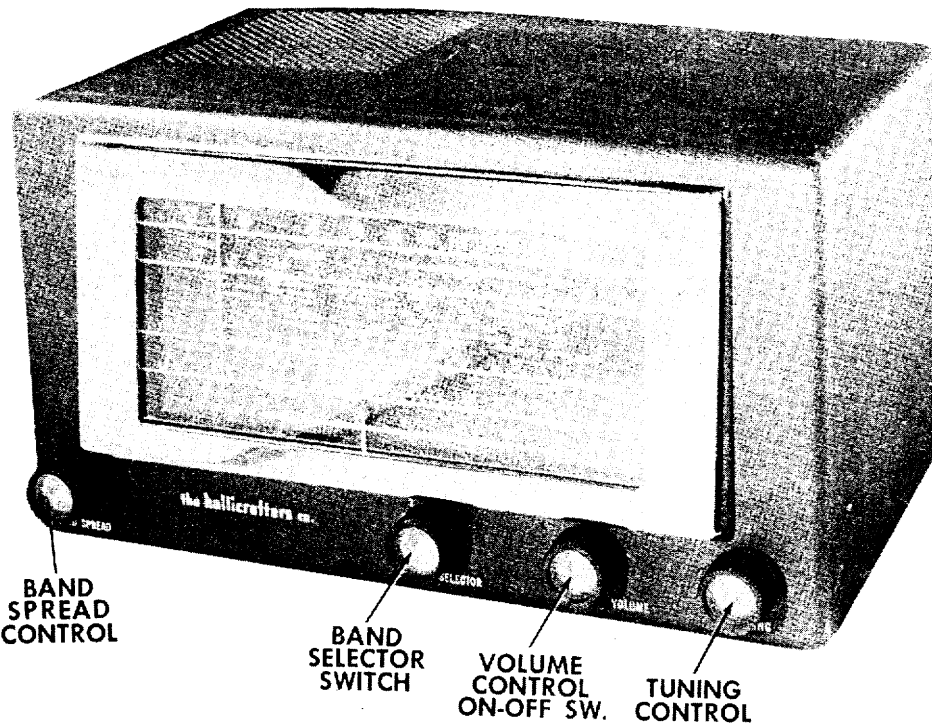




**HALLICRAFTERS
MODEL 5R10A**



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MODEL 5R10A**

TRADE NAME	Hallicrafters Model 5R10A		
MANUFACTURER	Hallicrafters C., Inc., 4401 W. 5th Ave., Chicago Ill.		
TYPE SET	AC-DC Operated Multi-Band Superheterodyne Receiver		
TUBES (five)	Types 12SA7 Conv., 12SK7 IF Amp., 12SQ7 Det. -AVC-AF Amp. 50L6GT Power Output, 35Z5GT Rectifier		
POWER SUPPLY	105-125 Volts AC-DC	RATING	.25 Amp. @ 117 Volts AC
TUNING RANGE	(Band #1) 540-1650KC, (Band #2) 1,65-5.1MC, (Band #3) 5-14.5 MC, (Band#4) 13-31 MC		

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer turn tuning gang fully closed and set pointer to the reference mark to the left of 55 on the BC scale.
To set band spread pointer, turn bandspread tuning gang fully open and set pointer to zero on the reference scale.
The RMA dummy antenna referred to in the alignment table consists of a 200 MMF capacitor in series with a 20 microhenry choke which is shunted by a 400MMF capacitor in series with a 400Ω carbon resistor.
Turn the bandspread dial to zero on the reference scale.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	.01MFD	High side to stator on front section of tuning gang. Low side to chassis.	455KC (400Ω Mod.)	1	1000KC	Across voice coil	A1, A2, A3, A4	Adjust for maximum output. If isolation transformer is not used, reduce dummy antenna to .0001MFD to reduce hum modulation.
2.	RMA	High side thru dummy to antenna terminal A1(connect jumper between A2 and G) Low side to chassis.	30MC	4	30MC	"	A5, A6	Adjust for maximum output. Rock tuning gang while adjusting A6.
3.	"	"	14MC	3	14MC	"	A7, A8	Adjust for max. output. Rock tuning gang while adjusting A7.
4.	"	"	5MC	2	5MC	"	A9, A10	Adjust for maximum output. Rock tuning gang while adjusting A9.
5.	"	"	1500KC	1	1500KC	"	A11, A12	Adjust for maximum output.
6.	"	"	600KC	1	600KC	"	A13	Repeat steps 5&6 until no further improvements can be made.

