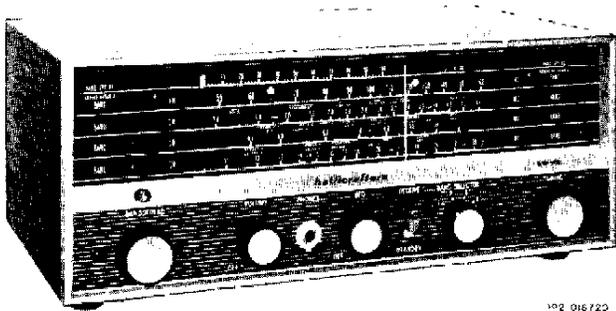




SERVICE DATA MODEL SW-500



092 016723

Figure 1. Hallicrafters Model SW-500.

TECHNICAL SPECIFICATIONS

- TUBES . . . . . Four, plus rectifier
- SPEAKER . . . . . 5 inch PM, 8 ohm voice coil
- ANTENNA . . . . . Broadcast - Self contained ferrite loopstick  
Short wave - 45" collapsible whip antenna and provision for single wire or 50-600 ohm line
- POWER SUPPLY, . . . . . 105-125 volts DC or AC (50 60 CPS)
- POWER CONSUMPTION . . . . . 30 watts
- INTERMEDIATE FREQUENCY . . . . . 455 KC
- FREQUENCY COVERAGE . . . . . 540 KC to 31 MC
- DIMENSIONS . . . . . 6-3 4" high, 14-1 2" wide, 9" deep
- WEIGHT . . . . . 11-3 4 lbs.
- SHIPPING WEIGHT . . . . . 13 lbs. approximately

TUBE AND DIAL LAMP REPLACEMENT

For access to the tubes, remove the cabinet rear panel which is held in place by two screws. Care should be exercised so as not to damage the leads to the loopstick antenna mounted on the inside of the rear panel. For dial lamp replacement, remove the chassis from the cabinet (see CHASSIS REMOVAL).

CHASSIS REMOVAL

To remove the chassis from the cabinet, remove the four screws (within the plastic feet) that secure the chassis to the cabinet. Slide the chassis out the rear of the cabinet.

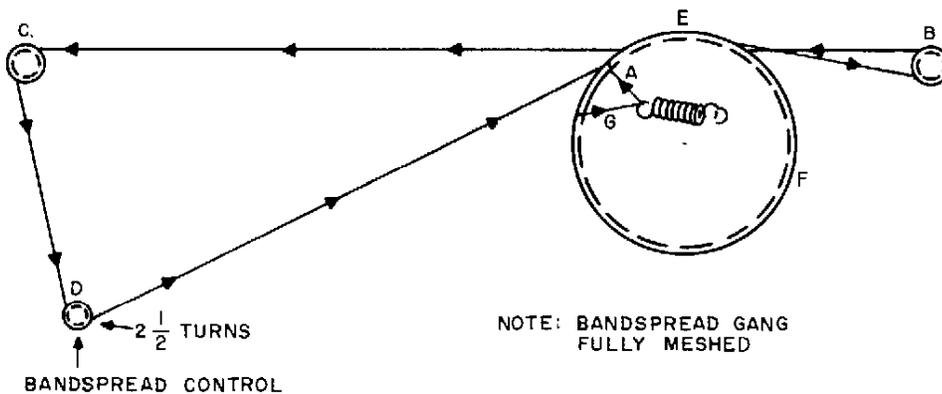
CAUTION: Just before removing the chassis from the cabinet rotate the MAIN TUNING and BAND SPREAD controls fully counterclockwise to prevent damage of the tuning capacitors.

DIAL CORD RESTRINGING

Remove the chassis from the cabinet to restring either dial cord (see CHASSIS REMOVAL).

To restring the BAND SPREAD dial cord remove control knobs, phone jack retaining nut, escutcheon trim plate and clip on each end of plate (2 screws), insulation spacer, dial scale (two screws), and dial plate (four hex head screws). Care should be taken when removing the dial plate not to damage the pointers. Referring to figure 2, follow the arrows and letter sequence to string the dial cord. The dial cord spring should be expanded from 1 4" to 1 2". Place the BAND SPREAD pointer on the bottom of the dial rail and engage the dial cord with the pointer clips. Replace the dial plate, dial scale, escutcheon trim strip (replace clips on either end of plate), and control knobs. With BAND SPREAD control fully counterclockwise, align the pointer on "O" and apply a drop of cement to the dial cord and pointer clip. Replace chassis in the cabinet.

