communications

OPERATING and SERVICE INSTRUCTIONS

S-72L

the hallicrafters co.
MANUFACTURERS OF RADIO AND ELECTRONIC EQUIPMENT, CHICAGO 24, U. S. A.

DESCRIPTION

Hallicrafters Model S-72L is a portable all-wave superheterodyne radio receiver which provides reception of the standard broadcast band and the shortwave frequency range between 1.6 MC (megacycles) and 11.5 MC. It can also be used for air or marine navigation as it will receive the airways ranges and towers and marine beacon stations operating between 175 KC (kilocycles) and 420 KC. The receiver employs eight tubes and a selenium rectifier and provides AM and CW reception over its entire frequency range.

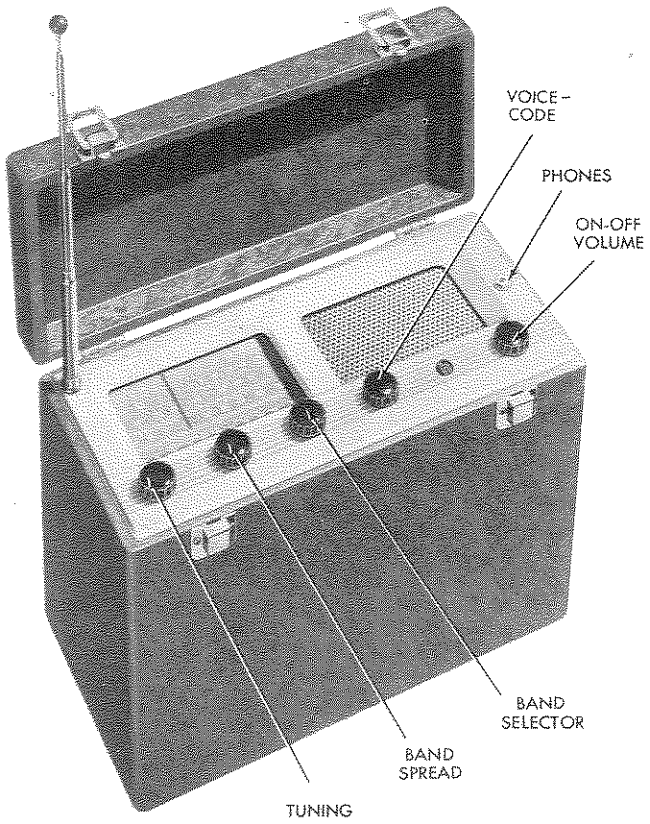

FIG. 1 MODEL S-72L

FREQUENCY COVERAGE

BAND	FREQUENCY RANGE
1	175 KC - 420 KC
2	540 KC - 1600 KC
3	1.6 MC - 4.4 MC
4	4.3 MC - 11.5 MC

Built-in antenna facilities are provided for normal receiving conditions: a loop antenna for bands 1 and 2 and a telescoping whip antenna for bands 3 and 4. The loop antenna makes it possible to use the receiver as a direction finder for aircraft and marine navigational purposes. Also provided is a terminal for connection to an external single wire antenna for reception in areas of extremely low signal strength where it is difficult to receive a desired signal using the loop or whip antennas.

The BAND SPREAD control and dial are provided for fine tuning of the amatuer and shortwave bands.

The receiver is equipped with a built-in 5 inch permanent magnet speaker. Provision is also made for the optional use of headphones with the receiver.

The VOICE/CODE control permits selection of either AM (VOICE) or CW (CODE) reception. In the CODE position, the control also functions as an RF gain or sensitivity adjustment.

The receiver is designed both for fixed operation from a 105-125 volt DC or 50-60 cycle AC power source and portable operation from a self-contained 90 volt - 7½ volt battery pack. Before attempting to operate the receiver, carefully read the INSTALLATION and OPERATING INSTRUCTIONS which follow.

INSTALLATION INSTRUCTIONS

UNPACKING - Check all shipping tags and labels for instructions before removing or destroying them.

LOCATION - The receiver is equipped with carrying facilities for portable operation as well as mounting feet for table top or shelf mounting when operating from commercial power sources. Reception of bands 1 and 2 does not require the use of the whip antenna; however, for shortwave reception on bands 3 and 4, clearance for the 61 inch whip antenna must be provided as the antenna must be fully extended for maximum performance.

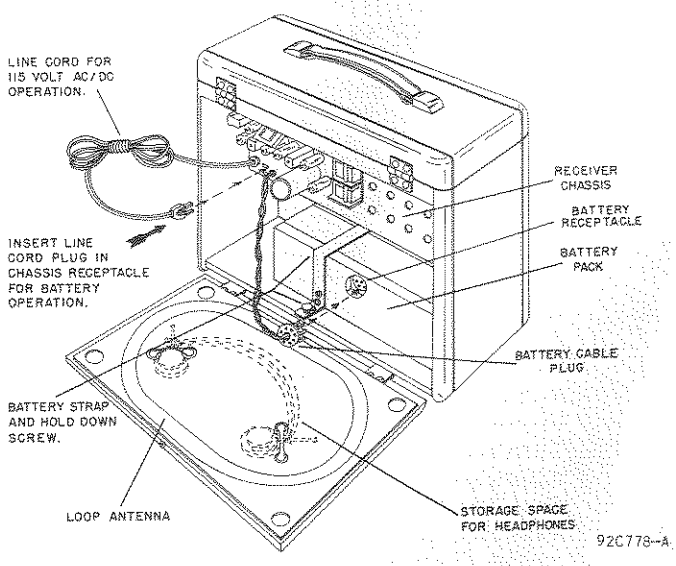

FIG. 2 REAR VIEW, WITH REAR DOOR OPEN

OPERATING INSTRUCTIONS

BATTERY OPERATION

1. Select one of the 90 volt - $7\frac{1}{2}$ volt battery packs listed on page 5. Refer to Fig. 2 for an illustration of the battery installation.
2. Open the rear door of the cabinet by pulling out on the finger grip provided.
3. Place the battery pack into the compartment located below the receiver chassis and fasten the BATTERY STRAP securely around the battery.
4. Insert the BATTERY CABLE PLUG into the BATTERY RECEPTACLE.
5. Insert the LINE CORD PLUG into the CHASSIS RECEPTACLE.

CAUTION - Do not store the receiver with the battery in the battery compartment. Damage to the receiver due to possible leakage from a dead battery can be avoided by removing the battery and storing it separately in a cool, dry place.

AC/DC OPERATION

1. The receiver is designed to operate from a 105-125 volt DC or 50-60 cycle AC power source. The power consumption is 25 watts. If in doubt as to the frequency or voltage rating of your power source, contact the local power company representative.
2. Insert the line cord plug into any convenient power outlet.
3. When operating on DC, reverse the line cord plug if the receiver does not operate after having been turned ON.
4. Operation from a 220 volt, 50-60 cycle AC source is possible by using a special step down transformer available as an accessory. Consult your Hallicrafters dealer regarding this transformer (Hallicrafters part number 52B088).

