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PHOTOFACT® Folder



**HALLICRAFTERS
MODEL CB-1**



**HALLICRAFTERS
MODEL CB-1**

TRADE NAME	Hallicrafters Model CB-1
MANUFACTURER	The Hallicrafters Co., 4400W, 45th Street, Chicago 32, Illinois
TYPE SET	AC Operated Crystal Controlled 11 Tube Citizens Band Transmitter-Receiver
POWER SUPPLY	105 - 125 Volts AC, 60 Cycles RATING 60 Watts, .56 Amp. @117 Volts AC
TUNING RANGE	Any one of Citizens Band Channels 1 thru 22

NOTICE

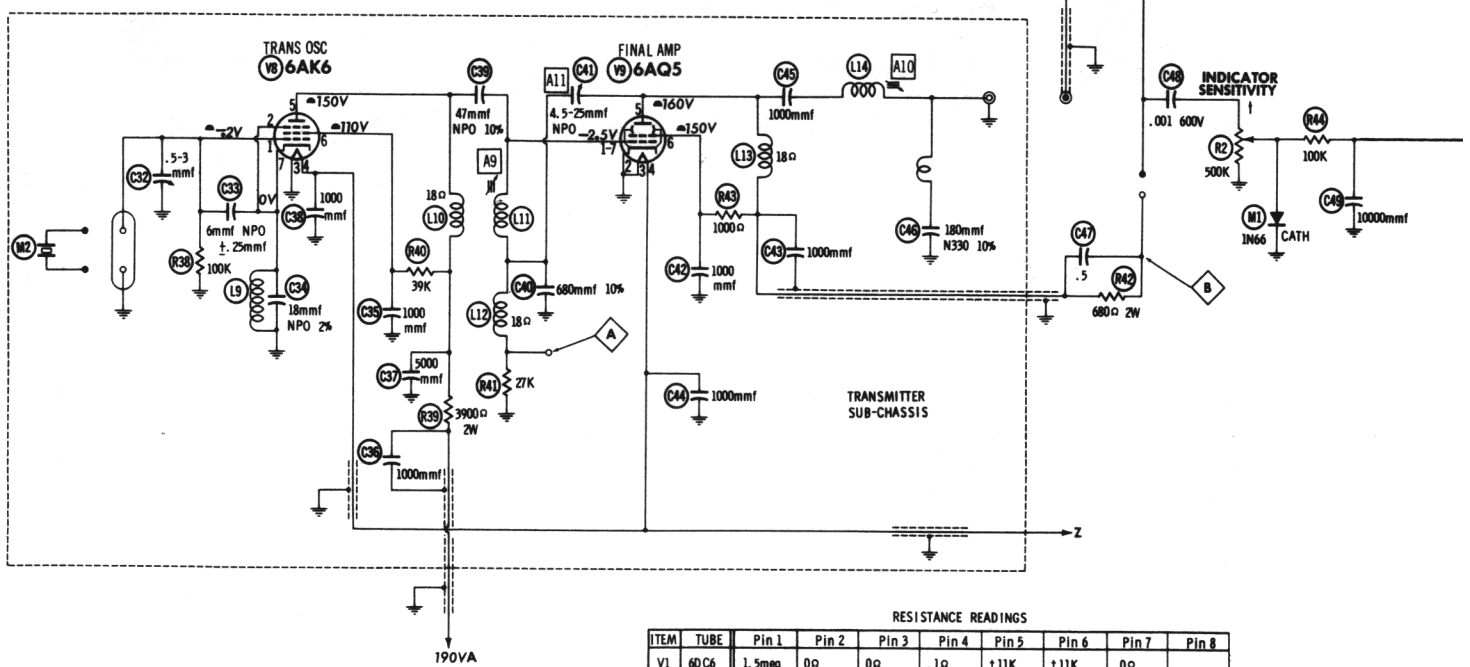
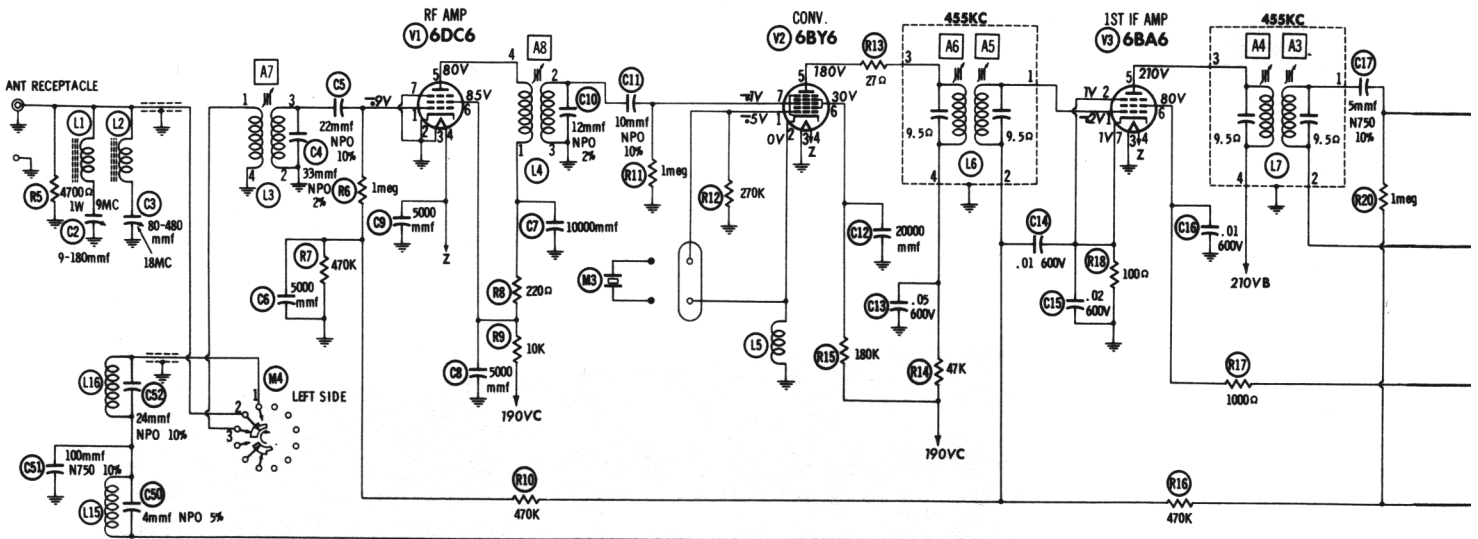
ONLY THOSE PERSONS PROPERLY LICENSED BY FCC ARE PERMITTED TO EFFECT REPAIRS OR MAKE CRYSTAL SUBSTITUTIONS ON THIS TYPE EQUIPMENT.

