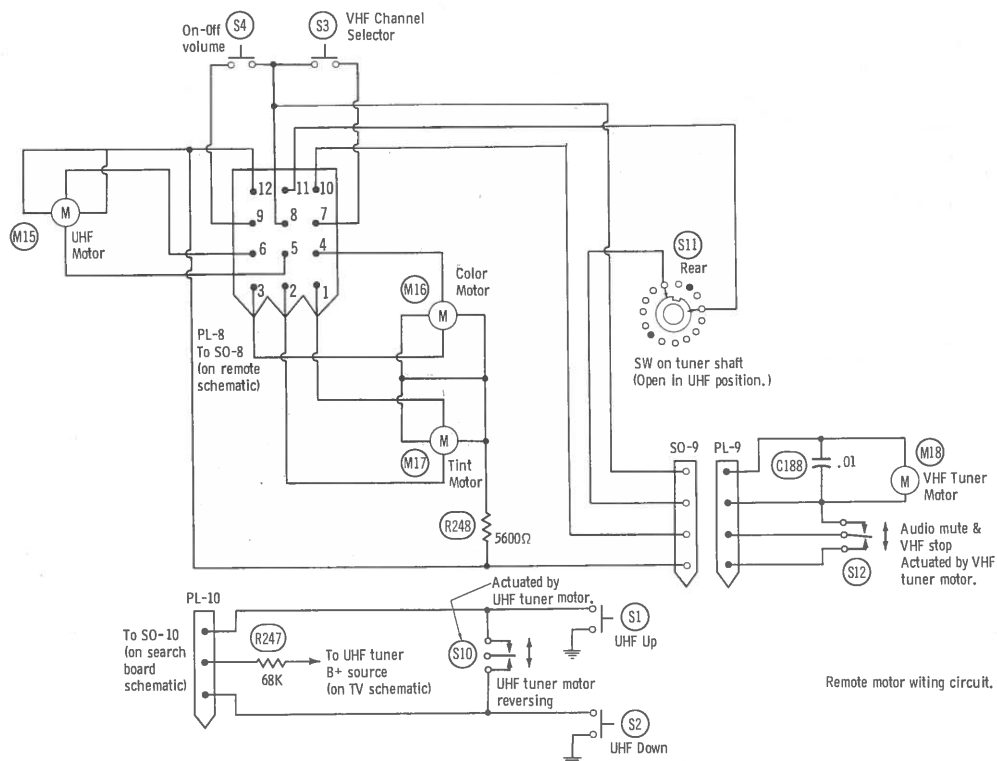
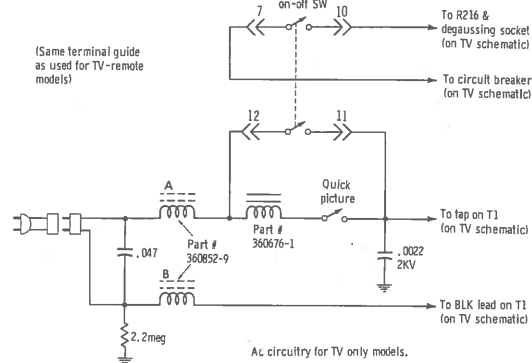
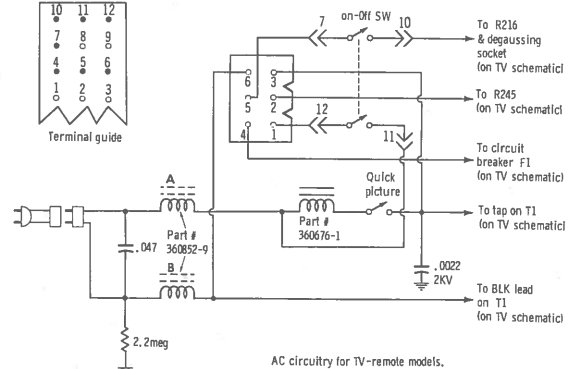
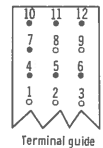
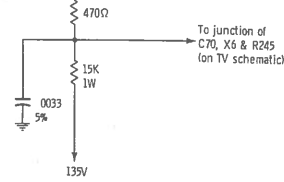
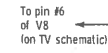
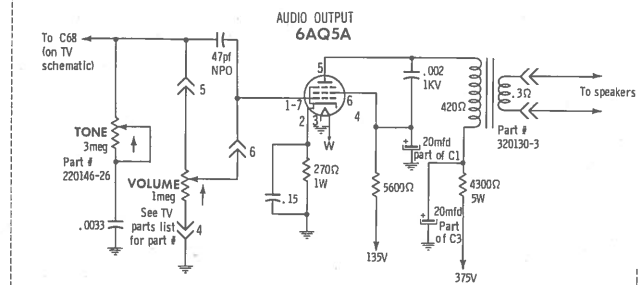
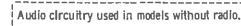
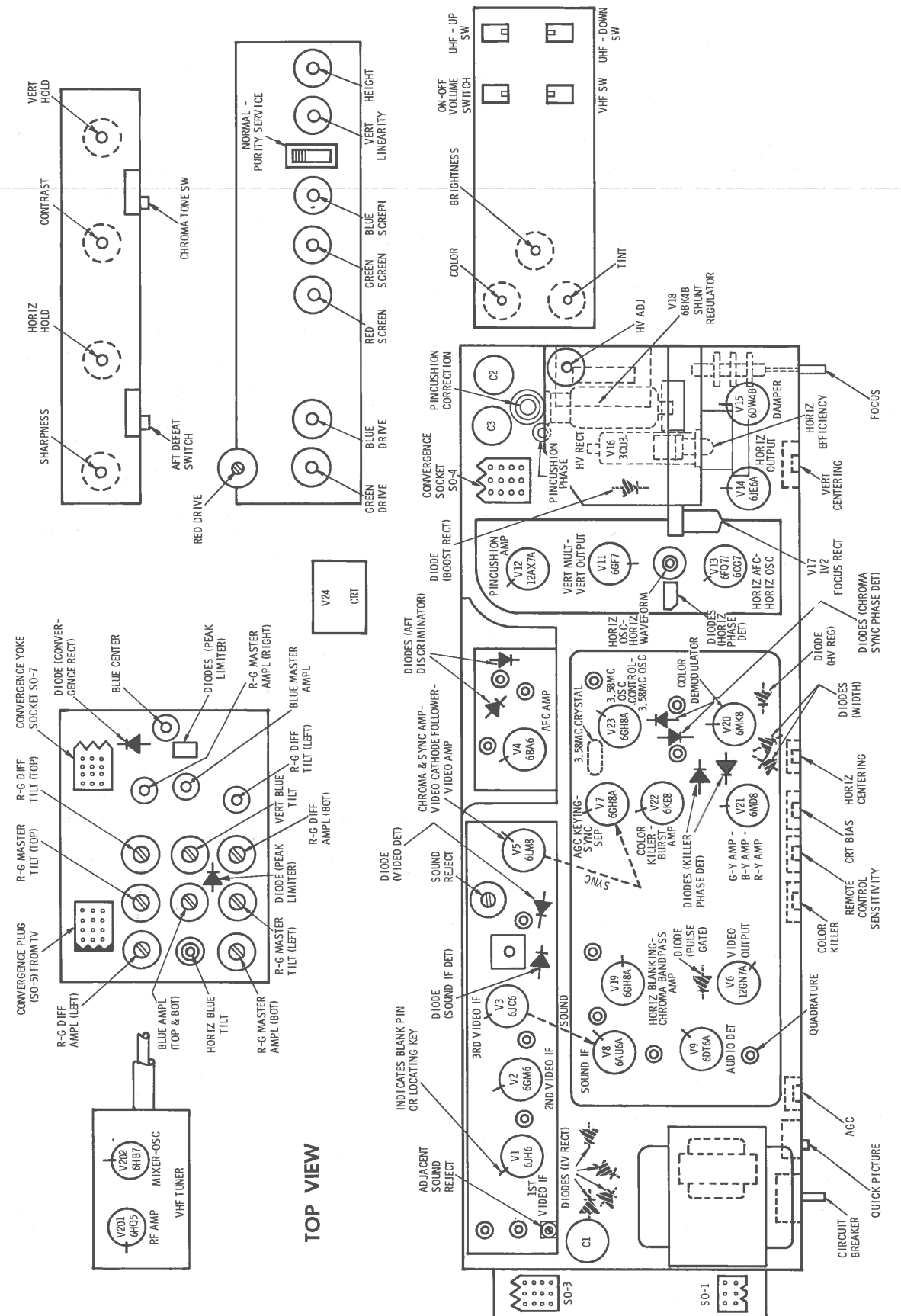


*Corrected*

MAGNAVOX CHASSIS 1933-01  
thru 1933-18 Series, 1933-20-AA



## TUBE PLACEMENT CHART





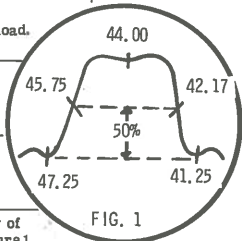
ALIGNMENT INSTRUCTIONS

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 A14 .. GENERAL CEMENT #8606, 8606L, 8669 .. WALSCO #2543, 2544, 2588

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 Ⓢ) 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 Ⓢ. Common to ground. | Connect high side to ungrounded tube shield over Mixer-Osc. Low side to ground. |                            | 41.25MC<br>47.25MC                                  | A1, R22<br>A2, R21<br>Adjust for MINIMUM.   |
| 2.        | Connect vertical input of a scope to point Ⓢ. Low side to ground.            | Connect high side to ungrounded tube shield over Mixer-Osc. Low side to ground. | 44MC<br>(10MC Sweep)       | 41.25MC<br>42.17MC<br>44.00MC<br>45.75MC<br>47.25MC | A3, A4,<br>A5, A6,<br>Mixer<br>Plate<br>Coil<br>Adjust for maximum gain and symmetry of response with markers as shown in Figure 1. |



SOUND IF ALIGNMENT

Tune in a station and adjust A7 for maximum sound. Reduce signal strength at the antenna terminals until distortion appears. Continue to reduce signal while aligning for undistorted output by adjusting A8, A9 and A10.

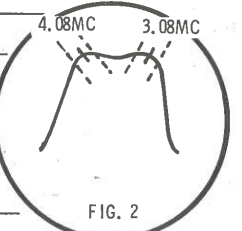
4.5 MC TRAP ALIGNMENT

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 A11 for MINIMUM beat interference.

CHROMA BANDPASS ALIGNMENT

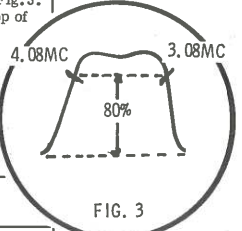
The following alignment will require the use of an RF Modulator (RCA WG304 or equivalent). Connect a -40 volt supply to Point Ⓢ, connect a -2 volt supply to Point Ⓢ, connect a -15 volt supply to Point Ⓢ, positive of all supplies to ground. Connect a jumper from Point Ⓢ to ground. Turn the color intensity to maximum. Remove the Horizontal Output tube and connect a 1500Ω, 100W Resistor from 400V source to ground.

| SWEEP GENERATOR COUPLING | SWEEP GENERATOR FREQUENCY   | MARKER GENERATOR FREQUENCY         | CHANNEL | CONNECT SCOPE    | ADJUST | REMARKS  |
|--------------------------|---|------------------------------------|---------|------------------|--------|--|
| 3.                       | Connect high side thru .1mfd to grid of Bandpass Amp. Low side to ground.   | 3.58MC<br>(3-5MC Sweep)            |         | 3.08MC<br>4.08MC |        | Vert. Amp. thru Detector Probe to pin 7 of demodulators Point Ⓢ. Low side to ground.               |
| 4.                       | High side of sweep gen. to Video Sweep Input of RF modulator. High side of signal gen. (set at 45.75MC) to picture carrier input. Output of RF modulator to mixer grid test point on tuner. Low side to ground. | Sweep Generator to 3MC (6MC Sweep) |         |                  | A14    | Adjust for response curve similar to Fig. 3. If necessary, retouch A12 to flatten top of response. |



TUNER AFT ALIGNMENT

| SWEEP GENERATOR COUPLING   | SWEEP GENERATOR FREQUENCY | MARKER GENERATOR FREQUENCY | CHANNEL | CONNECT SCOPE                               | ADJUST | REMARKS  |
|--|---------------------------|----------------------------|---------|---|--------|--|
| Connect high side to ungrounded tube shield over Mixer-Oscillator, low side to ground. | 45.75MC<br>47.25MC        |                            |         | Vert. input to Point Ⓢ, low side to ground. | A18    | Detune A20 by backing slug out. Adjust maximum gain between 45.75MC and 47.25MC markers. |
| "  | 45.75MC                   |                            |         | "   | A19    | Adjust for maximum response at 45.75MC.  |
| "  | 45.75MC                   |                            |         | "   | A20    | Adjust for marker at crossover point.  |



TROUBLESHOOTING CHECK CHART

The following chart lists component failures most likely to produce indicated symptoms.

SWEEP

No raster, has sound V13 thru V18, V24  
No vert. deflection V11  
Poor vert. lin. or foldover V11  
Poor horiz. lin. or foldover V14, V15  
Narrow picture X1 thru X4, V13 thru V15  
Vert. off freq. V11  
Horiz. off freq. X14, V13, V14

RASTER

Yellow - No blue V21, V24  
Cyan - No red V21, V24  
Magenta - No green V21, V24

PICTURE OR SOUND

No pic, no sound, no raster F1, F2, X1 thru X4, V15  
No pic, no sound, has raster V1, V2, V3, V202  
No pic, no sound, has snow V201, V202  
No pic, has sound, no raster V8, V24  
No pic, has sound, has raster X10, V5, V6  
Has pic, no sound X11, V8, V11  
Overloaded picture V7  
Low or excessive brightness V19, V24  
Poor focus V17

COLOR (B/W reception operating normally.)

No color V22, X15 thru X18, V19  
Weak color V22, X15 thru X18, V19  
No color sync V22, X15 thru X18, V23  
No blue V20, V21  
No red V20, V21  
Incorrect hue (tint) V22, X15 thru X18, V20

SYNC

No vert. sync V7  
No horiz. sync V7  
No vert. or horiz. sync V7, X14

MISCELLANEOUS ADJUSTMENTS

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Connect:

A 0-500ma meter in series with cathode lead of horizontal output tube.

A .47mfd capacitor across meter.

A VTVM through a high voltage probe to picture tube anode connector.

Point Ⓢ to ground.

A short across horizontal oscillator cathode coil (pin 8 to ground).

Tune in a TV station and set all controls for normal operation. Adjust the horizontal hold control until the picture "floats" with the blanking bars vertical. Remove the short from the horizontal oscillator cathode and adjust B1 until the picture "floats" horizontally. Remove the short from Point Ⓢ. Adjust the horizontal efficiency coil for MINIMUM current in the horizontal output tube (should not exceed 240ma).

Adjust the high voltage control for 24KV on picture tube anode with MINIMUM brightness. Check to see that horizontal output current does not exceed 240ma. If foldover occurs in picture, adjust horizontal efficiency clockwise to eliminate foldover while checking to make sure horizontal output current does not exceed 240ma.

Adjust Focus, Height and Vertical Linearity controls.

COLOR AFC ALIGNMENT

Set the Color Killer control to fully counterclockwise. Set the Tint control to the center of its range. Connect a color bar generator to the antenna terminals. Adjust receiver for normal color reception. Short pin 2 of V22, Burst Amp., to ground.

Connect DC probe of VTVM through 470K to Point Ⓢ, low side to ground. Adjust A15 for maximum deflection on VTVM. If no reading is obtained, oscillator is not operating. Adjust A16 to start oscillator, then adjust A15 for maximum. Remove the short from Point Ⓢ. Adjust A16 for maximum deflection on VTVM. Make sure oscillator is running and locked in.

Short Point Ⓢ to ground. Remove VTVM. Adjust A17 until color bars stand still or drift slowly. Remove the short from Point Ⓢ and check to see that the color bars will sync with a low level input signal. If necessary, retouch A17 for best hold.

Connect the vertical input of a scope to Point Ⓢ. Check for proper waveform with the color bar generator being used. See waveform on schematic for pattern obtained from a standard NTSC signal. Check the range of the Tint control. The bars should move 30° either side of proper signal. If necessary, retouch A17 for proper range of control.

Check for proper waveform at G-Y and B-Y outputs (Points Ⓢ and Ⓢ). Tune in a weak signal or reduce the signal at the antenna terminals to obtain a snowy picture. Adjust the Color Killer control to eliminate color in the snow. Check with a color signal to make sure the killer is not eliminating picture coloring.

PURITY ADJUSTMENTS

Perform Step 1 of "Convergence Adjustments". If the picture tube appears to be magnetized, use a degaussing coil to demagnetize tube and mounting brackets. Set the Service switch in the Purity position.

Connect the Blue and Green grids of the picture tube through individual 100K resistors to ground. Loosen the deflection yoke and move it rearward until it is against the convergence yoke assembly.

Adjust the tabs on the Purity magnet and rotate the assembly until a red spot appears at the center of the picture tube. Slide the deflection yoke forward to obtain a uniform red over entire picture tube face. A low power microscope is useful to observe the beam landings.

GRAY SCALE ADJUSTMENTS

Set the Brightness, CRT Bias and the screen controls fully counterclockwise. Set the Chromatone switch in the Off position. Set the Blue and Green Drive controls fully clockwise and the Service switch in Service position. Advance the screen controls one at a time until each produces a barely visible line. If one or more controls fail to produce a line, leave that screen control at maximum and advance the CRT Bias control until a barely visible line appears. Then readjust the other two screen controls for a barely visible line. Set the Service switch in Normal position and the Brightness control for normal brightness. Adjust the Blue and Green Video Drive controls to eliminate coloring in light and dark areas of the picture.

Turn Brightness and Contrast controls to maximum (fully clockwise). Adjust the CRT Bias control until the picture blooms (distorts), then reduce the control to the point just below where the picture returns to normal.

DYNAMIC PINCUSHION ADJUSTMENTS

The side pincushion is a fixed correction and no adjustments are provided on this chassis. Top and bottom pincushion is factory adjusted and readjustment is seldom needed. If necessary, top pincushion may be corrected by adjusting for straight horizontal lines at the top of the screen.

Connect a crosshatch generator to the antenna terminals and adjust set for a normal crosshatch pattern. Adjust the Pincushion Phase coil, L49, for a straight horizontal line at top of the screen.

AGC ADJUSTMENT

Tune in a strong TV station and advance AGC control until instability appears in the picture (pulling, jitter, overload, etc.). Reduce the control to the point just below the instability and check all available stations for proper AGC action.

# CONVERGENCE ADJUSTMENTS

| Step | Control  | Use to Converge (or Straighten)                        | Remarks   |
|------|--|--|---|
| 1.   |  |  | Perform Center Dot Convergence using convergence magnets. See Fig. A.                               |
| 2.   | R-G Vertical Lines, R24 Top (R-G Master Tilt)      | Red and Green Vertical bars at top of screen.          | Touch up both controls for best convergence from top to bottom along vertical center line (Fig. B). |
| 3.   | R-G Vertical Lines, R29 Bottom (R-G Master Amp)    | Red and Green Vertical bars at bottom of screen.       |   |
| 4.   | R-G Horizontal Lines, Top (R-G Diff. Tilt) R25     | Red and Green Horizontal bars at top of screen.        | Touch up both controls for best convergence of horizontal bars along vertical center line (Fig. B). |
| 5.   | R-G Horizontal Lines, R30 Bottom (R-G Diff. Amp)   | Red and Green Horizontal bars at bottom of screen.     |   |
| 6.   | Blue Horizontal Lines, Top (Vert Blue Tilt) R27    | Blue Horizontal bars at top of screen.                 | Touch up both controls for best convergence of horizontal bars along vertical center line (Fig. C). |
| 7.   | Blue Horizontal Lines, Bottom (Blue Amp) R26       | Blue Horizontal bars at bottom of screen.              |   |
| 8.   |  |  | Perform Center Dot Static Convergence (Fig. A).   |
| 9.   | Blue Horizontal Lines, L52 Right (Blue Master Amp) | Blue Horizontal bars at right side of screen.          | Touch up both controls for best convergence along horizontal center line (Fig. D).                  |
| 10.  | Blue Horizontal Lines, Left (Horiz Blue Tilt) L53  | Blue Horizontal bars at left side of screen.           |   |
| 11.  | R-G Vertical Lines, Right (R-G Master) L50         | Red and Green Vertical bars at right side of screen.   | (Fig. E)  |
| 12.  | R-G Horizontal Lines, Right (R-G Diff. Amp) L51    | Red and Green Horizontal bars at right side of screen. | Use control to converge blue bar with red and green bars on right side of screen (Fig. E).          |
| 13.  | R-G Vertical Lines, Left (R-G Master Tilt) R28     | Red and Green Vertical bars at left side of screen.    | (Fig. E)  |
| 14.  | R-G Horizontal Lines, Left (R-G Diff. Tilt) R23    | Red and Green Horizontal bars at left side of screen.  | Use control to converge blue bar with red and green bars at left side of screen (Fig. E).           |

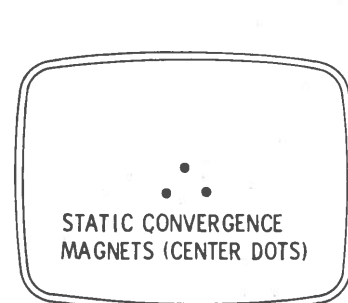


FIG. A

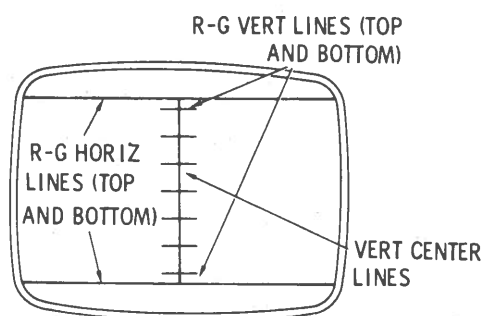


FIG. B  
(RED AND GREEN ONLY)

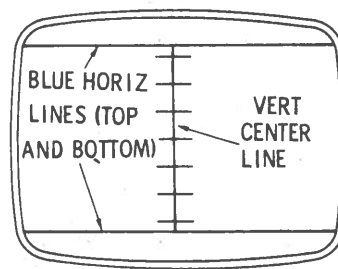


FIG. C  
(BLUE BARS)

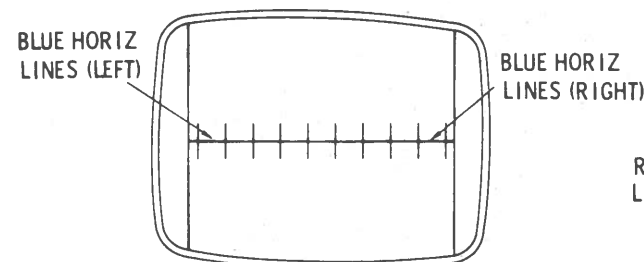


FIG. D  
(BLUE BARS)

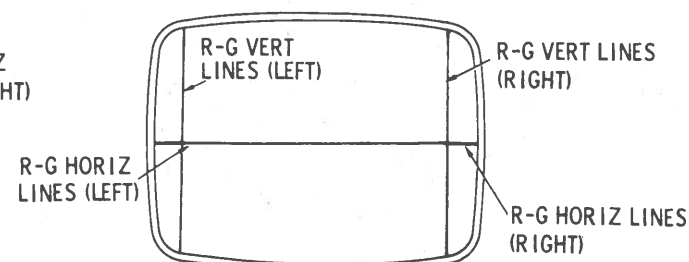
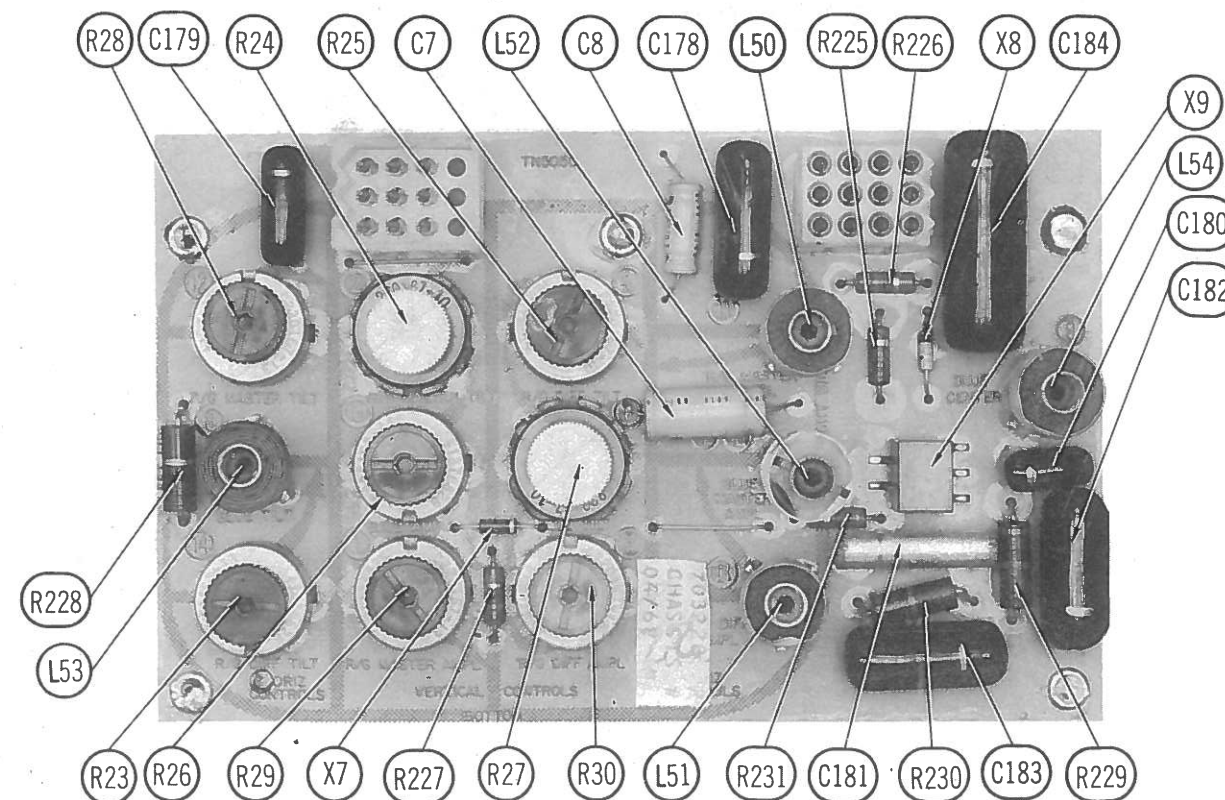
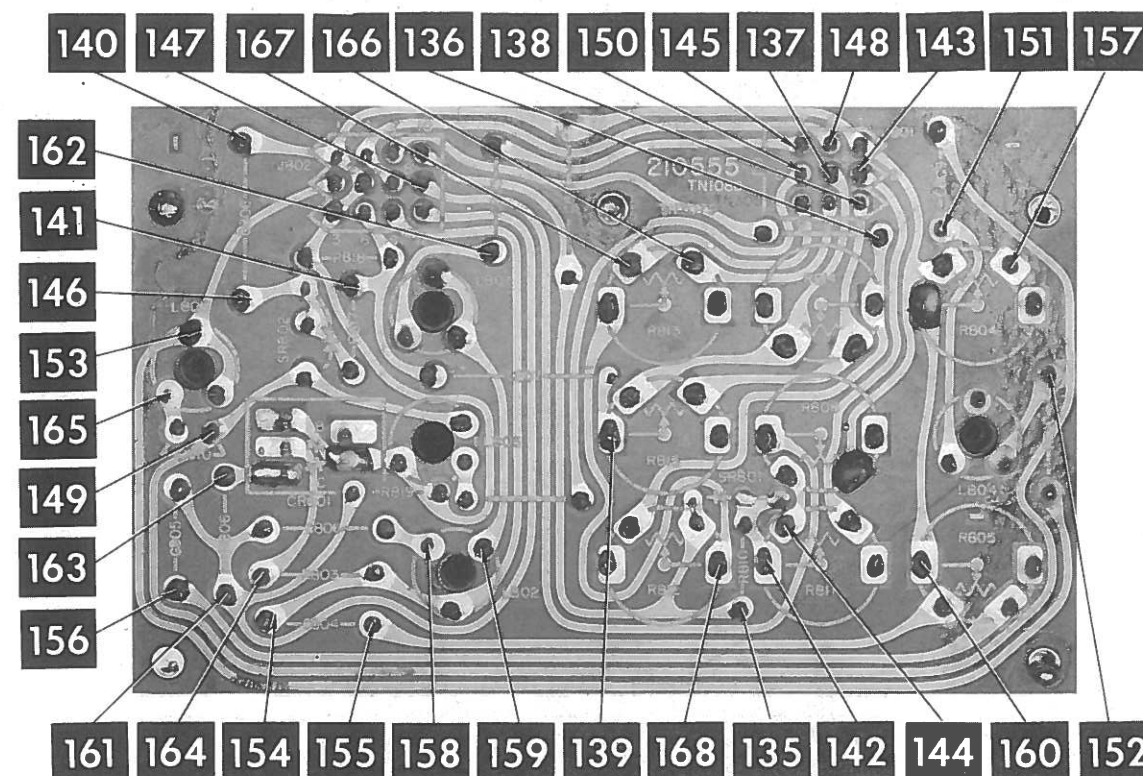


FIG. E



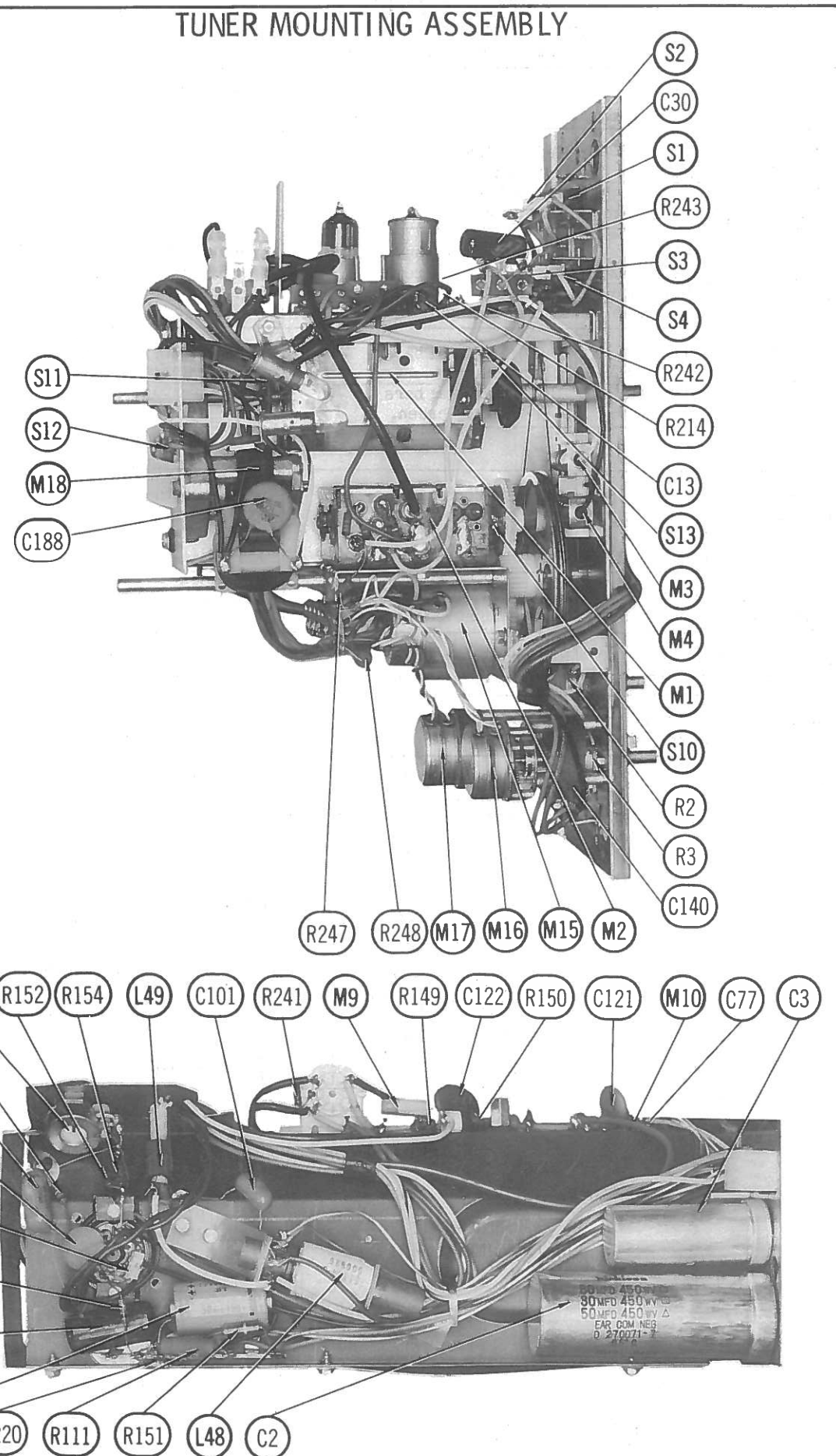
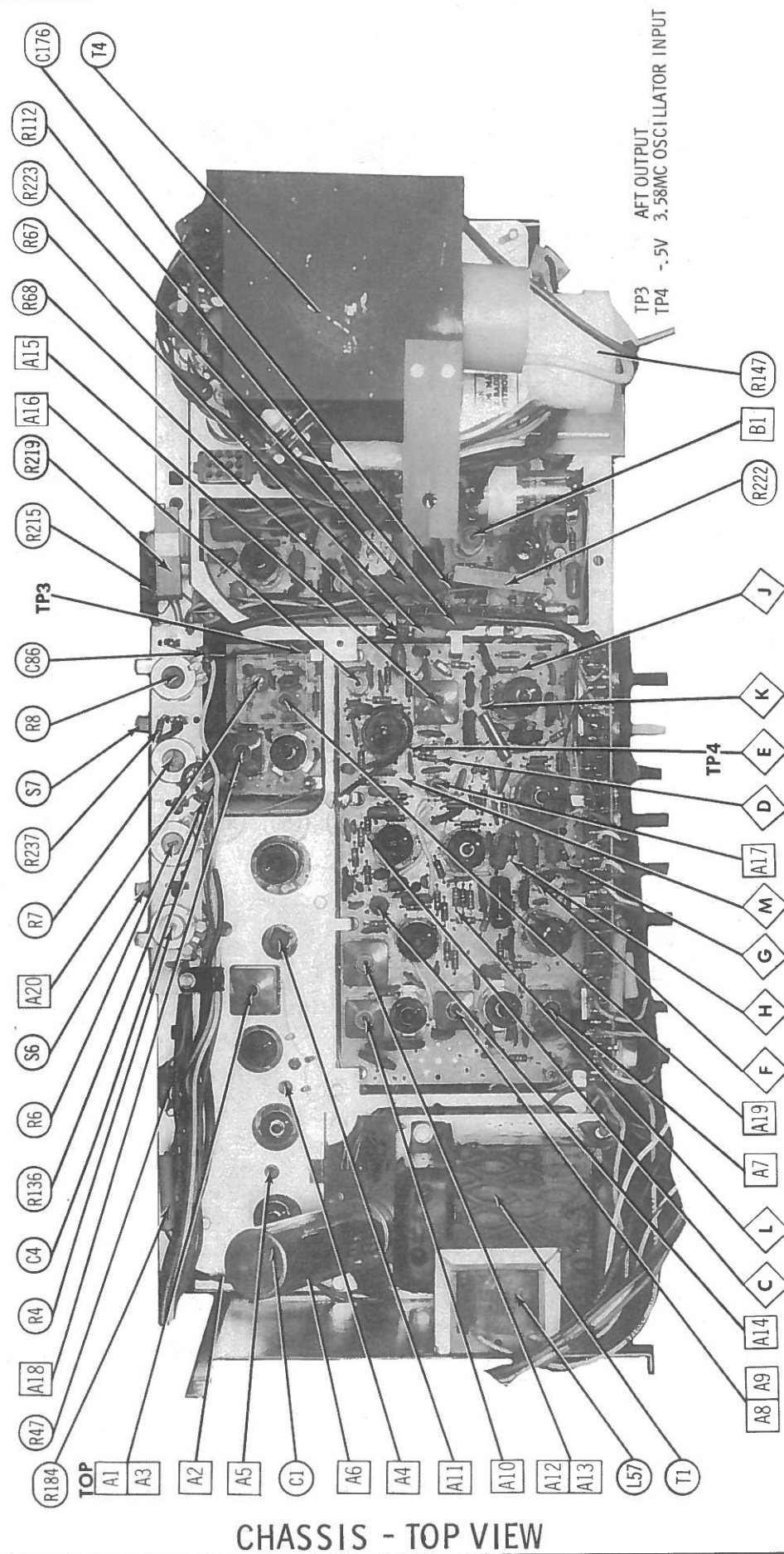
## CONVERGENCE BOARD

A Howard W. Sams CIRCUITRACE® Photo

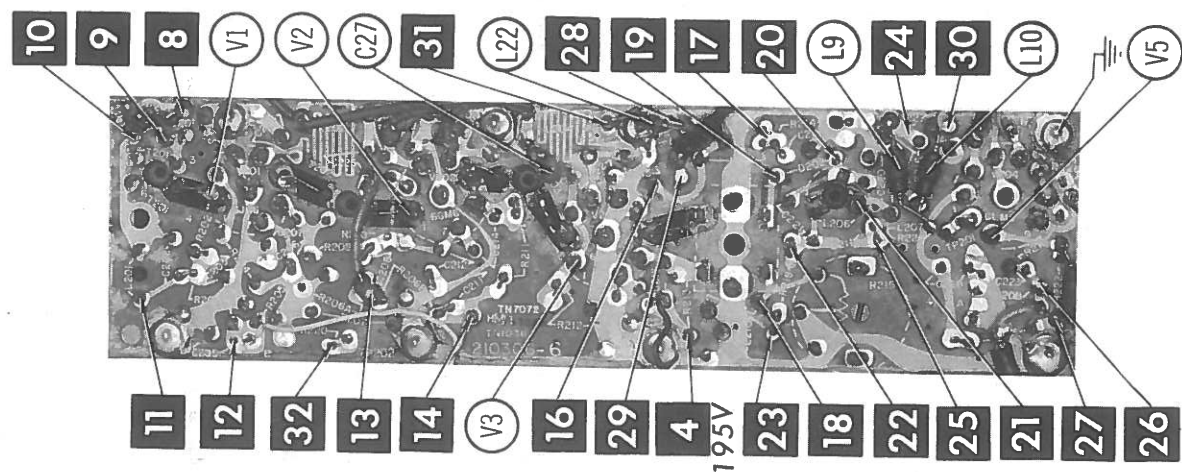
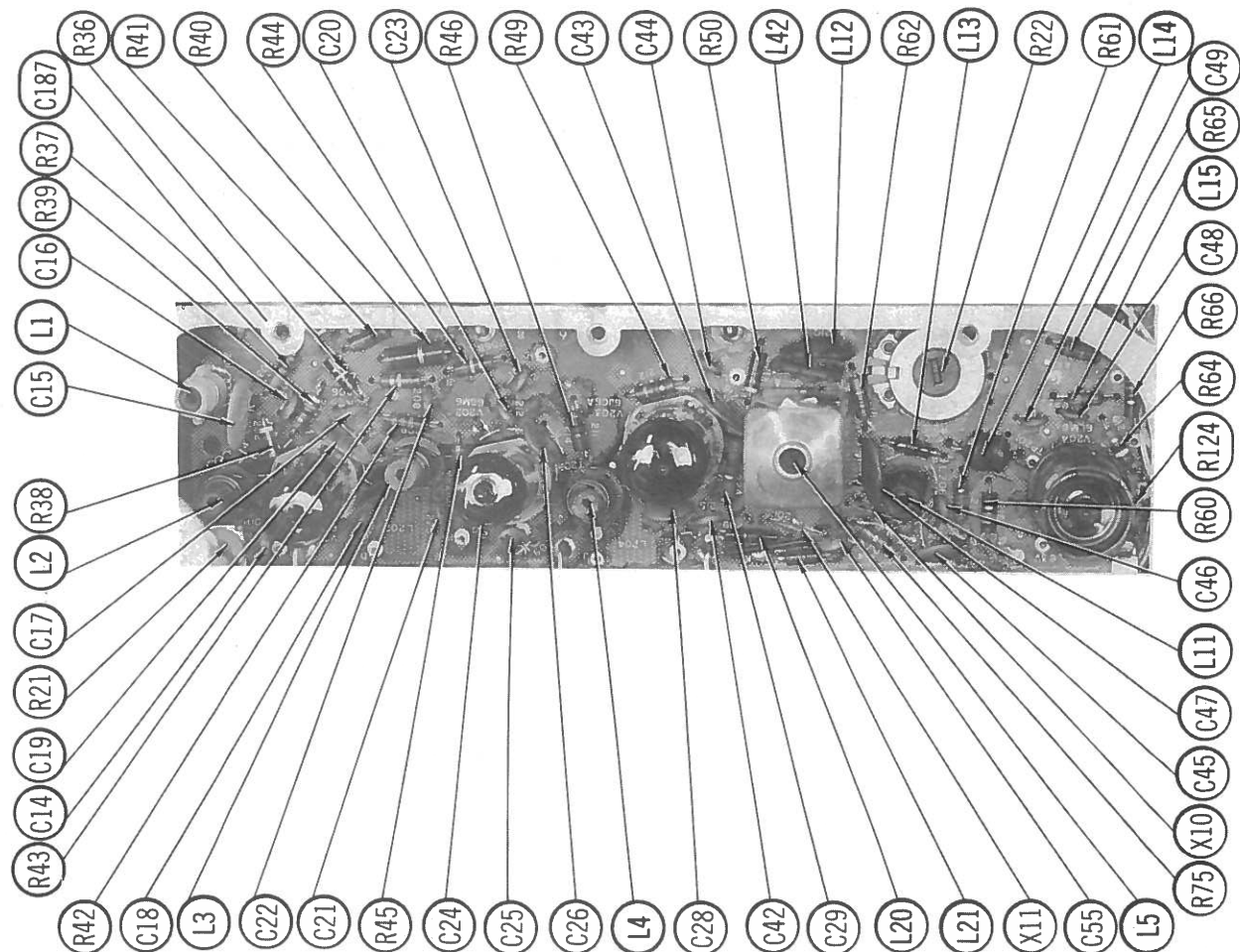
MAGNAVOX CHASSIS T933-01  
thru T933-18 Series, T933-20-AA

