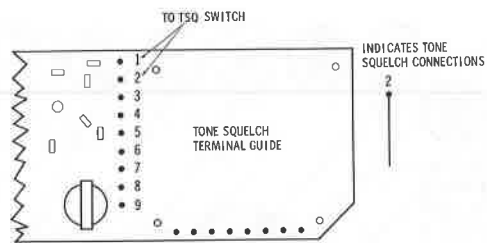
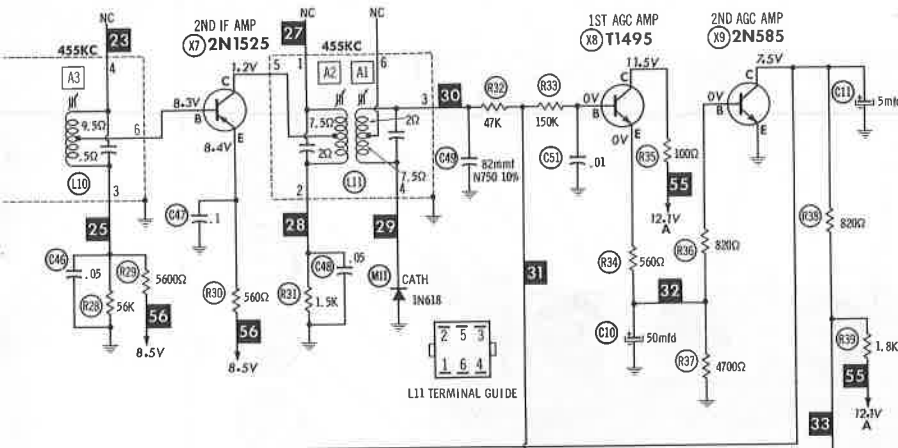




HALLCRAFTERS MODEL CB-5

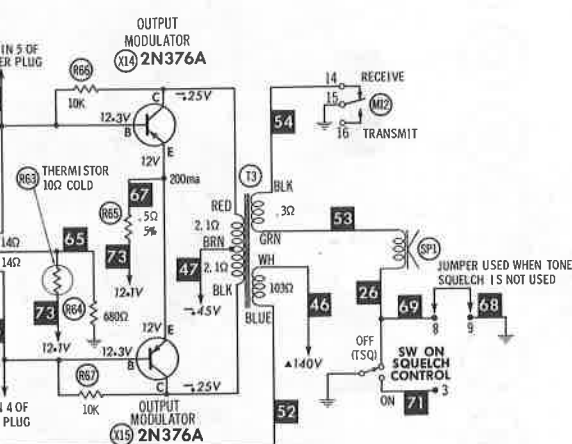
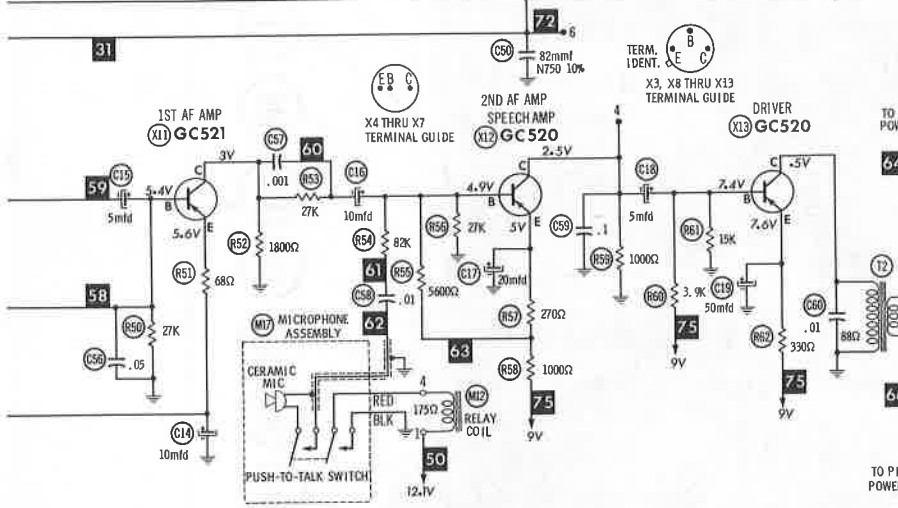


