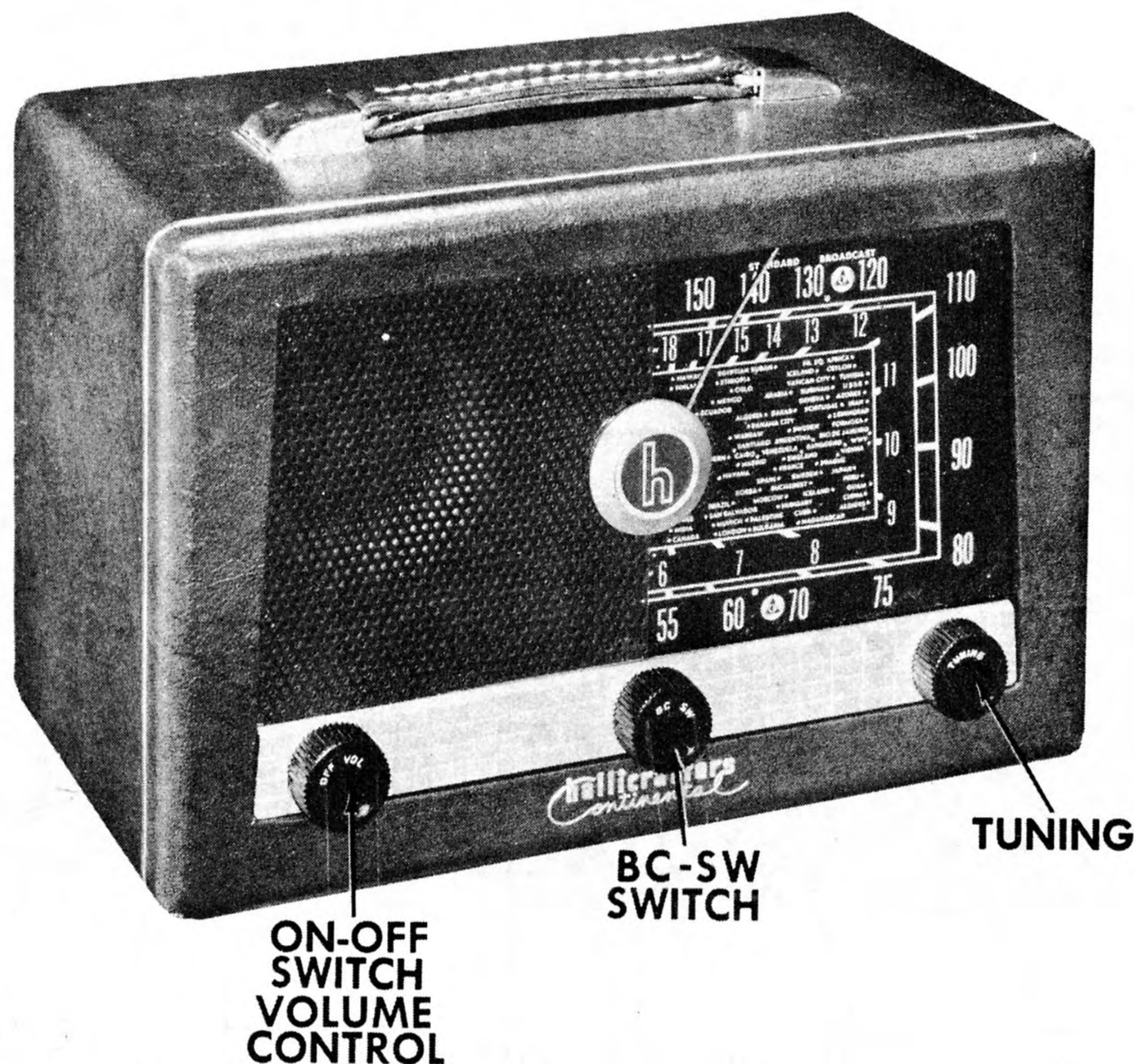




TRADE NAME Hallicrafters Models 5R40, 5R41, 5R42 (Runs 1, 2, 3, 4, 4A)
MANUFACTURER The Hallicrafters Co., 4401 W. 5th. Ave., Chicago 24, Ill.
TYPE SET Three Power Portable 2 Band AM Superheterodyne Receiver
TUBES (Four) Types: 1R5 Conv., 1U4 IF Amp., 1U5 Det.-AVC-AF Amp., 3V4 Output

POWER SUPPLY 110-120 Volts AC-DC (or) 7.5 Volts "A" Supply & 90 Volts "B" Supply

RATINGS .15 Amp. @ 117 Volts AC (or) 50MA @ 7.5 Volts DC & 13.5MA @ 90 Volts DC

TUNING RANGE—BROADCAST 535KC-1620KC **SHORT WAVE** 5.8MC-18.3MC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Use battery power, if possible. If AC power is used, use an isolation transformer when available. If not, connect a .1MF capacitor in series with low side of the signal generator and B-.