FOLDER 1





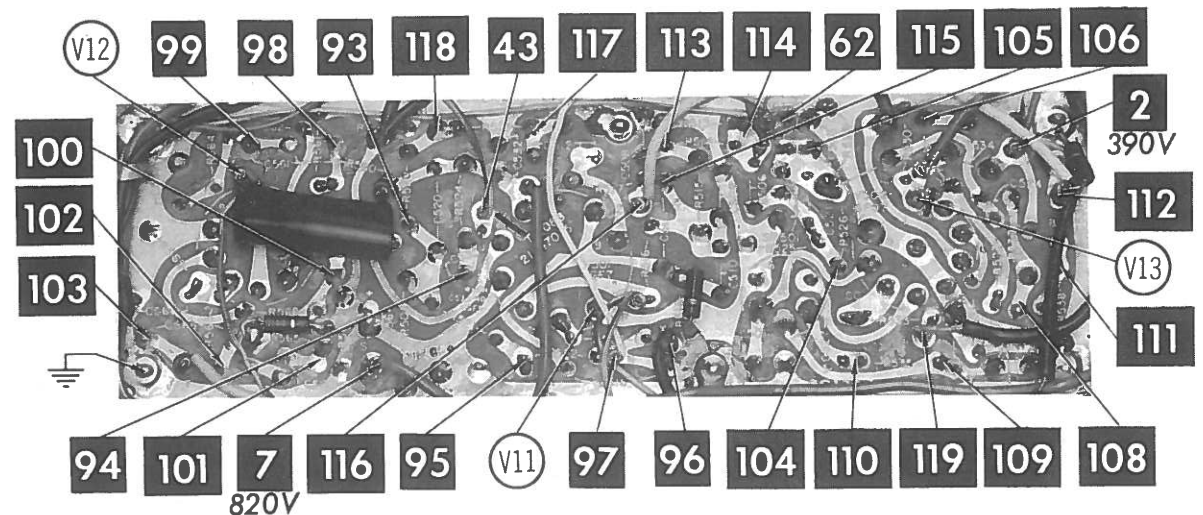
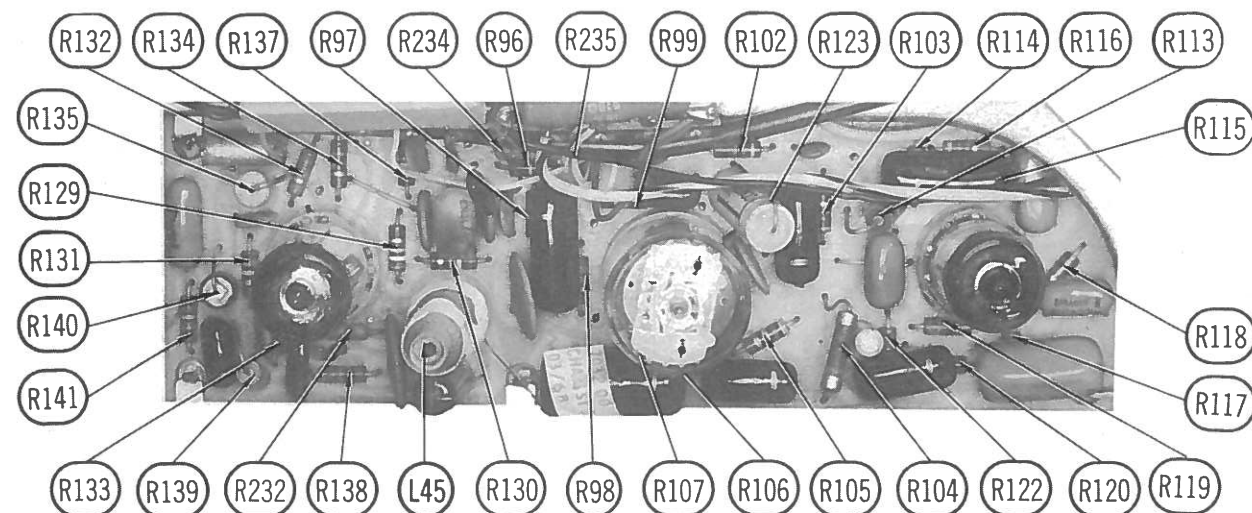
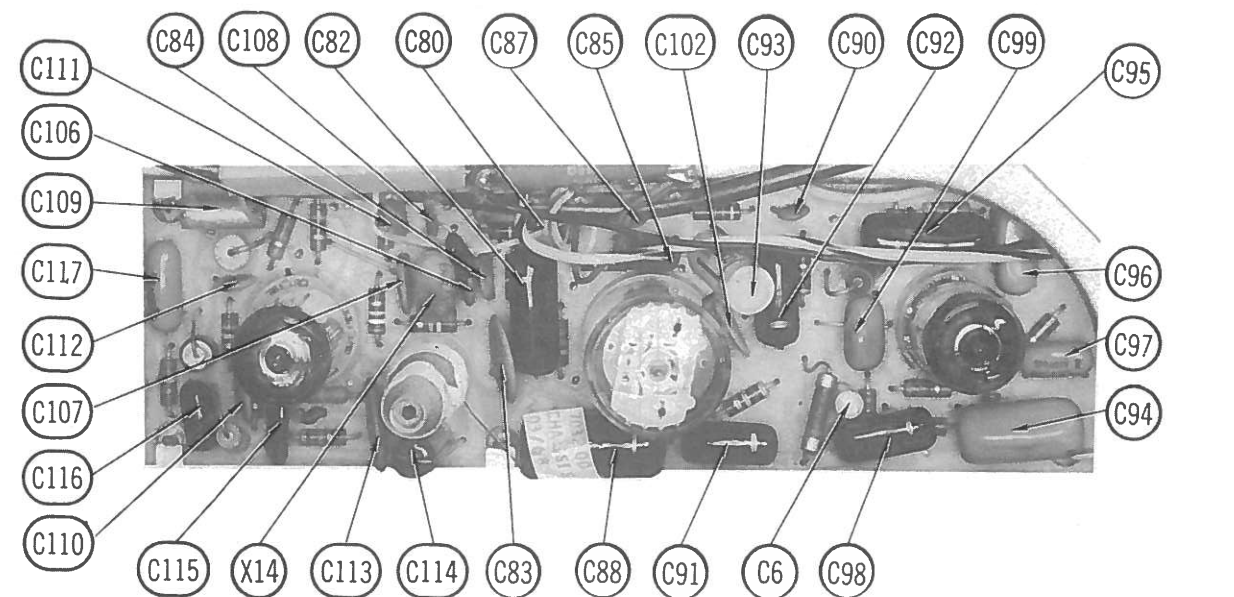




ARROWS INDICATING TUBE LOCATIONS ARE POINTING TO PIN 1 UNLESS OTHERWISE INDICATED

## VIDEO IF BOARD

A Howard W. Sams CIRCUITRACE® Photo



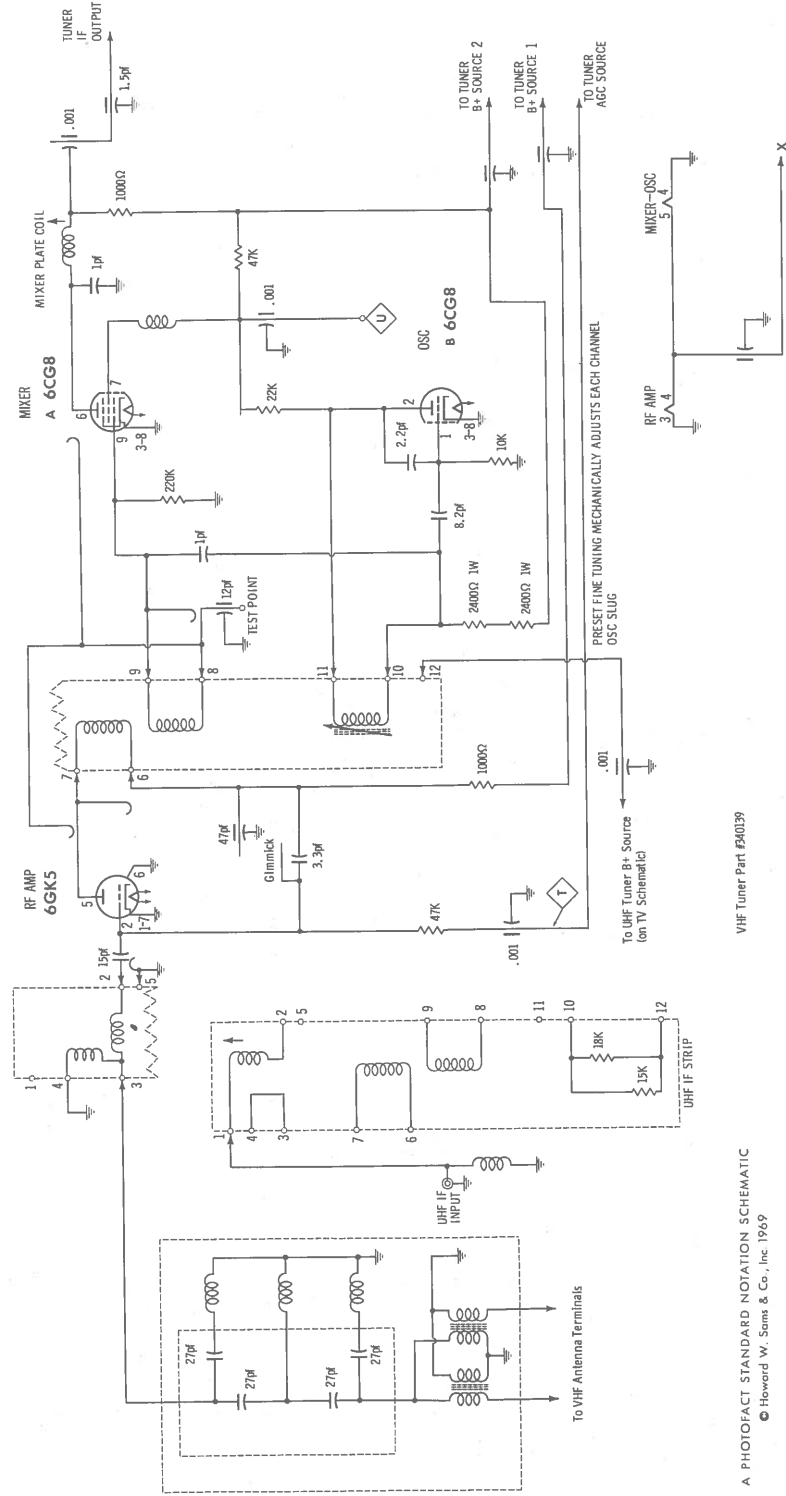
ARROWS INDICATING TUBE LOCATIONS ARE POINTING TO PIN 1 UNLESS OTHERWISE INDICATED

## DEFLECTION BOARD

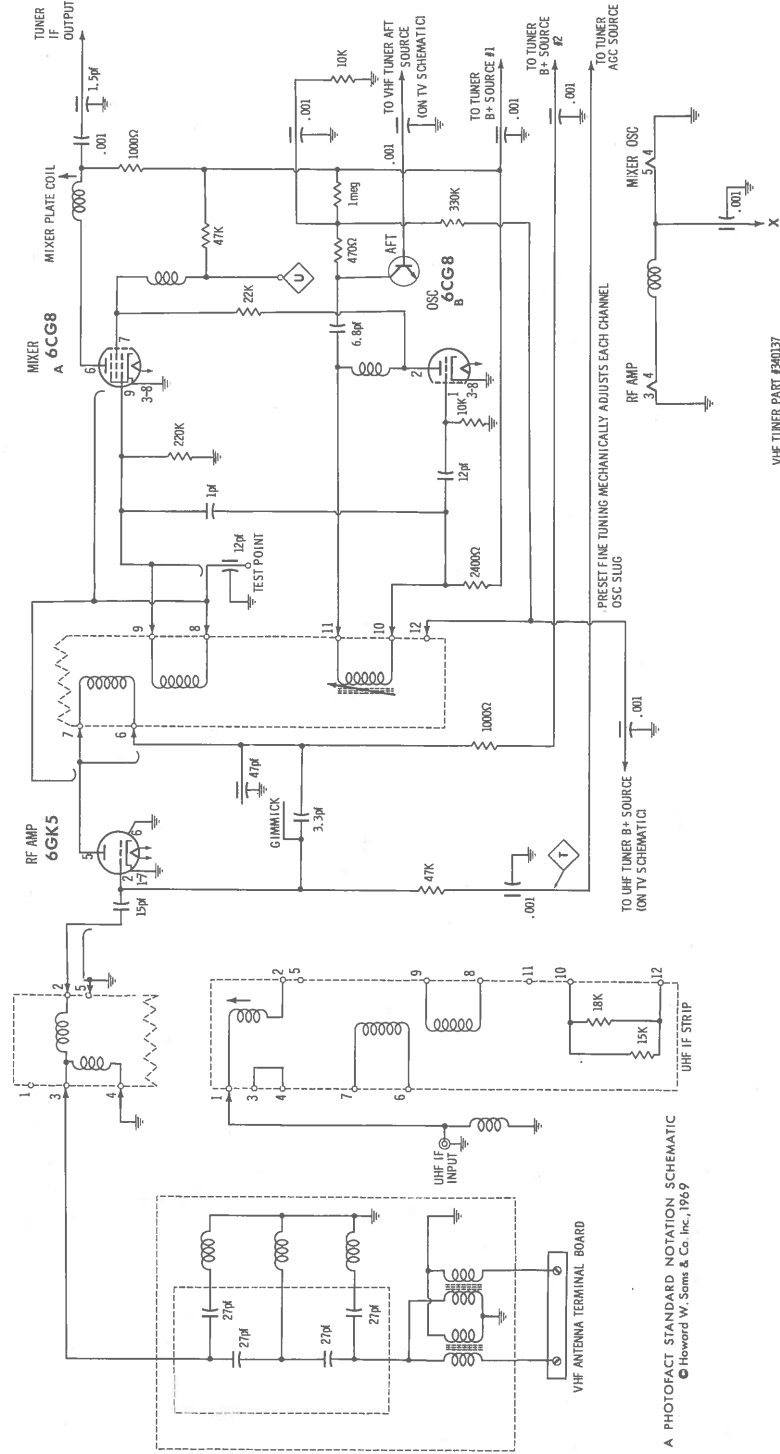
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MAGNAVOX CHASSIS T933-01  
thru T933-18 Series, T933-20-AA

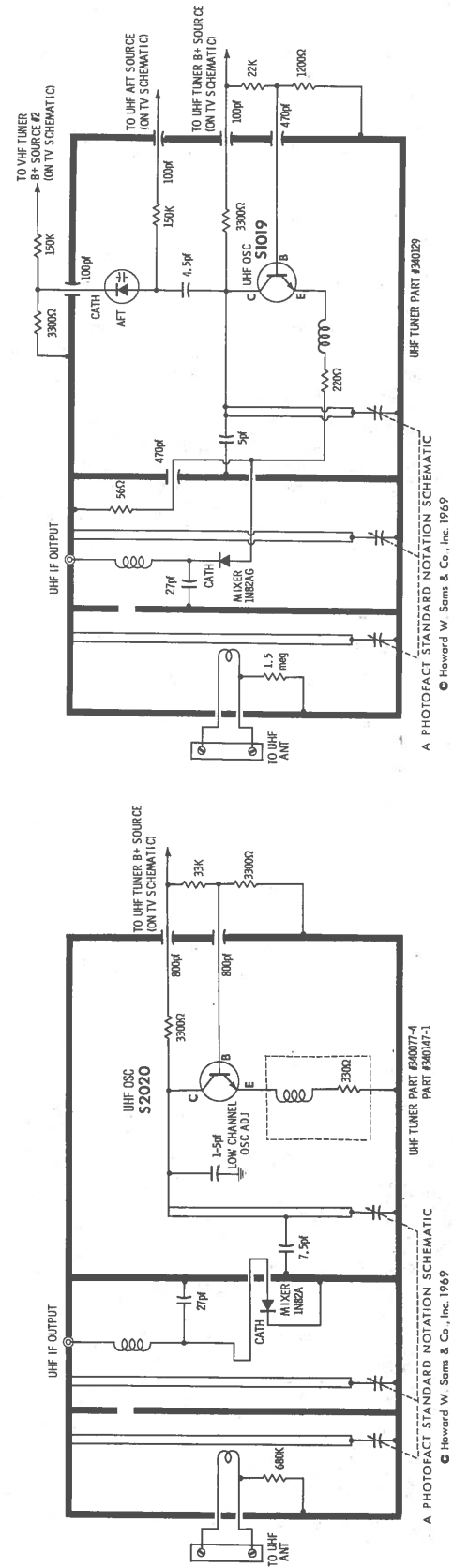
FOLDER 1



VHF TUNER 340139-1



VHF TUNER 340137-1, -2

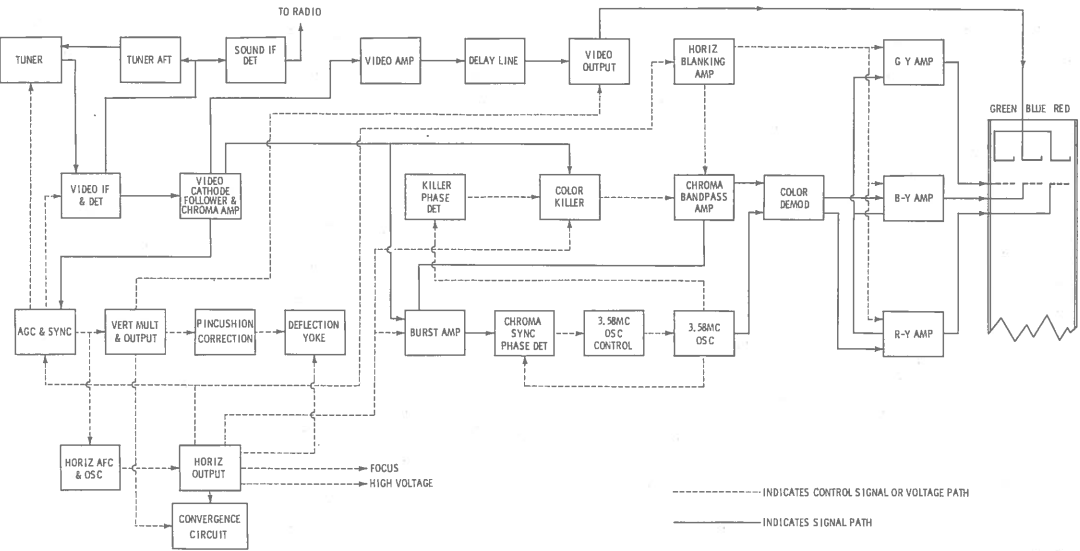


**FOLDER 1**

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 | TOP CAP  |
|------|---------------|---------|----------|--|--------|---------|---------|---------|----------|------------------|--------|---------------|--------|----------|
| V1   | 6JH6          | 140K *  | 1550Ω    | FIL                                    | FIL    | 225Ω ▲  | 225Ω ▲  | 1500Ω   |          |                  |        |               |        |          |
| V2   | 6GM6          | 82K     | INFINITE | FIL                                    | FIL    | 3400Ω † | 3400Ω † | 75Ω ▲   |          |                  |        |               |        |          |
| V3   | 6JC6A         | 180Ω    | 0Ω       | 180Ω                                   | FIL    | FIL     | 0Ω      | 2200Ω † | 2200Ω †  | 0Ω               |        |               |        |          |
| V4   | 6BA6          | 0Ω      | 0Ω       | FIL                                    | FIL    | 5100Ω † | 5100Ω † | 120Ω    |          |                  |        |               |        |          |
| V5   | 6LM8          | 7000Ω † | 1300Ω *  | 5000Ω †                                | FIL    | FIL     | 11K †   | 42Ω     | 42Ω      | 150Ω             |        |               |        |          |
| V6   | 12GN7A        | 290Ω    | 400K     | 0Ω                                     | FIL    | FIL     | FIL     | 5400Ω † | 2400Ω †  | 0Ω               |        |               |        |          |
| V7   | 6GH8A         | 50K †   | 7000Ω †  | 17Ω †                                  | FIL    | FIL     | 700K    | 22K     | 0Ω       | 4.7 meg          |        |               |        |          |
| V8   | 6AU6A         | 12Ω     | 0Ω       | FIL                                    | FIL    | 17K †   | 17K †   | 270Ω    |          |                  |        |               |        |          |
| V9   | 6DT6A         | 4.4Ω    | 680Ω     | FIL                                    | FIL    | 1meg †  | 10K †   | 470K    |          |                  |        |               |        |          |
| V11  | 6GF7          | 0Ω      | 3meg     | 2400Ω                                  | FIL    | FIL     | 1420Ω † | NC      | 4.5meg † | 480K             |        |               |        |          |
| V12  | 12AX7         | 160Ω †  | 270K     | 2200Ω                                  | FIL    | FIL     | 160Ω †  | 1meg    | 2600Ω    | FIL              |        |               |        |          |
| V13  | 6FQ7/<br>6CG7 | 23K     | 750K     | 1000Ω                                  | FIL    | FIL     | 65K †   | 230K    | 51Ω      | 0Ω               |        |               |        |          |
| V14  | 6JE6A         | 15K †   | 2.5meg   | 0Ω                                     | FIL    | FIL     | 2.5meg* | 15K †   | 1500Ω    | NC               |        |               |        | 5.1Ω †   |
| V15  | 6DW4B         | NC      | 30Ω †    | NC                                     | FIL    | FIL     | NC      | 30Ω †   | NC       | 1meg             |        |               |        |          |
| V16  | 3CU3          |         |          | PINS 1 THRU 8 HAVE INFINITE RESISTANCE |        |         |         |         |          |                  |        |               |        | 740Ω †   |
| V17  | 1V2           | NC      | NC       | NC                                     | 68meg  | 68meg   | TP      | NC      | NC       | 5.1Ω †           |        |               |        |          |
| V18  | 6BK4B         | 1000Ω † | FIL      | NC                                     | NC     | 900K    | NC      | FIL     | NC       |                  |        |               |        | INFINITE |
| V19  | 6GH8A         | 19K †   | 1.5meg   | 52K †                                  | FIL    | FIL     | 2500Ω † | 400Ω    | 400Ω     | 220K             |        |               |        |          |
| V20  | 6MK8          | 0Ω      | 11K †    | 8500Ω †                                | FIL    | FIL     | .8Ω     | 370Ω    | 8600Ω †  | 2.7Ω             |        |               |        |          |
| V21  | 6MD8          | 26K †   | 25K †    | 28K †                                  | FIL    | FIL     | 1meg    | 270Ω    | 1meg     | 1meg             |        |               |        |          |
| V22  | 6KE8          | 1.6meg  | 34K      | 2100Ω                                  | FIL    | FIL     | 2100Ω   | 30K     | 0Ω       | 2.5meg*          |        |               |        |          |
| V23  | 6GH8A         | 20K †   | 47K      | 53K †                                  | FIL    | FIL     | 9000Ω † | 0Ω      | 680Ω     | 3meg*            |        |               |        |          |
| V24  | 25XP22        | FIL     | 3600Ω †  | 120K †                                 | 500K † | 850K †  | 4000Ω † | 110K †  | NC       | 66meg            | NC     | 4000Ω †       | 110K † |          |
|      |               |         |          |  |        |         |         |         |          | PIN 13<br>650K † |        | PIN 14<br>FIL |        |          |
| V201 | 6HQ5          | 3.8meg  | 0Ω       | FIL                                    | FIL    | 11K †   | 0Ω      | 0Ω      |          |                  |        |               |        |          |
| V202 | 6HB7          | 0Ω      | 220K     | 0Ω                                     | FIL    | FIL     | 3700Ω † | 27K †   | 7500Ω †  | 10K              |        |               |        |          |
| 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 | TOP CAP  |

\* READING DEPENDS ON POLARITY OF METER CONNECTIONS.  
† MEASURED FROM CATHODES OF X1 AND X2.  
▲ MEASURED FROM PIN 2 OF V2.  
‡ MEASURED FROM PIN 9 OF V15.  
NC NO CONNECTION  
TP TIE POINT



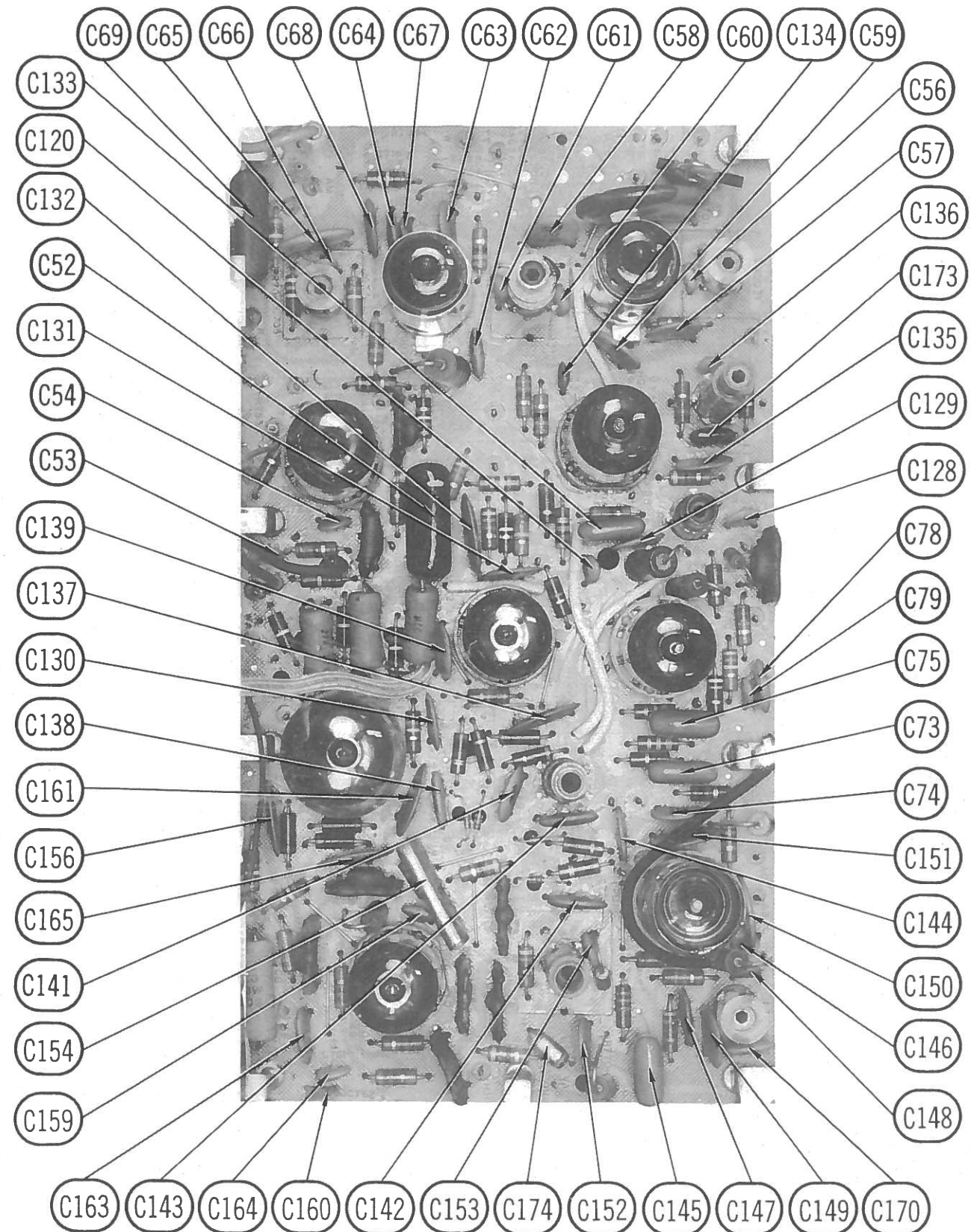
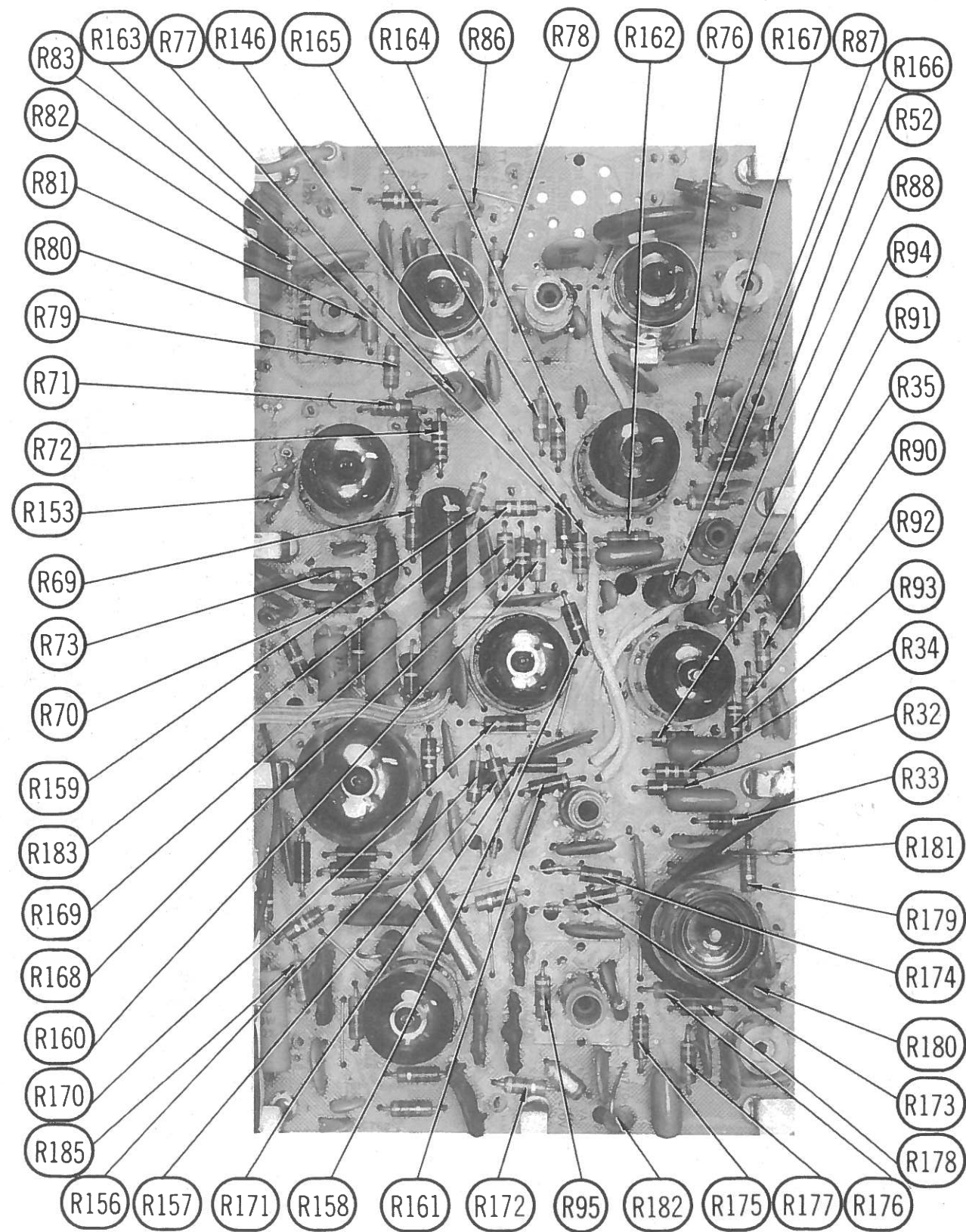
134  
132  
131  
130  
129  
133  
175  
120  
178  
176  
177  
126  
173  
96  
6  
1  
390V  
97

121  
125  
124  
123  
122  
174  
127  
128

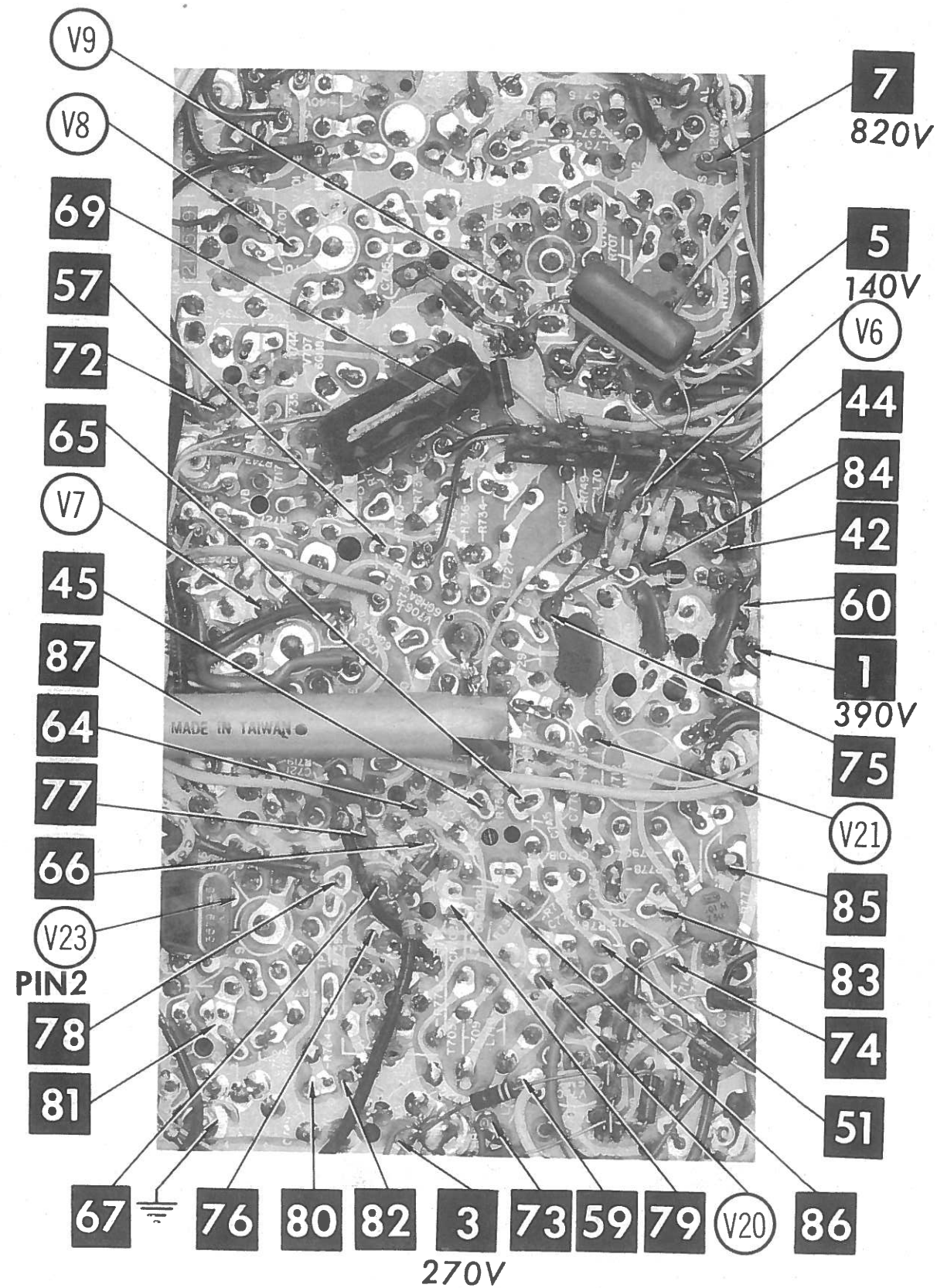
SCREEN & DRIVE CONTROL BOARD

A Howard W. Sams CIRCUITRACE® Photo



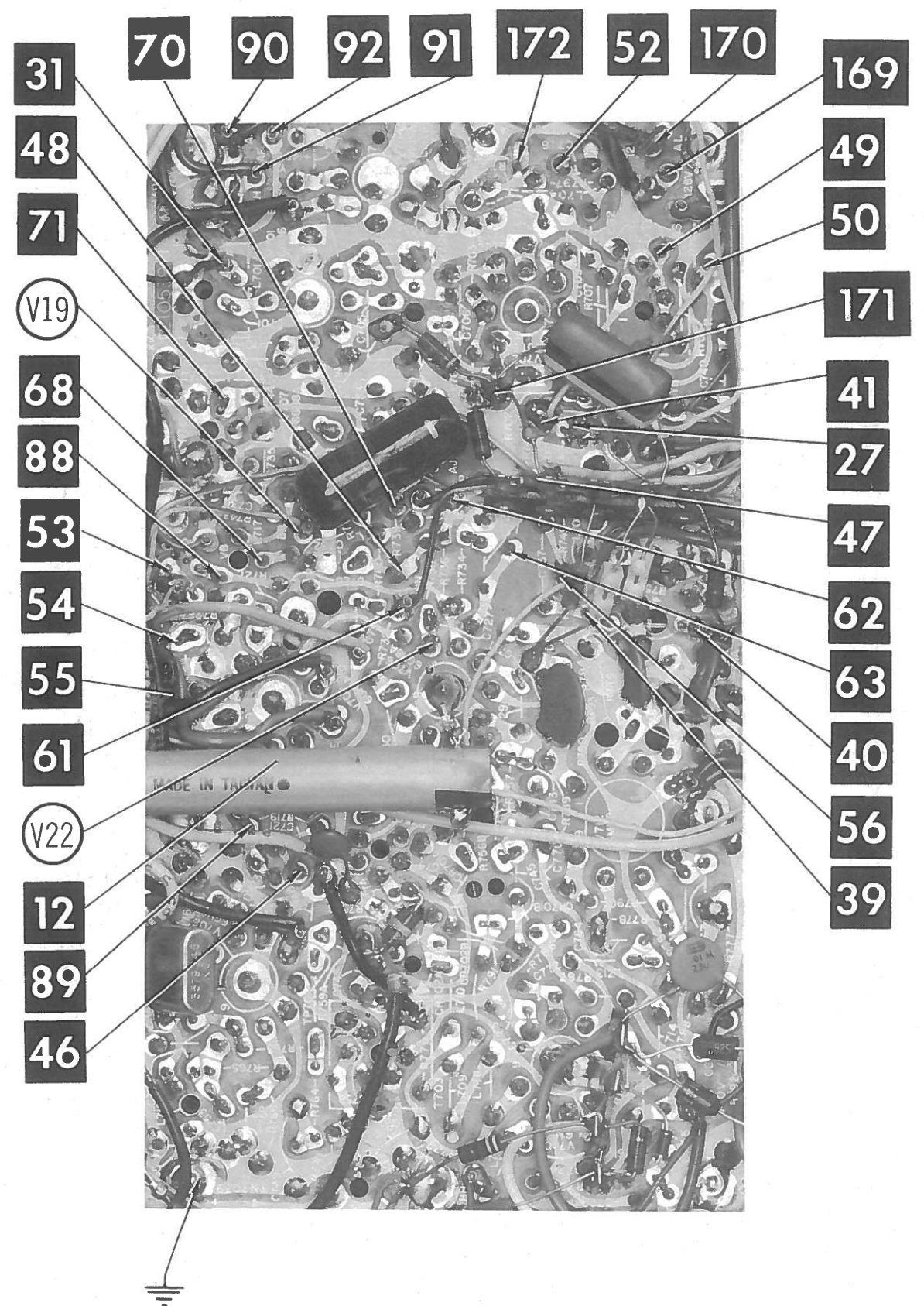


CHROMA BOARD



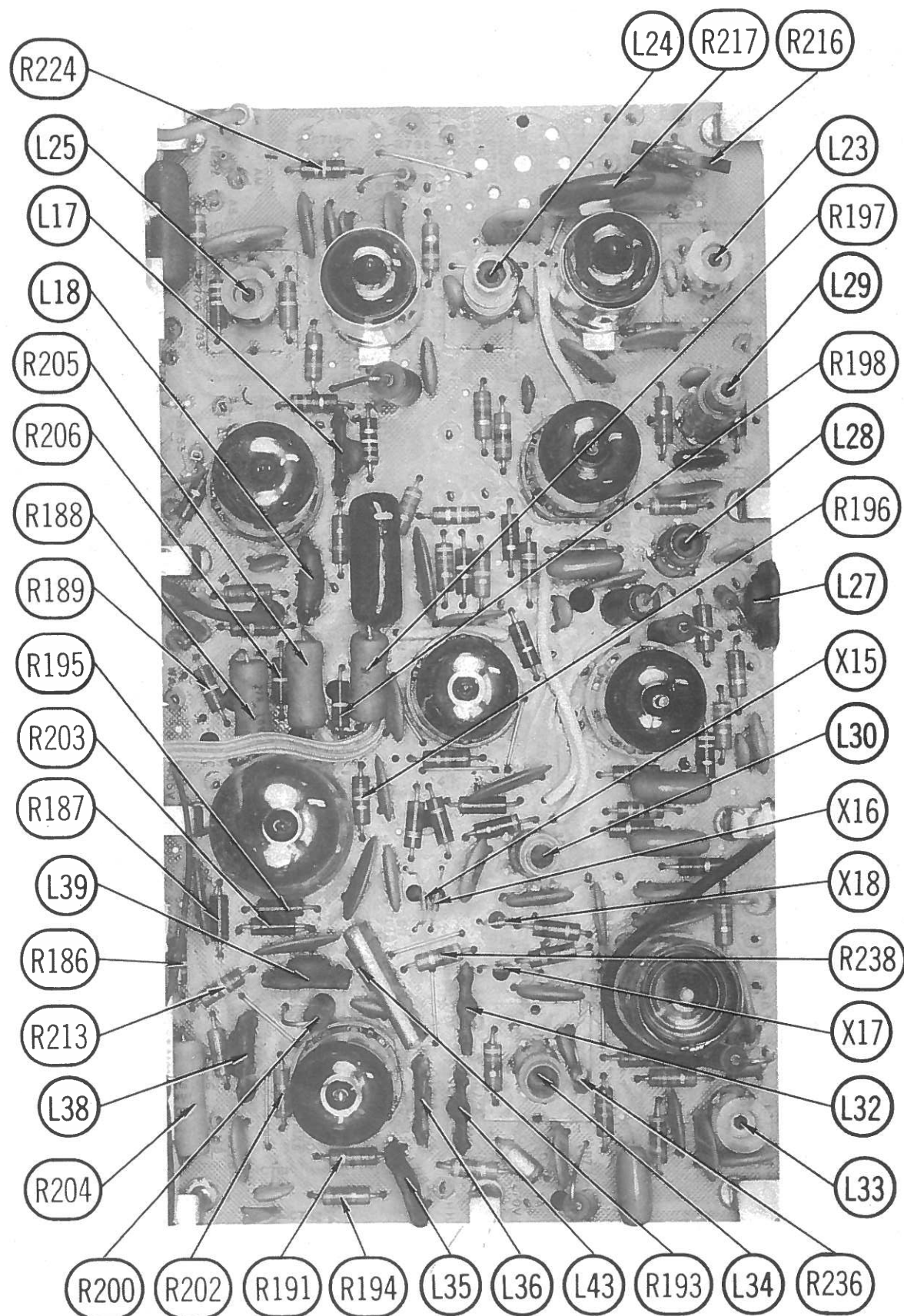
ARROWS INDICATING TUBE LOCATIONS ARE  
POINTING TO PIN 1 UNLESS OTHERWISE INDICATED

