

## DISASSEMBLY INSTRUCTIONS

### CHASSIS REMOVAL

NOTE: For access to chassis bottom components, remove bottom plate held by 2 screws.

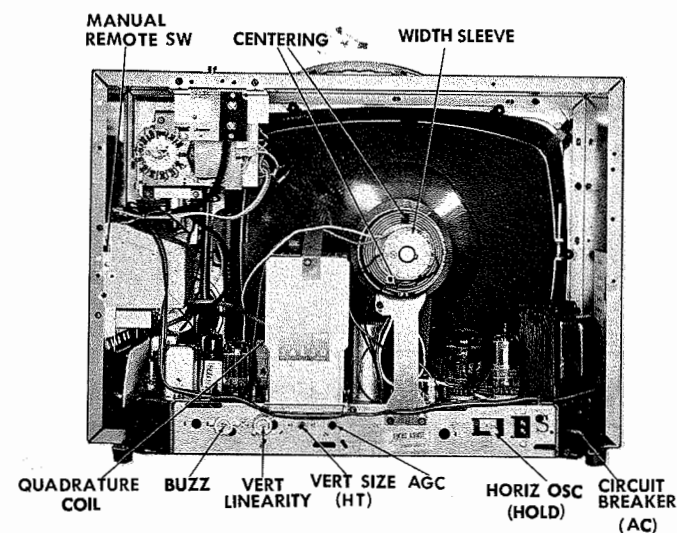
1. Remove all knobs and cabinet back held by 6 screws. Disconnect antenna leads.
2. Place cabinet face down on a soft protective surface. Remove 2 screws from tuner bracket and 2 from remote control.
3. Unplug yoke, high voltage lead, speaker leads and picture tube socket.
4. Remove 6 screws holding case to front bezel and remove 4 chassis screws.
5. Remove 2 screws holding remote microphone and 2 screws holding volume control.
6. Remove 2 screws from on-off switch and 2 screws from channel selector switch. Remove complete assembly.

### PICTURE TUBE REMOVAL

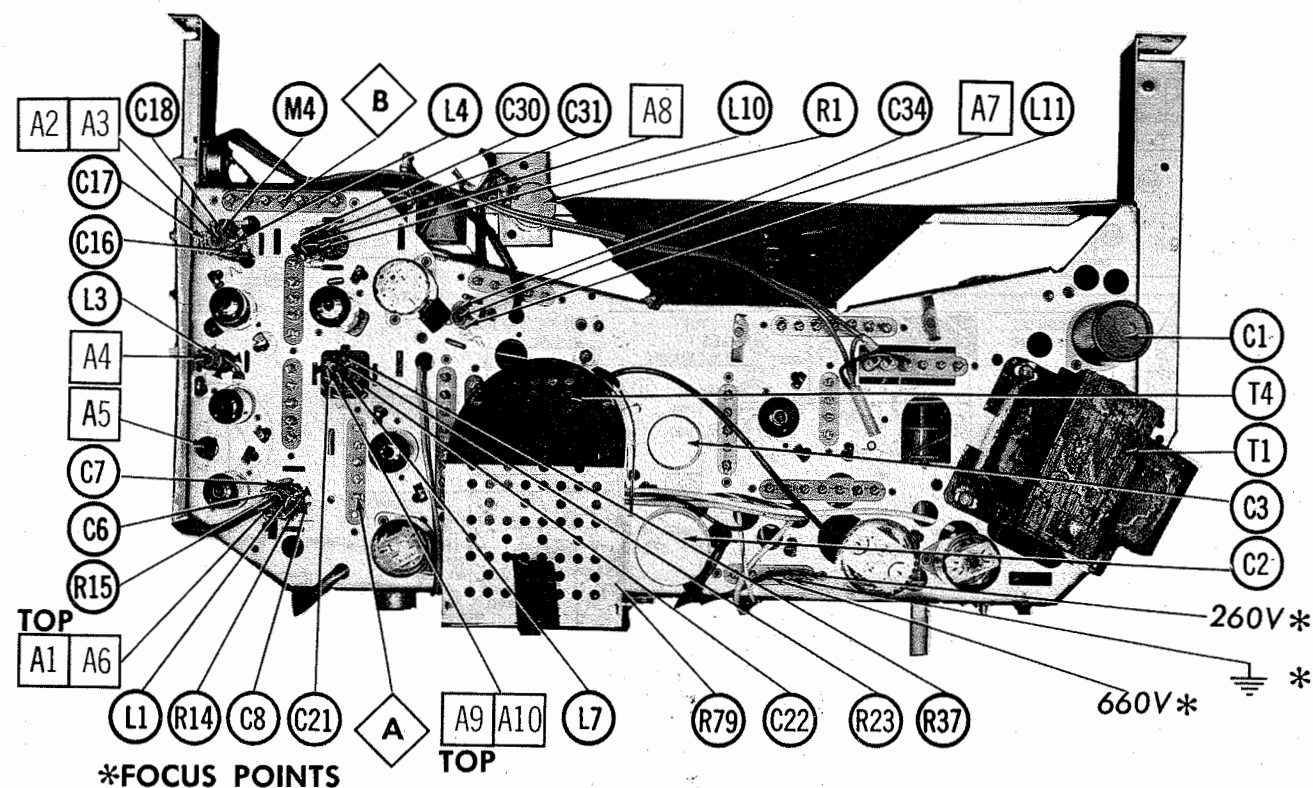
1. Follow "Chassis Removal" instructions.
2. Remove retainer bolt and 4 corner bracket screws. Remove picture tube.

## HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

The Horizontal Hold is equipped with a stop which limits rotation to 270° with the knob on the shaft. To adjust, remove the knob and adjust by turning the shaft until the picture is synchronized to the point where it is virtually impossible to disrupt horizontal synchronization when switching from one channel to another. Install knob with the pointer centered between the stops.



CABINET—REAR VIEW

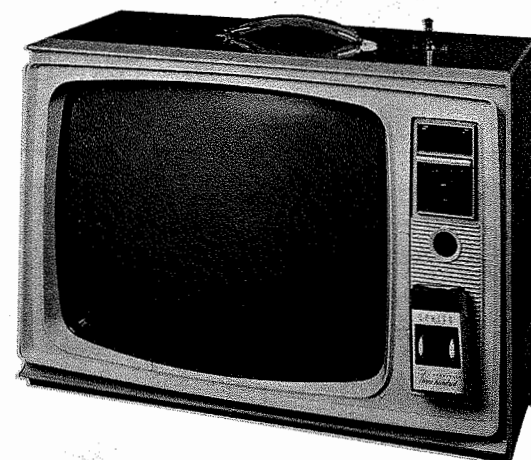


CHASSIS—TOP VIEW

SET 682 FOLDER 3

ZENITH CHASSIS  
14L30/U, 14L30Q

## PHOTOFACT® Folder



MODEL T2203J

| TRADE NAME   | ZENITH  | MODELS   | CHASSIS | REMOTE |
|--------------|---|--|---------|--------|
|              |   | L2008L/LU/R/RU/W/WU,<br>T1980C4/CU4/G4/GU4, T1981G/GU/L/LU ... 14L30/U<br>T2203J ..... 14L30Q .... S-61163 |         |        |
| MANUFACTURER | Zenith Radio Corp., 6001 Dickens Ave., Chicago 39, Illinois                               |  |         |        |
| TYPE SET     | Television Receiver with Remote Control used in some versions                             |  |         |        |
| TUBES        | VHF - Fourteen, UHF - Fifteen   |  |         |        |
| POWER SUPPLY | 110 - 120 Volts AC, 60 Cycles   |  |         |        |
| TUNING RANGE | Channels 2 thru 13 VHF, 14 thru 83 UHF, Video IF 45.75MC, Sound IF 41.25MC (Intercarrier) |  |         |        |

## SERVICING IN THE FIELD

### SAFETY GLASS

For picture tube and safety glass cleaning, it is necessary to remove the chassis. (See "Disassembly Instructions".)

### FUSE OR FUSE DEVICE

A 1½" length of fuse wire is used for filament protection. (For location, see M1 in photo "Chassis - Bottom View".)

A Circuit Breaker is used for low voltage power supply protection and may be reset by depressing the reset button. (See "Tube Placement Chart" for location.)

### VHF OSCILLATOR ADJUSTMENT

The fine tuning mechanically engages osc. slug for adjustment (one slug for each channel).

### AGC

The AGC may be varied by means of an AGC Control. (See "Tube Placement Chart" for location.)

### HORIZONTAL OSCILLATOR FIELD ADJUSTMENT

The Horizontal Frequency Slug is used for the horizontal hold. (See "Tube Placement Chart" for location.)

### WIDTH

The width may be varied by adjusting a metallic sleeve, located between the yoke and the picture tube neck.

### FOCUS

The focus may be varied by connecting the lead from pin 6 of the picture tube to various voltage points. (For location, see "Chassis - Top View".)

### BUZZ ADJUSTMENT

To eliminate intercarrier buzz, adjust the Buzz Control for MINIMUM buzz and maximum sound. (See "Tube Placement Chart" for location.)

### CENTERING

Centering is accomplished by 2 magnetic rings located on yoke rear cover.

## IMPORTANT FILING NOTICE

Some models covered by this PHOTOFACT Folder employ chassis in addition to the TV chassis. PHOTOFACT Folders covering these additional chassis are packaged immediately behind this Folder and should be filed with this Folder in the yellow filing jacket provided. For specific coverage see index below.

## INDEX

Remote Control Receiver  
S-61163 ..... SET 682, FOLDER 3-A

ZENITH CHASSIS  
14L30/U, 14L30Q

SET 682 FOLDER 3

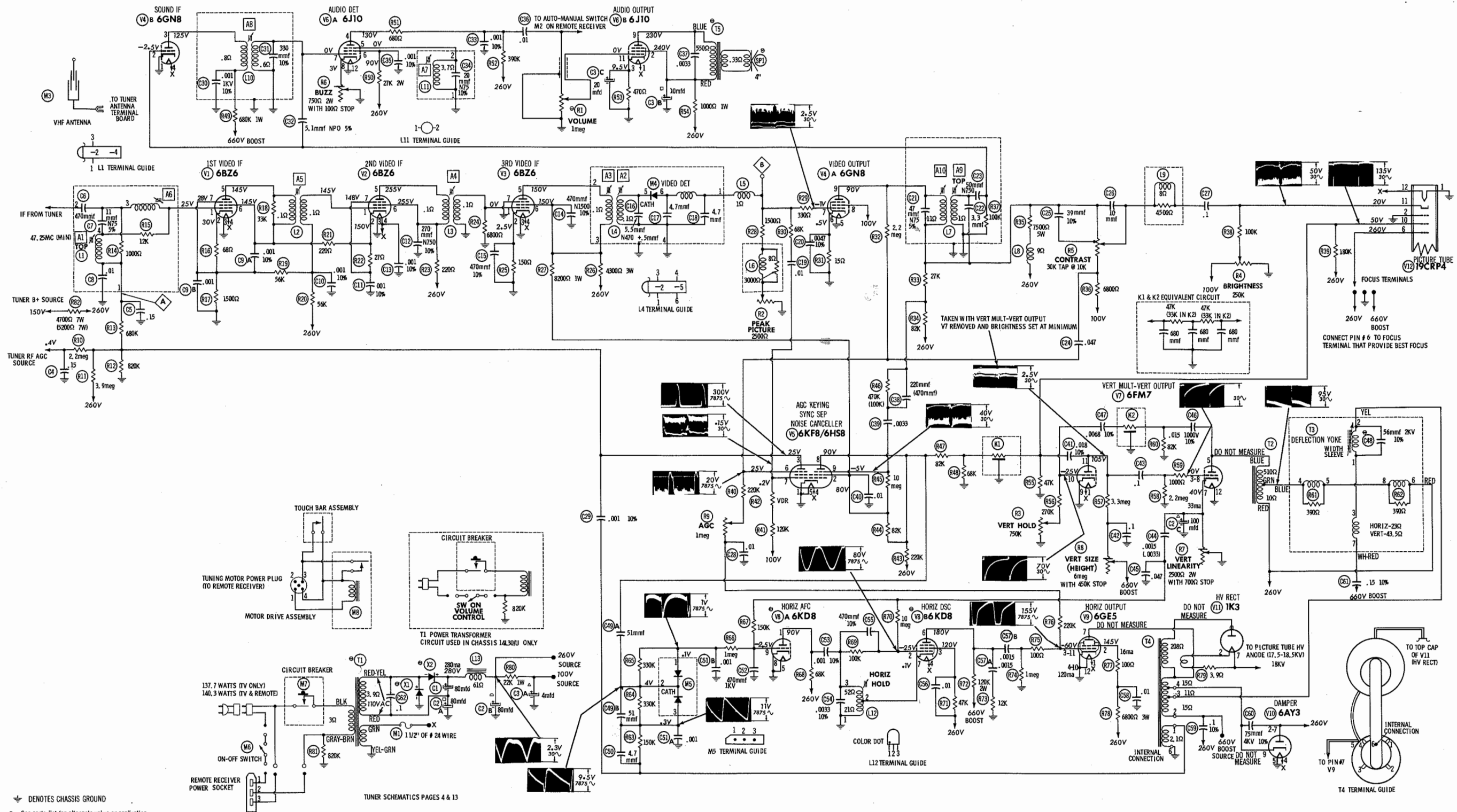
HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana



The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed. MA482

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DATE 3-64 SET 682 FOLDER 3



- DENOTES CHASSIS GROUND  
 0. See parts list for alternate value or application.  
 1. Voltage measurements taken with vacuum tube voltmeter.  
 2. All controls set for normal operation, no signal applied.  
 3. Measured values are from socket pin or terminal to common ground.  
 4. All terminals viewed from bottom unless otherwise designated.  
 5. Numbers assigned to terminals may not be found on the unit.  
 6. Supply voltage maintained at rated value for voltage readings.  
 7. Waveforms taken with controls set to produce 50 volts peak-to-peak signal at picture tube.