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



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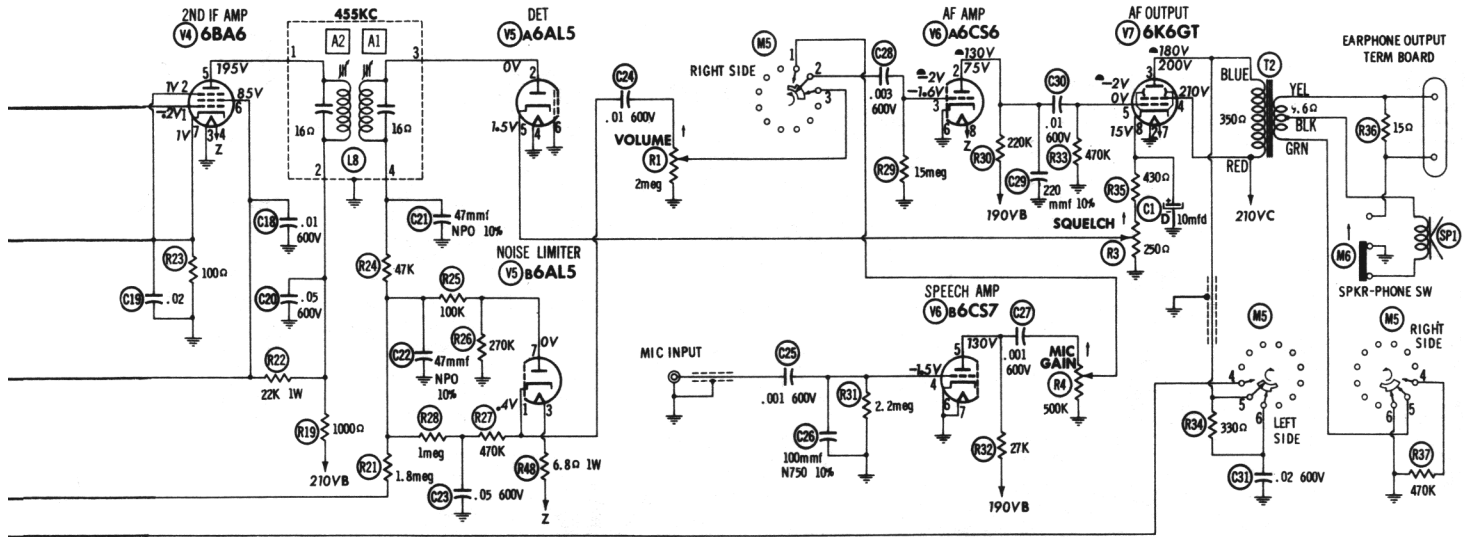
A PHOTOFAC STANDARD NOTATION SCHEMATIC
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RESISTANCE READINGS

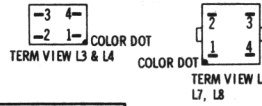
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
V1	6DC6	1.5meg	0Ω	0Ω	.1Ω	†11K	†11K	0Ω	
V2	6BY6	270K	0Ω	0Ω	.1Ω	†48K	†180K	1meg	
V3	6BA6	1meg	100Ω	0Ω	.1Ω	†330Ω	†24K	100Ω	
V4	6BA6	2meg	100Ω	0Ω	.1Ω	†1300Ω	†23K	100Ω	
V5	6AL5	800K	420K	.8Ω	0Ω	●75Ω	0Ω	270K	
V6	6SC7	TP	†220K	15meg	2.2meg	†28K	0Ω	0Ω	.1Ω
V7	6K6GT	TP	0Ω	†680Ω	†330Ω	470K	TP	.1Ω	980Ω
V8	6AK6	100K	0Ω	0Ω	.1Ω	†5200Ω	†44K	0Ω	
V9	6AQ5A	27K	0Ω	0Ω	.1Ω	†1375Ω	†2350Ω	27K	
V10	6E5	.1Ω	†1meg	100K	†330Ω	0Ω	0Ω		
V11	5Y3GT	TP	†	TP	105Ω	TP	115Ω	TP	†

ALL MEASUREMENTS MADE IN "RECEIVE" POSITION UNLESS OTHERWISE DESIGNATED.
 † THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.
 ● THIS READING WILL VARY. CONTROL SET FOR NORMAL OPERATION.
 ● MEASURED IN "TRANSMIT" POSITION.
 † MEASURED FROM PIN 8 OF V11.

