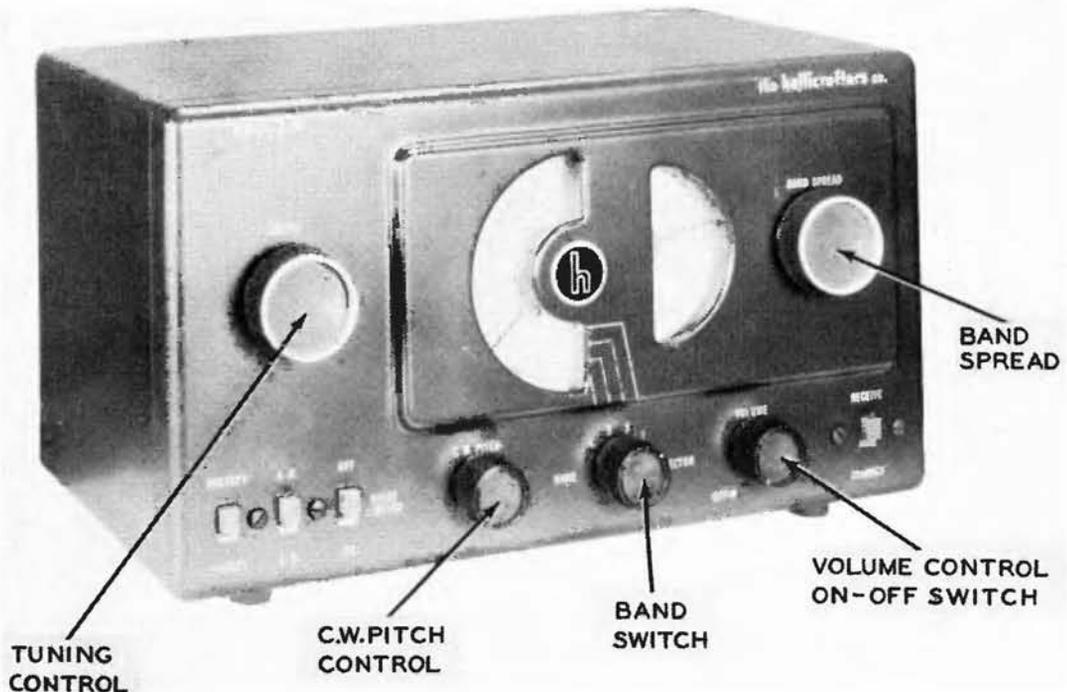


HALLICRAFTERS
 MODEL S-38



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TRADE NAME Hallcrafters Model S-38
 MANUFACTURER Hallcrafters Co., 2611 S. Indiana Ave., Chicago, Illinois
 TYPE SET AC - DC Superheterodyne - 4 Band Communications Receiver
 TUBES (SIX) Types 12SA7GT Converter, 12SK7GT 1 $\frac{1}{2}$ Amp., 12SQ7GT Det.-AVC-AF, 12SQ7GT BFO-ANL, 35L6GT Power Output, 35Z5GT Rectifier.
 POWER SUPPLY 105-125 Volts AC-DC Rating .245 Amps. @ 117 Volts AC
 TUNING RANGE Band #1- 540-1650KC Band #2- 1650KC-5.0MC Band #3 5.0MC-14.5MC Band #4- 13.5MC-32.0MC