A PHOTOFAC STANDARD NOTATION SCHEMATIC
 with CIRCUITRACE
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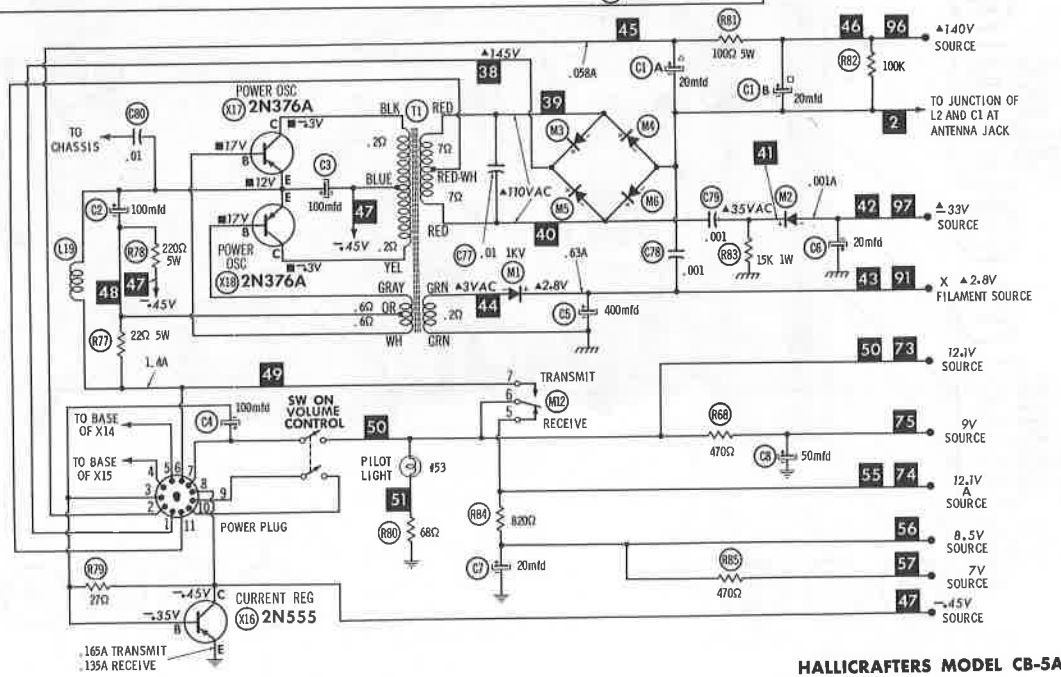
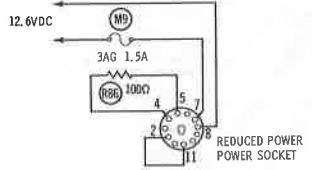
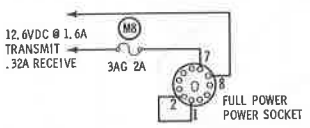