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

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PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		BTMA BASE TYPE	INSTALLATION NOTES
		HALICRAFTER PART No.	STANDARD REPLACEMENT		
V1	Converter	90X12SA7	12SA7	8R	
V2	IF Amplifier	90X12SK7	12SK7	8N	
V3	Detector-AVC-AF Amplifier	90X12SQ7GT	12SQ7GT	8Q	
V4	Power Output	90X50L6CT	50L6CT	7AC	
V5	Rectifier	90X35Z5GT	35Z5GT	6AD	

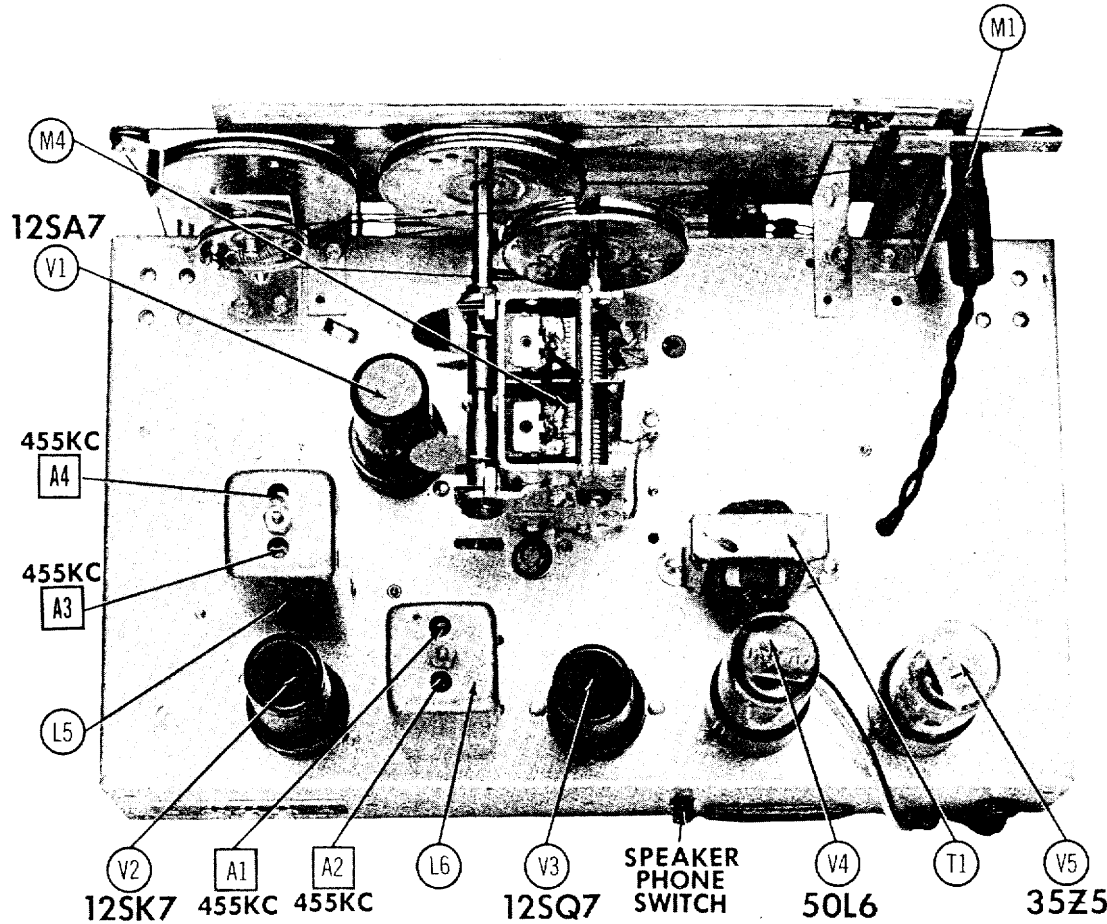
CAPACITORS

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

ITEM No.	RATING CAP.	VOLT	REPLACEMENT DATA					IDENTIFICATION CODES AND INSTALLATION NOTES	
			HALICRAFTER PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL DUBILIER PART No.	ERIE PART No.		SPRAGUE PART No.
C1A	60	150	48B091	PRS150/40-40 40		EZ55515C		TVA-3451	Filter (Red)
B	40	150						TVA-1205	Filter (Yellow)
C	40	150							Decoupling (Yellow)
D	25	25						MS-23	Output Cathode (Blue)
C2	2700	500	47X30B272J	1464-0003	D6-221	IR5D3	5W5T25	GP2K-221	Fixed Padder
C3	220	500	7E20221K5	1466-00025	DD-502	1D5D5	5R5T25	811-005	RF Coupling
C4	5000	500	47A168	BPD-005		5R5T25	5R5T25		Conv. Plate Dec.
C5	220	500	47X20B221K	1469-00025		IR5D3	5R5T25		Osc. Grid Cap.
