

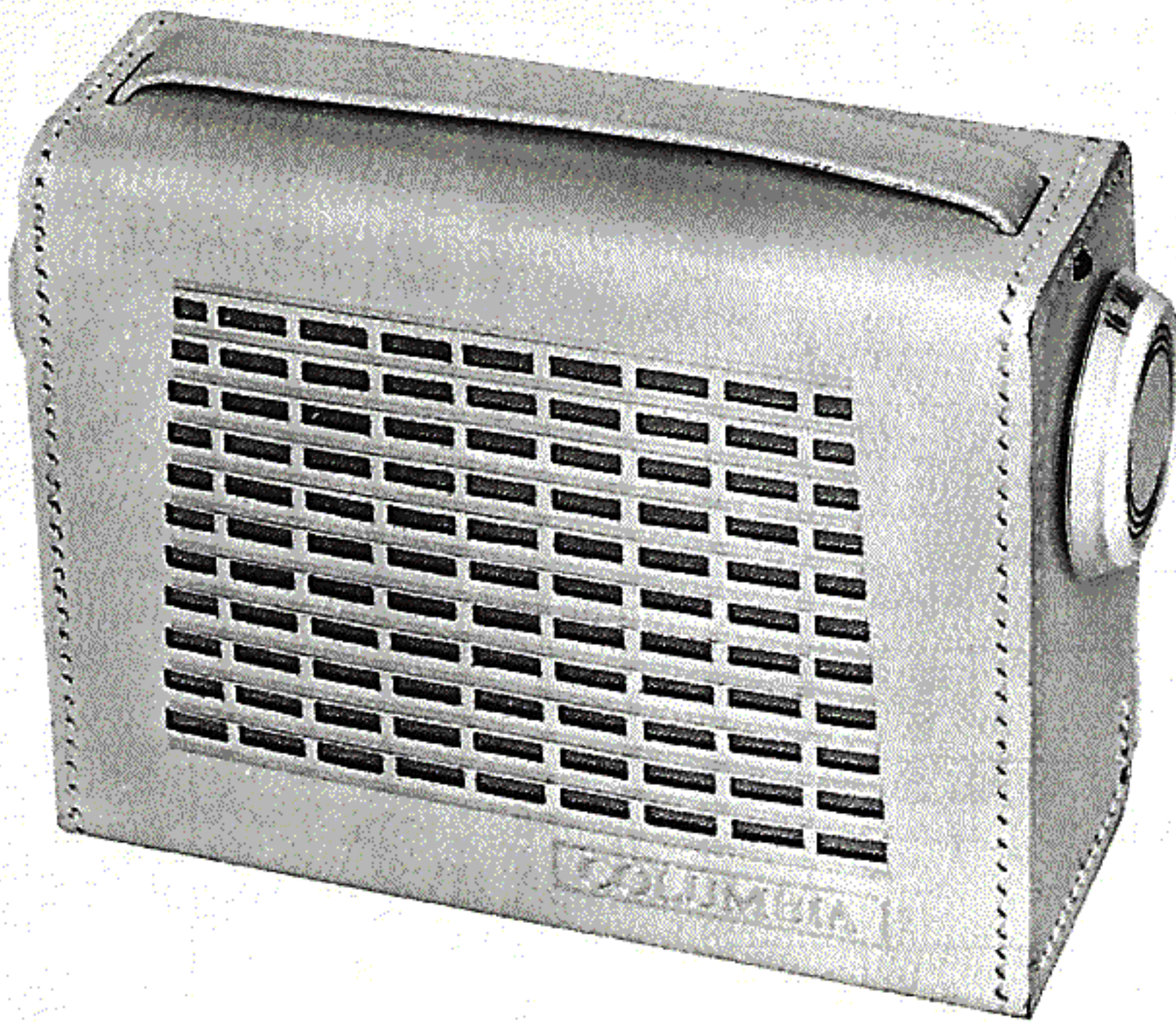
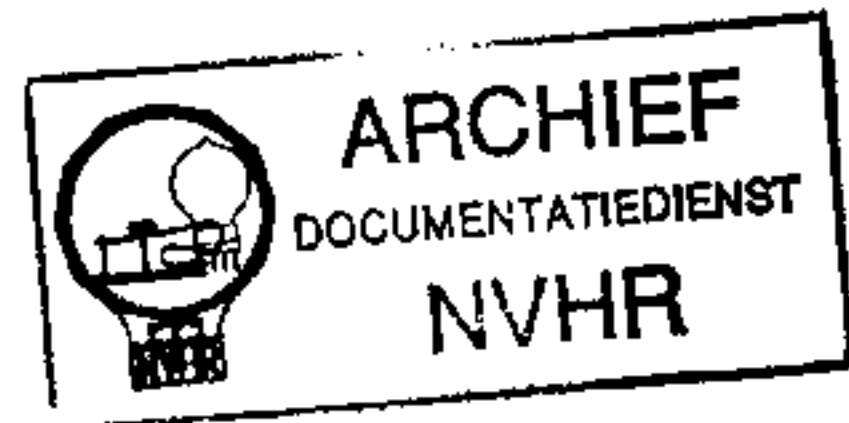
PHOTOFACT® Folder