A PHOTOFACT STANDARD NOTATION SCHEMATIC  
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ZENITH CHASSIS  
 14L30/U, 14L30Q

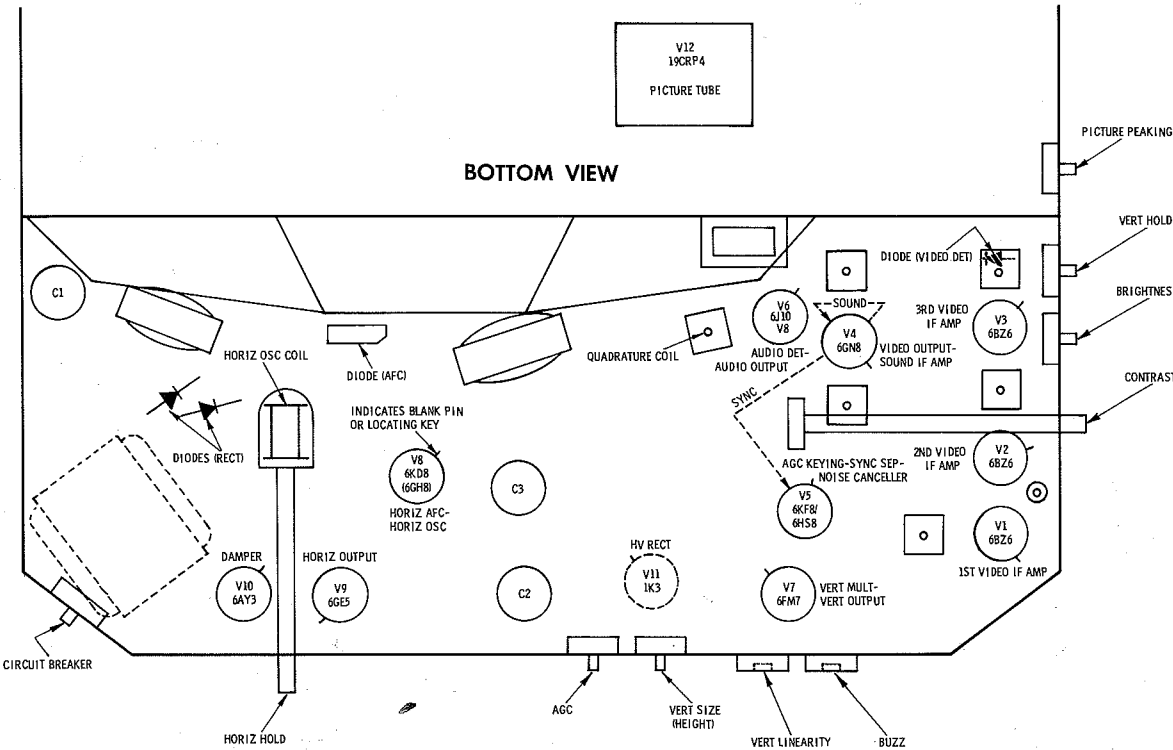
ZENITH CHASSIS  
 14L30/U, 14L30Q

FOLDER 3

RESISTANCE MEASUREMENTS

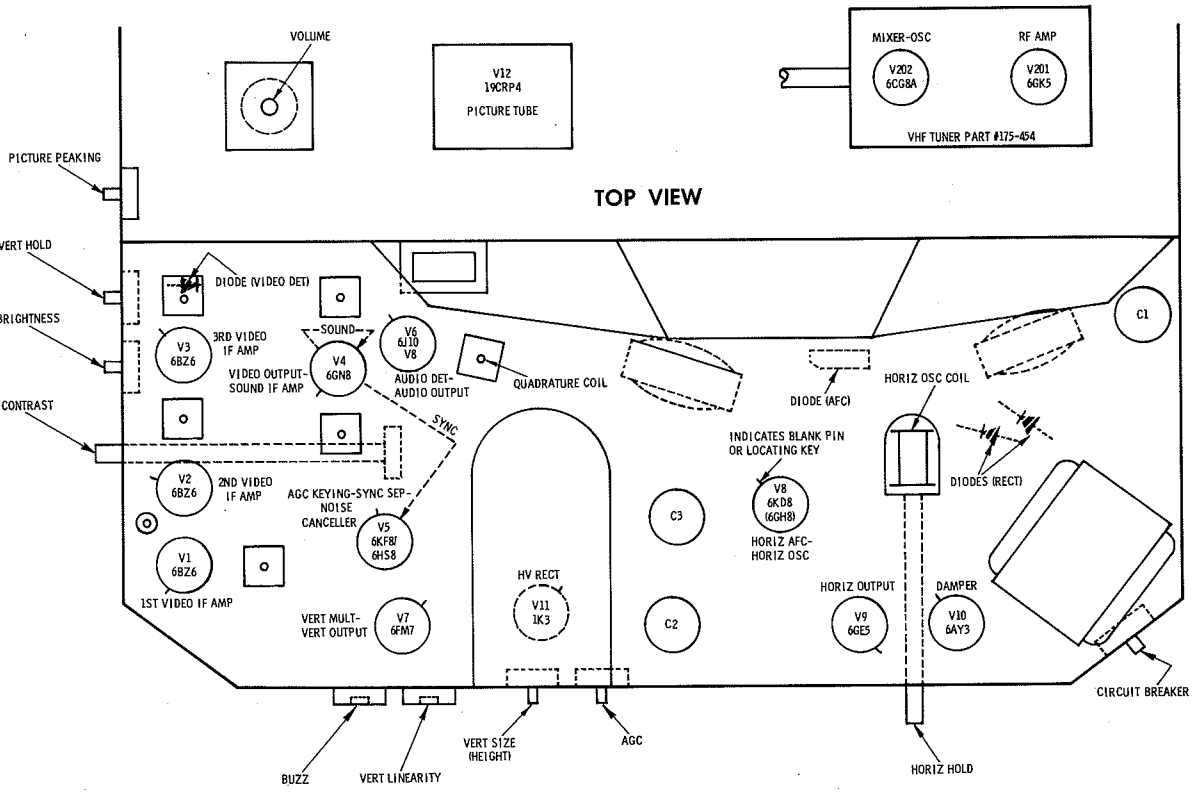
| ITEM | TUBE          | Pin 1                                  | Pin 2   | Pin 3   | Pin 4  | Pin 5   | Pin 6    | Pin 7   | Pin 8 | Pin 9             | Pin 10 | Pin 11 | Pin 12 |
|------|---------------|--|---------|---------|--------|---------|----------|---------|-------|-------------------|--------|--------|--------|
| V1   | 6BZ6          | 1.5meg                                 | 1568Ω   | FIL     | FIL    | ▲ 220Ω  | ▲ 220Ω   | 1500Ω   |       |                   |        |        |        |
| V2   | 6BZ6          | # 40K                                  | # 50K   | FIL     | FIL    | † 280Ω  | † 280Ω   | # 50K   |       |                   |        |        |        |
| V3   | 6BZ6          | .1Ω                                    | 150Ω    | FIL     | FIL    | † 4361Ω | † 4361Ω  | 0Ω      |       |                   |        |        |        |
| V4   | 6GN8          | 0Ω                                     | 100K    | # 680K  | FIL    | FIL     | 15Ω      | ● 2600Ω | † 22K | † 6600Ω           |        |        |        |
| V5   | 6KF8/<br>6HS8 | 0Ω                                     | † 11K   | #† 800K | FIL    | FIL     | † 1.1meg | INF     | † 50K | † 10meg           |        |        |        |
| V6   | 6J10          | FIL                                    | † 1061Ω | 470Ω    | † 390K | 3.7Ω    | † 27K    | .6Ω     | 510Ω  | † 1611Ω           | TP     | 15K    | FIL    |
| V7   | 6FM7          | FIL                                    | NC      | 2.2meg  | NC     | † 581Ω  | NC       | 1600Ω   | NC    | 0Ω                | 600K   | # 7meg | FIL    |
| V8   | 6KD8          | † 68K                                  | 100K    | † 47K   | FIL    | FIL     | # 120K   | 21Ω     | 0Ω    | 1.7meg            |        |        |        |
| V9   | 6GE5          | FIL                                    | † 6900Ω | NC      | 0Ω     | NC      | NC       | # 15Ω   | NC    | NC                | NC     | # 900K | FIL    |
| V10  | 6AY3          | NC                                     | NC      | NC      | FIL    | FIL     | NC       | † 61Ω   | NC    | # 0Ω              |        |        |        |
| V11  | 1K3           | PINS 1 THRU 8 HAVE INFINITE RESISTANCE |         |         |        |         |          |         |       | TOP CAP<br>† 223Ω |        |        |        |
| V12  | 19CRP4        | FIL                                    | 0Ω      | NC      | NC     | NC      | † 61Ω    | NC      | NC    | NC                | # 35K  | 120K   | FIL    |
| V201 | 6GK5          | 0Ω                                     | 3meg    | FIL     | FIL    | † 5960Ω | 0Ω       | 0Ω      |       |                   |        |        |        |
| V202 | 6CG8A         | 4700Ω                                  | † 9400Ω | 0Ω      | FIL    | FIL     | † 4761Ω  | † 4761Ω | 0Ω    | 224K              |        |        |        |
| ITEM | TUBE          | Pin 1                                  | Pin 2   | Pin 3   | Pin 4  | Pin 5   | Pin 6    | Pin 7   | Pin 8 | Pin 9             | Pin 10 | Pin 11 | Pin 12 |

# THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.  
● READING DEPENDS ON POLARITY OF METER CONNECTIONS.  
▲ MEASURED FROM PIN 2 OF V2. † MEASURED FROM OUTPUT OF X2. # MEASURED FROM PIN 9 OF V10.  
NC NO CONNECTION  
TP TIE POINT



TUBE PLACEMENT CHART

TUBE PLACEMENT CHART



ZENITH CHASSIS  
14130/U, 14130Q

TUBE FAILURE CHECK CHART

The following chart lists tubes whose failures are most likely to produce indicated symptoms. Refer to tube placement chart for location and type of tube.

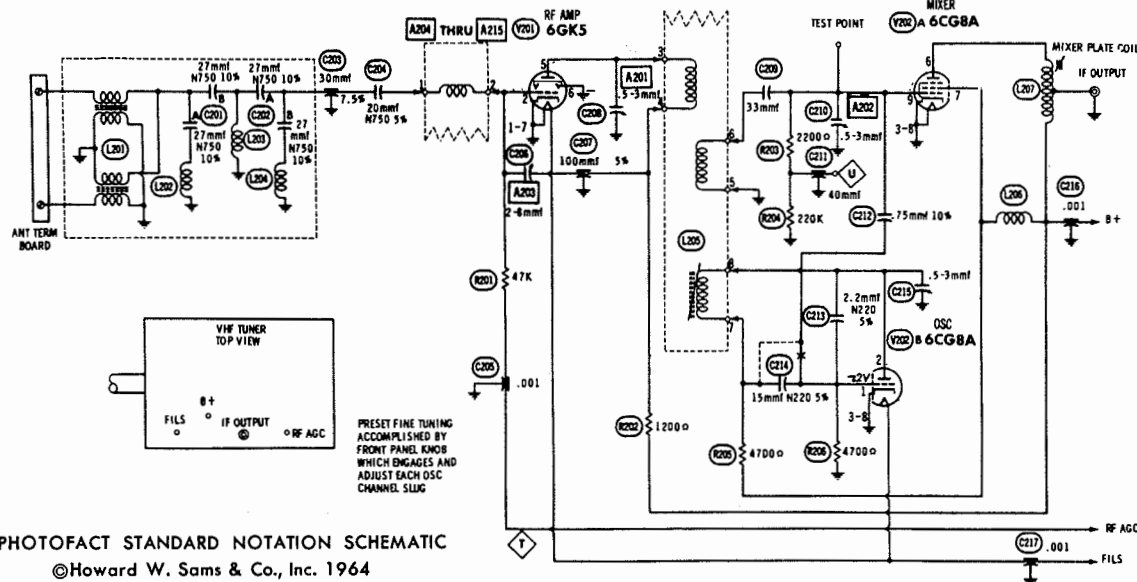
**POWER SUPPLY FAILURE**  
No raster, no sound Circuit Breaker M7, Filament Fuse M1, Selenium Rectifiers X1, X2

**SWEEP FAILURE**  
No raster, has sound V8, V9, V10, V11, V12  
No vertical deflection V7  
Poor vert. linearity or foldover V7  
Poor horiz. linearity or foldover V8, V9, V10  
Narrow picture V8, V9, V10, X1, X2  
Vert. off freq. V7  
Horiz. off freq. AFC Diode M5, V8

**LOSS OF PICTURE OR SOUND**  
No pic, no sound, has raster V1, V2, V3, M4 (Video Det.), V4  
No pic, no sound, has snow V201, V202, V1  
No pic, has sound, has raster V4, V12  
Has pic, no sound V4, V6  
Overloaded picture V5

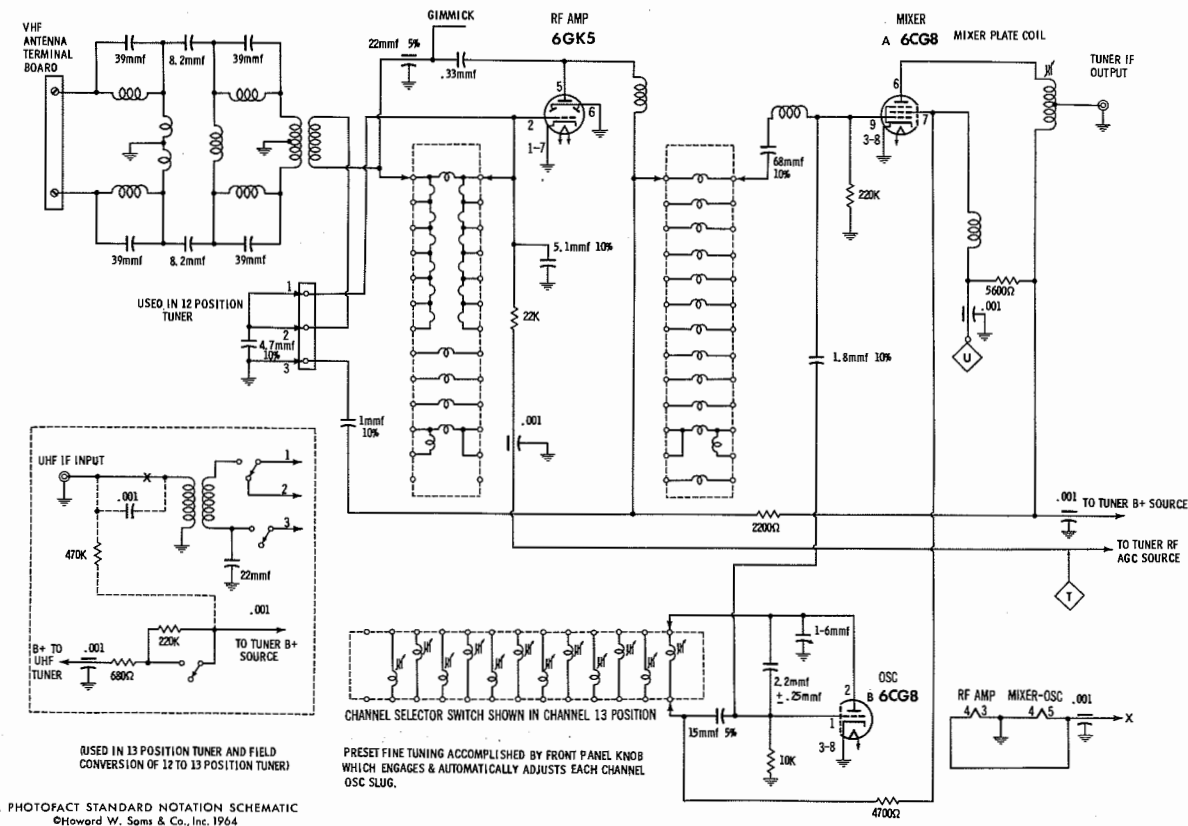
**SYNC FAILURE**  
No vert. sync V5  
No horiz. sync V5  
No vert. or horiz. sync V5