To restring the MAIN TUNING dial cord with the chassis removed from the cabinet, refer to figure 7 and follow the arrows and letter sequence. The dial cord spring should be expanded 1 4" to 1 2". Place the MAIN TUNING pointer on the dial rail and engage the dial cord with the pointer clips. With the MAIN TUNING control fully counterclockwise, align the pointer with "O" on the BAND SPREAD scale and apply a drop of cement to the dial cord and pointer clip. Replace the chassis in the cabinet.



092-009505

Figure 2. Band Spread, Stringing Diagram Front View

# ALIGNMENT PROCEDURE

- Use an amplitude modulated generator covering 455 KC to 30 MC.
- Connect the output meter across the speaker voice coil.
- Use a non-metallic alignment tool.
- Use a standard EIA dummy antenna as shown in figure 3.
- Set BFO control to OFF, VOLUME control maximum clockwise, RECEIVE/STANDBY control to RECEIVE, and the BANDSPREAD control to 100.
- Refer to figures 4 and 5 for location of adjustments.

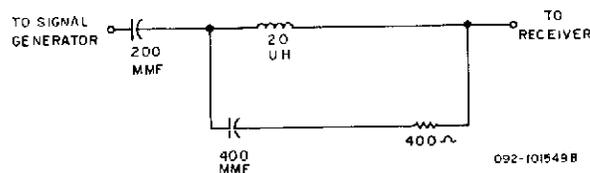


Figure 3. EIA Dummy Antenna

Step	Signal Generator Connections	Generator Frequency	Band Selector Setting	Receiver Dial Setting	Adjust
*1	High side through a .01 mfd capacitor to stator plates of rear section of TUNING capacitor.	455 KC (30% mod.)	1	1.0 MC	A, B, C and D for maximum output. Keep reducing the generator output to keep the output meter below 50 milliwatts.
2	High side through EIA antenna to terminal ANT on rear of chassis. Low side to chassis.	1400 KC (30% mod.)	1	1400 KC	C1 and C24 for maximum output as in step 1.
3	Same as step 2.	600 KC (30% mod.)	1	600 KC	L1 for maximum output as in step 1.
4	Same as step 2.	-	1	-	Repeat steps 2 and 3 until no increase in output can be obtained on either adjustment.
5	Same as step 2.	4.3 MC (30% mod.)	2	4.3 MC	C2 and C25 for maximum output as in step 1.
6	Same as step 2.	1.9 MC (30% mod.)	2	1.9 MC	T2 and L2 for maximum output as in step 1.
7	Same as step 2.	-	2	-	Repeat steps 5 and 6 until no increase in output can be obtained.
8	Same as step 2.	11 MC (30% mod.)	3	11 MC	C3 and C26 for maximum output as in step 1.
9	Same as step 2.	5 MC (30% mod.)	3	5 MC	T3 and L3 for maximum output as in step 1.
10	Same as step 2.	-	3	-	Repeat steps 8 and 9 until no increase in output can be obtained.
11	Same as step 2.	30 MC (30% mod.)	4	30 MC	C4 and C27 for maximum output as in step 1.
12	Same as step 2.	14 MC (30% mod.)	4	14 MC	T4 and L4 for maximum output as in step 1.
13	Same as step 2.	-	4	-	Repeat steps 11 and 12 until no increase in output can be obtained.

\*Before beginning IF procedure, rotate AM/CW ratio control to its full counterclockwise position.