with CIRCUITRACE™

COLUMBIA  
MODEL C-605



Ned. Ver. v. Historie v/d Radio



Met dank aan Jef Bos

|                        |  |        |  |
|------------------------|--|--------|--|
| TRADE NAME             | Columbia Model C-605   |        |  |
| MANUFACTURER           | Columbia Phonographs, Dept. of CBS Electronics, 405 Park Ave., New York, N. Y. |        |  |
| TYPE SET               | Battery Operated Transistorized Portable AM Receiver                           |        |  |
| POWER SUPPLY           | 9 Volts DC   | RATING | 10MA @ 9 Volts DC (No Signal, Min. Volume) |
| TUNING RANGE—BROADCAST | 510 — 1620KC   |        | 13MA @ 9 Volts DC (Signal, Normal Volume)  |

## ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading.

Suggested Alignment Tools:

A5, A7.....GENERAL CEMENT #5000, 5003, 8276, 8290

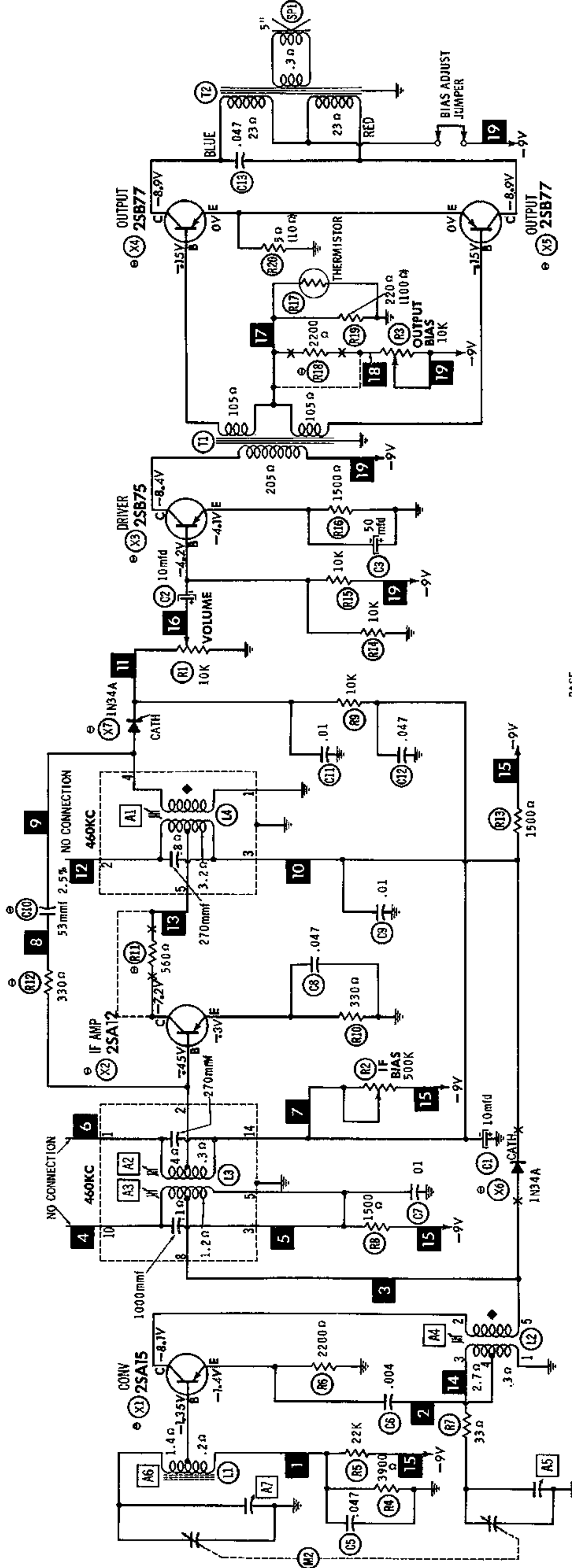
WALSCO #2512, 2515, 2522, 2523, 2525, 2537

|    | SIGNAL GENERATOR COUPLING   | SIGNAL GENERATOR FREQUENCY | RADIO DIAL SETTING      | OUTPUT METER       | ADJUST     | REMARKS  |
|----|---|----------------------------|-------------------------|--------------------|------------|--|
| 1. | Fashion loop of several turns of wire and radiate signal into loop of receiver. | 460KC (400% Mod.)          | Tuning gang fully open. | Across voice coil. | A1, A2, A3 | Adjust for maximum output.   |
| 2. | "   | 510KC                      | 510KC                   | "                  | A4         | "  |
| 3. | "   | 1620KC                     | 1620KC                  | "                  | A5         | Adjust for maximum output. Repeat Steps 2 and 3.                           |
| 4. | "   | 560KC                      | 560KC                   | "                  | A6         | Adjust for maximum output by moving antenna coil turns along ferrite core. |
| 5. | "   | 1450KC                     | 1450KC                  | "                  | A7         | Adjust for maximum output. Repeat Steps 4 and 5.                           |

