

# PHOTOFACT<sup>®</sup> with

# CIRCUITRACE<sup>®</sup>

## Met dank aan Jef Bos

TRADE NAME : Grundig Model Transonette 89  
(Black Magic Standard)

SUPPLIER : Grundig-Triumph-Adler Sales Corp.  
Service Dept.  
75 Sedgwick Street, Brooklyn 31, N. Y.

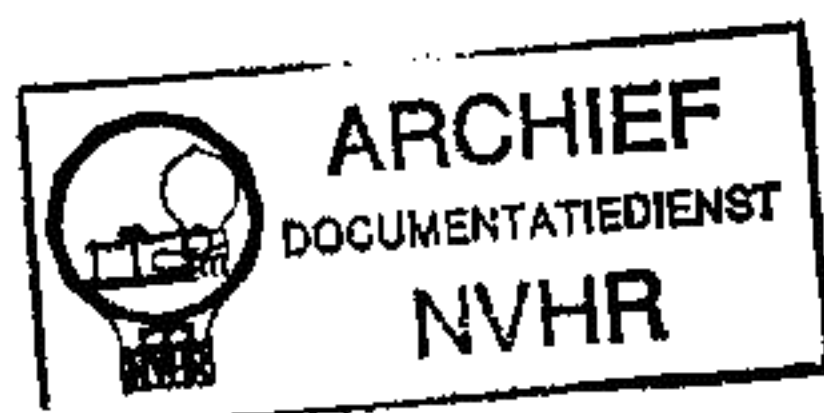
TYPE SET : 9 Transistor AM-FM Receiver

POWER SUPPLY : 9 Volts DC

RATING : 20MA @ 9VDC (No Signal, Min. Volume)  
35MA @ 9VDC (Signal, Normal Volume)

TUNING RANGE : BROADCAST 510 - 1620KC  
FREQ. MOD. 88 - 108MC

Ned. Ver. v. Historie v/d



## ALIGNMENT INSTRUCTIONS

Check for specified source voltage.

Fashion loop of several turns of wire and connect generator across loop.

Adjust output of generator to radiate only enough signal into receiver to obtain a suitable indication.

Suggested Alignment Tools:

A1 thru A5, A7, A9, A10, A11, A12, ...

A13, A14, A15, A16..... GENERAL CEMENT #8806, 9091, 9440.. WALSCO #2501, 2543, 2526

A17, A18, A6, A8..... GENERAL CEMENT #5000, 5066, 8290.WALSCO #2512, 2525, 2528

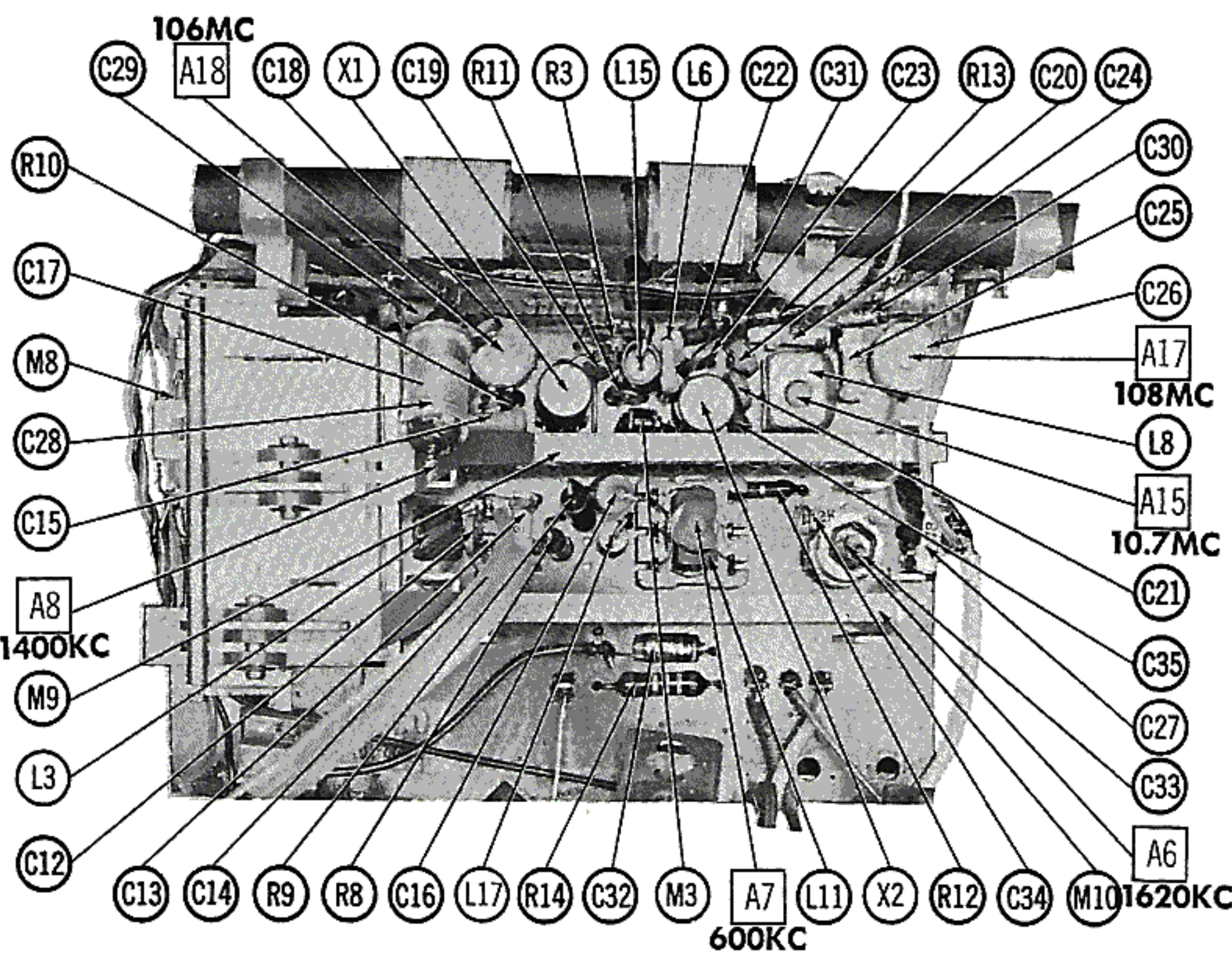
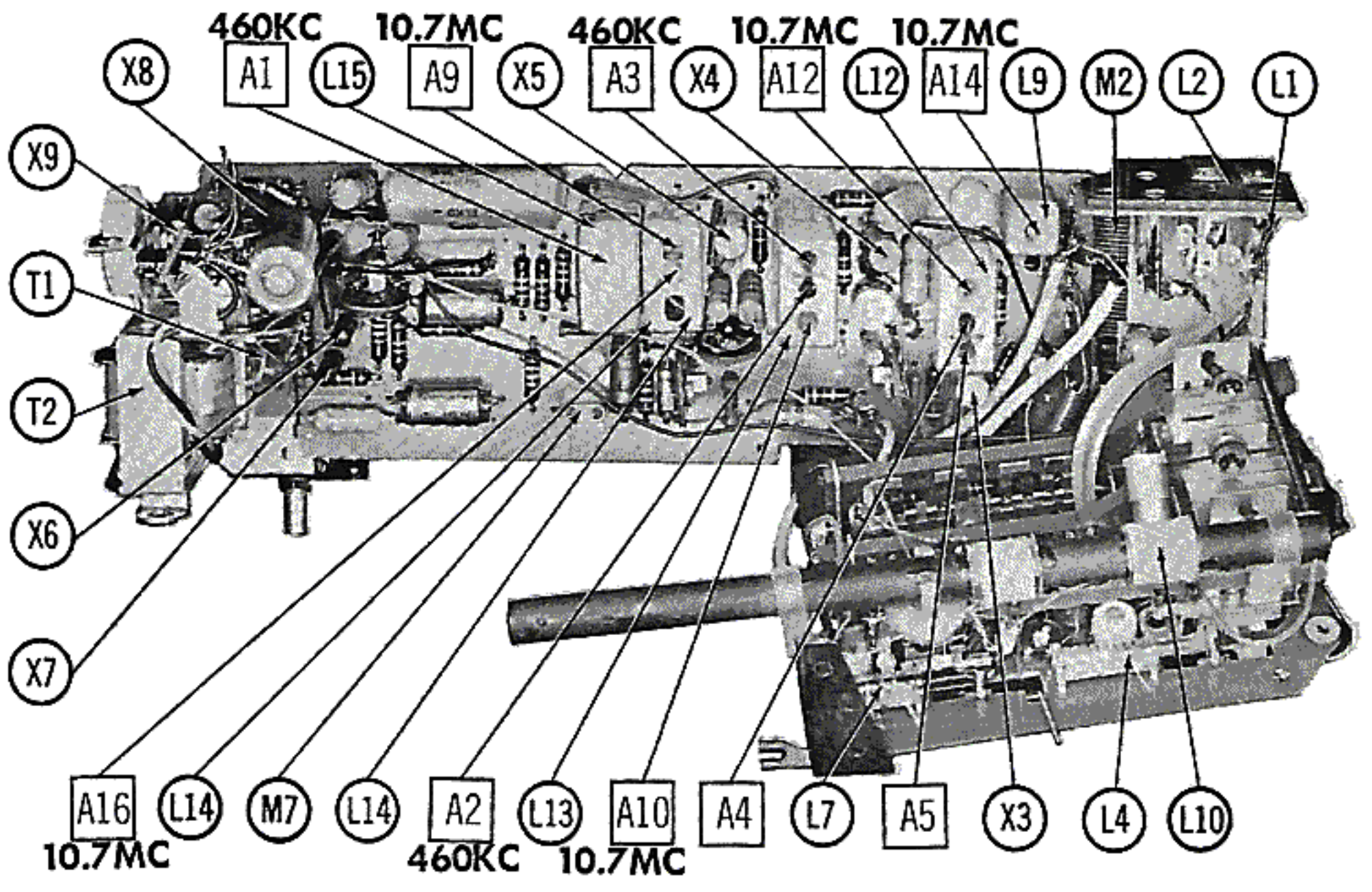
### AM ALIGNMENT - SELECTOR IN AM POSITION