FOLDER 3



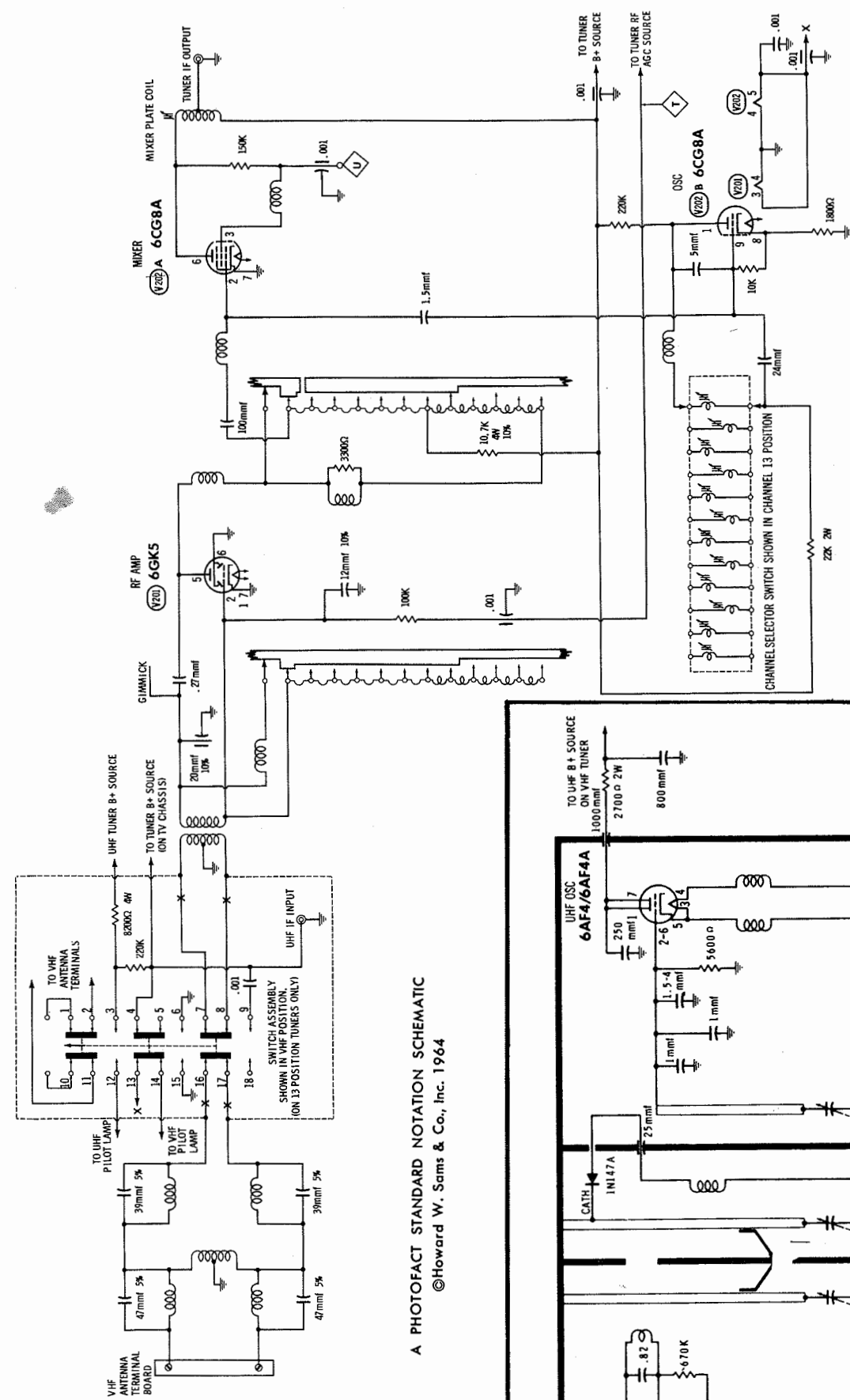
A PHOTOFACT STANDARD NOTATION SCHEMATIC  
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### 13 POSITION TURRET-TYPE VHF TUNER 175-454



A PHOTOFACT STANDARD NOTATION SCHEMATIC  
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### 13 POSITION SWITCH-TYPE VHF TUNER 175-442



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### UHF TUNER 175-8

A PHOTOFACT STANDARD NOTATION SCHEMATIC  
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### 13 POSITION SWITCH-TYPE VHF TUNER 175-263, -264, -265, -266

ZENITH CHASSIS  
14L30/U, 14L30Q

FOLDER 3



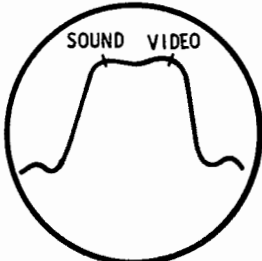
VHF TUNER ALIGNMENT INSTRUCTIONS  
VHF TUNER 175-454

PRE-ALIGNMENT INSTRUCTIONS

The High Voltage lead should be securely taped and kept away from the chassis.  
Allow a 20 minute warm-up period for the receiver and test equipment.  
Suggested Alignment Tools: A201, A202, A203 .... GENERAL CEMENT #5000, 5003, 5066, 8276, 8290, 9087, 9089  
WALSICO #2512, 2525, 2528

VHF RF AND MIXER ALIGNMENT

Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.  
The generator output lead should be terminated with its characteristic impedance, usually 50 ohms.  
Use only enough sweep generator output to provide a usable pattern on scope.  
Use 10MC sweep unless otherwise noted.  
Connect the negative lead of a 4.5 volt bias supply to point  $\diamond$ . Positive to chassis.

|    | SWEEP GENERATOR COUPLING                                 | SWEEP GENERATOR FREQUENCY | MARKER GENERATOR FREQUENCY | CHANNEL | CONNECT SCOPE  | ADJUST           | REMARKS  |
|----|--|---------------------------|----------------------------|---------|--|------------------|--|
| 1. | Across antenna terminals with 120 $\Omega$ in each lead. | 195MC                     | 193. 25MC<br>197. 75MC     | 10      | Vert. Amp. thru 10K to point $\diamond$ . Low side to chassis. | A201, A202, A203 | Adjust A201 and A202 for maximum amplitude and symmetry with markers as shown in Fig. 201. Increase bias for MINIMUM amplitude of response curve. Without changing the bias adjust A203 to obtain MINIMUM response on the scope. |
| 2. | "  | 213MC                     | 211. 25MC<br>215. 75MC     | 13      |  | A204             | Adjust for maximum amplitude of response similar to Fig. 201. Adjust by expanding or compressing coil turns.<br>                               |
|    |  | 207MC                     | 205. 25MC<br>209. 75MC     | 12      |  | A205             |  |
|    |  | 201MC                     | 199. 25MC<br>203. 75MC     | 11      |  | A206             |  |
|    |  | 195MC                     | 193. 25MC<br>197. 75MC     | 10      |  | A207             |  |
|    |  | 189MC                     | 187. 25MC<br>191. 75MC     | 9       |  | A208             |  |
|    |  | 183MC                     | 181. 25MC<br>185. 75MC     | 8       |  | A209             |  |
|    |  | 177MC                     | 175. 25MC<br>179. 75MC     | 7       |  | A210             |  |
|    |  | 85MC                      | 83. 25MC<br>87. 75MC       | 6       |  | A211             |  |
|    |  | 79MC                      | 77. 25MC<br>81. 75MC       | 5       |  | A212             |  |
|    |  | 69MC                      | 67. 25MC<br>71. 75MC       | 4       |  | A213             |  |
|    |  | 63MC                      | 61. 25MC<br>65. 75MC       | 3       |  | A214             |  |
|    |  | 57MC                      | 55. 25MC<br>59. 75MC       | 2       |  | A215             |  |

VHF OSCILLATOR ALIGNMENT

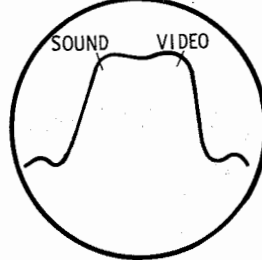
The Oscillator adjustment slugs are adjusted by turning the Fine Tuning. If one or more channels cannot be tuned in properly by Fine Tuning, adjust A216. Recheck all other channels and repeat until all the operating channels can be properly tuned in.

VHF TUNERS 175-263, -264, -265, -266

Set fine tuning to center of its range. Starting with highest channel in area, adjust the appropriate oscillator screw for best picture and sound.

RF AND MIXER ALIGNMENT

Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.  
Use 20MC sweep unless otherwise noted.  
Connect variable bias to RF AGC line at point  $\diamond$ . Adjust bias to obtain response curve which shows no indication of overloading.

|    | SWEEP GENERATOR COUPLING                                 | SWEEP GENERATOR FREQUENCY | MARKER GENERATOR FREQUENCY | CHANNEL | CONNECT SCOPE   | ADJUST  | REMARKS  |
|----|--|---------------------------|----------------------------|---------|---|---------|--|
| 1. | Across antenna terminals with 120 $\Omega$ in each lead. | 195MC                     | 193. 25MC<br>197. 75MC     | 10      | Across Video Det. load resistor.                      | Gimmick | Increase bias to -15 volts and adjust for MINIMUM amplitude of response curve.   |
| 2. | "  | 213MC                     | 211. 25MC<br>215. 75MC     | 13      | Vert. Input to point $\diamond$ , low side to ground. |         | Expand or compress coils for response similar to Figure 201.<br> |
|    |  | 207MC                     | 205. 25MC<br>209. 75MC     | 12      |   |         |  |
|    |  | 201MC                     | 199. 25MC<br>203. 75MC     | 11      |   |         |  |
|    |  | 195MC                     | 193. 25MC<br>197. 75MC     | 10      |   |         |  |
|    |  | 189MC                     | 187. 25MC<br>191. 75MC     | 9       |   |         |  |
|    |  | 183MC                     | 181. 25MC<br>185. 75MC     | 8       |   |         |  |
|    |  | 177MC                     | 175. 25MC<br>179. 75MC     | 7       |   |         |  |
|    |  | 85MC                      | 83. 25MC<br>87. 75MC       | 6       |   |         |  |
|    |  | 79MC                      | 77. 25MC<br>81. 75MC       | 5       |   |         |  |
|    |  | 69MC                      | 67. 25MC<br>71. 75MC       | 4       |   |         |  |
|    |  | 63MC                      | 61. 25MC<br>65. 75MC       | 3       |   |         |  |
|    |  | 57MC                      | 55. 25MC<br>59. 75MC       | 2       |   |         |  |

ALIGNMENT INSTRUCTIONS

Use an isolation transformer and maintain voltage at 117 volts. Allow a 20-minute warm-up period for the receiver and test equipment.  
Suggested Alignment Tools: A1 thru A10 ..... GENERAL CEMENT #8302, 8606, 8869 ... WALSICO #2511, 2544, 2568  
Mixer Plate Coil .. GENERAL CEMENT #8302, 9286, 9287 ... WALSICO #2511, 2546, 2547

VIDEO IF ALIGNMENT

Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.  
Use only enough generator output to provide a usable indication. Note: Response may vary slightly from those shown.  
Connect a variable bias supply to the IF AGC line (point  $\diamond$ ) and adjust to obtain a response curve which shows no indication of overload.  
Disable Oscillator section of Mixer-Osc. Set the Channel Selector to any non-interfering channel.

| INDICATOR | GENERATOR COUPLING   | SWEEP GENERATOR FREQUENCY | MARKER GENERATOR FREQUENCY                            | ADJUST                       | REMARKS   |
|-----------|--|---------------------------|---|------------------------------|---|
| 1.        | Connect DC probe of a VTVM thru a 47K resistor to point $\diamond$ . Common to ground. |                           | 47. 25MC  | A1                           | Adjust for MINIMUM.   |
| 2.        | Connect vertical input of a scope to point $\diamond$ . Low side to ground.            | 44MC (10MC Sweep)         | 42. 75MC<br>45. 75MC                                  | A2, A3                       | Adjust for maximum amplitude and MINIMUM tilt with markers as shown in Figure 1.  |
| 3.        | Connect vertical input of a scope to point $\diamond$ . Low side to ground.            | 44MC (10MC Sweep)         | 41. 25MC<br>42. 5MC<br>44. 0MC<br>45. 5MC<br>47. 25MC | A4, A5, A6, Mixer Plate Coil | Adjust for maximum gain and symmetry of response with markers as shown in Figure 2. In order to obtain a proper response, it may be necessary to slightly retouch A 2 and A3. |

SOUND IF ALIGNMENT

Tune in a station and reduce the signal strength at the antenna terminals until a hiss is heard in the sound.  
Align for maximum undistorted sound with MINIMUM buzz by adjusting A7, A8, A9, and Buzz Control.  
If the hiss disappears during alignment, further reduce the signal strength.

4.5 MC TRAP ALIGNMENT

Tune in a strong TV signal and set the Contrast at maximum. Adjust the Fine Tuning until a beat pattern is visible on the screen.  
Adjust A10 for MINIMUM beat interference.

