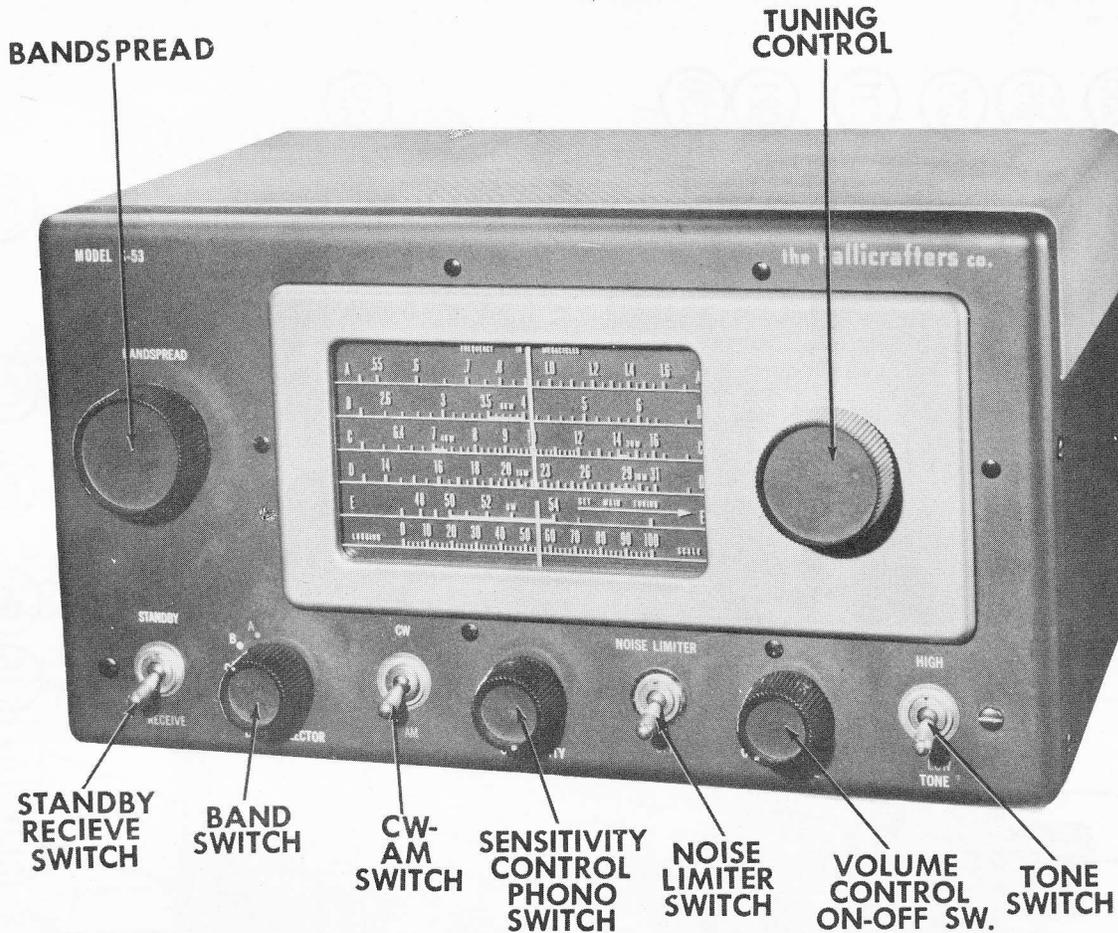




HALLICRAFTERS
MODELS S53A, AU



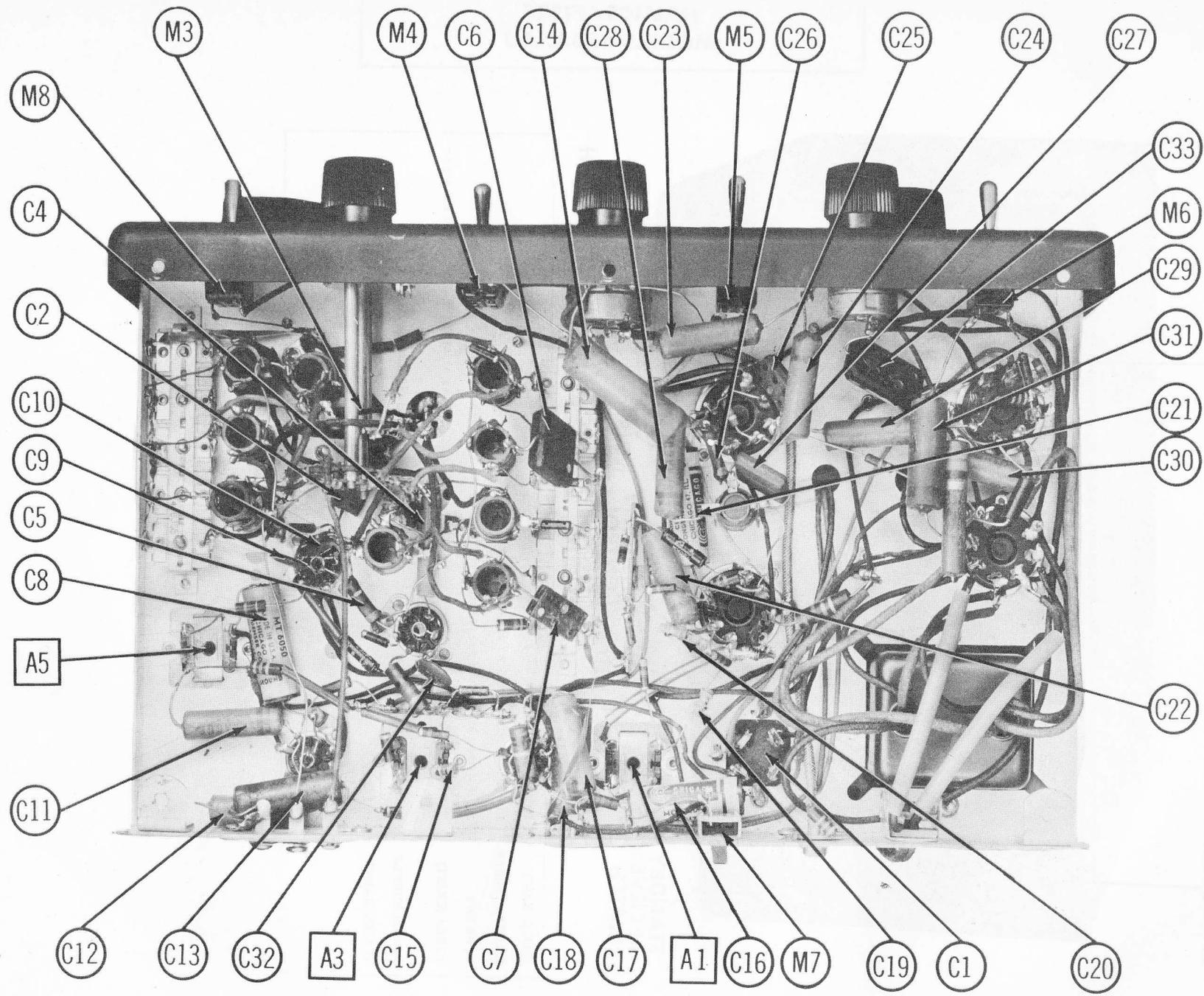
HALLICRAFTERS
MODELS S53A, AU

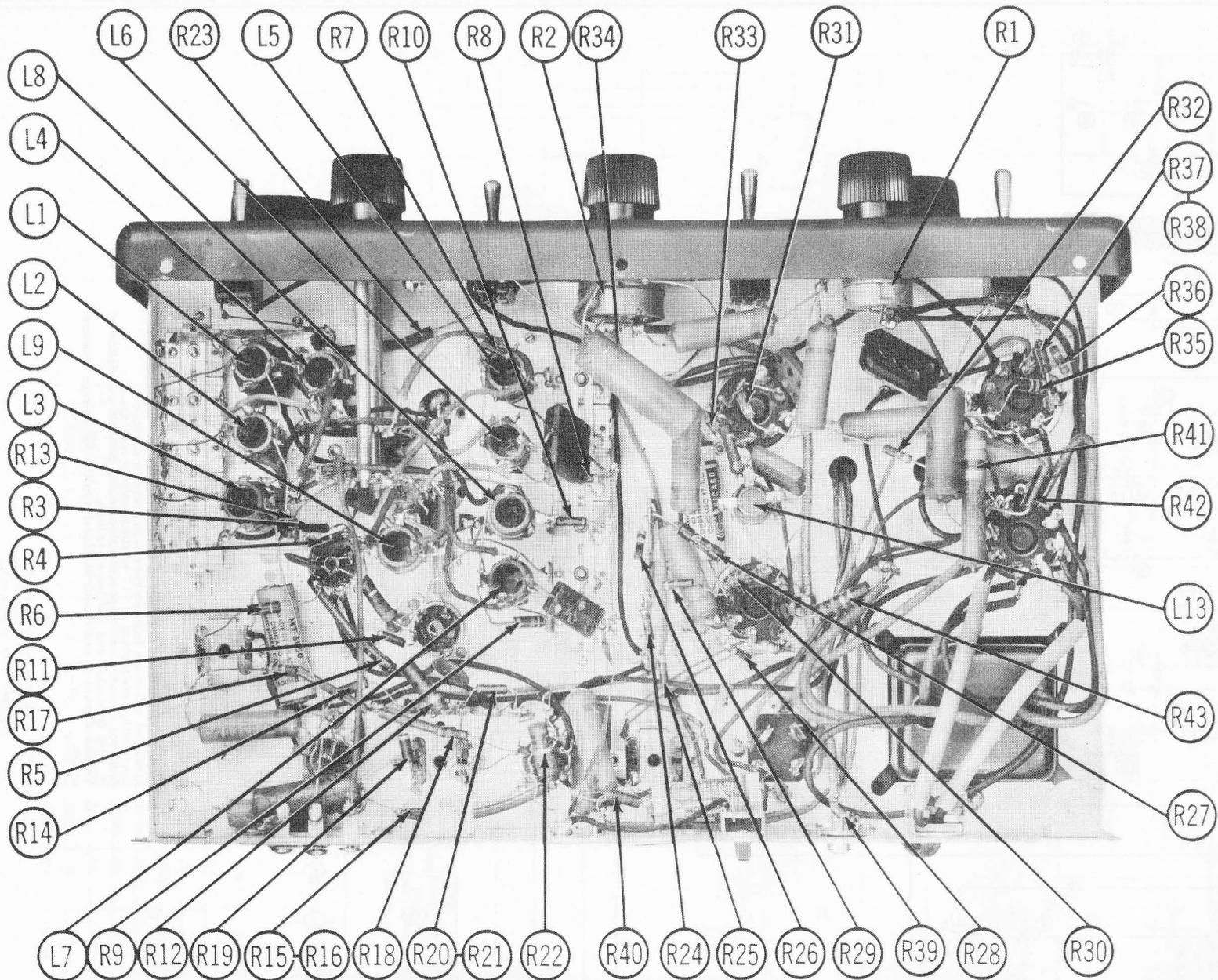
TRADE NAME	Hallicrafters Model S-53A, S53AU	
MANUFACTURER	Hallicrafters Co., 4401 W. 5th Ave., Chicago 24, Ill.	
TYPE SET	AC Operated Multi-Band AM Superheterodyne Communications Receiver	
TUBES (EIGHT)	TYPES 6BA6 Mixer, 6C4 Osc., 6BA6 1st. IF Amp., 6BA6 2nd IF Amp., 6H6 ANL-Det., 6SC7 AF Amp.-BF0, 6K6GT Audio Output, 5Y3GT Rectifier.	
POWER SUPPLY	110-120 Volts AC-60 Cycle	RATING .43 Amp. @117 Volts AC
TUNING RANGE	BAND	FREQ. RANGE
	A	540KC - 1630KC
	B	2.5MC - 6.3MC
	C	6.3MC - 16MC
	D	14MC - 31MC
	E	48MC - 54.5MC

