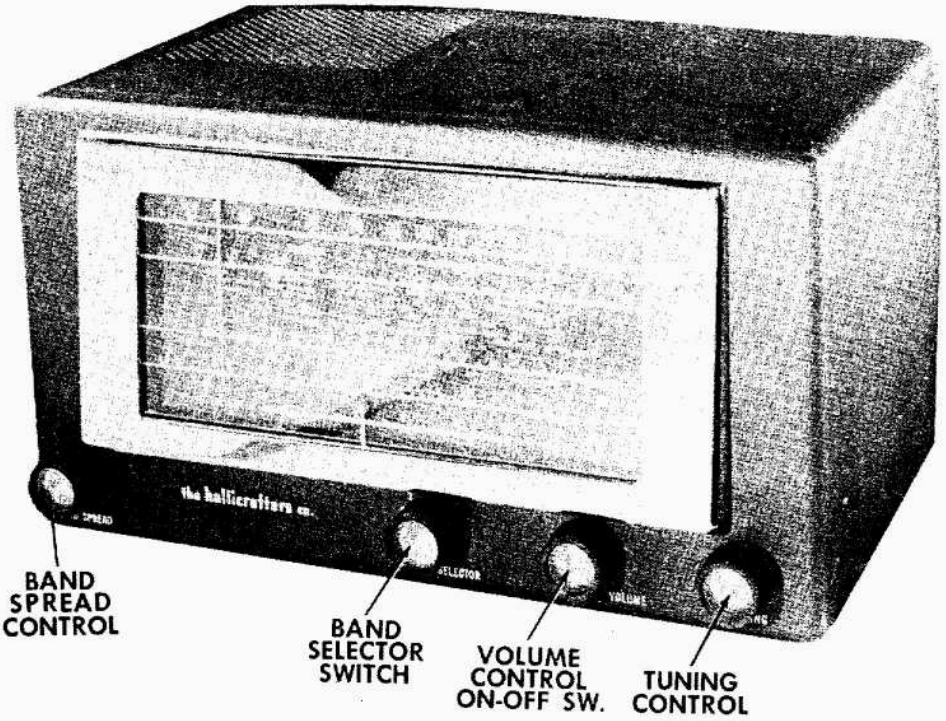
HALLICRAFTERS
MODEL 5R10A



HALLICRAFTERS
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 sideto 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 gangwhile 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

PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		RTMA BASE TYPE	INSTALLATION NOTES
		HALLICRAFTER 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	90X50L6GT	50L6GT	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.