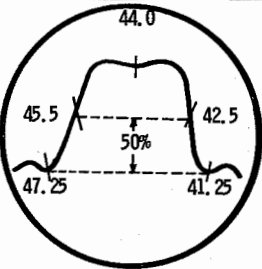


FIG. 2

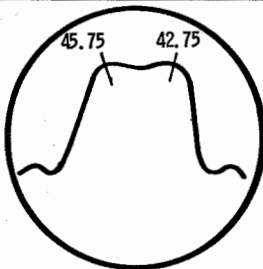


FIG. 1

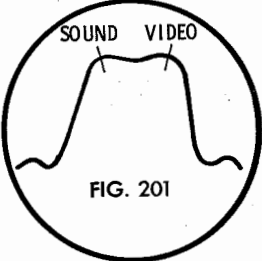
VHF TUNER ALIGNMENT INSTRUCTIONS

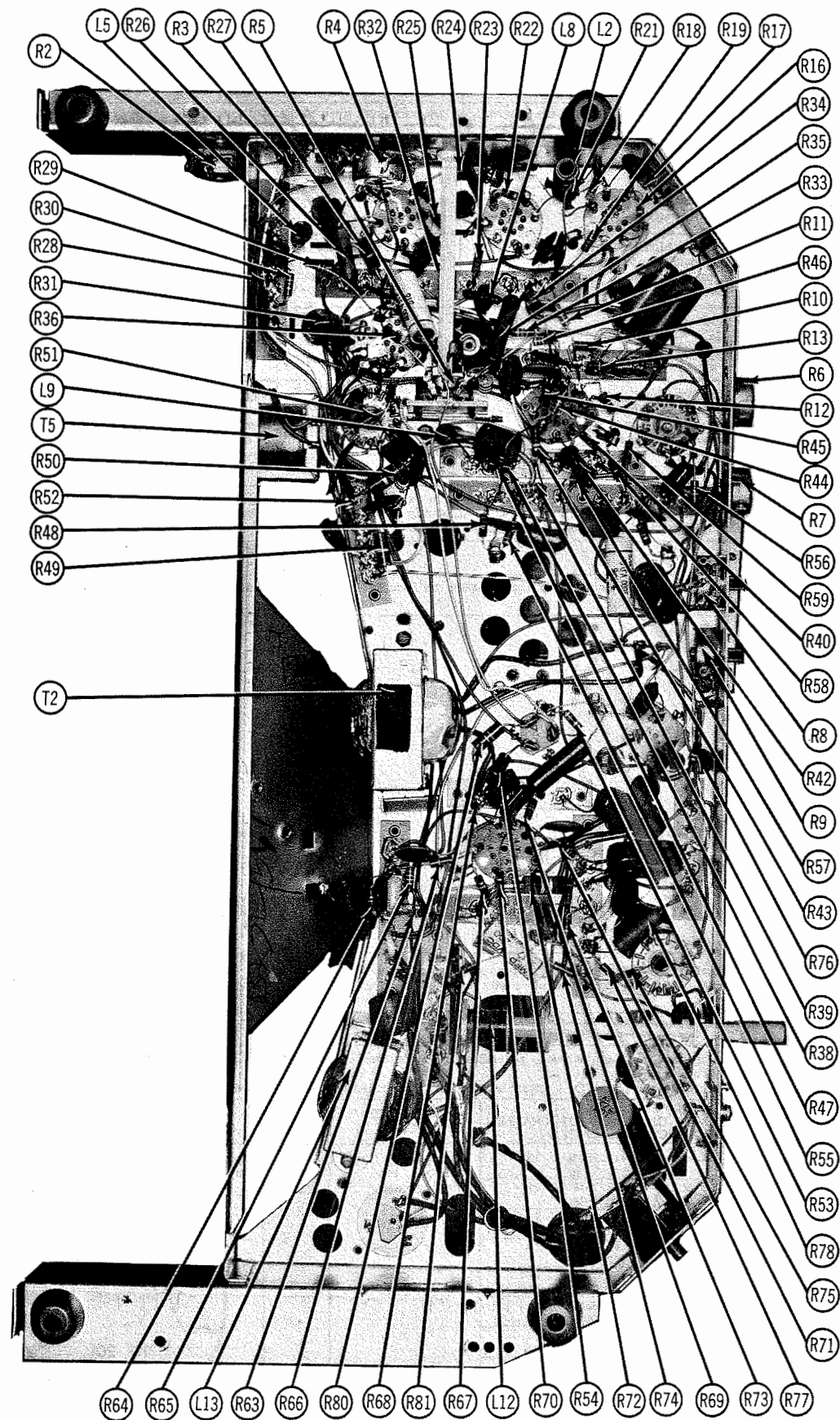
OSCILLATOR ALIGNMENT VHF TUNER 175-442

The oscillator on each channel is preset by means of the fine tuning. Adjust the fine tuning for best picture and sound on each active channel. If any channel cannot be properly tuned in with the fine tuning, adjust the overall oscillator adjustment and recheck all channels.

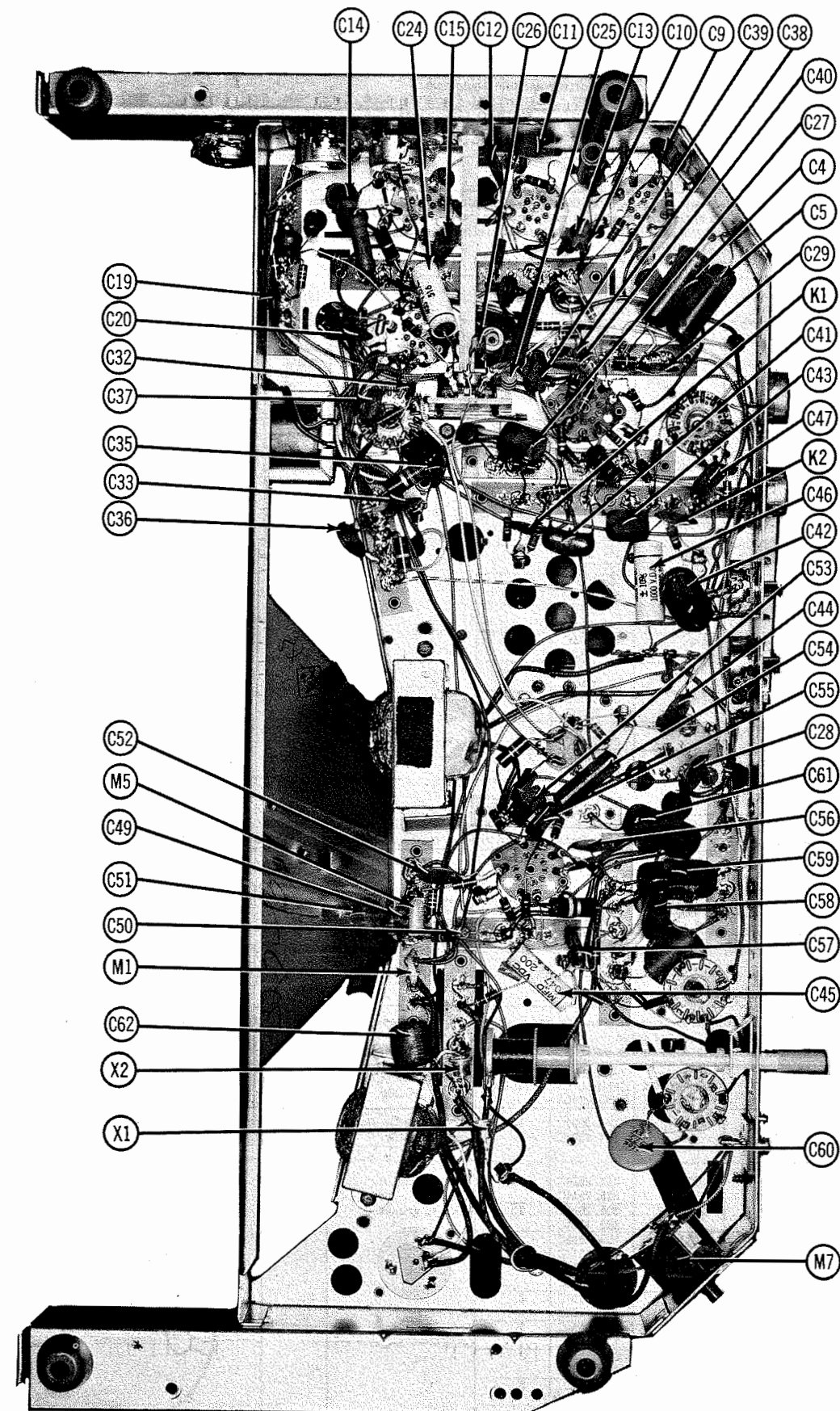
RF AND MIXER ALIGNMENT

Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.  
Use 10MC sweep unless otherwise noted.  
Connect variable bias to RF AGC line at point  $\diamond$ . Adjust bias to obtain response curve which shows no indication of overloading.

|    | SWEEP GENERATOR COUPLING                                 | SWEEP GENERATOR FREQUENCY | MARKER GENERATOR FREQUENCY | CHANNEL | CONNECT SCOPE   | ADJUST | REMARKS   |
|----|--|---------------------------|----------------------------|---------|---|--------|---|
| 1. | Across antenna terminals with 120 $\Omega$ in each lead. | 213MC                     | 211. 25MC<br>215. 75MC     | 13      | Vert. Input to point $\diamond$ , low side to ground. |        | Expand or compress coils for response similar to Figure 201.<br> |
|    |  | 207MC                     | 205. 25MC<br>209. 75MC     | 12      |   |        |   |
|    |  | 201MC                     | 199. 25MC<br>203. 75MC     | 11      |   |        |   |
|    |  | 195MC                     | 193. 25MC<br>197. 75MC     | 10      |   |        |   |
|    |  | 189MC                     | 187. 25MC<br>191. 75MC     | 9       |   |        |   |
|    |  | 183MC                     | 181. 25MC<br>185. 75MC     | 8       |   |        |   |
|    |  | 177MC                     | 175. 25MC<br>179. 75MC     | 7       |   |        |   |
|    |  | 85MC                      | 83. 25MC<br>87. 75MC       | 6       |   |        |   |
|    |  | 79MC                      | 77. 25MC<br>81. 75MC       | 5       |   |        |   |
|    |  | 69MC                      | 67. 25MC<br>71. 75MC       | 4       |   |        |   |
|    |  | 63MC                      | 61. 25MC<br>65. 75MC       | 3       |   |        |   |
|    |  | 57MC                      | 55. 25MC<br>59. 75MC       | 2       |   |        |   |



CHASSIS BOTTOM VIEW – RESISTOR, INDUCTOR IDENT.



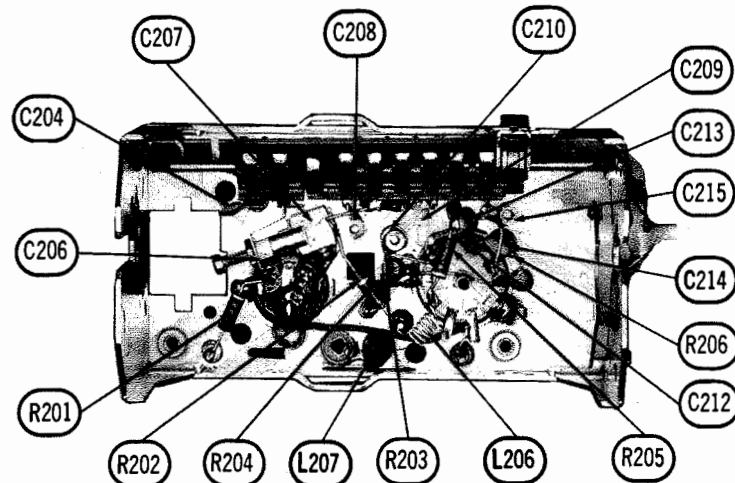
CHASSIS BOTTOM VIEW – CAPACITOR, MISC. IDENT.



# CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

| ITEM                                  | PART NO. | MODELS | L2008L | L2008LU | L2008R | L2008RU | L2008W | L2008WU | L1980C4 | L1980CU4 | L1980G4 | L1980GU4 | L1981C | L1981GU | L1981LU | L2003 |
|---------------------------------------|----------|--------|--------|---------|--------|---------|--------|---------|---------|----------|---------|----------|--------|---------|---------|-------|
| Safety Glass                          | 192-293  |        | X      | X       | X      | X       | X      | X       | X       | X        | X       | X        | X      | X       | X       | X     |
| Safety Glass                          | 192-316  |        |        |         |        |         |        |         |         |          |         |          |        |         |         | X     |
| Escutcheon                            | S-60868  |        | X      | X       | X      | X       | X      | X       |         |          |         |          |        |         |         |       |
| Escutcheon                            | S-57345  |        |        |         |        |         |        |         |         |          |         |          |        |         |         |       |
| Escutcheon                            | S-57220  |        |        |         |        |         |        |         | X       | X        |         |          |        |         |         |       |
| Escutcheon                            | S-57219  |        |        |         |        |         |        |         |         |          |         |          |        |         | X       | X     |
| Escutcheon                            | S-57257  |        |        |         |        |         |        |         |         |          |         |          |        |         |         | X     |
| Knob-VHF Chan. Selector               | 46-3133  |        | X      | X       | X      | X       | X      | X       |         |          |         |          |        |         |         |       |
| Knob- " " "                           | 46-2533  |        |        |         |        |         |        |         | X       | X        | X       | X        |        |         |         |       |
| Knob- " " "                           | 46-3131  |        |        |         |        |         |        |         |         |          |         |          | X      | X       | X       | X     |
| Knob- " " "                           | S-53116  |        |        |         |        |         |        |         |         |          |         |          |        |         |         | X     |
| Knob-VHF Fine Tuning                  | S-52904  |        | X      | X       | X      | X       | X      | X       |         |          |         |          |        |         |         |       |
| Knob- " " "                           | S-57790  |        |        |         |        |         |        |         | X       | X        | X       | X        | X      | X       | X       | X     |
| Knob- " " "                           | S-56888  |        |        |         |        |         |        |         |         |          |         |          |        |         |         | X     |
| Knob-UHF Dial                         | S-62345  |        | X      |         | X      |         | X      | X       | X       | X        | X       | X        | X      | X       | X       | X     |
| Knob-UHF Tuning                       | S-47079  |        | X      |         | X      |         | X      | X       | X       | X        | X       | X        | X      | X       | X       | X     |
| Knob-Volume                           | S-54961  |        | X      | X       | X      | X       | X      | X       | X       | X        | X       | X        | X      | X       | X       | X     |
| Knob- " " "                           | S-56479  |        |        |         |        |         |        |         |         |          |         |          |        |         |         | X     |
| Knob-Contrast, Vert. Hold, Brightness | S-54966  |        | X      | X       |        |         |        |         |         |          |         |          |        |         |         |       |
| Knob- " " "                           | S-52533  |        |        | X       | X      | X       | X      |         |         |          |         |          |        |         | X       | X     |
| Knob- " " "                           | S-51171  |        |        |         |        |         |        |         | X       | X        |         |          |        |         |         |       |
| Knob- " " "                           | S-52643  |        |        |         |        |         |        |         |         |          | X       | X        |        |         |         |       |
| Knob- " " "                           | S-55216  |        |        |         |        |         |        |         |         |          |         |          | X      | X       |         |       |
| Knob-Horiz. Hold                      | S-58505  |        | X      | X       | X      | X       | X      | X       | X       | X        | X       | X        | X      | X       | X       | X     |
| Cabinet                               | 14-4912  |        | X      | X       | X      | X       |        |         |         |          |         |          |        |         |         |       |
| Cabinet                               | 14-4920  |        |        |         |        |         | X      | X       |         |          |         |          |        |         |         |       |
| Cabinet                               | 14-4955  |        |        |         |        |         |        |         | X       | X        |         |          |        |         |         |       |
| Cabinet                               | 14-4956  |        |        |         |        |         |        |         |         |          | X       | X        |        |         |         |       |
| Cabinet                               | 14-4911  |        |        |         |        |         |        |         |         |          |         |          | X      | X       |         |       |
| Cabinet                               | 14-4910  |        |        |         |        |         |        |         |         |          |         |          |        |         | X       | X     |
| Cabinet                               | 14-5443  |        |        |         |        |         |        |         |         |          |         |          |        |         |         | X     |