16	9 NC	10 NC
14	15	8 NC
13	6	7
11	12	5
1		4

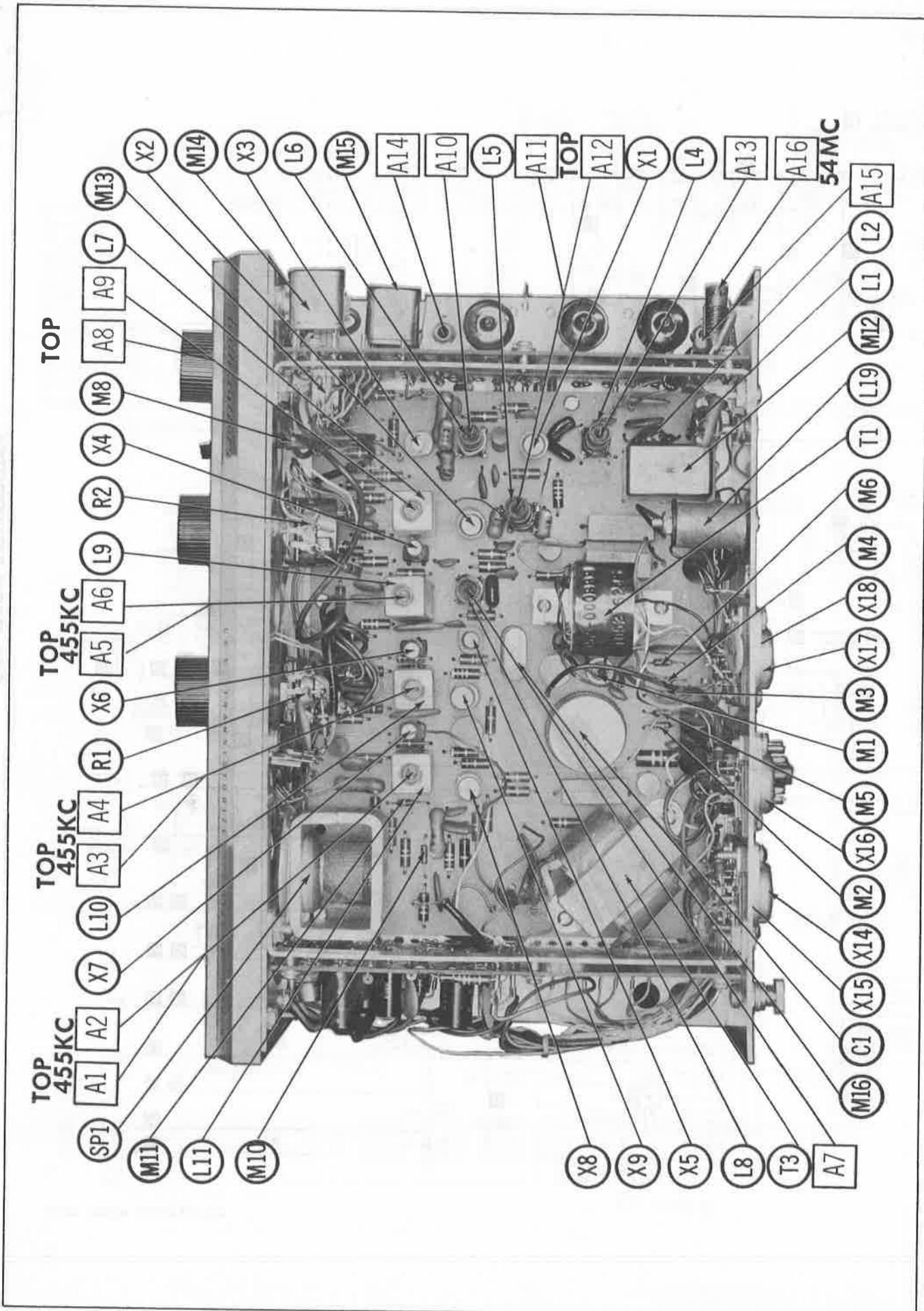
RELAY (M12) TERMINAL GUIDE



SEE PAGE 22 FOR POWER SUPPLY CIRCUITS USED IN SOME VERSIONS.



