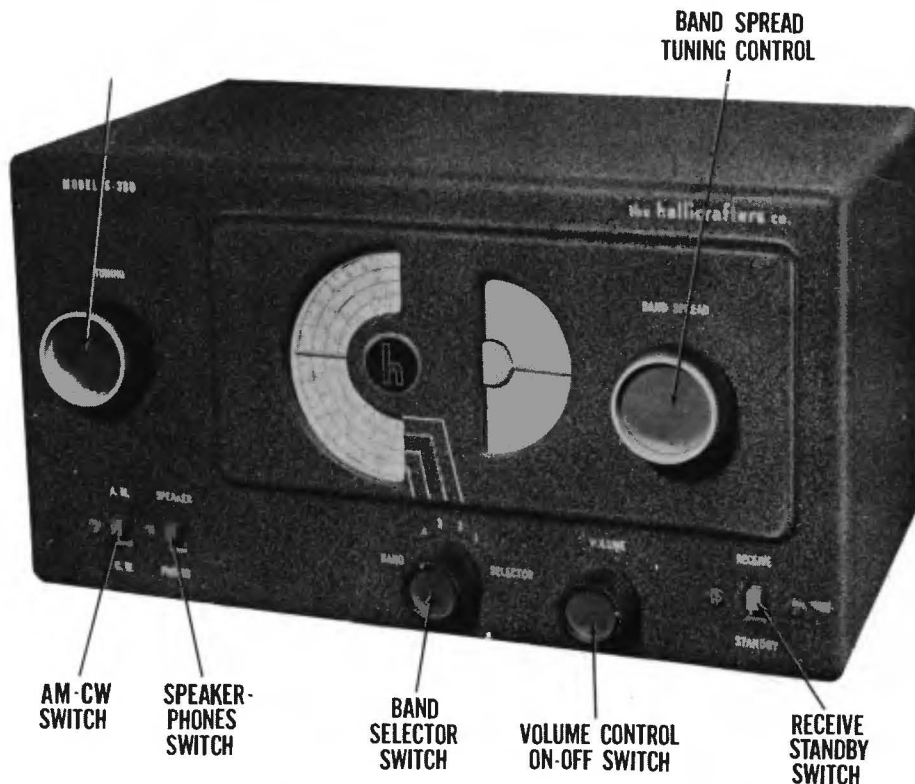




**HALLICRAFTERS
MODEL S-38B**



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HALLICRAFTERS MODEL S-38B

TRADE NAME	Hallicrafters, Model S-38B		
MANUFACTURER	The Hallicrafters Co., 5th and Kostner Ave., Chicago, Illinois		
TYPE SET	AC-DC Operated 4 Band Superheterodyne Communications Receiver		
TUBES	Types 12SA7 Converter, 12SK7 1st IF Amp., 12SQ7 Det.-AVC-AF, 50L6GT Power Output, 35Z5GT Rectifier		
POWER SUPPLY	105-125 Volts AC-DC	RATING .23 Amp. @ 117Volts AC	
TUNING RANGE-	(Band #1) 550-1650KC, (Band #2) 1.7-5.1MC, (Band #3) 5-14.5MC, (Band #4) 13-31MC		

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer, turn both tuning gangs fully open and set both pointers so they are vertical and over the vertical lines at the upper end of the dial scales.

The RMA dummy antenna referred to in the alignment consists of a 200MMF capacitor in series with a 20 microhenry choke which is shunted by a 400MMF capacitor in series with a 400Ω carbon resistor.

Use isolation transformer if available. If not, connect a .1MFD capacitor in series with low side of signal generator and chassis.