NC NO CONNECTION
 TP TIE POINT



TRANSMIT-RECEIVE SW M4 & M5 SHOWN IN "RECEIVE" POSITION. SWITCHES ARE OPERATED SIMULTANEOUSLY BY ONE PUSH-BUTTON

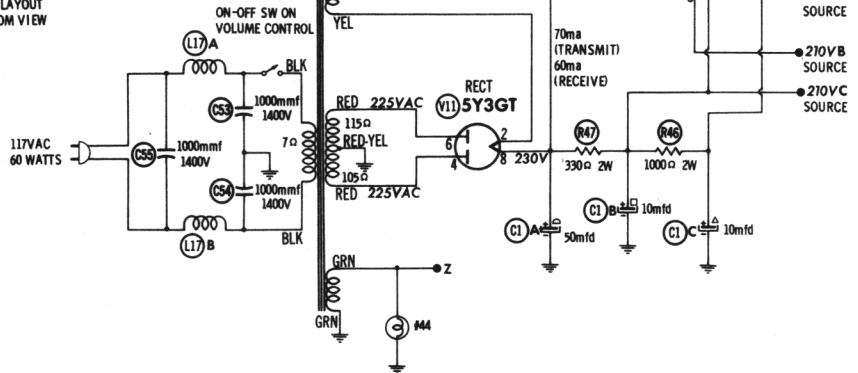
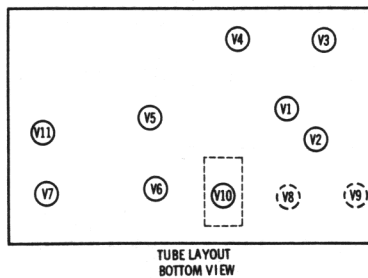
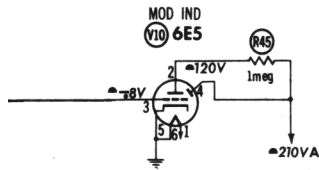


SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

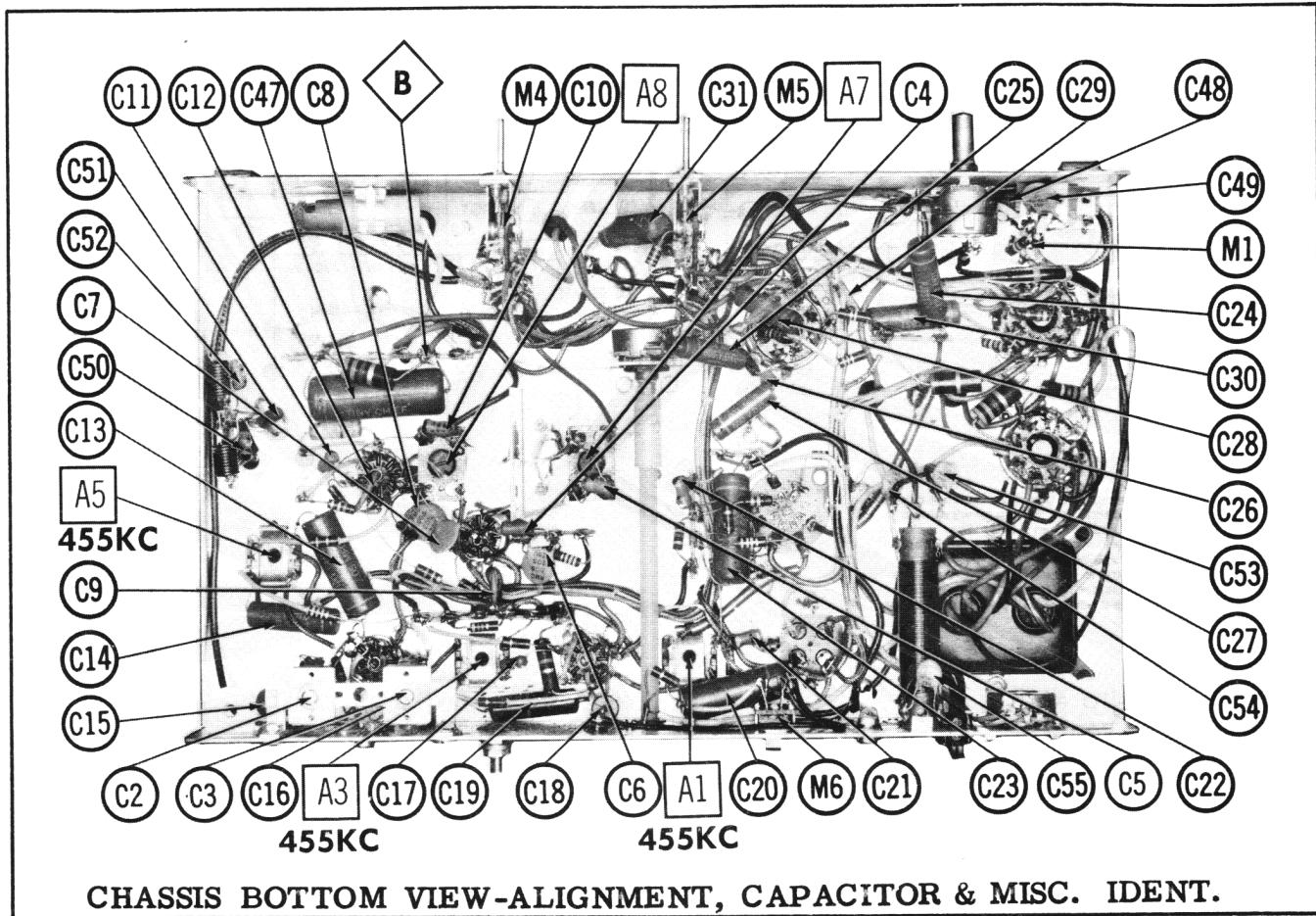
