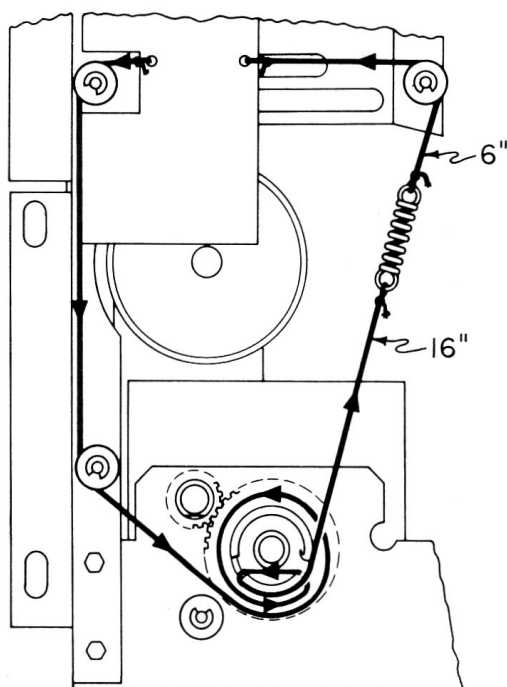




**NOTE:** BAND SELECTOR CONTROL  
SET FULLY CLOCKWISE.



**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 Parts location and ground connections should be as originally made.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

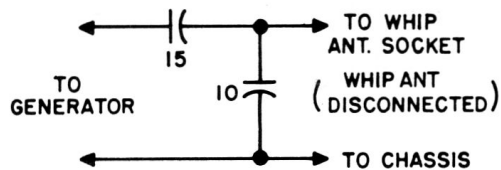
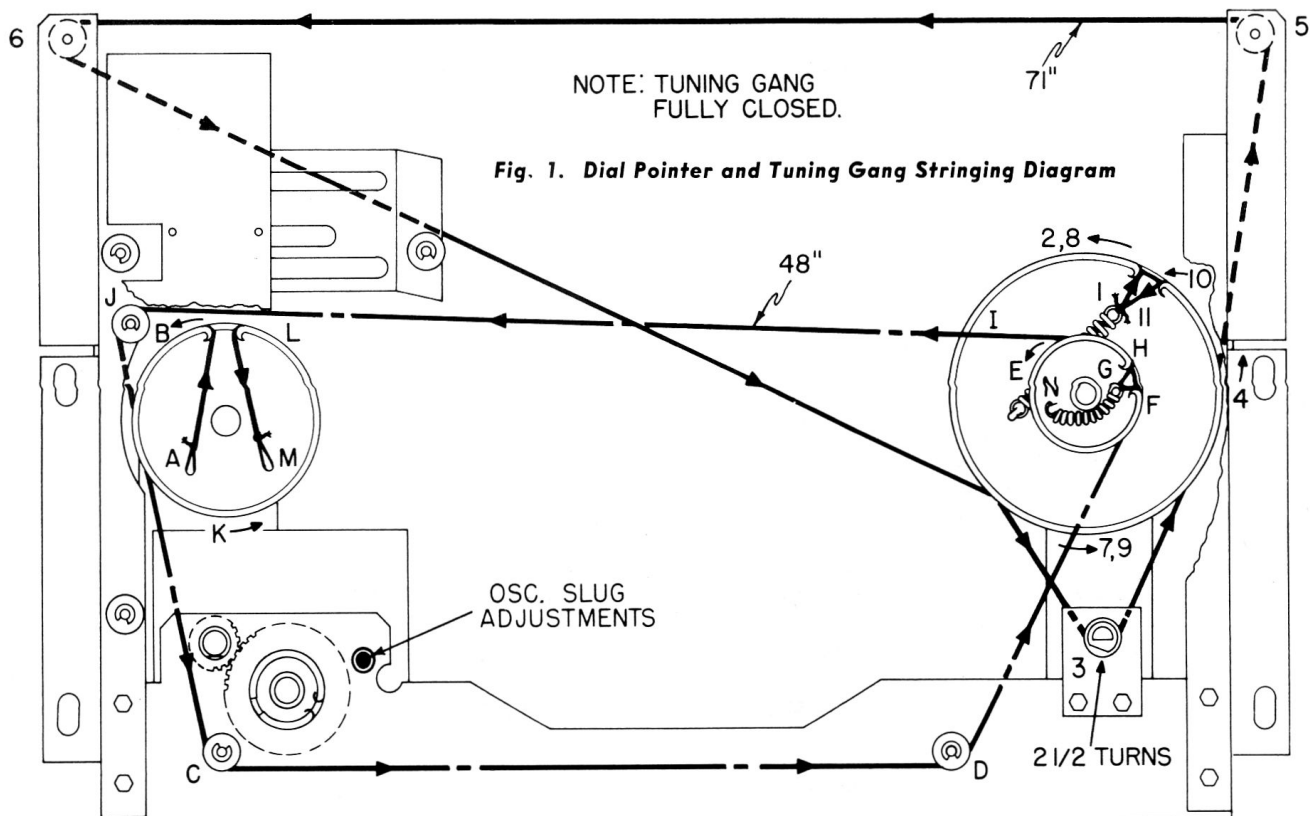
- a. Remove the front control knobs.
- b. Remove dial escutcheon by removing the screws at sides and bottom.
- c. Remove dial scale by removing (4) screws at front of dial and (1) screw at rear.
- d. Disconnect the speaker leads.
- e. Remove baffle board assembly by removing the (2) long and (2) short 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