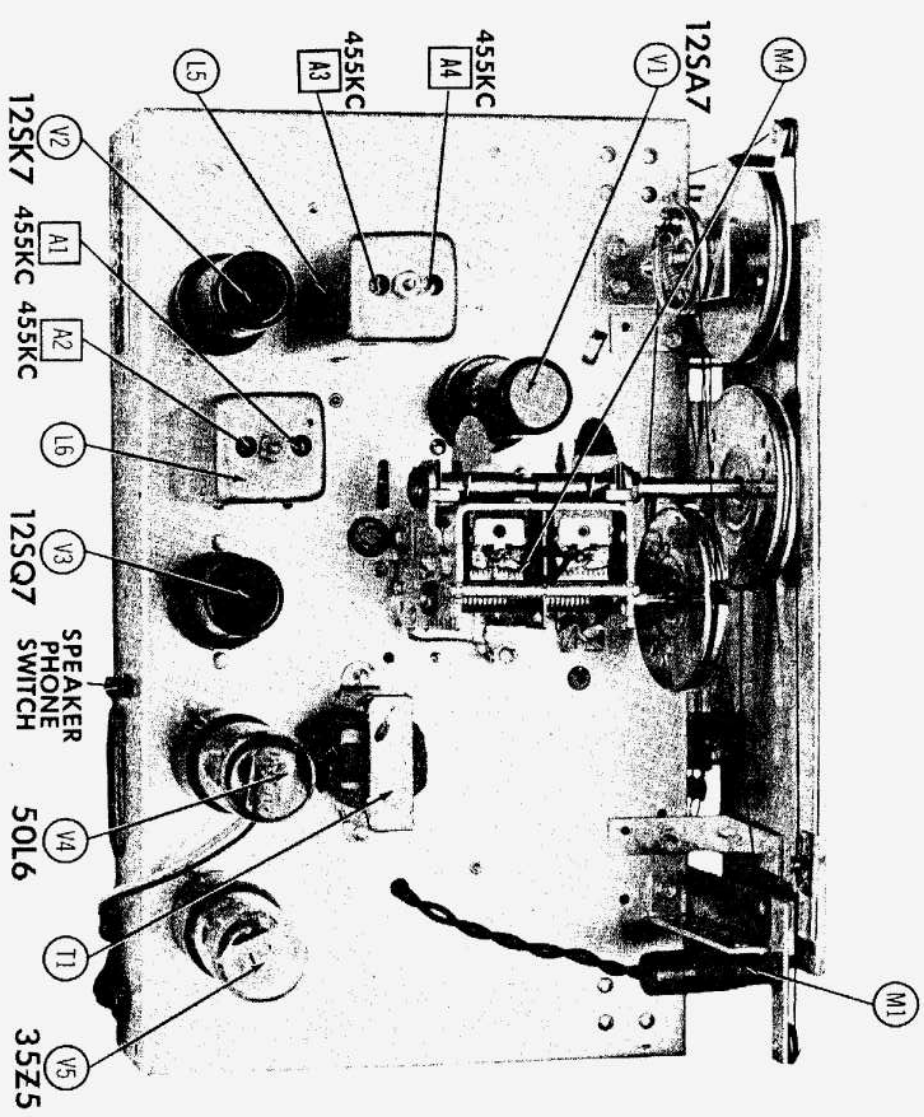
ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA: HALLICRAFTER PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C1A	60	150	45B091	PRS150/40-40-40		EZ55515C		TVA-3451	Filter (Red)
B	40	150		PRS25/25				TVA-1205	Filter (Yellow)
C	40	150							Decoupling (Yellow)
D	20	25							Output Cathode (Blue)
C2	2700	500	47X30B272J	1464-003		1R5D3		MS-23	Fixed Padder
C3	220	500	47B20221K5	1468-00025	D6-221	5W5T25	GP2K-221	IFM-325	RF Coupling
C4	5000		47A168	BPD-005	DD-502	1D5D5	811-005	5HK-D5	Conv. Plate Dec.
C5	220	500	47X20B221K	1469-00025		5R5T25			Osc. Grid Cap.
C6	3000	500	47X30B302J	1464-003		1R5D3		MS-23	Fixed Padder
C7	2200	500	47X30B222J	1464-0025		1R5D25			Fixed Padder
C8	5000		47A168	BPD-005	DD-502	1D5D5	811-005	5HK-D5	Osc. Feedback
C9	.02	600	46AY203J	P688-02	DF-203	PTE6S2		6TM-S2	AVC Filter
C10	.1	600	46AZ104J	P688-1	DF-104	PTE6P1		6TM-P1	IF Amp. Decoupling
C11	.05	200	46AU503J	P288-05	DF-503	PTE4S5		2TM-S5	IF Amp. Cathode Bypass
C12	220	500	47B20221K5	1468-00025	D6-221	5W5T25	GP2K-221	IFM-325	Diode RF Filter †
C13A	220			SI220	D6-221	5W5T25	GP2K-221		Diode RF Filter
B	.002			P688-002	D6-202	PTE6D2	GP2-333-202		Audio Coupling
C	220		46A151	SI220	D6-221	5W5T25	GP2K-221	34C3	AF Amp. Plate
D	.005			P688-005	D6-502	PTE6D5	GP2-333-502		Audio Coupling
C14	.01	600	46AZ103J	P688-01	D6-103	PTE6S1	GP2-333-103	6TM-S1	Audio Coupling
C15	.02	600	46AY203J	P688-02	DF-203	PTE6S2		6TM-S2	Power Output Plate
C16	.02	400	46BR203LG	P688-02	DF-203	IPTE4S2		4TM-S2	Line Filter
C17	.05	600	46AY503J	P688-05	DF-503	PTE6S5		6TM-S5	Line Isolation