CHROMA BOARD

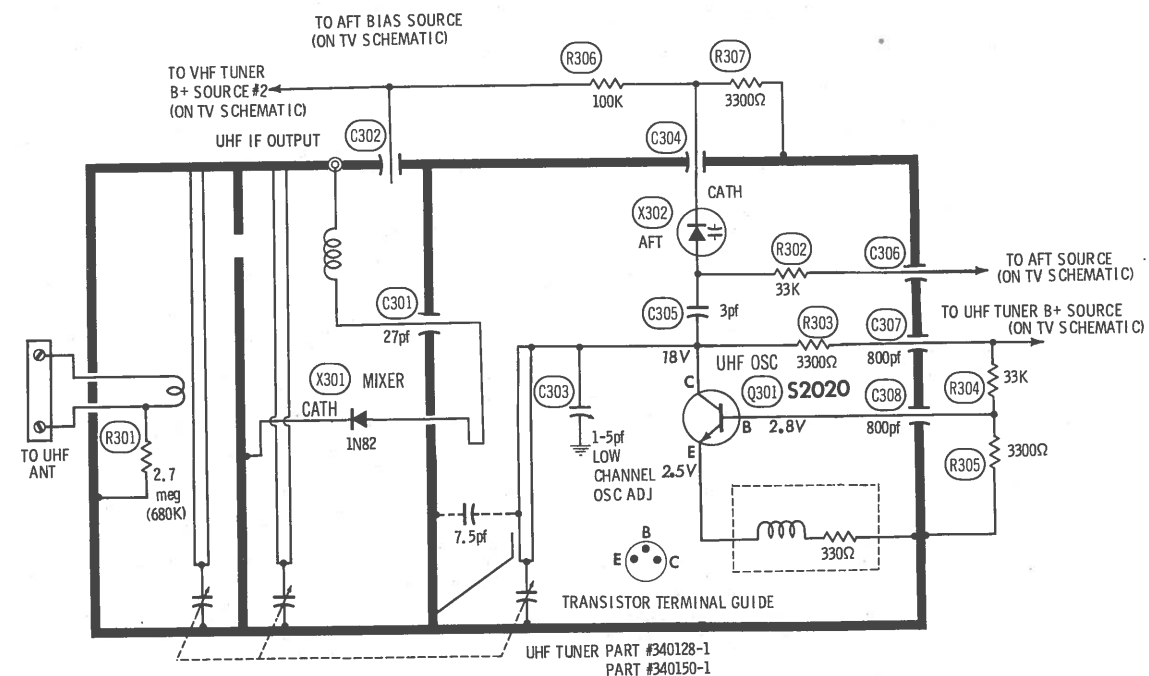


A Howard W. Sams CIRCUITRACE® Photo

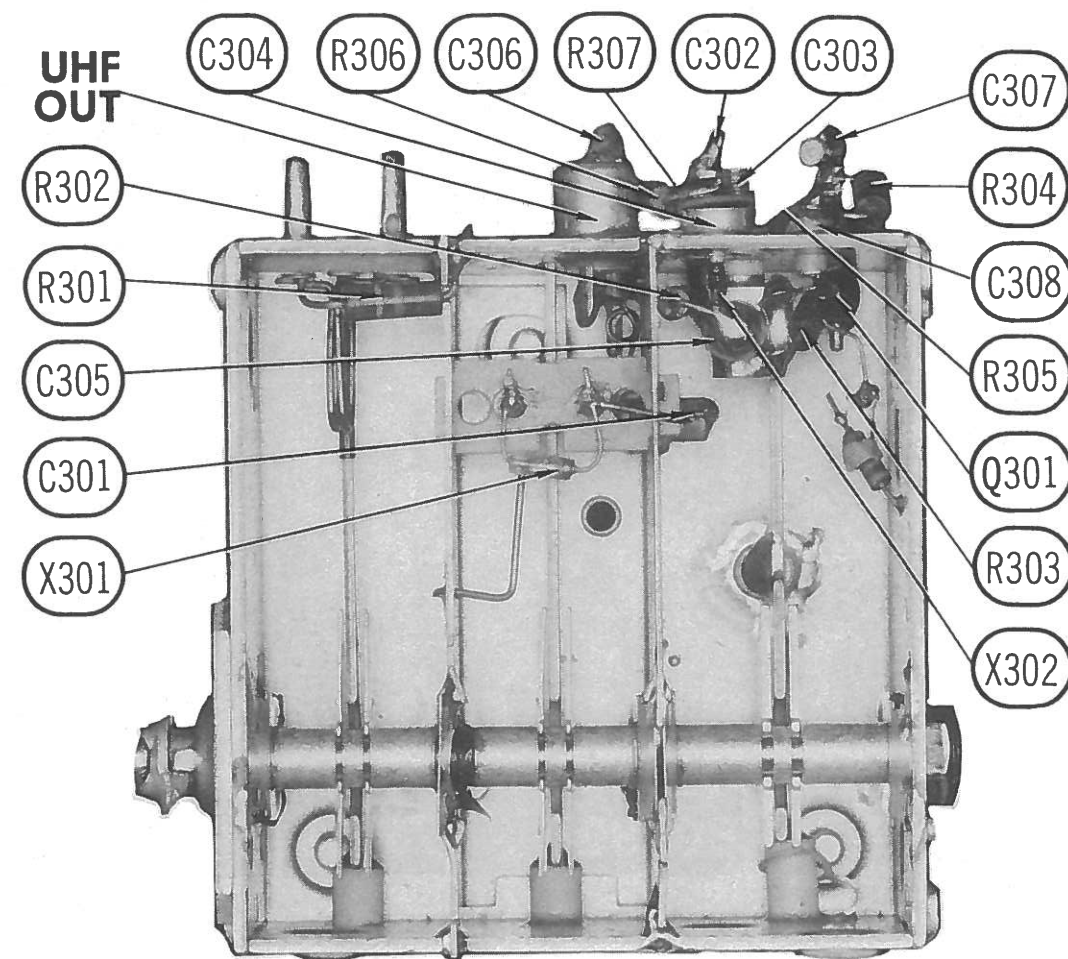




CHROMA BOARD



A PHOTOFAC STANDARD NOTATION SCHEMATIC  
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UHF TUNER 340128-1, 340150-1



VHF TUNER PARTS LIST

VHF TUNER 340126-5, -7

TUBES

| • AMPEREX • |         |  | • GENERAL ELECTRIC • |  |  | • RCA •  |                    |  | • SYLVANIA • |  |  |
|-------------|---------|--|----------------------|--|--|----------|--------------------|--|--------------|--|--|
| ITEM No.    | USE     |  | TYPE                 |  |  | ITEM No. | USE                |  | TYPE         |  |  |
| V201        | RF Amp. |  | 6HQ5                 |  |  | V202     | Mixer - Oscillator |  | 6HB7         |  |  |

TRANSISTORS

| ITEM No. | TYPE No. | FUNCTION                                 | REPLACEMENT DATA |                |                           |                                  |              |                   |
|----------|----------|--|------------------|----------------|---------------------------|----------------------------------|--------------|-------------------|
|          |          |  | MFGR. PART No.   | DELCO PART No. | GENERAL ELECTRIC PART No. | INTERNATIONAL RECTIFIER PART No. | RCA PART No. | SYLVANIA PART No. |
| Q201     |          | VHF AFT Diode (Transistor used as diode) | 530082-3         |                |                           |                                  |              |                   |

CAPACITORS

| 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. |
| C201A    | 27       |         |                  | DD-270             |                           | CCD-270          | GP427            | 10TS-Q27         |
| B        | 27       |         |                  | DD-270             |                           | CCD-270          | GP427            | 10TS-Q27         |
| C        | 27       |         |                  | DD-270             |                           | CCD-270          | GP427            | 10TS-Q27         |
| D        | 27       |         |                  | DD-270             |                           | CCD-270          | GP427            | 10TS-Q27         |
| C202     | 15       |         |                  | DD-150             |                           | CCD-150          | GP415            | 10TS-Q15         |
| C203     | 27       |         |                  | DD-270             |                           | CCD-270          | GP427            | 10TS-Q27         |
| C204     | 5-4.5    |         |                  |                    |                           |                  |                  |                  |
| C205     | 30       |         |                  |                    |                           |                  |                  |                  |
| C206     | .001     |         |                  |                    |                           |                  |                  |                  |
| C207     | 5-4.5    |         |                  |                    |                           |                  |                  |                  |
| C208     | 1.2      |         |                  |                    |                           |                  |                  |                  |
| C209     | 18       |         |                  |                    |                           |                  |                  | 10TCC-V12        |
| C210     | .75pf    |         |                  |                    |                           |                  |                  |                  |
| C211     | .5-4.5   |         |                  |                    |                           |                  |                  |                  |
| C212     | .001     |         |                  |                    |                           |                  |                  |                  |
| C213     | 6.8 NPO  |         | NPO-DI 6.8       | DTZ-6R8            | CZ601CH6R8D               | CCTO-6R8         | CNO568           | 10TCC-V68        |
| C214     |          |         |                  |                    |                           |                  |                  |                  |
| C215     | 8.2 N470 |         |                  |                    |                           | *                | *                | 10TCT-V82        |
| C216     | .001     |         |                  |                    |                           |                  |                  |                  |
| C217     | .001     |         |                  |                    |                           |                  |                  |                  |
| C218     | .001     |         |                  |                    |                           |                  |                  |                  |
| C219     | .001     |         |                  |                    |                           |                  |                  |                  |
| C220     | .001     |         |                  |                    |                           |                  |                  |                  |
| C221     | .001     |         |                  |                    |                           |                  |                  |                  |
| C222     | 3        |         | NPO-DI 3.0       | DTZ-3R3            |                           | CCTO-3R3         | CNO533           | 10TCC-V30        |
| C223     | .001     |         | GPD X5 F102K     | DD-102             | JBS601YP102K              | CCD-102          | GP210            | 10TS-D10         |

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

UHF TUNER PARTS LIST

UHF TUNER 340150-1, 128-1

TRANSISTORS

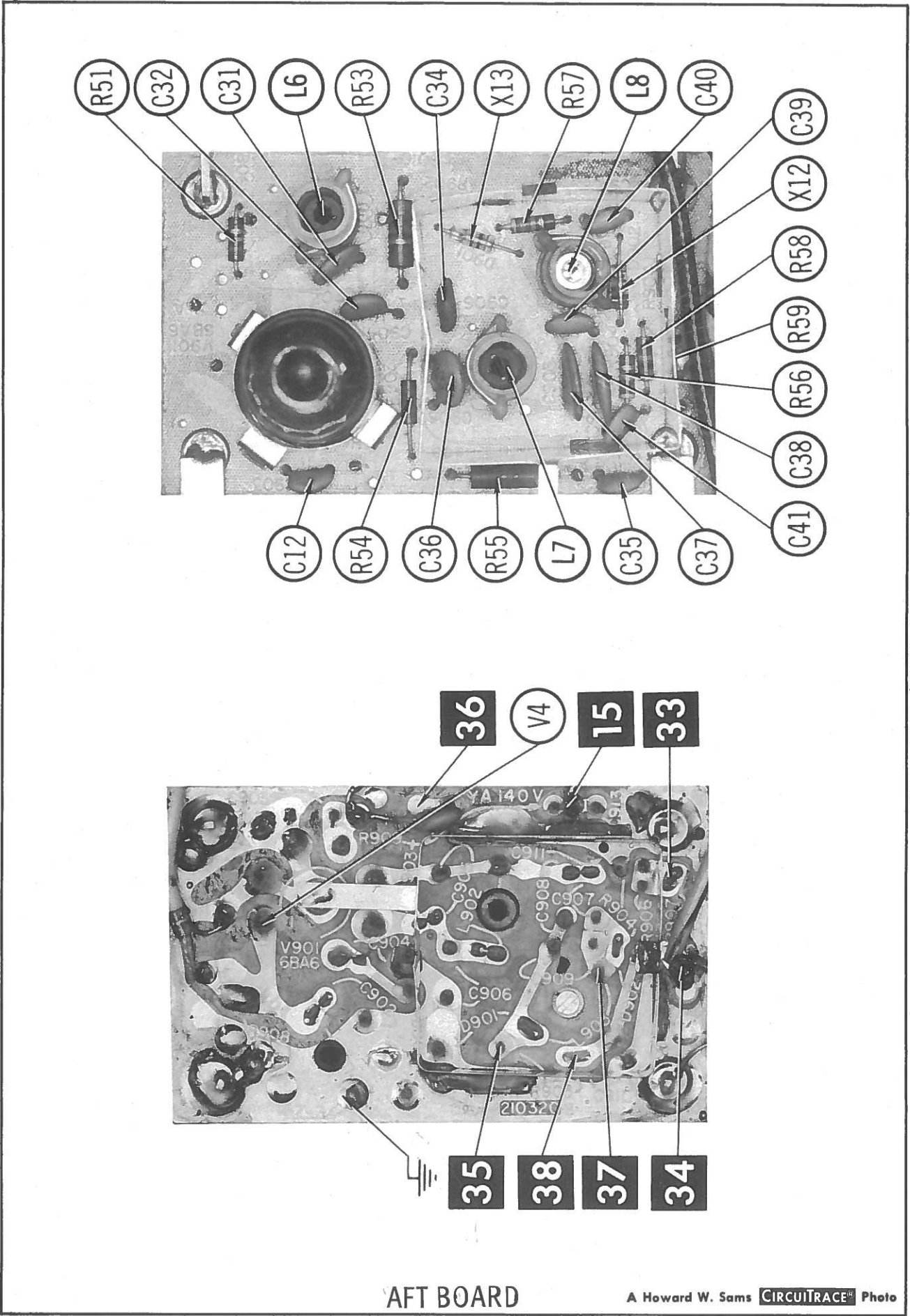
| ITEM No. | TYPE No. | FUNCTION       | REPLACEMENT DATA |                |                           |                                  |              |                   |
|----------|----------|----------------|------------------|----------------|---------------------------|----------------------------------|--------------|-------------------|
|          |          |                | MFGR. PART No.   | DELCO PART No. | GENERAL ELECTRIC PART No. | INTERNATIONAL RECTIFIER PART No. | RCA PART No. | SYLVANIA PART No. |
| Q301     | S2020    | UHF Oscillator | 610107-1         |                | GE-11                     | TR-24                            | SK-3019      | ECG 108           |

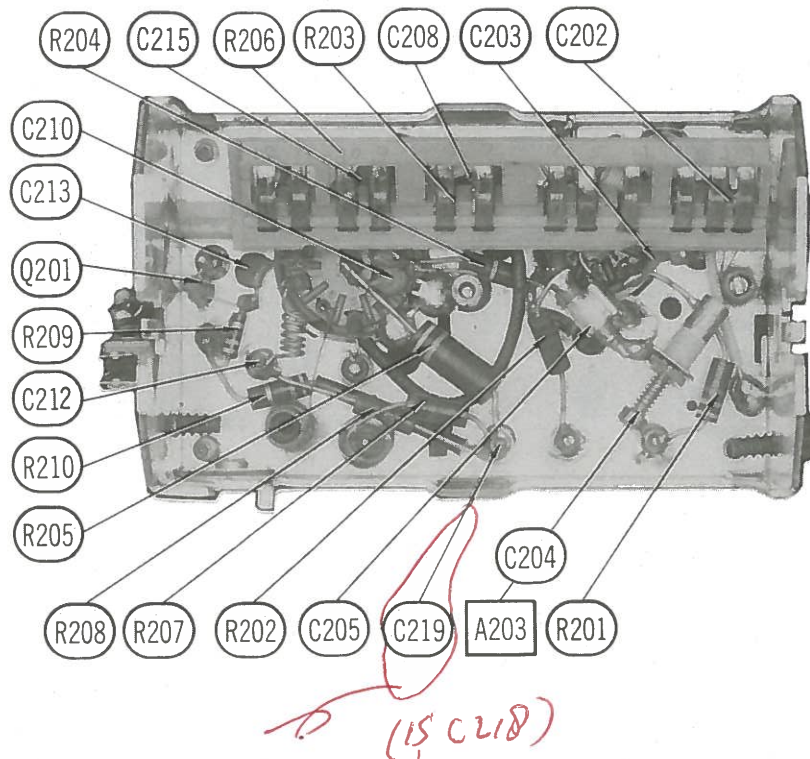
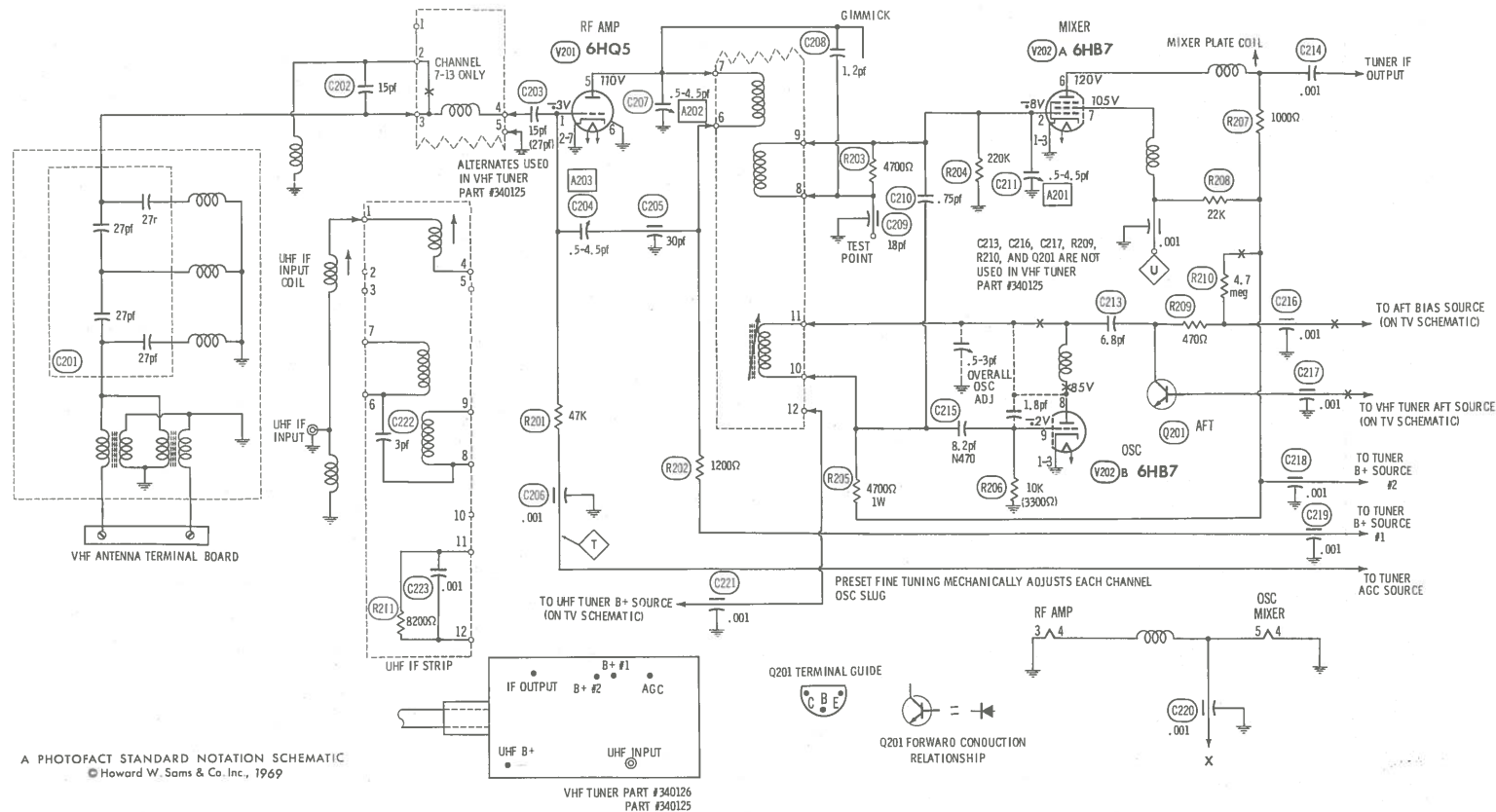
POWER RECTIFIERS & SIGNAL DIODES

| ITEM No. | MFGR. PART OR TYPE No. | REPLACEMENT RECTIFIERS & DIODES |                                  |                   | REPLACEMENT RECTIFIERS |                         | NOTES |
|----------|------------------------|---------------------------------|----------------------------------|-------------------|------------------------|-------------------------|-------|
|          |                        | GENERAL ELECTRIC PART No.       | INTERNATIONAL RECTIFIER PART No. | SYLVANIA PART No. | RCA PART No.           | SARKES TARZIAN PART No. |       |
| X301     | 1N82A                  | 1N82A                           | 1N82AG                           | ECG 112           |                        |                         |       |
| X302     | Varicap                |                                 |                                  |                   |                        |                         |       |

CAPACITORS

| 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. |
| C301     |        |         |                  |                    |                           |                  |                  |                  |
| C302     | 1.5    |         |                  |                    |                           |                  |                  |                  |
| C303     |        |         |                  |                    |                           |                  |                  |                  |
| C304     | 3      |         | NPO-DI 3.0       | DTZ-3R3            |                           | CCTO-3R3         | CNO533           | 10TCC-V30        |
| C305     |        |         |                  |                    |                           |                  |                  |                  |
| C306     | 800    |         |                  |                    |                           |                  |                  |                  |
| C307     | 800    |         |                  |                    |                           |                  |                  |                  |
| C308     |        |         |                  |                    |                           |                  |                  |                  |





VHF TUNER 340126-7, -5 340125-2

## VHF TUNER ALIGNMENT INSTRUCTIONS

**Suggested Alignment Tools:**  
A201, A202, A203, UHF Input Coil .. GENERAL CEMENT #8868, 8987, 9089 .. WALSCO #2531X, 2541, 2587

### OSCILLATOR ADJUSTMENTS

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

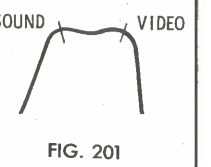
### RF AND MIXER ALIGNMENT

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 a variable bias to the RF AGC line at point U. 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 120Ω in each lead. | 213MC                     | 211.25MC<br>215.75MC       | 13        | Vert. Input to Point U, low side to ground  | A201, A202 | Adjust for maximum gain and symmetry of response similar to Fig. 201 with markers as shown.                      |
| 2. "  | 195MC                     | 193.25MC<br>197.75MC       | 10        | Across Video Det. load resistor.            | A203       | Increase bias to -15 volts and adjust for MINIMUM amplitude of response.   |
| 3. "  | See Chart                 | See Chart                  | 12 thru 2 | Vert. Input to Point U, low side to ground. |            | Decrease bias. Check response on all available channels. Make compromise adjustment of A201 & A202 if necessary. |

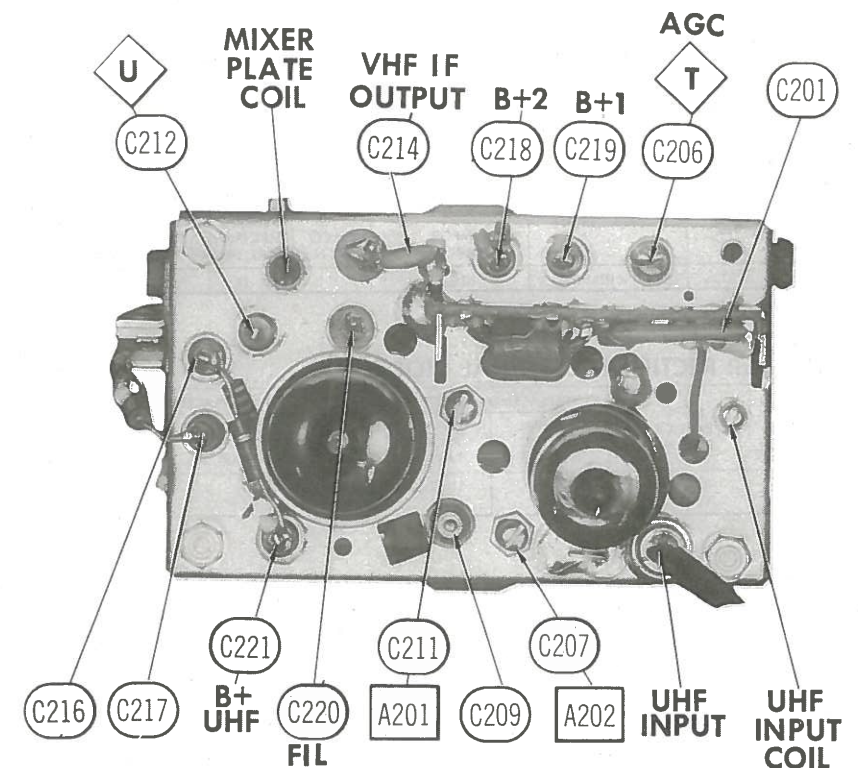
## CHANNEL & FREQUENCY CHART

| SWEEP GENERATOR FREQUENCY | MARKER GENERATOR FREQUENCY | CHANNEL | SWEEP GENERATOR FREQUENCY | MARKER GENERATOR FREQUENCY | CHANNEL | SWEEP GENERATOR FREQUENCY | MARKER GENERATOR FREQUENCY | CHANNEL |
|---------------------------|----------------------------|---------|---------------------------|----------------------------|---------|---------------------------|----------------------------|---------|
| 57MC                      | 55.25MC<br>59.75MC         | 2       | 85MC                      | 83.25MC<br>87.75MC         | 6       | 195MC                     | 193.25MC<br>197.75MC       | 10      |
| 63MC                      | 61.25MC<br>65.75MC         | 3       | 177MC                     | 175.25MC<br>179.75MC       | 7       | 201MC                     | 199.25MC<br>203.75MC       | 11      |
| 69MC                      | 67.25MC<br>71.75MC         | 4       | 183MC                     | 181.25MC<br>185.75MC       | 8       | 207MC                     | 205.25MC<br>209.75MC       | 12      |
| 79MC                      | 77.25MC<br>81.75MC         | 5       | 189MC                     | 187.25MC<br>191.75MC       | 9       | 213MC                     | 211.25MC<br>215.75MC       | 13      |



## UHF TUNER ALIGNMENT INSTRUCTIONS

Tune to a UHF station and adjust UHF IF Input Coil for best picture and sound.



## PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, 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.

## COILS (RF-IF)

| ITEM No. | USE                       | REPLACEMENT DATA |                   |                 |                  |  |
|----------|---------------------------|------------------|-------------------|-----------------|------------------|--|
|          |                           | PART No.         | MEISSNER PART No. | MILLER PART No. | WORKMAN PART No. |  |
| L1       | 47.25MC Trap              | 360951-4         |                   | 7553            | TA260            |  |
| L2       | 1st Video IF              | 360951-1         |                   | 7549            | T272             |  |
| L3       | 2nd Video IF              | 360951-6         | 17-3418           | 7552            | TB644            |  |
| L4       | 3rd Video IF              | 360951-5         | 17-3419           | 7526            | TA258            |  |
| L5       | 4th Video IF/41.25MC Trap | 360952-2         |                   | 6037            |                  |  |
| L6       | AFT Input                 | 361080-1         |                   | 23A337RPC *     |                  |  |
| L7       | AFT Disc. - Primary       | 361080-2         |                   | 23A477RPC *     |                  |  |
| L8       | AFT Disc. - Secondary     | 361080-5         |                   | 23A156RPC *     |                  |  |
| L9       | Choke                     | 360852-10        | 19-1000           | 74F106AP        | T805             |  |
| L10      | Choke                     | 360852-9         | 19-1001           | 74F156AP        | T808             |  |
| L11      | 4.5MC Trap                | 360953-2         |                   | 7142            | TA264            |  |
| L12      | Peaking (620uh)           | 361043-3         | 19-2030           | 6146            | T355             |  |
| L13      | RF Choke                  | 360852-11        | 19-1000           | 74F106AP        | T805             |  |
| L14      | Peaking (62uh)            | 361091-7         | 19-2022           | 6110            | T302             |  |
| L15      | RF Choke (8.2uh)          | 360876-11        | 19-2015           | 74F26AP         | T822             |  |
| L16      | Peaking (62uh)            | 361091-2         | 19-3060           | 6110            | T338             |  |
| L17      | Peaking (150uh)           | 360853-5         | 19-2026           | 72F154AP        | T343             |  |
| L18      | Peaking (120uh)           | 360853-4         | 19-3125           | 6153            | T342             |  |
| L19      | Peaking (145uh)           | 361091-3         | 19-2026           | 72F154AP        | TA347            |  |
| L20      | RF Choke (12uh)           | 360876-1         | 19-1006           | 72F125AP        | TA820            |  |
| L21      | RF Choke                  | 360852-11        | 19-1000           | 74F106AP        | T805             |  |
| L22      | RF Choke (5.6uh)          | 360876-7         | 19-1008           | 72F566AP        | T820             |  |
| L23      | Sound Takeoff             | 360845-2         |                   |                 |                  |  |
| L24      | Sound IF                  | 360846-3         |                   | ST-144          |                  |  |
| L25      | Quadrature Detector       | 360847-2         |                   | Q-113           |                  |  |
| L26      | RF Choke (1uh)            | 360852-10        | 19-1000           | 74F106AP        | T805             |  |
| L27      | Peaking (620uh)           | 360853-11        | 19-2030           | 6146            | T355             |  |
| L28      | Chroma Takeoff            | 360959-5         |                   |                 |                  |  |
| L29      | Chroma Bandpass           | 361192-1         |                   | 6042            |                  |  |
| L30      | Burst                     | 361094-2         |                   | 6043            |                  |  |
| L31      | RF Choke (2.5uh)          | 360852-8         | 19-1002           | 4606            | T857             |  |
| L32      | RF Choke (8.2uh)          | 360876-13        | 19-2015           | 4611            | T822             |  |
| L33      | Chroma Ref. Osc. Control  | 360963-4         |                   | 6057            |                  |  |
| L34      | 3.58MC Oscillator         | 361198-2         |                   | 6041            |                  |  |
| L35      | Peaking (47uh)            | 361324-470       | 19-7047           | 72F475AP        |                  |  |
| L36      | RF Choke (10uh)           | 361043-1         | 19-2016           | 72F105AP        | T860             |  |
| L37      | RF Choke (1uh)            | 360852-10        | 19-1000           | 74F106AP        | T805             |  |
| L38      | Peaking (620uh)           | 360853-11        | 19-2030           | 6146            | T335             |  |
| L39      | Peaking (620uh)           | 360853-11        | 19-2030           | 6146            | T335             |  |
| L40      | RF Choke (5.6uh)          | 360876-5         | 19-1008           | 74F566AP        | T820             |  |
| L41      | RF Choke (5.6uh)          | 360876-5         | 19-1008           | 74F566AP        | T820             |  |
| L42      | RF Choke (12uh)           | 361043-4         | 19-2016           | 72F125AP        | TA343            |  |
| L43      | RF Choke (8.2uh)          | 360876-13        | 19-2015           | 4611            | T822             |  |
| L44      | Peaking (145uh)           | 361091-3         | 19-3300           | 6155            | T318             |  |
| L58      | Line Choke (65uh)         | 361250-1         |                   |                 |                  |  |

\* Clip unused pin.  
† Remove original 18pf capacitor from set.  
‡ Duplicate original circuit; remove unused pin.

♦ Shunt with 12K Resistor  
▲ Shunt with 2200Ω Resistor  
▲ Shunt with 3300Ω Resistor.

## COILS (Sweep Circuits)

| ITEM No. | FUNCTION   | REPLACEMENT DATA |                |                 |                  |                     |                |                  |  |
|----------|--|------------------|----------------|-----------------|------------------|---------------------|----------------|------------------|--|
|          |  | MFGR. PART No.   | MERIT PART No. | MILLER PART No. | STANCOR PART No. | THORDARSON PART No. | TRIAD PART No. | WORKMAN PART No. |  |
| L45A     | Horiz. Oscillator - B  | 360960-3         |                |                 |                  |                     |                |                  |  |
| L46      | Focus  | 361306-1         |                |                 |                  |                     |                |                  |  |
| L47      | Horiz. Efficiency  | 361022-3         |                | H-106           |                  | WC-56               |                |                  |  |
| L48      | Pincushion   | 361134-3         |                |                 |                  |                     |                |                  |  |
| L49      | Correction   | 361135-1         | MWC-2          | 6318            | WC-17            | WC-23 ①             | WLC-23         | T124             |  |
| L50      | Pincushion Phase Right R/G Master Amp. (Right R/G Vert. Lines) | 361092-1         |                | 6347            |                  | WC-41               |                | T149             |  |
| L51      | Right R/G Diff. Amp. (Right R/G Horiz. Lines)                  | 361092-3         |                | 6348            |                  |                     |                |                  |  |
| L52      | Blue Master Amp.   | 361092-5         |                |                 |                  |                     |                |                  |  |
| L53      | Horiz. Blue Tilt   | 361188-1         |                | H-138           |                  |                     |                |                  |  |
| L54      | Blue Center  | 361092-1         |                | 6347            |                  | WC-41               |                | T149             |  |
| L55      | Convergence Yoke Assembly                                      | 361303-2         |                |                 |                  |                     |                |                  |  |
| A        | Blue   | 170745-1         |                |                 |                  |                     |                |                  |  |
| B        | Green  | 170745-3         |                |                 |                  |                     |                |                  |  |
| C        | Red  | 170745-2         |                |                 |                  |                     |                |                  |  |
|          | Blue Alternate   | 170744-1         |                |                 |                  |                     |                |                  |  |
|          | Green  | 170744-3         |                |                 |                  |                     |                |                  |  |
|          | Red  | 170477-2         |                |                 |                  |                     |                |                  |  |
|          | Blue   | 170800-1         |                |                 |                  |                     |                |                  |  |
|          | Green  | 170800-3         |                |                 |                  |                     |                |                  |  |
|          | Red  | 170800-2         |                |                 |                  |                     |                |                  |  |

## FILTER CHOKE

| ITEM No. | CURRENT (Measured) | REPLACEMENT DATA |                              |                |                |                  |                     |                | NOTES |
|----------|--------------------|------------------|------------------------------|----------------|----------------|------------------|---------------------|----------------|-------|
|          |                    | DC RES.          | INDUCTANCE (0 CURRENT 1000~) | MFGR. PART No. | MERIT PART No. | STANCOR PART No. | THORDARSON PART No. | TRIAD PART No. |       |
| L56      | .45A               | 17Ω              | .4 H                         | 320124-6       |                |                  |                     |                |       |

## FILTER CHOKE

| ITEM No. | CURRENT (Measured) | REPLACEMENT DATA |                              |                |                |                  |                     |                | NOTES |
|----------|--------------------|------------------|------------------------------|----------------|----------------|------------------|---------------------|----------------|-------|
|          |                    | DC RES.          | INDUCTANCE (0 CURRENT 1000~) | MFGR. PART No. | MERIT PART No. | STANCOR PART No. | THORDARSON PART No. | TRIAD PART No. |       |
| L57      | .62A               | 7Ω               | .25 H                        | 320232-3       | C-4133         | C-2708           | 26C81               | C-40X          |       |

## TRANSFORMER (Power)

| ITEM No. | RATING            |                  | REPLACEMENT DATA |                |                  |                     |                | NOTES                    |
|----------|-------------------|------------------|------------------|----------------|------------------|---------------------|----------------|--------------------------|
|          | PRI.              | SEC. 1           | MFGR. PART No.   | MERIT PART No. | STANCOR PART No. | THORDARSON PART No. | TRIAD PART No. |                          |
| T1       | 117VAC @ 3A AC    | 300VAC @ .45A DC | 300251-1         | P-4151-C       |                  |                     |                | ① Cut and tape 128V Tap. |
|          | SEC. 2            | SEC. 3           |                  |                |                  |                     |                |                          |
|          | 6.3VAC @ 2.25A AC | 6.3VAC @ 9.4A AC |                  |                |                  |                     |                |                          |

## TRANSFORMERS (Sweep Circuits)

| ITEM No. | USE                                   | REPLACEMENT DATA |                  |                  |                     |                | NOTES                                |
|----------|---------------------------------------|------------------|------------------|------------------|---------------------|----------------|--------------------------------------|
|          |                                       | MFGR. PART No.   | MERIT PART No.   | STANCOR PART No. | THORDARSON PART No. | TRIAD PART No. |                                      |
| T2       | Vert. Output                          | 320317-2         |                  | VO-700C          | 26S86               | A-305X         |                                      |
| T3       | Yoke (Vert. 21mh) 90° (Horiz. 12.2mh) | 361290-102       | A-4140C MDF-145C | DY-92AC          | Y-108               | YC-310-1       | Use original core clamp and bracket. |
| T4       | Horiz. Output                         | 361197-2F        |                  |                  |                     |                |                                      |

## SWEEP COMPONENT CONNECTION DATA

| ORIGINAL    | VERTICAL OUTPUT            |  | YOKE                 |  | YOKE PLUG         |   |   |   |   |   |   |   |   |    |    |    |
|-------------|----------------------------|--|----------------------|--|-------------------|---|---|---|---|---|---|---|---|----|----|----|
|             | Original Connections       |  | Original Connections |  | 1                 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| REPLACEMENT |                            |  |                      |  | TO YOKE TERMINAL  |   |   |   |   |   |   |   |   |    |    |    |
| MERIT       | NO WIRING CHANGE NECESSARY |  |                      |  | †                 | † | † | † | † | † | † | † | † | †  | †  | †  |
| STANCOR     | NO WIRING CHANGE NECESSARY |  |                      |  | EXACT REPLACEMENT |   |   |   |   |   |   |   |   |    |    |    |
| THORDARSON  | NO WIRING CHANGE NECESSARY |  |                      |  | †                 | † | † | † | † | † | † | † | † | †  | †  | †  |
| TRIAD       | NO WIRING CHANGE NECESSARY |  |                      |  | †                 | † | † | † | † | † | † | † | † | †  | †  | †  |

† Use original yoke plug and rewire. Duplicate original horizontal network.  
† Remove wire from Yoke Terminal #12.  
\* Remove Blue lead. Connect vertical damping resistors between Yoke Terminals #4 and #8.  
Connect a wire from junction of resistors to Yoke Plug Pin #11.