STANDARD BROADCAST RECEPTION

1. Set the BAND SELECTOR switch at 2 for the standard broadcast band.
2. Turn the VOICE/CODE control clockwise past the point of switch action to the VOICE position.
3. Set the BAND SPREAD dial pointer at 0.
4. Turn the receiver ON by rotating the ON-OFF VOLUME control clockwise. This control will have to be reset for the desired volume level after the station has been tuned in.
5. Tune in the desired station with the TUNING control. Read the frequency from the dial scale marked BAND 2.
6. The built-in loop antenna is used for standard broadcast reception. This type of antenna is directional. If satisfactory reception of a station is not obtained, rotate the entire receiver for the position which will provide the greatest signal.
7. To turn the receiver OFF, turn the ON-OFF VOLUME control counterclockwise until the switch click is heard.

LONGWAVE OR SHORTWAVE RECEPTION

1. FOR LONGWAVE RECEPTION - The built-in loop antenna is used for longwave reception (band 1). This type of antenna is directional. If satisfactory reception of a station is not obtained, rotate the entire receiver for the position which will provide the greatest signal.
   FOR SHORTWAVE RECEPTION - Extend the whip antenna to its full length. A short length of wire located in the battery compartment is provided for connection to an external single wire antenna. Since the length of this type of antenna is not critical any convenient length of wire can be used. It is only necessary to use the external antenna in low signal strength areas where it is difficult to receive a desired signal using the whip antenna.
2. FOR LONGWAVE RECEPTION - Set the BAND SELECTOR switch at 1 for the longwave band.
   FOR SHORTWAVE RECEPTION - Set the BAND SELECTOR switch at 3 or 4 for the desired shortwave band.
3. Set the BAND SPREAD dial pointer at 0.
4. FOR VOICE RECEPTION - Turn the VOICE/CODE control clockwise past the point of switch action to the VOICE position.
   FOR CODE RECEPTION - Set the VOICE/CODE control at CODE. The VOICE/CODE control performs two functions when set at CODE: (1) It places the beat frequency oscillator in operation to make code signals intelligible and (2) It controls the sensitivity of the receiver. When strong code signals block the receiver, reduce the sensitivity slightly by turning the control counterclockwise.
5. Turn the receiver ON by rotating the ON-OFF VOLUME control clockwise. Turn this control to a well advanced position and reset it for the desired volume after the station has been tuned in.
6. Tune in the desired station with the TUNING control. Read the station frequency from the dial scale which corresponds to the setting of the BAND SELECTOR. For CODE RECEPTION, adjust the TUNING control for the desired pitch of the code signal.
7. For fine tuning of the shortwave bands, refer to BAND SPREAD TUNING on page 4.

SPREAD TUNING

1. The BAND SPREAD control is a fine tuning adjustment which electrically spreads out any narrow range of frequencies in the tuning range of the receiver. Band spread tuning is not necessary on band 1 or 2.
2. To use the BAND SPREAD control for fine tuning: (1) Set the BAND SPREAD dial pointer at 0 (2) Set the TUNING dial pointer at the high frequency end of the amateur band or group of shortwave stations to be covered and (3) Tune in the stations with the BAND SPREAD control.
3. Logging of shortwave stations is possible by recording the settings of the TUNING and BAND SPREAD dial scales.
4. IMPORTANT - The calibration of the TUNING dial scales will be correct ONLY when the BAND SPREAD dial pointer is set at 0.

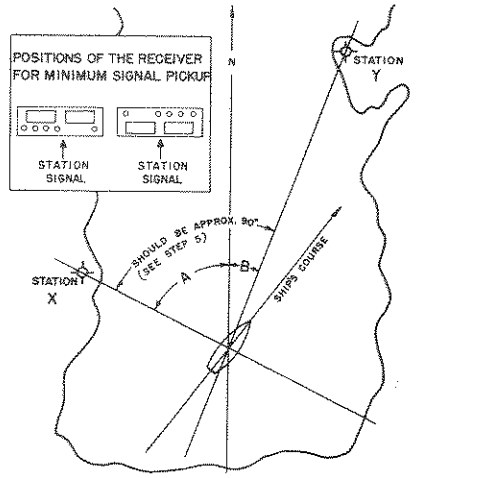

FIG. 3 DIRECTION FINDING BY MEANS OF TWO RADIO STATIONS

DIRECTION FINDING

1. This receiver can be used to find the approximate position of small air or marine craft which are equipped with a compass and navigational maps.
2. Set the BAND SELECTOR at 1 for the reception of the navigational beacon stations operating in the frequency range between 175 KC and 420 KC. By using airways navigational maps on which are shown the exact locations of the standard broadcast stations it is also possible to use the standard broadcast range of 550 KC to 1000 KC for direction finding. When using the standard broadcast band, set the BAND SELECTOR at 2.
3. Set the VOICE/CODE control at CODE when band 1 is used and at VOICE when band 2 is used.
4. If headphones are available, use them in preference to the speaker.
5. Knowing the general location of the craft, locate any two stations on the map which are approximately 90° apart. This is essential if the percentage of error is to be kept at a minimum.
6. Refer to Fig. 3 for an illustrated example. Tune in station X and rotate the receiver for minimum signal. Note that the loop antenna in the receiver is bi-directional, providing minimum signal pickup with either the front or rear of the receiver facing the station.
7. Determine angle A by means of a compass and the relative position of the receiver.
8. Draw a line on the map from station X.
9. Tune in station Y and rotate the receiver for a minimum signal.
10. Determine angle B by means of the compass and the relative location of the receiver.
11. Draw a line from station Y intersecting the line from station X.
12. The approximate position of the craft is at the intersection of the two lines.

HEADPHONES

1. Any standard pair of headphones with an impedance of 500 to 2000 ohms can be used with the receiver.
2. To connect the headphones, insert the headphone plug into the PHONES jack located on the control panel. Attaching the headphones automatically disconnects the speaker.
3. Storage space for the headphones is provided on the rear door of the cabinet (see Fig. 2).