† Some models use 100MMF in this application (Part No. 47X220B101K)

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA: Hallicrafters PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	INSTALLATION NOTES
R1A	2 Meg	½	25B896	Q13-139	AG-66-Z	AN-76	Volume Control
B	Shaft		Not Req.	Not Req.	RS-2	AK-3	Attach to R1A per instructions
C	Switch		Not Req.	76-1	SWB	K-155	Attach to R1A per instructions

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	HALLICRAFTER 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	AVC Network
R5	2.2Meg		23X20X225M	BTS-2.2Meg	AVC Network
R6	22KΩ		23X20X223M	BTS-22K	Oscillator Grid
R7	15Ω		23X20X150M		Parasitic Suppressor-See note
R8	22Ω		23X20X220M		Parasitic Suppressor
R9	390Ω		23X20X391K	BTS-390	IF Cathode
R10	390Ω		23X20X391K	BTS-390	IF Amplifier Decoupling
R11	47KΩ		23X20X473M	BTS-47K	Diode Filter
R12	470KΩ		23X20X474M	BTS-470K	Diode Filter
R13	10Meg		23X20X106M	BTS-10Meg	AF Amplifier Grid
R14	220KΩ		23X20X224M	BTS-220K	AF Amplifier Plate
R15	470K		23X23X474M	BTS-470K	Output Grid
R16	150Ω		23X20X151K	BTS-150K	Output Cathode
R17	220Ω	1	25X20X221M	BTA-220	Filter
R18	1000Ω		23X20X102Ω	BTS-1000	Filter
R19	22Ω		23X20X220M		Surge Limiter
R20	15Ω		23X20X150Ω		Head Phone Shunt
R21	15Ω		23X20X150Ω		Series Dial Light

NOTE: Some models use 10Ω 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	A-3876	A2928	R0-2	

