

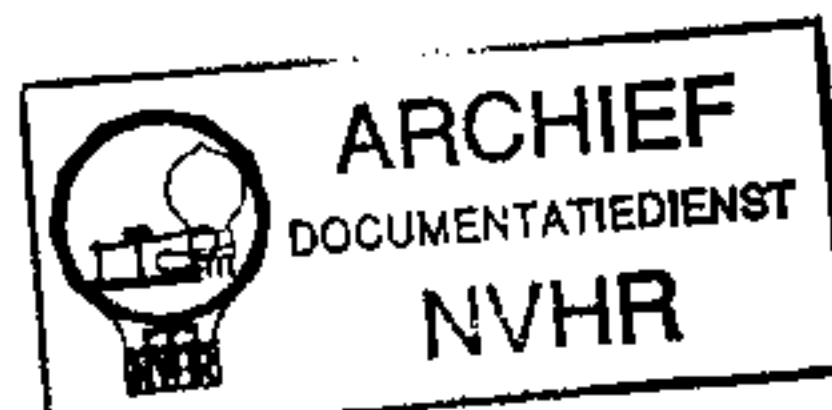
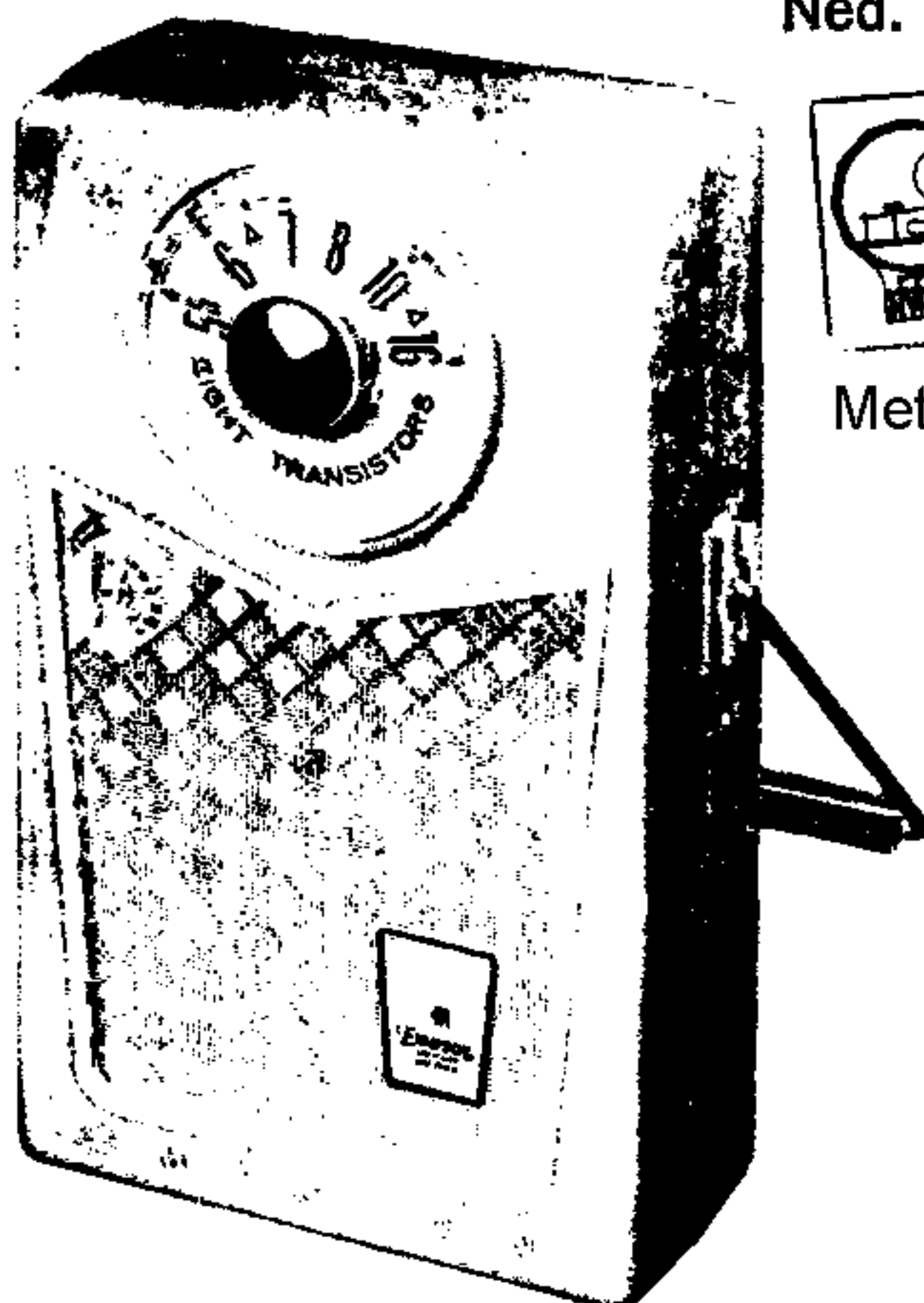
# PHOTOFACT\* Folder



