# SERVICE DATA MODEL S-38E-EB-EM, MARK 1A, MARK 2

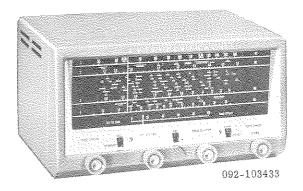


Figure 1. Hallicrafters Model S-38E

#### TECHNICAL SPECIFICATIONS

#### TUBE AND DIAL LAMP REPLACEMENT

For access to the tubes, remove the cabinet rear cover which is held in place by four screws and washers. To replace the dial lamp, see "CHASSIS REMOVAL".

#### ACCESS TO CHASSIS BOTTOM

For access to the chassis bottom, remove the cabinet bottom cover, which is held in place by four screws and washers.

#### CHASSIS REMOVAL

To remove the chassis from the cabinet, first remove the cabinet rear cover which is held in place by four screws and washers. Unsolder the speaker leads at the speaker terminals and free the leads from the bracket mounted on the speaker. Remove the cabinet bottom cover which is held in place by four screws and washers, and also remove the four screws (within the rubber feet) that secure the chassis to the cabinet frame. Remove the four knobs from the front panel using a bristol wrench. Remove the two phillips head screws from the front panel trim strip and push in on the new exposed shafts to slide the chassis partway out of the cabinet. Before pulling the remainder of the chassis out through the rear opening, tip the rear of the chassis upward to allow the dial scale to clear the speaker. Use care to avoid damaging the speaker.

CAUTION: Just before actual removal of the chassis, rotate the MAIN TUNING Control completely counter-clockwise and rotate the BANDSPREAD Control completely clockwise to prevent damage to the tuning gangs.

#### DIAL CORD RESTRINGING

To restring the tuning dial, first remove the chassis from the cabinet. See "CHASSIS REMOVAL". Two brackets, held in place by four screws, secure the dial scale to the chassis. Remove the four screws, then slide the Main Tuning (top) dial scale pointer up by its base until it clears the top lip of the dial scale, and tilt the pointer upward. Slide the dial scale to the left until the bottom lip of the scale is free of the Bandspread dial pointer base, then withdraw the dial scale from the front of the chassis. Exercise care to prevent bending the Bandspread dial pointer or damaging the existing dial strings.

For stringing details, see Figs. 2 and 7.

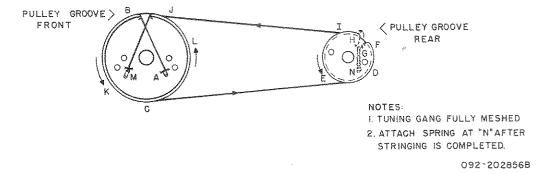
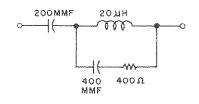


Figure 2. Main Tuning Gang Drive Stringing Diagram



## ALIGNMENT PROCEDURE

- Use an amplitude modulated generator covering 455 KC to 30 MC.
- Use a modulated output for every step except Step 2.
- Connect output meter across speaker voice coil.
- Use a non-metallic alignment tool.
- Standard RETMA dummy antenna as shown in Fig. 3.
- Set the AM/CW switch at AM, (except for BFO adjustment), SPEAKER/PHONES switch at SPEAKER, VOLUME control at maximum. RECEIVE/STANDBY switch at RECEIVE and the BAND SPREAD control at 0.
- See Figs. 4 and 5 for location of alignment adjustments.



092-101549

Figure 3. REIMA Dummy Antenna

Step	Signal Generator Connections	Generator Frequency	Band Selector Setting	Receiver Dial Setting	Adjust	
		IF ALIGNMENT				
*1	High side thru a . 01 mfd. capacitor to stator plates of front section of TUNING gang. Low side to chassis.	455 KC (30% Mod.)	Wand	1.0 MC	A, B, C and D for maximum output.  Keep reducing gen, output so that the reading on the output meter does not exceed 50 milliwatts.	
	and the second s	BFO ADJUSTMENT				
2	Same as Step 1. Set generator for 50 MW reference output, turn off generator mod., and place receiver BFO on.	455 KC (No Mod.)	1 1.0 M		AM/CW control until a CW note is heard as a clear audio tone. Advance control until an output level of 50 MW is obtained.	
***************************************		RF ALIGNMENT	1	1		
3	High side thru RETMA antenna to terminal A1 on back of chas- sis. Low side to chassis. Con- nect jumper between A2 and G.	30 MC	4 30 MC		F and G for maximum output as in Step 1.	
4	Same as Step 3. 14 MC		3	14 MC	H and J for maximum output as in Step 1.	
5	Same as Step 3.	ime as Step 3. 5 MC		5 MC	K and L for maximum output as in Step 1.	
6	Same as Step 3.	1500 KC	<b>V</b>	1.5 MC	M and N for maximum output as in Step 1,	
		600 KC	1	.6 MC	P for maximum output as in Step 1.	