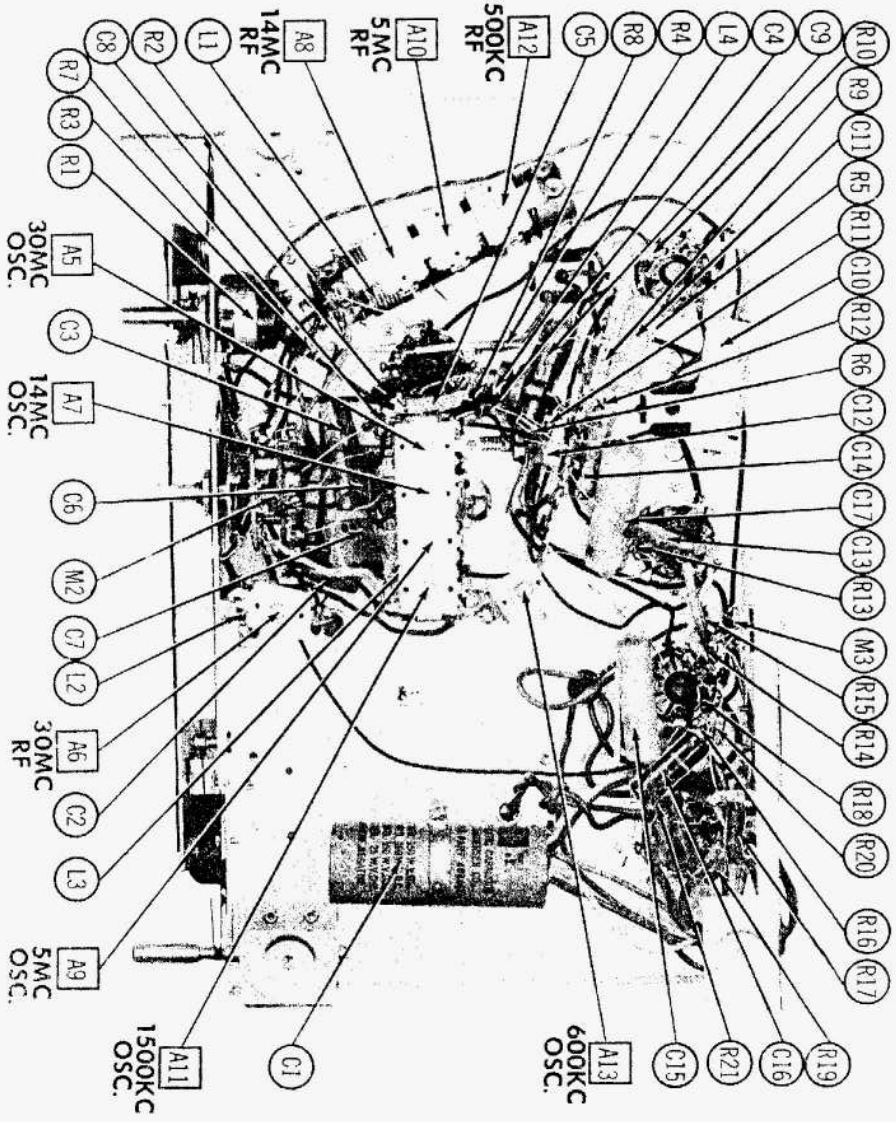
SPEAKER

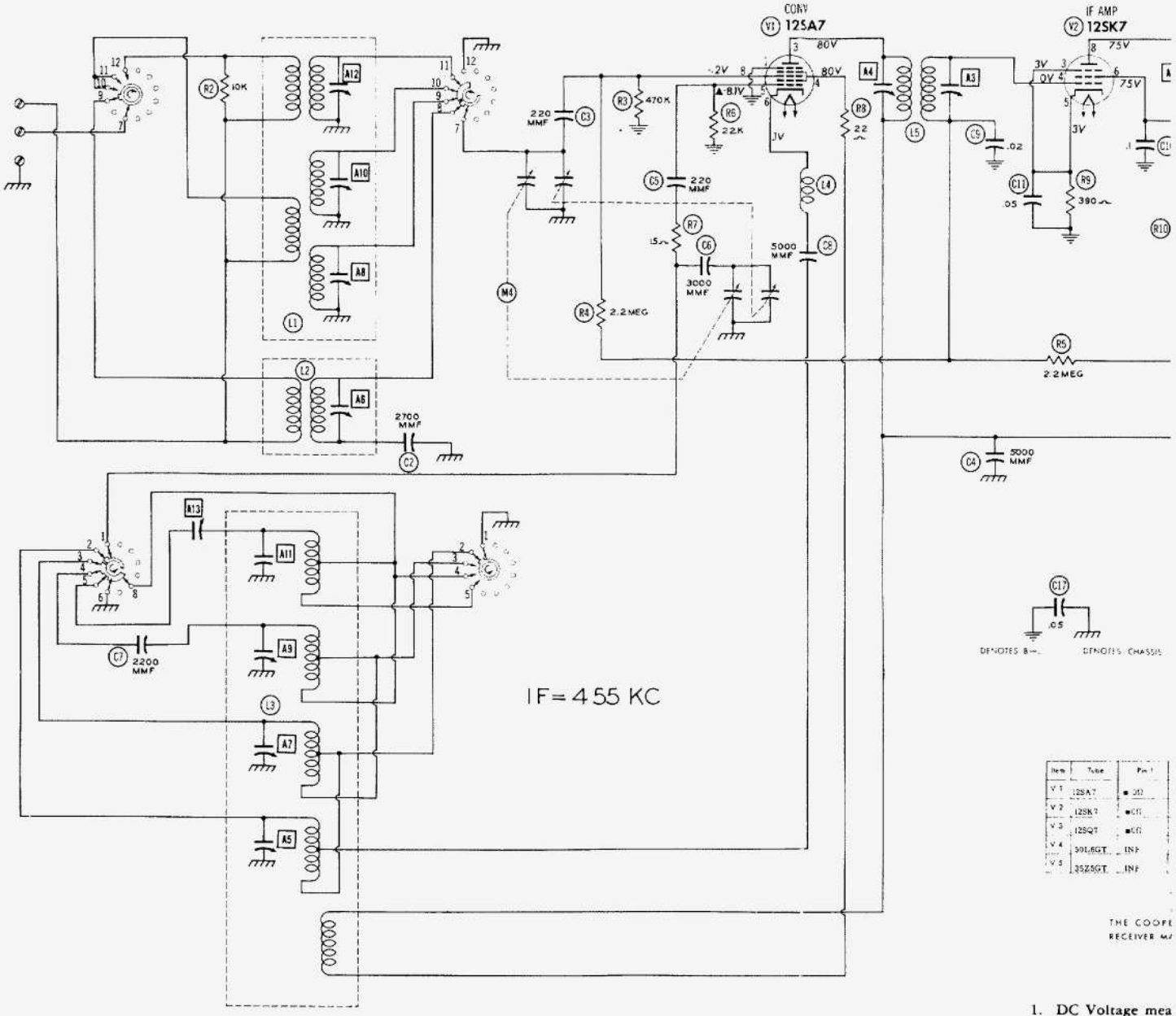
ITEM No.	RATINGS		REPLACEMENT DATA			NOTES
	FIELD	V. C. IMP.	Hallicrafters PART No.	JENSEN PART No.	QUAM PART No.	
SP1	P.M.	3.2Ω	85C030	ST-105 Mod P5-X	5A1	
	CONE DIA.	V. C. DIA.				
SP2	4½ in.	9/16 in.				