HALLICRAFTERS MODEL CB-5A



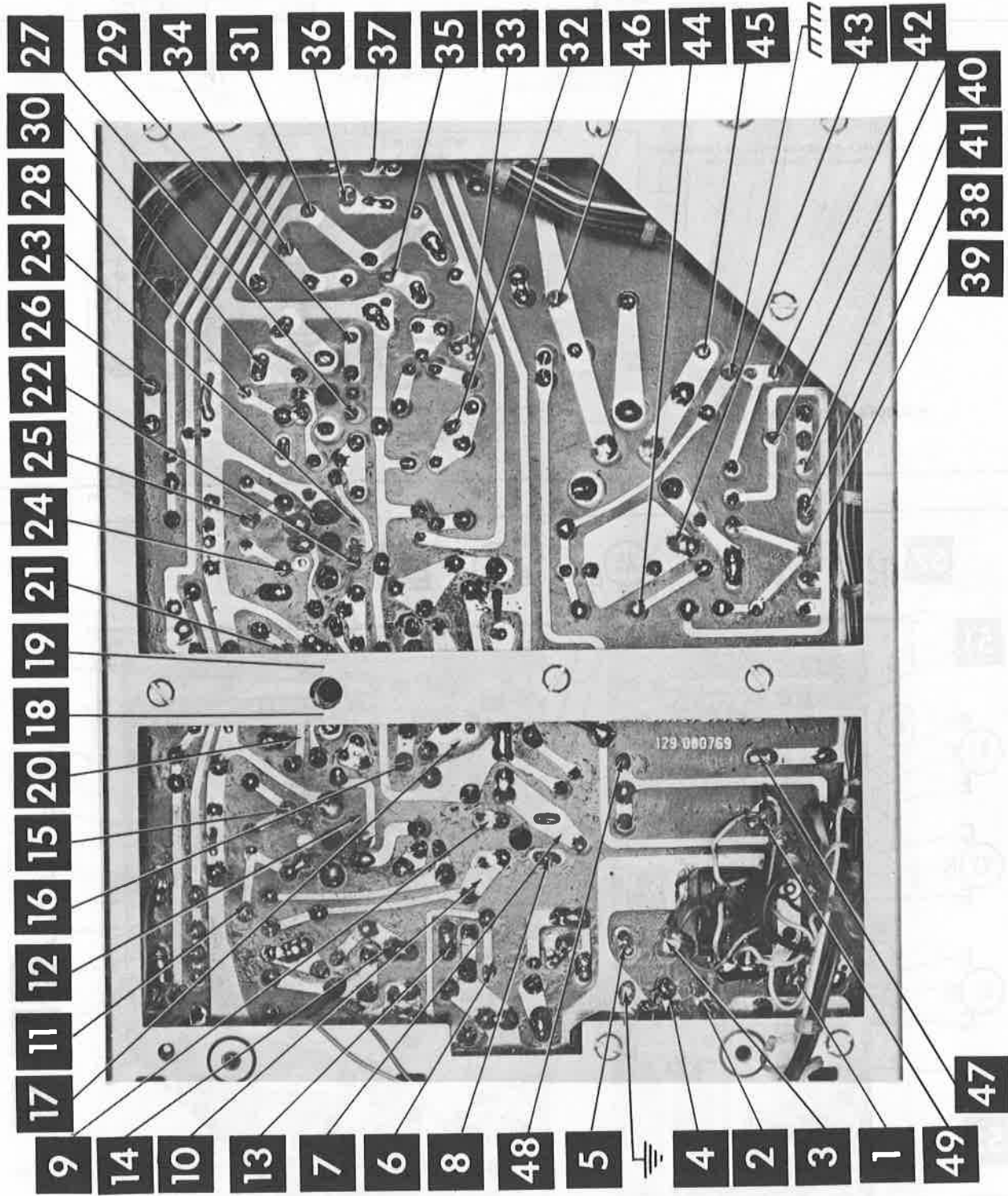
TOP

TOP
455KC

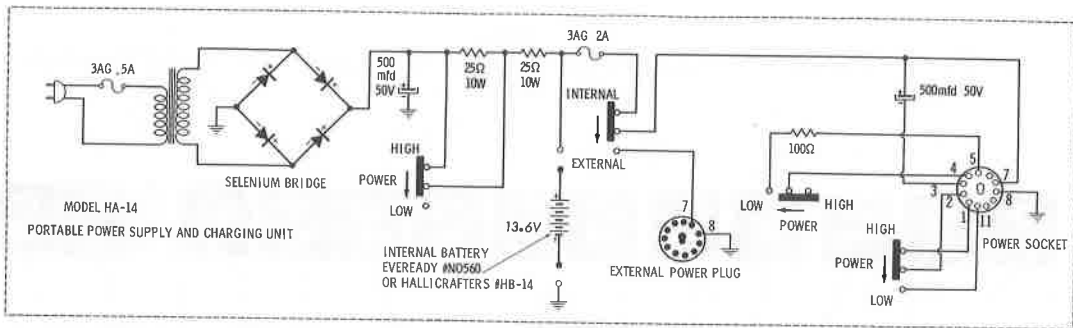
TOP
455KC

TOP
455KC