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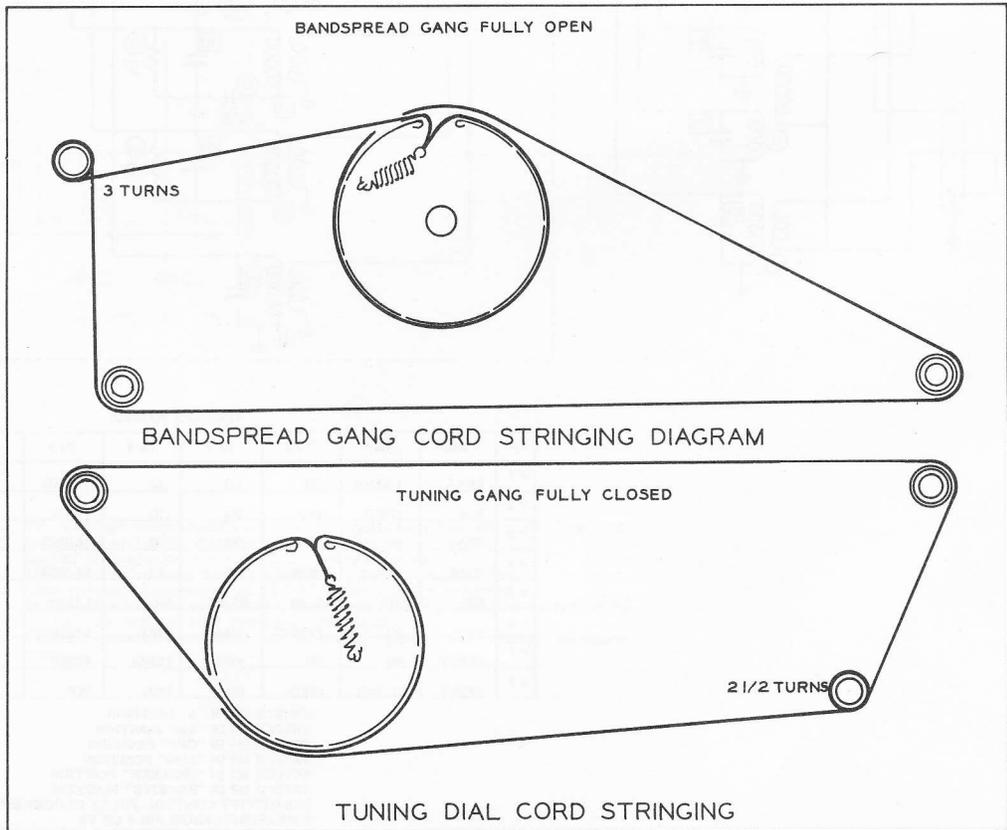
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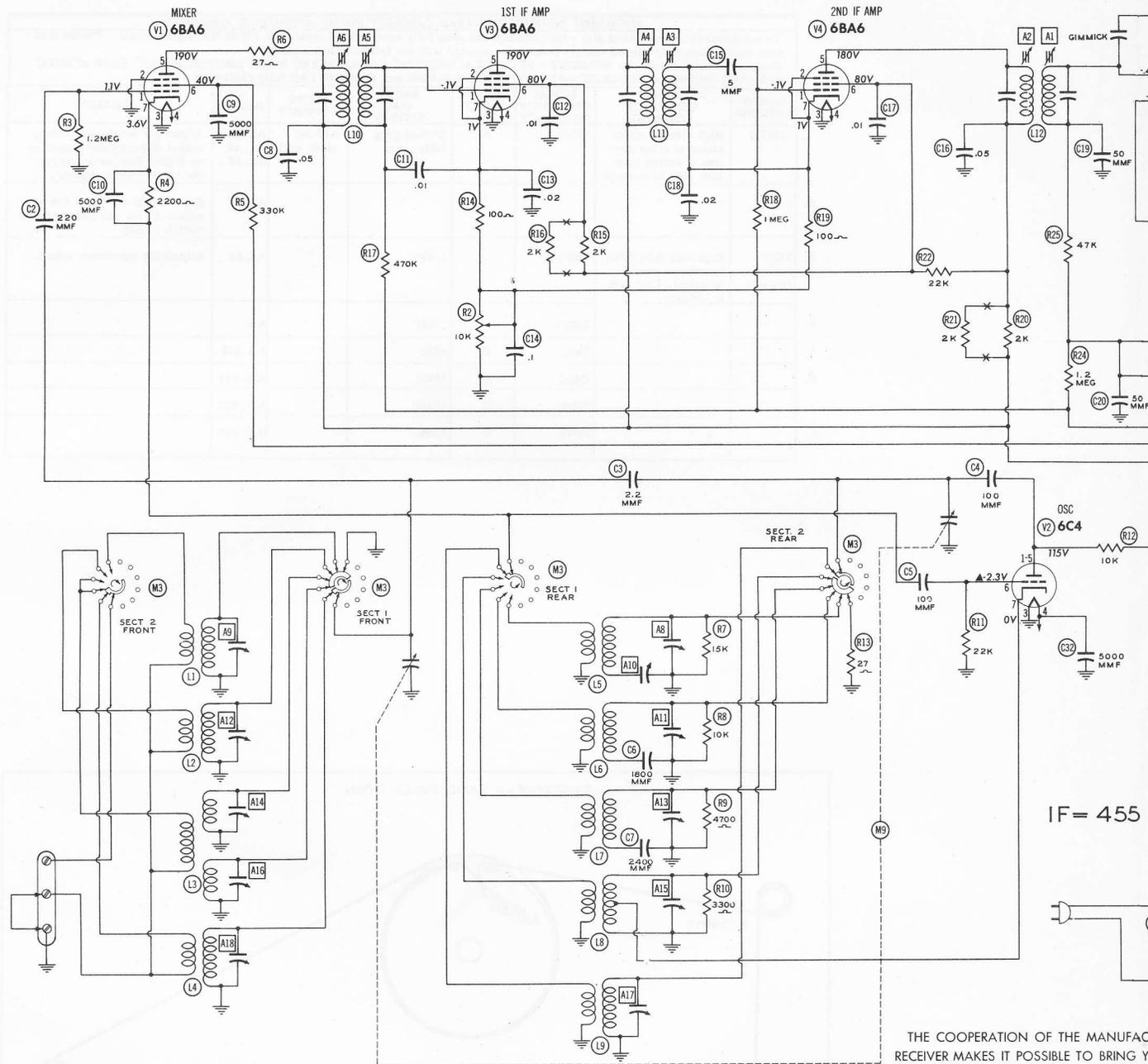
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ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT							
To set pointers: Bandsread dial - turn bandsread gang fully open and set pointer at 100 on the logging scale. Tuning dial - turn tuning gang fully closed and set pointer to coincide with the left hand index marks. Preset controls as follows: STANDBY - RECEIVE at "RECEIVE", CW-AM at "AM", NOISE LIMITER at "OFF", TONE at "HIGH", SPEAKER-PHONES at "SPEAKER" and SENSITIVITY, VOLUME and BANDSPREAD fully clockwise.							
DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	SCOPE CONNECT	ADJUST	REMARKS
1. .1MFD	High side to stator plates of front section of tuning gang. Low side to chassis.	455KC	A	Tuning gang fully open.	Across voice coil	A1, A2 A3, A4 A5, A6	Adjust for maximum output, output of generator should be no higher than necessary to obtain an output reading.
2. "	"	"	"	"	"	A7	Set CW-AM Switch at CW and adjust A7 for zero beat. Reset switch to AM.
3. 330Ω carbon resistor	High side thru 330Ω to antenna input terminal. Low side to chassis.	1500KC	"	1.5MC	"	A8, A9	Adjust for maximum output.
4. "	"	600KC	"	.6MC	"	A10	"
5. "	"	6MC	B	6MC	"	A11, A12	"
6. "	"	15MC	C	15MC	"	A13, A14	"
7. "	"	30MC	D	30MC	"	A15, A16	"
8. "	"	52MC	E	52MC	"	A17, A18	"