ALIGNMENT INSTRUCTIONS

| DUMMY ANTENNA | SIGNAL GENERATOR COUPLING | SIGNAL GENERATOR FREQUENCY | BAND SWITCH POS. | RADIO DIAL SETTING | OUTPUT METER | ADJUST | REMARKS |
|--|--|----------------------------|------------------|--------------------|-------------------|-----------------|---|
| NONE | High side to stator plates of rear section of tuning gang. Low side to "C" on antenna strip. | 455KC | "1" | 1000KC | Across voice coil | A1, A2, A3, A4. | Adjust for maximum output. Repeat adjustment. |
| " | " | " | " | " | " | BFO Slug | Turn off 400 Ω modulation on signal generator. Set CW/AM switch at CW. Remove pitch control knob and adjust slotted screw shaft for zero beat. |
| 390 Ω carbon res. | High side to "A1" on antenna strip. Low side to "G" on antenna strip. | 30MC | "4" | 30MC | " | A5, A6 | Adjust for maximum output. Rock gang slightly when adjusting A6. |
| " | " | 14MC | "3" | 14MC | " | A7, A8 | Adjust for maximum output. Rock gang slightly when adjusting A8. |
| " | " | 5MC | "2" | 5MC | " | A9 | Adjust for maximum output. |
| " | " | 1.8MC | " | 1.8MC | " | A10 | Adjust for maximum output and repeat A9 at 5MC. |
| " | " | 5MC | " | 5MC | " | A11 | Adjust for maximum output. Rock gang slightly. |
| " | " | 1500KC | "1" | 1500KC | " | A12 | Adjust for maximum output. |
| " | " | 600KC | " | 600KC | " | A13 | Adjust for maximum output and repeat A12 at 1500KC. |
| " | " | 1500KC | " | 1500KC | " | A14 | Adjust for maximum output. Rock Gang Slightly. |
| Set receiver controls as follows: "Speaker-Phones" switch at speaker; Volume control at full clockwise (maximum); CW/AM switch at "AM" (except for BFO adjustment); noise limiter switch at "off"; bandspread tuning at "0" (min. cap.); "standby-receive" switch at receive. Adjust output of signal generator no higher than is necessary to obtain output reading. Use insulated alignment screwdriver for adjusting. | | | | | | | |

HOWARD W. SAMS & CO., INC. • 2924 East Washington Street • Indianapolis 6, Indiana

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PARTS LIST AND DESCRIPTIONS

TUBES

| ITEM No. | USE | REPLACEMENT DATA | | RMA BASE TYPE | INSTALLATION NOTES |
|----------|--------------|------------------------|----------------------|---------------|--------------------|
| | | HALLICRAFTERS PART No. | STANDARD REPLACEMENT | | |
| 1 | Converter | 12SA7GT | 12SA7GT | 6AD | |
| 2 | IF Amp. | 12SK7GT | 12SK7GT | 6N | |
| 3 | Det.-AVC-AF | 12SG7GT | 12SG7GT | 6C | |
| 4 | BFO-ANL | 12SG7GT | 12SG7GT | 6Q | |
| 5 | Power Output | 35L6GT | 35L6GT | 7AC | |
| 6 | Rectifier | 35Z5GT | 35Z5GT | 6AD | |

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

| ITEM No. | RATING CAP. | VOLT | REPLACEMENT DATA | | | | AEROVOX PART No. | CORNEILL-DUBILLIER PART No. | IDENTIFICATION CODES AND INSTALLATION NOTES |
|----------|-------------|------|------------------------|------------------|----------------|------------------|------------------|-----------------------------|---|
| | | | HALLICRAFTERS PART No. | MALLORY PART No. | SOLAR PART No. | SPRAGUE PART No. | | | |
| 7(A) | 40 | 150 | TC48 | TPB-40X30-150 | TA-430 | | EZ44315C | Filter - Red | |
| (B) | 30 | 150 | | | 20-38 | | | Filter - Yellow | |
| (C) | 30 | 150 | | | | | | | |
| (D) | 20 | 25 | | | | | | | |
| 8 | .25 | 200 | TP430 | | UT-301 | 494--25 | D74P25 | Cath. Bypass - Blue | |
| 9 | .02 | 400 | 46A1W203J | | TC-2 | 494--02 | D74S2 | Line Isolating | |
| 10 | .02 | 600 | 46A1W203J | | TC-12 | 694--02 | D76S2 | Line Bypass | |
| 11 | .01 | 400 | 46A1W102J | | TC-11 | 494--01 | D74S1 | 35L6 Plate Bypass | |
| 12 | .005 | 400 | 46A1W502J | | TC-25 | 494--005 | D76D5 | Audio Coupling | |
| 13 | .01 | 400 | 46A1W102J | | TC-11 | 494--01 | D74S1 | BFO Plate Bypass | |
| 14 | .05 | 200 | 46A1U53J | | TC-15 | 494--05 | D74S5 | IF Cath. Bypass | |
| 15 | .25 | 200 | 46A1W254J | | TC-2 | 494--02 | D74P25 | Screen Bypass | |
| 16 | .02 | 400 | 46A1W203J | | TC-12 | 494--02 | D74S2 | AVC Filter | |
| 17 | .05 | 200 | 46A1U53J | | TC-15 | 494--05 | D74S5 | Ant. Coupling | |
| 18 | .05 | 200 | 46A1U53J | | TC-15 | 494--05 | D74S5 | RF Bypass Pwr. Supp. | |
| 19 | 220 | 500 | CM202A22M | MC240 | MO.5-325 | 166B--00025 | S45T25 | RF Bypass Diode | |
| 20 | 220 | 500 | CM202A22M | MC240 | MO.5-325 | 166B--00025 | S45T25 | BFO Grid Cap. | |
| 21 | 470 | 500 | CM201A47M | MC245 | MO.5-35 | 166B--00035 | S45T35 | BFO Fixed Trimmer | |
| 22 | 2700 | 500 | CM30A27M | MC450 | MO.5-325 | 166B--00025 | S45T25 | RF Grid Cap. | |
| 23 | 220 | 500 | CM30A22M | MC440 | MO.5-325 | 166B--00025 | S45T25 | Usc. Grid Cap. | |
| 24 | 2700 | 500 | CM30A27M | MC450 | MO.5-325 | 166B--00025 | S45T25 | Fixed Padder | |
| 25 | 510 | 500 | CM20A51M | MC245 | MO.5-35 | 166B--00035 | S45T35 | RF Bypass Rect. | |
| 26 | 220 | 500 | CM20A22M | MC240 | MO.5-325 | 166B--00025 | S45T25 | Audio Plate Bypass | |
| 27 | 1200 | 500 | CM20A12M | MC255 | MO.3-81 | 146B--001 | 1W5D1 | Fixed Trimmer | |

