

## Zenith Radio Corp.

**Model: G500**

**Chassis:**

**Year: Pre 1951**

**Power:**

**Circuit:**

**IF:**

**Tubes:**

**Bands:**

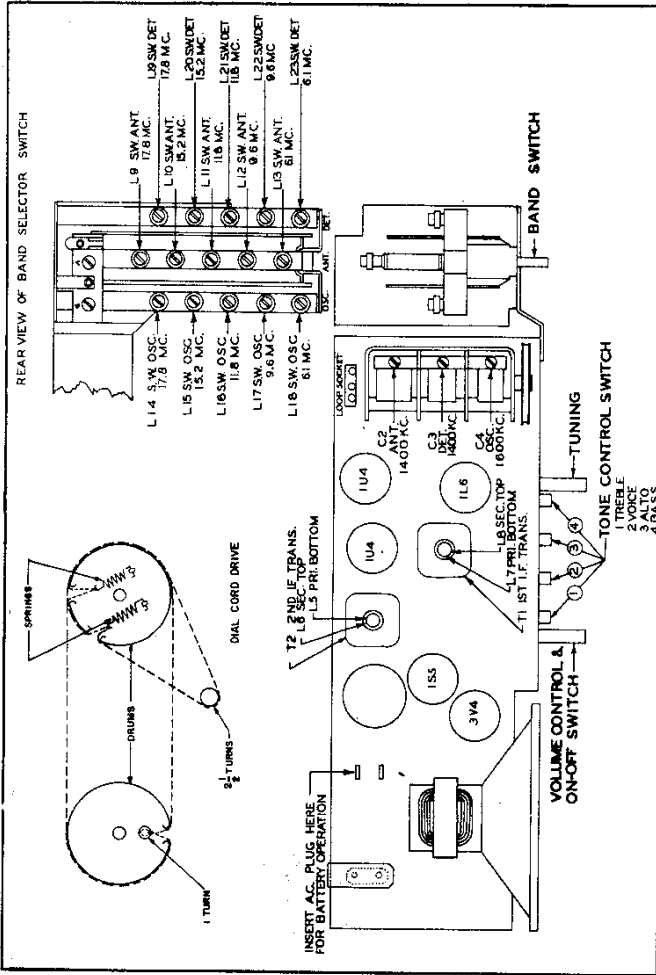
### Resources

**Riders Volume 20 - ZENITH 20-12**

**Riders Volume 20 - ZENITH 20-13**

**Riders Volume 20 - ZENITH 20-14**

MODEL G500,  
Ch. 5G40



TUBE, TRIMMER LOCATION AND DIAL CABLE DRAWING

ALIGNMENT PROCEDURE

| OPERATION | CONNECT OSCILLATOR TO ANTENNA                         | DUMMY INPUT FREQUENCY | BAND    | SET DIAL AT | TRIMMERS                              | PURPOSE  |
|-----------|---|-----------------------|---------|-------------|---------------------------------------|--|
| 1         | Converter Grid  | 455 Kc.               | BC      | 600 Kc.     | L5, 6, 7, 8                           | Align I.F. Set Oscillator to Scale                 |
| 2         | One turn loop Coupled loosely to Broadcast Wavemagnet | 1600 Kc.              | BC      | 1600 Kc.    | C4                                    | Alignment of Detector                              |
| 3         |   | 1400 Kc.              | BC      | 1400 Kc.    | C3                                    | Alignment of B.C. Wavemagnet                       |
| 4         |   | 1400 Kc.              | BC      | 1400 Kc.    | C2                                    |  |
| 5*        |   | 6.1 Mc.               | 49 Met. | 6.1 Mc.     | L18, 23, L17, 22, L12                 |  |
| 6*        |   | 9.6 Mc.               | 31 Met. | 9.6 Mc.     | L16, 21, L15, 20, L10, 19, L14, 19, 9 |  |
| 7*        | 3 feet of wire Approx. 1 foot from Extended Waverod   | 11.8 Mc.              | 25 Met. | 11.8 Mc.    |                                       | Alignment of S.W. Oscillator, detector and antenna |
| 8*        |   | 15.2 Mc.              | 19 Met. | 15.2 Mc.    |                                       |  |
| 9*        |   | 17.8 Mc.              | 16 Met. | 17.8 Mc.    |                                       |  |

\*NOTE: Rock Tuning Condenser When Making Alignment Under Operations 5, 6, 7, 8 and 9.