## EMERSON MODELS 888, 888R (Ch. 120374)

with **CIRCUITRACE\***  
\*TRADE MARK

Ned. Ver. v. Historie v/d Rad



Met dank aan Jef Bos

|                               |   |               |   |
|-------------------------------|---|---------------|---|
| <b>TRADE NAME</b>             | Emerson Models 888 Pioneer, 888 Satellite, 888 Vanguard (Ch. 120374); 888R (Remote Speaker) |               |   |
| <b>MANUFACTURER</b>           | Emerson Radio & Phono Corp., 14th & Coles Streets, Jersey City 2, N. J.                     |               |   |
| <b>TYPE SET</b>               | Battery Operated Portable AM Transistorized Receiver  |               |   |
| <b>POWER SUPPLY</b>           | 6 Volts DC  | <b>RATING</b> | 7.8MA @ 6 Volts DC (No Signal, Min. Volume) |
| <b>TUNING RANGE—BROADCAST</b> | 540 - 1650KC  |               | 12MA @ 6 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. Use an insulated alignment screwdriver for adjusting.

| DUMMY ANTENNA | SIGNAL GENERATOR COUPLING | SIGNAL GENERATOR FREQUENCY | RADIO DIAL SETTING     | OUTPUT METER      | ADJUST     | REMARKS  |
|---------------|---------------------------|----------------------------|------------------------|-------------------|------------|--|
| 1.            | Loop                      | 455KC (400% Mod.)          | Tuning gang fully open | Across voice coil | A1, A2, A3 | Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.   |
| 2.            | "                         | 1650KC                     | "                      | "                 | A4         | "  |
| 3.            | "                         | 600KC                      | 600KC                  | "                 | A5         | Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output while rocking tuning gang. Repeat steps 2 and 3. |
| 4.            | "                         | 1400KC                     | Tune to 1400KC signal  | "                 | A6         | Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.   |