## FUSE DEVICES

| ITEM No. | DESCRIPTION  | REPLACEMENT DATA |               |                     |                  |         |        |
|----------|--|------------------|---------------|---------------------|------------------|---------|--------|
|          |  | PART No.         | BUSS PART No. | LITTELFUSE PART No. | WORKMAN PART No. |         |        |
| F1       | Circuit Breaker Hold Current 2.1A Break Current 3.1A 3" length #22 Fuse wire | 180723-2         |               |                     |                  | 81503.5 | FA 3.5 |
| F2       |  |                  |               |                     |                  |         |        |

## MISCELLANEOUS

| ITEM No. | PART NAME       | PART No.    | NOTES  |
|----------|-----------------|-------------|--|
| M1       | VHF Tuner       | 340126-7    |  |
|          | VHF Tuner       | 340125-2    |  |
|          | VHF Tuner       | 340126-5    |  |
|          | VHF Tuner       | 340137-1/-2 |  |
|          | VHF Tuner       | 340139-1    |  |
| M2       | UHF Tuner       | 340150-1    |  |
|          | UHF Tuner       | 340077-4    |  |
|          | UHF Tuner       | 340128-1    |  |
|          | UHF Tuner       | 340129-2    |  |
|          | UHF Tuner       | 340147-1    |  |
| M3       | Lamp (GE1488)   | 180161-5    | VHF Channel Indicator (2 used)<br>CHICAGO MINIATURE Replacement CM1488<br>UHF Channel Indicator (2 used)<br>CHICAGO MINIATURE Replacement CM1488<br>3.58MC |
| M4       | Lamp (GE1488)   | 180161-5    |  |
| M5       | Crystal         | 530089-2    |  |
| M6       | Spark Gap       | 180832-3    |  |
| M7       | Spark Gap       | 180832-3    |  |
| M8       | Spark Gap       | 180832-3    |  |
| M9       | Spark Gap       | 180832-1    |  |
| M10      | Spark Gap       | 180832-2    |  |
| M11      | Spark Gap       | 180832-3    |  |
| M12      | Spark Gap       | 180832-3    |  |
| M13      | Delay Line      | 360949-5    |  |
| M14      | Degaussing Coil | 361266-3    |  |
| M15      | Motor           | 500221-1    | 2 used   |
|          | Motor           | 500221-2    | UHF (Stereo Theatre versions)  |
| M16      | Motor           | 500225-3    | UHF (Console versions)   |
|          | Motor           | 500220-4    | Color (Chassis T933-02/-05/-10/-12/-14/-16)  |
|          | Motor           | 500225-1    | Color (Chassis T933-08/-20)  |
| M17      | Motor           | 500225-1    | Color (Chassis T933-09)  |
|          | Motor           | 500225-4    | Tint   |
|          | Motor           | 500220-3    | Tint (Chassis T933-08/-20)   |
| M18      | Motor           | 500225-7    | Tint (Chassis T933-09/-10/-12/-14/-16)   |
|          | Motor           | 500222-8    | VHF (Stereo Theatre versions)  |
|          | Motor           | 500222-8    | VHF (Console versions)   |
| S1       | Switch          | 160393-1    | VHF (Chassis T933-08/-09/-20)  |
| S2       | Switch          | 160393-1    | UHF Up   |
| S3       | Switch          | 160393-1    | UHF Down   |
| S4       | Switch          | 160393-1    | VHF Selector   |
| S5       | Switch          | 160393-1    | Volume-Off-On  |
| S6       | Switch          | 160393-1    | AFT Defeat (Automatic Color)   |
| S7       | Switch          | 160370-7    | Chromatone   |
| S8       | Switch          | 160370-7    | Quick-On   |
| S9       | Switch          | 160370-2    | Normal-Service-Purity  |
| S10      | Switch          |             | Reversing (Actuated by Tuner Shaft)  |
| S11      | Switch          |             | VHF-UHF Indicator Lamps (On rear of VHF Tuner)   |
| S12      | Switch          |             | Audio Mute (VHF Stop)  |
| S13      | Switch          |             | AFT Defeat (Actuated by Fine Tuning)   |

## CABINETS &amp; CABINET PARTS (When ordering specify model, chassis &amp; color)

## PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, 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.

## WIRING DATA

|                                     |  |
|-------------------------------------|--|
| High Voltage Lead                   | Use BELDEN No. 8868 (25KV)                               |
| Shielded Hook-up Wire               | Use BELDEN No. 8885 (Single Conductor)                   |
| General-use Unshielded Hook-up Wire | Use BELDEN No. 8738 (Two Conductor)                      |
|                                     | 8530 (Solid) Available in 12 Colors                      |
|                                     | 8534 (Stranded) Available in 12 Colors                   |
| 300Ω Tuner Input Lead               | Use BELDEN No. 8295                                      |
| 300Ω Antenna Lead-in                | Use BELDEN No. 8275 (Foam Core) or 8285 (Foam Jacketed)  |
| Antenna Rotor Cable                 | Use BELDEN No. 8484 (Flat) or 8484 (Round) - 4 Conductor |
|                                     | 8485 (Round) - 5 Conductor                               |
|                                     | 8488 (Round) - 8 Conductor                               |

## TUBES

| ITEM No. | USE  | REPLACEMENT DATA |                  |     |          | ITEM No. | USE                                     | TYPE      |
|----------|--|------------------|------------------|-----|----------|----------|---|-----------|
|          |  | AMPEREK          | GENERAL ELECTRIC | RCA | SYLVANIA |          |   |           |
| Q301     | UHF Osc. (Transistor)                                    |                  | S2020            |     |          | V12      | Pincushion Amp.                         | 12AX7A    |
| V201     | RF Amp.  |                  | 6HQ5             |     |          | V13      | Horiz. AFC - Horiz. Osc.                | 6FQ7/6CG7 |
| V202     | Mixer - Oscillator                                       |                  | 6HB7             |     |          | V14      | Horiz. Output                           | 6TE6A     |
| V2       | 1st Video IF   |                  | 6JH6             |     |          | V15      | Damper                                  | 6DW4B     |
| V3       | 2nd Video IF   |                  | 6CM6             |     |          | V16      | HV Rectifier                            | 3CU3      |
| V4       | 3rd Video IF   |                  | 6JC8             |     |          | V17      | Focus Rectifier                         | 1V2       |
| V5       | AFT Amp.   |                  | 6BA6             |     |          | V18      | Shunt Regulator                         | 6BK4B     |
|          | Chroma & Sync Amp. - Video Cathode Follower - Video Amp. |                  |                  |     |          | V19      | Horiz. Blanking - Chroma Bandpass Amp.  | 6GH8A     |
| V6       | Video Output   |                  | 6LM8             |     |          | V20      | Color Demodulator                       | 6MK8      |
| V7       | AGC Keying - Sync Sep.                                   |                  | 12GN7A           |     |          | V21      | G-Y Amp. - B-Y Amp. - R-Y Amp.          | 6MD8      |
| V8       | Sound IF   |                  | 6GH8A            |     |          | V22      | Color Killer - Burst Amp.               | 6KE8      |
| V9       | Audio Detector   |                  | 6AU8A            |     |          | V23      | 3.58MC Osc. Control - 3.58MC Oscillator | 6GH8A     |
| V11      | Vert. Mult. - Vert. Output                               |                  | 6DT8A            |     |          |          |   |           |

## PICTURE TUBE

| ITEM No. | REPLACEMENT DATA |                           |              |                   | NOTES  |
|----------|------------------|---------------------------|--------------|-------------------|--|
|          | MFGR. PART No.   | GENERAL ELECTRIC PART No. | RCA PART No. | SYLVANIA PART No. |  |
| V24      | SREA25X P22 or   | 25A P22A ①                | H25X P22 ②   | SREA25X P22 ③     | ① Aluminized<br>② Hi-Lite<br>③ Color Bright "85" |
|          | 25X P22 or       | 25A P22A ①                | H25X P22 ②   | RE25A P22A ③      |  |
|          | 25GP22A or       | 25A P22A ①                | H25X P22 ②   | RE25A P22A ③      |  |
|          | 25B P22 or       | 25B P22A ①                | H25Y P22 ②   | RE25B P22A ③      |  |
|          | 25A P22 or       | 25A P22A ①                | H25X P22 ②   | RE25A P22A ③      |  |
|          | 25AF P22 or      |                           |              |                   |  |
|          | 22JP22A          | 22JP22A ①                 | H22JP22 ②    | RE22JP22 ③        |  |

## POWER RECTIFIERS &amp; SIGNAL DIODES



## CAPACITORS

| ITEM No. | RATING | REMARKS       | REPLACEMENT DATA |                    |                           |                   |                  |                  |
|----------|--------|---------------|------------------|--------------------|---------------------------|-------------------|------------------|------------------|
|          |        |               | AEROVOX PART No. | CENTRALAB PART No. | CORNELL-DUBILIER PART No. | ELMENCOT PART No. | MALLORY PART No. | SPRAGUE PART No. |
| C12      | .001   | 10%           | GPD X5 F102K     | DD-102             | JBS601Y P102K             | CCD-102           | GP210            | 10TS-D10         |
| C13      | .33    | N175 5%       |                  | DTN-33             |                           |                   | CN7433           | 10TCU-Q33        |
| C14      | 9.1    | NPO ±.25      | #250546-9197     |                    |                           |                   |                  |                  |
| C15      | 150    | NPO 5%        |                  | DTZ-150            |                           |                   |                  |                  |
| C16      | .001   | 10%           | GPD X5 F102K     | DD-102             | JBS601Y P102K             | CCD-102           | CNO315           | 10TCC-T15        |
| C17      | .001   | 10%           | GPD X5 F102K     | DD-102             | JBS601Y P102K             | CCD-102           | GP210            | 10TS-D10         |
| C18      | .001   | 10%           | GPD X5 F102K     | DD-102             | JBS601Y P102K             | CCD-102           | GP210            | 10TS-D10         |
| C19      | 680    | N2200 10%     | #250569-1        |                    |                           |                   |                  |                  |
| C20      | .001   | 10%           | GPD X5 F102K     | DD-102             | JBS601Y P102K             | CCD-102           | GP210            | 10TS-D10         |
| C21      | .001   | 10%           | GPD X5 F102K     | DD-102             | JBS601Y P102K             | CCD-102           | GP210            | 10TS-D10         |
| C22      | .001   | 10%           | GPD X5 F102K     | DD-102             | JBS601Y P102K             | CCD-102           | GP210            | 10TS-D10         |
| C23      | .001   | 10%           | GPD X5 F102K     | DD-102             | JBS601Y P102K             | CCD-102           | GP210            | 10TS-D10         |
| C24      | .001   | 1KV 10%       | GPD X5 F102K     | DD-102             | JBS601Y P102K             | CCD-102           | GP210            | 10TS-D10         |
| C25      | .001   | 1KV 10%       | GPD X5 F102K     | DD-102             | JBS601Y P102K             | CCD-102           | GP210            | 10TS-D10         |
| C26      | 220    | N1500 10%     |                  |                    |                           |                   |                  |                  |
| C27      | 2.2    | NPO ±.25      | NPO-DI 2.2       | DTZ-2R2            | CZ601CJ2R2D               | CCTO-2R2          | CNO522           | 10TCC-V22        |
| C28      | .0022  | 10%           | GPD X5 F222K     | DD-222             | JBX601Y P222K             | CCD-222           | GP222            | 10TS-D22         |
| C29      | 1.5    | N3300 ±.25    | #250088-186      |                    |                           |                   |                  |                  |
| C30      | .22    | 200V          | V1612 P22        |                    | DMF2 P22                  |                   | PVC2022          | 2PS-P22          |
| C31      | 27     | NPO 5%        |                  | TCZ-27             |                           |                   | CNO427           | 10TCC-Q27        |
| C32      | .001   | 10%           |                  |                    |                           |                   |                  |                  |
| C33      | 220    |               | GPD X5 F221K     | DD-221             | JBZ601Y P221K             | CCD-221           | GP322            | 10TS-T22         |
| C34      | 680    | 10%           | GPD X5 F681K     | DD-681             | JBY601Y P681K             | CCD-681           | GP368            | 10TS-T68         |
| C35      | .001   | 10%           | GPD X5 F102K     | DD-102             | JBS601Y P102K             | CCD-102           | GP210            | 10TS-D10         |
| C36      | 27     | NPO 5%        |                  | TCZ-27             |                           |                   | CNO427           | 10TCC-Q27        |
| C37      | 47     | NPO 5%        |                  | DTZ-47             |                           |                   | CNO447           | 10TCC-Q47        |
| C38      | 47     | NPO 5%        |                  | DTZ-47             |                           |                   | CNO447           | 10TCC-Q47        |
| C39      | 12     | NPO 5%        |                  | DTZ-12             |                           |                   | CNO412           | 10TCC-Q12        |
| C40      | 220    |               | GPD X5 F221K     | DD-221             | JBZ601Y P221K             | CCD-221           | GP322            | 10TS-T22         |
| C41      | 100    |               | GPD X5 F101K     | DD-101             | JBZ601Y P101K             | CCD-101           | GP310            | 10TS-T10         |
| C42      | 330    |               | GPD X5 F331K     | DD-331             | JBZ601Y P331K             | CCD-331           | GP333            | 10TS-T33         |
| C43      | 390    | N1500 5%      |                  |                    |                           |                   |                  |                  |
| C44      | .001   | 10%           | GPD X5 F102K     | DD-102             | JBS601Y P102K             | CCD-102           | GP210            | 10TS-D10         |
| C45      | .01    |               | GPD X5S103K      | DD-103             | BYX601ZU103M              | CCD-103           | GF110            | 10TS-S10         |
| C46      | 10     | NPO 5%        |                  | DTZ-10             | CZ601CG100J               | CCTO-101          | CNO410           | 10TCC-Q10        |
| C47      | 100    | NPO 10%       | NPO-DI 100       | DTZ-100            | CV601CG101K               |                   | CNO310           | 10TCC-Q10        |
| C48      | 680    | 5%            |                  |                    |                           |                   |                  |                  |
| C49      | .001   | 10%           | GPD X5 F102K     | DD-102             | JBS601Y P102K             | CCD-102           | GP210            | 10TS-D10         |
| C50      | 33     | N750 5%       |                  | DTZ-33             |                           |                   | CNT433           | 10TCU-Q33        |
| C51      | .001   | 10%           | GPD X5 F102K     | DD-102             | JBS601Y P102K             | CCD-102           | GP210            | 10TS-D10         |
| C52      | .1     | 200V          | DBE2 P1          |                    | DMF2 P1                   | 2DP-3-104         | PVC201           | 2PS-P10          |
| C53      | 390    | 10%           | GPD X5 F391K     | DD-391             | JBY601Y P391K             | CCD-391           | GP339            | 10TS-T39         |
| C54      | 390    | 10%           | GPD X5 F391K     | DD-391             | JBY601Y P391K             | CCD-391           | GP339            | 10TS-T39         |
| C55      | 10     | NPO 5%        |                  | DTZ-10             | CZ601CG100J               |                   | CNO410           | 10TCC-Q10        |
| C56      | 3.3    | NPO ±.25      | NPO-DI 3.3       | DTZ-3R3            |                           |                   | CNO533           | 10TCC-V33        |
| C57      | .01    | 10%           | GPD X5S103K      | DD-103             | BYX601ZU103M              | CCD-103           | GF110            | 10TS-S10         |
| C58      | .01    | 10%           | GPD X5S103K      | DD-103             | BYX601ZU103M              | CCD-103           | GF110            | 10TS-S10         |
| C59      | .0033  | 5%            | GPD X5R332K      | DD-332             | JBY601Y P332K             | CCD-332           | GF233            | 10TS-D33         |
| C60      | 3      | N1500 10%     | #250529-3099     |                    |                           |                   |                  |                  |
| C61      | 3      | N1500 10%     | #250529-3099     |                    |                           |                   |                  |                  |
| C62      | .01    |               | GPD X5S103K      | DD-103             | BYX601ZU103M              | CCD-103           | GF110            | 10TS-S10         |
| C63      | .01    | 10%           | GPD X5S103K      | DD-103             | BYX601ZU103M              | CCD-103           | GF110            | 10TS-S10         |
| C64      | .01    |               | GPD X5S103K      | DD-103             | BYX601ZU103M              | CCD-103           | GF110            | 10TS-S10         |
| C65      | .022   | 10%           | GPD X5U203P      | DD-203             | BYT601ZU203P              | CCD-203           | GF120            | 10TS-S22         |
| C66      | 18     | 5%            |                  | TCZ-18             | CY601CG180J               |                   | CNO418           | 10TCC-Q18        |
| C67      | 680    |               | GPD X5 F681K     | DD-681             | JBY601Y P681K             | CCD-681           | GP368            | 10TS-T68         |
| C68      | .01    | 10%           | GPD X5S103K      | DD-103             | BYX601ZU103M              | CCD-103           | GF110            | 10TS-S10         |
| C69      | .1     | 400V          | DBE4 P1          |                    | DMF4 P1                   | 4DP-3-104         | PVC401           | 4PS-P10          |
| C70      | 1mfd   | 400V          | V1614W1          |                    | PKM4W1                    |                   | PVC61            |                  |
| C71      | .01    |               | GPD X5 F102K     | DD-103             | BYX601ZU103M              | CCD-103           | GF110            | 10TS-S10         |
| C72      | .0047  | 1KV 10%       | GPD X5R472K      | DD-472G            | JBT601Y P472K             | CCD-472           | GF247            | 10TS-D47         |
| C73      | .033   | 100V          | DBE2 P1          |                    | DMF1 P1                   | 1DP-2-104         | PVC101           | 225P10491        |
| C74      | .01    | 10%           | GPD X5S103K      | DD-103             | BYX601ZU103M              | CCD-103           | GF110            | 10TS-S10         |
| C75      | .1     | 100V          | V1612S33         |                    | DMF1S33                   | 1DP-1-333         | PVC1133          | 225P33391        |
| C76      | .047   | 600V          | DBE6S47          |                    | DMF6S47                   | 6DP-3-473         | PVC6147          | 6PS-S47          |
| C77      | 180    | 2KV 10%       | HVD-30180        | DD39-181           |                           |                   |                  |                  |
| C78      | .0022  | 10%           | GPD X5 F222K     | DD-222             | JBX601Y P222K             | CCD-222           | GP222            | 10TS-D22         |
| C79      | 150    |               | GPD X5 F151K     | DD-151             | JBX601Y P222K             | CCD-151           | GP315            | 10TS-T15         |
| C80      | .0022  |               | GPD X5 F222K     | DD-222             | JBX601Y P222K             | CCD-222           | GP222            | 10TS-D22         |
| C81      | .47    | 200V          | DBE2 P47         |                    | DMF2 P47                  | 2DP-5-474         | PVC2047          | 2PS-P47          |
| C82      | .039   | 600V 10%      | DBE6S39          |                    | DPMS6S39                  | 6DP-3-393         | PVC6139          | 6PS-S39          |
| C83      | .0027  | N5600 10%     | #250569-4        |                    |                           |                   |                  |                  |
| C84      | .0015  |               | GPD X5 F152K     | DD-152             | CPR-6800J                 | CCD-152           | GP215            | 10TS-D15         |
| C85      | .0068  | 400V 10%      | V1614D68         |                    | DMF4D68                   | 6DP-1-682         | PVC6268          | 6PS-D68          |
| C86      | .0022  |               | GPD X5 F222K     | DD-222             | JBX601Y P222K             | CCD-222           | GP222            | 10TS-D22         |
| C87      | 680    |               | GPD X5 F681K     | DD-681             | JBY601Y P681K             | CCD-681           | GP368            | 10TS-T68         |
| C88      | .1     | 400V          | DBE4 P1          |                    | DMF4 P1                   | 4DP-3-104         | PVC401           | 4PS-P10          |
| C89      | .1     | 600V          | DBE6 P1          |                    | DMF6 P1                   | 6DP-4-104         | PVC601           | 6PS-P10          |
| C90      | 680    |               | GPD X5 F681K     | DD-681             | JBY601Y P681K             | CCD-681           | GP368            | 10TS-T68         |
| C91      | .047   | 200V          | V1612S47         |                    | DMF2S47                   | 4DP-3-473         | PVC2147          | 2PS-S47          |
| C92      | .0082  | 1KV           | DPMS1            |                    | DPMS16S1                  | 16DP-3-822        | PVC16282         | 16PS-S10         |
| C93      | .001   | 2KV 10%       |                  |                    |                           |                   |                  |                  |
| C94      | .01    | 400V          | DBE4 P1          |                    | DMF4 P1                   | 4DP-3-104         | PVC401           | 4PS-P10          |
| C95      | .1     | 200V 10%      | DBE2 P1          |                    | DMF2 P1                   | 2DP-3-104         | PVC201           | 2PS-P10          |
| C96      | .039   | 200V 10%      | DBE6S39          |                    | DPMS6S39                  | 6DP-3-393         | PVC6139          | 6PS-S39          |
| C97      | .0047  | 600V 10%      | DBE6S47          |                    | DPMS6S47                  | 6DP-1-402         | PVC624           | 6PS-S40          |
| C98      | .0082  | 1KV           | DBE16S1          |                    | DPMS16S1                  | 16DP-3-822        | PVC16282         | 16PS-S10         |
| C99      | .0047  | 600V 10%      | DBE6S47          |                    | DPMS6S47                  | 6DP-1-402         | PVC624           | 6PS-S40          |
| C100     | 47     | 2KV           | HVD-6047         | DD60-470           |                           |                   |                  |                  |
| C101     | .022   | 400V 10%      | DBE6S22          | DD-203             | DMF4S22                   | 4DP-2-223         | PVC6122          | 4PS-Q24          |
| C102     | .01    | 10%           | GPD X5S103K      | DD-103             | BYX601ZU103M              | CCD-103           | GF110            | 10TS-S10         |
| C103     | 100    | N750/3KV/5%   |                  |                    |                           |                   |                  |                  |
| C104     | 470    | N2200/3KV/10% |                  |                    |                           |                   |                  |                  |
| C105     | 470    | N2200/3KV/10% |                  |                    |                           |                   |                  |                  |
| C106     | 68     | NPO 10%       | NPO-DI 68        | DTZ-68             | CX601CG680K               | CCTO-680          | CNO468           | 10TCC-Q68        |
| C107     | 68     | NPO 10%       | NPO-DI 68        | DTZ-68             | CX601CG680K               | CCTO-680          | CNO468           | 10TCC-Q68        |
| C108     | 27     | NPO 10%       | NPO-DI 25        | TCZ-27             |                           |                   | CNO427           | 10TCC-Q27        |
| C109     | .15    | 75V           | V1612 P15        |                    | DMF1 P15                  | 1DP-3-154         | PVC1015          | 2PS-P15          |
| C110     | .001   | 10%           | GPD X5 F102K     | DD-102             | JBS601Y P102K             | CCD-102           | GP210            | 10TS-D10         |
| C111     | 820    | 10%           | GPD X5 F821K     | DD-821             | JBY601Y P821K             | CCD-821           | GP382            | 10TS-T82         |
| C112     | 820    | 10%           | GPD X5 F821K     | DD-821             | JBY601Y P221K             | CCD-821           | GP382            | 10TS-T82         |
| C113     | 390    | N1500 5%      | #250569-3        |                    |                           |                   |                  |                  |
| C114     | .01    | 400V 10%      | V1614S1          |                    | DMF4S1                    | 4DP-1-103         | PVC411           | 4PS-S10          |
| C115     | 680    | 5%            | ADM-20-681       | CPR-680J           | CD19F681J500              | DM-16-681J        | MS-368           |                  |
| C116     | .0015  | 600V 10%      | DBE6D15          |                    | DMF6D15                   | 6DP-1-152         | PVC6215          | 6PS-D15          |
| C117     | .01    | 600V          | DBE6S1           |                    | DMF6S1                    | 6DP-2-103         | PVC611           | 6PS-S10          |
| C118     | .1     | 600V          | DBE6 P1          |                    | DMF6 P1                   | 6DP-4-104         | PVC601           | 6PS-P10          |
| C119     | .047   | 600V          | DBE6S47          |                    | DMF6S47                   | 6DP-3-473         | PVC6147          | 6PS-S47          |
| C120     | 150    | 10%           | GPD X5 F151K     | DD-151             |                           |                   | GP315            | 10TS-T15         |
| C121     | 68     | N1500/4KV/10% | #250475-24       |                    |                           |                   | 3DY468           |                  |
| C122     | 130    | N2200 6KV     | #250475-11       |                    |                           |                   |                  |                  |
| C123     | .01    | 1KV 10%       | GPD X5S103K      | DD-103             | BYX601ZU103M              | CCD-103           | GF110            | 10TS-S10         |

## PARTS LIST AND DESCRIPTION (CONTINUED)

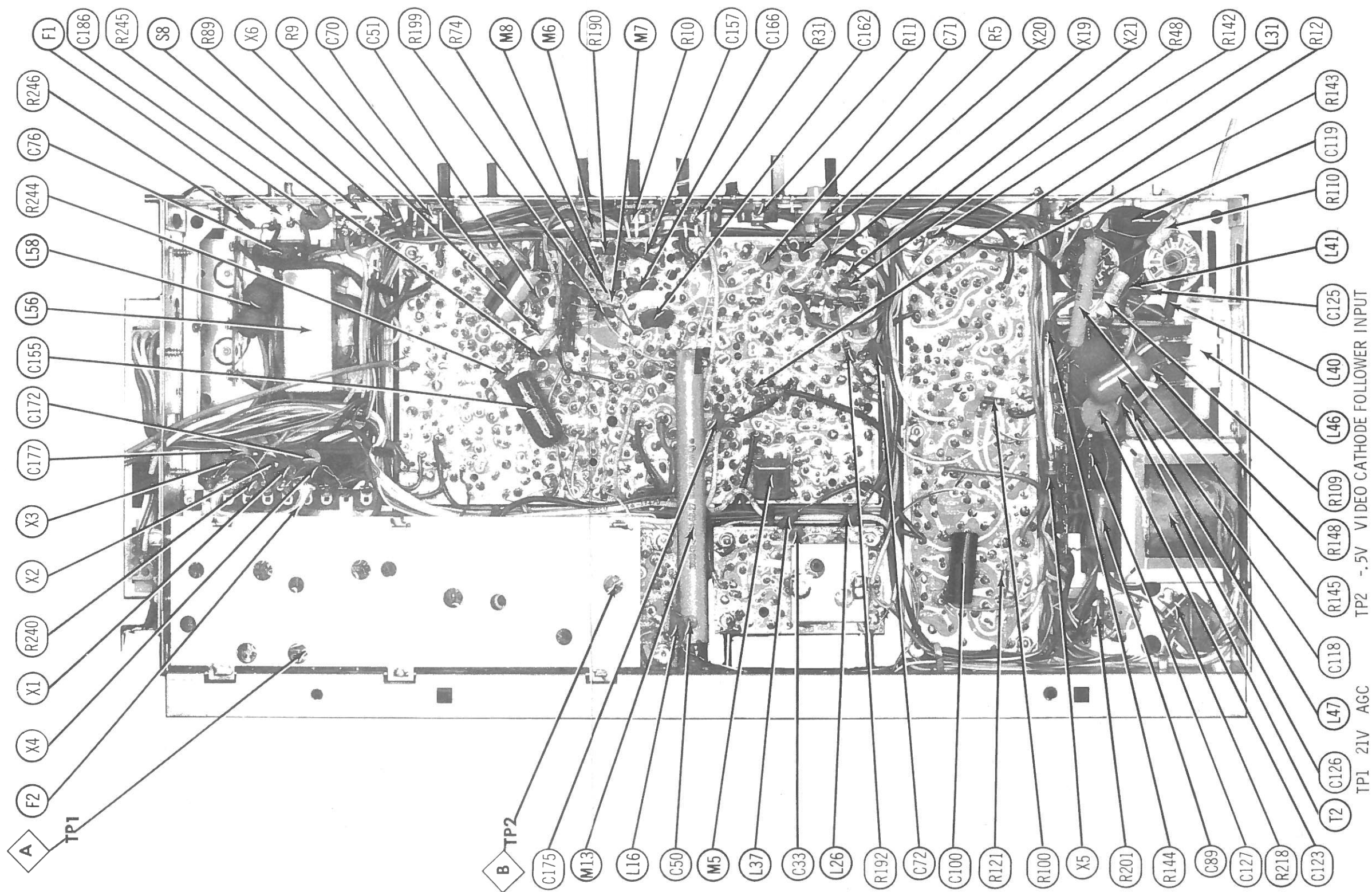
(When ordering parts, state Model, Part Number, and Description.)

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.

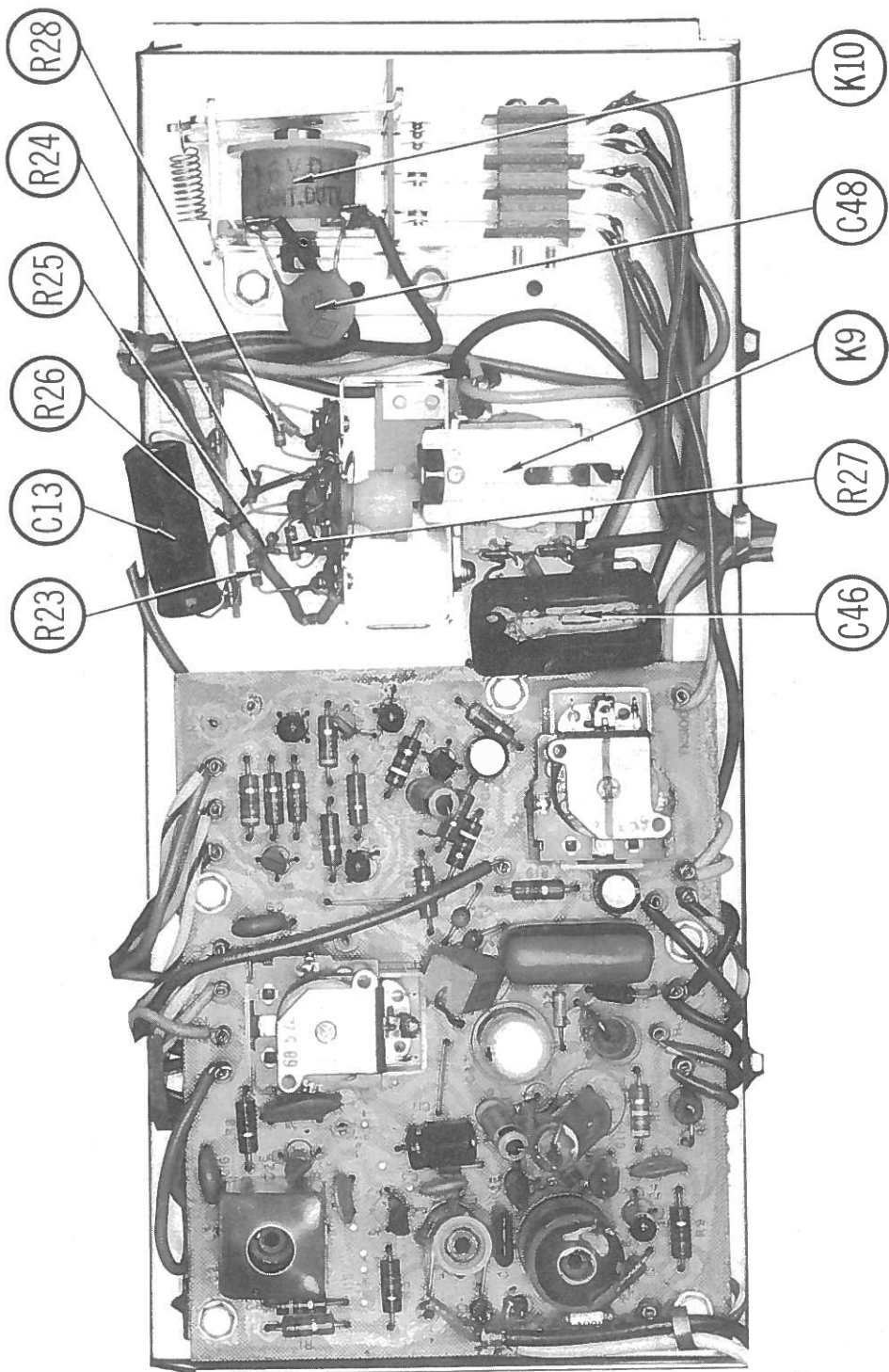
## CAPACITORS (cont)

| ITEM No. | RATING | REMARKS  | REPLACEMENT DATA |                    |                           |                   |                  |                  |
|----------|--------|----------|------------------|--------------------|---------------------------|-------------------|------------------|------------------|
|          |        |          | AEROVOX PART No. | CENTRALAB PART No. | CORNELL-DUBILIER PART No. | ELMENCOT PART No. | MALLORY PART No. | SPRAGUE PART No. |
| C124     | .01    | 1KV 10%  | GPD X5S103K      | DD-103             | BYX601ZU103M              | CCD-103           | JF110            | 10TS-S10         |
| C125     | .22    | N750 1KV | N750-DI 22       | DTN-22             | CZ601UJ220K               | CCTN-220          | CN7422           | 10TCU-Q22        |
| C126     | .068   | 600V 5%  | #250451-2773     |                    |                           | 1MD-2-683J        |                  |                  |
| C127     | .082   | 600V 5%  |                  | #250451-2774       |                           |                   | 1MD-2-823J       |                  |
| C128     | 18     | NPO 10%  |                  | TCZ-18             |                           | CCTO-180          | CNO418           | 10TCC-Q18        |
| C129     | 120    | N750 10% |                  | TCN-120            |                           | CCTN-120          | CN7312           | 10TCU-T12        |
| C130     | .01    | 10%      | GPD X5S103K      | DD-103             | BYX601ZU103M              | CCD-103           | JF110            | 10TS-S10         |
| C131     | .01    | 10%      | GPD X5S103K      | DD-103             | BYX601XU103M              | CCD-103           | JF110            | 10TS-S10         |
| C132     | .470   | N750 10% |                  | TCN-470            |                           | CCTN-471          | JF110            | 10TS-T47         |
| C133     | .047   | 100V     | V1612S47         |                    | DMF1S47                   | 1DP-2-473         | PVC1147          | 225P47391        |
| C134     | .820   | 10%      | GPD X5 F821K     | DD-821             | JBY601Y P821K             | CCD-821           | GP382            | 10TS-T82         |
| C135     | .01    | 10%      | GPD X5S103K      | DD-103             | BYX601ZU103M              | CCD-103           | JF110            | 10TS-S10         |
| C136     | .001   | 10%      | GPD X5 F102K     | DD-102             | JBS601Y P102K             | CCD-102           | GP210            | 10TS-D10         |
| C137     | .01    |          | GPD X5S103K      | DD-103             | BYX601ZU103M              | CCD-103           | JF110            | 10TS-S10         |
| C138     | 330    | N1500 5% |                  |                    |                           | *                 | 2DY333           | 10TCW-T33        |
| C139     | .01    | 10%      | GPD X5S103K      | DD-103             | BYX601ZU103M              | CCD-103           | JF110            | 10TS-S10         |
| C140     | 67     | Max.     |                  |                    |                           |                   |                  |                  |
| C141     | 330    | N1500 5% |                  |                    |                           | *                 | 2DY333           | 10TCW-T33        |
| C142     | 330    | N1500 5% |                  |                    |                           | *                 | 2DY333           | 10TCW-T33        |
| C143     | 330    | N1500 5% |                  |                    |                           | *                 | 2DY333           | 10TCW-T33        |
| C144     | .01    | 10%      | GPD X5S103K      | DD-103             | BYX601ZU103M              | CCD-103           | JF110            | 10TS-S10         |
| C145     | .1     | 100V     | DBE2P1           |                    | DMF1 P1                   | 1DP-2-104         | PVC101           | 225P10491        |
| C146     | 3.9    | NPO 10%  | #250546-3989     |                    |                           |                   |                  |                  |
| C147     | .01    | 10%      |                  | GPD X5S103K        | DD-103                    | BYX601ZU103M      | CCD-103          | JF110            |
| C148     | 15     | NPO 5%   |                  | DTZ-15             | CZ601CG150J               | CCD-103           | CNO415           | 10TCC-Q15        |
| C149     | .01    | 10%      | GPD X5S103K      | DD-103             | BYX601ZU103M              | CCD-103           | JF110            | 10TS-S10         |
| C150     | 220    | N750 10% | N750-DI 220      | DTN-220            | CV601UJ221K               | CCTN-221          | CN7322           | 10TCU-T22        |
| C151     | 100    | NPO 10%  | NPO-DI 100       | DTZ-100            | CV601CG101K               | CCTO-101          | CNO310           | 10TCC-T10        |
| C152     | .01    | 10%      | GPD X5S103K      | DD-103             | BYX601ZU103M              | CCD-103           | JF110            | 10TS-S10         |
| C153     | 27     | NPO 10%  | NPO-DI 25        | TCZ-27             |                           | CCTO-270          | CNO427           | 10TCC-Q27        |
| C154     | .047   | 400V     | DBE6S47          | DD-503             | DMF4S47                   | 4DP-3-473         | PVC4147          | 4PS-347          |
| C155     | .22    | 400V     | DBE5P22          |                    | DMF4 P22                  | 4DP-5-224         | PVC4022          | 4PS-222          |
| C156     | .01    |          | GPD X5S103K      | DD-103             | BYX601ZU103M              | CCD-103           | JF110            | 10TS-S10         |
| C157     | .01    | 1KV 10%  | GPD X5S103K      | DD-103             | BYX601ZU103M              | CCD-103           | JF110            | 10TS-S10         |
| C158     | .001   |          | GPD X5 F102K     | DD-102             | JBS601Y P102K             | CCD-102           | GP210            | 10TS-D10         |
| C159     | .470   |          | GPD X5 F471K     | DD-471             | JBZ601Y P471K             | CCD-471           | GP357            | 10TS-T47         |
| C160     | 18     | NPO 10%  |                  | TCZ-18             | CY601CG180J               | CCTO-180          | CNO418           | 10TCC-Q18        |
| C161     | .01    |          | GPD X5S103K      | DD-103             | BYX601ZU103M              | CCD-103           | JF110            | 10TS-S10         |
| C162     | .01    | 1KV 10%  | GPD X5S103K      | DD-103             | BYX601ZU103M              | CCD-103           | JF110            | 10TS-S10         |
| C163     | .01    | 10%      | GPD X5S103K      | DD-103             | BYX601ZU103M              | CCD-103           | JF110            | 10TS-S10         |
| C164     | 18     | NPO 10%  |                  | TCZ-18             | CY601CG180J               | CCTO-180          | CNO418           | 10TCC-Q18        |
| C165     | .01    |          | GPD X5S103K      | DD-103             | BYX601ZU103M              | CCD-103           | JF110            | 10TS-S10         |
| C166     | .01    | 1KV 10%  | GPD X5S103K      | DD-103             | BYX601ZU103M              | CCD-103           | JF110            | 10TS-S10         |
| C167     | .001   | 1KV 10%  | GPD X5 F102K     | DD-102             | JBS601Y P102K             | CCD-102           | GP210            | 10TS-D10         |
| C168     | .001   | 1KV 10%  | GPD X5 F102K     | DD-102             | JBS601Y P102K             | CCD-102           | GP210            | 10TS-D10         |
| C169     | .001   | 1KV 10%  | GPD X5 F102K     | DD-102             | JBS601Y P102K             | CCD-102           | GP210            | 10TS-D10         |
| C170     | .01    | 10%      | GPD X5S103K      | DD-103             | BYX601ZU103M              | CCD-103           | JF110            | 10TS-S10         |
| C171     | .1     | 400V     | DBE4P1           |                    | DMF4 P1                   | 4DP-3-104         | PVC401           | 4PS-104          |
| C172     | .001   | 1KV      | GPD X5 F102K     | DD-102             | JBS601Y P102K             | CCD-102           | GP210            | 10TS-D10         |
| C173     | 270    | 100V 5%  | ADM-15-271J      | CPR-270J           | CD15 F271 J50K            | DM-15-271J        | SK327            | MS-327           |
| C174     | 220    | 5%       |                  | CPR-220J           | CD15 F221 J50K            | DM-15-221J        | SK322            | MS-322           |
| C175     | 20     | NPO 5%   |                  | DTZ-20             | CY601CG180J               |                   | CNO418           | 10TCC-Q18        |
| C176     | 100    | 10%      | ADM-15-111       | CPR-111J           | CD15 F111 J50K            | DM-15-111J        | SK311            | MS-311           |
| C177     | .001   | 1KV      | GPD X5DI02K      | DD-102             | DD56S1Y P102K             | CCD-102           | GP210            | 10TS-D10         |
| C178     | .056   | 400V 10% | DBE6S18          |                    | PKM4S56                   | 4DP-3-563         | PVC6156          | 4PS-556          |
| C179     | .018   | 200V 10% | DBE6S18          |                    | DM4S1 8                   | 8DP-2-183         | PVC212           | 2PS-180          |
| C180     | .00407 | 600V 10% | DBE6D47          |                    | DMDF47                    | 8DP-1-472         | GP6247           | 6PS-447          |
| C181     | .22    | 200V 10% | V1612 P22        |                    | DMF2 P22                  | 2DP-4-224         | PVC202P          | 2PS-P22          |
| C182     | .12    | 200V 10% | #250319-1076     |                    | PKM4P12                   |                   |                  |                  |
| C183     | .12    | 200V 10% |                  | #250319-1076       |                           | PKM4 P12          |                  |                  |
| C184     | .33    | 200V     | V1612 P33        |                    | DMF2 P33                  | 2DP-5-334         | PVC2033          | 2PS-P33          |
| C185     | .01    | 1KV 10%  | GPD X5S103K      | DD-103             | BYX601ZU103M              | CCD-103           | JF110            | 10TS-S10         |
| C186     | .0022  | 1.4KV    | HVH-152200       | DD30-222           | HVX2 02ZU02 P             | 3CCD-202          | 2HV222           | 30GA-D22         |
| C187     | .001   |          | GPD X5 F102K     | DD-102             | JBS601Y P102K             | CCD-102           | GP210            | 10TS-D10         |
| C188     | .01    | 1.4KV    |                  |                    | HVT162ZV103 P             |                   | 2HV110           | 30GA-S10         |

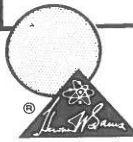
CHASSIS - BOTTOM VIEW







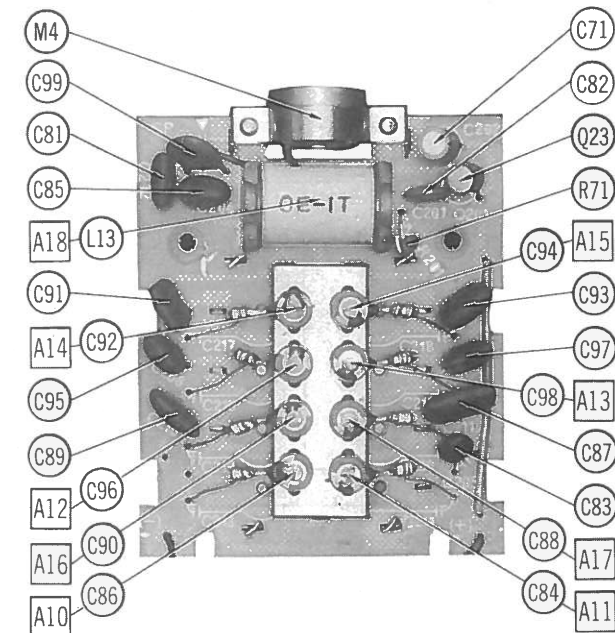
REMOTE RECEIVER



For Supplier Address See PHOTOFACT Index


**IMPORTANT FILING NOTICE**

This PHOTOFACT Folder covers equipment used with the TV chassis covered in PHOTOFACT SET 1005 FOLDER 1. File this Folder with the TV Folder in the yellow filing jacket provided.