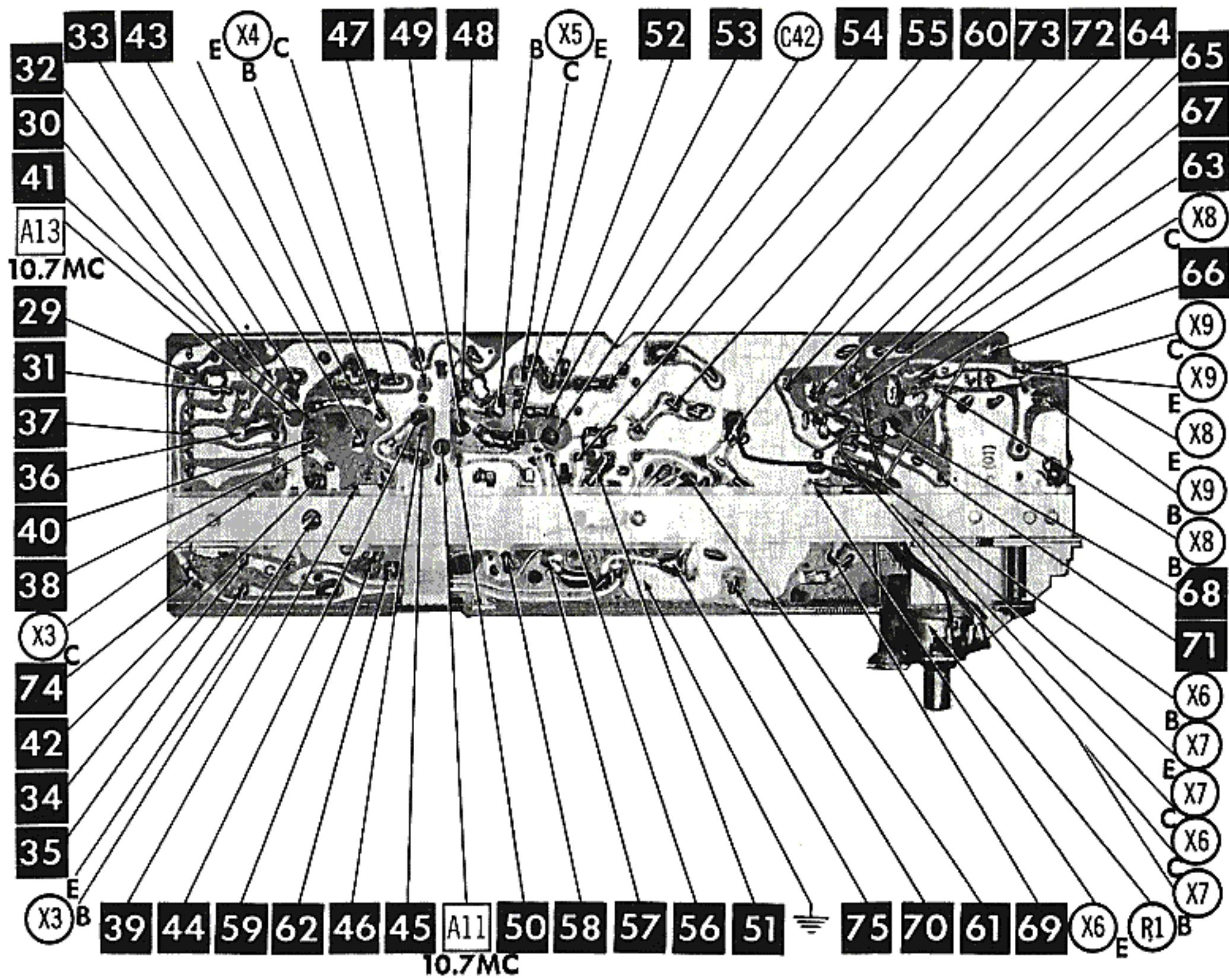
|    | SIGNAL GENERATOR FREQUENCY | RADIO DIAL SETTING      | INDICATOR                       | ADJUST      | REMARKS  |
|----|----------------------------|-------------------------|---------------------------------|-------------|--|
| 1. | 480KC<br>(400% Mod.)       | Tuning gang fully open. | Output Meter across voice coil. | A1, thru A5 | Adjust for maximum. Repeat as required.                        |
| 2. | 1620KC                     | "                       | "                               | A6          | Adjust for maximum.  |
| 3. | 600KC                      | Tune to Signal.         | "                               | A7          | Rock tuning gang and adjust for maximum. Repeat steps 2 and 3. |
| 4. | 1400KC                     | "                       | "                               | A8          | Adjust for maximum.  |