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

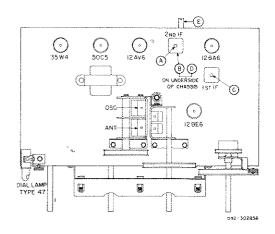


Figure 4. Top View Chassis

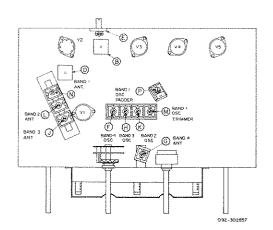


Figure 5. Bottom View Chassis

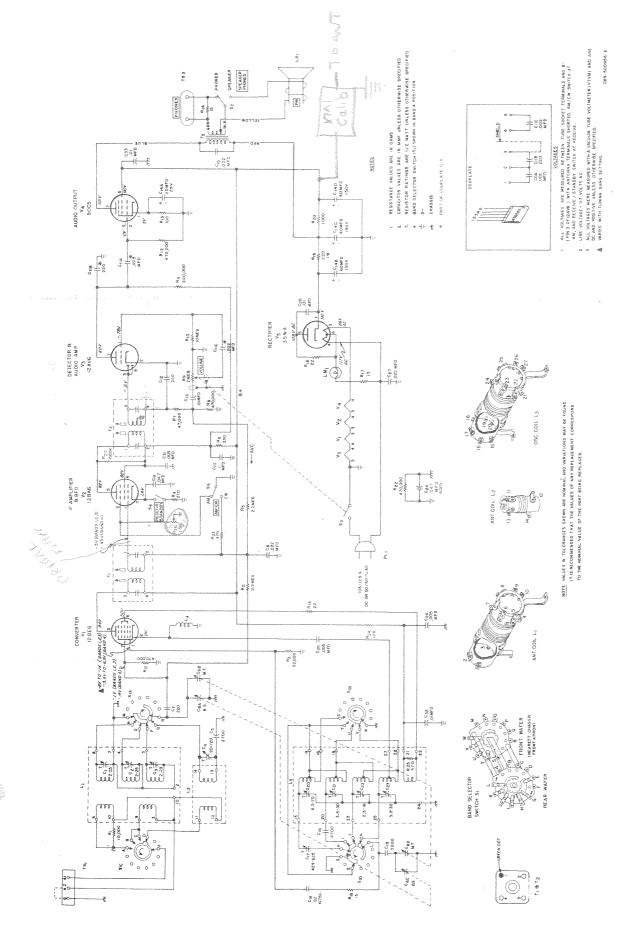


Figure 6. Schematic Diagram

### SERVICE PARTS LIST

Schematic Symbol	Description	Hallicrafters Part Number	Schematic Symbol		Hallicrafters Part Number	Schematic Symbol	Description	Hallicrafters Part Number		
	CAPACITORS	CAPACITORS *RESISTORS (CONTINUED)				TUBES AND DIAL LAMP (CONTINUED)				
C1, 2, 3	Trimmer, 2-25 mmfd.; 3 Section, Compression	044-200129	R9	2 megohm, VOLUME Con- trol; Inc. On-Off Switch: 8-3	025-201479	V3 V4 V5	12AV6; Detector and Audio 50C5; Audio Output 35W4, Rectifier	090-901187 090-900541 090-900384		
C4	Mica 20-120 mmfd.; Ceramic Trimmer	044-100424	R10 R11	10 megohm 220K ohm	451-252106 451-252224 451-252101	LMI	Lamp, Dial Type #47 MISCELLANEOUS	039-100004		
C5 C6A, C	2700 mmfd., 500V., 5%; Mica Variable Capacitor, BAND-	470-412272 048-300410	R13 R14,15,17	100 ohm 15 ohm	451-252150 451-252150 451-252220		Back, Cabinet	032-400754		
C6B, D	SPREAD Variable Capacitor, MAIN	048-300372	R16, 18 R19 R20	22 ohm 220 ohm, 1 watt 1K ohm	451-352221 451-252102		Bracket, Idler, Pulley, and Dial Lump	067-205191		
C7, 12	TUNING 220 mmid., 500V., 10%; Mic: .022 mid., 500V; Tubular	470-213221 409-034223	R23, 25 R26	470 ohm 1500 ohm, AM-CW RATIO	451-252471 025-201751		Bracket, Pulley Mtg. Bracket, Switch Mtg.	067-205190 067-305192		
C8, 15, 27 C9	Paper .047 mfd., 600V; Tubular	409-034473	R27	Control 880K ohm	451-252684		Bushing, Tuning, and Band Spread Shaft Cabinet, S-38E	077-201684 066-401754		
C10,28, 33 C11A,B,C	Paper . 01 mfd., 450V; Ceramic Dis Printed Circuit Plate, . 005	047~100581	*All Resis	sters $10\%$ , $1/2$ watt, carbon specified.	type, unless		Cabinet, S-38EB Cabinet, S-38EM Clip, IF Mtg.	066-102175 066-102176 076-100385		
•	mfd., 220 mmfd., . 902 mf 500 WVDC . 01 mfd., 600V; Tubular	d., 499-034103		COILS AND TRANSFORMERS			Clip, Dial Lamp Mtg. Cover, Cabinet Bolton	076-100660 032-300501		
CI3 CI4A, B	Paper 20 mfd. @ 25V; 60-40-40	045-300091	3	Coil and Trimmer Assembly Antenna; Bands 1, 2, and 3			Dial Cord (Specify Length) Foot, Mtg. Gasket, Rubber	038-190926 016-200983 016-101245		