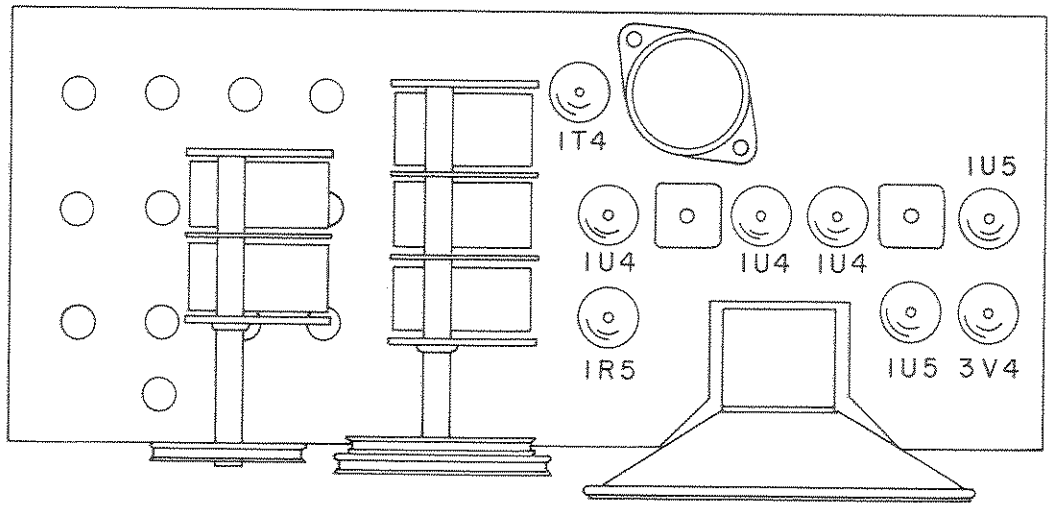

FIG. 4 TUBE LOCATION

92C890-0

SERVICE INSTRUCTIONS

GENERAL SPECIFICATIONS

Tubes and Rectifiers . . . . . 8 tubes and 1 selenium rectifier
Speaker . . . . . 5 inch PM
Voice Coil Impedance . . . . . 3.2 ohms
Headphone Output Impedance . . . . . 100 ohms
Antenna . . . . . Loop for bands 1 and 2, whip for bands 3 and 4, and terminal for connection to an external antenna.
Intermediate Frequency . . . . . 455 KC
Power Supply . . . . . 105-125 volts DC/50-60 cycle AC or 90 - 7½ volt battery pack
Power Consumption . . . . . 25 watts on AC/DC
Frequency Coverage . . . . . See page 2

BATTERY REPLACEMENT - Select one of the battery types listed below under REPLACEMENT BATTERIES. For installation instructions, refer to BATTERY OPERATION on page 3.

REPLACEMENT BATTERIES

Manufacturer	Type	Manufacturer	Type
BRIGHT STAR	66-50	OLIN	0615
BURGESS	G6M60		0614
	F6A60	RAY-O-VAC	AB878
DELCO	8760		AB994
EVEREADY	754	RCA	VS018
	753		VS019
GENERAL	60BF65	SEARS	67E605
	60A6F65	USALITE	680
MONT. WARD	62A35M	WESTERN WIZARD	60B6F6/5
	62A33		60A6F6/5
NAT. UNION	N808		

TUBE REPLACEMENT - The tube types and their relative location in the receiver are shown in Fig. 4. When installing a replacement tube, line up the seven small pins with the socket holes and then push straight down on the tube until the base of the tube rests on the socket. Handle all tubes with care as they are fragile and will not withstand mechanical abuse.

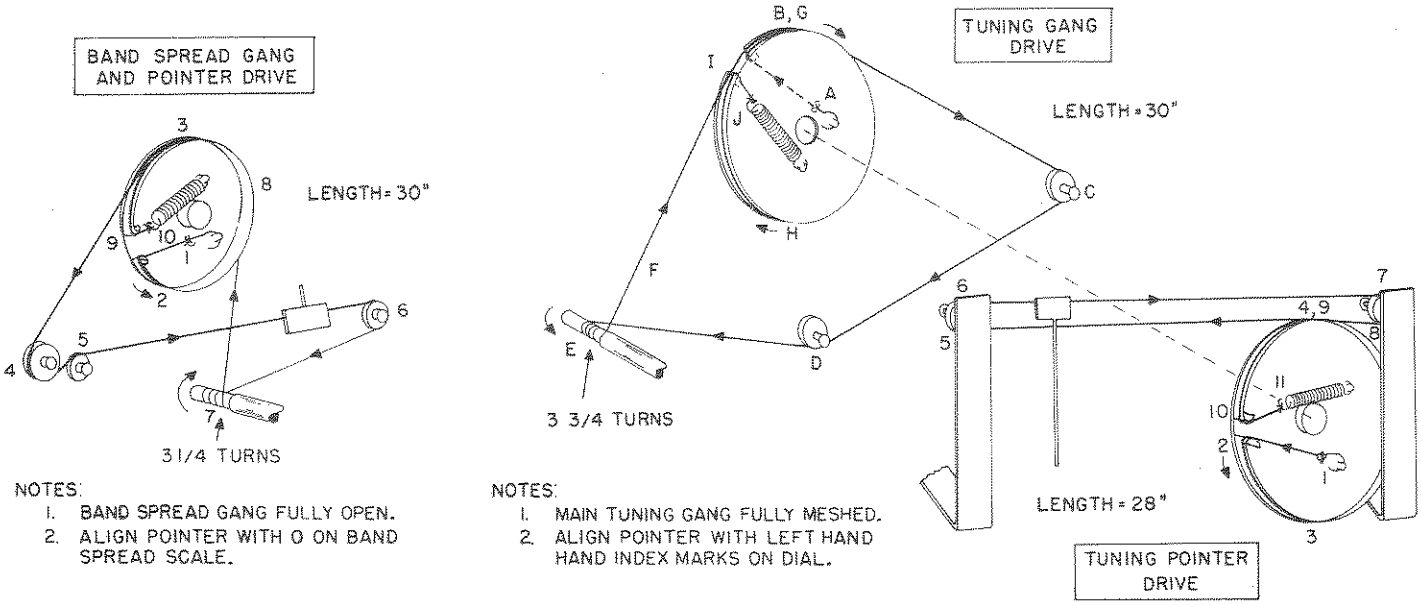

FIG. 5 DIAL CORD STRINGING DIAGRAMS

Authorized hallicrafters Service Center
communications equipment

SERVICE OR OPERATING QUESTIONS - For further details regarding operation or servicing of the receiver, contact your dealer. Make no shipments directly to the factory as the factory does not accept the responsibility for unauthorized shipments. Factory type service is available at any HALLICRAFTERS AUTHORIZED SERVICE CENTER. For the location of the SERVICE CENTER nearest you consult your dealer, telephone directory or look for the sign at the left.

The Hallicrafters Co. reserves the privilege of making revisions in current production of equipment and assumes no obligation to incorporate these revisions in earlier models.

92X1401

ALIGNMENT PROCEDURE

EQUIPMENT REQUIRED

1. Signal generator, with amplitude modulated output, covering 455 KC to 11.5 MC. Use a modulated output for every step except step 2.
2. Output meter. Connect the meter across the speaker voice coil terminals.
3. Alignment tool made of polystyrene or other similar material.

It is necessary to remove the chassis from the cabinet to make the alignment. The procedure for removing the chassis is as follows: (1) Remove the control knobs (2) Remove the knurled mounting nut from the PHONES jack (3) Remove the control panel escutcheon (4) Remove the hex nut from the PHONES jack (5) Disconnect the BATTERY CABLE PLUG and remove the battery from the compartment (6) Unsolder the whip antenna lead and the two loop antenna connections (7) Remove the two mounting screws from the chassis angle brackets and (8) Remove the chassis from the cabinet.

The alignment should be made with the VOLUME control fully clockwise, the VOICE/CODE control at VOICE and the BAND SPREAD dial pointer at 0. Refer to Figs. 6 and 7 for the location of all adjustments.

