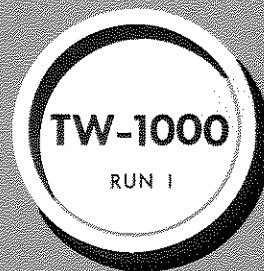




hallicrafters  
*World-Wide*

8-BAND PORTABLE

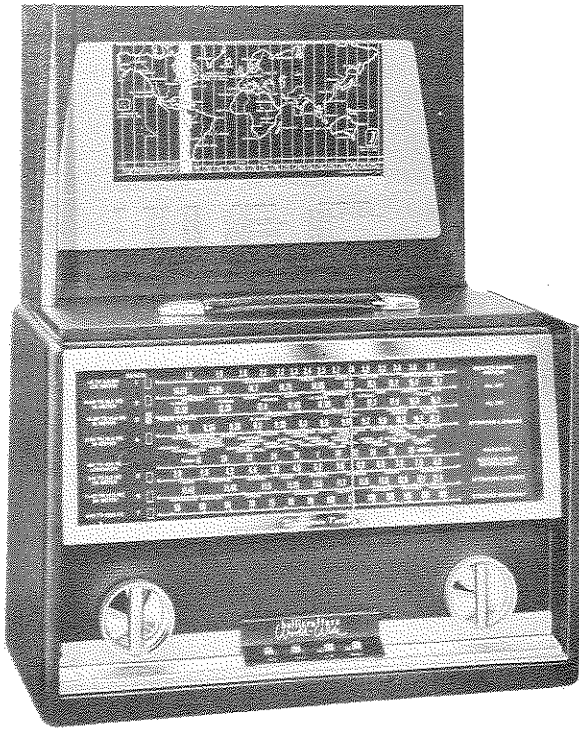
**SERVICE INSTRUCTIONS**



**the hallicrafters co.**

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

# TECHNICAL SPECIFICATIONS



Hallicrafters World-Wide Portable  
Model TW-1000

TUBES AND RECTIFIERS . . . . . 5 tubes plus 1 selenium rectifier  
 POWER SUPPLY . . . 105-120 volt DC or 50/60 cycle AC;  
 90V "B" / 9V "A" battery pack;  
 220 volt AC/DC with Ballast Adapter 1X1438.  
 POWER CONSUMPTION . . . . . 20 watts  
 SPEAKER . . . . . 5 X 7 inch oval; 3.2-ohm voice coil  
 HEADPHONE OUTPUT IMPEDANCE . . . . . 3.2 ohms  
 INTERMEDIATE FREQUENCY . . . . . 455 KC  
 ANTENNA . . . . . Loop and "Skyrider" for bdst and  
 LW bands, SW whip, and terminals  
 for long wire for use on all bands.

## FREQUENCY COVERAGE

| Band | Frequency Range |
|------|-----------------|
| 1    | 1.8 - 3.9 MC    |
| 2    | 14.62 - 15.7 MC |
| 3    | 17.32 - 18.2 MC |
| 4    | 9.22 - 10.3 MC  |
| 5    | 3.9 - 8.0 MC    |
| 6    | 11.42 - 12.3 MC |
| 7    | 540 - 1600 KC   |
| LW   | 180 - 400 KC    |

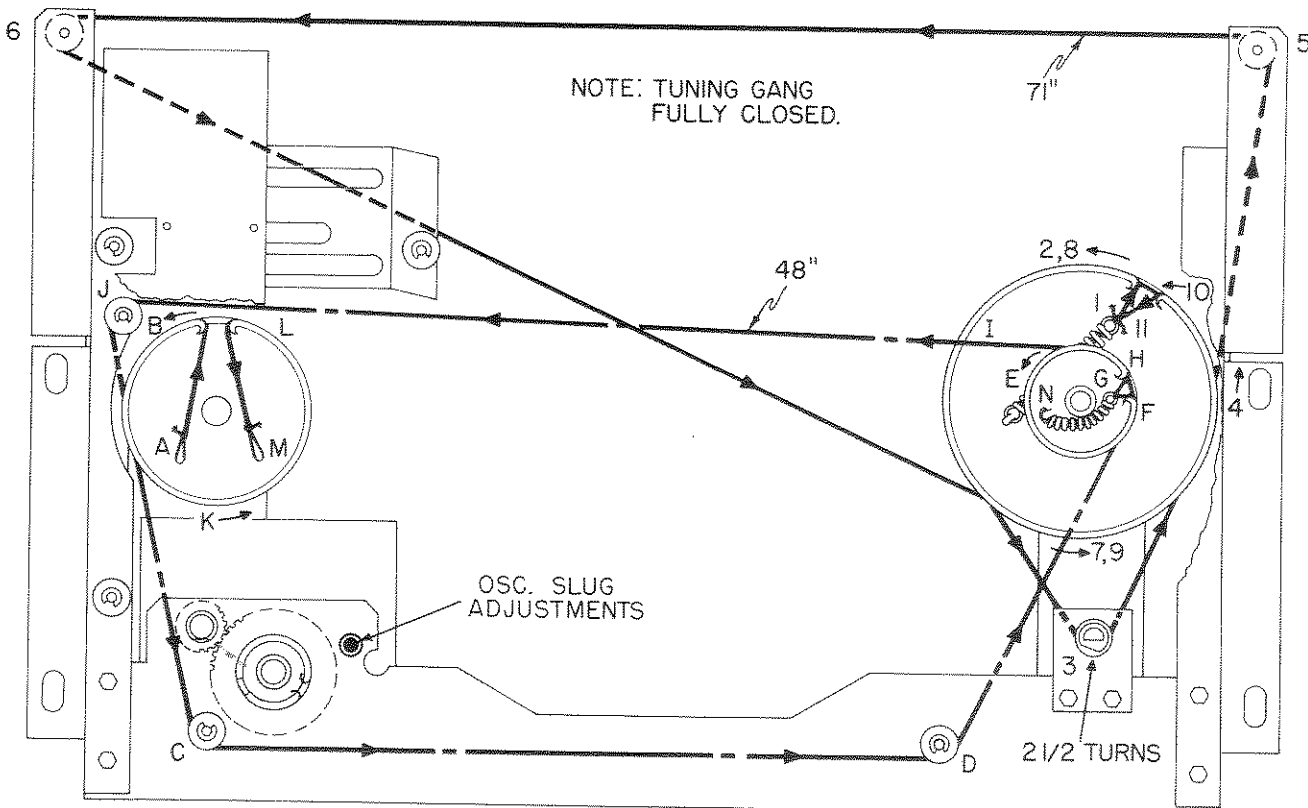
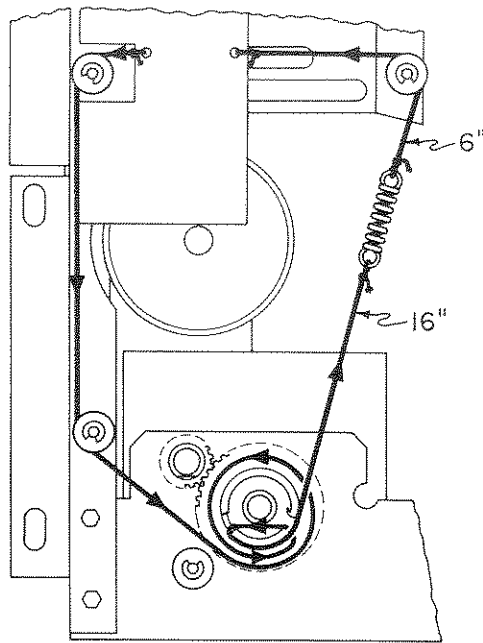


Fig. 1. Dial Pointer and Tuning Gang Stringing Diagram

92C1818

**NOTE: BAND SELECTOR CONTROL  
SET FULLY CLOCKWISE.**



**Fig. 2. Band Indicator Plate Stringing Diagram** 9281819

## TUNING DIAL

To tune bands 1 thru 7, set the Band Selector knob so that the red band indicator at the left side of the dial is opposite the desired band. To tune the longwave band (yellow band), rotate the Band Selector knob fully clockwise so that the yellow band indicators become visible at the left side of the dial.