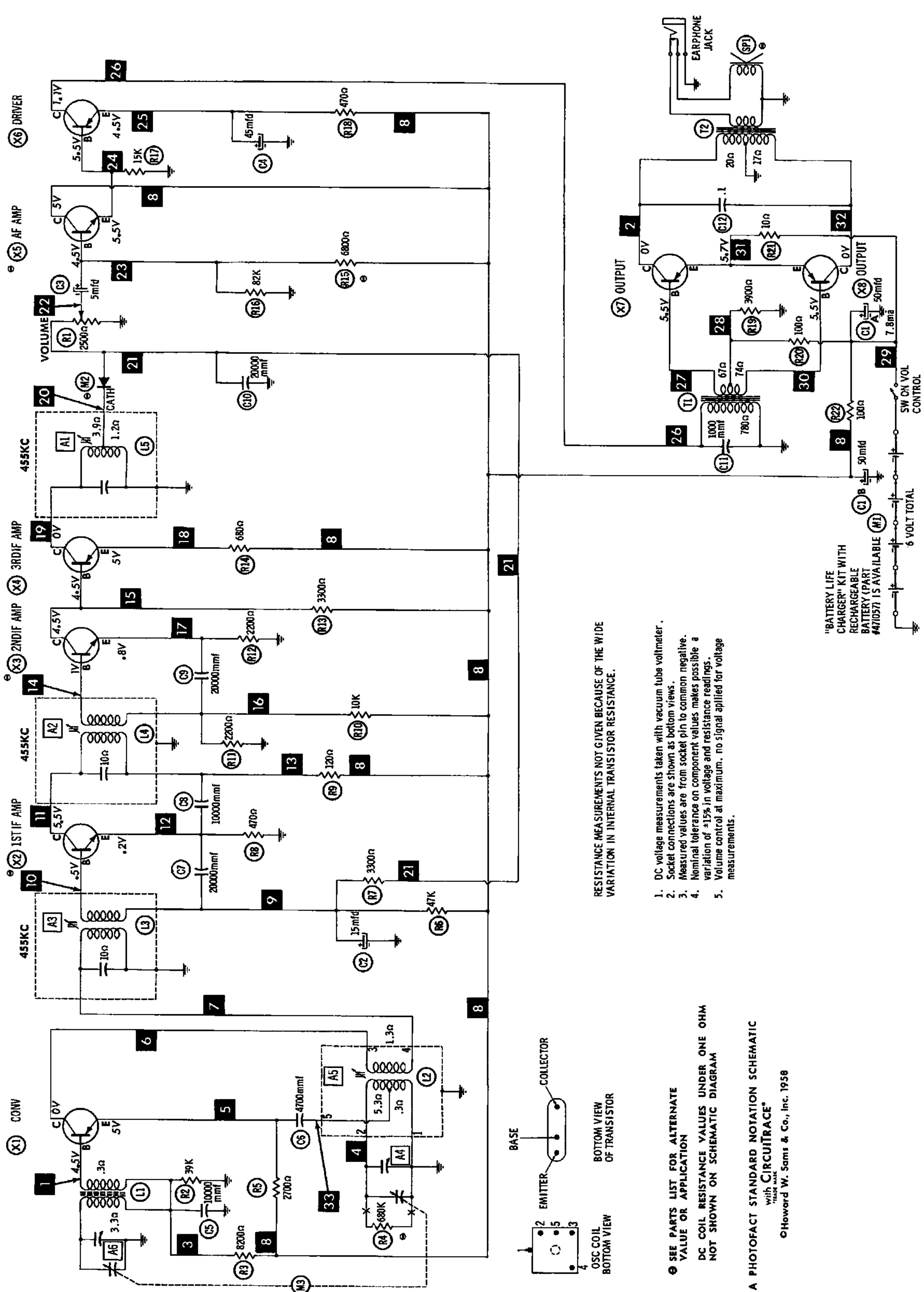
## DISASSEMBLY

1. Remove 2 large slotted screws on rear cover. Remove cover.
2. Remove tuning knob screw. Remove tuning and volume knobs.
3. Remove 2 printed board mounting screws.
4. Remove 2 fiber spacers that guide these screws.
5. Remove hex nut holding printed board to cabinet post.
6. Remove chassis from front.

**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 H694

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RESISTANCE MEASUREMENTS NOT GIVEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE.

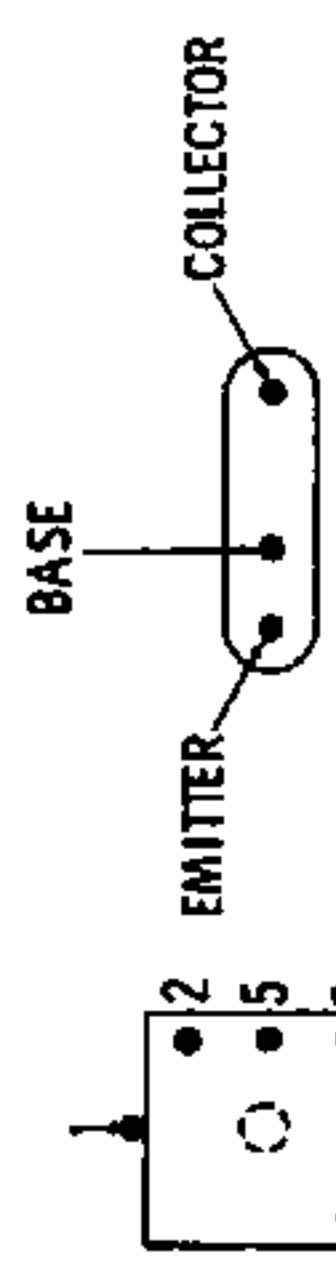
1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Nominal tolerance on component values makes possible a variation of  $\pm 15\%$  in voltage and resistance readings.
5. Volume control at maximum, no signal applied for voltage measurements.

