

# the hallicrafters co.

## SERVICE BULLETIN FOR MODEL S-53

### GENERAL

- Tubes . . . . . Seven plus rectifier  
 Speaker . . . . . 5-inch PM  
 Voice Coil Impedance . . . . . 3.2 ohms  
 Headset Output . . . . . Low Impedance  
 Antenna . . . . . Provision for external antenna  
 Tuning . . . . . Manual  
 Tuning Range . . . . .
- | Range | Frequency Coverage |
|-------|--------------------|
| A     | 550 KC - 1650 KC   |
| B     | 2.6 MC - 6.4 MC    |
| C     | 6.2 MC - 16.5 MC   |
| D     | 14 MC - 31 MC      |
| E     | 48 MC - 55 MC      |
- Intermediate Frequency . . . . . 2,075 mc  
 Power Supply . . . . . 105-125 V, 60 cycles AC  
 Power Consumption . . . . . 50 watts



922483

### RESTRINGING DIAL CORD

To restring the general coverage dial cord, cut a 48-inch length of 30 lb. test dial cord and tie one end to the tension spring of the general coverage tuning capacitor drive pulley at position "1" on the diagram. Follow the sequence "1" through "12" and at position "12" stretch the tension spring and tie the cord securely.

Set the general coverage tuning condenser at maximum capacity and attach and set the pointer in line with the left hand index marker.

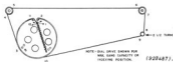


Fig. 1. Dial cable stringing procedure, general coverage dial.

To restring the band spread dial cord, cut a 36-inch length of 30 lb. test dial cord and follow the procedure as above, starting at position "A" ending at "L".

Set the bandspread condenser at minimum capacity and attach and set the pointer at "100" on the logging scale.

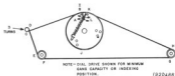


Fig. 2. Dial cable stringing procedure, band spread dial.

### REPLACING LAMPS

Refer to Fig. 8, for the location of the two dial lamps used in the receiver. To gain access to detector lamps, reach in through cabinet cover and unclip the dial lamp sockets. The sockets may then be brought out into the open to change the detector lamp. Replace lamps with 6-8 V. Mazda #44, (Blue bead lamps or equivalent).

### ALIGNMENT PROCEDURE

Set the following controls before alignment.

- STANDBY/RECEIVE . . . . . Set at RECEIVE  
 CW/AM . . . . . Set at AM (see step 2)  
 SENSITIVITY . . . . . Set at maximum  
 NOISE LIMITER . . . . . Set at OFF  
 VOLUME . . . . . Set at maximum  
 TONE switch . . . . . Set at HIGH  
 BANDSPREAD . . . . . Set at 100  
 SPEAKER/PHONES switch . . . . . Set at SPEAKER

Remove the receiver chassis from the cabinet to make alignment adjustments. The chassis is held in the cabinet by three screws along both the bottom edge of the front panel and the rear of the cabinet, and two screws on either side of the front panel.

Before starting the alignment procedure, index the general coverage dial pointer on the low frequency end of the range and index the bandspread dial pointer at 100. The general coverage condenser should index at maximum capacity and the bandspread condenser should index at minimum capacity.

### ALIGNMENT CHART

Step	Dummy Antenna	Signal Generator Coupling	Signal Generator Frequency	Band Selector Setting	Receiver Dial Setting	Adjust	Remarks
1	0.1 mfd. capacitor	High side to front stator section of tuning cap. Low side to chassis.	2.075 mc	A	Tuning cap. fully open	S1, S2, S3, S4, S5, S6, S7, S8	Adjust for maximum audio output at speaker voice coil. Use just enough signal generator output to obtain a 50 mw audio level.
2	See step 1.	See step 1.	2.075 mc	A	See step 1.	S9	With the CW/AM switch set at CW, adjust S-9 for zero beat.
3	300 ohm carbon resistor	High side to "A1" on antenna strip. Jumper connected between "A2" and "G"	1500 kc 800 kc	A -	1500 kc 800 kc	*A, B *C	Adjust for maximum output as in step 1.
4	See step 3.	See step 3.	6 mc	B	6 mc	*D, E	Adjust for maximum output as in step 1.
5	See step 3.	See step 3.	15 mc	C	15 mc	*F, G	Adjust for maximum output as in step 1.
6	See step 3.	See step 3.	30 mc	D	30 mc	*H, I	Adjust for maximum output as in step 1.
7	See step 3.	See step 3.	52 mc	E	52 mc	*J, K	Adjust for maximum output as in step 1.

\*Note - Calibration adjustments.

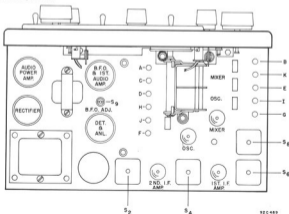


Fig. 2. Alignment points, top view.

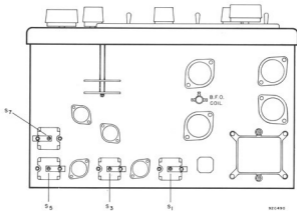


Fig. 4. Alignment points, bottom view.