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.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	.01MFD	High side to stator plates on front section of tuning gang. Low side to chassis.	455KC (400 ~ Mod.)	1	1000KC	Across voice coil	A1, A2, A3, A4	Adjust for maximum output.
2.	Tune in a strong CW station and turn the "AM-CW" switch to CW. If the beat note is weak indicating insufficient BFO injection, move wire "X" nearer the IF amp. tube socket.							
3.	RMA	High side to antenna terminal "A". (Connect link between A2 and A3). Low side to chassis.	30MC (400 ~ Mod.)	4	30MC	Across voice coll.	A5, A6	Adjust for maximum output.
4.	"	"	14MC	3	14MC	"	A7, A8	"
5.	"	"	5MC	2	5MC	"	A9, A10	"
6.	"	"	1500KC	1	1500KC	"	A11, A12	"
7.	"	"	600KC	1	600KC	"	A13	Adjust for maximum output. Repeat steps 6 and 7 until no further improvements can be made.

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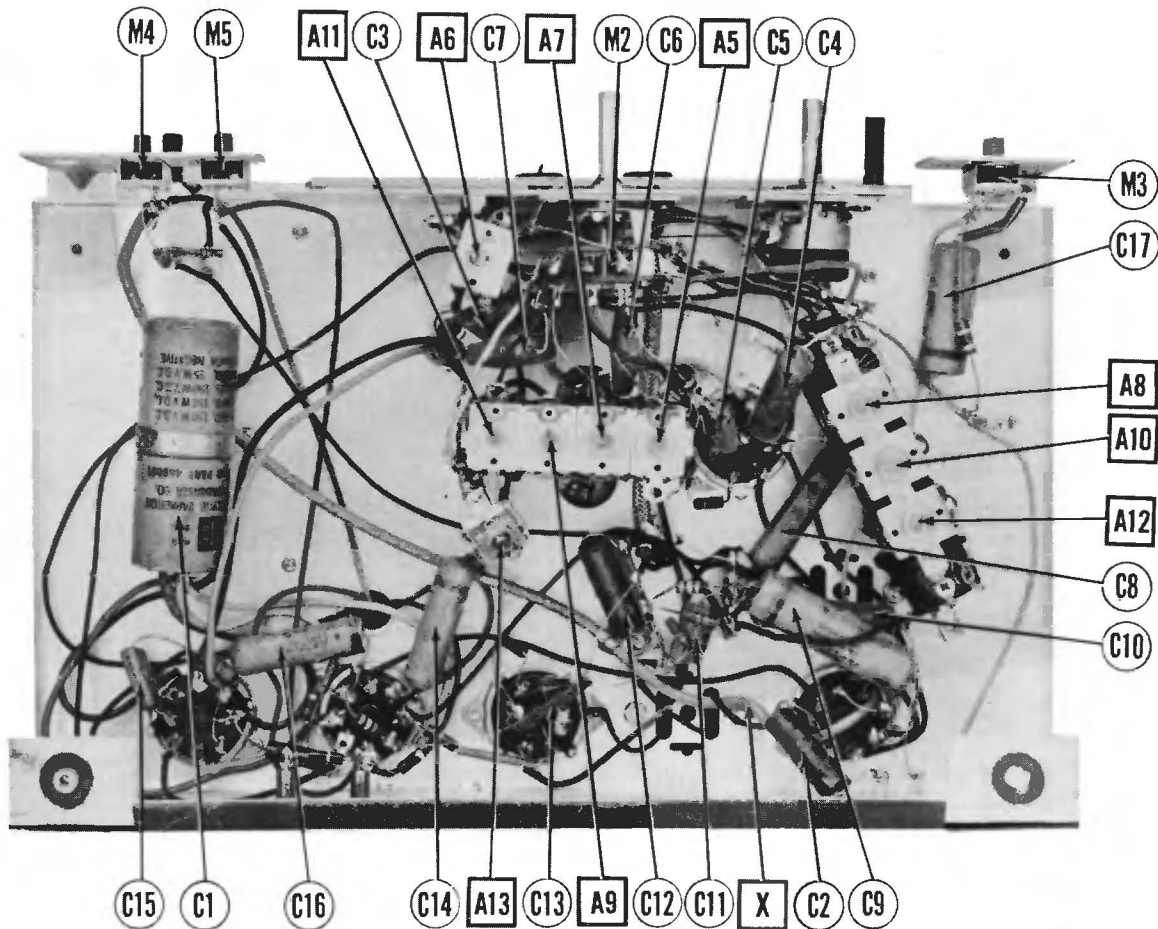
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PARTS LIST AND DESCRIPTIONS TUBES (SYLVANIA or Equivalent)