C6	3000	500	47X30B302J	1464-0003		1D5D5	5R5T25		Fixed Padder
C7	2200	500	47X30B222J	1464-0025		1D5D5	5R5T25		Fixed Padder
C8	5000	500	47A168	BPD-005	DD-502	1D5D5	5R5T25		Osc. Feedback
C9	.02	600	46AY203J	P688-02	DF-203	PTE6S2	PTE6S2		AVC Filter
C10	.1	600	46AZ104J	P688-01	DF-104	PTE6P1	PTE6S2		IF Amp. Decoupling
C11	.05	200	46AU503J	P688-05	DF-503	PTE4S5	PTE4S5		IF Amp. Cathode Bypass
C12	220	500	47B20221K5	1468-00025	D6-221	5W5T25	5W5T25		Diode RF Filter
C13A	220	500			D6-221	5W5T25	5W5T25		Diode RF Filter
C13B	.002	500			D6-221	PTE6D2	PTE6D2		Audio Coupling
C14	.01	600	46AZ103J	S1220	D6-202	5W5T25	5W5T25		AF Amp. Plate
C15	.02	600	46AY203T	P688-005	D6-502	PTE6D5	PTE6D5		Audio Coupling
C16	.02	400	46B2031G	P688-01	DF-103	PTE6S1	PTE6S2		Power Output Plate
C17	.05	600	46AY503J	P688-05	DF-203	IPTE4S2	IPTE4S2		Line Filter
					DF-503	PTE6S5	PTE6S5		Line Isolation

† Some models use 100MMF in this application (Part No. 47X220B10K)

CHASSIS—TOP VIEW



CONTROLS

ITEM No.	RATING	REPLACEMENT DATA				INSTALLATION NOTES
		RESIST-ANCE	WATTS	HALICRAFTERS PART No.	IRC PART No.	
RIA	2 Meg Shaft Switch		1/4	25B896	Q13-139	Volume Control
B				Not Req.	RS-2	Attach to RIA per instructions
C				Not Req.	SWB	Attach to RIA per instructions

PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING	REPLACEMENT DATA		IDENTIFICATION CODES
		HALLICRAFTERS PART No.	IRC PART No.	
R2	10KΩ	23X20X103M	BTS-10K	Antenna Coil Shunt.
R3	470KΩ	23X20X474M	BTS-470K	Converter Grid.
R4	2.2Meg	23X20X225M	BTS-2.2Meg	AFC Network
R5	2.2Meg	23X20X225M	BTS-2.2Meg	AFC Network
R6	22KΩ	23X20X223M	BTS-22K	Oscillator Grid
R7	15Ω	23X20X150M	BTS-15Ω	Parasitic Suppressor-See note
R8	22Ω	23X20X220M	BTS-22Ω	Parasitic Suppressor
R9	390Ω	23X20X391K	BTS-390	IF Cathode
R10	390Ω	23X20X391K	BTS-390	IF Amplifier Decoupling
R11	470KΩ	23X20X473M	BTS-47K	Diode Filter
R12	470KΩ	23X20X473M	BTS-470K	Diode Filter
R13	10Meg	23X20X106M	BTS-10Meg	AF Amplifier Grid
R14	220KΩ	23X20X224M	BTS-220K	AF Amplifier Plate
R15	470KΩ	23X20X474M	BTS-470K	Output Grid
R16	150Ω	23X20X151K	BTS-150K	Output Cathode
R17	220Ω	23X20X221M	BTA-220	Filter
R18	1000Ω	23X20X102Ω	BTS-1000	Filter
R19	22Ω	23X20X220M	BTS-22Ω	Surge Limiter
R20	15Ω	23X20X150Ω	BTS-15Ω	Head Phone Shunt
R21	15Ω	23X20X150Ω	BTS-15Ω	Series Dial Light

NOTE: Some models use 10Ω resistor in this application.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING	REPLACEMENT DATA				INSTALLATION NOTES
		DC RES.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
T1	1.7KVA 3.2Ω 147Ω .8Ω	55A127	A-3876	A2928	R0-2	