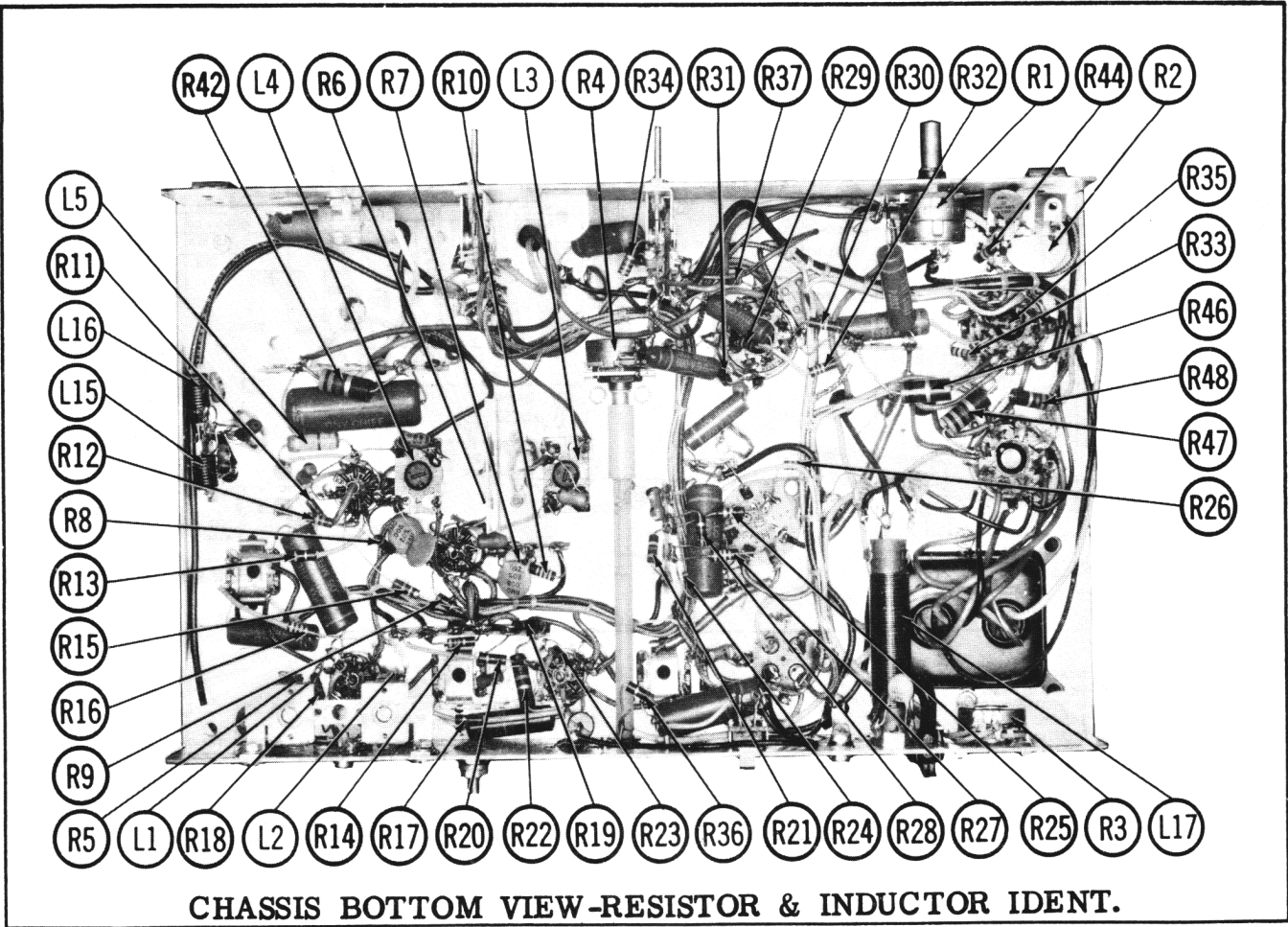
ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION (CONTROL VIEWED FROM SHAFT END)

NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.



1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured with 1000 ohm per volt voltmeter.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common ground.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of $\pm 15\%$ in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

**HALLICRAFTERS
MODEL CB-1**



PARTS LIST AND DESCRIPTIONS WIRING DATA

General-use Unshielded Hook-up Wire Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors
Power Cord Use BELDEN No. 1765-B (6 Ft. Length) in Ten Colors
1725-K (7 1/2 Ft. Length)

TUBES

ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	RF Amplifier	6DC6	V7	AF Output-Modulator	6K6GT
V2	Converter	6BY6	V8	Trans. Oscillator	6AK6
V3	1st IF Amplifier	6BA6	V9	Final Amplifier	6AQ5A
V4	2nd IF Amplifier	6BA6	V10	Mod. Indicator	6E5
V5	Det. -Noise Limiter	6AL5	V11	Rectifier	5Y3GT
V6	AF Amp. -Speech Amp.	6SC7			

ELECTROLYTIC CAPACITORS

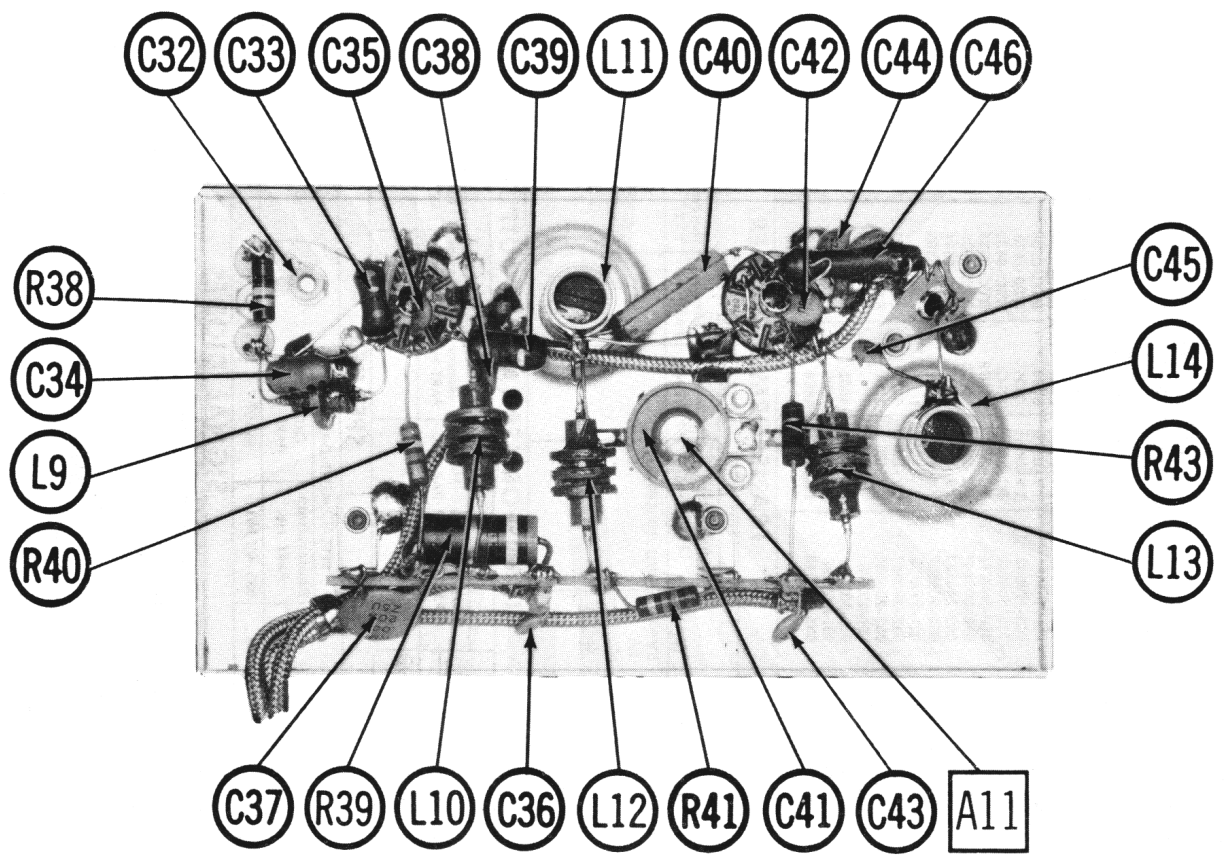
ITEM No.	RATING		REPLACEMENT DATA				NOTES
	CAP.	VOLT.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	
C1A	.50	350	AFL4-17	D0160	FP475.5	TMQ-4634	TVL-4771.3
C1B	.10	350					
C1C	.10	350					
C1D	.10	25					