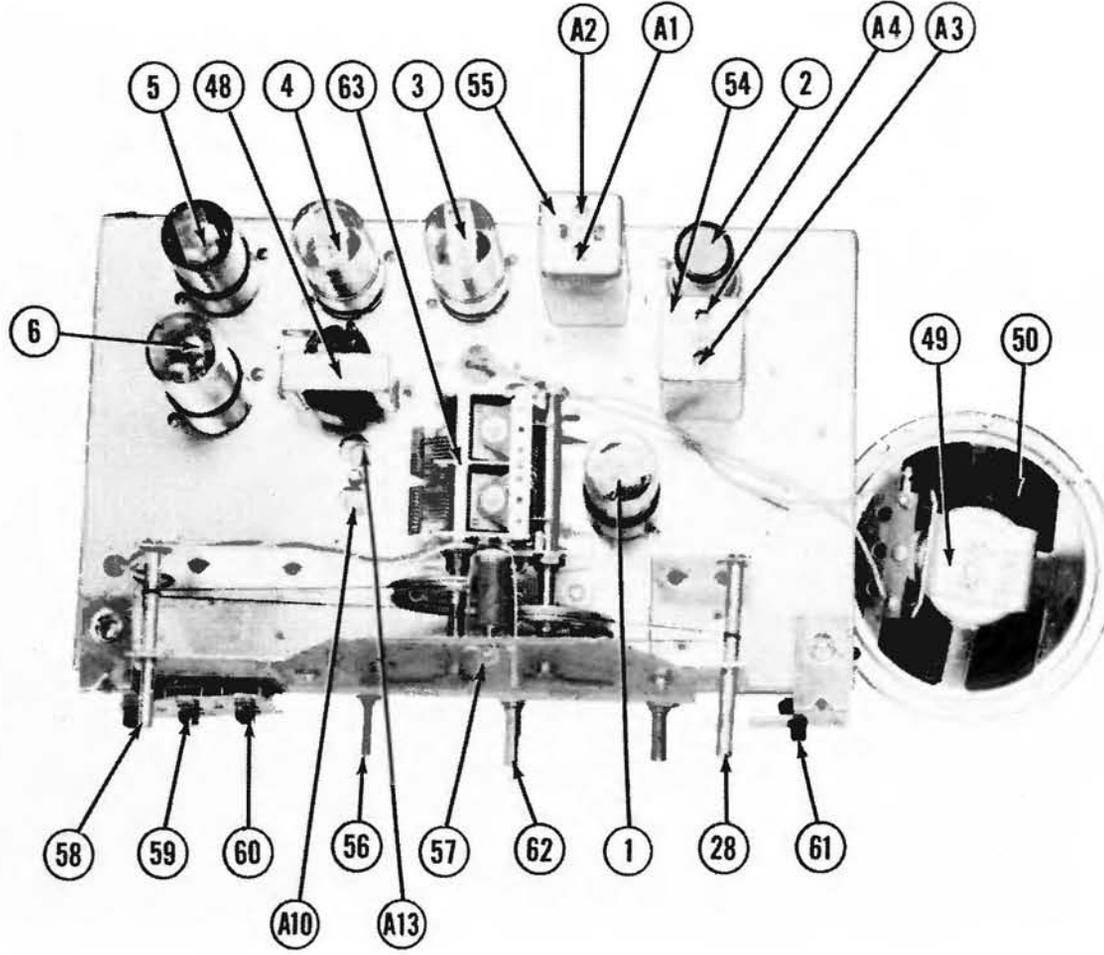
CONTROLS

| ITEM No. | RATING RESISTANCE | WATTS | REPLACEMENT DATA | | | CLAROSTAT PART No. | INSTALLATION NOTES |
|----------|-------------------|-------|------------------------|------------------|--------------|--------------------|---------------------------------|
| | | | HALLICRAFTERS PART No. | MALLORY PART No. | IRC PART No. | | |
| 28(A) | 500K Ω | 1 | 55B094 | MP48 | D13-133 | AS-59-1 | Volume Control |
| (B) | Switch | | | Not Req. | A | RS-2 | Attach to 28A per instructions. |
| (C) | Switch | | | MC26 | 41 | SW-4 | |

RESISTORS

| ITEM No. | RATING RESISTANCE | WATTS | REPLACEMENT DATA | | IDENTIFICATION CODES |
|----------|-------------------|-------|------------------------|--------------|-------------------------------|
| | | | HALLICRAFTERS PART No. | IRC PART No. | |
| 29 | 10K Ω | | RC20A10M | BTS-10K | Br.-Blk.-Or. Ant. Shunt |
| 30 | 470K Ω | | RC20A47M | BTS-470K | Yl.-Vi.-Yl. Converter Grid |
| 31 | 47K Ω | | RC20A47M | 5W-E-47 | Yl.-Vi.-Blk. Osc. Series Grid |
| 32 | 22K Ω | | RC20A22M | BTS-22K | Red-Red-Or. Osc. Grid |
| 33 | 2.2 Meg. | | RC20A22M | BTS-2.2 Meg. | Red-Red-Grn. AVC Network |
| 34 | 47K Ω | | RC20A47M | BTS-47K | Yl.-Vi.-Or. Diode Load |
| 35 | 47K Ω | | RC20A47M | BTS-47K | Yl.-Vi.-Or. Diode Load |
| 36 | 47K Ω | | RC20A47M | BTS-47K | Yl.-Vi.-Or. Diode Load |
| 37 | 10 Meg. | | RC20A10M | BTS-10 Meg. | Br.-Blk.-blue 1st AF Grid |
| 38 | 220K Ω | | RC20A22M | BTS-220K | Red-Red-Yl. 1st AF plate Load |
| 39 | 470K Ω | | RC20A47M | BTS-470K | Yl.-Vi.-Yl. Output Grid |
| 40 | 150K Ω | | RC20A151K | 5W-E-150 | Br.-Orn.-Br. Output Cathode |
| 41 | 100K Ω | | RC20A101M | 5W-E-100 | Br.-Blk.-Red Filter |
| 42 | 630K Ω | | RC30A63M | 5W-A-38C | Blue-Gray-br. |

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS (CONTINUED)

| | | | | |
|----|------|------------|----------|-------------------------------|
| 43 | 22Ω | RC20A2282M | 1W-1/2 | Red-Red-Blk. Surge Limiter |
| 44 | 330Ω | RC20A333M | 1/2W-1/4 | Or.-Or.-Br. Pilot Light Shunt |
| 45 | 15Ω | RC20A151M | 1/2W-1/4 | Br.-Orn.-Blk. Headphone Shunt |
| 46 | 330Ω | RC20A331K | 1/2W-1/4 | Or.-White-Br. IF Cathode |
| 47 | 470Ω | RC20A471K | 1/2W-1/4 | Yl.-Vl.-Er. 50 Plate Load |

TRANSFORMER (OUTPUT)

| ITEM No. | RATING | | REPLACEMENT DATA | | INSTALLATION NOTES |
|----------|-----------|---------|-------------------------|--------------------|----------------------------|
| | IMPEDANCE | DC RES. | HALLI-CRAFTERS PART No. | THORPAR'N PART No. | |
| 48 | 3.15Ω | 3.1Ω | 58A075 | A-3873 | 1Drill new mounting holes. |