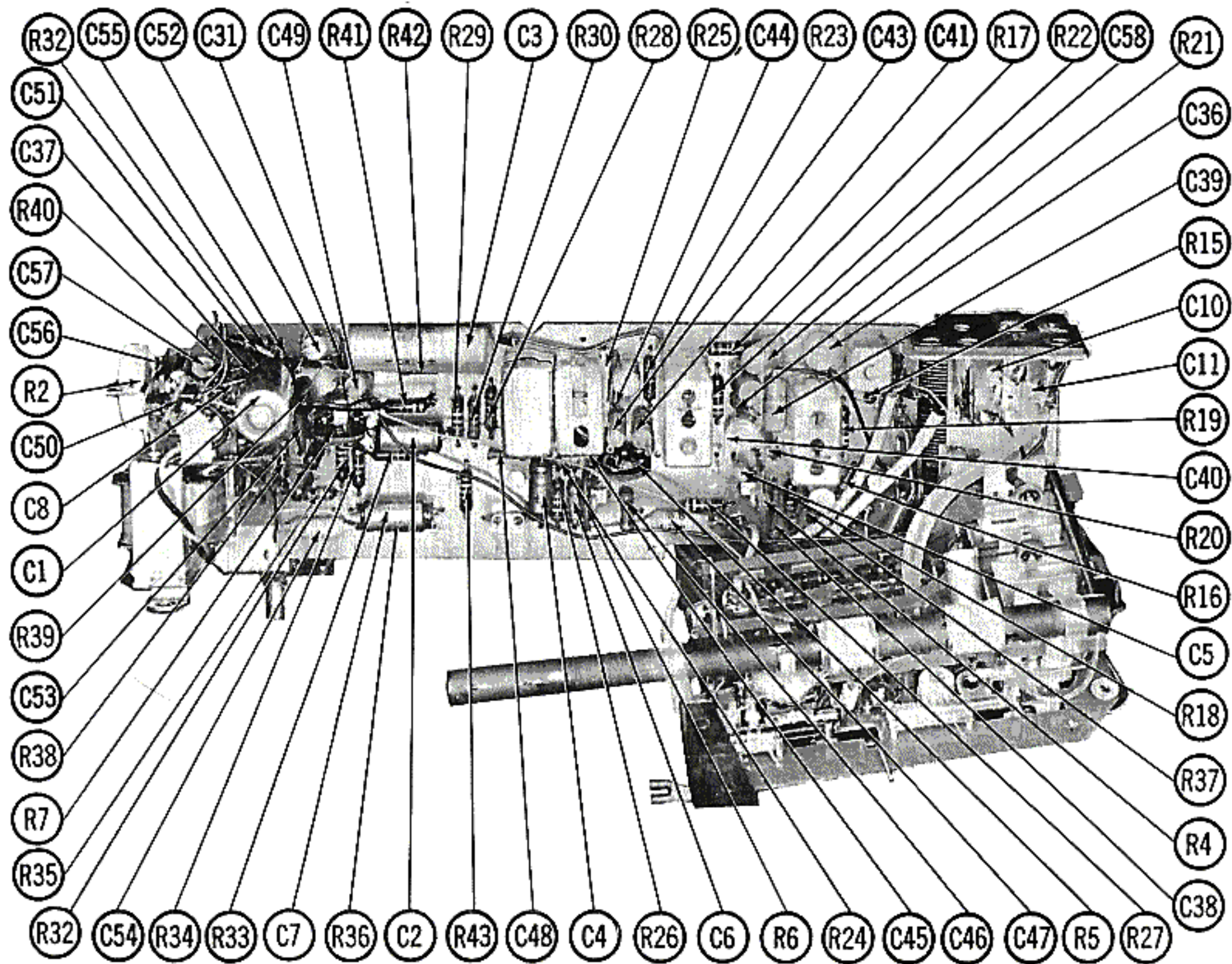
### FM ALIGNMENT - SELECTOR IN FM POSITION

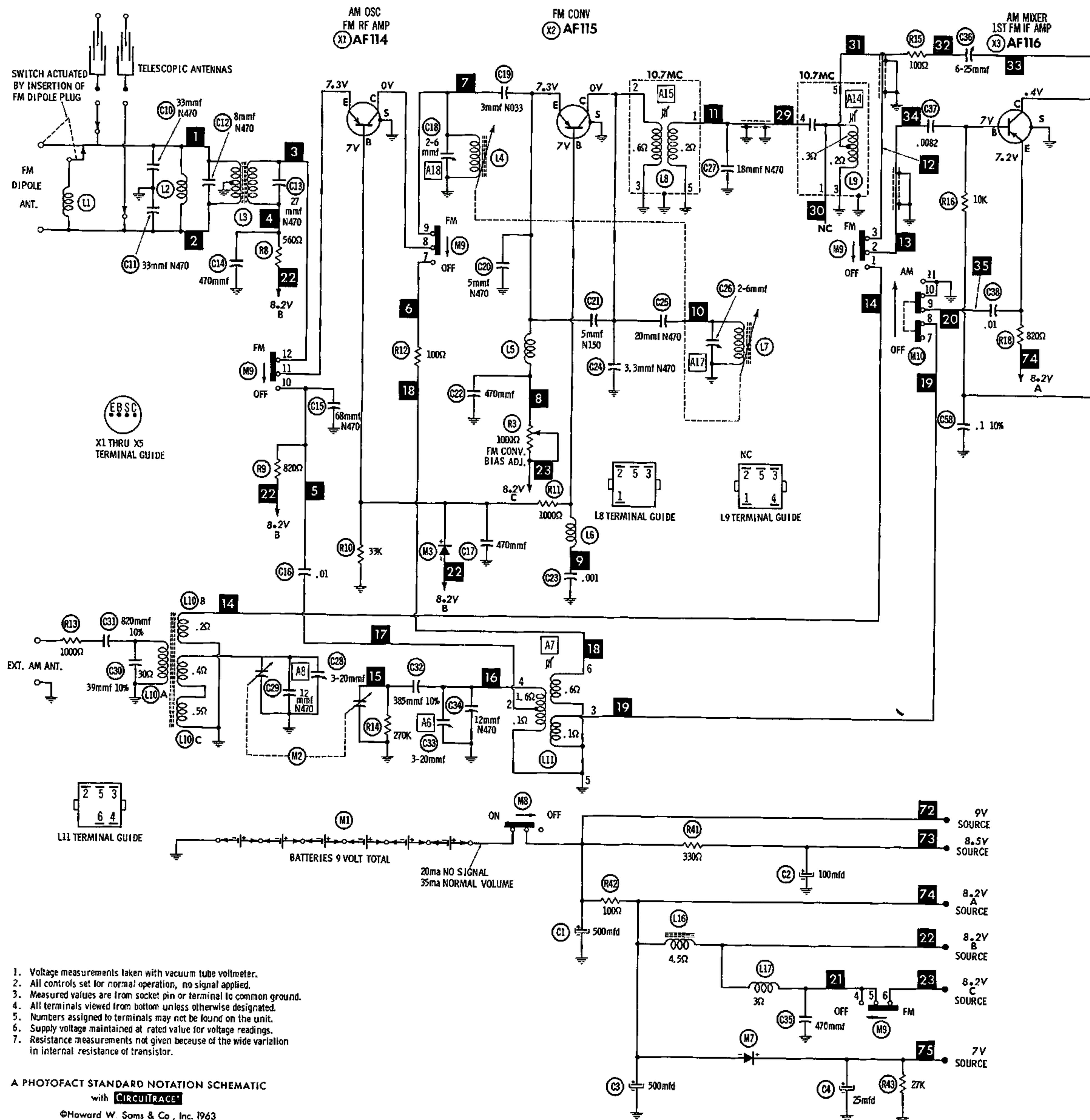
|    |        |                         |  |             |  |
|----|--------|-------------------------|--|-------------|--|
| 5. | 10.7MC | Tuning gang fully open. | DC probe of VTVM to point $\diamond A$ , common to ground. | A9 thru A15 | Adjust for maximum.  |
| 6. | 10.7MC | "                       | DC probe to point $\diamond B$ , common to ground.         | A16         | Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting. |
| 7. | 108MC  | 108MC                   | DC probe to point $\diamond A$ , common to ground.         | A17         | Adjust for maximum.  |
| 8. | 106MC  | 106MC                   | "  | A18         | "  |
| 9. |        | Tuning gang fully open. |  | R6          | Adjust for MINIMUM noise.  |