## REMOVING CHASSIS AND FRONT PANEL ASSEMBLY FROM CABINET

The chassis and entire front panel assembly may be removed from the cabinet by removing the three screws at the bottom of the cabinet and the two machine screw nuts on the inside of the front panel assembly. The whip and loop antenna plugs must be removed before removing the chassis from the cabinet.

## TUNER SERVICE

### GENERAL

The Dynamic Turret Tuner employed in the TW-1000 portable consists of a 1U4 RF amplifier stage and a 1L6 mixer-oscillator stage.

Band selection is accomplished by rotation of the tuner turret assembly, which has a separate set of two snap-in coil strips for each band. One strip contains the antenna coil and the other contains the RF and oscillator coils. (See Fig. 6). Coils can be identified as to band by the number stamped on the outside of the coil strip. Refer to the chart at the top of the schematic diagram for cross reference of coil marking, band, and frequency range.

Extreme care must be exercised in handling or servicing the tuner. Location and lead dress of components and wiring are usually very critical. Parts location and ground connections should be as originally made. The tuner was carefully aligned at the factory and should normally not require complete realignment under normal operating conditions.

Replacement of tubes (especially 1L6 mixer-oscillator) may cause some slight detuning of the tuner circuits. When replacing the 1L6, it may be necessary to touch up the oscillator slug adjustments. Replacement of the tuning gang may require complete realignment of the receiver.

Be sure that the coils are properly paired for the indicated band and that the coils follow proper sequence. Refer to chart at top of schematic diagram.

## REMOVING TUNER FROM CHASSIS

- a. Remove the front control knobs.
- b. Remove dial escutcheon by removing the screws at sides and bottom.
- c. Remove dial scale by removing (4) screws at front of dial and (1) screw at rear.
- d. Disconnect the speaker leads.
- e. Remove baffle board assembly by removing the (2) long and (2) short machine screws.
- f. Remove large gear and pulley assembly by removing (2) Allen Head set screws.
- g. Disconnect the tuner leads.
- h. Remove (2) screws at front of chassis and (2) studs at rear of chassis holding tuner in place.
- i. Lift out tuner at rear and remove.

## REMOVING TUNER TURRET ASSEMBLY

- a. Remove tuner from chassis as outlined above.
- b. Remove the front and rear turret retainer springs by depressing straight end of spring from tab on tuner chassis end plate.
- c. Grasp turret shaft at front and rear and remove turret from tuner assembly.
- d. For reassembly, position turret so that the stop at the rear end of turret is facing outward from the tuner assembly. Then press turret into position and replace front and rear turret retaining springs.

## REMOVING SNAP-IN COIL STRIPS

Insert a screwdriver blade between the coil retainer spring and the turret end plate. Twist the blade away from the turret and lift the end of the coil upward and remove.



