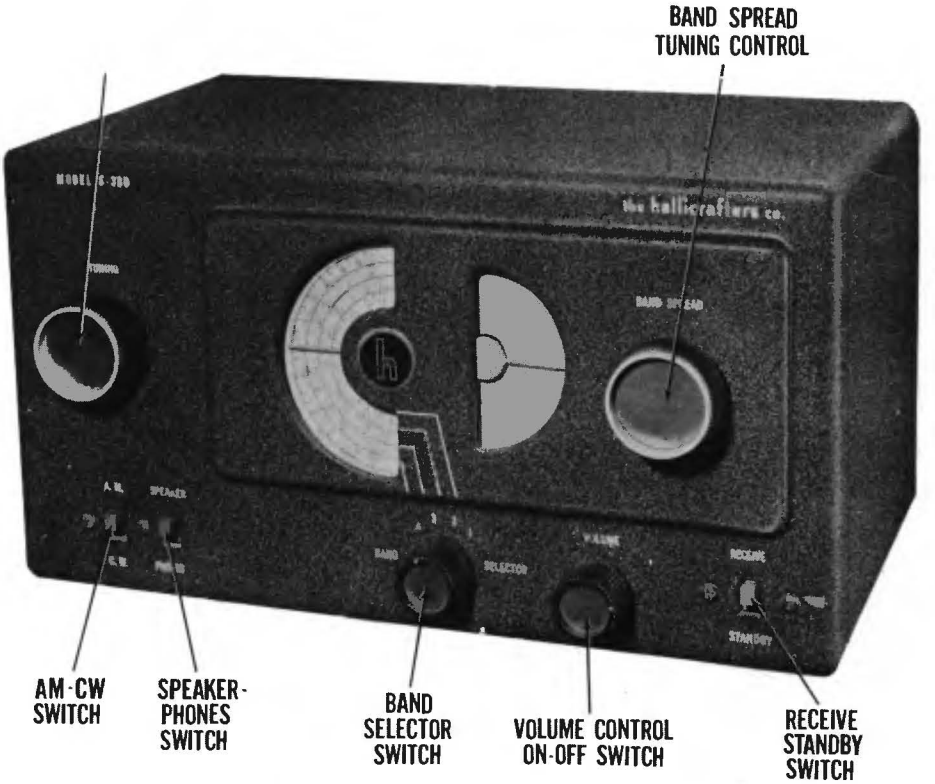

HALLICRAFTERS
MODEL S-38B

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MODEL S-38B

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 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 coil.	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.

HOWARD W. SAMS & CO., INC. • Indianapolis 1, Indiana

PARTS LIST AND DESCRIPTIONS

HALLICRAFTERS
MODEL S-38B

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	INSTALLATION NOTES
		Hallicrafters PART No.	STANDARD REPLACEMENT		
V1	Converter	90X12SA7	12SA7	8R	
V2	Ist IF Amp.	90X12SK7	12SK7	8N	
V3	Det.-AVC-AF	90X12SQ7	12SQ7	8Q	
V4	Power Output	90X50L6GT	50L6GT	7AC	
V5	Rectifisr	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		REPLACEMENT DATA						IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	Hallicrafters PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	
C1A	60	150	45B091	PRS150/40-40		EZ55515C		TVA-3451	Filter Red
B	40	150		-40				TVA-1205	Filter Yellow
C	40	150		PRS25/25					Filter Yellow
D	20	25							Output Cath. Blue
C2	.01	600	46AY103J	P688-01	D6-103	PTE6S1	821-01	6TM-S1	Ant. Isolation
C3	2700	500	47X30A272J						Fixed Padder
C4	.02	400	46AW203J	P488-02	DF-203	PTE4S2		4TM-S2	AVC Filter
C5	220	500	47X20A221K	1468-0002	D6-221	5W5T2	GP2K-220	1FM-32	Osc. Grid Cap
C6	3000	500	47X20A302J	1464-003		1R5D3		MS-23	Fixed Padder
C7	2200	500	47X30A222J						Fixed Padder
C8	.05	200	46AU503J	P288-05	DF-503	PTE4S5		2TM-S5	RF Bypass
C9	.25	200	46AT254J	P486-25		GT2P25		2TM-P25	RF Bypass
C10	.05	200	46AU503J	P288-05	DF-503	PTE4S5		2TM-S5	IF Cath. Bypass
C11	100	500	47X20B101K	1468-0001	D6-101	5W5T1	GP1K-100	1FM-31	Diode RF Filter
C12	.01	600	46AY103J	P688-01	D6-103	PTE6S1	821-01	6TM-S1	Audio Coupling
C13A	220		46A151	SI220	D6-221	5W5T2	GP2K-220		Diode RF Filter
B	2000			BPD-002	DD-202	PTE6D2	801-002	34C3	Audio Coupling
C	220			SI220	D6-221	5W5T25	GP2K-220		AF Amp. Plate
D	5000			BPD-005	DD-502	PTE6D5	611-005		Audio Coupling
C14	.02	600	46AY203J	P688-02	DF-203	PTE6S2		6TM-S2	Output Plate
C15	470	500	CM20A471M	1468-0005	D6-471	5W5T5	GP1K-470	1FM-35	RF Bypass
C16	.02	600	46AY203J	P688-02	DF-203	PTE6S2		6TM-S2	Line Filter
C17	.1	400	46AV104J	P488-1	DF-104	PTE4P1		72P52	Line Isolation *