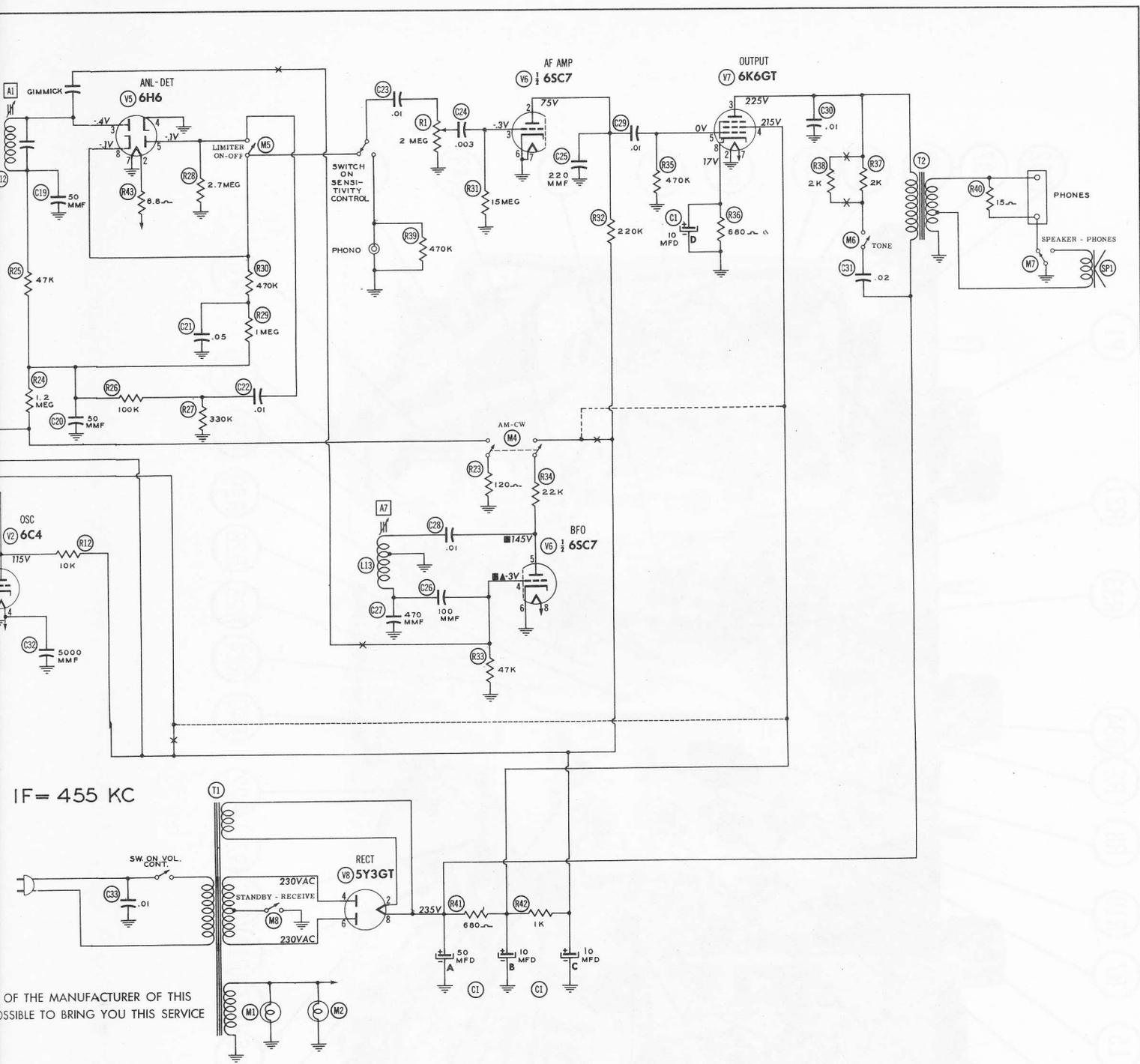


THE COOPERATION OF THE MANUFACTURER OF THE RECEIVER MAKES IT POSSIBLE TO BRING YOU

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
V 1	6BA6	1.2Meg	0Ω	0Ω	.1Ω	†1.7KΩ	†330KΩ	2.2KΩ	
V 2	6C4	†11KΩ	INF	0Ω	.1Ω	†11KΩ	22KΩ	.1Ω	
V 3	6BA6	2.1Meg ‡470KΩ	100Ω	0Ω	.1Ω	†1.7KΩ	†23KΩ	100Ω	
V 4	6BA6	2.6Meg ‡1Meg	100Ω	0Ω	.1Ω	†2.7KΩ	†22KΩ	100Ω	
V 5	6H6	0Ω	2.8Ω	480KΩ	0Ω	1.1Meg	950KΩ	0Ω	1.1Meg
V 6	6SC7	0Ω	†220KΩ	15Meg	47KΩ	‡23KΩ	0Ω	0Ω	.1Ω
V 7	6K6GT	0Ω	0Ω	†600Ω	†680Ω	470KΩ	INF	.1Ω	680Ω
V 8	5Y3GT	†1.7KΩ	60KΩ	0Ω	198Ω	INF	192Ω	INF	60KΩ