SPEAKER

| ITEM No. | RATINGS | REPLACEMENT DATA | | INSTALLATION NOTES |
|----------|-------------------------------|---|-----------------|--------------------|
| | | HALLI-CRAFTERS PART No. | JENSEN PART No. | |
| 49 | FIELD VC I.V.F. 5-10 | 85C035 | ST-105 | |
| 50 | CONV. DIA. VC DIA. 4-9/16" | NOT READILY REPLACABLE-USE COMPLETE SPEAKER UNIT. | | |

R F COILS

| ITEM No. | USE | DC RES. | | REPLACEMENT DATA | | INSTALLATION NOTES |
|----------|------------------|---------|-------|-------------------------|-------------------|--|
| | | PRI. | SEC. | HALLI-CRAFTERS PART No. | MEISSNER PART No. | |
| 51 (A) | Band 1 Ant. Coil | 20Ω | 4-5Ω | 51C621* | | *Wound on same coil form with bands 2,3,4. |
| 51 (B) | " | 10 | 10 | " | " | " |
| 51 (C) | " | 10 | 10 | " | " | " |
| 52 | " | 10 | 10 | " | " | " |
| 53 (A) | 1 Osc. | 5Ω | 5Ω | 51C918 | | **Wound on coil form with bands 2,3,4. |
| 53 (B) | " | 10 | 10 | 51C622** | | " |
| 53 (C) | " | 10 | 10 | " | " | " |
| 53 (D) | " | 10 | 10 | " | " | " |
| 54 | Input If | 18 | 00 | 50C183 | 13-6658 | " |
| 55 | Output If | 27Ω | 26-5Ω | 50B124 | 19-8660 | " |
| 56 | RF Osc. Coil | 24-5Ω | 24-5Ω | 54B031 | | " |