* Model S-36A uses .25MFD in this application.

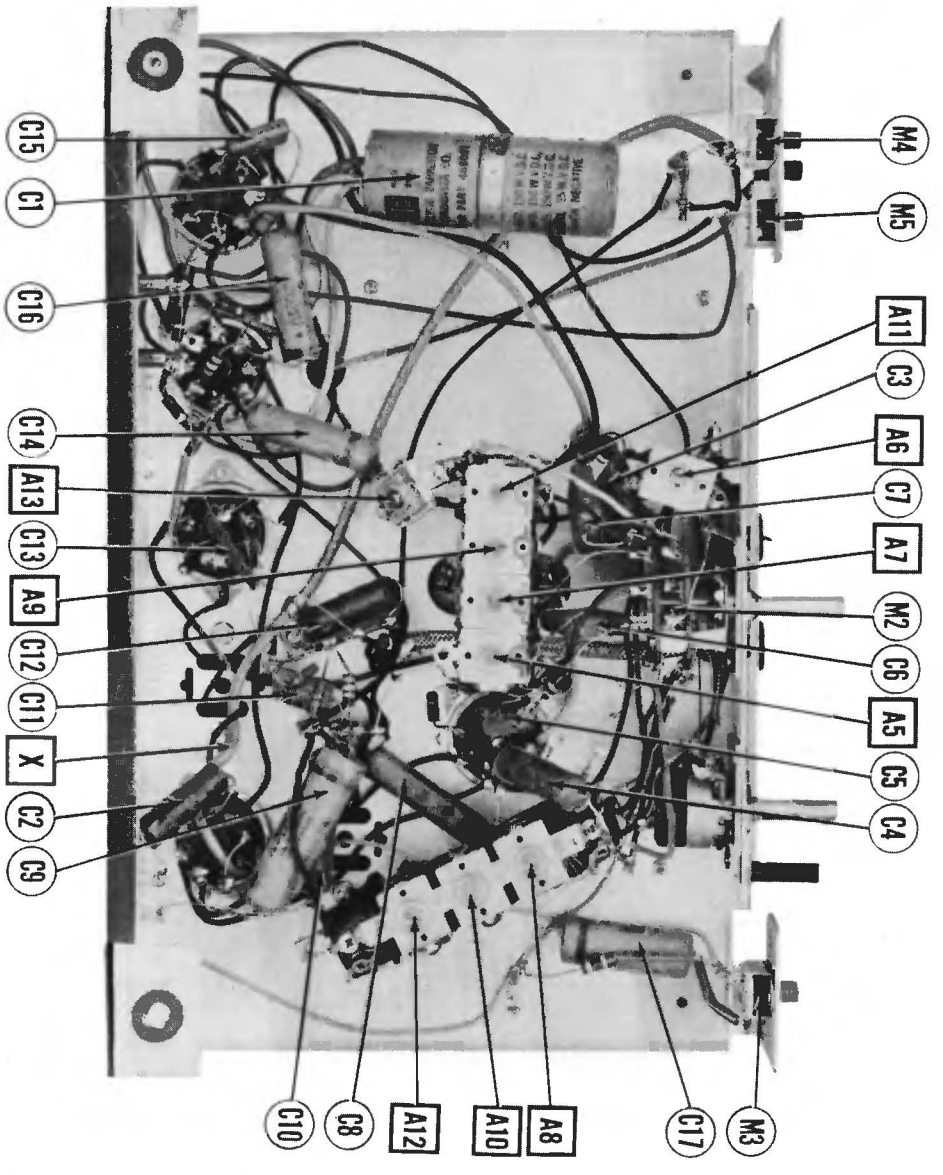
CONTROLS

ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES
	RESISTANCE	WATTS	Hallicrafters PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	
R1A	2Meg	½	25B896	Q13-139	AG-66-Z	B-76-S	Volume control
B	Shaft		Not req.	Not req.	RS-2	Not req.	Attach to R1A per instructions
C	Switch		Not req.	76-1	SWB	Not req.	Attach to R1A per instructions

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	Hallicrafters PART No.	IRC PART No.	
R2	470KΩ	½	23X20X474M		Converter Grid
R3	47Ω	½	23X20X470M		Parasitic Supp
R4	22KΩ	½	23X20X223M		Oscillator Grid
R5	33Ω	½			Parasitic Supp - See Note 1.
R6	1.5Meg	1		BTS-1.5Meg	AVC Network - See Note 2.
R7	470Ω	½	23X20X471K	BTS-470	Bias Network
R8	390Ω	½	23X20X391	BTS-390	IF Amp. Cathode
R9	56KΩ	½		BTS-56K	Diode Filter - See Note 3
R10	470KΩ	½	23X20X474M	BTS-470K	Diode Load
R11	15Meg	½	23X20X106M	BTS-15Meg	AF Amp. Grid - See Note 4
R12	220KΩ	½	23X20X224M	BTS-220K	AF Amp. Plate
R13	470KΩ	½	23X20X474M	BTS-470K	Output Grid
R14	150Ω	½	23X20X151K	BTS-150	Output Cathode
R15	15Ω	½	23X20X150M	BW-½-15	Output Transformer Shunt

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	Hallicrafters PART No.	IRC PART No.	
R16	10KΩ	½	23X20X103M		Antenna Coil Shunt
R17	1000Ω	½	23X20X102M	BTS-1000	Filter
R18	220Ω	1	23X30X221M	BTA-220	Filter
R19	33Ω	½			Surge Limiter - See Note 1.
R20	330Ω	½	23X20X221M	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.		Hallicrafters PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
	PRI.	SEC.	PRI.	SEC.					
T1	1.7KΩ	3.2Ω	147Ω	.8Ω	55A127	A3876	A 2928	RO-2	

SPEAKER

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

R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		
		PRI.	SEC.	Hallicrafters 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
L 2	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				Band 4
L4	1st IF	22Ω	22Ω	50B183		
L5	2nd IF	22Ω	22Ω	50B184		