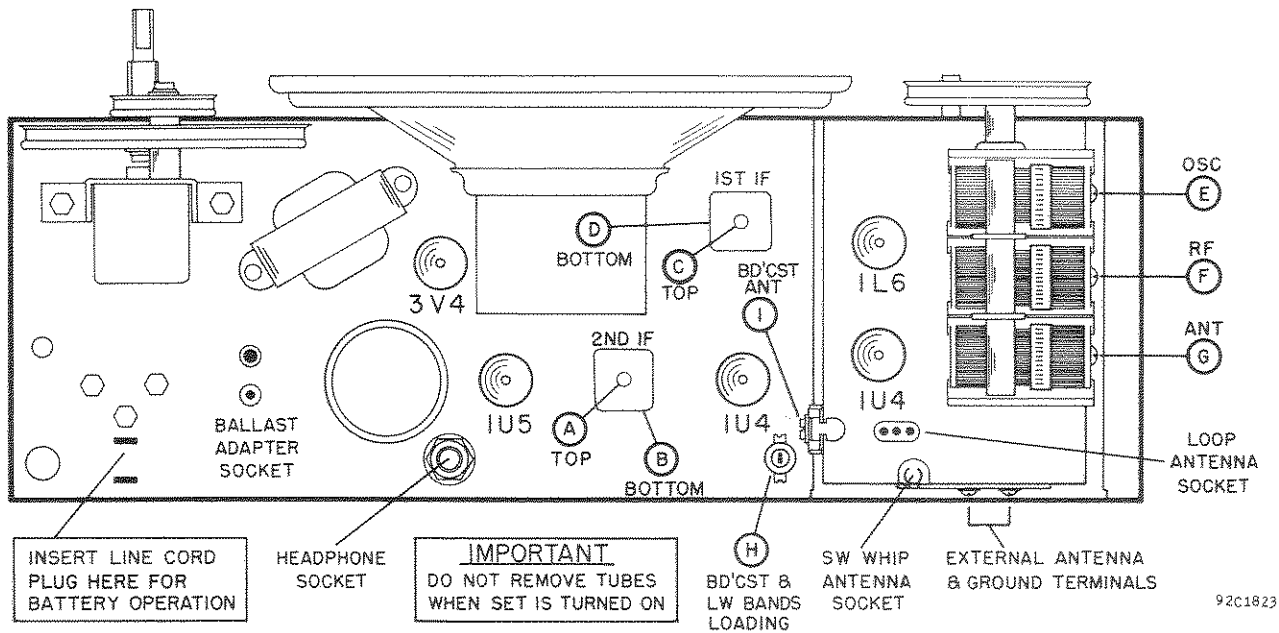


Fig. 3. Top View of Chassis Showing Location of Alignment Adjustments and Tubes

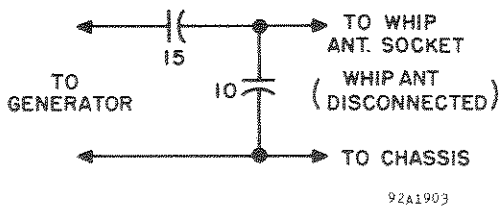


Fig. 4. Dummy Antenna for Bands 1 and 5

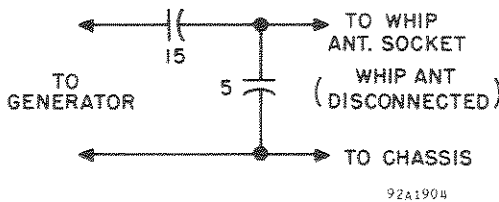


Fig. 5. Dummy Antenna for Bands 2, 3, 4 and 6

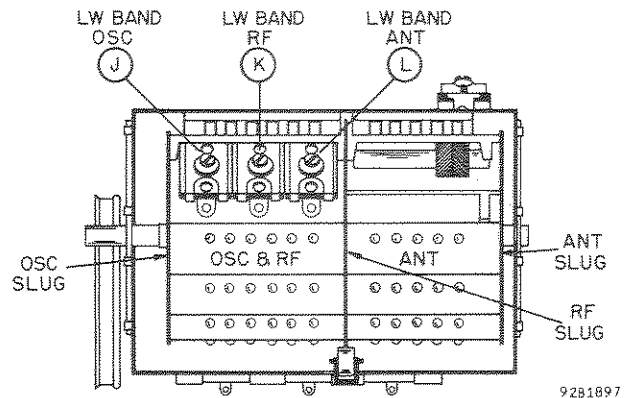


Fig. 6. Bottom View of Tuner Showing Location of Alignment Adjustments

## ALIGNMENT INSTRUCTIONS

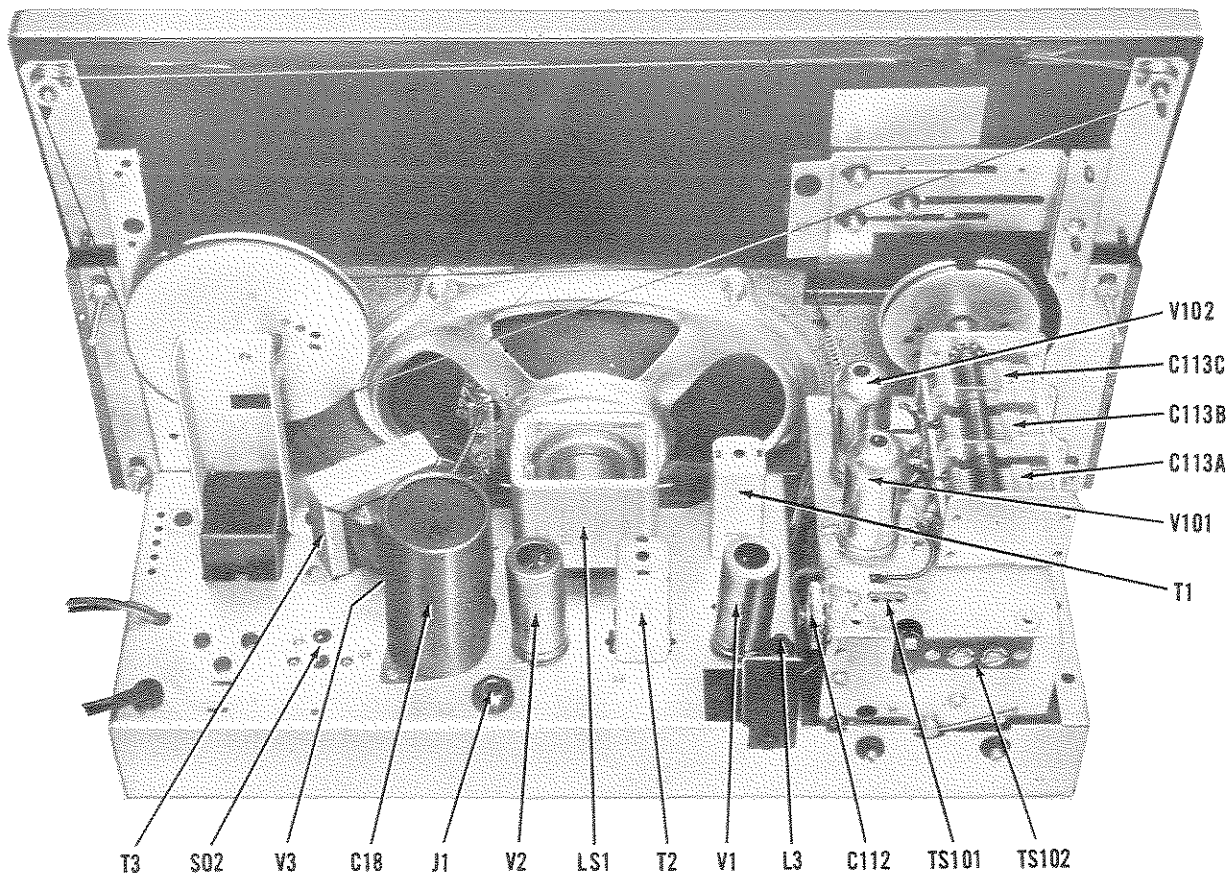
- Be sure both the set and the signal generator are thoroughly warmed up before starting alignment.
- Use an accurate signal generator which has a modulated output and covers 455 KC to 17.55 MC.
- Set the volume control at maximum and disconnect the SW whip antenna. Raise the front cover to place the loop in operating position.
- Use a non-metallic alignment tool with a 1/8 inch blade.
- Connect the output meter across the speaker voice coil.
- To avoid AVC action, use lowest output setting of signal generator which gives satisfactory reading on meter (approx. 50 milliwatts).
- To gain access to oscillator slug adjustments, it will first be necessary to remove the baffle board assembly and dial. This is accomplished by following steps (a) thru (e) under REMOVING TUNER FROM CHASSIS on page 3. The oscillator slugs may then be adjusted by placing a screwdriver thru the opening at the front of the tuner. (See Fig. 1). An opening is also provided at the rear of the tuner for access to the antenna slug adjustments. To gain access to the RF slug adjustments, it will first be necessary to unclip the antenna coil strip of the band being aligned. The RF slugs can then be adjusted by placing a screwdriver thru the opening at the rear of the tuner.
- Refer to Figs. 3 and 6 for location of alignment adjustments. The alignment adjustments are also shown on the schematic diagram.

## ALIGNMENT PROCEDURE

| Step | Signal Generator Connections   | Generator Frequency | Band Selector Setting | Receiver Dial Setting | Adjust for Maximum Output              |
|------|--|---------------------|-----------------------|-----------------------|--|
| 1    | High side thru .1 mfd capacitor to stator plates of center section of tuning gang. Low side to chassis.                            | 455 KC              | 7                     | 1000 KC               | A and B (2nd IF)<br>C and D (1st IF)   |
| 2    | Construct a loop of a few turns of wire and connect it to generator. Loosely couple this loop to the loop antenna of the receiver. | 1500 KC             | 7                     | 1500 KC               | E (oscillator trimmer on gang)         |
| 3    | Same as Step 2.  | 1400 KC             | 7                     | 1400 KC               | F (RF trimmer on gang)                 |
| 4    | Same as Step 2.  | 600 KC              | 7                     | 600 KC                | Oscillator and RF slugs.               |
| 5    | Connect dummy antenna as shown in Fig. 4.  | 1.8 MC              | 1                     | 1.8 MC                | Oscillator slug                        |
| 6    | Same as Step 5.  | 2.2 MC              | 1                     | 2.2 MC                | RF slug                                |
| 7    | Same as Step 5.  | 3.5 MC              | 1                     | 3.5 MC                | G (antenna trimmer on gang)            |
| 8    | Same as Step 2.  | 600 KC              | 7                     | 600 KC                | H (loading coil on main chassis)       |
| 9    | Same as Step 2.  | 1400 KC             | 7                     | 1400 KC               | I (antenna trimmer on side of tuner)   |
| 10   | Connect dummy antenna as shown in Fig. 5.  | 14.6 MC             | 2                     | Gang Closed           | Oscillator slug                        |
| 11   | Same as Step 10.   | 14.8 MC             | 2                     | 14.8 MC               | RF and antenna slugs                   |
| 12   | Same as Step 10.   | 17.3 MC             | 3                     | Gang Closed           | Oscillator slug                        |
| 13   | Same as Step 10.   | 17.55 MC            | 3                     | 17.55 MC              | RF and antenna slugs                   |
| 14   | Same as Step 10.   | 9.2 MC              | 4                     | Gang Closed           | Oscillator slug                        |
| 15   | Same as Step 10.   | 9.5 MC              | 4                     | 9.5 MC                | RF and antenna slugs                   |
| 16   | Same as Step 5.  | 4.0 MC              | 5                     | 4.0 MC                | Oscillator slug                        |
| 17   | Same as Step 5.  | 5.2 MC              | 5                     | 5.2 MC                | RF and antenna slugs                   |
| 18   | Same as Step 10.   | 11.4 MC             | 6                     | Gang Closed           | Oscillator slug                        |
| 19   | Same as Step 10.   | 11.6 MC             | 6                     | 11.6 MC               | RF and antenna slugs                   |
| 20   | Same as Step 2.  | 400 KC              | Long Wave             | 400 KC                | J (oscillator trimmer)                 |
| 21   | Same as Step 2.  | 360 KC              | Long Wave             | 360 KC                | K (RF trimmer) and L (antenna trimmer) |
| 22   | Same as Step 2.  | 200 KC              | Long Wave             | 200 KC                | Oscillator, RF, and antenna slugs      |

## REPLACEMENT BATTERY PACKS

| Hallcrafters | Willard | Eveready | RCA   | Bright Star | Ray O-Vac | Olin Bond | Mont. Ward | Sears | General | Usalite |
|--------------|---------|----------|-------|-------------|-----------|-----------|------------|-------|---------|---------|
| P999         | WZ-3    | 752      | VSO47 | 66-03       | AB995     | 0616      | 37         | 6401  | 343     | AB677   |