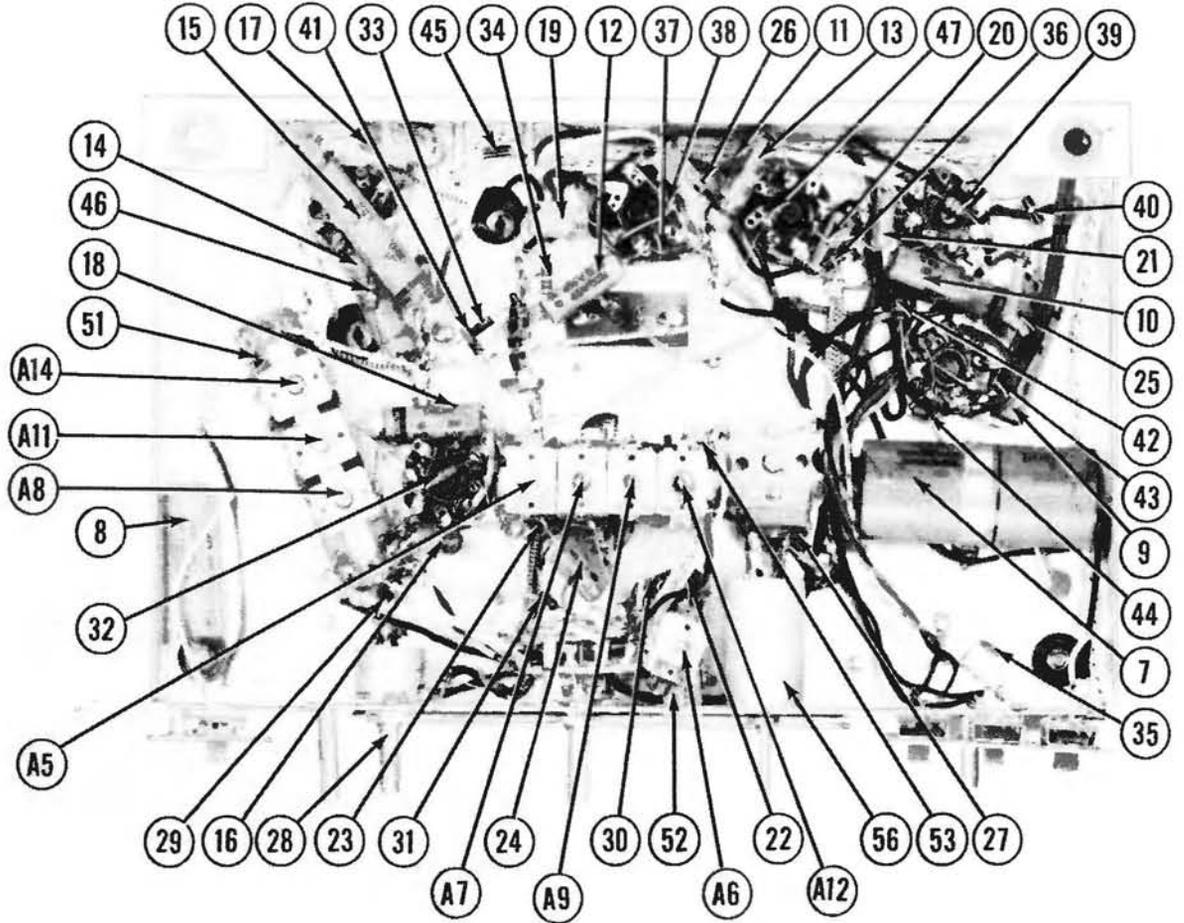
DIAL LIGHT

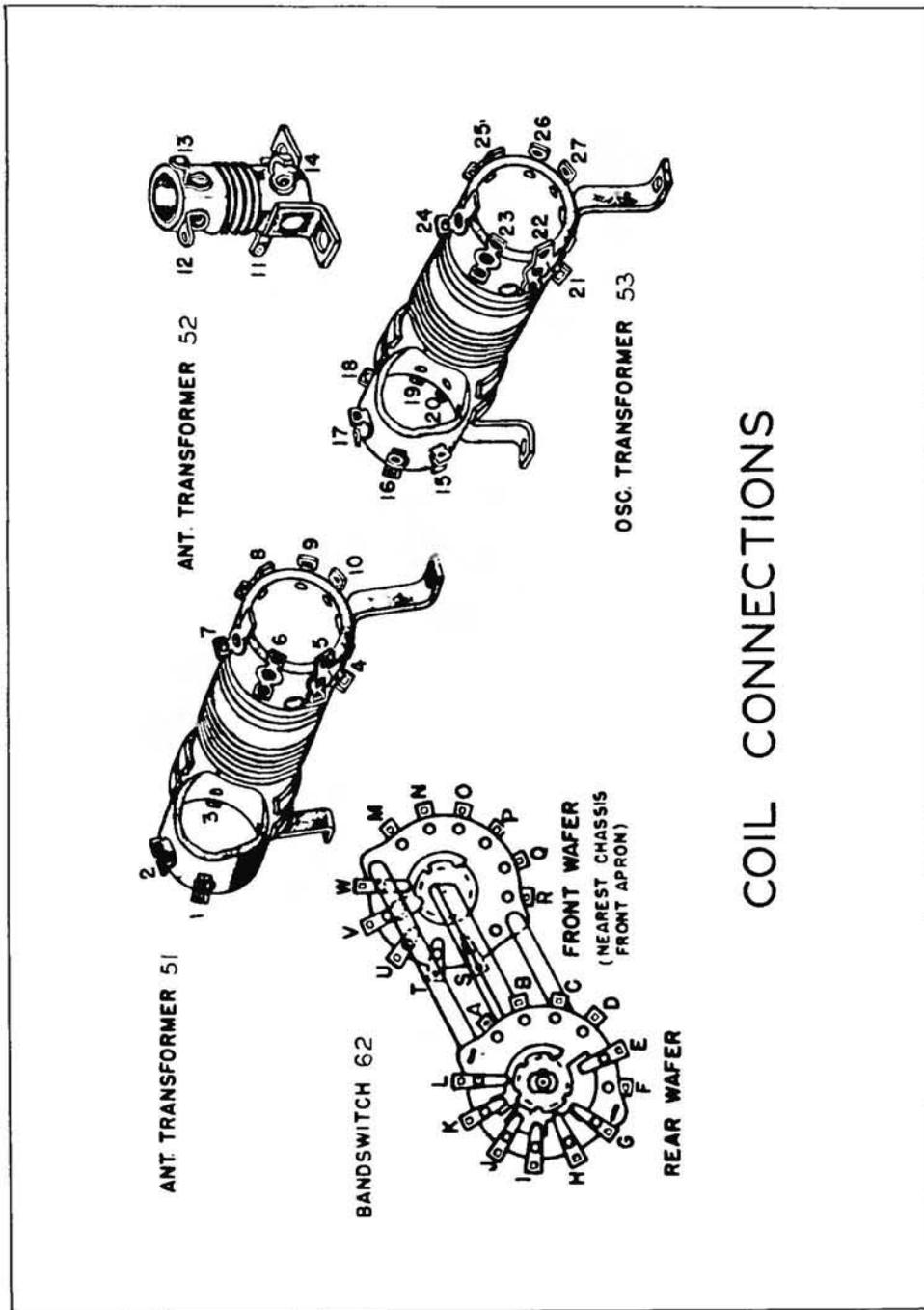
| ITEM No. | BASE TYPE | VOLTS | AMPS. | BEAD COLOR | REPLACEMENT DATA | | INSTALLATION NOTES |
|----------|-----------|-------|-------|------------|-------------------------|--------------------|--------------------|
| | | | | | HALLI-CRAFTERS PART No. | THORPAR'N PART No. | |
| 57 | Bayonet | 5-9 | 0.15 | Brown | 39A034 | | Type 47 |