DIAL LIGHTS

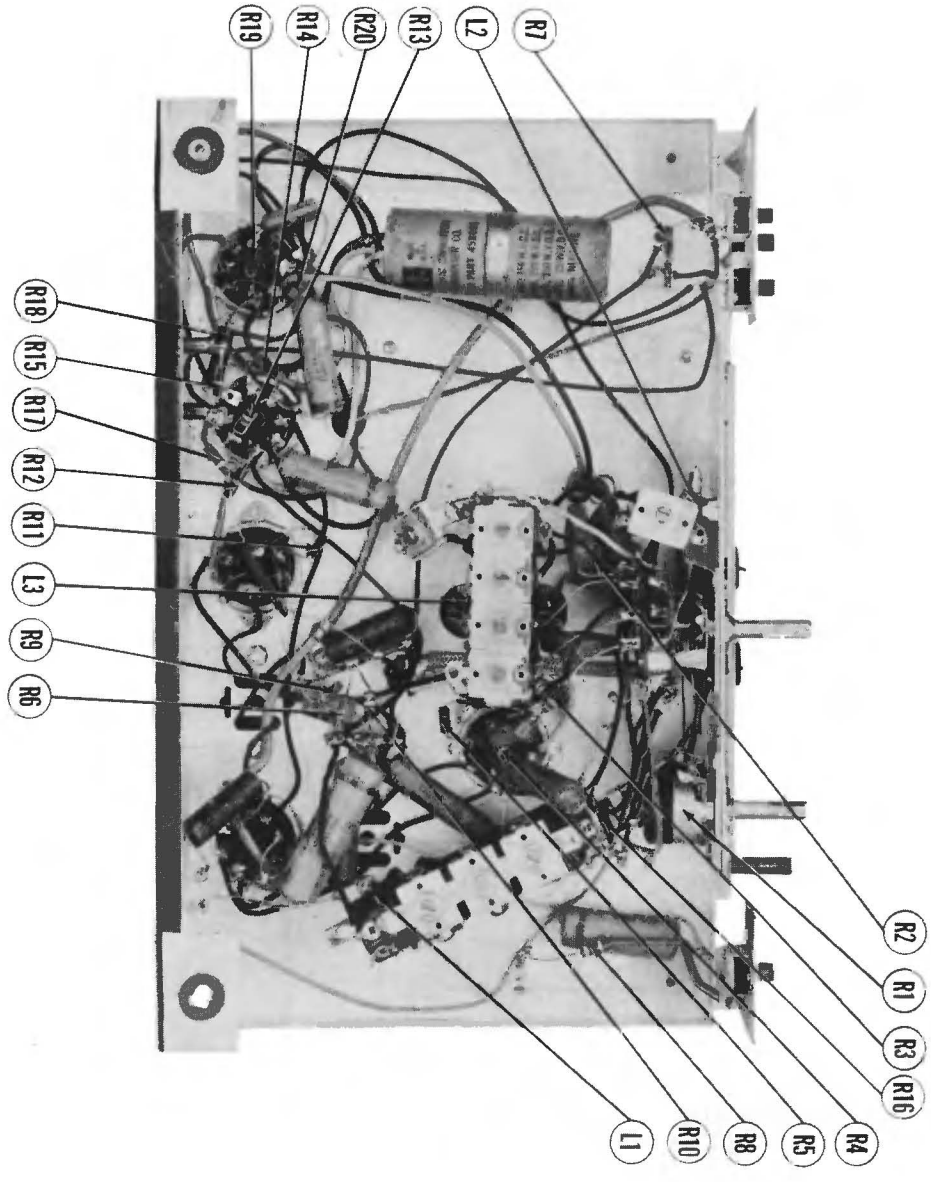
ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		NOTES
					Hallicrafters PART No.		
M1	Bayonet	6-8	.15	Brown	39A004		Type Number 47

