

## Zenith Radio Corp.

**Model:** G503

**Chassis:**

**Year:** Pre 1951

**Power:**

**Circuit:**

**IF:**

**Tubes:**

**Bands:**

### Resources

[Riders Volume 21 - ZENITH 21-1](#)

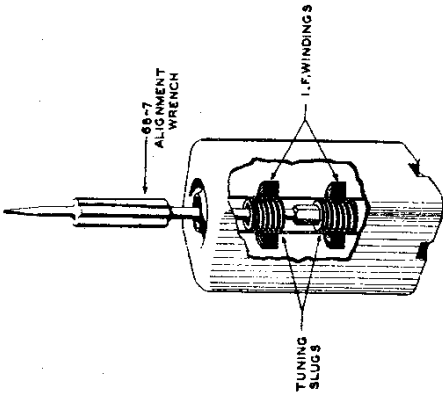
[Riders Volume 21 - ZENITH 21-2](#)

[Riders Volume 21 - ZENITH 21-3](#)

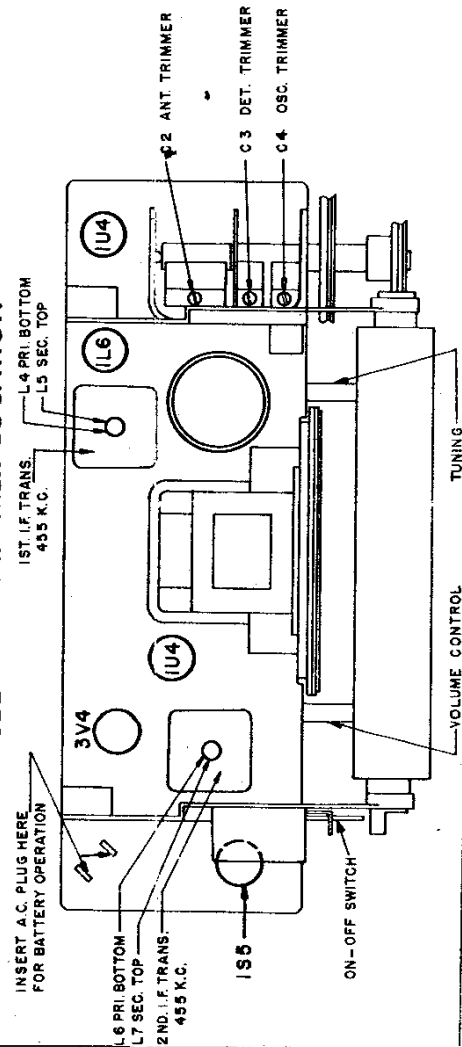


MODEL G503,  
Ch. 5G41

**DETAILED VIEW OF I. F. TRANSFORMERS.**



**TUBE AND TRIMMER LOCATION**

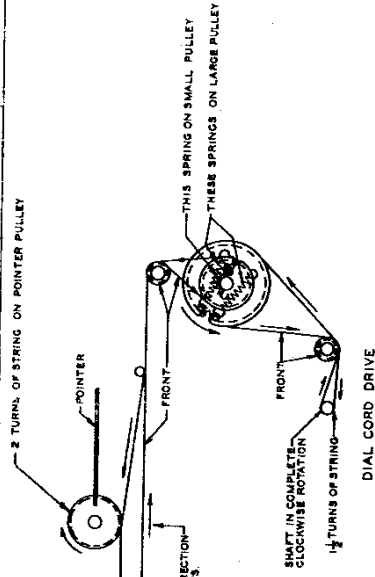


| OPERATION | CONNECT OSCILLATOR TO ANTENNA           | DUMMY ANTENNA | INPUT SIG. FREQUENCY | BAND | SET DIAL TO | TRIMMERS                  | PURPOSE                 |
|-----------|---|---------------|----------------------|------|-------------|---------------------------|-------------------------|
| 1         | Converter Grid                          | .1 Mfd        | 455 Kc.              | BC   | 600 Kc.     | L4, 5, 6 & 7              | I.F. Alignment          |
| 2         | Two turns loosely coupled to Wavemagnet |               | 1600 Kc.             | BC   | 1600 Kc.    | Osc. Trim. C4             | Set Oscillator to scale |
| 3         | Two turns loosely coupled to Wavemagnet |               | 1400 Kc.             | BC   | 1400 Kc.    | Ant. & Det. Trims C2 & C3 | Align Wavemagnet        |

**IF Alignment:** Remove the chassis from the cabinet and arrange the units so that the wavemagnet can be connected. All the connections and adjustments can be made from the top of the chassis. Connect a signal generator, through a .1 mfd. dummy antenna, to the converter grid and B- (common return). Connect an output meter across the voice coil of the speaker (two lugs provided). Set the signal generator to 455 Kc. and adjust L4, L5, L6, and L7 for the maximum indication on the output meter. Always keep the signal output from the generator just high enough to get an indication, otherwise excessive loading may result.