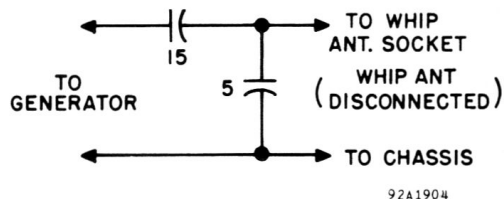
- a. Remove tuner from chassis as outlined above.
- b. Remove the front and rear turret retainer springs by depressing straight end of spring from tab on tuner chassis end plate.
- c. Grasp turret shaft at front and rear and remove turret from tuner assembly.
- d. For reassembly, position turret so that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

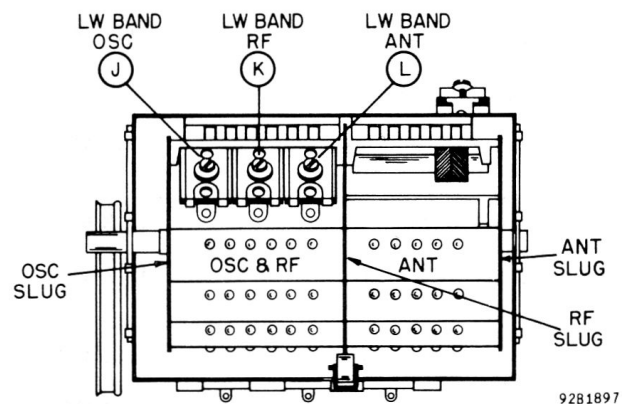
Insert a screwdriver blade between the coil retainer spring and the turret end plate. Twist the blade away from the turret and lift the end of the coil upward and remove.



**Fig. 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. 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<br>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   |



