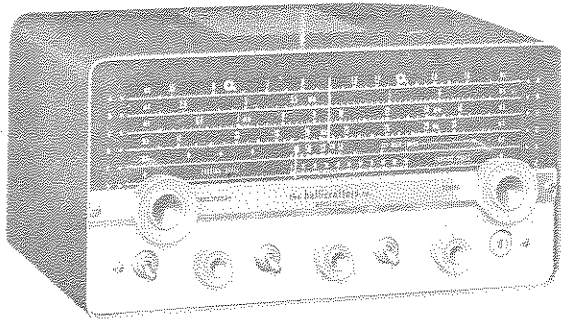


# SERVICE DATA FOR MODEL S-107, MARK II

## CHASSIS REMOVAL.



092-007166

Figure 1. Hallicrafters Model S-107.

## TECHNICAL SPECIFICATIONS

TUBES..... 8 including rectifier  
 SPEAKER ..... 4" x 6" PM, 3.2-ohm voice coil  
 HEADPHONE OUTPUT IMPEDANCE.....15 ohms  
 ANTENNA INPUT IMPEDANCE..... 52 to 600 ohms  
 EXT. AMPL. OUTPUT IMPEDANCE.. High impedance  
 INTERMEDIATE FREQUENCY. .... 455 KC  
 POWER SOURCE:

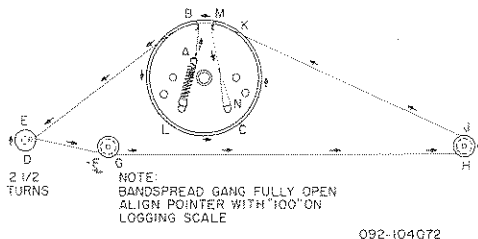
Model S-107..... 105-125 volts, 50-60 cycles  
 POWER CONSUMPTION..... 50 watts  
 FREQUENCY COVERAGE

BAND	FREQUENCY RANGE
A	540 KC - 1630 KC
B	2.5 MC - 6.3 MC
C	6.3 MC - 16 MC
D	14 MC - 31 MC
E	48 MC - 54.5 MC

## TUBE AND DIAL LAMP REPLACEMENT.

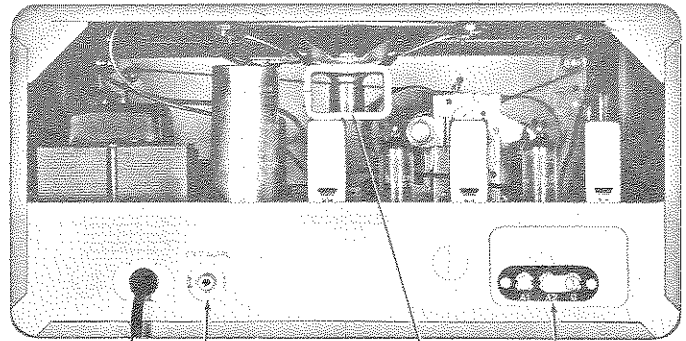
For complete access to the tubes and dial lamps, remove the receiver from the cabinet. See "CHASSIS REMOVAL". The tube and lamp locations are shown in Fig. 5.

CAUTION: Before attempting to make any replacement, rotate the Bandsread control and the Tuning control fully counterclockwise to prevent damage to the tuning gang.



092-104072

Figure 3. Bandsread Dial Cord Stringing Diagram.



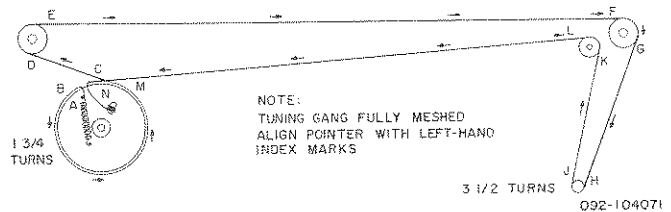
POWER CORD SOI SPEAKER (LS-1) TS-1

092-104019B

Figure 2. Rear Panel View.

## DIAL CORD RESTRINGING.

To restring the tuning or bandsread dials, first remove the chassis and front panel assembly from the cabinet. See "CHASSIS REMOVAL". Remove the front panel from the cabinet by removing the control knobs, the toggle switch mounting nuts, the screw at each side of the front panel trim strip, and the two screws near the bottom of the front panel. Then remove the four screws which secure the dial plate to the dial plate mounting brackets. Lift the main tuning dial pointer up by its base until it just clears the dial plate, then tilt the main tuning dial pointer back so that it points straight up, allowing the dial plate to be raised up and off of the bandsread dial pointer. Removal of the dial plate provides complete access to the drive pulleys. Exercise care to prevent damaging the dial pointers. For stringing details, see Figs. 3 and 4.