**RF Alignment:** Connect a two turn loop across the leads of the signal generator, loosely couple this loop to the wavemagnet. Set the signal generator and the dial pointer of the receiver to 1600 Kc. and adjust C4 oscillator trimmer to resonance. Set the signal generator and dial pointer to 1400 and adjust C2 and C3 antenna detector trimmers to resonance. These trimmers are on the top of gang condenser. Check operation and re-install set in cabinet. Tune in a weak station near 1400 Kc. or use background noise and re-adjust antenna trimmer for maximum sensitivity.

The I.F. transformers incorporated in this receiver are of the new permeability tuned type. The advantage of an I.F. transformer of this type is its extreme stability under various humidity and temperature conditions. The upper coil is the secondary and the lower the primary. When adjusting these I.F. transformers the tuning wrench 68-7 can be inserted into the top slug, rotated until maximum output is obtained and then dropped down to the lower slug and the same operation repeated. The tuning wrench is so designed that turning one slug does not affect the adjustment of the other.



**DIAL CABLE DRAWING**

## PARTS LIST

| Part No.       | Ref. No. | Description                            | Part No.                  | Ref. No. | Description  |
|----------------|----------|--|---------------------------|----------|--|
| DIAL ASSEMBLY  |          |  | MISCELLANEOUS (Continued) |          |  |
| 12-1554        |          | Tuning Shaft Bracket                   |                           |          |  |
| 26-420         |          | Dial Scale                             | 36-42                     |          | Cabinet Handle (Y model only)  |
| 57-1630        |          | Escutcheon (Y Model only)              | 36-43                     |          | Cabinet Handle   |
| 57-1631        |          | Escutcheon                             | 46-785                    |          | Tuning & Vol. Control Knob (2 used)  |
| 57-1632        |          | Emblem Plate                           | 49-658                    | SP-14    | 4" PM Speaker  |
| 57-1633        |          | Emblem Plate (Y Model only)            |                           |          | 208-658 Cone & Voice Coil  |
| 57-1634        |          | Trim Plate                             |                           |          | 206-658 Output Trans.  |
| 59-225         |          | Dial Pointer                           | 54-34                     |          | #6-32 x 1/4" x 3/32 Hex. Nut Steel   |
| 76-540         |          | Tuning Shaft                           |                           |          | NP (Used on 212-10)  |
| 80-209         |          | Dial Cord Tension Spring               | 54-139                    |          | #3/8-32 x 9/16" Palnut Type 9N Cad.  |
| 93-978         |          | Felt Washer (2 used)                   |                           |          | Pl. (used on 63-2013)  |
| 188-32         |          | Retaining Ring (used on 76-540)        | 93-1004                   |          | Fibre Spacer Washer (2 used on ea. S-16711 & S-15977)                        |
| S-15430        |          | Pointer & Pulley Assembly              |                           |          |  |
| S-15440        |          | Dial Cord Assembly (Short)             | 94-295                    |          | Gang Cond. Mtg. Bushing (3 used)   |
| S-16106        |          | Dial Cord Assembly (Long)              | 97-367                    |          | Handle Mtg. Stud   |
|                |          |  | 112-800                   |          | #2 x 1/4" Phill. R.H.S.T. Screw Brass Plate (2 used on 57-1632)              |
| COILS & CHOKES |          |  | 113-18                    |          | #6-32 x 5/16" Hex. Hd. Sl. M.S. Cad. Pl. (2 used on 85-450)                  |
| 95-1132        | T1       | 1st IF Transformer                     | 114-26                    |          | #8 x 1/4" Hex. Hd. S.T. Screw Cad. Pl. (4 used on 57-1480)                   |
| 95-1133        | T2       | 2nd IF Transformer                     |                           |          |  |
| S-15811        | L2       | Detector Coil Assembly                 | 114-295                   |          | #8 x 5/16" Hex. Hd. Sl. S.T. Screw Shakeproof Cad. Pl. (4 used chassis mtg.) |
| S-15812        | L3       | Oscillator Coil Assembly               |                           |          | #6-32 x 1" Hex. Hd. Sl. M.S. Steel (used on 212-10)                          |
| CONDENSERS     |          |  | 114-311                   |          |  |
| 22-3           | C6       | .01 Mfd. Ceramic (Disc)                | 500V                      | 138-36   | Cabinet Grille   |
| 22-182         | C5       | 220 Mmfd. Mica (Molded)                | 500V                      | 147-166  | Speaker Mtg. Spacer (2 used)   |
| 22-229         | C13      | .005 Mfd.                              | 600V                      | 156-41   | Door Latch   |
| 22-319         | C8       | .005 Mfd.                              | 200V                      | 166-44   | Rubber Bumper (Speaker & Gang)   |
| 22-492         | C10      | .002 Mfd.                              | 600V                      | 192-132  | Dial Glass   |