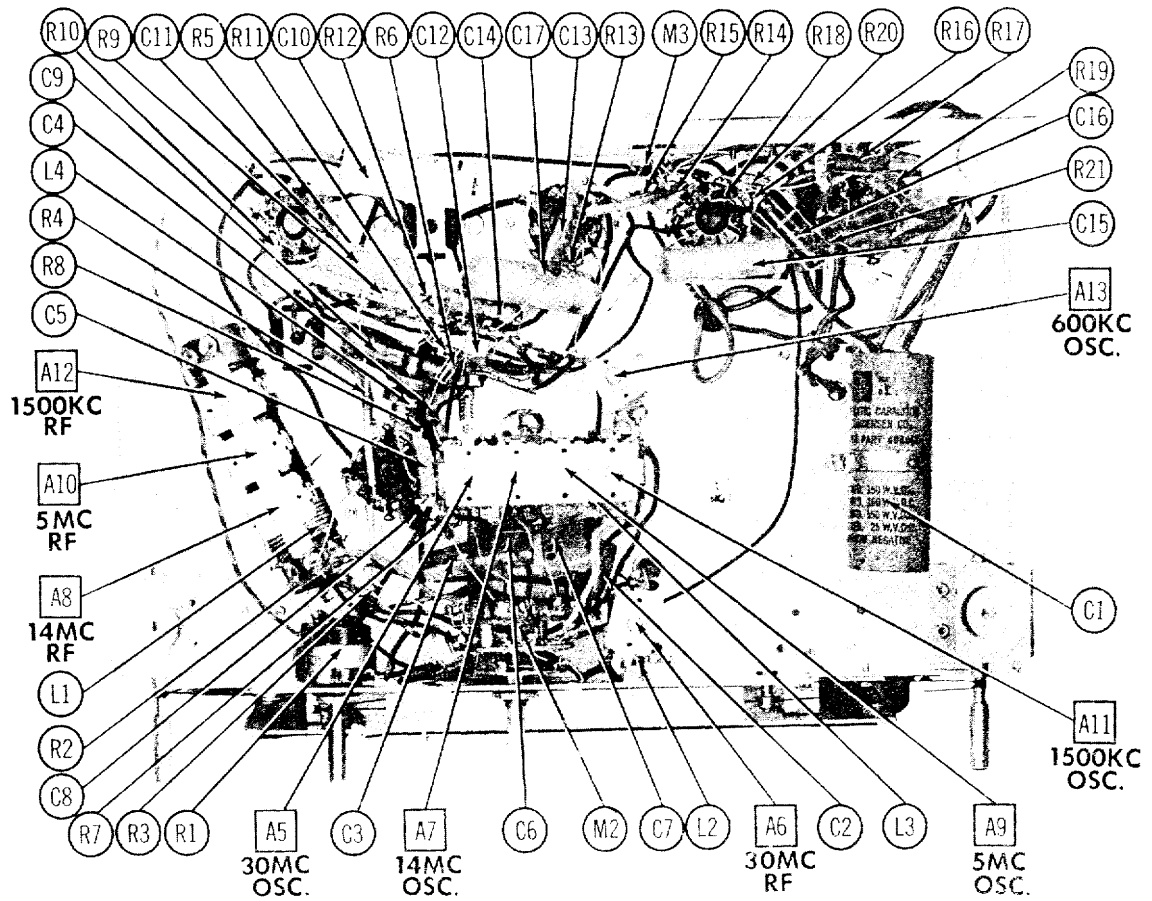
SPEAKER

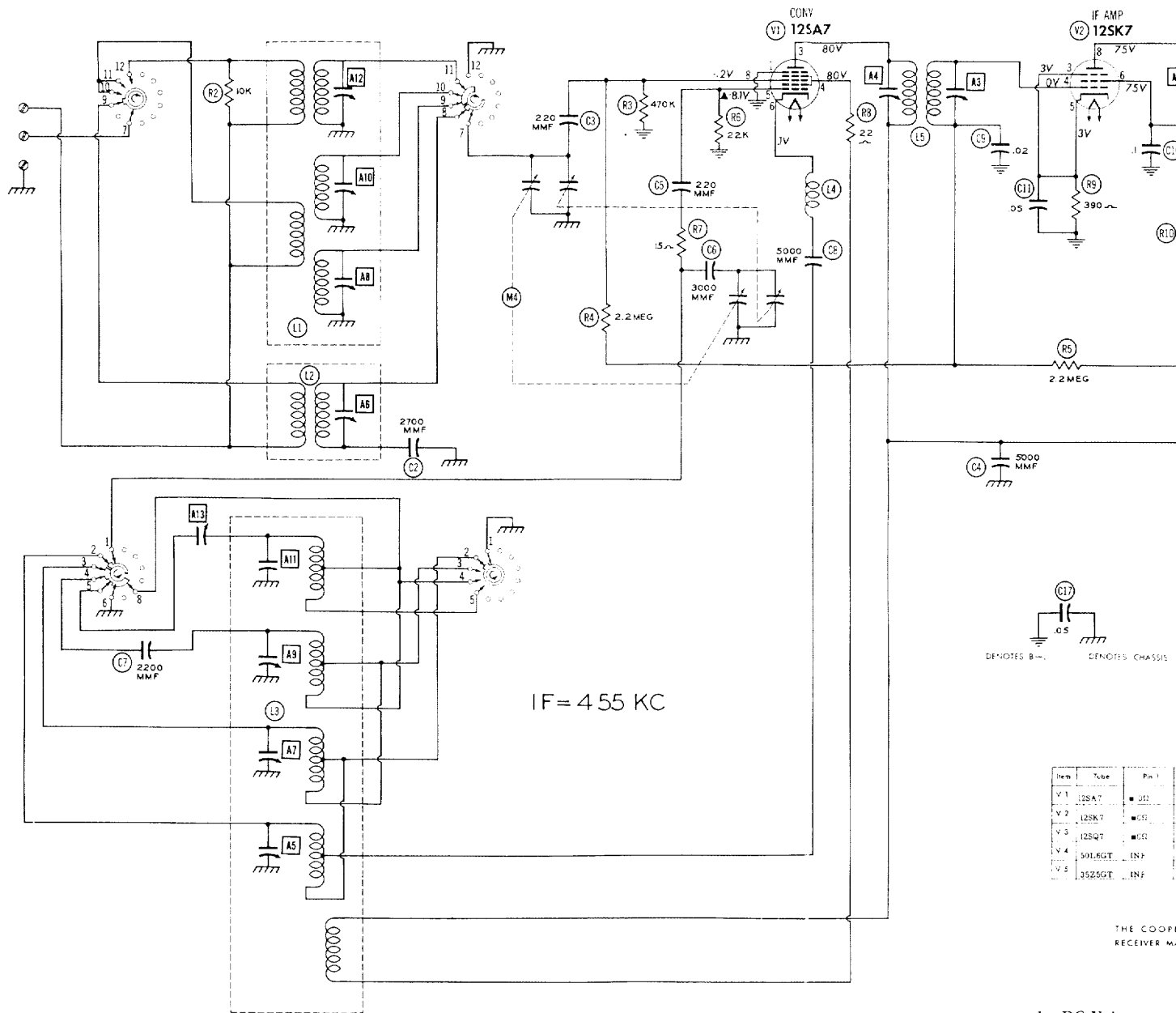
ITEM No.	RATINGS	REPLACEMENT DATA			NOTES
		Hallcrafters PART No.	JENSEN PART No.	QUAM PART No.	
SP1	FIELD P. M. 3.2Ω V. C. IMP. 9/16 in.	85C030	ST-105 Mod P5-X	5A1	
SP2	FIELD P. M. 3.2Ω V. C. IMP. 9/16 in.				