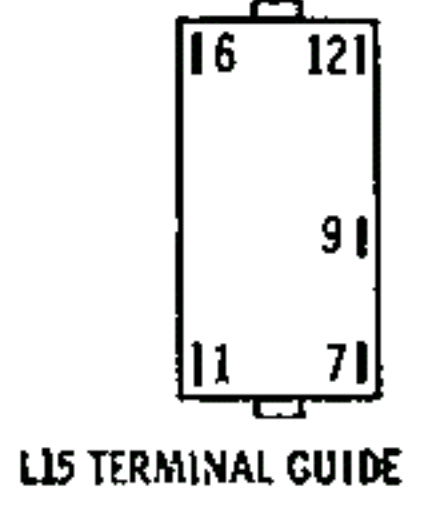
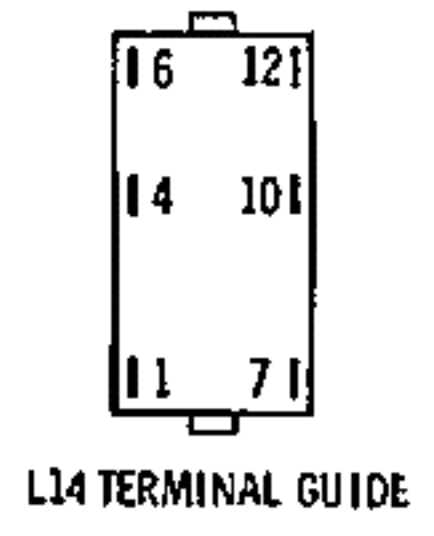
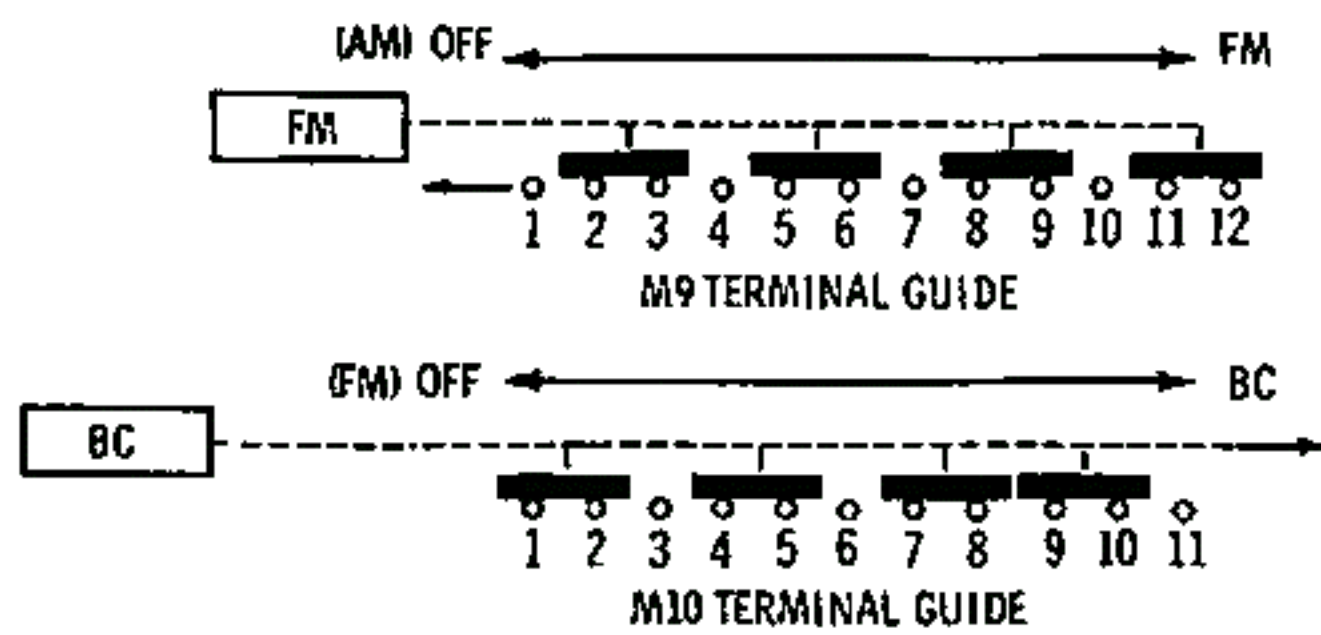
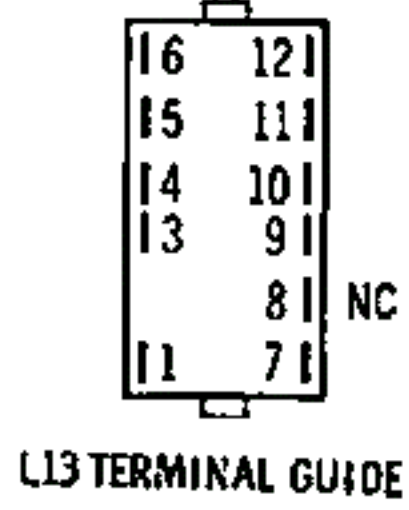