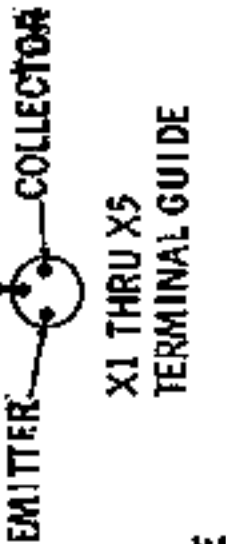
**HOWARD W. SAMS & CO., INC.** Indianapolis 6, Indiana

The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of LF210

the particular type of replacement part listed. Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. ©1962 Howard W. Sams & Co., Inc., Indianapolis 6, Indiana. Printed in U.S. of America



**BIAS ADJUSTMENT (R3)**  
 REMOVE BIAS ADJUST JUMPER AND CONNECT  
 DC MILLIAMMETER. ADJUST R3 FOR 3 ma



- SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION
- DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

- DC voltage measurements taken with vacuum tube voltmeter.
- Socket connections or transistor terminals are shown as bottom views.
- Measured values are from socket pin or terminal to common ground.
- Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
- Volume control at maximum, no signal applied for voltage measurements.

A PHOTOFACT STANDARD NOTATION SCHEMATIC with CIRCUITACE

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NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

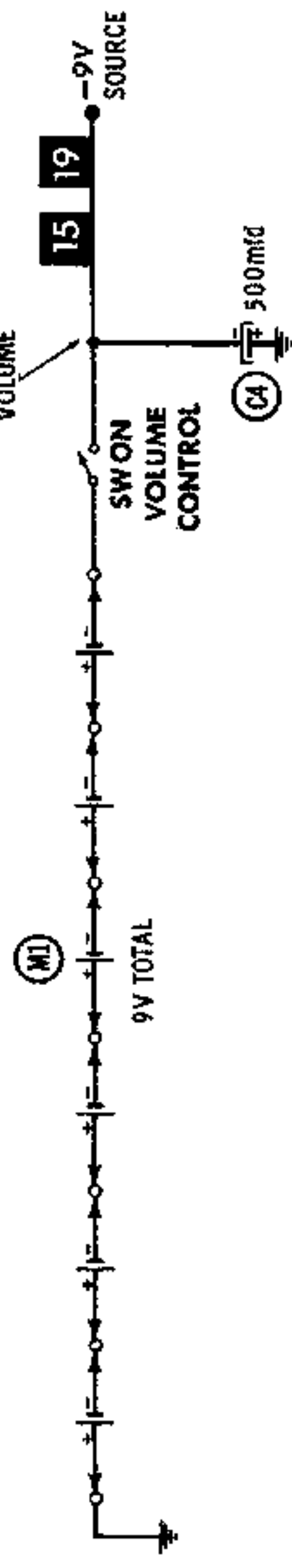
**COLUMBIA MODEL C-605**

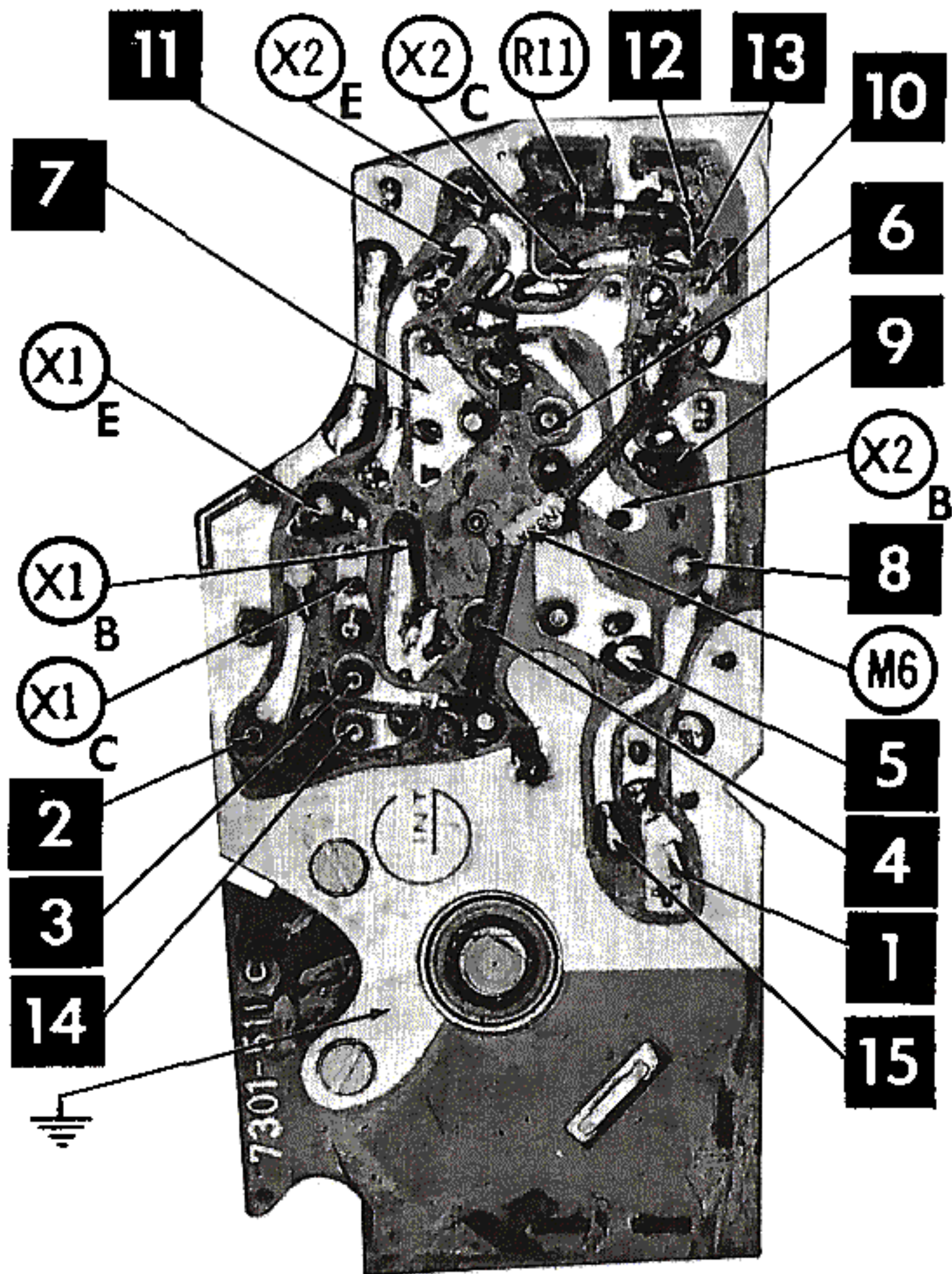
RESISTANCE READINGS

| ITEM | TYPE  | BASE   | EMITTER | COLLECTOR |
|------|-------|--------|---------|-----------|
| X1   | 2SA15 | 3200 Ω | 2200 Ω  | 11500 Ω   |
| X2   | 2SA12 | 6200 Ω | 330 Ω   | 11500 Ω   |
| X3   | 2SB75 | 4600 Ω | 1500 Ω  | 1205 Ω    |
| X4   | 2SB77 | 250 Ω  | 5 Ω     | 123 Ω     |
| X5   | 2SB77 | 250 Ω  | 5 Ω     | 123 Ω     |

† MEASURED FROM CIRCUITRACE 19.