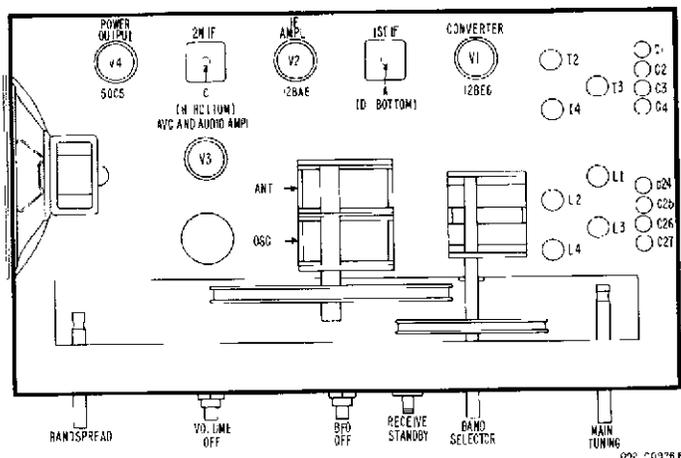


Figure 4. Chassis, Top View

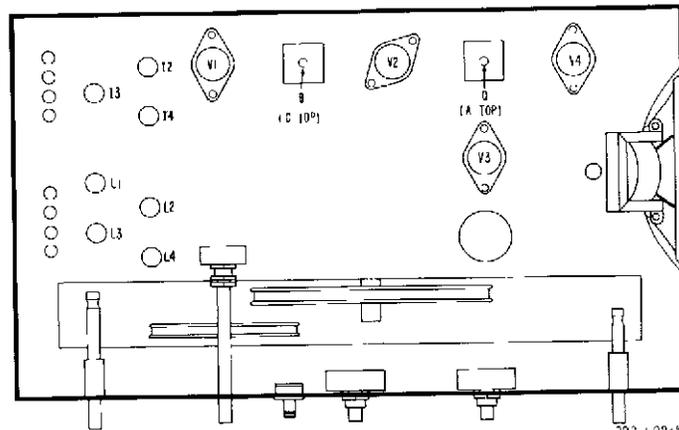
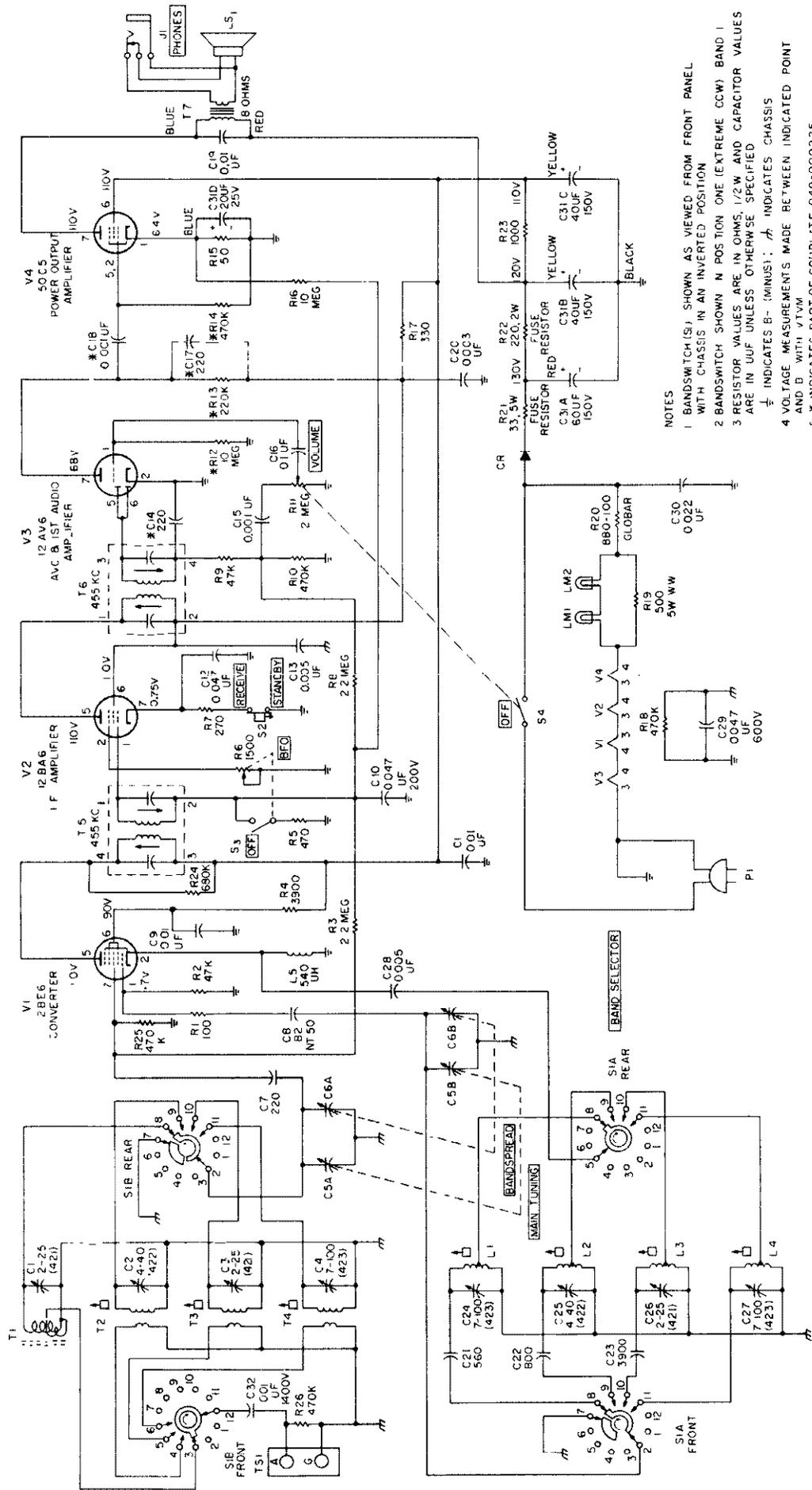