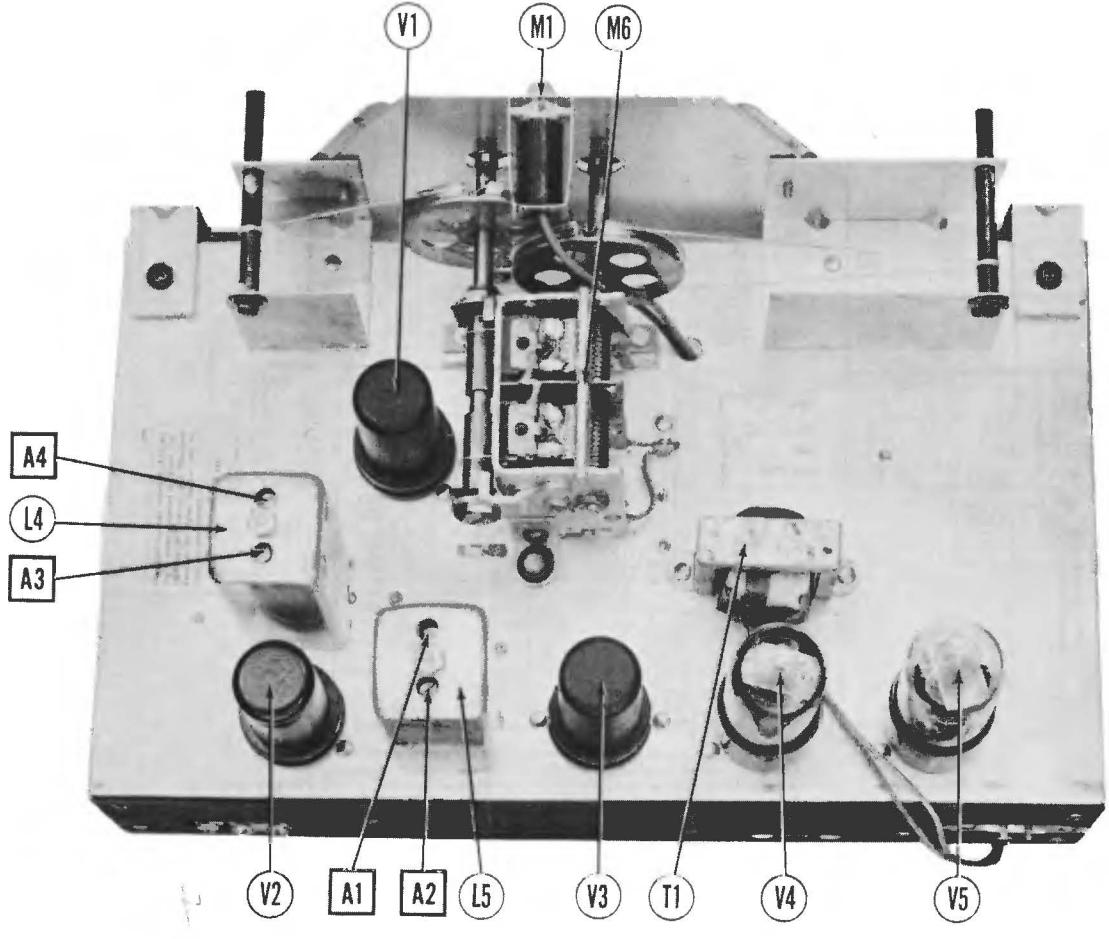
MISCELLANEOUS

ITEM No.	PART NAME	Hallicrafters PART No.	NOTES
M2	Switch	60C393	Band
M3	Switch	60A244	Receive - Standby
M4	Switch	60A243	AM-CW
M5	Switch	60A243	Speaker - Phones
M6	2 Gang Var. Cap	48C162-1	(12-461MMF, 12-461MMF)