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	Hallcrafters PART No.	MERIT PART No.	
L1A	Ant. Coil	27Ω	0Ω	51C821		Band 1
L1B	Ant. Coil	27Ω	0Ω	51B1915		Band 2
L2	Ant. Coil	2Ω	0Ω	51C822		Band 3
L3A	Ant. Coil	2.4Ω	0Ω	51C822		Band 4
L3B	Osc. Coil	2Ω	0Ω	51C822		Band 1
L3C	Osc. Coil	2Ω	0Ω	51C822		Band 2
L3D	Osc. Coil	2Ω	0Ω	51C822		Band 3
L4	Osc. Coil	9.3Ω	20Ω	53A107		Band 4
L5	RF Choke	20Ω	20Ω	50B163		Tap at 2C
L6	Output IF	20Ω	20Ω	50B164		Tap at 2A

CHASSIS—BOTTOM VIEW





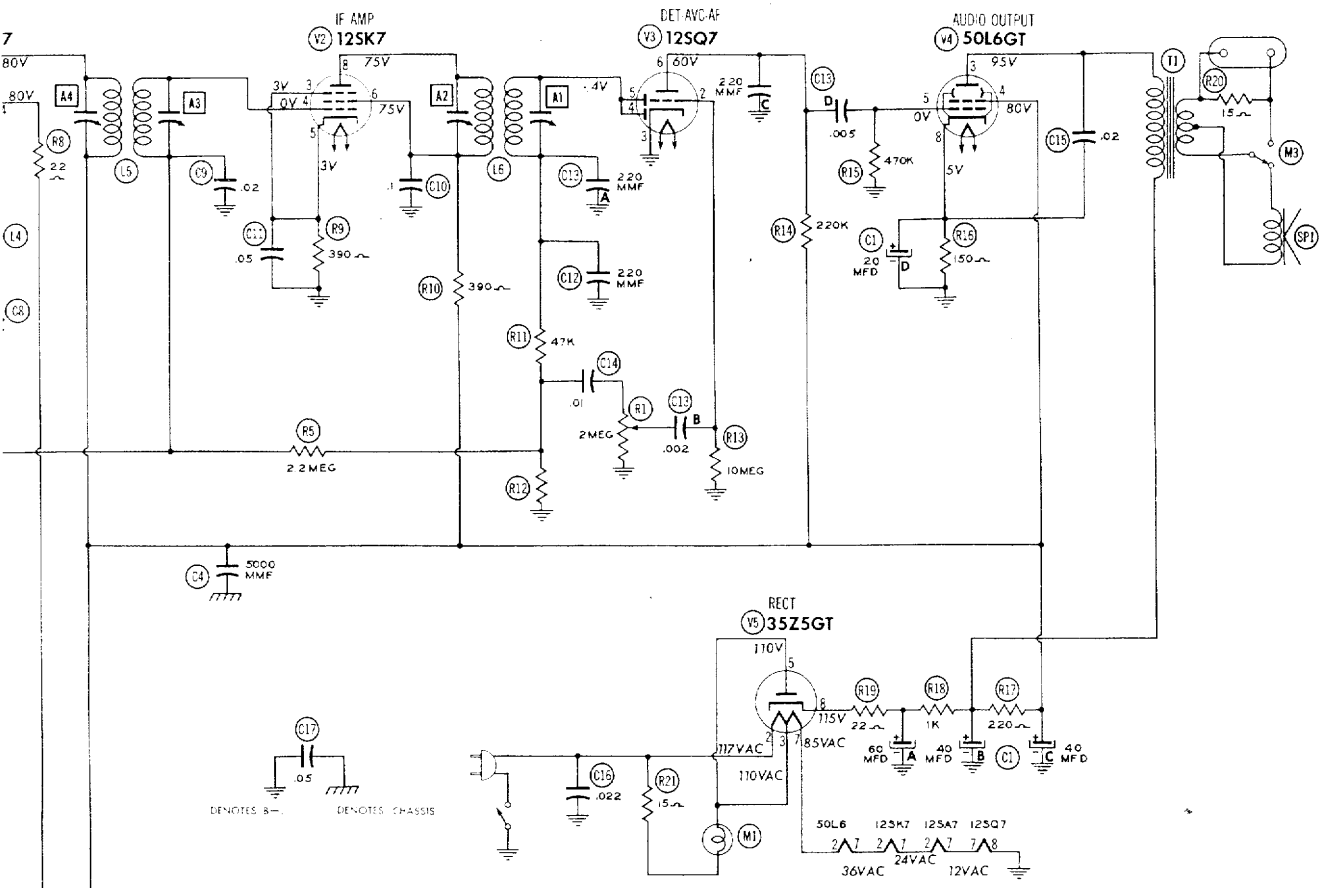
IF = 455 KC

5000 MMF DENOTES B-1, .05 DENOTES CHASSIS

Item	Tube	Pin 1
V 1	125A7	125A7
V 2	12SK7	12SK7
V 3	12SQ7	12SQ7
V 4	50L6GT	50L6GT
V 5	35Z5GT	35Z5GT

THE COOPER RECEIVER M7

1. DC Voltage measured at 1.00
2. Socket connection
3. Measured values
4. Line voltage may
5. Nominal tolerance + 10% in voltage
6. Volume control