HALLICRAFTERS
MODEL S-38B

CHASSIS—TOP VIEW



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
		Hallcrafters PART No.	AEROVOX PART No.	CORNEILL CENTRALAB PART No.	ERIE PART No.	
C1A	60	45 B091	PRS150/40-40	EZ55515C		Filter Red
C1B	40		PRS25/25			Filter Yellow
C1C	150					Filter Blue
C2	20	46AY103J	P688-01	D6-103	PTE681	Output Cath. Blue
C3	2700	47X30A272J	P488-02	DF-203	PTE482	Ant. Isolation
C4	.02	46AW203J	1468-0002	D6-221	IR5D3	Fixed Padder
C5	220	47X20A221K	1468-0003	DF-503	PTE485	Osc. Grid Cap
C6	3000	47X20A302J				Fixed Padder
C7	2200	47X30A222J				Fixed Padder
C8	.05	46AT503J	P288-05	DF-503	PTE485	RF Bypass
C9	.25	46AT547J	P488-25	DF-503	PTE485	RF Bypass
C10	.05	46AT547J	P288-05	DF-503	PTE485	RF Bypass
C11	100	47X20B101K	1468-0001	D6-101	SW5T1	Diode RF Filter
C12	.01	46AY103J	P688-01	D6-103	PTE681	Audio Coupling
C13A	220	46A151	S1220	D6-221	SW5T2	Diode RF Filter
C13B	2000		BPD-002	DD-202	PTE682	Audio Coupling
C14	20	46AY203J	S1220	D6-221	SW5T2	AF Amp. Plate
C15	5000		BPD-005	DD-502	PTE685	Audio Coupling
C16	470	CM20A471M	P688-02	DF-203	PTE682	Output Plate
C17	.02	46AY203J	1468-0005	D6-471	SW5T5	RF Bypass
	.02		P688-02	DF-203	PTE682	RF Bypass
	.1	46AY104J	P488-1	DF-104	PTE481	Line Filter

* Model S-38A uses .25MFD in this application.

CONTROLS

ITEM No.	RATING RESIST. ANCE	REPLACEMENT DATA				INSTALLATION NOTES
		Hallcrafters PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	
R1A	2Meg	25B896	Q13-139	AG-66-Z	B-76-S	Volume control
B	Shaft		Not req.	RS-2	Not req.	Attach to R1A per instructions
C	Switch		76-1	SWB	Not req.	Attach to R1A per instructions

RESISTORS

ITEM No.	RATING RESISTANCE	REPLACEMENT DATA				IDENTIFICATION CODES
		Hallcrafters PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	
R2	470KΩ	23X20X474M				Converter Grid
R3	470	23X20X470M				Parasitic Supp
R4	22KΩ	23X20X223M				Oscillator Grid
R5	33Ω					Parasitic Supp - See Note 1.
R6	1.5Meg	23X20X471K	BTS-1.5Meg			AVC Network - See Note 2.
R7	4700	23X20X471K	BTS-470			Bias Network
R8	3900	23X20X391	BTS-390			IF Amp. Cathode
R9	56KΩ	23X20X474M	BTS-56K			Diode Filter - See Note 3
R10	470KΩ	23X20X474M	BTS-470K			Diode Load
R11	15Meg	23X20X150M	BTS-15Meg			AF Amp. Grid - See Note 4
R12	220KΩ	23X20X224M	BTS-220K			AF Amp. Plate
R13	470KΩ	23X20X474M	BTS-470K			Output Grid
R14	150Ω	23X20X151K	BTS-150			Output Cathode
R15	15Ω	23X20X150M	BW-3-15			Output Transformer Shunt