A6	Trimmer	44A039	Band #4 Ant. Adj.
A13	Padder	44A349	Band # 1 Osc. Adj.
	Dial Scale	83C373	

SET 121 FOLDER 7

CHASSIS—BOTTOM VIEW

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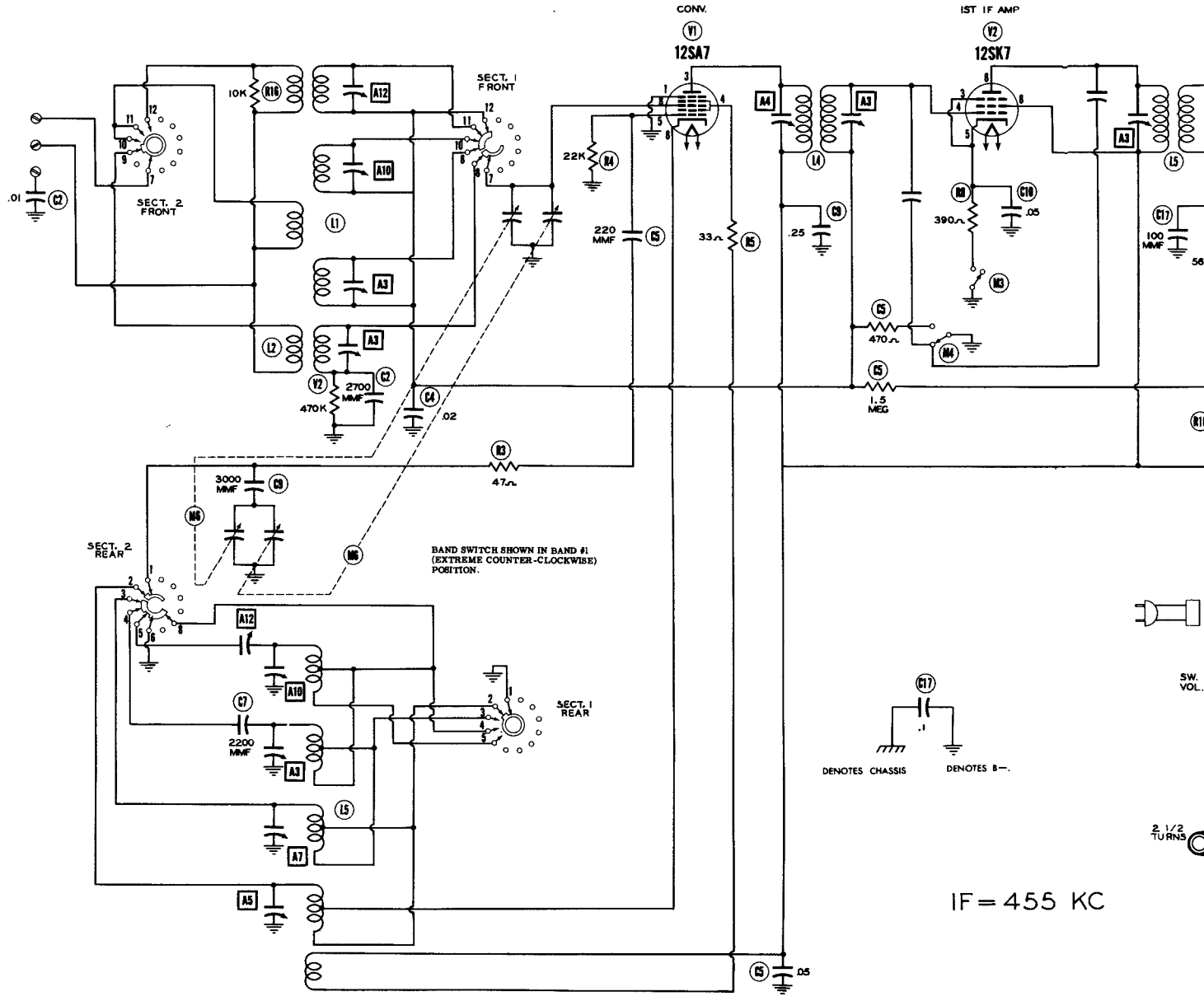
M6
A4
L4
A3
V2
A1
A2
L5
V3
T1
V4
V5