092-104071

Figure 4. Tuning Dial Cord Stringing Diagram.

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# ALIGNMENT PROCEDURE

- Remove chassis from cabinet for alignment by using procedure given in "CHASSIS REMOVAL".
- Use signal generator with modulated output covering 455 KC to 52 MC.
- Use a non-metallic alignment tool.
- Connect output meter across speaker voice coil terminals.
- Control settings: 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.
- See Figs. 5 and 6 for location of alignment adjustments.

STEP	SIGNAL GENERATOR CONNECTIONS	SIGNAL GENERATOR FREQUENCY	BAND SELECTOR SETTING	RECEIVER DIAL SETTING	ADJUST	INSTRUCTIONS
1	High side to stator plates of front section of tuning gang through a .1 mfd. capacitor. Low side to chassis.	455 KC	A	TUNING gang fully open.	S1, S2, S3, S4, S5, S6	Adjust for maximum audio output at the speaker voice coil. Use just enough signal generator output to obtain a 50 milliwatt reading on the output meter.
2	Same as STEP 1.	455 KC	A	Same as STEP 1.	T13	Set the CW/AM switch at CW. (Reset the switch to AM when STEP 2 is completed.) Adjust T13 for a zero beat.
3	High side to A1 on antenna terminal strip through a 330 ohm resistor. Low side to chassis. Connect the jumper between A2 and G.	1500 KC 600 KC	A A	1.5 MC .6 MC	C26, C6 C25	Maximum output as in STEP 1.
4	Same as STEP 3.	6 MC	B	6 MC	C24, C7	Maximum output as in STEP 1.
5	Same as STEP 3.	15 MC	C	15 MC	C22, C9	Maximum output as in STEP 1.
6	Same as STEP 3.	30 MC	D	30 MC	C19, C10	Maximum output as in STEP 1.
7	Same as STEP 3.	52 MC	E	52 MC	C18, C11	Maximum output as in STEP 1.

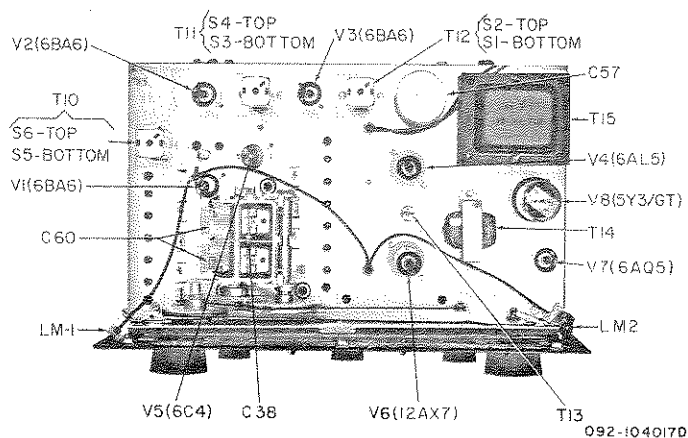


Figure 5. Top View of Chassis.