**REMOTE TRANSMITTER ALIGNMENT**

With Transmitter approximately 8 feet from a receiver known to be aligned properly, depress buttons shown below.

| DEPRESS             | CONNECT VTVM  | ADJUST | REMARKS             |
|---------------------|---|--------|---------------------|
| Tint - Green Button | DC probe to Point  | A10    | Adjust for maximum. |
| Tint - Red Button   | "   | A11    | " " "               |
| UHF - Up Button     | "   | A12    | " " "               |
| UHF - Down Button   | "   | A13    | " " "               |
| VHF Button          | "   | A14    | " " "               |
| Volume - Off Button | "   | A15    | " " "               |
| Color - Up Button   | "   | A16    | " " "               |
| Color - Down Button | "   | A17    | " " "               |

**REMEMBER TO ASK—** "What else needs fixing?"

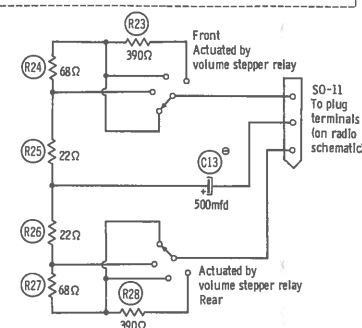
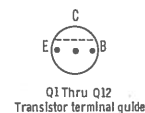
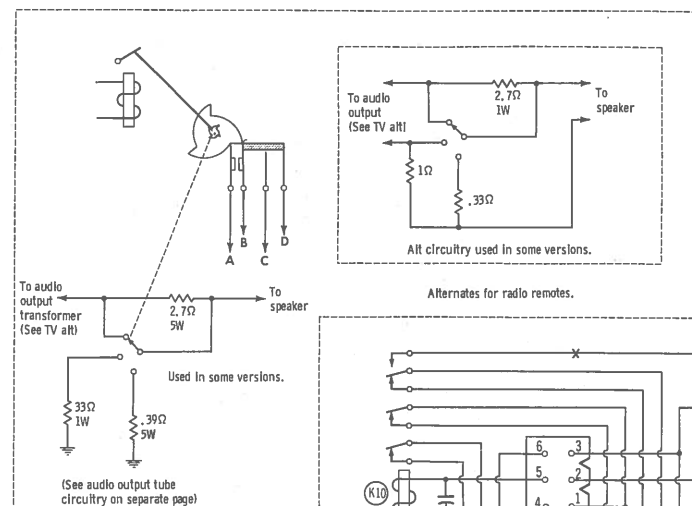
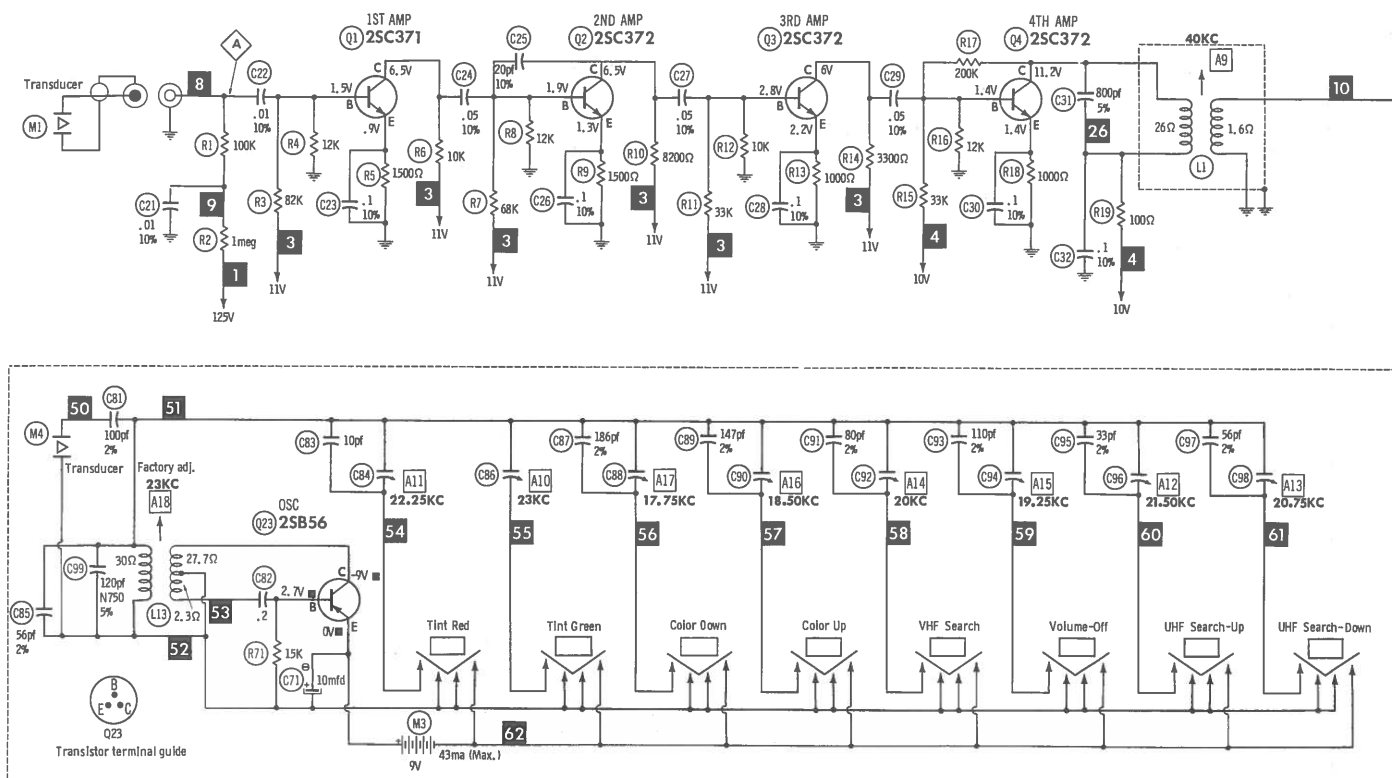
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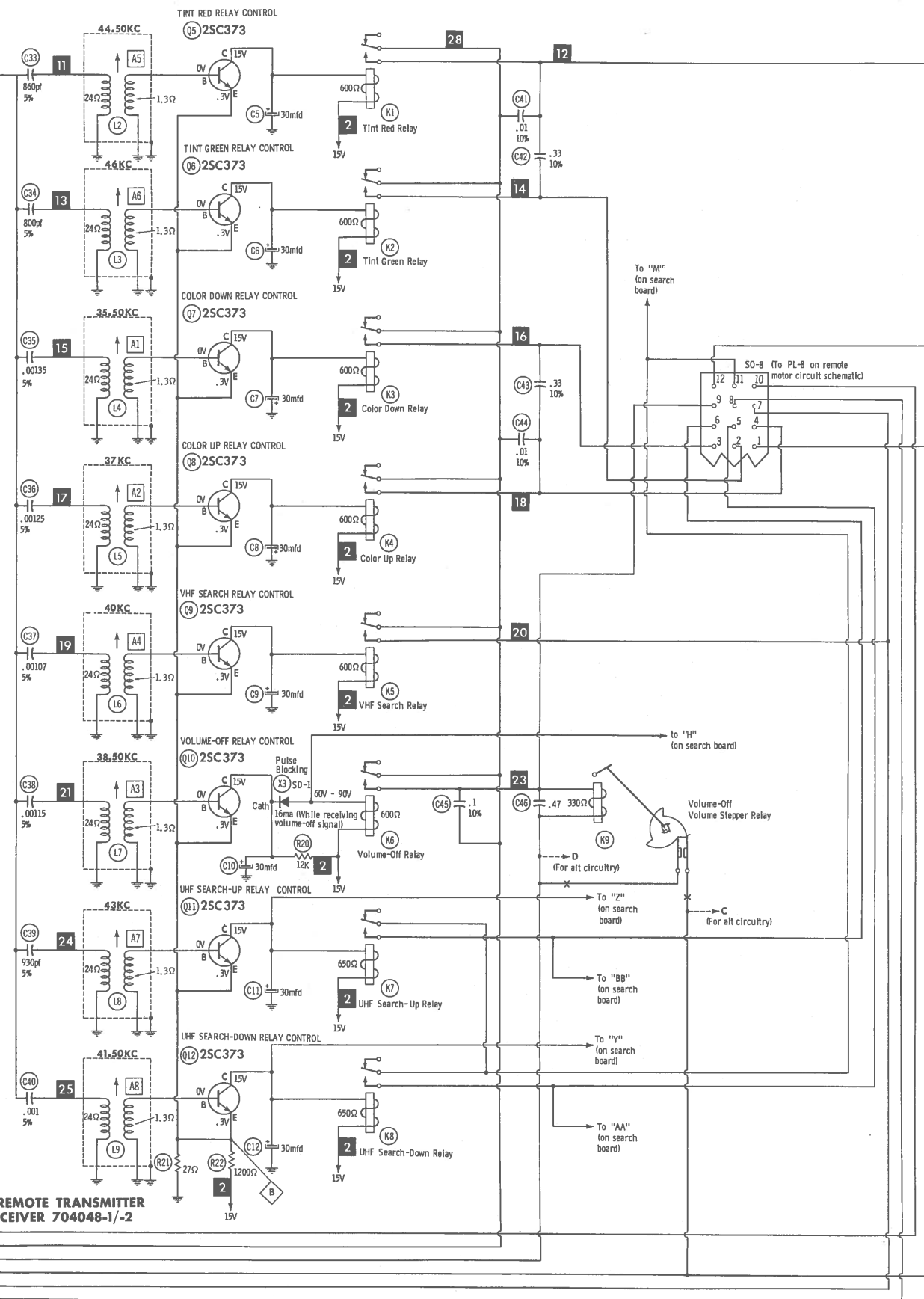
The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W.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

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DATE 1-69 SET 1005 FOLDER 1A



MAGNAVOX REMOTE TRANSMITTER  
704041-1, RECEIVER 704048-1/-2



- ▲ Measured from emitter of Q13 while VHF tuner is searching for channel.
- Measured from positive terminal of battery and emitter of Q23 and C71.
- ✱ Denotes ground.
- \* Not used in some versions.
- ⊙ See parts list.
- 1. Controls viewed from actuator end. Arrow indicates clockwise rotation.
- 2. Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.
- 3. Voltage and resistance readings taken with a VTVM.
- 4. Supply voltage maintained at rated value for voltage measurements.
- 5. All controls set for normal operation, no signal applied.
- 6. Measured values are from socket pin or terminal to common ground.
- 7. All terminals viewed from bottom unless otherwise indicated.
- 8. Numbers assigned to terminals may not be found on the unit.
- 9. Resistance measurements not given because of the wide variation in internal resistance of the transistor.

A PHOTOFACT STANDARD NOTATION SCHEMATIC  
with CIRCUITRACE  
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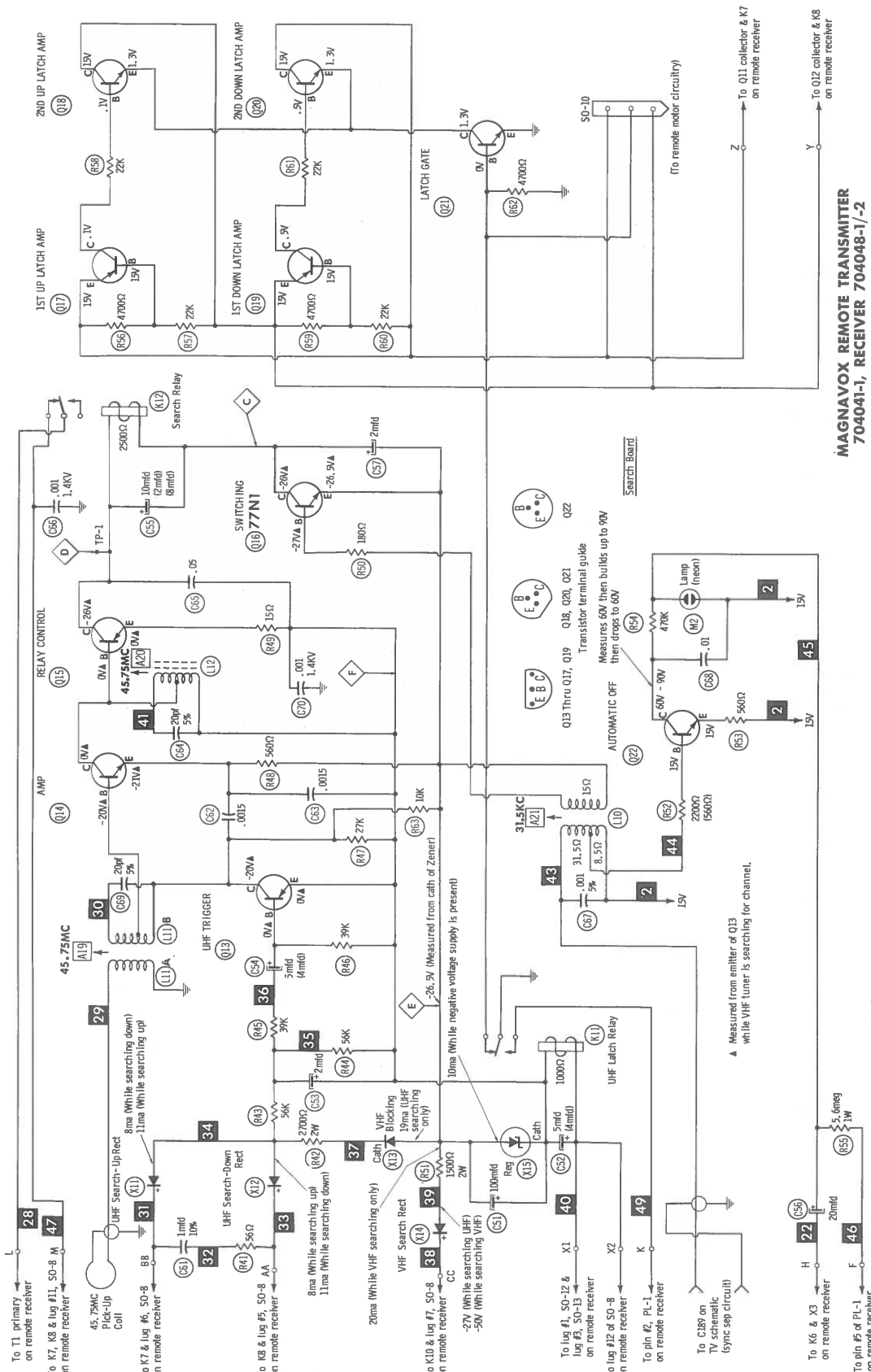


REMOTE CONTROL RECEIVER ALIGNMENT

| SIGNAL GENERATOR COUPLING                                     | SIGNAL GENERATOR FREQUENCY | DEPRESS           | CONNECT VTVM                             | ADJUST | REMARKS             |
|---|----------------------------|-------------------|--|--------|---------------------|
| Connect high side thru .01mfd to Point ①, low side to ground. | 35.50KC                    | Color - Down      | DC probe to Point ①, low side to ground. | A1     | Adjust for maximum. |
| "   | 37.00KC                    | Color - Up        | "  | A2     | " " "               |
| "   | 38.50KC                    | Volume - Off      | "  | A3     | " " "               |
| "   | 40.00KC                    | VHF - Search      | "  | A4     | " " "               |
| "   | 44.50KC                    | Tint - Red        | "  | A5     | " " "               |
| "   | 46.00KC                    | Tint - Green      | "  | A6     | " " "               |
| "   | 43.00KC                    | UHF - Search Up   | "  | A7     | " " "               |
| "   | 41.50KC                    | UHF - Search Down | "  | A8     | " " "               |
| "   | 40.00KC                    | Broadband Output  | "  | A9     | " " "               |

SEARCH ALIGNMENT

| Disconnect 4-pin plug PL-10 from Search Board. |   |         |                     |
|--|---|---------|---------------------|
| DEPRESS  | CONNECT VTVM  | ADJUST  | REMARKS             |
| VHF Button                                     | DC probe to Point ①, low side to Point ②. Jumper Point ③ to Point ④.      | A9, A20 | Adjust for maximum. |
| VHF Button                                     | Remove jumper from Point ③ and ④. Connect jumper from Point ③ to Point ⑤. | A21     | Adjust for maximum. |

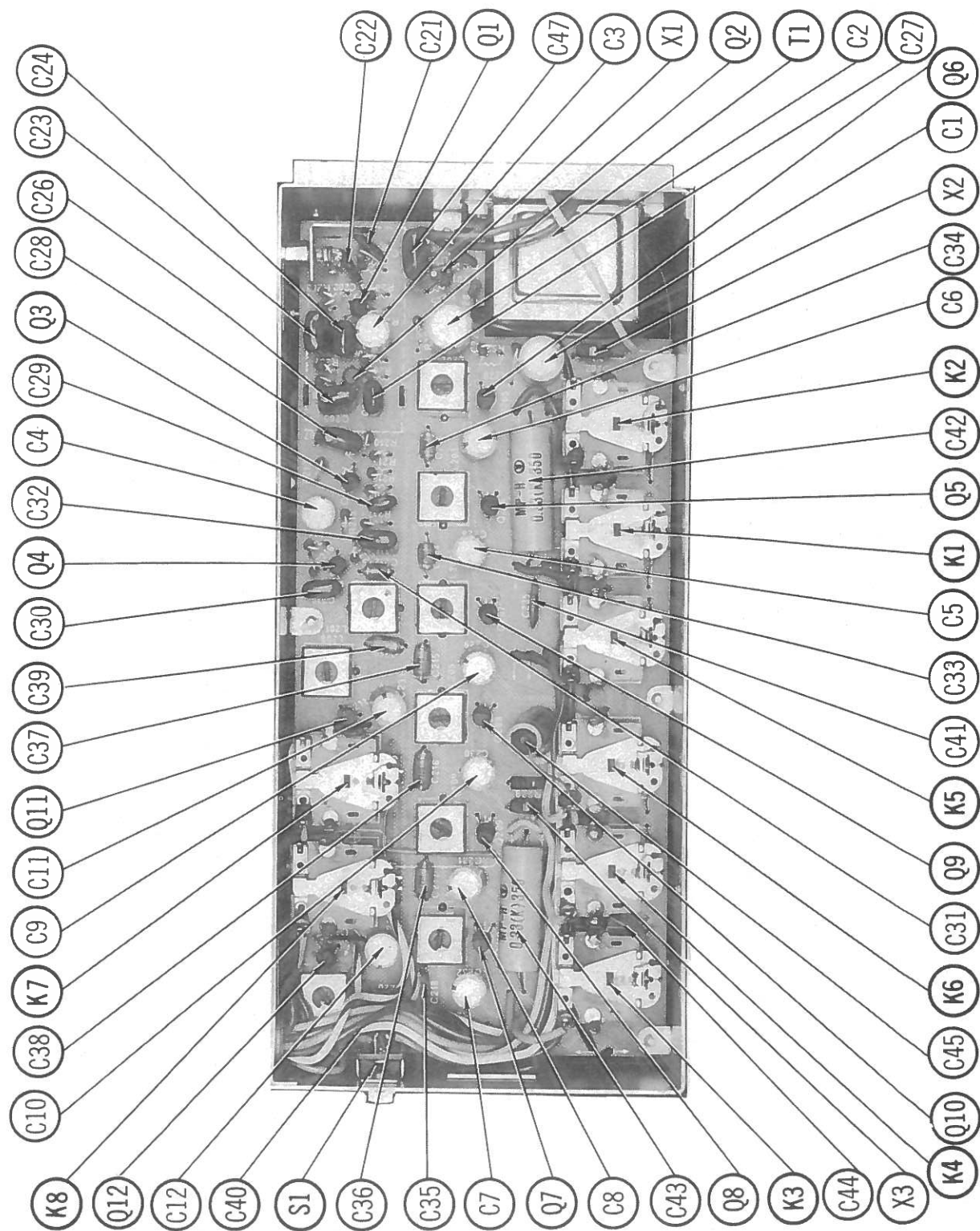


MAGNAVOX REMOTE TRANSMITTER 704041-1, RECEIVER 704048-1/-2

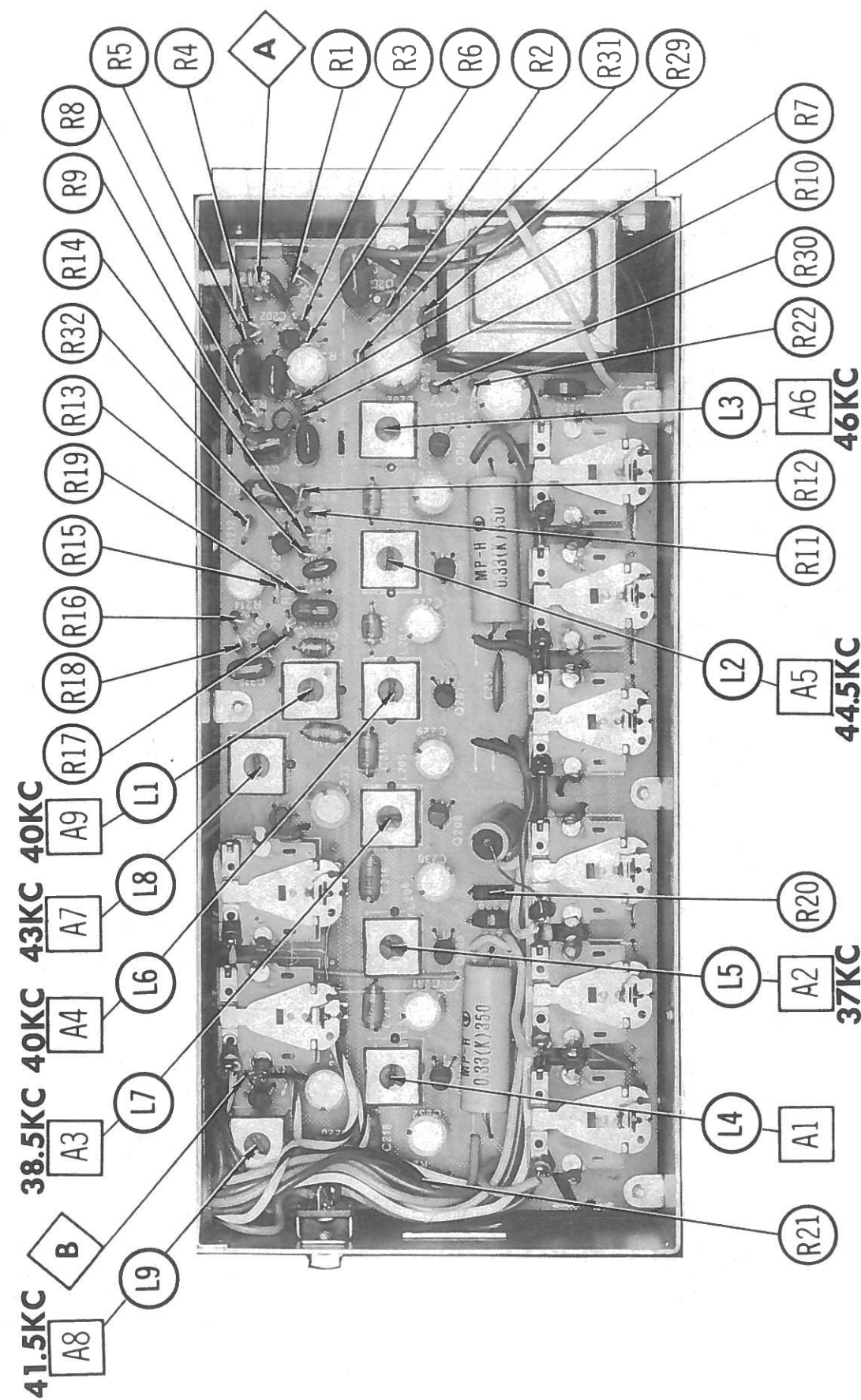
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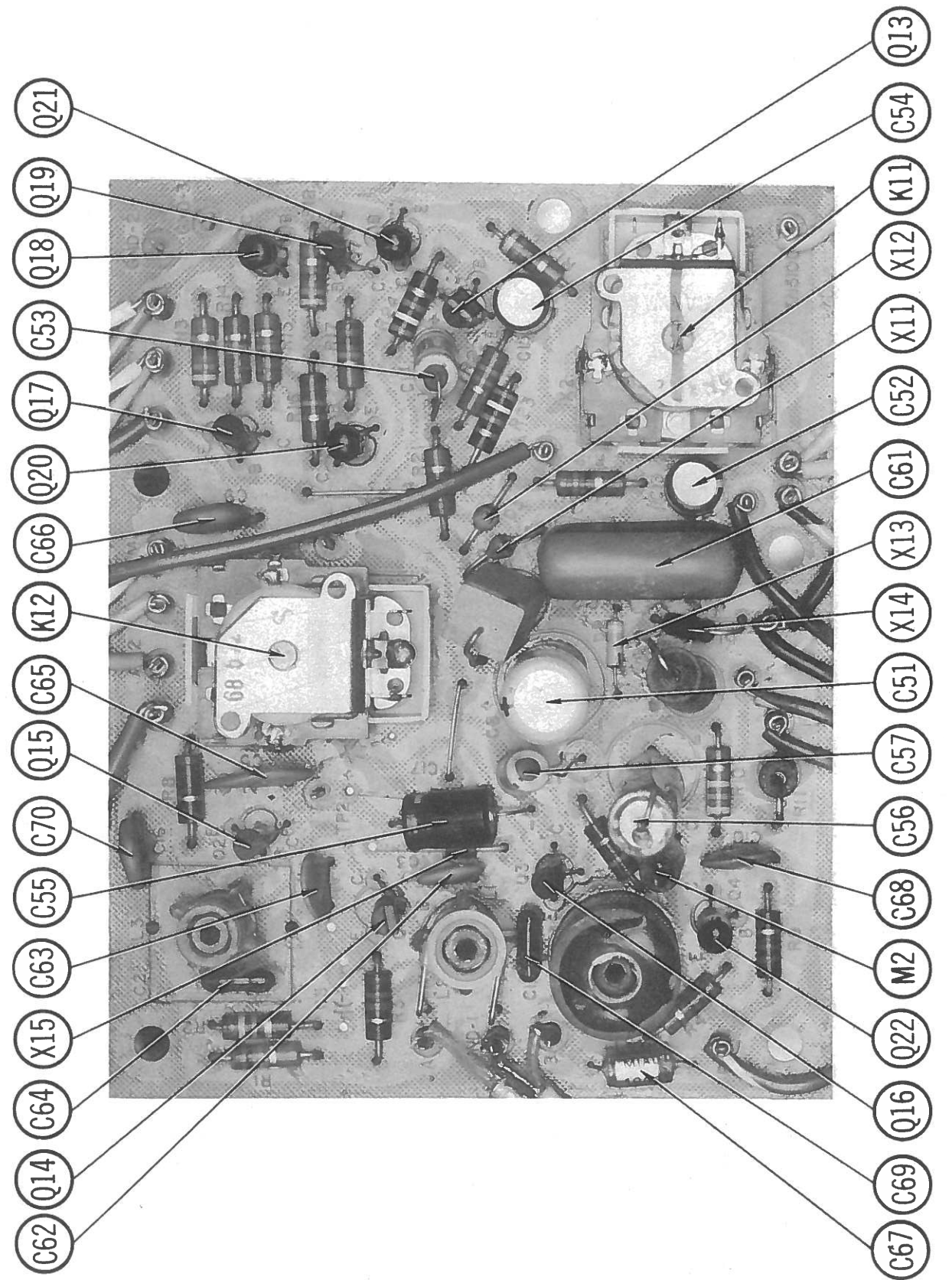
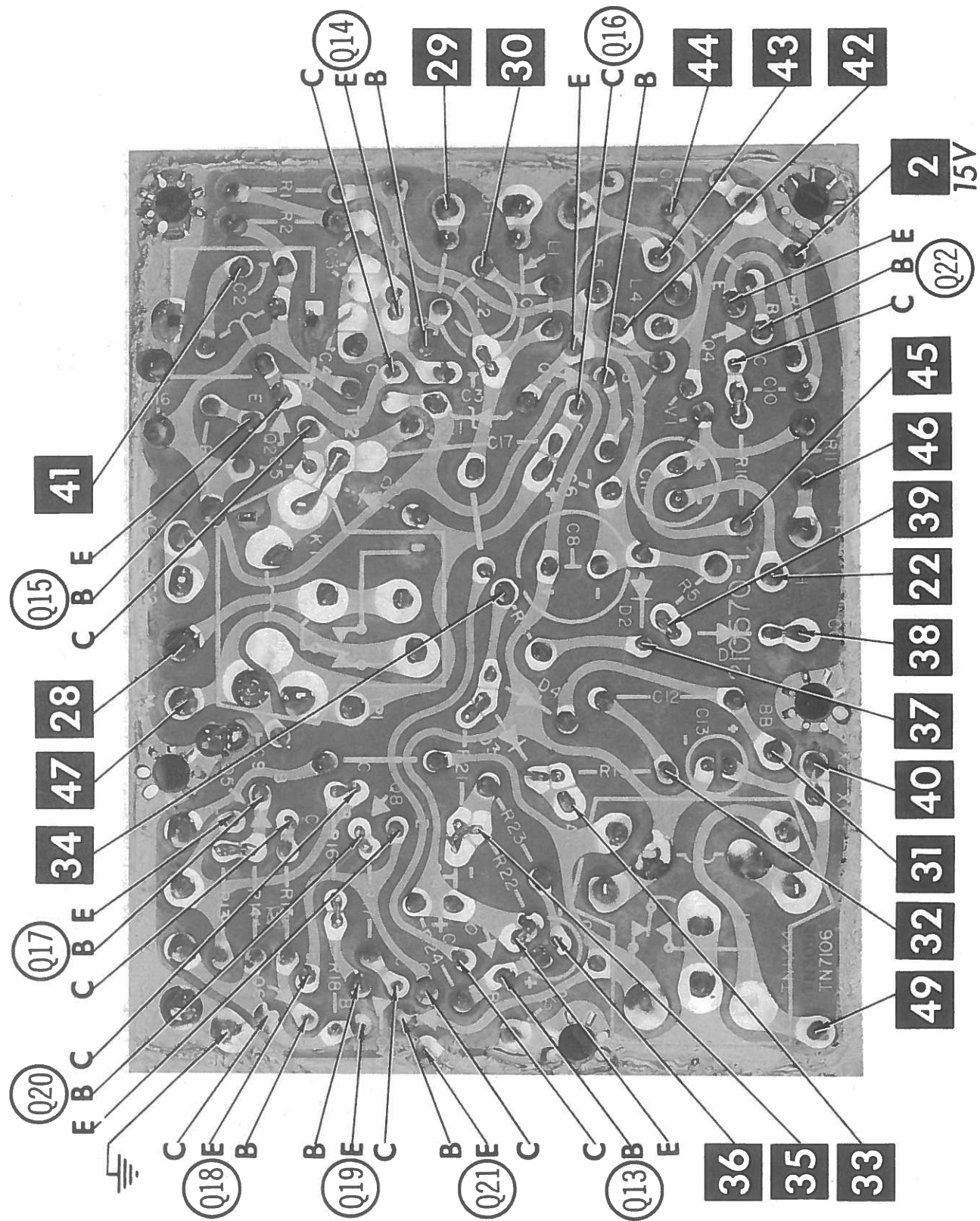




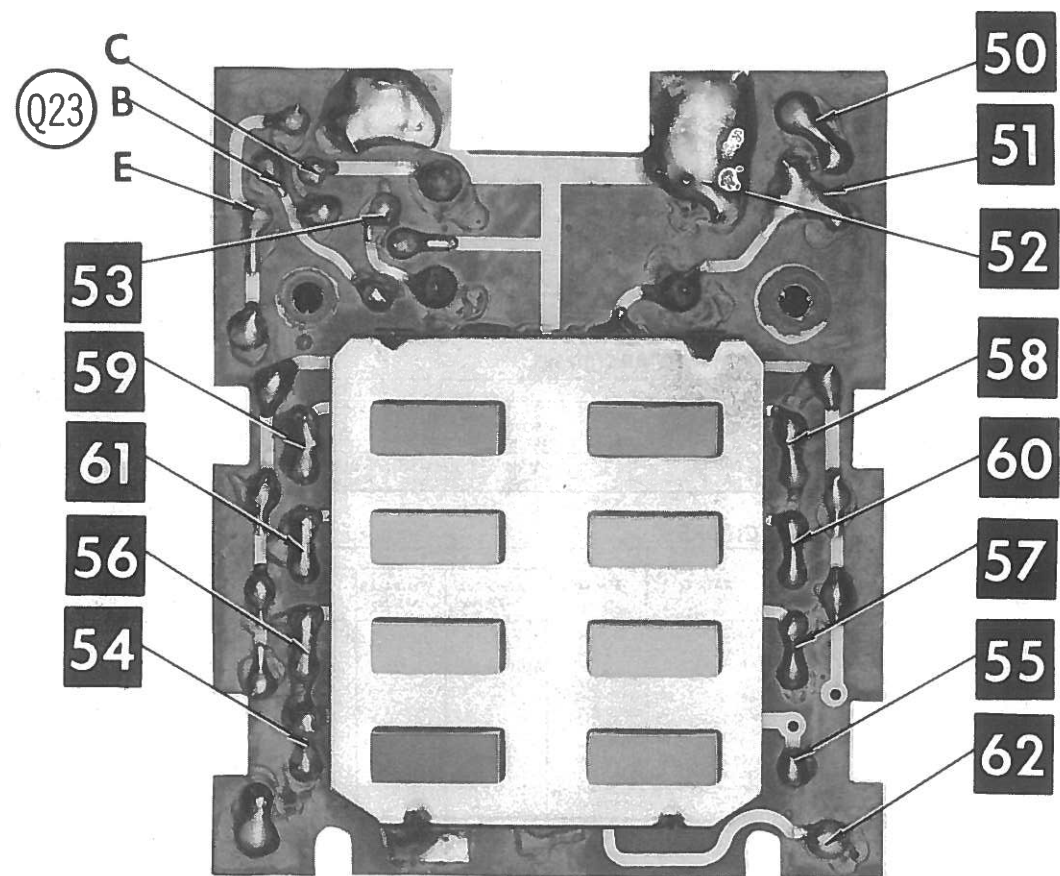
REMOTE RECEIVER BOARD



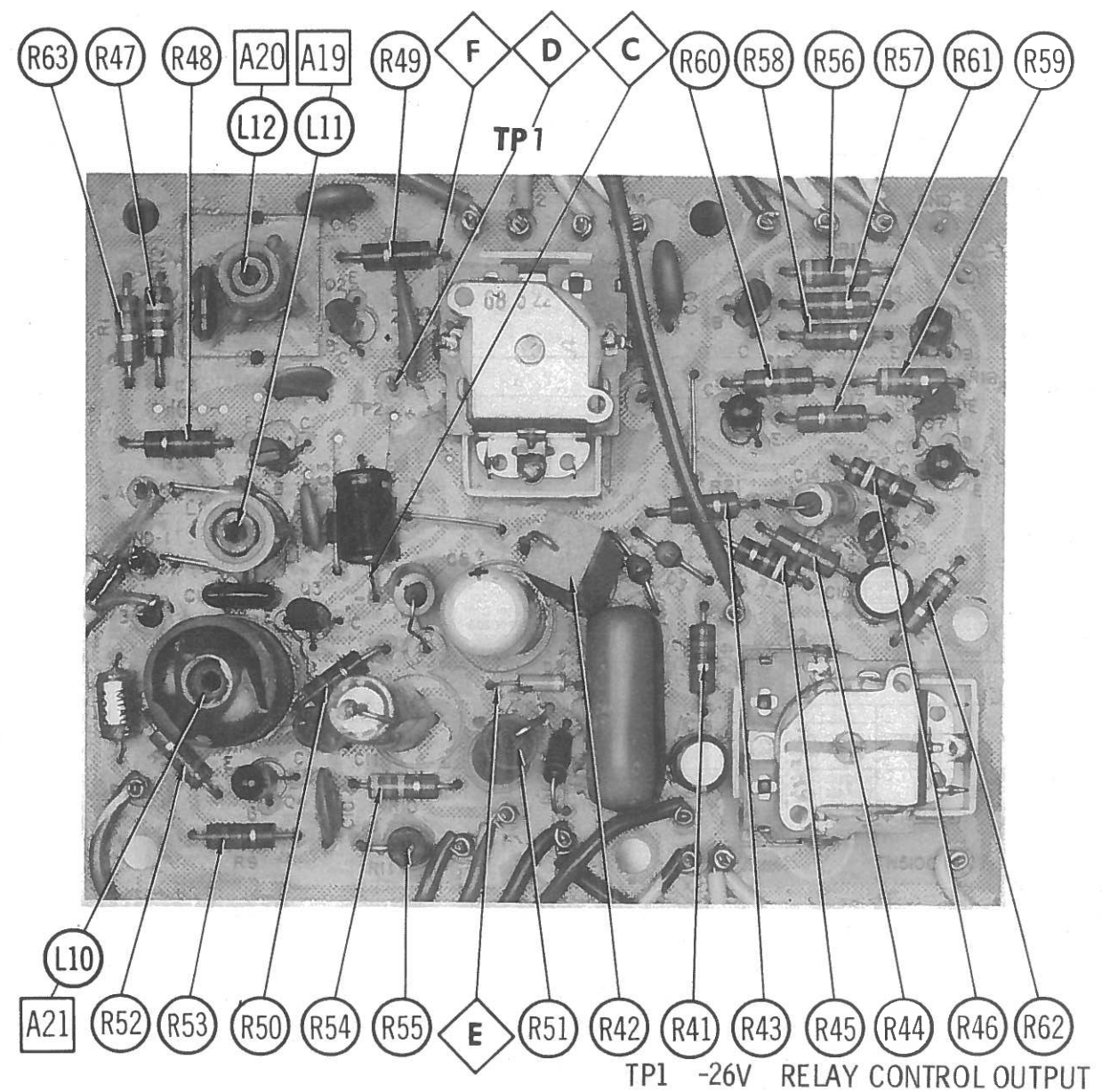
REMOTE RECEIVER







A Howard W. Sams CIRCUITRACE® Photo TRANSMITTER PRINTED BOARD



REMOTE SEARCH BOARD

## REMOTE RECEIVER

### TRANSISTORS

| ITEM No. | TYPE No. | FUNCTION                      | REPLACEMENT DATA |                |                           |                                  |                   |              |                   |
|----------|----------|-------------------------------|------------------|----------------|---------------------------|----------------------------------|-------------------|--------------|-------------------|
|          |          |                               | MFG. PART No.    | DELCO PART No. | GENERAL ELECTRIC PART No. | INTERNATIONAL RECTIFIER PART No. | MOTOROLA PART No. | RCA PART No. | SYLVANIA PART No. |
| Q1       | 2SC371   | 1st Amp.                      |                  | DS-66          | GE-10                     | TR-21                            | HEP54             | SK-3020      | ECG 123           |
| Q2       | 2SC372   | 2nd Amp.                      |                  | DS-66          | GE-10                     | TR-21                            | HEP54             | SK-3020      | ECG 123           |
| Q3       | 2SC372   | 3rd Amp.                      |                  | DS-66          | GE-10                     | TR-21                            | HEP54             | SK-3020      | ECG 123           |
| Q4       | 2SC372   | 4th Amp.                      |                  | DS-66          | GE-10                     | TR-21                            | HEP54             | SK-3020      | ECG 123           |
| Q5       | 2SC373   | Tint Red Relay Control        |                  | DS-66          | GE-10                     | TR-21                            | HEP54             | SK-3020      | ECG 123           |
| Q6       | 2SC373   | Tint Green Relay Control      |                  | DS-66          | GE-10                     | TR-21                            | HEP54             | SK-3020      | ECG 123           |
| Q7       | 2SC373   | Color Down Relay Control      |                  | DS-66          | GE-10                     | TR-21                            | HEP54             | SK-3020      | ECG 123           |
| Q8       | 2SC373   | Color Up Relay Control        |                  | DS-66          | GE-10                     | TR-21                            | HEP54             | SK-3020      | ECG 123           |
| Q9       | 2SC373   | VHF Search Relay Control      |                  | DS-66          | GE-10                     | TR-21                            | HEP54             | SK-3020      | ECG 123           |
| Q10      | 2SC373   | Volume Off Relay Control      |                  | DS-66          | GE-10                     | TR-21                            | HEP54             | SK-3020      | ECG 123           |
| Q11      | 2SC373   | UHF Search-up Relay Control   |                  | DS-66          | GE-10                     | TR-21                            | HEP54             | SK-3020      | ECG 123           |
| Q12      | 2SC373   | UHF Search-Down Relay Control |                  | DS-66          | GE-10                     | TR-21                            | HEP54             | SK-3020      | ECG 123           |

### POWER RECTIFIERS & SIGNAL DIODES

| ITEM No. | MFG. PART OR TYPE No. | REPLACEMENT RECTIFIERS & DIODES |                                  |                    | REPLACEMENT RECTIFIERS |                         | NOTES |
|----------|-----------------------|---------------------------------|----------------------------------|--------------------|------------------------|-------------------------|-------|
|          |                       | GENERAL ELECTRIC PART No.       | INTERNATIONAL RECTIFIER PART No. | SYLVANIA PART No.  | RCA PART No.           | SARKES TARZIAN PART No. |       |
| X1       | 53J001-1              | GE-504A                         | 8D4 or 5A4-D                     | ECG 116 or ECG 117 | SK-3030 or SK-3031     | 40C or F-4              |       |
| X2       | 53J002-1 (SD-1)       | GE-504A                         | 8D4 or 5A4-D                     | ECG 116 or ECG 117 | SK-3031 or SK-3017A    | 40C or F-4              |       |
| X3       | 53J002-1 (SD-1)       | GE-504A                         | 8D4 or 5A4-D                     | ECG 116 or ECG 117 | SK-3031 or SK-3017A    | 40C or F-4              |       |

### ELECTROLYTIC CAPACITORS

| ITEM No. | RATING  | REPLACEMENT DATA  |                  |                    |                           |                           |                  |                  |
|----------|---------|-------------------|------------------|--------------------|---------------------------|---------------------------|------------------|------------------|
|          |         | MAGNAVOX PART No. | AEROVOX PART No. | CENTRALAB PART No. | CORNELL-DUBILIER PART No. | GENERAL ELECTRIC PART No. | MALLORY PART No. | SPRAGUE PART No. |
| C1       | 100 25V | 27J001-1          | CRE623A          |                    | NLW100-25                 | QT1-23                    | MTV100CP25       | TL-1211          |
| C2       | 100 25V | 27J001-1          | CRE623A          |                    | NLW100-25                 | QT1-23                    | MTV100CP25       | TL-1211          |
| C3       | 30 25V  | 27J001-2          | CRE613A          | EP30-50            | NLW30-25                  | MT1-14                    | MTV30CB25        | TE1207.5         |
| C4       | 30 25V  | 27J001-2          | CRE613A          | EP30-50            | NLW30-25                  | MT1-14                    | MTV30CB25        | TE1207.5         |
| C5       | 30 25V  | 27J001-2          | CRE613A          | EP30-50            | NLW30-25                  | MT1-14                    | MTV30CB25        | TE1207.5         |
| C6       | 30 25V  | 27J001-2          | CRE613A          | EP30-50            | NLW30-25                  | MT1-14                    | MTV30CB25        | TE1207.5         |
| C7       | 30 25V  | 27J001-2          | CRE613A          | EP30-50            | NLW30-25                  | MT1-14                    | MTV30CB25        | TE1207.5         |
| C8       | 30 25V  | 27J001-2          | CRE613A          | EP30-50            | NLW30-25                  | MT1-14                    | MTV30CB25        | TE1207.5         |
| C9       | 30 25V  | 27J001-2          | CRE613A          | EP30-50            | NLW30-25                  | MT1-14                    | MTV30CB25        | TE1207.5         |
| C10      | 30 25V  | 27J001-2          | CRE613A          | EP30-50            | NLW30-25                  | MT1-14                    | MTV30CB25        | TE1207.5         |
| C11      | 30 25V  | 27J001-2          | CRE613A          | EP30-50            | NLW30-25                  | MT1-14                    | MTV30CB25        | TE1207.5         |
| C12      | 30 25V  | 27J001-2          | CRE613A          | EP30-50            | NLW30-25                  | MT1-14                    | MTV30CB25        | TE1207.5         |
| C13      | 500 6V  | 270082-127        | PRS1120          | EA6-500            | BR500-6                   | QT1-30                    | MTA500F6         | TL-1108          |
|          | 500 3V  |                   | PTT17            | EA6-500            |                           | MT1-26                    | MTA500F6         | TL-1068          |