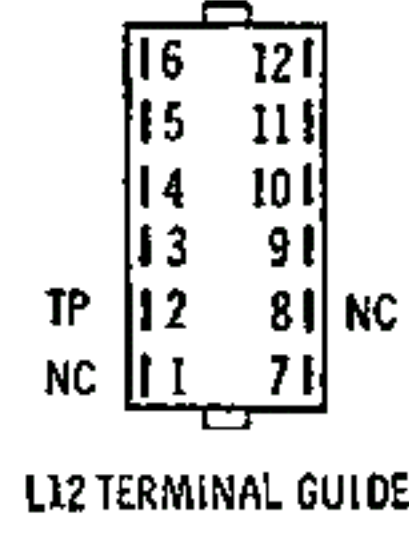
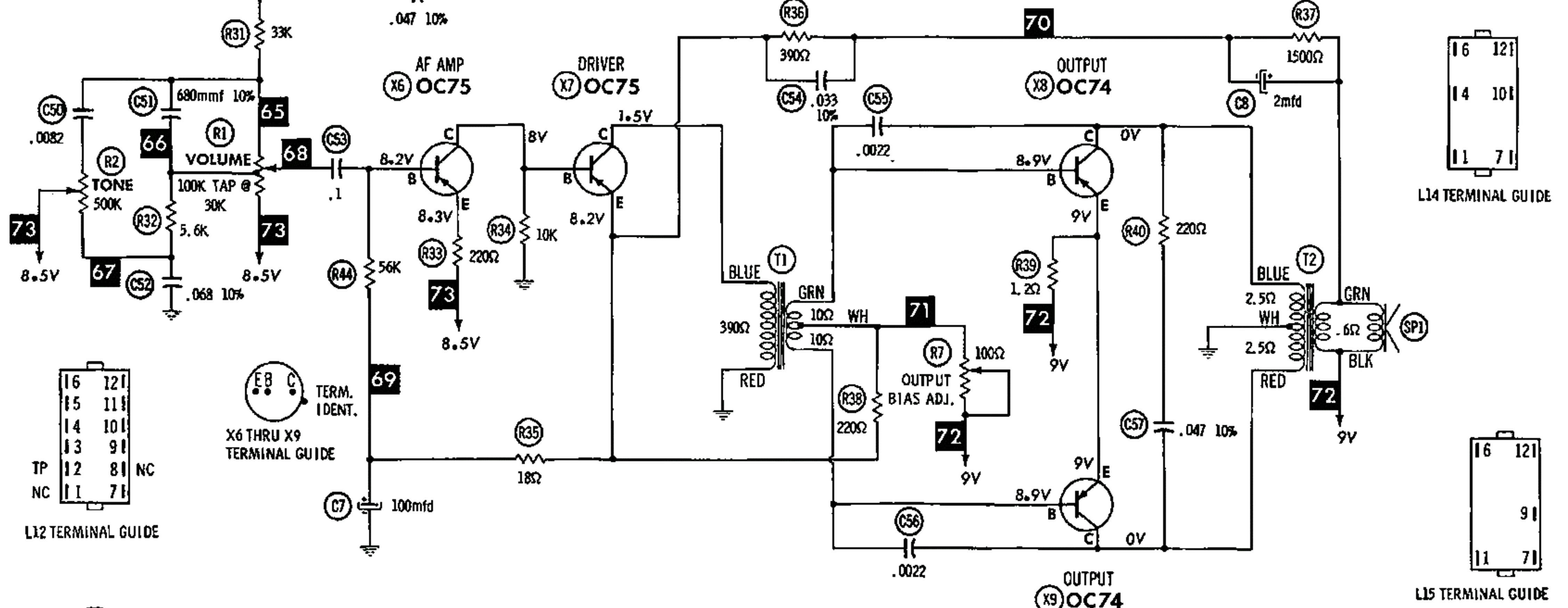
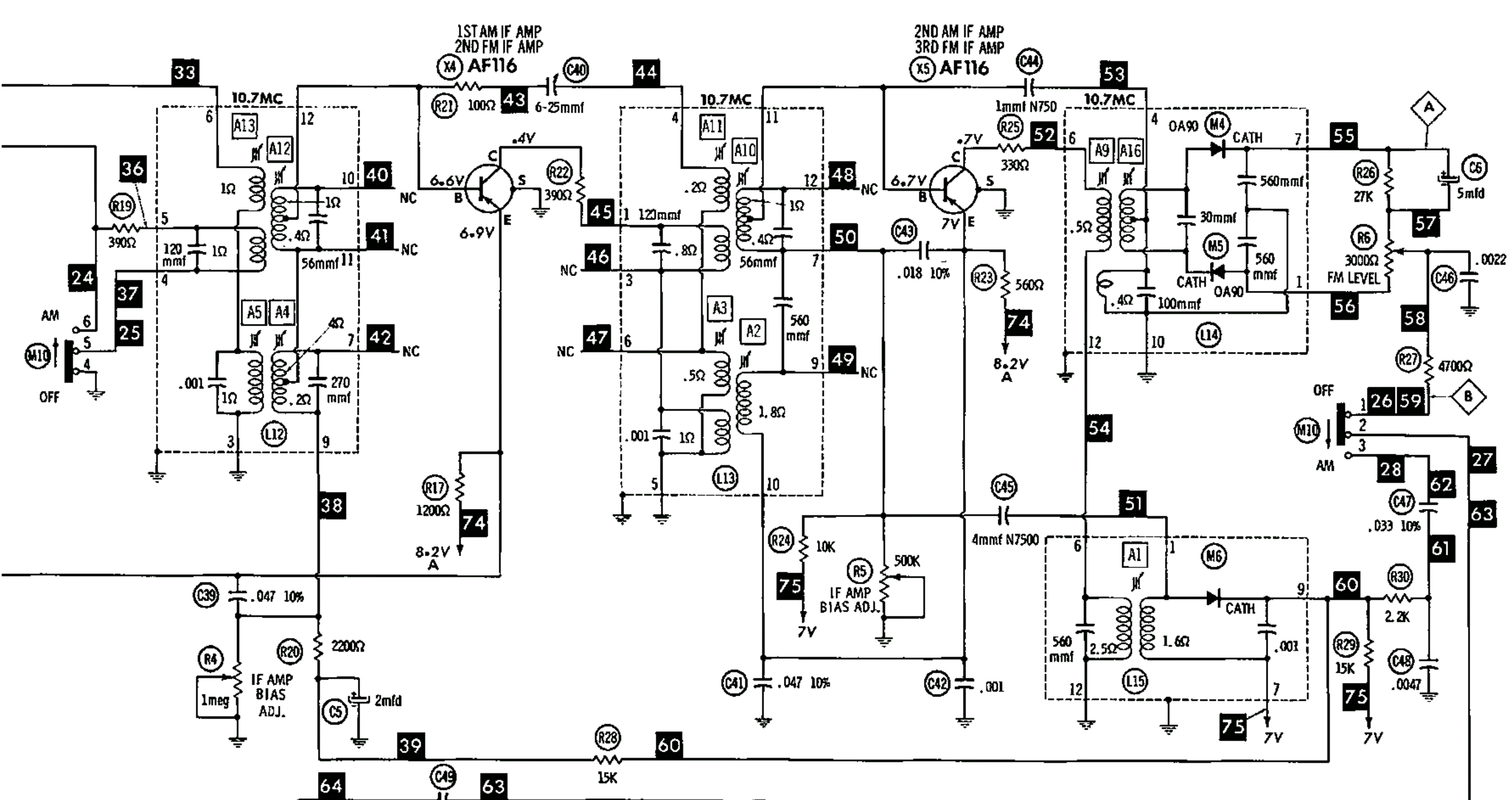
**HOWARD W. SAM'S & CO., INC.** Indianapolis 6, Indiana