PARTS LIST AND DESCRIPTIONS (Continued) **RESISTORS**

ITEM No.	RATING			REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS		Hallcrafters PART No.	IRC PART No.	
R16	10KΩ			23X20X103M		Antenna Coil Shunt
R17	1000Ω			23X20X102M	BTS-1000	Filter
R18	220Ω			23X30X221M	BTA-220	Filter
R19	33Ω			23X20X321M	BTS-330	Surge Limiter - See Note 1.
R20	330Ω			23X20X321M	BTS-330	Pilot Light Shunt

Note 1. Some models use 22Ω resistor in this application.
 Note 2. Some models use 2.2meg resistor in this application.
 Note 3. Some models use 47KΩ resistor in this application.
 Note 4. Some models use 10meg resistor in this application.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING			REPLACEMENT DATA		INSTALLATION NOTES
	IMPEDANCE	DC RES.		Hallcrafters PART No.	STANCOR PART No.	
T1	1.7KΩ	3.2Ω	147Ω	55A127	A3876	A 2828 RO-2

SPEAKER

ITEM No.	RATINGS			REPLACEMENT DATA		NOTES
	FIELD RES.	V. C. IMP.		Hallcrafters PART No.	JENSEN PART No.	
SP1	PM	3.2Ω		85C030	ST-105 Mod. P5-X	5A1
SP2	CONE DIA.	V. C. DIA.				
	4 1/2"	1 1/2"				

R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	Hallcrafters PART No.	MEISSNER PART No.	
L1A	Ant. Coil	25Ω	5.5Ω	51C821		Band 1
B	Ant. Coil	1.1Ω	1.5Ω			Band 2
C	Ant. Coil	1.1Ω	.2Ω			Band 3
L2	Ant. Coil	.5Ω	0Ω	51B1015		Band 4
L3A	Osc. Coil	2.8Ω		51C822		Band 1
B	Osc. Coil	3.2Ω				Band 2
C	Osc. Coil	.1Ω				Band 3
D	Osc. Coil	0Ω		50B183		Band 4
L4	1st IF	22Ω	22Ω	50B184		
L5	2nd IF	22Ω	22Ω			