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	3-7.7VDC	0V	13VAC	.5VDC
V 2	12SK7	0V	37VAC	2.8VDC	▲-.5VDC # 0V	2.8VDC	85VDC	25VAC	85VDC
V 3	12SQ7	0V	-.8VDC	0V	▲-.8VDC #-4.6VDC	▲-.6VDC #-4.8VDC	85VDC	13VAC	0V
V 4	50L6GT	0V	37VAC	95VDC	85VDC	0V	105VDC	85VAC	6VDC
V 5	35L6GT	0V	117VAC	110VAC	115VDC	110VAC	0V	85VAC	117VDC

TAKEN WITH VACUUM TUBE VOLTMETER

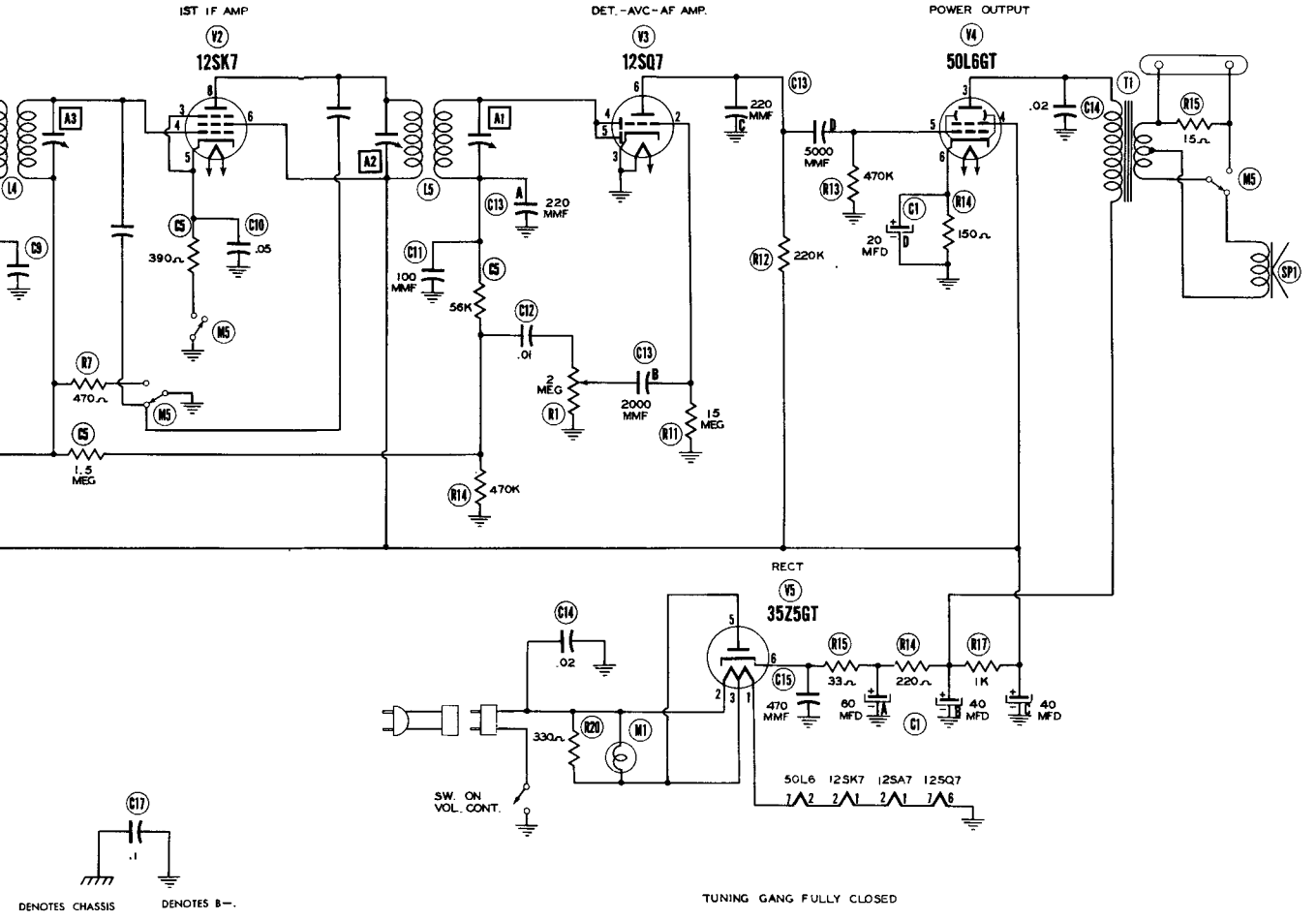
Item	Tube	Pin 1	Pin 2
V 1	12SA7	0Ω	25Ω
V 2	12SK7	0Ω	38Ω
V 3	12SQ7	0Ω	1Meg
V 4	50L6GT	0Ω	38Ω
V 5	35L6GT	Inf.	120Ω

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 PHOTOFACT STANDARD NOTATION SCHEMATIC

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 negetive.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a vari
± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage
ments.