Figure 5. Chassis, Bottom View



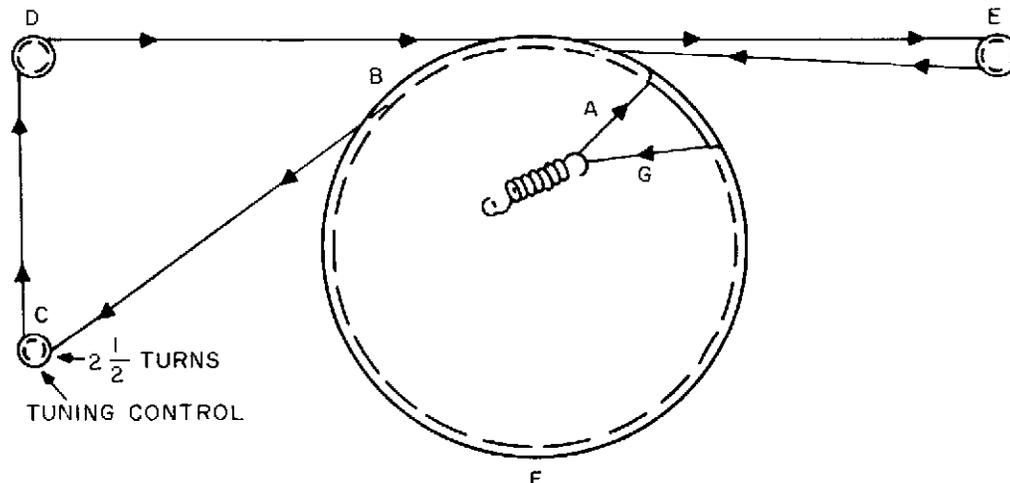
- NOTES
- 1 BANDSWITCH (S1) SHOWN AS VIEWED FROM FRONT PANEL WITH CHASSIS IN AN INVERTED POSITION
  - 2 BANDSWITCH SHOWN IN POSITION ONE (EXTREME CCW) BAND 1
  - 3 RESISTOR VALUES ARE IN OHMS, 1/2W AND CAPACITOR VALUES ARE IN μF UNLESS OTHERWISE SPECIFIED
  - 4 † INDICATES B- (MINUS); ‡ INDICATES CHASSIS
  - 4 † VOLTAGE MEASUREMENTS MADE BETWEEN INDICATED POINT AND B WITH VTVM
  - 5 \* INDICATES PART OF COUPLATE 049-000225

089 002499C

Figure 6. Schematic Diagram.