ALIGNMENT CHART

STEP	SIGNAL GENERATOR CONNECTIONS	SIGNAL GENERATOR FREQUENCY	BAND SELECTOR SETTING	TUNING DIAL SETTING	ADJUST	REMARKS
1	Connect the high side of the generator to stator plates of center section of TUNING gang. Connect the ground side of the generator to the chassis.	455 KC	1	1.00 MC	A,B, C,D	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 (No Mod.)	1	1.00 MC	E	Set the VOICE/CODE control at CODE. Adjust E for a 1000 cycle note.
3	Connect a 10 mmf. capacitor from the external antenna lead (located in battery compartment) to the chassis. Connect the high side of the generator to the ext. ant. lead through a 15 mmf. capacitor and the ground side to the chassis.	11.5 MC 5 MC	4 4	11.5 MC 5 MC	F,G,H S1,S2, S3	Maximum output as in STEP 1.
4	Same as STEP 3.	4.4 MC 1800 KC	3 3	4.4 MC 1.8 MC	I,J,K S4	Maximum output as in STEP 1.
5	Same as STEP 3. The loop antenna should be connected for this step.	1500 KC 600 KC	2 2	1.5 MC .60 MC	L,M,N P	Maximum output as in STEP 1.
6	Same as STEP 3. The loop antenna should be connected for this step.	400 KC 180 KC	1 1	.40 MC .18 MC	Q,R,S T,U	Maximum output as in STEP 1.

* Reset the VOICE/CODE control at VOICE when STEP 2 is completed.

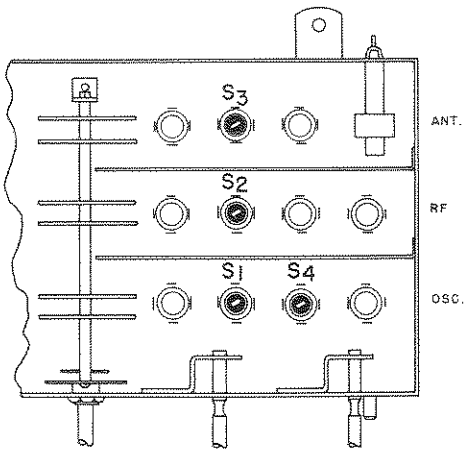

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FIG. 6 BOTTOM VIEW - ALIGNMENT POINTS

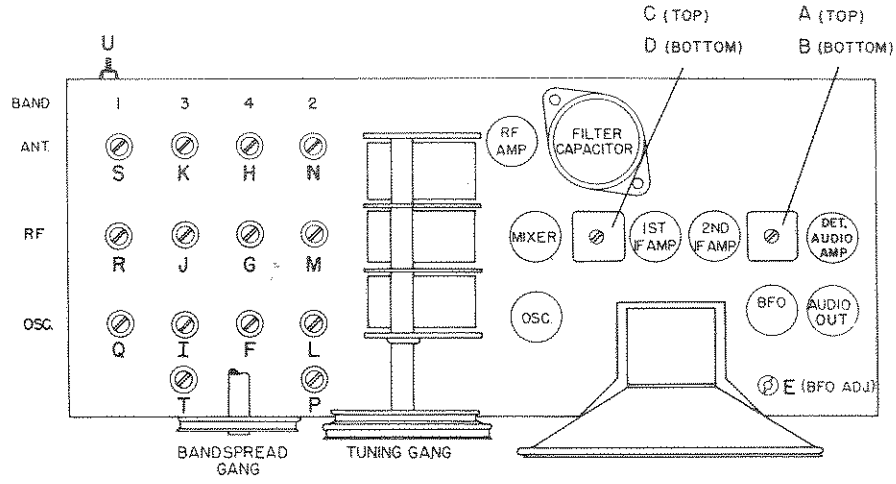

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FIG. 7 TOP VIEW - ALIGNMENT POINTS

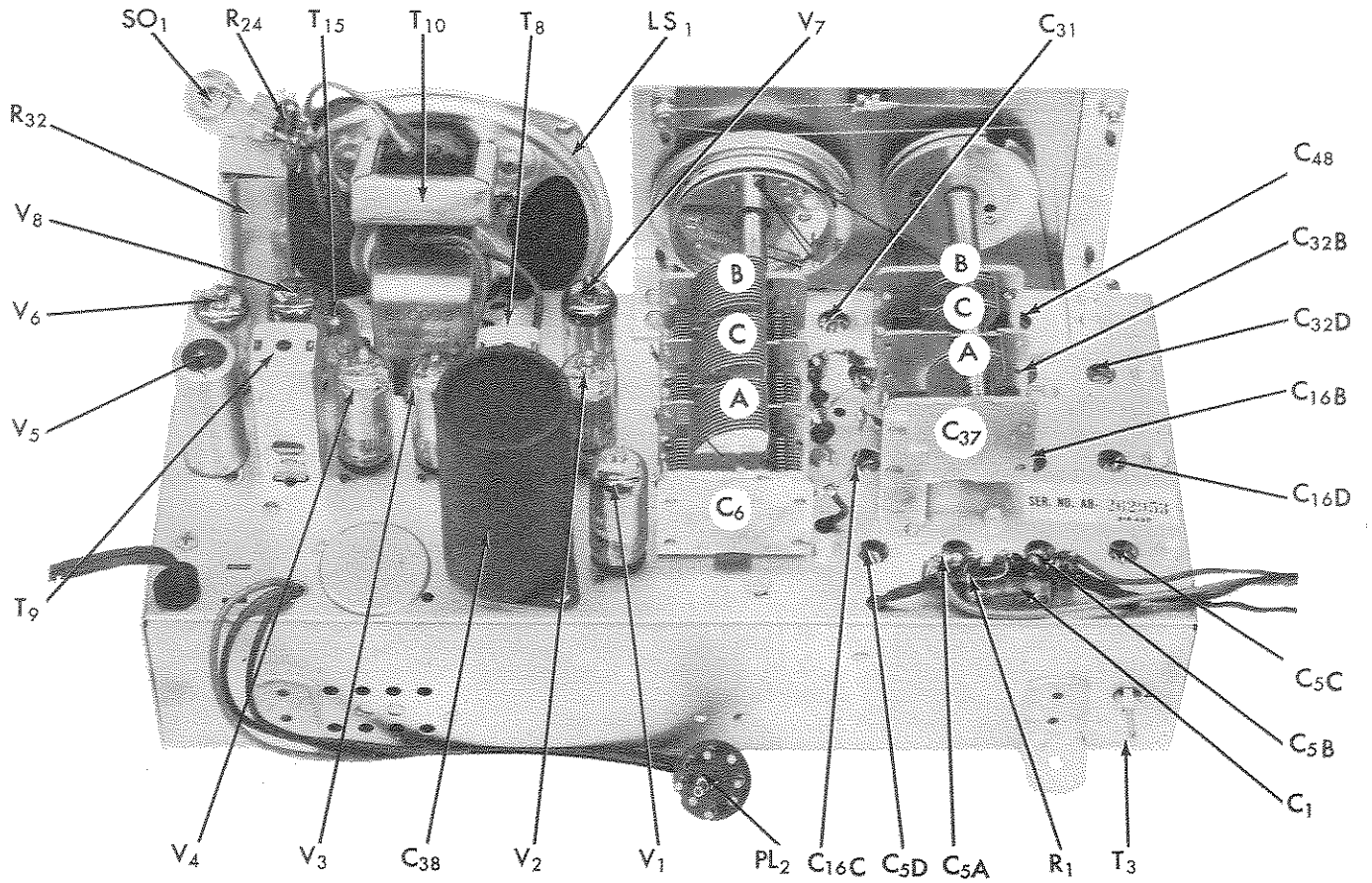

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FIG. 8 TOP VIEW - COMPONENT LOCATION