SWITCH M3 IN "A" POSITION
 SWITCH M4 IN "AM" POSITION
 SWITCH M5 IN "OFF" POSITION
 SWITCH M6 IN "LOW" POSITION
 SWITCH M7 IN "SPEAKER" POSITION
 SWITCH M8 IN "RECEIVE" POSITION
 SENSITIVITY CONTROL FULLY CLOCKWISE
 † MEASURED FROM PIN 8 OF V8
 ‡ TAKEN WITH VACUUM TUBE VOLTMETER
 ■ SWITCH M4 IN "CW" POSITION



IF = 455 KC

OF THE MANUFACTURER OF THIS
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 $\pm 10\%$ in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	NOTES
		Hallcrafters PART No.	STANDARD REPLACEMENT		
V1	Mixer	90X6BA6	6BA6	7BK	
V2	Oscillator	90X6C4	6C4	6BG	
V3	1st. IF Amplifier	90X6BA6	6BA6	7BK	
V4	2nd. IF Amplifier	90X6BA6	6BA6	7BK	
V5	ANL-Detector	90X6H6	6H6	7Q	
V6	AF Amp. -BFO	90X6SC7	6SC7	8S	
V7	Audio Output	90X6K6GT	6K6GT	7S	
V8	Rectifier	90X5Y3GT	5Y3GT	5T	

CAPACITORS

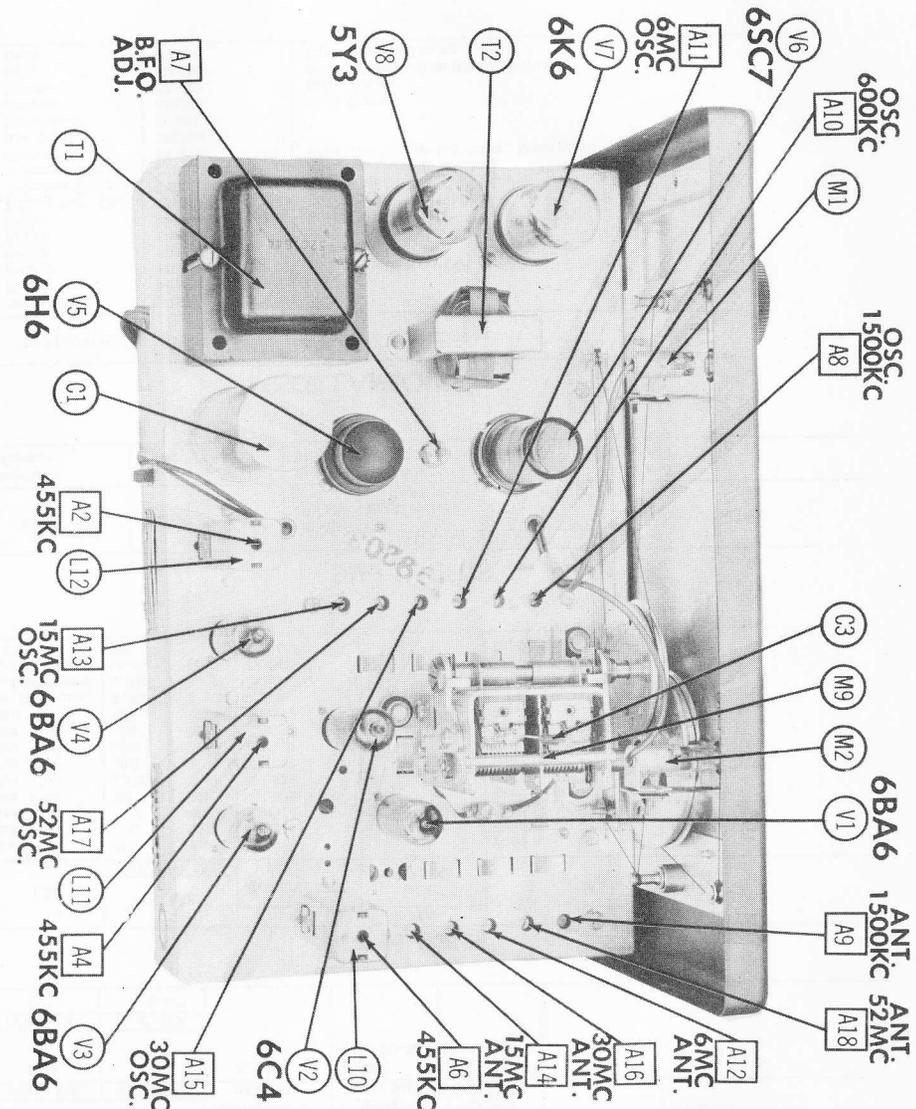
Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA						IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	Hallcrafters PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	
CIA	50	350	45B122	AFH4-88		UP411145		TVL-4769	▲ Filter
B	10	350						TVA-1204	■ Filter
C	10	350							▲ Decoupling
D	10	25							Audio Output Cathode
C2	220	500	47X20B221K	1468-00025	D6-221	5W5T25	GP2K-221	1FM-325	RF Coupling
C3	2.2		47A160-4		TCZ-2.2		NP0K-2R2		Osc. Coupling
C4	100		47A086	SI100N750	TCN-100		N750L-101	5TCU-T1	Osc. Feedback
C5	100		47A086	SI100N750	TCN-100		N750L-101	5TCU-T1	Osc. Grid Cap.
C6	1800	500	47X20C182G						Fixed Padder
C7	2400	500	47X20C242J	1464-0025					Fixed Padder
C8	.05	600	46AW503J	P688-05	DF-503	PTE6S5		6TM-S5	Mixer Plate Dec.
C9	5000		47A168	BPD-005	DD-502	TM5D5	811-005	5HK-D5	Mixer Screen Bypass