TO THE SERVICE MAN:

Chassis 5G40 features a high gain tuned RF stage ahead of a conventional superheterodyne circuit with band spread tuning on the 49, 31, 25, 19 and 16 meter bands. If removal of the chassis from the cabinet ever becomes necessary this should be done with care.

The alignment of chassis 5G40 is conventional. However, care must be exercised when making adjustments, and the alignment procedure must be followed exactly. Set the chassis over a metal plate approximately the same distance the battery pack is from the bottom of the chassis when it is in the cabinet. This procedure will introduce the approximate amount of metal in the field of the RF and oscillator coils as when the chassis is in the cabinet. A signal generator of reasonable accuracy and good attenuation must be used. An output meter (AC) of the copper oxide rectifier type with a range of 1 to 30 volts in several steps is necessary to get accurate output readings. Alignment wrenches should be of the non-metallic type, especially when making adjustments at the higher frequencies.

When reinstalling the chassis in the cabinet be careful not to disturb the cabling between the short wave coil assembly and chassis. Tune in a weak broadcast signal near 1400 Kc. and touch up trimmer C2. This will insure maximum performance after alignment.

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.



MODEL G500,  
Ch. 5G40

| PART NO.                  | REF. NO. | DESCRIPTION                                       | PART NO.             | REF. NO. | DESCRIPTION   | PART NO.                                | REF. NO. | DESCRIPTION                                |  |                          |
|---------------------------|----------|---|----------------------|----------|---|---|----------|--|--|--------------------------|
| <b>DIAL ASSEMBLY</b>      |          |   |                      |          |   |   |          |  |  |                          |
| 12-1079                   |          | Pointer Shaft Bracket                             | 63-1362              | R22, 23  | Two Section Condohorn   | 12-1082                                 |          | Telescoping Ant. Mtg. Brkt.                |  |                          |
| 26-398                    |          | Dial Scale  | 63-1744              | R24      | 100 Ohm 1/2W  | 14-1203                                 |          | Model G500 Portable Cab.                   |  |                          |
| 46-539                    |          | Band Switch Knob (16M)                            | 63-1754              | R3       | 180 Ohm 1/2W  | 17-57                                   |          | Telescoping Ant. Rod Retaining Clamp       |  |                          |
| 46-540                    |          | Band Switch Knob (19M)                            | 63-1751              | R5       | 270 Ohm 1/2W  | 19-134                                  |          | Wavemagnet Cable Retaining Clip            |  |                          |
| 46-541                    |          | Band Switch Knob (23M)                            | 63-1752              | R6       | 330 Ohm 1/2W  | 36-42                                   |          | Cab. Handle                                |  |                          |
| 46-542                    |          | Band Switch Knob (31M)                            | 63-1755              | R12      | 530 Ohm 1/2W  | 46-506                                  |          | Ant. Knob (part of S-15802)                |  |                          |
| 46-543                    |          | Band Switch Knob (49M)                            | 63-1756              | R13      | 1800 Ohm 1/2W   | 54-211                                  |          | Speed Nut (6 used)                         |  |                          |
| 46-544                    |          | Band Switch Knob (BC)                             | 63-1792              | R16      | 1500 Ohm 1/2W   | 54-215                                  |          | Wavemagnet Retaining Nut (#4-32)           |  |                          |
| 57-1053                   |          | Tuning & Volume Control Knob (2 used)             | 63-1800              | R2       | 2200 Ohm 1/2W   | 57-1052                                 |          | Wavemagnet Retaining Nut (#10-32)          |  |                          |
| 59-155                    |          | Front Panel Escutcheon                            | 63-1807              | R7       | 3300 Ohm 1/2W   | 57-1052                                 |          | Escutcheon Panel                           |  |                          |
| 59-195                    |          | Dial Pointer                                      | 63-1835              | R4       | 15K Ohm 1/2W  | 57-1495                                 |          | Escutcheon Plate                           |  |                          |
| 61-141                    |          | "On-Off" Indicator                                | 63-1838              | R17      | 15K Ohm 1/2W  | 70-6                                    |          | 48 x 1/4 R.H. Wood Screw                   |  |                          |