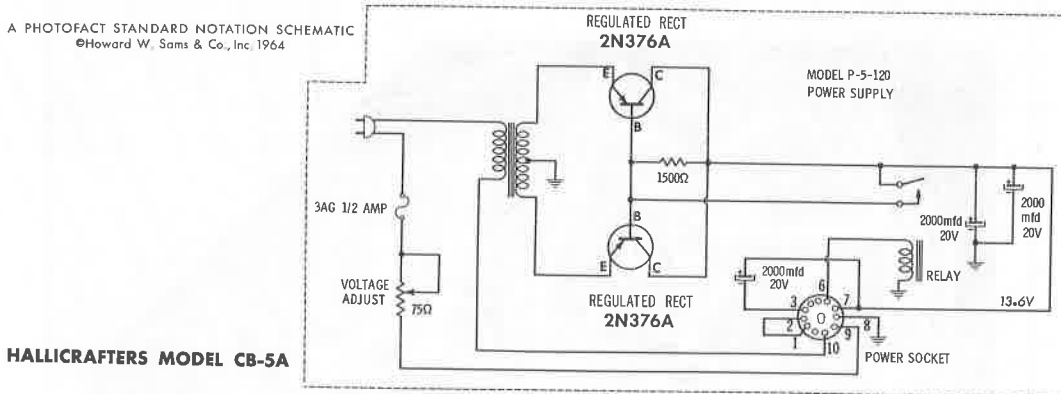
54MC



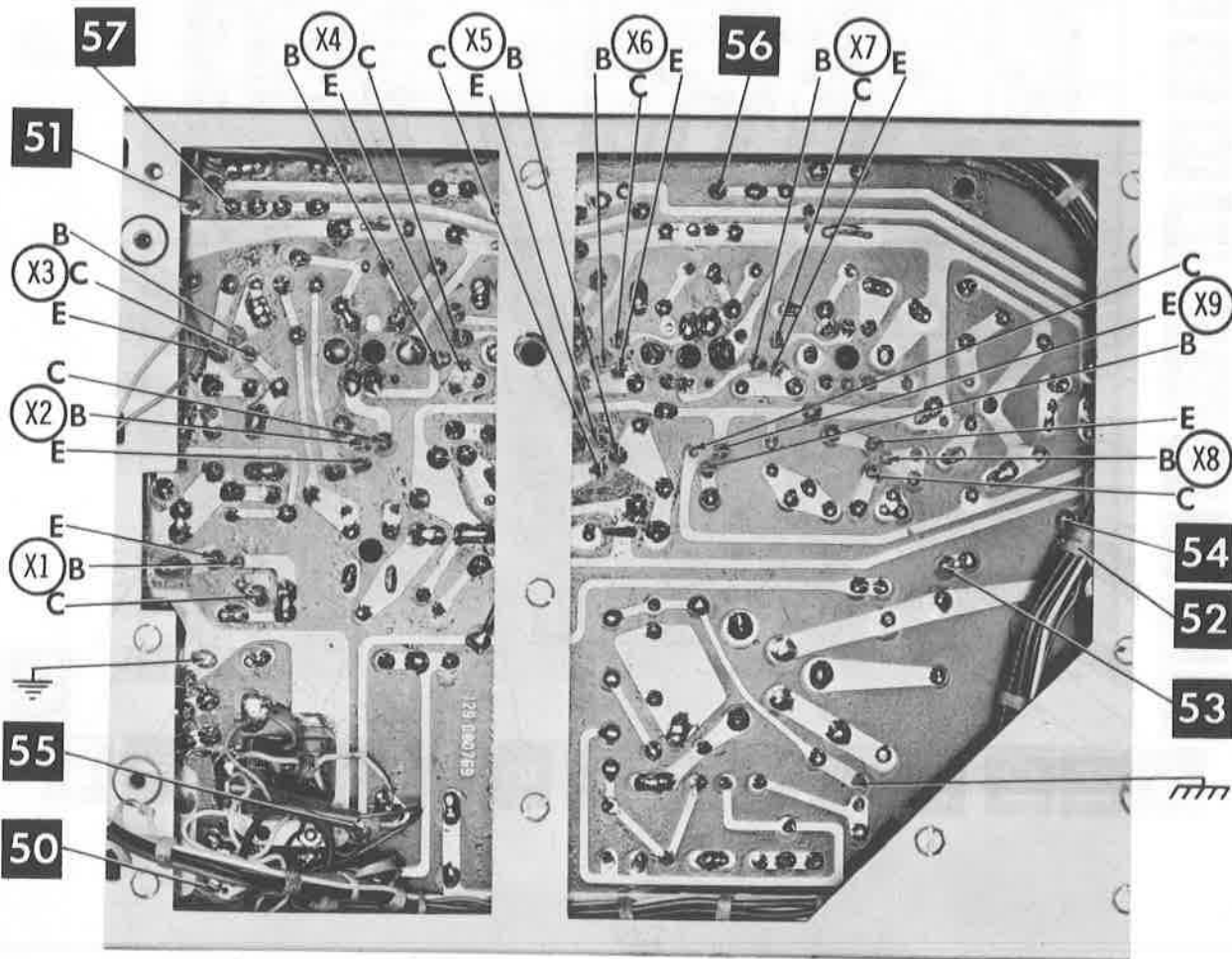
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HALLCRAFTERS MODEL CB-5A