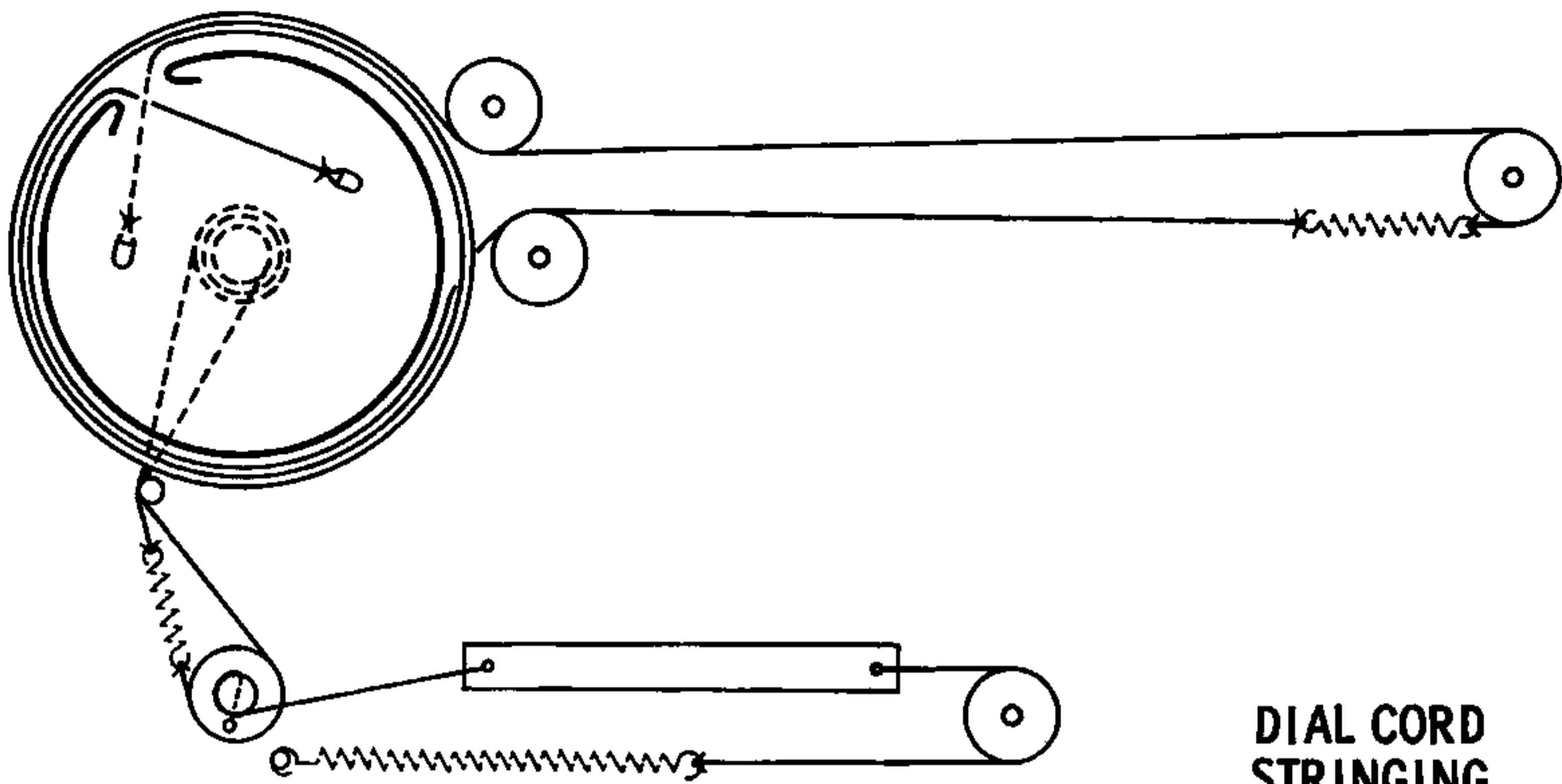




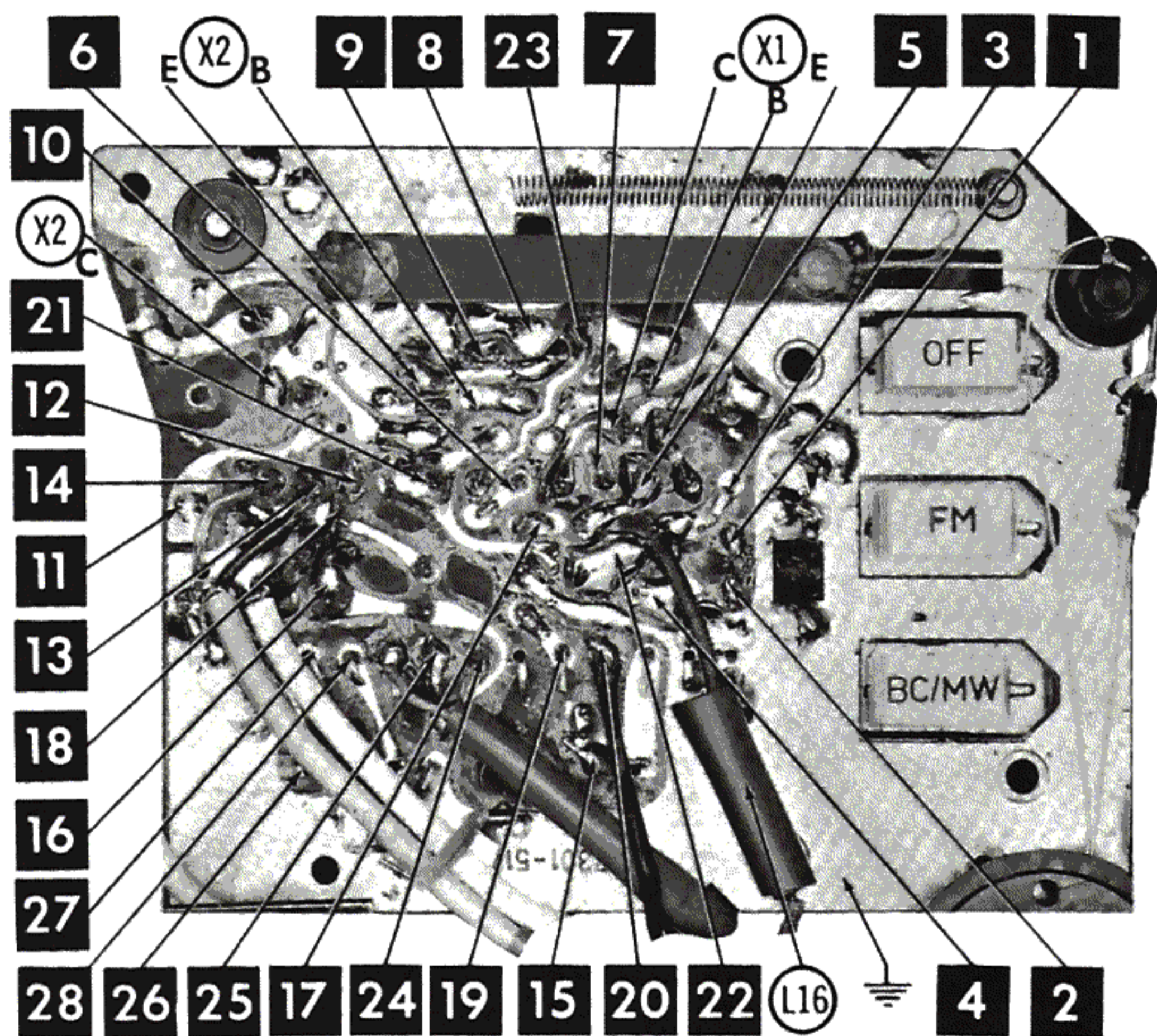




GRUNDIG MODEL Transonette 89



**DIAL CORD STRINGING**



# PARTS LIST AND DESCRIPTION

## TRANSISTORS

| ITEM No. | ORIG. TYPE | USE                          | REPLACEMENT DATA |                           |              | NOTES |
|----------|------------|------------------------------|------------------|---------------------------|--------------|-------|
|          |            |                              | DELCO PART No.   | GENERAL ELECTRIC PART No. | RCA PART No. |       |
| X1       | AF114      | FM RF Amp. -AM Osc.          | DS-25            | GE-1                      |              | PNP   |
| X2       | AF115      | FM Converter                 | DS-25            | GE-1                      |              | PNP   |
| X3       | AF116      | FM 1st FM IF Amp. - AM Mixer | DS-25            | GE-1                      |              | PNP   |
| X4       | AF116      | 2nd FM-1st AM IF Amp         | DS-25            | GE-1                      |              | PNP   |
| X5       | AF116      | 3rd FM -2nd IF Amp.          | DS-25            | GE-1                      |              | PNP   |
| X6       | OC75       | AF Amplifier                 | DS-26            | GE-2                      | 2N406        | PNP   |
| X7       | OC75       | Driver                       | DS-26            | GE-2                      | 2N406        | PNP   |
| X8       | OC74       | Output                       | DS-26            | GE-2                      | 2N408        | PNP   |
| X9       | OC74       | Output                       | DS-26            | GE-2                      | 2N408        | PNP   |