VHF TUNER 175-454

# PARTS LIST & DESCRIPTION

## VHF TUNER 175-454

TUBES

| AMPEREX  |         | GENERAL ELECTRIC - RCA |  | RAYTHEON |              | SYLVANIA |  |
|----------|---------|------------------------|--|----------|--------------|----------|--|
| ITEM No. | USE     | TYPE                   |  | ITEM No. | USE          | TYPE     |  |
| V201     | RF Amp. | 6GK5                   |  | V202     | Mixer - Osc. | 6CG8A    |  |

| FIXED CAPACITORS |      |          |          |                  |                             |                           |                          |                           |                  |
|------------------|------|----------|----------|------------------|-----------------------------|---------------------------|--------------------------|---------------------------|------------------|
| ITEM No.         |      | RATING   | REMARKS  | REPLACEMENT DATA |                             |                           |                          |                           |                  |
|                  |      |          |          | AEROVOX PART No. | CENTRALAB PART No.          | CORNELL-DUBILIER PART No. | ELMENDO PART No.         | MALLORY PART No.          | SPRAGUE PART No. |
| C201A            | 27   | N750 10% |          | N750-DI 25       | TCN-27                      | C10Q27U                   | CCTN-270                 | CN7-427                   | 10TCU-Q27        |
| B                | 27   | N750 10% |          | N750-DI 25       | TCN-27                      | C10Q27U                   | CCTN-270                 | CN7-427                   | 10TCU-Q27        |
| C202A            | 27   | N750 10% |          | N750-DI 25       | TCN-27                      | C10Q27U                   | CCTN-270                 | CN7-427                   | 10TCU-Q27        |
| B                | 27   | N750 10% |          | N750-DI 25       | TCN-27                      | C10Q27U                   | CCTN-270                 | CN7-427                   | 10TCU-Q27        |
| C203             | 30   | 7.5%     | #22-3111 |                  |                             |                           |                          |                           |                  |
| C204             | 20   | N750 5%  |          |                  |                             |                           |                          |                           |                  |
| C205             | .001 |          |          | EF-001           | DTN-20<br>MFT-1000<br>829-7 | C10Q2U                    | CCF-102                  | CN7-420<br>CT280A         | 10TCU-Q20        |
| C206             | 2-8  |          | #22-3572 |                  |                             |                           |                          |                           |                  |
| C207             | 100  | 5%       | #6-53741 |                  |                             |                           |                          |                           |                  |
| C208             | .5-3 |          |          |                  | 829-3                       |                           |                          |                           |                  |
| C209             | 33   |          |          | NPO-8I 33        | TCZ-33                      | C10Q33C                   | CV-1<br>CCTN-330<br>CV-1 | CT565<br>CNO-433<br>CT565 | 10TCC-Q33        |
| C210             | .5-3 |          |          |                  | 829-3                       |                           |                          |                           |                  |
| C211             | 40   |          | #22-3112 |                  |                             |                           |                          |                           |                  |
| C212             | .75  | 10%      | #22-3567 |                  |                             |                           |                          |                           |                  |
| C213             | 2.2  | N220 5%  | #22-3564 |                  |                             |                           |                          |                           |                  |
| C214             | 15   | N220 5%  | #22-3563 |                  |                             |                           |                          |                           |                  |
| C215             | .5-3 |          | #22-3563 |                  | 829-3                       |                           |                          |                           |                  |
| C216             | .001 |          |          | EF-001           | MFT-1000                    |                           | CV-1                     | CT565                     | 10TCR-Q15        |
| C217             | .001 |          |          | EF-001           | MFT-1000                    |                           | CCF-102<br>CCF-102       | CT280A<br>CT280A          |                  |

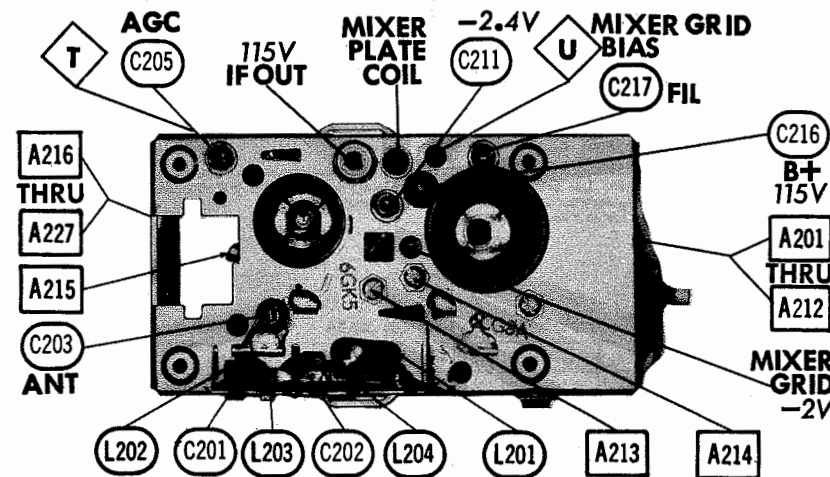
# Zenith Part Number  
\* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

| RESISTORS  |        |                  |                     |         |
|--|--------|------------------|---------------------|---------|
| All wattages 1/2 watt, or less, unless otherwise listed. |        |                  |                     |         |
| ITEM No.   | RATING | REPLACEMENT DATA |                     | REMARKS |
|  |        | IRC PART No.     | WORKMAN TV PART No. |         |
| R201   | 47K    |                  |                     |         |
| R202   | 1200Ω  |                  |                     |         |
| R203   | 2200Ω  |                  |                     |         |

| ITEM No. | RATING | REPLACEMENT DATA |                     | REMARKS |
|----------|--------|------------------|---------------------|---------|
|          |        | IRC PART No.     | WORKMAN TV PART No. |         |
| R204     | 220K   |                  |                     |         |
| R205     | 4700Ω  |                  |                     |         |
| R206     | 4700Ω  |                  |                     |         |

| COILS (RF-IF) |                         |                 |                          |  |
|---------------|-------------------------|-----------------|--------------------------|--|
| ITEM No.      | USE                     | ZENITH PART No. | NOTES                    |  |
| L201          | Ant. Trans.             | S-53545         | Includes Filter Assembly |  |
| L202          | RF Choke                | 20-928          |                          |  |
| L203          | RF Choke                | 20-928          |                          |  |
| L204          | RF Choke                | 20-880          |                          |  |
| L205A         | Ant., RF, Mixer, & Osc. | 174-82          | Channel 2                |  |
| B             | "                       | 174-83          | Channel 3                |  |
| C             | "                       | 174-84          | Channel 4                |  |
| D             | "                       | 174-85          | Channel 5                |  |
| E             | "                       | 174-86          | Channel 6                |  |

| ITEM No. | USE                     | ZENITH PART No. | NOTES      |  |
|----------|-------------------------|-----------------|------------|--|
| L205F    | Ant., RF, Mixer, & Osc. | 174-87          | Channel 7  |  |
| G        | "                       | 174-88          | Channel 8  |  |
| H        | "                       | 174-89          | Channel 9  |  |
| J        | "                       | 174-90          | Channel 10 |  |
| K        | "                       | 174-91          | Channel 11 |  |
| L        | "                       | 174-92          | Channel 12 |  |
| M        | "                       | 174-93          | Channel 13 |  |
| L206     | RF Choke                | 20-927          |            |  |
| L207     | Mixer Plate             | S-47370         |            |  |



# PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

| TUBES       |  |                    |  |          |                            |               |  |            |  |
|-------------|--|--------------------|--|----------|----------------------------|---------------|--|------------|--|
| • AMPEREX • |  | GENERAL ELECTRIC • |  | RCA •    |                            | RAYTHEON •    |  | SYLVANIA • |  |
| ITEM No.    | USE                                      | TYPE               |  | ITEM No. | USE                        | TYPE          |  |            |  |
| V1          | 1st Video IF Amp.                        | 6B28               |  | V8       | Audio Det. - Audio Output  | 6J10          |  |            |  |
| V2          | 2nd Video IF Amp.                        | 6B28               |  | V7       | Vert. Mult. - Vert. Output | 6FM7          |  |            |  |
| V3          | 3rd Video IF Amp.                        | 6B28               |  | V8       | Horiz. AFC - Horiz. Osc.   | 6KD8 (6GH8) * |  |            |  |
| V4          | Video Output - Sound IF                  | 6GN8               |  | V9       | Horiz. Output              | 6GE5          |  |            |  |
| V5          | AGC Keying - Sync Sep. - Noise Canceller | 6KF8/6BS8          |  | V10      | Damper                     | 6AY3          |  |            |  |
|             |  |                    |  | V11      | RV Rectifier               | 1K3           |  |            |  |

\* Alternate

| PICTURE TUBE |                  |                           |              |                   |                      |
|--------------|------------------|---------------------------|--------------|-------------------|----------------------|
| ITEM No.     | REPLACEMENT DATA |                           |              |                   | NOTES                |
|              | ZENITH PART No.  | GENERAL ELECTRIC PART No. | RCA PART No. | SYLVANIA PART No. |                      |
| V12          | 19CRP4           |                           |              | 19CRP4 ①          | ① Silver Screen "85" |

| POWER RECTIFIERS |                  |                           |                  |                  |                         |
|------------------|------------------|---------------------------|------------------|------------------|-------------------------|
| ITEM No.         | MEASURED CURRENT | ORIGINAL Part or Type No. | RECTIFIERS       |                  |                         |
|                  |                  |                           | MALLORY PART No. | RCA PART No.     | SARKIS TARZIAN PART No. |
| X1               | .280A            | 212-27                    | 1N589 ①          | 1N1764 or 1N2882 | 40H or F-4              |
| X2               | .280A            | 212-27                    | 1N589 ①          | 1N1764 or 1N2862 | 40H or F-4              |

① A single unit for X1 and X2 may be used - VB600.

| ELECTROLYTIC CAPACITORS |        |       |                  |                  |                           |                           |                             |                  |                  |
|-------------------------|--------|-------|------------------|------------------|---------------------------|---------------------------|-----------------------------|------------------|------------------|
| ITEM No.                | RATING |       | REPLACEMENT DATA |                  |                           |                           |                             |                  |                  |
|                         | CAP.   | VOLT. | ZENITH PART No.  | AEROVOX PART No. | CORNELL-DUBILIER PART No. | GENERAL ELECTRIC PART No. | GENERAL INSTRUMENT PART No. | MALLORY PART No. | SPRAGUE PART No. |
| C1                      | 80     | 200   | 22-3521          | AFH1-31 ①        | BR250-50 ①                | XC1-11 ①                  | TMS-1470 ①                  | FP128A ①         | TVL-1573         |
| C2A                     | ■ 80   | 200   | 22-3872          | AFH3-174-50      | B0625                     | XC2-34                    | TMD-2460                    | FP420.97         | TVL8-3652        |
| B                       | ▲ 80   | 400   |                  |                  | BR100-50                  | QT1-23                    | TD-100-50                   |                  |                  |
| C                       | ▲ 100  | 50    |                  |                  |                           |                           |                             |                  |                  |
| C3A                     | ▲ 4    | 350   | 22-2744          | AFH3-180         | C0910                     | XC3-1                     | TMT-3459                    | FP368.68A        | TVL-3668         |
| B                       | ▲ 10   | 400   |                  |                  |                           |                           |                             |                  |                  |
| C                       | 20     | 25    |                  |                  |                           |                           |                             |                  |                  |