TRANSISTORS REMOVED FOR RESISTANCE MEASUREMENTS

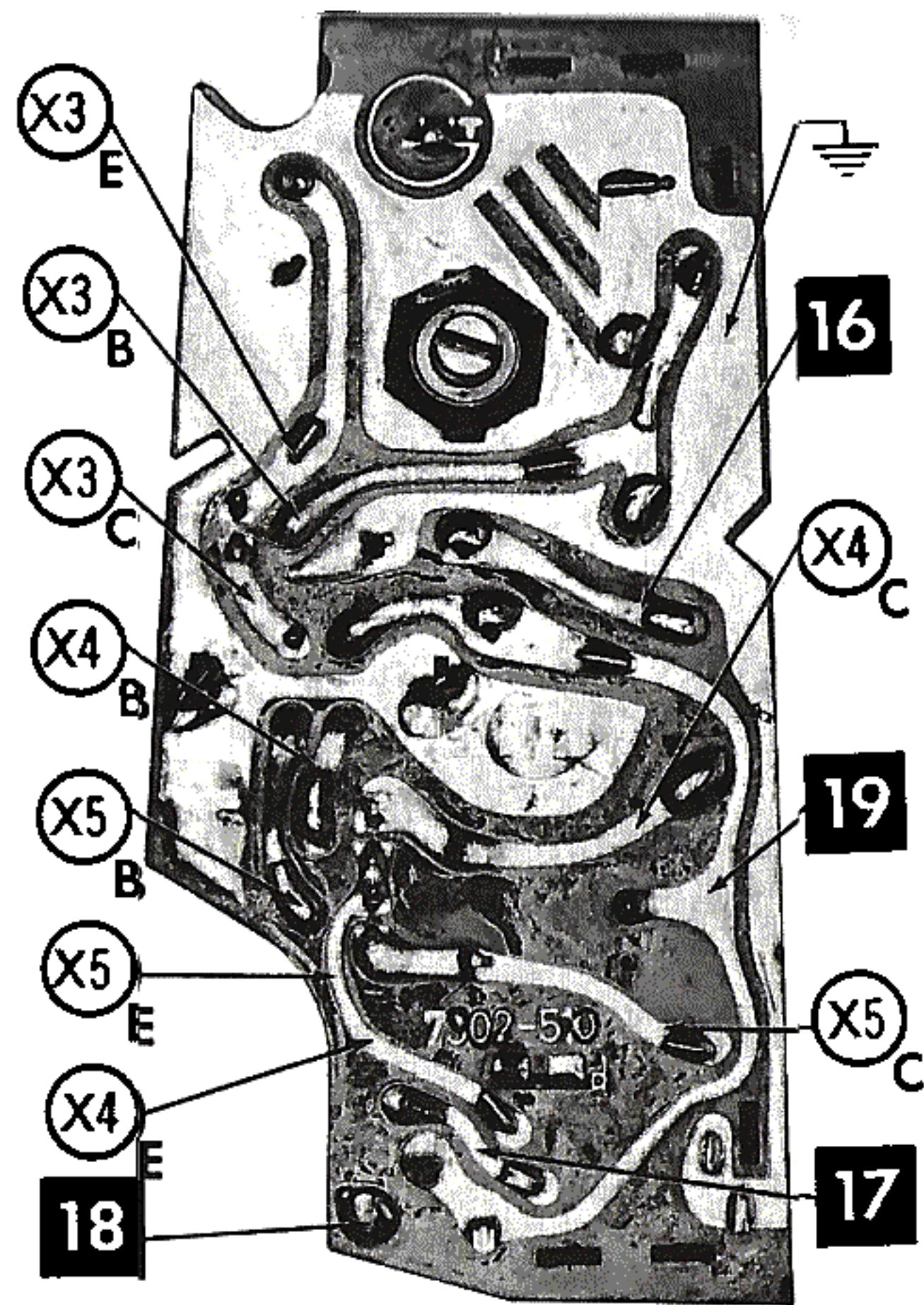




B - BASE E - EMITTER C - COLLECTOR

A Howard W. Sams **CIRCUITRACE** Photo

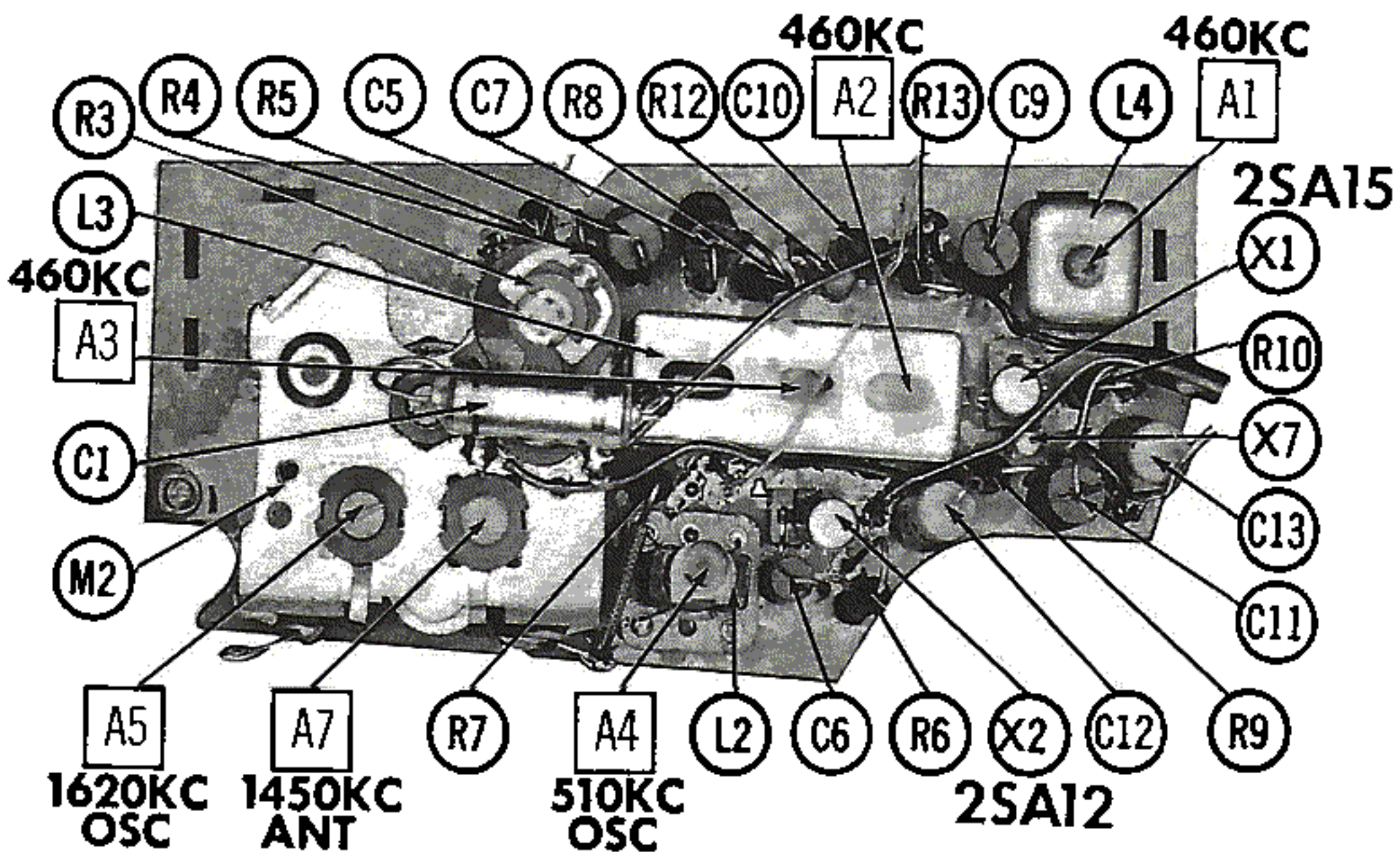
PRINTED BOARD - RF IF CHASSIS