### CAPACITORS

| 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. |
| C21      | .01 400V 10% |         | V1614S1          | CPR-10000J         | DMF4S1                    | 4DP-1-103        | PVC411           | 4PS-S10          |
| C22      | .01 400V 10% |         | V1614S1          | CPR-10000J         | DMF4S1                    | 4DP-1-103        | PVC411           | 4PS-S10          |
| C23      | .1 50V 10%   |         | DBE2P1           |                    | DMF1P1                    | 1DP-2-104        | PVC101           | 225P10491        |
| C24      | .05 50V 10%  |         | V1612S5          |                    | WMF1S5                    | 1DP-2-503        | PVC215           | 2PS-S50          |
| C25      | 20 10%       |         | NFO-DI 20        | DTZ-20             | CY601CG220K               | CCTO-200         | CNO420           | 10TCC-Q20        |
| C26      | .1 50V 10%   |         | DBE2P1           |                    | DMF1P1                    | 1DP-2-104        | PVC101           | 225P10491        |
| C27      | .05 50V 10%  |         | V1612S5          |                    | WMF1S5                    | 1DP-2-503        | PVC215           | 2PS-S50          |
| C28      | .1 50V 10%   |         | DBE2P1           |                    | DMF1P1                    | 1DP-2-104        | PVC101           | 225P10491        |
| C29      | .05 50V 10%  |         | V1612S5          |                    | WMF1S5                    | 1DP-2-503        | PVC215           | 2PS-S50          |
| C30      | .1 50V 10%   |         | DBE2P1           |                    | DMF1P1                    | 1DP-2-104        | PVC101           | 225P10491        |
| C31      | 800 5%       |         |                  | CPR-820J           | CD19F821J500              | DM-19-821J       | SX382            | MS-382           |
| C32      | .1 50V 10%   |         | DBE2P1           |                    | DMF1P1                    | 1DP-2-104        | PVC101           | 225P10491        |
| C33      | 800 50V 5%   |         |                  | CPR-820J           | CD19F821J500              | DM-19-821J       | SX382            | MS-382           |
| C34      | 800 50V 5%   |         |                  | CPR-820J           | CD19F821J500              | DM-19-821J       | SX382            | MS-382           |
| C35      | 1350 50V 5%  |         |                  | CPR-1300J          | CD19F132J500              | DM-19-132J       | SX213            | MS-213           |
| C36      | 1250 50V 5%  |         |                  | CPR-1200J          | CD19F122J500              | DM-19-122J       | SX212            | MS-212           |
| C37      | 1070 50V 5%  |         |                  | CPR-1000J          | CD19F102J500              | DM-19-102J       | SX210            | MS-21            |
| C38      | 1150 50V 5%  |         |                  | CPR-1000J          | CD19F102J500              | DM-19-102J       | SX210            | MS-21            |
| C39      | 930 50V 5%   |         |                  | CPR-910J           | CD19F911J500              | DM-19-911J       | SX391            | MS-391           |
| C40      | .001 50V 5%  |         |                  | CPR-1000J          | CD19F102J500              | DM-19-102J       | SX210            | MS-21            |
| C41      | .01 10%      |         | TTP-01           | CK-103             | HOY101ZV103P              | CCD-103          | TA110            | TG-S10           |
| C42      | .33 350V 10% |         | V1614P33         |                    | PKM4P33                   | 4DP-5-334        | PVC6033          |                  |
| C43      | .33 350V 10% |         | V1614P33         |                    | PKM4P33                   | 4DP-5-334        | PVC6033          |                  |
| C44      | .01 10%      |         | TTP-01           | CK-103             | HOY101ZV103P              | CCD-103          | TA110            | TG-S10           |
| C45      | .1 350V 10%  |         | DBE4P1           |                    | DMF4P1                    | 4DP-6-474        | PVC401           | 4PS-P10          |
| C46      | .47 400V     |         | V1614P47         |                    | DPMS4P47                  | 4DP-6-474        | PVC4047          |                  |
| C47      | .05 400V 10% |         | V1614S5          |                    | DPMS4S5                   | 4DP-3-503        | PVC415           | 4PS-S50          |
| C48      | .01 100V     |         | TTP-01           | CK-103             | HOY101ZV103P              | CCD-103          | TA110            | TG-S10           |

### COILS (RF-IF)

| ITEM No. | USE                       | REPLACEMENT DATA |                   |                 |                  |
|----------|---------------------------|------------------|-------------------|-----------------|------------------|
|          |                           | PART No.         | MEISSNER PART No. | MILLER PART No. | WORKMAN PART No. |
| L1       | Broad Band Output         | 36J001-1         |                   |                 |                  |
| L2       | Tint Red (44, 50KC)       | 36J002-1         |                   |                 |                  |
| L3       | Tint Green (46, 00KC)     | 36J002-1         |                   |                 |                  |
| L4       | Color Down (35, 50KC)     | 36J002-1         |                   |                 |                  |
| L5       | Color Up (37, 00KC)       | 36J002-1         |                   |                 |                  |
| L6       | VHF Search (40, 00KC)     | 36J002-1         |                   |                 |                  |
| L7       | Volume Off (38, 50KC)     | 36J002-1         |                   |                 |                  |
| L8       | UHF Search -Up (43, 00KC) | 36J002-1         |                   |                 |                  |
| L9       | UHF Search-Down(41, 00KC) | 36J002-1         |                   |                 |                  |

## PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, and Description.)

### TRANSFORMER (Power)

| ITEM No. | RATING           |  | REPLACEMENT DATA |                |                  |                     |                | NOTES |
|----------|------------------|--|------------------|----------------|------------------|---------------------|----------------|-------|
|          | PRI.             | SEC. 1                                   | MFG. PART No.    | MERIT PART No. | STANCOR PART No. | THORDARSON PART No. | TRIAD PART No. |       |
| T1       | 117VAC @ .27A AC | 95VAC @ .001ADC Tap @ 13.5VAC @ .037A DC | 32J001-1         |                |                  |                     |                |       |

### MISCELLANEOUS

| ITEM No. | PART NAME  | PART No. | NOTES                                    |
|----------|------------|----------|--|
| K1       | Relay      | 16J001-1 | Tint Red                                 |
| K2       | Relay      | 16J001-1 | Tint Green                               |
| K3       | Relay      | 16J001-1 | Color Down                               |
| K4       | Relay      | 16J001-1 | Color Up                                 |
| K5       | Relay      | 16J005-1 | VHF Search                               |
| K6       | Relay      | 16J001-1 | Volume - Off                             |
| K7       | Relay      | 16J001-1 | UHF Search - Up                          |
| K8       | Relay      | 16J001-1 | UHF Search - Down                        |
| K9       | Relay      | 160418-3 | Volume -Stepper (Stereo Theatre Version) |
|          |            | 160418-2 | Volume - Stepper (Console Version)       |
|          |            | 160435-2 | Radio-TV Relay (Stereo Theatre Version)  |
| K10      | Transducer | 57J001-1 |  |
| M1       | Switch     | 16J002-1 | Remote Defeat                            |
| S1       |            |          |  |

## REMOTE SEARCH

### TRANSISTORS

| ITEM No. | TYPE No. | FUNCTION           | REPLACEMENT DATA |                |                           |                                  |                   |              |                   |
|----------|----------|--------------------|------------------|----------------|---------------------------|----------------------------------|-------------------|--------------|-------------------|
|          |          |                    | MFG. PART No.    | DELCO PART No. | GENERAL ELECTRIC PART No. | INTERNATIONAL RECTIFIER PART No. | MOTOROLA PART No. | RCA PART No. | SYLVANIA PART No. |
| Q13      |          | UHF Trigger        | 610074-1         | DS-83          | GE-22                     | TR-19                            | HEP51             | SK-3025      | ECG 129           |
| Q14      |          | Amp                | 610041-3         | DS-81          | GE-17                     | TR-22                            | HEP50             | SK-3018      | ECG 108           |
| Q15      |          | Relay Control      | 610074-1         |                | GE-22                     | TR-19                            | HEP52             |              | ECG 106           |
| Q16      |          | Switching          | 610077-1         | DS-66          | GE-10                     | TR-21                            | HEP54             | SK-3020      | ECG 123           |
| Q17      |          | 1st Up Latch Amp   | 610074-1         | DS-83          | GE-22                     | TR-19                            | HEP51             | SK-3025      | ECG 129           |
| Q18      |          | 2nd Up Latch Amp   | 610041-2         | DS-66          | GE-10                     | TR-21                            | HEP54             | SK-3020      | ECG 123           |
| Q19      |          | 1st Down Latch Amp | 610074-1         | DS-83          | GE-22                     | TR-19                            | HEP51             | SK-3025      | ECG 129           |
| Q20      |          | 2nd Down Latch Amp | 610041-2         | DS-66          | GE-10                     | TR-21                            | HEP54             | SK-3020      | ECG 123           |
| Q21      |          | Latch Gate         | 610041-2         | DS-66          | GE-10                     | TR-21                            | HEP54             | SK-3020      | ECG 123           |
| Q22      |          | Automatic Off      | 610107-2         |                | GE-10                     | TR-21                            |                   |              | ECG 128           |

### POWER RECTIFIERS & SIGNAL DIODES

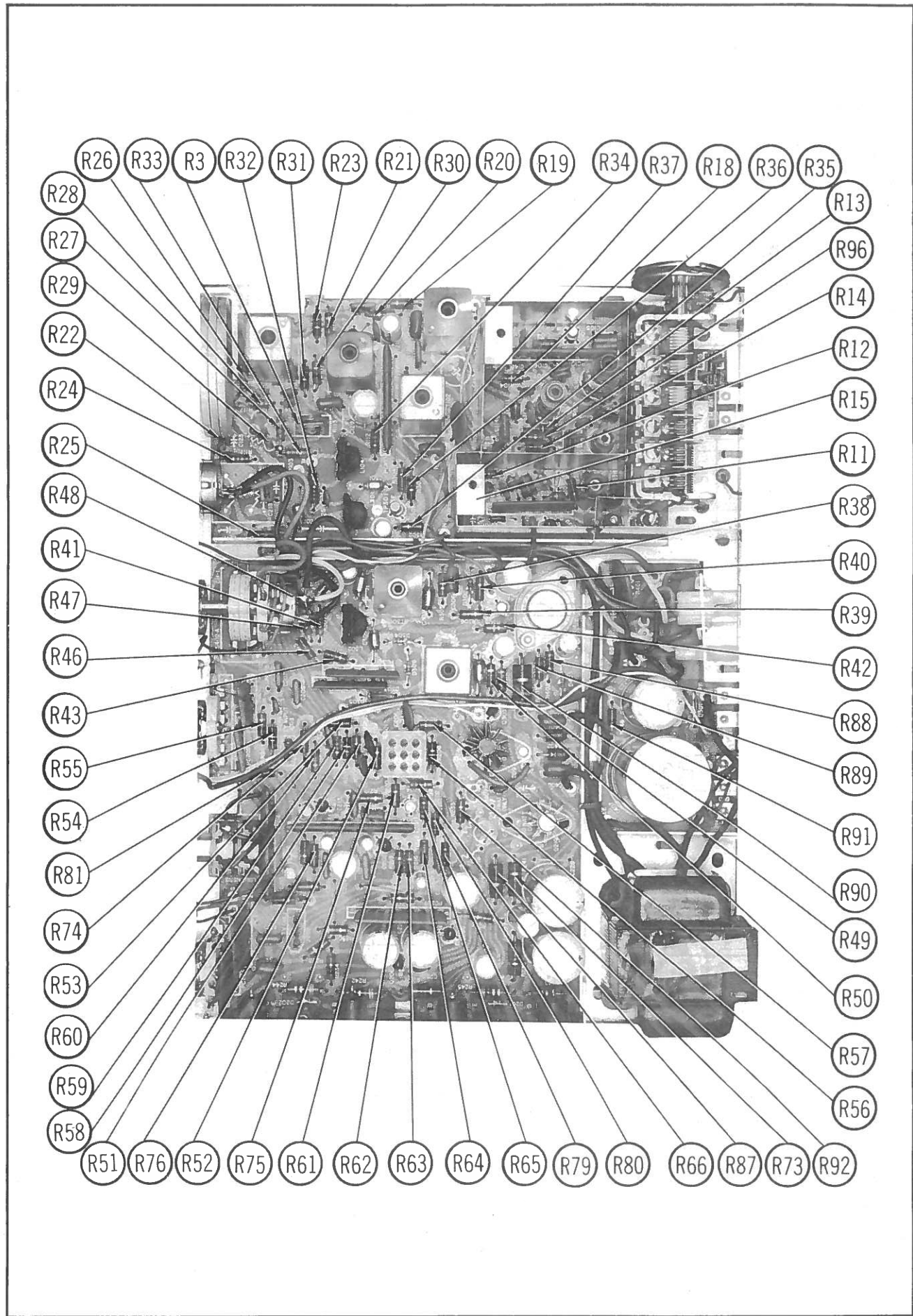
| ITEM No. | MFG. PART OR TYPE No. | REPLACEMENT RECTIFIERS & DIODES |                                  |                    | REPLACEMENT RECTIFIERS |                         | NOTES         |
|----------|-----------------------|---------------------------------|----------------------------------|--------------------|------------------------|-------------------------|---------------|
|          |                       | GENERAL ELECTRIC PART No.       | INTERNATIONAL RECTIFIER PART No. | SYLVANIA PART No.  | RCA PART No.           | SARKES TARZIAN PART No. |               |
| X11      | 530082-3 (-4)         | GE-504A                         | 8D4 or 5A4-D                     | ECG 116 or ECG 117 | SK-3031 or SK-3017A    | 40C or F-4              | ① Zener Diode |
| X12      | 530082-3 (-4)         | GE-504A                         | 8D4 or 5A4-D                     | ECG 116 or ECG 117 | SK-3031 or SK-3017A    | 40C or F-4              |               |
| X13      | 530072-9              | GE-504A                         | 8D4 or 5A4-D                     | ECG 116 or ECG 117 | SK-3031 or SK-3017A    | 40C or F-4              |               |
| X14      | 530082-3 (-4)         | GE-504A                         | 8D4 or 5A4-D                     | ECG 116 or ECG 117 | SK-3031 or SK-3017A    | 40C or F-4              |               |
| X15      | 530073-18 ①           |                                 | Z-1120                           |                    |                        | 1TA27B or 1T27A         |               |

### ELECTROLYTIC CAPACITORS

| ITEM No. | RATING  | REPLACEMENT DATA  |                  |                    |                           |                           |                  |                  |
|----------|---------|-------------------|------------------|--------------------|---------------------------|---------------------------|------------------|------------------|
|          |         | MAGNAVOX PART No. | AEROVOX PART No. | CENTRALAB PART No. | CORNELL-DUBILIER PART No. | GENERAL ELECTRIC PART No. | MALLORY PART No. | SPRAGUE PART No. |
| C51      | 100 25V | 270068-619        | CRE623A          |                    | NLW100-25                 | QT1-23                    | MTV100CP25       | TL-1211          |
| C52      | 5 50V   |                   | BCD50005         | EP50-5             | NLW5-50                   | MT1-3                     | MTV5CB50         | TL-1303          |
| C53      | 4 50V   | 270068-702        | BCD50005         | EP50-5             | NLW5-50                   | MT1-3                     | MTV5CB50         | TL-1303          |
| C54      | 2 50V   | 270082-701        | CRE751A          | EA50-2             | NLW2-50                   | MT1-1                     | MTA2D50          | TE-1301          |
| C55      | 5 50V   |                   | BCD50004         | EP50-5             | NLW5-50                   | MT1-3                     | MTV5CB50         | TL-1303          |
|          | 4 50V   | 270068-702        | BCD50004         | EP50-5             | NLW5-50                   | MT1-3                     | MTV5CB50         | TL-1303          |
| C56      | 10 35V* |                   | CRE757A          | EA50-10            | NLW10-50                  | MT1-6                     | MTA10D35         | TL-1304          |
|          | 8 25V   | 270082-605        | CRE606A          | EA30-10            | NLW10-25                  | MT1-5                     | MTA10D35         | TL-1204          |
| C57      | 20 100  | 270039-4          | CRE911A          |                    | CLW20-100                 | QT1-8,1                   | TC45A            | TE-1409          |
| C57      | 2 50V   | 270082-701        | CRE751A          | EA50-2             | NLW2-50                   | MT1-1                     | MTA2D50          | TE-1301          |

### CAPACITORS

| 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. |
| C61      | 1 400V 10%   |         | V1614W1          |                    | PKM4W1                    |                  | PVC61            |                  |
| C62      | .0015 500V   |         | GPD X5F152K      | DD-152             |                           | CCD-152          | GP215            | 10TS-D15         |
| C63      | .0015 500V   |         | GPD X5F152K      | DD-152             |                           | CCD-152          | GP215            | 10TS-D15         |
| C64      | 20 500V 5%   |         | ADM-15-200       | CPR-20J            | CD15E200J500              | CM-15-200J       | SX420            | MS-42            |
| C65      | .05          |         | TTP-05           | CK-503             | HOV101 ZV503Z             | CCD-503          | TA150            | TGL-S80          |
| C66      | .001 1.4KV   |         |                  | CI-102             | ACY142ZU102P              |                  | UAC210           | 125L-D10         |
| C67      | .001 150V 5% |         |                  | CPR-1000J          | CD19F102J500              | CM-19-102J       | SX210            | MS-21            |
| C68      | .01 500V     |         | GPD X5S103K      | DD-103             | BYX601 ZU103M             | CCD-103          | JF110            | 10TS-S10         |
| C69      | 20 500V 5%   |         | ADM-15-200       | CPR-20J            | CD15E200J500              | DM-15-200J       | SX420            | MS-42            |
| C70      | .001 1.4KV   |         |                  | CI-102             | ACY142ZU102P              |                  | UAC210           | 125L-D10         |



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. SB942

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SET 1005 FOLDER 1B  
MAGNAVOX CHASSIS  
R220-01-AA/BA, R220-02-AA/BA

PHOTOFACT® Folder

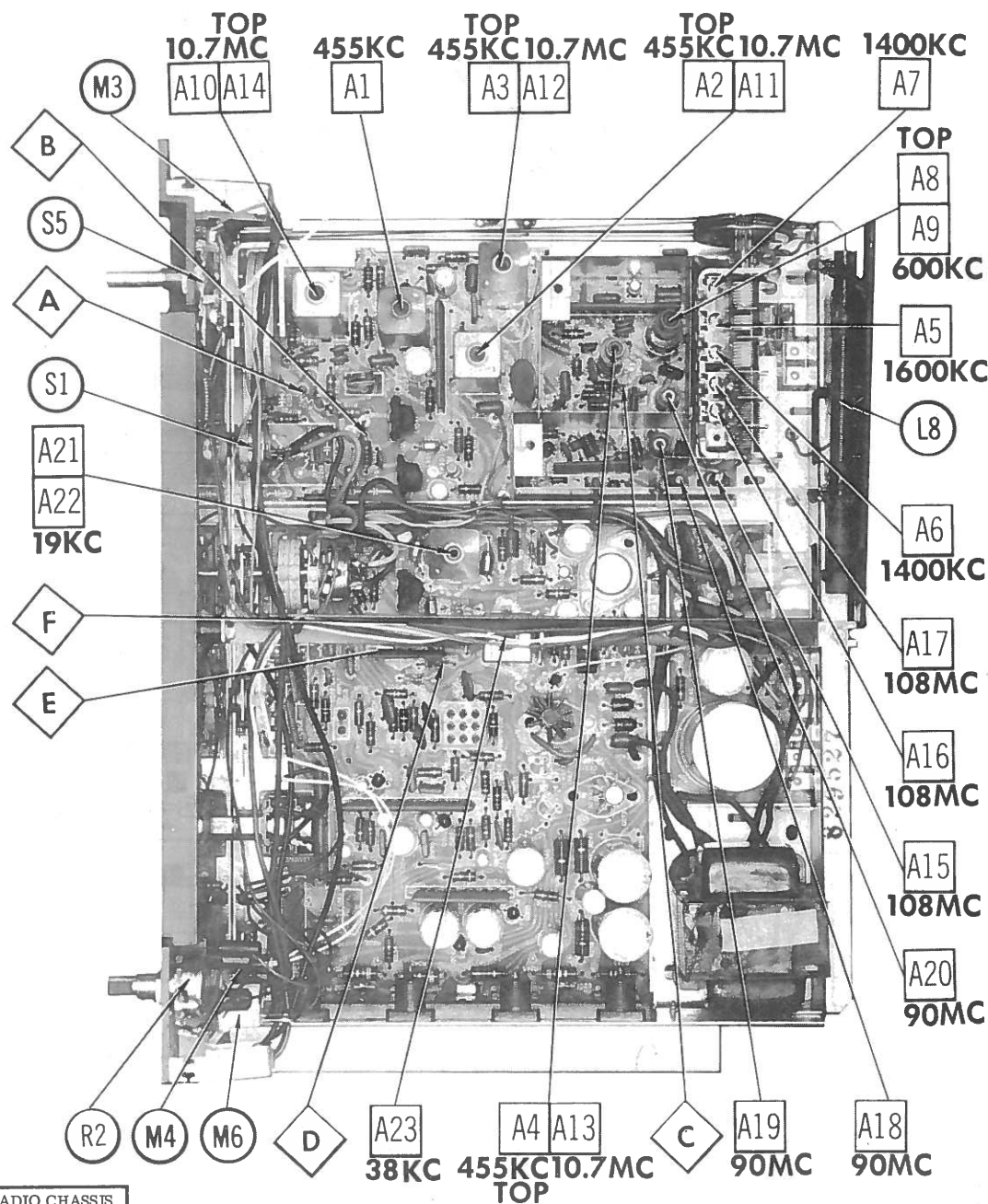
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For Supplier Address See PHOTOFACT Index  
FOR SERVICE INFORMATION ON RECORD CHANGER — SEE SIMILAR CHANGER IN PHOTOFACT SET 962, FOLDER 5.

MAGNAVOX CHASSIS  
R220-01-AA/BA, R220-02-AA/BA

### IMPORTANT FILING NOTICE

This PHOTOFACT Folder covers equipment used with the TV chassis covered in PHOTOFACT SET 1005 FOLDER 1. File this Folder with the TV Folder in the yellow filing jacket provided.



RADIO CHASSIS

R220-01-AA  
R220-01-BA  
R220-02-AA  
R220-02-BA

REMEMBER TO ASK— "What else needs fixing?"

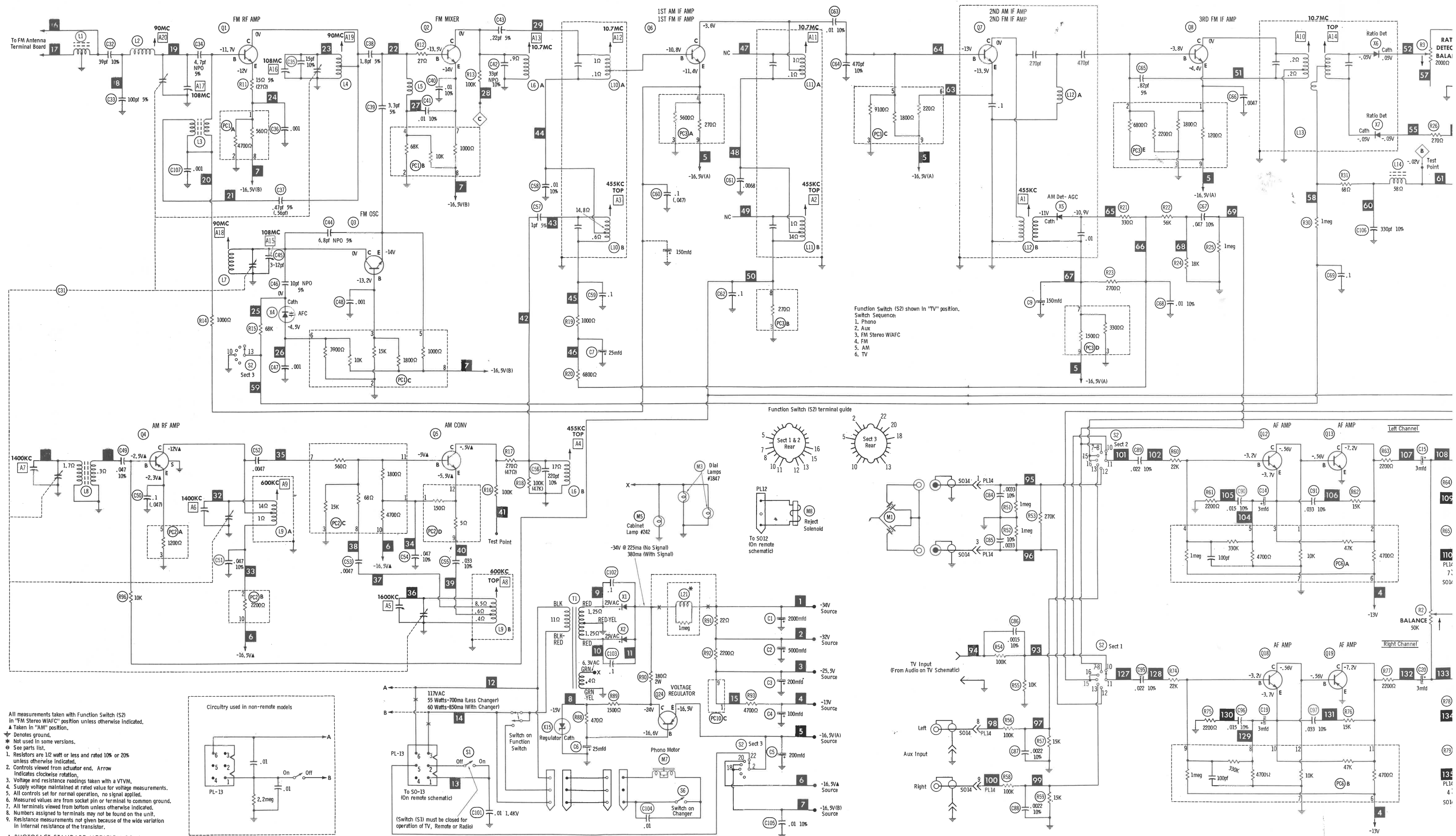
HOWARD W. SAMs & CO., INC. Indianapolis, Indiana 46206

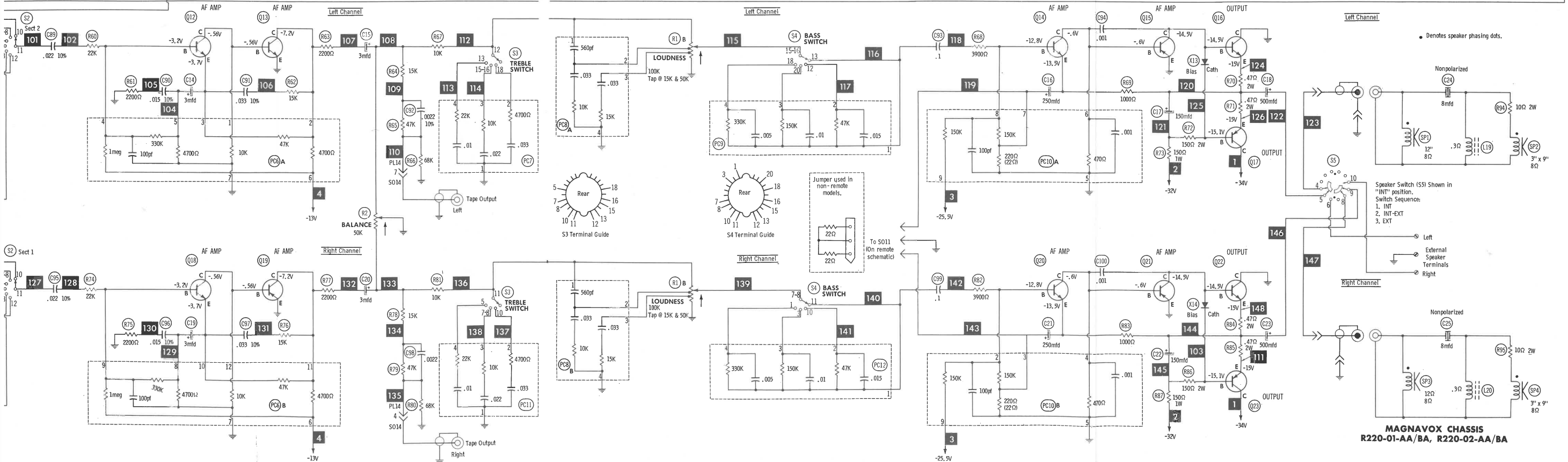
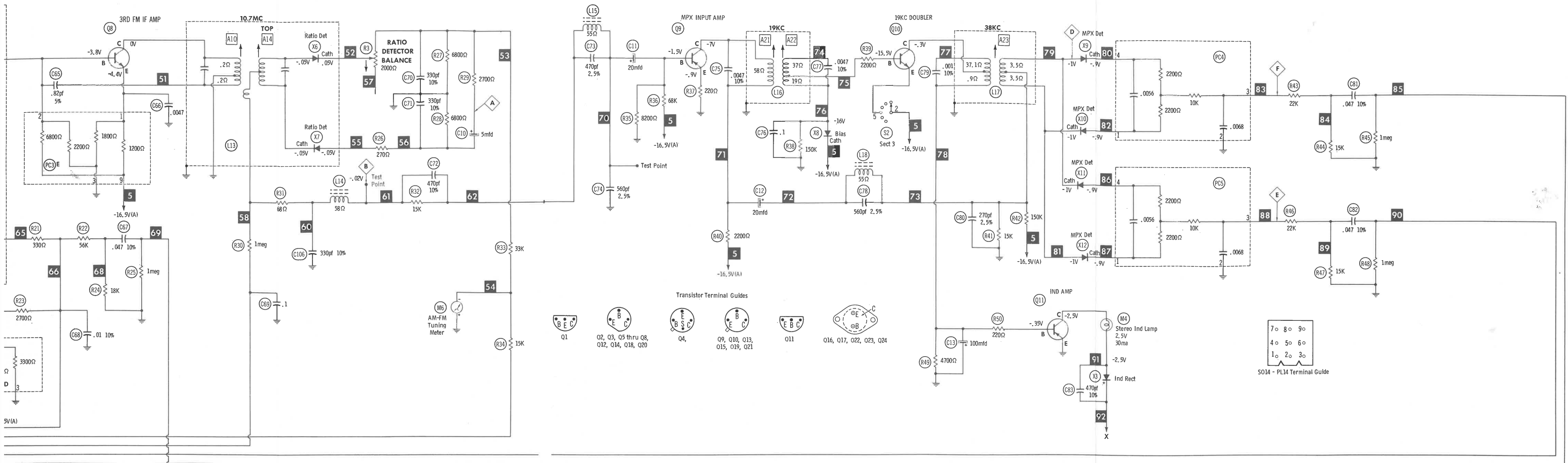
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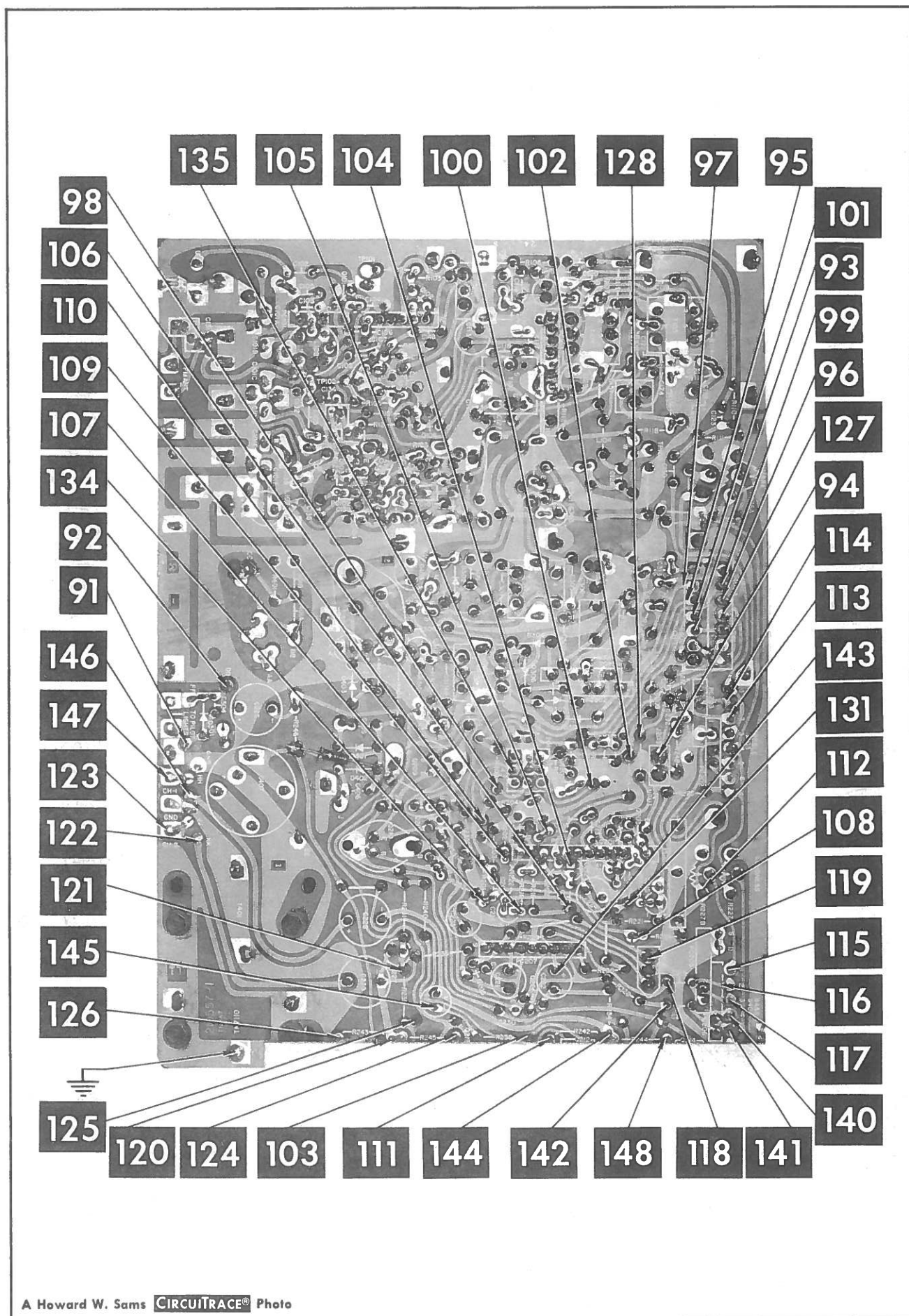
SET 1005 FOLDER 1B

DATE 1-69 SET 1005 FOLDER 1B









## ALIGNMENT INSTRUCTIONS

Maintain line voltage at 117 volts. Use only enough generator output to obtain a suitable indication. Allow a 15 minute warmup for receiver and equipment.  
CAUTION: Use isolation transformer, if available. If not, observe polarity when connecting test equipment.  
Suggested Alignment Tools:  
A1 thru A4, A8 thru A14,  
A19 thru A23 ..... GENERAL CEMENT #8606, 8606L, 8869 . WALSCO #2543, 2544, 2588  
A5 thru A7, A15 thru A17 .. GENERAL CEMENT #8868, 8987, 9089 .. WALSCO #2531-X, 2541, 2587  
A18 ..... GENERAL CEMENT #9296, 9297, 9300 .. WALSCO #2510, 2546, 2547

### AM ALIGNMENT - SELECTOR IN AM POSITION

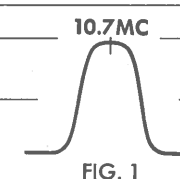
Fashion loop of several turns of wire and connect generator across loop. Set volume control at maximum.

| GENERATOR FREQUENCY  | DIAL SETTING            | INDICATOR                       | ADJUST         | REMARKS  |
|----------------------|-------------------------|---------------------------------|----------------|--|
| 1. 455KC (400v Mod.) | Tuning gang fully open. | Output meter across voice coil. | A1, A2, A3, A4 | Adjust for maximum. Repeat until no further improvement can be made.                                     |
| 2. 1600KC            | "                       | "                               | A5             | Adjust for maximum.  |
| 3. 1400KC            | Tune to signal.         | "                               | A6, A7         | "  |
| 4. 600KC             | "                       | "                               | A8, A9         | Rock tuning gang and adjust for maximum. Repeat steps 2 thru 4 until no further improvement can be made. |

### FM IF ALIGNMENT USING AM SIGNAL GENERATOR - SELECTOR IN FM POSITION

High side of generator thru .001mfd to point  $\diamond$ , low side to ground.

| GENERATOR FREQUENCY | DIAL SETTING               | INDICATOR  | ADJUST             | REMARKS   |
|---------------------|----------------------------|--|--------------------|---|
| 5. 10.7MC (Unmod.)  | Point of non-interference. | DC probe of VTVM to point $\diamond$ , common to ground. | A10, A11, A12, A13 | Adjust for maximum.   |
| 6. "                | "                          | DC probe to point $\diamond$ , common to ground.         | A14, R3            | Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting. |



### FM IF ALIGNMENT USING FM SIGNAL GENERATOR - SELECTOR IN FM POSITION

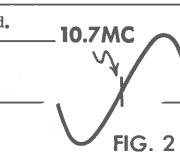
High side of generator thru .001mfd to point  $\diamond$ , low side to ground. Use only enough marker signal for indication. Use 60v frequency modulated signal with 450KC sweep. Use 60v sawtooth voltage in scope for horizontal deflection.

| GENERATOR FREQUENCY    | DIAL SETTING              | INDICATOR   | ADJUST             | REMARKS   |
|------------------------|---------------------------|---|--------------------|---|
| 5. 10.7MC (450KC Swp.) | Point of non-interference | Vert. amp. of scope to point $\diamond$ , low side to ground. | A10, A11, A12, A13 | Disconnect stabilizing capacitor C10. Adjust for maximum gain and symmetry of response similar to Fig. 1 with marker as shown. Reconnect C10.         |
| 6. "                   | "                         | Vert. amp. to point $\diamond$ , low side to ground.          | A14, R3            | Adjust A14 (secondary) to place marker at center of "S" curve similar to Fig. 2. Adjust A10 (primary) for maximum amplitude and straightness of line. |

### FM RF ALIGNMENT - SELECTOR IN FM POSITION

Connect generator across antenna terminals with 120 $\Omega$  carbon resistors in series with each lead.

| GENERATOR FREQUENCY | DIAL SETTING     | INDICATOR  | ADJUST        | REMARKS  |
|---------------------|------------------|--|---------------|--|
| 7. 108MC            | Set at high end. | DC probe of VTVM to point $\diamond$ , common to ground. | A15, A16, A17 | Adjust for maximum.  |
| 8. 90MC             | Tune to signal.  | "  | A18, A19, A20 | Rock tuning and adjust for maximum. Repeat steps 7 and 8 until no further improvement can be made. |