① Use insulating sleeve and mounting washer.  
\* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

| FIXED CAPACITORS |                 |          |                  |                    |                           |                  |                  |                  |
|------------------|-----------------|----------|------------------|--------------------|---------------------------|------------------|------------------|------------------|
| ITEM No.         | RATING          | REMARKS  | REPLACEMENT DATA |                    |                           |                  |                  |                  |
|                  |                 |          | AEROVOX PART No. | CENTRALAB PART No. | CORNELL-DUBILIER PART No. | ELMENDO PART No. | MALLORY PART No. | SPRAGUE PART No. |
| C4               | .15 200V        |          | P288N-15         |                    | PM2P15                    | 2DP-3-154        | GEM-2015         | 2TM-P15          |
| C5               | .15 200V        |          | P288N-15         |                    | PM2P15                    | 2DP-3-154        | GEM-2015         | 2TM-P15          |
| C6               | 470             |          | BPD-00047        | DD-471             | BYA10T47                  | CCD-471          | B-347            | 10TS-T47         |
| C7               | 11 N75 5%       |          |                  |                    |                           |                  |                  |                  |
| C8               | .01             |          | BPD-01           | DD-103             | BYA10S1                   | CCD-103          | B-110            | 5HK-810          |
| C8A              | .001 10%        |          | DI-1000          | DD-102             | JB8D1                     | CCD-102          | GP210            | 10TS-D10         |
| B                | .001 10%        |          | DI-1000          | DD-102             | JB8D1                     | CCD-102          | GP210            | 10TS-D10         |
| C10              | .001 10%        |          | DI-1000          | DD-102             | JB8D1                     | CCD-102          | GP210            | 10TS-D10         |
| C11              | .001 10%        |          | DI-1000          | DD-102             | JB8D1                     | CCD-102          | GP210            | 10TS-D10         |
| C12              | 270 N750 10%    |          | TCN-270          | DD-102             | C10T27U                   | CCTN-271         | CN7-327          | 10TCU-T27        |
| C13              | .001 10%        |          | DI-1000          | DD-102             | JB8D1                     | CCD-102          | GP210            | 10TS-D10         |
| C14              | 470 N1500 10%   |          |                  |                    |                           |                  |                  |                  |
| C15              | 470 10%         |          | DI-470           | DD-471             | JB6T47                    | CCD-471          | GP347            | 10TS-T47         |
| C16              | 5.5 N470 ±.5mmf | #22-3221 |                  |                    |                           | *                |                  | 10TCT-V5         |
| C17              | 4.7             | #22-1516 |                  |                    |                           |                  |                  |                  |
| C18              | 4.7             | #22-1516 |                  |                    |                           |                  |                  |                  |
| C19              | .01             |          | BPD-01           | DD-103             | BYA10S1                   | CCD-103          | B-110            | 5HK-810          |
| C20              | .0047 10%       |          | DI-4700          | CF-472             | JB6D47                    | CCD-472          | JL-247           | 10TS-D47         |
| C21              | 47 N75 5%       | #22-2487 |                  |                    |                           |                  |                  |                  |
| C22              | 3.3             | #22-2343 |                  |                    |                           |                  |                  |                  |
| C23              | 50 N750         | #22-3515 | N750-DI 47       | TCN-50             | C10Q5U                    | CCTN-470         | CN7-447          | 10TCU-Q50        |
| C24              | .047 400V       |          | P488N-047        | DD-503             | PM4847                    | 4DP-3-473        | GEM-4147         | 4TM-347          |
| C25              | 39 10%          | #22-3042 |                  |                    |                           |                  |                  |                  |
| C26              | 10 N330 10%     | #22-3250 |                  |                    |                           |                  |                  |                  |
| C27              | .1 400V         |          |                  |                    |                           |                  |                  |                  |
| C28              | .01             |          | P488N-1          | DF-104             | PM4P1                     | 4DP-3-104        | GEM-104          | 4TM-P10          |
| C29              | .001 10%        |          | DI-1000          | DD-103             | BYA10S1                   | CCD-103          | B-110            | 5HK-810          |
| C30              | .001 1KV 10%    |          | DI-1000          | DD-102             | JB8D1                     | CCD-102          | GP210            | 10TS-D10         |
| C31              | 330 10%         |          | ADM-15-331       | CPR-330J           | CD15F331K                 | DM-19-331K       | GP210            | 10TS-D10         |
| C32              | 5.1 NPO 5%      | #22-3702 |                  |                    |                           |                  | MS-333           | 10TCC-V5         |
| C33              | .001 10%        |          | DI-1000          | DD-102             | JB8D1                     | CCD-102          | GP210            | 10TS-D10         |
| C34              | 20 N75 10%      | #22-3139 |                  |                    |                           |                  |                  |                  |
| C35              | .001 10%        |          | DI-1000          | DD-102             | JB8D1                     | CCD-102          | GP210            | 10TS-D10         |
| C36              | .01             |          | BPD-01           | DD-103             | BYA10S1                   | CCD-103          | B-110            | 5HK-810          |
| C37              | .0033           |          | BPD-0033         | DD-332             | BYA10D33                  | CCD-332          | B-233            | 5HK-333          |
| C38              | 220             |          | DI-220           | DD-221             | LA10T22-83                | CCD-221          | GP322            | 10TS-T22         |
| C39              | .0033           | (470) †  | BPD-0033         | DD-332             | BYA10D33                  | CCD-332          | B-233            | 5HK-333          |

## PARTS LIST AND DESCRIPTION (CONTINUED)

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

## FIXED CAPACITORS (cont)

| ITEM No. | RATING | REMARKS               | REPLACEMENT DATA |                    |                           |                  |                  |                  |
|----------|--------|-----------------------|------------------|--------------------|---------------------------|------------------|------------------|------------------|
|          |        |                       | AEROVOX PART No. | CENTRALAB PART No. | CORNELL-DUBILIER PART No. | ELMENCO PART No. | MALLORY PART No. | SPRAGUE PART No. |
| C40      | .01    | #22-3714<br>(.0033) † | BPD-01           | DD-103             | BYA10S1                   | CCD-103          | B-110            | 5HK-S10          |
| C41      | .018   |                       | BES818           |                    | PM4S18                    |                  |                  |                  |
| C42      | .1     |                       | P888N-1          | DF-104             | PM6P1                     | 8DP-4-104        | GEM-801          | 8TM-P10          |
| C43      | .1     |                       | P488N-1          | DF-104             | PM4P1                     | 4DP-3-104        | GEM-401          | 4TM-P10          |
| C44      | .0015  |                       | BPD-0015         | DD-152             | LA10D15-C4                | CCD-152          | B-215            | 10TS-D15         |
| C45      | .047   |                       | P288N-047        | DD-503             | PM2S47                    | 4DP-3-473        | GEM-2147         | 2TM-S47          |
| C46      | .015   |                       |                  |                    | PKM10S15                  | 18DP-4-153       |                  | 10TM-S15         |
| C47      | .0088  |                       |                  | BESD68             | WMF2D68                   | 8DP-1-882        | PVC4288          | 8TM-D68          |
| C48      | 56     |                       |                  |                    |                           |                  | 2DY-456          |                  |
| C49A     | 51     |                       |                  | NPO-DI 50          | TCZ-51                    | C10Q5C           | CCTO-510         | CNO-450          |
| C50      | 4.7    | #22-1516              | NPO-DI 50        | TCZ-51             | C10Q5C                    | CCTO-510         | CNO-480          | 10TCC-Q50        |
| C51A     | .001   |                       | BPD1-2X001       | DD2-102            | LA10D1-C4                 | CCD-102          | B-210            | 5HK-2D10         |
| C52      | 470    |                       | BPD-00047        | DD-471             | BYA10T47                  | CCD-471          | B-347            | 10TS-T47         |
| C53      | .001   |                       | ADM-19-102       | CPR-1000J          | CD19F102K                 | DM-19-102K       | MCB255           | MS-21            |
| C54      | .0033  |                       | BESD33           | CF-332             | WMF4D33                   | 8DP-1-332        | PVC4233          | 8TM-D33          |
| C55      | 470    |                       | ADM-15-471       | CPR-470J           | CD19E471K                 | DM-19-471K       | MCB244           | MS-347           |
| C56      | .01    |                       | BPD-01           | DD-103             | BYA10S1                   | CCD-103          | B-110            | 5HK-S10          |
| C57A     | .0015  |                       | BPD2-2X0015      | DD2-152            | LA10D15-C4                | CCD-152          | B-215            | 5HK-2D15         |
| C58      | .01    |                       | BPD-01           | DD-103             | BYA10S1                   | CCD-103          | B-110            | 5HK-S10          |
| C59      | .1     |                       | BESD1            |                    | PM6P1                     | 8DP-4-104        | PVC601           | 8TM-P10          |
| C60      | 75     | #22-2864              | BE4P15           |                    | PM4P15                    | 4DP-4-154        | PVC4015          | 4TM-P15          |
| C61      | .15    |                       | P488N-1          | DF-104             | PM4P15                    | 4DP-3-104        | GEM-401          | 4TM-P10          |
| C62      | .1     |                       |                  |                    |                           |                  |                  |                  |

\* Not normally in distributor's stock. Available thru distributor on order to manufacturer.  
Note 1. Capacitor Value may range from 47mmf to 72 mmf (3KV, 10%). Replace with exact value found in Yoke.  
† Zenith Part Number † Alternate Value

## CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

| ITEM No. | USE             | RESISTANCE                      | REPLACEMENT DATA |  |                    |  |  |
|----------|-----------------|---------------------------------|------------------|--|--------------------|--|--|
|          |                 |                                 | ZENITH PART No.  | CENTRALAB PART No.                       | CLAROSTAT PART No. | CTS-IRC PART No.                         | MALLORY PART No.   |
| R1       | Volume          | 1meg                            | 63-5156 ①        | F2-1meg, SFS212 or (AB-70, AK-33)        | A47-1meg-Z RS-3/16 | B13-137, SK9 or (BU11, CF26, 884, DC1) * | UA16A, SD3500 or (RU16A, SL35, IS1250) or (U53, DS-37)     |
| R2       | Peak Picture    | 2500Ω                           | 63-5161          | F1-2500, SFS212, AK-38 or (AB-7, AK-33)  | A47-2500-S RS-3/16 | B11-111, TM8                             | RU252L, SL37, IS625 or (UA33L, SD3500) or (U8, DS-37)      |
| R3       | Vert. Hold      | 750K                            | 63-4995          | F1-750K, SFS212, AK-38 or (AB-66, AK-33) | A47-750K-S RS-3/16 | B11-136, TM8                             | RU754L, SL37, IS625 or (UA16L, SD3500) or (U54, DS-37)     |
| R4       | Brightness      | 250K                            | 63-4996          | F1-250K, SFS212, AK-38 or (AB-50, AK-33) | A47-250K-S RS-3/16 | B11-130, TM8                             | TA254L, DS-37 or (RU254L, SL37, IS625) or (UA254L, SD3500) |
| R5       | Contrast        | 30K                             | 63-4997          |  |                    |  |  |
| R6       | Buzz            | 10K Tap<br>750Ω 2W<br>100Ω Stop | 63-3284          | WN-751 ② or (WW-751 ②)                   | 39-700 ②           | 112-650 ②                                | FL-750 ② or (VW-750 ②) or (R750L ②)                        |
| R7       | Vert. Linearity | 2500Ω 2W<br>700Ω Stop           | 63-4815          | WN-202 ③ or (WW-202 ③)                   | 39-3000-700        | 112-2500-700                             | FL-2.5K ③ or (VW2P5K ③) or (R2500L ③)                      |
| R8       | Vert. Size      | 6meg<br>450K Stop               | 63-4647          | TT-90 ④ or (F1-7.5meg ④, SN010, AK-38)   | B47-7.5meg-S ④     | HLC-6 ④                                  | PTA755L ④ or (UA755L ④) or (SN1000) or (SU-89 ④)           |
| R9       | AGC             | 1meg                            | 63-4833          | TT-89 or (F1-1meg, SN010, AK-38)         | B47-1meg-S         | B11-137, TM4 or (BU11, CF17, SS6) *      | PTA1254L or (RU18L, SL37, SN1000) or (UA16L, SN1000)       |

① Receivers without Remote Control use Volume Control Part #63-5126.  
② Connect a 100Ω, 2 watt Resistor in Series with the Terminal.  
③ Connect a 680Ω, 2 watt Resistor in Series with the Terminal.  
④ Connect a 470K Resistor in Series with the right hand terminal of the control and the lead connected to the same terminal of the original control. (Control viewed from shaft end, terminals down.)

\* "SNAPTROL"

## RESISTORS (Power and Special)

| ITEM No. | RATING   | REPLACEMENT DATA |                  |          | ITEM No. | RATING   | REPLACEMENT DATA |                  |             |
|----------|----------|------------------|------------------|----------|----------|----------|------------------|------------------|-------------|
|          |          | IRC PART No.     | WORKMAN PART No. | REMARKS  |          |          | IRC PART No.     | WORKMAN PART No. | REMARKS     |
| R26      | 4300Ω 3W | PW3-4300         | 3G-4300          |          | R78      | 6800Ω 3W | PW3-6800         | 3G-6800          |             |
| R35      | 7500Ω 5W | PW5-7500         | 5W-SQ-7500       |          | R82      | 4700Ω 7W | PW7-4700         | 7W-SQ-4700       | (5200Ω 7W)* |
| R42      | V.D.R. † |                  |                  | #63-5056 |          |          |                  |                  |             |

† Voltage Dependent Resistor # Zenith Part Number

\* Alternate Value

## COILS (RF-IF)

| ITEM No. | USE                              | REPLACEMENT DATA |                |                 |                  |                  | NOTES  |
|----------|----------------------------------|------------------|----------------|-----------------|------------------|------------------|--|
|          |                                  | ZENITH PART No.  | MERIT PART No. | MILLER PART No. | STANCOR PART No. | WORKMAN PART No. |  |
| L1A      | 47.25MC Trap                     | S-57821 ①        | TV-134         | 6222 †          | RTC-8553 †       | T225 †           | ① Part of Ass'y S-57822.<br>† Disregard Secondary.   |
| L2       | 1st Video IF                     | S-57823          | TV-130         | 6224            | RTC-8555         | T217             |  |
| L3       | 2nd Video IF                     | S-57824          | TV-130         | 6224            | RTC-8555         | T217             |  |
| L4       | 4th Video IF - Detector Assembly | S-57825          | TV-247         |                 |                  | TC234            |  |
| L4A      | 4th Video IF                     | S-55140          |                | 6227            |                  | TC237            |  |
| L4B      | Peaking (90uh)                   | 20-2013          | TV-181         | 6177            | RTC-8594         | T368             |  |
| L5       | RF Choke (6uh)                   | 20-2004          | BC-565         | 4610            | RTC-8520         | T992             |  |
| L6       | Peaking (230uh)                  | 20-2514 ②        | TV-185 †       | 72F224AP †      | RTC-8598 †       | T315 †           | ② Wound on 3K resistor.<br>* Shunt with 3K resistor. |
| L7       | Sound Takeoff - 4.5MC Trap       | S-54785 ③        | TV-149         | 7115-Z          |                  | TF247            | ③ Part of Ass'y S-58034.                             |
| L8       | Peaking (330uh)                  | 20-2028          | TV-200         | 72F334AP        | RTC-8577         | T319             | ④ Wound on 4.7K resistor.                            |
| L9       | Peaking (155uh)                  | 20-2501 ④        | TV-198 *       | 6120 *          | RTC-8525 *       | T308 *           | * Shunt with 4.7K resistor.                          |
| L10      | Sound IF Interstage              | S-51445 ⑤        | TV-149         | 7114-Z          | RTC-8278         | TC206            | ⑤ Part of Ass'y S-58110.                             |
| L11      | Quadrature                       | S-45229 ⑥        | TV-121         | 1480            | RTC-8608         | TG266            | ⑥ Part of Ass'y S-45831.                             |

## COILS (SWEEP CIRCUITS)

| ITEM No. | USE                | REPLACEMENT DATA |                |                 |                  |                     |                | NOTES  |
|----------|--------------------|------------------|----------------|-----------------|------------------|---------------------|----------------|--------|
|          |                    | ZENITH PART No.  | MERIT PART No. | MILLER PART No. | STANCOR PART No. | THORDARSON PART No. | TRIAD PART No. |        |
| L12      | Horiz. Osc. (Hold) | S-56875          | TV-159 ①       | 6211 ①          | RTC-8623 ①       | HS-7 ①              | WLC-25 ①       | T104 ① |

① Install plastic sleeve to metal adjustment screw.