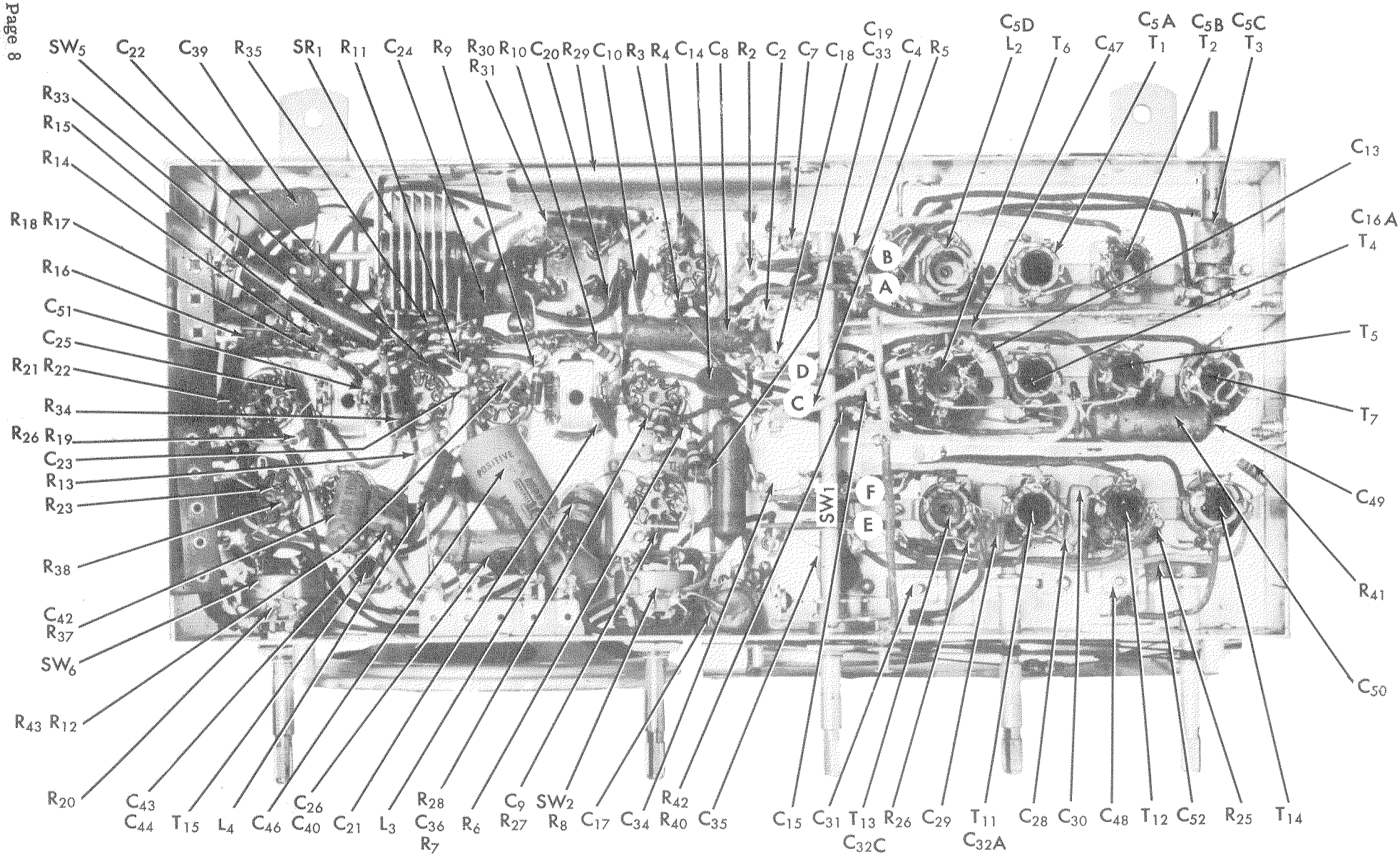

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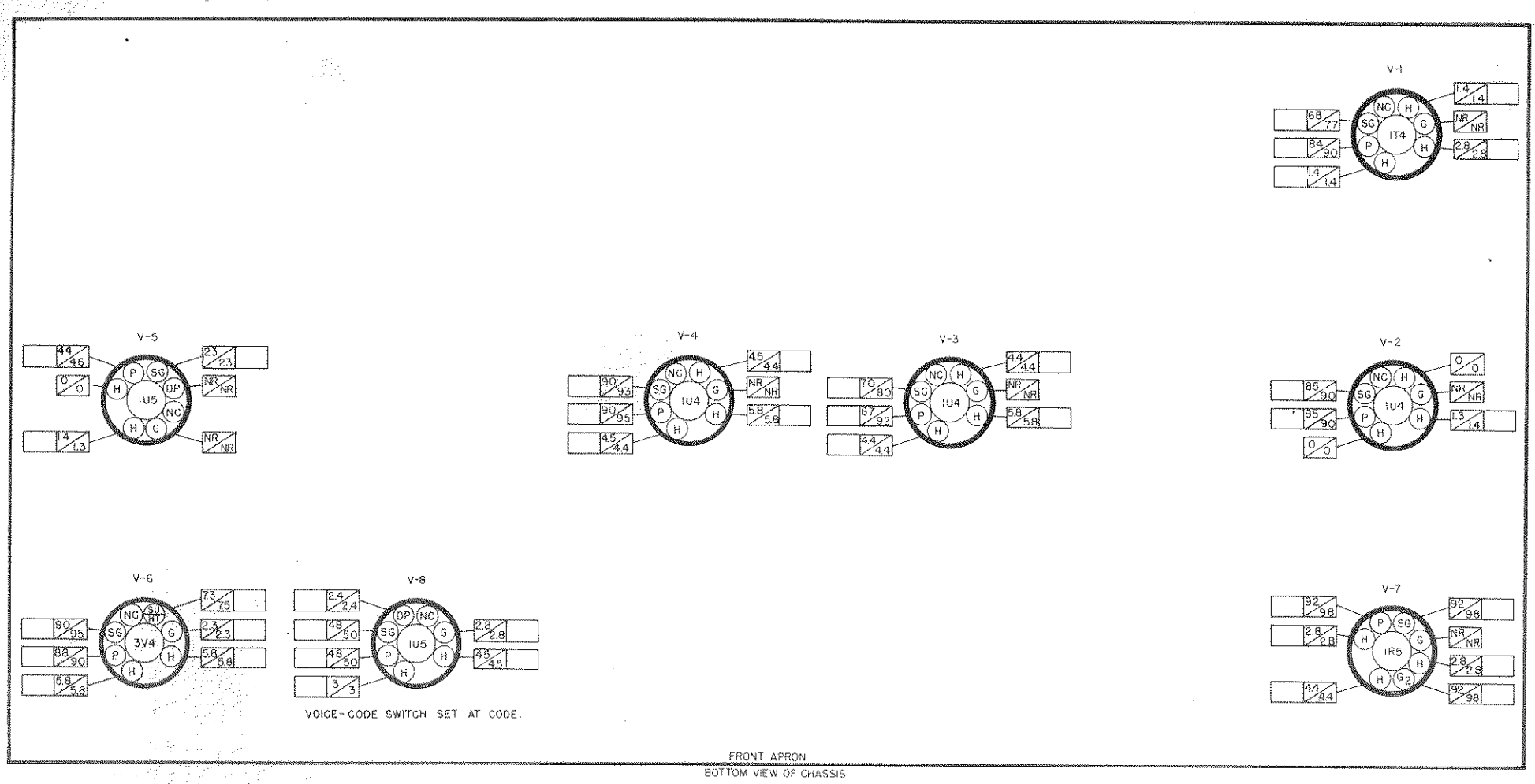
FIG. 9 BOTTOM VIEW - COMPONENT LOCATION