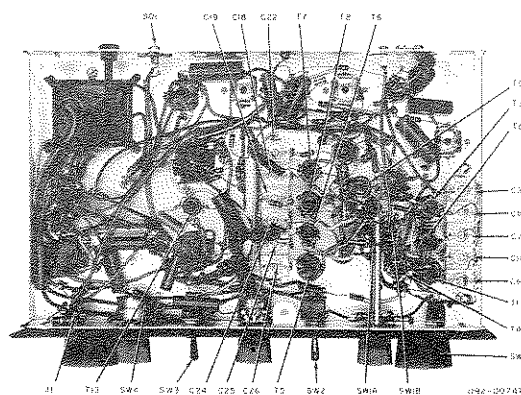
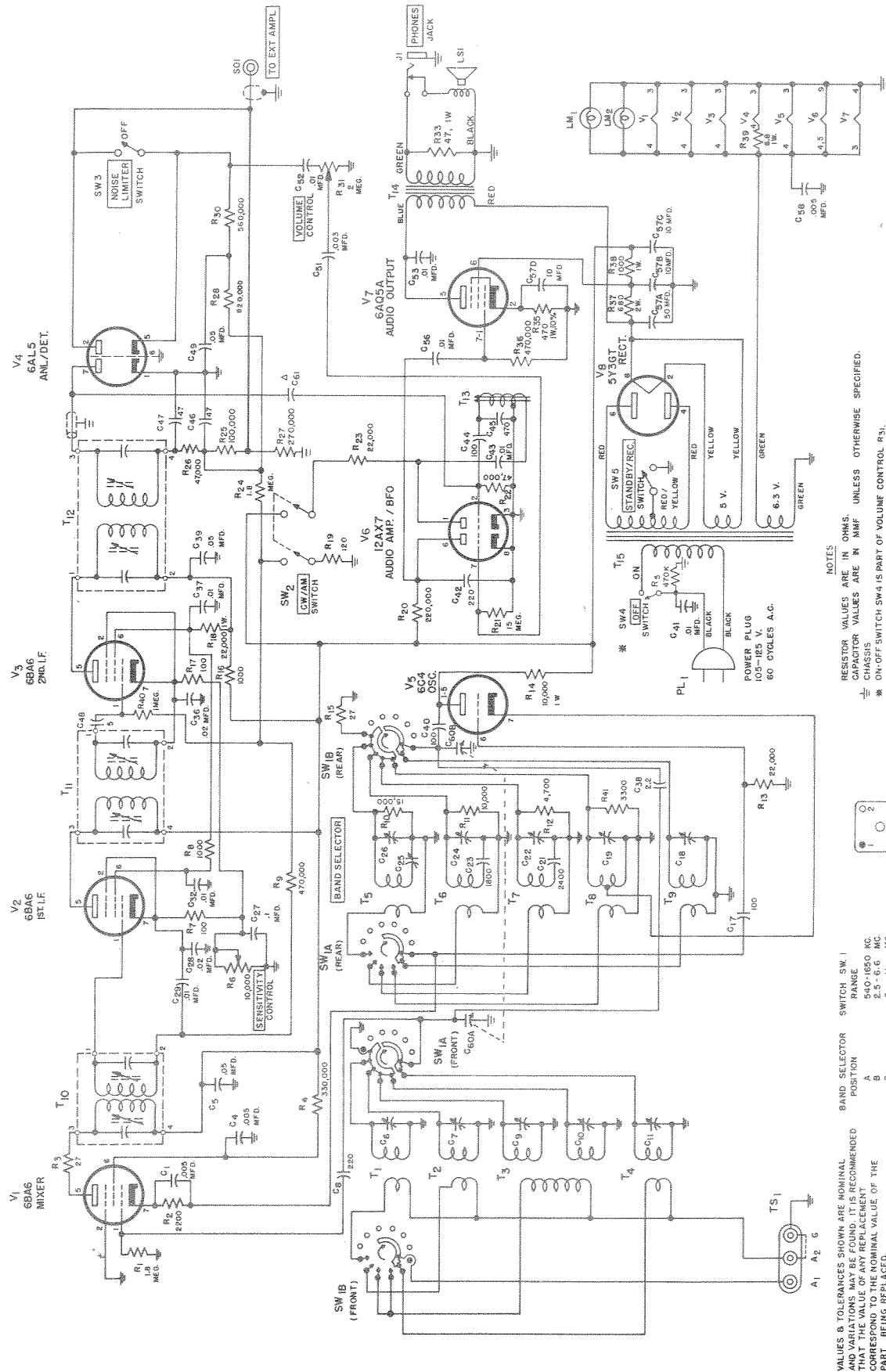
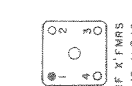


Figure 6. Bottom View of Chassis.



VALUES & TOLERANCES SHOWN ARE NOMINAL AND VARIATIONS MAY BE FOUND. IT IS RECOMMENDED THAT THE VALUE OF ANY REPLACEMENT CORRESPOND TO THE NOMINAL VALUE OF THE PART BEING REPLACED.



NOTE: SWITCH SHOWN IN POSITION E.

BAND SELECTOR POSITION	SWITCH SW 1 RANGE
A	540-1650 KC.
B	2.5-6.5 MC.
C	6-11 MC.
D	13.5-32 MC.
E	47-95 MC.