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

Loop should be maintained in same relative position to chassis as when receiver is in cabinet.

To set pointer, turn tuning capacitor fully closed and set pointer to last reference mark at low frequency end of dial.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	.01MFD	High side to green lead on BC antenna. Low side to B-.	455KC (400 μ Mod)	BC	1000KC	Across voice coil	A1, A2, A3, A4	Adjust for maximum output. IF AC power is used without an isolation transformer, reduce dummy antenna to 200 MMF to reduce hum modulation.
2.	300 Ω Carbon Resistor	High side to "A" on sweep antenna terminal. Low side to B-.	14MC	SW	14MC	"	A56, A6	Adjust for maximum output.
3.		Loop (Radiated)	1400KC	BC	1400KC	"	A7, A8	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
4.		"	600KC	BC	600KC	"	A7, A8, A9	"

HOWARD W. SAMS & CO., INC. • Indianapolis 5, Indiana

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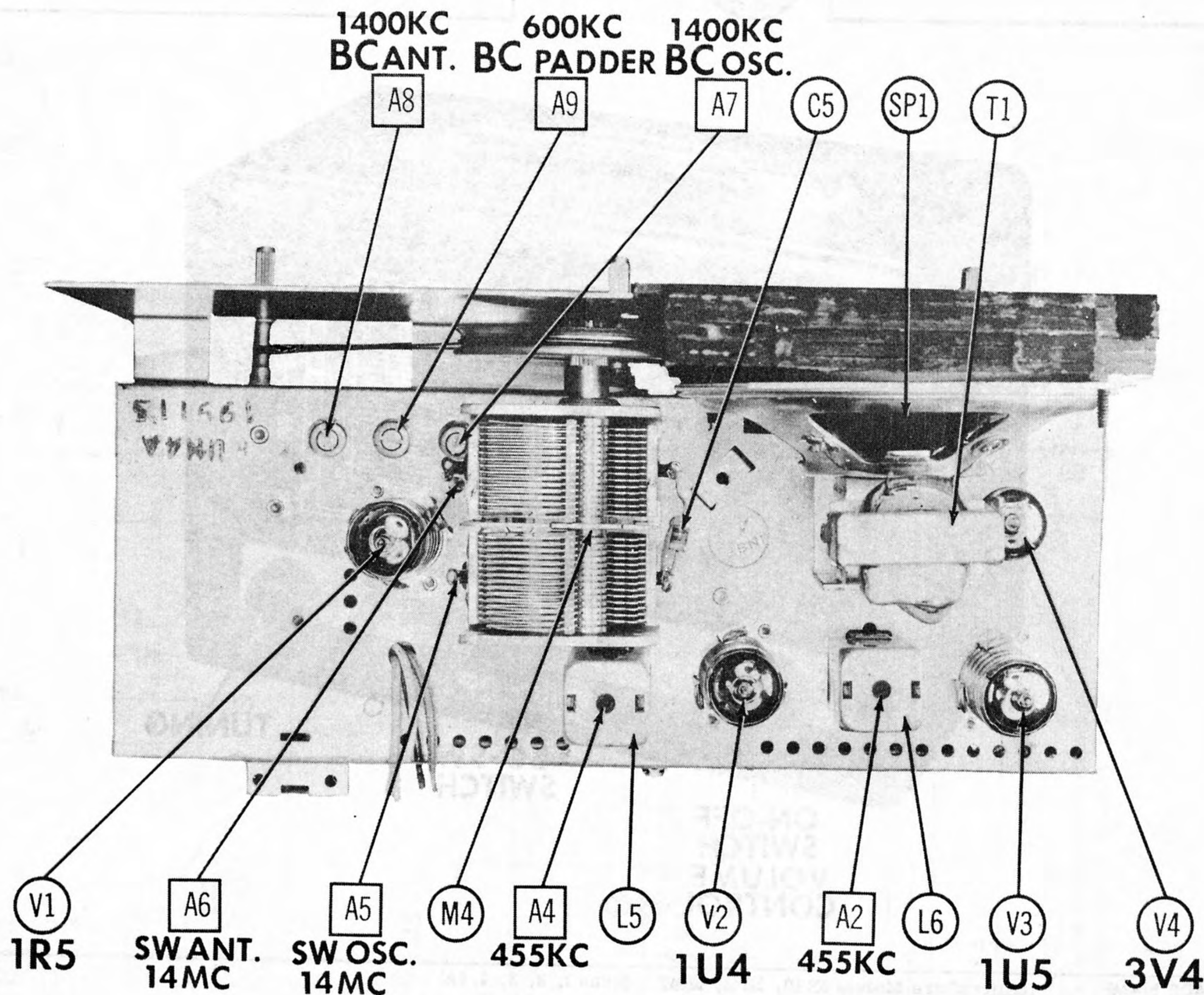
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PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA, GENERAL ELECTRIC, WESTINGHOUSE)