MISCELLANEOUS

| ITEM No. | PART NAME | HALLI-CRAFTERS PART No. | NOTES |
|----------|---------------------|-------------------------|-------------------------------------|
| 58 | Switch | 60A243 | "SPEAKER-PHONES" SPST |
| 59 | " | 60A245 | "NO-CW" SPST |
| 60 | " | 60A244 | "NOISE LUTTER" SPST |
| 61 | " | 60A244 | "RECEIVE STANDBY" SPST |
| 62 | " | 50A240 | 4 Position Bandswitch |
| 63 | Tuning Cap. Trimmer | 44C152 | 2 Gang Main & Band Spread Ver. Cap. |
| | " | 44B129 | AS, A7, A9, A12 Osc. Adjustments |
| | " | 44A039 | AS, All, A14 Art. Adjustments |
| | " | 44J162 | Antenna Trimmer |
| A6 | Knob | 15A049 | A10, A13 Osc. Paddlers |
| | " | 15A065 | Volume and Band Switch |
| | " | 15A047 | C.W. Pitch Control |
| | Calibrated Dial | 83B257 | Tuning and bandspread Controls |
| | Dial Window | 22E157 | Glass |

CHASSIS—BOTTOM VIEW

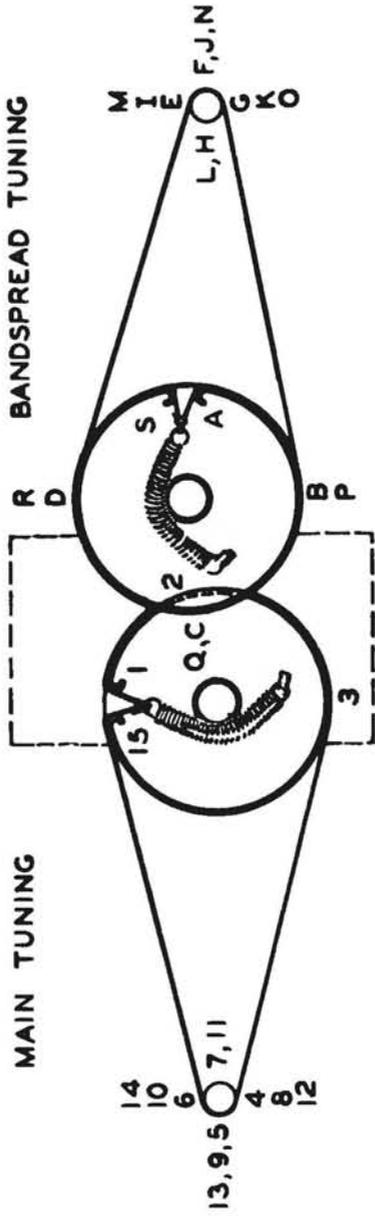




COIL CONNECTIONS

To restring the main tuning dial cord, cut a 14" length of 30 lb. test dial cord and tie one end of the tension spring of the main tuning capacitor drive pulley at position "1" on the diagram. Following the numbers 1 through 15, wind the cord on the pulley and knob drive shaft. At position "15," stretch the tension spring and tie the cord securely. Cut off the excess cord. Note that two complete turns are wound on the knob drive shaft.

To restring the bandsread tuning dial cord, cut a 16" length of dial cord and follow the procedure as explained above, except start at position "A" on the diagram and proceed through position "SP." Note that the knob drive shaft has two complete turns.



TUNING CAPACITOR FULLY CLOSED (BOTH SECTIONS).
DIAL STRINGING PROCEDURE