## ELECTROLYTIC CAPACITORS

| ITEM No. | RATING |       | REPLACEMENT DATA |                  |                           |                           |                             |                  |                  |
|----------|--------|-------|------------------|------------------|---------------------------|---------------------------|-----------------------------|------------------|------------------|
|          | CAP.   | VOLT. | GRUNDIG PART No. | AEROVOX PART No. | CORNELL-DUBILIER PART No. | GENERAL ELECTRIC PART No. | GENERAL INSTRUMENT PART No. | MALLORY PART No. | SPRAGUE PART No. |
| C1       | 500    | 12    |                  | PRS1170          | BR500-12                  | QT1-30                    | BL2342                      | TC1505           | TVA-1132         |
| C2       | 100    | 15    |                  | PTT73            | NLW100-15                 | MT1-19                    | MLV100-15                   | TT15X100         | TE-1162          |
| C3       | 500    | 12    |                  | PRS1170          | BR500-12                  | QT1-30                    | BL2342                      | TC1505           | TVA-1132         |
| C4       | 25     | 15    |                  | PTT69            | NLW25-15                  | MT1-11                    | MLV25-15                    | TT15X25          | TE-1157.1        |
| C5       | 2      | 35    |                  | PTT88            | NLW2-50                   | MT1-1                     | MLV2-50                     | TT50X2           | TE-1301          |
| C6       | 5      | 15    |                  | PTT64            | NLW5-15                   | MT1-3                     | MLV5-15                     | TT25X5           | TE-1152          |
| C7       | 100    | 15    |                  | PTT73            | NLW100-15                 | MT1-19                    | MLV100-15                   | TT15X100         | TE-1162          |
| C8       | 2      | 35    |                  | PTT88            | NLW2-50                   | MT1-1                     | MLV2-50                     | TT50X2           | TE-1301          |

## FIXED 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. |           |
| C10      | 33 N470       |         |                  |                    |                           | *                |                  |                  | 10TCT-Q33 |
| C11      | 33 N470       |         |                  |                    |                           | *                |                  |                  | 10TCT-Q33 |
| C12      | 8 N470        |         |                  |                    |                           | *                |                  |                  | 10TCT-V82 |
| C13      | 27 N470       |         |                  |                    |                           | *                |                  |                  | 10TCT-Q27 |
| C14      | 470           |         | DI-470           | DD-471             | LA10T47                   | CCD-471          | GP347            |                  | 10TS-T47  |
| C15      | 68 N470       |         |                  |                    |                           | *                |                  |                  | 10TCT-Q68 |
| C16      | .01           |         | SI 10000         | D6-103             | BYA10S1                   | CCD-103          | B-110            |                  | 5HK-S10   |
| C17      | 470           |         | DI-470           | DD-471             | LA10T47                   | CCD-471          | GP347            |                  | 10TS-T47  |
| C18      | 2-8           |         |                  |                    |                           | *                |                  |                  |           |
| C19      | 3 N033        |         |                  |                    |                           | *                |                  |                  | 10TCT-V50 |
| C20      | 5 N470        |         |                  |                    |                           | *                |                  |                  | 10TCP-V50 |
| C21      | 5 N150        |         |                  |                    |                           | *                |                  |                  | 10TS-T47  |
| C22      | 470           |         | DI 470           | DD-471             | LA10T47                   | CCD-471          | GP347            |                  | 10TS-D10  |
| C23      | .001          |         | DI-1000          | DD-102             | BYA10D1                   | CCD-102          | GP210            |                  | 10TCT-V33 |
| C24      | 3.3 N470      |         |                  |                    |                           | *                |                  |                  | 10TCT-Q20 |
| C25      | 20 N470       |         |                  |                    |                           | *                |                  |                  |           |
| C26      | 2-8           |         |                  |                    |                           | *                |                  |                  | 10TCT-Q18 |
| C27      | 18 N470       |         |                  |                    |                           | *                |                  |                  |           |
| C28      | 3-20          |         |                  |                    |                           | *                |                  |                  |           |
| C29      | 12 N470       |         |                  |                    |                           | *                |                  |                  | 10TCT-Q12 |
| C30      | 39 10%        |         | NPO-SI 39        | TCZ-39             | C10Q39C                   | CCTO-390         | CNO-439          |                  | 10TCC-Q39 |
| C31      | 820 10%       |         | DI-820           | DD-821             | 5R5T82                    | CCD-820          | GP382            |                  | 10TS-T82  |
| C32      | 385 10%       |         | DI-390           | DD-391             | LA10T39                   | CCD-391          | GP339            |                  | 10TS-T39  |
| C33      | 3-20          |         |                  |                    |                           | *                |                  |                  |           |
| C34      | 12 N470       |         |                  |                    |                           | *                |                  |                  | 10TCT-Q12 |
| C35      | 470           |         | DI-470           | DD-471             | LA10T47                   | CCD-471          | GP347            |                  | 10TS-T47  |
| C36      | 6-25          |         |                  |                    |                           | *                |                  |                  |           |
| C37      | .0082         |         |                  | DD-822             |                           | CCD-822          | B-282            |                  |           |
| C38      | .01           |         | SI 10000         | D6-103             | BYA10S1                   | CCD-103          | B-110            |                  |           |
| C39      | .047 125V 10% |         | BE2S47           |                    | PM2S47                    | 4DP-3-473        | PVC-2147         |                  | 2PS-S47   |
| C40      | 6-25          |         |                  |                    |                           | *                |                  |                  |           |
| C41      | .047 125V 10% |         | BE2S47           |                    | PM2S47                    | 4DP-3-473        | PVC-2147         |                  | 2PS-S47   |
| C42      | .001          |         | DI-1000          | DD-102             | BYA10D1                   | CCD-102          | GP210            |                  | 10TS-D10  |
| C43      | .018 125V 10% |         | BE2S2            |                    | PM2S2                     | 4DP-2-203        | PVC-212          |                  | 2PS-S20   |
| C44      | Imm f N750    |         |                  |                    |                           | *                |                  |                  |           |
| C45      | 4 N7500       |         |                  |                    |                           | *                |                  |                  |           |
| C46      | .0022         |         | SI 2200          | D6-222             | BYA10D22                  | CCD-220          | GP222            |                  | 10TS-D22  |
| C47      | .033 125V 10% |         | BE4S33           |                    | PM4S33                    | 4DP-2-333        | PVC-2133         |                  | 4PS-S33   |
| C48      | .0047         |         | SI 4700          | D6-472             | BYA10D47M                 | CCD-472          | B-247            |                  | 10TS-D47  |
| C49      | .047 125V 10% |         | BE2S47           |                    | PM2S47                    | 4DP-3-473        | PVC-2147         |                  | 2PS-S47   |
| C50      | .0082         |         |                  | DD-822             |                           | CCD-822          | B-282            |                  |           |
| C51      | 680 10%       |         | DI-680           | DD-681             | 5R5T68                    | CCD-680          | GP368            |                  | 10TS-T68  |
| C52      | .068 125V 10% |         | BE4S68           |                    | PM4S68                    | 4DP-3-683        | PVC-2168         |                  | 4PS-S68   |
| C53      | .1            |         | TTD-1            | CK-104             | H6                        |                  | TA-010           |                  | TG-P10    |
| C54      | .033 125V 10% |         | BE4S33           |                    | PM4S33                    | 4DP-2-333        | PVC-2133         |                  | 4PS-S33   |
| C55      | .0022         |         | SI 2200          | D6-222             | BYA10D22                  | CCD-222          | GP222            |                  | 10TS-D22  |
| C56      | .0022         |         | SI 2200          | D6-222             | BYA10D22                  | CCD-222          | GP222            |                  | 10TS-D22  |
| C57      | .047 125V 10% |         | BE2S47           |                    | PM2S47                    | 4DP-3-473        | PVC-2147         |                  | 2PS-S47   |
| C58      | .1 125V 10%   |         | BE2P1            |                    | PM2P1                     | 2DP-3-104        | PVC-201          |                  | 2PS-P10   |