HALLICRAFTERS
Model 5R40 (Runs 1, 2, 3, 4, 4A)

CHASSIS--TOP VIEW



ELECTROLYTIC CAPACITORS

ITEM No.	USE	REPLACEMENT DATA		RETM BASE TYPE	NOTES
		Hallcrafters PART No.	STANDARD REPLACEMENT		
V1	Converter	IR5	IR5	7AT	
V2	IF Amplifier	IU4	IU4	6AR	
V3	Det.-AVC-AF Amp	IU5	IU5	6BW	
V4	Audio Output	3V4	3V4	6BX	

ITEM No.	RATING	REPLACEMENT DATA			NOTES
		Hallcrafters PART No.	MALLORY PART No.	PYRAMID PART No.	
C1A	60	45B229	TCD498	TDL-8040-150	Red
C2	40				Green
C2	400	45C224	TC1505	TD-500-15	Note 1

Note 1. In Run 1, C2 is part of C1.

FIXED CAPACITORS

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

ITEM No.	RATING	REPLACEMENT DATA				NOTES
		Hallcrafters PART No.	CENTRALAB PART No.	ERIE PART No.	MALLORY PART No.	
C3	.05	46AW503J	DF-503	831-150	PT415	
C4	15	47X20UK150K	D6-150	NP0A-IR5	ZT-5515	
C5	1.5	47A160-3	TCZ-IR5	N750L-101	NT-531	
C6	100	47X25UK101K	TCN-100			
C7	5600	47X35B562K				
C8	82	47X25UK820K	TCN-82	N750L-820		
C9	10000	47A224	DD-103	811-01	DC-511	
C10	10000	47A224	DD-103	811-01	DC-511	
C11	1000	47C20A	DD-102	801-001	UC-521	
C12	10000	47A224102M	DD-103	811-01	UC-5315	
C13A	150			811-151	DC-522	
C13B	2000			801-002	UC-5315	
C13C	150			811-151	DC-522	
C14	.25	47A224		811-01	DC-511	
C15	200	46AT254J	DD-103	811-005	DC-525	
C16	5000	47A168	DD-502	811-01	PT4025	
C17	.2	46AX204H			DC-525	

Note 2. Runs 1, 2 & 3 use a 100MMF unit in this application.

Items C13A, C13B, C13C, C13D, C13E, R8A, R8B, R8C and R8D are combined in one unit.

CONTROLS

ITEM No.	RATING	REPLACEMENT DATA				INSTALLATION NOTES
		Hallcrafters PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	
R1A	1Meg Shaft	25B1005	B3K-70-S	A47-1Meg-Z	Q13-137	Volume
R1B		Not Req.	Not Req.	KSS-3	Not Req.	Attach to R1A
R1C		Not Req.	Not Req.	SWE-20	76-2	Attach to R1A