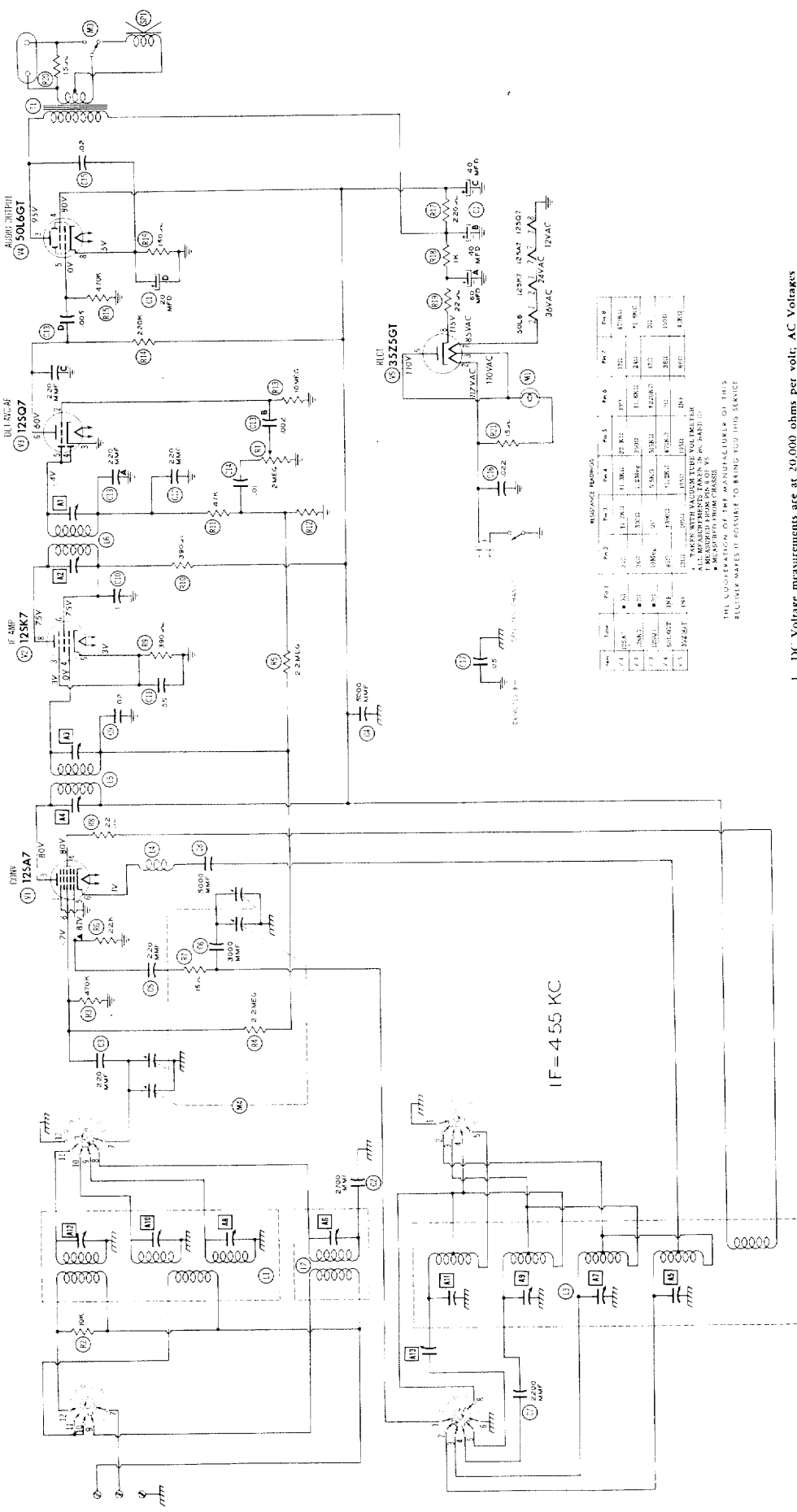
RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
V 1	25A7	■ C1	840	11.2KΩ	11.3KΩ	22 KΩ	160	120	470KΩ
V 2	12SK7	■ G1	360	360	1.25MΩ	3900	11.6KΩ	240	11.6KΩ
V 3	12SQ7	■ G1	10MΩ	70	515KΩ	515KΩ	1220KΩ	120	00
V 4	50L6GT	1NF	860	15MΩ	11.2KΩ	470KΩ	00	360	150
V 5	35Z5GT	1NF	120	1050	1050	000	1NF	850	49KΩ

* TAKEN WITH VACUUM TUBE VOLTMETER
 ALL MEASUREMENTS TAKEN IN BC BAND (1)
 † MEASURED FROM PIN 8 OF V5
 ■ MEASURED FROM CHASSIS

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of + 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.



IF = 4.55 KC

Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 8
50L6GT	1	2	3	4	5	6	8
6X4	1	2	3	4	5	6	8
12SK7	1	2	3	4	5	6	8
12SQ7	1	2	3	4	5	6	8
35Z5GT	1	2	3	4	5	6	8

ALL TUBES WITH FALCON TUBE VOLTAGE
 1. MEASURED FROM PINS 8 TO 5.
 2. MEASURED FROM PINS 8 TO 5.
 3. MEASURED FROM PINS 8 TO 5.

THE LOCATION OF THE MANUFACTURER OF THIS
 RELATIVELY EASY TO FIND THIS SERVICE

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages are at 10,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are shown as bottom views.
4. Line voltage maintained at 17 volts for voltage readings.
5. Nominal tolerance on capacitor values makes possible a variation of 10% in resistance readings.
6. Volume control at maximum; no signal applied for voltage measurements.