SERVICE PARTS LIST

Schematic Symbol	Description	Hallicrafters Part Number
	CAPACITORS	
C-1,33,42	.003 mfd., 600V., tubular	46AZ302J
C-2,13,23, 34	100 mmf. 500 V., ceramic	47B20101K5
C-4,15	15 mmf. 500 V., ceramic	47B20150K5
C-5	Trimmer assembly, antenna stage; 4 sections	44B385
C-6	TUNING capacitor, 3 section	48C221
C-7,18	68 mmf. 500 V., ceramic	47B20680K5
C-8	.05 mfd. 200 V., tubular	46AU503J
C-9,10,14, 20,21,22, 26,35	5000 mmf. 500 V., ceramic disc	47A168
C-16	Trimmer assembly, RF stage; 4 sections	44B386
C-17	Resonant capacitor, 455 KC	46A174
C-19,49,50	.01 mfd. 600 V., tubular	46AY103J
C-24	.1 mfd. 200 V., tubular	46AU104J
C-25	Composite capacitor: 2000-5000-100-5000 mmf. 500 V., ceramic	47A203
C-28	50 mmf. 500 V., ceramic	47B20500K5
C-29	3900 mmf. 500 V., mica	47X35A392J
C-30	1400 mmf. 500 V., mica	47X30A142J
C-31	Padder, 450 mmf.: includes mtg. bracket	44A376
C-32	Trimmer assembly, oscillator stage; 4 sections	44B387
C-36	7 mmf. 500 V., ceramic	47X20UK070K
C-37	BAND SPREAD capacitor, 3 section	48C227
C-38	60-20-20 mfd. 150 V., 2000 mfd. 15 V.; electrolytic	45B162
C-39	.02 mfd. 600 V., molded tubular	46BR203L6
C-40	.02 mfd. 200 V., tubular	46AU203J
C-43	100 mmf. 500 V., mica	47X20A101M
C-44	470 mmf. 500 V., mica	47X20A471K
C-46	100 mfd. 25 V., electrolytic	45A116
C-47	5.6 mmf. 500 V., bakelite	47A160-7
C-48	Padder, 45 mmf.; includes mtg. bracket	44A384
C-51	220 mmf. 500 V., mica	47B20221K5
C-52	120 mmf. 500 V., mica	47X20B121K
	RESISTORS	
R-1,43	10,000 ohms 1/2 watt, carbon	23X20X103K
R-2,6,10, 13,14,15	4.7 megohms 1/2 watt, carbon	23X20X475M
R-3	150 ohms 1/2 watt, carbon	23X20X151K
R-4,37	22,000 ohms 1/2 watt, carbon	23X20X223K
R-5,19	470 ohms 1/2 watt, carbon	23X20X471K
R-7,24	100 ohms 1/2 watt, carbon	23X20X101K
R-8	500,000 ohms, sensitivity control (R-8 includes VOICE/CODE switch SW-2)	25B847
R-9,41	2200 ohms 1/2 watt, carbon	23X20X222K
R-11	100,000 ohms 1/2 watt, carbon	23X20X104K
R-12	6800 ohms 1/2 watt, carbon	23X20X682K
R-16,23	2.2 megohms 1/2 watt, carbon	23X20X225M
R-17,27,38	47,000 ohms 1/2 watt, carbon	23X20X473K
R-18,22	470,000 ohms 1/2 watt, carbon	23X20X474K
R-20	2 megohms, VOLUME control (R-20 includes switch SW-6)	25B839
R-21	3.3 megohms 1/2 watt, carbon	23X20X335M
R-25	330 ohms 1/2 watt, carbon	23X20X331K
R-26	680 ohms 1/2 watt, carbon	23X20X681K
R-28,40	47 ohms 1/2 watt, carbon	23X20X470K
R-29	270 ohms 2.3 watts, 350 ohms 5.5 watts; wirewound	24A912
R-30,34	560 ohms 1 watt, carbon	23X30X561K
R-31	680 ohms 1 watt, carbon	23X30X681K
R-32	600 ohms 9.3 watts, wirewound	24A913
R-33	22 ohms 2 watts, wirewound	24BV220E
R-35	1200 ohms 1/2 watt, carbon	23X20X122K
R-36	33 ohms 1/2 watt, carbon	23X20X330K
R-42	4700 ohms 1/2 watt, carbon	23X20X472K
	COILS AND TRANSFORMERS	
T-1	Coil, antenna; band 4	51B1250
T-2	Coil, antenna; band 3	51B1137
T-3	Coil, antenna; band 1	51B1191
T-4	Coil, RF; band 4	51B1253
T-5	Coil, RF; band 3	51B1248
T-6	Coil, RF; band 2	51B1247
T-7	Coil, RF; band 1	51B1192
T-8	Transformer, 1st IF	50C233
T-9	Transformer, 2nd IF	50C234
T-10	Transformer, audio output (part of speaker assembly LS-1)	---
T-11	Coil, oscillator; band 4	51B1254
T-12	Coil, oscillator; band 3	51B1255
T-13	Coil, oscillator; band 2	51B1144
T-14	Coil, oscillator; band 1	51B1193
T-15	Coil, BFO (includes mtg. clip)	50B402
L-1	Loop antenna	57C125
L-2	Coil, antenna loading; band 2	51B1136
L-3	Choke, RF	53A008
L-4	Choke, filament	53A121
	SWITCHES	
SW-1	Switch assembly, BAND SELECTOR; 6 sections	60C362
SW-2	Switch, VOICE/CODE; dpst (part of sensitivity control R-8)	---
SW-5	Switch, AC/DC- BATTERY change cover; 3pdt	60A363
SW-6	Switch, ON-OFF; dpst (part of VOLUME control R-20)	---
	PLUGS AND SOCKETS	
PL-1	Line cord and plug	87B1683
PL-2	Plug, battery; 6 pin	10A344
SO-1	Jack, PHONES	36A036
	Socket, 7 pin miniature tube	6B300
	TUBE AND RECTIFIERS	
V-1	1T4: RF amplifier	90X1T4
V-2;3,4	1U4: mixer; 1st and 2nd IF amplifiers	90X1U4
V-5; 8	1U5: detector and audio amplifier; beat frequency oscillator	90X1U5
V-6	3V4: audio output	90X3V4
V-7	1R5: oscillator	90X1R5
SR-1	Selenium rectifier, 150 ma	27A151
	MISCELLANEOUS	
	Antenna, whip	57B142
	Cabinet	78F491
	Clip, mtg.; for T-8 and T-9	76A385
	Dial cord, 51" (for band spread pointer and gang drive and main tuning gang drive)	38A001
	Dial cord, 28" (for main tuning pointer drive)	38A017
	Dial scale	83C359
	Escutcheon	7D109
	Grille cloth	14B180
	Grommet, rubber; (used on front apron of chassis)	16A145
	Grommet, rubber (used for mounting C-6 and LS-1)	16A128
	Insulator, whip antenna	65A534
	Knob, TUNING and BAND SPREAD	15B172
	Knob, BAND SELECTOR, VOICE/CODE and ON-OFF VOLUME	15B177
	Lock, line cord; male	76A397-1
	Lock, line cord; female	76A397-2
	Plate, mtg. (for mounting C-38)	8A749
	Pointer, band spread	82A161-1
	Pointer, main tuning	82A161
	Shaft, main tuning and band spread	74A274
LS-1	Speaker, 5" PM (includes output transformer T-10 and mtg. bracket)	85C093
	Spring, dial drive	75A012
	Strap, battery mtg.	76B467
	Window, dial	22B250