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

A PHOTOFAC STANDARD NOTATION SCHEMATIC

With CIRCUITRACE<sup>®</sup>

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BOTTOM VIEW OF TRANSISTOR

"BATTERY LIFE CHARGER" KIT WITH RECHARGEABLE BATTERY (PART #471057) IS AVAILABLE (#1)

6 VOLT TOTAL

SW ON VOL CONTROL

# PARTS LIST AND DESCRIPTIONS

## TRANSISTORS

| ITEM No. | MFR. PART NO. | USE              | REPLACEMENT DATA |              |                   |                   | NOTES   |
|----------|---------------|------------------|------------------|--------------|-------------------|-------------------|---|
|          |               |                  | CBS PART No.     | RCA PART No. | RAYTHEON PART No. | SYLVANIA PART No. |   |
| X1       | 815025        | Converter        |                  |              | 2N485             | 2N412             | PNP<br>NPN ①<br>NPN ①<br>PNP<br>NPN ②<br>PNP<br>PNP Matched Pair<br>PNP |
| X2       |               | 1st IF Amplifier | CBS-2N438        |              |                   | 2N233A            |   |
| X3       |               | 2nd IF Amplifier | CBS-2N438        |              |                   | 2N233A            |   |
| X4       | 815027        | 3rd IF Amplifier |                  |              | 2N482             | 2N410             |   |
| X5       | 815028        | Af Amplifier     | CBS-2N438        |              |                   | 2N306             |   |
| X6       | 815029        | Driver           |                  | 2N408        | 2N363             | 2N408             |   |
| X7       | 815030        | Output           |                  | 2N408        | 2N633             | 2N408             |   |
| X8       | 815030        | Output           |                  | 2N408        | 2N633             | 2N408             |   |

- ① Use Part #815026C for X2 and Part #815026A for X3; or Part #815026B for X2 and Part #815026B or Part #815026D for X3.  
 ② Alternate Part #815031.

## ELECTROLYTIC CAPACITORS

| ITEM No. | RATING |       | REPLACEMENT DATA |                  |                           |                  |                  |                  | NOTES   |
|----------|--------|-------|------------------|------------------|---------------------------|------------------|------------------|------------------|---------|
|          | CAP.   | VOLT. | EMERSON PART No. | AEROVOX PART No. | CORNELL-DUBILIER PART No. | MALLORY PART No. | PYRAMID PART No. | SANGAMO PART No. |         |
| CLA      | 50     | 10    | 925422           |                  |                           |                  |                  |                  | R2520 * |
| B        | 50     | 10    |                  |                  |                           |                  |                  |                  |         |
| C2       | 15     | 3     | 925419           | PWE3015          | NL15-6                    | TT6X15           |                  |                  | TE-1089 |
| C3       | 5      | 6     | 925420           | PWE6005          | NL5-6                     | TT6X5            | ML5-6            |                  | TE-1084 |
| C4       | 45     | 10    | 925421           | XPP-10050        | NL50-10                   | TT10X50          | ML50-15          |                  | R2417 * |