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	Hallicrafters PART No.	MERIT PART No.	
L1A	Ant. Coil	27Ω	0Ω			Band 1
B	Ant. Coil	1Ω	0Ω	51C821		Band 2
C	Ant. Coil		0Ω			Band 3
L2	Ant. Coil	.2Ω	0Ω	51B1015		Band 4
L3A	Osc. Coil	2.4Ω				Band 1 Tap at 2Ω
B	Osc. Coil	2Ω		51C822		Band 2 Tap at 2Ω
C	Osc. Coil	0Ω				Band 3
D	Osc. Coil	0Ω	0Ω			Band 4
L4	RF Choke	9.3Ω		53A107		
L5	Input IF	20Ω	20Ω	50B183		
L6	Output IF	20Ω	20Ω	50B184		

CHASSIS—BOTTOM VIEW





Item	Tube	Pin
V1	12SA7	
V2	12SK7	
V3	12SQ7	
V4	50L6GT	
V5	35Z5GT	

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1. DC Voltage mea
measured at 1,0
2. Socket connectio
3. Measured values
4. Line voltage mai
5. Nominal toleran
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6. Volume control
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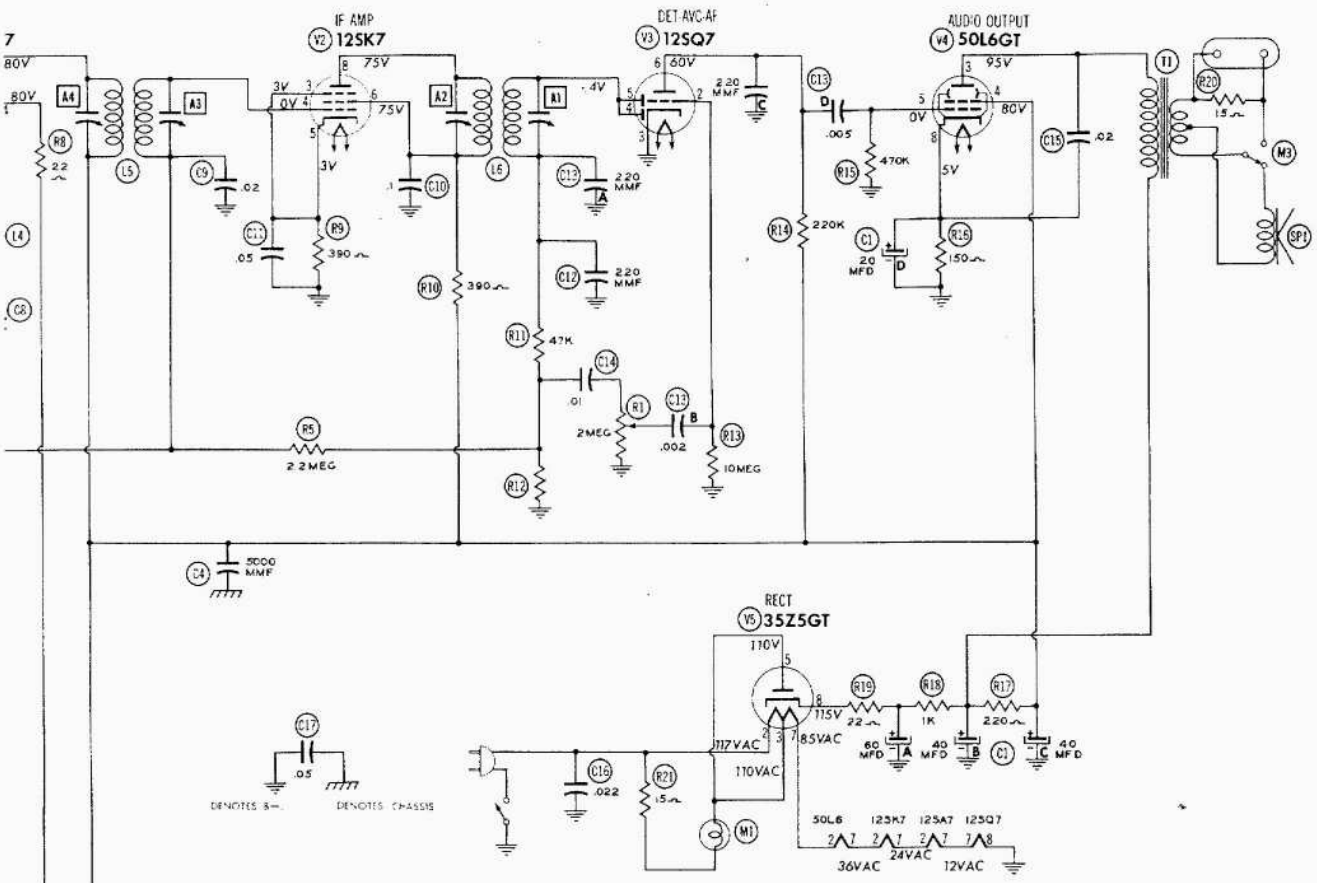
A PHOTOFACT STANDARD NOTATION SCHEMATIC