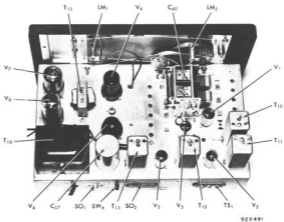
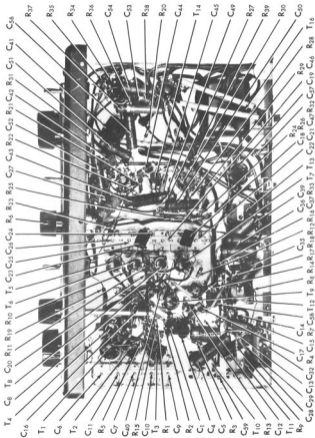


Fig. 5. Component location, top view.



92X492

FIG. 6. Component location, bottom view.

## SERVICE PARTS LIST

Ref. No.	Description	Hallicrafters Part Number	Ref. No.	Description	Hallicrafters Part Number
<b>CONDENSERS</b>					
C-1,4,58	.005 mfd. 450 V., ceramic	47A168	T-4	Transformer, oscillator stage, band B	51B1032
C-5,39,49	.05 mfd. 400 V., tubular	48AW503Z			
C-6,7,9,10, 11	Trimmer assembly, 5 section antenna stage	44B355	T-7	Transformer, oscillator stage, band C	51B1033
C-8,42	220 mmf. 500 V., mica	CM29A221K	T-8	Transformer, oscillator stage, band D	51B1034
C-12	Trimmer adjustable, wave trap	44A358			
C-13,14,15	4.7 mmf. 500 V., bakelite	47A160-6	T-9	Transformer, oscillator stage, band E	51B1035
C-16,59	2.2 mmf. 500 V., bakelite	47A160-4			
C-17,40,44	100 mmf. 500 V., ceramic	47A085	T-10,11, 12,13	Transformer, IF amp. and detector stages	500360
C-18,19,22, 24,25,26	Trimmer assembly, 6 sections, oscillator stage	44B354	T-14	Transformer, BFO	540038
C-20	4700 mmf. 500 V., mica	CM25A472K	T-15	Transformer, audio output	55B107
C-21	1,900 mmf. 25 500 V., silver mica	CM20C102G	T-16	Transformer, power	53C164
C-23	500 mmf. 25 500 V., silver mica	CM20C501G	L-1	Coil, low pass filter	53A135
C-27	.1 mfd. 200 V., tubular	46AU104J	L-2	Coil, wave trap, antenna section	51B1036
C-28,28,54	.02 mfd. 600 V., tubular	46A230Z	<b>SWITCHES</b>		
C-29,32,35, 37,43,50, 52,53,56	.01 mfd. 600 V., tubular	46A2103J	SW-1	Band switch assembly	80B323
C-41	.01 mfd. 400 V., molded paper	46AB103J	SW-2	Switch, toggle, DPST, CW/AM control	88A285
C-45	470 mmf. 500 V., mica	CM20A471J	SW-3,5,7	Switch, toggle, SPST, STANBY/REC., NOISE LIMITER & TONE control	80A138
C-46,47	50 mmf. 500 V., ceramic	47A091	SW-4	Switch, part of SENSITIVITY control, R-6	
C-51	.003 mfd. 400 V., tubular	46A230Z	SW-6	Switch, slide, SPDT, SPEAKER/PHONE control	60A243
C-55	10 mmf. 500 V., mica	CC30UK106K	SW-8	Switch, part of VOLUME control R-31	
C-57	50-10-10 mfd. 350-100-25V., electrolytic	45D132	<b>PLUGS AND SOCKETS</b>		
C-59	Tuning condenser, 2 section	48C198	PL-1	Line cord and plug	87A078
<b>RESISTORS</b>					
R-1,24	1.5 megohms $\frac{1}{2}$ watt, carbon	RC20AE195M	SO-1	Receptacle, phone motor	36A029
R-2	2200 ohms $\frac{1}{2}$ watt, carbon	RC20AE222M	SO-2	Receptacle, headphone jack	88A071
R-3,15	27 ohms $\frac{1}{2}$ watt, carbon	RC20AE27M		Socket, octal (tube)	6A269
R-4,27	330,000 ohms $\frac{1}{2}$ watt, carbon	RC20AE330K		Socket, miniature (tube)	6A297
R-5,23	680 ohms $\frac{1}{2}$ watt, carbon	RC20AE681K		Socket, dial light	88B060
R-6	33,000 ohms, variable, SENSITIVITY control	25B903	<b>TUBES, RECTIFIERS AND LAMPS</b>		
R-7,17	100 ohms $\frac{1}{2}$ watt, carbon	RC20AE101K	V-1,2,3	6BA6, mixer, 1st & 2nd IF amplifier	90X6BA6
R-8,16,24	1000 ohms $\frac{1}{2}$ watt, carbon	RC20AE102M	V-4	6HE, detector & ANL	90X608
R-9,30,32, 36	470,000 ohms $\frac{1}{2}$ watt, carbon	RC20AE474M	V-5	6CA, oscillator	90X6C4
R-10,12	4700 ohms $\frac{1}{2}$ watt, carbon	RC20AE472K	V-6	6EC7, audio amplifier & BFO	90X6EC7
R-11	10,000 ohms $\frac{1}{2}$ watt, carbon	RC20AE103K	V-7	6XGT, power amplifier	90X6XGT
R-13,23	22,000 ohms $\frac{1}{2}$ watt, carbon	RC20AE223M	V-8	5YGT, rectifier	90X5YGT
R-14	10,000 ohms $\frac{1}{2}$ watt, carbon	RC20AE103K	LM-1,2	PLM, 6-8 V., 250 ma., Mazda #44	39A003
R-18	22,000 ohms $\frac{1}{2}$ watt, carbon	RC20AE223M	<b>MISCELLANEOUS</b>		
R-19	120 ohms $\frac{1}{2}$ watt, carbon	RC20AE121M	TS-1	Terminal strip, antenna	88A032
R-20	220,000 ohms $\frac{1}{2}$ watt, carbon	RC20AE224K		Lock, line cord	76A299
R-21	15 megohms $\frac{1}{2}$ watt, carbon	RC20AE156K		Clip, coil mg.	76A325
R-22,26	47,500 ohms $\frac{1}{2}$ watt, carbon	RC20AE473M		Shaft, tuning drive	74A248
R-25	100,000 ohms $\frac{1}{2}$ watt, carbon	RC20AE104K		"C" washer (tuning drive shaft)	4A139
R-28	1 megohm $\frac{1}{2}$ watt, carbon	RC20AE105M		Spring, dial cord	75A012
R-29	3.7 megohms $\frac{1}{2}$ watt, carbon	RC20AE375M		Dial cord	38A019
R-31	2 megohms, variable, VOLUME control	25B902		Plate, dial	63C333
R-33	15 ohms $\frac{1}{2}$ watt, carbon	RC20AE153M		Pointer, general coverage dial	82A149
R-37	680 ohms $\frac{1}{2}$ watts, carbon	RC40AE681M		Pointer, band spread dial	82A148
R-38	1000 ohms $\frac{1}{2}$ watt, carbon	RC20AE102M		Dial glass (calibrated)	12A394
R-39	8.8 ohms $\frac{1}{2}$ watt, carbon	RC30AE088K		Gasket, dial glass	12A343
<b>TRANSFORMERS AND COILS</b>					
T-1	Transformer, antenna stage, band A	51B1028		Clip, dial glass mg.	76A390
T-2	Transformer, antenna stage, band B	51B1027		Pat. dial clip	16A126
T-3	Transformer, antenna stage, bands C & D	51B1026		Pat. felt (round disc)	14A166
T-4	Transformer, antenna stage, band E	51B1030		Pat. sponge rubber	16A047-1
T-5	Transformer, oscillator stage, band A	51B1031		Mounting felt, rubber	16A067
				Speaker, P.M.	85C030
				Knob, BAND SELECTOR, SENSITIVITY, and VOLUME controls	15A049
				Knob, BAND SPREAD and general coverage controls	15A047