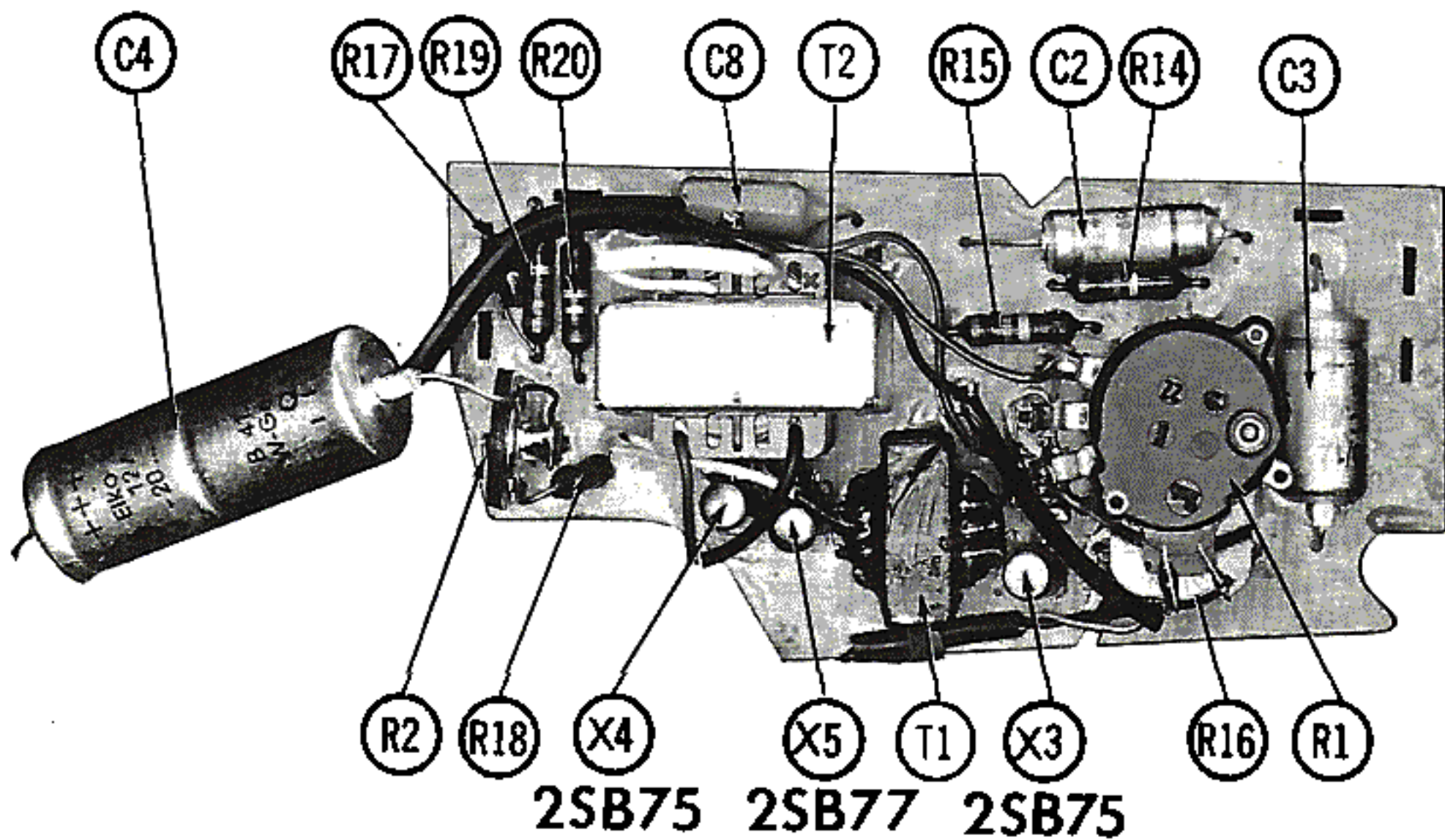
B - BASE E - EMITTER C - COLLECTOR

A Howard W. Sams **CIRCUITRACE** Photo

PRINTED BOARD - OUTPUT CHASSIS



RF-IF CHASSIS - TOP VIEW



OUTPUT CHASSIS - TOP VIEW

## WIRING DATA

|   |                                   |           |
|---|-----------------------------------|-----------|
| General-use Unshielded Hook-up Wire ..... | Use BELDEN No. 8530 (Solid 22AWG) | Available |
|   | 8524 (Stranded 22AWG)             | in        |
|   | 8570 (Stranded 26AWG)             | 12 Colors |