RESISTORS

ITEM No.	RATING	REPLACEMENT DATA			NOTES
		Hallcrafters PART No.	IRC PART No.	MALLORY PART No.	
R2	100KΩ	23X20X104K	BTS-100K	23X20X225K	BTS-2.2Meg
R3	2200Ω	23X20X222K	BTS-2200	23X20X102K	BTS-1000
R4	10KΩ	23X20X103K	BTS-10K	23X20X102K	BTS-1000
R5	4.7Meg	23X20X475K	BTS-4.7Meg	23X20X152K	BTS-1500
R6	2200Ω	23X20X222K	BTS-2200	24B938	
R7	2.2Meg	23X20X225K	BTS-2.2Meg	23X20X272K	BTA-2700
R8A	10Meg		BTS-10Meg	23X20X470K	BTS-47
R8B	4.7Meg		BTS-4.7Meg		
R8C	1Meg		BTS-1Meg		
R8D	3.3Meg		BTS-3.3Meg		

Items C13A, C13B, C13C, C13D, C13E, R8A, R8B, R8C, R8D are combined in one unit.
Note 1. Runs 1, 2, & 3 use a 18KΩ, 1 watt resistor in this application (Mfr. part #23X20X103K).
Note 2. Not used in runs 1 and 2.
Note 3. Some versions use a 2700Ω, 8 watt and a 22KΩ, 1 watt resistor connected in parallel.

PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Hallcrafters PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	
T1	10K Ω	3 Ω	Part of Spkr.	Z1116 ①	A-2998 ①	A-3329 ①	24S49 ①	S-11X ① ① Bend mounting tabs down, file slots, mount on orig. mounting bracket.

SPEAKER

ITEM No.	RATINGS			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	Hallcrafters PART No.	QUAM PART No.	
SP1	4"	PM	3 Ω	85C129 ① 85C138 ①	4A07	① Alternate PM speaker

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA				NOTES
		PRI.	SEC.	Hallcrafters PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L1	SW Ant. Coil	.4 Ω	0 Ω	51B1535				
L2	SW Osc. Coil	0 Ω	1.1 Ω ▲	51B1543				
L3	BC Ant. Coil	.7 Ω		57C181 *				
L4	BC Osc. Coil	1.4 Ω	4.6 Ω	51B1762 ■	14-1074	BC-394	70-OSC	▲ Tapped @ .3 Ω
L5	Input IF	26 Ω	26 Ω	50C233	16-6758	BC-352	12-C1	
L6	Output IF	26 Ω ▲	26 Ω	50C516				
L7	Fl. Choke	2.2 Ω		53A008	19-1006		4624	▲ Tapped @ .7 Ω 16.2 Microhenries

* Run 1 uses part #57B167 loop stick. Runs 2 and above use 57C181 (chassis mounted) or 57B175 (cabinet mounted) loop sticks.
■ Alternate part #51B1534 - Run 1 thru Run 3.

SELENIUM RECTIFIER

ITEM No.	RATING	REPLACEMENT DATA						NOTES
		Hallcrafters PART No.	FEDERAL PART No.	INTERNATIONAL PART No.	MALLORY PART No.	RADIO RECEPTOR PART No.	SARKES TARZIAN PART No.	
M1	.064ADC	27A172	1003A	RS-075	6S75	5M4	75	