| 61-141                    |          | Pointer Pulley                                    | 63-1845              | R18      | 27K Ohm 1/2W  | 70-131                                  |          | 44 x 1/2 Phillips B.H. Wood Screw (4 used) |  |                          |
| 76-415                    |          | (Used on S-11207)                                 | 63-1845              | R6       | 68K Ohm 1/2W  | 83-1122                                 |          | Push Button Feet Strip                     |  |                          |
| 80-567                    |          | Tuning Drive Shaft                                | 63-1863              | R28      | 100K Ohm 1/2W   | 91-684                                  |          | 1/16 x 5/32 x 5/8 Black Felt Washer        |  |                          |
| 80-567                    |          | Dial Core Tension Spring (2 used)                 | 63-1880              | R8       | 180K Ohm 1/2W   | 91-721                                  |          | (2 used)                                   |  |                          |
| 83-561                    |          | Pushbutton (part of 26-398)                       | 63-1891              | R13      | 330K Ohm 1/2W   | 97-367                                  |          | 1/16 x 25/64 x 3/16 Black Felt Washer      |  |                          |
| 83-561                    |          | 1/64 x 1/16 x 5/16 Black Fibre Washer             | 63-1912              | R1       | 1 Megohm 1/2W   | 114-197                                 |          | (2 used)                                   |  |                          |
| 93-470                    |          | (Used on 59-195)                                  | 63-1940              | R10      | 4.7 Megohm 1/2W   | 156-22                                  |          | Handle Mounting Stud (2 used)              |  |                          |
| 93-556                    |          | 1/32 x .144 x 3/8 Washer Steel (2 used on 26-398) | 63-1943              | R9       | 5.6 Megohm 1/2W   | 157-1                                   |          | #10 x 3/4" Hex. Slotted Washer Hd.         |  |                          |
| 188-32                    |          | Retaining Ring                                    | 63-1946              | R17      | 10 Megohm 1/2W  | 157-1                                   |          | S.T. Screw (2 used)                        |  |                          |
| S-11207                   |          | Indicator Lever & Bushing Assembly                | 63-2018              | R21      | 130 Ohm (2 ohms) 1/2W   | 159-48                                  |          | Door Latch (Upper Half)                    |  |                          |
| S-15781                   |          | Drive Pulley Cord & Eyelet Assembly (short)       | 63-2037              | R14      | Volume Control & Switch   | 159-49                                  |          | Door Latch (Lower Half)                    |  |                          |
| S-15782                   |          | Pointer Pulley Cord & Eyelet Assembly (long)      | <b>MISCELLANEOUS</b> |          |   |   |          | 192-129                                    |  | Strike Fastener (2 used) |
| S-15784                   |          | Pointer Pulley & Shaft Assembly                   | <b>BATTERIES</b>     |          |   |   |          | 192-129                                    |  | Soap Buttons (2 used)    |
| <b>COILS &amp; CHOKES</b> |          |   |                      |          |   |   |          |  |  |                          |
| 95-1148                   | T1       | 1st. I.F. Transformer                             | 54-34                |          | #6-32 x 1/4" Hex. Nut Steel (2 ea. used on I.F. #1 used on 212-5) | 159-48                                  |          | Soap Buttons (2 used)                      |  |                          |
| 95-1149                   | T2       | 2nd. I.F. Transformer                             | 78-274               |          | Electrolytic Cond. Socket   | 159-49                                  |          | Dial Crystal                               |  |                          |
| S-11952                   | L25      | R.F. Shunt Coil Assembly                          | 78-802               |          | Wavemagnet Socket   | 199-119                                 |          | Ant. Insulating Sleeve                     |  |                          |
| S-14403                   | L4       | R.F. Choke Coil Assembly                          | 78-806               |          | Miniature Tube Socket   | 202-734                                 |          | Instruction Book & Station Log             |  |                          |
| S-15886                   | L3       | Oscillator Coil                                   | 78-811               |          | Miniature Tube Socket   | <b>FREQUENCY BAND SWITCH ASSEMBLY</b>   |          |  |  |                          |
| S-15887                   | L2       | Detector Coil Assembly                            | 78-844               |          | Miniature Tube Socket (3 used)                                    | Band Sw. Brkt. & Coil Assem. (Complete) |          |  |  |                          |