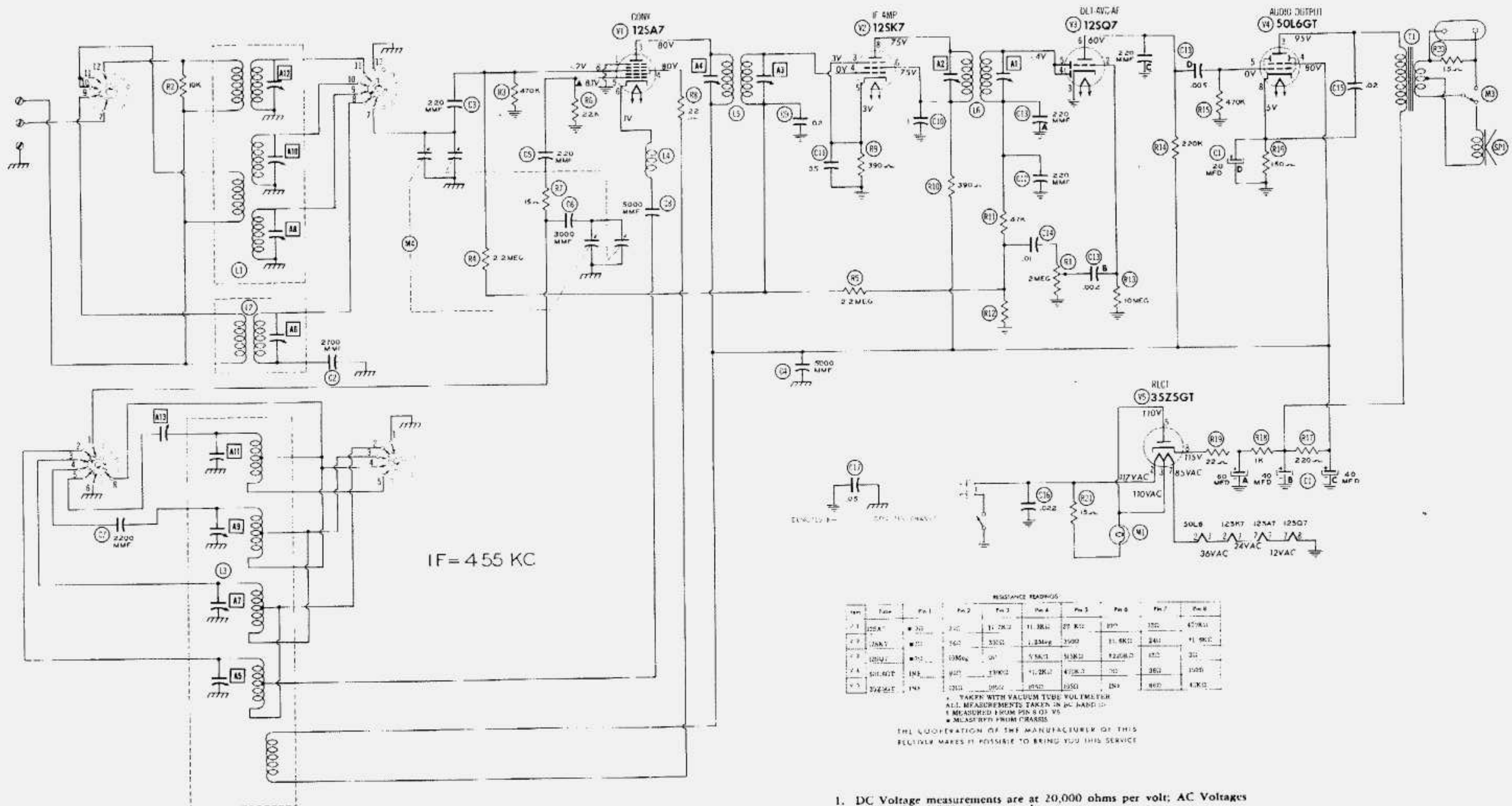
RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
V 1	12SA7	■ 0Ω	24Ω	11.2KΩ	11.3KΩ	22 KΩ	16Ω	12Ω	470KΩ
V 2	12SK7	■0Ω	36Ω	39ΩΩ	1.25Meg	390Ω	11.6KΩ	24Ω	11.6KΩ
V 3	12SQ7	■6Ω	13Meg	0Ω	515KΩ	515KΩ	†220KΩ	12Ω	0Ω
V 4	50L6GT	INF	86Ω	†355Ω	11.2KΩ	470KΩ	0Ω	36Ω	150Ω
V 5	35Z5GT	INF	12ΩΩ	105Ω	105Ω	105Ω	INF	86Ω	40KΩ

▲ 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.



RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
V1	12SA7	■ [illegible]	[illegible]	11.7KΩ	11.3KΩ	27 KΩ	[illegible]	15Ω	470KΩ
V2	12SK7	■ [illegible]	56Ω	330Ω	1.25Meg	390Ω	11.6KΩ	24Ω	†1.5KΩ
V3	12SQ7	■ [illegible]	10Meg	[illegible]	5.5KΩ	515KΩ	*220KΩ	[illegible]	[illegible]
V4	50L6GT	INF	[illegible]	130Ω	†1.2KΩ	470KΩ	[illegible]	36Ω	150Ω
V5	35Z5GT	INF	[illegible]	[illegible]	95Ω	95Ω	INF	46Ω	4.7KΩ

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