# SERVICE REPAIR PARTS LIST

Schematic Symbol	Description	Hallicrafters Part Number	Schematic Symbol	Description	Hallicrafters Part Number	Schematic Symbol	Description	Hallicrafters Part Number
<b>CAPACITORS</b>			<b>*RESISTORS (cont.)</b>			<b>SOCKETS AND CONNECTORS</b>		
C1,2,3,4	2-25, 4-40, 2-25, 7-100 mmf., Var. Quad Trimmer, Assy. Inc mtg bracket	044-000533	R6	1.5K ohm 30%, 1/4 watt, Variable, BFO control; Inc. Switch S3	025-002024	J1	PHONES, Jack	036-000339
C5A,B	MAIN TUNING, Var. Cap.	048-000479	R7	270 ohm	451-252271	TS1	Terminal Board, antenna	088-100020
C6A,B	BAND SPREAD, Var. Cap	048-000477	R9	475 ohm	451-252473	P1	Line Cord	087-000078
C7	220 mmf., 500V, 20%, Cer. Tub.	483-021291	R10,18,25,26	470K ohm	451-252474		Socket, Dial light assembly	086-000578
C8	82 mmf., 500V, 10%, N750, Cer. Tub.	491-126820-95	R11	2 megohm, 30%, 1/8 watt, Variable, VOLUME Control, Inc. Switch S4	025 002025	<b>TUBES, LAMPS AND RECTIFIERS</b>		
C9	0.01 mfd., 500V, GMV, Cer. Disc	047-100224	R12,13,14	Part of Audio Couplate		CR1	Rectifier, Selenium	027-000290
C10	0.047 mfd., 200V, 20%, Molded Paper	499 014473	R15	150 ohm	451-252151	LM1,2	Lamp, Dial type #47	039 100004
C11	0.01 mfd., 500V, +80-20%, Cer. Disc	047-100217	R16	10 megohm	451-252106	V1	12 BE6, Converter	090 900040
C12,29	0.047 mfd., 600V, 20%, Molded Paper	499-034473	R17	330 ohm	451-252331	V2	12 BA6; 1F Amplifier	090-900039
C13,28	0.005 mfd., 500V, 20%, Cer. Disc	047-100442	R19	500 ohm, 5W Wirewound	024-001328-06	V3	12 AV6; AVC and 1st Audio Amplifier	090-901187
C14,17,18	Part of Audio Couplate		R20	880-100 ohm, Gtobar	023-000327	V4	50C5 Power Output Amplifier	090-900541
C15	0.001 mfd., 600V, 20%, Molded Paper	499-034102	R21	Resistor, Fuse, 33 ohm, 5W	024-001398	<b>MISCELLANEOUS</b>		
C16	0.1 mfd 20% 100V; Molded Paper	046-001259-05	R22	Resistor, Fuse 220 ohm, 2W	024-001399	Antenna, Telescoping		057-000421
C19	0.01 mfd., 600V, 20%, Molded Paper	499-034103	R23	1K ohm	451-252102	Bracket, Antenna		087 009150
C20	0.003 mfd., 600V, 20%, Molded Paper	499-034302	R24	680K ohm	451 252684	Bracket, Dial Plate		087-008768
C21	560 mmf., 125V, 5%, Duramica	505-102561	<b>*ALL RESISTORS are 10%, 1/2 watt carbon type, unless otherwise specified</b>			Cabinet (Inc. Trim Strip)		150-005783
C22	1800 mmf., 125V, 5%, Duramica	505-102182	<b>COILS AND TRANSFORMERS</b>			Clip, IF mtg		076-100385
C23	3960 mmf., 125V, 5%, Duramica	505 102392	T1	Antenna Loop Stick Assembly	150 001600	Clip, fuse (antenna mtg.)		076-102724
C24,25	7-100, 4-40 2-25 7-100 mmf., Var Quad Trimmer, Inc. mtg. bracket	044-000534	T2	Coil, RF (band 2)	051-003473	Coilplate, Audio		049-000225
C26,27	26.27 mmf., Var Quad Trimmer, Inc. mtg. bracket	044-000534	T3	Coil, RF (band 3)	051-003474	Dial Scale, Calibrated		083 000982
C30	0.022 mfd., 600V, 20%, Molded Paper	499-034223	T4	Coil, RF (band 4)	051-003475	Dial Cord		038-000049
C31A,B,	60-40-40 mfd., 150V; 20		T5	Transformer, 1st IF	050-300531	Grommet, nylon plastic (dial scale mtg.)		002-202445
C,D	mfd., 25V, Electrolytic	045-000711	T6	Transformer, 2nd IF	050-300532	Grommet (speaker and tuning capacitor mtg.)		016-100718
C32	0.01 mfd., 1400V, Spark Gap type; Cer Disc	047-001309	T7	Transformer, Audio Output, Part of 1S1	-----	Grommet (capacitor stabilizer plate)		016-100861
<b>*RESISTORS</b>			L1	Coil, Oscillator (band 1)	051 003476	Iron core		003-004504
R1	100 ohm	451-252101	L2	Coil, Oscillator (band 2)	051-003477	Knob, MAIN TUNING		015-001680
R2	47K ohm	451-252473	L3	Coil, Oscillator (band 3)	051-003478	Knob, VOLUME and BFO		015-001678
R3,8	2.2 megohm	451-252225	L4	Coil, Oscillator (band 4)	051-003479	Knob, BAND SELECTOR		015-001679
R4	3.9K ohm	451-252392	L5	540 UHF, RF Choke	053-100107	Lock, Line Cord		076-200397
R5	470 ohm	451-252471	<b>SWITCHES</b>			Lb1	Speaker, 8 ohm Voice Coil Inc. T7	085-000210
			S1A,B	BAND SELECTOR	060-002526	Plate, Dial		063-004908
			S2	STANDBY - RECEIVE	060-002548	Pointer - BAND SPREAD		082-000471
			S3	BFO - OFF, Part of R6	-----	Pointer, MAIN TUNING		082-000472
			S4	VOLUME - OFF, Part of R11	-----	Rear Panel		068-001250
						Ring, Electrolytic mtg		076-063384
						Ring, Retaining		076-100883
						Spring, dial cord		075-100012
						Shield, Tube (V1)		069-100232
						Shield, Base (V1)		076-100402
						Shaft, BAND SPREAD		074-002606
						Shaft, MAIN TUNING		074-002607



NOTE: TUNING GANG FULLY MESHD

092-009506

Figure 7. Main Tuning Stringing Diagram, Rear View.