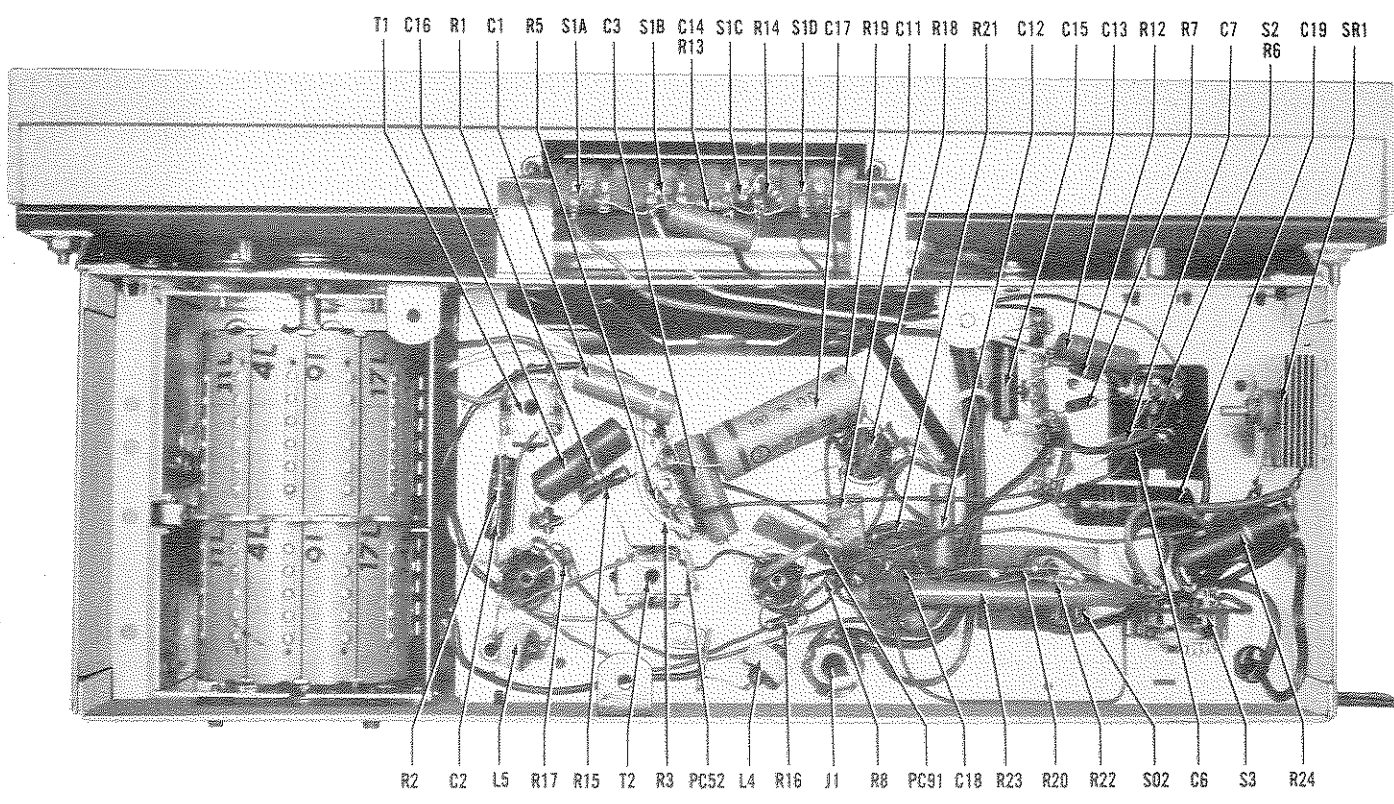


T3 S02 V3 C18 J1 V2 LS1 T2 V1 L3 C112 TS101 TS102

V102  
C113C  
C113B  
C113A  
V101  
T1

92X1899

Fig. 7. Top View of Chassis Showing Component Location



T1 C16 R1 C1 R5 S1A C3 S1B C14 S1C R13 R14 S1D C17 R19 C11 R18 R21 C12 C15 C13 R12 R7 C7 S2 R6 C19 SR1

R2 C2 L5 R17 R15 T2 R3 PC52 L4 R16 J1 R8 PC91 C18 R23 R20 R22 S02 C6 S3 R24

92X1898

Fig. 8. Bottom View of Chassis Showing Component Location

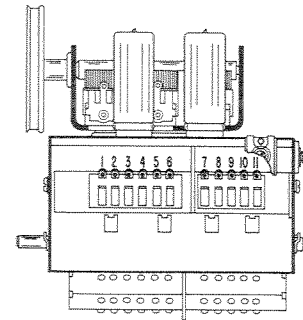
## SERVICE PARTS LIST

| Schematic Symbol              | Description   | Hallicrafters Part Number | Schematic Symbol                 | Description  | Hallicrafters Part Number |
|-------------------------------|---|---------------------------|----------------------------------|--|---------------------------|
| <b>CAPACITORS</b>             |   |                           | <b>PLUGS AND SOCKETS (Cont.)</b> |  |                           |
| C-1,3                         | .047 mfd. 200V., molded tubular paper                         | 46BS473L2                 | PL-2                             | Plug, Skyrider antenna (part of L-2)                           | -----                     |
| C-2                           | .01 mfd. 400V., molded tubular paper                          | 46BS103L4                 | PL-3                             | Line cord and plug   | 87A3592                   |
| C-4,5                         | 50 mmf. (part of diode filter plate PC-52)                    | -----                     | SO-1                             | Socket, battery cable (less shell)                             | 10A296                    |
| C-6,7                         | .01 mfd. 450V., ceramic disc                                  | 47A217                    | SO-2                             | Shell for socket SO-1  | 10A294                    |
| C-8,10                        | .005 mfd. (part of pentode couplate PC-91)                    | -----                     |                                  | Socket, ballast adapter  | 10A507                    |
| C-9                           | 100 mmf. (part of pentode couplate PC-91)                     | -----                     |                                  | Socket, tube; 7 pin miniature                                  | 6B297                     |
| C-11                          | 220 mmf. 500 V., mica   | 47X20B221K                | <b>TUBES AND RECTIFIERS</b>      |  |                           |
| C-12                          | .0047 mfd. 600V., molded tubular paper                        | 46BS472L6                 | V-1                              | 1U4: IF amplifier  | 90X1U4                    |
| C-13,14                       | .022 mfd. 200V., molded tubular paper                         | 46BS223L2                 | V-2                              | 1U5: detector and audio amplifier                              | 90X1U5                    |
| C-15                          | .001 mfd. 600V., molded tubular paper                         | 46BS102L6                 | V-3                              | 3V4: audio output  | 90X3V4                    |
| C-16                          | .047 mfd. 400V., molded tubular paper                         | 46BS473L4                 | V-101                            | 1U4: RF amplifier  | 90X1U4                    |
| C-17                          | 100 mfd. 25V., electrolytic                                   | 45B214                    | V-102                            | 1L6: converter   | 90X1L6                    |
| C-18                          | Dual 40 mfd. 150V., 80 mfd. 150V., 80 mfd. 25V.; electrolytic | 45B215                    | SR-1                             | Rectifier, selenium; 100 ma.                                   | 27A161                    |
| C-19                          | .047 mfd. 600V., molded tubular paper                         | 46BR473L6                 | <b>SWITCHES</b>                  |  |                           |
| <b>RESISTORS</b>              |   |                           | S-1                              | Switch assembly, tone  | 60A503                    |
| R-1,20,21                     | 1000 ohms 10%, 1/2 watt, carbon                               | 23X20X102K                | S-2                              | Switch, on-off (part of volume control R-6)                    | -----                     |
| R-2                           | 2.7 megohms 10%, 1/2 watt, carbon                             | 23X20X275K                | S-3                              | Switch, AC/DC - battery changeover                             | 60B504                    |
| R-3                           | 2.2 megohms 10%, 1/2 watt, carbon                             | 23X20X225K                | <b>MISCELLANEOUS</b>             |  |                           |
| R-4                           | 47,000 ohms (part of diode filter plate PC-52)                | -----                     |                                  | Antenna, telescoping whip                                      | 57B173                    |
| R-5                           | 1 megohm 10%, 1/2 watt, carbon                                | 23X20X105K                |                                  | Cabinet  | 78F904                    |
| R-6                           | Volume control, 1 megohm (includes on-off switch S-2)         | 25B1009                   |                                  | Channel, rubber; 1" length                                     | 16A300                    |
| R-7                           | 1500 ohms 10%, 1/2 watt, carbon                               | 23X20X152K                |                                  | Channel, rubber; 5" length                                     | 16A301                    |
| R-8                           | 10 megohms 10%, 1/2 watt, carbon                              | 23X20X106K                | PC-52                            | Clip, IF transformer mtg.                                      | 76A385                    |
| R-9                           | 4.7 megohms (part of pentode couplate PC-91)                  | -----                     |                                  | Clip, mtg. (for mtg. tone escutcheon to trim strip)            | 76A989                    |