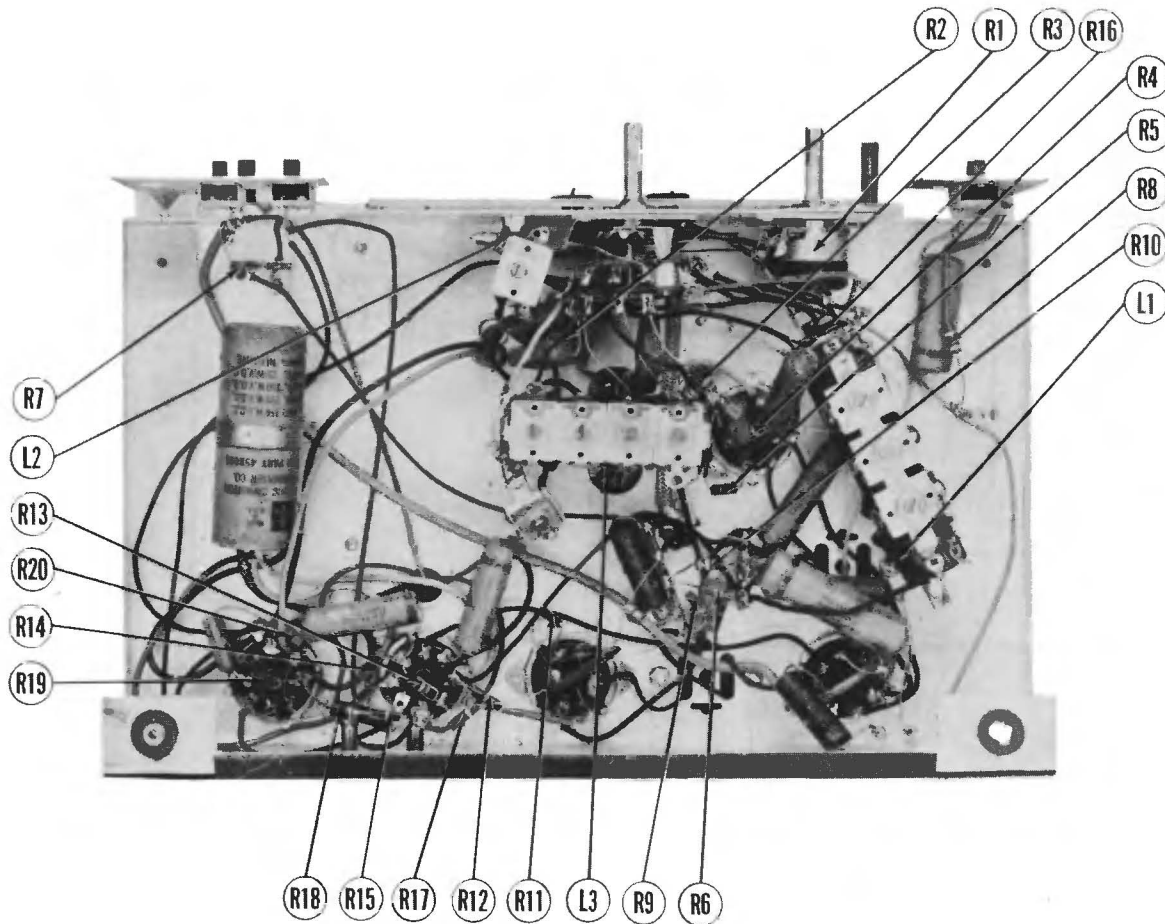
DIAL LIGHTS

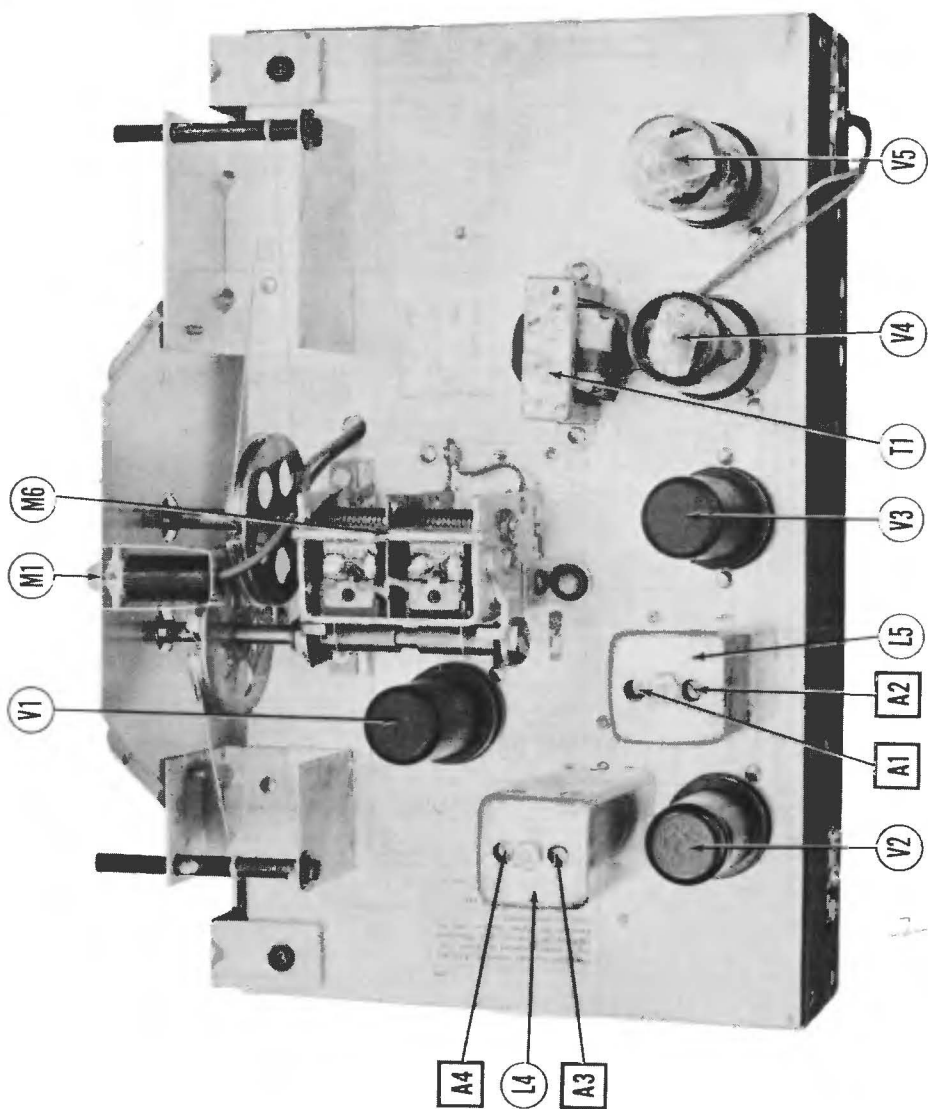
ITEM No.	BASE TYPE	VOLTS	AMPS.	REPLACEMENT DATA		NOTES
				BEAD COLOR	Hallcrafters PART No.	
M1	Bayonet	6-8	.15	Brown	39A004	Type Number 47