NOTES —

1. SOCKET VIEWS ARE BOTTOM VIEWS.
2. ALL VOLTAGES ARE MEASURED BETWEEN TUBE SOCKET TERMINALS & B-, THE ELECTRICAL GROUND BUS (NOT CHASSIS) WITH ZERO SIGNAL INPUT.
3. LINE VOLTAGE — 117V. AC. BATTERY VOLTAGES TAKEN WITH FRESH BATTERY PACK.
4. ALL VOLTAGES SHOWN ARE DC UNLESS OTHERWISE SPECIFIED.
5. DC VOLTAGES SHOWN WERE MEASURED WITH A VACUUM TUBE VOLTMETER.
6. "NC" — NO CONNECTION.
7. "NR" — NOT READABLE (READING GENERALLY MEANINGLESS)
8. ▭ SPACE PROVIDED FOR SERVICE METER READINGS.
9. ▱ UPPER VOLTAGE READINGS IN INDICATOR SPACE SHOW BATTERY OPERATION.
10. VOLTAGES FOR TUBE V-8, ARE SHOWN WITH VOICE-CODE SWITCH IN CODE POSITION.
11. ALL READINGS TAKEN WITH LINE PLUG POLARIZED SO THAT GROUND BUS B- CHASSIS ARE AT SAME POTENTIAL AS THE CHASSIS GROUND.

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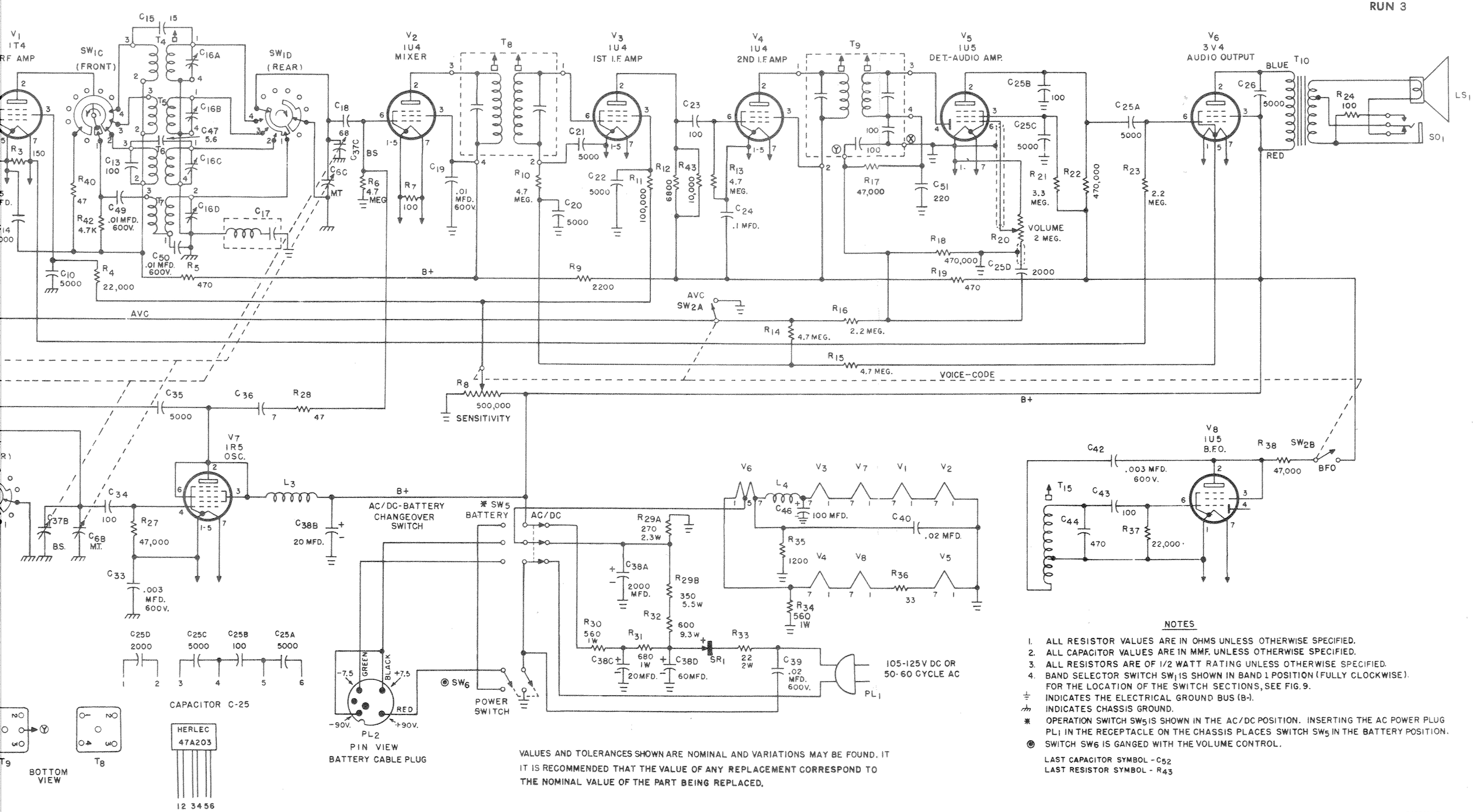
FIG. 10 TUBE SOCKET VOLTAGE CHART

MODEL S-72L

RUN 3



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

NOTES

1. ALL RESISTOR VALUES ARE IN OHMS UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITOR VALUES ARE IN MMF. UNLESS OTHERWISE SPECIFIED.
3. ALL RESISTORS ARE OF 1/2 WATT RATING UNLESS OTHERWISE SPECIFIED.
4. BAND SELECTOR SWITCH SW_1 IS SHOWN IN BAND 1 POSITION (FULLY CLOCKWISE). FOR THE LOCATION OF THE SWITCH SECTIONS, SEE FIG. 9.