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PARTS LIST AND DESCRIPTION

TUBES

♦ AMPEREX ♦		GENERAL ELECTRIC ♦		RCA ♦		RAYTHEON ♦		SYLVANIA ♦	
ITEM No.	USE	TYPE		ITEM No.	USE	TYPE			
V1	Transmit Crystal Osc.	3A4		V3	Transmit Final RF Amp.	3B4			
V2	Transmit Final RF Amp.	3B4							

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	2N1865	RF Amp.	DS-25			PNP
X2	2N1865	1st Mixer	DS-25			PNP
X3	2N741	1st Rec. Crystal Osc.	DS-25			PNP
X4	2N1527	2nd Mixer	DS-25		2N1527	PNP
X5	2N1527	2nd Rec. Crystal Osc.	DS-25		2N1527	PNP
X6	2N1525	1st IF Amp.	DS-25		2N1525	PNP
X7	2N1525	2nd IF Amp.	DS-25		2N1525	PNP
X8	TI-495	1st AGC Amp.	DS44			PNP
X9	2N585	2nd AGC Amp.	DS44	GE-5	2N585	PNP
X10	GC521	Squelch Amp.	DS-26			PNP
X11	GC521	1st AF Amp.	DS-26			PNP
X12	GC520	2nd AF Amp.-Speech Amp.	DS-26			PNP
X13	GC520	Driver	DS-26			PNP
X14	2N376A	Output- Modulator	DS520	GE-3	2N376	PNP (Note 1)
X15	2N376A	Output- Modulator	DS520	GE-3	2N376	PNP (Note 1)
X16	2N555	Current Regulator	DS520	GE-3		PNP (Note 1)
X17	2N376A	Power Osc.	DS520	GE-3	2N376	PNP (Note 1)
X18	2N376A	Power Osc.	DS520	GE-3	2N376	PNP (Note 1)

Note 1. When replacing, apply silicone grease to both sides of insulator. Tighten mounting screws securely.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	HALLCRAFTERS PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	▲ 20	250	045-000889	AFH2-26	B0210	XC2-13	TMD-2235	FP217A	PCL82515.1
B	■ 20	250							
C2	100	20	045-000899	CRE623A	NLW100-25	MT1-20	MLV100-25	TT25X100	TE-1211
C3	100	20	045-000899	CRE623A	NLW100-25	MT1-20	MLV100-25	TT25X100	TE-1211
C4	100	20	045-000899	CRE623A	NLW100-25	MT1-20	MLV100-25	TT25X100	TE-1211
C5	400	3	045-000898	CRE239A	NLW400-3	MT1-26	BL2011	TT3K400	TE-1067
C6	20	15	045-000888	BCD15020	NLP20-15	MT1-10	BL1440	PET1570	VL-1169
C7	20	15	045-000888	BCD15020	NLP20-15	MT1-10	BL1440	PET1570	VL-1169
C8	50	15	045-000888	BCD15050	NLP50-15	MT1-16	MLV50-15	PET1575	VL-1174
C9	5	15	045-000887	BCD15005	NLP5-15	MT1-3	MLV5-15	PET1535	VL-1164
C10	50	15	045-000888	BCD15050	NLP50-15	MT1-16	MLV50-15	PET1575	VL-1174
C11	5	15	045-000887	BCD15005	NLP5-15	MT1-3	MLV5-15	PET1535	VL-1164
C12	150	8	045-000917	BCD6150	ECSP150-10	MT1-21	MLV150-6	TT6X150	VL-1104
C13	20	15	045-000888	BCD15020	NLP20-15	MT1-10	BL1440	PET1570	VL-1169
C14	10	20	045-000916	BCD25010	NLP10-25	MT1-5	MLV10-25	PET1780	VL-1207
C15	5	15	045-000887	BCD15005	NLP5-15	MT1-3	MLV5-15	PET1535	VL-1164
C16	10	20	045-000916	BCD25010	NLP10-25	MT1-5	MLV10-25	PET1780	VL-1207
C17	20	15	045-000888	BCD15020	NLP20-15	MT1-10	BL1440	PET1570	VL-1169
C18	5	15	045-000887	BCD15005	NLP5-15	MT1-3	MLV5-15	PET1535	VL-1164
C19	50	15	045-000888	BCD15050	NLP50-15	MT1-16	MLV50-15	PET1575	VL-1174