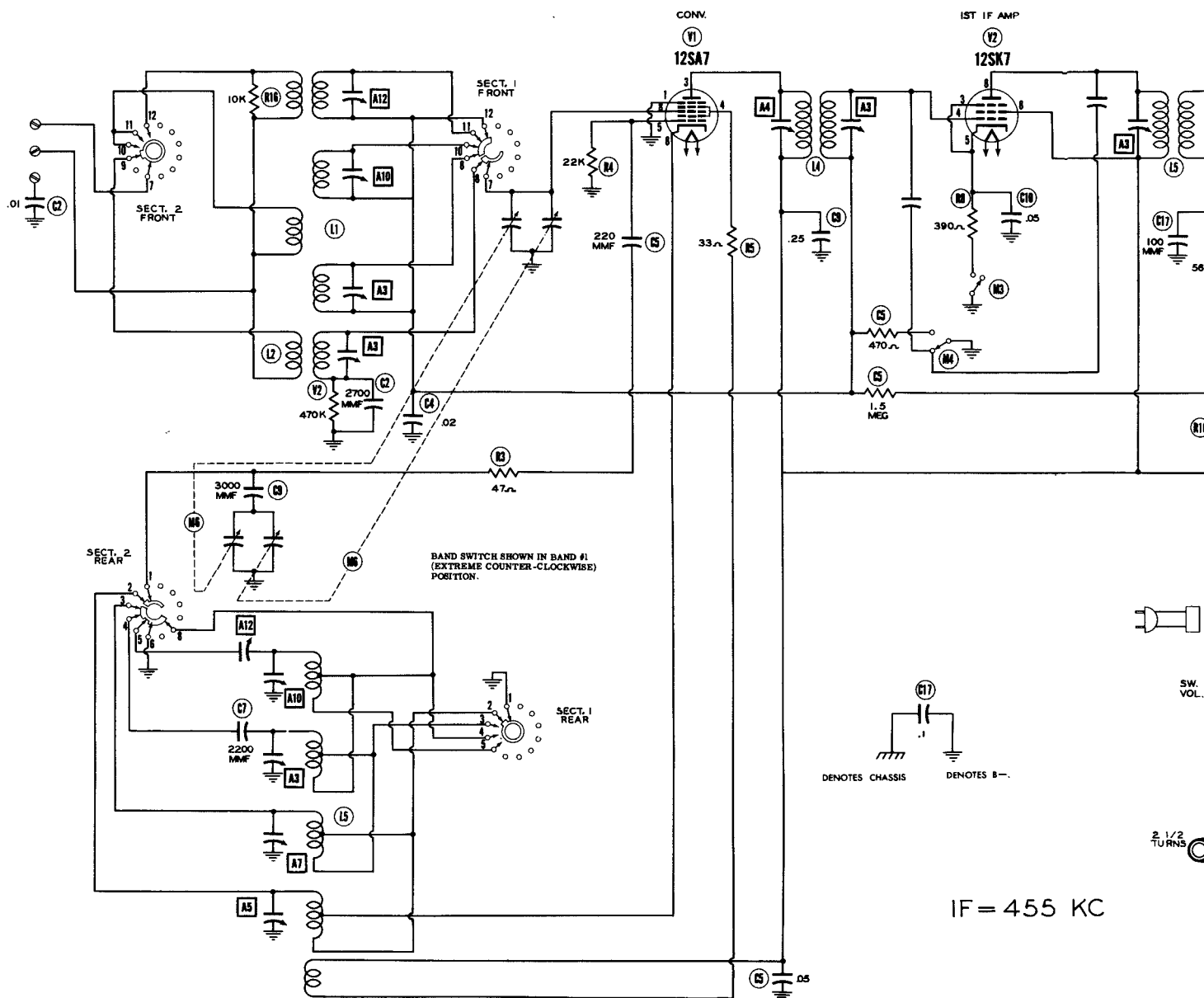
SET 121

FOLDER 7

CHASSIS—BOTTOM VIEW







VOLTAGE READINGS									
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
V 1	12SA7	0V	25VAC	85VDC	85VDC	1-7.7VDC	0V	13VAC	.5VDC
V 2	12SK7	0V	37VAC	2.8VDC	2-.8VDC	2.8VDC	85VDC	25VAC	85VDC
V 3	12SK7	0V	.8VDC	0V	2-.8VDC	2-.8VDC	85VDC	13VAC	0V
V 4	50L8GT	0V	37VAC	85VDC	85VDC	0V	105VDC	85VAC	6VDC
V 5	35L8GT	0V	117VAC	110VAC	115VDC	110VAC	0V	85VAC	117VDC