C10	5000		47A168	BPD-005	DD-502	TM5D5	811-005	5HK-D5	Mixer Cathode Bypass
C11	.01	600	46AZ103J	P688-01	D6-103	PTE6S1	GP2-333-103	6TM-S1	AVC Filter
C12	.01	600	46AZ103J	P688-01	D6-103	PTE6S1	GP2-333-103	6TM-S1	1st. IF Amp. Screen
C13	.02	600	46AY203J	P688-02	DF-203	PTE6S2		6TM-S2	1st. IF Amp. Cathode
C14	.1	200	46AU104J	P288-1	DF-104	PJ2P1		2TM-P1	RF Bypass
C15	5		47X20UK050K	SI5N750			N750K-050		IF Coupling
C16	.05	600	46AW503J	P688-05	DF-503	PTE6S5		6TM-S5	2nd. IF Amp. Plate
C17	.01	600	46AZ103J	P688-01	D6-103	PTE6S1	GP2-333-103	6TM-S1	2nd. IF Amp. Screen
C18	.02	600	46AY203J	P688-02	DF-203	PTE6S2		6TM-S2	2nd. IF Amp. Cathode
C19	50		47A091				N750L-500		Diode RF Filter
C20	50		47A091				N750L-500		Diode RF Filter
C21	.05	600	46AW503J	P688-05	DF-503	PTE6S5		6TM-S5	Tone Comp.
C22	.01	600	46AZ103J	P688-01	D6-103	PTE6S1	GP2-333-103	6TM-S1	Audio Coupling
C23	.01	600	46AZ103J	P688-01	D6-103	PTE6S1	GP2-333-103	6TM-S1	Audio Coupling
C24	.003	600	46AZ302J	P688-003	D6-302	PTE6D3	GP2-333-302	6TM-D3	Audio Coupling
C25	220	500	47X20B221K	1468-00025	D6-221	5W5T25	GP2K-221	1FM-325	AF Amp. Plate Bypass
C26	100		47A086	SI100N750	TCN-100		N750L-101	5TCU-T1	BFO Grid Cap.
C27	470	500	47X20B471J	1469-0005		5R5T5		MS-35	Fixed Trimmer
C28	.01	600	46AZ103J	P688-01	D6-103	PTE6S1	GP2-333-103	6TM-S1	BFO Feedback
C29	.01	600	46AZ103J	P688-01	D6-103	PTE6S1	GP2-333-103	6TM-S1	Audio Coupling
C30	.01	600	46AZ103J	P688-01	D6-103	PTE6S1	GP2-333-103	6TM-S1	Audio Output Plate
C31	.02	600	46AY203J	P688-02	DF-203	PTE6S2		6TM-S2	Tone Comp.
C32	5000		47A168	BPD-005	DD-502	TM5D5	811-005	5HK-D5	Fil. Bypass
C33	.01	600	46AC103J	689ZGXY-01		PJ6S1		6TM-S1	Line Filter