| 22-827         | C9       | .1 Mfd.                                | 200V                      | 202-804  | Instruction Book   |
| 22-829         | C19      | .05 Mfd.                               | 200V                      | 212-10   | SE-1 Selenium Rectifier  |
| 22-1017        | C14      | .05 Mfd.                               | 400V                      | S-15433  | Support Brkt. & Idler Pulley Assy.   |
| 22-1386        | C11      | .02 Mfd.                               | 200V                      | S-15434  | Wavemagnet Assembly  |
| 22-1669        | C12      | 100 Mmfd. Ceramic                      | 500V                      | S-15438  | Battery Cable & Socket Assy.   |
| 22-1741        | C15, 16, |  |                           | S-15977  | Wavemagnet, Pulley & Sleeve Assy. (Y model only)                             |
|                | 17, 18   | Four Section Elect. Cond.              |                           |          |  |
| 22-2070        | C1       | Three Section Gang Cond.               |                           | S-16710  | Speaker Baffle & Grill Cloth Assy.   |
|                |          |  |                           | S-16711  | Wavemagnet Pulley & Sleeve Assy.   |
|                |          |  |                           | Z909     | Battery  |
|                |          |  |                           | 54-267   | #6-32 x 5/16" Palnut Cad. Pl. (1 ea. used on 95-1132 & 95-1133)              |
|                |          |  |                           | 54-282   | Spring Nut Cad. Pl. (1 each used on 26-420 & S-16711)                        |
|                |          |  |                           | 54-283   | Spring Nut Black Oxide (used on S-16711)                                     |
|                |          |  |                           | 54-284   | Wavemagnet Lead Retaining Nut (2 used)                                       |
|                |          |  |                           | 54-307   | Spring Nut (7 used on Esc. Mtg.)   |
|                |          |  |                           | 57-1480  | Chassis Bottom Cover Plate   |
|                |          |  |                           | 57-1491  | Latch Plate  |
|                |          |  |                           | 61-71    | Idler Pulley (4 used)  |
|                |          |  |                           | 61-133   | Pointer Pulley   |
|                |          |  |                           | 61-136   | Idler Pulley   |
|                |          |  |                           | 64-290   | Shoulder Rivet (used on 61-71)   |
|                |          |  |                           | 64-303   | Shoulder Rivet (used on S-15433)   |
|                |          |  |                           | 70-158   | #2 x 3/8" Phill. Oval Hd. W. S. Steel Black Oxide (3 used on Esc. Mtg.)      |
|                |          |  |                           | 70-159   | #5 x 7/16 Phill. R. H. W. S. Steel N.P. (2 used on each 12-1433)             |
|                |          |  |                           | 78-274   | Elect. Cond. Socket  |
|                |          |  |                           | 78-543   | Battery Cable Socket (4 contact)   |
|                |          |  |                           | 78-782   | Miniature Tube Socket  |
|                |          |  |                           | 78-806   | Miniature Tube Socket  |
|                |          |  |                           | 78-807   | Miniature Tube Socket  |
|                |          |  |                           | 80-742   | Door Catch Spring  |
|                |          |  |                           | 80-799   | Latch Spring   |
|                |          |  |                           | 85-450   | S1 Power Change Over Switch  |
|                |          |  |                           | 85-451   | S2 On-Off Switch   |
|                |          |  |                           | 93-869   | #6 Split Lockwasher (used on 212-10)   |
|                |          |  |                           | 93-1003  | Brass Spacer Washer (used on S-16711 & S-15977)                              |
| MISCELLANEOUS  |          |  |                           |          |  |
| 11-104         |          | Line Cord & Plug Assembly              |                           |          |  |
| 12-1733        |          | Chassis Mtg. Brkt.                     |                           |          |  |
| 14-1230        |          | Plastic Cabinet for G503               |                           |          |  |
| 14-1231        |          | Plastic Cabinet for G503Y              |                           |          |  |
| 15-51          |          | Cable Socket Cap & Insulator           |                           |          |  |
| 19-185         |          | Speaker Baffle Retaining Clip (2 used) |                           |          |  |
| 24-482         |          | On-Off Switch Cover                    |                           |          |  |
| 24-543         |          | Front Door (Y model only)              |                           |          |  |
| 24-544         |          | Front Door                             |                           |          |  |