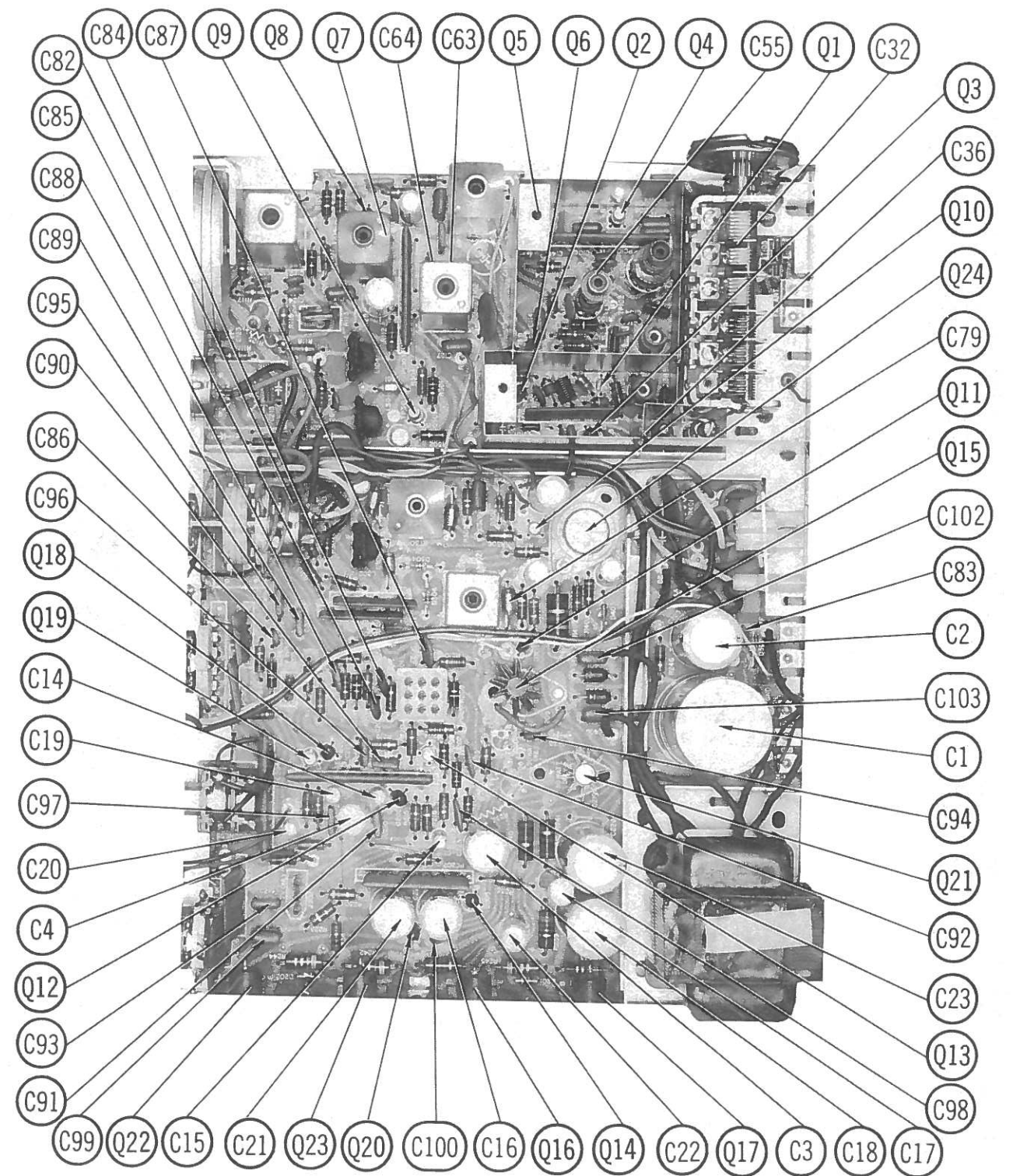
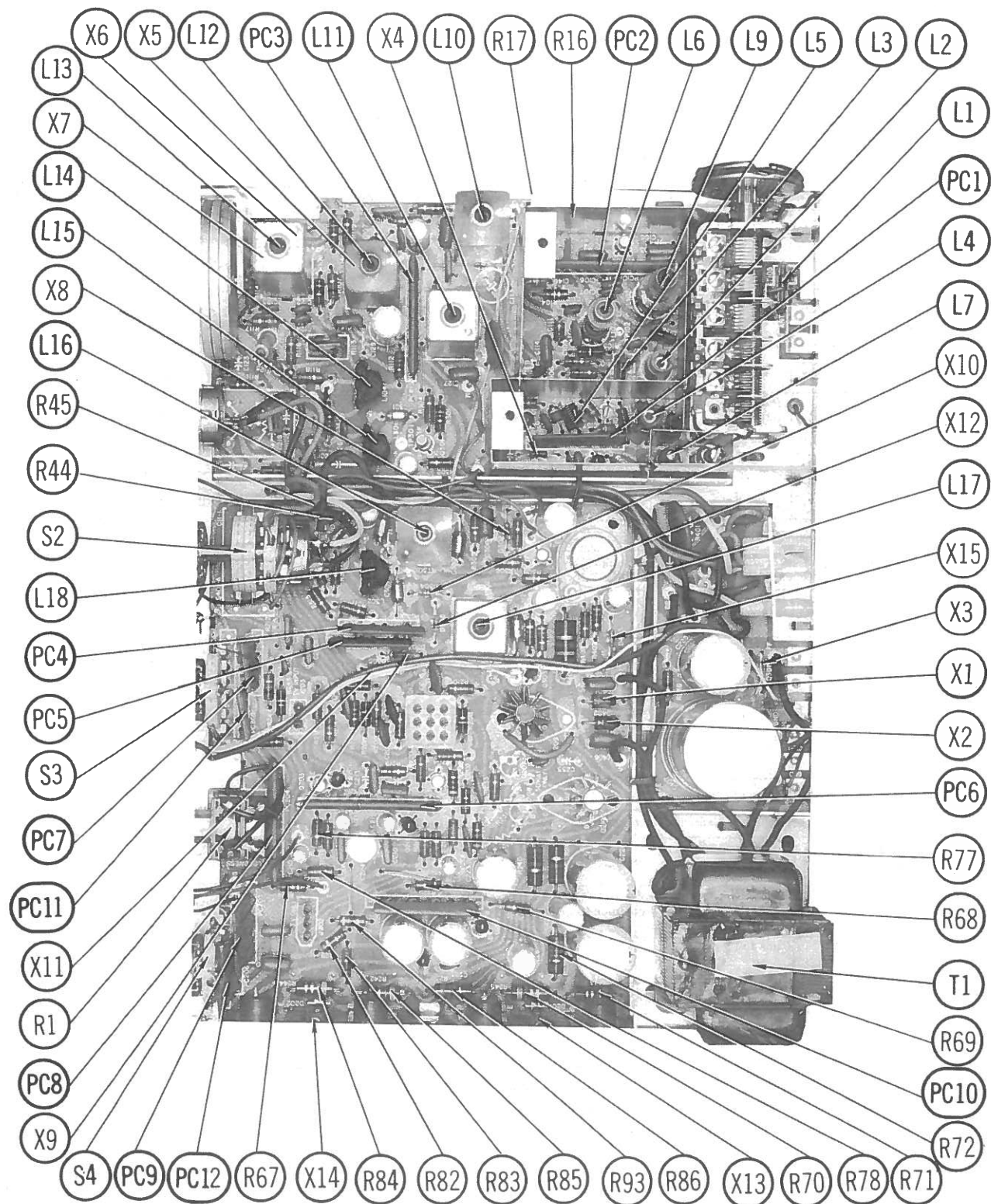


### FM STEREO MULTIPLEX ALIGNMENT USING FM STEREO SIGNAL GENERATOR ( $\pm .0001\%$ ACCURACY)

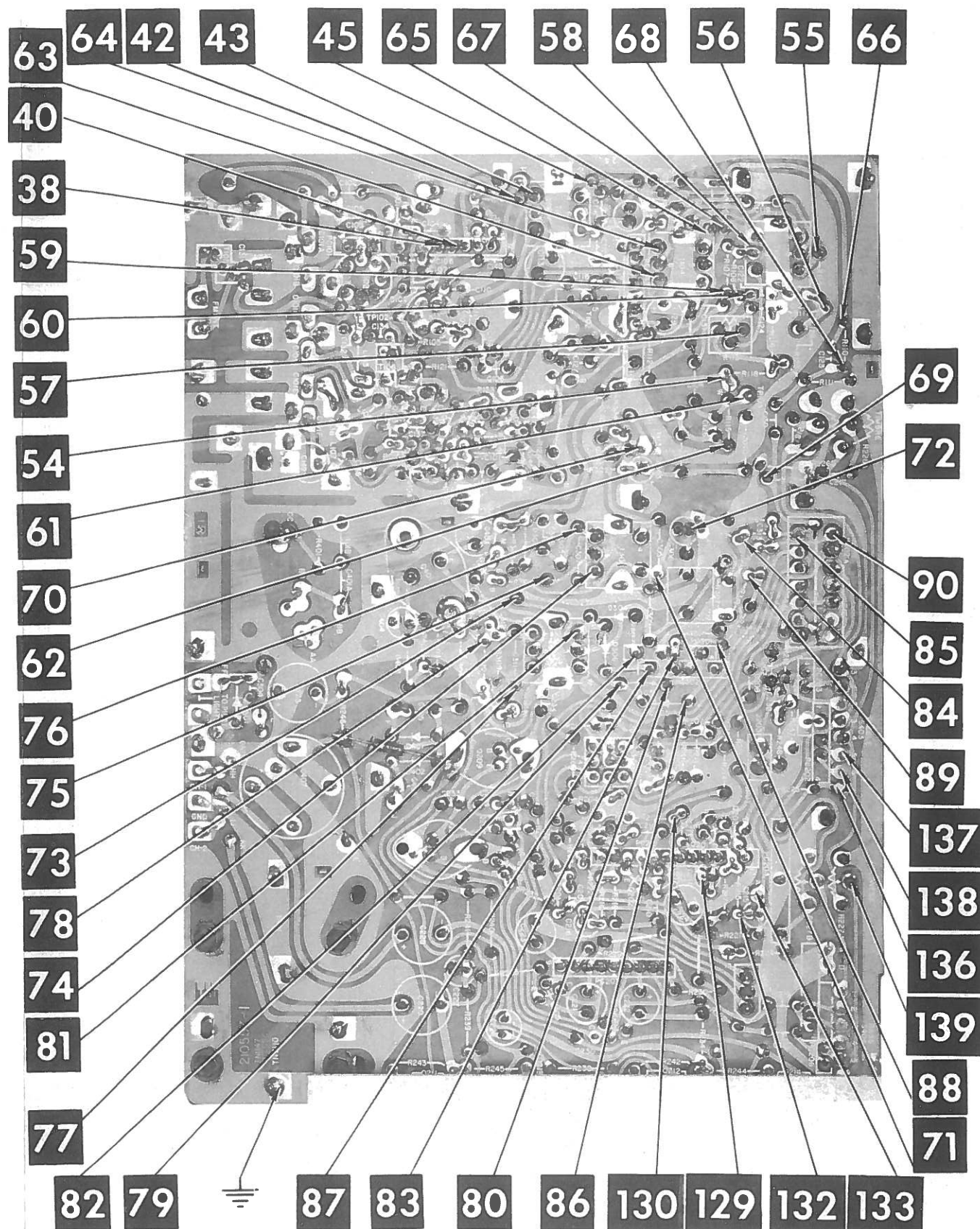
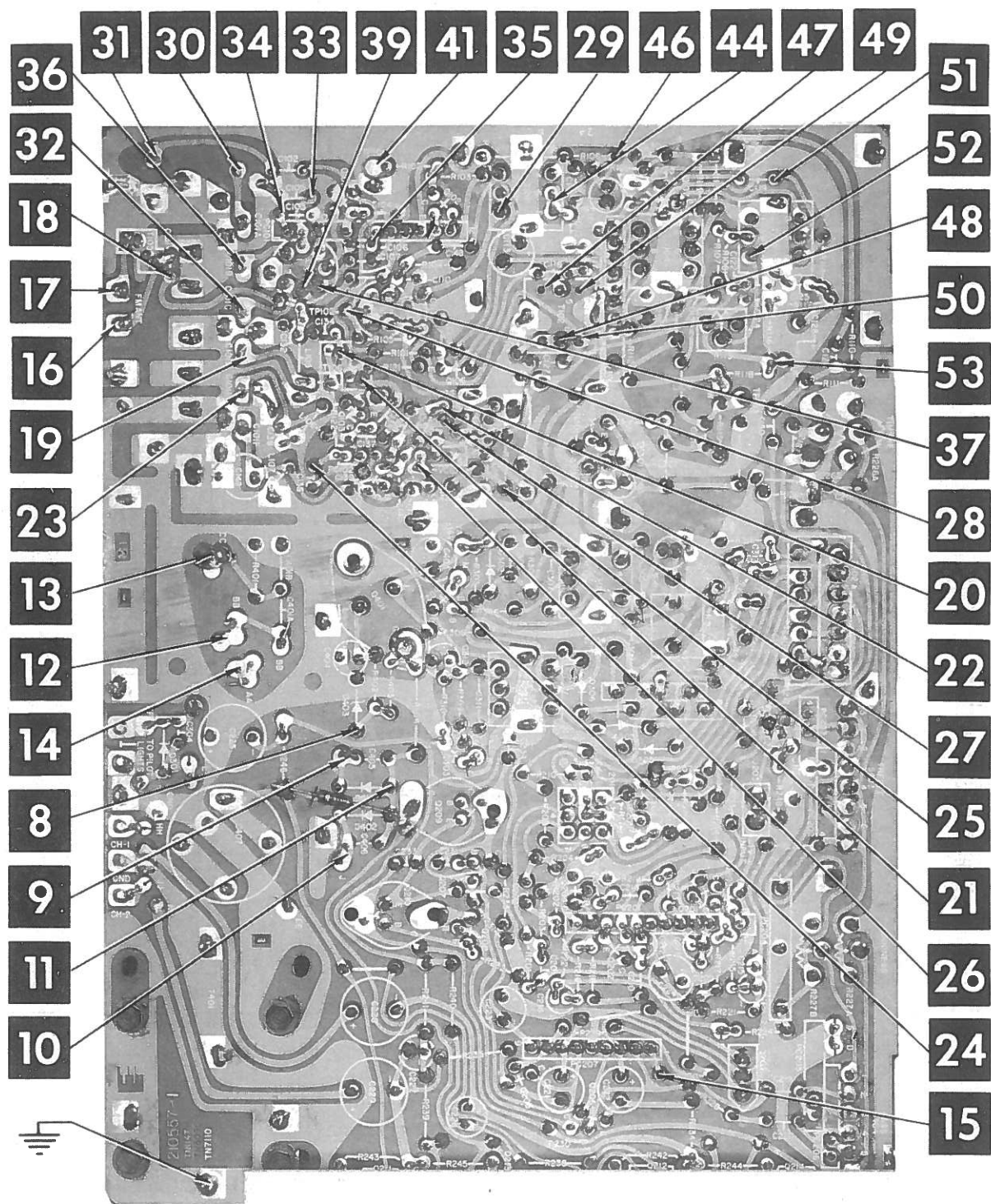
High side of generator thru 47K to point  $\diamond$ , low side to ground.

| GENERATOR FREQUENCY         | INDICATOR   | ADJUST        | REMARKS  |
|-----------------------------|---|---------------|--|
| 9. 19KC                     | Vert. amp. thru 47K to point $\diamond$ , low side to ground. | A21, A22      | Adjust for maximum.  |
| 10. "                       | Vert. amp. thru 47K to point $\diamond$ , low side to ground. | A23           | Adjust for maximum 38KC response.  |
| 11. Modulated Left Channel  | Vert. amp. to point $\diamond$ , low side to ground.          | A21, A22, A23 | Adjust for MINIMUM. This step should require only slight adjustment.             |
| 12. Modulated Right Channel | Vert. amp. to point $\diamond$ , low side to ground.          |               | Check for MINIMUM. If necessary make compromise adjustments of A21, A22 and A23. |









## PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, and Description.)

## WIRING DATA

|  |  |
|--|--|
| General-use Unshielded Hook-up Wire .....      | Use BELDEN No. 8530 (Solid) Available in 12 Colors<br>8524 (Stranded) Available in 12 Colors .                     |
| Low-Loss Shielded Lead (Interconnecting) ..... | Use BELDEN No. 8401 or 8421  |
| Phono Pick-up Arm Cable .....                  | Use BELDEN No. 8430 (Two Conductor-Unshielded)<br>8429 (Two Conductor-Shielded)<br>8419 (Three Conductor-Shielded) |

## TRANSISTORS

| ITEM No. | TYPE No. | FUNCTION            | REPLACEMENT DATA |                |                           |                                  |                   |              |                   |
|----------|----------|---------------------|------------------|----------------|---------------------------|----------------------------------|-------------------|--------------|-------------------|
|          |          |                     | MFGR. PART No.   | DELCO PART No. | GENERAL ELECTRIC PART No. | INTERNATIONAL RECTIFIER PART No. | MOTOROLA PART No. | RCA PART No. | SYLVANIA PART No. |
| Q1       |          | FM RF Amp.          | 610092-1         | DS-81          | GE-17                     | TR-22                            | HEP50             | SK-3018      | ECG 108           |
| Q2       |          | FM Mixer            | 610041-2         | DS-81          | GE-17                     | TR-22                            | HEP50             | SK-3018      | ECG 108           |
| Q3       |          | FM Oscillator       | 610041-2         | DS-81          | GE-17                     | TR-22                            | HEP50             | SK-3018      | ECG 108           |
| Q4       |          | AM RF Amp.          | 610056-3         | DS-25          | GE-1                      | TR-11                            | HEP3              | SK-3008      | ECG 100           |
| Q5       |          | AM Converter        | 610041-2         | DS-72          | GE-20                     | TR-21                            | HEP55             | SK-3018      | ECG 123           |
| Q6       |          | 1st AM & FM IF Amp. | 610041-3         | DS-74          | GE-20                     | TR-21                            | HEP55             | SK-3018      | ECG 108           |
| Q7       |          | 2nd AM & FM IF Amp. |                  | DS-74          | GE-20                     | TR-21                            | HEP55             | SK-3018      | ECG 108           |
| Q8       |          | 3rd FM IF Amp.      | 610041-2         | DS-74          | GE-20                     | TR-21                            | HEP55             | SK-3018      | ECG 108           |
| Q9       |          | MPX Input Amp.      | 610083-2         | DS-83          | GE-22                     | TR-19                            | HEP51             | SK-3025      | ECG 129           |
| Q10      |          | 19KC Doubler        | 610045-4         | DS-66          | GE-10                     | TR-21                            | HEP54             | SK-3025      | ECG 129           |
| Q11      |          | Stereo Ind. Amp.    | 610110-1         | DS-83          | GE-22                     | TR-19                            | HEP51             | SK-3024      | ECG 128           |
| Q12      |          | AF Amp.             | 610094-1         | DS-68          | GE-18                     | TR-25                            | HEP53             | SK-3025      | ECG 129           |
| Q13      |          | AF Amp.             | 610083-2         | DS-83          | GE-21                     | TR-25                            | HEP53             | SK-3024      | ECG 128           |
| Q14      |          | AF Amp.             | 610094-1         | DS-68          | GE-18                     | TR-25                            | HEP53             | SK-3025      | ECG 129           |
| Q15      |          | AF Amp.             | 610099-1         | DS-83          | GE-21                     | TR-28                            | HEP51             | SK-3025      | ECG 129           |
| Q16      |          | Output              | 170890-1 ①       |                |                           |                                  |                   |              |                   |
| Q17      |          | Output              | 610094-1         | DS-66          | GE-18                     | TR-25                            | HEP53             | SK-3024      | ECG 128           |
| Q18      |          | AF Amp.             | 610083-2         | DS-83          | GE-21                     | TR-28                            | HEP51             | SK-3025      | ECG 129           |
| Q19      |          | AF Amp.             | 610094-1         | DS-66          | GE-18                     | TR-25                            | HEP53             | SK-3024      | ECG 128           |
| Q20      |          | AF Amp.             | 610099-1         | DS-83          | GE-21                     | TR-28                            | HEP51             | SK-3025      | ECG 129           |
| Q21      |          | Output              | 170890-1 ①       |                |                           |                                  |                   |              |                   |
| Q22      |          | Output              | 610106-1         | DS-520         | GE-3                      | TR-01                            | HEP232            | SK-3009      | ECG 104           |
| Q23      |          | Voltage Regulator   |                  |                |                           |                                  |                   |              |                   |
| Q24      |          |                     |                  |                |                           |                                  |                   |              |                   |

① Matched Complimentary Pair.

When replacing selenium rectifier with silicon type, add series resistance to obtain original output voltage.

## POWER RECTIFIERS &amp; SIGNAL DIODES

| ITEM No. | MFGR. PART OR TYPE No. | REPLACEMENT RECTIFIERS & DIODES |                                  |                    | REPLACEMENT RECTIFIERS |                         | NOTES  |
|----------|------------------------|---------------------------------|----------------------------------|--------------------|------------------------|-------------------------|--|
|          |                        | GENERAL ELECTRIC PART No.       | INTERNATIONAL RECTIFIER PART No. | SYLVANIA PART No.  | RCA PART No.           | SARKES TARZIAN PART No. |  |
| X1       | 530111-1               | GE-504A                         | 8D4 or 18DJ2A ①                  | ECG 116 or ECG 117 | SK-3030 or SK-3031     | 40C or S-5981-N ①       | ① A single unit replacement for both rectifiers. |
| X2       | 530111-1               | GE-504A                         | 8D4 or 18DJ2A ①                  | ECG 116 or ECG 117 | SK-3030 or SK-3031     | 40C or S-5981-N ①       |  |
| X3       | 530072-8               | GE-504A                         | 8D4 or 5A4-D                     | ECG 116 or ECG 117 | SK-3030 or SK-3031     | 40C or F-4              | ② Variable Capacitor Diode.                      |
| X4       | 530104-1 ②             |                                 |                                  |                    |                        |                         |  |
| X5       |                        | 1N60                            | 1N60                             | ECG 109            |                        |                         | ③ Matched Pairs                                  |
| X6       |                        | 1N60                            | 1N60                             | ECG 110 ④          |                        |                         |  |
| X7       |                        | 1N60                            | 1N60                             | ECG 116 or ECG 117 | SK-3030 or SK-3031     | 40C or F-4              | ④ Zener Diode.                                   |
| X8       | 530072-15              | GE-504A                         | 8D4 or 5A4-D                     | ECG 116 or ECG 117 | SK-3030 or SK-3031     | 40C or F-4              |  |
| X9       | 530092-1               | 1N60                            | 1N60                             | ECG 110 ③          |                        |                         | ③ Matched Pairs                                  |
| X10      | 530092-1               | 1N60                            | 1N60                             | ECG 110 ③          |                        |                         |  |
| X11      | 530092-1               | 1N60                            | 1N60                             | ECG 110 ③          |                        |                         | ④ Zener Diode.                                   |
| X12      | 530092-1               | 1N60                            | 1N60                             | ECG 110 ③          |                        |                         |  |
| X13      | 530135-1               |                                 |                                  |                    |                        |                         | ④ Zener Diode.                                   |
| X14      | 530135-1               |                                 |                                  |                    |                        |                         |  |
| X15      | 530073-17 ④            |                                 |                                  |                    |                        |                         | ④ Zener Diode.                                   |
|          |                        |                                 |                                  |                    |                        |                         |  |

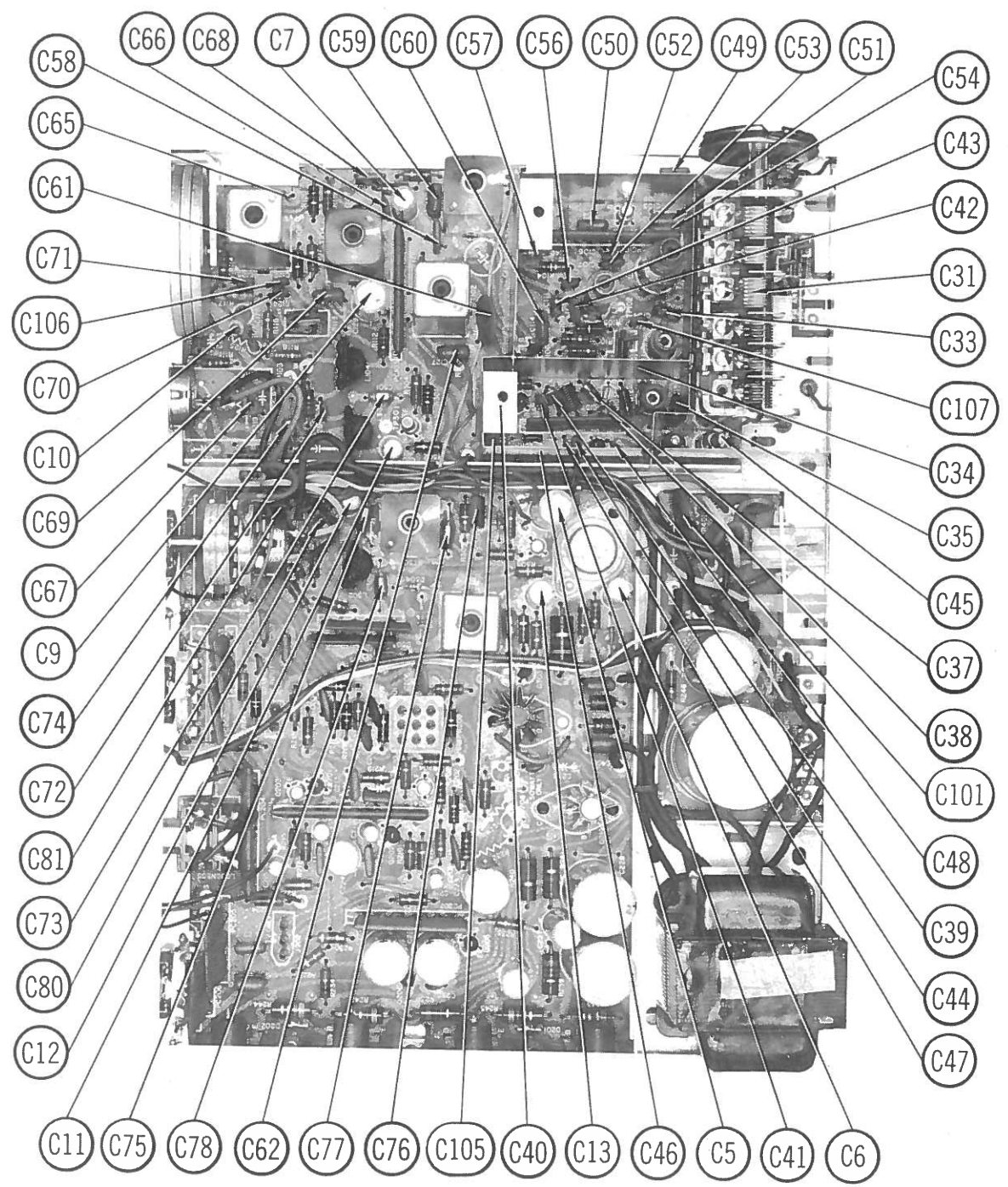
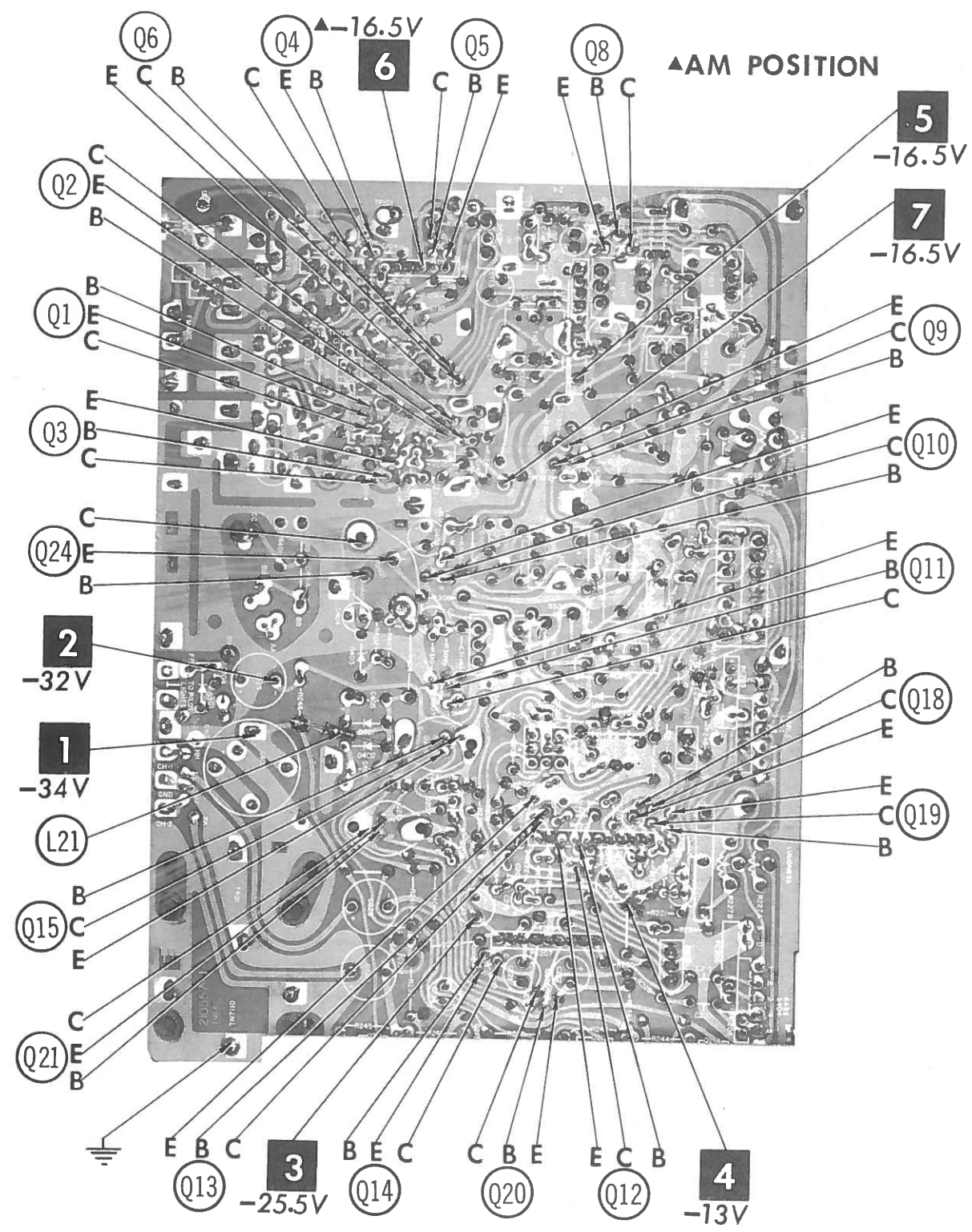
## ELECTROLYTIC CAPACITORS

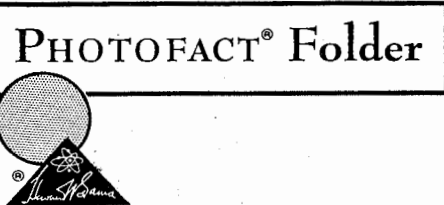
| ITEM No. | RATING   | REPLACEMENT DATA |                  |                    |                           |                           |                  |                  |
|----------|----------|------------------|------------------|--------------------|---------------------------|---------------------------|------------------|------------------|
|          |          | PART No.         | AEROVOX PART No. | CENTRALAB PART No. | CORNELL-DUBILIER PART No. | GENERAL ELECTRIC PART No. | MALLORY PART No. | SPRAGUE PART No. |
| C1       | 2000 40V | 270099-5         | PRS-1390         | EA50-500           | WBR2000-50                | QTI-31                    | TC50050A         | TVA-1315         |
| C2       | 500 50V  | 270088-728       | PRS1380          |                    | BR500-50                  | QTI-27                    | MTV200DN35       | TL-1312          |
| C3       | 200 35V  | 270068-823       | CRE823A          | EA30-100           | NLW100-25                 | MTI-20                    | MTV100CP25       | TE-1211          |
| C4       | 100 25V  | 270068-619       | BCD20200         | EA30-250           | EP30-25                   | QTI-28                    | MTV200DJ25       | TL-1188          |
| C5       | 250 20V  | 270068-523       | BCD25025         | EP30-25            | NLW25-25                  | MTI-11                    | MTV25CB35        | TE-1207          |
| C6       | 25 25V   | 270068-609       | BCD25025         | EP30-25            | NLW25-25                  | MTI-11                    | MTV25CB35        | TE-1207          |
| C7       | 25 25V   | 270068-609       | BCD25025         | EP30-25            | NLW25-25                  | MTI-11                    | MTV25CB35        | TE-1207          |
| C8       | 150 20V  | 270068-521       | PTT-122          | EA30-150           | WBR150-35                 | QTI-25                    | MTV150DJ35       | TL-1185          |
| C9       | 5 25V    | 270082-803       | BCD25005         | EP15-25            | NLW5-50                   | MTI-3                     | MTA5D50          | TE-1202          |
| C10      | 5 25V    | 270082-803       | BCD15020         | EP15-25            | NLW20-15                  | MTI-12                    | MTV20CD50        | TE-1157          |
| C11      | 20 15V   | 270068-408       | BCD15020         | EP15-25            | NLW20-15                  | MTI-12                    | MTV20CD50        | TE-1157          |
| C12      | 20 15V   | 270068-408       | BCD15020         | EP15-25            | NLW20-15                  | MTI-12                    | MTV20CD50        | TE-1157          |
| C13      | 100 10V  | 270068-319       | BCD10100         | EP15-100           | NLW100-12                 | MTI-19                    | MTV100CD10       | TE-1135          |
| C14      | 3 25V    | 270068-601       | BCD25003         | EP15-5             | NLW3-25                   | MTI-3                     | MTV3CB50         | TE-1201.1        |
| C15      | 3 25V    | 270068-601       | BCD25003         | EP15-5             | NLW3-25                   | MTI-3                     | MTV3CB50         | TE-1201.1        |
| C16      | 250 25V  | 270068-624       | PRS1280          | EA30-250           | BR250-25                  | QTI-28                    | MTV250DN25       | TL-1214          |
| C17      | 150 15V  | 270068-421       | CRE478A          | EA15-150           | NLW150-15                 | MTI-23                    | MTV150CK15       | TE-1163          |
| C18      | 500 25V  | 270068-628       | PRS1290          | EA30-500           | BR500-25                  | QTI-31                    | TC2505B          | TL-1217          |
| C19      | 3 25V    | 270068-601       | BCD25003         | EP15-5             | NLW3-25                   | MTI-3                     | MTV3CB50         | TE-1201.1        |
| C20      | 3 25V    | 270068-601       | BCD25003         | EP15-5             | NLW3-25                   | MTI-3                     | MTV3CB50         | TE-1201.1        |
| C21      | 250 25V  | 270068-624       | PRS1280          | EA30-250           | BR250-25                  | QTI-28                    | MTV250DN25       | TL-1214          |
| C22      | 150 15V  | 270068-421       | CRE478A          | EA15-150           | NLW150-15                 | MTI-23                    | MTV150CK15       | TE-1163          |
| C23      | 500 25V  | 270068-628       | PRS1290          | EA30-500           | BR500-25                  | QTI-31                    | TC2505B          | TL-1217          |
| C24      | 8 25VNP  |                  | PRS7315          |                    | BRNP10-400                | NPQT-3                    | TCN5010          | TVAN-1203.8      |
| C25      | 8 25VNP  |                  | PRS7315          |                    | BRNP10-400                | NPQT-3                    | TCN5010          | TVAN-1203.8      |

## CAPACITORS

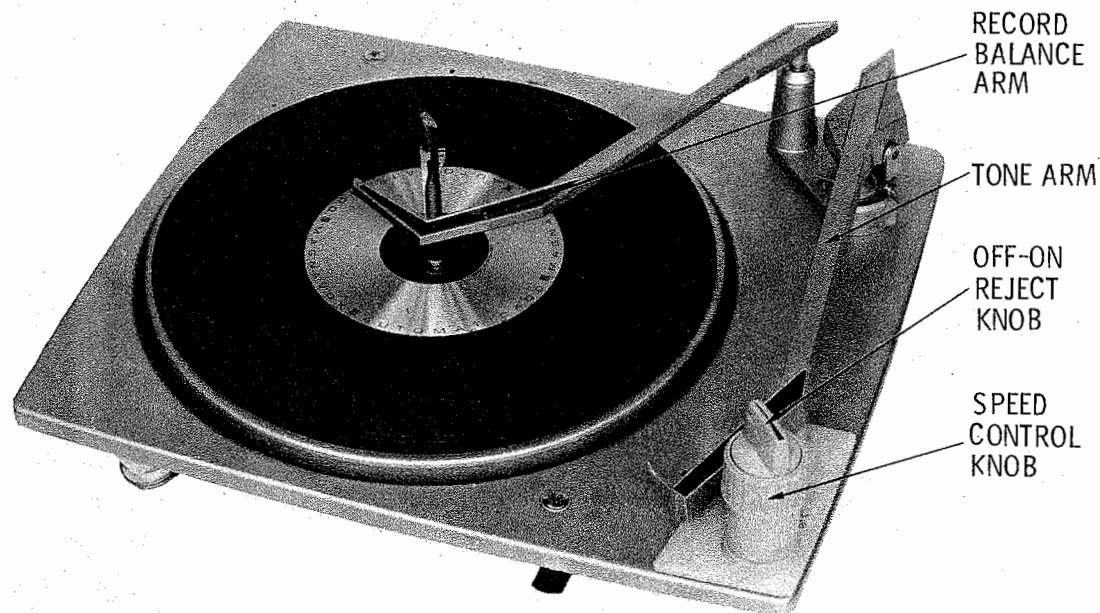
| ITEM No. | RATING        | REMARKS      | REPLACEMENT DATA |                    |                           |                  |                  |                  |
|----------|---------------|--------------|------------------|--------------------|---------------------------|------------------|------------------|------------------|
|          |               |              | AEROVOX PART No. | CENTRALAB PART No. | CORNELL-DUBILIER PART No. | ELMENCO PART No. | MALLORY PART No. | SPRAGUE PART No. |
| C31      |               |              |                  |                    |                           |                  |                  |                  |
| C32      | 39 50V 10%    | #260202-1    | ADM-15-390       | CPR-39J            | CD15E390J500              | DM-15-390J       | SX439            | MS-439           |
| C33      | 100 100V 5%   |              | ADM-15-101       | CPR-100J           | CD15F101J500              | DM-15-101J       | SX310            | MS-310           |
| C34      | 4.7 NPO 5%    |              | NPO-DI 4.7       | DTZ-4R7            |                           |                  | CNO547           | 10TCC-V47        |
| C35      | 15 500V 10%   |              | ADM-15-150       |                    | CD10C150J500              | DM-15-150J       | SX415            | MS-415           |
| C36      | .001          |              | GPD X5 F102K     | DD-102             | JBS801Y P102K             | CCD-102          | GP210            | 10TS-D10         |
| C37      | .47pf         | #250221-11   |                  |                    |                           |                  |                  | 10TCC-V18        |
| C38      | 1.8 5%        | #250221-17   |                  |                    |                           |                  |                  | 10TCC-V33        |
| C39      | 3.3 5%        |              | NPO-DI 3.3       | DTZ-3R3            |                           |                  | CNO533           | TA110            |
| C40      | .01 10%       |              | TTP-01           | CK-103             | HOY101ZV103P              | CCD-103          | TA110            | TG-S10           |
| C41      | .01 10%       |              | TTP-01           | CK-103             | HOY101ZV103P              | CCD-103          | TA110            | TG-S10           |
| C42      | 33 NPO 10%    | #250221-5    | NPO-DI 33        | DTZ-33             | CS601CG330K               | CCTO-330         | CNO433           | 10TCC-Q33        |
| C43      | .22pf         | #250221-5    |                  |                    |                           |                  |                  | 10TCC-V68        |
| C44      | 6.8 NPO 5%    | #250371-4    | NPO-DI 6.8       | DTZ-6R8            | CZ601CH6R8D               |                  | CNO568           | 10TCC-V68        |
| C45      | 3-12          |              |                  |                    |                           |                  |                  |                  |
| C46      | 10 NPO 5%     |              | GPD X5 F102K     | DD-102             | CZ601CG100J               | CCD-102          | CNO410           | 10TCC-Q10        |
| C47      | .001          |              | GPD X5 F102K     | DD-102             | JBS801Y P102K             | CCD-102          | GP210            | 10TS-D10         |
| C48      | .001          |              | GPD X5 F102K     | DD-102             | JBS801Y P102K             | CCD-102          | GP210            | 10TS-D10         |
| C49      | .047 100V 10% | #250581-4743 | DBE2P1           |                    | DMF2P1                    | 2DP-3-104        | PVC201           | 2PS-P10          |
| C50      | .1 200V       |              |                  |                    |                           |                  |                  |                  |
| C51      | .047 100V 10% | #250581-4743 | GPD X5R472K      | DD-472G            | JBT601Y P472K             | CCD-472          | JF247            | 10TS-D47         |
| C52      | .0047         |              | GPD X5R472K      | DD-472G            | JBT601Y P472K             | CCD-472          | JF247            | 10TS-D47         |
| C53      | .0047         |              |                  |                    |                           |                  |                  |                  |
| C54      | .047 100V 10% | #250581-4743 | GPD X5 F221K     | DD-221             | JBZ601Y P221K             | CCD-221          | GP322            | 10TS-T22         |
| C55      | .033 100V 10% | #250581-3347 | ADM-30-103       | CPR-10000J         | CD30F103J500              | DM-30-103J       | CNO510           | 10TCC-V10        |
| C56      | 220 10%       |              | DBE2P1           |                    | DMF2P1                    | 2DP-3-104        | PVC201           | 2PS-P10          |
| C57      | 1 5%          |              | DBE2P1           |                    | DMF2P1                    | 2DP-3-104        | PVC201           | 2PS-P10          |
| C58      | .01 100V 10%  |              | GPD X5R682K      | DD-682             | BYX601Z U682P             | CCD-682          | JF268            | 10TS-D68         |
| C59      | .1 200V       |              | DBE2P1           |                    | DMF2P1                    | 2DP-3-104        | PVC201           | 2PS-P10          |
| C60      | .1 200V       |              | ADM-30-103       | CPR-10000J         | CD30F103J500              | DM-30-103J       | SX110            | MS-11            |
| C61      | .0068         |              | GPD X5 F471K     | DD-471             | JBZ601Y P471K             | CCD-471          | GP347            | 10TS-T47         |
| C62      | .1 200V       |              | GPD X5R472K      | DD-472G            | JBT601Y P472K             | CCD-472          | JF247            | 10TS-D47         |
| C63      | .01 100V 10%  |              | ADM-30-103       | CPR-10000J         | CD30F103J500              | DM-30-103J       | SX110            | MS-11            |
| C64      | 470 10%       |              | GPD X5 F471K     | DD-471             | JBZ601Y P471K             | CCD-471          | GP347            | 10TS-T47         |
| C65      | .82 5%        | #250221-13   |                  |                    |                           |                  |                  |                  |
| C66      | .0047         |              | GPD X5R472K      | DD-472G            | JBT601Y P472K             | CCD-472          | JF247            | 10TS-D47         |
| C67      | .047 100V 10% | #250581-4743 | ADM-30-103       | CPR-10000J         | CD30F103J500              | DM-30-103J       | SX110            | MS-11            |
| C68      | .01 100V 10%  |              | DBE2P1           |                    | DMF2P1                    | 2DP-3-104        | PVC201           | 2PS-P10          |
| C69      | .1 200V       |              | GPD X5 F331K     | DD-331             | JBZ601Y P331K             | CCD-331          | GP333            | 10TS-T33         |
| C70      | 330 10%       |              | GPD X5 F331K     | DD-331             | JBZ601Y P331K             | CCD-331          | GP333            | 10TS-T33         |
| C71      | 330 10%       |              | GPD X5 F331K     | DD-331             | JBZ601Y P331K             | CCD-331          | GP347            | 10TS-T47         |
| C72      | 470 10%       |              | GPD X5 F471K     | DD-471             | JBZ601Y P471K             | CCD-471          | GP347            | 10TS-T47         |
| C73      | 470 2.5%      | #250589-4712 |                  |                    |                           |                  |                  |                  |
| C74      | 560 2.5%      | #250589-5612 |                  |                    |                           |                  |                  |                  |
| C75      | .0047 10%     |              |                  |                    |                           |                  |                  |                  |
| C76      | .1 200V       |              | DBE2P1           |                    | DMF2P1                    | 2DP-3-104        | PVC201           | 2PS-P10          |
| C77      | .0047 10%     |              | CPR-4700J        |                    | CD19F472J500              | DM-19-472J       | SX247            | MS-247           |
| C78      | 560 2.5%      | #250589-5612 | CPR-4700J        |                    | CD19F472J500              | DM-19-472J       | SX247            | MS-247           |
| C79      | .001 10%      |              | CPR-1000J        |                    | CD19F102J500              | DM-19-102J       | SX210            | MS-21            |
| C80      | 270 2.5%      | #250589-2712 |                  |                    |                           |                  |                  |                  |
| C81      | .047 100V 10% | #250581-4743 | GPD X5 F471K     | DD-471             | JBZ601Y P471K             | CCD-471          | GP347            | 10TS-T47         |
| C82      | .047 100V 10% | #250581-4743 | GPD X5R332K      | DD-332             | JBV601Y P332K             | CCD-332          | JF233            | 10TS-T82         |
| C83      | 470 10%       |              | GPD X5R332K      | DD-332             | JBV601Y P332K             | CCD-332          | JF233            | 10TS-T82         |
| C84      | .0033 10%     |              | GPD X5 F152K     | DD-152             | GPD X5 F152K              | CCD-152          | GP215            | 10TS-D15         |
| C85      | .0033 10%     |              | GPD X5 F222K     | DD-222             | JBX601Y P222K             | CCD-222          | GP222            | 10TS-D22         |
| C86      | .0015 10%     |              | GPD X5 F222K     | DD-222             | JBX601Y P222K             | CCD-222          | GP222            | 10TS-D22         |