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA							SPRAGUE PART No.	
			AEROVOX PART No.	CORNELL-DUBILIER PART No.	CORNELL-DUBILIER PART No.	ELEMCO PART No.	MALLORY PART No.	MALLORY PART No.			
C2	9-180	#044-300517					483				
C3	80-480						466				
C4	33 NPO 2%		NPO-SI 22	TCZ-33	C10Q22C	CM-20C-330C	CCTO-220	CNO-422		10TCC-Q22	
C5	22 NPO 10%		BPD-005	TCZ-22	BYA10D5	CCD-502	CCD-502	B-250		5HK-D50	
C6	5000		BPD-01	DD-502	BYA10S1	CCD-103	CCD-103	B-110		5HK-S10	
C7	10000		BPD-005	DD-502	BYA10D5	CCD-502	CCD-502	B-250		5HK-D50	
C8	5000		BPD-005	DD-502	BYA10D5	CCD-502	CCD-502	B-250		5HK-D50	
C9	5000										
C10	12 NPO 2%		NPO-SI 10	TCZ-12	C10Q1C	CCTO-100K	CCTO-100K	CNO-410		10TCC-Q10	
C11	10 NPO 10%		BPD-02	DD-203	BYB6S2	CCD-203	CCD-203	B-120		5HK-S20	
C12	20000		P688N-05	DD-203	CUB6S5	6DP-3-503	6DP-3-503	GEM-615		6TM-S50	
C13	.05 600V		P688N-01	D6-103	CUB6S1	6DP-1-103	6DP-1-103	GEM-611		6TM-S10	
C14	.01 600V		P688N-02	DD-203	CUB6S2	6DP-2-203	6DP-2-203	GEM-612		6TM-S20	
C15	.02 600V		P688N-01	D6-103	CUB6S1	6DP-2-103	6DP-2-103	GEM-611		6TM-S10	
C16	.01 600V		P688N-01	D6-103	CUB6S1	6DP-2-103	6DP-2-103	GEM-611		6TM-S10	
C17	5 N750 10%		N750-SI 5	TCN-5	C10V5U	CCTN-050	CCTN-050	CNT-550		10TCU-V50	
C18	.01 600V		P688N-01	D6-103	CUB6S1	6DP-2-103	6DP-2-103	GEM-611		6TM-S10	
C19	.02 200V		P288N-02	DD-203	CUB2S2	6DP-2-203	6DP-2-203	GEM-412		2TM-S20	
C20	.05 600V		P688N-05	DD-503	CUB6S5	6DP-3-503	6DP-3-503	GEM-615		6TM-S50	
C21	47 NPO 10%		NPO-SI 47	TCZ-47	C10Q47C	CCTO-470	CCTO-470	CNO-447		10TCC-Q47	
C22	47 NPO 10%		NPO-SI 47	TCZ-47	C10Q47C	CCTO-470	CCTO-470	CNO-447		10TCC-Q47	
C23	.05 600V		P688N-05	DD-503	CUB6S5	6DP-3-503	6DP-3-503	GEM-615		6TM-S50	
C24	.01 600V		P688N-01	D6-103	CUB6S1	6DP-2-103	6DP-2-103	GEM-611		6TM-S10	
C25	.001 600V		P688N-001	D6-102	CUB6D1	6DP-1-102	6DP-1-102	GEM-621		6TM-D10	
C26	100 N750 10%		N750-SI 100	TCN-100	C10T1U	CCTN-101	CCTN-101	CNT-310		10TCU-T10	
C27	.001 600V		P688N-001	D6-102	CUB6D1	6DP-1-102	6DP-1-102	GEM-621		6TM-D10	
C28	.003 600V		P688N-003	D6-302	CUB6D3	6DP-1-302	6DP-1-302	GEM-623		6TM-D30	
C29	220 10%		I469-00022	TCZ-220	22R5T22	CM-19B-221K	CM-19B-221K	CNO-322		MS-322	
C30	.01 600V		P688N-01	D6-103	CUB6S1	6DP-2-103	6DP-2-103	GEM-611		6TM-S10	
C31	.02 600V		P688N-02	DD-203	CUB6S2	6DP-2-203	6DP-2-203	GEM-612		6TM-S20	
C32	.5-3		P688N-02	829-3	CUB6S2	CV-1	CV-1	CT565			