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES
	RESISTANCE	WATTS	Hallcrafters PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	
R1A	2Meg	1/2	25B602	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
R2A	10KΩ	1/2	25B603		AM-30-V	B-17-S	Sensitivity Control
B	Shaft		Not Req.		RS-2	Not Req.	Attach to R2A per instructions
C	Switch		Not Req.		SW-A1	Not Req.	Attach to R2A per instructions

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
			Hallicrafters	IRC	
	RESISTANCE	WATTS	PART No.	PART No.	
R3	1.2 Meg	1/2 WATT	23X20X222M	BTS-2200	Mixer Grid - See Note 1
R4	2200Ω		23X20X334K		Mixer Cathode
R5	330KΩ		23X20X270M		Mixer Screen
R6	27Ω		23X20X153K		Parasitic Suppressor
R7	15KΩ		23X20X103K		Osc. Coil Shunt
R8	10KΩ		23X20X472K		Osc. Coil Shunt
R9	4700Ω		23X20X332K		Osc. Coil Shunt
R10	3300Ω		23X20X223M		Osc. Grid
R11	22KΩ		23X30X103K		Osc. Plate
R12	10KΩ		23X20X270M		Parasitic Suppressor
R13	27Ω		23X20X101K		1st. IF Amp. Cathode
R14	100Ω		23X20X202M		Voltage Divider - See Note 2
R15	2000Ω		23X20X202M		Voltage Divider - See Note 3
R16	2000Ω		23X20X474M		AVC Network
R17	470KΩ		23X20X105M		2nd. IF Amp. Grid
R18	1Meg		23X20X101K		2nd. IF Amp. Cathode
R19	100Ω		23X20X202M		Voltage Divider - See Note 2
R20	2000Ω		23X20X202M		Voltage Divider - See Note 3
R21	2000Ω		23X30X223M		Voltage Divider
R22	22KΩ		23X20X121M		AVC Network
R23	120Ω		23X20X125M		AVC Network - See Note 1
R24	1.2Meg		23X20X473M		Diode Filter
R25	47KΩ		23X20X104K		Diode Load
R26	100KΩ		23X20X334K		Diode Load
R27	330KΩ	23X20X275M		ANL Diode Load	
R28	2.7Meg	23X20X105M		ANL Network	
R29	1Meg	23X20X474M		ANL Network	
R30	470KΩ	23X20X156K		AF Amp. Grid	
R31	15Meg	23X20X224K		AF Amp. Plate	
R32	220KΩ	23X20X473M		BFO Grid	
R33	47KΩ	23X20X223M		BFO Plate	
R34	22KΩ	23X20X474M		Output Grid	
R35	470KΩ	23X20X681K		Output Cathode	
R36	680Ω	23X20X202M		Tone Compensation - See Note 2	
R37	2000Ω	23X20X202M		Tone Compensation - See Note 3	
R38	2000Ω	23X20X474M		Phono Shunt	
R39	470KΩ	23X20X150M		HeadPhone Shunt	
R40	15Ω	23X40X681M		Filter	
R41	680Ω	23X30X102M		Filter	
R42	1000Ω	23X30X068K		Filament Dropping	
R43	6.8Ω				

Note 1. Some Models use a 1.8 Meg Resistor in this application

Note 2. Some Models use a 1000Ω Resistor in this application

Note 3. Not Used in all Models

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA			
					Hallicrafters	STANCOR	MERIT	CHICAGO
	PRI.	SEC. 1	SEC. 2	SEC. 3	PART No.	PART No.	PART No.	PART No.
T1	117VAC ④ .43A	460VCT .050ADC	5VAC ② 2A	6.3VAC ② 2.3A	52C164A 52C164 ① 52C165 ②	PM-8403 ④	P-2958	PH-50

① Alternate Transformer

② Used in Model S-53AU

④ Drill two new Mtg. Holes

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
					Hallicrafters	STANCOR	MERIT	CHICAGO	
	IMPEDANCE	DC RES.	PART No.	PART No.	PART No.	PART No.			
T2	7.5KΩ 15Ω ④ 3.2Ω	800Ω 65Ω ④ .6Ω	55B107A 55B107 ③	A-3856	A-2900	RO-301	③ Alternate Transformer		

CHASSIS—BOTTOM VIEW

SPEAKER

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

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
				Hallicrafters	MERIT	
		PRI.	SEC.	PART No.	PART No.	
L1	Ant. Coil	42	4.8Ω	51B1028		Band A
L2	Ant. Coil	.3Ω	.2Ω	51B1244		Band B
L3	Ant. Coil	1.2Ω	0Ω	51B1026		Bands C and D
L4	Ant. Coil	0Ω	0Ω	51B1030		Band E
L5	Osc. Coil	1.6Ω	3.3Ω	51B1235		Band A
L6	Osc. Coil	.8Ω	3.3Ω	51B1236		Band B
L7	Osc. Coil	.2Ω	0Ω	51B1237		Band C
L8	Osc. Coil	.1Ω	0Ω	51B1238		Band D
L9	Osc. Coil	0Ω	0Ω	51B1239		Band E
L10	1st. IF Trans.	9.3Ω	8.8Ω	50C241		
L11	2nd. IF Trans.	9.3Ω	8.8Ω	50C241		
L12	3rd. IF Trans.	15.5Ω	15.5Ω	50C242		
L13	BFO Osc.	8Ω		54B043		Tap @ 2.3Ω

DIAL LIGHTS

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		NOTES
					Hallicrafters		
					PART No.		
M1	Bayonet	6-8	.25	Blue	39A003		Type #44
M2	Bayonet	6-8	.25	Blue	39A003		Type #44

MISCELLANEOUS

ITEM No.	PART NAME	Hallicrafters	NOTES
		PART No.	
M3	Bandswitch	60B323	
M4	Switch	60A285	AM/CW
M5	Switch	60A138	Noise Limiter On/Off
M6	Switch	60A138	Tone
M7	Switch	60A243	Speaker/Phones
M8	Switch	60A138	Stand By/Receive
M9	2 Gang Var. Cap	48C198	(21-429MMF, 21-429MMF)
	Trimmer Strip	44B388	Osc. Assembly (6 Section)
	Trimmer Strip	44B355	Ant. Assembly (5 Section)
	Cabinet	66-438	(Does not include top cover, front panel or escutcheon)
	Dial Scale	22C204	
	Escutcheon	7C066	
	Pointer	82A148	Band Spread
	Pointer	82A149	Main Tuning
	Knob	15A050	Band Selector, Sensitivity, Volume
	Knob	15A048	Band Spread, Tuning