\* Non-Catalog Item

## FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

| ITEM No. | RATING |      | REPLACEMENT DATA |                  |                    |                           |                  | NOTES   |                  |
|----------|--------|------|------------------|------------------|--------------------|---------------------------|------------------|---------|------------------|
|          | CAP.   | VOLT | EMERSON PART No. | AEROVOX PART No. | CENTRALAB PART No. | CORNELL-DUBILIER PART No. | MALLORY PART No. |         | SPRAGUE PART No. |
| C5       | 10000  |      | 928766           | BPD-01           | DD-103             | BYA6S1                    | DC511            | 5HK-S1  |                  |
| C6       | 4700   |      | 928767           | BPD-0047         | DD-472             | BYA10D47                  | UC-5247          | 5GA-D47 |                  |
| C7       | 20000  |      | 928138           | BPD-02           | DD-203             | BYB6S2                    |                  | 5HK-S2  |                  |
| C8       | 10000  |      | 928758           | BPD-01           | DD-103             | BYA6S1                    | DC511            | 5HK-S1  |                  |
| C9       | 20000  |      | 928138           | BPD-02           | DD-203             | BYB6S2                    |                  | 5HK-S2  |                  |
| C10      | 20000  |      | 928138           | BPD-02           | DD-203             | BYB6S2                    |                  | 5HK-S2  |                  |
| C11      | 1000   |      | 928919           | BPD-001          | DD-102             | BYA6D1                    | DC521            | 5HK-D1  |                  |
| C12      | .1     | 200  | 920795           | P288N-1          | DF-104             | CUB2P1                    | GEM-201          | 2TM-P1  |                  |

## CONTROLS

| ITEM No. | RATING     |       | REPLACEMENT DATA |                    |                    |              | INSTALLATION NOTES |                  |
|----------|------------|-------|------------------|--------------------|--------------------|--------------|--------------------|------------------|
|          | RESISTANCE | WATTS | EMERSON PART No. | CENTRALAB PART No. | CLAROSTAT PART No. | IRC PART No. |                    | MALLORY PART No. |
| RIA      | 2500Ω      | ½     | 390494           |                    |                    | Q13-111      |                    | Volume           |
| B        | Switch     |       |                  |                    |                    | 76-1         |                    |                  |