C, D C15	mid. @ 150V; Electrolytic 82 nimfa; 10% N750; Ceramic Tubular		L2 ************************************	Oscillator; All Bands			Class, Bail Wadew Knob, Band Selector			
C17	425-625 mmid.; Mica Trimmer	044-100349	L4 T1	Choke: RF 540 uh Transformer, 1st IF	053-100107 050-300531		(S-38E) Knob, Band Selector (S-38EB, EM)	015-201280		
C18 C19	4700 mmfd., 500V., 5%; Mic 3000 mmfd., 500V., 5%; Mica	a 470-412472 470-412302	T2 T3	Transformer, 2nd IF Transformer, Audio Output	050-300532 055-300347		Knob, BANDSPREAD, OFF- VOLUME or MAIN TUNING (S-38E)			
C20, 21, 22, 23	Trimmer, 6.5-70 mmfd.; 3.5-30 mmfd.; 2.5-18 mmfd.; 4 Section,	044-200159	**The Trimmer Capacitor Assemblies vailable separately. See "CAPACITORS"		s are also a- RS".		Knob, BANDSPREAD, OFF VOLUME, or MAIN TUND (S-38EB, EM)	- 015-301281 G		
C24	Compression Mica . 047 mfd., 400V., 20%;	499-024473		SWITCHES	000 000001	PL1	Line Cord and Plug Line Cord Lock (Male	087-100078 076-100397-01		
C25, 26	Tubular Paper .005 mfd., 450V; Ceramic	047-100168	SIA, B C, D	BAND SELECTOR	060-300861 V. 060-100477		Section)	076-100397-02		
C31	Disc .005 mfd., 500V., 20%;	047-100442	S2,4,5	SPEAKER-PHONE, AM-CW and RECEIVE-STANDBY On-Off: Part of R9	Y, 000-100411		Section) Pointer, Band-Spread	082-200350		
C32	Ceramic Disc . 01 mfd., 400V; Tubular Paper	499-024103	S3	SOCKETS AND CONNECTOR			(S-38E) Pointer, Band-Spread (S-	082-200386		
	*RESISTORS		TS1 TS2	Terminal Strip, Antenna Twin Jack Strip, Phones	088-100671 088-100071		38EB, EM) Pointer, Main Tuning (S- 38EB, EM)	082-200385		
R1, 24 R2, 5	10K ohm 2. 2 megohm	451-252103 451-252225 451-252223		Socket, Dial Lamp (Inc. Leads) Socket, 7 Pin Miniature	086-100122 006-100308		Pointer, Main Tuning (S-3- Pulley, 3.125" O.D. Shield, Tube	028-200256 069-100232		
R3 R4 R6	22K ohm 270 ohm 330 ohm	451~252271 451~252331		TUBES AND DIAL LAMP		LS1	Shield, Dial Lamp Speaker, 5" PM; 3.2 ohm voice coil	008-101249 085-300030		
R7 R8,12,21, 22	47K ohm 470K ohm	451-252473 451-252474	V1 V2	12BE6: Converter 12BA6: IF Amplifier and BI	090-900040 FO 090-900039					

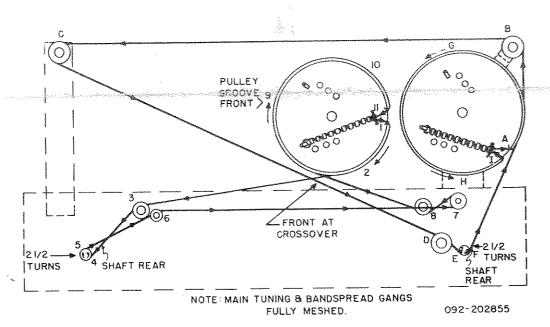


Figure 7. Main Tuning and Bandspread Gang Pointer Drive Stringing Diagrams