| R-10                          | 1 megohm (part of pentode couplate PC-91)                     | -----                     |                                  | Cord, dial (specify length)                                    | 38A026                    |
| R-11                          | 2.2 megohms (part of pentode couplate PC-91)                  | -----                     |                                  | Cover, loop antenna  | 8D1829                    |
| R-12                          | 100,000 ohms 10%, 1/2 watt, carbon                            | 23X20X104K                |                                  | Dial scale   | 83D425                    |
| R-13                          | 18,000 ohms 10%, 1/2 watt, carbon                             | 23X20X183K                |                                  | Dial glass   | 22B369                    |
| R-14                          | 27,000 ohms 10%, 1/2 watt, carbon                             | 23X20X273K                |                                  | Diode filter plate (includes R-4, C-4 and C-5)                 | 49A023                    |
| R-15                          | 330,000 ohms 10%, 1/2 watt, carbon                            | 23X20X334K                |                                  | Escutcheon, dial   | 7D386                     |
| R-16                          | 68 ohms 5%, 1/2 watt, carbon                                  | 23X20X680J                |                                  | Escutcheon, tone control                                       | 7C389                     |
| R-17                          | 100 ohms 5%, 1/2 watt, carbon                                 | 23X20X101J                |                                  | Grille and baffle board assembly                               | 7D393                     |
| R-18                          | 220 ohms 5%, 1/2 watt, carbon                                 | 23X20X221J                |                                  | Grip, finger; front cover                                      | 30B289                    |
| R-19                          | 1500 ohms 5%, 1/2 watt, carbon                                | 23X20X152J                |                                  | Grommet, rubber  | 16A299                    |
| R-22                          | 3300 ohms 5%, 1/2 watt, carbon                                | 23X20X332J                |                                  | Knob, on-off volume  | 15C532                    |
| R-23                          | 2000 ohms 5%, 10 watts, wirewound                             | 24A959                    |                                  | Knob, band selector  | 15C533                    |
| R-24                          | 82 ohms 5%, 2 watts, carbon                                   | 23X40X820J                |                                  | Knob, tuning   | 15C534                    |
| <b>COILS AND TRANSFORMERS</b> |   |                           |                                  | Lock, line cord  | 76A974                    |
| L-1                           | Antenna, loop   | 57C169                    |                                  | Mtg. base, tube shield   | 69A308                    |
| L-2                           | Antenna, Skyrider (complete with plug and cable)              | 57C170                    |                                  | Nameplate, Hallicrafters Precision Built                       | 13A1120                   |
| L-3                           | Coil, antenna loading   | 51B1586                   |                                  | Operating Instructions   | 94X917                    |
| L-4,5                         | Choke, RF   | 53A265                    | PC-91                            | Pentode couplate (includes R-9, R-10, R-11, C-8, C-9 and C-10) | 49A024                    |
| T-1,2                         | Transformer, IF   | 50C242                    |                                  | Plate, electrolytic capacitor mtg.                             | 8A749                     |
| T-3                           | Transformer, audio output                                     | 55C198                    |                                  | Pointer, dial  | 82B223                    |
| <b>PLUGS AND SOCKETS</b>      |   |                           |                                  | Pulley, 1-1/4" string dia.                                     | 28A067                    |
| J-1                           | Jack, phone   | 36A002                    | LS-1                             | Pulley, 3/4" string dia.                                       | 28A137                    |
| PL-1                          | Plug, loop antenna  | 10B517                    |                                  | Pulley, 3-1/2" string dia.                                     | 28A128                    |
|                               |   |                           |                                  | Shield, tube   | 69A306                    |
|                               |   |                           |                                  | Speaker, PM; 5" x 7" oval (3.2 ohm voice coil)                 | 85C130                    |
|                               |   |                           |                                  | Spring, dial cord tension; 7/8" overall                        | 75A012                    |
|                               |   |                           |                                  | Spring, dial cord tension; 11/16" overall                      | 75A163                    |
|                               |   |                           |                                  | Spring, band indicator plate; 9/64" overall                    | 75A266                    |
|                               |   |                           |                                  | Strap, battery   | 76B1008                   |
|                               |   |                           |                                  | Trim strip, control marking                                    | 8C1888                    |
|                               |   |                           |                                  | Dynamic Turret Tuner assembly, complete with tubes             | 1D1382                    |