RESISTOR VALUES ARE IN OHMS UNLESS OTHERWISE SPECIFIED.  
CAPACITOR VALUES ARE IN MMF UNLESS OTHERWISE SPECIFIED.  
CHASSIS  
\* ON-OFF SWITCH SW 4 IS PART OF VOLUME CONTROL R 31.  
Δ WIRE GIMMICK

089-00189

Figure 7. Schematic Diagram.

# SERVICE PARTS LIST

Schematic Symbol	Description	Hallcrafters Part Number	Schematic Symbol	Description	Hallcrafters Part Number	Schematic Symbol	Description	Hallcrafters Part Number
<b>CAPACITORS</b>			<b>*RESISTORS (CONT)</b>			<b>PLUGS AND SOCKETS (CONT)</b>		
C1, 4, 56	.005 mfd, 450V; ceramic	047-100168	R14	10K ohm, 1W, 10%	451-352103	V1, 2, 3	Socket, dial lamp; includes lead	066-200663
C5, 39, 49	.05 mfd, 600V; molded paper	499-032503	R18	22K ohm, 1W	451-353223	V4	6BA6; mixer, 1st IF amplifier and 2nd IF amplifier	006-100858
C6, 7, 9, 10, 11	Trimmer assembly, 5 sections; antenna stage	044-200508	R19	120 ohm	451-253121	V5	6C4; oscillator	090-900830
C8, 42	220 mmf, 500V, 10%; mica	470-213221	R20	220K ohm, 10%	451-252224	V6	12AX7; audio amplifier and BFO	090-900338
C17, 40, 44	100 mmf, 500V, 10%; ceramic	491-126101	R21	15 megohm, 10%	451-253158	V7	6AQ5; audio output	090-901331
C18, 19, 22, 34, 25, 26	Trimmer assembly, 6 sections; oscillator stage	044-200508	R22, 26	47K ohm	451-253473	V8	5Y3/GT; rectifier	090-901111
C21	2400 mmf, 600V; 5%; silver mica	470-422242	R25	100K ohm, 10%	451-252104	LM1, 2	Lamp, pilot; 6-8 volt, 250 ma, Mazda #44	039-100063
C23	1800 mmf, 500V; 2%; silver mica	470-421132	R27	270K ohm	451-253274	<b>KNOBES</b>		
C27	.1 mfd, 200V; molded paper	499-012104	R28	300K ohm	451-253824	Knob, Band Selector, Sensitivity and Volume Knob, Main tuning and Band Spread		
C28, 36	.02 mfd, 600V; molded paper	499-032203	R30	560K ohm	451-253564			
C29, 32, 37, 43, 52, 53, 56	.01 mfd, 600V, +20-10%; tubular	499-032103	R31	2 megohm, VOLUME control; includes switch SW4	025-200608	Bracket, Gear Bushing, Tuning Cabinet, Weld Assembly Channel, Rubber Clip, I. F. Mtg. Cord, Dial Dial Scale, Glass Foot, Mtg. Front Panel Weld Assembly Gasket, Speaker Line Cord Lock (Female) Line Cord Lock (Male) Plate, Dial Plate, IF Mtg. Pointer, Band Spread Pointer, Tuning Rail, Pointer Retainer, Glass Shaft, Tuning Speaker (4" x 6") Spring, Gear Spring, Pulley Tab, Felt Terminal Strip, Antenna Trim Strip		
C38	2.2 mmf, 500V; Bakelite	047-100160-04	R33	47 ohm, 1W, 10%	451-352470			
C41	.01 mfd, 1400V; cer. disc	047-001309	R35	470 ohm, 1W, 10%	451-352471	LS1 TS1		
C45	470 mmf, 500V; 5%; mica	470-212471	R37	800 ohm, 2W	451-653681			
C46, 47	47 mmf, 500V, 10%; ceramic	491-106470-95	R38	1K ohm, 1W	451-353102	R1, 24 1.8 megohm R2 2.2K ohm R3, 15 27 ohm R4 330K ohm, 10% R5, 9, 36 470K ohm R6 10K ohm, SENSITIVITY control R7, 17 100 ohm, 10% R8, 16 1K ohm R10 15K ohm, 10% R11 10K ohm, 10% R12 4.7K ohm, 10% R13, 23 22K ohm		
C48	5 mmf, 500V, 10%; ceramic	491-002050-95	R39	6.8 ohm, 1W, 10%	451-352068			
C51	.005 mfd, 600V; molded paper	499-032302	R40	1 megohm	451-253105	PL1 Line cord and plug SO1 EXT. AMPL. jack J1 PHONES jack		
C57A, B, C&D	50-10-10 mfd, 350V; 10 mfd, 25V; electrolytic	045-200122	R41	3.3K ohm, 10%	451-252332			
C60A, B	Tuning capacitor, 2 section	048-400432	<b>COILS AND TRANSFORMERS</b>			SW1 BAND SELECTOR switch assembly SW2 Switch, DPST; CW/AM SW3, 5 Switch, SPST; NOISE LIMITER and STANDBY/RECEIVE SW4 Switch, OFF-ON; part of VOLUME control R31		
			T1	Coil, antenna; band 1	051-202599			
			T2	Coil, antenna; band 2	051-201244	PL1 Line cord and plug SO1 EXT. AMPL. jack J1 PHONES jack		
			T3	Coil, antenna; bands 3 and 4	051-201026			
			T4	Coil, antenna; band 5	051-201030	PL1 Line cord and plug SO1 EXT. AMPL. jack J1 PHONES jack		
			T5	Coil, oscillator; band 1	051-202615			
			T6	Coil, oscillator; band 2	051-202610	PL1 Line cord and plug SO1 EXT. AMPL. jack J1 PHONES jack		
			T7	Coil, oscillator; band 3	051-201237			
			T8	Coil, oscillator; band 4	051-201238	PL1 Line cord and plug SO1 EXT. AMPL. jack J1 PHONES jack		
			T9	Coil, oscillator; band 5	051-201239			
			T10, 11	Transformer, 1st and 2nd IF	050-300241	PL1 Line cord and plug SO1 EXT. AMPL. jack J1 PHONES jack		
			T12	Transformer, 3rd IF	050-300242			
			T13	Coil, BFO	054-200043	PL1 Line cord and plug SO1 EXT. AMPL. jack J1 PHONES jack		
			T14	Transformer, audio output	055-200439			
			T15	Transformer, power	052-300164	PL1 Line cord and plug SO1 EXT. AMPL. jack J1 PHONES jack		
			<b>SWITCHES</b>					
			<b>PLUGS AND SOCKETS</b>			PL1 Line cord and plug SO1 EXT. AMPL. jack J1 PHONES jack		