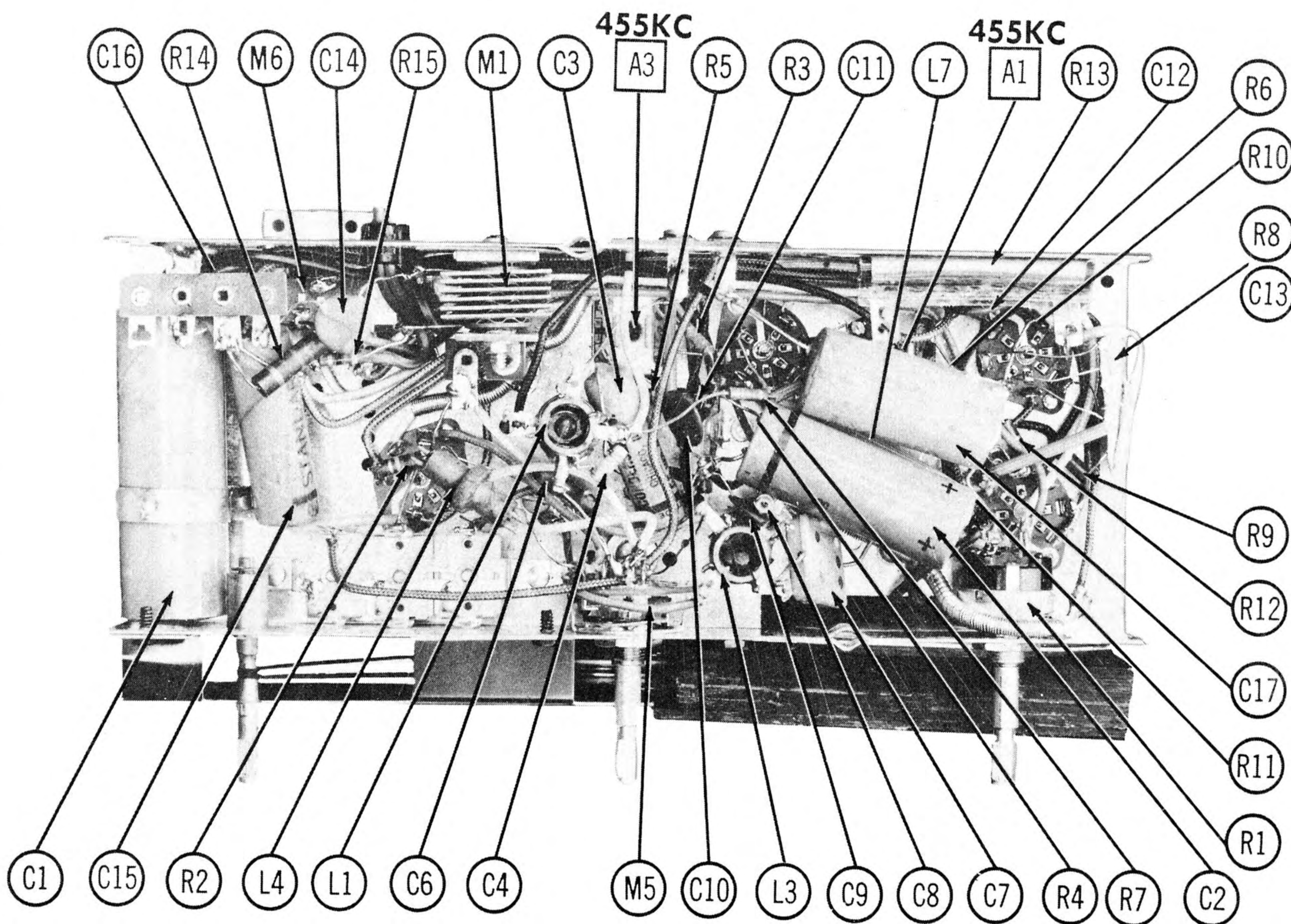
BATTERIES

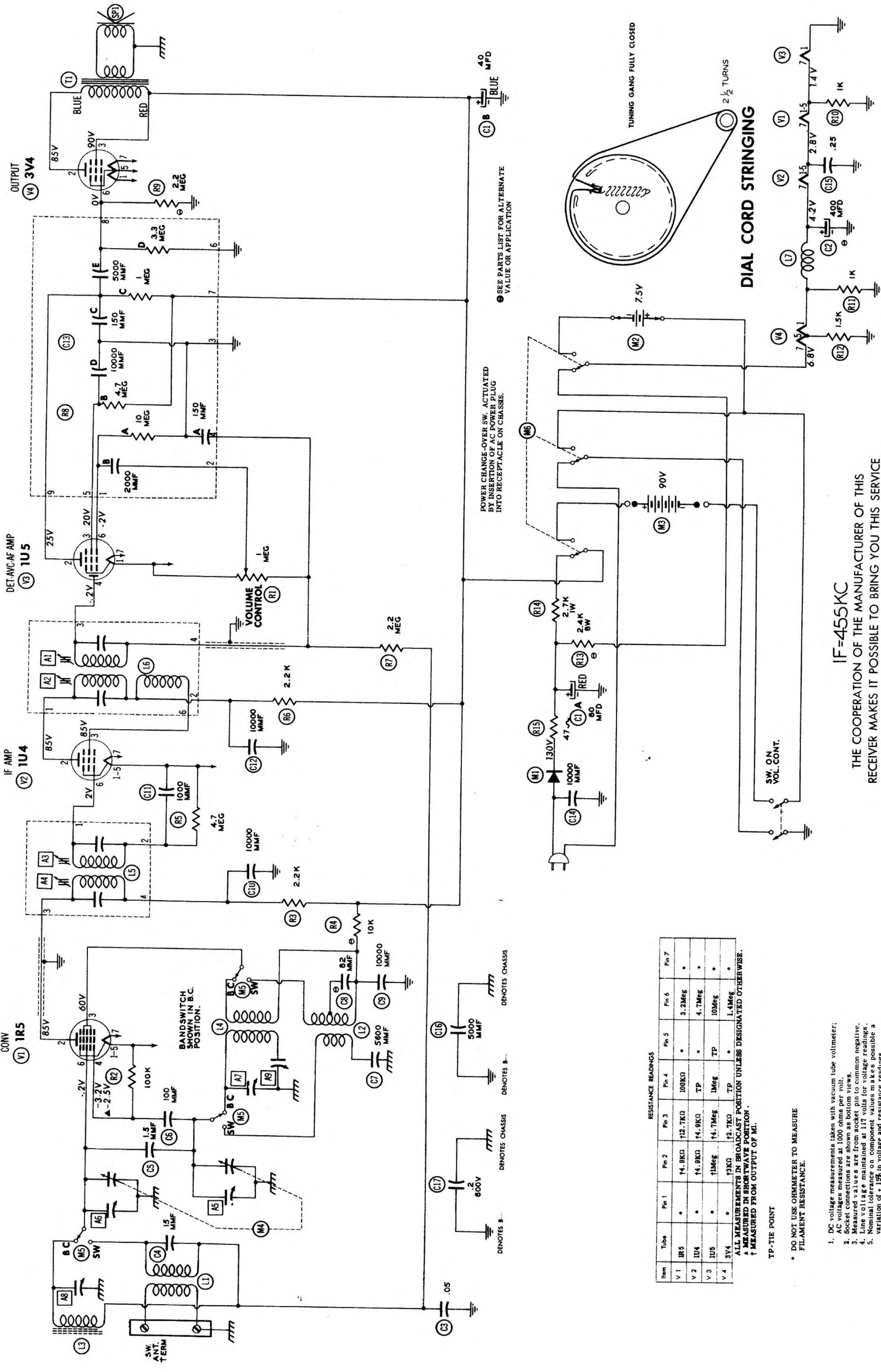
ITEM No.	VOLTAGE	Hallcrafters PART No.	REPLACEMENT DATA				INSTALLATION NOTES
			"A"	"B"	"A-B"	BURGESS	
M2	7.5V "A"	P13	717			"A"	
M3	90V "B"	P231		490	C5	"B"	N60

MISCELLANEOUS

ITEM No.	PART NAME	Hallcrafters PART No.	NOTES
M4	Tuning Cap.	48C294	
M5	Switch	60B487	
M6	Switch	60B502	
	Trimmer Cap.	44C419	2 Gang (19-490MMF, 19-490MMF) Selector (BC-SW), (3 pole-2 position rotary) Power changeover (3 pole - 2 position-slide type) 3 Sections (BC osc. trimmer, BC osc. padder & BC Ant. trimmer)
	Cabinet	78F854	Less front panel assy.
	Front Panel Assy.	7D379	Model 5R40
	Front Panel Assy.	7A457	Model 5R41
	Front Panel Assy.	7A458	Model 5R42
	Knob	15B525	BC-SW
	Knob	15B529	On-off-volume
	Knob	15B526	Tuning
	Dial Scale	83D418	Model 5R40
	Dial Scale	83A442	Model 5R41
	Dial Scale	83A443	Model 5R42
	Dial Pointer	82A220	

CHASSIS—BOTTOM VIEW





RESISTANCE READINGS						
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5
V 1	1R5	*	14.9KΩ	112.7KΩ	100KΩ	3.2Meg
V 2	1U4	*	14.9KΩ	14.9KΩ	TP	4.7Meg
V 3	1U5	*	11Meg	14.7Meg	1Meg	10Meg
V 4	3V4	*	13KΩ	12.7KΩ	TP	1.4Meg

ALL MEASUREMENTS IN BROADCAST POSITION UNLESS DESIGNATED OTHERWISE.
* MEASURED IN BROADCAST POSITION.
† MEASURED FROM OUTPUT OF M1.
TP-TIE POINT

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

IF=455KC
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