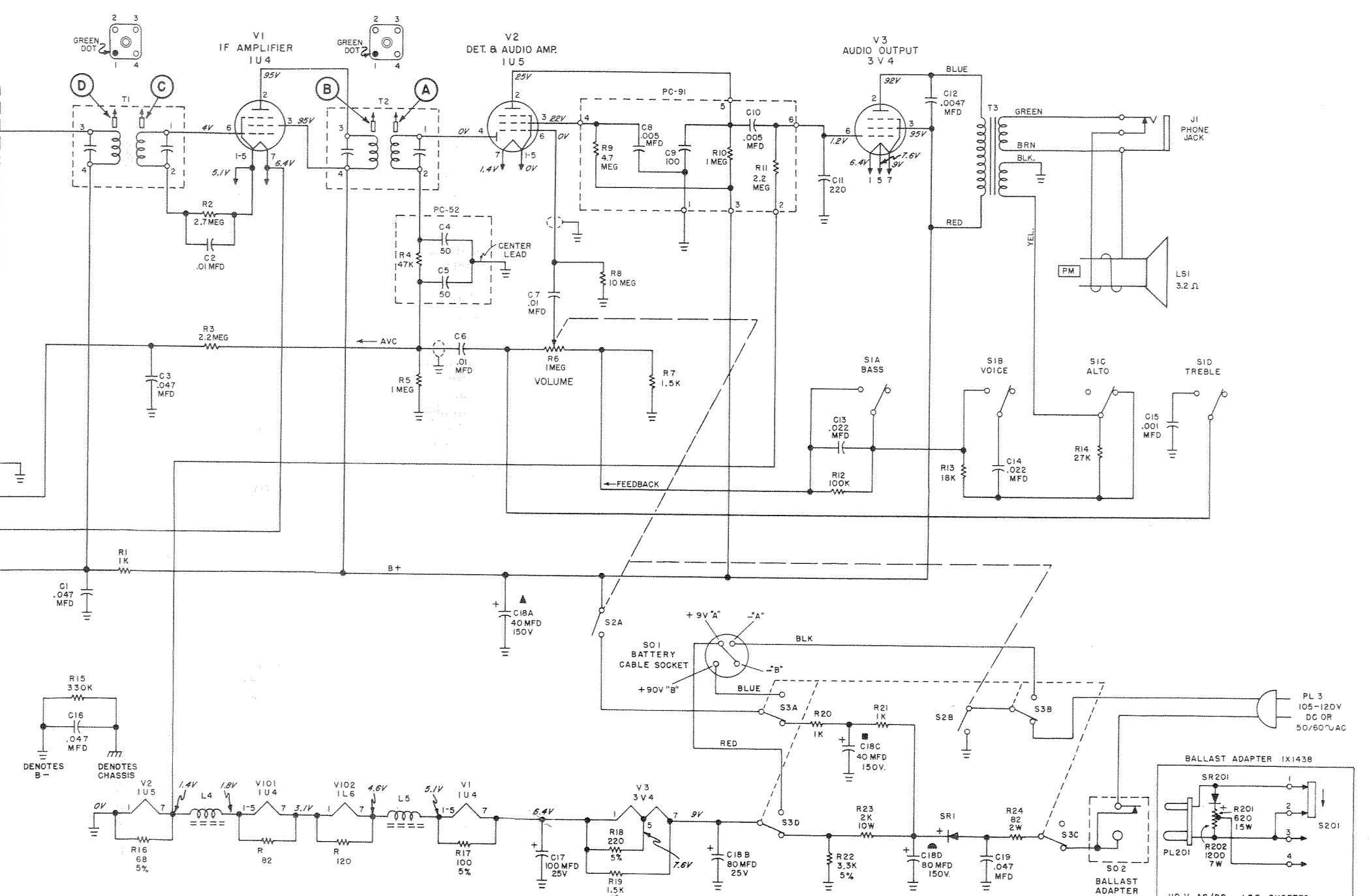
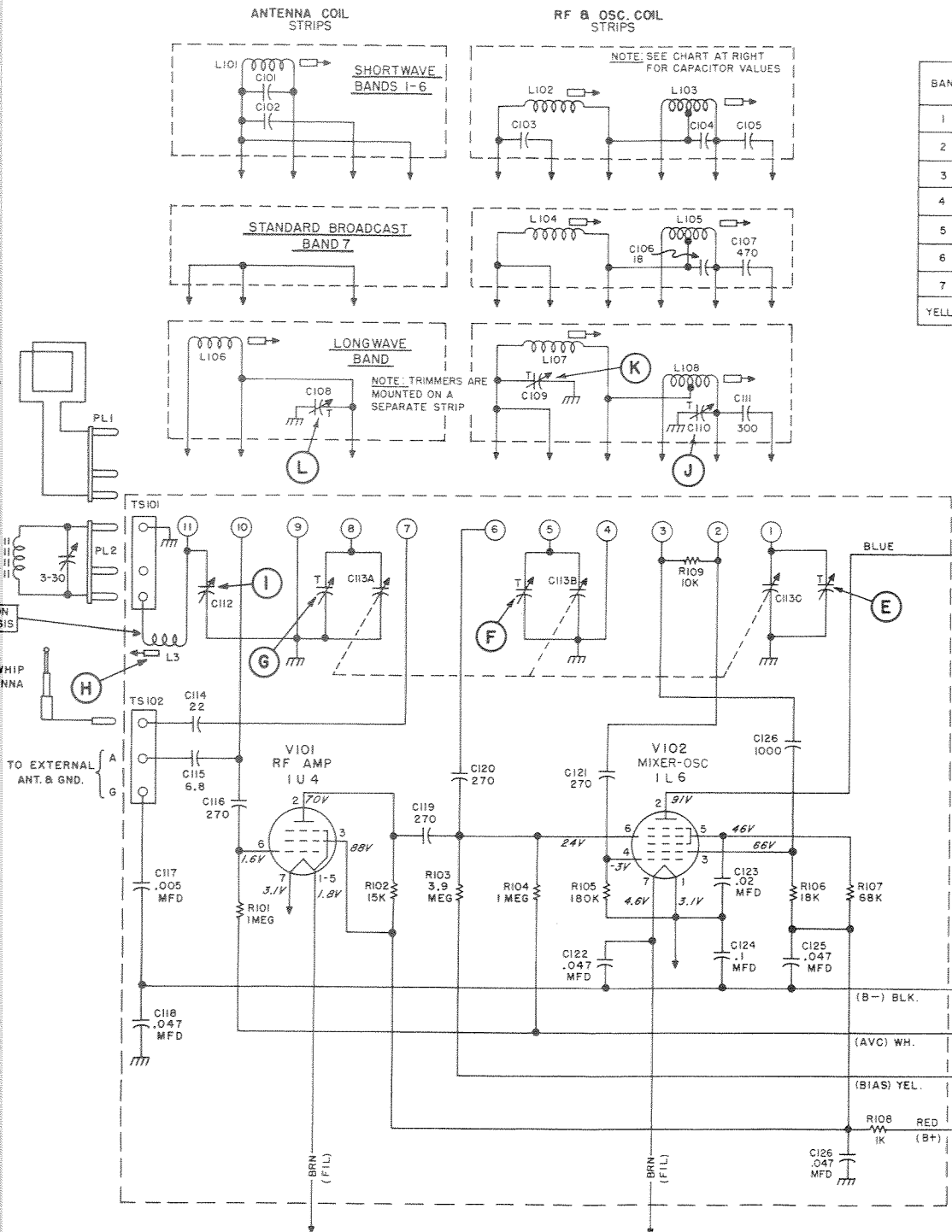
# MODEL TW-1000

RUN 1

| BAND   | TUNER STRIP MARKING | RECEPTION  | FREQUENCY RANGE | C101 | C102 | C103 | C104 | C105 |
|--------|---------------------|------------|-----------------|------|------|------|------|------|
| 1      | 2L                  | SHORTWAVE  | 1.8 — 3.9 MC    | NONE | 550  | 560  | 5    | 360  |
| 2      | 14L                 | "          | 14.62 — 15.7 MC | NONE | 13   | 17   | NONE | 12   |
| 3      | 17L                 | "          | 17.32 — 18.2 MC | NONE | 10   | 14   | NONE | 12   |
| 4      | 9L                  | "          | 9.22 — 10.3 MC  | NONE | 22   | 24   | NONE | 18   |
| 5      | 4L                  | "          | 3.9 — 8.0 MC    | 4.25 | 330  | 340  | 6.8  | 380  |
| 6      | 11L                 | "          | 11.42 — 12.3 MC | NONE | 15   | 18   | NONE | 12   |
| 7      | 1L                  | STD. BDCST | 540 — 1600 KC   |      |      |      |      |      |
| YELLOW | .3L                 | LONGWAVE   | 180 — 400 KC    |      |      |      |      |      |



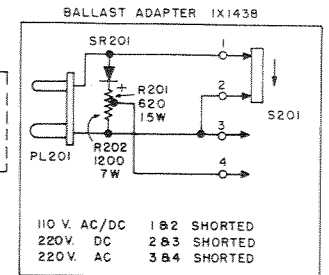
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**NOTES**

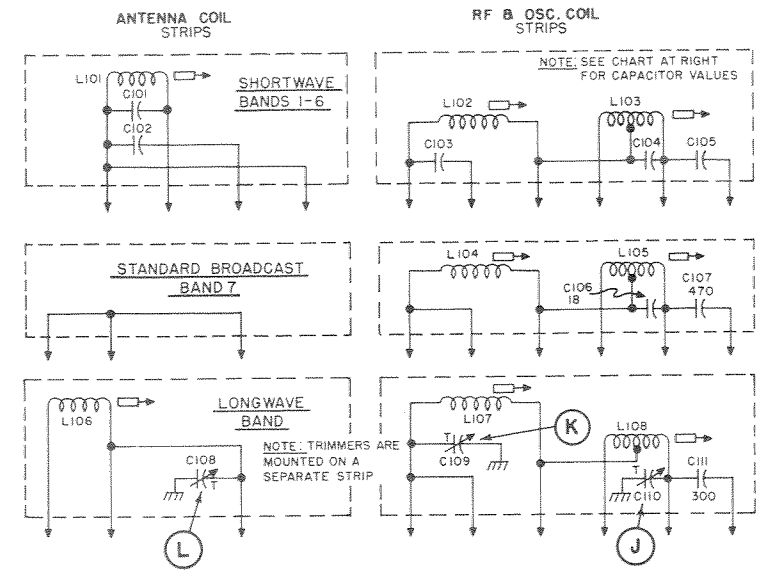
1. RESISTANCE IN OHMS AND CAPACITANCE IN MMF UNLESS OTHERWISE SPECIFIED. K=1000
2. RESISTORS ARE 1/2 WATT AND 10% UNLESS OTHERWISE SPECIFIED.
3. INTERMEDIATE FREQUENCY = 455 KC
4. TONE SWITCH S-1 SHOWN IN RIGHT HAND POSITION.
5. POWER CHANGEOVER SWITCH S-3 SHOWN IN AC/DC POSITION. FOR BATTERY OPERATION, INSERT LINE CORD PLUG INTO CHASSIS RECEPTACLE (SEE FIG.3).
6. LINE VOLTAGE: AC/DC OPERATION - 117 VOLTS  
BATTERY OPERATION - 90V "B" AND 9V "A"
7. ALL VOLTAGES MEASURED WITH VTVM BETWEEN TUBE SOCKET TERMINALS AND B-( $\frac{1}{2}$ ). VOLTAGES ARE DC AND POSITIVE UNLESS OTHERWISE SPECIFIED.
8. ALL VOLTAGES ARE MEASURED IN BROADCAST POSITION (BAND 7) WITH LOOP ANTENNA DISCONNECTED AND GANG FULLY CLOSED.