| <b>CONDENSERS</b>         |          |   |                      |          |   |   |          |  |  |                          |
| 22-3                      | C-7      | .01 Mfd. Ceramic                                  | 83-1071              |          | Threaded Core Retaining Strip (1.5 used)                          | R. F. Coil Assembly (16M)               | L23      |  |  |                          |
| 22-4                      | C16      | .004 Mfd. Ceramic                                 | 83-1633              |          | Ant. Grid, Terminal Strip   | R. F. Coil Assembly (19M)               | L22      |  |  |                          |
| 22-1390                   | C5       | 470 Mmfd. Mica                                    | 85-450               | S3       | Speaker Gasket Support Strip                                      | R. F. Coil Assembly (25M)               | L21      |  |  |                          |
| 22-1674                   | C23      | 150 Mmfd. Ceramic                                 | 85-480               | S2       | Power Change-Over Switch  | R. F. Coil Assembly (31M)               | L20      |  |  |                          |
| 22-1739                   | C14      | 150 Mmfd. Ceramic                                 | 94-295               |          | Tone Control Switch   | R. F. Coil Assembly (49M)               | L19      |  |  |                          |
| 22-1740                   | C13      | 150 Mmfd. Ceramic                                 | 149-86               |          | Gang Cond. & Speaker Mfg. Bushing (6 used)                        | Antenna Coil Assembly (16M)             | L18      |  |  |                          |
| 22-1741                   | C25, 26  | Elect. Cond. 40 Mfd. 150V x 40 Mfd. 150V          | 196-125              |          | Iron Core (15 used)   | Antenna Coil Assembly (25M)             | L17      |  |  |                          |
| 22-1746                   | C12      | 75 Mmfd. Ceramic                                  | 212-5                | SE-1     | Speaker Gasket  | Antenna Coil Assembly (31M)             | L16      |  |  |                          |
| 22-1775                   | C15      | .047 Mfd.   | 2985                 |          | Selenium Rectifier  | Antenna Coil Assembly (49M)             | L15      |  |  |                          |
| 22-1777                   | C11      | .1 Mfd.   | 2985                 |          | A-B Battery Pack  | Oscillator Coil Assembly (16M)          | L14      |  |  |                          |
| 22-1779                   | C24      | .01 Mfd.  | 2985                 |          | Wavemagnet Suction Cup Assembly (2 used)                          | Oscillator Coil Assembly (25M)          | L13      |  |  |                          |
| 22-1783                   | C20      | .0047 Mfd.  | S-15635              |          | Front Cover Hinge & Terminal Assembly (Right)                     | Oscillator Coil Assembly (31M)          | L12      |  |  |                          |
| 22-1784                   | C9       | .01 Mfd.  | S-15797              |          | Front Cover Hinge & Terminal Assembly (Left)                      | Oscillator Coil Assembly (49M)          | L11      |  |  |                          |
| 22-1839                   | C8       | .001 Mfd.   | S-15798              |          | Wavemagnet Cable Assembly   | Antenna Loading Coil Assembly           | L10      |  |  |                          |
| 22-1844                   | C31      | .047 Mfd.   | S-15799              |          | Wavemagnet Cable Assembly   | Band Switch                             | L9       |  |  |                          |
| 22-1846                   | C17      | .01 Mfd.  | S-15802              |          | Telescoping Ant. Assembly   | Voltage Adapter                         | L8       |  |  |                          |
| 22-1886                   | C10      | .001 Mfd. Ceramic                                 | S-15805              |          | Wavemagnet Extension Cable Assembly                               | Voltage Indicator Assembly (Complete)   | L7       |  |  |                          |
| 22-2056                   | C21      | Elect. Cap. 12 Mfd.                               | S-16027              |          | Wavemagnet Assembly   | Two Prong Plug                          | L6       |  |  |                          |
| 22-2094                   | C1       | Three Section Variable Cond.                      | S-16035              |          | Grille Cloth & Baffle Assembly                                    | 1500 Ohm W.W. 10% Incl.                 | L5       |  |  |                          |
| 22-2071                   | C19      | .025 Mfd.   |                      |          |   | 620 Ohm W.W. 10% Incl.                  | L4       |  |  |                          |
| 22-2072                   | C22      | .032 Mfd.   |                      |          |   | 1200 Ohm W.W. 10% 5W Incl.              | L3       |  |  |                          |