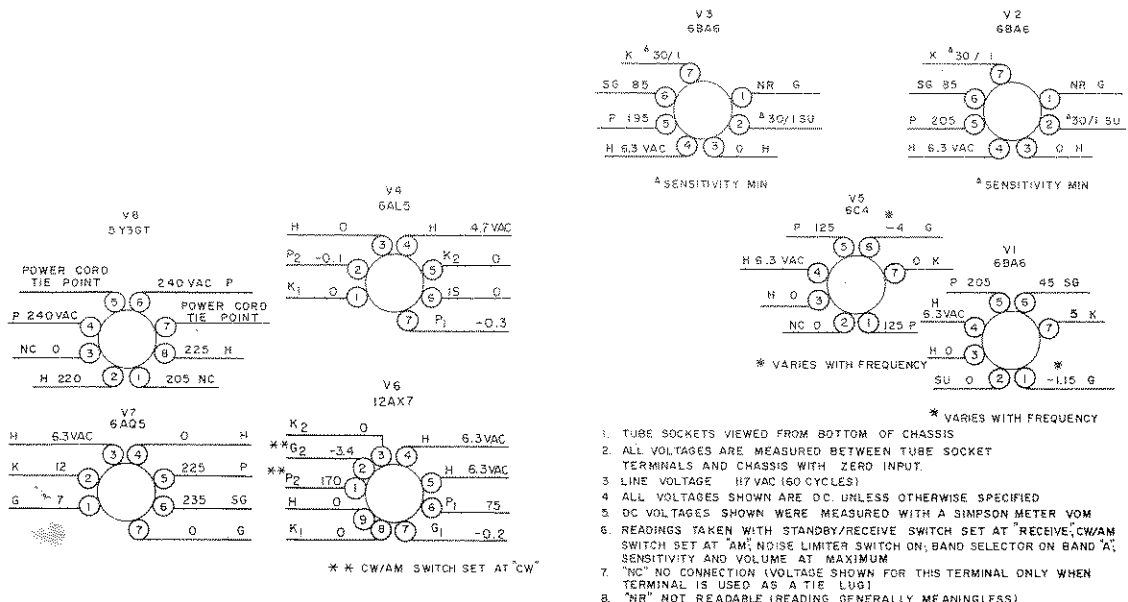


Figure 8. Voltage Chart.