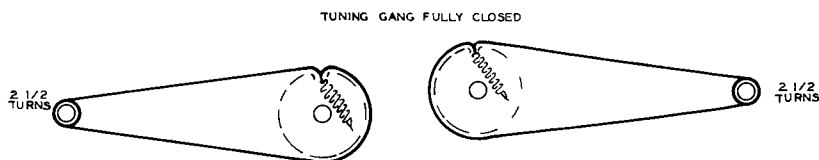
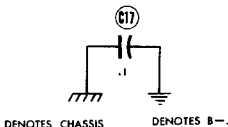
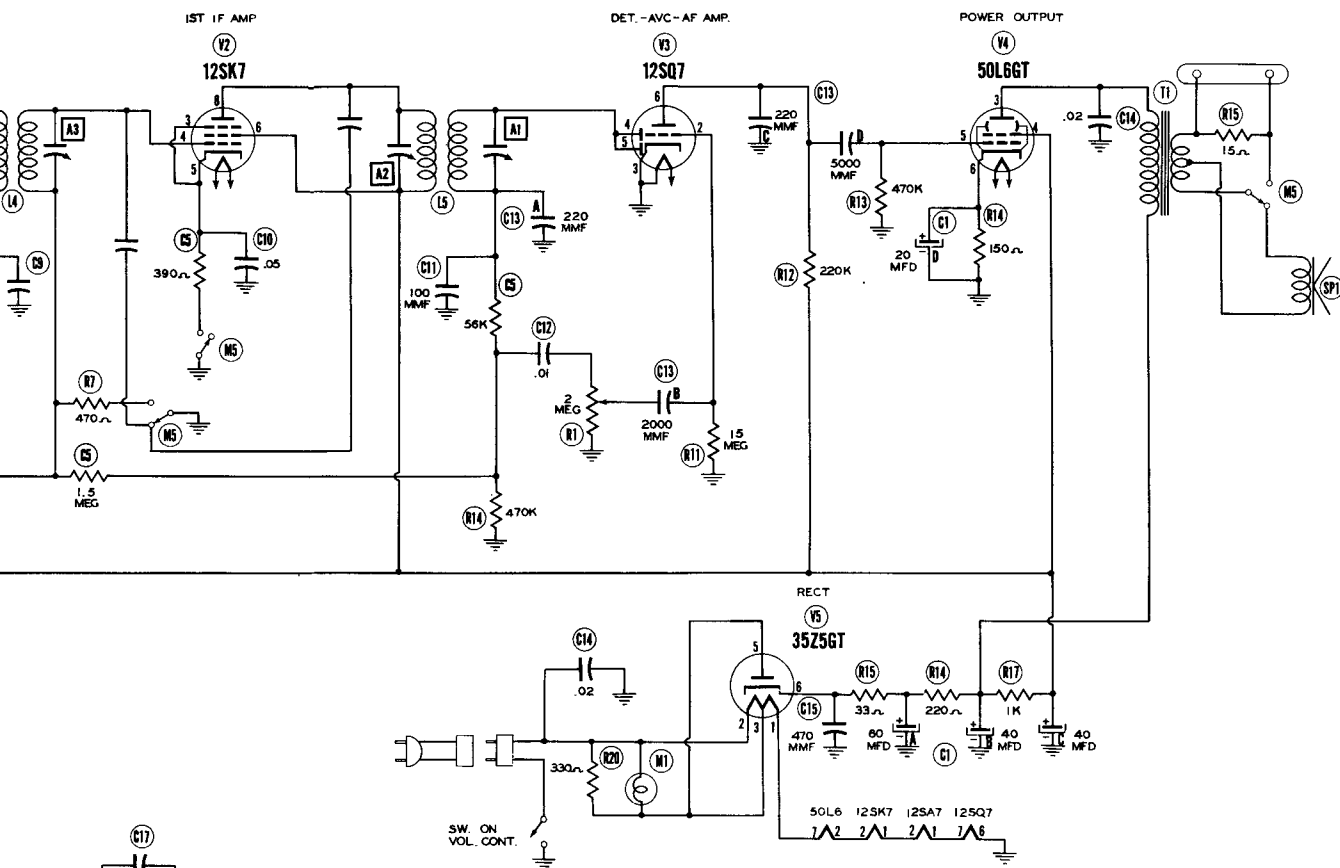
† TAKEN WITH VACUUM TUBE VOLTMETER

ALL MEASUREMENTS TAKEN WITH BANDSWITCH IN POSITION 1
RECEIVE- STAND BY SWITCH IN RECEIVE POSITION
‡ AM-CW SWITCH IN AM
§ AM-CW SWITCH IN CW

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

A PHOTOFAC STANDARD NOTATION SCHEMATIC
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1. DC Voltage measurements are at 20,000 ohms per volt; AC 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 $\pm 10\%$ in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.



IF = 455 KC

DIAL CORD DRIVE

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
V 1	12SA7	0Ω	35Ω	† 1.2KΩ	† 1.2KΩ	22KΩ	1.1Ω	12Ω	2Meg
V 2	12SK7	0Ω	38Ω	390Ω	† 470Ω	390Ω	† 1.2KΩ	25Ω	† 1.2KΩ
V 3	12SQ7	0Ω	15Meg	0Ω	† 500KΩ	† 400KΩ	† 220KΩ	12Ω	0Ω
V 4	50L6GT	0Ω	38Ω	† 400Ω	† 1.2KΩ	470KΩ	† 250Ω	90Ω	150Ω
V 5	35L6GT	Inf.	120Ω	† 15Ω	† 33Ω	† 15Ω	Inf.	90Ω	40KΩ

ALL MEASUREMENTS TAKEN WITH BANDSWITCH IN POSITION 1
RECEIVE- STAND BY SWITCH IN RECEIVE POSITION
* AM-CW SWITCH IN AM
† AM-CW SWITCH IN CW

† MEASURED FROM PIN 8 OF V5

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red at 1,000 ohms per volt.
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