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

## CONTROLS

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

| ITEM No. | USE             | RESIST-ANCE | REPLACEMENT DATA |                    |                    |                  |                  |
|----------|-----------------|-------------|------------------|--------------------|--------------------|------------------|------------------|
|          |                 |             | GRUNDIG PART No. | CENTRALAB PART No. | CLAROSTAT PART No. | CTS-IRC PART No. | MALLORY PART No. |
| R1       | Volume          | 100K ①      | 7811-021         |                    |                    |                  |                  |
| R2       | Tone            | 500K        | 7811-025         |                    |                    |                  |                  |
| R3       | Bias-FM AFC     | 1000Ω       |                  |                    |                    |                  |                  |
| R4       | Bias - IF       | 1meg        |                  |                    |                    |                  |                  |
| R5       | Bias - IF       | 500K        |                  |                    |                    |                  |                  |
| R6       | Bias - FM Level | 3000Ω       |                  |                    |                    |                  |                  |
| R7       | Bias - Output   | 100Ω        |                  |                    |                    |                  |                  |

① Tap @ 30K.



# PARTS LIST AND DESCRIPTION (CONTINUED)

## COILS (RF-IF)

| ITEM No. | USE              | REPLACEMENT DATA |                |                 |                  |                  | NOTES |
|----------|------------------|------------------|----------------|-----------------|------------------|------------------|-------|
|          |                  | GRUNDIG PART No. | MERIT PART No. | MILLER PART No. | STANCOR PART No. | WORKMAN PART No. |       |
| L1       | RF Choke         | 9238-055         |                |                 |                  |                  |       |
| L2       | RF Choke         | 9218-023         |                |                 |                  |                  |       |
| L3       | FM Ant.          | 9218-605         |                |                 |                  |                  |       |
| L4       | FM RF            | 9215-041         |                |                 |                  |                  |       |
| L5       | Choke            | 9218-016         |                |                 |                  |                  |       |
| L6       | Choke            | 9218-022         |                |                 |                  |                  |       |
| L7       | FM Osc.          | 9216-041         |                |                 |                  |                  |       |
| L8       | 1st FM IF        | 7220-204         |                |                 |                  |                  |       |
| L9       | 2nd FM IF        | 7214-204         |                |                 |                  |                  |       |
| L10A     | Loopstick Pri.   | 9238-257         |                |                 |                  |                  |       |
| B        | Take-off         | 9234-077         |                |                 |                  |                  |       |
| C        | Loopstick Sec.   | 9234-036         |                |                 |                  |                  |       |
| L11      | AM Osc.          | 9201-648         |                |                 |                  |                  |       |
| L12      | 3rd FM-1st AMIF  | 7215-358         |                |                 |                  |                  |       |
| L13      | 4th FM-2nd AM IF | 7215-352         |                |                 |                  |                  |       |
| L14      | Ratio Det.       | 7215-204         |                |                 |                  |                  |       |
| L15      | 3rd AM IF        | 7215-107         |                |                 |                  |                  |       |
| L16      | Choke (25uh)     | 9218-103         |                |                 |                  |                  |       |
| L17      | Choke (9uh)      | 9218-021         |                |                 |                  |                  |       |

## TRANSFORMER (DRIVER)

| ITEM No. | TURNS RATIO |      | REPLACEMENT DATA |                |                  |                     |                | NOTES |
|----------|-------------|------|------------------|----------------|------------------|---------------------|----------------|-------|
|          |             |      | GRUNDIG PART No. | MERIT PART No. | STANCOR PART No. | THORDARSON PART No. | TRIAD PART No. |       |
|          | PRI.        | SEC. |                  |                |                  |                     |                |       |
| T1       | 4           | 1    | 9038-057, 01     |                |                  |                     |                |       |

## TRANSFORMER (AUDIO OUTPUT)

| ITEM No. | IMPEDANCE |      | REPLACEMENT DATA |                |                  |                     |                | NOTES |
|----------|-----------|------|------------------|----------------|------------------|---------------------|----------------|-------|
|          |           |      | GRUNDIG PART No. | MERIT PART No. | STANCOR PART No. | THORDARSON PART No. | TRIAD PART No. |       |
|          | PRI.      | SEC. |                  |                |                  |                     |                |       |
| T2       | 150Ω CT   | 4-6Ω | 9038-058, 01     |                |                  |                     |                |       |

## SPEAKER

| ITEM No. | TYPE            | REPLACEMENT DATA |               | NOTES |
|----------|-----------------|------------------|---------------|-------|
|          |                 | GRUNDIG PART No. | QUAM PART No. |       |
| SP1      | 4" x 6" PM 4-6Ω | 7052-002         |               |       |

## BATTERIES

| ITEM No. | VOLTAGE | GRUNDIG PART No. | REPLACEMENT DATA |               |                   | NOTES      |
|----------|---------|------------------|------------------|---------------|-------------------|------------|
|          |         |                  | BURGESS          | EVEREADY      | MALLORY           |            |
| M1       | 9V      |                  | 230 (or AL-2)    | A100 (or E95) | M-13R (or MN1300) | 6 Required |

## MISCELLANEOUS

| ITEM No. | PART NAME       | GRUNDIG PART No. | NOTES |
|----------|-----------------|------------------|-------|
| M2       | Tuning Cap (AM) | 9253-043         |       |
| M3       | FM AFC (E25C5)  |                  |       |
| M4       | FM Det. (OA90)  |                  |       |
| M5       | FM Det. (OA90)  |                  |       |
| M6       | AM Det.         |                  |       |
| M7       | Bias (E25C5)    |                  |       |
| M8       | Switch (On-Off) |                  |       |
| M9       | Switch (FM)     |                  |       |
| M10      | Switch (BC)     |                  |       |

## WIRING DATA

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