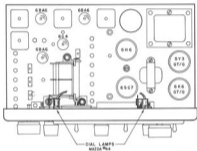
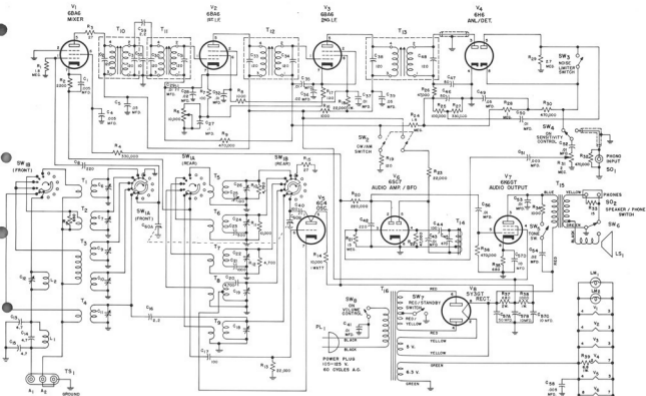


Fig. 2. Top view, location of tubes and dial lamps.

"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."



BAND SELECTOR SWITCH SW 1 POSITION	RANGE
A	540-650 MC
B	2.5-6.5 MC
C	6-11.5 MC
D	13.5-32 MC
E	47-55 MC

NOTE:  
SWITCH SHOWN IN POSITION E.

RESISTOR VALUES ARE IN OHMS.  
CAPACITOR VALUES ARE IN MUF UNLESS OTHERWISE SPECIFIED.

LAST RESISTOR SYMBOL — R — 39  
LAST CAPACITOR SYMBOL — C — 60

80074-A

Fig. 2. Schematic diagram.