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENC0 PART No.	MALLORY PART No.	SPRAGUE PART No.
C20	56 N750 10%			TCN-56		CCTN-560	CN7-456	10TCU-Q56
C21	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C22	.002		BPD-002	DD-202	BYA10D2	CCD-202	B-220	5HK-D20
C23	38 2%	#481-151380						
C24	220 2%				CD15F221G	DM-15-221G		
C25	.1		TTD-1				TA-010	TH-P10
C26	.005		TTD-005	CK-502	H1		TA-250	TG-D50
C27	36 N750 10%	#491-106360-94		TCN-36				
C28	.005		TTD-005	CK-502	H1		TA-250	TG-D50
C29	36 N750 10%	#491-106360-94		TCN-36				
C30	.005		TTD-005	CK-502	H1		TA-250	TG-D50
C31	.05		TTD-05	CK-503	H5		TA-150	TG-S50
C32	.002		BPD-002	DD-202	BYA10D2	CCD-202	B-220	5HK-D20
C33	10 N750 5%			TCN-10	C10Q1U		CN7-410	10TCU-Q10
C34	100 N750 10%			TCN-100	C10T1U	CCTN-101	CN7-310	10TCU-T10
C35	12 N750 10%			TCN-12			CN7-412	10TCU-Q12
C36	.005		TTD-005	CK-502	H1		TA-250	TG-D50
C37	.05		TTD-05	CK-503	H5		TA-150	TG-S50
C38	.005		TTD-005	CK-502	H1		TA-250	TG-D50
C39	.01		TTD-01	CK-103	H2		TA-110	TG-S10
C40	510 2%				CD19F511G	DM-15-511G		
C41	.005		TTD-005	CK-502	H1		TA-250	TG-D50
C42	.05		TTD-05	CK-503	H5		TA-150	TG-S50
C43	.05		TTD-05	CK-503	H5		TA-150	TG-S50
C44	.1		TTD-1				TA-010	TH-P10
C45	.05		TTD-05	CK-503	H5		TA-150	TG-S50
C46	.05		TTD-05	CK-503	H5		TA-150	TG-S50
C47	.1		TTD-1				TA-010	TH-P10
C48	.05		TTD-05	CK-503	H5		TA-150	TG-S50
C49	82 N750 10%			TCN-82		CCTN-820	CN7-482	10TCU-Q82
C50	82 N750 10%			TCN-82		CCTN-820	CN7-482	10TCU-Q82

PARTS LIST AND DESCRIPTION (CONTINUED)

FIXED 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.
C51	.01	Note 1	TTD-01	CK-103	H2		TA-110	TG-S10
C52	.05		TTD-05	CK-503	H5		TA-150	TG-S50
C53	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C54	.1		TTD-1				TA-010	TH-P10
C55	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C56	.05		TTD-05	CK-503	H5		TA-150	TG-S50
C57	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C58	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C59	.1		TTD-1				TA-010	TH-P10
C60	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C61	.001	BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10	
C62	10 2%	#481-131100						
C63	47 2%	#481-151470			CD15E470G	DM-15-470G		
C64	.001	Note 1	BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C65	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C66	47 N750 10%		TCN-47		C10Q47U	CCTN-470	CN7-447	10TCU-Q47
C67	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C68	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C69	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C70	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C71	470 10%		DI-470	DD-471	JB6T47	CCD-471	GP347	10TS-T47
C72	14 5%		(27 NPO) †			CD15F161G	DM-15-161G	
C73	160 2%				C10Q25C	CCTO-270	CNO-427	10TCC-Q27
C74	27 NPO 10%		TCZ-27	DD-103	BYA10S1	CCD-103	B-110	
C75	.01	#044-100511	BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C76	.9-7		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C77	.01 1KV		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C78	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C79	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C80	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10

Note 1. Not used in some versions.
 † Alternate Value. # 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	250K	025-002126	F2-250K, SU204, KR-3, or (B-51, KR-3)	A47-250K-Z, FS-3, SWE-21	Q13-130, 76-4, or (BU1, CF23, SS1, VF)*	UA254A, SL3500, US-43 or (RU254A, SL38, SL3500, US-43) or (U44, US-28)
R2	Squelch & TSQ Sw.	100K	025-002127	F1-100K, SU204, KR-3, or (B-40, KR-3)	A47-100K-S, FS-3, SWE-21	Q11-128, 76-4, or (BU1, CF13, SS1, VF)*	UA15L, SL3500, US-43 or (RU15L, SL38, SL3500, US-43) or (U41, US-28)