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

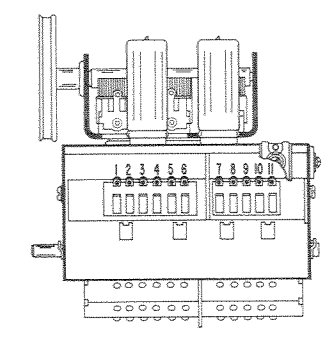


|              |               |
|--------------|---------------|
| 110 V. AC/DC | 1 0 2 SHORTED |
| 220V. DC     | 2 0 3 SHORTED |
| 220 V. AC    | 3 0 4 SHORTED |

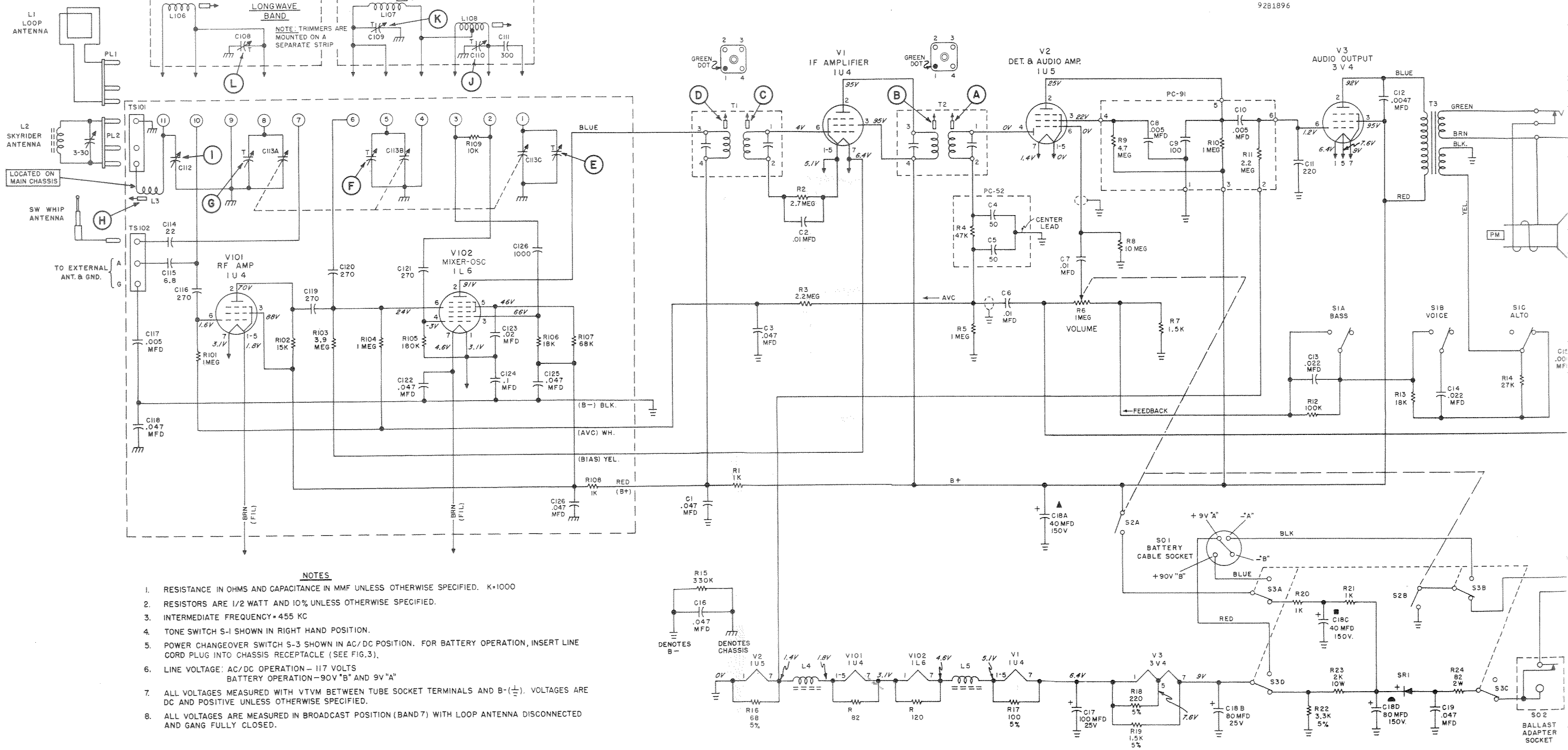




| BAND   | TUNER STRIP MARKING | RECEPTION  | FREQUENCY RANGE | C101 | C102 | C103 | C104 | C105 |
|--------|---------------------|------------|-----------------|------|------|------|------|------|
| 1      | 2L                  | SHORTWAVE  | 1.8 — 3.9 MC    | NONE | 550  | 560  | 5    | 360  |
| 2      | 14L                 | "          | 14.62 — 15.7 MC | NONE | 13   | 17   | NONE | 12   |
| 3      | 17L                 | "          | 17.32 — 18.2 MC | NONE | 10   | 14   | NONE | 12   |
| 4      | 9L                  | "          | 9.22 — 10.3 MC  | NONE | 22   | 24   | NONE | 18   |
| 5      | 4L                  | "          | 3.9 — 8.0 MC    | 4.25 | 330  | 340  | 6.8  | 380  |
| 6      | 11L                 | "          | 11.42 — 12.3 MC | NONE | 15   | 18   | NONE | 12   |
| 7      | 1L                  | STD. BDCST | 540 — 1600 KC   |      |      |      |      |      |
| YELLOW | .3L                 | LONGWAVE   | 180 — 400 KC    |      |      |      |      |      |



92B1896



- NOTES**
1. RESISTANCE IN OHMS AND CAPACITANCE IN MMF UNLESS OTHERWISE SPECIFIED. K=1000
  2. RESISTORS ARE 1/2 WATT AND 10% UNLESS OTHERWISE SPECIFIED.
  3. INTERMEDIATE FREQUENCY = 455 KC
  4. TONE SWITCH S-1 SHOWN IN RIGHT HAND POSITION.
  5. POWER CHANGEOVER SWITCH S-3 SHOWN IN AC/DC POSITION. FOR BATTERY OPERATION, INSERT LINE CORD PLUG INTO CHASSIS RECEPTACLE (SEE FIG. 3).
  6. LINE VOLTAGE: AC/DC OPERATION - 117 VOLTS  
BATTERY OPERATION - 90V "B" AND 9V "A"
  7. ALL VOLTAGES MEASURED WITH VTVM BETWEEN TUBE SOCKET TERMINALS AND B-( $\frac{1}{2}$ ). VOLTAGES ARE DC AND POSITIVE UNLESS OTHERWISE SPECIFIED.
  8. ALL VOLTAGES ARE MEASURED IN BROADCAST POSITION (BAND 7) WITH LOOP ANTENNA DISCONNECTED AND GANG FULLY CLOSED.