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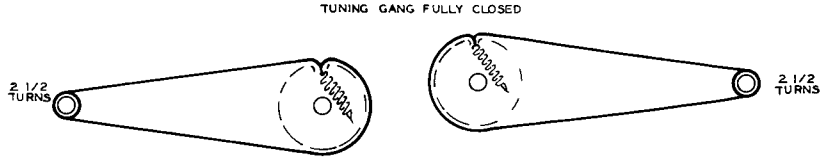

DIAL CORD DRIVE

	Pin 6	Pin 7	Pin 8
	0V	13VAC	.5VDC
	85VDC	25VAC	85VDC
	85VDC	13VAC	0V
	105VDC	85VAC	6VDC
	0V	85VAC	117VDC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
V 1	12SA7	0Ω	25Ω	†1.2KΩ	†1.2KΩ	22KΩ	1.1Ω	12Ω	2Meg
V 2	12SK7	0Ω	38Ω	390Ω	▲ 2Meg #470Ω	390Ω	†1.2KΩ	25Ω	†1.2KΩ
V 3	12SQ7	0Ω	15Meg	0Ω	▲ 500KΩ # 400KΩ	▲ 500KΩ # 400KΩ	† 220KΩ	12Ω	0Ω
V 4	50L6GT	0Ω	38Ω	†400Ω	†1.2KΩ	470KΩ	†250Ω	90Ω	150Ω
V 5	35L6GT	Inf.	120Ω	115Ω	†33Ω	115Ω	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

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

oltage measurements are at 20,000 ohms per volt; AC Voltages
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connections are shown as bottom views.
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