## RESISTORS

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

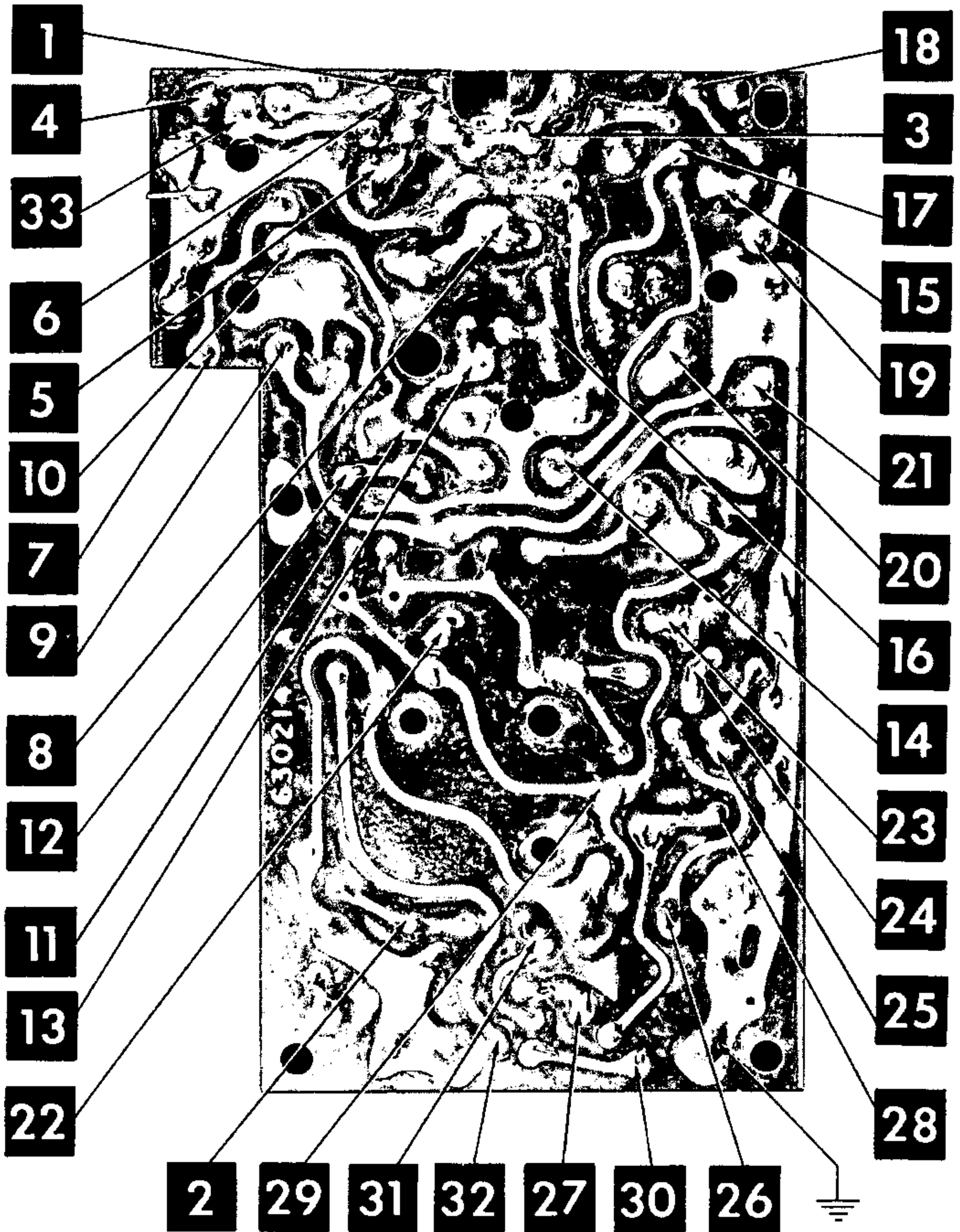
| ITEM No. | RATING |      | EMERSON PART No. | NOTES | ITEM No. | RATING |      | EMERSON PART No. | NOTES |
|----------|--------|------|------------------|-------|----------|--------|------|------------------|-------|
|          | OHMS   | WATT |                  |       |          | OHMS   | WATT |                  |       |
| R2       | 39K    |      | 340872           | ①     | R13      | 3300Ω  |      | 340612           | ②     |
| R3       | 8200Ω  |      | 340712           |       | R14      | 680Ω   |      | 340452           |       |
| R4       | 680K   |      | 341172           |       | R15      | 6800Ω  |      |                  |       |
| R5       | 2700Ω  |      | 340592           |       | R16      | 82K    |      | 340952           |       |
| R6       | 47K    |      | 340892           |       | R17      | 15K    |      | 340772           |       |
| R7       | 3300Ω  |      | 340612           |       | R18      | 470Ω   |      | 340412           |       |
| R8       | 470Ω   |      | 340412           |       | R19      | 3900Ω  |      | 340632           |       |
| R9       | 120Ω   |      | 350272           |       | R20      | 100Ω   |      | 340252           |       |
| R10      | 10K    |      | 340732           |       | R21      | 10Ω    |      | 340012           |       |
| R11      | 2200Ω  |      | 340572           |       | R22      | 100Ω   |      | 350252           |       |
| R12      | 2200Ω  |      | 340572           |       |          |        |      |                  |       |

① Not used in some versions.

② Some versions may use 3300Ω (Part #340612) or 8200Ω (Part #340712) in this application.

# PRINTED BOARD

A Howard W. Sams **CIRCUITRACE\*** Photo  
\*TRADE MARK



# PARTS LIST AND DESCRIPTIONS (Continued)

## COILS (RF-IF)

| ITEM No. | USE        | REPLACEMENT DATA |                   |                |                 |              | NOTES |
|----------|------------|------------------|-------------------|----------------|-----------------|--------------|-------|
|          |            | EMERSON PART No. | Meissner PART No. | Merit PART No. | Miller PART No. | Ram PART No. |       |
| L1       | Loop Stick | 700132           | 14-9005           |                |                 |              |       |
| L2       | Osc. Coll  | 718118           |                   |                |                 |              |       |
| L3       | 1st IF     | 720302           |                   |                |                 |              |       |
| L4       | 2nd IF     | 720302           |                   |                |                 |              |       |
| L5       | 3rd IF     | 720303           |                   |                |                 |              |       |