* "SNAPTROL"

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	REMARKS			IRC PART No.	WORKMAN PART No.	REMARKS
R63	10Ω (Cold) Thermistor			#023-000495	R78	220Ω 5W	MR3	5W-SQ-220	#445-012221
R77	22Ω 5W	MR2	5W-SQ-22	#445-012220	R81	100Ω 5W	PW5-100	5W-SQ-100	#445-012101

Hallicrafters Part Number.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		Hallicrafters PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	Ant. Load (7 turns)	051-003508					
L2	RF Choke (710uh)	053-000530	TV-206	6148	RTC-8583	T327	
L3	RF Choke (710uh)	053-000530	TV-206	6148	RTC-8583	T327	
L4	Receiver Input	051-003505					
L5	Receiver RF	051-003503					
L6	1st Receiver Osc.	051-003504					
L7	1850KC IF	050-000880					
L8	2nd Receiver Osc.	051-003508					
L9	1st 455KC IF	050-000878					
L10	2nd 455KC IF	050-000878					
L11	3rd 455KC IF	050-000879					
L12	Trans. Osc.	051-003502					
L13	RF Choke (1.8uh)	053-000669					
L14	RF Choke (710uh)	053-000530	TV-206	6148	RTC-8583	T327	
L15	FL Choke (4.7uh)	053-000669	SW-631	74F476AP	RTC-8518	T819	
L16	RF Choke (1MH)	053-000625					
L17	Final Tank	051-003507					
L18	54MC Trap	051-003501					
L19	Hash Choke	051-003513					

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	Hallicrafters PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	12.6VDC @ 1.4A	110VAC @ .058A	3VAC @ .63A	052-000999					

PARTS LIST AND DESCRIPTION (CONTINUED)

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
			Hallicrafters PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	2.2	1	055-000410					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
			Hallicrafters PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T3	2000Ω CT	3-4Ω	055-000482					
		SEC.2						
		50K						

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		Hallicrafters PART No.	QUAM PART No.	
SP1	3" PM 3-4Ω	085-000224		

POWER RECTIFIERS

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS		
			MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.
M1	.63A	027.000312	A50 or D50	1N2858	F-1 or 10H
M2	.001A	019-002935	1N537 or A100 or D100	1N2859	20H or F2
M3	.058A	019-002935	A300 or D300 ①	1N1763 or 1N2861 or 1N3194	F2 or 20H
M4	.058A	019-002935	A300 or D300 ①	1N1763 or 1N2861 or 1N3194	F2 or 20H
M5	.058A	019-002935	A300 or D300 ①	1N1763 or 1N2861 or 1N3194	F2 or 20H
M6	.058A	019-002935	A300 or D300 ①	1N1763 or 1N2861 or 1N3194	F2 or 20H
M7		019-002962 ②			

① Part #FW300 may replace M3 thru M6. ② 6.2 Volt Zener Diode (1N753).

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			Hallicrafters PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M8	3AG/SB	2 Amp. 125V S/B	039-100428	008-000883	313002. 2 Amp/125V S/B	155020	MDL2	HHJ
M9	3AG/SB	1.5 Amp. 125V S/B			30301.5 1.5 Amp 125V S/B	155020	MDL 1 1/2	HHJ

MISCELLANEOUS

ITEM No.	PART NAME	Hallicrafters PART No.	NOTES
M10	Diode	019-002964	Noise Limiter (1N456)
M11	Diode	019-002952	Audio Detector (1N618)
M12	Relay	021-000864	Transmit-Receive
M13	Switch	060-002559	Channel Selector
M14	Crystal	019-002819	Receive
M15	Crystal	019-002820	Transmit
M16	Crystal	019-002896	2105KC
M17	Microphone Assy.	081-000113	Includes Push-to-talk Switch
M18	Modulation Indicator	086-000632	Neon Bulb
	DC Power Cable	087-007629	
	Audio Printed Board	150-005335	
	Rec. Printed Board	150-005337	
	Trans. Printed Board	150-005333	

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Channel Selector Dial	150-005455	Squelch Knob	015-001572
Channel Selector Knob	015-001571	Front Panel	088-001327
Volume Knob	015-001572	Cabinet	086-003655

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.)

HALLICTRAFTERS MODEL CB-5