TRANSMITTER SUB CHASSIS



ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Set Squelch, Microphone Gain and Indicator sensitivity controls fully counterclockwise.

Use Signal Generator with accuracy within .005%.

Suggested Alignment Tools: A1 Thru A6... GENERAL CEMENT #5097, 8727

WALSCO #2515

A7, A8, GENERAL CEMENT #5004, 5009, 8195, 8274, 8275, 8607, 8728, 8987, 8988,
8989, 9291

WALSCO #2515, 2520, 2522, 2523, 2531, 2532, 2534, 2537, 2538

A9, A10, ALL... GENERAL CEMENT #8721, 8722

WALSCO #2519

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	OUTPUT METER	ADJUST	REMARKS
1.	High side thru .01mfd to pin 7 (grid) of Converter. Low side to chassis.	455KC (400v Mod.)	Across voice coil.	A1, A2, A3, A4, A5, A6	Adjust for maximum output.
2.	High side thru 50Ω to antenna jack. Low side to chassis.	Crystal frequency plus 455KC	"	A7, A8	"
3.			USE VTVM DC probe to point A . Common to chassis. Connect Wattmeter across antenna jack.	A9, A10	Press "Talk" bar. Adjust A9 for maximum deflection on VTVM. Adjust A10 for maximum output on Wattmeter.
4.			"	All	Press "Talk" bar. Remove jumper at point B . Connect vertical amp. of scope across Wattmeter. Adjust All for MINIMUM deflection on scope. Reconnect plug at point B .
5.	High side of Audio Signal generator thru 100K to the Microphone input jack. Low side to chassis.	500v at .03 volts output.	USE SCOPE Vert. amp. to antenna jack. Low side to chassis.	R4	Adjust for 85% modulation as seen on scope.
6.	"	"	"	R2	Adjust for complete closure of indicator eye at 85% modulation with no foldover or bright area.
7.	Connect a 9MC signal into antenna and adjust C2 for minimum output.				
8.	Connect an 18MC signal into antenna and adjust C3 for minimum output.				