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

## SERVICE PARTS LIST

| Schematic Symbol              | Description   | Hallcrafters Part Number | Schematic Symbol            | Description  | Hallcrafters Part Number |
|-------------------------------|---|--------------------------|-----------------------------|--|--------------------------|
| <b>CAPACITORS</b>             |   |                          |                             |  |                          |
| C-1,3                         | .047 mfd. 200V., molded tubular paper                         | 46BS473L2                | PL-2                        | Plug, Skyrider antenna (part of L-2)                           | -----                    |
| C-2                           | .01 mfd. 400V., molded tubular paper                          | 46BS103L4                | PL-3                        | Line cord and plug   | 87A3592                  |
| C-4,5                         | 50 mmf. (part of diode filter plate PC-52)                    | -----                    | SO-1                        | Socket, battery cable (less shell)                             | 10A296                   |
| C-6,7                         | .01 mfd. 450V., ceramic disc                                  | 47A217                   | SO-2                        | Shell for socket SO-1  | 10A294                   |
| C-8,10                        | .005 mfd. (part of pentode couplate PC-91)                    | -----                    |                             | Socket, ballast adapter  | 10A507                   |
| C-9                           | 100 mmf. (part of pentode couplate PC-91)                     | -----                    |                             | Socket, tube; 7 pin miniature                                  | 6B297                    |
| C-11                          | 220 mmf. 500 V., mica   | 47X20B221K               | <b>TUBES AND RECTIFIERS</b> |  |                          |
| C-12                          | .0047 mfd. 600V., molded tubular paper                        | 46BS472L6                | V-1                         | 1U4: IF amplifier  | 90X1U4                   |
| C-13,14                       | .022 mfd. 200V., molded tubular paper                         | 46BS223L2                | V-2                         | 1U5: detector and audio amplifier                              | 90X1U5                   |
| C-15                          | .001 mfd. 600V., molded tubular paper                         | 46BS102L6                | V-3                         | 3V4: audio output  | 90X3V4                   |
| C-16                          | .047 mfd. 400V., molded tubular paper                         | 46BS473L4                | V-101                       | 1U4: RF amplifier  | 90X1U4                   |
| C-17                          | 100 mfd. 25V., electrolytic                                   | 45B214                   | V-102                       | 1L6: converter   | 90X1L6                   |
| C-18                          | Dual 40 mfd. 150V., 80 mfd. 150V., 80 mfd. 25V.; electrolytic | 45B215                   | SR-1                        | Rectifier, selenium; 100 ma.                                   | 27A161                   |
| C-19                          | .047 mfd. 600V., molded tubular paper                         | 46BR473L6                | <b>SWITCHES</b>             |  |                          |
| <b>RESISTORS</b>              |   |                          |                             |  |                          |
| R-1,20,21                     | 1000 ohms 10%, 1/2 watt, carbon                               | 23X20X102K               | S-1                         | Switch assembly, tone  | 60A503                   |
| R-2                           | 2.7 megohms 10%, 1/2 watt, carbon                             | 23X20X275K               | S-2                         | Switch, on-off (part of volume control R-6)                    | -----                    |
| R-3                           | 2.2 megohms 10%, 1/2 watt, carbon                             | 23X20X225K               | S-3                         | Switch, AC/DC - battery changeover                             | 60B504                   |
| R-4                           | 47,000 ohms (part of diode filter plate PC-52)                | -----                    | <b>MISCELLANEOUS</b>        |  |                          |
| R-5                           | 1 megohm 10%, 1/2 watt, carbon                                | 23X20X105K               |                             | Antenna, telescoping whip                                      | 57B173                   |
| R-6                           | Volume control, 1 megohm (includes on-off switch S-2)         | 25B1009                  |                             | Cabinet  | 78F904                   |
| R-7                           | 1500 ohms 10%, 1/2 watt, carbon                               | 23X20X152K               |                             | Channel, rubber; 1" length                                     | 16A300                   |
| R-8                           | 10 megohms 10%, 1/2 watt, carbon                              | 23X20X106K               | PC-52                       | Channel, rubber; 5" length                                     | 16A301                   |
| R-9                           | 4.7 megohms (part of pentode couplate PC-91)                  | -----                    |                             | Clip, IF transformer mtg.                                      | 76A385                   |
| R-10                          | 1 megohm (part of pentode couplate PC-91)                     | -----                    |                             | Clip, mtg. (for mtg. tone escutcheon to trim strip)            | 76A989                   |
| R-11                          | 2.2 megohms (part of pentode couplate PC-91)                  | -----                    |                             | Cord, dial (specify length)                                    | 38A026                   |
| R-12                          | 100,000 ohms 10%, 1/2 watt, carbon                            | 23X20X104K               |                             | Cover, loop antenna  | 8D1829                   |
| R-13                          | 18,000 ohms 10%, 1/2 watt, carbon                             | 23X20X183K               |                             | Dial scale   | 83D425                   |
| R-14                          | 27,000 ohms 10%, 1/2 watt, carbon                             | 23X20X273K               |                             | Dial glass   | 22B369                   |
| R-15                          | 330,000 ohms 10%, 1/2 watt, carbon                            | 23X20X334K               |                             | Diode filter plate (includes R-4, C-4 and C-5)                 | 49A023                   |
| R-16                          | 68 ohms 5%, 1/2 watt, carbon                                  | 23X20X680J               |                             | Escutcheon, dial   | 7D386                    |
| R-17                          | 100 ohms 5%, 1/2 watt, carbon                                 | 23X20X101J               |                             | Escutcheon, tone control                                       | 7C389                    |
| R-18                          | 220 ohms 5%, 1/2 watt, carbon                                 | 23X20X221J               |                             | Grille and baffle board assembly                               | 7D393                    |
| R-19                          | 1500 ohms 5%, 1/2 watt, carbon                                | 23X20X152J               |                             | Grip, finger; front cover                                      | 30B289                   |
| R-22                          | 3300 ohms 5%, 1/2 watt, carbon                                | 23X20X332J               |                             | Grommet, rubber  | 16A299                   |
| R-23                          | 2000 ohms 5%, 10 watts, wirewound                             | 24A959                   |                             | Knob, on-off volume  | 15C532                   |
| R-24                          | 82 ohms 5%, 2 watts, carbon                                   | 23X40X820J               |                             | Knob, band selector  | 15C533                   |
| <b>COILS AND TRANSFORMERS</b> |   |                          |                             |  |                          |
| L-1                           | Antenna, loop   | 57C169                   | PC-91                       | Knob, tuning   | 15C534                   |
| L-2                           | Antenna, Skyrider (complete with plug and cable)              | 57C170                   |                             | Lock, line cord  | 76A974                   |
| L-3                           | Coil, antenna loading   | 51B1586                  |                             | Mtg. base, tube shield   | 69A308                   |
| L-4,5                         | Choke, RF   | 53A265                   |                             | Nameplate, Hallcrafters Precision Built                        | 13A1120                  |
| T-1,2                         | Transformer, IF   | 50C242                   | LS-1                        | Operating Instructions   | 94X917                   |
| T-3                           | Transformer, audio output                                     | 55C198                   |                             | Pentode couplate (includes R-9, R-10, R-11, C-8, C-9 and C-10) | 49A024                   |
| <b>PLUGS AND SOCKETS</b>      |   |                          |                             |  |                          |
| J-1                           | Jack, phone   | 36A002                   |                             | Plate, electrolytic capacitor mtg.                             | 8A749                    |
| PL-1                          | Plug, loop antenna  | 10B517                   |                             | Pointer, dial  | 82B223                   |
|                               |   |                          |                             | Pulley, 1-1/4" string dia.                                     | 28A067                   |
|                               |   |                          |                             | Pulley, 3/4" string dia.                                       | 28A137                   |
|                               |   |                          |                             | Pulley, 3-1/2" string dia.                                     | 28A128                   |
|                               |   |                          |                             | Shield, tube   | 69A306                   |
|                               |   |                          |                             | Speaker, PM; 5" x 7" oval (3.2 ohm voice coil)                 | 85C130                   |
|                               |   |                          |                             | Spring, dial cord tension; 7/8" overall                        | 75A012                   |
|                               |   |                          |                             | Spring, dial cord tension; 11/16" overall                      | 75A163                   |
|                               |   |                          |                             | Spring, band indicator plate; 9/64" overall                    | 75A266                   |
|                               |   |                          |                             | Strap, battery   | 76B1008                  |
|                               |   |                          |                             | Trim strip, control marking                                    | 8C1888                   |
|                               |   |                          |                             | Dynamic Turret Tuner assembly, complete with tubes             | 1D1382                   |

**NOTES**