**MAGNAVOX  
MODEL W626 Series**



MAGNAVOX  
MODEL W626 Series

|               |                                       |
|---------------|---------------------------------------|
| TRADE NAME:   | Magnavox Model W626 Series            |
| SUPPLIER:     | For Current Address, see Annual Index |
| TYPE SET:     | 4-Speed Automatic Record Changer      |
| POWER SUPPLY: | 110 — 120 Volts AC, 60 Cycles         |

**HOWARD W. SAMS & CO., INC.** Indianapolis, Indiana 46206

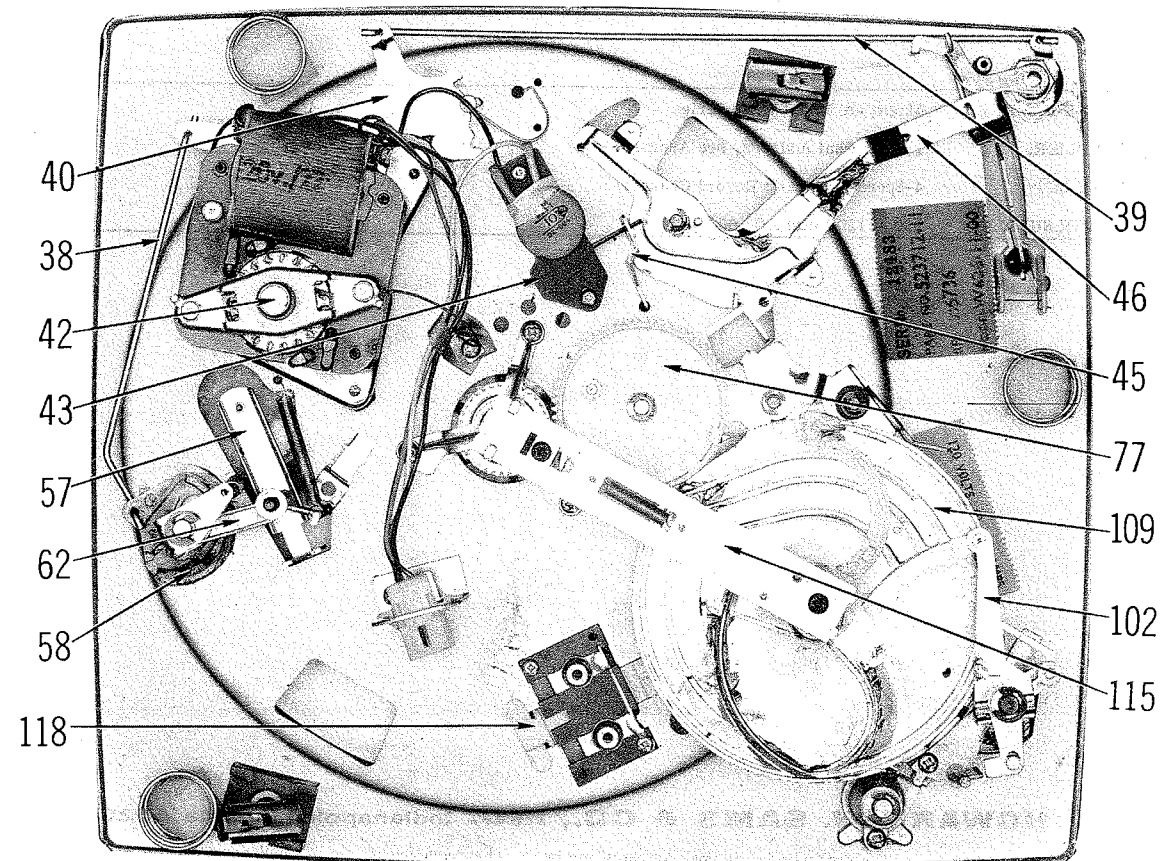
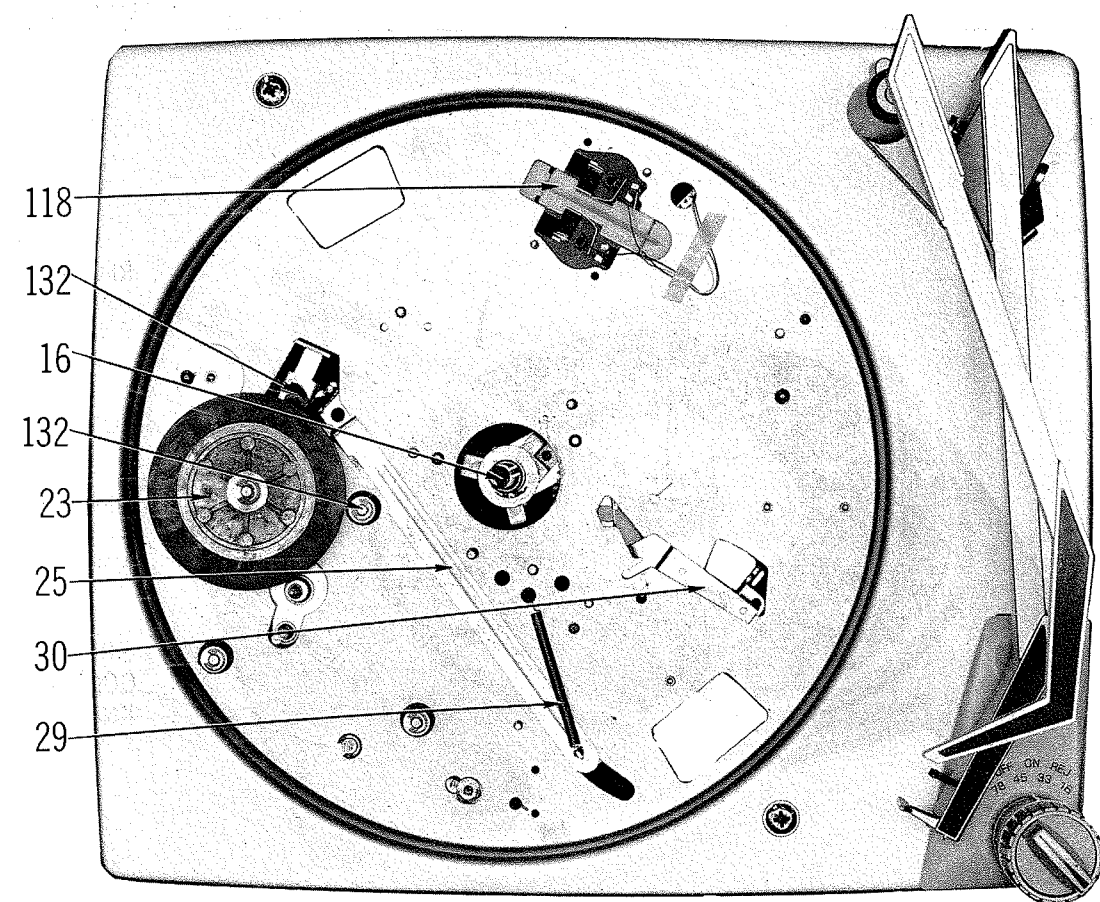


The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed. C1000

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DATE 6-68 SET 962 FOLDER 5





## CHANGE CYCLE

The changer utilizes a velocity-trip mechanism and the change cycle initiates by the accelerated inward motion of Tone Arm (3-1) as the stylus enters the lead-out groove at the end of the record.

As the tone arm tracks on the record, Tone Arm Feed Lever Assembly (102), which moves in unison with the tone arm, pushes against Striker Slide (84). Striker Slide (84) is fed inward, making contact with the striker friction plate of Intermediate Drive Gear and Striker Assembly (77), moving the striker toward the turntable hub. However, the velocity of the Tone Arm is not sufficient to trip the mechanism since the wiping action of the hub projection of Turntable Assembly (20) moves the striker back with each revolution of the turntable.

As the stylus enters the lead-out groove at the end of the record, the velocity of Striker Slide (84) is sufficient to cause the striker to move in ahead of the turntable hub projection.

The striker of Intermediate Drive Gear and Striker Assembly (77) is then caught by the hub projection and pushed far enough to cause the intermediate gear of Intermediate Drive Gear and Striker Assembly (77) to be moved out of the recess in the periphery of Main Cam Assembly (109), permitting the main cam gear of Main Cam Assembly (109), the intermediate drive gear of Intermediate Drive Gear and Striker Assembly (77), and the turntable gear to become engaged and start the change cycle.

As the main cam gear starts its rotation, Muting Switch Slider (118) is actuated by the main cam gear and the muting switch contacts close, shunting the pickup cartridge.

As the main cam gear rotates, the roller on Tone Arm Lift Lever Assembly (94) rides in the various elevations of the main cam gear, causing Tone Arm Lift Lever Assembly (94) to pivot and to raise Tone Arm Lift Rod (91). This action raises Tone Arm (3-1) and determines its vertical travel.

Also, as the main cam gear starts to rotate, Tone Arm (3-1) sizes the record. The cam-following pin on Tone Arm Feed Lever Assembly (102) moves inward to one of the three cam grooves in the main cam gear while the tone arm setdown is held constant.

As the main cam gear rotates, the push-off roller located on the top of Record-Dropping Slide Assembly (113) makes contact with the cam lobe in the center of the main cam gear and pushes outward, away from the center of the cam. This action causes the record-dropping pawl in the center of Record-Dropping Spindle (16) to move laterally, resulting in the bottom record being pushed off the spindle shelf and dropped onto Turntable (20).

As Record-Dropping Slide Assembly (113) retracts, Pawl Lift Spring (116) pushes the record-dropping pawl up and into position for the next record to be played.

When the main cam gear reaches the end of the change cycle, the intermediate drive gear of Intermediate Drive Gear and Striker Assembly (77) drops into the recess of the main cam gear and becomes disengaged from the turntable gear.

Simultaneously, the muting switch is opened and the cam-following pin of Tone Arm Feed Lever Assembly (102) moves out of the cam groove and into the play area of the main cam gear.

### Automatic Shutoff

The shutoff of the changer, after the last record has been played, is as follows:

As the main cam gear rotates, Automatic-Stop Swing Plate (111) is pivoted around the automatic-stop pivot post, located on top of Record-Dropping Slide Assembly (113), causing Automatic-Stop Swing Plate (111) to be positioned at the exit of the raised ramp of the shutoff groove.

As Tone Arm (3-1) moves toward the center of the turntable, the cam-following pin of Tone Arm Feed Lever Assembly (102) moves into the shutoff groove of the main cam gear. When the tone arm reaches the point of its innermost travel, the cam-following pin is fed onto Automatic-Stop Swing Plate (111). Automatic-Stop Swing Plate (111) then transfers the cam-following pin across the face of the main cam gear and deposits the cam-following pin in the shutoff groove.

As the main cam gear continues to rotate, Automatic-Stop Swing Plate (111) is held in position by a notch at the start of the shutoff groove. When Automatic-Stop Swing Plate (111) reaches Automatic Stop Lever (80), Automatic-Stop Swing Plate (111) trips Automatic-Stop Lever (80), releasing Automatic-Trip Lever (47) which in turn releases AC Switch Lever (45), opening AC Switch (43) and removing power from the changer. At the same time as Tone Arm (3-1) comes to rest, Operating Lever Assembly (46) is moved to the off position and Tone Arm Rest Lever (15) is pulled forward by the tension of Tone Arm Rest Spring (14), locking Tone Arm (3-1) into position on the rest post. Also, at this point, the intermediate drive gear of Intermediate Drive Gear and Striker Assembly (77) moves into the recessed area of the main cam gear and disengages from the turntable drive gear.

### Speed Change

As Speed Control Knob (12) is moved to the desired position, Index Rocker Assembly (40) is locked in place by the roller on Speed Index Spring (32). Speed Change Cam Drive Link (38) acts as a push rod between Index Rocker Assembly (40) and Speed Change Cam (58). When Speed Control Knob (12) is moved through its various positions, it turns Speed Change Cam (58), which is notched, causing Idler Bracket (62) to be raised or lowered in steps. Idler Wheel (23) is then raised or lowered to correspond to the various diameters on the motor spindle.

## Tone Arm Setdown

This changer provides automatic positioning for the various sizes of records by sampling the outside diameter of the bottom record resting on the spindle shelf. The stylus then contacts the record after it has fallen to the turntable, approximately 1/16 inch from the outer edge on a diameter 1/8 inch smaller than the original sampling made by the Tone Arm.

This adjustment has been accurately set at the factory, however, should adjustment be required in the field, a screwdriver adjustment, B1, is located below the tone arm mounting bracket. Adjusting this screw inward causes the tone arm positioning lever to move closer to the tone arm vertical pivot bracket, thus causing the Tone Arm to set down farther out on the record. Adjusting this screw outward has the opposite effect and allows the Tone Arm to set down farther in on the record.

Since only one-quarter turn of the adjustment screw moves the tone arm set-down position approximately 1/16 inch at a time, it is suggested that the screw be rotated only a slight amount at any one time. It is usually necessary to repeat this adjustment several times, checking the set-down position of the Tone Arm after each adjustment.

### Pickup Muting

The pickup cartridge is muted during the change cycle so that any slight mechanical variations of the mechanism will not be picked up by the cartridge and, therefore, cannot reach the amplifier input circuits.

The muting switch is actuated by Muting Switch Slider (118) which forces the switch contacts to close, shunting the pickup cartridge as soon as the main cam gear of Main Cam Assembly (109) begins to rotate.

To check that the muting switch is breaking properly, proceed as follows:

1. Place any size record on Record-Dropping Spindle Assembly (16).
2. Turn on changer and allow it to proceed to the playing position, then turn off changer in this position.
3. Remove the record and Turntable Assembly (20).
4. Check the gap between the muting switch contacts to be certain that a metal feeler gauge, .045-inch thick, can be inserted between them (this is MINIMUM gap).
5. If there is no gap or if the gap is insufficient, the tab contacts can be bent slightly away from the post contacts.

### Pickup Tracking Adjustments

Improper tracking may be caused by any one of the following:

1. Insufficient slack in pickup leads. Check to see that the pickup leads are free and that sufficient slack is maintained between the rear of the Tone Arm and the baseplate.

## ADJUSTMENTS

2. Cam-following pin on Tone Arm Feed Lever Assembly (102) is rubbing bottom of main cam gear of Main Cam Assembly (109).
3. Check to see if the cam-following pin is rubbing the bottom of the cam groove when in the playing recess. This pin is properly positioned when there is approximately 1/32-inch clearance between the cam-following pin and main cam gear. This adjustment is made by turning Tone Arm Feed Lever Adjust Screw (103).
3. Chipped or damaged stylus. If the pickup stylus is worn or damaged, replace with an exact replacement stylus of the original type.
4. Insufficient stylus pressure.

### Tone Arm Height

Lift Plate Adjustment Screw (3-3) is used to set the height that the tone arm raises during the change cycle. During the change cycle, the tone arm is lifted up and moved out and over the rest post. During this time, the clearance between the top of the Tone Arm and the underside of the next record on the shelf should be approximately 1/4 inch. To obtain this setting, rotate screw, B2, clockwise to lower the Tone Arm and counterclockwise to raise it.

### Stylus Pressure Adjustment

Use a suitable scale and follow the manufacturer's instructions to check the stylus pressure. Stylus pressure is set by rotating thumbscrew, B3. Stylus pressure is to be set for 3 grams (plus 1/2 gram and minus 0 gram).

### Idler Wheel Height Adjustment

Idler Wheel (23) should be adjusted so that it contacts the motor pulley in the center of the proper step, making certain the lower face of Idler Wheel (23) does not rub on the flange of the next lower step of the motor pulley.

An adjustment screw on Idler Arm Assembly (57), next to Idler Wheel (23), is provided to adjust the vertical positioning of the idler wheel. This screw must be turned clockwise to lower Idler Wheel (23) and counterclockwise to raise it.

**IMPORTANT:** When making this adjustment, always be sure the changer is supported from the base plate and that the motor is completely suspended.

### AC Switch Adjustment

Remove Switch Mounting Screws (44), Switch Cover (127), and Switch Lever (45). Reform the stationary Switch Contact (124) by shaping it so that the end of the contact (opposite the lead end) rests with its face against the stop near the mounting hole. Replace Switch Lever (45), Switch Cover (127), and Switch Mounting Screws (44).

### Automatic Trip

Failure of the mechanism to trip at the end of a record may be due to dirt or grease between the striker and the striker friction plate. The striker

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ADJUSTMENTS (Continued)

and the striker friction plate are located on top of the intermediate gear and are part of the Intermediate Gear and Striker Assembly (77). Refer to Intermediate Gear and Striker Assembly on Page 8.

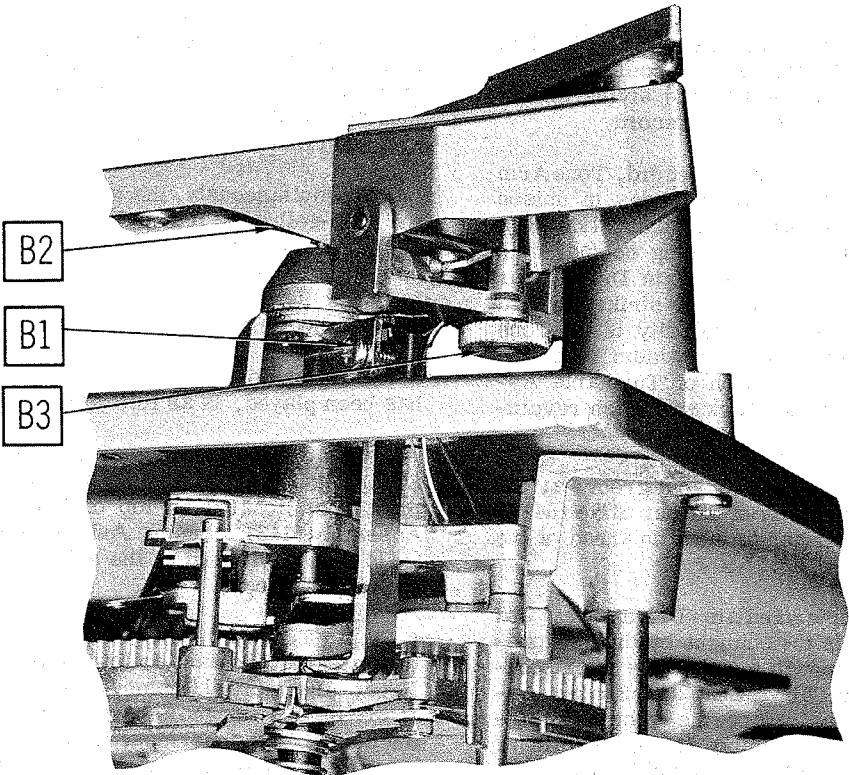
Turn Off-On Reject Knob (9) to On and rotate the main cam gear until the intermediate gear rests in the recessed area of the main cam gear. Remove C-Clip (78) which retains the Intermediate Gear and Striker Assembly (77), and remove this assembly by

moving it away from Main Cam Assembly (109) and lifting the Intermediate Gear and Striker Assembly (77) up and off its mounting post. Remove the C-Clip that retains the striker and striker friction plate. Using reasonable care, remove dirt and grease of any kind from the striker and striker friction plate. Replace if necessary.

NOTE: Do not lubricate these parts.

TROUBLE CHART

| SYMPTOM  | REMARKS  |
|--|--|
| Turntable does not rotate when Off-On Reject Knob is turned to On.                     | 1. Idler Tension Spring (33) weak, loose, or broken.<br>2. AC Switch Contacts (123 & 124) bent, oily, or disconnected.   |
| Variation in turntable speed.  | 1. Idler Wheel (23), turntable rim, or motor shaft dirty.<br>2. Idler Wheel (23) height misadjusted.<br>3. Idler Tension Spring (33) weak.   |
| Tone arm fails to rise.  | 1. Tone Arm Lift Rocker Spring (89) stretched, broken, or disconnected.<br>2. Tone Arm Lift Rod (91) binding.<br>3. Tone Arm Lift Lever Assembly (94) in pivot slot on Tone Arm Pivot Base Assembly (87).<br>4. Auto-Trip Link Spring (130) loose, broken, or missing. |
| Tone arm does not move toward records.   | 1. Tone Arm Feed Lever Adjust Screw (103) misadjusted so that cam-following pin on Tone Arm Feed Lever Assembly (102) does not ride grooves in Main Cam Assembly (109).<br>2. Feed Lever Spring (105) weak, missing, or broken.  |
| Tone arm jumps the first few grooves after landing on record.                          | 1. Stylus pressure too light.<br>2. Worn stylus.<br>3. Changer not level.<br>4. Pickup leads binding.  |
| Rumble or noise.   | 1. Idler Wheel (23) dirty or defective.<br>2. Turntable Thrust Bearing (70) dirty or needs lubricating.<br>3. Motor grommets (41) defective.<br>4. Turntable rim dirty or damaged.   |
| Changer trips before finishing record or trips continuously.                           | 1. Striker Slide (84) damaged at bent end.<br>2. Damaged striker or striker friction plate — part of Intermediate Drive Gear & Striker Assembly (77).  |
| Off-On Reject Knob returns to Off when released or after tone arm drops to the record. | 1. Auto-Stop Lever Spring (76) loose or broken.<br>2. Auto-Stop Lever (80) binding against changer pan or on Intermediate Gear Lever Assembly (75).  |
| Speed Control Knob (12) hard to move.  | 1. Speed Change Control Lever Drive Link (39), Index Rocker Assembly (40), or Speed Change Cam Drive Link (38) binding.<br>2. Speed Change Cam (58) needs lubrication.   |
| Stylus will not track.   | 1. Cartridge leads binding tone arm motion.<br>2. Stylus worn or damaged.<br>3. Stylus pressure too light.<br>4. Changer not level.<br>5. Cam-following pin on Tone Arm Feed Lever Assembly (102) rubbing bottom of Main Cam Assembly (109).                           |



OPERATING INSTRUCTIONS

Automatic Play

1. Lift Balance Arm (1) and swing it out over Tone Arm (3-1).
2. Place a quantity of records, not exceeding six, on Record-Dropping Spindle (16) and lower them to the spindle offset step. To ensure proper indexing, records of different sizes must be stacked with the largest size at the bottom. Be sure all records are of the same speed.
3. Place Balance Arm (1) over the records and select the correct stylus.
4. Set Speed Control Knob (12) to correct speed.
5. Move Off-On Rej. Knob (9) to Rej. When the turntable starts to revolve, release the knob. Tone Arm (3-1) will now move over and sit down on the first record. To reject any record, turn Off-On Rej. Knob (9) to Rej. and then release knob.

Manual Play

1. Lift Record Balance Arm (1) and swing it out and over Tone Arm (3-1).

2. Place a record on the turntable.
3. Set Speed Control Knob (12) to the proper record speed.
4. Rotate Off-On Reject Knob (9) to On.
5. Manually place the stylus gently on the record. After the record has been played, Tone Arm (3-1) will return to the rest position and the unit will shut off automatically. If only a selected passage is to be played, Tone Arm (3-1) can be lifted and placed manually on its rest after the passage is completed.

Adapter for 45-RPM Records

1. Place Off-On Reject Knob (9) at Off.
2. Place adapter over Spindle (16) so that the word "Front" on the adapter is facing the front of the changer.
3. Press downward on adapter until it is firmly seated.
4. To remove adapter, pull it straight upward from the spindle.

CLEANING

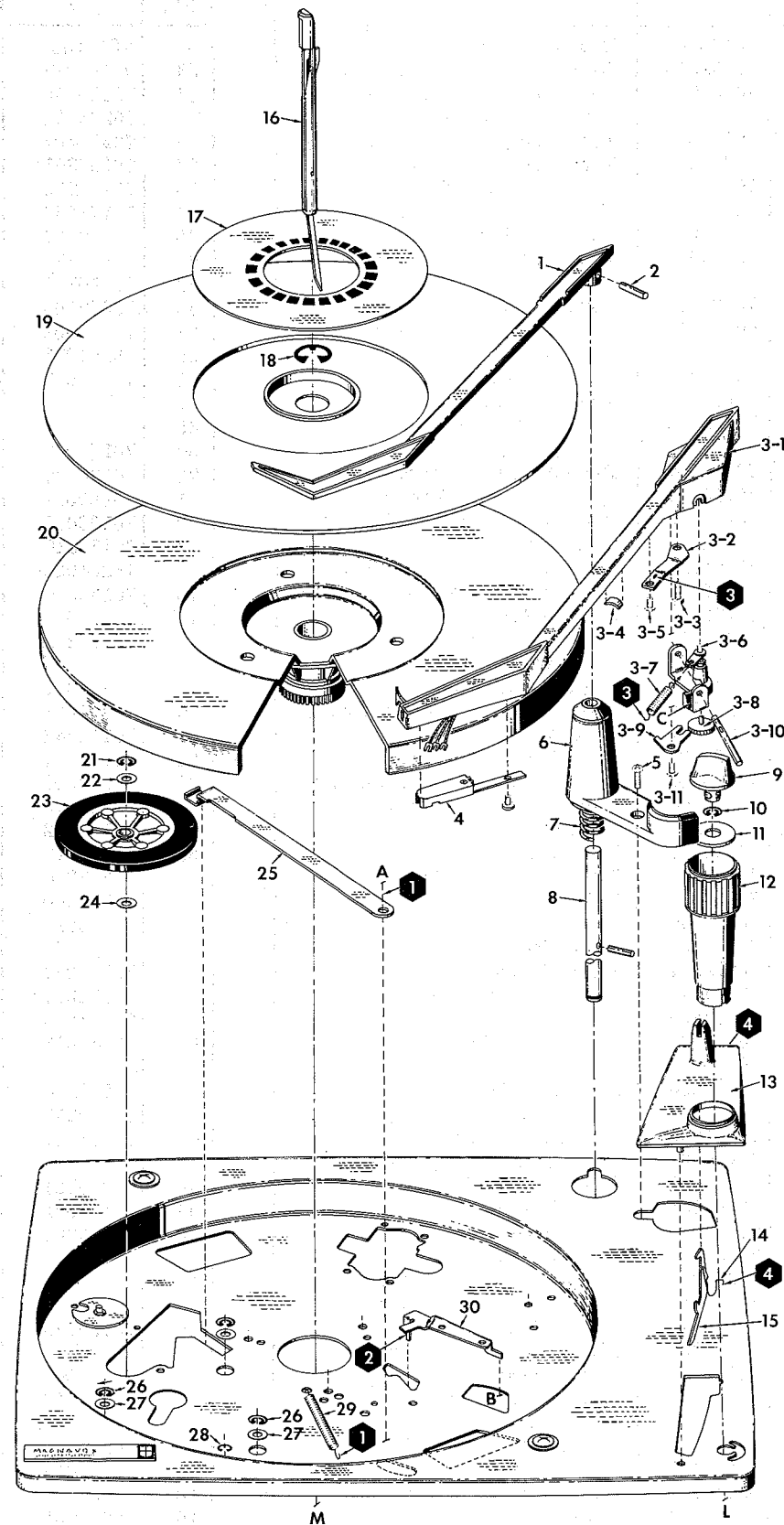
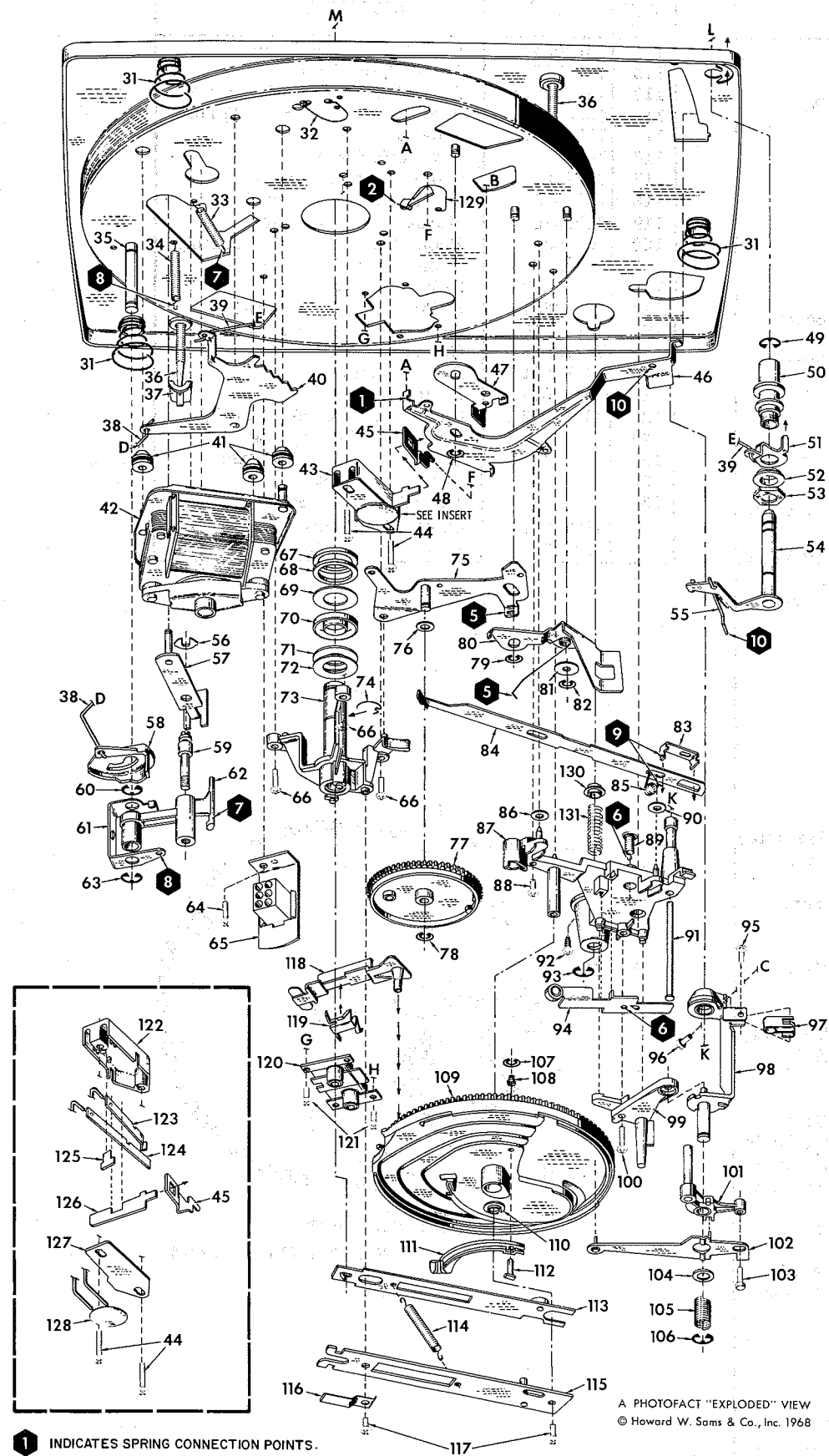
Dust and foreign matter should be removed from the changer regularly. Remove Turntable (20) and, using a clean cloth dampened with alcohol, clean the inner drive surface of Turntable (20), Idler Wheel (23), and the stepped motor shaft.

LUBRICATING

Lubricate Balance Arm (1), Tone Arm (3-1), Idler Bracket (62), and pivot points sparingly with a light oil. Apply a small amount of phono-turntable grease to turntable Thrust Bearing Assembly (70) and Speed Change Cam (58).

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# MECHANICAL PARTS LIST

| Ref. No. | Part No.      | Description                               | Ref. No. | Part No. | Description  | Ref. No. | Part No. | Description                  |
|----------|---------------|---|----------|----------|--|----------|----------|------------------------------|
| 1        | 76130362      | Balance Arm                               | 52       | 76171351 | Control Spacer   | 111      | 76180257 | Auto-Stop Swing Plate        |
| 2        | 76252610      | Balance Arm Retainer Pin                  | 53       | 76246401 | Lock Nut   | 112      | 76171071 | Swing Plate Pivot            |
| 3        | 76120033      | Tone Arm Assembly (Less Pickup) (W626-07) | 54       | 76130358 | Control Spindle Assembly                                       | 113      | 76130301 | Record-Dropping Slide Ass'y. |
| 3-1      | 76125037      | Tone Arm, Trim & Clip Ass'y.              | 55       | 76205014 | Operating Lever Link   | 114      | 76200034 | Record-Dropping Slide Spring |
| 3-2      | 76204024      | Tone Arm Lift Plate                       | 56       | 76253407 | Bowed Ring   | 115      | 76130302 | Sub-Plate Assembly           |
| 3-3      | 76245110      | Lift Plate Adjustment Screw               | 57       | 76130291 | Idler Arm Assembly   | 116      | 76166032 | Pawl Lift Spring             |
| 3-4      | 76166035      | Tone Arm Lead Retainer                    | 58       | 76180252 | Speed Change Cam   | 117      | 76245015 | Sub-Plate Mtg. Screw         |
| 3-5      | 76245021      | Lift Plate Mtg. Screw                     | 59       | 76171067 | Idler Arm Pivot  | 118      | 76180254 | Muting Switch Slider         |
| 3-6      | 76125051      | Tone Arm Bracket & Pivot Ass'y.           | 60       | 76252902 | C-Clip   | 119      | 76160254 | Muting Switch Contact        |
| 3-7      | 76200035      | Counter Balance Spring                    | 61       | 76160275 | Idler Lift Bracket   | 120      | 76130340 | Phono Socket Board Assembly  |
| 3-8      | (Part of 3-6) | Counter Balance Adjustment Screw          | 62       | 76190151 | Idler Bracket  | 121      | 76245007 | Phono Socket Mtg. Screws     |
| 3-9      | 76160237      | Clamp Plate                               | 63       | 76252906 | C-Clip   | 122      | 76183512 | Switch Housing               |
| 3-10     | 76171070      | Tone Arm Pivot Pin                        | 64       | 76245002 | Connect Bracket Mtg. Screw                                     | 123      | 76273257 | Switch Contact (Moving)      |
| 3-11     | 76245110      | Clamp Plate Mtg. Screw                    | 65       | 76164071 | Connector Bracket  | 124      | 76273256 | Switch Contact (Fixed)       |
| 4        |               | Pickup                                    | 66       | 76245002 | Spindle Housing Mtg. Screw                                     | 125      | 76213013 | Contact Clamp                |
| 4-1      | 76245007      | Pickup Mounting Screw                     | 67       |          | Rubber Washer  | 126      | 76213031 | Switch Slider                |
| 5        | 76245013      | Spindle Housing Mtg. Screw                | 68       |          | Rubber Washer  | 127      | 76213014 | Switch Cover                 |
| 6        | 76130325      | Balance & Tone Arm Spindle Housing        | 69       | 76160037 | Thrust Washer  | 128      | 76270002 | Capacitor, .01mfd., 1400V    |
| 7        | 76201021      | Balance Arm Return Spring                 | 70       | 76130139 | Thrust Bearing Assembly  | 129      |          | Auto-Trip Link Spring        |
| 8        | 76130318      | Balance Arm Spindle Assembly              | 71       | 76160037 | Thrust Washer  | 130      |          | Balance Arm Spring Disc      |
| 9        | 76130133      | Off-On-Reject Knob                        | 72       | 76160040 | Self-Aligning Washer   | 131      |          | Balance Arm Spring           |
| 10       | 76252906      | C-Clip                                    | 73       | 76130319 | Turntable Spigot Housing Ass'y.                                | 132      |          | Idler Arm Adj. Screw         |
| 11       | 76212264      | Fibre Washer                              | 74       | 76204020 | C-Clip   |          | 523702-1 | 45-RPM Adapter               |
| 12       | 76180304      | Speed Control Knob                        | 75       | 76130307 | Intermediate Gear Lever Ass'y.                                 |          | 76231551 | Balance Arm Trim.            |
| 13       | 76180305      | Speed & Off-On-Reject Plaque              | 76       | 76203012 | Auto-Stop Lever Spring   |          |          |                              |
| 14       | 76203011      | Tone Arm Rest Spring                      | 77       | 76130389 | Intermediate Drive Gear and Striker Assembly                   |          |          |                              |
| 15       | 76160283      | Tone Arm Rest Lever                       | 78       | 76252801 | C-Clip   |          |          |                              |
| 16       | 76130300      | Record-Dropping Spindle Ass'y.            | 79       | 76252801 | C-Clip   |          |          |                              |
| 17       | 76230544      | Turntable Mat Trim Disc.                  | 80       | 76160247 | Auto-Stop Lever  |          |          |                              |
| 18       | 76252905      | C-Clip                                    | 81       | 76212264 | Fibre Washer   |          |          |                              |
| 19       | 76210036      | Turntable Mat                             | 82       | 76252801 | C-Clip   |          |          |                              |
| 20       | 76130305      | Turntable Assembly                        | 83       | 76164075 | Striker Safety Slide   |          |          |                              |
| 21       | 76252801      | C-Clip                                    | 84       | 76164072 | Striker Slide  |          |          |                              |
| 22       | 76250049      | Brass Washer                              | 85       | 76203017 | Striker Safety Spring  |          |          |                              |
| 23       | 76140283      | Idler Wheel                               | 86       | 76212264 | Fibre Washer   |          |          |                              |
| 24       | 76212251      | Fibre Washer                              | 87       | 76130290 | Tone Arm Pivot Base Assembly                                   |          |          |                              |
| 25       | 76164070      | Idler Withdraw Bar                        | 88       | 76245013 | Tone Arm Pivot, Base Mtg. Screw                                |          |          |                              |
| 26       | 76252803      | C-Clip                                    | 89       | 76204027 | Tone Arm Lift Rocker Spring                                    |          |          |                              |
| 27       | 76250023      | Motor Mtg. Washer                         | 90       | 76212264 | Fibre Washer   |          |          |                              |
| 28       | 76252801      | C-Clip                                    | 91       | 76174013 | Tone Arm Lift Rod  |          |          |                              |
| 29       | 76200036      | Switch Off Spring                         | 92       | 76245013 | Tone Arm Pivot Base Mtg. Screw                                 |          |          |                              |
| 30       | 76160235      | Auto Trip Link                            | 93       | 76252906 | C-Clip   |          |          |                              |
| 31       | 76204026      | Mounting Spring                           | 94       | 76130297 | Tone Arm Lift Lever Assembly                                   |          |          |                              |
| 32       | 76130322      | Speed Index Spring                        | 95       | 76245017 | Tone Arm Positioning Adjust Screw                              |          |          |                              |
| 33       | 76200032      | Idler Tension Spring                      | 96       | 76240704 | Tone Arm Mtg. Screw  |          |          |                              |
| 34       | 76201025      | Idler Lift Spring                         | 97       | 76166031 | Tone Arm Positioning Spring                                    |          |          |                              |
| 36       | 76174016      | Mounting Screw                            | 98       | 76130295 | Tone Arm Vertical Pivot Ass'y.                                 |          |          |                              |
| 37       | 76253452      | Mounting Clip                             | 99       | 76190128 | Tone Arm Pivot Base Bracket                                    |          |          |                              |
| 38       | 76205015      | Speed Change Cam Drive Link               | 100      | 76245013 | Tone Arm Pivot Base Bracket Mtg. Screw                         |          |          |                              |
| 39       | 76205016      | Speed Change Control Lever Drive Link     | 101      | 76130298 | Tone Arm Feed Lever Block Assembly                             |          |          |                              |
| 40       | 76130356      | Index Rocker Assembly                     | 102      | 76130296 | Tone Arm Feed Lever Ass'y.                                     |          |          |                              |
| 41       | 76210107      | Rubber Grommets                           | 103      | 76245110 | Tone Arm Feed Lever Adjust Screw                               |          |          |                              |
| 42       | 76110082      | Motor Assembly                            | 104      | 76250006 | Metal Washer   |          |          |                              |
| 43       |               | AC Switch                                 | 105      | 76201019 | Feed Lever Spring  |          |          |                              |
| 44       | 76245014      | Switch Mtg. Screw                         | 106      | 76252906 | C-Clip   |          |          |                              |
| 45       | 76160255      | Switch Lever                              | 107      | 76252901 | C-Clip   |          |          |                              |
| 46       | 76130357      | Operating Lever Assembly                  | 108      | 76166041 | Swing Plate Pivot Spring                                       |          |          |                              |
| 47       | 76160238      | Auto-Trip Lever                           | 109      |          | Main Cam Assembly (Includes Ref. Nos. 107, 108, 109, 111, 112) |          |          |                              |
| 48       | 76252801      | C-Clip                                    | 110      | 76171345 | Record-Dropping Slide Spacer                                   |          |          |                              |
| 49       | 76252802      | C-Clip                                    |          |          |  |          |          |                              |
| 50       | 76172106      | Speed Control Spigot                      |          |          |  |          |          |                              |
| 51       | 76160278      | Speed Change                              |          |          |  |          |          |                              |