## FILTER CHOKE

| ITEM No. | RATINGS            |         | REPLACEMENT DATA             |                 |                |                  |                     | NOTES   |
|----------|--------------------|---------|------------------------------|-----------------|----------------|------------------|---------------------|---------|
|          | CURRENT (Measured) | DC RES. | INDUCTANCE (0 CURRENT 1000~) | ZENITH PART No. | MERIT PART No. | STANCOR PART No. | THORDARSON PART No. |         |
| L13      | .260ADC            | 61Ω     | 1.1 Hy.                      | 95-1991         | C-2996 ①       | C-2347           | 28C78               | C-28X ① |

## TRANSFORMER (POWER)

| ITEM No. | RATING           |                        |                  | REPLACEMENT DATA       |                |                  |                     |                | NOTES |
|----------|------------------|------------------------|------------------|------------------------|----------------|------------------|---------------------|----------------|-------|
|          | PRI.             | SEC. 1                 | SEC. 2           | ZENITH PART No.        | MERIT PART No. | STANCOR PART No. | THORDARSON PART No. | TRIAD PART No. |       |
| T1       | 117VAC<br>① 1.5A | 110VAC<br>② .28A<br>DC | 6.3VAC<br>③ 8.1A | 95-2116 †<br>95-2060 † | P-4082 ①       |                  | 26R105 ① ②          | R-123HA<br>① ② |       |

† Used in Models: T1980C4, CU4, G4, GU4, T1981G, GU, L, LU and T2203J.  
† Used in Models: L2008L, LU, R, RU, W, WU.

① Drill new mounting hole(s).

② Cut and tape 117V Secondary Tap.

## \* TRANSFORMERS (SWEEP CIRCUITS)

| ITEM No. | USE   | REPLACEMENT DATA                               |                                     |                  |                     |                    | NOTES |
|----------|---|--|-------------------------------------|------------------|---------------------|--------------------|-------|
|          |   | ZENITH PART No.                                | MERIT PART No.                      | STANCOR PART No. | THORDARSON PART No. | TRIAD PART No.     |       |
| T2       | Vert. Output  | 95-1990  | A-2821                              | A-8149           | 28S23               | A-131X             |       |
| T3       | Yoke (Horiz. 13MH)<br>92° (Vert. 37.5MH)<br>Rear Cover and Centering Device | 95-1975<br>S-23237 or<br>S-43081 or<br>S-54823 | MDF-123 ①<br>M51-70-90<br>M51-70-90 | DY-39A ②         | Y-39 ①              | Y-82-1 ③<br>YC-112 |       |
| T4       | Horiz. Output   | S-62228  | HVO-176                             | HO-382           |                     |                    |       |

① Remove Orange lead from Terminal #3. Use original vertical and horizontal damping network if necessary.  
② Use original rear cover and centering device. Remove Gray lead from Terminal #3.  
③ Remove 1K Resistor and Orange lead from Terminal #1.

## \* COMPONENT CONNECTION DATA

| ORIGINAL →    | HV TRANSFORMER       |   |   |   |   | VERTICAL OUTPUT      |      |       | YOKE                 |  |  |  |  | YOKE PLUG        |   |   |   |   |
|---------------|----------------------|---|---|---|---|----------------------|------|-------|----------------------|--|--|--|--|------------------|---|---|---|---|
|               | Original Connections |   |   |   |   | Original Connections |      |       | Original Connections |  |  |  |  | TO YOKE TERMINAL |   |   |   |   |
| REPLACEMENT ↓ | 1                    | 2 | 3 | 4 | 5 | 6                    | Blue | Green | Red                  |  |  |  |  | 1                | 2 | 3 | 4 | 5 |
| MERIT         | 1                    | 2 | 3 | 4 | 5 | 6                    | Blue | Green | Red                  |  |  |  |  | 1                | 2 | 3 | 4 | 5 |
| STANCOR       | 1                    | 2 | 3 | 4 | 5 | 6                    | Blue | Black | Red                  |  |  |  |  | 1                | 2 | 3 | 4 | 5 |
| THORDARSON    |                      |   |   |   |   |                      | Blue | Red   | Green                |  |  |  |  | 1                | 2 | 3 | 4 | 5 |
| TRIAD         |                      |   |   |   |   |                      | Blue | Red   | Yel.                 |  |  |  |  | 1                | 2 | 3 | 4 | 5 |

## TRANSFORMER (AUDIO OUTPUT)

| ITEM No. | IMPEDANCE        |              | REPLACEMENT DATA       |                      |                      |                     |                    | NOTES   |
|----------|------------------|--------------|------------------------|----------------------|----------------------|---------------------|--------------------|---|
|          | PRI.             | SEC.         | ZENITH PART No.        | MERIT PART No.       | STANCOR PART No.     | THORDARSON PART No. | TRIAD PART No.     |   |
| T5       | 14000Ω<br>15000Ω | 3-4Ω<br>3-4Ω | 95-2098 †<br>95-1988 † | A-2900 ①<br>A-2900 ① | A-3856 ①<br>A-3856 ① | 24860 ①<br>24860 ①  | S-51X ①<br>S-51X ① | ① Drill new mounting hole(s).<br>† Used in Models: T1980C4, CU4, G4, GU4, T1981G, GU, L, LU and T2203J.<br>† Used in Models: L2008L, R, W |

## SPEAKER

| ITEM No. | TYPE                     | REPLACEMENT DATA |               | NOTES |
|----------|--------------------------|------------------|---------------|-------|
|          |                          | ZENITH PART No.  | QUAM PART No. |       |
| SP1      | 4" PM 3-4Ω<br>4" PM 3-4Ω | 49U986<br>49-986 | 4A07<br>4A07  |       |

## COMPONENT COMBINATIONS

| ITEM No. | USE                 | DESCRIPTION | ZENITH PART No. | REPLACEMENT DATA |
|----------|---------------------|-------------|-----------------|------------------|
| K1       | Vertical Integrator |             | 87-8            | Mallory MS-130   |
| K2       | Vertical Feedback   |             | 87-7            | Mallory MS-130   |

## FUSES

| ITEM No. | TYPE | RATING             | REPLACEMENT DATA |                     |               |        |
|----------|------|--------------------|------------------|---------------------|---------------|--------|
|          |      |                    | ZENITH PART No.  | LITTELFUSE PART No. | BUSS PART No. |        |
| M1       | 1½"  | length of #24 wire | FUSE             | HOLDER              | FUSE          | HOLDER |

## MISCELLANEOUS

| ITEM No. | PART NAME         | ZENITH PART No. | NOTES                                   |
|----------|-------------------|-----------------|---|
| M2       | VHF Tuner         | 175-454         | Used in Model T2203J                    |
|          | VHF Tuner         | 175-442         | Used in Models L2008L, R, W.            |
|          | VHF Tuner         | 175-264         | Used in Models T1980C4, G4.             |
|          | VHF Tuner         | 175-266         | Used in Models T1981G, L.               |
|          | VHF/UHF Tuner     | 175-441         | Used in Models L2008LJ, RU, WU.         |
|          | VHF/UHF Tuner     | 175-283         | Used in Models T1980C4, GU4.            |
|          | VHF/UHF Tuner     | 175-265         | Used in Models T1981GU, LU.             |
|          | UHF Tuner         | 175-8           |   |
| M3       | Antenna           | S-57177         | JFD REPLACEMENT TA-402.                 |
| M4       | Diode             | 103-23          | Video Detector                          |
| M5       | Diode             | 103-20          | Horizontal AFC - Dual                   |
| M6       | Switch            | 85-748          | AC - On/Off, Space Command Models only. |
| M7       | Circuit Breaker   | 85-766          |   |
| M8       | Motor Drive Ass'y | S-61193         |   |
|          | Motor             | 141-181         | Part of M8.                             |

## WIRING DATA

|   |  |
|---|--|
| High Voltage Lead .....                   | Use BELDEN No. 8889 (17KV) or 8868 (25KV)  |
| Shielded Hook-up Wire .....               | Use BELDEN No. 8885 (Single Conductor) 8738 (Two Conductor)  |
| General-use Unshielded Hook-up Wire ..... | Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors                      |
| Power Cord (Interlock Type) .....         | Use BELDEN No. 8874 (Rubber) or 8895 (Plastic)   |
| 300Ω Tuner Input Lead .....               | Use BELDEN No. 8225  |
| 300Ω Antenna Lead-in .....                | Use BELDEN No. 8230 or 8275  |
| Antenna Rotor Cable .....                 | Use BELDEN No. 8484 (Flat) or 8484 (Round) - 4 Conductor 8485 (Round) - 5 Conductor 8488 (Round) - 8 Conductor |

CABINET PARTS LIST NEXT PAGE



PARTS LIST AND DESCRIPTION (CONTINUED)

Replacement parts shown may be superseded by the availability of newly introduced replacements. Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

TRANSFORMER (POWER)

| ITEM No. | RATING         |                  |        | REPLACEMENT DATA |                |                  |                     |                | NOTES |
|----------|----------------|------------------|--------|------------------|----------------|------------------|---------------------|----------------|-------|
|          | PRI.           | SEC. 1           | SEC. 2 | ZENITH PART No.  | MERIT PART No. | STANCOR PART No. | THORDARSON PART No. | TRIAD PART No. |       |
| T1       | 117VAC @ .020A | 23VAC @ .028 ADC |        | 95-1992(-D)      |                |                  |                     |                |       |

FUSES

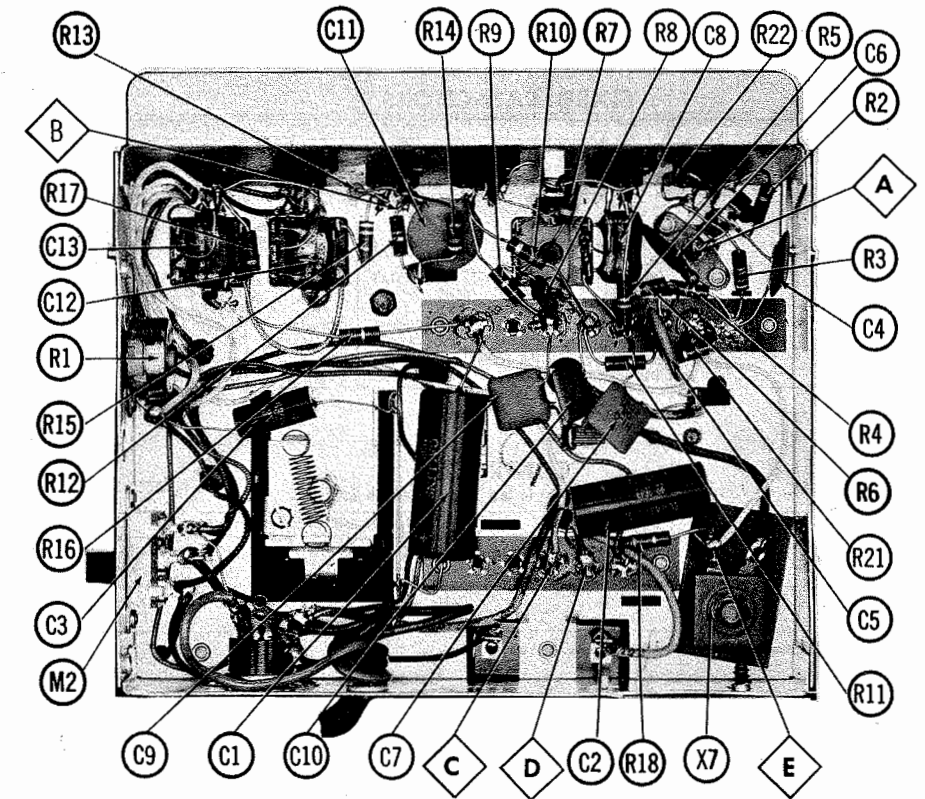
| ITEM No. | TYPE | RATING        | REPLACEMENT DATA |        |                         |        |               |        |
|----------|------|---------------|------------------|--------|-------------------------|--------|---------------|--------|
|          |      |               | ZENITH PART No.  |        | LITTELFUSE PART No.     |        | BUSS PART No. |        |
|          |      |               | FUSE             | HOLDER | FUSE                    | HOLDER | FUSE          | HOLDER |
| M1       | MDL  | .15A 250V S/B | 136-52           |        | 313.150 (.15A 250V S/B) | 357001 | MDL 15/100    | 3823-1 |

MISCELLANEOUS

| ITEM No. | PART NAME  | ZENITH PART No. | NOTES                                       |
|----------|------------|-----------------|---|
| M2       | Switch     | 85-645          | Auto/Manual Pilot Tuner Step Relay Assembly |
| M3       | Relay      | 195-10          |   |
| M4       | Relay      | 195-10          |   |
| M5       | Relay      | S-61160         |   |
| M6       | Microphone |                 |   |

WIRING DATA

General-use Unshielded Hook-up Wire ..... Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors  
Power Cord ..... Use BELDEN No. 17108 (Plastic) or 17128 (Rubber) - 6 Ft. 17109 (Plastic) or 17129 (Rubber) - 9 Ft.  
Power Cord (Interlock Type) ..... Use BELDEN No. 8874 (Rubber) or 8885 (Plastic)