### TRANSFORMER (DRIVER)

| ITEM No. | TURNS RATIO |      | REPLACEMENT DATA |                     |                |                  |                     | NOTES                                 |
|----------|-------------|------|------------------|---------------------|----------------|------------------|---------------------|---------------------------------------|
|          | PRI.        | SEC. | EMERSON PART No. | Halldorson PART No. | Merit PART No. | Stancor PART No. | Thordarson PART No. |                                       |
| T1       | 2.2         | : 1  | 734157           |                     |                |                  |                     | T-51X ① ① Use original channel frame. |

### TRANSFORMER (AUDIO OUTPUT)

| ITEM No. | IMPEDANCE |      | REPLACEMENT DATA |                     |                |              |                  |                     | NOTES                                  |
|----------|-----------|------|------------------|---------------------|----------------|--------------|------------------|---------------------|--|
|          | PRI.      | SEC. | EMERSON PART No. | Halldorson PART No. | Merit PART No. | Ram PART No. | Stancor PART No. | Thordarson PART No. |  |
| T2       | 240Ω CT   | 3-4Ω | 734158           |                     |                |              |                  |                     | TY-57X ① ① Use original channel frame. |

### SPEAKER

| ITEM No. | TYPE           |       |            | REPLACEMENT DATA   |               | NOTES                        |
|----------|----------------|-------|------------|--------------------|---------------|------------------------------|
|          | SIZE           | FIELD | V. C. IMP. | EMERSON PART No.   | QUAM PART No. |                              |
| SPI      | 3½"<br>8" x 9" | PM    | 3-4Ω       | 180175<br>180187 ① |               | ① Remote speaker, Model 888R |

### BATTERIES

| ITEM No. | VOLTAGE | EMERSON PART No. | REPLACEMENT DATA |     |          |       |         |         | NOTES       |
|----------|---------|------------------|------------------|-----|----------|-------|---------|---------|-------------|
|          |         |                  | BURGESS          |     | EVEREADY |       | MALLORY |         |             |
|          |         |                  | "A"              | "B" | "A"      | "B"   | "A"     | "B"     |             |
| M1       | 6V      | ①                |                  | Z ② |          | 915 ② |         | M-15R ② | ② Four used |

① "Battery Life Charger" kit with rechargeable battery (Part #471057) is available.

### CRYSTAL DIODES

| ITEM No. | ORIG. TYPE | REPLACEMENT DATA |              |                   | NOTES              |
|----------|------------|------------------|--------------|-------------------|--------------------|
|          |            | EMERSON PART No. | CBS PART No. | SYLVANIA PART No. |                    |
| M2       | 1N295 *    | 817089           | 1N64         | 1N295             | Detector (Pigtall) |

\* Some versions may use 1N60 in this application.

### MISCELLANEOUS

| ITEM No. | PART NAME                                     | EMERSON PART No.            | NOTES   |
|----------|---|-----------------------------|---|
| M3       | Tuning Cap.<br>Printed Board<br>Printed Board | 900172<br>630214A<br>630225 | 2 Gang, Ant. 10-136mmf, Osc. 15-95mmf<br>Less components<br>Less components (Alternate) |

### CABINETS & CABINET PARTS

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

| NAME | PART NO. | DESCRIPTION                   |
|------|----------|-------------------------------|
| Knob | 460916   | Tuning (Pioneer, Satellite)   |
| Knob | 461006   | Tuning (Vanguard)             |
| Knob | 460917   | On-Off-Volume (Pioneer)       |
| Knob | 461001   | On-Off-Volume (Satellite)     |
| Knob | 461000   | On-Off-Volume (Vanguard)      |
| Knob | 413245   | On-Off-Volume Disc (Vanguard) |

### WIRING DATA

General-use Unshielded Hook-up Wire ..... Use BELDEN No. 8530 (Solid) Available in Ten Colors  
8524 (Stranded) Available in Ten Colors

**CHASSIS—TOP VIEW**