## TRANSISTORS

| ITEM No. | ORIG. TYPE | USE          | REPLACEMENT DATA |                   | NOTES |
|----------|------------|--------------|------------------|-------------------|-------|
|          |            |              | RCA PART No.     | RAYTHEON PART No. |       |
| X1       | 2SA15      | Converter    | 2N412            |                   | PNP   |
|          | OC44*      | Converter    | 2N412            |                   | PNP   |
| X2       | 2SA12      | IF Amplifier | 2N410            |                   | PNP   |
|          | OC45*      | IF Amplifier | 2N410            |                   | PNP   |
| X3       | 2SB75      | Driver       | 2N408            |                   | PNP   |
|          | OC71*      | Driver       | 2N408            |                   | PNP   |
| X4       | 2SB77      | Output       | 2N408            |                   | PNP   |
|          | OC72*      | Output       | 2N408            |                   | PNP   |
| X5       | 2SB77      | Output       | 2N408            |                   | PNP   |
|          | OC72*      | Output       | 2N408            |                   | PNP   |

\* Alternate

## POWER RECTIFIERS &amp; SIGNAL DIODES

| ITEM No. | CURRENT RATING (Measured) | ORIGINAL Part or Type No. | RECTIFIERS   |                         | DIODES            | NOTES   |
|----------|---------------------------|---------------------------|--------------|-------------------------|-------------------|---|
|          |                           |                           | RCA PART No. | SARKES TARZIAN PART No. | RAYTHEON PART No. |   |
| X6       |                           | 1N34A                     |              |                         | 1N34A             | Overload (Not Used in some Versions) Detector * Alternate |
| X7       |                           | 1N34A<br>OA70, 1N295*     |              |                         | 1N34A             |   |

## ELECTROLYTIC CAPACITORS

| ITEM No. | RATING |       | REPLACEMENT DATA  |                  |                           |                           |                  |                  |                  |
|----------|--------|-------|-------------------|------------------|---------------------------|---------------------------|------------------|------------------|------------------|
|          | CAP.   | VOLT. | Columbia PART No. | AEROVOX PART No. | CORNELL-DUBILIER PART No. | GENERAL ELECTRIC PART No. | MALLORY PART No. | PYRAMID PART No. | SPRAGUE PART No. |
| C1       | 10     | 12    | 11K769            | PTT53            | NLW10-15                  | MT1-5                     | TT12X10          | MLV10-12         | TE-1128          |
| C2       | 10     | 12    | 11K769            | PTT53            | NLW10-15                  | MT1-5                     | TT12X10          | MLV10-12         | TE-1128          |
| C3       | 50     | 12    | 11K771            | PTT59            | NLW50-15                  | MT1-16                    | TT15X50          | MLV50-12         | TE-1133          |
| C4       | 500    | 12    | 11K770            | PRSL170          | BR5001                    | QT1-30                    | TC1505           | TD-500-15        | TVA-1132         |

# D DESCRIPTIONS

## FIXED CAPACITORS (cont)

| ITEM No. | RATING    | REMARKS | REPLACEMENT DATA |                    |                           |                  |                  |                  |
|----------|-----------|---------|------------------|--------------------|---------------------------|------------------|------------------|------------------|
|          |           |         | AEROVOX PART No. | CENTRALAB PART No. | CORNELL-DUBILIER PART No. | ELMENCO PART No. | MALLORY PART No. | SPRAGUE PART No. |
| C5       | .047 125V | Note 1  | P288N-047        | DD-503             | CUB2S47                   | 4DP-3-473        | GEM-4147         | 2TM-S47          |
| C6       | .004      |         | SI 4000          | D6-403             | BYA10D4                   | CCD-392          | B-240            | 5HK-D40          |
| C7       | .01       |         | SI 10000         | D6-103             | BYA10SI                   | CCD-103          | B-110            | 5HK-S10          |
| C8       | .047 125V |         | P288N-047        | DD-503             | CUB2S47                   | 4DP-3-473        | GEM-4147         | 2TM-S47          |
| C9       | .01       |         | SI 10000         | D6-103             | BYA10SI                   | CCD-103          | B-110            | 5HK-S10          |
| C10      | 58 2.5%   |         |                  |                    |                           |                  |                  |                  |
| C11      | .01       |         | SI 10000         | D6-103             | BYA10SI                   | CCD-103          | B-110            | 5HK-S10          |
| C12      | .047 125V |         | P288N-047        | DD-503             | CUB2S47                   | 4DP-3-503        | GEM-4147         | 2TM-S47          |
| C13      | .047 125V |         | P288N-047        | DD-503             | CUB2S47                   | 4DP-3-503        | GEM-4147         | 2TM-S47          |

Note 1. Value Varies 30-80mmf. Replace with Original Value.