⏚ INDICATES THE ELECTRICAL GROUND BUS (B-).

⏚ INDICATES CHASSIS GROUND.

* OPERATION SWITCH SW_5 IS SHOWN IN THE AC/DC POSITION. INSERTING THE AC POWER PLUG PL_1 IN THE RECEPTACLE ON THE CHASSIS PLACES SWITCH SW_5 IN THE BATTERY POSITION.

◉ SWITCH SW_6 IS GANGED WITH THE VOLUME CONTROL.

LAST CAPACITOR SYMBOL - C_{52}
LAST RESISTOR SYMBOL - R_{43}

89E334-E

FIG. 11 SCHEMATIC DIAGRAM

WHIP ANT.
LONG WIRE ANT.
LOOP ANTENNA
L_1
C_1 .003 MFD. 600V.
C_2 100
R_1 10,000
SW_{1A} (FRONT)
SW_{1B} (REAR)
C_4 15
T_1
C_{5A}
T_2
C_{5B}
T_3
C_{5C}
L_2
C_{5D}
C_{6A} M.T.
C_{37A} B.S.
C_7 68
R_2 4.7 MEG.
C_8 .05 MFD.
C_{14} 5000
C_9 5000
V_1 1T4 RF AMP
R_3 150
C_{10} 5000
R_4 22,000
C_{15} 15
T_4
C_{16A}
T_5
C_{16B}
C_{47} 5.6
T_6
C_{16C}
T_7
C_{16D}
C_{17}
SW_{1C} (FRONT)
SW_{1D} (REAR)
C_{13} 100
R_{40} 47
C_{49} .01 MFD. 600V.
R_{42} 4.7K
C_{50} .01 MFD. 600V.
R_5 470
C_{18} 68
C_{37C}
C_{6C} MT
BS
R_6 4.7 MEG
V_2 1U4 MIXER
R_7 100
C_{19} .01 MFD. 600V.
T_8
V_3 1U4 1ST I.F AMP
C_{21} 5000
R_{10} 4.7 MEG.
C_{20} 5000
C_{22} 5000
R_{11} 100,000
R_{12} 6800
C_{23} 100
R_{43} 10,000
V_4 1U4 2ND I.F AMP
R_{13} 4.7 MEG.
C_{24} .1 MFD.
T_9
V_5 1U5 DET.-AUDIO AMP.
100
100
R_{17} 47,000
C_{51} 220
R_{18} 470,000
C_{25}
R_{19} 470
R_{20}
B+
R_9 2200
AVC
SW_{2A}
R_{16} 2.2 MEG.
R_{14} 4.7 MEG.
R_{15} 4.7 MEG.
VOICE-CODE
R_8 500,000
SENSITIVITY
C_{35} 5000
C_{36}
R_{28} 47
SW_{1E} (FRONT)
SW_{1F} (REAR)
T_{11}
C_{28} 50
C_{29} 3900
C_{32A}
T_{12}
R_{25} 330
C_{30} 1400
C_{32B}
T_{13}
R_{26} 680
C_{31} 450
C_{32C}
T_{14}
R_{41} 2200
C_{48} 45
C_{32D}
C_{52} 120
V_7 1R5 OSC.
C_{34} 100
R_{27} 47,000
C_{33} .003 MFD. 600V.
C_{37B} BS.
C_{6B} M.T.
L_3
C_{38B} 20 MFD.
AC/DC-BATTERY CHANGEOVER SWITCH
* SW_5 BATTERY
AC/DC
R_{29A} 270 2.3W
C_{38A} 2000 MFD.
R_{29B} 350 5.5W
R_{32} 600 9.3W
R_{30} 560 1W
R_{31} 680 1W
R_{33} 22 2W
C_{38C} 20MFD.
C_{38D} 60MFD.
SR_1
C_{39} .02 MFD. 600V.
PL_1
105-125V DC OR 50-60 CYCLE AC
V_6 V_3 V_7 V_1 V_2
L_4
C_{46} 100 MFD.
C_{40} .02 MFD.
R_{35} 1200
V_4 V_8 V_5
R_{36} 33
R_{34} 560 1W
SW_6 POWER SWITCH
GREEN -7.5
BLACK +7.5
RED
-90V. +90V.
PL_2
PIN VIEW
BATTERY CABLE PLUG

CAPACITOR C-25
C_{25D} 2000
C_{25C} 5000
C_{25B} 100
C_{25A} 5000
1 2 3 4 5 6

REPRESENTS TRANSFORMERS
T-1, T-2, T-4 TO T-7, T-11 TO T-14 & L-2

T_3 TOP VIEW

T_9 BOTTOM VIEW

T_8

HERLEC 47A203
1 2 3 4 5 6

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

SHORTWAVE STATION LOG

STATION	CITY	TIME	BAND	TUNING DIAL SETTING	BAND SPREAD DIAL SETTING

Warranty

"The Hallicrafter's Company warrants each new radio product manufactured by it to be free from defective material and workmanship and agrees to remedy any such defect or to furnish a new part in exchange for any part of any unit of its manufacture which under normal installation, use and service discloses such defect, provided the unit is delivered by the owner to our authorized radio dealer, wholesaler, from whom purchased, or, authorized service center, intact, for examination, with all transportation charges prepaid within ninety days from the date of sale to original purchaser and provided that such examination discloses in our judgment that it is thus defective.

This warranty does not extend to any of our radio products which have been subjected to misuse, neglect, accident, incorrect wiring not our own, improper installation, or to use in violation of instructions furnished by us, nor extend to units which have been repaired or altered outside of our factory or authorized service center, nor to cases where the serial number thereof has been removed, defaced or changed, nor to accessories used therewith not of our own manufacture.

Any part of a unit approved for remedy or exchange hereunder will be remedied or exchanged by the authorized radio dealer or wholesaler without charge to the owner.

This warranty is in lieu of all other warranties expressed or implied and no representative or person is authorized to assume for us any other liability in connection with the sale of our radio products."

Form No. 94X622

the Hallicrafters co.

BOOK NO. 94X789
751 - RUN 3