# Hallcrafters TW1000 Run 1 Chassis & Component Layouts

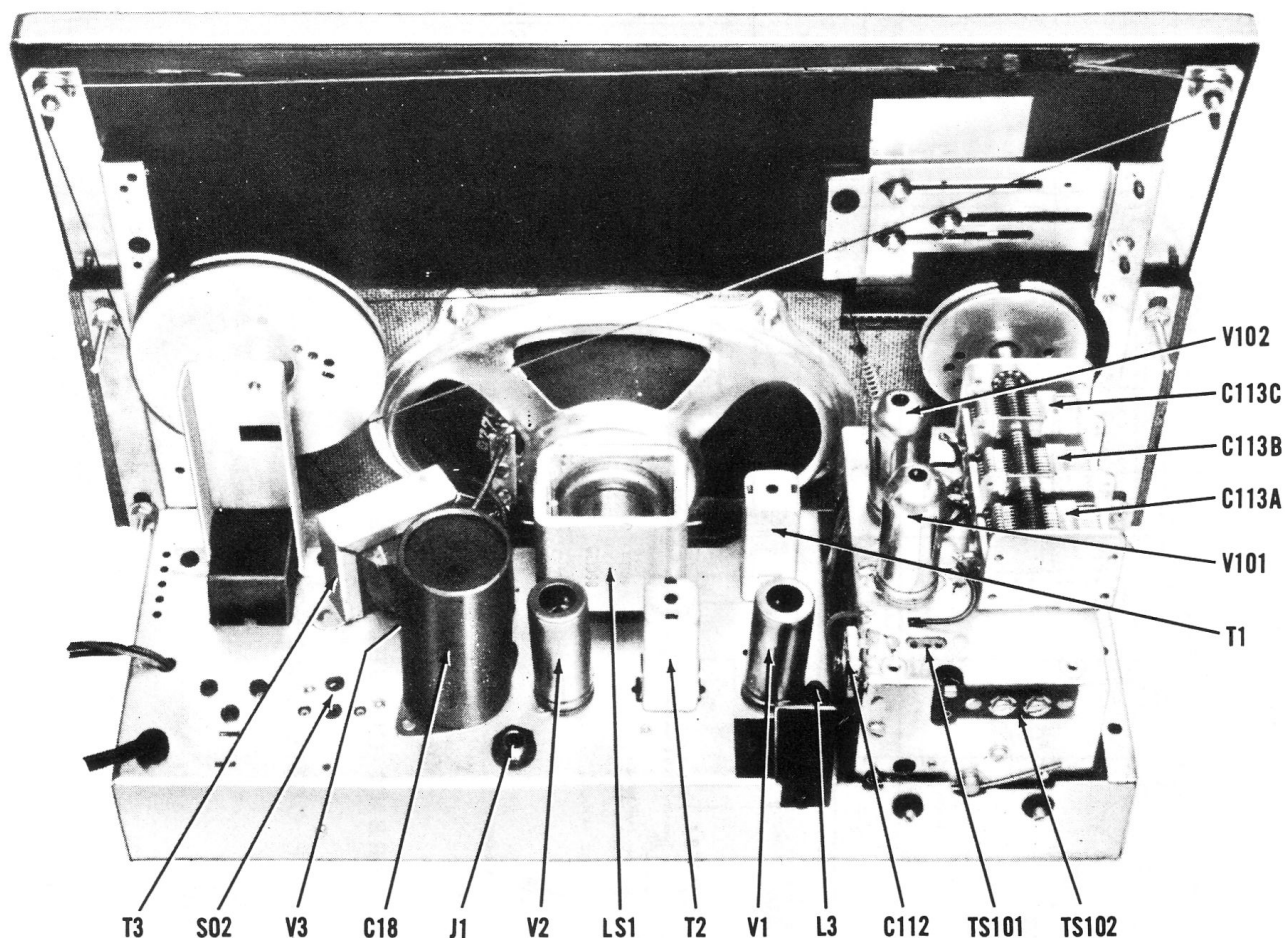


Fig. 7. Top View of Chassis Showing Component Location

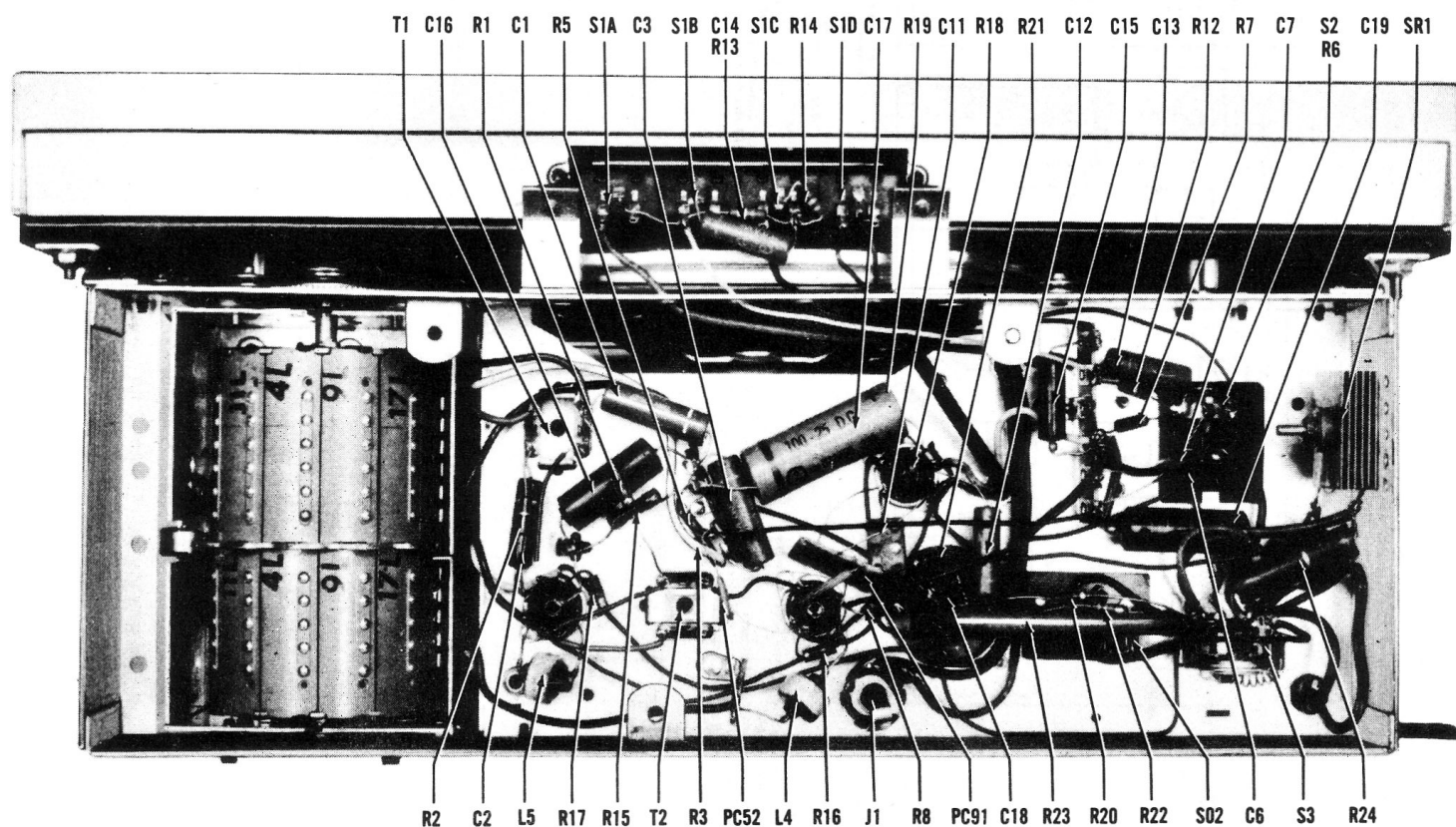


Fig. 8. Bottom View of Chassis Showing Component Location

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