## CONTROLS

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

| ITEM No. | USE              | RESIST-ANCE | REPLACEMENT DATA  |                      |                    |                  |                              |
|----------|------------------|-------------|-------------------|----------------------|--------------------|------------------|------------------------------|
|          |                  |             | Columbia PART No. | CENTRALAB PART No.   | CLAROSTAT PART No. | CTS-IRC PART No. | MALLORY PART No.             |
| R1       | Volume, & Switch | 10K         | 9K848             | AB-15, AK-29<br>KR-1 |                    |                  | RUI4A, SL3250,<br>US41, SL38 |
| R2       | IF Bias          | 500K        |                   |                      |                    |                  |                              |
| R3       | Output Bias      | 10K         |                   |                      |                    |                  |                              |

## RESISTORS

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

| ITEM No. | RATING | REPLACEMENT DATA |                  |         | ITEM No. | RATING     | REPLACEMENT DATA |                  |         |
|----------|--------|------------------|------------------|---------|----------|------------|------------------|------------------|---------|
|          |        | IRC PART No.     | WORKMAN PART No. | REMARKS |          |            | IRC PART No.     | WORKMAN PART No. | REMARKS |
| R4       | 3900Ω  |                  |                  |         | R13      | 1500Ω      |                  |                  |         |
| R5       | 22K    |                  |                  |         | R14      | 10K        |                  |                  |         |
| R6       | 2200Ω  |                  |                  |         | R15      | 10K        |                  |                  |         |
| R7       | 33Ω    |                  |                  |         | R16      | 1500Ω      |                  |                  |         |
| R8       | 1500Ω  |                  |                  |         | R17      | Thermistor |                  |                  |         |
| R9       | 10K    |                  |                  |         | R18      | 2200Ω      |                  |                  |         |
| R10      | 330Ω   |                  |                  |         | R19      | 220Ω       |                  |                  | (100Ω)* |
| R11      | 660Ω   |                  |                  | Note 1  | R20      | 5Ω         |                  |                  | (10Ω)*  |
| R12      | 330Ω   |                  |                  | Note 2  |          |            |                  |                  |         |

Note 1. Not used in some versions.

Note 2. Value varies from 100Ω to 1000Ω.

\* Alternate Value.

# PARTS LIST AND DESC

## COILS (RF-IF)

| ITEM No. | USE       | REPLACEMENT DATA  |                |                 |                  |                  | NOTES |
|----------|-----------|-------------------|----------------|-----------------|------------------|------------------|-------|
|          |           | COLUMBLA PART No. | Merit PART No. | Miller PART No. | Stancor PART No. | Workman PART No. |       |
| L1       | Loopstick | 20K384            |                |                 |                  |                  |       |
| L2       | Osc.      | 20K385            |                |                 |                  |                  |       |
| L3       | 1st IF    | 20K386            |                |                 |                  |                  |       |
| L4       | 2nd IF    | 20K387            |                |                 |                  |                  |       |

## TRANSFORMER (DRIVER)

| ITEM No. | TURNS RATIO |      | REPLACEMENT DATA  |                |                  |                     |                | NOTES |
|----------|-------------|------|-------------------|----------------|------------------|---------------------|----------------|-------|
|          | PRI.        | SEC. | Columbia PART No. | Merit PART No. | Stancor PART No. | Thordarson PART No. | Triad PART No. |       |
| T1       | 1           | 1    | 20K388            |                |                  |                     |                |       |

## TRANSFORMER (AUDIO OUTPUT)

| ITEM No. | IMPEDANCE |      | REPLACEMENT DATA  |                |                  |                     |                | NOTES |
|----------|-----------|------|-------------------|----------------|------------------|---------------------|----------------|-------|
|          | PRI.      | SEC. | Columbia PART No. | Merit PART No. | Stancor PART No. | Thordarson PART No. | Triad PART No. |       |
| T2       | 130Ω CT   | 3-4Ω | 3K261             |                |                  |                     |                |       |

## SPEAKER

| ITEM No. | TYPE |       |            | REPLACEMENT DATA  |               | NOTES |
|----------|------|-------|------------|-------------------|---------------|-------|
|          | SIZE | FIELD | V. C. IMP. | Columbia PART No. | QUAM PART No. |       |
| SP1      | 5"   | PM    | 3-4Ω       | 1K167             | 5A1           |       |

## BATTERIES

| ITEM No. | VOLTAGE | Columbia PART No. | REPLACEMENT DATA |     |          |      |         |       | NOTES      |
|----------|---------|-------------------|------------------|-----|----------|------|---------|-------|------------|
|          |         |                   | BURGESS          |     | EVEREADY |      | MALLORY |       |            |
|          |         |                   | "A"              | "B" | "A"      | "B"  | "A"     | "B"   |            |
| M1       | 1½V     |                   |                  | 930 |          | 1015 |         | M-15R | 6 Required |

# DESCRIPTIONS (Continued)

## MISCELLANEOUS

| ITEM No. | PART NAME   | Columbia PART No. | NOTES  |
|----------|-------------|-------------------|--------|
| M2       | Tuning Cap. | 14K116            | 2 Gang |

## CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

| NAME    | PART NO. | DESCRIPTION      |
|---------|----------|------------------|
| Knob    | 8K537    | Station Selector |
| Knob    | 8K536    | Tuning           |
| Knob    | 8K538    | Volume           |
| Cabinet | 17K109   | Tan              |
| Cabinet | 17K110   | Brown            |
| Strap   | 18K798   | Tan, Carrying    |
| Strap   | 18K799   | Brown, Carrying  |