CHASSIS—BOTTOM VIEW

SET 682 FOLDER 3-A

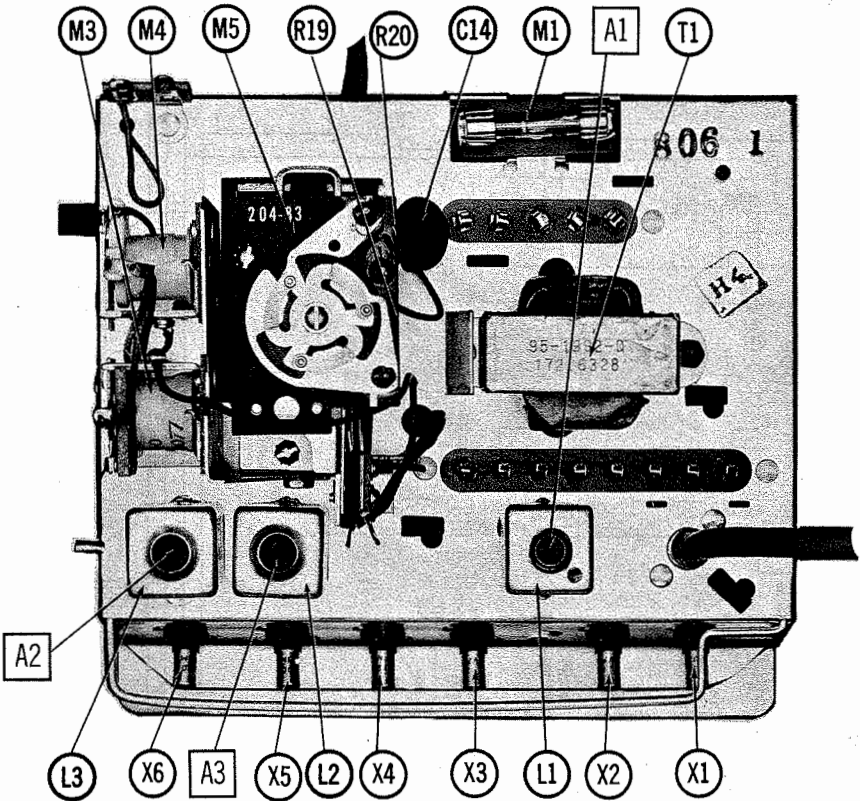
ZENITH REMOTE CONTROL RECEIVER S-61163

PHOTOFACT® Folder



IMPORTANT FILING NOTICE

This PHOTOFACT Folder covers equipment used with the TV chassis covered in PHOTOFACT SET 682 FOLDER 3. File this Folder with the TV Folder in the yellow filing jacket provided.



TRADE NAME Zenith  
MANUFACTURER Zenith Radio Corp., 6001 Dickens Ave., Chicago 39, Illinois  
TYPE SET Remote Control Receiver S-61163  
TRANSISTOR Six  
POWER SUPPLY 110-120 Volts AC, 60 Cycles  
RATING 2.3 Watts, .020 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS

| Suggested Alignment Tools: A1, A2, A3 ... GENERAL CEMENT #8606, 8606L, 8869 ... WALSCO #2543, 2544, 2588 |                            |          |   |        |                     |
|--|----------------------------|----------|---|--------|---------------------|
| SIGNAL GENERATOR COUPLING  | SIGNAL GENERATOR FREQUENCY | CHANNEL  | CONNECT VTVM                            | ADJUST | REMARKS             |
| 1. Connect high side to point A, low side to ground.   | 40.75 KC (Unmod.)          | Not used | DC probe to point A, common to ground.  | A1     | Adjust for maximum. |
| 2. "   | 40.25 KC (Unmod.)          | "        | DC probe to point A, common to point A. | A2     | "                   |
| 3. "   | 41.25 KC (Unmod.)          | "        | DC probe to point A, common to point A. | A3     | "                   |

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana



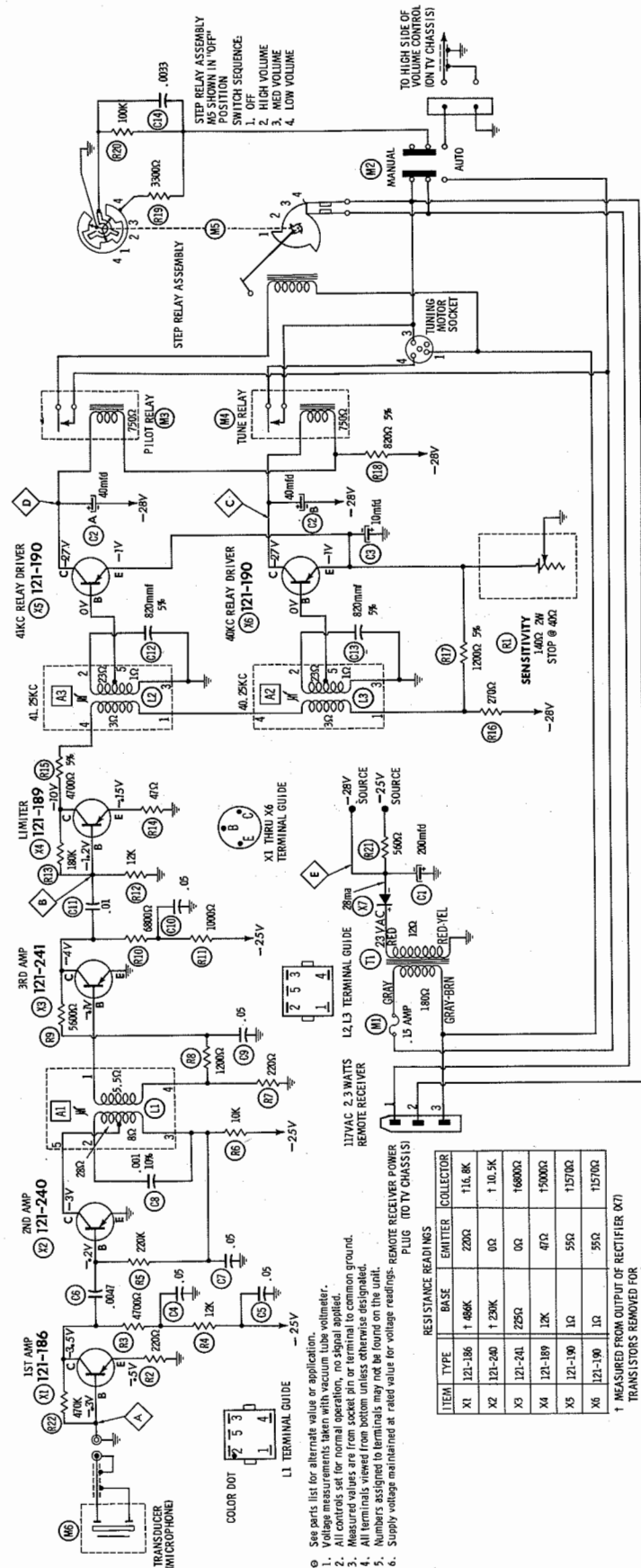
The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed. MA482

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DATE 3-64 SET 682 FOLDER 3-A

ZENITH REMOTE CONTROL RECEIVER S-61163

SET 682 FOLDER 3-A



ZENITH REMOTE CONTROL  
RECEIVER S-61163

A PHOTOFAC STANDARD NOTATION SCHEMATIC  
© Howard W. Sams & Co., Inc. 1964

| ITEM | TYPE    | BASE  | EMITTER | COLLECTOR |
|------|---------|-------|---------|-----------|
| X1   | 121-186 | 1.68K | 220Ω    | 11K.8K    |
| X2   | 121-240 | 1.20K | 0Ω      | 1.10.5K   |
| X3   | 121-241 | 22Ω   | 0Ω      | 1600Ω     |
| X4   | 121-189 | 12K   | 47Ω     | 1500Ω     |
| X5   | 121-190 | 10    | 55Ω     | 1570Ω     |
| X6   | 121-190 | 10    | 55Ω     | 1570Ω     |

1. MEASURED FROM OUTPUT OF RECTIFIER X7)  
TRANSISTORS REMOVED FOR  
RESISTANCE MEASUREMENTS

- See parts list for alternate value or application.  
1. Voltage measurements taken with vacuum tube voltmeter.  
2. All controls set for normal operation, no signal applied.  
3. Measured values are from socket pin or terminal to common ground.  
4. All terminals viewed from bottom unless otherwise noted on the unit.  
5. Numbers assigned to terminals are indicated on the unit.  
6. Supply voltage maintained at rated value for voltage readings. REMOTE RECEIVER POWER PLUG (NO TV CHASSIS)

## PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

### TRANSISTORS

| ITEM No. | ORIG. TYPE | USE               | REPLACEMENT DATA |                           |              | NOTES |
|----------|------------|-------------------|------------------|---------------------------|--------------|-------|
|          |            |                   | DELCO PART No.   | GENERAL ELECTRIC PART No. | RCA PART No. |       |
| X1       | 121-186    | 1st Amp.          | DS-25            | GE-1                      | 2N218        |       |
| X2       | 121-240    | 2nd Amp.          | DS-25            | GE-1                      | 2N218        |       |
| X3       | 121-241    | 3rd Amp.          | DS-25            | GE-1                      | 2N218        |       |
| X4       | 121-189    | Limiter           | DS-25            | GE-1                      | 2N218        |       |
| X5       | 121-190    | 41KC Relay Driver | DS-26            | GE-2                      | 2N218        |       |
| X6       | 121-190    | 40KC Relay Driver | DS-28            | GE-2                      | 2N218        |       |

### POWER RECTIFIERS

| ITEM No. | MEASURED CURRENT | ORIGINAL Part or Type No. | RECTIFIERS       |                  |                         |
|----------|------------------|---------------------------|------------------|------------------|-------------------------|
|          |                  |                           | MALLORY PART No. | RCA PART No.     | SARKES TARZIAN PART No. |
| X7       |                  | 212-35                    | A50 or D50       | 1N2859 or 1N3754 | Model 62AP or 10H       |

### ELECTROLYTIC CAPACITORS

| ITEM No. | RATING |       | REPLACEMENT DATA |                  |                           |                           |                             |                  |
|----------|--------|-------|------------------|------------------|---------------------------|---------------------------|-----------------------------|------------------|
|          | CAP.   | VOLT. | ZENITH PART No.  | AEROVOX PART No. | CORNELL-DUBILIER PART No. | GENERAL ELECTRIC PART No. | GENERAL INSTRUMENT PART No. | MALLORY PART No. |
| C1       | 200    | 35    | 22-3721          | PRS1380          | NLW40-50                  | MT1-17                    | BL2170                      | TT50X50          |
| C2A      | 40     | 30    | 22-3643          | PRS2195          | NLW40-50                  | MT1-17                    | BL2170                      | TT50X50          |
| C3       | 10     | 3     | 22-3705          | PTT6             | NLW10-3                   | MT1-5                     | MLV10-3                     | TT3X10           |

### FIXED CAPACITORS

| ITEM No. | RATING   | REMARKS | REPLACEMENT DATA |                           |                           |                   |                  |                  |
|----------|----------|---------|------------------|---------------------------|---------------------------|-------------------|------------------|------------------|
|          |          |         | AEROVOX PART No. | CORNELL-DUBILIER PART No. | GENERAL ELECTRIC PART No. | ELMENCOR PART No. | MALLORY PART No. | SPRAGUE PART No. |
| C4       | .05 50V  |         | TTD-05           | CK-503                    | H5                        |                   | TA-150           | TG-850           |
| C5       | .05 100V |         | TTD-05           | DD-472                    | BYA10D47                  | CCD-472           | TA-150           | TH-850           |
| C6       | .0047    |         | BPD-0047         | CK-503                    | H5                        |                   | B-247            | 5HK-D47          |
| C7       | .05 50V  |         | TTD-05           | CPR-1000J                 | CD19F102K                 | DM-19-102K        | TA-150           | TG-850           |
| C8       | .001     | 10%     | ADM-19-102       | CK-503                    | H5                        |                   | MCB255           | MS-21            |
| C9       | .05 50V  |         | TTD-05           | CK-503                    | H5                        |                   | TA-150           | TG-850           |
| C10      | .05 50V  |         | TTD-05           | CK-503                    | H5                        |                   | TA-150           | TG-850           |
| C11      | .01      |         | BPD-01           | DD-103                    | BYA1081                   | CCD-103           | B-110            | 5HK-610          |
| C12      | 820      | 5%      | ADM-19-821       | CPR-820J                  | CD19F821J                 | DM-19-821J        |                  | MS-382           |
| C13      | 820      | 5%      | ADM-19-821       | CPR-820J                  | CD19F821J                 | DM-19-821J        |                  | MS-382           |
| C14      | .0033    |         | BPD-0033         | DD-332                    | BYA10D33                  | CCD-332           | B-233            | 5HK-D33          |

### CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

| ITEM No. | USE         | RESISTANCE          | REPLACEMENT DATA |                           |                    |                  |                  |
|----------|-------------|---------------------|------------------|---------------------------|--------------------|------------------|------------------|
|          |             |                     | ZENITH PART No.  | CORNELL-DUBILIER PART No. | CLAROSTAT PART No. | CTS-IRC PART No. | MALLORY PART No. |
| R1       | Sensitivity | 140Ω 2W<br>40Ω Stop | 63-5171          |                           | 39-100 ①           | 112-100 ①        | FL-100 ①         |

① Connect a 39Ω 2 watt resistor in series with the terminal.

### COILS (RF-IF)

| ITEM No. | USE             | REPLACEMENT DATA |                |                 |                  |                  | NOTES |
|----------|-----------------|------------------|----------------|-----------------|------------------|------------------|-------|
|          |                 | ZENITH PART No.  | MERIT PART No. | MILLER PART No. | STANCOR PART No. | WORKMAN PART No. |       |
| L1       | Amp. Interstage | 95-1965          |                |                 |                  |                  |       |
| L2       | 41.25MC Output  | 95-1966          |                |                 |                  |                  |       |
| L3       | 40.25MC Output  | 95-1967          |                |                 |                  |                  |       |

ZENITH REMOTE CONTROL  
RECEIVER S-61163

FOLDER 3-A